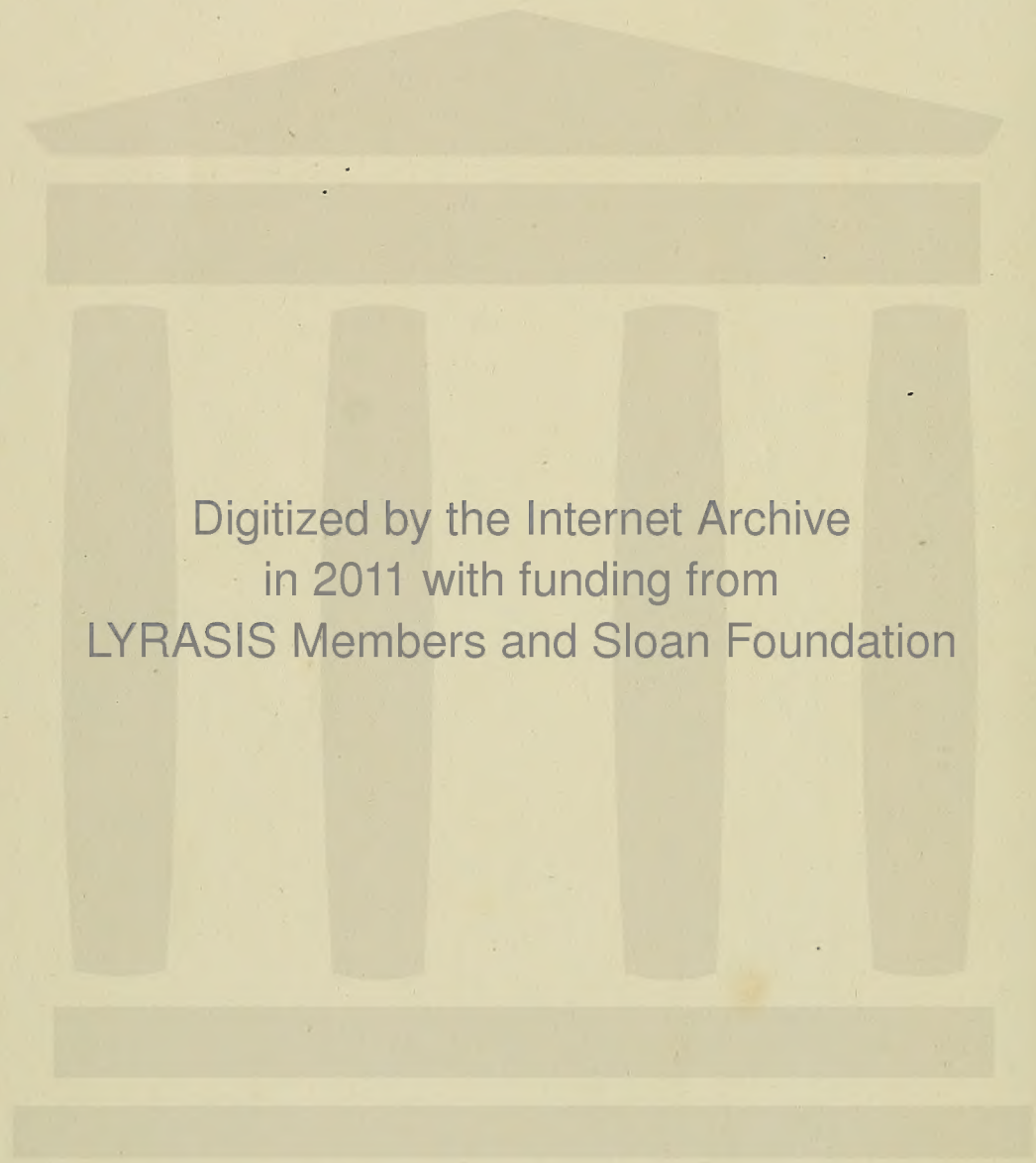


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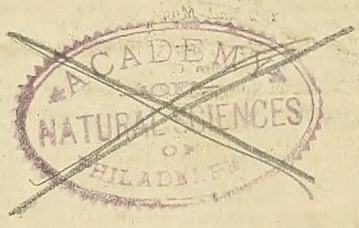
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AND

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FOR

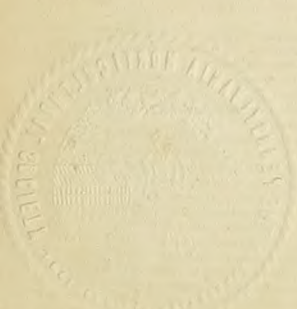
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Cattle, management of fatting	12 *b*	Orange, Mandarin	3 *c*
Chaunt, homœopathic	7 *c*	Orchard house, Mr. Rivers'	4 *b*
Chrysanthemums	7 *c*	Panama, poisonous plants of	7 *c*
Cropping a garden	5 *c*	Pheasants, hybrid	12 *a*
Eels, propagation of	5 *b*	— winter food for	5 *b*
Farming, Mr. Mechi's balance sheet	11 *c*	Plants, poisonous, of Panama	7 *c*
Food for pheasants	5 *b*	Potatoes, yield of	6 *b*
Fruits of the United States	3 *a*	Rain table	8 *c*
Glass walls	3 *c*, 4 *b*, 6 *b*	Roads, repairing	14 *b*
— houses, Mr. Rivers's	4 *b*	Roses for exhibition	7 *b*
— blinds for	5 *a*	Sheep cure for foot-rot in	14 *b*
Glazing	6 *a*	Smithfield show	12 *a*
Herbs	5 *a*	Tomatoes	5 *b*
Highland Agri. Society	12 *b*	Vegetation of Jamaica	6 *c*
Insects Clarke's preparation for killing	3 *c*–6 *a*	Walls, glass	3 *c*, 4 *b*, 6 *b*
Jamaica, A Naturalist's Sojourn in, rev.	6 *c*	— to face with ditto	5 *b*
Kew Gardens	5 *c*	Water, hard, to soften	8 *a*
		Weather, the	14 *a*
		Wheat, produce of	9 *b*

NATIONAL FLORICULTURAL SOCIETY.
Offices, 21, Regent-street.

NOTICE is hereby given that in addition to the ordinary Monthly Meeting on THURSDAY, the 8th, at 2 o'clock, a Committee meeting will be holden at half-past 2, to receive the Second Report of the Finance Committee, to appoint Auditors for the year, and on other business. By Order,
Jan. 3, 1852. J. EDWARDS, Hon. Sec.

Note.—The Anniversary General Meeting for the election of Officers will be holden on THURSDAY, the 4th of March, at 1 o'clock precisely.

CAMDEN NURSERY, PECKHAM.

WILLIAM BARNES begs respectfully to announce that he has taken the above named Nursery (late in the occupation of Mr. Thos. Watts), and that it is his intention to keep a well selected stock of Choice Plants, Shrubs, Seeds, &c; and he trusts, from his long and successful experience as a grower of superior Horticultural and Floricultural productions, that his judgment may be relied upon by those who may favour him with their commands.

W. B. would also assure his patrons and friends that he is determined to meet the demands of the times, and supply every article from his stock at the most moderate charges.

W. BARNES, during the last 19 years (15 years of which he was in the service of G. W. Norman, Esq., of Bromley, in Kent, and four years at Poles Gardens, Herts, the seat of R. Hanbury, Esq.), has had awarded to him by the judges at the Gardens of the Horticultural Society, at the Royal Botanic Society, and at the provincial Exhibitions, more than Eight Hundred Prizes.

Address, WILLIAM BARNES, Camden Nursery, Peckham.

SEED AND HORTICULTURAL ESTABLISHMENT, SUDBURY, SUFFOLK.
THE BEST EARLY PEAS, &c.

Taylor's New Early Prolific	Early Grotto Marrow
Early Emperor	Fairbeard's Surprise
Essex Champion [Dwarf	,, Champion of England
New Long-podded Bishop's	Burbidge's Eclipse

Also the best new later sorts.

20 fine and new sorts of Peas, 1 quart of each, for succession	£0 14 0
A complete assortment of vegetables, with a number of very choice and new kinds, including the above	2 10 0
An assortment containing 12 quarts of Peas in 12 sorts, and other seeds equally choice, &c.	1 10 0
An assortment equally choice	1 0 0
An assortment of choice and esteemed sorts	0 10 6

The above Collections will give the fullest satisfaction. The names of the sorts may be had on application, and if any are not wanted, enlarged quantities of others will be sent to make up the amount. Our Seeds comprise the very finest sorts, which are universally approved.

The priced Seed Catalogue will be sent on application. Also Wholesale prices to the trade.

Goods sent carriage free to London, Ipswich, Norwich, or any station on the line.

Post-office orders payable to STEPHEN BROWN, or to BASS and BROWN.

SUPERB NEW EARLY PROLIFIC MELON, "VICTORY OF BATH."

GARAWAY, MAYES, AND Co. having purchased the entire stock of the above MELON, beg to offer it to the public as a variety unequalled in flavour and productiveness. It obtained a Certificate of Merit at the April Show, in Bath; First Prize at Chiswick, in May; also two First Prizes at Bath, in May and June last. It was grown in pots with Bromham Hall, under precisely the same treatment, and Ripe Fruit cut full six weeks earlier. The whole of the fruit exhibited were grown in pots.

MELONS. Per Packet—*s. d.*		CUCUMBERS. Per Packet—*s. d.*	
Victory of Bath	2 6	Lord Kenyon's Favourite	1 0
Bromham Hall	1 0	Victory of Bath	1 0
Camerton Court	1 0	Roman Emperor	1 0
Trentham Hybrid Green Flesh	1 0	Holm Pierpoint Wonder	1 0
Beechwood	1 0	Kelway's Victory	1 0
With all other approved sorts.		With all other approved sorts.	

G., M., and Co. also beg to inform their friends that they are now prepared to send out their well selected stock of Agricultural, Kitchen, and Flower Garden Seeds, the latter grown under their own inspection. Catalogues to be had on application. G., M., and Co. can with confidence recommend their stock, as every article is thoroughly proved before sent out.

Durdham Down Nurseries, Bristol, Jan. 3.

CAMELLIAS.—Good flowering plants of Camellias, such as Albertus, Duchess of Northumberland, Duchess of Orleans, Double Striped, Chandlerii, Colvillii, &c., 42*s*. per dozen. Smaller size, 30*s*. per dozen. At CHANDLER and SON'S Nursery, Wandsworth-road, Surrey.—Post-office orders payable at Kennington Cross.

NEW KITCHEN GARDEN SEEDS.

WILLIAM E. RENDLE AND Co., Plymouth, have much pleasure in stating that their new PRICED CATALOGUE OF KITCHEN GARDEN AND FLOWER SEEDS is NOW READY, and can be had in exchange for ONE PENNY STAMP.

Great attention is paid to the Seed Department of their business, every sort being carefully proved before being sent out. They grow many of the choicest sorts themselves, and procure the remainder from seed growers on whom they can place the fullest reliance for supplying articles of the best and most genuine quality. They can give reference to Noblemen and Gentlemen in almost every county in Great Britain and Ireland, who have procured the supplies from them—and herewith take the liberty of publishing some unsolicited testimonials now before them, being a few selected from several hundreds of a similar character.

From a Gentleman in Yorkshire.—I find your seeds so generally good and cheap, it quite answers my purpose to have to send to such a distance. I have grown some fine Cucumbers from your seed this season. I never saw handsomer or finer, and the best at a recent show at —— were poor in comparison.

From a Clergyman in Cheshire.—Your seeds are very good, and I will not fail to state, whenever an opportunity occurs, that I have found them always of excellent quality.

From a Gentleman in Lincolnshire.—All your annuals are well up, and growing fast. The vegetables, too, have done admirably; so much so, that I know three or four gentlemen who will take their collection from you another season.

From a Clergyman in Dorsetshire.—I was much pleased with my last year's seeds, particularly the Cabbage, which proved to be very good. My Parsnips are also most splendid.

From a Gentleman in Wiltshire.—The seeds gave great satisfaction.

From a Clergyman in Ireland.—I have much pleasure in telling you that all the seeds grew well, and gave great satisfaction.

From another Gentleman in Lincolnshire.—My garden teems with gaiety from your seeds, and the vegetables have been, and are, most excellent. I have tried *all* the sorts now, and they are all excellent. My brother, who has a large and most beautiful garden, intends now, after seeing mine, to have all his annual and vegerable seeds from you in future.

From a Colonel resident in Ireland.—I have seen some very fine Broccoli plants, the seeds of which were got from you by the Honourable ——, named Rendle's Willcove. I should be obliged by your sending me 3 oz., &c.

From a Barrister in Devonshire.—Your seeds have answered so well that I have recommended my brother-in-law to procure what he requires from you.

From a Clergyman in Herefordshire.—I approved very much of your seeds last year, all of which were excellent.

From a Gentleman resident near London.—I have found this year, *as before*, that your seeds always come up true, and produce a better plant in proportion to the quantity sown than those obtained from others.

From Mr. J. C. Moore, Gardener to the Most Noble the Marquis of Downshire.—I beg leave to return you my most sincere thanks for your very interesting and good work called the "Price Current and Garden Directory," which is the most useful guide to the gardener I have yet seen.

From the Journal of the London Horticultural Society.—PARSLEY, RENDLE'S Noble Garnishing, from Mr. RENDLE: This is stronger growing than the preceding, and beautifully curled. An excellent variety.

They could fill the columns of this Paper with extracts of letters and opinions of the Press, if it were requisite to do so; but the above will, they trust, be sufficient to prove the general excellency of their Seeds. In fact, it is their interest to send out only what is good; they would be only injuring themselves were they to do otherwise.

They would particularly direct attention to their Collections of Vegetable and Flower Seeds, which they have the fullest confidence in recommending, from the universal satisfaction they have given to their numerous customers.

COLLECTIONS OF GARDEN SEEDS.

No. 1.	Complete Collection of Garden Seeds, to supply a large garden for one year—comprising 20 quarts of the newest and best Peas—for successional crops; the best Broccolies, Cabbages, Lettuces, Cauliflower, Celery, Cucumbers, Turnips, and full quantities of every vegetable required in the year	£2 10 0
No. 2.—	Complete Collection, but in reduced quantities	1 10 0
No. 3.—	Ditto ditto	1 0 0
No. 4.—	Ditto ditto	0 12 6

The QUANTITIES for each Collection are STATED IN FULL in their "Price Current and Garden Directory," so that purchasers may see for themselves what they are buying.

All orders for Seeds above 2*l*. (excepting heavy articles, such as Grain Tares, Clover, &c.), will be delivered FREE OF CARRIAGE to any Station on the following Railways:

Great Western.	Bristol and Exeter.
Bristol and Birmingham.	South Western.
Southampton and Dorchester.	South Devon

Or to any Market Town in Devon and Cornwall
Or to
CORK, DUBLIN, and BELFAST, by Steamer.

For Catalogues and Price Currents apply to WILLIAM E. RENDLE and Co., Seed Merchants, Plymouth.
Established more than Half a Century.

Post-office Orders are not required from Noblemen, Clergymen, or Resident Gentlemen, or their Gardeners.

SILVER FIRS.

THOMAS IMRIE AND SONS, NURSERYMEN, Ayr, have on sale upwards of 200,000 SILVER FIRS, of various sizes, all healthy, fine, well-topped plants.

12 to 15 inches, 15*s*. per 1000; 15 to 24 inches, 20*s*. ditto; 18 to 30 inches, 25*s*. ditto.

Trains by the Glasgow and South-Western Railway from Ayr daily.

WHALES' NEW AND SUPERB DAHLIAS FOR 1852.—Mrs. Wentworth, pearl white, edged with rich purple, full and well up on the face. Noticed by Mr. Glenny, in his Almanack; most beautiful variety for exhibition, height 3 ft.; only two ground roots, price 10*s*. 6*d*. Mrs. Southby, golden yellow, a splendid full-sized flower and constant. Pronounced by Mr. Turner, and many other eminent cultivators, to be beautiful; height, 4 ft., 10*s*. 6*d*. John Neville, a light rose of the right shape and petal, 4 ft., 7*s*. 6*d*. Yellow Eclipse, medium size, well set petal, and constant through the season, 3 ft., 7*s*. 6*d*.

Mr. W. has not been able to attend the different exhibitions with the above beautiful Seedlings, in consequence of infirmities, having been a Dahlia grower for upwards of 40 years.

N.B.—Good ground roots of Whales' Elizabeth, partially sent out last season, a splendid tipped flower, 15*s*., and all other varieties of last season reasonable.—Kintbury, near Hungerford, Dec. 29.

CHOICE FLOWERING PLANTS FOR THE PRESENT SEASON.

YOUELL AND CO. beg to call the attention of those desirous of decorating their Greenhouse or Conservatory at this period, to the following, in fine bushy plants:—

CAMELLIAS, very superior kinds, beautifully furnished with bloom-buds, 30*s*. per doz.

EPACRIS, in 20 of the handsomest varieties, abundantly set for flower, 9*s*. per doz.

ERICAS, fine bushy and blooming plants, 9*s*. per doz.

CORRÆA speciosa major, Cooperi, bicolor, and other fine varieties, now coming into bloom, 9*s*. per doz.

CINERARIAS, new and extra fine sorts, 6*s*. to 9*s*. per doz.

12 very select Greenhouse and Stove Plants,			18*s*.
25	do.	do.	do. 30*s*.
50	do.	do.	do. 50*s*.

LILIUM LANCIFOLIUM ALBUM, flowering bulbs, 6*s*. to 9*s*. per doz.

LILIUM LANCIFOLIUM RUBRUM and ROSEUM, flowering bulbs, 12*s*. per doz.

LILY OF THE VALLEY, strong for forcing, &c., 5*s*. per 100.

NEW FRENCH AND BELGIAN DAISIES, in 50 best sorts, 9*s*. per doz.

CHOICE FRUITS.

YOUELL AND CO. beg to call the attention of those gentlemen now about planting or replenishing their Fruit and Kitchen Gardens to the following choice articles:

TRUE FASTOLFF RASPBERRY.

Y. and Co. beg to announce they are now executing orders for the above in fine strong Canes of the same stock as they had the honour of supplying her Majesty's Gardens and most of the Nobility. 15*s*. per 100.

Fine large WHITE RASPBERRY, 3*s*. per doz.

PEACHES, NECTARINES, and APRICOTS, 4 years trained and forward for bearing, 5*s*. each.

CHERRIES and PLUMS, 4 years trained, 3*s*. 6*d*. each.

PEARS and APPLES, fine espalier, 24*s*. per doz.

The above are of the most select kinds, and worked from the Stock of the Horticultural Society of London, and are warranted correct to their sorts.

STURMER AND ANGLESEA PIPPIN, fine Espalier, 24*s*. per doz.; Standards, 1*s*. 6*d*., Dwarfs, 1*s*. each.

GOOSEBERRIES, in 36 of the best kinds, selected for size and flavour, 3*s*. 6*d*. per doz.

CURRANTS, improved large White Dutch, 4*s*. per doz.
,, Black Naples, 4*s*. per doz.
,, Large Red Grape, 2*s*. 6*d*. per doz.
,, Victoria or Raby Castle, 4*s*. per doz.
,, Knight's Large Red, 5*s*. per doz.
,, ,, Sweet Red, 5*s*. per doz.

RHUBARB, fine roots, fit for forcing, &c., comprising Mitchell's Royal Albert, 9*s*. per doz.; Myatt's Linnæus, 9*s*. per doz.; Myatt's Victoria (the largest), 9*s*. per doz.; Tobolsk, 6*s*. per doz.

ASPARAGUS, Giant (strong), 2 and 3 years, 2*s*. 6*d*. and 3*s*. 6*d*. per 100.

SEAKALE (strong), 1*s*. 6*d*. per doz.

ROSES, Standards and Half-standards, of the very best sorts in cultivation, 12*s*. to 15*s*. per doz.

EVERGREEN PRIVET, 2½ to 4 feet, strong, 35*s*. per 1000, or 4*s*. per 100.

All orders of 2l. and upwards delivered free to any Railway Station within 150 miles of the Nursery.

Royal Nursery, Great Yarmouth.

JUDSON'S RICHMOND VILLA BLACK HAMBURGH VINE

JOHN ANDREW HENDERSON AND Co. have the pleasure of informing their patrons and friends that they are now sending out this very excellent new Grape at 21*s*. each.

Its distinguishing characteristics are as follows:—The foliage is more deeply serrated, and the wood shorter jointed than the Black Hamburgh, the berries are oval and rather elongated, and are remarkable for a very fine bloom, not unlike that of an Orleans Plum; when fully ripe are of a fine deep black, having a fine rich flavour, and very juicy.

It colours full ten days earlier than the Black Hamburgh; being a most abundant bearer, and good setter, will prove a most desirable kind for pot-culture. One very remarkable property this Grape possesses, which much enhances its value, and makes it so superior to the Black Hamburgh is, that it never produces abortive, or, as they are termed, vinegar berries; after careful observation, extending over three successive seasons, not one could be detected, although in each season the crop was abundant and good. The usual allowance to the Trade.—Pine Apple Place, Edgeware Road.

GREAT WESTERN, GREAT NORTHERN, SOUTH-WESTERN, AND SOUTH-EASTERN

SEED ESTABLISHMENT, READING, BERKS,

FOR SUPPLYING SUTTON'S HOME-GROWN SEEDS TO ALL PARTS OF THE UNITED KINGDOM.

THE GARDEN SEEDS grown in Berkshire and the Southern Counties having obtained great celebrity, and our low prices for Seeds of superior quality having gained us a very extensive connection in almost every county in the United Kingdom, we have made such arrangements with MESSRS. PICKFORD AND CO. (who have Offices on most of the great lines of Railways, as will enable us to **DELIVER OUR GOODS FREE OF CARRIAGE,** as under:—

Packages of not less than Ten Shillings value are delivered free of Carriage to
Any Office in London, Bristol, Southampton, Portsmouth, Dover, Oxford, Banbury, Gloucester, Hungerford,
And all Stations on the Great Western, South-Western and South-Eastern Railways.
And all Packages of Seeds not less than 2*l.* value, Carriage Free to the ports of Ireland, Scotland, and Wales; or to
Birmingham, Liverpool, Manchester, Lynn, York, Hull,
And any Station on the Great Northern Railway.

Being extensive *Growers* of Seeds (including the best of the New Sorts as soon as introduced), we can supply any sort required at **THIRTY PER CENT. LESS THAN THE PRICES GENERALLY CHARGED** in most parts of the kingdom.

SUTTON'S COLLECTIONS OF GARDEN SEEDS.

	£	*s.*	*d.*
No. 1.—A COMPLETE COLLECTION OF GARDEN SEEDS, FOR ONE YEAR'S SUPPLY OF A LARGE GARDEN; including 20 quarts of Peas, in the best eight sorts for succession; the best eight sorts of Broccoli, together with the choicest Melons, Cucumbers, Lettuces, Cauliflowers, and every other sort of Vegetable required, and in full quantities	2	10	0
No. 2.—A COMPLETE COLLECTION, IN QUANTITIES PROPORTIONATELY REDUCED	1	10	0
No. 3.—A COMPLETE COLLECTION, EQUALLY CHOICE SORTS	1	1	0
No. 4.—A SMALL AND VERY CHOICE ASSORTMENT	0	12	6

If some kinds of Seeds are already possessed purchasers are requested to name them, that increased quantities of others may be sent in lieu of them.

We are daily receiving orders from parties who have had our Seeds in former seasons, accompanied with remarks such as the following, the originals of which may be seen at our office, and the names of the writers may be known by post.

From a Clergyman, near Darlington.
"The best kitchen garden seeds I ever had were furnished by you."

From Doneraile, Ireland.
"Lord D. would be glad to have," &c., &c. "The seeds sent last year were excellent."

From Cirencester.
"I never received such a numerous collection, so good in quality, from any house."

From Ripon, Yorkshire.
"At one of the Horticultural Shows at Harrowgate, my gardener took 20 prizes, most of them from the produce of your seed; we also gained several prizes at other meetings, as many as 18 at one of them."

From an eminent Horticulturist, at Sunninghill.
"My gardener speaks very highly of your seeds."

From Girvan, N B.
"I have much satisfaction in recommending your seeds to various friends, as I find they are much pleased with them."

From a Clergyman, at Newport, Monmouthshire.
"I have invariably found your seeds of all kinds very good."

From North Walsham.
"Your seeds are decidedly superior to those I can procure in this neighbourhood; I shall at all times be glad to recommend you to my friends."

From a Clergyman, at Meonstoke, Hants.
"I always recommend my friends to supply themselves from your establishment."

From another Clergyman, at Kinsale, Ireland.
"Being so much pleased with the garden and flower seeds sent last season, induces me to send to you for my agricultural seeds also."

EARLY ORDERS ARE PARTICULARLY REQUESTED, *and will have the preference of scarce sorts.*
Remittances *are not required* with the orders from clergymen, noblemen, and resident gentlemen, or their gardeners.
N.B.—We are also growers of Mangold, Turnip, and other Agricultural Seeds, which are likewise delivered carriage free.
ADDRESS, JOHN SUTTON AND SONS, SEED GROWERS, READING, BERKS.

OF GREAT IMPORTANCE.
TO EXHIBITORS OF CUCUMBERS AND OTHERS.

EDWARD TILEY has great pleasure in being enabled this season to offer his celebrated and unrivalled new Cucumber "CAPTIVATION," which has not been equalled or surpassed by any other Cucumber ever sent out. He has been many times asked for this superb variety by growers who have seen it, but he has been unable to supply it, in consequence of the small quantity of seed it produces. E. T. has no hesitation in saying that this will be found "the standard of perfection of a Cucumber," and he has never seen one so before till he raised this. It possesses the following unrivalled qualities: It is a splendid black spine, of a very dark-green colour, and entirely free from ribs or shrivels, with scarcely any or no handle and carries its bloom well to the last. Length, from 24 to 28 inches. It is a very quick grower, sets well, prolific bearer, and second to none for exhibiting. To show its perfection, a brace of these Cucumbers, when cut last season, were found to measure exactly 10 of its diameter long, being 25 inches, and not more than half an inch handle. As a proof of the productiveness of the above, a bed was made for a two-light frame, and four plants placed therein; the first brace of fruit was cut on the 29th March, and the last brace on the 25th November last, during which time the unaccountable number of 102 brace was produced from the four plants; total length of the whole amounting to 56 yards 2 feet.—Sold in packets of three Seeds, 5*s.* or five Seeds, 7*s.* 6*d.* Also,

TILEY'S CUCUMBER "PHENOMENA,"

which Cucumber gave universal satisfaction last season. This is also a splendid black spine, abundant bearer; in length, from 22 to 28 inches, and very easily grown, with little heat. Packets, of six Seeds, 2*s.* 6*d.*, or a packet of this and one of "Captivation," 6*s.*

E. T. has also Seed of the undermentioned fine varieties:—

Chamberlain's "Essex Hero," a fine black spine, per packet of four seeds	3*s.* 6*d.*
Hunter's "Prolific," fine white spine, 2*s.* 6*d.* per packet of 3 seeds; or, per packet, of 7 seeds	5 0
"Lord Kenyon's Favourite," a fine winter Cucumber, per packet	2 6

The above Cucumbers have been exhibited at the Botanic Gardens, Regent's Park, London, Colchester, Ipswich, Chelmsford, Bath, and other places, where they were successful in carrying off first prizes. Also—

Per packet.—	*s.*	*d.*
Victory of Bath Cucumber, extra fine black spine ...	1	0
Gordon's White Spine	1	0
Hamilton's Black Spine...	1	0
Conqueror of the West, a good frame Cucumber	0	6
Butcher's Stamford-upon-Avon Cucumber, do. do. ...	0	6

And numerous other older varieties at 6*d.* per packet.

A remittance must accompany the order from unknown correspondents, either by Post-office Order or Penny Postage Stamps, when the whole or any quantity of the above varieties, as the case may be, will immediately be forwarded to any part.

Numerous Cucumber growers, on visiting the Cucumber grounds last season, expressed their astonishment at the quantity and perfection in which they were then growing.

EDWARD TILEY, Nurseryman, Seedsman, and Florist, 14, Abbey Church-yard, Bath.

BROMPTON PARK NURSERY, KENSINGTON-ROAD, LONDON.

JOHN ADAMS begs to return his best thanks to those friends who have afforded him so much of their liberal support since he commenced business on his own account, and to inform them that he has now a fine stock of Standard Trained Apricots, Pears, Plums, and Cherries; Standard Pears, Plums, Cherries, and Apples; Dwarf Trained Pears, Plums, and Apples, in a bearing state, transplanted last season; one and two years dwarf trained Peaches and Nectarines, and some hundreds of very fine half standard Louise Bonne de Jersey Pears, on Quinces, in a bearing state, transplanted last spring. The stock is of the first order, and worthy of notice; and he would now solicit a continuance of those favours which he has already so liberally experienced. Cash or reference required from unknown correspondents.

LILIUM LANCIFOLIUM, TULIPS, RANUNCULUSES, ANEMONES, AURICULAS, AND GERANIUMS

HENRY GROOM, Clapham Rise, near London, by Appointment FLORIST TO HER MAJESTY THE QUEEN, and TO HIS MAJESTY THE KING OF SAXONY, begs to state that he continues to supply the above FLOWERS of the finest quality, and at very moderate prices. H. GROOM would remind the admirers of the beautiful LILY (LILIUM LANCIFOLIUM), that this is the best season to plant the different varieties, and he would particularly recommend them as highly ornamental for the Shrubbery and Parterre. They are quite hardy.
His CATALOGUE may be had on application.

TRUE HIGHLAND PINE, OR NATIVE SCOTCH FIR.

F. AND J. DICKSON beg to offer to Planters and Nurserymen a large stock of strong healthy plants, of this handsome and valuable timber tree, 1½ to 2 feet, and 2 to 2½ feet. They have been twice transplanted, and have fine fibrous roots. Prices, which are exceedingly moderate, will be given on application.—The Nurseries, Chester.

GREAT SALE OF NURSERY PLANTS.

PETER BOOTH, NURSERYMAN, Falkirk, is selling off, at moderate prices, at his extensive Nursery Grounds, a very large stock of transplanted LARCH, SCOTCH, and SPRUCE FIR PLANTS, of strong and smaller sizes, including seedlings, with a great variety of many of the other kinds of Forest and Ornamental Trees, generally grown in large nurseries; also Fruit Trees, Gooseberry, Currant, and Raspberry Bushes &c

A large stock and great variety of very fine, strong, healthy Evergreen and Flowering Ornamental Shrubs.

A very fine stock of Standard, Half Standard, and Dwarf Roses, many of them of the new kinds, and also of the approved and most beautiful sorts.

N B.—As the Advertiser wishes to retire from business, a Lease of all his Nursery Grounds, which belong to himself, and every encouragement would be given to a purchaser of the above stock, and the good-will of the business, which has been carried on by his relations for more than 70 years past, and with great success.

Should a purchaser not be found, a partner with capital, and a good knowledge of the business, would be agreed with.

SEEDS, DIRECT FROM THE GROWERS, CARRIAGE FREE. (*As see our Advertisement in the second page of the present Number of this Paper.*)

JOHN SUTTON AND SONS being extensive GROWERS of SEEDS, can supply them of such quality as to prevent disappointment, AND AT THIRTY PER CENT LESS THAN THE PRICES CHARGED IN MANY PARTS OF THE KINGDOM.

SUTTON'S Priced Seed Catalogue for 1852 is now ready, and will be sent post free on receipt of one penny stamp.

Also a List of the Seeds contained in SUTTON'S COMPLETE COLLECTIONS OF GARDEN SEEDS, *post free, on receipt of one penny stamp.*

Address, JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

NEW POTATO.

MAHER'S EARLY PROLIFIC KIDNEY, the breast EARLY POTATO, grown similar to the Ash-leaved Kidney, but better in quality, and treble the crop Received a First-class Certificate at the Slough open Show September 30th. Price 15*s.* per bushel; 4*s.* per peck, bag included. The usual allowance to the Trade.

Address JOHN MAHER, Star Nursery, Slough. Post-office orders payable at Slough will be attended to.

NOW SELLING, on the Hampton Estate, Mortlake, a quantity of FINE STANDARD FRUIT TREES, in high perfection for moving, young Walnuts, &c.; superior red Rhubarb; also fine double and single Pheasant-eyed Narcissus, at a very low price. Some large Walnut Trees for sale.—Apply by letter to Mr. JAMES HAMPTON, Richmond.

TO BE SOLD, a PALA DA VACA, or COW TREE, a rare and almost unique plant in this country; quite young; rather above 3 feet high. Also a collection of rare CACTI, and other Stove Plants, to the number of 400.

Also several hundred fine plants of PHORMIUM TENAX, or NEW ZEALAND FLAX, the property of a gentleman deceased. The whole or part to be disposed of on moderate terms. A steamer will leave Stranraer for Liverpool on the 23d of January next, from whence they could easily be forwarded.—Address to Mrs. MURRAY, Broadstone, Stranraer, Wigtonshire.

TESTIMONIAL TO MR. CHARLES M'INTOSH,

HEAD GARDENER to his Grace the Duke of Buccleuch, Author of "The Practical Gardener," &c.—Those friends of Mr. M'INTOSH, who, from their not being known to the Committee, may not have received copies of the prospectus or subscription lists, and who may be desirous of contributing to this Testimonial, are respectfully informed that such prospectus and lists will be forwarded to them on application to any of the Sub-Committee following, viz.:—Professor BALFOUR, 2, Bellevue Crescent; Mr. M'NAB, Curator, Botanic Garden; Mr. EVANS, Curator, Horticultural Society's Gardens; or to ISAAC HENDERSON, S.S.C., 41, York-place, Edinburgh, to the latter of whom all remittances will be made. As it is intended to close the subscription by the end of January, all parties will please to forward their subscriptions in due time.—By Order of the Committee. ISAAC ANDERSON, Secretary.
Edinburgh, 41, York-place, Jan. 3.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

EWING'S PATENT GLASS WALLS.—One of the greatest defects in British gardening has hitherto been the uncertainty of securing a crop of fruit on common brick or stone walls, owing to the variableness and humidity of the climate. This is now remedied by substituting hollow Glass Walls, by means of which not only will the young wood in autumn be fully matured, but the blossoms will be completely protected from the frosts and biting winds of spring, and a climate secured equal to that of southern Europe.

These walls are particularly adapted to the growing of Grapes, Peaches, Nectarines, Apricots, Oranges, Lemons, and the finer sorts of Pears and Plums, producing fruit equal to that of France or Italy at no more expense than usually attending trees upon a common stone or brick wall.

Glass Walls must eventually not only take the place of brick and stone walls, but will, in a great measure, supersede the present mode of erecting hothouses, from their cheapness at first cost, the great economy of fuel and heating apparatus, the small space they occupy, and their peculiar elegant appearance. They are also admirably adapted for climbing Exotics, and a variety of other purposes.

The highest authorities on Horticultural matters in this country have expressed their unqualified approbation of these designs, at the head of whom is Dr. LINDLEY, and for whose opinion the public are referred to the leading columns of the *Gardeners' Chronicle* of December 6; also of Robert Marnock, Esq., Curator of the Royal Botanic Gardens, Regent's-park, London, in the leading columns of the *Gardeners' and Farmers' Journal*, of December 20. The patentee having made arrangements with some of the largest firms of iron-founders in the kingdom, and also with one of the most extensive British Glass manufacturers; and from the well-known respectability of those gentlemen who have become Agents, feels confident that he furnishes a sufficient guarantee that all orders in connection with the Glass Walls will be promptly and efficiently carried out in any part of England, Scotland, or Ireland.

The following are the accredited Agents, and with whom drawings of the Glass Walls can be seen, and all particulars as to prices, &c., obtained on application:—Messrs. Knight and Perry, Exotic Nursery, Chelsea; Messrs. Henderson and Co., Pine-apple-place, Edgware-road, London; Messrs. Whitley and Osborn, Nurserymen, Fulham, London; Mr. Glendinning, Nurseryman and Landscape Gardener, Chiswick, London; Messrs. Veitch and Son, Nurserymen, Exeter; Messrs. F. and J. Dickson, Nurserymen, &c., Chester; Messrs. Lawson and Son, Edinburgh, Nurserymen and Seedsmen to the Royal Agricultural Society of Scotland; Messrs. Dickson and Turnbull, Nurserymen, Perth; Mr. M'Intosh, F.R.P.S., F.R.S.S.A., author of the "Practical Gardener," "Book of the Garden," &c., late Curator of the Royal Gardens of his Majesty the King of the Belgians, and now to his Grace the Duke of Buccleuch, at Dalkeith Palace, Scotland; Mr. Fleming, F.H.S., Head Gardener, &c., to his Grace the Duke of Sutherland, Trentham, Staffordshire; Mr. Ewing, Gardener, &c., Bodorgan, Anglesea; Messrs. Pilkington, Crown, Sheet, and Plate Glass Works, St. Helen's, Lancashire.

*** Prices for facing existing brick or stone Walls with glass and iron will be given on application.

GLASS FOR CONSERVATORIES, GREENHOUSES, PIT FRAMES, &c.

HETLEY AND CO. are supplying 16-oz. Sheet Glass, of British Manufacture, packed in boxes, containing 100 square feet each, at the following REDUCED PRICES for cash. A reduction made on 1000 feet.

Sizes.—Inches.			Inches.			Per foot.	Per 100 feet.
		Under	6	by	4	at 1¼*d.*	is £0 12 6
From	6	by 4	7	,,	5	,, 2*d.*	,, 0 16 8
	7	,, 5	8	,,	6	,, 2¼*d.*	,, 0 18 9
	8	,, 6	10	,,	8	,, 2½*d.*	,, 1 0 10
	10	,, 8	12	,,	9	,, 2¾*d.*	,, 1 2 11

Larger sizes, not exceeding 40 inches long.

16 oz. from 3*d.* to 3¼*d.* per square foot, according to size.
21 oz. ,, 3½*d.* to 5*d.* ,, ,, ,,
26 oz. ,, 3¾*d.* to 7*d.* ,, ,, ,,

PATENT ROUGH PLATE, THICK CROWN GLASS, and PATENT PLATE GLASS for Horticultural purposes, at reduced prices, by the 100 square feet.

GLASS TILES AND SLATES made to any size or pattern, either in Sheet or Rough Plate Glass.

Propagating Glasses, Bee-hive Glasses, Cucumber Tubes, Glass Milk Pans, Glass Water Pipes, and various other articles not hitherto manufactured in glass.

PATENT PLATE GLASS.—The present extremely moderate price of this superior article should cause it to supersede all other inferior window glass in a gentleman's residence. No alteration connected with the sash is required.

GLASS SHADES, as ornamental to and for the preservation of every description of goods susceptible of injury by exposure. Prices, since the removal of the excise duty, reduced one-half. List of Prices and Estimates forwarded on application to JAMES HETLEY and Co., 35, Soho-square, London.

GREEN AND HOTHOUSE BUILDER.—Green and Hothouses made by Machinery, sent to all parts of the United Kingdom. These Horticultural Buildings are warranted to be made of the best materials, and the cheapest in England. Lists of prices post free. 1½ in. greenhouse lights, 2½*d.*; 1¾ in. ditto, 3*d.*; 2 in. ditto, 3½*d.* per foot; if glazed with 16 oz. sheet-glass of a large size, ¼*d.* per foot extra.
J. LEWIS, Horticultural Works, Stamford-hill, Middlesex.

GEORGE BAKER'S DESCRIPTIVE CATALOGUE OF AMERICAN PLANTS, CONIFERÆ ROSES, ORNAMENTAL SHRUBS, FRUIT AND FOREST TREES, &c., may be had on application, by enclosing two postage stamps.—Windlesham Nursery, Bagshot, Surrey.

HOSEA WATERER'S Descriptive Catalogue of AMERICAN PLANTS, CONIFERS, ROSES, &c., for the ensuing Autumn, is just published, and may be had on application, enclosing two postage stamps, to Mr. HOSEA WATERER, Knap Hill Nursery, Woking, Surrey.

SANGSTER'S NEW EARLY No. 1 PEA.

HAY, SANGSTER, AND CO., in submitting the above valuable PEA to the public, can recommend it with the greatest confidence, as the largest podded and best Early Pea known, and of first-rate quality; height, 2 feet. Price 2s. 6d. per quart.

York Regent Potatoes, from prepared cuttings, 6s. per bush. Cambridge Radical do. (a first-rate second early) 6s. do. American Native, 10s. 6d. do. Early Manley, 10s. 6d. do. Early Ash-leaf Kidney, 10s. 6d. do.

For Testimonials, see *Gardeners' Chronicle*, Nov. 8, p. 705.

Post-office orders to be made payable at the Borough Post-office to HAY, SANGSTER, and Co., Nursery and Seedsmen, Newington Butts, London. One-bushel hampers and booking, 1s. 6d.; two-bushel 2s. 6d. Sacks, 2s. 6d. each

BEST LANCASHIRE GOOSEBERRIES, named, at 15s. per 100.

Also, APPLES, PEARS, CURRANTS, RHUBARB, &c., in all the best varieties, and at equally moderate prices.

Carefully packed, to carry any distance, or for exportation.

H. BIGLAND and Co., Manchester.

DOUBLE ITALIAN TUBEROSE ROOTS, 4s. per dozen.—The annual importation of the above-named beautiful and fragrant Flower has just been received, and large and well selected Bulbs may be obtained, without disappointment, at A. CORBETT'S Foreign Warehouse, 18, Pall-mall.

N.B. Printed regulations for treatment sent; also, just arrived, very moist and open Parmesan Cheeses.

NEW NURSERY CATALOGUE.

By post for Two Postage Stamps.

WILLIAM YOUNG begs to inform the public that he has just published a DESCRIPTIVE CATALOGUE of his Stock, which consists of a fine collection of Coniters, Hardy Ornamental Trees, Evergreens, Flowering Shrubs, American Plants, Roses, Fruit and Forest Trees, &c.

Milford Nurseries, near Godalming, Surrey.

SUPERB NAMED AND MIXED ASSORTMENTS OF ANEMONES, RANUNCULI, GLADIOLI, TULIPS, IRIS, CROCUS, LILIUM, IMPORTED DUTCH HYACINTHS, &c., with a large Collection of other Roots.—For BASS AND BROWN'S Priced Advertisement of the above, see *Gardeners' Chronicle* of Nov. 8th and 22d, or Catalogues sent free on application.

Seed and Horticultural Establishment, Sudbury, Suffolk.

MITCHELL'S MATCHLESS WINTER PARSLEY.—J. M having saved a much larger quantity of Seed this season than last, can offer it to the public at a much reduced price. Wholesale, to seedsmen, 1s. 3d. per lb.; any quantity under 10 lbs. will be charged 2s. per lb. Can be sent to any part of the World, on receipt of a Post-office order, made payable to JOHN MITCHELL, Ponder's-end, Enfield, Middlesex.

AMERICAN APPLE TREES.

J. GREGORY has for sale about 1000 Choice APPLE TREES imported from America in the autumn of 1850, including the following:—Northern Spy, Spitzenburgh, Jersey Blue, Rhode Island Greening, &c., all grafted on Seedling Stocks of three years' growth, and are in a thriving condition, having advanced from 2 to 4 feet since planted in this country. Price 12s. per doz.

Post-office orders made payable to JEREMIAH GREGORY, Yardly Gobion, near Stoney Stratford, Bucks.

MANNINGTON'S PEARMAIN.

JAMES CAMERON, NURSERYMAN and FLORIST, returns his best thanks to his friends and the public in general for their liberal support, and begs to say he has now for sale a sufficient quantity of the above valuable APPLE, and is thus enabled to offer them at so reduced a price as to ensure their extensive cultivation. It is a middle sized variety, and different from any in cultivation, and remarkable for its rich sugary and aromatic flavour. It is in its height of flavour from January till the end of May, and a very good bearer. Strong maiden plants 2s. 6d. each. Remittances from unknown correspondents previous to the trees being sent, by Post-office orders, made payable to JAMES CAMERON, Nurseryman, Uckfield, Sussex.

J. C. has also an extensive stock of Spruce, Larch, Fir, and Forest Trees of all descriptions; Fruit Trees, Evergreens, and Roses of first-rate quality.

GERMAN SEEDS.

MESSRS. PLATZ AND SON, SEED GROWERS, Erfurt, Prussia, inform the trade that their CATALOGUE for 1852 is now ready, and may be had on application of their Agent, Mr. ROBERT KENNEDY, Conservatories, Covent Garden, London. The universal approval which their Articles have obtained, induce Messrs. P. and SON to solicit a trial of the present year's Stock, which includes many new and interesting varieties. All charges paid to London.

Erfurt, January 3.

The Gardeners' Chronicle.

SATURDAY, JANUARY 3, 1852.

MEETINGS FOR THE ENSUING WEEK.

MONDAY,	Jan.	5—Entomological	8 P.M.
TUESDAY	—	6—Pathological	3 P.M.
WEDNESDAY,	—	7—Geological	8½P.M.
THURSDAY,	—	8—National Floricultural	2 P.M.
		Royal Soc. of Literature	4 P.M.
		Antiquarian	8 P.M.
		Royal	8½P.M.
FRIDAY,	—	9—Astronomical	8 P.M.
SATURDAY,	—	10—Asiatic	2 P.M.
		Royal Botanic	3½P.M.
		Medical	8 P.M.

SPECULATIVE gardeners have long expected to find some useful hardy novelty among the wild fruit-bearing trees of countries little visited by Europeans. If the old world has given Peaches and Apples, and Cherries and Strawberries, why may not the new world produce good fruits of some other race? Undoubtedly no reason to the contrary is apparent; but it so happens that up to the present day we are without an instance of such a discovery having been made, with the two exceptions of the American Strawberry and Cranberry. For the Grape Vines of the United States do not deserve the name of useful fruits; their Osage Orange is an Orange only in appearance, and their Mulberries, Plums, and other small berries, would only be admitted to the dessert of an Indian savage.

It would appear, however, from some statements that have reached us, that a real novelty has at last been met with, in the form of what is called a White Blackberry. In a "wild waste," in latitude 44° 30′ North, Mr. J. SHED NEEDHAM, of Danvers, Massachusets, found the original growing in perfection in shaded places, where it was able to avoid the hot sun of that country. After cultivating it for three years, he is able to speak in very high terms of its excellent qualities, in which he is confirmed by the editor of the *Boston Journal*, who says: "Accompanying the following letter, we received yesterday a box of the fruit of which it speaks, and most cheerfully bear witness to its excellence. We do fully concur in the opinion that it 'is a most palatable fruit,' and we think very few horticulturists, after reading what is said in relation to its great bearing qualities and the ease with which it can be cultivated, will rest satisfied until they have one or more specimens of the plant growing upon their own grounds." The letter was as follows:—"Mr. Editor,—I beg you to accept the accompanying box of White Blackberries. They were grown in the garden of Mr. J. SHED NEEDHAM, in the western part of this town, and they seem to me to possess some remarkable characteristics which eminently entitle them to general cultivation. The first specimens of this new species were exhibited in Boston last season, and were pronounced by competent judges a curiosity, as well as a most palatable fruit; in which opinion I think you will fully concur. The original plant was discovered growing wild in the midst of a Blackberry patch in the State of Maine; and this year, for the first time, it has fully demonstrated what it is capable of producing under garden cultivation. It is a tall, upright bush, growing to the height of 4 or 5 feet, and is prolific to an extent scarcely credible to one who has not seen it in bearing. The bush from which these, which I send you, were picked, produced 11 *quarts* of marketable berries! The size as well as the quality of the fruit would doubtless have been larger, if nearly half of the fruit had not been removed in the spring in separating the shoots from the parent stock, for the purpose of propagation. Besides being a great bearer, the plant is hardy, and needs no artificial protection during the winter. The flavour of the high Blackberry is well known to be greatly superior to the common low Blackberry; yet every cultivator is aware, that, except in some favourable localities, the high Blackberry is a shy and capricious bearer, and unworthy of his attention. When brought under garden cultivation the plant grows rank; but the few berries which it bears are ill-formed, hard, and bitter. All these objections this new species obviates, and promises to bring this delectable fruit into general cultivation. Mr. NEEDHAM has in his possession the original plant, and all that have been propagated from it; and in the spring he hopes to be able to supply demands for them from abroad. A visit to Mr. NEEDHAM'S garden before his bushes are picked, would richly compensate one curious in such matters, for his trouble. The cold weather of the past week has given some of the specimens I send a darker colour than naturally belongs to them. The berry is usually as light coloured and transparent as a Sweetwater Grape. *W. F. P.*"

Mr. NEEDHAM has also circulated the following memorandum concerning this fruit:—"The fruit is sweeter than the common Blackberry, rich and delicious, with a fine Mulberry flavour, and of good size; it is the colour of the white Sweetwater Grape, when partly shaded, but when it grows in the open air it is of a darker hue. The bush grows from 4 to 6 feet in height, and branches out like a Pine tree (that grows in open pasture), beginning about 4 inches from the ground, and every limb is loaded with fruit to its utmost capacity; the two lower sets are brought to the ground by its weight. One bush, covering a space of ground 4 feet in diameter, has produced 11 quarts of fine fruit this season. The bushes stand in an open and exposed situation, and have had no protection of any kind; they have wintered well ever since they were found, and have borne every year. It forms a succession of the small fruits, coming in just after the Raspberry, about the 25th of July, and continues bearing from 20 to 30 days, and is then followed by the wild high bush Blackberry. It flourishes on soils varying from moist to dry, but the best is a rich, deep, rather moist soil. It needs liberal manuring and good culture. Propagate by offsets, set 5 feet by 8, and in two years they will cover the ground; other crops may be raised in the spaces in the mean time. The Blackberry bears on the growth of last year's canes. After the berries have been taken off, cut away at the ground all the old stems and the feeble ones, leaving two of the best canes. The stump or main root of my plants that are four years old are as large as a man's wrist. The best manure is ashes, leached or unleached, worked into the soil, and mulching is of great service."

We have seen a plant of this variety, sent to the Horticultural Society by Mr. NEEDHAM, and we are able to say that it is not known in this country. Whether it will prove in England to have all the good qualities ascribed to it in the United States, we shall learn hereafter. In the meanwhile, it seems desirable to assist in giving publicity to Mr. NEEDHAM'S discovery.

WE need not say that the MEALY BUG is the despair of the dirty gardener, and the pest of the most careful. There is not a reader of our columns who does not know how formidable are the attacks of this little creature; how difficult he is to expel; and how rapidly he covers a plant with his hideous wool. No wonder then that a paragraph in our last Number (p. 821), announcing that at last an effectual remedy for the evil had been discovered, should have attracted attention. The writer asserts that a preparation, sold by a Mr. CLARKE, effectually destroys the bug, without injury to the plant. We now produce evidence which seems to confirm the statement.

Mr. GORDON, who has been trying it in the garden of the Horticultural Society, reports that it answers well the intended purpose, if applied exactly as directed in a printed paper, circulated along with the composition. In no case was this preparation found to injure the plants to which it was applied; and the insects rapidly disappeared under its influence. More than one or even two applications is, however, required to effect a perfect cleansing of the infested plants.

Should the price at which this substance is sold be moderate, the gardener will find it very much better to buy it than to attempt to make a substitute, for he will have the certainty of being armed with a power which is irresistible. But if the price should be too high, then it would be worth while to try the effect of a mixture of soft soap, tobacco water, black sulphur, and a small quantity of spirits of turpentine.

We had written this, when a communication from Mr. KIDD, of Garnstone, reached us, and which is printed elsewhere. He seems to have been unfortunate in his use of the preparation in question; but, as it has succeeded in some places, it cannot well fail in others, provided proper precautions are observed in its use.

WE are at last enabled to say that the patentees of the GLASS WALLS are ready to commence operations, and to give prices. In our advertising columns full particulars will be found. Plans, too, have been prepared, and may be had upon application to the proper parties. For ourselves, we have nothing to add to what we have already said upon the subject; our opinion remains unaffected by the comments and suggestions of our correspondents. It is clear, that what we must look to is experience, which alone can tell us all we want to know. In the meanwhile, it seems to us that the invention cannot fail to be of very great value, whether or not it answers all the purposes which its more sanguine advocates anticipate.

Some communications and suggestions that have reached us would, we think, be considered more advantageously after a few walls had been tried; and we had intended to defer all these matters to a future day. But upon further consideration we observe that they do not so much affect the question of glass walls as recommend other and different applications of glass. We shall therefore launch them at once, so that the public may judge for itself. Some may think the old greenhouse roof incapable of improvement, and superior to all other contrivances; and this is in effect the meaning of a paper from Mr. RIVERS, who prefers his own "orchard house." Others may believe that they have hit upon a very different and much better application of glass. All such propositions do not touch the merits of glass walls, whatever those merits may be, and can only be looked at as separate and independent questions.

THE MANDARIN ORANGE.

FEW plants better merit the notice of cultivators than this variety of the Citrus family. As an ornamental plant, its recommendations are of the highest order; its pure glossy foliage, its snow-white deliciously fragrant blossoms, its dwarf and somewhat formal growth, and the profusion of green or yellow fruit with which it is loaded during nine months of the year, claim for it a place in every collection. But it is principally as a fruit-bearing plant that I am now about to recommend

this variety. Its produce is decidedly the best of all the varieties of the Orange, and it ripens at a season when gardeners cannot supply a great variety of fruits, on which account alone it is worth all the attention which it requires. Those who know the Mandarin Orange only from samples purchased in shops cannot judge of its merits, as its skin, when ripe, is too tender to bear the ordinary treatment of imported Oranges; and if gathered before it is ripe, it will never attain perfection; hence it is rarely met with in anything like its best condition, except where it can be gathered from the tree and eaten. It never can be so treated as to retain the full richness of its aromatic and musky flavour for many weeks after it is gathered. With care it may be kept for a month or six weeks, and be found a rich sweet fruit; but the peculiarity of flavour, which renders it so agreeable to many palates, will be wanting. Attention to the following method of cultivating it will enable my gardener possessing the requisite accommodation to furnish a supply of its fruit during the winter months.

As plants may be purchased at a moderate price, and true to name, in most respectable nurseries, it is hardly necessary to occupy space with any detailed instructions regarding its propagation. This may, however, be effected by means of cuttings, budding, or grafting; but the latter method is generally practised, and will be found the best as well as the most expeditious. Stocks may be obtained sufficiently strong for grafting in the course of one season, by sowing seeds of the common Orange, and keeping the plants growing in a moist and rather warm pit or house. With these and a supply of scions there is as little difficulty in grafting the Orange as the Apple. I generally perform the operation as early in the season as I can make it convenient to place the plants in a gentle bottom heat, and if it is desirable to have strong specimens in the shortest possible time this should be attended to. At whatever season grafting may be performed, the plants should be placed in a close damp pit, where they can be shaded from the direct rays of the sun, and kept warm and moist. If treated in this way, a union will be effected in the course of a month or six weeks; this will be indicated by the growth of the scions. As soon as it is evident that they have taken, the plants should be gradually exposed to a freer circulation of air, and they may be removed to some airy situation when the first growth is accomplished. After remaining in a more exposed place for a month or six weeks, in order to ripen their wood, they may be returned to a close, moist, warm house, and encouraged to make a second growth, which should be carefully ripened by gradual exposure to air and sun, previous to winter. With attention to shifting as they may require it, and a liberal supply of manure water, they will form nice bushy plants by the end of the second season after grafting, and may be allowed to carry from 18 to 24 fruit each the third season.

Although I have said nothing about insects, I hardly expect much progress will be made in the growth of any variety of the Orange tribe without trouble from these pests. They are all especial favourites with the brown scale, and this variety is not exempt from its attacks. After having syringed with water at a temperature of 170°, and tried various recommendations, I can recommend nothing better for clearing the plants of this nuisance than the old tedious practice of removing it by means of a brush and soft soap and water. This method requires time and patience, but an active person will get over more surface in a given time than a stranger to the work would suppose. I invariably clean my plants in this way every winter; at least, such of them as I grow in heat. Those which are kept in the conservatory seldom require any further attention, in this respect, than an occasional syringing with hot water; but this must not be applied in any case, except the trees are in a state of rest; for, if water is thrown upon the young and tender foliage at a temperature above 120°, it will cause instant death to it.

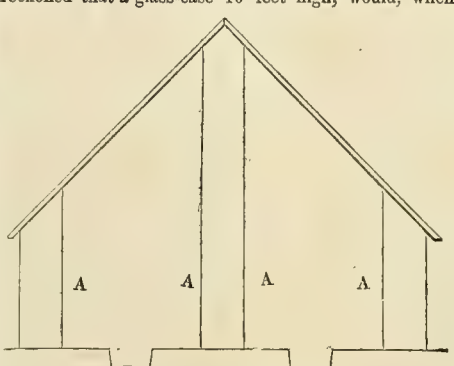
In January I commence forcing my first house of Vines, and I place my plants of the Mandarin Orange, which are intended to produce fruit, in the most suitable situation as respects light, &c., which this house affords; they remain there until the Grapes begin to colour, when they are removed to the best places which can be found for them under the Vines in the latest house; here they remain until the cause just mentioned requires them to be removed, and this occurs about the middle of October, by which time their fruit will have attained its full size. I now place a portion of the plants in some spare corner of the stove, or any warm pit, where they may ripen their fruit, and the remainder are accommodated in any cool house, until within a fortnight of their fruit being wanted, they are then removed to the stations which were occupied by those which were placed in heat in order to afford the first supply of ripe fruit, and from which they are taken away immediately their fruit is ripe. Whether the latter be gathered or not, the plants should not be allowed to remain in heat after it is ripe, or they will be excited into premature growth, and will commence flowering, &c., and will be altogether worthless for the following season. The fruit should be all ripened by the end of December, and if not wanted for use may be allowed to remain upon the trees, in a cool house, until about the end of January, when the trees must be cleared of insects, potted, &c., and placed under similar circumstances to those recommended for last season's campaign. Such of the fruit as may remain upon the trees when it becomes necessary to clean them, &c., may be gathered and wrapped in clean soft paper, and placed in a drawer in the fruit-room, or in any cool place, where it will keep for six weeks without more injury than the loss of its rich aromatic flavour.

There are several peculiarities noticeable in the culture of this tree which I have not referred to; but, if the above instructions be followed, none of them will be met with; hence it is unnecessary to occupy space with any reference to them. I must not, however, forget to put the beginner on his guard against the attacks of red spider, which will be sure to make its appearance unless the syringe is liberally used; but, except where the plants are in flower, this may be employed so as to entirely prevent any injury from this source; and, if through neglect or any other cause, the plants get infested with these atoms of destruction, they are easily removed by means of a good washing with a powerful garden engine.

The soil which I use for this variety of the Orange is one-third turfy peat, two-thirds rich turfy loam, and a sufficient quantity of sand to secure porosity after the fibre is decayed. I also add a quantity of bones roughly broken; but I am not particular about the proportion this may bear to the whole compost; one-fourth will be beneficial rather than otherwise, or if inconvenient to obtain, they may be omitted altogether. As regards potting, &c., this should be attended to as the plants may require it. I generally pot early each season, but as I am not anxious to encourage the plants to make very rapid growth, but rather to keep them of a moderate size, and aim rather at the production of well matured fruit-bearing wood, I pot only where this is necessary for the health of the plants, and supply them during the growing season with clear manure water from the stable tank, to which I occasionally add a little guano, letting it remain for 24 hours at least before applying it to the trees. This will be found to obviate the necessity of very large pots, and frequent shifting. *Alpha.*

GLASS WALLS.

WHEN I first heard of these structures, and before I had seen any description of them, I imagined them to be built with thick glass slabs fastened to iron uprights, with a wide glass coping and wire trellis back and front; and I thought the idea good, combining ornament with utility, as such walls would form a strong fence. I saw the models of what should be called glass-cases, at the rooms of the Horticultural Society in Regent-street, on the 2d ult.; and although struck with their neatness, I did not feel at all satisfied that the glass and iron employed was put to its most economical use; for I reckoned that a glass-case 10 feet high, would, when



A A A A, trellis; B B, sunken path.

formed into a span-roofed house, be more efficacious, give greater results, and be far more agreeable, and so I came home; and now I give you a section of a span-roofed trellis house, which will give one-third more surface of trellis under glass, much room for the stowage or cultivation of many plants, an agreeable place for a promenade, equal ripening power, and last, but not least, shelter at all times for the cultivator to prune and dress his trees; and this is done by simply making the two upright walls—supposing your glass wall to be 10 feet high, as it ought to be—into a span-roofed house, 15 feet in width. My trellis house, which I here recommend to build, will, with its two 10 feet slopes, at a sharp angle, give 15 feet ground width; along its centre will be two upright trellises, 18 inches apart, two sunken paths, each 5 feet wide and 18 inches deep, will have to the right of one a trellis 5 feet high, or thereabouts; to the left of the other a trellis of equal height. To the high trellises in the centre of the house I propose to train Grapes. To the low trellises, Peaches and Nectarines. The house will be about N.E. and S.W., thus giving an equal distribution of sun light. The roof will be fixed, the rafters 20 inches asunder, and ventilators placed along its apex.* The ventilation at the sides will, however, be found nearly or quite sufficient; this is done by shutters on hinges close under the plates, which, where economy is not an object, may be glazed. My plates will be nailed on to the Oak uprights (iron may be employed), 4 feet in height, which will give a height in the centre of 8 feet. The sunken path gives more head room, and makes it more agreeable to get at the lower part of the trees without excessive stooping. Now to the point. Can this increased trellis surface and all its agreeable accompaniments be given at the same cost as one of the patent "glass walls." I say decidedly yes; simply by using wood in lieu of iron for uprights for the trellises and the whole structure. I can scarcely believe that a patent can or will be granted for such structures; as well might Sir J. Paxton have taken out a patent for his ridge and furrow houses, or Mr. Bellenden Ker for his trellis.

It is acknowledged that glass cases, built after the models exhibited, can form no fence to a garden. Why, then, waste glass and iron in covering a confined space, when the same quantity of materials, otherwise employed, would cover a comparatively large space, and give so many more square yards of a southern climate? The sliding sashes, the hinged roof, the iron grooved uprights, as seen in the models, must all lead to expense, and I am most confident that a better end may be obtained by means far more simple. *Thos. Rivers.*

* Mr. Bellenden Ker, of Cheshunt has these roof ventilators, which answer very well.

BRITISH SONG BIRDS.

(CAGE BIRDS, No. 43)

No. LX.—All hail to the new year! May it prove, like the old year, now no more, a kind protector to the feathered tribes! If birds be possessed of a retentive memory, we feel sure they will ever bear in lively remembrance *all* the seasons of "1851."

Having now thoroughly disposed of the incidental inquiry about the capabilities, intellect, and instinct of the lower and higher classes of animals—a subject that has excited an extraordinary degree of interest, we will now leisurely return to our accustomed and straightforward duties; for, whilst discoursing of birds, we cannot feel otherwise than "at home." The year is yet young, and out-of-door observations can as yet avail us little in the way of novel observation. It is pleasing however to know, though not quite so easy to perceive, that the days *are* gradually lengthening. Also to know that the sun *has* actually commenced his new annual course; and that, though feeble, his enlivening countenance *is* shining upon us brighter and brighter every day.

Still, winter is upon us, and we must for a little season amuse ourselves in-doors as well as out; for the voices of the birds are yet "small," their 'harps hung upon the willows.' It is a painful sight to see how some of our tiny friends are benumbed with the cold; but it is more than compensated by the pleasure we feel in welcoming them to the hospitality of our table. The wrens, the robins, 'Dickey Dunnock,' and the blue-headed titmouse, flock around us on every side; and many a grateful song do we get by the way, in return for a few crumbs of bread thrown out of the window.

JANUARY, in its early days, is a cold, wet, drizzly, unsatisfactory month—a month of colds and asthma, rheumatism and lumbago. All nature partakes of its blighting influence. Still it comes with its awakening hand, and shakes grey-bearded old Winter in his chilly sleep.

> "A wrinkled, crabbed man, they picture thee,
> Old Winter; with a rugged beard, as grey
> As the long moss upon the Apple tree
> Blue-lipt, an ice-drop at thy sharp, blue nose;
> Close muffled up, and on thy dreary way
> Plodding alone through sleet and drifting snows."

Rude too and violent is the awakening hand of January, causing the very icicles which bind old Winter down, to rattle again, whilst breathing into his frozen ear tidings that each successive day is longer than the last; and bidding him prepare to abdicate in favour of the tender, delicate Snowdrops, whose graceful heads are even now visible as they exert their growing energies to make their way through the frost-bound earth:—

> "Nature! great parent! whose unceasing hand
> Rolls round the seasons of the changeful year,
> How mighty, how majestic, are thy works!
> With what a pleasing dread they swell the soul
> That sees astonished! and astonished sings!"

How wearisomely would the year pass away, but for these changes! How would life hang heavily on our hands, were it not for the opening and shutting of the days, the advent and departure of flowers, the arrival and disappearance of birds, the infinitely-numerous races of insects, the wan coldness of winter, and the ruddy warmth of summer—all imparting to the year forms which correspond to our own changing existence!

We have lately taken several strolls among the lanes and bye-roads, with a view to reconnoitre the doings, and try to catch the voices, of the early birds of song; but alas! save the musical wren, the robin, and the hedge-sparrow, all has been desolation. The fields look cold and comfortless, the trees naked, and the hedges bare. A skylark now and then has risen on the wing, and given utterance to his short, winter note; a thrush and a blackbird, too, have been heard whistling low; but no joyous effusions of vernal melody. All this has yet to come, and it is worth waiting patiently for.

The notes of birds evidently undergo some extraordinary changes during the autumn and the winter; for we find them making many vain attempts to sing in January, without having the power to exercise their full compass. The difficulty of utterance appears to arise from some physical impediment; and this impediment is only gradually removed. Jenyns corroborates my observations; for he remarks that as the temperature increases, their system receives a corresponding stimulus, their song becomes more melodious, and also much louder. If my readers will test this by noticing the movements of the various tribes, they will not find it an unprofitable occupation.

Having offered these preliminary remarks, particularly suitable to the opening of a new year—when most birds

are silent, I will at once proceed to speak of the choristers who usually take the earliest part in the harmony of the season. Every successive week will now be telling of something new, something delightful. Our first hero of the year will be the Blackbird; at present, as I have said, his voice is audible indeed, but small. It will however daily gain an accession of power. Whilst viewing this noble, happy fellow in the country, and listening to his mellow, joyous song from the top of a lofty tree, we feel we could write "up" to him with spirit; but as we shall have to treat of him as a prisoner immured in a dungeon, we shall also, *malheureusement*, have to write "down" to him. It is, however, a self-imposed task, and we shall not shrink from it. We shall, nevertheless, plead hard for him, and entreat that his life may be made as happy *as it can be* under existing circumstances. *William Kidd.*

HERBS.

No. I.—I PURPOSE giving a series of short articles upon herbs and salads. It may be supposed that little can be said respecting such things; but as London growers, whom I have already shown to be first class cultivators of fruits and vegetables, have also a few knick-knack ways of managing herbs and salads, I hope that what I may have to state in the course of my papers will be found of some service.

Herbs and salads are Nature's medicine; and if man were to use more of them in connection with his daily food, he would pass on through life in a much more comfortable way than he at present does; for there is scarcely a plant, however humble, that has not its medicinal purposes. People of every clime know this, and even animals are led by instinct to select those which their wants at particular times require. Those persons who use a fair proportion of fruits, vegetables, herbs, and salads, are always in better health than those who live largely, and almost exclusively, upon animal food. The bad effects of the latter kind of food becomes more especially apparent in winter, when their usual exercise is comparatively limited. In what I have to say on the subject, I shall confine myself entirely to a few of those herbs and salads which require particular modes of cultivation.

I have repeatedly visited the herb grounds of various districts, and more especially those of Mitcham in Surrey, some nine miles south of London, where hundreds of acres of many sorts of herbs are grown. So extensive, indeed, are these fields, that on approaching that locality in the summer time, with the wind in the south-west, the combination of odours can be easily discovered in the air, which is "redolent with sweetness." Mr. Richard Arthur, brother to a large grower there, showed me a large bottle of oil of Lavender, whose value, he said, was six guineas. Every bit of ground in front of the cottage doors is full of herbs, which receive universal attention here. In some places I saw a great deal of Groundsel and Chickweed getting ready for the London cage birds. Hundreds of the poor of our great metropolis make a living by travelling into various country districts after birds' food; and many of them have a knowledge of wild herbs, which they bring home for the herbalists, beyond what might be expected of them. I may state here, in a preliminary way, that herbs ought not to be planted in any hole or corner; they should be grown in full sun-light, as fine flavour depends upon exposure just as much in their case as in that of the finest fruits or vegetables. I hope that gardeners will not think I am instructing them in this matter. They must bear in mind that all the world are not gardeners, and that amateurs and tradesmen generally want to know something about herbs; and as my articles are likely to be largely quoted in provincial papers, I hope that some good may be derived from them.

Herb management is not very well understood; in the case of Liquorice, for instance, writers on this subject say—Plant cuttings of the root (query, which roots), 18 inches apart in February; again, as respects Mint, they direct divisions of the roots to be put in in February or March, but this is not the kind of information that is wanted; there is a large number of herbs not in daily use, to which the above may apply, and which may be passed over by saying—divide the roots, plant in March: but of those in great demand, it is like saying skin a hare and cook it—but how? I am also prepared to state that the most luxuriant herbage, and finest blossoms are to be obtained from plants put in in November, because they have ample time to make good roots before winter. Mint, perhaps, may be an exception, for if this is planted out in well prepared ground in April, and when the shoots have grown four inches long, just raised, roots and all, and its head nipped off, it is astonishing what splendid herbage and strong blossom it will produce by autumn. The cultivation of Liquorice and Lavender will, I hope, be found of interest; but the extraordinary way of managing some 300 acres of Peppermint for distillation, surprised me more than all the rest, as well as the store houses for drying the herbs, which, more especially in hot weather, they could not do without. Some account of these, however, together with that of the culture of the different herbs taken *seriatim*, will form the subjects of future communications. *James Cuthill, Camberwell.*

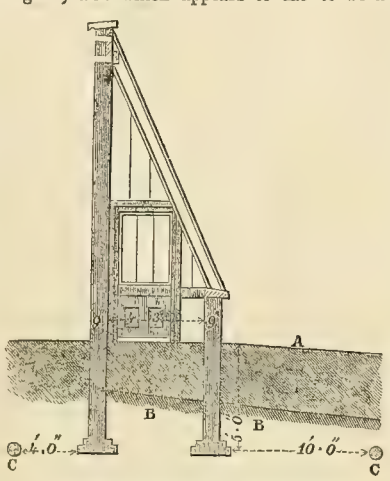
Home Correspondence.

Seeding of Larvæ, from Degrees of the Air, from Condensation. Seeing an remarks on this subject in last week's *Chronicle*, I am induced to direct attention to a [illegible]

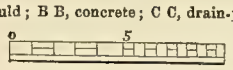
as it does not exclude light, and it may be easily applied; viz., by using double glass. Let the outside glass be made secure with putty in the usual way; but the inside glass will do to slide in grooves under the outer glass, leaving a cavity of an inch between. In the summer months, this glass could be taken and packed away. No putty would be required with it, when in the grooves, as the action of the frost would not reach it, and by having a cavity of air between the outer and inner glass it would, doubtless, have the desired effect in preventing radiation. The manner in which I would fix the glass would be this. Supposing a sash 4 feet broad, I would let the centre bar be a little deeper inside than any of the others, with a groove on each side ⅛ of an inch deep; let one be made also on the inner sides of the frame; the glass could then be put in horizontally with the greatest ease, or taken out, and two squares, lengthways, would reach across the light and look very neat. *C. E.*

Tomatoes.—The Tomato is generally cultivated in noblemen and gentlemen's gardens; but in cold late summers it can rarely be got to ripen before the autumn frosts set in, although strong plants are put out by the middle of May, and trained to a south wall. This at least is my case, but probably some of your readers can give a hint as to obtaining an early supply. I received three varieties in the shape of seeds late last spring, from a friend who brought them direct from Virginia. They were named the "Pear-shaped," the "Egg-shaped," and the "Large-red," all red sorts, the last mentioned being the best. All of them possessed a fine smooth skin, without the furrow common to the old sorts, and I should prefer the large red to the old kind. It would probably not grow quite so large but it has a much nicer appearance. Although later in being sown and planted out than the old sort, they beat it in earlier ripening, thereby confirming the well known axiom in vegetable physiology, that plants habituated to early excitement will flower and fruit sooner than those on which no such treatment has been practised. Perhaps this disposition is more inherent in plants than seeds. Seeds from warmer climates are however to be preferred; for in them early and well matured habits, for centuries, would not be destroyed for two or three years. This is a point therefore to which nurserymen should attend. *W. Brown, Merevale, Dec.* 4.

Covering Fruit Walls with Glass.—As the attention of the horticultural public has been drawn to this subject, I send you a section of a plan lately adopted by Sir John Conroy, in covering 42 yards of old wall with glass, and which appears to me to be a very



A, mould; B B, concrete; C C, drain-pipes.



desirable system to adopt on old fruit walls. The cost of the 42 yards is about 115*l*. The glass rests on 9-inch piers, as shown in the section; and at the top of the back wall three courses of pigeon holes are left for ventilation. *J. Hathaway, Gardener at Arborfield-hall, Reading.*

Winter Food for Pheasants.—To gentlemen fond of the sports of the field, the Jerusalem Artichoke offers peculiar claims to notice, as pheasants are excessively fond of the roots, preferring them to grain; moreover the expense of feeding pheasants with grain in winter is a very considerable item, which I have no hesitation in saying might be almost, or altogether saved, were the Jerusalem Artichoke introduced largely into game preserves. In the severest weather the instinct of the birds leads them to seek out the Artichokes, which from the dense covering of their own leaves are always tolerably preserved from frost; by which means the pheasants are able to feed, to all appearance, as well as in open weather. The expense of the first planting would be very inconsiderable; and when once planted they would soon increase themselves to any degree. *W. H.*

Propagation of Eels.—Your correspondent, "G. H.," of Finedon Hall (p. 822), says, "'T. G.' denies the possibility of eels breeding in fresh water. We have here a pond, covering three or four acres, which swarms with eels of all sizes: I have caught them from the size of my little finger up to the weight of five pounds, &c." This is rather too strong. I don't deny the possibility of eels being bred in fresh water; I only deny the probability. The expression I used was that I did not believe they were bred in fresh water at all; and I distinctly stated that my not having seen these things (eel spawn, &c.), did not prove that other persons had not done so; but to the question—"G. H." says that he has caught them of all sizes, from the thickness of his little finger to five pounds; no doubt he may have done so; but did he catch them of the thickness of a crow's quill, and 3 inches long? because that is the size at which they usually ascend the rivers. He says his pond does not communicate with any river. Is there no escape of water from it at all? I mean, is the evaporation from its surface equal to the supply of water; if not, where does the surplus go to? Does it not directly or indirectly flow into a river, or the sea? I am more inclined to think this is the case because "G. H." says he has taken 1 cwt. at a time from a box which the water flows through at the bottom of the sluice-board. This is exceedingly like what is done here and elsewhere, from July to the end of November, when the eels are on their downward migration. Will "G. H." be kind enough to say whether he does not catch the bulk of his about the same time. Will he also say whether the eels he catches are not the silver eels? and will he also state whether he does not catch them principally after heavy rains have increased the flow of water out of the pond? If he answers these questions in the affirmative I shall still think I am right, and would request him to keep a sharp look-out after rains in May and June, when I think he would probably see the grigs passing through his box into the pond. If on the other hand there is no escape of water from the pond at any time, I must admit I am wrong; but at present I don't know how to reconcile this impounding the water so completely with what he says about the flow of water through the box at the bottom of the sill. Where does the water flow to? What is this sill for? *T. G.* [The following extract from the "Penny Cyclopædia" may set this matter at rest: "The eel is said to be averse to cold, and in the autumn migrates down the rivers to reach the warm brackish water, where it passes the winter and deposits its spawn. In the spring the young fry may be seen making their way up the streams, sometimes in immense numbers. Such a desire do the young eels (about 3 inches in length) appear to have to go up the stream that their course is not easily stopped. The writer of this has seen a flood-gate, 6 or 7 feet in height, in p rts covered with them, and has observed many succeed in passing over this perpendicular barrier by availing themselves of the trickling water which escaped through the crevices of the wood-work." We should add that it is notorious that eels escape from ponds at night and travel through wet Grass in search of streams.]

Kew Gardens.—I understand that the museum has lately been enriched by a wonderful specimen of a log of wood of Dryobalanops Camphora, the tree which yields the "hard" Camphor of druggists, full of fissures loaded with crystals, like those of prussiate of potash on a small scale. A beautiful piece of Borneo coal accompanied it, containing a vein of crystals very similar in appearance. The Acheron, surveying ship, from New Zealand, has brought home beautiful botanical collections from the middle and southern islands, but I believe there is not much novelty among them, except in Seaweeds. *X.*

How to Crop a small Kitchen Garden.—Let the ground intended to be sown with Peas in February and March be well manured and ridge trenched during the early winter months. At the time of sowing, fork down as many ridges as are required for the requisite number of rows. Then draw drills 3 inches wide, about 2 inches deep, and 4 feet apart. Scatter the seed regularly over the whole drill, parting them where two or more seeds fall together, so as to leave them 1 inch apart. This may seem to be labour thrown away, as I know it is the practice with many to draw a drill with the corner of a hoe, and to throw the seed into it in handfuls, which, of course, nearly all rolls to the bottom where it lies one on the other. But what are the results of such sowing? Why, when the produce is, or should be, fit for table, half the pods are found to be flat, useless things, and so they remain. The other half contains two or three Peas in a pod, and the leaves look as though a flour bag had been shaken over them; and all this is, of course, laid to the nature of the soil. Whereas, the true cause is not allowing each plant sufficient room, which, of course, can only be rectified at the time of sowing. Let any one who has been troubled with mildew, sow for the future as I am now recommending, and I doubt not they will find their Peas free from that malady, and the produce nearly double. For instance, in catalogues the Early Warwick is stated to grow 4 ft. 6 in., whereas, with me, it grows 7 or 8 feet, bearing, from bottom to top, pods containing 8 or 9 peas in each. But to proceed; having sown, draw the earth back into the drills (place a piece of white worsted from end to end 1 inch from the ground, which will effectually keep off birds), and immediately stick them. Draw a drill 1 foot wide and 1 inch deep up each centre, and sow spring Spinach; rake the earth over it, and place worsted along each row, 1 inch from the ground. Thin the Spinach to 2 inches apart, when fit for use cut clean away; when it is all off, fork the ground and plant Brussels Sprouts, Borecole, and sprouting Broccoli, 2 feet from row to row, and 20 inches plant from plant in the rows; keeping the Brussels Sprouts and Borecole adjoining each other. As soon as the Peas are all gathered, clear away the sticks, and fork the earth well up to the plants. If the Brussels Sprouts and Borecole should not be all used by the

beginning of March, take them up and transplant into some corner, and rough dig the ground. About the middle of April, fork the surface level, and draw drills 1 foot apart and 1 inch deep, in which sow red Beet, and rake the surface level. If the sprouting Broccoli should not be all used by the latter end of April, transplant it into some corner. Put on a little rotten dung, and dig it in, making the surface level as you proceed; then draw drills 2 feet apart and 3 inches deep (observing, to let the drills come as near as possible where the Broccoli grew), in which sow Dwarf Kidney Beans; drop the seeds 3 inches apart, observing to place two together where one looks in any way faulty, and draw the earth back into the drills. When up 6 or 8 inches, draw the earth well up to their stems. About the beginning of July, plant a row of either Cape or Walcheren Broccoli between every alternate row, 20 inches plant from plant in the rows. As soon as the Beans are all gathered, clear away the stalks, and fork the earth up to the Broccoli; then plant a row of Early York Cabbage between, 1 foot plant from plant. *J. Steel, Clitheroe.*

Clark's Preparation for killing Mealy Bugs, &c.—We are told that we have an effectual remedy in this mixture against mealy bug and other insects, and I am written to, by Messrs. Clark and Co., for the result of my experience with it. The first quart I used led me to hope, that if the plants were dipped or brushed with it several times, it might be useful. This induced me to have three quarts more, which is nearly all used, and now I must state, with confidence, that with me, it has as much effect in destroying or preventing mealy bug as I would have in turning darkness into light. To prove this, last night I took a leaf containing bug and dipped it two or three times in the mixture, without reducing its strength, as directed by Messrs. Clark and Co., and I find this morning that many of the insects are alive. I wish it however to be understood, that I should have had far more pleasure in giving my opinion in favour of the mixture than against it; and if it had succeeded with me I would have been one of the first to have approved of the discovery. The quickest and best means of cleaning plants from such pests is to take them and turn them on their sides, laying the head over a half empty tank or similar vessel, take the garden engine, with warm water, say 90° or 100°, and then let one man or two drive the engine, the hose being managed by the gardener's own hand; he can then allow the water to pass coarse or fine according to the sort of plant that is operated on. By this means the whole larvæ, as well as full grown bugs, may be cleared away; a large plant can be cleaned in about five minutes, which otherwise would occupy a man a day or more to clean, and by doing this once or twice when the plants are out of bloom, they can be kept clean with less trouble than by any other means with which I am acquainted. *D. Kidd, Gardener, Garnstone park, near Hereford, Dec.* 30.

Glazing.—Being about to erect what Mr. Rivers calls an "orchard house" on ground of which I am only the tenant, I propose, in order that the house may be easily removed when requisite, to adopt the India rubber system of glazing mentioned by "E. G. B." at p. 725, 1850. It would be interesting to learn how the plan has answered, and by making this known to your correspondent, he may perhaps favour us with his experience. Owing to the evident difficulty of lapping the squares with this mode of glazing, he spoke of "butting" them with a strip of India-rubber between; but as I can foresee that this plan cannot readily have been managed satisfactorily, I think of using a strip of the double grooved lead employed for lattice windows. This when well laid and painted has been found to be quite watertight. I have seen all the sky-lights of a workshop, the roof of which has no great pitch, glazed in this manner, *i. e*, "butted" in lead; and although the butting is repeated at every 4 or 5 inches, the glass being in small squares, not a drop of rain has penetrated. In constructing my house, I think therefore of using this lead between the ends of the squares, which will rest at the sides on a strip of India-rubber laid on rafters 20 inches apart; another strip of rubber will be put on above, and a strip of wood screwed down above all. *W. C. J.* [Whatever you do, avoid excluding air at the laps of your glass. You can't have too much air in orchard houses.]

Duplicate Specimens in Government Museums.—There is a question of some difficulty, and about which there exists some difference of opinion, namely, what should be the practice in gardens, museums, &c., maintained at the cost of the State, and to which the collectors, travellers, and others, employed in the public service, contribute: viz., whether, as regards duplicates, seeds, plants, and other specimens, not required for the original collection, these should be distributed, not only to other similar foreign or domestic institutions, but to scientific persons, cultivators or others, without special reference to any return of other like objects; or, whether such distribution should be confined to mere exchange or barter, and should always be given with regard to some *quid pro quo*? On such a question, I am aware that there is much to be said on both sides. The curator, except as he may be swayed by private feelings, of course would be desirous by barter to increase the collection under his care, and also to avoid the importunity of the applications of those engaged either in collecting a particular class of plants, minerals, &c., who, however, may not have wherewithal to barter. If this rule be adopted, the public collection is not made so generally useful as regards science as it otherwise might be, and in many cases would not so usefully tend to so wide a distribution of what has been obtained for the advancement of science; and there is, perhaps, something undignified in a great national institution distributing its surplus only to those likely to contribute something in return; the spirit of trading insensibly must enter into any such arrangements. As far as I can judge, this is not the case with some of the great continental collections, though it is so, I believe, as to others. The example of the India Company is in favour of the more dignified and liberal course; what is in their public gardens is sent on application from known persons without any reference to return, and the specimens of dried plants, seeds, &c., forwarded to this country are distributed with the utmost liberality on the same principle. Of course the question does not apply to private institutions, such as the Horticultural Society, &c., which are maintained at the cost of the subscribers. As I know the point is considered by some of importance in this country, and especially on the continent, perhaps you will allow the question to be discussed in your journal. I have taken the opportunity of having the point raised in some of the foreign scientific journals; and I may hereafter trouble you with the result of any discussions which may arise. One material objection against distribution may be urged—the trouble it must give to the curator, and that it exposes him to improper and absurd applications. *Dodman.*

Potatoes.—Having for two or three years grown in the field a very fine large Potato, called here (but I believe incorrectly), a "Pink Eye," and by some the "Farmer's Glory," I was induced, in 1850, to plant one Potato, weighing 1 lb. 5 ozs., in the garden, on the 15th of April. It was cut into 12 sets, four of which were planted with farm-yard manure in the usual way, the next four with the same and a sprinkling of guano round each set, the last four with only a sprinkling of guano round each set; they were all earthed up on the 11th of June, and the crop taken on the 30th of September. The first four sets with farm-yard manure produced 8½ lbs.; the second four sets with farm-yard manure and guano produced 11¾ lbs.; the third four sets with guano only, produced 11 lbs.; total 31¼ lbs. From one set of the last named, I had three Potatoes weighing 1 lb. 5½ ozs., 1 lb. 2¾ ozs., and 1 lb., total 3 lbs. 8 ozs.; from this last Potato weighing 1 lb., for the largest was stolen, and the other I gave away, I planted nine sets on the 29th of March last in the same garden, with no other manure than a pinch of guano round each set; they were put in rather deep in the soil, and nothing more was done to them except that they were kept free from weeds, and on the 30th of September they were dug up. The produce was as follows:—No. 1, under each set 10; No. 2, 6; No. 3, 6; No. 4, 5; No. 5, 14; No. 6, 12; No. 7, 6; No 8, 7; No. 9, 7—73 Potatoes, 30 lbs. The weight of one Potato under No. 9, was 1 lb. 6½ ozs., No. 5, being the crown set. *F. P., Tyndwfr.*

Glass Walls.—The time has arrived when iron and glass will supersede bricks and mortar for gardening purposes, in point of utility and expense, to say nothing of the superiority of the former over the latter, in regard to neatness. Instead of glass houses we shall have glass walls, which will answer the same purpose, so far as the Vine, Peach, Apricot, and some of the more tender Pears are concerned, at a trifle more than the cost of building a good old-fashioned garden wall. Although dearer at first, however, in a few years the capital would be returned; for I have no doubt that one tree under glass could be made to produce, for a given number of years, as much fruit as two in the open air; take the Peach for example. In the south and west of England it is difficult to get it to exist for any length of time, without some sort of protection; and in some seasons it is all but gummed up, with scarcely a fruit upon it. Now, if we could produce from a glass wall, 15 feet long, as many Peaches as we could obtain from an open wall 30 feet long, with less labour, less expense, and more satisfaction, a great point would be gained; we must, however, bear in mind, in erecting a wall, running east and west, with a north and south aspect, to have the glass on the south side, at an angle that will concentrate the sun's rays in spring and autumn; for a twofold reason, 1st, to assist the expansion of the blossom, and setting of the fruit in spring; and, 2d, to mature and ripen the wood in autumn. When glass can be procured ⅛ of an inch in thickness, by 70 inches long, and 30 wide, I do not see why it would not do for the north aspect to consist of the above dimensions, using Hartley's rough plate. A wall might be constructed of this glass that would stand for ages. First procure some cast iron pillars, 4 inches in diameter, and 10 feet in length, having a groove down the side of each. They could be fixed in blocks of stone, inserted in the ground; such supports might stand 6 feet apart, and they might be studded on the south side 3 inches apart from bottom to top. The length of the studs should be 4 inches, which would place the trellis 6 inches from the glass. Now, presuming the pillars to be all set in their exact positions, the next thing would be to drop the glass in between them down the grooves, the one edge to rest against the other so as to have no laps. A little white lead might be put between the joints, and putty in the grooves; but there must be room for expansion, or breakage would be the result. Within a foot of the surface, slate might be used, or Oak plank, as that would be the place for admitting air during summer. For the front wall I would erect a slight frame-work at an angle of 30°, which would give about 3 feet width at bottom, and 1 foot at top. That would allow the trees to be 6 inches from the glass on both sides. The iron pillars might be cast to support both back and front, as well as the coping. The weight would not be great, as the front sashes could be removed in winter, or when necessary. A 3½-inch pipe could be introduced 6 inches above the ground level; but owing to the space being so small, very little artificial heat would be required. The roots of the trees would have free access to extend every way, instead of taking only one direction, as is the case when planted against a brick wall; and besides, it would be a great advantage to the crops on both sides to have a glass wall or two in a kitchen garden. Such a plan appears to me to be worthy of consideration. *D. Hay, Gardener to C. Lawrence, Cirencester.* [This was accompanied by a sketch which we are not skilful enough to understand.]

Reviews.

A Naturalist's Sojourn in Jamaica. By P. H. Gosse. 8vo. Longmans. Pp. 508.

THE author of this entertaining volume begins his work by an attack upon science, which is neither just nor in good taste.

"Natural History," he says, "is far too much a science of dead things; a necrology. It is mainly conversant with dry skins furred or feathered, blackened, shrivelled, and hay-stuffed; with objects, some admirably beautiful, some hideously ugly, impaled on pins, and arranged in rows in cork drawers; with uncouth forms, disgusting to sight and smell, bleached and shrunken, suspended by threads and immersed in spirit (in defiance of the aphorism, that 'he who is born to be hanged will never be drowned') in glass bottles. These distorted things are described; their scales, plates, feathers counted; their forms copied, all shrivelled and stiffened as they are; their colours, changed and modified by death or partial decay, carefully set down; their limbs, members, and organs measured, and the results recorded in thousandths of an inch; two names are given to every one; the whole is enveloped in a mystic cloud of Græco-Latino-English phraseology (often barbaric enough);—and this is natural history!"

This sort of language is unworthy an intelligent naturalist, who must know that the researches which he ridicules are those upon which alone scientific arrangements can often be founded; and that the counting of scales and plates, the records of measurements, the impalement of objects on pins in cork drawers may all be important, nay, indispensable means to that end of which he, in common with us all, is in search. We might retort that such language is that of conceited ignorance, and not of knowledge and good sense: but we prefer praise to censure, and, leaving others to shoot this kind of folly as it flies, shall simply remark that the work which Mr. Gosse has been enabled to produce is an agreeable collection of facts, or supposed facts, relating to the natural history of what once was the most important of our West Indian colonies. He is a good teller of anecdotes, and we dare say a trustworthy one; and if we have failed to discover in what important particular his amusing gossip about alligators, and shells, and birds, animals, and insects, has essentially advanced natural history as a science, we willingly own that it has contributed to render it an agreeable amusement. We should have been glad to enliven our columns with some of the pleasant chit-chat in this volume, if our limited space would have permitted. Pressure of other matter compels us, however, to confine our extracts to some paragraphs concerning the vegetation of Jamaica.

"*Orchideæ.*—Though Jamaica cannot boast of Orchidaceous plants so curious or so gorgeous as some that are found in Continental America or in the great Indian isles, yet it has many species of much beauty. Epidendrum ciliare and Brassia caudata are curious forms, the former for the delicately-fringed white lip, and the latter for the length and slenderness of its spotted yellow petals. The shell-like form of Epid. cochleatum and E. fragrans is interesting, as is the delightful perfume widely diffused by the latter. The lilac spikes of Ionopsis, and the crimson ones of Broughtonia sanguinea, yield to few in beauty; and of terrestrial species, a rich purple Bletia that I found in the Bocâguas near Spanish Town, and a Phajus from the summit of Bluefields Peak, are particularly noble.

"I have not found that the Orchideæ, any more than other tribes of plants, are confined to one particular season of flowering. It is commonly considered that the dry season is a period of rest for these parasites, and that the return of the periodical rains stimulates them to push forth their leaves and flowers. In Jamaica, however, there are many exceptions to this, so many that it can scarcely be deemed the rule. Thus in February and March, the time of drought, Broughtonia sanguinea flowers profusely and magnificently all along the shore of Westmoreland. Epidendrum umbellatum I also found in blossom, not far from the shore; and a little Polystachia (?) appeared to have just done blossoming. Angræcum funale continues to throw out its elegant flowers successively all through this period of drought.

"In the mountain woods, at the same time, I found the dense spikes of Epid. nutans depending in abundance from the forks of the trees, and the fine Phajus that I have already spoken of rearing its magnificent head in the gloom of the bush. The rose-coloured Bletia of Bluefields Mountain, which at the commencement of the drought showed only the withered

leaves crowning the round compacted bulbs, was in full flower at the latter part of this period; and it was in March of the following year, a season even more arid than the former, that I met with the profuse blossom of the lovely purple Bletia, growing on a precipitous rock on the banks of the Rio Cobre. Towards the end of the dry period I saw Epid. fragrans and Ep. cochleatum in blossom on open trees in the beautiful park-like pen called the Kepp, in the Luana Mountains; and, a little later, Brasavola nodosa flowered at Bluefields, where it is abundant. It is worthy of remark, that I had found this species in blossom at Alligator Pond in company with Broughtonia sanguinea, during the early part of December, when it rained nearly every day; yet around Bluefields, while the latter, as already mentioned, was flowering profusely, the former was flowerless until the beginning of March.

"At the same time many kinds were out of bloom throughout this season, some of which flowered soon after the commencement of the vernal rains. Maxillaria Barringtoniæ, whose great wrinkled bulbs had been conspicuous on the mountain trunks, threw out its fleshy flowers from among the roots about the end of March, and continued flowering through April. A little later, the long spikes of Oncidium Carthaginense were waving in the breeze all through the high woods that bordered the shore. Bulbs of Epid. fragrans and of Brassia candata that had been brought from the mountain in the dry weather, and planted out in the open air, blossomed, the former at the beginning, the latter towards the end, of May. About the middle of the same month, in the tall dark, and humid woods of Shrewsbury, about half way up the mountains of St. Elizabeth's, I saw several racemes of a beautiful Ionopsis* in rich bloom. The irregular tuber-like bulbs of that terrestrial Orchid, with a Bletia-like habit, which grows abundantly in the dense bush on the summits of the Bluefields Peaks, had thrown out their tall but not very inviting panicles of flower through the month of June. The rains were at that time descending copiously, and continued to fall until the middle of August; about which time I met with Epid. fuscatum in blossom in the tall woods of Basin Spring, a little lower elevation than Bluefields Mountain. About this time also the singularly fringed blossom appeared on Epid. ciliare, which had hitherto displayed only its long spindle-shaped bulbs, each crowned with its pair of leathery leaves. Soon afterwards the autumnal drought commenced, but I have no further record of the flowering of Orchideæ.

"If this irregularity of flowering, or rather apparent independence of seasonal rain, had been confined to the recesses of the mountain woods, it would not have been surprising, since their actual dryness seems unknown. On the summits of Bluefields Peak, and especially in the shallow intervening valleys, whether from the closeness of the woods preventing the escape of vapours, or the luxuriance of the rank vegetation, the air feels at all times surcharged with moisture, even during the dry seasons. In the night this moisture is concentrated very copiously, so that in the concavities of large leaves, sometimes as much as a wine-glass full of clear water may be seen collected, especially on such leaves as those of the Heliconia, or wild Plantain, and of the great esculent Arums, called Cocoes, of the Negroes' grounds. I have many a time been refreshed by drinking from these leaves. The Ferns and other herbaceous plants that fringe the narrow paths, and the Lycopodiums and mosses that form thick cushions around the roots of the trees, are always found heavy with dew, and, as it were, saturated, when one visits this locality in the early morning."

"In the tall woods on Bluefields Mountains, almost every tree, from the thickness of one's arm upwards, is found to bear its bunch of Orchideæ, frequently four or five species growing on the same tree. The trunk is the most common situation on the tree, but in very large trees the forks and great horizontal limbs are likewise studded with these and other parasites, Tillandsiæ, sessile and caulescent Ferns, Jungermanniæ, &c. I was surprised and delighted at the number of minute species, some with tiny bulbs, others with small oval, alternate, almost pinnate leaves, and others long and grass-like, which, in company with the larger and more common kinds, crowded the trunk of an enormous Fig-tree that had been recently felled on the top of the Bluefields ridge. The massive, pillar-like stem, 60 or 70 feet long without a branch, was studded from end to end, and on all sides of its surface, with these delicate little parasites, which also spread themselves upon the great arms. On the lower mountains the huge Cotton-tree (Eriodendron) forms a perfect nursery of Orchideæ as well as Bromeliaceæ. Of terrestrial species, both the kinds of Bletia were growing on the bare rocks, exposed to the unmitigated glare of the sun. The tuberous kind with a similar habit, and the magnificent Phajus Tankervilliæ, on the other hand, occurred only in the deepest shadow of the dense humid mountain woods.

"Specimens taken from one tree I found would grow very well on another. I was accustomed to transplant many of the masses brought from the mountains and other distant localities, affixing them either to logs of wood or to fruit-trees in the pasture, or else merely laying them on the flat top of a stone buttress, with a brick or some other weight on them, to prevent their being blown away. The smaller specimens I pushed into crevices between the stones of the same buttress. Those which I planted on fruit-trees were fastened by string passed several times round the trunk and the Orchid. In all these cases the specimens grew healthily. The roots, which had been torn from their attachments in procuring the specimens, never adhered to the new surface, but fresh roots were soon pushed out from the base of the bulbs, which clung to the support by their flattened under sides with the same tenacity as if they had been on the original trees; and after a few months needed not the assistance of strings or weights to enable them to maintain their position. Sometimes the mere laying of a bunch of bulbs in the fork of an Orange-tree was found sufficient. I do not think the parasite is dependent on its tree for anything but support; the roots do not penetrate the bark in the least degree, but derive all their nutriment from the moisture with which the air is charged, or which, in the form of rain or dew, trickles down among their matted masses from above.

"At the same time there is an unaccountable preference of certain localities to others. Thus of the vicinity of Bluefields in Westmoreland, and of Content in St. Elizabeth's, including both lowland and mountain, the former district is rich in species and individuals; while the latter, embosomed in tall humid woods (the pristine forest extending from the level of the sea to the summit of the first range of the Luana Mountains), possesses, as far as I have seen, scarcely a single specimen of any species. Again, the low level land around Savanna le Mar seems equally destitute of these parasites; but this is less to be wondered at, since so large a portion of the district is overrun with Logwood (as is indeed a large portion of the once-cleared land in St. Elizabeth's), a tree on which I do not remember to have found an Orchideous plant (though Tillandsiæ are common enough on it), with the exception of Oncidium Carthaginense, which occasionally grows on the hedges that are made of this thorn-like tree."

This will give the reader an idea of what he is to expect in the work of Mr. Gosse, to whom we will now venture to address the following enquiries: What is the Phaius that he speaks of? is it a Phaius at all? Is that genus known in a wild state in the new world? Has the "noble" and the "rich purple," or "lovely purple" *Bletia* no other name by which it may be mentioned? Are the Cocoes *Arums?* and are botanists mistaken when they call them *Colocasias?* Does he think such expressions as "unaccountable preference," the language of science? And, finally, are the points to which these questions are addressed considered by him unworthy of elucidation by any except those "necrologists" whom he treats so cavalierly?

* Swartz, if I mistake not, describes Ionopsis as affecting the driest open pastures.

FLORICULTURE.

Rose Growing.—We have heard it asserted that more money annually changes hands by the sale and exhibition of Dahlias than by any other florist's flower; but without vouching for the accuracy of such a statement, it is pretty clear that the trade in regard to Dahlias is not only extensive, but that their cultivation is followed by immense and widely-distributed numbers. Of this our reports of shows during the past season have given indisputable evidence. We do not here desire to go into statistical details with respect to Autumn's King, it is of the Queen of Flowers we are now about to write. Can we not more intimately associate our acknowledged King and Queen? or, dropping the metaphor, is it not practicable to grow Roses for exhibition in the same piece of land or quarter with the Dahlia? We proceed, then, to address ourselves to the "thousand-and-one" Dahlia growers who cultivate the plant, not as an ornamental occupant of the "well-tilled soil," but as a thorough good exhibition flower; those who by their skill hold their way by "cultivation proper," rather than by chance, those who are to be seen with their blooms in August, and who also prove troublesome customers in early October; those they are whom we should like to find with an occasional thorn in their fingers. No grower and exhibitor of the Dahlia can be denominated of the "little garden class," the fifty plants' man requires much space, there being six feet between the plants and also from row to row; here, then, we have room for what I am about to advocate, viz., to grow Roses for exhibition between the Dahlias. Let but a few fair trials be made, and we hazard an opinion, not only of the practicability of the plan, but of much success. Ground for Dahlias generally receives no other crop, and it is kept in "good heart" by annual heavy dressings of manure, by thorough trenchings and ridgings, and a large space of land is idle from "taking up time," say from November until the end of May; hence it has occurred to us, that Roses might be grown in the same piece with Dahlias without the one injuring the other. If the oft-repeated instruction, "Plant in any open weather between October and February" be tenable, then we say, put in your Roses now. Let real Dahlia men take up the subject, let inducements for such a step be held out by those whose interest it is to do so, and we do not fear the result. We would here suggest that by marking the spots where the Dahlias will be planted, the intermediate spaces are at once apparent, and ready for the immediate introduction of a few dozens of standard Roses; a Dahlia alternating with a Rose, each at least three feet from the other, leaving the alleys six feet clear; thus can the grower of 100 Dahlias find room for his 100 Roses; if these be cultivated with the same attention as is paid to the Dahlia, then a glorious triumph awaits us. That Dahlia growers possess the means for Rose growing and showing in a greater degree than any other class of floral exhibitors, there can be no doubt; we will just mention a few favourable items, viz., space, good soil (if the latter is not so naturally it will be made so); shades, stakes, manures, surface mulching, watering, travelling apparatus, and show boards; and to these add energy, perseverance, and a thorough love of good flowers. If but one Dahlia grower will try the experiment, we are confident that all will be right. Next week we intend to furnish a list of such Roses as, on the authority of eminent growers of this favourite flower, are considered best fitted for the trial. *J. E.*

The Chrysanthemum.—In speaking of the Queen of Yellows, your correspondent, Mr. Ivory, says,—"He considers it indispensable to a good collection," and names it as the third best in the class of yellows. I should like to know if the Queen of Yellows grown by Mr. Ivory is identical with the variety grown under that name round London. I should have said not; but the description given by Mr. Ivory induces me to think that it must be the same flower. If such is the case, I differ from him as to the merits of the flower. If I were asked to describe it, I should say that it was neither reflexed, cupped, nor incurved, but large, loose, flat, and ragged. The time is fast approaching for the arrangement of the Chrysanthemum schedules for the coming season. With reference to the committees of the various societies, I suggest that the classes in each society's schedule should be as near alike as possible. I think by this arrangement each society would experience the benefit, from the fact that the same productions would do for each exhibition; whereas, if each society required a different sized pot, for instance, there would be comparatively few who could afford the space for such collections as would be required; consequently they would grow for and exhibit at the society they were most interested in. The Pompone varieties are likely now to become an interesting feature at our Chrysanthemum exhibitions. I would suggest that they be grown in say 8-inch pots; another, perhaps, would suggest 9-inch pots as more suitable. Now, if a kind of interchange of opinion was to take place between the committees of different societies before the final arrangement of their schedules, I think much good might be effected. *W. Holmes, Hackney.*

Picotee: An unnamed and apparently worthless variety. *J. E.*

Miscellaneous.

A Homœopathic Chaunt sung at a late meeting of Homœopathic doctors at Leipzig:

"Apage compositum?
Adjuvans in basi,
Corrigens, Excipiens,
Medicinas dirigens,
Requiescant pace.
Floreant specifica,
Sulphur et Sabina,
Aconitum, Phosphorus.
Floreat in omnibus
Homœopathia!"

Poisonous Plants of Panama.—The most dreaded of the poisonous plants are the Amancay (Thevetia neriifolia, Juss.), Cojon del gato (Thevetia nitida, De Cand.), Manzanillo de playa (Hippomane Mancinella, Linn.), Florispondia (Datura sanguinea, Ruiz et Pav.), and Bala (Gliricidia maculata, Kunth). It is said of the Manzanillo de playa that persons have died from sleeping beneath its shade; and that its milky juice raises blisters on the skin, which are difficult to heal. The first of these statements must be regarded as fabulous, and the second be received with a degree of modification. Some people will bear the juice upon the surface of the body without being in the least affected by it; while others do experience the utmost pain; the difference seeming to depend entirely on the state of a man's constitution. Great caution, however, is required in protecting the eyes, for if the least drop enters them, loss of sight and the most acute smarting for several days are the consequence. The smoke arising from the wood produces a similar effect; and I remember that, while surveying on the coast of Darien, a whole boat's crew of H.M.S. Herald was blinded from having kindled a fire with the branches of this tree. Whenever the natives are affected by the poison they at once wash the injured part in salt water. This remedy is most efficacious, and, as the Manzanillo is always confined to the edge of the ocean, of easy application. It has been stated that the Indians of the Isthmus dip their arrows in the juice of the Manzanillo. There are, however, various reasons for doubting this assertion; firstly, because the poison is, like that of all Euphorbiaceæ, extremely volatile, and, however virulent when first procured, soon loses its power; secondly, because its effect, even when fresh, is by no means so strong as to cause the death of human beings, it not even producing, as has already been stated, the slightest injury on some constitutions. We may, therefore, consider the statement as an inaccuracy, and rather suppose that the Indians, like those of Guayana, obtain their poison from the Strychnos toxifera, Bth., and S. cogens, Bth., two plants very common throughout Panama and Darien. The fruit of the Amancay (Thevetia neriifolia, Juss.) is also considered very poisonous, but its dangerous qualities have been probably overrated. I knew a gentleman in Panama who, when a boy, ate four of these fruits, without experiencing any other effect than that of griping. The leaves of the Bala, or, as it is also called, Madera negra (Gliricidia maculata, Kth.), are used to poison rats. The Florispondia (Datura sanguinea, Ruiz et Pav.) appears to have always played, and still continues to play, a prominent part in the superstition of tropical America. The Indians of Darien, as well as

those of Choco, prepare from its seeds a decoction, which is given to their children to produce a state of excitement in which they are supposed to possess the power of discovering gold. In any place where the unhappy patients happen to fall down, digging is commenced; and, as the soil nearly everywhere abounds with gold-dust, an amount of more or less value is obtained. In order to counteract the bad effect of the poison, some sour Chicha de Maiz, a beer made of Indian corn, is administered. *Hooker's Journal of Botany.*

Simple Mode of Softening Hard Water.—The water at present supplied to London, says Dr. Playfair, may be rendered soft by very simple chemical means, namely, by adding caustic lime. The proportions required are one part of lime water to five of common water, and this reduces the hardness to the same degree as that of water after being boiled. The process of softening water by means of caustic lime has been tried and found perfectly practicable at the Chelsea Water-works. One pound of chalk, when calcined, will produce 9 oz. of caustic lime, which will make 40 gallons of lime-water, and be sufficient to mix with 560 gallons of ordinary London pipe-water. We know of cases in which this method is now regularly and successfully adopted in household practice—of course on a small scale. *The Builder.*

Calendar of Operations.

(For the ensuing week.)

GENERAL REMARKS.

As severe weather may now, at any time, be expected, a good supply of dry litter, Fern, or other materials should be in readiness, for extra covering, when required. Take advantage of bad weather, to wash up and arrange the stock of dirty pots, to paint any tubs, baskets, wires, &c., out of use; repair and paint the sashes of houses not covered in, prepare labels of various sizes, forked sticks for pegging down plants in the flower garden, look over the stores, and provide whatever may be required for the season's use. If not already done, lose no time in getting under cover a supply of the various loams, peat, &c., required for spring potting.

PLANT HOUSES.

The principal work in this department will consist in keeping the houses and their inmates scrupulously clean. Moderate fires and ventilation, with frequent washing of stove plants, will be necessary. The conservatory and show houses should now be gay with Camellias and forced plants, which will take the place of the Chrysanthemums, now over. Keep up a regular succession of plants to bloom through the spring, by bringing forward the stock of forcing plants as wanted. Roses, both dwarfs and standards, Honeysuckles, scarlet Thorns, hybrid Rhododendrons, and Azaleas, with a host of other things, will enable you, in addition to the usual occupants of the houses, to make a brilliant show through the spring. Hyacinths, Narcissus, Tulips, Lily of the Valley, and other plants of the above class, must be duly forwarded as wanted. Hard wooded plants will require a dry pure atmosphere to guard against mildew and damp.

FORCING DEPARTMENT.

VINERY.—Considerable care will be necessary in maintaining a proper atmosphere for Vines now breaking. The great evil to guard against is too much moisture; and the other, the want of proper ventilation; for neither can the Vine, nor any other hard-wooded plant, form a healthy leaf in an atmosphere saturated with vapour, and deprived of circulation. It should, therefore, be the object of the cultivator, at this season, to keep the air in the house moderately moist and in motion. There are but few houses in which this cannot be done by a little contriving. The outside border should be carefully watched, and a heat not much exceeding 70° should be aimed at. In severe weather, be content with adding fresh material to the surface, rather than disturb the whole. Snow and heavy rain should be excluded by canvas well tarred, or thatching, with the above instructions. Let the temperature range from 58° or 60° by night to 65° by day, allowing an additional rise of 8° or 10° in sunshine. Succession Vineries should be pruned and dressed, as the crops are cleared off, and everything got in readiness to start them, as required. LATE VINERIES.—When Grapes are still uncut they must be kept perfectly dry and well aired, looking over the bunches occasionally to remove decayed berries. Prepare cuttings of the kinds you wish to propagate at this season. PINERIES.—At this season, in most places, Pines are in great demand; and accordingly, fruit-ripening will require a dryish heat, and as much light and air as can be given; those advancing may have more moisture, but the other conditions are essential to their well-doing. The bottom heat must be kept steady, but the plants not disturbed; a temperature ranging from 60 to 85 (the latter by sun heat only), will enable you to bring them on to perfection, if you have light in proportion; if not, reduce the temperature accordingly. The first crop for the season should now be showing fruit; these should have a dry temperature, until after flowering, and great attention paid, that they have no check at the root. Keep all the later fruiting stock and the successions in a dry, steady temperature, which may run from 58° to 70°. PEACH HOUSES.—Where the early Peach house was begun last month the buds will now be swelling; a genial heat must be kept up, not exceeding 40° or 45° by night, according to their forwardness, and 60° by day. Syringe them every morning, but on frosty evenings let the steaming of the heating apparatus suffice. Get the second house in order by pruning and tying in the wood. The shoots of some varieties of the Peach are often deficient of leaf buds, and it is better to wait till they break before shortening them, otherwise the fruit becomes abortive for want of a leader. Keep the outside borders protected from frost and snow, by some preventive material. If Cherries are wished particularly early, a few may now be commenced in a low temperature. Figs may now be started very gently, having previously been thinned out, and dressed; if in tubs, or pots, a soaking of liquid manure should be given them. Plunge the first crop of Strawberries in a mild bottom heat; the best kinds for the early crop are Keens, and the Alice Maude. When the truss of bloom appears, remove them to a light house to bloom. Protect the remaining stock from frost and heavy rains. The "Queens" are very tender, and are injured by either.

FLOWER GARDEN AND SHRUBBERY.

If flowers are required to occupy those beds in the spring, which are afterwards devoted to the usual bedding out plants, they will have been planted; and such being the case, some choice things now coming up may require a slight protection from severe frost. Sawdust, leaf-mould, or old tan, may be put over such things as the best Anemones, Scillas, Hyacinths, and Tulips, covering the surface afterwards to resemble the other beds. Keep the beds cleanly raked, and the edging and Grass in good order. The pleasure grounds will require frequent sweeping and rolling; the walks rolled, especially after frost, and every attention paid to neatness and order. Deciduous trees and shrubs may now be thinned out, and pruned, if such is required; but evergreens should not be touched for the present; nor do we advise planting, except in extreme cases, at this season. Ground, however, intended for planting, may be prepared with advantage. Mulch trees lately planted, to preserve them from frost. Low evergreens, if recently planted, would be benefited by sticking around them branches of larger evergreens, as the Fir, &c., should sharp frost come on.

HARDY FRUIT GARDEN.

The general pruning and training of wall trees and espaliers may be proceeded with at all times except in severe frosts. Peaches, Nectarines, Figs, and Apricots are, however, better left for some time yet. We advise Gooseberries and Currants to be planted in rows 5 feet apart, and trained as low espaliers, as the most eligible mode of growing them. These fruits may now have the necessary pruning. Take advantage of frosty weather to wheel manure to such fruit quarters as require assistance. Newly planted trees of all kinds should have their roots protected from frost by a mulching of litter or short dung.

KITCHEN GARDEN.

The manuring and trenching of vacant ground should be proceeded with, in dry frosty weather, at which times the formations of new borders should be attended to; and all descriptions of work, requiring the removal of earth. Clean plots of ground immediately the crops are off; as the refuse, if left, only afford shelter to vermin. In mild weather the vegetable quarters would be much benefited by a dressing of salt and hot lime, repeated in two or three times; this, by killing the present stock of slugs, will save much after trouble. Stir between all planted crops in dry weather such as Cabbage, Lettuce, Peas, &c. A successional crop of Peas and Beans may now be planted, the former in a dry sandy plot. We always sow our own in an open field for the early crop, and never stick them; but this applies only to certain localities. A small crop of Early Horn Carrot and short-top Radish may now be sown on a warm border, covering them with litter till they come up. Sow in a frame a little Cauliflower, Lettuce, Parsley, &c., for transplanting to a warm border in April, to succeed the autumn-sown plants. Give air at all opportunities to Radishes, Carrots, and plants, protected in frames. Keep up successions of Seakale, Asparagus, and Rhubarb, and make sowings of Cucumber and Melons for the spring crops. Cucumbers in a bearing state will require a high temperature, say 70° to 85°; keep the shoots thin, and allow them all the advantages of sun heat. The bottom heat must nearly approach that of the house.

State of the Weather near London, for the week ending Jan. 1, 1852, as observed at the Horticultural Garden, Chiswick.

Dec. and Jan.	Month's Age.	Barometer.		Temperature. Of the Air.			Of the Earth.		Wind.	Rain.
		Max.	Min.	Max.	Min.	Mean	1 foot deep.	2 feet deep.		
Friday.. 26	3	30.532	30.439	43	17	30.0	41	41	E.	.00
Satur.. 27	4	30.488	30.349	40	29	34.5	39	39½	S.W.	.02
Sunday. 28	5	30.427	30.313	42	31	36.5	38½	39½	E.	.03
Monday 29	6	30.495	30.486	40	36	38.0	39	39½	N.E.	.00
Tues. .. 30	7	30.488	30.398	40	21	30.5	39½	40½	S W	.00
Wed. .. 31	8	30.262	30.044	36	28	32 0	39	40	S.W.	.00
Thurs.. 1	9	29.956	29.789	35	21	28.0	28	38½	W.	.00
Average....		30.378	30.259	39.4	26 1	32 8	39.1	39.5		.10

Dec. 26—Frosty; fine; clear; sharp frost.
— 27—Frosty; overcast; slight rain.
— 28—Fine; hazy flying clouds; densely overcast; clear at night.
— 29—Partially overcast; slight haze; overcast at night.
— 30—Foggy throughout; frost at night.
— 31—Frosty and foggy; hazy; slight frost.
Jan. 1—Hazy; overcast; frosty at night.
Mean temperature of the week, 4½ deg. below the average.

State of the Weather at Chiswick, during the last 26 years, for the ensuing week, ending Jan. 10, 1852.

Jan.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 4	42.1	31.6	36.8	10	0.45 in.	3	3	3	4	2	7	2	2
Mon. 5	41.3	30.5	35.9	10	0.40	6	2	5	1	1	5	3	1
Tues. 6	40.9	30.2	35.6	9	0.33	2	6	3	3	3	7	2	1
Wed. 7	40.5	29.0	34.8	8	0.31	2	3	4	3	2	4	5	3
Thurs. 8	38.5	30.4	34.5	7	0.26	3	3	7	3	1	3	1	1
Friday 9	39.2	31.2	35.2	8	0.20	1	6	3	1	3	6	3	1
Satur. 10	40 8	30.1	35.4	11	0.40	1	6	3	4	4	4	2	2

The highest temperature during the above period occurred on the 6th and 7th 1845—therm. 54 deg.; and the lowest on the 7th and 8th, 1841—therm. 6 deg.

MONTHLY DEPTH OF RAIN, in inches and hundred parts of an inch, which fell at Chiswick in the years 1841 till 1851 inclusive.

	1841.	1842.	1843.	1844.	1845.	1846.	1847.	1848.	1849.	1850.	1851.
	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.
Jan. ...	0.76	1.06	1.33	2.25	2.97	2.85	1.31	1.16	1.73	1.43	3.07
2 60	1.32	1.53	2.35	2.27	0.93	1.47	0.94	3.12	2 52	0.95	0.90
Feb. ...	1.32	1.61	0.47	2.44	1.25	1.02	0.41	3.05	0.85	0.13	3.57
March ...	1.53	0.15	1.62	0.33	0.95	3.93	0.92	3.06	2.21	1.79	1.65
April ...	1.82	1.76	5.26	0.25	2.89	1.35	1.59	0.28	3.53	1 84	0.74
May ..	2.16	1.73	1.62	0.97	1.36	0 80	1.31	3.20	0.31	1.40	1.33
June ...	2.45	1.58	1.67	2.10	2.31	1.78	0.79	2.21	2.82	2.63	3.90
July ...	3.56	1.52	3.28	1.84	2.70	4.50	1.50	4.70	1.60	0.97	2.03
August. ...	2.69	2.81	1.02	0.33	0.95	3.93	0.92	3.06	2.20	2.36	0.42
Sept. ...	3.71	3.39	0.98	1.31	1.77	1.76	1.66	2.20	2.49	2.38	0.42
Oct. ...	4.61	1.71	4.19	4.13	1.39	5.54	1.75	2.93	2.18	1.55	2.01
Nov. ...	3.41	4.47	2.13	3.06	2.11	1.43	2.26	0.90	1.32	2.03	0.55
Dec. ...	2.12	0.76	0.58	0.39	2.61	1.21	1.81	2.03	1.28	1.15	0.62
Annual amount }	30.97	22.31	25.48	21.34	23.33	27.71	16.25	28.84	22.84	18.23	20.79

The annual amount of rain at Chiswick, on an average of 25 years, is 24 inches; consequently the amount in 1851 is 3.21 inches below the average. 1817 was the driest year in the present century.

Notices to Correspondents.

APPLES: *WM, Ely.* Your Apple appears to be new; middle-sized, round; eye close, in a slight depression, surrounded with small plaits; stalk about half an inch in length; skin pale yellow, sprinkled with numerous brown dots; flesh yellowish white, remarkably tender, almost melting, with a sweet, moderately brisk flavour, and slightly perfumed aroma. ‖

BEE HIVES: *Catterick.* We shall have something to say presently respecting the plan with which you have favoured us.

BIRDS; *W P.* It all arises from your having placed him in a *wicker* cage. These ugly, unsuitable dwellings for blackbirds, thrushes, and starlings, ought now to be altogether discarded. Put your bird into a wooden cage, painted green, having one side closed, to prevent the entrance of draught, and all will be right.—*J H.* You are altogether wrong in the treatment of your birds; and the "excitement" which you say "kills" them, will soon leave you quite destitute. Separate them immediately, and assign a cage to each separate bird. Then suspend them, one over the other, lest perchance they should see each other. It is this propinquity that creates the excitement. Your birds will, under such circumstances, sing equally loud, and be far more "steady." —*W S.* Your bird requires a change of scene, air, and food. Let him out, and give him bread and milk (the latter boiled). He will quickly rally.—*Juvenis.* You may keep some half dozen of these in one long narrow cage. They look very pretty when all at roost in one line, and they rarely disagree. —*Anne B.* His feet are diseased through *dirt.* Cleanliness must be enforced on, and practised by, all who would have fine healthy birds.—*Sophie.* We are pleased exceedingly that we have been so successful in bringing your birds, so long silent, "into fine song." These matters *ought* to be recorded; it gives us encouragement.—*Alice.* By all means; procure two others, and keep them all together. A morsel of suet now and then will give *them* delight, and *you* unceasing amusement.—*Harrison.* The mountain finch is not worth keeping, as regards his song; but he is by no means an ugly bird to look at. His voice is wiry and harsh; his constitution hardy. Being particularly quarrelsome by nature, he must have no 'companion' to share his cage.—*Maria L.* He will not commence singing before March.—*Jacob R.* If two years old, all the better. He will be more "true" to the wild note.—*Alexander C.* They are *not* very abundant in the neighbourhood of London, but may be purchased here in the proper season.—*Ninetta.* If he sings so well, you ought to be satisfied. "Beauty" is only an "ideal" value.—*Angelina.* If, contrary to our repeated instructions, you bought your bird of a dealer in the street, he NEVER WILL "sing!"—*A Constant Reader.* Purchase a Belgian male canary, and a Norwich hen. Birds thus bred turn out well; but wait until March before you think of "pairing" any of your stock. *W.K.*

BOOKS: *A Sub.* There is "Antoine's Conifereæ," with plates, published at Vienna, and Lambert's "Monograph of the Genus Pinus," the 8vo edition. Both to be had through the booksellers, and both expensive.

BLINDS: *S J S H.* Your letter on this subject has been received, and will be published as soon as the woodcuts shall have been prepared for it.‡

CELERY LEAVES: *W Ford.* Very curious. We will publish some account of them.

FERNS *W S.* We cannot recommend dealers.‡

HEATING: *A S.* We cannot recommend you to employ steam. It does not answer. If, however, notwithstanding this caution, you desire to employ it, then place your pipes as low as circumstances will permit. Heat rises, not descends, and near the glass is the worst possible position for the pipes that convey it.

ICE, &c.: *A H.* You shall have an answer at length in a very short time.

NAMES OF PLANTS: *G P L.* Umbelliferous plants without fruit cannot be named. Your plant looks like a bit of Malabaila graveolens.—*A H.* Thuja filiformis is this. Thuja pendula is one of its aliases. It is hardy near London.—*T S P.* The seed is Paddy; *i. e.* Rice in the husk. The tea was much broken, and was but a fragment originally: we doubt whether it is tea at all.—*J A, Liverpool.* A new Dendrobium called bursigerum, near secundum.—*E B.* Acacia vestita.

SALADS: *S M.* We are not acquainted with any passage in Evelyn where he prefers, "to all other salads, those taken from the crops of wild pigeons;" nor do we understand what he meant if he ever said so.

SEEDS: *J V M.* Aquatics germinate under the water. Among the quickest of all seeds to vegetate are those of Chickweed. Heat, damp, and darkness are the best means of inducing vegetation.‡

THE VIPER CONTROVERSY: *G W M.* This subject has been utterly exhausted, and we dare not reopen it. There is no doubt that your informants believe they saw what they describe; but that is not the question. The point is, was their observation correct? Assertions and counter-assertions prove nothing.

VINERY: *Belfast Sub.* Use Hartley's rough plate glass. If you wish to refer to them, you will find testimonials in its favour from some of the best gardeners in England, at p. 773 of our last year's volume.‡

PERUVIAN GUANO.

CAUTION TO AGRICULTURISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

ANTONY GIBBS AND SONS, AS THE ONLY IMPORTERS OF PERUVIAN GUANO,

Consider it to be their duty to the Peruvian Government and to the Public again to recommend Farmers and all others who buy to be carefully on their guard.

The character of the parties from whom they purchase will of course be the best security, and in addition to particular attention to that point, ANTONY GIBBS AND SONS think it well to remind buyers that—

The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 9l. 5s. per ton, less 2½ per cent.

Any resales made by dealers at a lower price must therefore either leave a loss to them, or the article must be adulterated.

THE LONDON MANURE COMPANY beg to offer PERUVIAN GUANO, warranted perfectly genuine; Superphosphate of Lime, Wheat Manure, Concentrated Urate, Irish Peat Charcoal, Gypsum, Nitrate of Soda, and every artificial Manure, on the best terms. Also a constant supply of Salt for Agricultural Purposes, at a low rate. English and Foreign Linseed Cake, Rape Cake, &c.

EDWARD PURSER, Secretary, Bridge-street, Blackfriars.

MANURES.—The following Manures are manufactured at Mr. LAWES's Factory, Deptford Creek:

Turnip Manure, per ton	...	...	£7 0 0
Superphosphate of Lime	...	...	7 0 0
Sulphuric Acid and Coprolites	...	...	5 0 0

Office, 69, King William-street, City, London.

N.B. Peruvian Guano, guaranteed to contain 16 per cent. of Ammonia, 9l. 10s. per ton; and for 5 tons or more, 9l. 5s. per ton, in dock. Sulphate of ammonia, &c.

FOSSIL BONES AND PSEUDO-COPROLITES (FROM THE SUFFOLK CRAG).

EDWARD PACKARD AND CO., of Ipswich, having erected very powerful Machinery for the purpose of reducing these Phosphatic Nodules to a fine Powder, and being in the immediate locality of where they are found, are now prepared to supply them on the most economical terms, in any quantity, either Ground, Whole, or Dissolved in Acid. They form the cheapest source of Phosphate of Lime in the market, and are peculiarly eligible for manufacturing Superphosphate of Lime in conjunction with Bone.

Prices and every information connected with their use forwarded on application to EDWARD PACKARD AND Co., Artificial Manure Manufacturers, Ipswich, Suffolk.

FARMERS AND GARDENERS are invited to try the NEW and VALUABLE MANURE, PEAT CHARCOAL, impregnated by pressure with the fertilising matter of the LONDON SEWAGE, the Ammonia, Phosphates, and Fæces being absorbed, and the water left bright and palatable. Sold at the Charcoal and Sewage Works, Stanley Bridge, Fulham, Middlesex, at 60s. per ton, 4s. per cwt., and 2s. 6d. per half cwt.

STEPHENSON AND Co., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much Improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description; but to those who have not seen them in operation, prospectuses will be forwarded, as well as references of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the Kingdom.

S. and Co. beg to inform the Trade that at their Manufactory, 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood, erected on the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

CHEAP AND DURABLE ROOFING.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

F. M'NEILL AND Co., of Lamb's-buildings, Bunhill-row, London, the Manufacturers and only Patentees of THE ASPHALTED FELT FOR ROOFING Houses, Farm Buildings, Shedding, Workshops, and for Garden purposes, to protect Plants from Frost.

At the Great National Agricultural Shows, it is this Felt which has been exhibited and obtained TWO SILVER MEDAL PRIZES, and is the Felt SOLELY patronised and adopted by

HER MAJESTY'S WOODS AND FORESTS,
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And on the Estates of the Dukes of Sutherland, Norfolk, Rutland, Newcastle, Northumberland, Buccleuch (at Richmond), the late Earl Spencer, and most of the Nobility and Gentry, and at the ROYAL AGRICULTURAL SOCIETY'S HOUSE, Hanover-square.

It is half the price of any other description of Roofing, and effects a great saving of Timber in the construction of Roofs. Made to any length by 32 inches wide.

PRICE ONE PENNY PER SQUARE FOOT.

*** Samples, with Directions for its Use, and Testimonials of seven years' experience, with references to Noblemen, Gentlemen, Architects, and Builders, sent free to any part of the town or country, and orders by post executed.

☞ The Public is cautioned that the only Works in London or Great Britain where the above Roofing is made, are

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Patent Felt Manufactory, Lamb's-buildings, Bunhill-row, London, where Roofs covered with the Felt may be seen.

The new Vice-Chancellor's Courts, at the entrance of Westminster Hall, were roofed with F. M'NEILL and Co.'s Felt about two years since, under the Surveyorship of Chas. Barry, Esq., R.A. Her Majesty's Commissioners of Woods and Forests are so satisfied with the result that they have ordered the Committee Rooms at the Houses of Parliament to be roofed with their Felt. Quantity altogether used, 24,000 feet.

NOTE.—Consumers sending direct to the Factory can be supplied in lengths best suited to their Roofs, so that they pay for no more than they require.

Every information afforded on the construction of Roofs, or any proposed particular application of the Felt.

A PRIZE MEDAL FOR SUPERIOR LOCKS WAS AWARDED TO J. H. BOOBBYER, AT THE GREAT EXHIBITION OF 1851

PATENT SPADES, DAISY RAKES, SCYTHES, Draining, and other Garden Tools. Mole Traps, 6s. per dozen. Carpenters and Smiths' Tools, &c. Ladies' Garden Tools, 7s. 9d. a set. Sword-scrapers for Gardens, 1s. 2d. each. Patent Fumigators for destroying insects on plants, in greenhouses, &c.: at Messrs. J. H. BOOBBYER and Co.'s (late STURCH and BOOBBYER), Ironmongery, Brass-foundry, Nail and Tool Warehouse, 14, Stanhope-street, Clare market, London. Established nearly 200 years for the sale of goods from the best Manufactories at the lowest prices. Goods forwarded to any part on the receipt of remittance.

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Surveying, Civil Engineering, and Mathematics—W. Sowerby, A.I.C.E.
Manager of Farm—R. Vallentine.
Assistant to Chemical Professor—A. Williams, M.R.C.S.

The next Session will begin early in February. Students are admitted either as boarders or as out-students. The annual fees for boarders vary from 45 to 80 guineas, according to age and other circumstances. The fee for out-students is 40l. per annum. The College course of lectures and practical instruction is complete in one twelvemonth — though for younger students a longer time is recommended. There is a department for general as well as for agricultural education. Prospectuses and information can be had on application to the Principal.

The Agricultural Gazette.

SATURDAY, JANUARY 3, 1852.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

THURSDAY, Jan. 8—Agricultural Imp. Soc. of Ireland.
WEDNESDAY, — 14—Highland and Agri. Society.
THURSDAY, — 15—Agricultural Imp. Soc. of Ireland.

As a contribution to the history of the WHEAT CROP, which may be useful in autumn 1852, though too late to be of much service for next harvest, we subjoin the amount of some experiments made during the past season, whose results have only lately been obtained.

The following varieties of Wheat were hoed in during December, 1850, on adjoining quarter-acre pieces of sandy loam, which had borne a crop of Belgian Carrot. The first 10 were obtained from Mr. EAMES, of Beaulieu, near Lyndhurst, Hampshire, the remaining five were furnished by Mr. PIPER, of Colne-Engaine, Essex. The seed was sown at the rate of one bushel per acre. The produce per acre has been calculated from the measured and weighed produce of the several plots, and, with the weight per bushel, is stated below.

Name.	Produce per acre. Bushels.	Weight per bushel. lbs.
1 Talavera	32.9	62½
2 Payne's Rivett	28 8	62
3 Cone, White Chaff Red	24.2	60¾
4 Egyptian	28.9	61
5 Burrell's Red	23.5	61
6 Talavera	28.9	62
7 Champion	24.8	63
8 Bristol Red	32.2	60¾
9 Prince Albert	24.1	60
10 Golden Drop	36.6	60
11 Essex White	34	63
12 Whittaker's Wheat ...	33.7	59
13 Red Chaff Dantzic ...	30	57¾
14 Old Red Straw Lammas	35.8	59½
15 Foster's One Eared Wheat ...	35	60¾

The following again is the produce per acre of 10 other sorts; the first of which was obtained from the Rev. GEORGE WILKINS, of Wix, the second and third from Mr. BEMAN, of Moreton-in-the-Marsh, Gloucestershire, and the others from Mr. SCOTT HAYWARD, of Folkington, Sussex. They were sown in another field, upon much better land, that had borne a crop of Beans.

Name.	Produce per acre. Bushels.	Weight per bushel. lbs.
1 Egyptian	41.4	61½
2 Donna Maria	51.9	60
3 Prima Donna	42.4	60½
4 Terrewest's White ...	38 5	63½
5 Marsden's Matchless ...	38.5	62
6 Norfolk Red	48.4	62
7 Rivett's	52.8	62½
8 Fullard's Red	45.7	62
9 Spalding	47.5	62½
10 Alfreston's Rough Chaff ...	45.5	62½

The Egyptian Wheat and the Rivett's yielded an enormous bulk of straw, of great height, and promised, while growing, to yield the heaviest produce of grain also, but only one of them performed its promise. The most valuable crop of the series, undoubtedly, was that of number *two*, presented to us by Mr. BEMAN.

AT a moment when over the principal part of Europe the Press lies gagged and hushed—the nations of the civilised world forbid to use their voices, warned like the traveller near an impending avalanche, not to speak above a whisper, for fear of bringing down some loose and slippery mass that in the nature of things must and will come toppling sooner or later of its own accord,——from its hundred throats the voice of free England is cheering out the glorious year that has witnessed the most triumphant achievement which human civilisation ever accomplished, and will carry with it into the wake of time the best-earned wreath that the memory of a nation, always more grateful to the Past than trustful of the Future, can fling around the Tablet that bears the simple date of 'A.D. 1851.'

A teeming and mysterious thing in the sight of all living is this flight of Time, bringing its recognised and well known epochs again and again before the eye, and still rushing on and leaving them behind, suggesting the most modern of similitudes to the thought in the busy and hurrying 'Express Train' that so aptly symbolises the age of its own invention. But most mysterious of all in the passage of time is the different relation that it bears to different beholders. As no two people ever see the same object from precisely the same point of view at the same moment, so do the same epochs bring both to nations and to individuals hopes fears and prospects as dissimilar and varying as their own attitude and condition. The old man reliant even to excess upon the realised experiences of life, can scarcely picture to himself, even for the instant, the ardent and trustful promise with which the new year is pregnant to the eye of youth; the quiet dweller among the fields or workshops of England can form none but the vaguest conception of the prospect which the coming year suggests to the inhabitant of countries which though so near, and advanced to the same point with ourselves in some of the features of civilisation, seem to be sent back to spell over again the first lesson of the political organisation of society. Nor is it otherwise in the arts: the rapid advancement of some, though dating their origin almost within the existing century, the slowness and backwardness of others though coeval almost with the existence of our race, powerfully suggest to us the different conditions of existence that the same sun shines upon, the dissimilar and even contrary points of view from which the same instant and epoch is beheld, according to the degree and *preparation* of the beholder.

Nowhere does this reflection strike us more forcibly than in its bearing upon agriculture. Of all the business pursuits practised in this country, where is there one at the present moment in which such difference of opinion prevails, even upon first principles. But strange as this may be, is the difference less or less strange that may be seen by anybody, lying out-of-doors open to all men's view from day to day, from month to month, from *year to year*, in the comparative condition of *adjoining* farms?

"Every county presents contrasts abundantly instructive, the most antiquated and most modern systems being found side by side. The successful practices of one farm or one county are unknown or unheeded in the next. On one side a hedge, in some counties, a plough with five horses and two men, and on the other side of the same hedge a plough with two horses and one man, are doing precisely the same amount of work. In adjoining fields may be seen a foul Turnip crop under 10 tons an acre, and a luxuriant one above 30. On neighbouring farms of similar soil the Wheat crop may vary from 20 to 40 bushels an acre, and most probably *the man who grows 20 pays not less than 9s. for threshing that quantity by hand, while the other threshes his 40 bushels by steam for 3s. 6d.* * * * * * * *

"If we spent one day," (continue the authorities from whom we quote), "in examining Sir John Conroy's farm at Arborfield, Mr. Hudson's at Castleacre, Mr. Beasley's at Overstone, or Lord Hatherton's at Teddesley, we were almost sure to be wandering, on the next, through the mazes of frequent hedgerows, gazing at five horses elaborately doing the work of two, manure suffered to go to waste, cattle insufficiently housed and fed, land undrained and unproductive, and farmers complaining, not without reason, of their want of success. One day we learnt the processes by which Mr. Huxtable economises labour, manure, and food; and the next we saw in operation an antiquated fanning machine, precisely the same as Arthur Young described it 80 years ago, and worthy of the days before the conquest; manure treated as a troublesome nuisance, and cattle wasting their substance and their food by being kept starving in the open fields in winter. The same day on which we saw the steam engine of Mr. Thomas, of Lidlington, in Bedfordshire, with which he is enabled to thresh his Wheat crop for 1d. a bushel, we found other farmers paying four or five times as much for the operation, not so well done, by hand. On one farm in Suffolk we have seen the land prepared for Turnips by skim ploughing, scarifying, and one deep furrow, at a cost not exceeding 25s. an acre; and on another, of precisely the same kind of land, the farmer was compelled by covenant to give his land four or five furrows, with repeated harrowing and rolling, to effect the same object at more than double the cost."

Now, looking at the general circumstances of this country, in the progress of other arts and manufactures, in the growth of science, and in that which presides over both, viz., the mental advancement of the more active part of the community—we must, and do call this a most extraordinary, an almost unaccountable state of things. We are not

speaking of a doubtful fact, a matter of argument or opinion: we believe that there is scarcely one in a hundred of our readers who does not admit the truth of the description, point after point as it is above given, in one of the concluding Reports of the *Times'* Commissioners. What *is it* that amidst the rival and therefore proximately equal progress in other pursuits, keeps the Agriculture, we ought rather to say *the Land* of the country in this piebald state? Is it the fault of the Laborers? or the Tenants? or the Landlords?

To the generality of those who take an interest in the subject, it commonly occurs in every day thought, as matter of course, that somewhere amongst these three the fault must lie. Is it possible that there is an alternative beyond,—that it lies with *neither* of them? The Laborer we acquit at once: is there something then in the character of the Farmer,—or the Landowner,—which makes him different to others of English mould? Is he a being actuated by opposite motives, subject to different impulses, from other men? Does any one seriously believe this?—because, after all allowance for the influence of remoteness and comparative isolation upon a business like that of farming, to this complexion it must come at last, if there be nothing beyond, nothing deeper-seated, and underlying the *whole economy and frame-work of cultivation, or of ownership, or of both.* We believe that the mention of this possible alternative suggests a subject which sooner or later must occupy the attention of the Legislature of this country in a degree, and with a peremptory force, that is as yet by no means generally suspected or understood. We have entered into free and open competition with the whole world in the products of the soil: we profess to meet all comers in all markets. When the vain hope of retracing this step, already nearly extinct, shall have absolutely died out, and given place to closer scrutinies; when free trade in corn shall have become at least an admitted *fact*, even by those who least admire it; and the substituted cry of 'burthens upon land' have been whipped off as a poor scent not worth following—is there *no* further question, *no* alternative, no cause or causes to be found at work, affecting our ability to meet the world in Agriculture as we do in Trade and Manufactures?

In a word, amidst this talk and behind this necessity of free trade in the produce of land, is the land itself free that is to produce it? Is it free to buy, and free to sell, free to hold, free to let, free to occupy? Is it all of these, or *any one* of them? Are the laws which relate to it, and the customs and practices which those laws control, sanction, or set example to, based upon the same free principles of commerce which have been declared and decreed respecting its saleable produce? Can the buyer buy or the seller sell without unreasonable expense, delay, or impediment; and that in any quantity, large or small? Can the lessor let with plenary powers to the occupier to occupy to the utmost advantage both in duration of tenancy, and security for outlaid capital? Can the lessee take and hold land with full assurance for every investment, a free reclaimer of every fixture or other permanent addition, requisite for its most profitable occupation? What is an *owner* of land? Is it a person with a certain proprietary power, uniform in character, intelligible to himself, and readily ascertainable by others, clothed with ample means for the exercise of every duty and the conferring of every faculty requisite for the cultivation of the soil, by others, as his *locum tenentes*,—or is the proprietary interest in land a thing that has been cut up by the curious and fine dissection of the legal scissors into a series of complicate 'estates,' for life, for others' life, in tail, in fee-simple, fee-conditional, in reversion, remainder, contingent remainder, joint-tenancy, tenancy in common, coparceny, 'legal-estate,' trusteeship, &c., most of them either the direct creation of the feudal system, or modifications upon it effected by monkish ingenuity, or at the latest by statutes attempting to grapple with the monastic interpretations; resulting altogether in a mass of such complication and difficulty, that years of wasteful labour are required even to comprehend the obsolete and antiquated forms, that chamber-practice learns to swallow and re-assert as a necessity, and ignorance to wonder at as a mysterious beauty. If a system had been expressly devised to keep everyone but a small part of the legal profession in absolute darkness as to the rights and privileges of an owner of land,—to oppress every landed proprietor with an annual tribute to the lawyer, to learn how to deal with his own soil, and to transact his own business,—to fetter and impede the sale of land, rendering its transfer difficult and expensive in large, and almost impracticable in small quantities, none could have been more effective, regard being had to our respect in this country for everything in the shape of law, than the real-property system, if system it may be called, which has accumulated upon our age, paralysing the very hope of reform, and sending us into the world blind-born like puppies, to its deep-seated influence upon the arm of agricultural enterprise and industry.

'The way in which we meet lower prices is by laying out additional capital,' cries the man of commerce and manufactures; 'you must do the same upon the land: there is nothing needs it more, offers better security, or returns it in the long run more surely.' But who is the person addressed? The tenant for life in tail, who, it is said, owns two-thirds of the acres of England, or the tenant-farmer who holds under him from year to year, or even on lease, the land which will presently revert with all its improvements to another? There is a striking analogy in their respective positions: to each the greedy soil appeals in turn, *gula pecuniæ*, for more liberal outlay; from each the answer is the same; the one points to his younger children whom his spare capital must provide for, or to his inherited and 'settled' mortgages which he is restricted from selling a portion of his acreage to pay; the other pleads his mere annual or leasehold tenure, at the close of which his investments may become a subject of valuation against himself.

"No improvements," observes Mr. Mill* "operate more directly upon the productiveness of labour than those in the tenure of farms, and in the laws relating to landed property. The breaking up of entails, the cheapening of the transfer of property, and whatever else promotes the natural tendency of land, in a system of freedom, to pass out of hands which can make little of it into those which can make more; the substitution of long leases for tenancy at will; above all, the acquisition of a fixed interest in the soil by the cultivation of it; all these things are as real, and some of them as great improvements in production, as the invention of the spinning-jenny or the steam-engine."

There is a dim and confused sense of the truth of this, beginning to pervade the agricultural part of the community, but nothing like a firm distinct or adequate idea of its momentous or practical importance. The greatest evil that can beset a question of public interest—viz., complexity—baffles and diverts the minds of those most interested, from the intelligent prosecution of the subject. The system of divided interests, of which land is peculiarly the creature, separates and splits off the attention of each party from the fundamental question which underlies the interests of all. It is nobody's business, because it is everybody's. The landowner, the tenant, the labourer, and *the land*, amerced in detail, are almost equally unconscious of the cause, of which each partakes in the effects. But the subject is one requiring close and careful investigation; and the year now opened will, we trust, give it an understanding and a tongue. *C. W. H.*

THE MANURES OF TOWNS.

The General Board of Health has recently directed an examination and report to be made (for the information of the local Boards of Health), of the leading instances of the application of sewer manure and of liquid manure to agricultural production. The following letter to the General Board from the Hon. Dudley F. Fortescue, who is an agriculturist, and who took a part in the investigation, gives an account of the most recent observation of the produce obtained in the chief examples:—

My Lords and Gentlemen,—Having been requested by one of the members of your Board, my friend Mr. Chadwick, to aid him in further investigating some of the agricultural results of the application of liquid manure which the pressure of the engagements of the Board prevented him from examining for himself, I had much pleasure in devoting a portion of my leisure this year to that object. Of a visit I made in his company, together with Mr. Ranger, Mr. Rawlinson, and Mr. Rammell, three of your Engineering Inspectors, to some of the more recent and important examples in Scotland of the application of sewer water and of the distribution of farm manure in the liquid form, I beg to present to you the following details.

The first farm we visited was that of Craigentinney, situated about one mile and a half south-east of Edinburgh, of which 260 Scotch† acres receive a considerable portion of such sewerage, as, under an imperfect system of house-drainage, is at present derived from half the city. The meadows of which it chiefly consists have been put under irrigation at various times, the most recent addition being nearly 50 acres laid out in the course of last year and the year previous, which lying above the level of the rest are irrigated by means of a steam engine. The meadows first laid out are watered by contour channels following the inequalities of the ground, after the fashion commonly adopted in Devonshire; but in the more recent parts the ground is disposed in "panes" of half an acre served by their respective feeders, a plan which, though somewhat more expensive at the outset, is found preferable in practice. The whole 260 acres take about 14 days to irrigate; the men charged with the duty of shifting the water from one pane to another give to each plot about two hours' irrigation at a time; and the engine serves its 50 acres in 10 days, working day and night, and employing one man at the engine and another to shift the water. The produce of the meadows is sold by auction on the ground, "rouped," as it is termed, to the cow-feeders of Edinburgh, the purchaser cutting and carrying off all he can during the course of the letting, which extends from about the middle of April to October, when the meadows are shut up, but the irrigation is continued through the winter. The lettings average somewhat over 20*l.* the acre; the highest last year having brought 31*l.*, and the lowest 9*l.*; these last were of very limited extent, on land recently denuded in laying out the ground, and consequently much below its natural level of productiveness. There are four cuttings in the year, and the collective weight of Grass cut in parts was stated at the extraordinary amount of 80 tons the imperial acre. The only cost of maintaining these meadows, except those to which the water is pumped by the engine, consists in the employment of two hands to turn on and off the water, and in the expense of clearing out the channels, which was contracted for last year at 29*l.*, and the value of the refuse obtained was considered fully equal to that sum, being applied in manuring parts of the land for a crop of Turnips, which, with only this dressing in addition to irrigation with the sewage water, presented the most luxuriant appearance. The crop, from present indications, was estimated at from 30 to 40 tons the acre, and was expected to realise 15*s.* the ton sold on the land. From calculations made on the spot, we estimated the produce of the meadows during the eight months of cutting at the keep of 10 cows per acre, exclusive of the distillery refuse they consume in addition, at a cost of 1*s.* to 1*s.* 6*d.* per head per week. The sea-meadows present a particularly striking example of the effects of the irrigation; these, comprising between 20 and 30 acres skirting the shore between Leith and Musselburgh, were laid down in 1826 at a cost of about 700*l.*; the land consisted formerly of a bare sandy tract, yielding almost absolutely nothing; it is now covered with luxuriant vegetation extending close down to high-water mark, and lets at an average of 20*l.* per acre at least. From the above statement it will be seen how enormously profitable has been the application in this case of town refuse in the liquid form; and I have no hesitation in stating, that, great as its advantages have been, they might be extended four or five fold by greater dilution of the fluid. Four or five times the extent of land might, I believe, be brought into equally productive cultivation under an improved system of drainage in the city and a more abundant use of water. Besides these Craigentinney meadows there are others on this and on the west side of Edinburgh, which we did not visit, similarly laid out, and I believe realising still larger profits, from their closer proximity to the town and their lying within the toll gates.

The next farm visited was in the immediate vicinity of Glasgow, where the supply of liquid manure is derived from another source, and distributed in a different manner. The supply is from a dairy of 700 cows, attached to a large distillery; the entire drainage from the former flows in a full continuous stream into a tank containing 30,000 or 40,000 gallons, whence it is pumped up immediately by a 12-horse power engine, and forced through 4-inch iron pipes, laid about 18 inches under ground, into large vats or cisterns placed on the highest points of the land to be irrigated. From these it descends by gravitation through another system of pipes laid along the ridges of the hills, finding an outlet through standcocks placed at intervals, from which it is distributed through moveable iron pipes fitting into each other, and laid along the surface in whatever direction the supply is required. The land thus irrigated consists of three farms lying at some distance apart, the farthest point to which the liquid is conveyed being about two miles, and the highest elevation 80 feet above the site of the tank and engine. The principal use to which the irrigation has been applied has been to preserve the fertility of the pastures, the general appearance of which was at first rather disappointing; but this was explained by the fact that they are fully stocked, and that the cows rush with avidity to those parts that have been last irrigated, and eat them down quite bare. As is the case in other instances, however, by far the most profitable application has been found to be to Italian Rye-grass, of which 15 (Scotch) acres were under cultivation, some with seed supplied by Mr. Dickinson, whose successful cultivation of it by similar means near London has long been known. The first cutting of this had yielded about 10 tons the acre, the second nine, and the third, which was ready for cutting, was estimated at eight or nine more. Some crops of Turnips and Cabbages were pointed out to us in a state of vigorous growth, and with more than common promise of abundance; these were raised by a dressing of ashes and refuse (of little fertilising value, having been purchased at 2*s.* 6*d.* a ton), conjoined with four doses of liquid, one after the preceding crop of Oats had been carried, one prior to sowing, and two more at different stages of growth. The enterprising gentleman who has carried out these works at his own expense, and in spite of the discouragement arising from partial failure

* Political Economy, B. 1, c. xii., On the law of Increase of Production from Land.

† One-fourth more than the English acre.

in his earlier attempts, though speaking cautiously, as was natural in a tenant on a 19 years' lease, of the pecuniary results of this undertaking, imparted some facts which leave little doubt that it must have been largely remunerative. Besides maintaining, if not increasing, the fertility of the pastures, to which the solid manure from the byres was formerly devoted, at a heavy expense of cartage (the whole of which is now saved), he is enabled to sell all this manure, of which we estimated the quantity at about 3000 tons a year, at 6*s.* a load. For a good deal of the Italian Rye-grass not required for his own consumption he obtained 13*s.* a ton, the profits on which, taking into account the yield before stated, may easily be imagined.

These results fall infinitely short of what might be done by carrying out the same system on an improved scale; the urine, instead of being diluted, as has been found most expedient in practice, with three or four times its bulk of water, is delivered on the land in nearly its full strength, or with not more than one-third of water, thereby occasioning an enormous waste, greatly increased by the impervious nature of the soil of the pastures, from the surface of which it flows off in large quantities, to the loss of its fertilising effects, and to the pollution of the waters of the neighbourhood. The breaking up and cultivating more of this land in Italian Rye-grass and root crops, would add immensely to the productiveness of the farm. I must mention that the mode differs in applying the liquid to the pasture and to the cultivated land; on the former it is distributed from a hose of gutta percha, or vulcanised caoutchouc, on the latter a succession of short lengths of iron pipe, 3 feet long, 1½ inch in diameter, laid down between the drills, are added on almost as quickly as a man can walk, and the liquid is thus shed about the roots of the plants, without touching the leaves, so as to be capable of innocuous application, if desired, at the latest periods of growth. It is interesting to know that these works were undertaken under the combined influence of the late Mr. Smith of Deanston's representations of the immense waste of valuable material that formerly took place, and of the remonstrances of parties in the vicinity, to whom the flow of refuse into the adjoining canal was an intolerable nuisance.

The next place visited was the farm of Myer Mill, near Maybole, in Ayrshire, the property of Mr. Kennedy, who adopted and improved on the method of distribution just described. On this farm, about 400 imperial acres of which are laid down with pipes, some solid as well as the liquid manure has been applied by these means, guano and superphosphate of lime having been thus transmitted in solution, whereby their value is considerably enhanced. This is especially the case with guano, the use of which is thus rendered in great measure independent of the uncertainties of climate, and it is made capable of being applied with equal advantage in dry as in wet weather. In some respects this farm labours under peculiar disadvantages, as water for the purpose of diluting the liquid has to be raised from a depth of 70 feet, and from a distance of more than 400 yards from the tanks where it is mixed with the drainage from the byres. These tanks are four in number, of the following dimensions respectively: 48 × 14 × 12; 48 × 14 × 15; 72 × 14 × 12; 72 × 17 × 12. They have each a separate communication with the well from which their contents are pumped up, which are used in different degrees of "ripeness," a certain amount of fermentation induced by the addition of Rape-dust being considered desirable. The liquid is diluted, according to circumstances, with three or four times its bulk of water, and delivered at the rate of about 4000 gallons an hour, that being the usual proportion to an acre. The quantity to be applied is determined by a float-guage in the tank, which warns the engineer, whose business it is to watch it, when to cut off the supply, and this is a signal to the man distributing it in the field, to add another length of hose, and to commence manuring a fresh portion of land. The pumps are worked by a 12-horse power steam-engine, which performs all the usual work on the farm, threshing, cutting chaff and Turnips, crushing oil-cake, grinding, &c.; and about six-horse power is the proportion required for the service of the pumps. The pipes are of iron; mains, submains, and service pipes, 5, 3, and 2 inches in diameter respectively, laid 18 inches or 2 feet below the surface. At certain points are hydrants, to which gutta-percha hose is attached in lengths of 20 yards, at the end of which is a sharp nozzle with an orifice ranging from to 1 to 1½ inch, according to the pressure laid on, from which the liquid makes its exit with a jet of from 12 to 15 yards. All the labour required is that of a man and a boy to adjust the hose and direct the distribution of the manure, and 8 or 10 acres may thus be watered in a day. There are now 70 acres of Italian Rye-grass and 130 of root crops on the farm. The quantity they would deliver by a jet from a pump worked by a larger steam-engine would be 10,000 gallons or 178 tons per diem, and the expense per ton about 2*d.*; but a double set of men would reduce the cost. The extreme length of pipe is ¾ of a mile, and with the hose the total extent of delivery is about 1,000,000 yards, or 400 acres. To deliver the same quantity per diem by water-carts to the same extreme distance would be impracticable. One field of Rye-grass, sown in April, has been cut once, fed off twice with sheep, and was ready (August 20) to be fed off again. In another, after yielding four cuttings within the year, each estimated at 9 or 10 tons per acre, the value of the aftermath for the keep of sheep was stated at 25*s.* an acre. Of the Turnips, one lot of Swedes dressed with 10 tons of solid farm manure, and about 2000 gallons of the liquid, having 6 bushels of dissolved bones along with it, was ready for hoeing 10 or 12 days earlier than another lot dressed with double the amount of solid manure without the liquid application, and were fully equal to those in a neighbour's field which had received 30 loads of farm-yard dung, together with 3 cwt. guano and 16 bushels bones per acre; the yield was estimated at 40 tons the Scotch acre, and their great luxuriance seemed to me to justify the expectation. From one field of White Globe Turnips, sown later, and manured solely with liquid, from 40 to 50 tons to the Scotch acre was expected. A field of Carrots, treated in the same manner as the Swedes, to which a second application of liquid was given just before thinning, promise from 20 to 25 tons the acre. Similarly favourable results have been obtained with Cabbages; and that the limit of fertility by these means has not yet been reached, was clearly shown in one part of the Italian Rye-grass which had accidentally received more than its allowance of liquid, and which showed a marked increase of luxuriance over that around it. The exact increase of produce has not been accurately determined, but the number of cattle on the farm has increased very largely, and by means of the Italian Rye-grass at least four times as many beasts as before can be kept now on the same extent of land, the fertility of the land being at the same time increased. This plant, of all others, appears to receive its nourishment in this form with most gratitude, and to make the most ample returns for it; and great as are the results hitherto obtained, I believe that the maximum of productiveness is not yet reached, and that the present experiment must be carried yet further before we know the full capabilities of the manure. Of one important fact connected with this crop I am assured, that, notwithstanding the rank luxuriance of its growth, animals fed upon it not only are not scoured, but thrive more than on any other kind of Grass in cultivation. The cost of purchasing and laying down the pipes at Myer Mill has been at the rate of 2*l.* 10*s.* an acre, exclusive of 300 yards of gutta percha hose, with the distributing apparatus. This does not, however, include the cost of the engine, pumps, and tanks, which last, built of stone and arched over, were constructed at a cost of 300*l.* or thereabouts, stone for the purpose being procured from a quarry close at hand; the cost of the engine, &c., was put at 12*l.* per horse-power. I must not omit to mention that though the direct application of the liquid manure to grain crops is not practised, its tendency being to induce rankness of growth and liability to lodge, such crops grown on land previously manured in this manner for Grass or roots gave evidence of the full amount of fertility attained by the usual means remaining in the soil without the drawbacks I have mentioned. Whether such may be obviated, by the practice of thin sowing and a more diluted manuring, might be a desirable subject of experiment.*

The last farm that came under our notice was a small dairy farm belonging to Mr. Telfer, close to the town of Ayr. It consists of 50 imperial acres, a considerable portion of which was formerly a bare sandy waste extending to the sea shore; the fertility of the soil might be judged of from the appearance of the adjacent race-course. By the application of liquid manures with a three-horse power engine in the same manner as at Myer Mill, diluted occasionally with sea water, with which his well has a communication, he has raised the fertility of the soil to the extent of supporting 48 cows, where previously 8 or 10 only were kept. The chief crop is Italian Rye-grass, from which he has obtained as many as 10 cuttings within the year, having manured somewhat more freely than Mr. Kennedy; he informed us that the produce of 3½ acres yielded keep for 36 cows for four months. To illustrate the extreme rapidity of growth, I may mention that the difference between a part of the same field that had been cut on Saturday and another part cut on Monday was distinctly visible at some distance. The same treatment has been found similarly successful, though in a somewhat lesser degree as regards weight of produce, with the root crops grown on the farm; and in the garden we saw Cabbages, Cauliflowers, Greens, Onions, Rhubarb, and other vegetables flourishing in an extraordinary degree after one dressing with liquid manure, which was the more remarkable as some of them had been set unusually late in the season. I may add one fact of great importance stated by Mr. Telfer, that besides the enormous increase in the quantity of the produce of his farm, its quality was so much improved, that he was obtaining 2*d.* per lb. above the current price in the district for his butter, this difference amounting to a sum more than equal to the whole previous rent of the farm.

The cases above detailed furnish some measure of the possible results attainable in cultivation, especially corroborated as they are by others which did not on this occasion come under our personal observation, but one of which I may mention, having recently examined into it, that of Mr. Dickinson at Willesden†, who estimates his yield of Italian Rye-grass at from 80 to 100 tons an acre, and gets eight or ten cuttings, according to the season; and as there is no peculiar advantage of soil or climate (the former ranging from almost pure sands to cold and tenacious clays, and the latter being inferior to that of a large proportion of England), to prevent the same system being almost universally adopted, they give some idea of the degree to which the productiveness of land may be raised by a judicious appliance of the means within our reach. When it is considered that such results may, in the vicinity of towns and villages, be most effectually brought about by the instant removal of all those matters which, when allowed to remain in them are among the most fruitful sources of social degradation, disease, and death, one cannot but earnestly desire the furtherance of such measures as will ensure this double result of purifying the town and enriching the country; and as the facts I have stated came at the same time under the notice of the gentlemen I mentioned above, under whose able superintendence the arrangements for the water supply and drainage of several towns are now in course of execution, I trust it will not be long before this most advantageous mode of disposing of the refuse of towns may be brought into practical operation in various parts of the country.

I have, &c.,
General Board of Health. D. F. Fortescue.

* In some trial works near the metropolis, sewer water was applied to land on the condition that the value of half the extra crop should be taken as payment. The dressings were only single dressings. The officer making the valuation reported that there was at the least one sack of Wheat and one load of straw per acre extra from its application, on one breadth of land; in another, full one quarter of Wheat more, and one load of straw extra per acre. The reports of the officers of sewer water in increasing the yield of Oats as well as of Wheat were equally good. It is stated by Captain Veteh that in South American irrigation is used with great advantage for Wheat. E. C.

† The soil of this farm is the London clay.

MR. MECHI'S BALANCE-SHEET.

Mr. Mechi's enthusiastic language has for some time contrasted so strongly with the gloom of numerous respectable agriculturists, and his undaunted comments both on landlords and tenants have fallen so sharply on their ears, that it is not to be wondered at if a shout of triumphant reproach has been raised in many quarters on the appearance of his balance-sheet; nor does his refusal to own himself beaten tend to conciliate his adversaries. Most unfortunately Mr. Mechi's success or failure has been made a question between free trade and protection, so that it was almost deemed treason in a Protectionist to take his part. However, though claiming to be a very sincere Protectionist, I will venture at my peril to examine this famous balance-sheet in a purely agricultural spirit. Now, as Mr. Mechi had an increased rent placed on his farm last year, calculated upon its altered condition as well as upon other improvements, I must presume that there is no omission in his account of an item for unexpended manures which should have appeared to the present year's debit. If this be so, and the account is an accurate statement for the year from 30th October, 1850, to 30th October, 1851, then the tillages and manure debited on the one side, and credited on the other, will represent solely the customary allowances of the county between in-coming and out-going tenants; and the crops must be taken to be the natural produce of the land in its improved state and at its present rent. Now, the balance against the farm is stated to be 653*l.* 18*s.* 4*d.*; but inasmuch as during the year oilcake and corn was consumed to the amount of 155*l.* 17*s.* 6½*d.*; guano, superphosphate, and chalk were used to the amount of 135*l.* 7*s.* 6*d.*; and 15 acres were treble trenched at a cost of 90*l.*; it is very clear that no advocate of tenant rights can consistently refuse to allow Mr. Mechi back a considerable part of this outlay. Besides this, Mr. Mechi has not credited the farm with the corn and fodder consumed by his visitors' horses and his own; but has, on the other hand, charged it with a bailiff whom no farmer would require on so small an occupation. Now, Lord Yarborough's scale of allowances to out-going tenants would credit the account with—

Half the cake, &c.	£779	8	9
Add to this, for the trenching, four-fifths ...	72	0	0
For the guano, &c., one-fifth	27	1	6
Corn and fodder consumed, say	31	0	0
Bailiff's salary, house inclusive, say ...	35	0	0
	£943	10	3

which, after deducting the 653*l.* 18*s.* 4*d.* loss, will leave the handsome sum of 289*l.* 11*s.* 11*d.* to be carried to the account. Mr. Mechi has already debited his account with 3½ per cent. on 2700*l.* capital, namely, 94*l.* 10*s.* Were Mr. Mechi, therefore, a renting farmer, enjoying a tenant right equivalent to that possessed by Lord Yarborough's tenants, his return on the year would amount to about 384*l.* on the employment of a capital of 2700*l.*, besides having the use of a good house and garden rent free. This could hardly be considered an unsatisfactory result. So far, then, Mr. Mechi would appear to be correct in his theory; whether the nature of his soil and its condition is such that he will be able to derive a benefit to his crops equal to the cost of the unexpended manure this year stored away in it, is a problem yet to be solved. His soil in its state when he entered on it in October, 1850, at the increased rent of 36*s.* per acre, seems to be supposed by himself to be capable of producing, with a limited annual outlay for artificial manures, 36 bushels of Wheat per acre, biennially; and 30 tons of Mangold Wurzel, 18 of Swedes, and heavy crops of Clover and Tares. Can these crops, even now, be reckoned on on an average? Even if they can, is it possible by this extra application of manure proportionally to increase them? Many will at once answer in the negative. Probably all will so answer, who look chiefly to the corn crops. Nevertheless, with the experience before us of the enormous production of garden grounds, it would be wiser to watch the experiment rather than to condemn it, and to endeavour to induce Mr. Mechi's public spirit to indulge us for some years with an annual balance-sheet. Mr. Mechi himself seems to doubt the advantage of going on in his expenditure for cake and corn. The question then is suggested—will his work in future be sufficient to justify the expense of a steam-engine? or will not a consider

able capital remain useless, locked up in that and other machinery and buildings. I confess it does not appear to me that Mr. Mechi's balance-sheet for this single year goes much way to settle the question either in his favour or against him, nor for or against high or even extra-high farming. *Alex. Hall Hall, Watergate, Sussex.*

Home Correspondence.

Hybrid Pheasants.—In your account of the Birmingham Poultry Show, you allude to some hybrid pheasants as being the most beautiful and interesting of the collection. As I have succeeded in rearing some which seem to differ somewhat from those shown, I send you the following account of them. They partake more of the shape of the golden, but are of an uniform red or mahogany colour, with the exception of the back of the neck, which inclines to purple, and the throat, which is very dark. They have no frill or tippet, but a small wattle under the eye; the legs resemble the common pheasant, and have strong spurs. The tail resembles the golden pheasant's in length, but not in colour. They were bred between the common cock pheasant and the golden hen. Perhaps the parentage of the others was reversed. They are now four or five years old, and all are cock birds, and I have tried to breed some between them and the golden hen, and also the common hen pheasant, but have not been successful. I believe they are mules. Some I have given away, but have three at present, which the owner of those shown may see if he requires to do so. *J. H. N.*

Taste of Butter.—Your correspondent, "Clitheroe," to whom your readers are indebted for some apparently very good receipts for making cream cheeses, gives also a receipt for preventing the taste of Turnips in butter by the application of scalding water. It has often been a matter of surprise with me that the system, adopted in Devonshire, of scalding the milk, has not become more general in other parts of the kingdom; and as some of your readers may not be aware of the manner in which this is performed, I purpose, in as few words as may be, giving some little account of it. The milk when first brought from the cow is strained, as usual, into the pans, which, for this purpose, are deeper and narrower than those used in the ordinary way; it remains thus for 12 or more hours, when it is placed on the hot plate of the kitchen range, or some such suitable place, where it is scalded, but not suffered to boil (in which case it would be spoiled); this done, it is removed to the dairy, where it remains for 12 hours or so, when it is skimmed. The process of making butter is performed by putting the cream into a butter tub and then working it about with the hand; in a few minutes the butter forms, and separates from the butter-milk; it is then washed and made up as usual. As in all cases, of course the utmost cleanliness is requisite as regards the dairy-maid. The advantages I hold to be these: the use of a churn is avoided; the butter is much sooner made; a smaller quantity may be made, if requisite, than can be made by the churn; and lastly, it is free from any unpleasant taste. I have tried it through all seasons, and whether through the fall of the leaf in autumn or at this time, when we are using the hybrid Turnip (with the greens on), I find no unpleasant taste. The longest time I have known butter to be "coming" by this process was 20 minutes, but it is generally made in a very few minutes; while by the churn I have frequently known it to be two or three hours. *T. B.*

Pale Ale.—"A Correspondent" in your Paper, Dec. 20, desires a receipt for making pale ale from sugar. I have been in the habit of brewing pale ale according to the under-mentioned receipt, for some time past, of good flavour and quality, and generally esteemed; but as I have not yet substituted sugar for malt, I beg to refer him to page 99 of your volume for 1847, where he will find that 17½ lbs. of sugar are equal to one bushel of malt, of the weight of 41 lbs. 4 oz., as well as full directions for the process of brewing from sugar, and fermenting the same afterwards:—Malt, 1 bushel; Hops, 3½ lbs. Put the malt to about 3 gallons of water at a temperature of about 160°, and in about half an hour add 20 gallons of boiling water, stirring them well together; let them stand for three hours, then strain off. Break the Hops into small fragments in any vessel capable of containing them; add enough of the strained liquor to saturate them completely; cover them, and let them remain until they are required to be added to the boiling liquor. Boil the remainder of the wort for half an hour, then put in the Hops and boil for another half hour; strain off, and when of sufficient temperature, ferment it with yeast in the usual manner. *Wm. Bartlett.* [With regard to your question about Drumhead Cabbages, you may give 8*s.* or 10*s.* a ton for them safely.]

THE SHOW OF THE SMITHFIELD CLUB.

The show of implements being just a small edition of that exhibited under the Glass Palace, has not needed notice or description. The rival reaping machines were exhibited, and attracted much notice. The Turnip cutter of Messrs. Burgess, already described in our columns; and Gardener's, improved by Samuelson, were there. Implements of cultivation were exhibited. Ploughs and cultivators were shown by Howard, Coleman, and others; sowing machines, threshing machines, machines for spreading manures, implements for preparing the ripened crop for food, chaff cutters, seed crushers, &c., were, as usual, present in great abundance; and the well known names—Crosskill, Garrett, Hornby, and others, as usual, patronised this annual exhibition.

As regards the specimens of crops shown, the roots were exhibited in the usual quantities and qualities by Messrs. Gibbs, of London; and Skirving, of Liverpool. A larger number may have been shown before now, but the quality was never excelled, especially the Green Globe Turnips of Messrs. Gibbs, of Half-moon-street. Mr. James Grove, seedsman, near Colchester, Essex, showed a stall of excellent roots in a very unpretending way. The roots of Beet were remarkable for the small part that grew below the earth. The other roots were equally good — Swedes and Carrots, Cabbages and Potatoes, and also Flax in the straw.

A stall of rural produce from Ireland must not be omitted, having been selected by Lord Clarendon through the means of the Royal Dublin Society. The roots were justly entitled to commendation. There were shown seven Drumhead Cabbages, having the leaves capitated in the most firm and regular manner, and a shape of the most exact symmetry. No tinge appeared of stain or decay. The long red Carrots were excellent, and equalled any production of Britain; and if the Belgian Carrots were rather under the size, the Swedish Turnips bore any comparison, and could compete with the boasted Skirvings of Liverpool, and so of the Turnips of all sorts. Good specimens were shown of grains and Flax in the straw. A peculiarly valuable excellence characterised this display of Irish produce. There was shown no overgrown monstrosity, nor any "*lusus naturæ*," nor articles that are produced by accident, or by circumstances that are beyond the common enjoyment. Everything was within the reach of common means; there was no foolish ostentation, nor anything removed beyond the comprehension of the common understanding on such subjects. This point is entitled to much consideration, in putting forth specimens for exhibition, and examples for use.

The resources and capabilities of Ireland have been written and read; but here they exhibited in a form that will be remembered. In the present case, there can be only one conclusion—that the condition of Ireland wants merely the application of skill and energy to develope its resources.

Societies.

Highland and Agricultural, *Nov.* 19.—The first monthly meeting of the Society for the season was held in the Museum on Wednesday, the 19th inst., Sir John M'Neill, G.C.B., in the chair. The Chairman stated that the subject for the day's discussion was—"The best mode of feeding and housing fattening cattle, and the breeds most suitable for different districts." Mr. Wilson, Edington Mains, said: That part of the subject which relates to "feeding," was so fully handled in the discussion which took place here a year ago, that I have nothing to add to what was then stated upon that head, and shall therefore confine myself to some remarks upon the two other branches of the subject. The question as to the best housing for fattening cattle must be solved partly on general principles, and partly with reference to the circumstances of individual farms. Quietness and warmth are such indispensable conditions of well-doing to fattening cattle, that no plan of housing can be good which does not in some good measure secure them. The food may be of the best, the attendance unremitting, and the breed faultless; but, if the timid or weak are molested by the strong or vicious, it is impossible that they can thrive. A solitary stall or box would secure its occupant from this evil, but all cattle are naturally gregarious; such a prisoner would suffer from a restless craving for the company of its kind, and a right arrangement must therefore provide for such separation as still admits of society. The times and modes of administering food have also an important bearing upon this point. If the habits of cattle when at pasture are observed, it will be noticed that they have stated times for browsing and for repose—that after a process of diligent eating, there follows a lengthened period of satisfied recumbence, and leisurely rumination. Now, if under our artificial mode of treatment, their food is supplied either too frequently or too seldom, or at irregular intervals; if they are frequently roused from their lair, or disturbed at feed by unseasonable inspection, or the intrusion of dogs, &c., into their quarters, they will get into a state of nervous excitement, which never fails to mar their progress. Thorough quietness is therefore an indispensable element in the fattening of cattle, and must be provided for in arranging their winter quarters. In addition to this, there must also be adequate protection from cold. It is now ascertained that a considerable portion of the food consumed by warm-blooded animals, is expended in maintaining the natural heat of their bodies, and that this is effected by a process strictly analagous to combustion. We are warranted, then, in regarding the portion of food thus disposed of, as so much fuel, and the fat which in certain circumstances is accumulated in their bodies as a store of this fuel laid up for future exigencies. Keeping this in mind, it is evident that if fattening cattle are exposed to a low temperature, either their progress must be retarded, or a great additional expenditure of food be incurred. Farmers have long been aware that cattle thrive best when kept dry and moderately warm, and they have explained this vaguely, by saying that they are most comfortable in such circumstances. Modern science, however, has taught us that there is an analogy in this respect between animals and steam-engine boilers. Prevent radiation of heat from the latter by a sheathing of some non-conducting substance, and you get more steam from less fuel. Protect the former, by suitable clothing or housing—that is to say, keep in their animal heat—and they will eat less, and yet lay on more fat. This fact, then, must also have much influence in determining the question now before us. I need scarcely remark that the modes of housing which at present divide the suffrages of the agricultural community are stalls, yards, and boxes. Stalls were at one time so exclusively used for the accommodation of fattening cattle, that stall-feeding has become the recognised phrase for expressing the process. Though everywhere retained for milch cows, they have to a great extent been abandoned in favour of yards for fattening cattle; the chief exceptions to this being at distilleries, or in the vicinity of towns, where the necessity for economising space and litter still gives them the preference. The importance now attached to liquid manure, and the facility with which it can be conveyed from stall into tanks, as well as the increase of summer soiling on green food, and the consequent demand for more litter, may have the effect of bringing stalls again into favour, where they had formerly been discarded. In well-constructed byres the preliminary conditions to which I have referred can be amply secured; but they require more labour in administering food, removing manure, and currying the animals, than the rival plans, besides depriving the cattle of needful exercise. When fat cattle had to be driven long distances to market, this last point was of more consequence than in these days of railways; but still, stall-fed cattle never look so well when presented for sale as those which have had more liberty. As a matter of fact, stalls are little used in our chief feeding districts, where the great majority of the cattle annually fattened have been for a long time, and still are, kept in yards. These are of various sizes, so as to accommodote from half-a-dozen to a score of bullocks. Their chief merits are, that a great quantity of straw can be trodden down in them by a given number of cattle, in the same time, than on other plans; that they require less labour in supplying food and litter and in removing manure; and that the scope which they give for exercise promotes the health and good appearance of the cattle housed in them. A smaller kind of yard, usually called hammels, affording room for two or three animals only, and of which the shed and court are of about equal area, is much approved. This form of yard being little else than a box with an open court attached to it, may be regarded as the connecting link betwixt the two systems. The plan of a homestead used to be to have the whole buildings in a square, with the interior as one large cattle court. By and bye this was subdivided, and the amount of shed room greatly increased. More recently it has become common to roof over the feeding troughs, which is a great improvement in wet or frosty weather, and almost indispensable when cake or meal forms part of the food. By a recent discussion in the London Farmers' Club, it appear that in some cases the whole yard has been roofed, so as at all times to secure cattle, food, and manure from the vicissitudes of the weather. Another feature in this plan is, that the cattle are tied up for meals, to prevent mutual inferference, and afterwards unloosed. At the time when this account was published, I happened to be engaged in preparing an article on the farm-management of cattle for Morton's "Cyclopedia," now in course of publication, by Messrs. Blackie, of Glasgow, and as it was evident that the practice, if found useful, was quite as applicable to open yards as to covered ones, I felt curious to ascertain the exact amount of labour which this tying up and unloosing would involve. Knowing that my friend Mr. Robert Harvey at Port Dundas, is in the habit of turning out his immense herd of cows in relays of 100, so as to allow of each cow being at Grass for a few hours daily, I wrote to him for information on this point, and now quote from his obliging answer:—"I have now ascertained, after repeated trials, that two men can easily unloose a hundred cows in ten minutes, and tie them up again in twenty. The herd boy who waits on the cows in the field stands at the door to prevent too many of them from crushing in at a time; and sometimes guides a few of those nearest the door into their stalls, but never ties any of them. This is, however, after they have been let out and tied in for some months. At first they are much more troublesome, and may perhaps take an hour to tie up, but it is astonishing how soon they learn to know the side of the byre they ought to go to, and nearly the part of the side, especially all those nearest the door. We always put them to the very same stall each time. I would consider it a very easy matter, indeed, and the work of a very few minutes, to tie up six or eight peaceable animals in one place three times a day. I have adopted the plan of tying up the young calves at meal times, and letting them loose as soon as they are fed." I have not tried this plan, and therefore do not recommend it; but it seems feasible enough, and Mr. Harvey's very interesting statement shows that the labour implied in it need be no obstacle to its adoption. The improvements which have gradually been effected in our yards, have quite pointed towards that more recent contrivance for the housing of cattle, viz., boxes, which remains to be noticed. These are now too well known to require minute description. Indeed, with the exception of the main feature—the confining of each animal in a separate covered compartment of from 8 to 10 feet square—they are to be found in endless variety, and this because they are seldom new erections, but rather sheds, or other buildings, converted to this use. My own are exclusively

of this kind; the largest of them occupying three sides of a yard formerly used as a lambing shed. There is room for a large heap of Turnips in the centre of this area; from the nearest side of which, the cattle all round can be supplied with little labour. When the manure has to be removed, this arrangement also admits of a cart being backed close up to each box, and of the dung being thrown direct from the one into the other. As the subdivisions consist of moveable flakes, this yard with sheds can at any time be restored to its former state with very little trouble. The most complete set of cattle boxes which I have yet seen is at Riby Grove, in North Lincolnshire. These consist of 60 boxes, in six parallel rows of ten each, under three contiguous roofs. The roofs are entirely of iron—a framework of bars covered with corrugated plates, like what we see at some railway stations. There are thus 20 compartments under each roof, and these are parted down the middle by an alley 4 feet wide, on which rails are laid, so that food can be brought in, and manure removed on a small truck, which is pushed along by a man. Across the end of each range of boxes a space is reserved for the storing and preparing of roots and other food. The outer doors of these store places are wide enough to admit a cart, the inner ones being of the same width as the alleys. A series of cast-iron troughs, each of which is common to two boxes on the two outer rows, and to four in the inner ones, and which communicate by a pipe, afford a constant supply of water to each animal. The whole arrangements are very complete, are well adapted for economising food and labour, and admit of the stock being inspected with ease and comfort. I never saw as many cattle together so thoroughly at their ease. Indeed, the whole aspect of the place was more that of a menagerie than of a farm-yard. The trials which I have made of this plan of housing cattle have been so satisfactory, that I have now nearly the half of my lot put up in this way, although in very rude erections, when compared with those which I have just been describing. This plan of housing is especially suitable for heifers and quarrelsome cattle; and I have seen animals, that while in a yard were in constant turmoil, at once reduced to quietness by being put into boxes. I need not say that this alone would be sufficient to account for their more rapid improvement. I have hitherto in a great measure restricted my remarks to the influence which these different modes of housing exert upon the fattening process; but the quality of the manure produced in them respectively is an important element in determining their comparative merits. As that made in boxes is thoroughly protected from the weather, retains the greater part of the urine, and is trodden so firm as to hinder fermentation, it seems reasonable to conclude that it must be superior to that produced by the other plans; but as I have not had recourse to comparative trials, my opinion rests upon inference only. I must here observe that I should not like to trust to the whole of the urine being absorbed by the litter, especially in boxes which are sunk a foot or two below the surface. Unless a thick layer of burnt clay or similar porous substance be placed in the bottom of the box, I consider it indispensable that it should communicate with a drain. When the litter has accumulated to a considerable depth, it will then retain the greater part of the liquid, but I would not trust to it for absorbing the whole. So far, then, as my experience goes, it is certainly in favour of the box system; and I have accordingly adopted it for the half of my cattle. But last winter was so unusually mild, that I do not regard its evidence as conclusive, and have therefore resolved to await the issue of further trials before going into it more largely. On the question of the comparative merits of breeds I look for greater diversity of opinion than on the other branches of the subject under discussion. We are so much the creatures of habit, that there insensibly grows up in most of us a prejudice in favour of the usages of our own locality, which blinds us to what is defective in our own practice, or excellent in that of others. There are few things in regard to which this prejudice shows itself more strongly than about live stock. Having all my life been most familiar with short-horn cattle, it is quite possible that I may have a bias in their favour; but, believing as I do, that this is the best breed for all those parts of the country where Turnips can be cultivated with success, I shall endeavour to state, as impartially as I can, the grounds of this belief. I think it not unlikely that in framing the topics to be discussed to-day, that part which refers to breeds was expected to be viewed very much in this way:—supposing a low-country farmer about to purchase a lot of cattle for fattening on Turnips, on what breed will he do best to spend his money? Now, not to mention that, practically, this will be decided by what he happens to fall in with best worth the money in the market that he buys in, I must say that this appears to me too restricted a view of the question. Unless we consider the interest of the breeder, as well as of the feeder, and inquire not merely which breed of cattle, when comparatively mature, will pay best for fattening, but which will yield the best return for food consumed from birth to maturity, we shall fail to do justice to the question before us. In those trials of the fattening qualities of cattle which have frequently been made betwixt equal numbers of Hereford, Devon, Angus or Galloway oxen, two or three-years-old, and short-horns of the same age, the results have frequently been in favour of the latter. Such trials, however, leave the peculiar merits of the breeders quite out of view. [illegible] butcher at the age they had reached when these comparative trials were begun. Let calves of these various breeds be started together, and fully fed until they are 18 months, or two years old, and then the superiority of the short-horns will be fairly brought out. So long as low country farmers can obtain a full supply of grazing cattle at moderate prices they may find it more profitable to buy than to breed for themselves; and so long as the difference betwixt the buying and selling price is sufficient to yield a profit on the food consumed, it matters little to him what breed they are of. So soon, however, as he finds that he must breed for himself—and perhaps we are now about at that point—there is nothing that can equal the short-horn for his purpose. It has long been supposed that the breeding of cattle cannot be made profitable on high-rented land. If there was an inherent necessity for their passing through a protracted period of lean existence before the fattening process could be begun, this would certainly be true. But it is the capacity in the short-horn, when well fed, of growing and fattening from his very birth, and the almost incredibly early age at which he can be brought to profitable maturity, which removes this difficulty, and renders breeding profitable on the best of soils. But supposing it conceded that short-horns are entitled to the preference of the low country breeder, it may be asked, are they suitable for those high-lying or poor soils, where cattle can be reared but not fattened? We have so long been used to see only lean cattle brought from such districts, that we have come to the conclusion that they can produce nothing better. There is, however, no necessity for this; and if the occupiers of such farms would but try the plan of keeping no more stock than they can do justice to, and of selling them when they cease to improve in their own hand, they would find their profits very much greater than on the starving system. To illustrate this, I will refer to a series of sales of cattle which have fallen under my personal observation during the present year. Not long ago a very skilful breeder in Teviotdale sent one of his calves, not quite 8 months old, to Newcastle market, when it was sold t a butcher for 8*l*. This was not a suckled calf, but one of a large lot, reared on a very scanty allowance of milk, and fed chiefly on Turnips and cut Clover with a moderate quantity of Linseed and other meal. At Whitsunday last a lot of year-olds, bred in the heart of the Lammermoors, was sold to a low country grazier at 8*l*. 8*s*. a head; and to show that this was not a chance sale, I may mention that for a series of years the yearlings from this farm have brought similar prices, and have even reached as high as 10*l* 10*s*. In May and June last, large numbers of two-year-old short-horn steers from the north of England, were sold in our Border markets, at from 6*l* to 7*l*. a-head. Many of the cattle bred in the higher parts of Roxburgh and Berwickshire are now sold to the feeders at six-quarter-old, and in our recent markets the current price for such young cattle has been from 6*l*. to 8*l*. a-head. Very large droves of 2½-year-old cattle are now regularly brought from England to our autumn markets, and from 7*l*. to 8*l*. a-head is about the average price at which they have been sold during the past six weeks. Here then are examples of cattle of the same breed, varying in age from eight months to 2½-years, all bringing about the same price; but with this difference, that while the well-fed calf left its owner fully 4*s*. a-week for the food which it had consumed; the starved two-year-old would barely reach 1*s*. Or take the less extreme example of 1½ and 2½-year-old cattle, both passing from the breeder to the feeder at the same price per head, and see how the interests of both parties are affected. To the breeder the saving of a whole year's food, attendance, risk, and outlay of capital, is just the difference betwixt a profit and a loss. With the feeder again, the matter stands thus; if equal in point of breeding, and similarly treated, the two ages will probably attain to the same weight when fat; but the younger cattle will require less food, and having never lost their *lier*, will have the advantage in quality of beef and bring a better price per stone. Such then are the reasons which lead me to the conclusion that short-horns are the best breed of cattle for the arable lands of Scotland. Let me, however, remark, that it is to genuine short-horns that my statements refer, and not to any kind of mongrels that people may choose to call by that name. Indeed, it is lamentable to think of the loss which is annually incurred over Scotland by the breeding of inferior cattle. It is difficult to estimate this loss correctly, but after careful consideration, I have come to the conclusion that it cannot be less than 30*s*. a-head, on two-thirds of the whole cattle fattened in the country. If this be true, then it follows that without expending a farthing more than is done at present on food, housing, and attendance, the profit which would accrue by breeding only from bulls of the best blood would be equivalent to an advance of 6*d*. per stone in the price of beef, as regards two out of every three of the fat cattle at present brought to market. The outlay of an additional 10*l*. per head on the price of all the bulls used, would be sufficient to secure this profit. Now, as with proper care one bull may suffice for 60 cows, and continue serviceable for three years, this extra price would not usually add more than 2*s*. a head to the prime cost of each calf. When so ample a return can be secured for so small an outlay, it is hoped that the breeders of cattle will by-and-bye discover how much they have been losing by grudging the price of a good bull. It is interesting to observe how thoroughly the breeders of sheep are now alive to the economy of using only well-bred [illegible] All who have had to [illegible] in our sheep markets during the last 20 years know to what an extent the breeding of crosses between Leicester rams and Cheviot ewes has increased during that period, and also how superior the quality of this kind of stock is now to what it was formerly. Now let us mark the history of this improvement. I well recollect when, as the autumn fairs drew near, our Border jobbers used to provide for them by retaining such rams as they happened to pick up in their weekly purchases of fat sheep. From these miscellaneous collections very many hill-farmers were accustomed to make their purchases, caring little about quality, so that the price was low enough. By-and-bye, however, they began to discover that there was an awkward connection betwixt low-priced rams and a low price for their produce; and the consequence is that they now supply themselves from ram-breeders of established reputation, at prices which induce the latter to breed first-class animals for this express purpose. I would fain hope that breeders of cattle will also find out the economy of paying more attention to the quality of their stock. Landlords might so easily further this improvement, and have such a manifest interest to do it, that I cannot refrain from directing attention to what has been going on for several years on the estate of Cayers. With the view of improving the cattle bred on his estates, Mr. Douglas had for some years given a handsome sum of money or prizes to be competed for by his tenantry; but having been led to think that this end might be obtained in a more direct way, he intimated through his factor that he would give 80*l*. for the purchase of a first-rate short-horned bull, which should be so stationed as to be available to all his tenantry. The tenants, about 25 in number, were requested to appoint a committee among themselves, to whom was entrusted the purchase of a bull, and the framing of regulations for carrying out their landlord's intentions in an equitable manner. The plan which they have adopted is, to allow 20*l*. a-year to the tenant who keeps the bull, restricting the number of cows to be sent to him to 70, at a charge of 6*d*. each, and apportioning this number to the different farms according to their size. Two bulls, both from Yorkshire, have now been purchased in pursuance of this plan, and an improvement is already apparent in the stock. Here, then, is an example which might everywhere be followed with great advantage to all concerned. In its details the plan is certainly susceptible of improvement, and from the good sense displayed in the matter, I have no doubt that by-and-bye this will take place. On the present plan each tenant can only have a few calves from the high-bred bull, and the bulk of his lot must still be of inferior descent. Now, were they to club together and raise such a sum as, when added to their landlord's gift, would suffice for the purchase of four or five bulls, the quality of the whole cattle bred on the estate would be raised at once, and present a uniform character. By selecting the bulls from different herds, and shifting them as occasion required from one district to another, the same lot might suffice for a good many years. Were such a plan as this to be generally adopted over the country, it would, in a very few years, produce a greater improvement in all our breeds of cattle, than any system of premiums is likely to do in the course of a generation.—Mr. Elliot, Hardgrave, said: In the first place, I shall refer to the housing of cattle, and in doing so I know that on this point great difference of opinion prevails among practical men; and if we consider the subject, how can it be otherwise, seeing that in Scotland we have such a variable uncertain climate, often differing in a great degree within the distance of not many miles. In the western side of the island a greater quantity of rain falls than in the eastern, and much more in the high than in the low lands. While, therefore, one farmer living on the east coast, in a low situation, with abundance of Wheat straw for litter, may be correct in preferring sheds with open courts, even of considerable size, another farmer living on the western coast, or in some more upland district, may be equally correct in considering that cattle ought to be kept in sheds, with courts of a very limited extent in comparison, or perhaps entirely under cover. From this it will be seen that it is difficult to fix a rule applicable to all places, but, in my opinion, it may safely be taken as a general principle, that all cattle that are fattening ought to be kept dry, warm, and comfortable; if this can be done in the open air, well and good; if not, they must be kept under cover. For my own part, I prefer sheds 13 to 14 feet wide within, with open courts of equal size, the courts surrounded by walls 6 or 7 feet high, these sheds and courts divided into compartments of 12 to 14 feet wide within, which will hold three Galloway cattle of 50 stones each, or two short-horns or other horned cattle of 70 stones a-piece. The sheds formerly in use, and still used in many parts of the country, with courts of 50 or 60 feet square, in which were fattened 10 or even sometimes 20 cattle, I cannot too strongly condemn. Tying up cattle for feeding I do not think so good a plan as feeding them in loose boxes, or in small sheds and courts in pairs. At the same time I must admit that I have found my cattle feed best kept under cover in a loose box of about 10 or 12 feet square, singly, and in darkness. The opponents of solitary confinement may object to this, but such is the fact. It perhaps, however, may be doubtful if the superiority of cattle kept in this way compensates for the additional expense of accommodation required. I should always recommend, however, that every farmer who feeds extensively should have a few of these loose boxes, into one of which he can put

an animal which annoys its neighbours, and into another one which is kept back from feeding by its fellows. Regarding the best mode of feeding, much difference of opinion prevails. I am myself satisfied that cattle can be most profitably fed by giving them a considerable variety of food; that is, adding to Grass in summer and to Turnips in winter, oilcake, Bean-meal, and bruised Oats. Indeed, if I had land which would grow Beans profitably, I would always mix these four kinds of food daily. I have no doubt that boiling a mash once a day can be done with advantage, but I am in doubt if it will pay to boil the whole of the food. It is clear, however, that the opposite course ought never to be followed, that of giving cattle in a cold winter morning hard frozen Turnips; the best way is to give the cake and corn in the morning in cold frosty weather, before they are fed with Turnips, which ought also to lie under cover, clean and dry. Now, when grain has fallen to a heretofore almost unheard-of price, it is become of vital importance to the farmer to know whether he has not a better market for his grain within his own farm-yard, than by selling it to the corn dealer; especially is this of importance to the farmer, who has hitherto depended upon Oats and Barley for his rent; as if so, it matters little, perhaps, now that grain has fallen so low, whether it be 20*s.* or 10*s.* per qr., so long as beef and mutton continue at their present prices. And I have often thought if the Highland Society, by offering a premium of sufficient amount, could induce a number to try the experiment, and thereby ascertain correctly at what price grain is consumed by cattle and sheep, when the price of mutton is say 6*d.* per lb., and the price of beef say 5½*d.*, it would confer a great boon upon all occupiers of land. I may mention that last year I tried a few cattle by feeding them with Grass through summer, giving at the same time grain and cake; and with Turnips, grain and cake through the winter till Christmas, when they were sold, and I felt satisfied myself that I consumed the grain at a better price than I could have sold it at in the market; insomuch, that I found after allowing 3*l.* for the summer's Grass, and 2*l.* 10*s.* for the Turnips till Christmas, I had 3*s.* per bushel for my Oats, and 4*s.* for the Beans, besides full price for the cake, while all the manure was left on the land over and above; the selling price of the Oats at the time being 2*s.* 3*d.*, and the Beans 3*s.* 4*d.* per bushel; and this, be it recollected, in a season admitted by all farmers to be the most unremunerative for grazing cattle in the memory perhaps of man. Neither ought any one to be astonished at this result, when we consider that it was a common practice to feed cattle with grain years ago, when perhaps the selling price of Oats was 3*s* 6*d.*, and mutton not higher than it is now. Either we were wrong then in consuming the grain in that way, or we are wrong now if we do not do so on a more extensive scale.

METEOROLOGICAL REPORT.—DECEMBER.
(Continued from p. 829.)

Date.	Time.	Max.	Min.	Wind and Weather.
* 24	6.15 a.m.	...	30.08	Almost calm. Barometer steady.
	10.30 p.m.	30.10	...	Fine sunny day.
25	8 15 a.m.	...	30.15	Almost calm. Bright fine day.
	11 15 p.m.	30.25	...	Barometer rising steadily.
26	7.55 a.m	...	30.30	Gentle.
	9 p.m.	30.41	...	Bright and fine.
† 27	...	...	...	Observations being interrupted by accident to barometer, were not resumed for some days.

* This was the continuation of the preceding storm, which had travelled eastward.

† Being from home, I was not aware of this interruption. From the 28th to the 30th another storm was coming which passed up the Channel during the night of the 30th.

Dorchester, Jan. 1, 1852. *F. P. B. M.*

Finis coronat opus.

Calendar of Operations.

LAMMERMUIR SHEEP FARM, *Dec.* 22.—At present the management of our sheep is of quite a routine nature. The rams have now been among the ewes about a month. Our practice is to remove about a third of these at the end of the fourth week, selecting for this the most objectionable sheep, or such as, from loss of condition or other causes, appear shy at their work. At first, the ewes generally come so very fast, that it is safe to turn out a large number of rams, but after their second season is past, this extra supply only gives rise to a greater amount of fighting and mischief, when a part at least would be more profitably employed in making up their lost condition upon Turnips and other food. The rest are brought in about the second week of January, and put upon full keep, so that those which require to be drafted may be ready for the butcher as soon as possible. Though our own hogs graze beside the ewes, yet on farms where they receive Turnips during the winter months, if they have not already been laid on, this should be done without delay; it being much easier to keep sheep in good condition than to make up lost ground, besides the greater liability to disease among lean than fresh animals. During the late mild and dry weather we have completed the ploughing of the Oat stubble intended for Turnips, and have got a beginning made to the lea. This having been some nine years in Grass, and originally sown down in poor condition, is tough and difficult to turn over, and likely to be a tedious operation, though we are anxious to have it completed as soon as possible, that it may have the full benefit of the frost, to assist the harrows in making a good mould for the Oats. We have also got as many Turnips (Swedes, green-top Yellows and Whites) stored, as will supply the cattle and a few sheep until the beginning of March. These are put in long narrow heaps, covered with rushes and straw, to keep out frost. As a further protection, and to save this covering from the wind, a coating of large thin heather sods is laid over the whole. About the half of the Turnips still standing have been earthed up with the common plough, which we find to do the work as well as the double mould-board, besides being much easier to draw. We have recently observed another plan of earthing up, which we purpose trying, believing that it will afford a still better protection from frost and vermin; and though requiring more labour than the other, being a much less tedious and expensive process than topping and rooting, and then carting into heaps. This consists in opening a deep furrow, into which the Turnips from the four or five adjacent drills are placed close together, the roots down and tops up, and then covered with the plough. As they are required for the sheep in spring, another furrow throws them on the surface, as fresh and solid as on the day they were buried. Whereas, with us, the Turnip is by far the most valuable crop (but for which, indeed, and Clover hay, we had better never have a plough on our farms, as far as profit goes) every means which will lessen the risk either of their being totally destroyed by frost or being so withered and changed in their texture as to make them of comparatively little value, ought to be zealously adopted. In looking back upon the year now near a close, we must say that the sheep farmer has had no cause for complaint, the prices of wool, sheep and lambs, having been all good. The average price of good white Cheviot mixed clips may be stated at 1*s.* per lb., being ½*d* or 1*d* below, while that of blackfaced white has been about 6*d* or 6½*d.*, and laid about 5½*d.*, or from ½*d.* to 1*d.* above the previous year. Upon the whole, the demand for Cheviot wools has been heavy, and for blackfaced good. The price of four and five-year-old Cheviot draft ewes has varied between 18*s.* and 20*s.*, some lots bringing rather more, and some less, according to quality. Three-year-old wedders of the same breed, brought from 25*s* to 30*s*, and lambs from 8*s.* to 12*s* Blackfaced ewes have varied from 9*s.* to as high as 15*s.*, according to age and quality; while aged wedders might average from 23*s.* to 24*s.*, and lambs from 6*s.* to 10*s.* For all these different kinds of stock the demand has been unusually brisk, which may be traced in some measure to the large purchases made for Ireland to fill up those extensive districts which are being rapidly cleared of every human being, and converted into sheep walks, generally rented by graziers from Scotland or England. With the expediency of such measures in a political view we have little to do; though it the results of similar measures, so extensively pursued in the Highlands of Scotland, be considered, its wisdom may well be doubted; but as far as the graziers on this side the Channel are concerned, we are not disposed to think that the greatly increased importations of fat and lean stock which must shortly take place from Ireland will have much effect in lowering prices here. Whether agriculture, as a science, be still in its infancy or not, it is plain that it is making rapid strides in improvement, and that every year is showing a large increase in the amount of produce, especially of grain crops, which implies an increased demand for stock to consume them. *A Lammermuir Farmer.*

Notices to Correspondents.

ALDERNEY: *T.F.* The Alderney or Jersey breed is better than the Guernsey, which is a larger and coarser breed.

DRAINS: *Rugby.* "A light peat soil and a gravelly subsoil without clay." We should imagine that it would be drained by the plan suggested by your workmen—4 feet drains 16 yards apart. It is impossible to name the value of the work, "all pickaxe work, and drains opened therefore 18 inches wide." A party of men must be closely superintended for a day or two, and the price calculated from their work. A drain 6 feet deep is, we think, safe from the roots.

FOOT ROT IN SHEEP: *R V.* It will be better to dress the feet two or three times a week and with a milder application than that you have used, such as the following:—Barbadoes tar, 4 oz.; lard, 2 oz.; sulphate of copper, powdered, 1 oz.; alum, powdered, 1 oz., to be made into an ointment. *W. C. S.*

MENDING ROADS: *Viator.* You and your friends of the minority are right. The best season for the repairs of a Macadam or gravel road is from October to March. When the road is softened by rain, the surface of the ruts and holes should be "lifted," that is, backed up or loosened with a pick, and the new material then spread to the thickness of 2 or 3 inches. It should be occasionally raked. If the road is much worn, this filling of the ruts and holes should be the preliminary of a general "sheeting. In applying the sheeting, the whole surface should be previously "lifted" or hacked up. My own practice is to apply the sheeting in short lengths, say of 20 or 30 yards, with intervals of the same length between. This renders the newly coated road less distressing to horses, and prevents the tendency to work along the same track on each side, which exists when there is a great stretch of newly mended road. When the materials of these sheeted portions are pretty well consolidated, the intervals between are "lifted" and sheeted. In towns it is necessary to repair the roads even in the height of summer; in this case we imitate the condition of the surface of the road in October by soaking it with water, or by attending to the repairs immediately after a heavy fall of rain. *N.*

THRUSH: *Viator.* Dress with the following ointment, by means of a pledget of tow, every three days:—Barbadoes tar, 2 oz.; sulphuric acid, 2 drs. mixed. *W. C. S.*

WHITE BELGIAN CARROTS: *Tyridail.* 24*s.* to 30*s.* per ton delivered.

Markets.

COVENT GARDEN, JAN. 3.

English Pine-apples and Grapes continue plentiful. A few foreign Pears are still furnished. The best English kinds fetch good prices. They consist of Glout Morceau, Winter Nelis, Beurré Rance, and Chaumontelle. Oranges are plentiful and good. Nuts are nearly the same as last quoted. Carrots, Turnips, Cabbages, &c., are sufficient for the demand. Potatoes are generally good in quality. Lettuces and other salading are sufficient for the demand. Mushrooms are still dear. Cut flowers consist of Heaths, Pelargoniums, Mignonette, Stephanotis, Bignonia venusta, Chrysanthemums, Camellias, and Roses.

FRUIT.

Pine-apples, per lb., 3*s* to 6*s*	Almonds, per peck, 6*s*
Grapes, hothouse, p. lb., 2*s* to 5*s*	— sweet, per lb., 2*s* to 3*s*
— Lisbon, per lb., 9*d* to 1*s*	Oranges, per doz., 1*s* to 1*s* 6*d*
Apples, kitchen, per bushel, 2*s* to 3*s* 6*d*	— per 100, 6*s* to 10*s*
Pears, dessert, p. doz., 2*s* to 4*s*	Nuts, Barcelona, p. bsh, 20*s* to 22*s*
Lemons, per doz., 1*s* to 2*s*	— Brazil, p. bsh., 12*s* to 14*s*
Walnuts, per bush., 12*s* to 24*s*	Filberts, per 100 lbs., 70*s* to 90*s*

VEGETABLES.

Cabbages, per doz., 8*d* to 1*s*	Shallots, per lb., 6*d* to 8*d*
Cauliflowers, p. doz., 2*s* to 4*s*	Garlic, per lb., 6*d* to 8*d*
Broccoli, p. bunch, 3*d* to 1*s* 3*d*	Artichokes, Jerusalem, per hf. sieve, 9*d* to 1*s*
Potatoes, per ton, 45*s* to 80*s*	Lettuce, Cab., p. score, 4*d* to 1*s*
— per cwt., 2*s* to 5*s*	— Cos, per score, 3*d* to 1*s*
— per bush., 1*s* 6*d* to 2*s* 6*d*	Small Salads, p. punn., 2*d* to 3*d*
Turnips, p. bunch, 1*d* to 2*d*	Horse Radish, p. bundle, 1*s* to 4*s*
Cucumbers, each, 6*d* to 1*s*	Mushrooms, p. pot., 1*s* to 2*s* 6*d*
Radishes, per doz., 9*d* to 1*s*	— per bushel, 7*s* to 10*s*
— Turnip, p. doz., 9*d* to 1*s*	Sorrel, per hf. sieve, 6*d* to 9*d*
Celery, p. bundle, 6*d* to 1*s* 6*d*	Fennel, per bunch, 2*d* to 3*d*
Carrots, per bunch, 4*d* to 6*d*	Savory, per bunch, 2*d* to 3*d*
Brussels Sprouts, p. half sieve, 1*s* 6*d* to 2*s*	Thyme, per bunch, 2*d* to 3*d*
Spinach, per sieve, 1*s* to 1*s* 6*d*	Parsley, per doz. bun., 2*s* to 3*s*
Onions, p. bunch, 1*d* to 5*d*	Mint, per bunch, 1*d* to 2*d*
— Spanish, p. doz., 1*s* 6*d* to 3*s*	Basil, p. bunch, 3*d* to 4*d*
Endive, per score, 9*d* to 1*s*	Marjoram, do., 3*d* to 4*d*
Beet, per doz., 6*d* to 1*s*	Watercress, per doz. bunches, 4*d* to 6*d*
Parsnips, per doz., 6*d* to 1*s*	
Leeks, per bunch, 1*d* to 2*d*	

POTATOES.—SOUTHWARK, MONDAY, Dec. 29.

The committee report that there have been considerable arrivals, both coastwise and by rail. The trade very depressed at the following quotations:—Yorkshire Regents, 70*s.* to 80*s.*; Scotch ditto, 60*s.* to 65*s.*; Kent and Essex do., 65*s.* to 75*s.*; ditto Shaws, 55*s.* to 65*s.*; Lincolnshire and Wisbeach, 55*s.* to 70*s.*; French, 60*s.*

HAY.—Per Load of 36 Trusses.
SMITHFIELD, Jan. 1.

Prime Meadow Hay	70*s* to 75*s*	Clover	70*s* to 85*s*
Inferior ditto	55 65	2d cut	60 72
Rowen	55 63	Straw	21 25
New Hay	— —		J. COOPER.

CUMBERLAND MARKET, Jan. 1.

Prime Meadow Hay	74*s* to 78*s*	Inferior	65*s* to 72*s*
Inferior ditto	60 70	New Clover	— —
New Hay	— —	Straw	24 28
Old Clover	78 84		JOSHUA BAKER.

HOPS.—FRIDAY, Jan 2

Messrs. Pattenden and Smith report that the Hop market continues very firm, and good Hops very scarce.

SMITHFIELD, MONDAY, Dec 29.

Being so soon after Christmas, it was expected numbers would be small to-day; the supply, however, was shorter than was anticipated; consequently, prices have advanced a little for all kinds of stock, Calves excepted; trade is, notwithstanding, dull, and it is difficult to realise our top quotations. From Holland and Germany there are 206 Beasts, 1170 Sheep, and 169 Calves; from France, 20 Sheep; from Scotland, 240 Beasts; from Norfolk and Suffolk, 500; and 1500 from the northern and midland counties.

Per st. of 8 lbs.—s d s d	Per st. of 8 lbs.—s d s d
Best Scots, Herefords, &c. ... 3 10 to 4 2	Best Long-wools . 3 10 to 4 2
Best Short-horns 3 6 — 3 10	Ditto Shorn ... ...
2d quality Beasts 3 0 — 3 4	Ewes & 2d quality 3 0 — 3 6
Best Downs and Half-breds ... 4 4 — 4 6	Ditto Shorn ... ...
Ditto Shorn	Lambs ... .. 0 0 — 0 0
	Calves ... ... 3 0 — 4 0
	Pigs ... ... 3 8 — 4 6

Beasts, 2846; Sheep and Lambs, 14,590; Calves, 214; Pigs, 240.

FRIDAY, Jan. 2.

The number of Beasts is not large, yet adequate to the demand. Trade is slow, and Monday's quotations are scarcely realised, although some few choice qualities make rather over 4*s.* We have, as usual at this season of the year, a small supply of Sheep; business is slack, and prices on the average lower. Calves are plentiful, but the quality generally is middling. Choice ones are not much lower, but there is fully 4*d.* per 8 lbs. reduction in other kinds. Our foreign supply consists of 184 Beasts, 490 Sheep, and 174 Calves. The number of Milch Cows is 95.

Per st. of 8 lbs.—s d s d	Per st. of 8 lbs.—s d s d
Best Scots, Herefords, &c. ... 3 8 to 4 0	Best Long-wools . 3 8 — 3 10
Best Short-horns 3 6 — 3 8	Ditto Shorn ... ...
2d quality Beasts 3 0 — 3 4	Ewes & 2d quality 3 8 — 3 4
Best Downs and Half-breds ... 4 0 — 4 4	Ditto Shorn ... ...
Ditto Shorn	Lambs ... ... 0 0 — 0 0
	Calves ... ... 2 8 — 4 0
	Pigs ... ... 3 4 — 4 6

MARK LANE.

MONDAY, Dec. 29.—The supply of English Wheat to this morning's market by land carriage samples was small, and disposed of at an advance of 1*s.* per qr. upon the prices of this day se'nnight. Foreign met with rather more inquiry, but the rates which were accepted last week could not be exceeded. —Barley meets a fair sale, and a few parcels of superfine malting brought rather more money.—Beans and Peas remain as quoted last week.—In the value of Oats we observe no alteration.

PER IMPERIAL QUARTER.	s. s.		s. s.
Wheat, Essex, Kent, & Suffolk...White	39—42	Red	36—38
— — fine selected runs...ditto	42—45	Red	38—41
— — Talavera	46—48		
— Norfolk, Lincoln, & York...White	34—38	Red	—
— Foreign	32—50		
Barley, grind. & distil., 25*s* to 26*s*...Chev	28—31	Malting .	25—27
— Foreign...grinding and distilling	22—26	Malting .	—
Oats, Essex and Suffolk	16—18		
— Scotch and Lincolnshire...Potato	19—21	Feed.....	18—20
— Irish ..... Potato	18—20	Feed.....	17—19
— Foreign .....Poland and Brew	18—21	Feed.....	16—19
Rye	28—3	Foreign .	—
Rye-meal, foreign.....per ton	—		
Beans, Mazagan ... ...24*s* to 27*s*.....Tick	25—30	Harrow .	25—30
— Pigeon.....27 — 33... Winds	30—31	Longpod	24—26
— Foreign .....Small	22—30	Egyptian	23—25
Peas, white, Essex and Kent.....Boiler-	2—34	Suffolk...	33—35
— Maple.....26*s* to 28*s* .....Grey	24—26	Foreign .	27—34
Maize .....White	—	Yellow ...	—
Flour, best marks delivered ...per sack	35—39		
— Suffolk .....ditto	25—32	Norfolk .	25—32
— Foreign .....per barrel	15—21	Per sack	28—33

FRIDAY, Jan. 2.—The arrivals of grain and Flour during the week have been moderate; those of Wheat being chiefly from Alexandria. This morning, Wheat of all kinds met an improved inquiry, and must be noted the turn dearer; the same remarks will apply to Flour. All descriptions of spring corn are very firm, with a tendency to improvement in Oats.—Want of arrivals on the coast prevents business in floating cargoes. The sales during the week have been—Ghirka Wheat, 38*s.*; Polish Odessa, 34*s.*; Egyptian, 27*s.*; Galatz Maize, 28*s.*; Ibraila, 28*s.* 6*d.*, all f. o. b., including freight and insurance. —During the week an improved tone has been apparent in the Wheat trade of the kingdom, and an advance of fully 1*s.* per qr. upon English has been general, stimulated to some extent by a demand on the east coast for export. An increased disposition to purchase foreign has also been manifest, but the firmness of holders has greatly restricted business.

IMPERIAL AVERAGES.	WHEAT.	BARLEY.	OATS.	RYE.	BEANS.	PEAS.
Nov. 22.....	36*s* 9*d*	27*s* 0*d*	18*s* 3*d*	23*s* 2*d*	29*s* 8*d*	28*s* 7*d*
— 29	37 2	27 1	18 8	25 7	20 5	28 10
Dec. 6.....	37 6	27 0	18 2	27 6	30 6	29 6
— 13.....	37 5	26 8	18 6	27 2	30 2	20 0
— 20.....	37 7	26 6	18 3	27 4	39 9	29 6
— 27.....	37 2	26 3	18 3	8 1	29 2	29 0
Aggreg. Aver.	37 3	26 9	18 4	26 6	30 0	29 2
Duties on Foreign Grain	1 0	1 0	1 0	1 0	1 0	1 0

Fluctuations in the last six weeks' Averages.

PRICES.	NOV. 22.	NOV. 29.	DEC. 6.	DEC. 13	DEC. 20.	DEC. 27.
37*s* 7*d*	...	...	...	...	...	...
37 6	...	...	...	...	...	...
37 5	...	...	...	...	...	...
37 2	...	...	...	...	...	...
37 2	...	...	...	...	...	...
36 9	...	...	...	...	...	...

LIVERPOOL, TUESDAY, Dec. 30.—There was a moderately good attendance of the town and country trade, who bought to a fair extent of Wheat and Flour at the full prices of this day week, and in some instances at a slight advance. Oats and Oatmeal met with a slow sale at late rates. Barley, Beans, and Peas were without alteration either in value or demand. Indian Corn on the spot was more difficult to buy, but floating cargoes were offered on the same terms, viz, 26*s.* 3*d.* for Ibraila, and 27*s.* 6*d.* per qr. for Galatz, cost, freight, and insurance. —FRIDAY, Dec 26.—There was no market to-day on account of the Christmas holidays.

GLASS.

THOMAS MILLINGTON'S FOREIGN SHEET GLASS is far superior to any other manufacture, as well as cheaper. In 100 feet boxes packed for immediate delivery.

6 inches by 4 and	6½ by 4½	...	...	...	13s. 0d.
7 ,,	5 and	7½ by 5½	...	...	15 0
8 ,,	5 and	8 by 5½	...	...	15 0
8 ,,	6 and	8½ by 6½	...	...	17 6
9 ,,	7 and	10 by 8	...	...	20 0
12 ,,	10 and	13 by 9	...	...	20 0

And many other sizes, or cut to order in various thicknesses. Cases containing large Sheets, in 100, 200, and 300 feet, at 21s. per 100 feet.

ROUGH PLATE, perfectly flat, ⅛ in. thick, best manufactured.

In sizes under 15 inches	.....	6d.	per foot.
,, ,, 35 ,,	.....	8d.	,,
,, ,, 50 ,,	.....	9½d.	,,
,, ,, 75 ,,	.....	12d.	,,

Milk Pans, 2s to 6s. each; Metal Hand frames, Glass Tiles and Slates; Cucumber, Propagating, and Bee Glasses; Wasp Traps, Glass Shades, and Plate Glass, at 87, Bishopsgate-street Without, same side as Eastern Counties Railway.—Established 100 years.

GLASS FOR CONSERVATORIES, GREENHOUSES, PIT FRAMES, &c.

JAMES PHILLIPS AND CO. beg to hand in their prices of SHEET GLASS for cash:

Cut to order in Panes not above 40 inches long.

16 ozs.... ...	3d. to 3½d.
21 do.	3½d. to 5d.
26 do.	5d. to 7½d.

In Crates of 300 ft., 16 ozs. to the foot, 2¾d. per foot.

Packed in Boxes of 100 feet each.

	£.	s.	d.
6 by 4, 6½ by 4½ ...	0	13	0
7 by 5, 7½ by 5½ ...	0	15	0
8 by 5, 8 by 5½ ...	0	16	0
8 by 6, 8½ by 6 ...	0	17	6
9 by 7, 10 by 8 ...	1	0	0

FOREIGN SHEET GLASS, of very superior quality, packed in cases of 200 feet, and in sizes varying from 36 by 26 to 44 by 30 inches, at 38s. 40s., to 42s per case.

HARTLEY'S PATENT QUARRY GLASS.

Milk Pans, from 2s. to 6s. each, Propagating and Bee Glasses, Cucumber Tubes, Lactometers, Lord Camoy's Milk Syphons, Tiles and Slates, Wasp Traps, Plate, Crown, and Ornamental Glass, Shades for Ornaments, Fern Shades, and every article in the Trade.

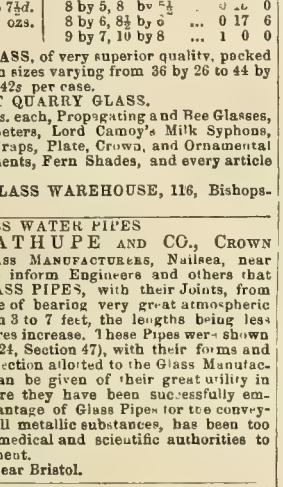
HORTICULTURAL GLASS WAREHOUSE, 116, Bishopsgate-street Without.

GLASS WATER PIPES

MESSRS. COATHUPE AND CO., CROWN AND SHEET GLASS MANUFACTURERS, Nailsea, near Bristol, Somer-et, beg to inform Engineers and others that they are supplying GLASS PIPES, with their Joints, from 1 to 4 inches bore, capable of bearing very great atmospheric pressure, in lengths from 3 to 7 feet, the lengths being less as the diameter of the bores increase. These Pipes were shown at the Exhibition (Class 24, Section 47), with their forms and modes of joining in the Section allotted to the Glass Manufactures; and references can be given of their great utility in numerous localities, where they have been successfully employed. The great advantage of Glass Pipes for the conveyance of pure water over all metallic substances, has been too largely dwelt upon by medical and scientific authorities to require any further comment.

Nailsea Glass Works, near Bristol.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER.

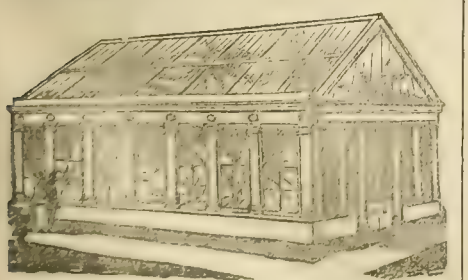


J. WEEKS AND CO., King's Road, Chelsea, HORTICULTURAL ARCHITECTS, ENGINEERS, and BUILDERS. These Boilers are very powerful durable, and economical. The fire warranted to last 15 hours without attention. The Furnace Bars are Hollow Tubes, through which the return water passes before entering the upper part of the Boiler, thereby causing a very rapid circulation, and producing double the effect from the same quantity of fuel.

J. WEEKS and Co., King's Road, Chelsea, CHALLENGE the whole world to make a Boiler that will produce anything like the same effect, with the same quantity of Fuel, in a given time. It is one of these Boilers that warms the water of their VICTORIA REGIA Tank, which contains 9000 gallons, and also heats several large Forcing-houses and ranges of Pits, with a small consumption of fuel.

Plans, Models, and Estimates of Horticultural Buildings; also Catalogues of Plants, Vines, Seeds, &c., forwarded on application.—J. WEEKS and Co., King's Road, Chelsea, London.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER, AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.



GRAY AND ORMSON, Danvers-street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

G. & Co. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders, they can with the greatest confidence give the most satisfactory references.

Their Hot Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating by Hot Water can be made available.

GREENHOUSE AND CONSERVATORY BUILDING ESTABLISHMENT, HOT-WATER APPARATUS MANUFACTORY, KENSALL-GREEN, HARROW-ROAD, LONDON

JOHN TAYLOR begs most respectfully to call the attention of the Nobility, Gentry, and Gardeners, to the very superior manner in which he erects all kinds of Greenhouses, Conservatories, Forcing Pits, &c., and all other buildings for Horticultural purposes, combining all the most modern improvements with elegance and utility. His manner of heating Horticultural Buildings, Churches, Chapels, Public Buildings, Entrance Halls, &c., has received the greatest approbation from the Nobility and Gentry by whom he has been extensively engaged.

FOR WARMING GREENHOUSES and BUILDINGS of all kinds, the new Registered HORIZONTAL GAS STOVE is perfect in its operation, free from smell, and cannot get out of order. Price 30s.—STEVENS AND SON, Darlington Works, Southwark Bridge-road, London.

ADULTERATION OF FOOD.

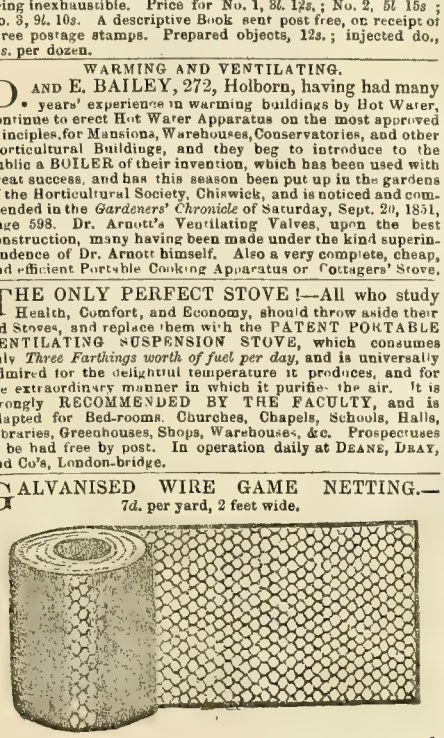
HENRY BAKER, OPTICIAN, 90, Hatton Garden, London, begs to call attention to his ACHROMATIC MICROSCOPES (warranted good) which will be exchanged if not approved of. These Instruments will define the circulation of the Blood in the Frog's Foot, the Saw in the Sting of the Wasp, the Comb in the Spider's Foot, the beautiful form and varieties of Pollen in Flowers and their Structure the Scales of the Butterfly's Wing, and also in many instances Adulteration of Food. It is a very interesting companion, and will pass away usefully many a leisure hour, the fund for observation being inexhaustible. Price for No. 1, 8s. 12s.; No. 2, 5l. 15s; No. 3, 9l. 10s. A descriptive Book sent post free, on receipt of three postage stamps. Prepared objects, 12s.; injected do., 30s. per dozen.

WARMING AND VENTILATING.

D. AND E. BAILEY, 272, Holborn, having had many years' experience in warming buildings by Hot Water, continue to erect Hot Water Apparatus on the most approved principles, for Mansions, Warehouses, Conservatories, and other Horticultural Buildings, and they beg to introduce to the public a BOILER of their invention, which has been used with great success, and has this season been put up in the gardens of the Horticultural Society, Chiswick, and is noticed and commended in the *Gardeners' Chronicle* of Saturday, Sept. 20, 1851, page 598. Dr. Arnott's Ventilating Valves, upon the best construction, many having been made under the kind superintendence of Dr. Arnott himself. Also a very complete, cheap, and efficient Portable Cooking Apparatus or Cottagers' Stove.

THE ONLY PERFECT STOVE!—All who study Health, Comfort, and Economy, should throw aside their old Stoves, and replace them with the PATENT PORTABLE VENTILATING SUSPENSION STOVE, which consumes only *Three Farthings worth of fuel per day*, and is universally admired for the delightful temperature it produces, and for the extraordinary manner in which it purifies the air. It is strongly RECOMMENDED BY THE FACULTY, and is adapted for Bed-rooms, Churches, Chapels, Schools, Halls, Libraries, Greenhouses, Shops, Warehouses, &c. Prospectuses to be had free by post. In operation daily at DEANE, DRAY, and Co's, London-bridge.

GALVANISED WIRE GAME NETTING.—7d. per yard, 2 feet wide.

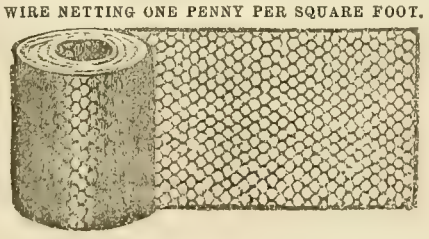


		Galvanised.	Japanned Iron.
2-inch mesh, light, 24 inches wide ...		7d. per yd.	5d. per yd.
2-inch ,, strong ,,	...	9 ,,	6½ ,,
2-inch ,, extra strong ,,	...	12 ,,	9 ,,
1½-inch ,, light ,,	...	8 ,,	6 ,,
1½-inch ,, strong ,,	...	10 ,,	8 ,,
1½-inch ,, extra strong ,,	...	14 ,,	11 ,,

All the above can be made any width at proportionate prices. If the upper half is a coarse mesh, it will reduce the prices one-fourth. Galvanised sparrow-proof netting for Pheasantries, 3d. per square foot. Patterns forwarded post free.

Manufactured by BARNARD and BISHOP, Market-place, Norwich, and delivered free of expense in London, Peterborough, Hull, or Newcastle.

WIRE NETTING ONE PENNY PER SQUARE FOOT.



GALVANISED WIRE NETTING, TWO-PENCE PER SQUARE FOOT.—This article requires no painting, the atmosphere not having the slightest action on it. It was exhibited at the late Metropolitan Cattle Show, and was highly eulogised both for its utility and pretty appearance, and acknowledged to be the cheapest and best article ever produced. It forms a light and durable fence against the depredations of hares, rabbits, and cats, and is peculiarly adapted for Aviaries, Pheasantries, and to secure poultry; and by the galvanised requiring no paint, it answers admirably for training all kinds of creeping plants. Large quantities always kept in stock, of 18, 24, 36, and 48 inches wide; it can, however, be made to any dimensions desired. Patterns forwarded free of expense.

12 inches wide 3d. per yard.		30 inches wide 7½d. per yard.	
18 ,, ,, 4½d.	,,	36 ,, ,, 9d.	,,
14 ,, ,, 6d.	,,	48 ,, ,, 1s.	,,

Galvanised do., 1d. per foot extra.

Extra strong Imperial Wire Sheep Netting, 3 feet, 1s. 6d. per running yard; if galvanised, 2s. Also every description of Wire Nursery and Fireguards, Wire House-lanterns and Shades, Fly-proof Dish Covers, Meat Safes, &c.; Window Blinds, 1s. 10d. per square foot, with bolts complete, in mahogany frames; Gothic Garden Bordering, 6d. per running foot; Flower Trainers, from 3d. each; Garden Arches, 20s. each, Flower Stands, from 3s. 9d. each; Galvanised Tying Wire for Plants and trees, Dahlia Rods, and every description of Wire-work; Weaving, for the use of paper-makers, millers, &c.—At the Manufactory of THOMAS HENRY FOX, 41, Skinner-street, Snow-hill, London.

FOUNTAINS.—MR. SEELEY having printed a List of some small designs of Fountains suitable for Conservatories, will be happy to forward a copy to any Gardener requiring such an ornament.—Nos. 1—4, Kepel-row, New-road, Regent's Park, London.

RATING NURSERYMEN'S GREENHOUSES.—A Meeting of those interested will be held in the General Meeting of the Gardeners' Benevolent Institution, to be held at the London Coffee-house, Ludgate-hill, at 1 o'clock, on the 14th of January inst.

COPPER BOILERS, of various Shapes, for Heating Baths and Conservatories.

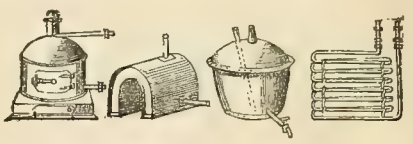


Fig. 1. Fig. 2 Fig. 3. Fig. 4.

FIG. 1. TYLOR'S IMPROVED COPPER CIRCULATING BATH BOILER, on Iron Frame complete for fixing.—FIG. 2. COPPER-RIVETTED ARCH-TOP BOILER for large Greenhouses or Public Buildings, from 4 to 40 gallons.—FIG. 3. DOME-TOP COPPERS, with draw-off Cocks, for Public Baths, from 15 to 150 gallons.—FIG. 4. TINNED COPPER COIL PIPES for heating Baths, by passing water through the kitchen range boiler.—Apply to Ironmongers or Plumbers, or to the manufacturers, J. TYLOR and SON, Warwick-lane, London.

SEASONABLE PRESENTS.—At this festive period of the year, when friends and lovers assemble at the social board, or join in the mazes of the dance, a more than usual anxiety is created for PERSONAL ATTRACTION, and the following unrivalled discoveries for the TOILET are called into increased requisition, namely—ROWLANDS' MACASSAR OIL, for creating and sustaining a luxuriant head of hair, ROWLANDS' KALYDOR, for rendering the Skin soft, fair, and blooming, ROWLANDS' ODONTO, OR PEARL DENTIFRICE, for imparting a pearl-like whiteness to the Teeth, and ROWLANDS' AQUA D'ORO, a fragrant and spirituous Perfume, an essential accompaniment to places of public amusement and crowded assemblies.

BEWARE OF SPURIOUS IMITATIONS.—The only GENUINE of each bears the name of "ROWLANDS'" preceding that of the Article on the Wrapper or Label.

Sold by A. ROWLAND & SONS, 20, Hatton Garden, London, and by Chemists and Perfumers.

FORD'S EUREKA SHIRTS AND FORD'S EUREKA SHIRT COLLARS are not sold by any hosiers or drapers. The Collars possess an improved method of fastening, which entirely dispenses with the use of strings, loops, or elastic contrivances. Adapted to any size, suitable for once or twice round cravats. They may be had in three different sizes, and either rounded or pointed. Price 11s. 6d per dozen. Two as samples, sent post free on receipt of twenty-eight postage stamps.—RICHARD FORD, 185, Strand, London.

ONE TO THREE POUNDS PER WEEK WITH CERTAINTY REALISED.—MR. ALLEN WOOD, who for 23 years superintended an establishment employing upwards of 200 persons in various branches, will forward, by return of post, nine highly respectable and easy modes of obtaining, by either sex, a certain income of one to three pounds per week, with ordinary industry, without the outlay of a sovereign or a shilling risk. Address Mr. A. WOOD, 160, High-street, Rochester, enclosing a directed envelope, and 13 postage stamps. Up to this day (December 30), above 80 testimonials have been received, all expressing the greatest satisfaction. Rely this is free from deception.

MECHI'S RAZORS, STROP, AND PASTE, FOR 11s.—4, Leadenhall-street, London.—Pair of Razors, 7s.; Strop, 3s. 6d.; Paste, 6d. The Razors warranted, or exchanged if not approved. Those who find shaving painful and difficult will do well to try the above, it being well known that MECHI has been eminently successful in rendering shaving an easy operation. Superior Shaving Brushes, Naples Soap, and every article of first-rate quality for the Toilet. CAUTION.—Do not buy any Strop as genuine unless MECHI's name is on it, there being so many counterfeits. Elegant Case of Razors for Presents, from 25s. to 10 guineas. Ivory-handled and Scotch strops.

HOLLOWAY'S OINTMENT AND PILLS HAVE AGAIN BEEN MOST EFFICACIOUS IN CURING A SORE LEG.—JOHN THOMAS, a labourer, far advanced in years, residing at Penmaen Buck, near Conway, had suffered for a very long time from a dreadfully sore leg and was for many months under the care of eminent medical men, but their remedies appeared perfectly useless. He then commenced using HOLLOWAY'S Ointment and Pills, and after giving them a fair trial his leg was completely cured, and the wounds soundly healed. These medicines excel all others in the cure of Scrofula, or King's Evil, and other unnatural swellings, Scurvy, Leprosy, and all skin diseases.—Sold by all druggists and at Prof. HOLLOWAY'S Establishment, 244, Strand, London.

COUGHS, ASTHMA, &c.—CAUTION.—Unprincipled persons, tempted by the extraordinary success of DR. LOCOCK'S PULMONIC WAFERS, prepare spurious imitations of that remedy, calculated to deceive the unwary; the public is therefore cautioned not to purchase any wafers, unless the words "Dr. Locock's Wafers," appear in white letters on a red ground, in the Government Stamp, outside each box. Dr. LOCOCK'S Wafers give instant relief, and a rapid cure of Asthmas, Coughs, and all disorders of the Breath and Lungs.—Sold by all Medicine Vendors. Also, Dr. LOCOCK'S ANTIBILIOUS WAFERS, a mild and gentle Aperient Medicine, having a most agreeable taste, and of great efficacy for regulating the secretions, and correcting the action of the Stomach and Liver. Price 1s. 1½d., 2s. 9d., and 11s. per box.

HOUSE FURNISHING AND INTERIOR DECORATIVE ESTABLISHMENT, 451, OXFORD-STREET, LONDON.—Cabinet Furniture of every description at marked prices—Brussels Carpet, 2s. 6d. per yard.—Damask Curtains, 10d. per yard and upwards; Ditto, in Silk and Worsted (French fabric), nearly two yards wide, at 8s. per yard.—The best Floor Cloths that can be made, cut to any dimensions, 2s. 3d. per yard. The largest Manufactory in London for Paper Hangings, English and French Decorations, adapted either to the Cottage or the Mansion, fitted up, showing the side of a room finished for occupation.

FRIGI DOMO.—A perfect protector against frost, a non-conductor of heat or cold, and cheaper in price than bass matting. A canvas made of prepared hair and wool, adapted to many horticultural and floricultural purposes, for covering up, where a fixed temperature is required. It is 2¼ yards wide, and of any required length at 1s. 4d. per yard run.—Manufactured only by E. T. ARCHER, Carpet Manufacturer, 451, Oxford-street, London.

STANDISH AND NOBLE, NURSERYMEN, BAGSHOT, SURREY,

Solicit attention to the following List of ORNAMENTAL PLANTS selected from their general Nursery Stock. The greater portion are growing in the open quarters; and, from being periodically transplanted, their safe removal may be relied on. Every Plant sent out will be a healthy, robust specimen; the heights given afford but a slight criterion of their general character. To those having a star prefixed they invite special attention, as being remarkably fine, and fit for producing immediate effect. Gentlemen about to plant extensively would be repaid by making a visit to the Nursery.

All kinds of Ornamental Trees and Shrubs supplied. A fine Collection of Roses selected with reference to late autumnal blooming. Also of the best kinds of late-flowering hardy hybrid Rhododendrons, to the cultivation of which especial attention is given.

*** *Gentlemen requiring assistance in laying out or improving their grounds may procure the services of a competent person by applying to the Advertisers.*

With the exception of such names as are printed in italics, the whole of the plants in this list are perfectly hardy.

The number of inches named refer to the heights, unless otherwise stated.

ABIES BRUNONIANA, 12 ins., 2*s.* 6*d.*; 24 ins., 5*s.*, each.
„ JEZOENSIS, one year's seedlings, 21*s* each.
This is one of the last novelties in Conifers. It forms a noble tree of 120 feet in height, and of very distinct character.
„ DOUGLASII, 20 to 36 ins., 5*s.* to 10*s.* 6*d.* each.
ARAUCARIA IMBRICATA, 6 to 9 ins., 1*s.*; 12 ins., 2*s.* 6*d.*; 18 ins., 3*s* 6*d.*; 24 ins., 5*s.*, each.
AZALEA, "Glory of Sunning Hill," 2*s.* 6*d* to 5*s.* each.
The best double variety in cultivation.
„ OVATA, a hardy evergreen, 6 to 9 ins., 2*s.* 6*d.* each.
„ *VITTATA*, a specimen of this unique variety was awarded a Knightian medal, when exhibited last April at the rooms of the Horticultural Society. The ground colour of the flowers is white, which is beautifully striped with purple, after the manner of a Carnation. It is a very free bloomer. 9 ins., 21*s.* each.
ABELIA UNIFLORA, new and distinct. A very free bloomer, 10*s.* 6*d.* each.
BUXUS sp., from north of China, round leaved, 10*s.* 6*d.* each.
„ „ „ long leaved, 15*s.* each.
BERBERIS FORTUNII, 9 ins., 1*s.* 6*d.*; 12 ins., 2*s.*; 18 ins., 3*s.*; 24 ins., 5*s.* each.
„ DARWINII, 7*s.* 6*d.* to 21*s.* each.
CEDRUS AFRICANA, 18 ins., 2*s.* 6*d.*; 24 ins., 3*s.* 6*d.*; 30 ins., 5*s.*; 36 ins., 7*s* 6*d.*; 48 ins., 10*s.* 6*d.* each.
* „ DEODARA, 2 to 5 ft., 2*s.* 6*d.* to 10*s.* 6*d.* each.
* CRYPTOMERIA JAPONICA, seedlings, very robust plants, will require no support from stakes. Plants 4 to 5 ft. high have stems as many inches in circumference. 6 ins., 63*s.* per 100. 24 ins., 2*s* 6*d.*; 36 ins., 3*s* 6*d.*; 48 ins., 5*s.*; 60 ins., 7*s.* 6*d.* each.
„ JAPONICA NANA, seedlings 9 to 12 inches through, 10*s.* 6*d.* to 21*s.* each.
*CUPRESSUS FUNEBRIS, seedlings, very robust plants, from the open border, nearly as wide as high, very handsome plants, 12 ins., 5*s.*; 18 ins., 7*s.* 6*d.*; 24 ins., 15*s*; 30 ins., 21*s.*; 36 ins., 31*s.* 6*d.* each. Cuttings, 6 to 8 ins., 2*s.* 6*d.* each.
* „ ELEGANS, a rapid grower, and a most graceful tree, 12 ins., 2*s.* 6*d.*; 24 ins., 3*s.* 6*d.*; 36 ins., 5*s.*; 48 ins., 7*s.* 6*d* each.
* „ GOVENIANA.—This is one of the most beautiful plants of its class. It has the merit of preserving its beautiful green colour during the most severe weather, 9 ins., 2*s.* 6*d.*; 12 ins., 3*s.* 6*d* ; 18 ins., 5*s* ; 24 ins., 7*s.* 6*d.*; 30 ins., 10*s.* 6*d.*; 36 ins., 15*s.*; 48 ins., 21*s.* each.
* „ LAMBERTIANA, forms a noble tree, rivalling even the Cedar of Lebanon, and succeeds well in very exposed situations. 9 to 12 ins., 1*s.* 6*d.*; 18 ins., 2*s.* 6*d.*; 24 ins., 3*s.* 6*d.* each.
Grafted beneath the surface of the soil, 30 ins. 2*s.*; 36 ins., 2*s.* 6*d* ; 42 ins., 3*s.* 6*d.* ; 48 ins., 5*s.* each.
CEPHALOTAXUS FORTUNII, male var., long leaves, seedlings, 21*s.* each.
„ „ female var., short leaves, seedlings, 21*s.* each.
CHAMÆROPS, sp., a hardy Palm from the north of China, a decided acquisition to our hardy ornamental evergreens, 21*s.* to 31*s.* 6*d.* each.
CLERODENDRON FŒTIDUM.—The only species of this beautiful genus which can be successfully cultivated in a cool greenhouse, a situation in which this succeeds admirably. It forms its large heads of rosy lilac flowers in great profusion. Strong plants, 21*s.* each.
CERASUS ILLICIFOLIA, 7*s.* 6*d.* each.
DAPHNE JAPONICA, 12 ins., 2*s.* 6*d.* each.
„ HYBRIDUM, 12 ins., 1*s.* 6*d.* each.
FORSYTHIA VIRIDISSIMA.—This plant is not sufficiently known. It is an early spring-flowering plant, producing its yellow blossoms in great profusion. But it rarely flowers, or but scantily when young. The plants offered are well set with flower-buds. It forces well. Bushy plants, 24 ins., 1*s.* 6*d.*; 36 ins., 2*s.* 6*d.*; 48 ins., 3*s.* 6*d.* ; Standards, 10*s.* 6*d.* each.
ILEX DIPYRENA, 9 to 12 inches, 3*s.* 6*d.* each.
„ MICROCARPA, 21*s.* each.
„ LATIFOLIA, 12 ins., 2*s.* 6*d.*; 18 ins., 3*s.* 6*d.*; 24 ins., 5*s* each.
„ FURCATA, 21*s.* each.
JUNIPERUS ARGENTEA, new and very beautiful, 12 inches, 5*s.* each.
„ PHŒNICEA, 12 ins., 1*s* 6*d.* each.
„ CHINENSIS, 12 ins., 1*s.*; 18 ins., 1*s.* 6*d.*; 24 ins., 2*s.*; 30 ins., 2*s* 6*d.* each.
„ TAMARISCIFOLIA, 12 ins., 1*s.* each.
„ FLACCIDA, 12 ins., 1*s* 6*d.*; 24 ins., 3*s.* 6*d.* each.
„ EXCELSA, 12 ins., 2*s.* 6*d.*; 18 ins., 3*s.* 6*d.* each.
„ SQUAMATA, 12 ins., 1*s* ; 24 ins., 2*s.* 6*d.* each.
„ CRACOVIA, 12 ins., 1*s* each.
„ MACROCARPA, 12 ins., 2*s.* 6*d.* each.
„ REPANDENS, 12 ins., 9*d.* ; 24 ins., 1*s.* 6*d.* each.
„ OBLONGA PENDULA, 6 to 8 ins., 2*s.* 6*d.* each.
„ BEDFORDIANA, 12 ins., 1*s.*; 18 ins., 1*s.* 6*d.* ; 24 ins., 2*s.* each.
JASMINUM NUDIFLORUM, strong blooming plants, 2*s.* 6*d.* each.
LIGUSTRUM JAPONICUM 9 ins., 1*s.*; 24 ins., 2*s.* each.
LYCOPODIUM WILDENOVII, 5*s.* each.
LIBOCEDRUS CHILIENSIS 7*s.* 6*d.* each.
MITRARIA COCCINEA, 2*s.* 6*d.* each.
*PICEA PINSAPO, very handsome specimens, 30 ins., 21*s.* each.
„ NORDMANNIANA, 10*s.* to 15*s.* each.
„ OVATA, 10*s.* 6*d.* each.
*PINUS INSIGNIS, 12 ins., 2*s.* 6*d.*; 24 ins., 5*s.*; 30 ins., 7*s.* 6*d.*; 36 to 42 ins., 10*s.* 6*d.* each.
„ MURICATA, 9 ins., 10*s.* 6*d.*; 18 ins., 21*s.*; 24 ins., 31*s* 6*d.* each.
„ MONTEZUMÆ, 12 to 15 ins., 10*s.* 6*d.* each.
QUERCUS SCLEROPHYLLA, 21*s.* to 42*s.* each.
„ INVERSA, 21*s.* to 42*s* each.
ROSE, "FORTUNE'S YELLOW," dwarfs, 2*s.* 6*d.* to 5*s.* each.
„ „ „ standards, 5*s.* to 7*s.* 6*d.* each.
RHODODENDRONS.—Hardy late flowering Hybrids, varying in colour from white to deep crimson. Dwarfs, 31*s.* 6*d.* to 6 guineas per dozen; standards, 21*s.* to 5 guineas each.
„ COMMON PONTICUM, for covers, thrice transplanted, 12 to 18 ins high, very bushy, 15*s.* to 21*s.* per 100.
SIKKIM RHODODENDRONS.—We believe we may state, without fear of contradiction, that we possess the largest plants of these beautiful Rhododendrons in the trade. The heights of those we are offering vary from 2 to 9 ins. From the altitude from whence many of them were obtained, there is great probability of their proving hardy in this country. Collections of 24 distinct kinds at 3, 5, or 9 guineas.
SPIRÆA CALLOSA.—An abundant and continued bloomer. It has large corymbs of rosy purple blossoms, and is a handsome addition to our shrubbery plants; 10*s.* 6*d.* each.
SALISBURIA ADIANT FOLIA (seedlings), 12 ins., 2*s.* 6*d.* each.
*TAXODIUM SEMPERVIRENS. This and Cryptomeria japonica are amongst the most rapid-growing Conifers. In situations where such are required they cannot be surpassed. 18 ins. to 5 feet, 1*s.* 6*d.* to 10*s.* 6*d* each.
TAXUS DOVASTONII, standards, 3 to 4 ft., 7*s.* 6*d.* to 10*s.* 6*d.* each.
„ ADPRESSA, 12 ins., 2*s.*; 24 ins., 5*s.*; 36 ins., 10*s.* 6*d.* each.
„ BACCATA (yellow-berried var.), 12 ins., 2*s.* 6*d.*; 24 ins., 5*s.*; 36 ins, 7*s.* 6*d.* each.
„ „ (golden-leaved var.) 12 ins., 1*s.* 6*d* ; 18 ins., 2*s.* 6*d.* each.
VIBURNUM PLICATUM, 10*s.* 6*d.* to 21*s.* each.
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THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 2—1852.] SATURDAY, JANUARY 10. [PRICE 6*d.*

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ERRATUM.—In the Advertisement "Testimonial to Mr. M'INTOSH," at page 2 of last week's Number, at line 6 from the end, for HENDERSON, read ANDERSON.

RATING NURSERYMEN'S GREENHOUSES.—A Meeting of those interested will adjourn from the General Meeting of the Gardeners' Benevolent Institution, to be held at the London Coffee-house, Ludgate-hill, at 1 o'clock, on the 14th of January inst.

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ASPARAGUS, Giant (strong), 2 and 3 years, 2*s.* 6*d.* and 3*s.* 6*d.* per 100.

SEAKALE (strong), 1*s* 6*d.* per doz.

ROSES, Standards and Half-standards, of the very best sorts in cultivation, 12*s.* to 15*s.* per doz.

EVERGREEN PRIVET, 2½ to 4 feet, strong, 35*s.* per 100, or 4*s.* per 100.

All orders of 2l. and upwards delivered free to any Railway Station within 150 miles of the Nursery.

Royal Nursery, Great Yarmouth.

GREAT WESTERN, GREAT NORTHERN, SOUTH-WESTERN, AND SOUTH-EASTERN

SEED ESTABLISHMENT, READING, BERKS,

FOR SUPPLYING SUTTON'S HOME-GROWN SEEDS TO ALL PARTS OF THE UNITED KINGDOM.

THE GARDEN SEEDS grown in Berkshire and the Southern Counties having obtained great celebrity, and our low prices for Seeds of superior quality having gained us a very extensive connection in almost every county in the United Kingdom, we have made such arrangements with MESSRS. PICKFORD AND CO. (who have Offices on most of the great lines of Railways, as will enable us to **DELIVER OUR GOODS FREE OF CARRIAGE,** as under:—

Packages of not less than Ten Shillings value are delivered free of Carriage to

Any Office in London, Bristol, Southampton, Portsmouth, Dover, Oxford, Banbury, Gloucester, Hungerford,

And all Stations on the Great Western, South-Western and South-Eastern Railways.

And all Packages of Seeds not less than 2*l.* value, Carriage Free to the ports of Ireland, Scotland, and Wales; or to Birmingham, Liverpool, Manchester, Lynn, York, Hull,

And any Station on the Great Northern Railway.

Being extensive *Growers* of Seeds (including the best of the New Sorts as soon as introduced), we can supply any sort required at **THIRTY PER CENT. LESS THAN THE PRICES GENERALLY CHARGED** in most parts of the kingdom.

SUTTON'S COLLECTIONS OF GARDEN SEEDS.

	£	*s.*	*d.*
No. 1.—A COMPLETE COLLECTION OF GARDEN SEEDS, FOR ONE YEAR'S SUPPLY OF A LARGE GARDEN; including 20 quarts of Peas, in the best eight sorts for succession; the best eight sorts of Broccoli, together with the choicest Melons, Cucumbers, Lettuces, Cauliflowers, and every other sort of Vegetable required, and in full quantities	2	10	0
No. 2.—A COMPLETE COLLECTION, IN QUANTITIES PROPORTIONATELY REDUCED	1	10	0
No. 3.—A COMPLETE COLLECTION, EQUALLY CHOICE SORTS	1	1	0
No. 4.—A SMALL AND VERY CHOICE ASSORTMENT	0	12	6

If some kinds of Seeds are already possessed purchasers are requested to name them, that increased quantities of others may be sent in lieu of them.

We are daily receiving orders from parties who have had our Seeds in former seasons, accompanied with remarks such as the following, the originals of which may be seen at our office, and the names of the writers may be known by post.

From a Clergyman, near Darlington.

"The best kitchen garden seeds I ever had were furnished by you."

From Doneraile, Ireland.

"Lord D. would be glad to have," &c., &c. "The seeds sent last year were excellent."

From Cirencester.

"I never received such a numerous collection, so good in quality, from any house."

From Ripon, Yorkshire.

"At one of the Horticultural Shows at Harrowgate, my gardener took 20 prizes, most of them from the produce of your seed; we also gained several prizes at other meetings, as many as 18 at one of them."

From an eminent Horticulturist, at Sunninghill.

"My gardener speaks very highly of your seeds."

From Girvan, N B.

"I have much satisfaction in recommending your seeds to various friends, as I find they are much pleased with them."

From a Clergyman, at Newport, Monmouthshire.

"I have invariably found your seeds of all kinds very good."

From North Walsham

"Your seeds are decidedly superior to those I can procure in this neighbourhood; I shall at all times be glad to recommend you to my friends."

From a Clergyman, at Meonstoke, Hants.

"I always recommend my friends to supply themselves from your establishment."

From another Clergyman, at Kinsale, Ireland.

"Being so much pleased with the garden and flower seeds sent last season, induces me to send to you for my agricultural seeds also."

EARLY ORDERS ARE PARTICULARLY REQUESTED, *and will have the preference of scarce sorts.*

Remittances *are not required* with the orders from clergymen, noblemen, and resident gentlemen, or their gardeners.

N.B.—We are also growers of Mangold, Turnip, and other Agricultural Seeds, which are likewise delivered carriage free.

ADDRESS, JOHN SUTTON AND SONS, SEED GROWERS, READING, BERKS.

GLASS.

JAMES PHILLIPS AND CO., GLASS MERCHANTS,

116, BISHOPSGATE STREET WITHOUT, LONDON,

Have the pleasure to hand their List of Prices of Glass for the present month, for cash.

HORTICULTURAL GLASS,

Packed in Crates containing about 300 feet, and in Sheets about 40 ins. long by 30 ins. wide.

13 oz. to the foot...	...	0*s.* 2*d.*
16 oz. do. ...	...	0 2½
21 oz. do. ...	...	0 3½

Cut to order in Panes.

Not exceeding 40 inches long:

16 oz. ...	...	0*s.* 3*d.* to 0*s.* 3½*d.*
21 oz. ...	...	0 4 0 5
26 oz. ...	...	0 5 0 7

Packed in boxes containing 100 feet:

6 by 4 to 6½ by 4½ ins.	...	13*s.* 0*d.*
7 by 5 to 7½ by 5½ ins.	...	15 0
8 by 6 to 8½ by 6½ ins.	...	17 6
9 by 7 to 10 by 8 ins.	...	20 0

Boxes are charged 2*s.* each, but allowed for when returned.

FOREIGN SHEET GLASS.

Packed in 200 feet Cases, sizes varying from 38 by 26 to 44 by 30, at 38*s.*, 40*s.*, to 42*s.* per case of very superior quality.

GLASS TILES.

Rough Plate. Each—*s.* *d.*		Sheet. Each—*s.* *d.*
¼ inch thick... 0 10	16 oz.	0 6
3-16ths do. do. 1 0	21 oz.	0 8
¼ inch thick... 1 3	26 oz.	0 10
½ inch thick... 2 0	32 oz.	1 0

WINDOW GLASS,

In Crates of 18 Tables.

	£	*s.*	*d.*	
Best	6	15	0	Double Crown the same price per crate packed in 12 tables.
Seconds ...	5	17	0	
Thirds	4	16	0	
Fourths ...	3	3	0	
C. C.	2	12	0	
Coarse	2	6	0	

Subject to the usual discount for cash. Squares cut to order.

POLISHED PLATE GLASS.

Plates under 1 ft. super.	*s.*	*d.*	
1 foot and under 2	do.	2	4	Per foot super.
2 do.	3	do.	2	8
3 do.	4	do.	2	10
4 do.	6	do.	3	2
6 do.	8	do.	3	6
8 do.	10	do.	3	9
10 do.	12	do.	4	0
12 do.	14	do.	4	2

ORNAMENTAL OPAQUE PLATE GLASS.

	Black, White, Blue, and Mottled.		Veined or Jasper.	
Under 1 ft.	4*s.* 0*d.*		6*s.* 0*d.*	Per foot.
do. 2 ft.	5 0		7 6	
do. 4 ft.	6 0		9 0	
do. 6 ft.	7 0		10 6	
do. 10 ft.	8 0		12 0	
do. 15 ft.	9 0		13 6	
do. 20 ft.	10 0		15 0	

Specimens were exhibited at the Great Exhibition.

GLASS SLATES WITH DRILLED HOLES.

Rough Plate.

Size.	¼ in. thick. *s.* *d.*	¼ in. thick. *s.* *d.*	¾ in. thick. *s.* *d.*	½ in. thick. *s.* *d.*
Duchess ... 24+12	1 6	2 0	2 8	5 0
Small Imperial 20+14	1 5½	1 11	2 7	4 10
Small Duchess 22+12	1 5	1 10	2 6	4 8
Countess ... 20+10	1 1½	1 6	2 0	3 8
Viscountess ... 18+10	1 1	1 4	1 10	3 4
Large Ladies 16+10	1 0	1 3	1 7	3 0
Ladies ... 16+ 8	0 10	1 1½	1 5	2 6
Doubles ... 13+ 7	0 8	0 10½	1 2	2 3

GLASS FOR CHURCHES, CHAPELS, SCHOOLS, &c.

HARTLEY'S PATENT QUARRY GLASS,

In various lengths, of three thicknesses; a cheap substitute for Lead Lights.

HARTLEY'S PATENT ROUGH PLATE GLASS.

⅛ inch thick, or 2 lbs. to the foot; 3-16ths, or 3 lbs.; and ¼, or 4 lbs. to the foot, for Ridge and Furrow Roofs, Greenhouses, Railway Stations, Engine Sheds, Mills, Market Halls, and Public Buildings generally.

HARTLEY'S PATENT FLUTED AND CORRUGATED GLASS,

For Dome Lights, Counting-house Windows, &c.

HARTLEY'S PATENT CHEQUERED AND RETIFORM GLASS.

THE PATENT CHEQUERED GLASS is in character and appearance somewhat similar to the Patent Quarry Glass. The size of the pattern being only one-fourth that of the latter, it is more eligible for small windows, and for buildings not of an ecclesiastical description. Also for Staircase Windows, Porters' Lodge-, Waiting Rooms, &c. This article is admirably adapted for the Glazing of Schools.

THE PATENT RETIFORM ROUGH PLATE differs essentially in appearance from the Quarry, Chequered, or Corrugated Glass. Having a small reticulated pattern, of the form of a lozenge, the unsightliness of Rough Plate is removed without being on the other hand objectionably attractive, and for this reason it is preferred by many for the Glazing of Government Offices, Banks, Asylums, and the like.

STAINED AND ORNAMENTAL GLASS OF EVERY DESCRIPTION.

PERFORATED GLASS,

¼ of an inch thick.

For Ventilation.	Per Foot. First Quality *s.* *d.*	Second Quality. *s.* *d.*	Third Quality. *s.* *d.*
IN SQUARES not above 1 foot	6 3	4 3	3 0
Above 1 and not above 2 feet	6 6	4 6	3 3
,, 2 ,, ,, 3 ,,	6 9	4 9	3 6
,, 3 ,, ,, 4 ,,	7 0	5 0	3 9
,, 4 ,, ,, 5 ,,	7 3	5 3	4 0
,, 5 ,, ,, 6 ,,	7 6	5 6	4 3
,, 6 ,, ,, 8 ,,	7 9	5 9	4 6

FERN SHADES.

J. PHILLIPS and Co. have succeeded in making a very neat style of Shade, with glass bottom (or stand), expressly for the growth of Ferns, which will be found more ornamental than any previously made for the same description of plant.

Diamonds 14*s.*, 16*s.*, 18*s.*, and 20*s.* each.

MILK PANS, Propagating Glasses, and every article in the trade, for which a List of Prices, and every information, may be had by addressing JAMES PHILLIPS AND CO., Glass Merchants, 116, Bishopsgate-street Without, London.

CLARKE'S PREPARATION for destroying White Mealy Bug, Scale, Thrip, and all other Insects, without injury to the plants.

CLARKE and Co., Gardeners, Seedsmen, and Florists, Percy-cross Nursery, Walham-green, Fulham, continue to send out to all parts (on receipt of 5*s.* in stamps or otherwise), this invaluable article, in small sealed stone bottles. For testimony of its excellence, see *Gardeners' Chronicle*, page 821, 1851; and page 3, 1852. Printed directions, how to apply it, sent with each bottle.

Post-office Orders, payable at Brompton, to CHARLES CLARKE.

TOBACCO PAPER FOR SMOKING GREENHOUSES, &c.—CLARKE and Co., Gardeners, Seedsmen, and Florists, Percy Cross Nursery, Walham Green, Fulham, can supply any quantity of this article; price given on application.—The trade supplied.

FOR WARMING GREENHOUSES and BUILDINGS of all kinds, the new Registered HORIZONTAL GAS STOVE is perfect in its operation, free from smell, and cannot get out of order. Price 30*s.*—STEVENS AND SON, Darlington Works, Southwark Bridge-road, London.

J. RAWLINGS begs leave to offer his best thanks for the liberal support he has received during the past season, and to intimate that he has entered into Partnership with a Gentleman efficient in Land and Timber Surveying, &c., &c. The business for the future will be conducted under the firm of "RAWLINGS AND GIBSON."

Sales and valuations of all kinds of Nursery and Farming Stock Estates, Building Materials, &c., effected at a moderate charge. Money advanced upon property for absolute sale, and security to any amount.

For R. and G.'s other Advertisements, see last page of this Paper.—Auction Offices, 50, Hoxton-square, London.—Jan. 10.

TO NURSERYMEN.

FOREST TREES.—WANTED, the undermentioned transplanted forest trees:—33,000 Tyrolese Larch, 2½ to 3 feet; 4000 Hazel, 2 to 3 feet; 500 English Oak, 2½ to 3 feet; 500 Turkey Oak, 2½ to 3 feet. Parties having such to dispose of may hear of a purchaser by stating where now growing, when last transplanted, and lowest price, delivered either at a station on the Eastern Counties Railway, or on the quay at Hull or Newcastle, as may be most convenient to the seller.—Address, post paid, LARIX, Post-office, 65, Piccadilly, London.

ROYAL NURSERY, Cirencester, Gloucestershire.—The Public is most respectfully invited to an inspection of the remaining portions of the STOCK of this Nursery, which are now being sold at very reduced prices, in consequence of the Land being about to be given up; a rare opportunity is thus afforded for purchasing unrivalled bargains. The Stock, which is of a very general description, consists, amongst numerous other articles, of Standard Apples, Pears, Plums, Cherries, and Medlars; Dwarf Maiden Apples, Pears, and Cherries; Dwarf Trained Apples, Pears, Plums, and Cherries; Vines from eyes, in pots; Figs, Raspberries, Gooseberries, Currants, Strawberries, a large quantity of fine Seakale roots, Rhubarb, Globe and Jerusalem Artichokes, extensive collections of Standard and Dwarf Roses, Ornamental Thorns, Beech, Oaks, Ash, Chestnuts, Irish and Common Yews, Standard Cytisus; Common, Variegated, and all other kinds of Holly; Box of sorts, with a considerable quantity of fine Dwarf for edging; Sweet Bays, Mahonias, Euonymus, Red Cedars, Cypress, Laurestinus, Double and Irish Furze, Chinese and other Privets; American, Chinese, Siberian, and other Arbor-Vitæ; Aucubas, Phillyreas, Lucombe and Evergreen Oaks; Cedrus Libani, Africanus, Deodara, and Deodara viridis; Pinus insignis, Laricio, Cembra, taurica, excelsa, Gerardiana, austriaca, Mughus, Banksiana, Picea, Pinaster, halepensis, and pyrenaica; Picea nobilis, Nordmanniana, Pinsapo, cephalonica, Webbiana, Pindrow, taxifolia, Frazerii, and Hudsonii; Abies Menziesii, morinda, nigra, alba, Douglasii, canadensis, balsamea, and recurva; Araucaria imbricata, Cryptomeria japonica; Juniperus excelsa, Bedfordiana, virginiana pendula, oblonga, obionga pendula, sinensis, sinensis stricta, fragrans, oxycedrus, canadensis, Sabiniana, Sabiniana tamariscifolia, Sabiniana prostrata, Schotti, cracovia, recurva, Lasdeliana, semilocarpa, rigida, phœnicea, species from Himalaya, Hermanni, glauca, Gosainthanea, macrocarpa, Barbadensis, flagelliformis, tetragona, thuritera Mexicana, lycia, occidentalis, and squamata; Cupressus macrocarpa, sempervirens thujæformis, sempervirens fol. var., sempervirens nana, funebrie, and Goveniana; Libocedrus chilensis, and Doniana; Biota glauca, pendula stricta, incurvata, asplenifolia, and aurea; Glyptostrobus pendulus, and heterophylus; Thuja plicata, dolobrata, juniperoides, intermedia, and occidentalis fol. var.; Weeping and Drooping Larch, Sequoia sempervirens, Cephalotaxus pedunculata, and drupacea; Podocarpus totara; Taxus baccata fructuluteo, fol. aur. var. fol, argent var. and nana, Taxus Dovastoni, adpressa, elegantifolia fol. var. Hibernica, fol. argent var. with all other species and varieties of Coniferæ not enumerated, prices of which may be obtained on application to Mr. GREGORY, at the Nursery.

SILVER FIRS.

THOMAS IMRIE AND SONS, NURSERYMEN, Ayr, have on sale upwards of 200,000 SILVER FIRS, of various sizes, all healthy, fine, well-topped plants.

12 to 15 inches, 15*s.* per 1000; 15 to 24 inches, 20*s.* ditto; 18 to 30 inches, 25*s.* ditto.

Trains by the Glasgow and South-Western Railway from Ayr daily.

MESSRS. J. AND H. BROWN'S NEW DESCRIPTIVE CATALOGUE OF PLANTS, &c., for 1852, can be had free for six postage stamps. They also offer the following American Plants, Fruit Trees, &c.:—

	s.	*d.*
25 Azaleas, new hardy Belgian varieties, on their own roots, with flower-buds, one of a sort, by name ...	20	0
25 American Azaleas, do. do.	15	0
25 Hardy American Plants, one of a sort, by name ...	10	6
12 Rhododendrons, including scarlet, white, and rose, hardy varieties...	12	0
New hardy yellow Rhododendrons, each, 7*s.* 6*d.* to ...	10	6
Fine hardy scarlet Rhododendrons, 2 feet, per dozen ...	10	0
Cedar of Lebanon, 3 feet, well grown, in pots, per dozen	10	0
Standard and half-standard, per dozen ... 12*s.* and	15	0
Wistaria sinensis, extra fine, in pots, 15 to 30 feet, each	3	6
12 Greenhouse Azaleas, one of a sort, blooming plants ...	25	0
12 choice Camellias, by name, do. do.	30	0
24 choice Ericas, one of a sort, by name	16	0
12 Orchidaceous plants, choice species, and good plants.	30	0
6 Bulbs of Lilium lancifolium, one of a sort, for ...	12	0

FRUIT TREES.

Fine Dwarf and Standard Peaches, Nectarines, Apricots, Plums, Pears, and Cherries. The best and most approved sorts of these respective kinds, true to name, each, 2*s.* 6*d.*, or, per dozen 24 0

Unnamed, or maiden do., 1*s.* 6*d.* each, or, per dozen ... 15 0

Apples, dwarfs and standards of best sorts, per dozen ... 15 0

Fine Gooseberries, Currants, and Raspberries, per dozen 3 0

Fine Figs, Medlars, Walnuts, and Mulberries, each ... 2 0

Strong Vines from eyes and layers, in pots, per dozen ... 15 0

Filberts, new thin shelled and red skinned, per dozen ... 3 0

Rhubarb roots; Early seed Potatoes, Seakale, and Asparagus plants and Garden seeds of all kinds supplied.

Albion Nursery, Stoke Newington, London.—Jan. 10.

NEW CUCUMBER, "CAPTIVATION."—This is one of the most beautiful and perfect Cucumbers ever yet grown, both for its length, prolific bearing, and superiority over all other Cucumbers. It is confidently asserted that whoever grows this Cucumber once, will ever continue to do so. Sold in packets of three seeds, 5*s.*; or five seeds, 7*s.* 6*d.*

TILEY'S "PHENOMENA" CUCUMBER.—This Cucumber was sent out for the first time last season, and never was such a demand for a Cucumber known as for this one. Little need be said as to its qualities, it being a splendid Cucumber, quick grower, length from 24 to 28 inches, and a most abundant bearer. Whoever purchases seed of this, will find all they want in a Cucumber. Sold in packets, 2*s.* 6*d.*, or a packet of this, and one of "Captivation," for 6*s.* For further particulars, see *Gardeners' Chronicle*, for January 3, 1852. Also other older, but good, varieties therein priced and named.

A remittance must accompany the order from unknown correspondents, either by post-office order or penny postage stamps, when the whole, or any quantity of the above, as the case may be, will be forwarded to any part.

Sold by EDWARD TILEY, Nurseryman and Seedsman, 14, Abbey Churchyard, Bath.

E. T. begs to return his sincere thanks for the numerous orders and many complimentary letters he has received this season from his numerous friends and the public.

NEW KITCHEN GARDEN SEEDS.—See our Advertisement in this Paper, inserted last Saturday, in the first page.

Our PRICED *Catalogue of Seeds can still be had in exchange for One Penny Stamp.*

WILLIAM E. RENDLE and Co., Seed Merchants, Plymouth.

GERMAN SEEDS.

MESSRS. PLATZ AND SON, SEED GROWERS, Erfurt, Prussia, inform the trade that their CATALOGUE for 1852 is now ready, and may be had on application of their Agent, Mr. ROBERT KENNEDY, Conservatories, Covent Garden, London. The universal approval which their Articles have obtained, induce Messrs. P. and SON to solicit a trial of the present year's Stock, which includes many new and interesting varieties. All charges paid to London.

Erfurt, January 10.

STANDISH AND NOBLE'S detailed Advertisement will appear in this Paper on the first Saturday in every Month, to which they invite the attention of all interested in HARDY ORNAMENTAL PLANTS. Their Descriptive Catalogue, with the Treatise on the "Cultivation of American Plants," can still be had, by enclosing six stamps for postage.

Gentlemen requiring the services of a Landscape Gardener, can procure such by applying to the Advertisers.

Bagshot, Surrey, Jan. 10.

SUPERB NEW EARLY PROLIFIC MELON, "VICTORY OF BATH."

GARAWAY, MAYES, AND Co. having purchased the entire stock of the above MELON, beg to offer it to the public as a variety unequalled in flavour and productiveness. It obtained a Certificate of Merit at the April Show, in Bath; First Prize at Chiswick, in May; also two First Prizes at Bath, in May and June last. It was grown in pots with Bromham Hall, under precisely the same treatment, and Ripe Fruit cut full six weeks earlier. The whole of the fruit exhibited were grown in pots.

MELONS.	Per Packet—s. d.	CUCUMBERS.	Per Packet—s. d.
Victory of Bath ...	... 2 6	Lord Kenyon's Favourite	1 0
Bromham Hall ...	... 1 0	Victory of Bath ...	... 1 0
Camerton Court ...	... 1 0	Roman Emperor ...	... 1 0
Trentham Hybrid Green Flesh ...	... ... 1 0	Horn Pierpoint Wonder	1 0
Beechwood...	... ... 1 0	Kelway's Victory	... 1 0
With all other approved sorts.		With all other approved sorts.	

G., M., and Co. also beg to inform their friends that they are now prepared to send out their well selected stock of Agricultural, Kitchen, and Flower Garden Seeds, the latter grown under their own inspection. Catalogues to be had on application. G., M., and Co. can with confidence recommend their stock, as every article is thoroughly proved before sent out.—Durdham Down Nurseries, Bristol, Jan. 10.

SEED AND HORTICULTURAL ESTABLISHMENT, SUDBURY, SUFFOLK.

THE BEST EARLY PEAS, &c.

Taylor's New Early Prolific	Early Grotto Marrow
Early Emperor	Fairbeard's Surprise
Essex Champion [Dwarf	,, Champion of England
New Long-podded Bishop's	Burbidge's Eclipse

Also the best new later sorts.

20 fine and new sorts of Peas, 1 quart of each, for succession	£0 14 0
A complete assortment of vegetables, with a number of very choice and new kinds, including the above	2 10 0
An assortment containing 12 quarts of Peas in 12 sorts, and other seeds equally choice, &c.	1 10 0
An assortment equally choice	1 0 0
An assortment of choice and esteemed sorts	0 10 6

The above Collections will give the fullest satisfaction. The names of the sorts may be had on application, and if any are not wanted, enlarged quantities of others will be sent to make up the amount. Our Seeds comprise the very finest sorts, which are universally approved.

The priced Seed Catalogue will be sent on application. Also Wholesale prices to the trade.

Goods sent carriage free to London, Ipswich, Norwich, or any station on the line.

Post-office orders payable to STEPHEN BROWN, or to BASS and BROWN.

The Gardeners' Chronicle.

SATURDAY, JANUARY 10, 1852.

MEETINGS FOR THE ENSUING WEEK.

MONDAY,	Jan.	12	British Architects ... 8 P.M. Geographical ... 8½ P.M.
TUESDAY,	—	13	Syro Egyptian ... 7½ P.M. Civil Engineers ... 8 P.M. Medical and Chirurgical ... 8½ P.M. Zoological ... 9 P.M.
WEDNESDAY,	—	14	Literary Fund ... 3 P.M. London Institution ... 7 P.M. Society of Arts ... 8 P.M. Graphic ... 8 P.M. Pharmaceutical ... 8½ P.M. Ethnological ... 8½ P.M.
THURSDAY,	—	15	Antiquarian ... 8 P.M. Royal ... 8½ P.M.
SATURDAY,	—	17	Medical ... 8 P.M.

THE apparent impossibility of turning the putrid refuse of towns to a profitable use in a solid form is every day giving a greater importance to questions connected with the application of LIQUID MANURE to cultivation. As we have long since shown, no means exist of saving the manure of towns in a dry state, except by either seriously diminishing its intrinsic value, or by preparing it at a cost which would forbid its use in general gardening. If it is dried by simple evaporation, the most volatile and best parts are lost, and a pestilence is generated during the operation. If it is solidified by abstracting the water, whether after precipitation or by simple draining, much more of what is wanted is lost, and the residue is little better than a *caput mortuum*. If, on the other hand, it is deodorized by preparations of charcoal, or by similar means, the advantage derivable from its employment is not equal to the cost of the material, even if it be not spoiled by the process. Hence the public is driven to the alternative of continuing to waste this kind of refuse, or of employing it in a liquid form.

In a very able paper just issued by the Board of Health, this important question—not less important in a social than in an economical point of view, is fully discussed.* We last week printed, for the consideration of our agricultural readers, an interesting document contained in it from Mr. DUDLEY FORTESCUE, and we must now proceed to examine the paper itself, in its relation to the interests of gardeners.

That the liquid form is that in which fertilising matters are best presented to plants, is shown by everything that physiology has taught us. In no other form, unless the gaseous, are plants capable of receiving their food at all. Although charcoal is the basis of vegetation, and is that substance in the absence of which no growth whatever is possible, yet a plant would derive no advantage from remaining in contact with charcoal, unless the substance was presented to it in that gaseous form which it assumes when combined with oxygen. From solid charcoal, even though it should be reduced to the utmost conceivable degree of minute division, plants can obtain no food whatsoever. But in the form of air, or of air dissolved in water, they feed upon it greedily. And the same of all other substances. So that although the value of solid manure is incontestable, yet it only begins to act when it ceases to be solid, and becomes either fluid or gaseous. When fertilising substances fall on the ground they throw off odours perceptible to our senses, or vapours that we are not sensible of, which are absorbed by the vegetation they are dispersed among, or are dissolved in rain and carried to the roots of plants. In like manner those parts of fertilising matter which are incapable of rising into the air, are partially dissolved by dews and rains, and are washed into the earth. And all that other part which can neither assume the state of vapour nor dissolve in water, is matter useless to plants, and mere waste. There is only one reason, in fact, why solid manure is ever artificially employed, and that is, because of its portability. It requires an enormous quantity of water to dissolve and dilute sufficiently a load of rotten dung, and the labour of carrying that water, in addition to the dung, although the latter be in a better state, deters men from the use of fluid manure. Under ordinary circumstances, it is thought to be cheaper to use the inferior material, leaving the natural rain-fall, which costs nothing, to prepare the manure for the food of plants.

The whole question, then, is one of cost. There is no room for argument about which is the better, liquid or solid manure. The only point is, which it is cheapest to employ, taking into account the result obtained. If an acre of garden ground, manured with solid matter, at the cost of 10*l.* will yield a crop worth only 15*l.*, it may be more profitable than to gain a crop worth 25*l.*, by manuring the land with a fluid which costs 21*l.*

There are two elements, then, which must enter into all calculations concerning the effect of town manure; 1, the cost of obtaining it; 2, the cost of applying it. In private establishments where manure is collected in some central place, the first element in the calculation has less importance. But when liquid manure has to be conveyed for miles, the two cannot be taken separately. This has to be considered seriously in all cases; but most especially by gardeners or holders of small spaces, who could not expend money in procuring the liquid, and whose returns could not justify much expenditure on that head, even if they possessed the capital required for such a purpose. The cost of applying manure they must of necessity incur, but they must have it brought to their doors at a moderate price per ton.

Upon a rapid perusal of the document which has led to these remarks, we imagine that the cost of distribution does not present any serious difficulty; but we are not sure that the price at which it can be obtained for distribution is as satisfactorily declared. We shall, however, return to the subject next week.

A QUESTION having arisen as to the reason why plants which perish in shallow water will survive the winter in deep water, a correspondent has favoured us with the following explanation of that curious fact.

Plants growing entirely under water are to some extent protected from those great and sudden changes of temperature to which ordinary land plants are frequently exposed; at the same time, however, water plants are very often injured by cold, and it not unfrequently happens, that on a cold winter's night plants in a pond will be greatly injured, or even killed, whilst those in a neighbouring pond will remain quite uninjured. In order to understand the precise cause of this phenomenon, we must examine the conditions under which water plants grow, and the peculiar sources of injury to which they are consequently exposed. There are three perfectly distinct modes in which the surface of the earth becomes cooled, and these are by evaporation, by conduction, and by radiation. When water evaporates it becomes colder, because, in the formation of vapour, heat is always absorbed. This simple fact is of the greatest importance to the life of both plants and animals. When plants are exposed to a hot sunshine, the moisture which they contain gradually evaporates, and in so doing absorbs the great heat of the sun's rays, which would otherwise injure plants and burn them up. Evaporation from the surface of the leaves is generally in proportion to the direct heat of the sun, and it is necessary as a means of keeping the plant cool, and preventing it from being scorched; if soil is dry, so that the plant cannot obtain, by means of its roots, a constant supply of moisture to keep up this daily evaporation from its leaves, it has no power of withstanding the heat of the sun, and it withers and fades the first hot day. Whenever, and in whatever manner we check the constant evaporation which always goes on in the leaves of a healthy plant, we run a risk of killing it by exposure to hot sunshine. The common experience of the gardener gives plenty of examples of the truth of this; but there are other cases in which, though the same effect is produced, and the same principle is involved, its influence is not so self-evident. When, for example, a plant is placed in a close hothouse, confined in a hot damp air, its perspiration is checked, because the air being already saturated with moisture, it has little power of carrying off the moisture evaporated by the leaves, and consequently the plant has less power of withstanding the heating influence of the sun's rays than it has in the open air, or in a state of nature.

As evaporation, on the one hand, is a natural means of counteracting the excessive heat of the sun, so, on the other hand, it is the chief cooling agent in nature, and every circumstance tending to increase evaporation from the surface of the soil tends also to cool it. As a moist air and a diminished circulation are most unfavourable to evaporation, so a dry air and free circulation greatly facilitate it. The cooling effect of a cold dry wind is familiar to every one; its influence depends on the fact, that dry air readily absorbs moisture from any surface exposed to it, whilst the rapid motion of the wind, by carrying away the moisture as fast as it is formed, insures a constant supply of fresh dry air, and thus, by aiding in the formation of moisture, rapidly cools the surface on which it blows.

The second mode in which plants are cooled is by conduction, or by the mere contact of cold air; and this is quite independent of the cold produced by evaporation. When a cold wind drives along the surface of the ground it gradually cools it, and, of course, likewise the plants growing on it, by the simple abstraction, or carrying away of heat. So long as the surrounding air is colder than the plants it will tend to reduce their temperature; and if the air is in motion, as fresh portions of cold air will continually come in contact with the plants, they must gradually get colder and colder, even though no evaporation takes place, till they are as cold as the air itself.

Radiation, the third mode in which plants are influenced by cold, depends upon the curious fact, that when two substances are placed opposite to each other in the free and open air, if the one is warmer than the other, it will immediately begin to give out its heat, which will be received by the colder substance. The difference between this mode of cooling and mere conduction is, that in the latter heat travels from the hot to the colder surface by contact, and therefore only when they absolutely touch each other, whilst in radiation, the two surfaces are at a distance, and the heat passes at once through the air, and without in any way warming it. The heat of the sun is radiant heat—it passes through the clear air without communicating any warmth to it, though it warms the earth below; and then when the sun's rays have warmed the earth, the latter in turn begins to warm the surrounding air—but this effect is no longer one of radiation, it is simply an effect of conduction. On a clear night the surface of the ground may be exposed to all three of these cooling influences at once; it may be cooled by evaporation, by contact with cold air, and by radiation. In reality, however, it is very seldom that all these cooling influences are in operation at the same time, because there are several counteracting powers at work tending to keep the surface of the soil at a tolerably uniform temperature; and foremost of these is the formation of dew. As the evaporation of water is a cooling process, heat being absorbed, so the condensation of moisture is a warming process, an equal amount of heat being given out; consequently, just in proportion as the surface of the earth after sunset

* Minutes of Information collected on the application of sewer water and town manures to agricultural production. Ordered to be printed for the use of local Boards of Health, and their surveyors engaged in the administration of the Public Health Act, December, 1851.

is cooled by radiation, it will acquire the power of condensing the moisture in the air, and by that very act will gain heat. It must also be remembered that radiation only takes place in a still and clear night; when there are clouds or mist, radiation does not occur.

Water may be cooled either by evaporation, or by the contact of cold air, but it differs from the soil in the facility with which it is moved, and the readiness with which currents are formed in it. When the earth is exposed to cooling influences, the surface soon becomes cold, but as heat travels very slowly through the porous soil, it takes a very long time before the cold penetrates, or rather before the heat escapes, from any depth below the surface; in the case of water it is quite different, because when the surface is in any way cooled, the water becomes heavier or denser, and a kind of circulation is immediately established, the cold water descending, and the warmer water rising to its surface. In this manner, then, so long as the cooling influences continue, the water goes on sinking in temperature, the whole body of it getting colder; this, however, does not continue after it has arrived at a temperature of 40°, or about 8° above the freezing point; when this is the case, all circulation in the water ceases, because if the surface water is then cooled still lower, it no longer continues to contract and become denser, but on the contrary expands, so that it then remains floating on the surface. It follows from this very interesting fact, that when on a cold winter's night the surface of a pond is cooled, the whole body of water sinks in temperature to 40°, after that, the surface only continues to get colder, and a film of ice is soon formed, while the water below continues at a temperature of 40°. In consequence of this kind of circulation, and the facility with which it is produced, a body of water is easily cooled down to within 8° of freezing, but when once it has arrived at that point its further cooling proceeds very slowly, even though the cold becomes much more intense; for the water below is in fact protected from contact with the cold air by the film of ice at the surface, and ice is so bad a conductor of heat that the freezing of the water under the ice goes on very slowly; in temperate climates ice is seldom more than a few inches in thickness, and the water in deep ponds not only never freezes, but, indeed, never falls in temperature much below 40°.

Water plants, therefore, are, in fact, preserved from cold by the coating of ice which forms over the surface of the pond in which they grow; if the water is deep they are seldom injured; but if the water is shallow, and the cold long continued, the whole depth of it will in time freeze, and the plants will be more or less injured. Plants growing in water thus walled over with ice are protected from all the three cooling influences to which we have alluded; but there are some circumstances under which water plants suffer greatly, and from a very singular cause, but one which, when looked into, is sufficiently simple and intelligible.

The surface of clear water does not become cold from radiation, but from contact with cold and dry air, consequently in a fine but very still night it is much less rapidly cooled than the earth, which, in addition, is exposed to the cooling influence of radiation. Under such circumstances it sometimes happens that the usual order of things is reversed, the bottom of the pond cooling more rapidly than the surface; on a clear still cold night radiation sometimes occurs from the bottom of a pond, the plants and soil in which they are growing radiating towards the sky just as if the water were not above them, and the consequence is that they become very cold, in fact, some degrees below the freezing point, though the water above them is still at 40°. This effect can only happen in clear water, and on a night when there are no clouds, for the same circumstances which prevent radiation from the surface of the ground will also prevent its taking place from the bottom of a pond. When plants under water are cooled by radiation, they soon become encased in ice, and though the ice thus formed generally melts the next morning, yet at the time of its formation the plants are often exposed to a very intense cold.

A singular effect, somewhat similar in nature, though caused in a very different manner, is sometimes observed; as clear still water offers no obstruction to the passage of radiant heat, it occasionally happens that water plants are injured by the great heat of the sun's rays; like land plants they receive abundance of radiant heat from the sun, but, unlike land plants, they have not the compensating effect of evaporation; they have only the less perfect cooling influence of the surrounding water. It, therefore occasionally happens that plants growing in water, and surrounded by it, are burnt and scorched by the heat of the sun's rays; the radiant heat of which produces no effect on the water through which it passes, any more than it does in passing through the air; its effects only become evident when its rays fall upon a solid substance, such as the surface of the ground, or the leaves of a plant.

HERBS.

No. II.—Lavender.—About Mitcham, the number of acres occupied by this crop alone exceeds 200. The soil in which it delights is a light sandy loam. About Mitcham it is nearly all of that character, and it is mostly worked by the plough; but had they to pay 5*l.* an acre for it, instead of 3*l.*, they would soon betake themselves to the spade; then a disease, to which Lavender has been subject these 12 years, would probably be found to disappear. I consider that the ground is very much worn out, having been under this crop for hundreds of years; dung is unsuitable to Lavender, so that when a new plantation is about to be formed they generally manure heavily and plant Potatoes, and next autumn Lavender is put in.

In the proper cultivation of this crop, as soon as the Potatoes are off, the whole of the land ought to be spade trenched, but plough trenching would possibly do, in the following manner, viz.:—throw out a trench two spades deep along each side; by this simple plan the workmen could plough two furrows deep. The plants should be put in in November, some plant in March; but the crop put in then never succeeds so well. The land about Mitcham is so sandy, warm, and light, that when the slips are put in in November they make fresh roots before Christmas. The only advantage of planting in February is that diseased shoots may be then seen and avoided. The disease, of which I have just spoken, comes upon the plant very rapidly, the leaves looking as if they had received a slight scorch, and very soon the whole plant dies.

Planting is performed in the following manner; but, in the first place, it must be understood that single plants are never employed; properly speaking, each bush is composed of a small handful of slips—I counted four in one hole. The ground being all lined out, plants are lifted out of the old plantation that is being destroyed, and split into as many pieces as possible. The further they are split down, so as to have roots to them, so much the better; for, if by carelessness a strong slip is broken off high up, that slip is almost sure to die before summer. The plants are inserted at least six inches deep, leaving only about three inches of the head above ground, and they are placed two feet apart each way. The first year they yield a few spikes of blossoms, but the second is always considered the best, and they last four or five years, depending, of course, upon the general health of the plants. Nothing is done to them all the summer except hoeing and keeping them free from weeds. During the second year an acre will fetch 20*l.*, the expenses of cultivation being about 3*l.* 10*s.*; cutting, about 7*s.*; distilling, nearly 1*l.* 10*s.*; tithes, a trifle.

The proper time for cutting is just when the lower blooms are beginning to change colour to a darkish brown, and after cutting the sooner it is distilled the better, say two or three days, as, if left too long, the flowers lose much of their fragrance. Flower-stems and blossoms are all distilled together, and the first running is not allowed to occupy more than two hours; this, on account of the stalks, is to get all the clearest and best; the second run occupies four hours, but the last is generally of a light sherry colour, and is rather stronger and rougher in its odour than the former. With the thousand-and-one purposes to which Lavender-water is applied every one is acquainted; but a proper chemical manure for this useful herb is still a desideratum. *James Cuthill, Camberwell, London.*

Erratum.—In No. I., fifth line from bottom, for "hot" read "wet."

LUCULIA GRATISSIMA.

This is one of the most beautiful and most deliciously fragrant of all our winter flowering plants. With a little management, it may be had in blossom from September to March; and, with the exception of Pinceana, I am unacquainted with any plant which flowers at this season, and requires so little artificial heat, and so little care generally in its management, which is equal in respect of both beauty and fragrance. That it is not more generally cultivated is owing, I believe, to a somewhat prevalent, but mistaken notion, that it is difficult to manage. I must, however, admit that it is somewhat difficult to propagate, as cuttings, when not well matured, are apt to damp off in bottom heat; and when too hard, they frequently take so long to root that they exhaust the patience of the propagator; and it is difficult, if not absolutely impossible, to give instructions which would enable the inexperienced person to select cuttings in the proper stage of ripeness; but practice and careful observation will overcome this difficulty, and the Luculia will be found to root in bottom-heat in a shorter time than is required by many of our favourite plants. Until this is the case, however, adopt the following method, which, if slow, has the recommendation of being sure.

Select cuttings of short-jointed pieces as early in the season as they can be had in a rather hard state. These may be obtained in May, if a plant is left without being cut down after flowering. Slip them off with a heel, and use the knife merely to remove any loose bark which may extend beyond the wood, and to divest them of superfluous leaves. Insert the cuttings thus prepared in small thumb pots filled with sandy peat, and give a moderate watering, to settle the soil, &c. But observe, with respect to the soil, that it should be in a rather moist state when used, as the cuttings are impatient of damp, which, in the event of repeated waterings being necessary, it is difficult to prevent. After potting, place them in a shady situation in a house, the temperature of which may average 55°, and cover them with a hand-glass. The only farther attention which they will require, will be an occasional sprinkling of water; this should be applied towards the evening, the plants left uncovered until the following morning, and in cloudy weather it may be necessary to remove the hand-glass, or place it so that there may be a circulation of air, so as to prevent damp. If cuttings are properly attended to in these respects, and allowed to remain during the summer in some quiet corner, the probability is that nine-tenths of them will root. They should be carefully attended to during the winter, and should not be thrown away, even if after having been in the cutting-pots the whole summer they should not be found rooted, give them the farther chance of a little bottom heat during next January. As soon as they are fairly rooted, they will grow away freely, and should be shifted into a size larger pots, and gradually exposed to a freer circulation of air. No advantage will be gained by keeping them in a temperature exceeding 60°, as, if they are kept in a warmer place, they will grow weaker, and will require so much stopping to keep them bushy, that the loss will probably exceed the profit. As the sun becomes powerful, it will be necessary to shade at least a few hours during the middle of the day, for this plant is exceedingly liable to suffer from the direct rays of the sun; and I have never been able to do any good with it, except when I could protect it in this respect; and I have also found that sudden exposure to drying currents of air injures it more than most plants. With attention to its wants in these respects, and if allowed plenty of pot room, and kept free from insects, the plants will form nice specimens by the end of the first season, and may each produce flowers, but this will greatly depend upon their having been stopped at the proper season. The weaker plants should not be stopped at all, and there will be nothing gained, as respects the production of blossoms, by stopping even the stronger plants more than once, and none should be stopped later than the middle of July, or the first week in August.

As soon as they have pretty well ripened the wood from which flowers are expected, they should be kept rather cool, or they may be removed to a shady, but airy situation in the greenhouse, or to any place where they can be assisted to harden their wood by a cool, dry atmosphere. Such of the plants as have never been stopped will probably show flower towards the middle or end of September, when they may be removed to a damper atmosphere and kept rather moist, so as to encourage them to develope their beauty and fragrance; and if the plants are removed from the greenhouse, or cool situation in which they were placed to ripen their wood, to a warmer situation, at intervals of about a fortnight, they will afford a succession of flower for at least three months. While in blossom they will be found to require a rather dry atmosphere; and unless this is provided, their beauty will be short lasted. I have found a sitting room window to suit them exceedingly well at this time, but situations where the temperature will average from 40° to 45°, and where they can be protected from damp, is all that they require.

When they have done flowering, the plants should be rather sparingly supplied with water for a fortnight, previous to their being cut back, and they may be stowed away in any spare corner of the greenhouse or cold pit, where they will be safe from their great enemy—damp. After being treated rather hard for a fortnight, they should be cut back sufficiently to secure a compact, bushy growth, and now is the time when they can, with least trouble, be thoroughly cleared of insects. They are especial favourites with the black thrips, as most delicate plants are, and if these pests have a residence about the place at all, it may be looked for upon the Luculia, and they should now be carefully removed at any expense of time and labour; for if they are permitted to establish themselves they will do much injury during the ensuing season. After the plants have been cut back and cleaned, a portion may be encouraged to grow early in the season, so as to come into flower soon in the autumn; but it will be advisable to introduce them into heat very gradually, otherwise they will break their uppermost buds only, and will consequently become naked below. If the plants can be kept during their second season's growth in a moist growing atmosphere, where they will receive abundance of light and protection from the direct rays of the sun during the summer months, and also guarded against the attacks of insects, and allowed plenty of pot room, they will form handsome specimens, and flower abundantly during the dull months of winter.

With respect to soil, the Luculia is not difficult to accommodate. For its pot culture, I use about one-half turfy peat, and one-half light turfy loam, adding a portion of silver sand, more or less, according to the nature of the other materials.

Those who have room for the Luculia in the conservatory border will find it a most eligible plant for such a situation. But it succeeds best, shaded from the direct rays of the sun from the beginning of May to the end of August; and in order to bloom it in perfection, it also requires to have the house kept rather close. It will not thrive in a temperature under 40° or 45°; for where the temperature does not average this the flowers

are liable to damp off. Planted out, it will thrive perfectly in any light soil, whether peat or loam. It will be found to require some attention, in order to keep it clear of insects, and also the same treatment, with regard to stopping and cutting back, as recommended for young plants; but as it cannot receive any assistance in the way of heat and moisture, never stop later than the middle of July. *Alpha.*

BRITISH SONG BIRDS.

(Cage Birds, No. 44)

No. LXI.—We have now entered upon a month, in which there is little observable day by day towards the return of spring. Yet do we mark among the thrushes and the blackbirds an increased activity, and certain peculiarities in their approaches towards each other, and in their 'delicate attentions,' which convince us they will all 'mate' at a very early day.

We were busy—musing, at the remote end of our garden on Sunday last, immediately under the shade of some lofty Firs, and in the close proximity of the Holly and the Laurel, when some 'well-known sounds' saluted our ears, which we recognised as the notes of dalliance.

Several pairs of thrushes and several pairs of blackbirds were busily agitating the brushwood, and flitting restlessly along the whole length of a Holly-hedge—pursuing each other as these birds do even at this early season of the year. All this gives the note of preparation for early incubation.

We have observed, too, certain incipient signs of approaching familiarity between cock-robin and his intending associate. The courtship of these birds is completely *sui generis.* They meet *en avance,* and as quickly retire *en derrière,*—repeating these preparatory interviews from morning till night. They then separate altogether. They go through the same observances on the morrow, and the day following; and when their flirtations are completely over, the "proposal" is made, the "offer" considered, and the happy Redbreast made a worthy husband for the season. His trammels are then thrown off—a divorce is mutually agreed upon, and both parties once more retire to 'Liberty Hall.' We note these little episodes as we go on; for the innocence of birds, and their winning ways, cannot be too closely scrutinised and admired.

The robins and the blackbirds are among the very first of the feathered tribe to bestir themselves for the provision of a family. Ere the trees have any clothing, you may see, in a private garden, nidification commencing at the end of January!

The blackbird of last year arrives at maturity in the following spring,—assuming, with the change of season, a jet-black, glossy livery, and a bill as yellow as gold. The orbs of the eye, too, become bright yellow; and the whole figure bold and dauntless. The hen is of a dusky, dark brown colour; and her eyes less brilliant than those of the male.

The instinct of the blackbird is by no means remarkable. There are very few birds, indeed, so palpably obtuse; for they build their nests in situations which, for the most part, expose them to certain robbery by idle boys and iron-hearted men. Hence the quantities of young birds exposed for sale as early as February! I have before remarked, *en passant,* that as this bird is very prolific, it is just possible Nature might have given it a limited instinct, with a view to an excess of numbers being thereby prevented. It is quite certain, that if these birds were not thinned in *some* way, their race would multiply to an alarming extent. They suffer greatly during the winter by the "rough practice" of the "cockney sportsman," who contrives to *wound* many hundreds, whilst perhaps he kills only one, and that by the merest accident.

With all the slaughter, however, dealt out amongst them during the winter months, we always find plenty of survivors left to greet us from the top of the highest tree, at the earliest dawn of spring. We can already number in our own immediate precincts at least a dozen, and twice that number of thrushes; with wrens, robins, and tit-mice, *ad libitum.* Sacred is our rural dwelling to the happiness and perfect enjoyment of these melodious rogues. Secure from pursuit, snug in the bosom of their affectionate families, and in the midst of plenty—with me *all* the feathered tribes are in safeguard. Woe be to him who levels a hollow tube, "big with mischief," at any of the settlers on my ground, who come to share the rites of my hospitality,—I mean, if I should catch him in the act! Once or twice lately, I have *heard* a neighbour's gun in active "discharge" of its enjoined duties,—but I trust that, after this "notice," it will be put by for the season. "Cruelty" is indefensible under any plea.

Whilst the blackbird is busily rehearsing his vernal songs, just let us take a "peep" at the construction of his nest. The materials used are, fibrous roots, green moss, and similar matters; the inside being plastered, or cased, with damp mould, and subsequently lined with dry grass. The site chosen is, sometimes, a thick bush; sometimes, a laurel; and occasionally it is placed on the side of a bank. The number of eggs laid seldom exceeds five. These are covered with brown spots at the larger end. The period of incubation is fourteen days.

Ere yet another short week shall have gone over our heads, we shall behold a wondrous change in the voices of the blackbird and the thrush. They rally wonderfully as the season for breeding approaches; and, while his *cara sposa* is sitting sedulously on her nest, fondly anticipating the result of her onerous task—loud and melodious falls the note upon our ear of her "only love." Seated aloft, he seems to look down upon all that are beneath him with a feeling of pity; giving utterance to songs of melody that *liberty* could alone inspire.

> "Oh! blackbird, sing me something well;
> While all my neighbours shoot thee round,
> I keep smooth plots of fruitful ground,
> Where thou may'st warble, eat, and dwell."

So sings Tennyson, and we echo his chant. *William Kidd.*

SPIRÆA PRUNIFOLIA FLORE PLENO, IN THE UNITED STATES.

The following observations on this plant by J. Saul, of Washington, D.C., were published in the last Number of the Journal of the Horticultural Society:—

"When this plant first made its appearance in England, and in some parts of the continent of Europe, it was hailed as a great acquisition. It will be recollected that Mr. Fortune sent it from China to the Horticultural Society's garden at Chiswick, and that Mr. Van Houtte had it from Dr. Van Sieboldt. It was let out from Ghent at a high price, and its sale I presume must have been extensive; for it was soon scattered over England in all directions. Nevertheless, how few have been successful in cultivating it! I have known parties in England who had fine plants which they never bloomed well! Now what were the causes of failure? Let us examine how such subjects had been managed, and we shall probably discover something like a cause. The plants in England, if grown in pots, were probably placed in a tolerably shady situation; if planted in the open ground, a piece of well prepared soil and sheltered situation were chosen for them; under both these circumstances they grew well, and apparently matured their wood; I say apparently, for when blooming time came, we had green abortions, called flowers. Now, if we inquire into the nature of the native climate of this plant, we shall soon perceive the cause of so much disappointment with it in England. If I describe the climate of the middle States of this country, I shall, I apprehend, very nearly represent its natural conditions; here this plant is perfectly hardy, enduring a very low temperature. The springs are warm, followed by intense summer heat, with bright light, autumn is also bright and warm. Under these circumstances the wood acquires a firmness and maturity which it never attains in England. In the latter country, when ripe, it has at best a greenish hue, very different from the brown rigid appearance which it acquires in America. Spring comes, and with it a profusion of bloom of snowy whiteness, precisely like the flowers of Ranunculus aconitifolius, but smaller; it is in no way particular as to soil, bnt rather dry than moist earth appears to suit it best. From its success here, it is evident that in England it would require a well-drained soil and an open, airy situation, where it would receive all the sun and light which the climate can give, so as to get the wood thoroughly and perfectly ripened by autumn; this secured, a good bloom is certain.

"For forcing, this plant is invaluable; for this purpose specimens grown in pots should be placed in a sunny situation, in order to mature their wood well; if this is not attended to, failure is certain. I have observed in some of the forcing-houses in this country, that when the plants had been kept too warm, in too dark a house, or the atmosphere over moist, green flowers were the result, and in some instances no flowers at all. Now, if this will happen in a climate like that of the middle States, where the wood had been well ripened, how much more likely is it to occur in England, where the wood is never half matured, and the plants in that state transferred to a warm dark forcing-house, at a season when there is little sun! There are few plants more deserving of care or attention than this, whether employed in ornamenting the shrubbery in spring, or the conservatory and greenhouse at an early season. How very necessary it is that we should know the latitudes from whence plants come, in order to be able to treat them properly! How frequently is every method but the right one tried!—soil, situation, frequently too much heat. Had more of the beams of the sun been permitted, all would have been well."

Home Correspondence.

Botanical Gardens.—Until I saw the Glasnevin and Belfast Gardens, I own I had a very low notion of the value to botany or horticulture of botanical gardens, either at home or abroad; no disparagement to Kew, where the collections both in-doors and out, are extensive and well kept. I, however, lately read a proposal of Professor Henslow in some newspaper, to form a collection of types of natural objects; specimens, &c., fitting for museums of natural history; now I take it that if this plan were adopted in regard to botanical gardens, with much more completeness and care than is shown at present, even in the best of this kind of gardens, it would render them far more useful than they now are. That is, if attention were first directed to the cultivation of types, say of each genus, and of all plants especially illustrative of particular facts in vegetable economy, and as far as climate and cultivation would allow, systematically arranged, the botanical student would find much more to induce him to visit such collections than he has at present. Of course I should not confine the collection to such types; there would be many other objects illustrating structure and vegetable physiology, which should find their place in a garden devoted to living specimens of plants; and there should be attached to it a museum similar to that at Paris, and since commenced at Kew, and also a herbarium. I remember a few years ago calling your attention to the subject of botanical gardens, and you then stated your intention of making some observations on the subject. *Dodman.*

Potato Disease.—As the season is now fast approaching for planting Potatoes, I wish to state that whoever thoroughly drains his land, and thoroughly, and not imperfectly, cultivates it, and plants early kinds, early, needs not fear the disease. But, should he not follow this advice, no folly can surpass that of cutting off the haulm, or pulling it up, for that only aggravates the complaint, or stops the sound part of the crop from growing farther. The cause of the evil is not in the atmosphere, but in the low temperature of the soil; raise the heat of the soil, therefore, as I have before directed, and follow my advice, and there will be no disease; but above all, as I have already said, do not, under any circumstances, commit the egregious folly of cutting off, or pulling up, the haulm; for you may with as much reason cut off men's heads to cure them of consumption. Cold wet land engenders the disease; dry well drained land bids defiance to it. The land has not recovered from the wet of 1845. *Geo. Wilkins, Wix.* [We trust that no one will identify us with all these recommendations.]

Weeds on Lawns.—Since my article was written on this subject, I have had several applications respecting the Daisey-diggr. In answer to these, I think that the most efficient explanation I can give is to furnish your readers with a representation of it. Any blacksmith can make it, and I know no one who keeps it for sale. One of the communications made to me states, that the writer is "much pestered with them," (*i.e.*, Daisies); "and had them taken out with knives last year, as deep as he could manage;" but, says he, "now there are ten to one, which is evidently from the remaining roots, for I may say that not a single one was allowed to seed." I claim no merit for this simple invention, which I copied from a friend, now no more. But as it does not seem to be generally known, I have pleasure in sending you such information as may enable others to derive benefit from its use. *Henry Bailey, Nuneham, Oxford.*



The use and purposes of Ammonia in Vegetable Economy.—The importance of ammonia to plants is almost universally acknowledged, even by those who demur to the necessity of providing them with an artificial supply of it, under the belief that they derive as much as their healthful condition requires, from every shower of rain that falls. But the particular way in which it is beneficial to them, or the special purpose which it is intended to serve in their economy, does not appear to have been made the subject of very exact or well defined views. If a general assertion might be hazarded on this point, it would be to the effect that the furnishing a supply of nitrogen to plants seems to be generally considered the chief end and purpose which ammonia is designed to answer. I dissent from this view; inasmuch as, while all plants are observed to have about an equal avidity for ammonia, and to flourish and be invigorated by a due supply of it, whether through the medium of rain, or from other sources, the assumed end of this universal predilection is made to be the obtaining a supply of nitrogenous matter, which is present in plants in exceedingly variable quantities, almost inappreciable in some, and chiefly abounding in such as form the food of man and other animals. There is a remarkable discrepancy between the universal exigence of plants for ammonia and their partial appropriation of nitrogen. It is too much at variance with the analogies of nature to permit us to explain so general a love of their healthful growth and condition, by so partial and insufficient a result. The inadequacy of the nitrogen appropriated by plants to explain the cause of their appetence for ammonia obliges us, then, to look to the other element of which it is composed, hydrogen, for the true solution of the problem; and I apprehend it is fully competent to afford it. The appetence of plants for ammonia is not a more general fact than the existence of hydrogen, or hydro-carbonaceous matter in their substance; for where shall we find a plant that is not inflammable, or capable of producing flame when ignited—indicating the presence of hydrogen in its substance? And the only source whence we have any proof that it can be obtained is the ammonia which plants imbibe by their roots; inasmuch as there is no evidence that they decompose water to obtain a supply of hydrogen. The experiments and researches of M. Ville, commented on in a leading article at p. 739, are not without an important bearing on this subject. These experiments establish the fact, that plants respire or give out nitrogen. From whence, then, is this nitrogen derived? Not from the atmosphere in a free or uncombined state, of which there is no proof; and indeed it is contrary to all our experience of natural operations, in which there is nothing done in vain, to suppose that plants inhale nitrogen from the atmosphere for the useless purpose of merely respiring it again. It can only come, then, from the ammonia, which plants imbibe by their roots; and we have thus a proof that there is at least a very material portion of the nitrogen of the ammonia so absorbed which they do not appropriate, which they have no use for, and therefore respire or reject. On the other hand, again, there

is no evidence that plants respire or reject any portion of the hydrogen of the ammonia which they absorb; and the reason must be that they appropriate it entirely: they require it all for the fabrication of their own substance, and hence their avidity for the ammonia which supplies it. It is not for the element, much of which is respired and rejected, and at best only appropriated in limited quantity and in partial instances, but for that which is universally and entirely appropriated, and converted to structural use, that Nature has made ammonia so necessary to the nutrition and well-being of plants. In fine, there is a close analogy between the functions and processes performed by the leaves and roots of plants in building up their substance from the products of animal respiration and the decomposition of animal refuse. As carbonic acid, derived from the first source, is absorbed by their leaves, the carbon retained and the oxygen respired; so ammonia, resulting from the second, is absorbed by the roots, and the hydrogen retained and the nitrogen respired, except so much as the peculiar organisation and wants of particular plants may enable them to appropriate and utilise. The carbon and hydrogen unite and go to form the substance of the plant; and the oxygen and nitrogen are restored to the atmosphere. As we justly regard the carbon and not the oxygen as the essential element of vegetable nutrition in the one process, so I think we are equally entitled to regard the hydrogen, and not the nitrogen, as the essential element in the other. *J. H. H., Edinburgh.*

Propagation of Eels.—The eel, like the viper question, is a very curious instance of the firmness with which many popular opinions are maintained, although when the grounds of them are examined, no satisfactory proof of their truth can be produced. In this view, I think the discussion of both these points in your paper has been very useful—not merely as an inquiry into two very curious and interesting points of natural history, but as a caution to distinguish between facts and appearances; in short, as instruction in that most useful lesson, "how to observe:"—the event of which leaves us still in the dark respecting a more interesting animal—that which was supposed to be a sea-serpent. With respect to the eel, I believe the first person who treated the subject scientifically was Sir H. Davy; who has, I believe, exhausted it, as far as negative proof goes. For those who hold that eels are ever bred in fresh water, they ought to be able to prove—1st, that eels are ever found there in spawn—2nd, that such spawn has ever been hatched there. It is no proof to say that small eels have been found in ponds having no communication with rivers—the proof required is "ab ovo." There is also room for inquiry into a rather curious subject, and that is—do eels, after having gone to the sea for spawning, ever return to fresh water? *τ.*—"T. G." asks whether I have caught eels the size of crow's quill. We have caught them the size of a common tobacco-pipe, and from 3 to 4 inches in length. Our surplus water flows indirectly into the river Nene, from our sluice. It supplies some stews where we have been in the habit of keeping reserve fish; and, passing over several waterfalls, it enters a ditch, which is about 3 quarters of a mile long, and then reaches the river I have just named. The greatest take of eels I have had, was on the 23d of December; but the time of year is of little consequence with us, provided the water is thick and muddy, and the weather rather warm, which, of course, only occurs during very heavy rains. If I were to draw all the water out of the pond in a clear state, I should not catch a fish. The variety is the silver eel. Our pond is upwards of 50 miles from where the river Nene flows into the sea; therefore, how is it that those little eels had got no larger during their long journey, interrupted as it is by numerous and almost insurmountable obstacles, before they could reach the little ditch 3 quarters of a mile long, that would conduct them to our pond? And, last of all, after this long and tedious journey, within 100 yards of their destination, they would have to climb four waterfalls and a perpendicular sluice board. It appears to me that they should have grown much larger than a common tobacco-pipe, and longer than from 3 to 4 inches during that time; but I will leave this point for "T. G." to explain. The "Naturalist's Library," Vol. II., p. 258, speaking of the silver eel, says, that it abounds throughout Europe, except in the Arctic regions, and is, strictly speaking, a fresh water fish; can subsist permanently in fresh water, and, there can be little doubt, breeds best there. *G H., Finedon Hall.*

Koordish Method of Blanching and Hardening Honey.—This should always be done in winter, when the weather is frosty. Put 60 or 70 lbs. of honey, with the comb, in a cauldron, over a slow fire; stir in about a pint of cold water, and let the whole simmer, but not boil, until the wax be quite dissolved, when remove from the fire. Skim off the wax and impurities, and strain through a fine sieve. Then pour the honey into a convenient vessel, and whip it for an hour or so each day for a fortnight, keeping in a cold place. If the operation of whipping be continued for a longer period, so much the better, as the honey will be harder and whiter. The honey that is imported from Bitlis to Erzeroom in winter is so hard as to offer some resistance to a knife. It is more manageable to eat in this form than in its usual liquid state, and is much more convenient for transport. Never having seen this prepared honey in summer, I am unable to say whether it will remain solid throughout the hot weather, but will certainly last so during the winter, if kept in a cool place. *H. H. C., Erzeroom.*

Bucket Ropes for Wells.—I suffer from the serious misfortune of a well 325 feet deep. It is worked by two buckets, and a chain, which, from its great length, is necessarily very heavy. Would a wire rope (galvanised) answer? This, I presume, might be tight and thin; it would have to carry, at each end, a strong and heavy bucket, holding 12 gallons. The rope would have to work over, and, I presume, once quite round, a wheel only 14 inches in diameter. Would any of your correspondents have the charity to give the result of any actual experience of light wire rope; such would be of value, probably to others, as well as to myself. *C. R. D.*

Rain.—The quantity which fell here in the past year is as follows:—

	Inches.		Inches.
January	2.55	August	2.08
February	0.80	September	0.27
March	4.34	October	2.00
April	2.14	November	1.32
May	0.96	December	0.84
June	0.69		19.91
July	1.92		

Henry Dixon, Dorwards Hall, Witham, Essex, Jan. 5.

How to Crop a Small Kitchen Garden.—The following is the plan I pursue in growing Strawberries, so as to obtain a great weight of fruit of the finest quality, and at the same time economise space. I divide a south border into six equal parts, and plant one part every year. After they have borne three years they are destroyed, and the ground is cropped with vegetables. Thus the parts come in regular succession, three years Strawberries—three years vegetables. I well manure with well rotted dung, and trench two spades deep about the beginning of August, and plant 15 inches apart each way the following year. After they have done bearing I take out every alternate row, and fork in a little well rotted dung, and plant a row of Endive. After they have borne the next season I take out every alternate plant, and again crop with Endive. After bearing the following year they are destroyed. Thus it will be seen that I have one part of my border under Strawberries 15 inches apart; another part, 30 inches row from row, and 15 inches plant from plant in the rows; a third part 30 inches apart each way, and three parts under vegetables. I keep all runners cut away (except what I require for new plantations), and all dead leaves, but no more. As many of your readers, however, may not possess sufficient border, so as to keep up a supply, to such I would recommend the following plan. Mark out one or more beds 6 feet wide (ranging east and west); put on some well rotted dung and dig them; let the alleys be 18 inches wide; take out the soil to the depth of 1 foot, and place it on the beds, observing to raise the north side 8 inches higher than the south, to go down with a regular slope, plant at the same distances, and manage in the same way as recommended above. *J. Steel, Clitheroe.*

The Weather.—The mean temperature of December has been nearly 2° above the average of the last nine years. The most remarkable features of the past month have been the continued drought and the absence of any gales from the westward, which usually occur when the temperature of the month exceeds the average. Upon reference to the records of the fall of rain since the year 1727, it has frequently occurred that when November has been very dry, December has been wet, and *vice versâ*; but the following are the only instances of continued drought, during the consecutive months of November and December, throughout this long period.

FALL OF RAIN IN INCHES.

	1756.	1762.	1767.	1788.	1812.	1829.	1851.
November	.97	.92	.92	.45	.18	.63	.81
December	.94	.23	.40	.89	.77	.66	.50
	1.91	1.15	1.32	1.34	.95	1.29	1.31

January 1763 and 1813 were also very dry months; and, if from the records of the past, we may be allowed to judge of the future, the drought may continue throughout January, 1852. The scarcity of water in this district has now become a very serious inconvenience, not only to the farmers and millers, but the supply for domestic purposes is very scanty, and in some of the adjoining villages it can only be purchased by the pailful. It is a very interesting subject for enquiry, why the scarcity of water should be greater in 1851 than in 1847, for not only was the latter year the driest in the present century, but the fall of rain in each of the years 1844, 1845, 1846, was *below*; and in the years 1848, 1849, 1850, was *above* the average of the last nine years, more particularly in 1848, when the quantity of rain was more than double the amount which fell in 1847.—The fall of rain in 1847 was, 17.58 in.; in 1851, 24.36 in.; the average of 9 years being, 26.85 in. *C. Leeson Prince, Uckfield, Sussex, Jan. 5.*

Ice Stacks.—Among the papers which have recently appeared on this mode of stacking ice, I consider that by Mr. Ingram the most rational. My own experience in the matter is this: I began it several years ago, with a view to supplement the contents of our old ice-house, which is, as most old ice-houses are, a deep well the shape of an inverted cone, and provided with space enough to receive about 45 or 50 cart loads of ice Previous to commencing the stacking system, I had never seen one made; but there being in the vicinity of our ice-house, a deepish "gill" of broken ground terminating in a point, I set some men to work to widen a portion at the point and raise a bank or dam across, with the earth they removed, and thus formed a sort of irregular parabolic shaped hole, not very deep, into which I put 70 cart loads of ice, when the frost came, pounding it well, and raising it above the surface in the shape of a blunt-pointed irregular cone. This was covered over about a foot thick, perhaps a little more, with litter—any litter we happened to have, old thatch frequently from the barn-yard. We have followed this process annually ever since we began it. When it was first done, all my hands opined it might last till Midsummer. The result was that it held out till well into September, although attacked daily without much delicacy. One season, owing to the absence of the family, very little was wanted; the old ice-house, though well filled, was never opened at all, and on the approach of winter I sent some men to clear out both, preparatory to refilling. There was found about an equal quantity of ice (about a good wheelbarrowful) in each. My stack or pile has no artificial underdrainage whatever, but is laid on the earth bottom, and the meltings soak off as they best can. The situation is partially shaded with large trees. Before concluding, allow me to say that were I to construct a new ice-house, I would by no means adopt the deep well plan. I remember reading in your pages a description of a Chinese ice-house sent home by Mr. Fortune, the principle of which I much approved, and which, with perhaps some modification, might be advantageously adopted in England. After all, one grand advantage in keeping ice is, to get it pure, and to put plenty of it together. *Quercus*

Blinds for Glass Houses.—Your late leading article on "the burning of Vine-leaves, &c.," was admirable, as also your remarks concerning the covering for Vineries. Perhaps you will allow me to trouble you with a few remarks on that subject. The plan I have adopted for the last three years for covering my greenhouses, conservatories, forcing-pits, and cold-pits, is this:—I have had a canvas covering made the size of the roof, which is dressed over with a composition of boiled oil and litharge (one covering was dressed with boiled oil, litharge, and yellow ochre); but the first composition is the best, I find, because it is more transparent; this is nailed on to the rafters, as close as possible to the upper part of the roof; the other end of the canvas is nailed on to a roller, which rests on the lower ends of the rafters, and is kept in its proper place by two hooked irons fixed to the rafters. At one end of the roller is a wheel fixed, the outside diameter about 14 inches, with a groove for the cord to run in, about 1½ inch wide and the same in depth; there is an iron pulley fixed in the wall above the roof, exactly in a straight line with the wheel, and about 6 inches above the roof; the cord is fixed into the groove of the wheel by a nail, just slipped through the pulley on the top; and thus the roller, with the covering attached, is drawn up and down with the greatest ease. To prevent the wind from lifting it up, I have two or three brass knobs fastened into the sides of the roof, about 4 feet apart, and a corresponding strip of leather sewed on to the covering, with a buttonhole to each. Supposing the roof to be too high to reach from the ground, to button these strips, you have merely to use a short ladder. I have found these coverings to answer admirably, and without any trouble. When you wish to remove them in the spring, you have only to draw out the nails which attach the covering to the rafters. I ought to have said, that when the covering is let down, the roller, as a matter of course, rests on the irons at the bottom of the roof. I use the same sort of rollers and the thinnest calico for shading the conservatories, &c., in summer. The upright fronts and sides of the houses are so easily covered up, that it is not worth naming. I am a bad hand at describing a thing of this kind, but I hope you will be able to understand it; and unless any other correspondent can recommend anything more simple and better, I strongly advise a trial of this plan. I remember reading somewhere, that Sir William Burnett had patented some composition for preserving canvass, &c., from damp and mildew, and that a trial had been made with it on some sails belonging to the Navy. The sails were dipped in the composition, and were afterwards placed in some damp vaults (I think of Somerset House), together with some other sails that were not dipped. There they remained some considerable time, and when taken out, the undipped sails were quite rotten, but the others were quite sound and uninjured, and were afterwards used in the Navy. Could you inform me where this composition is to be obtained? I fancy it is the solution of chloride of zinc. *J. W., South Perrott, near Crewkerne.* [It is what you suppose; and may be had of any dealers in such articles.]

Societies.

ENTOMOLOGICAL, *Jan.* 5.—J. O. WESTWOOD, Esq., F.L.S. President, in the chair. Donations of Entomological works from the Natural History Societies of Moscow Munich, Professors Bohemann, Roth, and Gemminger &c., were announced. Mr. A. White exhibited a specimen of Anarta Richardsoni, of Curtis, a moth brought from Baffin's Bay by Mr. Ede; and, also, a variety of rare Coleoptera and Lepidoptera collected in Borneo by Mr. Low, intended for the Society's collection; many of the species being identical with those of Tenasserim Coast and Assam. These exhibitions led to an extended discussion on the geographical range of insects, in which Messrs. White, Curtis, J. E. Gray, and the President took part. Mr. S. Stevens exhibited a beautiful variety of Argynnis Paphia, taken at Darenth Wood; the upper surface of the wings of which was almost suffused with black. Mr. Curtis exhibited a beautiful species of Cicada, which he believed to be a native of Central America, but which he had captured alive in one of the hothouses at the Horticultural Society's gardens at Chiswick, in August last, where it had probably been imported with American plants; also, the nest of Epeira zebrata, a beautiful species of spider, which he had taken at Nice, in spring. It was globular, and about an inch in diameter; but M. Guerin had informed him that it

was sometimes three times that size. He likewise read extracts from the appendix to Ross's Voyage, relative to the repeated freezing of caterpillars of Laria Rossii, alluded to at the last meeting; also an extract from the *Gardener's Chronicle*, on the destruction of earwigs by the devil's coach-horse (Staphylinus olens, Linn). He also suggested that a species of Culex, alluded to by Mr. Evans at a former meeting, as very obnoxious in North America from its bites, was identical with C. Caspius, which so greatly annoyed the persons forming Ross's expedition in 1830. He also expressed a doubt whether Butalis cerealella, a small moth which injures the corn crops in France, sometimes to the amount of 40, or even 75, per cent., is a native of this country, as had been alleged by Mr. Douglas. Mr. Spence read an extract from a letter from Mr. Thwaites, now at Ceylon, stating, among other things, his belief that the two kinds of workers in the nests of the white ants do not undergo any further development. He had recently given a lecture on entomology to a mixed assembly in Ceylon. Mr. Douglas read the completion of his memoir on Gelechia, a genus of Micro-lepidoptera, which contained descriptions of 99 British species. The president read an extract from a letter from Brigadier Hearsey, at Wuzeerabad, giving an account of the complete destruction of plants of several American species of Œnothera, which he had for the first time grown in India, by a blue beetle of the genus Galeruca, which attacked it in myriads, which Mr. W. W. Saunders stated he had also met with in like swarms in a paddy field near Calcutta. The circumstance of these insects thus attacking a plant entirely new to the country was commented upon, and Mr. Douglas stated the somewhat similar fact, that a plant of Buddlea globosa in this country had been destroyed by the caterpillars of Cucullia Verbasci. The President also read a note from Albert Way, Esq., F.A.S., giving an account of the development of great numbers of Obrium minutum in the twigs of a wicker basket. A similar fact had been also noticed, both by Mr. S. Stevens and Mr. J. E. Gray. Mr. F. Smith had repeatedly reared the insect from dried bramble sticks, and Mr. Stephens had taken it at large near Ripley; thus confirming its claim to be considered a British species, which Mr. Curtis had been induced to doubt. The first part of the "Insecta Britannica" containing a portion of the Diptera, described by Mr. Walker, was placed upon the table.

Botanical, of London, *Nov.* 5.—A. Henfrey, Esq., in the chair. Various donations were announced. The Chairman exhibited German specimens of Equisetum inundatum (Lasch), considered by German botanists as a hybrid between E. limosum and E. arvense. Mr. J. T. Syme read a notice of Sparganium natans (L. Fr.), which he considered distinct from S. minium, "Bauh" Fr., the plant commonly called by the former name. He remarked that Mr. Babington's descriptions of these two plants, in the third edition of the "Manual of British Botany," pointed out the distinctive characters of each so clearly that there was nothing of importance left to notice. He stated that he had seen the plant growing in several places in Braemar, in the Loch of Drum, Aberdeenshire, and near the Spittal of Glenshee, in Perthshire; he had also seen specimens, collected by Mr. H. C. Watson, in Inverness-shire, and on Purbright-common, Surrey; and some dated 1808, which had been gathered by the Rev. D. Fleming, in Featholand Lake, North Mavine, in the mainland of Zetland. Mr. Syme presented a set of specimens of the plant to the herbarium of the Society.

Notices of Books.

A Treatise on Investments; being a popular exposition of the advantages and disadvantages of each kind of investment, and of its liability to depreciation and loss. By Robert Arthur Ward, Solicitor. Wilson, 12mo, pp. 176.

The object of this little work is, in the words of the introduction, "to give to capitalists such information of the advantages and disadvantages of each kind of investment, as will enable them to place out their money in the manner they may deem most desirable. Many persons prefer security of capital to a large annual return for their investment; to such, the following pages will, it is hoped, show what kind of investment they must seek, and what avoid: with others, the chief object is the power of turning their investment into cash without delay; this work is intended to show them where to place their capital: others, again, may desire to invest their money, so as to return a greater annual rate of interest than that usually paid on first-rate securities, without wishing to enter into wild speculations; to such, these pages will, it is hoped, convey an idea of the risks to which all investments offering a large rate of interest are subject."

The first chapter treats of investments generally, and contains some good remarks upon the value of securities and the circumstances upon which it depends. The second chapter "on the purchase of property" is divided into seven sections, headed respectively, "of persons incapable of purchasing; of conditions of sale; of purchases by private contract; on the liability of an investment in land to loss or depreciation, and the protection afforded by covenants for title; on the rate of interest obtained by investing in the purchase of land or houses; on the facility with which an investment in the purchase of land can be turned into money, and on the facility with which rent can be recovered." This chapter and the next, "On investing in the purchase of copyhold property," are useful and carefully written. The author might, perhaps, without lessening their value, have omitted certain portions not very interesting to the public at large, and well known to every professional person, such, for instance, as the remarks upon aliens and others, and the opinions of legal writers upon the propriety of having but one solicitor, the agent as well of the seller as of the purchaser, in a sale of land. The remarks on the expenses attending a transfer of land, though short, are especially worthy of attention. The succeeding chapters on "Life Estates, Reversionary Interests, Leasehold Property, Ground Rents, Lordships of Manors, Tithes, Advowsons, and next Presentations, and Redemption of Land-tax," are short and to the point, and that on advowsons and next presentations will be found to convey correct information upon a subject of considerable interest to a large portion of the community.

In that portion of the work before us which treats of partnerships, joint-stock undertakings, stocks, and public funds, the author is at times too short, and at times too long for those who desire general information only; if he had here, as in other places, confined himself to general and important facts, and had omitted the "cases" introduced, he would have rendered his work more readable, and would have omitted nothing of public interest. The first part of the work is ended by a chapter "on mortgages," and one "on judgment bonds and other inferior securities," both of which we recommend to the attention of our readers.

The second part of the work contains some directions for ascertaining the money value of certain securities, and, being furnished with tables, the use of which is explained, will be by some considered as the most valuable part of the whole.

To the author of *Domestic Medicine and Household Surgery* (Groombridge) we would say that a man may as well be his own lawyer as his own doctor; the chances are that, if he is either one or the other, he will dearly rue it. We are bound, however, to add that this work of Dr. Thomson's does all that it is safe to do in such works; and if used for reference, and not for practice, deserves the public favour.

Sinclair's Beauties of Nature (Houlston and Stoneman), a poem, is intended by the author to "introduce a new era in the art of landscape gardening." We cannot but distrust the judgment of one who spends his time so unprofitably as the author of this most unhappy attempt at winning fame.

FLORICULTURE.

Roses for Exhibition, in a Cut State, in June or July.—The following descriptive list of Roses has been recommended for this purpose by the several eminent growers whose names will be found attached to them. They are intended to be shown in collections on single stems, and on boards, as used for the exhibition of Dahlias. *Provins Roses.*—Adrienne de Cardoville: Dark rose, fine and distinct, large and full—Paul. Cabbage, or Common: Rose, globular, large and good—Lane. Royal: Blush, globular and large, very fine—Lane. Superb Striped Unique: White, with crimson stripes; constant—Bircham. The Roses of this class are popular for their fine globular forms and delicious fragrance: to grow them in the highest state of beauty they should have a rich soil and be pruned tolerably close—Paul. *Hybrid Provins.*—Blanchfleur: Delicate creamy or pinkish white—an old but most desirable Rose, always beautiful—Rivers; French white, perfect form—Wilkinson. Comtesse de Ségur: Pale flesh, finely cupped—Appleby; pale flesh, singularly perfect and beautiful in shape—Rivers; creamy white, buff centre, of exquisite shape—Wood. La Volupté: Crimson often veined with red, fine form—Bircham; bright rose, petals exquisitely arranged, large and full—Paul. Pashot: Light crimson, a superb rose—Bircham. Princess Clementine: Pure white, large and fine—Appleby; pure white, one of the finest Roses—Bircham; pure white, large and perfect—Wilkinson; pure white, perhaps one of the finest white Roses—Wood. Rose Devigne: Delicate pink, finely shaped and always beautiful—Rivers. This class is intermediate between the Provins and French (Gallica) Roses, and will thrive under ordinary cultivation. They should be pruned rather freely—Wood. *Moss Roses.*—Celina: Brightest crimson—Foster. Crested: Rose, fringed—Foster; bright rose, beautiful crested buds—Francis; large, with beautiful crested buds—Lane; buds curiously fringed—Wilkinson. Laneii: Beautiful shaded carmine, cupped, large, and double—Lane. Princesse Royale: Rosy blush, large and double, a really fine Rose—Wood. Moss Roses, like the Provins, require high cultivation, and their increased beauty amply repays whatever additional attention they may receive—Paul. *French or Gallica.*—Boula de Nanteuil: Crimson purple, very large—Appleby; crimson purple, a splendid old rose—Bircham; dark purple crimson, large: quite the finest of dark summer Roses—Curtis; large purplish crimson, superb—Francis; a large double and very fine rose—Rivers; quite the finest of dark summer Roses—Wilkinson; one of our finest show Roses—Wood. Cynthie: Pale rose, light margin, beautiful form—Bircham; lilac blush, very beautiful in shape—Lane. D'Aguesseau: Crimson, finely shaped, and beautiful—Bircham; brilliant crimson, finely shaped, and beautiful—Rivers; a first-rate show Rose—Wood. Gloire de Colmar: Rich velvety crimson, shaded, one of the finest show Roses—Wood. Grandissima: light crimson, brilliant, a superior show Rose—Bircham; purplish rose, superb, very large and full—Paul. Kean (alias Shakspeare with some): Scarlet crimson, sometimes tinged with purple, fine—Bircham; brilliant scarlet—Francis; shaded deep crimson, quite superb—Lane; rich velvety purple, centre scarlet, beautiful, large, and full—Paul; scarlet-crimson, an old and justly esteemed variety—Rivers; dark scarlet crimson, superb—Wilkinson; brilliant crimson, perfect shape, a very splendid Rose—Wood. Latour d'Auvergne: Rosy crimson, often purplish, centre vivid, superb, large, and full—Paul; crimson, large, and very beautiful—Rivers. La Circassienne: Deep pink, distinct, and beautiful—Bircham. Letitia: Veined deep rose, perfect—Appleby; superb dark rose, veined—Francis; mottled crimson, very beautiful—Lane; rose, often veined with red, perfect in shape—Rivers. Marjolin: Slate, very large and distinct—Bircham. Mazeppa: Bright red, edged and marbled with white, a superb Rose—Wood. Ohl: Dark crimson and scarlet shaded, large and very double—Paul; deep rich crimson, one of the finest Roses in this group—Rivers; deep rich crimson—Wilkinson. Randolph: Lively pink, often tinged with blush, superb, very large and full—Paul. Reine d'Angleterre: Rosy blush, very large and double, a very fine new Rose—Wood. Schönbrunn: Light crimson, of fine form and unvarying beauty—Rivers. Triomphe de Jausseno: Brilliant crimson, superb—Appleby; shaded purple crimson, distinct and fine—Bircham; bright crimson, good shape—Lane; shaded purplish crimson, a very distinct and fine variety, and a most luxuriant grower—Rivers; deep purplish crimson, a really magnificent Rose—Wood. Trauson Gombault: Bright rose, very large and superb—Wood. From this family may be selected some of the very finest show Roses—Appleby; they are well adapted for show Roses—Francis; these Roses grow anywhere, but become of greatly increased beauty under good cultivation: as show Roses they rank high—Paul; to the amateur and those who cultivate for exhibition, they are altogether indispensable—Wood.

(To be continued.)

National Floricultural Society, *Jan.* 8.—Mr. Stains in the chair. The only object of interest submitted at this meeting was an Epacris from Mr. G Davies, Green-lane Nursery, near Liverpool; this is an improvement in size on its parent, E. nivalis. Mr. Newton, Mr. Machise, and Mr. Vaux were nominated candidates for election at the next monthly meeting.

Catalogue of Dahlias, Pinks, and Fuchsias, received from Mr. Keynes, Salisbury. *J. E.*

Cinerarias: *J C.* There is but one opinion; repot up to a certain time as often as the roots show through the old ball, 8-inch pots; in some societies that size is imperative. *J E.*—*J C C.* A pretty and distinctly-marked flower, below the average size; the white or ground-colour is remarkably pure. We have no doubt it can be grown larger, when we should be glad to see it again.

Dahlia: *Scarlet King.* This variety was noticed in this Paper in September last. *J. E.*

Flower Props: *W C., jun.* No time better than the present for communications on such subjects. We shall be glad to receive them. *J. E.*

Fuchsias: *C.* Having some heat at command, you may start your old plants into growth, for the purpose of making cuttings of the young shoots; they will strike freely, and by August make fine plants. *J. E.*

Pinks: *J R L.* Keep your plants where they now are. We shall have something to say on the subject shortly. *J. E.*

Polyanthuses: *L.* Few have been successful with them near London: they, however, blend admirably with Auriculas; no suburban garden should be without them, the early season at which they flower makes them charming objects; they are the reverse of expensive; try to cultivate them by all means. *J E.*

Miscellaneous.

Fairy Rings.—The following observations by Dr. Lantzius Beninga, are contained in the "Botanische Zeitung," for Dec. 5, 1851, and give a very good account of one theory respecting these curious phenomena. "The question as to the cause of fairy rings has often been discussed in the 'Botanische Zeitung.' Without contradicting or questioning the explanations which have been given by other botanists, I will only remark that, according to my own observations, they depend upon the more or less perfect development of the mycelium of the fungi, by which they are produced. The mycelium, which is the vegetative organ of the fungus, grows amongst or upon fallen trees, decayed wood, or according to the nature of the species, on other decomposing organic substances. If the necessary conditions exist on all sides; that is, if the requisite decaying matters are sufficiently widely diffused, and no mechanical obstructions, as stones, trees, &c., are interposed, the mycelium spreads equally on all sides from the original point of development. This, except in its greater delicacy and fugitiveness, is perfectly analogous to the thallus of most lichens. The more delicate it is the quicker it grows, and the more easily the older portions perish; and while the circumference is in the greatest vigour the central parts are dead, or more or less entirely evanescent, so that it then grows in the form of an always increasing circle. When the time for the formation of spores arrives, many pilei spring from it in the form of a circle or ring, or, in other words, the fairy ring is perfect. Most lichens agree with this, not only in the growth of their thallus, but also in the position of their fruit or apothecia; and it is evident in those species whose growth and decay are the most sluggish, as in some *Parmeliæ*, or more especially in some *Peltigeræ*, that they still vegetate and fructify perfectly towards the margin of the thallus, while the centre is entirely decayed. If the thallus is of a very persistent nature, still the progress of vegetation and fructification from the centre to the circumference is distinctly visible. In

old specimens the centre is usually free from apothecia (unless where a new superincumbent thallus has been formed, after the decay of the old); then succeeds a ring of large perfect apothecia, and then near the margin of the thallus a circle of young apothecia, which are younger in proportion as they are nearer to the margin. A large fairy ring, formed apparently from many individuals of one species of fungus disposed in a circle, really exhibits the organs of fructification of a single individual only, and the matter of surprise is, that such perfect specimens are comparatively so rare. The reason is, however, to be found in the fact, that there are so many obstructions to the perfect development of a species, such as the interference of blocks of stone, and stems of trees, the depredations of insects, unfavourable weather, but more especially, the partial absence of the peculiar conditions necessary to the free development of the mycelium. In the environs of Göttingen, fairy rings are very rare in the Beech-woods, on account of the constant collection of the leaves and fallen branches; while in the Firwoods, which are comparatively undisturbed, they occur frequently. The mycelium spreads equally on all sides amongst the leaves and twigs which accumulate year by year. It is, besides, very probable, that many differences exist in different species of *Hymenomycetes*, as regards the earlier or later development of pilei, that is, of fruit from the mycelium; so that in some cases, fruit appears very rapidly after the formation of the mycelium, while, in other instances, no fruit is produced till the mycelium has acquired a wide expansion. A beautiful fairy ring occurred here some years since, which was formed by *Clavaria Botrytis*; it was 20 feet in diameter, and the tufts of fruit-bearing branches, of which it was composed, were distant only 1 or 2 inches from each other."

Calendar of Operations.

(For the ensuing week.)

GENERAL REMARKS.

DURING the present open weather, a number of operations may be proceeded with, generally deferred till the spring. Any part of the grounds, or garden, requiring draining, should now have attention, bearing in mind, that on ground carrying fruit trees, or vegetables, the drains should not be less than 4 feet deep; the width apart must be regulated by the nature of the ground. The preparation of ground intended for planting in the spring, either with fruit or ornamental trees, may now be forwarded—as may the levelling and returfing such parts of the lawns as have become unsightly; using turf obtained from dry upland pastures, or other elevated ground, such having generally a less quantity of the coarser kinds of Grass in them. As in most gardens the leaves of forest trees are in great request for a variety of purposes; take steps to procure a sufficient stock for the season's supply—two or three stacks may be made in the most unfrequented places—thatched, and a temporary fence placed round them, to prevent litter; they are always useful. Where new gravel walks are about being made, material for that purpose should be prepared in readiness; gravel is much the better for being left some time to dry.

PLANT HOUSES.

When such plants as Aphelandras, Justicias, Poinsettias, and other winter-flowering stove plants have done blooming, they should be removed to a dryer house; and water gradually withheld, to effect the proper ripening of their wood. Use as little moisture in the stove at this season as possible, and do not aim at high temperatures; the colour and durability of flowers will show how injurious both are in excess at this period. Where Orchids have had a long rest, some will now be commencing their growth, and should be set to work; well soak them in tepid water, and after removing all the loose and decayed material from the roots, let them be repacked in fresh baskets or pots. Those growing on logs of wood will require more care in preserving their roots from injury. As a general rule, it is too early to begin with the principal stock. Examine frequently Heaths and other plants which suffer from damp at this season. It is often requisite to keep a little air in at night, and allow a slight fire where such is the case; this, with Epps's sulphurator, will keep your plants free from disease. Shift all greenhouse plants frequently (to prevent their growing one-sided), and see that no decayed leaves are allowed to remain on them. The conservatory should not be allowed to fall below 40°. Keep up a succession of blooming plants from the reserve houses. In the arrangement of plants in show houses, strive to produce as much effect, by a judicious contrast of colour, as by grouping plants of a particular habit together, and again contrasting such by introducing a plant here and there, of a widely different family. For such purposes, the larger kinds of Fern, and some dwarf Palms, have a good effect, among the more common forced flowers.

FORCING DEPARTMENT.

VINERY.—The bright sun and comparatively open weather we are now enjoying will prove of much advantage to Vines now breaking, and should be made the most of. The temperature at such times may be permitted to rise two or three degrees higher. A succession-house will now most likely require starting; where appearances are no object, a quantity of hot stable dung introduced into the body of the house will be found a most desirable mode of breaking the Vines. If fire heat can only be applied, a moderately moist atmosphere, not exceeding 45° by night, should be kept up, the Vines being syringed with tepid water twice or thrice daily. The outside border should be covered two feet thick with dry leaves previous to applying fire heat. Our rule is to cover these borders in the autumn, and thatch them. PEACH HOUSES.—The early house will require a mild, steady heat, and a moderate but constant supply of air.—Strawberries, if plunged, must be watched, to guard against too great a bottom heat, which would defeat the end in view; their progress should be steady, and sudden transitions of temperature, and extremes of drought and wetness at their roots avoided. To get a good crop of Melons ripe at the beginning of May is a difficult task. Hot-water pipes have, however, in some measure, simplified the business. To enable you to produce early fruit, it is requisite the young plants for that purpose should be strong and healthy; keep them plunged in a mild bottom heat near the glass. If you fruit them in common dung beds, such should immediately be made, to allow the heat to moderate before planting out. But the trouble of dung pits, or frames, at this season, is scarcely compensated for by the crop; with a light house and hot-water pipes, these difficulties vanish. Provide a stock of dry loam for planting out the crop. Cucumbers will, for the present, require the same management; those in bearing, if intended to continue, will be benefited by a surfacing of turfy soil, and waterings of liquid manure, of which that made with pigeons' or fowls' dung, will be most suitable.

FLOWER GARDEN AND SHRUBBERY.

Wherever there is a large extent of mixed shrubbery, some care is necessary to prevent the stronger growing kinds from out-growing the weaker. And it will be found better, every few years, to lift and replant the former, than to prune them severely, which prevents (by inducing the growth of luxuriant wood), the habit of blooming pro usely. Never allow a margin of bare earth to intervene betwixt the Grass and the plants; such should be covered with low growing plants, as the St. John's Wort, Periwinkles, and plants of a similar habit; and the plants over the remaining space should be made to cover as much of the border as possible. The pruning of the more common kinds of Roses may now be done; should, however, a part of the Provins, Moss, and others of the summer flowering kinds, be required to bloom late, reserve a portion till April, for that purpose. The thinning and pruning of orchard trees should be proceeded with, and liberal dressings of manure given to exhausted soils, which may be pronged in; but never allow the spade near fruit trees, if you can avoid it. Prune and remove the suckers from Filberts, which rarely (except in Kent) get the management they require. Young planted orchard trees should be securely staked, using a little hay or moss at the tie, to preserve the bark. The making of fruit tree borders, particularly for the finer kinds against walls, requires the use of fresh turfy loam, and very little besides; if such are intended for planting this spring, the soil should be got in, presuming you have (if your subsoil is at all cold and wet), a substratum of dry rubble some 2 feet deep below; and that for no purpose need your border be more than 2 feet deep. The only mixture we would use in addition would be road scrapings, or something similar, where the loam was heavy, for the Peach and Apricot; the loam itself for Cherries and Plums; and a small quantity of rotten cow-dung for Pears, but not if the loam is rich. Dust over, on damp mornings, with soot and lime, Gooseberries, &c., which are attacked by birds; we have found two or three dressings sufficient to preserve the buds of these useful fruits. Raspberries may have the old wood removed, and the present front shoots thinned; leave the shortening of them for the present. Let the fruit room be looked over, and everything showing decay removed; slight fires must occasionally be used.

FLORISTS' FLOWERS.

Dahlia growers should immediately put in their roots to work on a gentle bottom heat. We would advise Auricula growers to look after a stock of sheep manure; it is easily obtained at this time of the year, and we know of no better application than a thick liquid manure, applied when the plants commence growing. Carnations and Picotees suffering from mildew should be immediately removed from the healthy stock.

KITCHEN GARDEN.

Ground should at all opportunities have the necessary turnings, to bring it to a friable state by the time the spring crops will require planting. Not much in that way should be attempted at present; but make a sowing of some early Pea, as the Prince Albert or Emperor, in pots, to turn out, should those sown in the open garden fail. A crop of the Mazagan Bean may be treated in the same manner. Cauliflowers, Lettuce, and all kinds of early vegetables, wintering in frames, must have abundance of air daily, and kept free from damp. The spare frames will be filled with Endive, Sorrel, Parsley, and other things required for daily use, should severe weather occur. So likewise Broccoli, now turning in, should be placed under some sort of protection for the same purpose. A few years back it was difficult to get a supply of Broccoli through the winter, but Snow's invaluable Broccoli enables it to be done now with ease. Take every opportunity, on dry days, to hoe and stir the soil between growing crops. Fresh supplies of Rhubarb, Kale, and Asparagus must be forwarded as wanted. Make a sowing in 60 sized pots of the Fulmer's or Mohawk French Bean; as the days lengthen, this, which is the best forced vegetable we have, will thrive in the Pine stove or early Vinery, near the glass. Fresh plantations of Horse-radish and Jerusalem Artichoke may now be made.

State of the Weather near London, for the week ending Jan. 8, 1852, as observed at the Horticultural Garden, Chiswick.

Jan.	Moon's Age.	Barometer. Max.	Barometer. Min.	Temperature of the Air. Max.	Min.	Mean	Temperature of the Earth. 1 foot deep.	2 feet deep.	Wind.	Rain.
Friday..	2	10	29.694	29.637	41	26	33.5	37	38	S W.	.02
Satur...	3	11	29.746	29.512	49	38	43.5	38	38½	S.W.	.10
Sunday.	4	12	30.122	29.539	44	20	32.0	39	39½	N W	.00
Monday	5	13	30.198	30.064	45	29	37.0	38	38	S.W.	.00
Tues. ..	6	14	29.919	29.787	49	35	42.0	37½	38	S.	.00
Wed. ..	7	15	29.865	29.508	49	27	38.0	39	39	S.W.	.06
Thurs..	8	16	29.863	29.181	49	32	40.5	39	39	S.W.	.09
Average ...			29.906	29.604	46.5	29 5	38.0	38.2	38.6		.27

Jan. 2—Overcast; partially overcast and fine; slight rain.
— 3—Foggy; very fine; cloudy; boisterous at night.
— 4—Very clear; remarkably fine; clear and frosty.
— 5—Frosty; very fine; slightly clouded.
— 6—Clear and very fine; cloudy at night.
— 7—Rain; clear; fine; slight frost.
— 8—Fine; cloudy; clear; boisterous, with rain at night.
Mean temperature of the week, 2½ deg. above the average.

State of the Weather at Chiswick, during the last 26 years, for the ensuing week, ending Jan. 17, 1852.

Jan.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 11	40.4	30.8	35.6	14	0.83 in.	3	4	3	1	5	7	1	2
Mon. 12	40.9	30.5	35.7	12	0.76	2	5	2	2	5	7	2	1
Tues. 13	42.3	33.3	37.8	14	0.29	4	3	3	2	5	5	3	1
Wed. 14	41.8	30.8	36.4	13	0.80	4	4	4	3	3	4	1	3
Thurs. 15	40.8	30.6	35.7	8	0.54	3	4	3	2	3	4	4	3
Friday 16	40.9	31.2	36.1	13	0.34	—	7	5	—	4	5	1	2
Satur. 17	42 2	30.6	36.4	9	0.48	3	5	2	3	2	7	2	2

The highest temperature during the above period occurred on the 15th 1844, and 14th, 1849—therm. 66 deg.; and the lowest on the 11th, 1838—therm. 4 deg.

Notices to Correspondents.

BIRDS: *Maria E.* If you *persist* in keeping your noisy parrots in the same room with your song-birds, or even within hearing,—you *deserve* to suffer damage. No wonder your birds degenerate in song! They will soon be semi-parrots!—*William T.* Purchase the bird immediately. He will not go off song now. Do not handle him, but pay a "deposit" on the cage, and remove him in it.—*Eliza C.* The feathers will resume their glossy appearance in less than a month. Keep the birds warm.—*George T.* No. It is far too cold, even when the sun shines, for *any* birds to be hung outside the house at this season.—*Susan B.* As a "companion" in your solitude, we advise you to "adopt" a Canary. These birds sing day and night.—*Ninetta.* Hemp-seed, if administered, must be in small quantities, and on rare occasions.—*Elizabeth J* Yes; and they are so good-tempered withal, that it must be *your own* fault, if any "coolness" arises.—*Olivia.* Never retire to rest without leaving a fire in the room. Danger may be prevented by affixing a wire guard to the front of the stove.—*John P.* Nightingales are now "stout" in song, and blackcaps also.—*Devoniensis.* We cannot agree with you. It is the woodlark, beyond all question—*Aliquis.* Its death has arisen from "cramp." You kept the sand too wet, and placed the water inside the cage. You have yourself accounted correctly for the misfortune. It is "experience," perhaps cheaply purchased.—*Georgiana S.* Nothing better than sweet sponge-cake, and a little hard-boiled yolk of egg. This change of diet works wonders.—*Inquirer.* Hang them in a cheerful situation. The sun is already bestowing on us the rays of his much-loved, smiling face; and birds rejoice in beholding them quite as much as we do.—*Frank P.* His fate is "sealed." Ere you read this, your little friend's funeral will be in a forward state of preparation. The symptoms you describe warrant us in speaking "oracularly."—*Angelina.* Raw beef, scraped; and yolk of egg, boiled hard. Moisten with cold water, and give the invalids a very little twice a day. In less than a week, they will recover and sing as merrily as ever. *W. K.*

CONIFERS: *A B.* All fine trees, with the exception of Cupressus Goveniana and Juniperus religiosa, which are bushes.‡

CUCUMBERS: *Sub.* A foot from the glass will do. A third of peat charcoal will be ample.—*J H.* Cuthill's Black Spine is one of the very best for general purposes.‡

EARTH CHESTNUT: *Scoto cult.* We don't know what you mean by this name. It is not one of ours.

FERNS: *E C L.* If you will do us the favour to refer to p. 823 of our volume for the past year, you will see that we recommend "Moore's Popular History of British Ferns," and why we do so.

GUACO: *Messrs Weeks and Co.* Whether Mikania guaco is really efficacious as an antidote to the bite of serpents, and against poisons generally, remains to be ascertained by exact experiment. Such is its reputation.

INSECTS: *A R.* The insects which destroy your preserved birds' eggs are the larvæ of a small beetle, Attagenus pellio, belonging to the family Dermestidæ. We should recommend washing the inside of the eggs with the arseniacal soap liquid used for preserving bird skins. *W.*

NAMES OF FRUITS: *A R.* Your Apple is the Burr-knot.‖

NEW ZEALAND: *E B H.* You will hardly succeed in preserving fruit trees and Vines to take to New Zealand, except by planting them in a Ward's case. Much better send out the seeds. Sometimes fruit trees make the passage if rammed tight in a wooden case in damp bog-moss, but the chances are against success.

OAKS: *J T.* They should always be grafted, with 2-year-old wood, and earthed up above the clay until examination shows that they have taken. April is the season. But American Oaks are raised more cheaply and better from the acorns, which may usually be purchased of seedsmen.

ROSES: *G T.* You will find the information you seek for in another page of to-day's paper ‡

SPRUCE FIRS: *F H S.* The appearance in question is owing to an attempt at forming cones, which attempt not being successful, owing to some disturbing cause, the centre of what was intended for a cone has grown onwards into a branch. Such appearances are very common on the Larch, arise from some temporary derangement of the constitution, and are usually of no importance. Such a case in the Spruce is figured in Lindley's "School Botany," p. 125.

SUN-DIALS: *X.* You will find directions for setting these at p. 312 of our Vol. for 1849. We never recommend dealers.‡

THE PAMPAS GRASS: *H M.* We regret that we cannot become the medium of exchange or purchase. We have no access to "D." The plant may be probably had through the trade.

TIMBER: *R A H.* We fear that creosoted timber will be inapplicable to any other than rough out-door purposes. But you can learn all the facts about it upon application to the patentee at Parliament-street, Westminster. We believe Mr. Llewellyn's plan of discharging steam among a mass of stones to have answered all his expectations. See our columns for 1851, p 403.

VINES: *Blanda.* Since you are about to remake your border, we would advise you rather to plant young Vines at once, than to root-prune or otherwise endeavour to renovate the old ones.‡—*Novice.* They may be grafted just after the buds have begun to push into leaf.‡

WHITE BLACKBERRY: *G T.* Much obliged, but we don't want it. Is a Blackberry supposed at Kelso to be a Currant?

PERUVIAN GUANO.

CAUTION TO AGRICULTURISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

ANTONY GIBBS AND SONS, AS THE ONLY IMPORTERS OF PERUVIAN GUANO,

Consider it to be their duty to the Peruvian Government and to the Public again to recommend Farmers and all others who buy to be carefully on their guard.

The character of the parties from whom they purchase will of course be the best security, and in addition to particular attention to that point, ANTONY GIBBS AND SONS think it well to remind buyers that—

The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 9l. 5s. per ton, less 2½ per cent.

Any resales made by dealers at a lower price must therefore either leave a loss to them, or the article must be adulterated.

THE LONDON MANURE COMPANY beg to offer PERUVIAN GUANO, warranted perfectly genuine; Superphosphate of Lime, Wheat Manure, Concentrated Urate, Irish Peat Charcoal, Gypsum, Nitrate of Soda, and every artificial Manure, on the best terms. Also a constant supply of Salt for Agricultural Purposes, at a low rate. English and Foreign Linseed Cake, Rape Cake, &c.

EDWARD PURSER, Secretary, Bridge-street, Blackfriars.

MANURES.—The following Manures are manufactured at Mr. LAWES's Factory, Deptford Creek:

Turnip Manure, per ton	...	...	£7 0 0
Superphosphate of Lime	...	...	7 0 0
Sulphuric Acid and Coprolites	...	...	5 0 0

Office, 69, King William-street, City, London.

N.B. Peruvian Guano, guaranteed to contain 16 per cent. of Ammonia, 9l. 10s. per ton; and for 5 tons or more, 9l. 5s. per ton, in dock. Sulphate of ammonia, &c.

FOSSIL BONES AND PSEUDO-COPROLITES (FROM THE SUFFOLK CRAG).

EDWARD PACKARD AND CO., of Ipswich, having erected very powerful Machinery for the purpose of reducing these Phosphatic Nodules to a fine Powder, and being in the immediate locality of where they are found, are now prepared to supply them on the most economical terms, in any quantity, either Ground, Whole, or Dissolved in Acid. They form the cheapest source of Phosphate of Lime in the market, and are peculiarly eligible for manufacturing Superphosphate of Lime in conjunction with Bone.

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The Agricultural Gazette.

SATURDAY, JANUARY 10, 1852.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY, Jan. 14—Highland and Agri. Society.
THURSDAY, — 15—Agricultural Imp. Soc. of Ireland.
THURSDAY, — 22—Agricultural Imp. Soc. of Ireland.

We have to beg the attention of our readers to the interesting annual statement, in another column, of his agricultural experience, with which the Hon. and Rev. L. VERNON HARCOURT has again favoured us. After all, it is, we believe, the case, that truth asserted positively is more influential in the long run, than when asserted controversially. It is better when stated for the purpose of adding to an extending knowledge than when stated for the purpose of overthrowing error. The latter of its offices will be efficiently performed on those who receive it without any effort on the part of those who offer it; it will, indeed, be *more* efficiently performed when the truth, once fairly presented, is left to its own natural influence, than when it is pressed so as to arouse ill-feeling and prejudice against it. And thus it is that we look upon the quiet but most substantial annual reports of our valued correspondent, Mr. L. V. HARCOURT, as of at least equal importance to agricultural progress and improvement, with the noisy discussions and angry disputes which have arisen out of the energy and enthusiasm of the owner of Tiptree Hall. The former will present to readers a standing record of facts ascertained, under specified circumstances, in reference to cultivation, manures, sowing, and plants, to which reference will be made for agricultural guidance many years to come. And whether all may acquiesce in the conclusions to which the author of these statements has been led by them or not, we are sure that all must unite in thanking him for the patient and continual industry which has supplied us all with so large a store of agricultural data.

THERE are others besides the Celt of Ireland and the Celt of Scotland who will improve their condition by emigrating. The Saxon labourer of England or of the Lowlands of Scotland, in every district in which two men are looking for one master, may find in the British colonies, if they are steady and industrious, that comfort and independence which they can rarely attain at home. In a new country, with large tracts of unoccupied land, they will find two masters looking for one man, and the rate of wages such, that after a few years of service, they will have saved money enough to buy and stock farms of their own; and to establish every child they may have, however numerous, in the same independent circumstances.

To the working farmer with a large family, struggling vainly at home, with insufficient capital, and with skill unequal to the exigencies of the times, to pay high rents with low prices, North America holds out similar prospects of comfort and independence. We said, in a former article, that to both these classes, desirous of improving their condition, without dissolving their British connection, our own North American colonies offered a field of enterprise, at least equal to the United States. In proof of this, we will now cite from Professor JOHNSTON's "Notes on North America," a few cases of settlers in New Brunswick, both Anglo-Saxon and Celtic.

Near Frederickton he visited the Harvey Settlement, founded in 1837 by emigrants from the neighbourhood of Wooler, in Northumberland. Twenty-three families, consisting of about 200 individuals, had come out for the purpose of settling on the lands of the NovaScotia and New Brunswick Land Company; but no preparation having been made for their reception, they were thrown entirely on their own resources, and being poor, and few of them able at that time to obtain employment, they became involved in great difficulties. The Colonial Legislature, however, assigned them land, and supplied them with provisions for the first year. Though they endured great hardships during their first winter, which settlers in their vicinity would not now be exposed to, only two deaths occurred in six years, against 33 births. There are now 53 families, comprising between 300 and 400 individuals, each family possessing from three to five cows, and 100 acres of land at least.

Neither our own colonies nor the United States, however, are the place for idlers. "A man," said one of these settlers, "must work as hard as at home, and longer hours. He must build his own house, make the shoes of his family, and do many other things; and yet," he added, "if a piece of good land was to be found *handy*, many of their friends and relations from home would join them."

Professor JOHNSTON, on his return, made a tour on that well farmed district on both sides of the Scottish border, at the foot of the Cheviots, whence these people came, and learned from the report of the parish minister, that in the small village of Yetholm there were 30 able-bodied men, accustomed to work for the neighbouring farmers, who were unable to obtain a day's work. "Alarmed," he says, "by the fall of prices, very foolishly, I think, in the case of a half pastoral district like that, the holders of the land had ceased to employ a single labourer they could dispense with. * * * * Had I known of a bit of good land handy to that settlement, I could have felt it in my heart to urge these labourers to make up a party among themselves, with a view of going there, and to offer my aid to them in their views. How it would have turned the tables if these 30 families had emigrated! The history of two of the Harvey settlers speaks volumes. Mr. GRIEVES was a shepherd at Whittingham on the Border. He landed at Frederickton in 1837, with a family of ten, and only 7s. 6d. in his pocket. Having obtained his parcel of land, he hired himself as a farm servant with Col. SHORE at Frederickton, at 30l. a year (that is, with board), and such of his children as were able to work, he hired out too. Whenever he could spare a pound, he got an acre of his land cleared. After seven years of service, he settled on his land himself, building a house for his family *right away*, that is, without the previous erection of a log house, "and a very good house he appeared to have." He has now 700 acres of land in different lots, and has clearings of 20 acres, on each of three or four of these lots, intended for his sons. His success has been above the average, which he attributes to his having had a very good master; and when Professor JOHNSTON afterwards met that master, he found him equally grateful for the warm attachment and zealous services of so good a hind. "Had I my life to begin again," said Mr. GRIEVES, "I would come out here; for, though I might have been more comfortable myself, there is the satisfaction of providing well for my family."

Another of these settlers, Mr. PASS, affords an instance of the success of a small capitalist. He had been the manager of a chemical work in one of the Midland counties, and had saved 150l. He brought up his only son a carpenter, and settled at Harvey. "He had done well," he said, "through hard work; and all who have done well say the same." He considered himself better off than he would have been at home, and was of opinion that no climate could be better than that of his new country. He considered it also to be especially the place for the labouring man; he cannot *worsen* himself, and, if he is industrious, is always getting better.

On the Napan river in Northumberland county are many thriving settlers from Dumfriesshire, celebrated as the best farmers, and their sons as the best ploughmen, in the province. One of these settlers M'LEAN, by name, commenced in 1822 with a capital of 5l., besides three carts and a year's provisions. He has 250 acres, of which 150 are cleared. He cleared all himself without hired labour, and has brought up 11 children. He works his farm with the aid of three sons, two daughters, and three horses, keeps 11 cows, eight or nine young cattle, and a few sheep. Four of his sons are settled on farms of their own, having worked as carpenters till they had saved money enough to buy land. Many others, who came out with him have stuck to their farms, and kept clear of the lumber trade, have done as well as himself. He considers that a man would do well anywhere in that district, who came out with 50l. He would do better with 100l., but ought not to have too much if he is to labour contentedly and to prosper. Mr. NIXON, on the Petitcodiac river, settled 18 years ago on a farm of 275 acres, for which he paid 50l., and has 100 acres cleared. He and his two brothers had only 60l. between them after paying for their land. At the end of 10 years the farm and stock were valued at 1000l., and he bought his brother's out. The land and buildings in a period of depression are now worth 800l. He considers America *a good poor man's* country. Those who are comfortable at home, said another settler, would better stay there.

On the river Restryouche, near Campbelton, the settlers are chiefly from the Scotch Isle of Arran. They are all thriving, not laying up money, but independent, and bringing up families, which are usually large, in comfort and plenty. There are some Irish settlers among them who appear in general to be doing well.

In the early part of his travels, Professor JOHNSTON visited an Irish settlement between the Aroostook River and the Grand Falls. He describes them as industry personified; one of them had been four years in the country, had 11 children, and a farm of 200 acres, 60 of which were cleared, which he valued at 100l. An emigrant, he said, who had 20l. in his pocket after paying for his land, would be *easy*, only requiring a little to carry him on till his first crops were gathered. Another had been three years; a third only one year. All were happy, and had an excellent crop, with new chopped land ready for burning next year. This was the most favourable specimen of an Irish settlement he met with.

Six miles from the Harvey settlement, where the borderers from Northumberland were thriving, was a settlement composed entirely of Cork men, who have not prospered as yet. Many of them had gone into Maine, thinking to better themselves, but had found out their mistake, and had come back worse than they went. The descendants of Scottish and English settlers, and of the old loyalists, allege that disaffection to England is mainly imported from Ireland. Mr. PASS, before mentioned, considered the south-country Irish the poorest that came out, the least prosperous, and the least contented, depending, as at home, on grants and charity, where they can get it, more than upon their own industry.

"The management of the Irish," says Professor JOHNSTON, "is still a problem, when unmixed with other population, in whatever county they are * * * As at home, they get together in junketing and merry making, and estimate the happiness of a spree far above the every day comforts of clean, well furnished houses, and plentiful meals all the days of the week. But mingle these same men in twos and threes, among a great preponderance of a

steadier race, and the constraint and influence of new example makes the children steadier men than their fathers, and more reasonable and contented citizens."

This dispersion of the Irish, who go into the interior of the United States, we believe to be the secret of their success there. The communities of Irish who congregate in the great towns of the sea coast of the States, constitute a population not in the highest estimation among their adopted countrymen.

We shall conclude by commending the facts above enumerated, on such high authority as that of Professor JOHNSTON, to the serious consideration of our friends, Mr. GOODIFF and Mr. CARROLL.

TITHE COMMUTATION.

As your agricultural as well as clerical readers may feel anxious to know the result of the corn averages for the seven years to Christmas last, published in the *London Gazette* of this evening, viz. :—

Wheat	6*s.* 2¾*d.*	per imperial bushel.
Barley	3 10¼	,,
Oats	2 7½	,,

I beg to state for their information that each 100*l.* of rent charge will for the year 1852 amount to 93*l.* 16*s.* 11¼*d.*, or very nearly 2¾ per cent. less than last year. The following statement from my "Annual Tithe Commutation Tables" will show the worth of 100*l.* of rent charge for each year since the passing of the Tithe Commutation Act, viz. :—

		£	*s.*	*d.*
For the year	1837	93	13	9¾
,,	1838	97	7	11
,,	1839	95	7	9
,,	1840	98	15	9¼
,,	1841	102	12	5¼
,,	1842	105	8	2¾
,,	1843	105	12	2¼
,,	1844	104	3	5¼
,,	1845	103	17	11¾
,,	1846	102	17	8¾
,,	1847	99	18	10¼
,,	1848	102	1	0
,,	1849	100	3	7¾
,,	1850	98	16	10
,,	1851	96	11	4¾
,,	1852	93	16	11¼
	16)	1606	5	10¾
General average for 16 years		100	7	10¼

Charles M. Willich, 25, *Suffolk-street, Pall Mall East, Jan.* 2, 1852.

MR. MECHI'S REFLECTIONS UPON THE OBJECTIONS TO HIS FARMING BALANCE SHEET.

WHAT a storm has burst upon my poor devoted head! and how various its ingredients! Political rancour, personal insult, friendly pity, serious censure, malicious imputation! Surely, I may say with Yorick, "No crown of fame can ever fit it!"

I do confess that I am an agricultural sinner—that I have deviated from the beaten track—that I pulled down rotten buildings and substituted 9-inch walls and slated roofs—that I have made tanks and erected steam power—that I have well drained and subsoiled—that I have removed trees and fences—that I have made good roads—that I have employed much labour—made much, but wasted little, manure—that I have made no long fallows—that I have cropped half my land every year with Wheat—and that I have greatly and permanently increased its fertility!

All this is bad enough, but it was infinitely worse to let the world know it; and, above all (wretch that I am!) to express an opinion that such operations might possibly ultimately prove remunerative. I am clearly paying the penalty of my indiscretion, and can never again hope to recover from my disgrace, and look practical agriculture full in the face! Even *Punch* says, I am "Dun-up," so I must hide myself carefully in the deepest recesses of agricultural consolation.

Amid the general gloom, an occasional ray from philosophical intelligence (thanks to Mr. Hill's penny postage) lights my dreary path, and supports my faltering steps. How delightful is this consolation from *un*common minds! It compensates for whole volumes of vulgar abuse.

Well, let us veil the disagreeables and proceed to business; for, after all, it is a simple matter of fact and figures, quite independent of politics, passion, or prejudice. I am not at all disappointed that even my showing an apparent loss has not pleased everybody, although I am quite sure that, had circumstances permitted (which they will some day), a very large profit—much greater would have been the discontent and disbelief. There is really a mania for agricultural ruin just now.

Before I proceed to the question at issue, permit me to correct a few of the erroneous assumptions and statements that sometimes beset me. First, then, my land is all perfectly drained, and has not been re-drained; secondly, my buildings have not been pulled down and re-built, although I have added to them; thirdly (and I say it without vanity), I am not a bad manager of stock, for it is the opinion of my immediate practical neighbours and labourers that I do make as much meat out of a given quantity of food as most people. I readily admit that our Essex stock is generally hardly so well-bred as in more favoured districts, excepting always our pigs, which formed a material feature of my stock. In my balance-sheet there was an apparent loss of about 600*l.* upon 1600*l.* of purchased food, which I said is compensated for by the extra manure. "Oh," says one, "but you didn't value the manure from food purchased in 1850, which of course was as much as in 1851." I reply, of course it was not as much, nor half as much. In fact, it was only during the last four years that I saw the advantage of feeding with purchased food, and I remember when first I commenced farming being considerably abused and laughed at about my "solitary pig," which was all the live stock the critic then happened to see in the yards. There is one important fact that some of my objectors and even my friends appear to have most unaccountably overlooked, and it is that the re-valuation of the land for a new rental was made on the 30th Oct., 1850, and instead of being fixed at 12*s.*, the then value of similar unimproved lands in the neighbourhood, it it was raised to 36*s.* per acre, thus, in fact, tripling the fee simple. Why was it so raised? Not because it was poorer, but because by buildings, drainage, and improvements, and by the greatly increased fertility and improved condition of the soil itself, it was more prolific, although it had been cropped alternate years with Wheat. The benefits of former manures were partially the causes of that increased valuation, and you will see that I have charged this greatly increased rent in my accounts. "Oh," but says another critic, "because you have expended 1600*l.* in 1851 in purchased food, of course you will continue to do so, and thus lose 600*l.* annually."

Now, a reasonable person would infer that, having bought so unusual a quantity, and thus brought my land into such a state of fertility, I should not require to buy any more artificial food or manures; and, in fact, it is my present impression that my outlay in food and manures will seldom exceed 150*l.* per annum, or 20*s.* per acre; and still I shall be able to keep plenty of stock from the produce of half my farm, it being now in a thriving condition, well filled with manure.

It has been assumed that 600*l.* is too great a loss on the consumption of 1600*l.* purchased food, and that one-third of the cost is too great a sum for the value of the manure. Now, as this is the great question of agriculture, with every deference I beg to state that no animal will pay for feeding on purchased food, if you leave out of view the value of the manure.

It matters not whether it be hay, Turnips, corn, straw, or oil-cake; and, further, if you deduct attendance, labour, &c., in connection with the extra manure made, also allow for casualties to stock, one-third loss on the purchased food will be a fair and safe calculation.

You cannot buy Turnips or Mangold Wurzel, for removal, under 12*s.* to 15*s.* per ton, and certainly the stock will not pay more than 6*s.* for them. If you pay 30*s.* a ton for straw, or 3*l.* for hay, the animals will not return above half the cost. I am not agreed with the able and intelligent editor of an excellent agricultural publication, that I have over-valued my Mangold Wurzel at 6*s.*, and my Swedes at 5*s.* 6*d.* per ton, consuming price.

If it takes 160 lbs. of Turnips to make 1 lb., net weight, of meat, a ton would make 14 lbs. at 5*d.* ...	5*s.* 10*d.*
560 lbs. of fine straw-chaff, consumed with the ton of Turnips, 90 lbs. of straw to make 1 lb. of meat, is 6 lbs. at 5*d.*	2*s.* 6*d.*
Total	8*s.* 4*d.*

This I consider the value of the ton of roots with the straw (minus attendance, &c.). Of course, if you used as an auxiliary purchased food, the loss on the purchased food would absorb much of the value of your Turnips. It is well to have a proper understanding on this important question, both as to the loss on the purchase of food, and of the benefit derived in the manure, which are about equivalent. The principle is the same whether it be 1*l.* or 1000*l.* I, therefore, insist on this truth, that all purchased food (Rape-cake, perhaps, excepted), must leave a loss or charge for the manure resulting from it. Still it is clearly shown to be a cheaper way of restoring fertility than purchased manure. A wise farmer, therefore, having his land in a state of fertility, will endeavour to maintain it by deep and ample cultivation, and by the consumption of one-half its produce with the straw of the other half. I predict the time to be coming when the boarded-floor system will be generally adopted for animals, and straw will be deemed far too precious to be trampled under foot—it will be used as food.

Before I conclude these remarks, let me entreat those who have capital to consider the poor unemployed labourer, at this dull season of the year. I have 40 extra men now employed digging the land 10 inches deep, and throwing it up on ridges at 2*d.* per rod of 5½ yards square, or 1*l.* 6*s.* 8*d.* per acre. It is a labour test, combining, in my opinion, charity with profit. It is true they can earn but about 1*s.* per day, but I offer it to all the odd men and strong youths who can get nothing else to do, and who must otherwise starve, go into the detested union, or involve themselves in debt. This operation is cheaper and infinitely better than ploughing, and the eagerness with which it is availed of, impresses me with a very high sentiment of respect for the industry of our rural population, and their distaste for idleness. Of course I supply them with steel spades and forks, made in Birmingham, which are far superior in ease, effect, and price, to the ordinary bungling utensils of most agricultural localities. A great reform is required in this matter of tools.

In conclusion, I repeat, that my transaction has been, on the whole, profitable; and we may easily imagine what would be the effect of tripling (by the application of skill and capital) the rentals and fee-simples of the poor lands of this kingdom. It has been done in my case, and may in others, under the same circumstances. No doubt, many will be horrified at the idea of an overwhelming supply of bread and beef; but if their principle is worth anything, the less we produce the happier we shall be. I do not envy such people their logic or their feelings. I shall go on unflinchingly, so long as it pleases God to spare me, in what I believe to be the path of agricultural profit and truth. *I. J. Mechi, Tiptree Hall, Kelvedon, Essex, Jan.* 1.

ON CORN RENTS.

THE desire universally prevalent among the agricultural interest for the adoption of a new rental, on a more equitable and satisfactory basis, as between landlord and tenant, is a natural consequence of the great depression in the price of agricultural produce; and amid the difficulties which present themselves, owing to the fluctuation in the present, as well as the uncertainty of future prices, no method is calculated to inspire greater confidence in arriving at a readjustment of rents than by the substitution of a corn-rent in lieu of a fixed money rent, the nature of which I shall endeavour to explain.

A corn rent, or rather a corn and money rent, may be defined as a money payment of the value of a certain number of bushels of Wheat, Barley, and Oats, ascertained by the average prices of such grain during a given period; and it will be conceded that rents which are determined by the price of corn, are likely to preserve their true value better than money rents, and that this is clearly the preferable mode as under the system of a corn rent; if in consequence of the largeness of the crop, the price is low, the corresponding average value with the increased quantity makes up in some degree to the tenant for the diminution of price, while the landowner derives an advantage in the improved condition of the soil.

But to illustrate the mode of ascertaining a corn-rent by the average prices of Wheat, Barley, and Oats, as published by the Inland Revenue Inspector, from the returns of the market town where the principal part of the produce is sold.

Suppose, with Wheat averaging at 7*s.*, Barley at 4*s.*, and Oats at 3*s.* per bushel, before the prohibition of protective duties, the original rent, exclusive of Tithe rent-charge, to be 30*s.* per acre, or as a fixed money-rent for a farm of 200 acres, per annum	£300 0 0
If, at a corn-rent partly, and a fixed rent partly, as in the case of a Stock Farm, then one-third of the original rent always at a fixed sum or money-payment	£100 0 0

The remaining amount of rent, 200*l.*, being divided into three parts, and converted, one-third into bushels of Wheat at 7*s.*, one-third into bushels of Barley at 4*s.*, and one-third into bushels of Oats at 3*s.*, thus :—

190 bush. Wheat, at 7*s.* per bush., 56*s.* per qr.	£66 10*s.* 0*d.*
330 bush. Barley, at 4*s.* per bush., 32*s.* per qr.	66 0 0
450 bush. Oats, at 3*s.* per bush., 24*s.* per qr.	67 10 0
	£300 0 0

The value of which, by the average prices for the half year ending Lady-day, 1851, is as follows :—

190 bushels Wheat, at 41*s.* 8½*d.* per quarter ...	£49 11*s.* 1*d.*
330 bushels Barley, at 23*s.* 6½*d.* ,, ...	48 11 11
450 bushels Oats, at 15*s.* 11½*d.* ,, ...	44 17 8
Fixed money payment	100 0 0
	243 0 8
Total half yearly rent	£121 10 4

And by the average prices for the half year ending Michaelmas, 1851.

190 bushels Wheat, at 42*s.* 8½*d.* per quarter ...	£50 13 10
330 bushels Barley, at 24*s.* 8*d.* ,, ...	50 17 6
450 bushels Oats, at 19*s.* 6½*d.* ,, ...	54 19 2
Fixed money payment	100 0 0
	256 10 6
Total half yearly rent	£128 5 3

It will be seen that the first half-year's corn rent is equal to an abatement or reduction of 20 per cent. off the original rent; which strengthens the opinion I have entertained that from the commencement of free-trade rents should have been reduced full 20 per cent. The second half-year, owing to the excess in the average prices, especially of Oats during that period, is equal to a reduction of only 15 per cent. *J. Hatton, Burghfield.*

NEW DIGGING FORK.

AT this period of the year it is my custom, on the principle of profit and charity combined, to offer to the odd or unemployed men of my neighbourhood the option of digging a field 10 inches deep, and throwing the earth up in ridges, at 2*d.* per rod, or 1*l.* 6*s.* 8*d.* per acre. This is a low price, but it is a labour test, and does not interfere in any way with my regular workmen. I have hitherto used Dr. Yelloley's forks, and latterly Lyndon's 14-inch long grafting-tools, which are a most improved, light, and yet strong description of spade; but all these are in every respect entirely eclipsed by a new steel fork, made by Mr. Harry Winton, of Birmingham, called Parkes' patent. These first caught my attention at the Great Exhibition, and I brought three down to the farm, where my men looked upon them as pretty playthings, or just fit to throw dung into a cart; but now, that they have tried them in digging against the superior tools I have mentioned, the three men who use them are the envy of the rest, who are in a most anxious condition for a supply, seeing that it facilitates the labourer quite 20 per cent., and does the work infinitely better and easier. They are employed on land that had been previously subsoiled (four years since), of a hard, black, sandy nature, with much iron pan, hard gravel, &c., and, until deeply

drained, full of springs. The fine, but elastic, steel prongs insert themselves amongst this miserably rocky stuff, and bring it to the surface with ease, whilst the spade is repelled by the resisting mass, and it certainly appears not very possible to break them; in fact, some of the men think they are nearly equal to the pickaxe. They have five steel prongs, tapering to a point. The fork weighs 5 lbs., is 13 inches long, 8½ wide, and costs 6*s.* 6*d.* retail. I hear they are by some patent process cut out, or stamped out, of a solid plate of steel, and then hardened and tempered. I have 18 additional ones coming. It was thought they would not be so useful on our very heavy clays; but this was a mistake, for they answer admirably, raising and breaking and admixing the soil in an extraordinary manner. If during the dull months we can employ the casual population in this way, I am sure it will pay better than subsoiling; for although this land had been subsoiled by four horses following the first plough, the single forking exhausts all this, and brings up some fresh soil. I shall use the fork in the valley or furrow between the two ridges bringing up part of the bottom-soil and throwing it on the ridge. It is interesting to see obstinate old Thistles and other vigorous deep-rooted weeds thus drawn out of their hiding places, many of them showing signs of having been decapitated by the plough, but in revenge sending forth several shoots from the parent stem for exhibition next summer. A good able workman, aided by his boy, will earn about 10*s.* to 12*s.* per week at this work, or for himself about 7*s.* to 8*s.* It is admirable exercise for youths aspiring to manhood, who are too often thrown out of work at this season, "because they have no family to support." It is just the age when they are in the greatest danger from idleness. I am daily convinced we must depend more on deep cultivation, and a more effective mixing and aerating of our soils than the plough gives us, more especially for our root crops, which require to find their food in a dry summer, at least 12 inches to 18 inches below the surface. Our growers of Giant Rhubarb often bury their manure 3 feet deep in gardens. I have the greatest possible contempt for the plough as a deep cultivator of the soil. To-day a pair of my strongest horses were ploughing some strong clay land, and could not possibly exceed 4½ inches (measured from the solid ground), to get through their limited allowance of one acre per day. I discussed with my man the propriety of using six horses, either together, or three in the first and three in the second plough to follow, and we both felt assured that 10 to 11 inches (from the solid ground) would be the utmost obtainable depth; of course we must employ horses when we have them, but it is evident that digging or rather forking at 2*d.* per rod is the cheapest operation, combining the plough with fork cultivation. I shall subsoil between the deep ridges thrown up by the diggers, and also, as I make manure, dig some into the valleys or furrows, on the same principle and plan as that of the reverend author of the "Word in Season." I manure all my root land before it is dug, so that it gets well mixed in the ridge. A second manuring in the furrow, well dug in, will carry out the crop when it approaches maturity. The land in the spring will be pulled flat by the scarifiers before drilling, and well horse hoed with Garrett's during the summer. In our dry climate of Essex, root crops may well mildew when they have such miserably shallow cultivation as the ordinary ploughings afford. Those who may visit my farm next year will be able to judge of the effects of this operation on the root crops. I have already proved it this year. It is only when you begin the operation that you find out how many are willing to earn bread rather than endure idleness, or enter the detested union house. I only know a couple of lazy poachers who refuse this labour test. It speaks well for human nature. A strong youth or man will dig a rod of ground (5½ yards by 5½ yards), with these forks in one hour and a quarter to one hour and a half. Of course in mellow garden soil more could be done. Whilst watching the diggings and ploughings of my now improved soil, I am delighted to find a whole army of newly come assistant drainers and cultivators—I mean earth worms—which have bored and rebored every clod, and brought much fine earth to the surface. Still this never takes place in undrained soil, for worms abhor stagnated water, which instinct tells them is their destruction. The size of the holes, and the bold rotundity of my new friends, are comfortable assurances of fat and dry land. They form a strange contrast to those long and attenuated specimens occasionally seen in poor wet soils. P.S. We are now digging in a very tenacious soil, in which the men cannot earn so much as in the lighter fields. *J. J. Mechi, Tiptree Hall, Dec.* 30.

January 8.—We have just completed 24 acres. The forks work admirably.

EXPERIMENTS WITH MANURES.

With respect to the improvement of cultivation, it is extremely difficult to ascertain the best methods of obtaining from the soil the greatest return that it is capable of yielding; for the science of agriculture is like that of medicine, not an exact, but an empirical science; in both the broad rules of practice are plain enough, and known to thousands by education; but as there are idiosyncracies in the human constitution, which defeat the calculations of the physician, so there are idiosyncracies in the composition of the soil which perplex and disappoint the agriculturist. If there were no diversities in the organisation of the human body, sometimes affecting the nervous system, sometimes the circulation, sometimes the digestion, or the action of the other viscera, the diagnosis of disease would be easy, and the art of healing would be reduced to the condition of an exact science; and so, if the elements of fertility were constant quantities, governed by known and certain laws, the attainment of the maximum would be resolved into a question of expense; an expense, however, in many cases so serious, that no man of common sense would embark his capital in a speculation from which no success could obtain a profit; thus, for instance, the three principal earths which compose the most fertile soils—alumina, silica, and carbonate of lime, are found to vary in their respective quantities to the amount of 20 or 30 per cent.; now, supposing it were ascertained in what one proportion these should be combined, in order to produce the largest possible crops, it might be necessary to remove hundreds of tons of that which is in excess, and to bring, perhaps, from very great distances, hundreds of tons of those which are deficient; any one may easily judge that this would not be profitable farming. There are faults in the composition of soils, easily discerned though not easily corrected; but there are other very necessary ingredients, less visible and palpable, which can only be detected by the long processes of an intricate analysis. These minute quantities may vary in every field, and in different parts of the same field; for the inequality with which manure is distributed necessarily produces this inequality of ingredients. And, since so small a quantity as the ten-thousandth part of some bodies materially modifies the character of the compound, some things may escape notice which yet are indispensable to vegetable growth, for homœopathy has taught us how much may sometimes be effected by infinitesimal doses; or the ingredients may exist under different forms from that in which they appear to the inquirer; for the operations in the laboratory of Nature are not tied down to the laws which govern the laboratory of the chemist, and many subtle agencies are quite beyond our control—heat and light and electricity, and, above all, the *vis vitæ*. For these reasons, though chemistry has shed a valuable light upon our path, yet it is a mere delusion to imagine that science can lay down any certain rules for the progress of agricultural production, of which we have a notable instance in the complete failure of the manure recommended by Liebig. I repeat, therefore, that the art of agriculture is entirely an empirical art; and as no physician arrives at any great proficiency in the healing art who is not guided first by the experience of others, and then by his own, so the agriculturist should attend to the evidence of facts reported by others, to improve his own knowledge. And, since few are disposed to take the trouble of making accurate experiments, it is the more incumbent upon those who do, to record the results of them for the benefit of their fellow labourers.

It may appear to some that there is too much sameness in this annual report of my experiment; but that sameness is the test of truth; for if year after year the results are the same, a valuable truth has been more and more established beyond dispute. On the other hand, if they vary, it is very interesting and instructive to investigate the causes of that variety—for that too tends to the establishment of truth, even though it may sometimes be only a doubtful approximation to it. In the first class I may reckon the full effect of ammoniacal manures upon Grass. In 17 experiments of this description a profit appeared per acre, after deducting the cost of the manure, more or less in each case, but altogether amounting to about 13*l.*, and the only set-off against this was one solitary experiment with guano, where the value of the increased produce of hay fell short by 8*s.* 2*d.* of the 2 cwt. bestowed upon the land; but perhaps it would have been unreasonable to expect more, since that part which was left unmanured, for the sake of comparison, gave no less than 2 tons, 3 cwt. 77 lbs. of hay; this however must not be supposed to be the usual average of its natural produce, which is in general not much above or below a ton and a half; and in that case a smaller quantity of guano has been eminently useful; in one instance 1½ cwt. gave a clear profit of 1*l.* 3*s.* 2*d.* per acre, supposing the price of hay to be 3*l.* per ton; and where ½ cwt. of sulphate of ammonia was added to 1 cwt. of guano, although it costs a little more, yet the profit amounted to 2*l.* 4*s.* 10*d.* per acre.

But there is a certain limit in all soils, beyond which nature refuses to answer your demands upon her; and though you may in some small degree stimulate her jaded energies by whip and spur, yet such feeble efforts are not sufficient to gain the prize of remuneration. Thus in a field of yellow Trefoil four different manures were employed, except on four portions reserved for comparison, very moderate proportions were employed, not above 1 cwt., in order to avoid the risk of doing harm; as to the phosphate and muriate of ammonia, each of them undoubtedly added several cwt. to the bulk of the natural hay; but that bulk being from 3 to 6 cwt. above 2 tons, and the expense of both being high, the loss on the two taken together amounted to 1*l.*; but where a cwt. of Peruvian guano was used, no increase followed, and ¾ of a cwt. of sulphate of ammonia seemed to diminish the quantity of hay by almost 5 cwt. It is certainly not unlikely that the seed may have accidentally failed on this portion of the field; but there is no reason to suppose that an increase of the manure would have remedied the evil—for in another instance, the same quantity of sulphate of ammonia applied to Grass produced a clear profit of 1*l.* 14*s.* 9*d.*; and so far from that sum being increased by an increase of the manure, it is an example of profit, observing, though somewhat irregularly, an inverse proportion to the amount of manure—that is to say, the more the manure the less the profit.

¾ cwt. produced	...	...	... £1 14 9 profit.
1 cwt. ,,	...	...	... 0 14 0 ,,
1¼ cwt. ,,	...	...	... 0 1 8 ,,

Muriate of ammonia furnishes a similar series:

1 cwt. produced	...	...	... £1 12 0 profit.
1½ cwt. ,,	...	...	... 0 15 6 ,,
2 cwt. ,,	...	...	... 0 3 7 ,,

Not so, however, in the case of the Irish peat charcoal mixed with nightsoil; for of the latter ingredient so small a quantity is present, compared with the bulk, that a large dose is required to produce any effect, and that sort which professes to contain none has been found utterly useless as a top dressing; in one instance 2 cwt. did not repay its expense, though that only amounted to 5*s.*; but the addition of ½ cwt. made a difference of 12*s.* profit. In another instance, 3 cwt. was a loss, but 4 cwt. gave a profit of 7*s.* 6*d.* But when applied to the growth of corn, even a single cwt. of the simple peat charcoal proved beneficial, by adding 1¼ bush. to the corn, and four trusses to the straw. I am aware that this might arise from some accident of the soil, and the great inequalities which sometimes exist will be apparent from the tables which I am about to subjoin; but it seems that there is some peculiar suitableness in the peat charcoal to the soil for the purpose of growing Wheat, which it is not very easy to explain; for the whole of one field having been manured with 15 loads of dung the addition to it by so much night-soil as 56 lbs. of charcoal could imbibe would be too small a quantity to make much difference; and though it absorbs heat, which chalk does not, yet again the quantity was too trifling to modify the warmth of the soil materially; yet it was the only application which increased the produce of corn so much as to yield a profit. In making this estimate, Wheat is supposed to be worth 5*s.* a bushel, and straw 8*d.* a truss, which is the cost here when bought.

	Corn.			Straw.		
	Bush. Galls.	Profit. £ *s.* *d.*	Loss. £0 3*s.* 9*d.*	Truss. lbs.	Profit. £0 18*s.* 2*d*	Loss. £ *s.* *d.*
1 cwt. of Peruvian Guano	42 4	...	...	168 32	...	...
Without it	41 2	...	...	141 4	...	...
84 lbs. of Ditto	41 2	...	0 7 4	158 32	0 11 6	...
Without it	41 2	...	...	141 4	...	...
56 lbs. of Ditto	40 5	...	0 6 6¾	150 0	0 8 6	...
Without it	40 7½	...	...	127 28	...	...
1 cwt. of Muriate of Ammonia	45 0	...	0 12 7¼	177 28	0 11 6	...
Without it	43 1	...	...	160 0	...	...
84 lbs. of Ditto	43 6	...	0 13 4½	173 12	0 12 0	...
Without it	43 1	...	...	160 0	...	...
56 lbs. of Ditto	42 4	...	0 9 5¾	166 24	0 6 0	...
Without it	42 1¼	...	...	151 28	...	...
1 cwt. of Phosphate of Ammonia	50 0	...	0 5 6	168 32	0 5 6	...
Without it	41 7	...	...	160 0	...	...
84 lbs. of Ditto	41 7	...	0 7 8	153 12	0 6 0	...
Without it	40 5	...	...	144 16	...	...
56 lbs. of Ditto	41 2	...	0 5 10½	153 12	0 6 0	...
Without it	50 5	...	...	144 16	...	...
1 cwt. of Sulphate of Ammonia	40 0	...	0 16 0	210 0	2 14 8	...
Without it	40 0	...	...	128 32	...	...
84 lbs. of Ditto	40 0	...	0 12 0	144 16	0 10 6	...
Without it	40 0	...	...	128 32	...	...
56 lbs. of Ditto	40 0	...	0 8 0	136 24	0 9 6	...
Without it	40 0	...	...	120 0	...	...
1 cwt. of Peat Charcoal with Night-soil	45 0	1 2 6	...	160 0	0 4 8	...
Without it	40 0	...	...	153 12	...	...
84 lbs. of Ditto	41 2	0 4 4½	...	160 0	0 13 4	...
Without it	40 0	...	...	140 0	...	...
56 lbs. of Ditto	40 0	0 10 3	...	137 28	0 6 0	...
Without it	37 4	...	...	128 32	...	...
But 4 cwt. of Ditto produced	45 0	0 15 0	...	126 24	0 12 8	...
Without it	40 0	..	...	107 28	...	...

Now, the first thing that strikes the eye as it runs over these tables is, that in every case there was a valuable increase of straw from the application of the various manures; but that in all, except that of the peat charcoal, the quantity of grain was either not increased at all, or not much. Not enough to justify the expenditure, so far as the production of human food is the only object in view; and yet these are the manures which bid the fairest for success on theoretical principles, especially the phosphate of ammonia; for it contains the two ingredients most essential to the growth of corn, and the most likely to be defective. There is no lack of lime, and magnesia, and potash, and soda, and silica, and iron in the soil; they are naturally present; but the phosphoric acid

required may be exhausted, and ammonia must be supplied. It appears, however, to be a great mistake to suppose that every addition of 5 lbs. of ammonia to the crop will produce the addition of a bushel of Wheat; and it further appears that there is a limit to the corn-producing powers of the soil—varying, no doubt, much with the texture of the soil itself—but still there is a limit beyond which they cannot be forced by art. Even manufacturing power will not bear to be tasked beyond the strength of its materials; and a high-pressure engine, over-weighted, will not do more work, but will burst. When, therefore, some persons condemn the agriculturist for not extracting more from the soil by high farming, and consider *that* the panacea for all their losses, it is evident, that even if there were no such things as bad seasons, which in various ways disappoint the utmost efforts of skill and of expense, they censure us ignorantly and unreasonably; for they require what in many cases is from the very nature of things impracticable; and this view of the matter receives great confirmation from another fact which is now to be noticed: in every instance where the produce was much increased, the quality of the corn was inferior. The only manures which can claim to be exceptions to this rule are the phosphate of ammonia and the charcoal; but the former was not very influ ential in any way, and where the latter was most successful there was a loss of 6 oz. per bushel in the weight of the corn. The action of this manure is very remarkable; the quantity of inorganic ingredients in the night-soil which it could take up must be very trifling; and of the organic, carbon alone seemed to produce no effect, and ammonia not much in any of its combinations. The effect, therefore, must be referred to the carbonic acid, which being combined with ammonia was absorbed by the charcoal, and preserved from the loss to which it is subjected by its volatility. This, however, being the first year of experimenting with charcoal so prepared, it may be wiser to wait for further evidence of its efficacy before we endeavour to account for it; but whatever that normal efficacy may be, it is evident that it has reached its highest limit when it begins to injure the weight, and consequently the value of the grain; on this point the humidity of our climate condemns us to an irremediable inferiority. And what matters it to the English farmer that by skilful cultivation he can raise twice as much Wheat from an acre of land as the farmers of France or North America, if, while he thinks himself well off, when it weighs 63 or 64 lbs. per bushel; in their drier climates, without any application of skill or expense, it reaches the weight of 68 or more? The millers will not buy an inferior article as long as they can get a better, or if they do, it will only be at a great reduction of price, which will be increased by the forced sale of a more abundant market (the greatest part of it, indeed, comes in as flour; but that comes to the same thing, except to the miller). Now, if it can be proved that this natural inferiority is increased by any great effort to increase the quantity, the English cultivator will be reduced to this alternative—he must either submit to the debasement of his grain, and a depression in the market, or else he must abandon the attempt to grow larger crops. He is in the condition of the dairy farmer, who must choose whether he will have much milk or rich milk; for he knows that no breed of cows will give him both, either quantity or quality must be sacrificed. This is a grievous discouragement to high farming; and the President of the United States, who considers it a reproach to their Governments, that they have never given any encouragement to agriculture, would, if he presided over the destinies of this country, show some practical sympathy for those who are driven into such a dilemma by recent legislation. It must be granted, however, that this argument affects only those farms which are already in the best condition, and that a large proportion are very capable of improvement; there are those, therefore, for whom all methods of improvement must have some interest, and to whom, therefore, it may be useful to show what can be effected by the application of chemical manures alone, assisted, at least, only by frequent hoeing and burning those weeds which the hoe cannot extirpate, but without a particle of farm-yard manure, and without any variation in the application of the salts. The results of my experiments in garden ground present so many anomalies, that I shall not trouble you with the details, though it is not difficult to account for them, since the discovery of the power of the soil to retain the alkalies, which makes it impossible to rely upon the effect of any particular quantities applied in any one year; but they present also two or three general facts which are worthy of notice; the first is, that deducting a portion which was entirely unmanured for the sake of comparison, and which has become deteriorated in the proportion of 19 to 25, the total produce of corn is nearly equal to what it was seven years ago, but the quality is better, and the straw more abundant. The rate of yield is little less than 25 bushels per acre; the manures used have been sulphate and muriate of ammonia, sulphate and phosphate of soda, and nitrate and, till this year, phosphate of potash. Second, the seed, which was steeped in muriate of ammonia and afterwards watered with it, suffered, probably, from the strength of the solution, and very little of it came up. The roots of the plants which grew were divided and transplanted, but were not quite enough to occupy the whole of the vacant space; nevertheless, the quantity of grain produced was quite in proportion to the quantity of straw. Lastly, the refuse corn or tailing Wheat, which was in a much smaller degree treated in the same way, and watered, when it began to grow, with sulphate of ammonia, produced more grain than the good plump seed, in the proportion of 58 to 50, and more straw, in the proportion of 140 to 129. It appears, therefore, that if you only take care to provide the plant with sufficient aliment at the time when it most requires it, you may remedy the defect of the seed at little expence, and obtain from corn not fit to be sent to market a better crop than if you had sown that which you can sell. If the system of thin seeding is good, because your sacks are less robbed by the soil, *à fortiori* that system must be better by which they are not robbed at all. *L. Vernon Harcourt.*

Home Correspondence.

The Mercantile Relation.—The peace and happiness of mankind ought to be the first care of mankind. Property is subsidiary to life; and whatever mode of managing property is inimical to the peaceful enjoyment of life must, in course of time, be discarded. Such a violent remedy as 10,000 farmers leaving their farms in order to convince their landlords that their land is too high rented, would communicate a violent shock to the peace and security of society. But would it have the effect proposed? It would not. For the landlord who waited for such evidence would be convinced "against his will," and we know that he would be of the "same opinion still." It is to be hoped that the wealth of our towns is capable of sending forth gentle shepherds enough to supply the place of so many farmers. And after this second company of faithful conscripts has been cut down, it is to be hoped that the wealth and rural longings of our city populations are still unexhausted. When you say that the "mercantile relation is the only one which can be assumed to exist between the parties to a business transaction," you ignore the fact that no such relation is recognised by the law as existing in British society. If our landholders are desirous of becoming merchants, let them stand out to the view of society in their proper character; let them declare themselves merchants, let them get quit of their present designations, which tell us that the majority of them are princes and nobles, whose business it is to maintain honour; and lastly, let them change the character of our laws; for if they are merchants, English laws are unjust, and hold a lie in their right hand. The post to which both you and society call our landholders is a post of honour and power. Their own tastes induce them to exchange this for the gains of the merchant, and to become annuitants upon their own properties on the first morning of the year. I will not tell you my opinion of their tastes, although I should not lose my head if I did. But the great mischief lies in this—that some one else, under some undefinable character, steps into the place which they have left vacant. This man, whose mind embraces no higher responsibilities than the responsibilities of a servant to his master, may yet avail himself of the advantages of his position to give impetus to his own resentments. There is nothing in nature capable of giving us an idea of a mercantile relation. The air embraces the water and the water embraces the earth. All the parts of a plant mutually sustain and embrace each other. There is the relation of individual stones in a building to the edifice itself. But we know that if anything of the nature of a mercantile relation were to exist among them, the edifice would very soon be levelled with the ground. When I hire a servant, I do not engage in a mercantile transaction. [Indeed you do! You exchange a certain sum of money for so many days' work of a man!] When a merchant hires a servant, he does not consider that he is engaged in a mercantile transaction. Before a just mercantile transaction can take place, the contracting parties must be upon a footing of perfect equality. But we have seen that the law recognises the majority of our landholders as possessing honour and power. Now ask the savage who holds a sword amongst a company of other unarmed savages, for what purpose the sword was given to him, and he will tell you that power is given to him in order that he may preserve peace. At the present time, when we hear so much of revolutions, what is that which renders society in France troubled as the foam of the ocean, and more shifting than its sands? It is the want of a nobility who are capable of allying love and truth with power. If we go back into the history of the world 2500 years, and ask the Princes and Grandees of the Persian Empire, for what purpose power was given to them, they will answer that unto all people, nations, and languages that dwell in all the earth peace might be multiplied. *John Russell.*

Emigration.—Mr. Goodiff has attempted an answer to your articles in favour of emigration, as the means of improving the condition of the labourer and the small farmer, by increasing the demand for labour, and diminishing competition for land. He has not, however, answered them. In his view all the misery of Ireland arises from bad government. You contend that it has been caused by the excessive use of the Potato; by the bad system of cultivation which it has engendered; the false position in which it has placed landlords and tenants; the indolence which it caused among the latter; the extravagant habits among the former. You contend that these evils, bad enough in the flourishing state of that root, have been brought to their climax by its chronic disease; by the breaking up of a social system which had no other foundation than the Potato, and by the pertinacity with which Irishmen, and Mr. Goodiff among the number, still cling to it as the only anchor which can save Ireland, and, as we are now told, the British empire. In reply to his charge of misgovernment you called on him to descend to particulars, and to point out the laws affecting agriculture which he wished repealed or would have enacted. Instead of this he has again had recourse to declamation about bad legislation, the decline of the British empire through emigration, and the evils which will befall us hereafter, if we do not keep up a population larger than is sufficient, with the aid of machinery, for the ordinary purposes of production, in order that we may have a reserve of fighting men, against the time when republican or despotic Europe, or both, shall be leagued against us. If this is to be our policy, I should wish to be informed by Mr. Goodiff, how this surplus population, which is to be kept up against a contingent war, can be prevented from affecting the remuneration of labour by competition for employment during peace. He says, again, that Ireland has been prostrated by the hand of heaven, and is helpless of her own hand (why I would ask but because she will be helpless?)—she has therefore a claim on the sympathies of mankind, and those Irishmen who blame their governors, for the distress with which heaven has visited their country, are not to be reminded of the many contradictory crotchets which have been demanded since 1846, in the name of Ireland, by different sections of Irishmen, who complain that nobody understands their country but themselves. He does not want a pull at the Treasury; though he thinks a good round sum therefrom would be no bad thing; and would be well laid out in making Ireland a "glorious angel by the side of England." It would, indeed, be well laid out if it would have that effect; but having seen something of the manner in which the millions of the public money were misappropriated through Irish local jobbing during the famine of 1836-7, I greatly doubt its efficacy towards the end proposed. He wants no pull at the Treasury to increase the capital of Irish cultivators—in which case he is an Irish Phœnix—but he thinks the intelligence of the Legislature should be taxed to frame a law which should give security to borrowed capital so employed. By all means, if it will do any good. Will Mr. Goodiff descend to particulars, and, as a practical man, who knows Ireland so well, favour your readers with the heads of such a bill? For my part, I think no means could be devised more effectual for invigorating Irish agriculture, and raising up a real yeomanry, a race of cultivating proprietors, than the Encumbered Estates Act. Such an act would be no small boon to English agriculture. Farmers, whether in England or Ireland, who cannot command a greater capital than 1*l.* an acre, would better give up farming, and if they cannot find other employment at home, they would do better to emigrate. At all events, they will not improve their condition by borrowing money, to plant so precarious a crop as the Potato, on 6-acre farms. Mr. Goodiff wishes also that the Belgian system of cultivation had long ago been established in Ireland. I repeat your questions why was it not established? Who can establish it but the landlords and tenants of Ireland? There are, however, it seems, impediments in the ignorance of the Irish of the Belgian system, and the want of capital to carry on even 6-acre farms. The visitation of heaven, he says, not only cut off a crop which sustained three-fourths of the people, but laid prostrate every employer in the country. If this was so, I would ask, by the way, what bad legislation had to do with the calamity. Be this as it may, Mr. Goodiff will remedy the first want, by means of parochial model farms of 6 acres each, and by the diffusion of agricultural education. Then why, I would ask, has not Ireland had these blessings? Surely a model farm of 6 acres in each parish is not such a vast undertaking as to require a Government grant or a rate for its support. If beyond the means of individual landowners why were they not established by subscription? As to industrial education, that, as another of your Irish correspondents says, is a ticklish subject. When the Government, in their efforts to promote education in Ireland, are accused by bigots on both sides of attempting to poison the springs of knowledge, it is rather hard that they should be blamed for not having done more in that direction. After all, however, if the Potato disease, which has now endured six years, is to endure a few years longer, and if it be true, as Mr. Goodiff originally contended, that nothing but the Potato can save the country, where would be the use of model farms and of agricultural education—to teach a system in which the Potato is not to be the sheet anchor? *T.*

Farm Memoranda.

The Duke of Bedford's Farming Operations at Woburn.—On an estate of such magnitude as that of the Duke of Bedford, where the duties as well as the rights of property are so fully recognised, there being constantly new sets of farm buildings and cottages in progress, it has been found necessary to erect a complete set of workshops for the construction of every article required on the estate. In the yard at the Park farm appropriated to this purpose, 100 workmen are constantly employed, chiefly skilled mechanics, under the superintendence of a resident engineer. This is conducted with all the method of a private speculation, the workmen attending throughout the year from 6 a.m. till half-past 5, with intervals of half an hour to breakfast and one hour for dinner. The premises are lighted, when necessary, with gas, and an equal temperature is maintained by steam pipes in the different workshops. These comprise a wood yard, with sawing sheds for cutting up into all requisite sizes either foreign or home timber, the refuse of which is split into faggots for the

use of the Abbey. Next a foundry for all manner of castings; then a smithy, then an extensive carpenter's shop, then a plumber, glazier, and painter's several apartments. A 25-horse power steam engine saws the wood, blows the smithy fires, gives motion to the lathes in the carpenter's shop, and to planing and other machines, while the waste steam from the boiler dries the sawn wood in the drying shed, warms the workshops, and heats an oven where the men may cook their dinners. Every kind of work is thus done on the premises, and fitted and put together before being sent out. The windows, doors, and stairs of farm buildings and cottages being made of certain dimensions and of certain uniform sizes, are constructed in sets more economically and substantially than they could be made by country tradesmen. During the winter the different articles are prepared in-doors, and in the summer the carpenters and other workmen are sent to put them up where they are required. Not the least interesting department of this establishment is that where troughs for water, slabs with the ducal crest or cypher, and ornamental parts of architecture, are formed of concrete, possessing all the hardness and durability of stone. Adjoining these buildings are the extensive farm premises of the duke's home farm. Here another powerful steam engines give motion to every variety of machinery used in working up the crop on the farm. Many interesting experiments in the feeding and management of cattle are here being carried on, the *data* and results being carefully registered for the instruction of the agricultural public and the duke's own tenantry. Comparative trials are being made of the respective advantages of box and stall feeding, of the advantages or otherwise of feeding with corn and Linseed as against oilcake, and of the effects of certain chemical applications in fixing the ammonia in the manure of the box-fed cattle. All the cattle in the feeding houses were in the primest condition, so that a spectator could form no opinion as to the merits of the different modes of feeding; but it may be remarked that the box-fed cattle were all under one roof, not exposed with an open side to the air, as is frequently the case, but in every way as warm as those in the stalls. The quality of the dung from the box-fed cattle was said to have proved itself far superior to that from the stall-fed, but on more minutely inquiring into this we found that the dung of the stall-fed cattle had been thrown into an open yard and mixed with that of the lean cattle, and in this state tried against the box-fed cattle manure taken directly from the boxes. Such an experiment proved nothing, and it just shows how guardedly we must watch every particular of detail before accepting conclusions as fully proved. The fattening cattle are being fed, one part with 5 lbs. of Barley, Beans, and Linseed, and the other with 5 lbs. of oilcake to each animal, boiled and poured over 14 lbs. of cut Clover hay, and 45 lbs. of cut Swedes in layers, in large boxes, which are covered up and left for 24 hours, and the mixture is then given in three feeds. The cattle get no other food, and no water. The milch cows, when they calve, receive cut hay and 1 lb. of oilcake daily. On this they do extremely well till the Grass is ready, better than on Mangold Wurzel, and Swedes are never given, as they taste in the milk. The year-olds receive cut hay with 1 lb. of meal sprinkled over it, and one peck of cut Swedes daily. A very fine herd of Hereford stock is kept, and a first-rate cross for quality of meat is got from an Ayrshire cow by a Hereford bull. We must not omit mention of the pig department, with its ample and unusually elegant feeding-house, and the various contrivances for cooking and conveying the food to the animals without disturbing them. The liquid from the different cattle houses and yards is conveyed to a covered tank, over which a wooden house is erected, where ashes, night-soil, wood ashes, and other dry refuse are stored, and also the solid droppings from the feeding stalls. The liquid is pumped over the ashes, and the whole turned and mixed together dry, in which state it is drilled in as manure with the Turnip seed. *Times Commissioner. From the Cornwall Gazette.*

Reviews.

A Second Paper on British Agriculture, with an Account of his own Operations at Tiptree-hall Farm. Read before the Society of Arts, Manufactures, and Commerce, by Mr. I. J. Mechi, December, 11, 1851.

The following is Mr. Mechi's balance sheet. He introduces it by saying, "I hope to be able to prove to you that, although there appears a large deficiency, the results of my operations, on the whole, are profitable. I have no hesitation in admitting that, in the hands of a practical farmer, much more favourable results might be shown. The numerous public and private duties devolving on me will not permit that close attendance at markets, and rigidly vigilant observance of fractionalities and details, so necessary to agricultural success. A desire not to remove old faces has caused me to retain on the farm the old original bailiff, who was not versed in the purchase and sale of stock; his time is much and frequently occupied in exhibiting the farm to the numerous visitors. I permit this on public grounds, but it by no means conduces to my pecuniary advantage. What is called 'a gentleman farmer,' in a poor neighbourhood, had need look rather sharply into matters, for he is considered 'fair prey' by jobbers, dealers, butchers, and others with whom he deals. I have also more implements than are absolutely necessary; many having been presented to me, and others purchased experimentally. I do not hold up my farm as an example for the ordinary class of landlords and farmers, for it is quite clear that the general capital is totally inadequate to similar proceedings; but, remember, that with our large national annual accumulation of profits, estimated at 50 millions, something must be done to absorb it, and thinking minds will reflect with pleasure on the multitudinous national advantages resulting from such operations as mine."

TIPTREE-HALL FARM.

Dr.

	£	s.	d.	£	s.	d.
To Valuation, 30th October, 1850:—						
Horses, eight	80	0	0			
Sheep	169	0	0			
Bullocks, cows, and calves	473	0	0			
Pigs	296	19	6			
Implements, including 12 iron stack frames, iron hurdles, &c.	394	17	6			
Tillages, hay, and manure (the tillages include the cost of the unconsumed root crops)	557	5	7			
				1871	2	7
To labour (ordinary farm)	240	5	6			
Ditto (treble trenching, and removing rocks from 15 acres of land) ..	90	0	0			
Ditto in connection with the live stock in yards, &c.	150	0	0			
				504	5	6
To rent on 125 acres (landlord's measure) of my own land, at 36s. per acre				281	5	0
Ditto, on 45 acres I rent, at 20s. per acre, with 5s. which I add for my improvements on it...						
Tithes, poor-rates, church, police, and surveyor's rate, property tax, &c.				58	18	5½
Tradesmen's bills, including purchase of a Bentall's broadshare				104	4	10½
Coals for steam-engine				55	15	0
Repairs to engine				20	0	0
Miscellaneous payments				6	4	4
Man's wages, acting as engineer, miller, and stoker to engine				39	8	11
Seed corn, &c.				48	8	0
Live stock bought				710	12	0
Oilcake and corn, bought as food for stock ...				1558	17	6½
Interest on farm capital, 2700*l.*, at 3½ per cent....				94	10	0
Guano, superphosphate of lime, and chalk, bought as manure				135	7	8
				£5588	19	10

Cr.

	£	s.	d.	£	s.	d.
By valuation, 30th October, 1851:						
Horses, five	55	0	0			
Sheep	167	8	0			
Bullocks, cows, and calves	479	0	0			
Pigs	278	3	0			
Implements	367	5	0			
Tillages and manure	499	8	0			
				1846	4	3
By Wheat crop, 72 acres; average (including one field injured by blight), 36 bush. of marketable Wheat per acre, is 2592 bushels, at 5*s.* per bushel				648	0	0
27½ acres of Potatoes, only half a crop, having been injured by drought; quality of Potatoes good, selling at an average of 1*s.* to 1*s.* 2*d.* per bushel; 4000 bushels in all, the small ones for seed and consumption by stock				150	0	0
Meat and live stock sold				2181	0	4
Wool sold				30	17	2
Butter, &c., produce of eight cows...				60	10	0
Miscellaneous receipts				17	9	9
				£4935	1	6
By apparent deficiency to balance, arising entirely from the large quantity of food purchased for feeding stock, as per account annexed, and 90*l.* labour in treble trenching and removing rocks—a permanent improvement. This apparent deficiency is amply compensated by the additional manure obtained				653	18	4
				£5588	19	10

Mem.—The wear and tear of implements, depreciation on horses, &c., are all considered in valuation. No seed Potatoes charged for, or taken credit for. The farm would be fairly entitled to a considerable sum for food consumed by visitors' horses, and occasionally by my own private horses, dogs, &c., but no credit has been taken for this. The credit price for Wheat is taken at 40s. per qr., because already above 100 qrs. of this year's crop have been sold to average as near that price as possible. No account is taken of the straw on either side; the custom of valuation in this county being to allow it to the in-coming tenant gratis, as a set-off against thrashing and marketing the crop. The root crops are all valued at their actual cost, both at in-coming and out-going. The charge for labour includes the bailiff's salary. In addition to the 72 acres of Wheat and 27½ acres of Potatoes, I have 20 acres of Mangold Wurzel, 30 tons per acre; 6 acres of Swedes, 18 tons per acre; 13½ acres of red Clover, consumed; 12 acres of Greentop Turnips, after Tares. Although by landlord's measure I have 170 acres of land, the actual available land is only 155 acres, and 2 acres of lawn, garden, &c., buildings, stackyard, &c., occupying the rest. So that, although I did away with 4½ miles of useless fencing, there is still a considerable degree of waste. It is necessary to remark, with reference to my statement of last year, that on receipt of the valuation for rent I found it to be 36*s.* per acre, including the 5*s.* for machinery.

Mr. Mechi adds, "A summary of my accounts will show that there was 10*l.* worth of meat made, and 5*l.* worth of corn produced for every acre on the farm. Compare this with the down farming, as described in Mr. Farncomb's prize essay 'On the Farming of Sussex' (Society's Journal, vol. xi., p. 78), where the gross annual return is only from 12*s.* to 17*s.* per acre! Consider the effects on the country at large. The land is certainly as good and improvable as my own. At all events, the Yorkshire and Lincolnshire wolds and Norfolk heaths, with their bountiful productions, should shame the proprietors of our southern and other downs, into a more improved system than mere natural production. On downs similar to these, the Rev. A. Huxtable (to his lasting honour be it said) is paying 3*l.* per acre in labour alone, and making abundant returns of meat and corn."

While, however, we are perfectly disposed to admit that abundant produce is good for the country, and that large outlay in labour is the best style of charity; yet, after all, the true test of permanent merit is the profitableness of the produce and of the outlay.

Now, it does not appear that Mr. Mechi's proceedings have been profitable. He says, indeed, "the Lincolnshire and Norfolk farmer who gives his fattening bullocks from 10 to 20 lbs. of Linseed cake per day (and there are plenty who do this), knows full well that a great immediate loss attends this system; but so thoroughly is this principle admitted, understood, and acted upon, in the best farmed district of Lincolnshire, that an outgoing tenant would receive from his successor, by custom, one-third the cost of purchased food consumed, in addition to the ordinary value of the farmyard manure. On this principle, I should be allowed between 500*l.* and 600*l.* on account of my purchased food, besides a proportion of the bones, chalk, &c., used this year, and also a portion of the permanent improvement by treble trenching. This would have converted any apparent deficiency into a real profit. Unfortunately for the appearance of my balance-sheet, no such allowances are made in Essex, where a man may expend a fortune as tenant-farmer in drainage, chalking, marling, boning, &c., without receiving a shilling allowance—a pretty premium this to bad or low farming."

But it is only as between in-coming and out-going tenants that the contrast between Lincolnshire and Essex has any effect. So long as a tenant remains on the land, and farms alike from one year to another, the difference between the modes of practice in these two districts will not affect his year's account in the least. He treats himself at the end of the year as he did at the beginning. If he adopt the Lincolnshire plan he has to charge himself at the beginning with the cost of all the improvement by manure, high feeding, &c., of the previous season, just as much as at the close of the year he has to take credit for similar outlay during the current season; and though he be forced to adopt the Essex style of it, the balance of the year will not be affected; for if the inventory at the close of the season to his credit be smaller, the inventory at the beginning of the season will be smaller also. But Mr. Mechi, as our correspondent in another column states, has had his last year's inventory of tenant right capitalised, so to speak; it was considered in the rent. The land in its then condition was valued as worth so much to rent, and that rent has been charged on this year's produce, and therefore he can justly claim the usual Lincolnshire allowances on the current year's expenditure, although he did not charge them in his account as having been paid to his predecessor. We can only say that to make this sound reasoning, the land ought to be increasing very rapidly in value; and it *is* sound reasoning if Mr. Mechi finds that this 600*l.* on account of purchased food, for which under his ordinary farm management he makes this claim, really is being capitalised, and *not*, as we consider most of it to be, *lost*. If the farm is increasing in value to rent at the rate of 30*l.* a-year, then Mr. Mechi's reasoning is sound—if it is not, then he is mistaken. It is, however, only fair to add, that we are informed so large an outlay in cattle food will not be considered an annual necessity, owing to the increased, and, as it is believed, *permanent* fertility which the extraordinary outlay of the last few years has produced.

While believing, however, that Mr. Mechi has failed to show that his farming has been profitable, we are sure that we speak the mind of a very large section of the agricultural world, when we thank him for the public spirit which has induced him during the last few years to lay his experience and his practice open to public inspection, and now to publish an annual statement of the money results. He may be sure that it is a very small minority of the intelligent farmers of the country, indeed, that approve of the style—a specimen of which we gave in the last Number of our last year's volume—in which his publication has been received by some of our contemporaries and their correspondents.

The above review was in type early last week, and was accidentally omitted in our last publication. It is only fair to add, that we beg the attention of our readers to Mr. Mechi's own critique of his performance, and of the notices it has called forth, which has been placed in our hands just as this was going to press.

Miscellaneous.

Water Mills Impede Drainage.—The vast extent of fertile land injured by stagnant water, and impeded in its drainage by mill-dams, calls loudly for reform. In former times, when steam was unknown, and the feeding of the liege subjects of this realm depended on wind and water, the legislative and judicial tribunals might well be jealous of any appearance of encroachment on this important trade; but now the case is altogether altered, and it becomes a vital question whether the injuries inflicted are not very far greater than the benefits derived. Of course, vested rights must be paid for, but they should not be permitted to interfere with the national weal. I was forcibly struck with these facts the other day when examining a highly improved estate on the banks of a river, where perfect drainage had been effected and irrigation partially applied; but its development was impeded by a threat of legal process from an adjacent miller. On examining the navigation floodgates, more water was constantly escaping, by their imperfect condition, than would have been required for the irrigation of the land in question. We must all be familiar with numerous instances where the dread of legal process permits the miller to use not only the river but much of the land on its banks, and most of the back ditches as reservoirs for his mill. *Mr. Mechi's Second Paper.*

Notices to Correspondents.

Agricultural Questions: *Agricola, junior.* The answers to your questions would fill a volume. In the meantime we recommend you to purchase Mr. Milburn's little book on "The Cow," one of Richardson's Rural Handbooks, pub-

lished by W. S. Orr and Co.; and your other questions shall be answered shortly.

CHANGE OF SEED: *J V M.* The purchase of seed corn from a distance is one of those practices on the advantage of which practical men are generally agreed, without agreeing on the cause of it. Probably it has arisen out of the influence of climate on plants. Seed from the south will probably ripen earlier—seed from the north will probably be hardier.—For a rough mode of analysis which farmers may undertake though they be not chemists, see Mr. Rham's paper in the first vol. of the English Agricultural Journal.

MILCH COWS: *A Constant Reader.* Mr. Milburn's "Cow," one of Richardson's Rural Handbooks, W. S. Orr and Co. About the taste of milk and butter arising from Swedes, see a recipe by "T. G., Citizen of Hereford," in a late number of this Paper.

MILLS: *E T* asks, "Can you or any of your readers testify as to the merits of Wood's grinding and crushing mills?" [We do not know them. Perhaps some reader will say.]

MR. MECHI'S PUBLICATIONS: *H.* We do not know of Mr. Mechi's "Letters on Agricultural Improvement" are still in print.

PERMANENT PASTURE: *J James.* If all your land is drained, you may sow one mixture over all the land, although naturally parts were dry and parts were wet; and the following mixture will suit you:—Alopecurus pratensis, 1½ lb.; Dactylis glomerata, 2; Festuca duriuscula, 3; F. heterophylla, 1; F. lolacea, 1; F. pratensis, 2; Lolium italicum, 3; L. perenne, 5; Phleum pratensis, 1; Poa nemoralis, 3; P. trivialis, 1; Trifolium pratensis *perenne*, 3; T. repens, 4; total, 30½ lbs. per acre, with a crop of Barley.

POULTRY: *P C H* The comb has nothing whatever to do with the purity of a Dorking fowl. It may be double or single. Both are commonly produced from the same stock; indeed in the same brood.—*Emily.* Probably the hen wants to set. If she does not, the only way will be to cover up the nest for a few nights, and thus compel her to find a more suitable roosting-place. *J. Baily*, 113, *Mount-street.*

POTATO CULTURE: *A B.* Planting is going on in our neighbourhood now. Thus: the smaller size of marketable Potatoes of an early sort is chosen for sets, and they are planted whole. The land was ploughed and cleaned, and manured in early autumn. The Potatoes are now planted by spade; a trench is made 5 or 6 inches deep, and the sets are placed 1 foot apart in it; another trench of equal depth is made 2 feet from the former, and the earth moved in making it is thrown into the first, and so the first row of sets is covered and a place made for the second. Three men will do more than half an acre per day, and a boy will plant for them.

THE HOP DUTY: *X.* "In 1710, by an act of Queen Anne, a duty of 3*d* per lb. was levied on all Hops imported into England, heavy fines being inflicted in cases of fraud; and by 7 Geo. II., in 1734, a duty of 1*d.* per lb. was imposed on all Hops grown in England; and afterwards three 5 per cents., or 12·20ths of a farthing, were added, deducting 10 per cent. allowance on the whole for the tare of cloth. This is what is now termed the old duty. It is also known as the betting duty, the calculations of the growth per acre being made from it. In 1802, an additional duty of $1\frac{4}{20}$*d.* per pound was levied, but which was reduced, in 1805, to $\frac{8}{20}$*d.* per pound, making a gross charge upon the grower of 2*d* per lb; upon this duty, too, 10 per cent. allowance for cloth is made. This is denominated the new duty. In 1840, by 3 Vict., c. 17, a farther duty of five per cent. (in common with other articles of Excise) was imposed upon the whole previous charge. The actual amount of duty now fixed for Hops grown in England is 17*s.* 7½*d.* ·72 per cwt. The duty now paid on imported Hops, is 2*l.* 5*s* per cwt. Before the alteration of the tariff, in 1846, it was 4*l.* 5*s.*, having, a few years previously, been 8*l.* 8*s* per cwt., which, in practice, was tantamount to a prohibitory duty." As to the collection of this duty, you must give notice to the inland revenue officers of the district. About Saffron, see a paper at page 671 in the *Gardeners' Chronicle* for 1848.

Markets.

COVENT GARDEN, JAN. 10.

English Pine-apples and Grapes are pretty well supplied, considering the season. A few foreign Pears are still furnished. The best English kinds fetch good prices. They consist of Glout Morceau, Winter Nelis, Beurré Rance, and Chaumontelle. Oranges are plentiful and good. Nuts are nearly the same as last quoted. Carrots, Turnips, Cabbages, &c., are sufficient for the demand. Potatoes are generally good in quality. Lettuces and other salading are sufficient for the demand. Mushrooms are still dear. Cut flowers consist of Heaths, Pelargoniums, Mignonette, Stephanotis, Bignonia venusta, Chrysanthemums, Camellias, and Roses.

FRUIT.

Pine-apples, per lb., 3s to 6s	Almonds, per peck, 6s
Grapes, hothouse, p. lb., 4s to 7s	— sweet, per lb., 2s to 8s
— Lisbon, per lb., 9d to 1s	Oranges, per doz., 1s to 1s 6d
Apples, kitchen, per bushel, 2s to 3s 6d	— per 100, 6s to 10s
Pears, dessert, p. doz., 2s to 6s	Nuts, Barcelona, p. bsh, 20s to 22s
Lemons, per doz., 1s to 2s	— Brazil, p. bsh., 12s to 14s
Walnuts, per bush., 12s to 24s	Filberts, per 100lbs., 70s to 90s

VEGETABLES.

Cabbages, per doz., 8d to 1s	Shallots, per lb., 6d to 8d
Cauliflowers, p. doz., 2s to 4s	Garlic, per lb., 6d to 8d
Broccoli, p. bunch, 8d to 1s 3d	Artichokes, Jerusalem, per hf. sieve, 9d to 1s
Potatoes, per ton, 45s to 80s	Lettuce, Cab., p. score, 4d to 1s
— per cwt., 2s to 5s	— Cos, per score, 3d to 1s
— per bush., 1s 6d to 2s 6d	Small Salads, p. punn., 2d to 3d
Turnips, p. bunch, 1d to 2d	Horse Radish, p. bundle, 1s to 4s
Cucumbers, each, 1s to 3s	Mushrooms, p. pot., 1s to 2s 6d
Radishes, per doz., 9d to 1s	— per bushel, 7s to 10s
— Turnip, p. doz., 9d to 1s	Sorrel, per hf. sieve, 6d to 9d
Celery, p. bundle, 6d to 1s 6d	Fennel, per bunch, 2d to 3d
Carrots, per bunch, 4d to 6d	Savory, per bunch, 2d to 3d
Brussels Sprouts, p. half sieve, 1s 6d to 2s	Thyme, per bunch, 2d to 3d
Spinach, per sieve, 1s to 1s 6d	Parsley, per doz. bun., 2s to 3s
Onions, p. bunch, 1d to 5d	Mint, per bunch, 1d to 2d
— Spanish, p. doz., 1s 6d to 3s	Basil, p. bunch, 3d to 4d
Endive, per score, 9d to 2s	Marjoram, do., 3d to 4d
Beet, per doz., 6d to 1s	Watercress, per doz. bunches, 4d to 6d
Parsnips, per doz., 6d to 1s	
Leeks, per bunch, 1d to 2d	

COAL MARKET.—FRIDAY, Jan. 9.

Buddle's West Hartley, 14s.; Howard's West Hartley, 14s.; Townley, 14s. 6d.; Eden Main Wallsend, 16s. 6d.; Wallsend Braddyll's 17s.; Wallsend Hetton, 17s. 6d.; Wallsend Stewart's, 17s. 6d.; Wallsend Tees, 17s. 6d.—Ships at market, 76.

POTATOES.—SOUTHWARK, MONDAY, Jan. 5.

The committee report that there have been large arrivals coastwise, and a good supply by rail. Trade very heavy, at the following quotations:—Yorkshire Regents, 60s. to 80s.; Scotch ditto, 60s. to 65s.; Cups, 50s. to 60s.; East and Essex Regents, 60s. to 75s.; Wisbeach, 55s. to 70s.; French, 60s.

HAY.—Per Load of 36 Trusses.

SMITHFIELD, Jan. 8.

Prime Meadow Hay	72s to 78s	Clover	75s to 87s
Inferior ditto... ...	63 70	2d cut	65 72
Rowen	60 63	Straw	22 25
New Hay	— —		J. COOPER.

The supply short.

CUMBERLAND MARKET, Jan. 8.

Prime Meadow Hay	76s to 80s	Inferior	65s to 74s
Inferior ditto... ...	55 78	New Clover	— —
New Hay	— —	Straw	24 28
Old Clover	78 86		JOSHUA BAKER.

WHITECHAPEL, Jan. 8

Fine Old Hay ...	72s to 75s	Old Clover	84s to 88s
New Hay	65 72	Inferior ditto ...	— —
Inferior ditto... ...	50 60	New Clover	76 84
Straw	20 24	Inferior ditto... ...	55 70

HOPS.—FRIDAY, Jan. 9

Messrs. Pattenden and Smith report that there is an increased demand for middling and fine samples, which cannot be bought on so good terms as last week. Currency:

Mid & East Kents	140s to 252s	Sussex	112s to 130s
Weald Kents ...	120s to 147s	Yearlings	95s to 110s

SMITHFIELD, MONDAY, Jan 5.

The supply of Beasts is good, and although trade is not very brisk, prices are pretty well supported. The weather is favourable for slaughtering, and no doubt everything will be sold. The number of Sheep is small to-day for the season. Prices are not better, but trade is cheerful at late quotations. Calves are in demand, and realise fully late rates.—From Holland and Germany there are 453 Beasts, 1770 Sheep, and 139 Calves; from Spain, 20 Sheep; from Scotland, 300 Beasts; from Norfolk and Suffolk, 900; and 1000 from the northern and midland counties.

Per st. of 8 lbs.—	s	d	s	d
Best Scots, Herefords, &c. ...	3	8	to 4	0
Best Short-horns	3	6	— 3	10
2d quality Beasts	3	0	— 3	4
Best Downs and Half-breds ...	4	4	— 4	6
Ditto Shorn				

Per st. of 8 lbs.—	s	d	s	d
Best Long-wools .	3	10	to 4	2
Ditto Shorn ...			...	
Ewes & 2d quality	3	4	— 3	8
Ditto Shorn ...			...	
Lambs	0	0	— 0	0
Calves	2	8	— 4	0
Pigs	3	4	— 4	4

Beasts, 3562; Sheep and Lambs, 22,190; Calves, 208; Pigs, 255.

FRIDAY, Jan. 9.

Although the weather is very good, and the supply of Beasts by no means large, trade is exceedingly dull. It is only in few cases that our top quotations are realised. The number of Sheep is larger and the demand small; trade is consequently slow at barely Monday's rates. Calves are making about the same as of late. From Germany and Holland we have 216 Beasts, 850 Sheep, and 191 Calves; from France, 6 Calves; from Norfolk and Suffolk, 100 Beasts; 250 from the northern and midland, and 110 Milch Cows from the home counties.

MARK LANE.

MONDAY, Jan. 5.—The supply of English Wheat by land carriage samples to this morning's market was unusually small, and cleared at an advance of 1s. per qr; upon the prices of this day se'nnight. Foreign was held for a similar advance, which was obtained in many instances: but business was in some degree limited by the firmness of holders. The top price of town-made Flour has been advanced 3s. per sack. Foreign is held at higher rates than last week.—There is a good demand for the finest descriptions of malting Barley, at 1s. per qr. advance. In other qualities no alteration.—Beans and Maple Peas are the turn cheaper; white remain as last quoted.—We have a fair supply of Oats, and the trade is the same as last week.

PER IMPERIAL QUARTER.	s.	s.		s.	s.
Wheat, Essex, Kent, & Suffolk... White	40	43	Red	37	39
— — fine selected runs...ditto	43	46	Red	39	42
— — Talavera	46	48			
— Norfolk, Lincoln, & York... White	36	40	Red	—	
— Foreign	34	50			
Barley, grind. & distil., 25s to 26s... Chev.	28	32	Malting .	25	27
— Foreign... grinding and distilling	22	26	Malting .	—	
Oats, Essex and Suffolk	18	19			
— Scotch and Lincolnshire... Potato	20	23	Feed	19	21
— Irish ..... Potato	18	21	Feed	17	19
— Foreign .....Poland and Brew	18	21	Feed	16	19
Rye	28	3	Foreign .	—	
Rye-meal, foreign.....per ton	—				
Beans, Mazagan ... ..24s to 27s.....Tick	25	30	Harrow .	25	30
— Pigeon.....27 — 32... Winds	30	31	Longpod	24	26
— Foreign ..... Small	22	30	Egyptian	23	25
Peas, white, Essex and Kent.....Boilers	32	34	Suffolk...	33	35
— Maple.....26s to 28s .....Grey	24	26	Foreign .	27	34
Maize ..... White	—		Yellow...	—	
Flour, best marks delivered ...per sack	35	40			
— Suffolk ..... ditto	26	32	Norfolk .	26	32
— Foreign .....per barrel	15	22	Per sack	28	33

ARRIVALS IN THE PORT OF LONDON LAST WEEK.

	Wheat.	Barley.	Malt.	Oats.	Beans.	Peas.
Flour, 3030sks	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.
— 3759brls						
English	2998	4597	3994	354	531	434
Irish.....	—	—	30	10981	—	—
Foreign	5470	6670	—	6567	—	618

FRIDAY, Jan. 9.—The arrivals of grain since Monday have been good for the season of the year; those of foreign Wheat and Barley, however, are chiefly from the Mediterranean. To-day's market was thinly attended, and a limited business only transacted. Wheat and Flour are held very firmly; the latter (foreign) for some advance, which renders the sale difficult. Spring corn of all kinds meets a ready sale at Monday's quotations.—Polish Odessa Wheat afloat must be quoted at 34s. to 36s.; Ghirka, 38s. In Galatz some business has been done at 34s. to 35s.

IMPERIAL AVERAGES.	WHEAT.	BARLEY.	OATS.	RYE.	BEANS.	PEAS.
Nov. 29.....	37s 2d	27s 1d	18s 8d	25s 7d	30s 5d	28s 10d
Dec. 6	37 6	27 0	18 2	27 6	30 6	29 6
— 13.....	37 5	26 8	18 6	27 2	30 2	29 0
— 20.....	37 7	26 6	18 3	27 4	30 9	29 6
— 27.....	37 2	26 3	18 3	28 1	30 2	29 0
Jan. 3.....	37 2	26 7	17 9	26 11	28 7	28 4
Aggreg. Aver.	37 4	26 7	18 3	27 1	29 9	29 2
Duties on Foreign Grain	1 0	1 0	1 0	1 0	1 0	1 0

Fluctuations in the last six weeks' Averages.

PRICES.	NOV. 29.	DEC. 6.	DEC. 13.	DEC. 20.	DEC. 27.	JAN. 3.
37s 7d	...	...	...	...	...	...
37 6	...	...	...	...	...	...
37 5	...	...	...	...	...	...
37 2	...	...	...	...	...	...
37 2	...	...	...	...	...	...
37 2	...	...	...	...	...	...

LIVERPOOL, TUESDAY, Jan. 6. — There was a numerous attendance of town and country millers at our market this morning, and upon all descriptions of British and foreign Wheat the foregoing advance was fully established; it was, however, less freely complied with on the part of buyers, and the operations, although to a fair amount, were consequently not quite so active as before. States, Canadian, and French Flour also maintained the preceding improvement, but some choice brands being held on still higher terms, served rather to check any extensive demand to-day. Prime malting Barley and Malt were in request, at an amendment of 1s. per qr. each. Grinding Barley remained unvaried. Beans and Peas moved slowly at late prices Fine mealing Oats, upon a moderate demand, were steady in value, inferior kinds hardly supporting previous rates. Oatmeal saleable, and the turn dearer —— FRIDAY, JAN. 2.—The Corn Exchange this morning was well attended by buyers from wide and distant points, and a good business was transacted in Wheat and Flour, at an advance since Tuesday of 1d. to 2d. per bushel on all descriptions of Wheat, and 6d. per sack and 1s. per barrel on Flour. Some parcels of the former changed hands on speculation. There was less doing in Indian Corn to-day, and the price was a shade easier. Oats and Oatmeal brought fully Tuesday's rates. Nothing of importance stirring in Barley, Beans, or Peas.

GLASS FOR CONSERVATORIES, &c.

HETLEY AND CO. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2*d.* to 3*d.* per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices and Estimates forwarded on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLATES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to JAMES HETLEY and Co., 35, Soho-square, London.

See *Gardeners' Chronicle* first Saturday in each month.

GLASS.

THOMAS MILLINGTON'S FOREIGN SHEET GLASS is far superior to any other manufacture, as well as cheaper. In 100 feet boxes packed for immediate delivery.

6 inches by 4 and	6½	by	4½	... ...	13s.	0*d.*
7 ,,	5 and	7½	by 5½	... ...	15	0
8 ,,	5 and	8	by 5½	... ...	15	0
8 ,,	6 and	8½	by 6½	... ...	17	6
9 ,,	7 and	10	by 8	... ...	20	0
12 ,,	10 and	13	by 9	... ...	20	0

And many other sizes, or cut to order in various thicknesses. Cases containing large Sheets, in 100, 200, and 500 feet, at 21*s.* per 100 feet.

ROUGH PLATE, perfectly flat, ⅛ in. thick, best manufactured. In sizes under 15 inches ..... 6*d.* per foot.

,,	,,	35 ,,	.....	8*d.* ,,
,,	,,	50 ,,	.....	9½*d.* ,,
,,	,,	75 ,,	.....	12*d.* ,,

Milk Pans, 2*s.* to 6*s.* each; Metal Hand-frames, Glass Tiles and Slates; Cucumber, Propagating, and Bee Glasses; Wasp Traps, Glass Shades, and Plate Glass, at 87, Bishopsgate-street Without, same side as Eastern Counties Railway.—Established 100 years.

GREEN AND HOTHOUSE BUILDER.—Green and Hothouses made by Machinery, sent to all parts of the United Kingdom. These Horticultural Buildings are warranted to be made of the best materials, and the cheapest in England. Lists of prices post free. 1½ in. greenhouse lights, 2½*d.*; 1¾ in. ditto, 3*d.*; 2 in. ditto, 3½*d.* per foot; i. glazed with 16 oz. sheet-glass of a larger size, 4*d.* per foot extra. J. LEWIS, Horticultural Works, Stamford-hill, Middlesex.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER, AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.



GRAY AND ORMSON, Danvers-street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

G. & Co. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders, they can with the greatest confidence give the most satisfactory references.

Their Hot-Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating Hot by Water can be made available.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER.
WARRANTED BEST MATERIALS AND WORKMANSHIP, AT THE LOWEST POSSIBLE PRICES.



J. WEEKS AND CO., King's-road, Chelsea, Horticultural Architects, Hothouse Builders, and Hot water Apparatus Manufacturers. The Nobility and Gentry about to erect Horticultural buildings, or fix Hot-water Apparatus, will find at our Hothouse Works, King's-road, Chelsea, an extensive variety of Hothouses, Greenhouses, Conservatories, Pits, &c., erected, and in full operation, combining all modern improvements, so that a lady or gentleman can select the description of House best adapted for every required purpose.

THE HOT-WATER APPARATUSES (which are efficient and economical), are particularly worthy of attention, and are erected in all the Houses, Pits, &c., for both Top and Bottom Heat, and in constant operation in the Stoves.

The splendid collection of Stove and Greenhouse Plants are in the highest state of cultivation, and for sale at very low prices. Also a fine collection of strong Grape Vines in pots from eyes, all the best sorts.

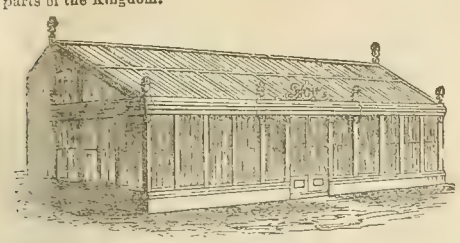
Plans, Models, and Estimates of Horticultural Buildings; also Catalogues of Plants, Vines, Seeds, &c., forwarded on application.—J. WEEKS and Co., King's-road, Chelsea, London.

WARMING AND VENTILATING.

D. AND E. BAILEY, 272, Holborn, having had many years' experience in warming buildings by Hot Water, continue to erect Hot Water Apparatus on the most approved principles, for Mansions, Warehouses, Conservatories, and other Horticultural Buildings, and they beg to introduce to the public a BOILER of their invention, which has been used with great success, and has this season been put up in the gardens of the Horticultural Society, Chiswick, and is noticed and commended in the *Gardeners' Chronicle* of Saturday, Sept. 20, 1851, page 598. Dr. Arnott's Ventilating Valves, upon the best construction, many having been made under the kind superintendence of Dr. Arnott himself. Also a very complete, cheap, and efficient Portable Cooking Apparatus or Cottagers' Stove.

HOTHOUSES AND CONSERVATORIES.

JAMES WATTS, Hothouse Builder, Claremont-Place, old Kent-road, has 200 CUCUMBER and MELON BOXES and LIGHTS of all sizes, ready for immediate use, made of well seasoned materials, packed and sent to all parts of the Kingdom.



HOTHOUSES, CONSERVATORIES, &c., made and fixed complete at a considerable reduction, and Garden Lights of every description. References may be had to the Nobility, Gentry, and the Trade, in most of the counties of England.

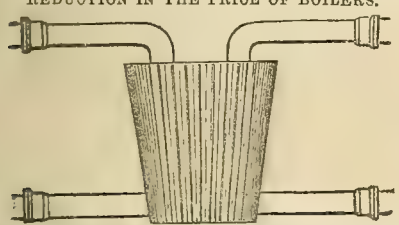
MILK, CHEESE, AND BUTTER.

HENRY BAKER, Optician, 90, Hatton Garden, London, advises any one who keeps Cows to send two postage stamps, and obtain a description of his LACTOMETER, with its uses, and the results of experiments with it upon different Milks. Lactometers, complete, in a mahogany box, 10s. 6d.; Do., with cheaper fittings, 7s. 6d. and 5s.; Hydrometers for testing sulphuric acid, 5s., 7s., and 10s. No consumer of acid should be without one, as it is often sold highly diluted. Saccharometers for Brewing, with tables, 5s., 7s., and 10s. Pediment Barometers, from 1l. each. Wheel Barometers, from 1l. 1s each. Packed carefully for the country, there being nothing to fear of them getting out of order, as they are warranted to be properly made and good instruments.

THE BRITISH HEATING AND VENTILATING COMPANY, Offices, 14, Lincoln's-inn-fields, London. Under Hazard's Patent.—The Company has now been successfully employed in all parts of the Kingdom, in PUBLIC and PRIVATE BUILDINGS, CHURCHES, CONSERVATORIES, FACTORIES, DRYING-HOUSES, &c., where a genial and healthy atmosphere is required.—Particulars and testimonials can be obtained by applying at the Company's Office.

Parties about to build, or those who suffer inconvenience from present arrangements, will save expense by consulting the Patentee, Mr. Hazerd, who has made ventilation and warming a peculiar study for years.

REDUCTION IN THE PRICE OF BOILERS.



BURBIDGE and HEALY beg respectfully to inform their Friends, in consequence of the present reduced price of Iron, they are enabled to make a considerable reduction in the price of their Boilers. The price will be, now:

10 in. will warm	50 ft. 4 in. pipe ...	...£1	15	0
12 in. do.	75 ft. 4 in. do. ...	... 2	5	0
14 in. do.	100 ft. 4 in. do. ...	... 2	15	0
16 in. do.	150 ft. 4 in. do. ...	... 3	10	0
18 in. do.	250 ft. 4 in. do. ...	... 4	10	0
21 in. do.	350 ft. 4 in. do. ...	... 5	10	0
24 in. do.	450 ft. 4 in. do. ...	... 7	0	0
New Pattern Boilers.				
27 in. will warm	600 ft. 4 in. pipe	... 11	10	0
30 in. do.	800 ft. 4 in. do.	... 15	15	0
36 in. do.	1500 ft. 4 in. do.	... 25	0	0

All Boilers with double arms, up to 18 in., 5s. extra; to 24 in., 10s. extra; all above, the same price.

Burbidge and Healy's present price of Hot-water Pipe, 2 in., 1s. 6d.; 3 in., 2s. 2d.; 4 in., 2s. 8d. per yard. Estimates given for Warming Conservatories, Hothouses, Pits, &c., on application, or forwarded per post.

130, Fleet-street, London, Jan. 10, 1852.

FOUNTAINS FOR PLAYING SCENTED WATERS.

PURE WATER raised to any height from a small stream, where a fall can be obtained, by



FREEMAN ROE'S

IMPROVED RAM;

Deep-well Pumps, Water-wheels, Baths, Hot-water Apparatus, and Fountains. Towns supplied with Gas or water. Drawings and Estimates made.

Freeman Roe, Hydraulic and Gas Engineer, 79, Strand, London; and Bridgefield, Wandsworth.

FLOWER-POTS! FLOWER-POTS!! FLOWER-POTS!!!

CHARLES PHILLIPS'S Flower-Pots were distinguished above all others shown at the Royal Exhibition of 1851. They received "Honourable Mention" by the Jury, Class 27; and were awarded by the various competent persons who examined them to be superior to any submitted for the World's Exhibition at the Crystal Palace. They are patronised at the Royal Gardens, both at Windsor and Kew, and by the principal Nurserymen throughout the Western, Southern, and Midland Counties of England; are extensively used in Ireland and Wales, and may be seen at almost every Nursery between Plymouth and London.

All orders for the above Goods will be promptly forwarded, Carriage Free, to any Railway Station within 150 miles of the Manufactory, per Waggon, Boats, Barges, or Steamers, to Scores, Hundreds, or Thousands.

C. P.'s Flower-pots are warranted to retain their colour longer than any other manufactured.

CLEAR INSIDE DIAMETER.

No.	In.	No.	In.	No.	In.	No.	In.
1	12	6	7½	11	8½	16	15
2	10	7	8½	12	9½	17	16
3	9	8	6½	13	11	18	18
4	8	9	7	14	12½	19	20
5	7	10	8	15	14	20	22

Every description of Pot Ware, Sewerage Piping, Chest Pots, Garden Rollers, Land-drain Pipes, Soakage-pots, Vases, Tiles, Bricks, &c.

Particulars of the Weston-Super-Mare Almanac and Guide Book, forwarded free to any party who may desire it, on receipt of one stamp.

Manufactory, Locking Road, Weston-Super-Mare, Somerset.

LIST OF ARTICLES manufactured in ARTIFICIAL STONE by J. Seeley, New-road, Regent's-park.

Fountain Basins.	Border-edging.
Statues.	Gothic Fonts and Screens.
Vases.	Balustrading.
Sun-dial Pedestals.	Crests and other Heraldic Ornaments.
Baskets.	
Shells and rusticated facing to walls.	Gothic Windows, Pinnacles, &c.
Figures of Animals and Birds.	Enriched Capitals for Columns.
Flower Boxes.	Elizabethan Chimney-tops.
Garden Seats.	

*** All the Work executed in this Manufactory being Waterproof is warranted to stand the severest weather.

WATERPROOF PATHS.—Those who would enjoy their Gardens during the winter months should construct their Walks of PORTLAND CEMENT CONCRETE, which are formed thus:—Screen the gravel of which the path is at present made from the loam which is mixed with it, and to every part of clean gravel add one of sharp river sand. To five parts of such equal mixture add one of Portland Cement, and incorporate the whole well in the dry state before applying the water. It may then be laid on 2 inches thick. Any labourer can mix and spread it. No tool is required beyond the spade, and in 48 hours it becomes as hard as a rock. Vegetation cannot grow through or upon it, and it resists the action of the severest frost.

It is necessary, as water does not soak through it, to give a fall from the middle of the path towards the sides.

Manufacturers of the Cement, J. B. White and Sons, Millbank-street, Westminster.



4 3 2 1

ROBERT SORBY and SONS, Carver Street, Sheffield, beg to call the attention of Agriculturists to to their REGISTERED STEEL-POINTED PATENT SCYTHE and REAPING HOOK, which possesses the advantages so long wanting to make the old Patent Scythe universally approved. A single trial must establish their decided superiority. To be had of all Hardware Dealers and Seedsmen. Every Scythe is *warranted*.

No. 1 cut shows the point of the iron back to be rivetted to the steel blade.

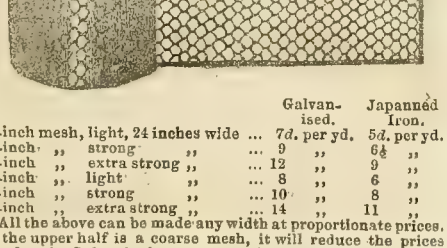
2, the point of the steel blade under which the iron back is rivetted.

3, the finished Registered Scythe.

4, the Old Patent, the back rivetted on the plate, then filled up with lead, which, if torn off, exposes the point of back to catch the straw, *which is impossible in R. and Sons' Registered Scythe.*

GALVANISED WIRE GAME NETTING.—

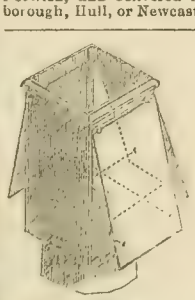
7d. per yard, 2 feet wide.



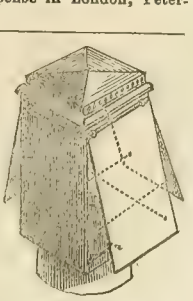
	Galvanised.	Japanned Iron.
2-inch mesh, light, 24 inches wide ...	7d. per yd.	5d. per yd.
2-inch ,, strong ,, ...	9 ,,	6½ ,,
2-inch ,, extra strong ,, ...	12 ,,	9 ,,
1½-inch ,, light ,, ...	8 ,,	6 ,,
1½-inch ,, strong ,, ...	10 ,,	8 ,,
1½-inch ,, extra strong ,, ...	14 ,,	11 ,,

All the above can be made any width at proportionate prices. If the upper half is a coarse mesh, it will reduce the prices one-fourth. Galvanised sparrow-proof netting for Pheasantries, 3d. per square foot. Patterns forwarded post free.

Manufactured by BARNARD and BISHOP, Market-place, Norwich, and delivered free of expense in London, Peterborough, Hull, or Newcastle.



Fumi-Porte.



Fumi-Porte with Cap.

LAWRENCE and CO., No. 55, Parliament-street, Westminster; and No. 10, York-place, Lambeth, Zinc Dealers and Manufacturers.

Chimney Shafts, 9d. per foot; various Cowls and Tops for Chimneys; Perforated Zinc, 3½d. per foot; Drawn Bell Tube, &c., 3d. per lb.; Rain Pipe, 3 inches, 1d. per foot; 2 inches, 3d. per foot; Skylights and Windows, Drawn Eaves, Cottage, and Church Lights, made to order and plain; Brass and Zinc Plates engraved and bored on Glass; Sheet Zinc, Nails, and Spelter, at market prices.



Passage of Smoke.

BAKER'S PHEASANTRY, Beaufort-street, King's-road, Chelsea, by special appointment to her Majesty and H. R. H. Prince Albert—ORNAMENTAL WATER FOWL, consisting of black and white swans, Egyptian, Canada, China, barnacle, brent, and laughing geese, shieldrakes, pintail, widgeon, summer and winter teal, gadwall, Labrador, shovellers, gold-eyed and dun divers, Carolina ducks, &c., domesticated and pinioned; also Spanish, Cochin China, Malay, Poland, Surrey, and Dorking fowls; white, Japan, pied and common peafowl, and pure China pigs, and at 3, Half-moon-passage, Gracechurch-street, London.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

EWING'S PATENT GLASS WALLS.—One of the greatest defects in British gardening has hitherto been the uncertainty of securing a crop of fruit on common brick or stone walls, owing to the variableness and humidity of the climate. This is now remedied by substituting hollow Glass Walls, by means of which not only will the young wood in autumn be fully matured, but the blossoms will be completely protected from the frosts and biting winds of spring, and a climate secured equal to that of southern Europe.

These walls are particularly adapted to the growing of Grapes, Peaches, Nectarines, Apricots, Oranges, Lemons, and the finer sorts of Pears and Plums, producing fruit equal to that of France or Italy at no more expense than usually attending trees upon a common stone or brick wall.

Glass Walls must eventually not only take the place of brick and stone walls, but will, in a great measure, supersede the present mode of erecting hothouses, from their cheapness at first cost, the great economy of fuel and heating apparatus, the small space they occupy, and their peculiar elegant appearance. They are also admirably adapted for climbing Exotics, and a variety of other purposes.

The highest authorities on Horticultural matters in this country have expressed their unqualified approbation of these designs, at the head of whom is Dr. Lindley, and for whose opinion the public are referred to the leading columns of the *Gardeners' Chronicle* of December 6; also of Robert Marnock, Esq., Curator of the Royal Botanic Gardens, Regent's-park, London, in the leading columns of the *Gardeners' and Farmers' Journal*, of December 20. The patentee having made arrangements with some of the largest firms of iron-founders in the kingdom, and also with one of the most extensive British Glass manufacturers; and from the well-known respectability of those gentlemen who have become Agents, feels confident that he furnishes a sufficient guarantee that all orders in connection with the Glass Walls will be promptly and efficiently carried out in any part of England, Scotland, or Ireland.

The following are the accredited Agents, and with whom drawings of the Glass Walls can be seen, and all particulars as to prices, &c., obtained on application:—Messrs. Knight and Perry, Exotic Nursery, Chelsea; Messrs. Henderson and Co., Pine-apple-place, Edgware-road, London; Messrs. Whitley and Osborn, Nurserymen, Fulham, London; Mr. Glendinning, Nurseryman and Landscape Gardener, Chiswick, London; Messrs. Veitch and Son, Nurserymen, Exeter; Messrs. F. and J. Dickson, Nurserymen, &c., Chester; Messrs. Lawson and Son, Edinburgh, Nurserymen and Seedsmen to the Royal Agricultural Society of Scotland; Messrs. Dickson and Turnbull, Nurserymen, Perth; Mr. M'Intosh, F.R.P.S., F.R.S.S.A., author of the "Practical Gardener," "Book of the Garden," &c., late Curator of the Royal Gardens of his Majesty the King of the Belgians, and now to his Grace the Duke of Buccleuch, at Dalkeith Palace, Scotland; Mr. Fleming, F.H.S., Head Gardener, &c., to his Grace the Duke of Sutherland, Trentham, Staffordshire; Mr. Ewing, Gardener, &c., Bodorgan, Anglesea; Messrs. Pilkington, Crown, Sheet, and Plate Glass Works, St. Helen's, Lancashire.

*** Prices for facing existing brick or stone Walls with glass and iron will be given on application.

ALLSOPP'S EAST INDIA PALE and OTHER BURTON ALES.—The public is respectfully informed the ALES of this season's Brewings are now ready for delivery, and may be obtained Genuine in Casks of 18 Gallons and upwards, either singly or in any quantity, at their respective Stores, as under, where also a list of the Bottlers may be had:—The Brewery, Burton-on-Trent; 61, King William-street, City, London; Cook-street, Liverpool; High-street, Birmingham; The Exchange, Manchester; Royal Brewery, Dudley, and 33, Virginia-street, Glasgow.

FORD'S EUREKA SHIRTS.—"The Great Exhibition has produced a multitude of novelties which have alternately delighted and astonished the world. How many of these will survive for any practical purpose is a question. It is another question if any one of them will bring half the practical comfort of a good shirt. Mr. Ford, of the Strand, has an invention of this kind, which is a material improvement upon the old plans, and for positive enjoyment is worth nineteen-twentieths of the marvels of the huge building in Hyde-park."—*Atlas.*

FORD'S EUREKA SHIRTS are not sold by any Hosiers or Drapers, and can, therefore, be obtained only at 185, Strand. They are made in two qualities, the first of which is 40s. the half dozen, and the second quality 30s. the half dozen. List of Prices, containing an illustration, with directions for self-measurement, sent per post free.—Richard Ford, 185, Strand.

CLOSE OF HOLIDAYS.—Now that the season of annual festivity is about to terminate, and the respective Boarding-schools reinstated by the busy throng of youthful aspirants, their personal comfort and attractions become naturally an object of great solicitude with friends and relatives. Now it is that ROWLANDS' MACASSAR OIL, for accelerating the growth, and for improving and beautifying the hair; ROWLANDS' KALYDOR, for improving the skin and complexion, and removing cutaneous eruptions; and ROWLANDS' ODONTO, for beautifying the teeth and preserving the gums, must be universally considered indispensable. The august patronage conceded by all the Sovereigns of Europe to these creative and renovating specifics, and the confirmation, by experience, of their infallible efficacy, have characterised them as perfect, and given them a celebrity unparalleled. Beware of Spurious Imitations.—The only genuine Macassar Oil, Kalydor, and Odonto, are "Rowlands';" and the wrapper or label of each bears the name of "Rowlands'" preceding that of the article.—Sold by A. Rowland and Sons, 20, Hatton Garden, London; and by all respectable Chemists and Perfumers.

HOLLOWAY'S PILLS THE VERY BEST REMEDY FOR BILE, INDIGESTION, AND WEAK STOMACHS.—Extract of a letter from Mr. Richard Abel, Piccadilly, Manchester. "To Professor Holloway.—Sir,—The gratitude I owe to you is great for the extraordinary cure I have derived by taking your wonderful Pills. I am 61 years of age, and for more than 40 I have suffered so severely from Bile and Indigestion that life was a complete burthen to me; I received the best medical advice at all times, but could get no permanent relief. At length I tried your Pills, and they have so invigorated my constitution that I am restored to the most robust health."—Sold by all Druggists; and at Professor Holloway's Establishment, 244, Strand, London.

EPPS' NEW SEEDLING FUCHSIA.

W. J. EPPS begs to state that he purposes sending out, early in April, the two following FUCHSIAS, which he has no hesitation in warranting will give the highest satisfaction possible; they were both submitted late in the season to Mr. Glenny and the *Gardeners' Chronicle*, and merited their high approval. See *Gardeners' Chronicle*, and Glenny's "Garden Almanack for 1852."

STANDARD OF PERFECTION.—Tube and sepals bright, waxy, coral red; a dense violet blue corolla, slightly veined with purple; sepals reflexed; blooms very stout, and as large as Don Giovanni; habit robust and elegant.

NOVELTY.—This is an exceedingly pretty flower, and very striking. Tube and sepals lively red, and waxy; corolla large and very double, of a beautiful dense violet colour; sepals very much reflexed, and a profuse bloomer.

Price, 10*s.* 6*d.* each.

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THE GARDENERS' CHRONICLE

AND

AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 3—1852.] SATURDAY, JANUARY 17. [PRICE 6*d.*

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STEPHEN SHILLING.

Nursery, North Warnborough, near Odiham, Hants, January 6th, 1852.

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SUTTON'S COLLECTIONS OF GARDEN SEEDS,

CARRIAGE FREE.—The advantages of purchasing these "Collections of Seeds" are threefold, viz., superiority of sorts, superior germinating quality, and great economy in the cost. Our sorts of Seeds are not all in the possession of other Seedsmen, and we feel confident that our Collections are far superior to others, both in quality and in quantity.

A CLERGYMAN, whom we have had the honour of supplying many years, writes us, "*I have much satisfaction in recommending your Seeds to various friends, as I find they are much pleased with them;*" and another purchaser says, "*I never received so numerous a Collection, so good in quality, from any house.*" We therefore confidently recommend those gentlemen who are not themselves acquainted with the best sorts of vegetables, to order immediately (while we have a large Stock), one of the undermentioned complete Collections:—

	£	*s.*	*d.*
No. 1.—A COMPLETE COLLECTION OF GARDEN SEEDS, FOR ONE YEAR'S SUPPLY OF A LARGE GARDEN; including the best sorts for succession of Peas, Beans, Broccoli, Cucumbers, Melons, Lettuces, Cauliflowers, and every other sort of Vegetable required, in full quantities	2	10	0
No. 2.—A COMPLETE COLLECTION, in quantities proportionately reduced	1	10	0
No. 3.—A COMPLETE COLLECTION, equally choice sorts	1	1	0
No. 4.—A SMALL AND VERY CHOICE ASSORTMENT	0	12	6

If some kinds of Seeds are already possessed, purchasers are requested to name them, that increased quantities of others may be sent in lieu of them.

N.B.—The above Collections will be sent CARRIAGE FREE, as see our Advertisement on 2d page of last week's *Chronicle*.

*** A List of the quantities contained in each Collection may be had post free in return for One Penny Stamp, addressed JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

DOUBLE ITALIAN TUBEROSE ROOTS, 4*s.* per dozen.—The annual importation of the above-named beautiful and fragrant Flower has just been received, and large and well selected Bulbs may be obtained, without disappointment, at A. COBBETT'S Foreign Warehouse, 18, Pall-mall.

N.B. Printed regulations for treatment sent; also, just arrived, very moist and open Parmasan Cheeses.

JOHN KERNAN begs to state that he has now completed his usual selection of every choice and new VEGETABLE AND FLOWER SEEDS recently introduced or worthy of cultivation. Catalogues may be had on application.

4, Great Russell-street, Covent Garden.

STANDISH AND NOBLE'S detailed Advertisement will appear in this Paper on the first Saturday in every Month, to which they invite the attention of all interested in HARDY ORNAMENTAL PLANTS. Their Descriptive Catalogue, with the Treatise on the "Cultivation of American Plants," can still be had, by enclosing six stamps for postage.

Gentlemen requiring the services of a Landscape Gardener, can procure such by applying to the Advertisers.

Bagshot, Surrey, Jan. 17.

BEST LANCASHIRE GOOSEBERRIES, named, at 15*s.* per 100.

Also, APPLES, PEARS, CURRANTS, RHUBARB, &c., in all the best varieties, and at equally moderate prices.

Carefully packed, to carry any distance, or for exportation.

H. BIGLAND and Co., Manchester.

GREAT SALE OF NURSERY PLANTS.

PETER BOOTH, NURSERYMAN, Falkirk, is selling off, at very cheap prices, at his extensive Nursery Grounds, a very large stock of transplanted LARCH, SCOTCH, and SPRUCE FIR PLANTS, of strong and smaller sizes, including seedlings, with a great variety of many of the other kinds of Forest and Ornamental Trees, generally grown in large nurseries; also Fruit Trees, Gooseberry, Currant, and Raspberry Bushes, &c.

A large stock and great variety of very fine, strong, healthy Evergreen and Flowering Ornamental Shrubs.

A very fine stock of Standard, Half Standard, and Dwarf Roses, many of them of the new kinds, and also of the approved and most beautiful sorts.

N.B.—As the Advertiser wishes to retire from business, a Lease of all his Nursery Grounds, which belong to himself, and every encouragement would be given to a purchaser of the above stock, and the good-will of the business, which has been carried on by his relations for more than 70 years past, and with great success.

Should a purchaser not be found, a partner with capital, and a good knowledge of the business, would be agreed with.

DOUBLE LILY OF THE VALLEY.—In answer to numerous inquiries for the above, and the great satisfaction given by the plants sent out in former seasons by J. R., he begs to state he has this year a few strong roots to dispose of. The graceful habit, delicate appearance, and delicious perfume which the flower possesses, render it equally suitable for the lady's posey or the drawing-room bouquet. By enclosing 30 postage stamps, 12 strong roots will be sent free to any part of the United Kingdom.—J. REID, Monkton Nursery, Ryde, Isle of Wight.

SILVER FIRS.

THOMAS IMRIE AND SONS, NURSERYMEN, Ayr, have on sale upwards of 200,000 SILVER FIRS, of various sizes, all healthy, fine, well-topped plants.

12 to 15 inches, 15*s.* per 1000; 15 to 24 inches, 20*s.* ditto; 18 to 30 inches, 25*s.* ditto.

Trains by the Glasgow and South-Western Railway from Ayr daily.

SUPERB NEW EARLY PROLIFIC MELON, "VICTORY OF BATH."

GARAWAY, MOSES, AND Co. having purchased the entire stock of the above MELON, beg to offer it to the public as a variety unequalled in flavour and productiveness. It obtained a Certificate of Merit at the April Show, in Bath; First Prize at Chiswick, in May; also two First Prizes at Bath, in May and June last. It was grown in pots with Bromham Hall, under precisely the same treatment, and Ripe Fruit cut full six weeks earlier. The whole of the fruit exhibited were grown in pots.

MELONS. Per Packet—	*s.*	*d.*	CUCUMBERS. Per Packet—	*s.*	*d.*
Victory of Bath	2	6	Lord Kenyon's Favourite	1	0
Bromham Hall	1	0	Victory of Bath	1	0
Camerton Court	1	0	Roman Emperor	1	0
Trentham Hybrid Green Flesh	1	0	Holm Pierpoint Wonder	1	0
Beechwood...	1	0	Kelway's Victory ...	1	0
With all other approved sorts.			With all other approved sorts.		

G., M., and Co. also beg to inform their friends that they are now prepared to send out their well selected stock of Agricultural, Kitchen, and Flower Garden Seeds, the latter grown under their own inspection. Catalogues to be had on application. G., M., and Co. can with confidence recommend their stock, as every article is thoroughly proved before sent out.—Durdham Down Nurseries, Bristol, Jan. 17.

CHRYSANTHEMUMS.

E. MERRY AND SON, having devoted their attention entirely to the cultivation of this desirable Autumnal Flower, and being successful exhibitors at Stoke Newington and North London Societies in 1851, can with confidence recommend their selection as suitable either for exhibitional purposes or for general cultivation. The stock is of the most esteemed varieties, including the following selection, at the moderate price of 12*s.* per dozen, package included:—Anaxo, Arc-en-ceil, Guillaume Tell, L'Admirable, Madame Audry, Madame Corbay, Miss Kate, Monge, Marshal Ney, Plutus, Ne plus Ultra, Racine, Rosa Mystica, Pio Nono.

They have also a quantity of the best old varieties as follows, at 9*s.* per dozen:—Beauty, Campestronii, Cyclops, Defiance, Dupont de l'Eure, Gem, Goliah, Duke, King, Lysias, Princess Marie, Salter's Phydias, Sydenham, Queen of England, Vesta.

Early orders solicited to secure the stronger plants. A remittance is requested from unknown correspondents, or reference to a respectable House in London.—Direct to E. MERRY and SON, Florists, &c., Stamford-hill, Stoke Newington, Middlesex; or to their Agent, W. CLARK, Seedsman, &c., 25, Bishopsgate-street Within, London.

SEED POTATOES.—The importance of cultivating those sorts of Potatoes which, from their vigorous habit of growth and early maturity, are least subject to disease, has induced us for several years (ever since the first general development of the disease), to make many experiments as to the sorts most desirable, and the cultivation most suitable. Our New Seed List contains the names and prices of the principal kinds, and will be sent post free on receipt of One Penny Stamp.—Address, JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

SUPERB NAMED AND MIXED ASSORTMENTS OF ANEMONES, RANUNCULI, GLADIOLI, TULIPS, IRIS, CROCUS, LILIUM, IMPORTED DUTCH HYACINTHS, &c., with a large Collection of other Roots.—For BASS AND BROWN'S Priced Advertisement of the above, see *Gardeners' Chronicle* of Nov. 8th and 22d, or Catalogues sent free on application.

Seed and Horticultural Establishment, Sudbury, Suffolk.

OVERSTOCK AT THE NURSERIES, FORRES.—The Subscribers beg to offer the under-noted Plants, which are well topped, fibrous rooted, and of the finest quality, at the following wholesale prices:—1 and 2-year transplanted Larch, from 1 to 3 feet high, 4*s.* 6*d.* to 12*s.* per 1000; true native Highland Scotch Pine, 1 and 2 years transplanted, 2*s.* 6*d.* to 10*s.* per 1000, according to their size; transplanted Pinus excelsa, 1 to 2 feet, 50*s.* per 100; fine Cedrus Deodara, specimen plants, 2 to 3 feet, 2*s.* 6*d.* each. If orders are forwarded early, these prices will include payment of freight to London.

JOHN GRIGOR and Co., Nurseries, Forres, N.B.

SANGSTER'S NEW EARLY NO. 1 PEA.

HAY, SANGSTER, AND CO., in submitting the above valuable PEA to the public, can recommend it with the greatest confidence, as the largest podded and best Early Pea known, and of first-rate quality; height, 2 feet. Price 2*s.* 6*d.* per quart.

York Regent Potatoes, from prepared cuttings, 6*s.* per bush.
Cambridge Radical do. (a first-rate second early) 6*s.* do.
American Native, 10*s.* 6*d.* do. Early Manley, 10*s.* 6*d.* do.
Early Ash-leaf Kidney, 10*s.* 6*d.* do.

For Testimonials, see *Gardeners' Chronicle*, Nov. 8, p. 705.

Post-office orders to be made payable at the Borough Post-office to HAY, SANGSTER, and Co., Nursery and Seedsmen, Newington Butts, London. One-bushel hampers and booking, 1*s.* 6*d.*; two-bushel, 2*s.* 6*d.* Sacks, 2*s.* 6*d.* each.

TO PURCHASERS OF SEEDS.

THIRTY OR FIFTY *per Cent. may be saved, and Seeds of superior quality obtained by procuring Seeds direct from the Growers,* JOHN SUTTON and SONS, Seed Growers, Reading, Berks, whose Priced Lists are now published, and may be had gratis, post-paid, on remittance of two Postage Stamps.

EPPS' NEW SEEDLING FUCHSIA.

W. J. EPPS begs to state that he purposes sending out, early in April, the two following FUCHSIAS, which he has no hesitation in warranting will give the highest satisfaction possible; they were both submitted late in the season to Mr. Glenny and the *Gardeners' Chronicle*, and merited their high approval. See *Gardeners' Chronicle*, and Glenny's "Garden Almanack for 1852."

STANDARD OF PERFECTION.—Tube and sepals bright, waxy, coral red; a dense violet blue corolla, slightly veined with purple; sepals reflexed; blooms very stout, and as large as Don Giovanni; habit robust and elegant.

NOVELTY.—This is an exceedingly pretty flower, and very striking. Tube and sepals lively red, and waxy; corolla large and very double, of a beautiful dense violet colour; sepals very much reflexed, and a profuse bloomer.

Price, 10*s.* 6*d.* each.

The usual discount to the Trade when three plants of each are taken.

Agents: Hurst and McMullen, Leadenhall-street, London. Bower Nurseries, Maidstone, Jan. 17.

RANDALL'S PROLIFIC RHUBARB.—In submitting the above to the public, E. R. begs to state that while possessing all the qualities of Myatt's Linæus, it is nine days earlier, of superior flavour, upright in growth, and producing large stems, all of equal size. Roots 2*s.* 6*d.* each, to be obtained at the principal Seed-houses in London, and of EDWARD RANDALL, Loughborough Gardens, Brixton, Surrey. Orders accompanied with a remittance will be promptly attended to.

N.B. The usual discount to the Trade.

GEORGE BAKER'S DESCRIPTIVE CATALOGUE OF AMERICAN PLANTS, CONIFERÆ, ROSES, ORNAMENTAL SHRUBS, FRUIT AND FOREST TREES, &c., may be had on application, by enclosing two postage stamps.—Windlesham Nursery, Bagshot, Surrey.

HOSEA WATERER'S Descriptive Catalogue of AMERICAN PLANTS, CONIFERS, ROSES, &c., for the ensuing Autumn, is just published, and may be had on application, enclosing two postage stamps, to Mr. HOSEA WATERER, Knap Hill Nursery, Woking, Surrey.

ELPHINSTONE'S PROLIFIC BLACK SPINE CUCUMBER, a fine variety for Forcing. 1*s.* 6*d.* per packet. Superb solid late Dwarf WHITE CELERY, recommended for its flavour, and warranted not to run. 1*s.* the packet.

To be had of CHARLES TURNER, Royal Nursery, Slough.

ROYAL NURSERY, Cirencester, Gloucestershire.—The Public is most respectfully invited to an inspection of the remaining portions of the STOCK of this Nursery, which are now being sold at very reduced prices, in consequence of the Land being about to be given up; a rare opportunity is thus afforded for purchasing unrivalled bargains. The Stock, which is of a very general description, consists, amongst numerous other articles, of Standard Apples, Pears, Plums, Cherries, and Medlars; Dwarf Maiden Apples, Pears, and Cherries; Dwarf Trained Apples, Pears, Plums, and Cherries; Vines from eyes, in pots; Figs, Raspberries, Gooseberries, Currants, Strawberries, a large quantity of fine Seakale roots, Rhubarb, Globe and Jerusalem Artichokes, extensive collections of Standard and Dwarf Roses, Ornamental Thorns, Beech, Oaks, Ash, Chestnuts, Irish and Common Yews, Standard Cytisus; Common, Variegated, and all other kinds of Holly; Box of sorts, with a considerable quantity of fine Dwarf for edging; Sweet Bays, Mahonias, Euonymus, Red Cedars, Cypress, Laurestinus, Double and Irish Furze, Chinese and other Privets; American, Chinese, Siberian, and other Arbor-Vitæ; Aucubas, Phillyreas, Lucombe and Evergreen Oaks; Cedrus Libani, Africanus, Deodara, and Deodara viridis; Pinus insignis, Laricio, Cembra, taurica, excelsa, Gerardiana, austriaca, Mughus, Banksiana, Picea, Pinaster, halepensis, and pyrenaica; Picea nobilis, Nordmanniana, Pinsapo, cephalonica, Webbiana, Pindrow, taxifolia, Frazerii, and Hudsonii; Abies Menziesii, morinda, nigra, alba, Douglasii, canadensis, balsamea, and recurva; Araucaria imbricata, Cryptomeria japonica; Juniperus excelsa, Bedfordiana, virginiana pendula, oblonga, oblonga pendula, sinensis, sinensis stricta, fragrans, oxycedrus, canadensis, Sabiniana, Sabiniana tamariscifolia, Sabiniana prostrata, Schotti, cracovia, recurva, Lasdeliana, serillocarpa, religiosa, phœnicea, species from Himalaya, Hermannii, glauca, Gosainthanea, macrocarpa, Barbadensis, flagelliformis, tetragona, thurifera, Mexicana, lycia, occidentalis, and squamata; Cupressus macrocarpa, sempervirens thujæformis, sempervirens fol. var., sempervirens nana, funebris, and Goveniana; Libocedrus chilensis, and Doniana; Biota glauca, pendula, stricta, incurvata, asplenifolia, and aurea; Glyptostrobus pendulus, and heterophyllus; Thuja plicata, dolobrata, juniperoides, intermedia, and occidentalis fol. var.; Weeping and Drooping Larch, Sequoia sempervirens, Cephalotaxus pedunculata, and drupacea; Podocarpus totara; Taxus baccata fructuluteo, fol. aur. var. fol. argent var. and nana, Taxus Dovastoni, adpressa, elegantissimum fol. var. Hibernica, fol. argent var. with all other species and varieties of Coniferæ not enumerated, prices of which may be obtained on application to Mr. GREGORY, at the Nursery.

GREENHOUSE PLANTS.

TO BE SOLD by Private Contract, at a reasonable rate, a few GREENHOUSE PLANTS, consisting principally of Acacias, Pimeleas, Kennedyas, Chorozemas, Boronias, Corræas, and Camellias; they are mostly large sized, compact, and healthy plants, and will make good specimens. The person parting with them having duplicate plants, is desirous of their room.—Direct by letter, addressed to J. R. S., 7, Highbury-grange, Islington, or they may be seen by application at the above address, any Monday, Wednesday, or Friday.

TO NURSERYMEN AND GARDENERS.

TO BE SOLD, by private contract, an old established NURSERY, in the midland counties, containing a well-selected and valuable stock, in excellent order; may be entered upon immediately. The stock, if wished, may be taken at a valuation, and a portion of the purchase money may remain on security of the premises.—Apply to Mr. WM. HUNT, Solicitor, 2, Field Court, Gray's Inn, London.

TO NURSERYMEN, FLORISTS, ETC.

TO BE DISPOSED OF, a small but very advantageous NURSERY, most admirably situated near the Regent's Park, fronting a main road, in a highly respectable neighbourhood, with Dwelling-rooms, Greenhouse, Show-house, Forcing-house, convenient Sheds, &c., with connection and immediate possession. Lease 20 years; rent 6*l.* per annum: Premium moderate. Apply at 35, Mornington-place, Hampstead-road.

POTATO GERM EXTRACTOR,

And TUNICATUS POWDER, to Preserve the Germs.

This Patented invention readily extracts the eyes without injuring the Potato. The germs or eyes are effective seed, and the Potatoes from which they have been extracted can be saved for consumption. 100 lbs. in germs will sow an acre, and save 1500 lbs. of Potato flesh. These germs, placed in the "Tunicatus Powder," on being extracted will keep fresh and uninjured for six months. Germs sown on the 13th May, and taken up the 9th October, produced an average weight of 45 lbs. to 20 plants.

The Germ Extractors, 6*s.* each.

Tunicatus or Anti-Putrescent Powder, 3*s.* per package of 6 lbs., sufficient for 20,000 Germs.

STEWART and Co., Patentees, 22, Charing Cross, London.

Further particulars sent post free. To be had of all seedsmen and ironmongers throughout the United Kingdom.

HAMILTON'S DESCRIPTIVE CATALOGUE of FLOWER and VEGETABLE SEEDS is now ready, and may be had on application.

Address—WILLIAM HAMILTON, Seedsman, &c., 156, Cheapside, London.

W. H. takes this opportunity of stating, that those who are kind enough to favour him with their orders for seeds this season may rely upon having them of extra quality, as he has bestowed more than usual care in the selection of his stock.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

EWING'S PATENT GLASS WALLS.

—One of the greatest defects in British gardening has hitherto been the uncertainty of securing a crop of fruit on common brick or stone walls, owing to the variableness and humidity of the climate. This is now remedied by substituting hollow Glass Walls, by means of which not only will the young wood in autumn be fully matured, but the blossoms will be completely protected from the frosts and biting winds of spring, and a climate secured equal to that of southern Europe.

These walls are particularly adapted to the growing of Grapes, Peaches, Nectarines, Apricots, Oranges, Lemons, and the finer sorts of Pears and Plums, producing fruit equal to that of France or Italy at no more expense than usually attending trees upon a common stone or brick wall.

Glass Walls must eventually not only take the place of brick and stone walls, but will, in a great measure, supersede the present mode of erecting hothouses, from their cheapness at first cost, the great economy of fuel and heating apparatus, the small space they occupy, and their peculiar elegant appearance. They are also admirably adapted for climbing Exotics, and a variety of other purposes.

The highest authorities on Horticultural matters in this country have expressed their unqualified approbation of these designs, at the head of whom is Dr. LINDLEY, and for whose opinion the public are referred to the leading columns of the *Gardeners' Chronicle* of December 6; also of Robert Marnock, Esq., Curator of the Royal Botanic Gardens, Regent's-park, London, in the leading columns of the *Gardeners' and Farmers' Journal*, of December 20. The patentee having made arrangements with some of the largest firms of iron-founders in the kingdom, and also with one of the most extensive British Glass manufacturers; and from the well-known respectability of those gentlemen who have become Agents, feels confident that he furnishes a sufficient guarantee that all orders in connection with the Glass Walls will be promptly and efficiently carried out in any part of England, Scotland, or Ireland.

The following are the accredited Agents, and with whom drawings of the Glass Walls can be seen, and all particulars as to prices, &c., obtained on application:—Messrs. Knight and Perry, Exotic Nursery, Chelsea; Messrs. Henderson and Co., Pine-apple-place, Edgware-road, London; Messrs. Whitley and Osborn, Nurserymen, Fulham, London; Mr. Glendinning, Nurseryman and Landscape Gardener, Chiswick, London; Messrs. Veitch and Son, Nurserymen, Exeter; Messrs. F. and J. Dickson, Nurserymen, &c., Chester; Messrs. Lawson and Son, Edinburgh, Nurserymen and Seedsmen to the Royal Agricultural Society of Scotland; Messrs. Dickson and Turnbull, Nurserymen, Perth; Mr. M'Intosh, F.R.P.S., F.R.S.S.A., author of the "Practical Gardener," "Book of the Garden," &c., late Curator of the Royal Gardens of his Majesty the King of the Belgians, and now to his Grace the Duke of Buccleuch, at Dalkeith Palace, Scotland; Mr. Fleming, F.H.S., Head Gardener, &c., to his Grace the Duke of Sutherland, Trentham, Staffordshire; Mr. Ewing, Gardener, &c., Bodorgan, Anglesea; Messrs. Pilkington, Crown, Sheet, and Plate Glass Works, St. Helen's, Lancashire.

*** Prices for facing existing brick or stone Walls with glass and iron will be given on application.

MITCHELL'S MATCHLESS WINTER PARSLEY.—J. M. having saved a much larger quantity of Seed this season than last, can offer it to the public at a much reduced price. Wholesale, to seedsmen, 1*s.* 3*d.* per lb.; any quantity under 10 lbs. will be charged 2*s.* per lb. Can be sent to any part of the World, on receipt of a Post-office order, made payable to JOHN MITCHELL, Ponder's-end, Enfield, Middlesex.

TOBACCO PAPER FOR SMOKING GREENHOUSES, &c.—CLARKE and Co., Gardeners, Seedsmen, and Florists, Percy Cross Nursery, Walham Green, Fulham, can supply any quantity of this article; price given on application.—The trade supplied.

GLASS FOR CONSERVATORIES, ETC.

HETLEY and Co. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2*d.* to 3*d.* per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices and Estimates forwarded on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLATES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to JAMES HETLEY and Co., 35, Soho-square, London.

See *Gardeners' Chronicle* first Saturday in each month.

GLASS.

THOMAS MILLINGTON'S FOREIGN SHEET GLASS is far superior to any other manufacture, as well as cheaper. In 100 feet boxes packed for immediate delivery.

6 inches by 4 and		6½ by 4½	...	...	...	13*s.* 0*d.*
7	,,	5 and 7½ by 5½	...	...	...	15 0
8	,,	5 and 8 by 5½	...	...	...	15 0
8	,,	6 and 8½ by 6½	...	...	...	17 6
9	,,	7 and 10 by 8	...	...	...	20 0
12	,,	10 and 13 by 9	...	...	...	20 0

And many other sizes, or cut to order in various thicknesses. Cases containing large Sheets, in 100, 200, and 300 feet, at 21*s.* per 100 feet.

ROUGH PLATE, perfectly flat, ⅛ in. thick, best manufactured.

In sizes under 15 inches	.....	6*d.* per foot.		
,,	,, 35 ,,	.....	8*d.*	,,
,,	,, 50 ,,	.....	9½*d.*	,,
,,	,, 75 ,,	.....	12*d.*	,,

Milk Pans, 2*s.* to 6*s.* each; Metal Hand-frames, Glass Tiles and Slates; Cucumber, Propagating, and Bee Glasses; Wasp Traps, Glass Shades, and Plate Glass, at 87, Bishopsgate-street Without, same side as Eastern Counties Railway.—Established 100 years.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER.

WARRANTED BEST MATERIALS AND WORKMANSHIP, AT THE LOWEST POSSIBLE PRICES.

J. WEEKS and CO., King's-road, Chelsea, Horticultural Architects, Hothouse Builders, and Hot-water Apparatus Manufacturers. The Nobility and Gentry about to erect Horticultural buildings, or fix Hot-water Apparatus, will find at our Hothouse Works, King's-road, Chelsea, an extensive variety of Hothouses, Greenhouses, Conservatories, Pits, &c., erected, and in full operation, combining all modern improvements, so that a lady or gentleman can select the description of House best adapted for every required purpose.

THE HOT-WATER APPARATUSES (which are efficient and economical), are particularly worthy of attention, and are erected in all the Houses, Pits, &c., for both Top and Bottom Heat, and in constant operation in the Stoves.

The splendid collection of Stoveand Greenhouse Plants are in the highest state of cultivation, and for sale at very low prices. Also a fine collection of strong Grape Vines in pots from eyes, all the best sorts.

Plans, Models, and Estimates for Horticultural Buildings; also Catalogues of Plants, Vines, Seeds, &c., forwarded on application.—J. WEEKS and Co., King's-road, Chelsea, London.

HARTLEY'S PATENT ROUGH PLATE GLASS, FOR RIDGE AND FURROW ROOFS, GREENHOUSES, RAILWAY STATIONS, ENGINE SHEDS, MILLS, MARKET-HALLS, AND PUBLIC BUILDINGS, GENERALLY.

For Conservatories, Public Buildings, Manufactories, Skylights, &c. &c.

	⅛th inch thick.	3-16th inch thick.	¼ inch thick.
PACKED IN CRATES, for cutting up of the sizes as Manufactured:—			
30 inches wide and from 40 to 50 long	*s. d.*	*s. d.*	*s. d.*
Or 20 ,, ,, 50 to 70 ,, ...	0 6	0 8	0 10
IN SQUARES, cut to the sizes ordered:—			
Under 8 by 6	0 4	0 6	0 7
8 by 6 and under 10 by 8	0 4½	0 7	0 8
10 by 8 ,, 14 by 10	0 5	0 7	0 9
14 by 10 ,, 1½ feet super., if the length does not exceed 20 inches	0 5½	0 7	0 9
1½ feet sup. ,, 3 ,, or if above 20, and not above 30 inches long...	0 6	0 8	0 10
3 ,, ,, 4 ,, ,, 20 ,, 30 ,, ...	0 6½	0 8	0 10
4 ,, ,, 5 ,, ,, 30 ,, 35 ,, ...	0 7	0 8½	0 10
5 ,, ,, 6 ,, ,, 35 ,, 40 ,, ...	0 7½	0 9	0 10½
6 ,, ,, 8 ,, ,, 40 ,, 45 ,, ...	0 8	0 9½	0 11
8 ,, ,, 10 ,, ,, 45 ,, 55 ,, ...	0 8½	0 10	1 0
10 ,, ,, 12 ,, ,, 55 ,, 70 ,, ...	0 9	0 11	1 1
12 ,, ,, 15 ,, ,, 70 ,, 85 ,, ...	.....	1 0	1 2

Packed in boxes of 50 feet each.

Ins.	Ins.	Ins.	Ins.		*s.*	*d.*
6 by 4	and	6½ by 4½	... ...		10	6
7 by 5	,,	7½ by 5½	... ...		12	0
8 by 6	,,	8½ by 6½	... ...		13	0
9 by 7	,,	9½ by 7½	and 10 by 8		15	0

NOTE.—Squares are charged according to the superficial contents, except where the length exceeds the restriction above, in which case the higher price is charged irrespective of the contents.

Bending.—1-8*th*, 6*d.*; 3-16*ths*, 9*d.*; ¼ *inch*, 1*s.* *per foot, net.*

** *Irregular shapes are charged as squares.*

When Crates are ordered, the 30-inch widths will be sent, unless otherwise specified.

THE PATENT ROUGH PLATE, one-eighth of an inch thick, and weighing 2 lbs. to the foot, has now become an article of very extensive and increasing consumption.

It is universally admitted to be the best and most suitable Glass for Ridge and Furrow Roofs, Greenhouses, Factories, Workshops,

And all such like purposes, and is a cheap and efficient substitute for Fluted or Obscured Glass, where the object is to intercept the vision without diminishing the light. Its non-transparency, strength, and cost (being no more weight for weight than Common Sheet Glass), render it eminently suitable for the Glazing of Conservatories and Roofs of all kinds; Blinds are unnecessary, and when used in Greenhouses *no scorching occurs.*

Where still greater strength is required the 3-16ths and ¼ inch thick will be found much cheaper than the Common Rough Plate. Samples will be forwarded on application, by applying to

JAMES PHILLIPS & CO., HORTICULTURAL GLASS MERCHANTS, 116, BISHOPSGATE-STREET WITHOUT, LONDON.

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The Gardeners' Chronicle.

SATURDAY, JANUARY 17, 1852.

MEETINGS FOR THE ENSUING WEEK.

MONDAY,	Jan.	19	Chemical	8 P.M.
			Statistical	8 P.M.
			Horticultural	2 P.M.
TUESDAY,	—	20	Linnean	8 P.M.
			Civil Engineers	8 P.M.
			Pathological	8 P.M.
WEDNESDAY,	—	21	Society of Arts	8 P.M.
			Geological	8½P.M.
			Royal Soc. of Literature	4 P.M.
THURSDAY,	—	22	Numismatic	7 P.M.
			Antiquarian	8 P.M.
			Royal	8½P.M.
FRIDAY,	—	23	Philological	8 P.M.
			Royal Institution	8½P.M.
SATURDAY,	—	24	Medical	8 P.M.
			Royal Botanic	3½P.M.

WE do not find that the Board of Health gives any information as to the cost at which LIQUID MANURE can be delivered by towns to the surrounding districts. Perhaps it is impossible to do so; for no board can tell the shape which local circumstances may compel such an operation as the removal of the fluid pollutions of towns to assume. The Board says, indeed, that it is preferable *to incur the total loss* as manure, of ordure and urine, or of animal and vegetable refuse in towns, than to allow it to be retained for occasional removal, and, during the intervals of removal, to putrefy and create noxious gaseous impurities, amidst or near dwellings; from which we may infer that the Board of Health is of opinion that the removal of impurities being an indispensable operation, upon mere sanitary grounds, the inhabitants are bound to remove it, wholly irrespective of converting it to a purpose beneficial to the towns in a pecuniary sense; and that whatever the sale of it may produce, is so much saved from the loss that must be inevitably incurred. We observe, too, that the Board of Health is of opinion that in all cases it would be good policy on the part of the consumers, and to postpone the determination of pecuniary returns until the fertilising powers of the manure, and the convenience of the distribution, which they will probably have had no opportunity of witnessing, have been demonstrated to them by actual results.

That being so, the question is nearly reduced to the expense of distribution; at least, it will be for the consumer to consider what he can afford to give for town refuse, after providing the distributory apparatus. Upon the last point, the information collected by the Board of Health is valuable. A considerable number of cases in which the actual outlay for distribution has been ascertained, are given as a guide to persons willing to employ the sewerage of towns; and on this head the "Minutes of Information" have great practical value. In one case, by the outlay of 1000*l.*, the cost per acre is found to be 2*l.* 10*s.* for apparatus capable of applying 4800 gallons per acre by a man and boy, who can cover 10 acres in an ordinary day's work. In another instance, the outlay being 210*l.* for 40 acres, the annual expenditure of distributing 19,000 gallons per day of 10 hours, at the rate of 5000 gallons per acre at each application, is stated to be 13*s.* 4½*d.* per acre. It would be useless to multiply such cases, which can indeed be only studied advantageously by the "Minutes" themselves, and the plans they contain being placed before the reader.

If we were looking at this matter in reference to its application to agriculture, we should consider the evidence perfectly satisfactory. But gardens and gardeners are generally placed in quite a different position from farmers. In a vast majority of cases gardeners are small holders, with small capital; and they are incapable of spending 500*l.* upon an apparatus for distributing liquid manure, even if the apparatus should reduce the cost of distribution to 10*s.* an acre on a large scale. It is obvious that in small holdings steam engines, with the buildings, &c., belonging to them, can never be made to pay; because a very large sum must be spent to acquire a power which in a small place has nothing on which to expend itself. To garden with a steam engine is in most cases like drawing a wheelbarrow by an elephant. If gardeners are to use town manure in a liquid form, it must not only be brought to them, but the power must also be provided by means of which it may be forced through a simple, inexpensive distributing apparatus. Will towns do that? And if they do, will gardeners use liquid manure? To some extent they no doubt would; but it must never be forgotten that horses are required by a gardener to drag his produce to market; and it may be more profitable to bring back a load of solid manure, than for the carts to return empty for the sake of obtaining town manure at the door. What shall be most profitable may, however, be safely left to time for its discovery, and we need, therefore, pursue this part of the question no further; but in a succeeding article confine ourselves to some of the practical points involved in the employment of liquid manure, to which we think sufficient attention has not yet been paid.

As our correspondent "Quercus" has alluded to the cheap mode of STACKING ICE, which he has successfully followed for some time, it may perhaps prove of some interest to our readers to learn how much in advance of us our cousins in America are, both in the construction of their ice *sheds* and in the application of ice to a variety of purposes, which we think might be usefully and profitably followed in this country.

Perhaps of all the plans of keeping ice ever invented, none are so perfectly in opposition to the laws of conduction and radiation as our inverted cones of ice-houses made with a single wall. Such are generally buried underground, and have no means of access except by a door situated towards the top; and the straw, &c., with which the space between the ice and the roof is filled, has to be removed each time the house is opened. We need not enter into particulars why, in 9 cases out of 10, ice rarely ever keeps longer than Midsummer in such houses—that fact is well established—and the reason is apparent to all who have paid attention to the laws which govern the conduction of heat from one body to another, and which is explained in the sequel to our leading article of last week.

Our present object however, is to show that the American system of keeping ice is a great improvement on our own; and more in accordance with scientific principles. Their houses, or rather sheds, are built of wood, generally of sawn boards, one inch thick, and which are nailed on each side to the upright posts supporting the roof. A hollow space is thus left, about 9 or 10 inches in width, and this is carefully packed with dry saw-dust, the best non-conductor they can employ. The roof is thatched either left entirely hollow or packed with sawdust, to prevent any heat being abstracted from below. Another advantage is this,—they are always above ground, and are thus exposed in summer to all the heat of their climate, and yet they keep ice, with but very little loss, through the season.

One of their modes of applying ice (and which we believe is patented), is to produce a cold room or cellar, to induce the rapid cooling or setting of butchers' meat immediately after being slaughtered. It is well known that in close and warm weather fresh slaughtered meat never becomes sufficiently cool *to set*, and when such is the case decomposition commences, and the meat becomes tainted. To remedy this they form a kind of ice loft; a room having the cellar in which the meat intended for cooling is below—the floor above which, and on which the ice rests, is of metal, to transmit the cold from above more effectually. The roof over the ice is thatched, and the hollow wall all round is packed with saw-dust in a similar manner to this shed, except, when the building is brick, a cavity is formed inside, with boards, for the packing; by these means a very cold temperature is formed below, and the newly slaughtered carcases are soon cooled, even in the hottest weather, either for cutting up or salting.

We are acquainted with a large bacon factor, who is having a shed erected for a similar purpose, and which he doubts not will prove a most profitable undertaking for him; and there can be no doubt that this practice will soon become general, as the annual loss from *tainted* meat must be great. We imagine that such erections would be advantageous near the new projected abattoirs. In fact, could we keep ice in larger quantities, the ways in which it might assist us in the daily economy of food are numerous. And one way of keeping it would be, to give up our present expensive plan of erecting ice-houses, and adopt one more rational, far more cheap, and which would enable us (we have no doubt) to keep ice much better than we now do, and that in larger quantities.

We may, perhaps, be permitted to ask if any of our readers have ever tried putting thin ice in the house without breaking it? It strikes us that we are wrong on this point as well; and we feel sure that, when ice can be procured upwards of one inch thick, it will keep better closely packed, but not pounded. *S.*

WE understand that Elvaston is at last accessible to visitors. Orders having been given by the noble proprietor that some of the magnificent duplicate plants should be sold, those who are desirous of becoming purchasers are admitted to view the grounds. We believe that among the duplicates are some noble Araucarias, one of which, 13 feet high, was parted with the other day.

GARDENIA RADICANS.

IF the value of a plant consists in the beauty and fragrance of its flowers, the abundance in which these are produced, the little trouble requisite for its successful cultivation, and its facility for blooming at any season of the year when its flowers may be most wanted—and if plants were cultivated more or less extensively, according to their merits—it would not have to be said of this Gardenia, and that after it has been common in collections for nearly half a century, that it is oftener met with in a neglected condition than affording evidence of having received the attention which it so well deserves. The following hints will, it is hoped, serve to induce a better state of things.

The propagation of this Gardenia is neither tedious nor uncertain. Plants which have been grown in heat will furnish cuttings in abundance; and if the stronger pieces of the young wood, in a rather firm state, are selected for the purpose, the pots plunged in a gentle bottom heat, and treated in the usual way, they will probably be sufficiently rooted in six or eight weeks to allow of their being potted singly in 4-inch pots. For this potting, use fibrous peat, and a sufficient portion of silver sand to ensure porosity after the fibre of the peat has become decayed. The plants should be replaced in bottom heat, and kept warm and moist until they are fully established in their pots. As this, like most hard-wooded plants of dwarf habit, grows slowly, it will be necessary, in order to secure plants sufficiently large to be worth attention as flowering specimens by the end of the second season, to keep them growing as freely as possible. If they can be accommodated in a dung or tank pit, and allowed plenty of pot room, they will make rapid growth. At the end of the second season they should be nice compact specimens in 8-inch pots, and may be treated as flowering plants; and if properly managed, will furnish some 50 blossoms. The flowers are produced upon the young wood; and, in order to have them in abundance, this must be thoroughly ripened. In this the whole secret, if such it may be called, of the successful management of this Gardenia consists. If the plants are kept in a moist, warm place after they have completed their growth, they will push a second time, and

this without any further attempt at flowering than setting a number of buds, and perhaps perfecting during the course of their second growth a few flowers ; on the other hand, if they are removed to a cool place before their growth is completed, and their flower-buds formed, their flowering will altogether depend upon their future treatment. Plants from which an abundant supply of blossoms is expected should be grown in heat, and allowed to remain there until their flower-buds are formed. They should then be moved to a cooler place, and gradually inured to a free circulation of air and full exposure to the sun's rays. After remaining in this situation for a month or six weeks, their tendency to growth will be checked, and they may be replaced in heat, to encourage the speedy development of the blossoms ; or if these are not wanted for some time, they may be kept in a cool house, removed to the shade of a north wall, or placed wherever they will be safe from drenching rains. In this way their flowering may be retarded for months, and they will be ready, with the aid of a little excitement, to burst into full blossom whenever they may be wanted.

In order to secure a constant supply of flowers it is only necessary to provide a sufficient stock of plants, and to introduce a portion of them into heat, treating them as already described. If the first lot of plants is placed in their growing quarters in March, and a second in May, and so on, until September, there will be little difficulty in having flowers at any time when such may be required. In these operations it may be necessary to exercise a little forethought at first, but a season's practice and careful observation will furnish more information on this part of the subject than can be obtained by any other means.

As a plant for winter forcing, this will be found to surpass most of the usual subjects for that purpose; plants which were grown early in the season, and whose flowering has been retarded by having been kept in a cool shady situation during the summer and autumn, will come into bloom at almost any time, with the assistance of a few weeks of a warm pit. This Gardenia is of little use, however, for flowering during the winter, except when it can be kept in a warm place ; for if removed from the forcing pit to the conservatory or greenhouse its flowers soon decay, and the ordinary temperature of these houses is not sufficient to induce the development of other blossoms. Nevertheless, kept in a warm pit, it will be invaluable to those who have to supply large quantities of cut flowers, which are sure to be highly esteemed for bouquets during the winter.

As regards soil, I use fibrous peat, to which I add about one-fourth of light turfy loam and a portion of charcoal, with plenty of silver sand. I pot my plants previous to placing them in their growing quarters, but I usually shift established plants only every other year. This plant is not a strong grower, and therefore it does not require so much pot room as most plants do. A little clear liquid manure-water applied during the growing season, and when the plants are flowering, will greatly assist such as may be in rather small pots. *Alpha.*

HERBS.

No. III.—Liquorice.—The cultivation of this plant is but little understood in this country ; it is grown in but few districts round London. The first field of it I ever saw was at New-cross, nearly where the station of the Brighton Railway now stands. That was 23 years ago. The locality is called the Jerusalem-level, and before the Thames was banked in, there can be no doubt that at high water the river flowed over this ground for some eight miles, covering many hundreds of acres, each tide depositing mud. This deposit is 4 and 5 feet deep, rather sandy, but quite free from stones; and this is the kind of soil to grow Liquorice in. All ground for this crop must be clear of stones, which would cause the roots to be forked and crooked, and thereby diminish their value. The subsoil ought to be sand or gravel, in order that no stagnant water might lodge about the roots during winter. To prepare Liquorice ground well, it should be dunged to the amount of from 40 to 50 tons an acre—depending, of course, upon the previous richness of the soil—and spade trenched to the depth of 4 or 5 feet, and laid up in ridges till the spring. In March the ridges can be levelled down, and prepared for planting.

The largest growers of Liquorice now round London are at Mitcham, and if anyone is desirous of cultivating this plant, he could not do better than apply there for stock. The underground stems or rhizomes are what should be planted. These grow horizontally about an inch below the surface, and never descend nor come up. They sometimes push 3 and 4 feet in a year. They are furnished with eyes every 2 inches, which grow well the first year after planting. Every November these underground stems must be forked up, cut close off by the neck of the roots, and, if fresh plantations are wanted, they are cut into lengths of two eyes each, and wintered in heaps out of doors, covered over with straw and mould, like Potatoes ; but, if not required for planting, they are sold at once for some of the inferior purposes of sweetening, as, for instance, for beer. These underground stems are pithy, and not half so sweet as the roots. They are generally the size of a quill, and if they are not removed every eye grows along their whole length, and fills the ground with worthless Liquorice, completely choking the main crop.

A Liquorice plantation looks something like so many sapling Ash trees, about from 3 to 4 feet high, but sometimes they reach 5 feet, throwing out leaves every 4 or 5 inches. The stems are as thick as a middling-sized Willow, hard and woody. They are used for thatching sheds and lighting fires with.

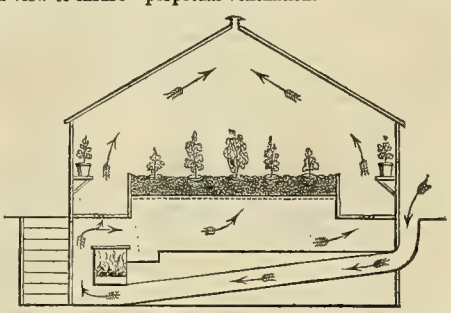
The proper time for cutting the stems down level with the ground is November, when the sap has descended, and the tops appear yellow. Those who have saved their underground stems for planting, should put them in, in March, in rows 18 inches apart, and 9 inches distant in the row, something after the fashion of Willow slips, or Currant or Gooseberry cuttings, only both eyes are left on. They are planted nearly level, say an inch below the surface. Nothing more is required except keeping the ground clean, and, as I have said, removing the under-ground stems every November for three or four years, until the main crop is lifted.

Ground at Mitcham costs from 3*l.* to 4*l.* per acre. An acre of three-year-old plants will produce between 4 and 5 tons of good roots, and the price for the largest and best roots, as I was told, is from 60*l.* to 70*l.* per ton ; smaller roots much less. A good Liquorice-stick is about the size of a well-grown Horse-Radish, although some are as thick as small Parsnips, and 3 or 4 feet in length.

In taking up the crop, a trench is taken out to the depth of 3, 4, or 5 feet, according to the nature of the former trenching ; a rope is then tied round the top, and it takes all the strength a man has got to pull the plant up. The root generally breaks off, say a foot or so below the trenching ; but, having no eyes, it never sprouts again. I have been informed that home-grown Liquorice is better than foreign ; and if the acreage given above be correct, it must be a paying crop. *James Cuthill, Camberwell.*

PERPETUAL VENTILATION.

In your interesting article, at p. 819, 1851, respecting "Burning of Vine Leaves in Winter," it is stated that "as regards the means of securing perpetual ventilation, we are very nearly as ignorant as we were a century ago." This is a very serious allegation. Can no one come forward and throw some light on so important a subject? Where are the advocates of Polmaise now, who at one time contended so warmly for the principle of perpetual ventilation? Some are in the grave, others may be dormant. But the seed sown has germinated, and only wants the persevering hand of practical science to secure a perfect development. When I was in the noble conservatory at Kew some time ago, and beheld all the costly, complicated hot water apparatus below, I thought with what facility the same thing might have been accomplished by the cheap and simple construction of a Polmaise stove or two, with the additional advantage of a humid atmosphere and perpetual ventilation. I certainly should not speak so favourably of Polmaise if I had not proved its superiority in a pit which I erected some years ago. I have known the thermometer to stand at 60° when the cold without was 18° below freezing. At that time the external air was rushing in, passing over the stove, diffusing itself beneath the bed where fruiting Pines were growing, and, at the same time, the top sashes were let down nearly an inch, with a view to insure "perpetual ventilation."



The accompanying woodcut represents a section of an intended plant stove, 40 feet by 20 feet, which is to be erected here, and heated by Polmaise. It differs little from houses of the same kind, except in the perpetual ventilation at the top. The paths and bottom of the pit will consist of flags, resting on sleepers of Oak (or iron), supported by 9-inch brick pillars. There will be cast-iron gratings in the paths, to allow the heated air, made humid by passing over the steaming tank behind the stove, to ascend. The stove will be built with fire-bricks, and covered with a large strong flag of the same material. The smoke flue will be carried round the house, below the ground level, so that no heat may be lost. There are many other items which curiosity might wish to see specified, but I trust the above may suffice. *W. Fitzsimon, Hornby Castle, Catterick.*

FOREIGN GARDEN GLEANINGS.

I send you a few notes, made this autumn, on the foreign gardens of Germany, particularly with reference to collections of Orchidaceæ. Throughout Germany there prevails a taste for window flower gardening and nosegays ; and yet, compared with floriculture in England, all the plants, or nearly all, as far as I could judge, are, with few exceptions, ill grown and produce few flowers : but beginning in the Low Countries and all along the Rhine, at all the smaller towns there are flowers in pots in nearly every window.

At Frankfort, where there are some fine gardens of private persons, fruit, are common and poor. As regards fruits however, the season has been so ungenial, that even the Apples of the Rhine, nay more, even of the Bergstrasse have failed, or nearly so, and not a bunch of Grapes was to be seen on the Vine-covered hills ; and it was not until we got into the more genial climate of Wurtemburg, that we saw the Apple and Plum trees by the wayside laden with fruit. The sorts appear those which are hardy and fit only to undergo the process of edulcoration by heat, either in the pot or oven ; of the different kinds I tried, it was rare to find one eatable in a raw state.

At Stuttgard, the court gardens are well laid out, and there are about 100 gigantic Orange trees, rivalling, as it appeared to me, those of Versailles. The Botanic Garden was, as is usual with all such collections, dull and useless ; large half lighted greenhouses, filled with great straggling Australian and other such like plants, which were already taking up their winter crepuscular quarters, again to be brought out in May. There appeared, however, to be a larger stock than usual of plants for bedding out, and hence I suppose that the Royal Gardens here are more carefully decorated than is usual in such places ; possibly this may be the remains of the taste of the good old Queen of Wurtemburg, who is understood to have carried from Frogmore her love of gardens, and to have found solace in this taste, for the many miseries of her dreary life. I should mention that a very gruff gentleman who was pointed out as the *Hoffgartner*, was superintending this winter housing, and was anything but civil in communication. I ought to state that there are, I understand, a better collection of plants, and a house of Orchids, at the summer residence of the Court.

After Stuttgard, there was the Munich Botanical Garden, and a more dreary one I never saw. It beats the Stuttgard one hollow. A few large beds of out-door plants, arranged according to the Linnæan order ; the same dismal houses of greenhouse plants, and a large hothouse crammed with a mixture of old stove plants stifling each other. These, however, very much called to my mind what I had seen at Edinburgh and Glasgow last year, only they were 25 per cent. worse.

Why is it that these ghosts of old, and useless gardens are not given up? All the curators complain, and account for the state of them, that there is no money afforded for their support. And why should this be? What in the present day is the use of a botanical garden, unless, indeed, it is connected with a professorship and lectures on botany and vegetable physiology, so as to afford opportunities of clinical study and clinical lectures? Why, even our Kew is but a large flower garden : it is no school for botanists ; no lectures are given, and no public herbarium, the one in London not being connected with our great public garden. So far, therefore, as science is concerned, Kew might be a tea-garden, except as far as Sir W. Hooker makes known through his publications the treasures which the collection contains.

At Munich I saw M. Weinkauff, the head gardener, who was very intelligent and desirous of showing what was to be seen ; and it is clear that it is not from want of will or capacity on his part that the garden is not in a better state. There was a small collection of plants of Orchids ; nothing rare, and nothing particular as to their cultivation. Slanting from the back of a lean-to house there was a large boarded screen, and to this most of the best specimens were either nailed in moss, or were grown in pots suspended by wires leaning against the screen ; and the plants were healthy, but not what we in this country should call well grown. However, it struck me that this arrangement for small specimens is good. Only one plant (Trichopilia tortilis) was in flower.

After Munich came Dresden, and there the garden was even more unimportant than those I have mentioned—starved for want of funds. The collection of Mesembryanthemums was good and extensive, and I saw some two or three Oaks in pots which I believe are not in collections in England. There are two nurserymen at Dresden, who have each houses for the cultivation of Orchids, viz., M. Wontsuch and M. Seidel. The collection of the latter is the largest, but I think the former is the best cultivator. M. Seidel principally grows his on blocks ; neither collection, as compared with those in England, of Rollisson and Veitch, and even Henderson, were of importance ; but though the plants were small, yet it seems that more flower than we should expect. M. Wontsuch cultivates his in a small house well adapted to growing these plants, and on the whole I think his are the best, as regards cultivation, which I have seen ; but in all the collections here and at Tetchen the plants do not appear well drained, and when not grown on blocks, they are grown in a fat peat without fibre or sand in it. The chief specimens of all the German collections, I observed, are from South America. From India few plants appear, either of Dendrobiums, Aerides, Saccolabiums, Vandas, &c. The largest collection in South Germany is, I believe, to be found in the gardens of Count Thun, at Tetchen, in Bohemia, between Prague and Dresden. These I visited. The head gardener Mr. Jost, who had studied in England, both at Mr. Rollisson's, at Tooting, and at Chatsworth, I found a very intelligent person ; he has written a work on Orchids, which, however, I have not seen. His collection was in very good order ; many of the specimens large and well grown, and several were in flower ; the house, however, I suspect is too high, so

as to render it difficult to manage as to temperature, moisture, and light; and here, as in all other collections, there is only one house for all kinds. It seems that in the collections I have mentioned, and also in that at Berlin, little air is given; and the reason assigned is, that the air not being so moist (as from the nearness to the sea it is in England), the plants suffer from its admission—but I suspect this is an error; and the want of good drainage, of currents of air, and especially the want of a difference of temperature during the time of growth and of rest, and also of the affording a long rest, are the principal causes of the plants not being well grown, and not flowering like those which one sees produced at Chiswick, from the gardens of our principal cultivators. At Tetchen, the Orchids were beautifully arranged on stands and blocks, and on the whole had a very picturesque and stately appearance. The gardens generally were very well laid out, and well kept, and are shown with the greatest liberality. Here, as in other great German gardens, a certain sum is allowed for their support, and the gardener is allowed to sell duplicates, &c.; and Mr. Jost publishes annually a catalogue of such specimens as are to be disposed of; and this catalogue is very creditable as showing the extent of the general collection. I heard, after I had passed through Leipsic, that there was a collection which I should have seen, where the plants are large and well grown. I have since received the catalogue, which contains a list merely of those which are more generally found in our ordinary collections.

At Berlin, the Botanic Garden is large and well arranged, the Orchid-house well filled, and many of the specimens good, especially three large plants of Chysis bractescens, but not much that was rare or new; here were, however, crowds of plants uninteresting to the floriculturist, though interesting to the botanist. The specimens of Palms were very fine, and suffering much from want of a larger house. The director of the garden was lamenting that the Prussian State was not as rich as England, so that a house rivalling our Palm-house at Kew might be built, in which to lodge these fine plants. Attached to the garden was a large, and as I was informed, very valuable Herbarium, under the superintendence of Dr. Klotzch, and which is consulted by botanical students from all parts of Europe. Two young French botanists were there at the time of my visit, studying the Graminese. Being a cultivator of Orchids I remarked that, in all the collections I saw, the plants were very clean and free from scale and other insects so pernicious and troublesome to our growers in this country. *Dodman.*

BRITISH SONG BIRDS.

(Cage Birds, No. 45.)

No. LXII.—We were not wrong in anticipating that a single week would work a great change in the birds of early spring. They are already "up and doing;" and making preparations for early nidification.

The blackbirds in our immediate neighbourhood are full of life and energy; and we can ever and anon catch the harmony (still low) of their sweet voices. Their love is already declared; their suit has been pressed, their "acceptance" made sure, their "happiness" perfected. With such a mutual compact formed—how faithfully and religiously will it be kept! We may speedily expect the vernal melody to commence in earnest.

There is much diversity of opinion about *the cause* of birds singing. Why there should be more than one opinion, we know not. Birds sing, as *we* sing—because they are happy. We never "sing" surely, when our mind is ill at ease! Some may; but *we* do not. In this, truly, we "measure our neighbour's corn in our own bushel."

Macgillivray, a writer with whom we are by no means altogether pleased (for he recommends the indiscriminate, murderous slaughter, on certain occasions, of our small harmless choristers), has drawn a pretty and correct sketch of the blackbird. He has regarded him in the light of a happy parent *in esse*, or in expectancy,—for he sings in *both* cases equally well. A right joyous fellow is he,—we love him dearly. But now for a poetical description of his *àbandon* to the inspiration of his muse.

"It is not," remarks Maggillivray, "in the wild valley, flanked with birchen slopes, and stretching far away among the craggy hills, that the music of the blackbird floats upon the evening breeze. There you may listen delighted to the gentle song of the mavis; but here, in this plain, covered with corn-fields, and skirted with gardens, sit thee down on the green turf by the gliding brook, and mark the little black speck, stuck as it were upon the top twig of that tall poplar. It is a blackbird; for now the sweet strain, loud, but mellowed by distance, comes upon the ear, inspiring pleasant thoughts, and banishing care and sorrow. The bird has evidently learned his part by long practice, for he sits sedately and in full consciousness of superiority.

"Ceasing at intervals, he renews the strain, varying it so that, although you can trace an occasional repetition of notes, the staves are never precisely the same. You may sit an hour or longer, and yet the song will be continued; and, in the neighbouring gardens, many rival songsters will sometime raise their voices at once, or delight you with alternate strains.

"And now what is the purpose of all this melody? We can only conjecture that *it is the expression of the perfect happiness which the creature is enjoying*, when, uncarked by care, conscious of security, and aware of the presence of his mate, he instinctively pours forth his soul *in joy, and gratitude, and love.* He does not sing to amuse his mate, as many have supposed, for he often sings in winter, when he is not yet mated; nor does he sing to beguile his solitude, for now he is not solitary; but he sings because all his wants are satisfied, his whole frame glowing with health, and because his Maker has gifted him with the power of uttering sweet sounds."

There are very few of us indeed, who know how to enjoy the charms of a country life, that can help anticipating the vernal treats so ready to burst upon us at an early day. Nor do we envy those, who—

"In populous cities pent,"

can say they are happy, and want for nothing. Smoke and dirt, dust and noise, barter and anxiety, speculation and uneasiness—*may* sit easily on some shoulders. We have known much of such "enjoyments" ourselves; but *now*,—books and flowers, birds and pure air, are the only solace in which we care to take refuge. If ever happiness may be lawfully sought, it is in the fields or gardens, on a fine morning in spring. There we listen to our hero, singing his early matins; and we exclaim, with one of our modern poets,—Adams,

Methinks, methinks, *a happy life* is thine,
Bird of the jetty wing and golden bill!
Up in the clear fresh morning's dewy shine
Art thou, and singing at thine own sweet will:
Thy mellow voice floats over vale and hill,
Rich and mellifluous to the ear as wine
Unto the taste; at noon we hear thee still;
And when grey shadows tell of Sol's decline;
Thou hast thy matin and thy vesper song,
Thou hast thy noontide canticle of praise,
For Him who fashioned thee to dwell among
The orchard-grounds, and 'mid the pleasant ways,
Where blooming hedge-rows screen the rustic throng:
Thy life 's a ceaseless prayer, *thy days all sabbath days.*

In our last, we spoke of the small modicum of 'instinct' inherent in the blackbird. When we were boys, we used (boy-like, naturally "cruel!") to "draw" the nests of these birds. When we found four eggs, we removed three. To the odd one, the poor hen blackbird would lay another. This we *again* removed; and so on, for a number of days, until, Nature exhausted, the ill-fated bird would die on its nest! Oh, that we could write with a pen of iron, on the heart of every thoughtless youngster, the wickedness, the cruelty, of such a wanton act! How often have we shuddered, whilst contemplating these indefensible acts of ours in early childhood! We record it with shame, hoping that it will fall with a salutary effect on the conscience of others, who may even now be contemplating some similar act of early spoliation.

We need hardly add, that *most* birds, when they find their *locus in quo* is discovered, immediately decamp to other quarters. The *genus* "school-boy" liketh them not. *William Kidd.*

Home Correspondence.

Glass Walls.—Leather, says the currier, is stronger than stone. Mr. Rivers has invented a rough sort of place, which he calls an orchard-house, and which he finds so cheap and useful, that in his opinion it renders glass walls superfluous—being more commodious, more cheap, more good-looking. I think issue might be joined with him upon every one of these points. At all events, I know that the orchard-house is very ugly, and I believe that the glass walls will be of great beauty. I also know that I cannot get an orchard house built at any such price as Mr. Rivers talks about—nor near it: and I also know that when put together, in the most economical manner, it is but a rickety affair, about as durable as a cow-shed. Not that I would undervalue it on that account; no doubt it is useful, and so is a cow-shed: perhaps it will last long enough to pay for the outlay—which, however, I greatly doubt. But what I wish to know is, what all this has to do with Ewing's glass walls? To me it seems about as reasonable to compare a glass wall and an orchard house as an American clipper and a Thames lighter. *A Hertsman.*——In a letter accompanying a plan of his orchard house, Mr. Rivers, alluding to the patent "glass walls," says, "as well might Sir Joseph Paxton have patented his ridge and furrow roofing." Perhaps it is not generally known that the ridge and gutters of the Crystal Palace were patented by that gentleman in one of the early months of last year, and I believe at the express desire of Mr. R. Stephenson, the celebrated engineer. By a reference to the "Patent Law Journal" or "Mechanic's Magazine," the specification may be seen. I merely take the liberty to name this, in order to put Mr. Rivers right. *A Correspondent.*

Salisburia adiantifolia (Maiden hair tree, or Gingko).—The following are the dimensions of one growing at Whitfield, in Herefordshire:—Height, 49 ft.; circumference of stem at 1 ft. from the ground, 7 ft. 3 in.; circumference at 6 ft. 6 in., where it begins to branch out, 6 ft.; circumference of the branches, 40 yards. It was planted about the year 1770. *A. Clive.*

Pruning Forest Trees.—I should not seek to prolong the discussion of this subject, but that one most important question seems to have been overlooked, viz., what ought to be done with the dead and rotting boughs, with which all woods abound? Would your correspondent, "Quercus," in this case also carry out the let-alone system? The small dead boughs will, no doubt, mostly drop off, with little damage to the timber; but with the larger boughs the case is very different—they remain on the tree till thoroughly rotten, when they also drop off; but they leave a hollow, through which rain-water, and its sure follower, rottenness, are introduced into the very heart of the tree. In order to remedy this evil, I must maintain that the only cure is to saw off the dead boughs *close*—a process which scarcely ever fails of success, unless when the boughs are of a very unusual size. I am convinced that a very few pounds laid out in this way would, in all woods, save an immense quantity of timber from premature decay. *Expertus.* [No doubt.]

Night Protection for Glass Houses.—Mats appear to me to be very objectionable; cost, weight, and their untidy appearance render them unsuited for this purpose. Now, in my way of thinking, oiled calico is very likely to answer. I would therefore suggest, supposing we were about to cover a common lean-to house, that a light frame-work, the length and width of the lights, should be made of wood, say 2 inches deep and 1½ wide; over this I would tack some good stout unbleached calico, and with a common brush paint it with linseed oil, so as to thoroughly saturate it. I would then nail on to the rafters of the house a small fillet in the form of a groove, into which these frames when required should be slidden. I merely suggest this as a principle which is capable of being carried out in various ways; for instance, instead of calico, patent felt might be used, which would last a lifetime, with proper care and attention. Then, again, in small houses, a number of breadths of calico (oiled of course) might be sown together and made to wind upon a wooden roller, similar to the white blinds in a dwelling-house, with a few rings, &c., to keep it in its place when in use, and a wooden cover to protect it from the weather when rolled up; this, if properly constructed, might be the least troublesome. Either of the above plans could be made to suit span-roofed houses, as well as "lean-to's," my object being simply to call attention to the subject. By-the-bye, there is a thin sheet gutta percha manufactured about the substance of writing-paper, the cost of which is 5*d.* per square yard; could this be used on the canvas instead of oil, or in any other way? *N. Burgess, Hackney.*

Koordish Remedy for the Sting of a Scorpion.—Apply a poultice of sour paste to the part affected. *H. H. C., Erzeroom.*

Boxes and Tubs for Orange Trees, &c.—It may possibly be of service to raise a discussion upon the materials best adapted for constructing portable boxes or tubs for Orange trees and plants of that kind. The contest will most likely rest between wood and slate. Each will, I trust, receive its recommendations, or *vice versa*, according to its merits, in the various purposes which the plants are destined to serve. "Economy with suitability" must constitute the basis upon which the plans are recommended; "economy and durability" being synonyms in the case. For in-door purposes most people will prefer slate; but being a good conductor of heat, it is not so suitable for out-of-doors, where changes of temperature are sudden and varied, being exposed to the full effects of a burning sun by day, and a temperature occasionally approaching freezing at night. Both of these extremes are produced by slate with a rapidity contrary to the gently varying temperature of the earth, and are well known to cause ill effects upon plants, on account of the sudden changes that take place at the roots. These evils may be mitigated, if not obviated, by using a double casing, thereby securing a vacuum, which would prove beneficial in-doors and out; or a substitute might be found in a neat casing of wicker-work to inclose the tub when removed out-of-doors. Without these or other precautionary measures, "wood" will generally prove the most suitable material to use. I would also direct attention to the size of the tub or box, which all will agree should be proportionate to the size of the plant. This will answer in the case of large trees where wood is used, but with slate, a large size must, I fear, prove a serious objection, particularly above 26 or 30 inches across the square, on account of its weight. It is a question—what the largest size is we dare prudently use in the case of slate, in order that the tree may remain undisturbed, as it necessarily should do, for years? Experience proves that they will thrive best in a tub, too small rather than too large. Wooden boxes are made with two moveable sides, in order to afford the means of examining the state of the soil, roots, &c. I have not seen slate fashioned in this way. I have used pitch as a "preservative" for the inside of wooden boxes, but I do not think it preferable to a slight charring. *W. C. E.*

Propagation of Eels.—Many thanks to "G. H." (p. 22) for his second letter on this subject. It appears to me that we think very much alike about eels. He says "that his pond is 50 miles from where the river Nene flows into the sea; therefore how is it that these little eels get no larger in their long and tedious journey, interrupted as it is by numerous and almost insurmountable obstacles before they could reach the little ditch three quarters of a mile long, which would conduct them to our pond; and last of all, after this long and tedious journey, within 100 yards of their destination, they would have to climb four waterfalls and a perpendicular sluice-board. It appears to me that they should have grown much larger than a common tobacco-pipe during that time; but I will leave this point to 'H. G.' to explain." This is so fairly put, that I will tell what I have seen, hoping that this will be a sufficient explanation. In June, 1850, I happened to go down to the bank of the river Ribble, and there I saw a column of small eels steadily making their way up the stream. I should suppose there might be about 50 in every lineal yard (for they kept pretty close to the 'bank, apparently because they met with less resistance from the stream), and without pre-

tending to accuracy I supposed they travelled at the rate of a mile per hour. This was about 5 o'clock in the afternoon, and I went to look at them again about 9 in the evening. They were still going in one unbroken column. How long they had been going when I first saw them, and how long they continued to go after my second visit I don't know, but many thousands, perhaps millions, must have passed on that day. At this rate, they would have required little more than two days to reach "G. H.'s" pond, 50 miles from the sea; but he says they had to pass over three or four waterfalls, and a perpendicular sluice-board. If these waterfalls and the sluice-board were covered with moss, they would climb them as readily as a cat does a ladder. I have seen them in swarms at a perpendicular weir here, winding their way through the damp moss, with which the stones are covered; but this was not all. Where there was no moss, the little things seemed to have the power of adhering to the perpendicular face of the stones, like so many snails. I must not omit to remark that, although they seemed to choose the margin of the stream for the sake of easier travelling, yet they took care to keep in the stream, as I had a nice opportunity of remarking; at the point where I first observed them, the tail grit of a water-wheel had its junction with the river, but being Sunday there was no current there. Not a single eel took its course up the tail grit, although the water was deeper there than where they went. The water being low and perfectly clear, I could trace their course, both above and below the place where I stood, without any difficulty. If we allow that they travelled a mile in the hour, and that the obstruction of the waterfalls and sluice-board required as long to get over as all the remainder of the journey, this would enable them to reach "G. H.'s" pond in four days from the sea; and from what I have seen of their ability to surmount such obstructions, I am quite convinced that they would travel that distance in the time; but say they were a week; they would not grow much in that time, particularly if they had been travelling without food the whole of the time, and that they must have done so is proved to my mind by their keeping in column; for if they had dispersed to seek for food, by what contrivance were they marshalled into line again to enable them to proceed? Now, the place where I saw them is 40 miles from the sea, although perhaps not quite that distance from salt-water. "*T.*" says that it is no proof that eels are bred in fresh water, because they may be found in ponds having no communication with a river. The proof required is *ab ovo*. If he waits for this proof, I fear he will have to wait some time; for I fancy no one but Mr. Boccius ever saw the ova of eels, and he will not condescend to enlighten us on the subject; but at the time time I admit, that finding them there is no proof that they were bred there, inasmuch as I have myself stocked such ponds for my friends; and what I have done may be done by others. "*T.*" says further, "There is also room for inquiry into a rather curious subject—Do eels after having gone to the sea for spawning (?) ever return to fresh water?" In reply to this I can only say that no trace of such a migration is ever seen here; and I think, if it existed at all, I should have observed it, for the following reasons:—The Ribble here supplies a large mill, the water wheels of which are 150 horse power, therefore when they are at work in the daytime the whole force of the river is frequently passing through the mill lead (grit), and the bed of the river between the tail grit and the weir (two-thirds of a mile) is suddenly left dry, except a few pools; if there was a shoal of eels between these two points it would have been seen at one time or another, and this has never happened so far as I know; it may be said that they migrate singly; but they don't do so in their first migration, and so far as I am aware it is not the habit of any animal to do so. Herrings, pilchards, smelts, flounders, sturgeon, bisons, antelopes, woodcocks, swallows, fieldfares, locusts, and even butterflies, congregate together previous to migration. *T.G., Clitheroe.*

Clarke's Preparation for killing Mealy Bug, &c.—I have tried this mixture, and can confidently declare that far more plants were destroyed by it than bugs. The only really efficacious ingredient in it is the turpentine, which certainly destroys the insects and the plants also. *Anti-Humbug.*

Currants are Blackberries.—In your Notices to Correspondents of last week, you ask "G. T." if a Blackberry is supposed at Kelso to be a Currant? I beg to inform you that it is generally known at Kelso by that name, and at the same time known and advertised under that designation in every nursery throughout Great Britain. *George Taylor.* [This is a piece of news which our friends in the south will be rather amazed at.]

Tomatoes (see page 5).—Your correspondent, W. Brown, asks for information respecting an early supply of this most useful vegetable. If he will pardon the Hibernian character of my answer, it may be of some service to those of your readers who live so far north as I do (on the banks of the Humber), to know how they may procure a late one, for it is both more savoury and more safe than the Mushroom. This year only one fruit ripened with me upon the plant, yet the fresh fruit has been used in my kitchen for these three months or nearly so. Having a large surplus of plants in May, instead of consigning them to the dunghill, I planted them in rows 2 feet apart on a vacant piece of ground. When they became too high to support their weight they were staked, and nothing more was done to them until appearances threatened an October frost that would have destroyed them, on the eve of which they were pulled up, and the green fruit was stripped and hung up in festoons over the whole ceiling of the kitchen, where they have gradually ripened, and supplied the table abundantly, almost without the failure of one, however small. Generally, however, I do not obtain more than two-thirds of those so treated; but this year, though they were more than usually backward, the plan was more successful than ever. And there is still remaining another week's supply. I use no seed but what I save myself, for I once lost my crop by depending on what I bought. The last I saved was in 1846, from a single fruit, weighing above half a pound; and every seed I sowed in 1851 germinated; the cause of which I take to be, that they were dried in the natural juice of their own pulp, which forms a thin film over them, sufficient to exclude the air. And it is thus I always dry the seeds of Melons, for the same reason. *Iota.*

Phillips's Fire Annihilator.—It is extraordinary how strong public prejudice is against new inventions. People are always ready to "Pooh-pooh!" first experiments, which often lead to most important results. A week or two ago I was glad to see that you had brought forward the case of Phillips's fire annihilator, as I have long been anxious to know whether it is a mere interesting toy or an invaluable discovery. What I want to see is a practical proof of its powers in some one of the accidental fires which the newspapers of late have too frequently recorded. Some months back, among several large fires, with small beginnings, there was one at Alderman Humphrey's new warehouses, near St. Saviour's Church, Southwark; and according to Mr. Humphrey, jun.'s, testimony, a very little power, judiciously applied, would have arrested it. But some time was required to get the engines, and then to get the hose to the river, and all this time the fire raging on until it became a mass of flame little affected by the immense volume of water thrown upon it. I spoke about the annihilator to the firemen; they laughed at it, and I went to the annihilator office, but they said "they were not allowed to interfere with the firemen." Can this be right? perhaps human life sacrificed for some piece of prescriptive right! But they say, two or three powerful annihilators would, if on the spot (say at all police stations), have smothered the flames in the first instance. We read of numbers of tar and combustible-filled model houses and ships, with roaring flames, speedily subdued by these apparatuses, but one application of them to a real house on fire, would do more to test its merits than a thousand exhibitions. In the late frightful loss of the noble new steam-ship Amazon, with her immense sacrifice of life and property, would two or three of these apparatuses have (if applied when the fire was first discovered) overcome the horrible enemy? Was it not worth a trial? *Asbestos.* [Does our correspondent think that insurance companies desire the public to believe that fires can be effectually prevented in five cases out of six. If that were shown to be so, whereabouts in the market would the shares of companies be found?]

Rain.—The following fell during the past year at Carlesgill, parish of Westerkirk, Dumfriesshire:

1851.	Ins.		Wet Days.
January ...	10.72	.....	26
February ...	4.74	.....	11
March ...	4.95	.....	22
April	2.86	.....	19
May	88	.....	22
June	5.50	.....	16
July	6.60	.....	21
August ...	5.15	.....	20
September .	2.90	.....	12
October ...	5.86	.....	21
November...	1.54	.....	11
December...	2.70	.....	16
	54.40	.....	217

Average fall for the last nine years, 57.50.
Greatest fall in one year (1846), 68.71.
Least (1844), 41.04.
Greatest fall in one day (in 1851), 25 Sept., when 2.40 fell in little more than 12 hours.
June 4, ice and snow on the distant hills.
July 4, Potato tops and Bracken (Ferns) blackened by frost.
April 21, swallows seen and cuckoo heard.
April 28, cornraick heard.

J. Little, Jan. 3.

Wire Rope (see p. 22).—I certainly cannot recommend wire rope when it is required to work round a sheave, unless the diameter of the sheave or drum is at least 3 feet. One broke with me in a very few weeks, though only 10 feet long, and the weight at the end only 70 lbs., being worn and broken where it worked over the sheave. *C. L. C.*

Glasnevin Botanic Garden.—The following is an extract from a Dublin correspondent relating to this garden, and I am glad to see that what has been said in the *Chronicle* has had the effect of calling the attention of an intelligent friend of mine to this useful institution, and who, it seems, till he read of Glasnevin in your pages, had not taken the trouble to pay a visit to these gardens. *Dodman.* "By the mention of Glasnevin Gardens in the *Chronicle*, more than once, you have certainly enlisted me on your side. I own, though I had heard that hothouses had been built, I had never (since I came to reside here) been induced to make a visit to these gardens. After reading your notes about a year ago I went, and, having been once, I soon repeated my visit. I own that you in nowise exaggerated their merits or their utility; and the skill and attention of the curator, &c. The plants are in admirable health, and well arranged. The collection both of in-door and out-door plants very good, though of course not complete. Seeing that there are, it may be said, scarcely any funds for its increase, the wonder is how so many interesting and rare specimens have been gathered together. Some people are all the better for a spare diet, especially if they be of a plethoric habit; but a botanical garden, I should think, flourishes only when there is sufficient income for its due support. I own I was not over-pleased when you seemed to assume that our botanical establishments were the only ones honestly conducted, and which were free from jobbery. There may be some flagrant instances of malversation here and in other parts of Ireland, but I think these are the exceptions, and not the rule. I am willing to admit that though knowing many of the public gardens in Europe, I do not think there is one better conducted, or more useful to the students and those engaged in scientific pursuits; and yet, I believe, there are fewer gardens, even in the small German states, with such small means; and one cannot but own that it is no great encouragement to be honest and zealous, to be thus starved and pinched. I have heard that the Lord Lieutenant takes much interest in the success of this establishment, where lectures are given, and the School of Design, and, I believe, some pharmaceutical lectures are supplied with specimens; and there is a decent establishment for the instruction of the young men employed as gardeners, who, however, carry on their studies in a dreary back lean-to. Why are not these gardens put immediately under the superintendence of the Office of Woods, in the same manner as is the case with the gardens at Kew? I understand application has been made by the governing body of this garden for a fair share of the plants, seeds, and specimens collected at public cost, and I do not see why we should not have a museum as well as that of Kew, or why a herbarium for botanical students should not be commenced; it is possible that many duplicates from Kew and other places might be obtained. One is delighted to find some one point in this place on which there can be discussion without there being any religious or political bias to poison the whole matter. I may mention, that in addition to the general collection, that relating to specimens of agricultural produce is interesting, and I really believe useful. Do not forget us. The *Chronicle* is read by many here."

How to Crop a Small Kitchen Garden.—When the Strawberries have done bearing the third year, clear them away, well manure and dig the ground, and plant Early York Cabbage at 20 inches row from row, and 1 foot plant from plant. They will come in for use during the autumn and early winter months. About the beginning of October, plant a row of August sown Cabbage between each row, at 1 foot apart in the rows. Keep the earth well stirred, either with the fork or broad hoe, and draw it well up to the stems of those last planted; the following spring take out every alternate plant for use as Greens, leaving the remainder to Cabbage. Let the Parsnips that remain in the ground be taken up in February, and the ground manured and dug. Plant one or more rows of red Dutch Cabbage, according to the demand, placing them 2 feet apart, and the remainder plant with white Cabbage, 20 inches apart each way. In last week's article, line 12 from the beginning, place the full stop at the end of "way," instead of "year." As it is printed, it would appear that I trenched one year, and did not plant till the following. *J. Steel, Clitheroe.*

Potato Disease.—It is said that the disease commences in the haulm; then how does it happen that in many cases on the same patch, where the top was quite dead, the tubers were free from taint, and where the haulm was greenest, the Potatoes were very much affected? Then again, in all the tubers showing the signs of the disease the skin is unbroken, proving the fungus to be generated in the Potato itself. This extraordinary phenomenon, which has visited us this year severely, appears to be produced in the tubers, they, from some hidden cause, being predisposed to the disease. If we bruise an Apple, without breaking the outer skin, decay takes place, and will destroy it in a short time; the injury having made the pulp a proper receptacle for a particular malady. It may be said, if one Potato suffers, why should not all, if the cause is contained within the tuber? For the same reason that every man, woman, and child, did not fall under the influence of the cholera, when devastating our island. Under Providence their constitutions were proof against the contagion. It is scarcely right to compare human and vegetable visitations, they may not be considered analogous, yet it may be permitted as an illustration. Remedies to prevent the rot are futile. Much may be done to mitigate the evil, by carefully saving seed, early planting in soil not too rich, with other precautions to strengthen the root. The following circumstance may be worth noticing, that Potatoes set in stiff wet ground, where the workmen pronounced they would be a failure, turned out the heaviest and best crops! Potatoes after been housed without a speck upon them, have in the course of three weeks become bad. The evil has puzzled, and will continue to puzzle us all; there is no use attempting to treat the effect, should the approaching winter prove severe. *Falcon.*

Reviews.

Vergleichende Untersuchungen der Keimung, Entfaltung und Fruchtbildung höherer Cryptogamen und der Samenbildung der Coniferen. Von W. Hofmeister. Leipzig, 1851. Pp. viii. & 179; tab. æn. 33.

The existence of male organs has been established beyond all reasonable doubt, in far the greater number of families which constitute the great group of plants commonly known under the name of Cryptogams. Some advance has been made towards their discovery amongst the Lichens, and there are indications of something of the kind even amongst Fungi. The investigations of Thuret and of Derbès and Solier have made known the existence of Spermatozoids in so large

a portion of Algæ, that we may regard their presence as universal; but the conditions of the female organs previous to, and after impregnation, have not been ascertained at present so clearly as to enable us to make any satisfactory comparison with what takes place amongst Phænogams, or, indeed, the higher Cryptogams under similar circumstances. As regards these latter, a glance at the beautiful plates, containing many hundred figures, which accompany the admirable work before us, and in fact form a most important part of it, is sufficient to show that the phenomena of impregnation have been so far ascertained as not only to afford much matter for comparison, but at once to call for it. The slightest inspection forces a conviction that the formation of the embryo, whether the ultimate production be a spore-bearing theca, as in Mosses and *Jungermanniæ*, and other Liverworts, or a frond, or frond-bearing stem, destined at a later period, sometimes after the lapse of years, to produce fructifying organs, as in Ferns, taken in their widest sense, commences with a single cell, which, if impregnation does not take place, is altogether abortive. It is quite curious to observe with what similarity this is effected, though the cellular body which contains the embryo sac is sometimes naked, as in Mosses, or completely immersed, as in *Lycopodia*. In all the higher Cryptogams,* there is always what may be called a pro-embryonic or prothalloid state; but with this great difference, that in Mosses and the more nearly related families, the spores first give out confervoid threads, which, by repeated multiplication of their cellular tissue, give rise either to discoid more or less lobed fronds, from which the archegonia, or mother sacs of the embryo, spring at once, or else form creeping or ascending shoots of greater or less thickness, clothed with leaf-like expansions of cellular tissue, often of great regularity, from certain points of which the archegonia spring, producing in either case after impregnation an organ which, by a metamorphosis of a particuiar portion of its tissue, gives birth to reproductive spores ready to go through the same series of phenomena. In Ferns, however, Equiseta, Rhizocarps, and Club Mosses, a different series exists. The spore first gives rise to a cellular expansion, which is sometimes very small, and confined to its apex or even almost inclosed within its ruptured coat; sometimes to a foliaceous lamina like that of some Liverworts, as in the true Ferns; or sometimes, again, to a body which calls to mind the earlier stages of the growth of Mosses just when the leaves appear, as in Equiseta, though in reality not bearing any very close resemblance. On the substance of this expansion in the one instance, or on the surface in the other, archegonia are produced as in the former group; but in this case it is not simply he organ of fructification which is the immediate end of impregnation; nor yet is it the formation of a seed, as in Phænogams; but of the plant itself, under many varying forms, which is intended ultimately by a transformation of certain tissue, similar to what takes place in the theca of a Moss or Jungermannia, to give birth as before to reproductive spores. It is evident that the object in view is far more similar in this division of the higher Cryptogams to that which is involved in the act of impregnation in Phænogams; the main difference consisting in the fact that in Phænogams the young plant or embryo exists for a greater or less time in a state of rest, while in the others the development is constantly proceeding, the reproductive bodies, being generated without any further act of impregnation. It is amongst these higher Cryptogams, then, that we may expect the nearest approach to the phenomena exhibited by Phænogams, though, as said above, there is a wonderful accordance in the growth of the embryo after impregnation amongst the whole body of Cryptogams.

The conifers, including the Taxads, which together form so singular a group, present the greatest similarity; and it is with these, accordingly, that our author institutes a comparison. Like the original mother cell of the spores of Rhizocarps and Club-mosses, the embryo-sac is one of the axillary cells, which there is changed into a sporangium, here into an ovule. In both alike the embryo-sac soon loses its mechanical connection with the surrounding tissue. These points, indeed, are common to the Coniferæ, with other Phænogams. But further, the albuminous cells, with which the embryo sac of Conifers is filled before impregnation, together with the corpuscula at its apex, which communicate by a narrow channel with the surrounding air, bear the most striking resemblance to the bodies formed at the apex of the germinating spore of a Club-moss, with their archegonia. As in the Club-moss many of the archegonia are sterile, so is it with the corpuscula, where no pollen tube has entered the channel. The most striking difference is that the corpuscles of Conifers are filled with floating cells or groups of cells, whereas there is but a single cell at the base of the embryo-sac of the archegonium, or entirely filling its cavity. This difference, however, in great measure vanishes when it is considered that the only cell which gives rise to the embryo is that which is pressed to the base of the corpuscle, the others doubtless affording sustenance to the young embryo. The subsequent division of the body, formed after impregnation into a bundle of suspensors of so many embryos, is a fact entirely *sui generis*, which is without parallel in other portions of the vegetable kingdom.

In the neighbouring family of Cycads matters seem almost reversed, the suspensor being divided above and terminating in a number of sacs, which a slight inspection might confound with the corpuscula. Not the slightest confirmation of the conversion of the spermatozoa into embryos, as indicated in Ferns by Leszczy-Suminski, in accordance with the theories of the Pollinists, is afforded by the multitudinous observations of our author.

The investigation of the growth of the embryo under such differing circumstances, would of course give occasion to observe the mode of increase of cellular plants. Nägeli has already paid great attention to this point; and Hofmeister confirms some of his views, but not all.

He informs us in the Summary of Observations with which his work concludes, that he believes that "the hope must be abandoned of deriving from the mode of the multiplication of cells, a generally available distinction between axis and appendage. The differences of the development of leaf and stem are only quantitative not qualitative.

"The distinction which Nägeli proposed in his acute treatise on the difference of leaf and stem are proved to be untenable. The leaf indeed arises immediately below the point of vegetation, before the completion of the formation of the cells at the point from whence it springs. But under like circumstances hairs often arise, as in *Polytrichum, Piagiochila asplenioides, Pellia, Aneura, Pilularia*. A new stem originates in the interior of the cellular tissue of the mother axis, when an adventitious shoot is formed; in all other cases on the surface, and before the shoot has arrived at its full diameter. The modes of the multiplication of cells are not by far so various as the many different forms of perfect organs would lead one to suppose. For instance, the rule of the multiplication of cells in the stem of *Selaginella, Aneura*, and *Metzgeria* is essentially the same. The multiplication of cells in many leaves agrees with that of the elaters of *Marchantiæ*, &c. The cylindrical stems of all Mosses and Ferns, as also the axis of the embryo of Conifers, grow by a continued multiplication of one apical cell through alternate walls, inclined to the right and left; so far my investigations confirm one of Nägeli's dicta. The extension of that position, however, to Phænogams in general, I consider as entirely incorrect. In only a few cases, mostly of Monocotyledons, could I convince myself of such a growth of the end of the stem. In other cases, for instance in *Viscum album* and *Lythrum salicaria*, I think I am not wrong in the assumption that the repeated simultaneous division of many terminal cells produces the elongation of the stem."

In consequence of the great importance and interest of the memoir, we have extended our remarks far beyond our usual limits. We must content ourselves, in conclusion, with stating that it is a work which is indispensable to every student who wishes to take something more than a superficial glance, or to know merely the names and forms of the plants in question. The plates are everything that can be desired in point of clearness, and the descriptions which accompany them sufficiently full and precise; the only drawback to their easy study being an unnecessary confusion in the numbering of the figures, arising from a want of system in the arrangement; a fault which too often is chargeable to complicated figures where the labour of hunting amongst 30 or 40 illustrations for the next in succession is tedious and vexatious.

* The germination and impregnation of Charads has not at present been sufficiently studied.

FLORICULTURE.

Roses for Exhibition, in a Cut State, in June or July. (*Continued from* p. 23.)—*Hybrid China.*—Brennus: Deep carmine, superb, very large and full—Paul. Charles Foucquier: Deep pink, beautiful, large and full—Paul. Chenédolé: Large, vivid crimson, splendid—Francis; vivid crimson, flowers very large, forms a magnificent standard—Rivers. Comtesse de Lacépède: Silvery pale blush, beautiful—Bircham; silvery blush—Foster. General Jacqueminot: Purplish red, a large and fine rose of excellent shape—Bircham; fine purple crimson, large and double—Francis; purplish crimson, large and full—Paul; purplish red, a large and fine Rose, of the most perfect shape—Rivers. General Lamoricière: Bright pink, beautiful—Appleby; bright rose, very beautiful in shape, frequently giving autumnal flowers—Curtis. Hypocrate: Deep crimson lilac, large and very double—Bircham. Jeno: Delicate rose, large, double and splendid—Francis. Lady Stewart: Silvery blush, fine form, superb, large and full—Paul. Triomphe de Laqueue: Lilac crimson, a fine outline, large—Bircham; purplish rose, large and splendid—Lane. These Roses thrive in almost any soil, and should be very sparingly pruned, merely thinning out the old wood that has produced bloom, and slightly shortening the shoots that are retained—Wood. *Hybrid Bourbon.*—Charles Duval: Rose, very large and double, superb—Francis; deep pink, beautiful, large and full—Paul; bright rose, a large and fine flower, justly esteemed—Rivers. Comte Boubert: Deep rose, large and superb—Curtis. Comtesse Molé: Dark rose, large and fine—Francis; delicate rosy pink, beautiful—Lane. Coupe d'Hébé: Delicate bright rose, superb—Appleby; delicate glossy pink, exquisite in shape—Curtis; very large bright pink, splendid—Francis; bright fleshy pink, splendid—Lane; rich deep pink, large and very double—Paul; delicate glossy pink, one of the most perfect and beautiful of Roses—Rivers; globular, very large and double, one of the finest Roses grown—Wood. Frederick the Second: Dark crimson, very large—Wilkinson. Garibaldi: Light crimson, a very rich and perfect new Rose—Wood. Glorieux: Silvery blush, perfect shape—Wood. Las Cases: Bright red, a good old Rose, of fine form—Bircham; immensely large, one of our finest show Roses—Wood. Paul Perras: Brilliant shaded rose superb—Curtis. Paul Ricaut: Crimson and scarlet, large and full, splendid—Appleby; brilliant and distinct crimson, superb—Curtis; bright crimson, large and full, one of the finest Roses grown—Francis; deep carmine, globular, and very beautiful—Lane; bright rosy crimson, large and full—Paul; one of the most beautiful in this group—Rivers; very large and double, certainly one of the most beautiful—Wood. The same rules may be observed in this class, as with the Hybrid Chinas—Francis. The foliage and blooms of these are quite superb—Lane; these are all good Roses, readily known by their broad stout foliage—Paul; they require the same treatment as is recommended for the Hybrid Chinas, but they should be rather more closely pruned—Wood. *Alba.*—Madame Audiot: Creamy white, blush centre, beautiful—Lane; pale flesh, beautiful, large and full—Paul. This class of Roses is a valuable and popular one—Paul; the fragrance of this class is equal to that of the Provins—Lane. *Damask*: La Ville de Bruxelles: Light rose with blush margin—Bircham; light rose, margin blush, large and full—Paul. Madame Hardy: Pure white—Foster; white, beautiful, large, and full—Paul. Madame Zoutman: Creamy white—a most splendid Rose—Bircham. The shoots and leaves of Damask Roses are of a very light green, on account of which they present a striking contrast when introduced among other Roses; otherwise they may readily be distinguished by their rough spinous shoots and coriaceous leaves; the Damask Roses are perfectly hardy, and should have a place in every collection—Paul. In this and the preceding list of summer Roses, we have closely followed the popular classifications of the trade catalogues. Selections from the autumnal divisions will be given in our next. *J. E.*

Hardiness of the Cineraria.—I observed some time back in your paper an observation common in all gardening books, but repeated, to my surprize, by Mr. E. G. Henderson, on the constitution of the Cineraria, that "it will stand no frost." I suppose he is too good a cultivator of them to have ever run the risk of knowing how much they will stand. But this I know, that a plant I had from him endured in November, 1850, 12° of frost, and yet in June, 1851, had on two stems 120 full grown blossoms. I was again caught unprepared this last November, and all my stock was frozen hard and stiff, yet I never saw them looking more promising than they do now. They were, of course, thawed in the dark, and gradually; and if the foliage be moist when frost first seizes it, it appears to perish; but even then the plant does not die. And I am disposed to think that in a north aspect it would survive our ordinary winters out of doors; at least, that its danger would not be the cold of winter, but from the refreezing of half-melted snows in the spring. *Iota.*

Tulips: *J H.* Rain does not harm them in their present state so much as frost. *J. E.*

Pinks: *J H.* Although Fern is so generally recommended, we have never seen it in use; one of the best winter protections is to have the bed well raised above the alleys—say 1 foot, and even then so rounded that water may readily pass off. We have seldom seen Pink beds thoroughly well made. *J. E.*

Miscellaneous.

On the Green Colouring Matter of Plants.—At the Paris Academy of Sciences, Dec. 22, M. Dumas presented a communication from M. Verdeil, containing his researches on this subject, which he signalises as presenting a great analogy with the red colouring matter of the blood of animals. The green colouring matter which may be extracted from most plants by means of alcohol or ether, has been considered to be an organic substance, but little homogeneous in its composition; it is called chlorophyle, or the green resin of plants. M. Verdeil states, that he has proved that this green resin is a mixture of a colourless, fatty substance, capable of crystallising, and a colouring principle, presenting the greatest analogies with the red colouring principle of the blood, which, by the way, has never yet been obtained in a state of complete purity. The colouring matter of vegetables like that of blood, contains a large quantity of iron. To isolate it, it is precipitated from a boiling solution of chlorophyle in alcohol, by means of milk of lime. The solution becomes colourless, the alcohol retains the fatty substance, whilst the lime throws down the whole of the colouring matter. This is separated from the lime by means of hydrochloric acid and ether, which dissolves the green matter, leaving a coloured layer on the upper surface of the liquid. On evaporating the ether, the colouring matter of plants is obtained in a perfect state of purity. The colouring principle of the blood of animals is thus analogous to the colouring principle of vegetables. Both contain a large quantity of iron; "Let us hope," says M. Verdeil, "that we may soon understand the relations which exist between the presence of iron in certain colouring matters, and the decompositions which the gases constituting the air of the atmosphere are found to undergo." *From an occasional Correspondent.*

Experiments with a Hyacinth bulb, by Dr. Goeppert.—If the bulb of a Hyacinth is placed in an inverted position in a common Hyacinth-glass filled with water, the leaves and flower-stem grow into the water, the blossoms unfold, though no roots are developed, and the stem and leaves, by a slight curvature, as far as the narrow dimensions of the vessel allow, show that this tendency upwards is not extinguished. This becomes more evident if a wider glass is used. The leaves and flower-stems are then strongly curved, and evidently strive to

invert the bulb. This upward tendency is so powerful, that if any insuperable impediment, as a weight, intervenes, which they cannot push aside, and which prevents their growing either to the right or left, the leaves are broken. A blue Hyacinth, which had been treated in this way from the 20th of November to the 17th of January, was placed on the day last mentioned with the leaves and stem curved as above, in a wide vessel, horizontally on the water, so that the base of the bulb was in its natural position in the water. The curved leaves and stem, notwithstanding the horizontal position, extended themselves immediately, and roots were developed from the bulb up to the 2d of February. On the 7th of February the plant was again taken out of the water and placed upright in a common Hyacinth-glass, so that only the roots reached the water. The leaves and blossoms, as stated above, were completely developed, but without any odour in the latter, although they exhibited their proper colour; they had, however, so completely assumed the character of an aquatic plant that, first the blossoms, and then the upper portions of the flower-stems and of the leaves faded, and were quickly parched up. Without making any inferences at present from this experiment, I would merely remark that the upper part of the bulb, or, after the bud has protruded, only the bud itself, must be in contact with the water, or decay will soon take place. If the bulb be placed in a common garden pot, filled with earth, so that the bud may grow through the aperture at the bottom of the pot into the water, the growth is more vigorous, because the roots are developed; but the above-mentioned mode of experimenting is of more physiological interest. If, in the same pot, a bulb is allowed at the same time to grow in the ordinary way, the contrast between the two is very striking. *Bot. Zeitung, Nov.* 21, 1851.

Calendar of Operations.

(For the ensuing week.)

GENERAL REMARKS.

THERE are not perhaps two places in the kingdom where the same directions require to be carried out in a similar manner—difference of soil, locality, and the various demands of establishments, will require consideration; and, in dealing with the multifarious branches of gardening, much, after all, must be left to the gardener himself, as regards details. Hence, our remarks must be taken as general ones, and varied agreeably to the specialities of particular places and districts. The present heavy rains will, in many places, put a stop to further progress with ground work for the present. Where such is the case, every thing that can be done under cover should be proceeded with, stakes pointed, sticking wood cut and tied up, and various other things forwarded, which will save time hereafter. See that the stock of pots is ready for the general potting next month. We may add that but very few places have shed room to employ fully the hands in foul weather, at once a loss to their employers and frequently the cause of ill health to the men employed. If the ice-house is not already filled, have every thing ready to begin when the first frost comes.

PLANT HOUSES.

Although it is not desirable to shift the general stock of stove and greenhouse plants, for a few weeks to come, yet, under some circumstances, a part may require being fresh potted at this time. When such is the case, room must be made to keep them apart from the general stock, for a short time afterwards, as their treatment will be somewhat different. Most soft-wooded plants require heading back, or pruning, at this season; and this should always be performed a sufficient time before the plant is repotted, to enable it to make a fresh growth. It is often, too, necessary, with this class of plants, to disroot them (in some measure) at this potting; and this is an additional inducement to defer this till the plant has made sufficient growth, say young shoots an inch long, to enable it to bear the operation without injury. Stove plants of this habit will be much benefitted by bottom-heat and a moist temperature, till active growth commences. Thin and tie out the shoots as they advance, to form them into the desired specimens, and guard against injuring the foliage. Much of the beauty of plants consists in their having clean, healthy leaves. Dry roots of Gloriosa, and a portion of the stock of Gesneras, Gloxinias, Achimenes, and other herbaceous stove plants, may now be plunged in bottom heat, to start them previously to potting. Attend to the training of plants on wires, and trellises. Fast growing plants, such as Tropæolums, will require looking to frequently. Cinerarias will now require some assistance in the shape of weak manure-water; watch for green fly, to which this plant is much liable. As the principal kinds of Begonias will now be showing bloom, they may be advantageously removed to the conservatory, previously staking them carefully, to preserve their fine foliage from being damaged.

FORCING DEPARTMENT.

VINERY.—Gradually reduce the moisture of the early Vinery, as the Vines come into bloom. A comparatively dry heat at this season is essential to the dispersion of the pollen, and consequent impregnation of the berries. The temperature at the time of blooming may be 65° by night. Some kinds of Grapes, as the Sweetwater and Muscat, require 70°; an advance of 10° may be allowed by day. Well protect from heavy rain and snow the borders of Vineries at work. Where the houses containing late Grapes are required for other purposes, the Grapes may now be cut, with the spur attached, and hung in a dry, dark room; in which they will keep fresh and plump for a long time. PEACH-HOUSE.—Here the early crop will be coming into bloom, and if their previous treatment has been steady and progressive, the bloom will be fine, and the chances of a crop increased to nearly a certainty. When in bloom, suspend the syringe, and allow only a slight wetting to be given to the pipes or flues once or twice daily, according to the weather. Allow a slight circulation of air at all times, gradually increased as the day advances, and withdrawn early in the afternoon. Artificial impregnation may be effected, by gently touching the blooms on fine days with a feather or camel-hair brush. The night temperature may still remain at from 45° to 48°, and the outside borders should be well protected from wet and atmospheric changes. If Figs have been commenced, the forcing must be gentle and steady; sudden changes of temperature often proving fatal to the embryo fruit, forming the first crop; 55° may be the maximum night temperature; syringe frequently on bright days. Cherries, if began, should be frequently damped; make slight fires on dull days, but, for the present, let them remain without artificial heat by night, except in severe frost. Mind the glass is clean washed in every description of forcing-house. The days at this season are dark enough, without the addition of dirty glass to make the inmates of forcing and plant houses feel the bad effects of a short allowance; of this, no plant is more susceptible than the Strawberry; hence give them as liberal a portion as circumstances permit, with a gentle steady heat.

FLOWER GARDEN AND SHRUBBERY.

The stock of bedding out plants should now be looked over; where anything is short, remove a portion of the stock into a warm house to produce cuttings for propagation. It is often difficult to procure sufficient plants in the autumn of some kinds; and cuttings struck in this and the next month of all the more soft wooded plants, and properly hardened off, will bloom equally well with those struck the previous autumn. It is, however, advisable that bedding out Geraniums, and other woody plants, which require to be of a certain age, and size, before they are transplanted to the open borders, should have been struck and well established before winter, as fresh struck plants of such are apt to grow too fast to produce a fine show of blooms. Be on the safe side as regards numbers; there is rarely an over stock at planting time. In all large places, some odd corner is set apart for growing such shrubs and plants as are most commonly required to fill up vacancies, or ornament cottage gardens; where such is the case, cuttings of the more common ornamental shrubs, &c., may now be put in, with Honeysuckles, Roses, &c., and every other description of plant used for the above purposes should be propagated, of which the more showy herbaceous plants should always form a part. The stock of evergreens for this purpose should be frequently lifted, that their final removal may be effected at any season without risk.

ERRATUM.—In last week's Calendar, under this head, five lines from bottom of article, for "and the present front shoots thinned," read "and the present year's shoots thinned," &c.

FLORISTS' FLOWERS.

We were in the garden of an amateur the other day, and had our attention directed to a bed of Pinks, consisting of most of the best sorts in cultivation, which had been eaten down to the stumps by rabbits. Many florists' gardens are exposed to this serious disaster. We recommend our friend in future to protect his bed with galvanised wire netting, by placing some Larch stakes, 2 feet out of the ground, at short intervals, round the bed, to which the wire should be fastened; the depredations of rabbits would thus be effectually prevented; and we know of nothing better, even were there none of these vermin in the vicinity, than a close-meshed wire net as a protection to beds of Pansies, Carnations, Tulips, &c., which are often more injured in spring from cold cutting winds than by frost. The Ranunculus bed should have attention; give it a slight forking over, throwing it up into little ridges; these can at any time be levelled down previous to planting. Look over the collection of roots, separate the offsets from those which are large enough to bloom for planting on the reserve bed, these will flower spendidly the succeeding season; it is for want of this, that we often see large spaces in the amateur's Ranunculus bed without a bloom. Hollyhocks appear to be coming fast into favour, not only as a beautiful border plant, but also as a florist's flower for exhibition. Those planted in the border are extremely liable to the attacks of slugs, which greedily feed on the fleshy shoots; a dusting of soot occasionally will make them, however, less palatable. Those which are wintered in pots must have the decayed leaves carefully removed, as few hardy plants suffer so much from these.

KITCHEN GARDEN.

Not much can be done in this department at present; the heavy rains will have rendered the ground quite unfit for working for some time. Set traps for mice, and destroy all vermin. Look after the crops of Peas and Beans in the ground, and keep from drench the stock of Lettuce and Cauliflower in frames. See to the manure heaps, prepare road scrapings, the sweeping of towns, charred refuse, mix the rubbish wheeled from the vegetable grounds with salt—this will form a valuable manure for any land. If possible, do not employ the same description of manure twice together on the same land, a change will produce the greatest results.

State of the Weather near London, for the week ending Jan. 15, 1852, as observed at the Horticultural Garden, Chiswick.

Jan.	Month's Age.	Barometer. Max.	Barometer. Min.	Temperature. Of the Air. Max.	Of the Air. Min.	Of the Air. Mean	Of the Earth. 1 foot deep.	Of the Earth. 2 feet deep.	Wind.	Rain.
Friday.. 9	17	29.460	29.148	39	26	32.5	40	39	S.W.	.00
Satur.. 10	18	29.714	29.063	50	25	37.5	38	38	W.	.08
Sunday . 11	19	29.210	29.022	51	43	47.0	38	38	W.	.97
Monday 12	20	29.326	29.151	54	36	45.0	41	41	S.W.	.62
Tues. .. 13	21	29.538	29.443	50	39	44.5	42	40	E.	.24
Wed. .. 14	22	29.739	29.701	51	39	45.0	42½	41	S.W.	.16
Thurs.. 15	23	29.602	29.455	56	44	50.0	43½	42	S.W.	.26
Average....		29.512	29.369	50.1	36.0	43.0	40.7	39.8		1.43

Jan. 9—Clear and fine; cloudy at night.
— 10—Clear and frosty; fine; rain at night.
— 11—Rain; overcast; densely clouded.
— 12—Rain; constant rain throughout.
— 13—Foggy, with rain; drizzly; densely overcast.
— 14—Foggy; overcast; rain at night.
— 15—Densely clouded; rain; fine; rain at night.
Mean temperature of the week, 7 deg. above the average.

State of the Weather at Chiswick, during the last 26 years, for the ensuing week, ending Jan. 24, 1852.

Jan.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 18	41.9	31.7	36.8	11	0.55 in.	1	3	1	3	4	8	4	3
Mon. 19	42.0	30.2	36.1	11	0.83	4	2	4	1	4	6	5	2
Tues. 20	40.7	30.5	33 6	5	0.65	4	6	4	1	4	4	2	1
Wed. 21	42.8	33.0	37.9	14	0.48	1	4	4	1	6	5	4	2
Thurs. 22	43.6	34.1	38 8	18	0.57	2	4	1	5	3	8	2	1
Friday 23	44.3	33.7	38.9	12	0.27	1	3	2	3	4	8	2	4
Satur. 24	43.1	32.7	37.9	18	0.51	2	3	2	1	3	9	5	1

The highest temperature during the above period occurred on the 19th 1828—therm. 60 deg.; and the lowest on the 19th, 1838—therm. 4½ deg. below zero.

Notices to Correspondents.

BIRDS *X.* THE ROBIN, &c.; about which, and other "pressing matters" you ask 'advice,' has received all due consideration at our hands, and a long letter awaits you; your address, however, was *not* enclosed on a 'slip of paper;' consequently we feel sure that the simple address of "Newcastle-upon-Tyne' could never find you. No doubt the 'address' fell out of the letter. Please write at once, as your case is a trying one, and these columns cannot admit of lengthy discussions.—*George S.* It is a *hen* blackbird; let it fly in a fortnight, not sooner.—*Rebecca I.* We prefer the German canaries, if they are properly "instructed."—*Eliza P.* He has 'moulted' badly, in consequence of not having been kept warm. He will be ragged now until next autumn.—*Winnifred.* Discontinue the Hemp-seed immediately, and keep to Flax, Canary, and Rape only.—*Dissafina.* It is the "husk." Boiled milk for two days, instead of water, will soon remove it.—*Fred. C.* Fifteen shillings is quite sufficient; and we advise you not to give more. The dealer *sees* you want the bird. Keep away for a week!—*Dorothea.* There is nothing better than a snail, or three or four mealworms. He will rally directly.—*Maria L.* Soak his feet in warm water. Handle him gently, and the "pellets" of dirt will come off readily.—*J J.* Hang him higher, or he will never break out in song.—*Andrew P.* You may expect him to 'open' before the present month expires. His "liveliness" gives full assurance of this.—*W Cole.* If you purchase your *hen* canaries *now*, be sure and keep them in a room by themselves.—*Jane W.* You can do so, if you think proper; but the *value* of your bird will be sacrificed by the act.—*E P.* Those bred in *Yorkshire* are by far the stoutest.—*Wilton.* Early in March; but the weather has much to do with it. You must use sound judgment in the matter.—*W M.* Your bird is "husky," from having taken cold. Feed him on raw beef, scraped, and yolk of egg (boiled hard), moistened with water; administer this quite fresh, twice daily; and on the third day he will most probably resume his song. *W. K.*

BOOKS: *Kennington.* We presume your inquiry applies to British plants, in which case procure "Babington's Manual," or "Hooker and Arnott's British Flora." Of course they are on the Natural System. None but children (old and young) use the Linnean now-a-days.

CONIFERS: *Derwent.* The following will possibly answer your purpose:—Pinus insignis, austriaca, Laricio, Pinsapo, excelsa, and the Douglas Fir. ‡

CREOSOTED TIMBER: *A M.* You had best apply to the patentee. See last week's Number, p. 22.‡

DENDROBIUM NOBILE: *W S.* Since your plant has begun to push, you may commence watering it now, sparingly at first; but increasing the supply as it advances in growth. ‡

GARDEN WALLS: *Bagnals Town.* The best thing you can do with your old walls is to "grout" them with cement. Nothing is equal to Portland cement for this purpose, if it is properly applied, and allowed to become hard before it is used. But any kind of Roman cement will answer the purpose.

GRAPES: *G Fry.* Your Grapes, taken from a house from which examples were exhibited in Regent-street in October last, and which have been cured of mildew that had attacked them both in 1850 and 1851, are in every respect admirable.

NAMES OF FRUITS: *J M.* 1, Catillac Pear; 1, Golden Reinette; 2, 18, Wheeler's Russet; 5, Cornish Gillyflower; 15, Golden Harvey; 22, Wyken Pippin, 23, Veiny Pippin; 24, French Russet; 25, Lemon Pippin; 27, Minchall Crab.‖—*R S Y., Manchester:* The Pear was decayed; it is probably the same as one called Knight's Monarch, but not the true one. ‖

NAMES OF PLANTS: *C L C.* The botanical name of the pale yellow Nelumbium, found in North America, is N. luteum.—*J M.* It is not possible to name seedling plants, unless they are very common.

ORANGE TREES: *Sub.* Any respectable nurseryman can either supply you with them himself or tell you where you can get them. We never recommend dealers.‡

PEACHES AND NECTARINES: *A Subscriber.* The Mountaineer Peach and the Stanwick Nectarine are good sorts, that have been raised from seed within a recent period. The Violette Hâtive Nectarine is considered a much older variety than the Elruge, and several others in cultivation.‖

SEAKALE: *G F.* Your seedling does not appear to differ from ordinary Seakale in any particular worth attention. It is whiter than the old head sent; but slight variations of colour between purple and white may always be picked out of every seed bed. ‡

SNOW SOAP: *Saponaria* asks for a receipt for making snow soap, "as used in the Isle of Man. In the life of Bishop Shirley, published 1849, he mentions having used this soap in the house of a clergyman, and says the ingredients are, kitchen soap, 3½ lbs.; snow 24 lbs.; add two tablespoonfuls of salt and it will make 27 lbs., but nothing is said as to the mode of preparation." "Saponaria" is anxious to procure the receipt before winter is gone.

TIMBER: *C H.* We are obliged to adhere to our rule of not recommending dealers. The substance is chloride of zinc, which may be had of any *wholesale* dealer in chemicals. It does not discolour timber at all.

WATER PIPES: *Caradoc.* The best pipe you can use is of glass. The mode of jointing is now understood by any intelligent plumber.

SUTTON'S GRASS SEEDS,
FOR PERMANENT PASTURE, &c.

There are now but few counties in England wherein pastures may not be seen which have been formed with our Mixtures of Grass Seeds; it may therefore appear superfluous that we should publish anything in the way of testimonial.

We will, however, quote the following, from among many other letters now before us:—

From a Member of the Council of the Royal Agricultural Society.—"MESSRS. SUTTON,—I was particularly pleased with your Grass Seed, which I employed by itself, for laying down some fresh broken-up Land. It became a close fine sward by August. I have now about 30 acres of land to sow immediately, &c., &c., and shall be glad of your advice for the purpose."

From Mr. Prestoe, the Land Steward at Kempshot Park, near Basingstoke.—"All the kinds of Grasses sown separately, grow admirably; and the 20 acres of Park laid down with *your Mixture* last spring is most excellent. We are anticipating a large crop of hay, and I can see by the various habits and successional growths of the several kinds, that we shall always have a fresh growing bite for the cattle after the hay is cut. The Clovers, too, I see, are plentiful."

We can supply every kind of natural and artificial Grass Seed, at the lowest market prices, either separate or mixed, expressly to suit the soil.

Also our superior
RENOVATING MIXTURE FOR IMPROVING OLD PASTURES.

Many old Upland Pastures, Parks, and Meadows are nearly destitute of Clovers, and the finer and more nutritious sorts of Grasses, in which case we are in the practice of furnishing such sorts only as are wanting; if these Seeds are sown *early in the Season*, the improvement in the Pasture will be very considerable, and at a small expense. *Quantity of Seed required, 6 lbs. to 8 lbs. per acre. Price reduced to 10d per pound.*

A Priced List of Grasses, with instructions, may be had, post free, in return for one penny stamp.

Address, JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

PERUVIAN GUANO.

CAUTION TO AGRICULTURISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

ANTONY GIBBS AND SONS, AS THE ONLY IMPORTERS OF PERUVIAN GUANO,

Consider it to be their duty to the Peruvian Government and to the Public again to recommend Farmers and all others who buy to be carefully on their guard.

The character of the parties from whom they purchase will of course be the best security, and in addition to particular attention to that point, ANTONY GIBBS AND SONS think it well to remind buyers that—

The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 9l. 5s. per ton, less 2½ per cent.

Any resales made by dealers at a lower price must therefore either leave a loss to them, or the article must be adulterated.

MANURES.—The following Manures are manufactured at Mr. LAWES's Factory, Deptford Creek:

Turnip Manure, per ton	... ...	£7	0 0
Superphosphate of Lime	... ...	7	0 0
Sulphuric Acid and Coprolites	... ...	5	0 0

Office, 69, King William-street, City, London.

N.B. Peruvian Guano, guaranteed to contain 16 per cent. of Ammonia, 9l. 10s. per ton; and for 5 tons or more, 9l. 5s. per ton, in dock. Sulphate of ammonia, &c.

THE LONDON MANURE COMPANY beg to offer PERUVIAN GUANO, warranted perfectly genuine; Superphosphate of Lime, Wheat Manure, Concentrated Urate, Irish Peat Charcoal, Gypsum, Nitrate of Soda, and every artificial Manure, on the best terms. Also a constant supply of Salt for Agricultural Purposes, at a low rate. English and Foreign Linseed Cake, Rape Cake, &c.

EDWARD PURSER, Secretary, Bridge-street, Blackfriars.

FOSSIL BONES AND PSEUDO-COPROLITES
(FROM THE SUFFOLK CRAG).

EDWARD PACKARD AND CO., of Ipswich, having erected very powerful Machinery for the purpose of reducing these Phosphatic Nodules to a fine Powder, and being in the immediate locality of where they are found, are now prepared to supply them on the most economical terms, in any quantity, either Ground, Whole, or Dissolved in Acid. They form the cheapest source of Phosphate of Lime in the market, and are peculiarly eligible for manufacturing Superphosphate of Lime in conjunction with Bone.

Prices and every information connected with their use forwarded on application to EDWARD PACKARD and Co., Artificial Manure Manufacturers, Ipswich, Suffolk.

FARMERS AND GARDENERS are invited to try the NEW and VALUABLE MANURE, PEAT CHARCOAL, impregnated by pressure with the fertilising matter of the LONDON SEWAGE, the Ammonia, Phosphates, and Fæces being absorbed, and the water left bright and palatable. Sold at the Charcoal and Sewage Works, Stanley Bridge, Fulham, Middlesex, at 60s. per ton, 4s. per cwt., and 2s. 6d. per half cwt.

STEPHENSON AND Co., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much Improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description; but to those who have not seen them in operation, prospectuses will be forwarded, as well as references of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the Kingdom.

S. and Co. beg to inform the Trade that at their Manufactory, 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood, erected on the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

The Agricultural Gazette.
SATURDAY, JANUARY 17, 1852.

MEETINGS FOR THE TWO FOLLOWING WEEKS.
THURSDAY, Jan. 22—Agricultural Imp. Soc. of Ireland.
THURSDAY, — 29—Agricultural Imp. Soc. of Ireland.

PERHAPS one of the greatest discrepancies at the present moment, between the "science" and "practice" of agriculture is found in the theoretical assertion that an agricultural crop of Turnips can dispense with ammonia as a manure. No less an authority than Dr. DAUBENY has given countenance to this opinion in his late elegant and well-timed lecture, where he says—"Turnips, which contain more nitrogen in proportion than the Grasses (?), can dispense with ammoniacal manures, provided only sufficient superphosphate be administered to them in an early stage of their growth." He thus, so far, coincides with Mr. LAWES, and refers this supposed property in the Turnips, to a difference in their "organisation" from the Grasses. But we maintain that it arises chiefly from the totally opposite conditions in which they are grown. For if Dr. DAUBENY would only view the atmospheric conditions under which Wheat and Turnips are grown in our agricultural rotations, and compare the "vivifying influences" of early spring, when the Wheat developes its primary organs, with those which exist when the Turnip unfolds and expands its leaves, he would at once perceive that this is the principal cause of difference, for it must be borne in mind that superphosphate is almost as useless a manure for Turnips growing in the early vernal months as it is for Wheat.

Were we to put a literal interpretation on the valuable experiments made at Rothamstead, in regard to the quantity of ammonia that it requires to raise a given quantity of Wheat and Turnips, we should arrive at strange results indeed. In the first place, if we agree with BOUSSINGAULT and Mr. LAWES, that the Wheat plant cannot absorb any of its nitrogen from the atmosphere; and further, with the latter, that every bushel of Wheat requires 5 lbs. of ammonia to raise it, it must then be obvious that the yearly or natural produce of 17 bushels must have required 85 lbs. of ammonia. This quantity of ammonia should have produced 17 tons of Turnips, although they had got no more of their nitrogen from the atmosphere than that contained in their leaves; but the yearly yield of Turnips was only 8¼ tons, containing about 45 lbs. of ammonia. It would, surely, be a deduction at variance with all our notions and principles of agriculture, to suppose that the Turnip had wasted in its growth nearly one-half of the available quantity of nitrogen in the soil. Still this large unaccounted difference between the natural and our artificial results should have a tendency to shake our confidence in the dicta, that Wheat and the other cereals must necessarily have so large a quantity of ammonia as 5 lbs. in the manure to raise every bushel of grain; we ought rather to look to the imperfections in our art of culture, and endeavour to discover the causes which demand so large an expenditure of means for the attainment of such insignificant results. The theory of thin-seeding is really worthy of discussion, but we are compelled to proceed.

But, then, if the Turnips at Rothamstead had been allowed to remain on the same ground till July, five months of extra growth would have been gained, and very probably a considerable quantity of nitrogen would have disappeared in the flowering and seeding. There is, no doubt, a large quantity of nitrogen given off in the aromatic principle of the flower, as well as in the transformation of the succulent matters of the leaves and bulbs into seed. It must be altogether out of place to compare the seeded produce of any plant with the succulent products of another in regard to the quantity of nitrogen they contain. Turnips and Rape are quite as exhausting crops as the cereals, when they are seeded, and the latter are diametrically opposite in this respect with the fine Grasses of our pastures, though they belong to the same class.

Turnips, as we formerly pointed out, require a very large amount of ammoniacal manures when sown in the early part of March; superphosphate has then no virtue in it, for it is quite powerless at that season. But under the "vivifying influences" of the month of June it works wonders; and its effects in promoting the growth of Turnips at this season are quite magical, and hence it has been called their "essential" manure. The atmospheric conditions, it will be perceived, are quite as essential as the manure for producing rapidity of growth with this mineral substance. The same quantity of ammoniacal manure which would be required to produce a given weight of Turnips at one season would be deleterious at another.

It is a singular fact, but which seems to have almost escaped observation, that the principle just noticed, which is so broadly and beautifully seen in the Turnip, can be very distinctly recognised in the greater number of our cultivated plants. One is thus led almost to believe that there is some analogy in the requirements of animals and plants in regard to food. In the animals, warmth is equivalent to a certain amount of food. In the plant we can as distinctly see that heat and *moisture in the atmosphere* are equivalent to a certain amount of ammonia in the manure; here, however, the principle is modified by, as well as subordinate to, an almost endless variety of conditions arising from the arrangements of heat and moisture, and the physiological structure of the plants. In many plants this functional resource can be turned to good account, while in others it cannot. At present we shall merely point out this principle in a few of our agricultural plants, without going into details.

Rye, like the Turnip, seems to acquire a second nature when sown in summer. This property is very marked in some of its varieties; but all are well known to develope an enormous quantity of forage, when sown in summer, when compared with what they yield in early spring. "The Rye," says COLMAN, "which I described as the St John's Day Rye, is well known in France, as the multicaulis, or many-stalked Rye. *It is sown in June*, and will bear cutting two or three times for green forage, and yet yield a good crop. It has the property of tillering from the root very abundantly, though it is maintained that other kinds of Rye, managed in the same way, would show the same properties. The multicaulis Rye *sown late in the autumn loses this property*." Thus we see the Rye is less exhaustive of the soil at one season than another, to produce a given amount of forage.

The Wheat plant is affected by the same influences, varying, however, from its congeners, the cereals, in many special qualities; as much so as the capacity of different kinds of metals for heat, or as other substances differ, in regard to their hygroscopic properties; still the common principle is as distinctly recognised. When Wheat is sown in Scotland about the 1st of June, in richly manured land, it has little or no tendency to run to seed. We believe the Wheat plant possesses similar qualities in France, at a certain period in spring. When it is sown at the same time in Lower and Upper Canada, in the former it will mature its seeds in autumn, like the other spring crops; but in the latter it will not do so until the succeeding year. (SHERIFF.) The influence of season may thus, in combination with a certain amount of manure in the soil, so overpower the plant with superabundance of the elements of growth, as to cause it to grow like the Grasses in a watered meadow.

In France, neither Oats nor Barley are capable of developing much forage when sown in June; in this respect they differ from the Rye. Barley, however, possesses the property, in many of the western and northern parts of Britain, though committed to the soil in the end of May, of ripening its seeds in autumn. The quantity of nitrogenous manure which would be necessary to raise 40 bushels of Barley when sown on the 1st March would be positively destructive to the crop, when sown at the former mentioned season. The analogy between Turnips and Barley, in regard to season and manure, is very close. Superphosphate of lime would almost have as little effect on the Turnip crop as on the Barley, if both were sown on the 1st of March in Scotland; it would appear that, in consequence of the slowness of growth in the ungenial weather of spring, the plants can obtain the phosphates from the soil as rapidly as the development of the plants requires. But on the very same soils, where you would not increase autumn-sown Wheat, or even March-sown Barley, a single bushel, by applying superphosphate, you will, with a favourable season, often gain many bushels of Barley by an application of the same manure when it is sown in the end of May. Viewing, then, or rather in the meantime granting, these facts, can any one be at a loss to understand the philosophy of Barley being less exhausting or more independent of nitrogenous manures than the Wheat (or Barley) which is grown through the cold, ungenial months of spring? We should think not. But we trust that we will by-and-bye be able to convince the most sceptical on this point. We would, however, be as little inclined to advocate that system which relies upon increasing the Oat or Barley crops with inorganic manures, as we would to rely upon the phosphates unassociated with ammoniacal manures for growing Turnips. But the property which both Oats and Barley possess of growing in many districts with much less expenditure of nitrogen in the manure, has exercised a most important influence in the development and progress of their agriculture.

THE METHODS OF DETECTING ADULTERATIONS IN GUANO.

[WE have received the following from Mr. Nesbit. His methods were detailed a week or two ago at a council meeting of the English Agricultural Society.]

Procure from any druggist a common wide-mouthed bottle, with a *solid* glass stopper. One known as a wide-mouthed 6-oz. bottle will do very well. Let this bottle be filled with ordinary water, the stopper inserted and

the exterior well dried. The scales to be used ought to turn well with a couple of grains. In one pan of the scales place the bottle, and exactly counterpoise it in the other by shot, sand, or gravel. Remove the bottle from the scale, pour out two-thirds of the water, and put in 4 oz. avoirdupois of the guano to be tested. Agitate the bottle, adding now and then a little more water; let it rest a couple of minutes, and fill with water so that all the froth escapes from the bottle. Insert the stopper carefully, wipe dry, and place the bottle in the same scale from which it was taken. Add now to the counterpoised scale 1½ oz. avoirdupois, and a fourpenny piece; and if the bottle prove the heavier, the guano is in all probability adulterated. Add in addition a threepenny piece to the counterpoise; and if the bottle and guano prove the heavier, the guano may be considered as adulterated.

By this simple experiment a very small admixture of sand, marl, &c., is distinctly shown.

From many experiments it appears that the amount of inorganic matter, or ash, is from 30 to 35 per cent. This affords another method of detecting adulteration. A small pair of scales, a little platinum capsule, a pair of little tongs or pincers, and a spirit lamp, are all that are required.

Ten grains of the guano are placed in the platinum capsule, which is held by the tongs in the flame of the spirit lamp for several minutes, until the greater part of the organic matter is burnt away. It is allowed to cool for a short time, and a few drops of a strong solution of nitrate of ammonia is added, to assist in consuming the carbon in the residue. The capsule is again gently heated (taking care to prevent its boiling over or losing any of the ash), until the moisture is quite evaporated. A full red heat must then be given it, when, if the guano be pure, the ash will be pearly white, and will not exceed 3½ grains in weight. If adulterated with sand, marl, &c., the ash will always be coloured, and will weigh more than 3½ grains.

If the adulteration be made with light or flocculent matters they may be detected easily, as follows:—

Dissolve in a quart of water as much common salt as it will take up, and strain the solution. Pour a quantity of it into a saucer or basin, and sprinkle on the surface the guano to be tested. Good guano sinks almost immediately, leaving only a very slight scum. The adulterated leaves the light materials floating on the water.

If chalk or ground limestone be used, it may be shown by pouring strong vinegar over a tea-spoonful of the sample placed in a wine-glass. On stirring, effervescence shows its presence. Genuine guano, under the same circumstances, merely allows the escape of a few air bubbles.

If farmers could be prevailed upon to spend a small portion of their time in trying the foregoing experiments on the samples of guano they use, the fraternity of rogues would certainly have far less chance than they at present possess for pursuing their calling with profit.

Still these simple operations are only offered to the farmer as a means of detecting the grosser adulteration of guano. Minor ones may still be practised, and men of real intelligence and business habits will regularly call to their assistance the aid of the analytical chemist.

Summing up the experiments, the following facts would appear:

1st. If 4 oz. of guano weighed with bottle and water, as previously directed, take more than 1½ oz. and 1 fourpenny piece to re-counterpoise it, its purity is doubtful. If an additional threepenny piece is required, the guano may be considered as adulterated, and the sample should be immediately analysed.

2d. If the ash is coloured in any way, and not of a pearl white, the guano is bad.

3d. If the ash of 10 grains weigh more than 3½ grains, or less than 3 grains, the genuineness of the sample is doubtful.

4th. If strong vinegar cause a considerable effervescence when mixed with the sample, the latter is adulterated.

5th. If the guano float when sprinkled on strong salt and water, it is not genuine.

—*J. C. Nesbit, F.G.S., F.C.S., &c., Principal of the Agricultural and Scientific Academy, Kennington.*

ROYAL AGRICULTURAL COLLEGE.

EXAMINATION PAPER.

Sessional Examination, and answers to the questions, in such matters of Practical Agriculture as have been brought before the attention of the Students since the middle of August.

1.—DESCRIBE the acts of husbandry during the present Session, in Nos. 1, 8, 9, 12, 27, 29. In what sort of tilth was No. 8 when ploughed, and what circumstance of weather produced a change in this?

The acts of husbandry in field No. 1 have been consuming the second crop of Clover by fattening sheep; ploughing up afterwards, and drilling with Wheat. The sheep were allowed corn during the consumption of the Clover, for the twofold purpose of improving them and enriching the land. This field was ploughed a month before being sown, to give the land time to settle down in a consolidated form, which is reckoned so essential on the light porous, calcareous soils of the Cotswold hills. Mechanical means are often had recourse to for compressing these light soils after the Wheat is sown. Crosskill's roll is frequently used. Sometimes store sheep are marched over and over the land for treading it firm; and occasionally sheep are folded all night upon such soils when the weather permits.

Field No. 8 was in part Potatoes, part early Turnips, and part Mangold Wurzel. The Potatoes were raised in September; the sound ones were kept by themselves, and the diseased were consumed by pigs. The early Turnips were consumed by fattening lambs in October; the Mangolds were stored in November, and the land was ploughed up immediately afterwards for Wheat, but turned up in places so stiff and unkindly, that it required the ameliorating action of a frost to reduce the obdurate furrows into proper tilth for working. A few slight frosts in the end of November did all that was necessary; the land was afterwards drilled with Spalding Wheat at the rate of 2½ bushels per acre.

Field No. 9 contained 6 acres of Flax, and 14 acres of Oats. The Oats cost 2*s.* per acre for mowing; the Flax cost 12*s.* per acre for pulling, tying up, and stacking. The Flax was estimated as worth 8*l.* per acre; the Oats 6*l.* 10*s.* per acre, For seed and cultivation the Flax cost but a few shillings more per acre than the Oats. After the crops were harvested, this field was manured at the rate of 12 tons per acre. About 14 acres were drilled with Racer Tares in October; the rest of the field is left for Potatoes.

Field No. 12 was black Tartarian Oats, harvested in September. A few couchy spots were ploughed up and cleaned; the whole of this field was then dunged at the rate of 15 tons per acre, and ploughed in ready for Mangold Wurzel next spring.

Field No. 27, 17 acres, was Scotch yellow and hybrid Turnips—a very good crop; they lasted 330 sheep for about six weeks. About half a pound of corn was allowed each sheep per day, and also some cut Clover and straw chaff in addition to the Turnips. After the sheep were removed, this field was ploughed up ready for Barley.

No. 29 was French Tick Beans, harvested in September. After the pigs had the run of the field for a time it was ploughed up, and is now fallow for Turnips.

2.—Give a statement of the present condition of each field on the farm; naming the crop, if it be in crop, placing the word fallow, seeds, Sainfoin, &c., after the number, as the fact may be.

No. 1, 20 acres, Wheat: promising well at present; drilled at the rate of 6 pecks per acre, in rows 9 inches apart.

No. 2, 21 acres, Wheat: looking well; drilled at the rate of nearly 7 pecks per acre. Part of this field has been top-dressed with "shotty," the refuse of the blue cloth manufactories. About 10 cwt. was applied per acre.

Nos. 3 and 5, 30 acres, one field: 18 acres drilled with winter Beans; 12 acres of same field left for Flax and Carrots.

No. 4, 14 acres, white Turnips: just being consumed by breeding ewes. This field requires draining.

Nos. 6 and 10, 45 acres, one field: seeds, after Barley. This field is in good condition, and lies well for easy cultivation.

No. 7, 17 acres, Swedish Turnips, which are being consumed by beasts in yards. Part of this field was Carrots; the whole is intended for Barley next spring.

No. 8, 16 acres, Wheat: has not been long up; the ground is in good condition as regards manure, but is very loose at present.

No. 9, Vetches: looking well; better after the Flax than the Oats.

No. 11, 24 acres, Wheat stubble: ploughed up for Turnips. Part of this field was dunged previous to being ploughed.

No. 12, 10 acres, Oat stubble fallow: manured and ploughed; ready for "Mangolds."

No. 13, 8 acres, Wheat, Scotch white: looking very well.

No. 14, 13 acres, seeds, after Oats: promising.

No. 15, site of buildings.

No. 16, 8 acres, green round Turnips, after Vetches: a fair crop.

No. 17, 8 acres, ploughed up after Turnips for Barley: this is in high condition.

No. 18, 20 acres, Wheat: looking remarkably well. This was drilled at the rate of 6 pecks per acre early in October. The previous crop of Clover was nearly all consumed upon the ground by sheep. Where the Clover was carried away, the land was dressed with soot, salt, and shotty at a cost of about 12*s.* per acre.

No. 19, 14 acres, Wheat, after Clover: looking very well.

No. 20, 38 acres, permanent pasture: not very good; late in producing Grass.

No. 21, site of College.

No. 22, 24 acres, Sainfoin: looking well after Barley. The Sainfoin was sown with the Barley last spring. This field is clean, and in pretty good condition.

No. 23, Botanic Garden: contains some hundred specimens of plants immediately connected with agriculture.

No. 24, 5 acres, permanent pasture: in good condition.

No. 25, 7 acres, old ley: not good.

No. 26, 17 acres, old ley: moderate.

No. 27, 17 acres, ploughed up for Barley: in high condition.

No. 28, 11 acres, Sainfoin, after Barley.

No. 29, 11 acres, fallow, for green crops.

Nos. 30 and 31, 19 acres, one field, fallow after Wheat, for green crops. Part of this field requires draining.

No. 32, 15 acres, permanent pasture: not good.

No. 33, 24 acres, seeds, after Barley: promising. This field is in good condition.

No. 34, 16 acres, Clover after Barley: not very good. This field is poor.

No. 35, 27 acres, Swedish Turnips: a good crop grown by artificial manure, on poor land.

No. 36, small field, permanent pasture.

No. 37, 45 acres, old Sainfoin: rather poor.

No. 38, 30 acres, fallow after Wheat: poor and dirty.

No. 39, 38 acres, Turnips, sown very late; pretty good, on the whole.

No. 40, 39 acres, Turnips: not good. This field is poor, but is being improved now.

3.—Take any field on the farm, and make a two-years' Dr. and Cr. account of it, placing on the one side all that you believe to have been, or that will have to be, expended on it; and on the other side all that you believe likely to have been, or to be, realised from it, and strike a balance. In this, correctness cannot be expected, but merely an approximation to what is probable.

To make a two years' Dr. and Cr. account of a field on the farm, the fairest method might perhaps be to take one crop, the most expensive of production, and another which would cost about an average expense of the farm. To take a Clover and Wheat crop would not be a fair average, as the crops are obtained at the least expense. We shall then take an average Turnip crop, and a white crop after it. For instance, field No. 35 Swedes—per acre, Dr. to rent and taxes, 30*s.*; autumn ploughing, 8*s.*; mowing in spring, 7*s.* 6*d.*; scuffling, 2*s.*; rolling, 3*d.*; two harrowings, 1*s.*; picking and burning Couch, 3*s.*; spreading ashes, 4*d.*; 3d ploughing, 7*s.*; harrowing and rolling, 1*s.* 2*d.*; drag-harrowing, 10*d.*; artificial manure, 30*s.*; spreading ditto, 9*d.*; harrowing in ditto, 6*d.*; ridging, 2*s.* 6*d.*; picking weeds off ridges, 10*d.*; 4 lbs. of seed, 2*s.*; drilling ditto, 1*s.*; rolling ridges, 1*s.*; singling Turnips 1st time, 3*s.* 6*d.*; 2d hoeing, 2*s.* 6*d.*; horse-hoeing between drills, 1*s.* 6*d.*; strong crop, 5*s.*; total, 5*l.* 12*s.* 7*d.* The Turnip crop we may estimate at 4*l.* per acre, presuming that one acre would keep sheep at 4*d.* per head per week, until the 4*l.* was realised. There is a loss of 1*l.* 12*s.* 7*d.* the first year by the Turnip crop, according to these calculations. We come next to the Barley crop; the cost of production per acre, and probable yield, may reasonably be estimated at the cost of the crop, and the actual yield in an adjoining field grown and sold this year. Barley per acre, Dr. to rent and taxes, 30*s.*; ploughing, 7*s.* 6*d.*; harrowing before drill, 6*d.*; rolling 6*d.*; 3 bushels of seed at 3*s.* 3*d.*, 9*s.* 9*d.*; drilling, 2*s.*; harrowing after drill, 6*d.*; rolling, 6*d.*; Grass seeds, 9*s.*; mowing Barley, 2*s.*; loading, turning, and hauling, &c., 5*s.* 7*d.*; thatching, 1*s.*; taking in and threshing 4 qrs. and 6 bushels at 1*s.* 6*d.* per qr., 7*s.* 7½*d.*; winnowing ditto, 1*s.*; marketing, taking to market, sacks, &c., covered by offal; but to meet sundries, say 3*s.* The cost of the Barley crop will then be 4*l.* 0*s.* 5½*d.* per acre. Credit, 4 qrs. 6 bush. Barley at 25*s.*, 5*l.* 18*s.* 9*d.*; leaving the Barley-straw for the use of the farm: the apparent gain would be 1*l.* 18*s.* 4½*d.* But as there was a loss of 1*l.* 12*s.* 7*d.* per acre on the Turnip crop, the difference in favour of the two crops amounts to but 5*s.* 9½*d.* These instances may be assumed as a pretty near approximation to the truth as far as they go, but are by no means a rule, as the cost of production, the variation of crops, and their marketable value, are continually changing.

4.—Describe a plough, with its various parts, and the uses of them. State the difference in principle between the plough in use on the College Farm, and (1) the plough generally used in this neighbourhood, and (2) the swing plough.

A plough is a wedge, the point of which is called a share; the side next to the ploughed land has a mould-board for turning over the furrows; the other side and bottom has a side plate and sole shoe. To this edge a beam is fixed in front, to which the motive power is attached. Behind the wedge handles are attached, wherewith to guide the plough, which is composed of these parts. There is also a coulter for cutting the furrow slice vertically, and wheels to regulate the breadth and depth of the furrow. The ploughs used on the College farm are made of iron. Many ploughs around have wooden beams and handles, and turn furrows, and go with one wheel; a swing plough has no wheels.

5.—Give a statement of the expense of an acre of Wheat, including harvesting, and preparation for market; rent and taxes, 2*l.* per acre. Describe some different sorts of Wheat, with any peculiarities which you can remember.

The expense of an acre of Wheat grown after Cloverley—as Wheat now generally is—the rent and taxes, at 2*l.* per acre, will amount to nearly 5*l.* per acre—thus: an acre of Wheat, Dr. to rent and taxes, 2*l.*; one ploughing, 8*s.* 6*d.*; harrowing three times before drilling, 1*s.* 6*d.*; two bushels of seed, dressed with vitriol, 10*s.*; drilling, 2*s.*; harrowing twice after being drilled, 1*s.*; rolling with heavy roll, 1*s.* 6*d.*; one horse-hoeing, 1*s.*; one hand-hoeing, 2*s.* 6*d.*; bird keeping, 1*s.*; mowing, binding, &c., 8*s.*; leading, hauling, and stacking, 4*s.* 1½*d.*; hauling to machine and threshing four qrs., at 2*s.* 6*d.*, 10*s.*; winnowing, 1*s.*; thatching, 1*s.*; marketing and sundries, 2*s.*; total, 4*l.* 16*s.* 1½*d.* Credit, one acre at 4 qrs., at 32*s.*, 6*l.* 8*s.*; apparent gain, 1*l.* 11*s.* 10½*d.*

6.—What are the advantages of manuring the stubbles before winter? In what state must the land be to permit such an operation?

The advantages of manuring the stubbles before win-

ter are considerable ; 1st. There is a saving of expense in avoiding the carriage of manure into a dung-hill, a saving of a turning and one filling, and of any loss by fermentation. 2d. The dung has sufficient time to decompose in the soil, and to become completely incorporated with it, so that every portion has the means of affording nourishment to the roots of plants in the spring. 3d. Moisture is retained in the soil, as land dunged in winter seldom requires more than once stirring in the spring. This is of the greatest advantage on all the ordinary Turnip soils of the kingdom. Horse labour is generally less wanted in winter than in the busy months of spring. Foul or wet land could not be manured in the autumn to advantage. The manure would feed the weeds in the first place, and if very wet, some of the manure would be lost also.

7.—From what indications would you judge that a field required draining? When you had determined on draining it, what would be your first consideration?

The principal indications which point out that land requires draining, are, pools of water standing on the surface sometime after rain. If in pasture, the herbage is usually coarse ; aquatic plants thrive ; Rushes, Reeds, and bunches of whitey-brown Grasses are prominent. Young corn on wet land has always a variegated leaf, or plant, composed of green, blue, and brown. Healthy vegetation is generally a livid green, or approximating to a light blue. The first consideration after determining to drain, would be to look for an outlet for the water.

8.—The soil on the College Farm is not of a nature to require liming ; what kinds of soil do require it?

The soils which require liming most are, of course, those which naturally contain little of it. These are the soils of the old and new red sandstone formations, peaty soils, and some kinds of stiff plastic clays. Quick lime is frequently applied to soils of various kinds to stimulate inert matter into the food of plants. Quick lime may frequently be applied as a top dressing to destroy coarse herbage.

9.—What are the two chief objects of subsoiling?

The two chief objects of subsoiling are to increase the depth of useful soil, and frequently it is an object to break up a hard stratum of concrete, or clay, to allow the surface water to pass to drains.

10.—Describe the sowing of winter Beans, as practised on the College Farm. What is the advantage of sowing them before winter?

The winter Beans on the College Farm were drilled at the rate of 3 bushels per acre in rows 22 inches apart. The advantage of winter Beans are considered to be that they are less liable to blight than spring ones. The sowing before winter divides the labour of the season, and forwards other operations in the spring.

11.—Describe the various methods of cutting corn. What are the supposed advantages of each? What are the supposed advantages of using carts instead of waggons? What can be said in favour of large and of small ricks? What in favour of thrashing by machine or by hand?

The various methods of cutting corn are by sickle, scythe, hook, and reaping machine. The advantages of cutting by sickle are said to be neatness in the operation, leaving any weeds in the stubbles, if there are any ; securing the best sample of corn for market, economy of carriage in the busy days of harvest—less stacking, less thatching, less taking into barn, less threshing, than when the corn is cut close by the ground. The advocates of the bagging hook say the corn is cut and gathered up cleaner than by the sickle or the scythe ; that the stubble is all got at one operation, and, thereby a first saving of expense is effected. Here the argument generally ends. The advantages of cutting by the scythe are that the same number of hands will cut down, tie up, and shock more than a similar number would with sickles or hooks. All the straw is got at one operation, and thus another advantage is gained ; there is nothing more to be said in favour of mowing. The advantages of the reaping machine upon corn farms suited to its requirements are, that if it does all that is said of it, a greater saving of expense will be effected by it in cutting down the corn than by any other means. By the "reaper" it is supposed that 10 men and two horses would cut down, tie up, and shock as many acres as 20 men by any other means. Leaving out of account the prime cost of the machine, which would not amount to much over a number of years, and the labour of the horses, which is of little value on most corn farms during harvest, the advantage of the reaper would be both directly and indirectly of immense importance. There has been no surplus of labour in harvest for some years past ; so that the reaper by effecting a saving in cutting down the corn, &c., would allow more hands to be applied to the proper cultivation of green crops which have often been neglected in harvest, thereby causing a great loss in the very foundation of all good arable farming. Those who say the reaper would throw labourers out of employment must either be very young or but moderately informed in the history of machinery. The advantages of using carts instead of waggons has been shown in numerous cases of reported trials. Economy of labour is the leading point ; the next is, a farm can be stocked at a less cost with carts, which are sufficient for every kind of work, than it can be with waggons and carts. Waggons are not wholly sufficient of themselves. The carriage of dung, Turnips, and the like, is both clumsy and expensive by waggons. Stacks are usually considered of the best size when they can be taken into a barn in a day; that is, so far as sheafed corn is concerned, as a stack of sheaves cut causes waste. Loose corn may be built in stacks of any size. The larger the stacks the less expense there is in building, thatching, and trimming. Very small stacks are expensive in many ways. The climate of course regulates the size of stacks in some places. By a good thrashing-machine corn can be threshed cheaper than by hand. There is the advantage of being able to thresh out a large quantity in a short time. The strength of the farm is concentrated, and, when not threshing, can be concentrated at some other kind of labour. The advantages of threshing by hand are, that the straw is generally taken good care of, and the casings also. This is the reverse when the thrashing-machine gets through a great quantity. The straw is often thrown out of doors, and the casings also—and are, therefore, frequently much damaged.

12.—Describe the treatment of the cattle in the boxes during the present session : state their respective breeds, the food they have received, and their increase in weight, as far as you know.

The treatment of the cattle in the boxes was, that when the green Clover was done, they began to get Turnips along with meal and dry chaff. At first each beast was allowed 5 lbs. of meal per day, and afterwards that quantity was increased periodically till 8 lbs. of meal was allowed per day. The average quantity of food each consumed was 7 lbs. of meal per day, 20 lbs. of chaff, and 70 lbs. of Turnips. Straw chaff was used in part along with hay. The beasts were weighed alive every month—some gained 60 lbs. a month, some others did not gain 30 lbs. The average was about 48 lbs. per month. The average cost, 5*s*. 4*d*. per week. The average return when the beasts were sold, including everything, about balanced the account. Some of the beasts in the boxes were Hereford, some short-horn, and some Angus Scots. The short-horns increased rather faster in weight than either the Herefords or Scots. The last two breeds run very much the same. One Scot always did badly, however, and so did one small Hereford.

13.—Describe the system of box-feeding. How many tons of dung do the boxes on the College Farm produce when emptied?

Has been partly answered in the above. The College boxes, when emptied, contained 6 tons each. One beast filled a box in 22 weeks. There are 12 boxes on the College farm.

14.—What is the best time of year for young calves to be dropped? How would you feed and shelter (1) a calf intended for breeding from, (2) a calf intended for the butcher at two or three years old?

The best time for dropping calves intended for the first Grass of spring is in April ; the calf may then remain in the house for a time, and be nursed with its mother's milk. A calf intended for breeding from should not be fattened when young. It would be a waste of food of no service for producing a healthy offspring stock intended for breeding, require both plenty of fresh air and exercise. A calf intended for the butcher at an early age should of course be liberally fed and well housed, and kept continually going on. Fat at best being but a shape of disease, the more the disease is encouraged the better, by any means. It is now a settled point that fattening animals, like growing vegetables, thrive best on a mixture of food. That is, a beast will thrive better with Turnips and hay, at a less cost, than if fed on either hay or Turnips alone. That it will thrive better still on Turnips, hay, and meal, and best of all upon a mixture of several kinds of corn, than if fed upon one kind only, along with hay and Turnips. A 3-year-old ox will consume 21 bushels of Turnips in a week, which, at 4*d*. only per bushel, amounts to 7*s*. The same ox would consume from 2 to 3 cwt. of hay per week, if fed on hay alone ; at present prices that would amount to 7*s*. per week. The ox would certainly thrive much better, however, had he half the Turnips and half the hay. We have seen beasts consume 16 lbs. of cake per day, and the matter of 15 lbs. of hay. Animals will thrive well upon this food, but it costs too much. In short, a fattening animal requires a variety of food to sustain the growth of all his parts, at the smallest cost. If fed upon one kind of food there is too much of one thing and too little of others ; so that an excess of what is useless is passed away in the excrements, and is a palpable loss.

15.—How would you feed dairy cows through the year on an arable farm? How many calves does a cow usually breed?

The cheapest way of keeping dairy cows on an arable farm where there is Grass in summer, is doubtless to graze generally. There are times, however, in very hot weather, when they might be advantageously soiled in the house, to prevent their running about, and losing milk. This plan we have seen carried out to advantage at intervals. In winter, white Turnips, Mangold Wurzel, or Carrots, along with some hay, straw, and casings, makes very good food for dairy cows. As with fattening beasts, so in a measure with milch cows, the greater the variety of rich succulent food, the better and the cheaper the food. A number of old milch cows living entirely on hay, consume an enormous quantity during the six winter months. The feeding of milch cows must always, however, depend very much upon what the dairy is—whether for milk only, for butter, or for cheese. Cows, on an average, breed about half a dozen calves—some are said to have reared 16 calves—but many have fewer than six. It is a matter deserving of notice how many calves may be bred from one cow. High priced cows frequently yield but few calves.

16.—What has been the treatment of the fatting lambs or tegs since they were first placed on Turnips? How was their treatment altered when they were removed from No. 27 to No. 40?

The lambs had the run of the stubbles after harvest, until they were put upon Turnips early in October ; when put upon Turnips, they were allowed ½ lb. of corn each per day for a time, with Clover and straw-chaff mixed. Field No. 27 was such a good crop of Turnips that the consumption of them alone would have been a sufficient dressing. When the tegs moved to No. 40, which is a poor field, and bears but a poor crop of Turnips, the quantity of corn was increased to 1 lb. per day each, with plenty of corn-chaff, without any mixture of straw. This is, of course, intended to enrich the land and force the sheep on.

17.—How have the breeding ewes been treated during this session?

The breeding ewes lived till lately upon the pastures. Some of them have followed the fattening sheep, picking up the odds and ends ; they have had a little hay, but have chiefly had straw, upon which they thrive very well. The great bulk of the ewes now receive some Turnips daily and straw ; any wet day they are moved upon pasture.

18.—How is Flax harvested?

The harvesting of Flax is simple. When the seed and fibre together are most valuable, the seed in the capsules looks brown, and the fibre or straw has a yellow golden hue. The Flax is pulled by hand, at rates varying from 10*s*. to 15*s*. per acre. To pull it well and straight, a dozen handfuls at least are required to make a sheaf. Three or four handfuls are first put together, then three or four more, and so on, laid side by side, or crossed. When the Flax gets dry enough for tying up, as many handfuls are put together as make a sheaf ; the sheaves are then set up in the usual way until quite dry for stacking. When Flax is grown for the fibre only, it requires to be pulled earlier than when grown for the seed. The usual price paid for threshing ont the seed and dressing is from 6*d*. to 8*d*. per bushel.

19.—What is the weight of a truss of old hay? Of a truss of a new hay? Of a truss of straw? Of a tod of wool? What is the average weight per bushel of Wheat, Barley, Oats, Beans, Peas, Vetches, Turnips?

A truss of old hay is 56 lbs. ; new hay, 60 lbs. ; a truss of straw, 36 lbs. ; a tod of wool, 28 lbs. The average weight of corn per bushel may this season be, Wheat, 62 lbs. ; Barley, 54 lbs. ; Oats, 39 lbs. ; Beans, 62 lbs. ; Peas, 62 lbs. ; Vetches, 63 lbs ; Turnips, 50 lbs.

20.—Describe the journal, ledger, cash-book, and balance-sheet of a farm.

The journal should contain an account of every transaction. All purchases and sales, with full particulars, and reference figures to the ledger and cash book. The ledger should contain separate accounts of dealings between man and man ; a Dr. and Cr. account. Also classified Dr. and Cr. accounts of every kind of stock upon the farm, comprising both live and dead stock, corn, &c. The ledger, in short, is that book which may contain 10,000 distinct accounts. From the journal accounts the ledger is formed. If for instance 10 different beasts were sold to 10 different persons, each of these persons must have an account for himself. At same time the sales of the 10 beasts would be collected into a general Dr. and Cr. stock account ; and so on with all other transactions. The cash book is supposed to contain no entry, but *bona fide* receipts and payments, with references to the ledger and journal. The balance-sheet should contain a collection of all the principal accounts of the ledger arranged under Dr. and Cr. headings. A farm balance-sheet usually contains from 12 to 20 headings, composed of the various kinds of live stock bought and sold, the amount of corn of each kind bought and sold, seeds bought, artificial manure, tradesmens' bills, rent, taxes, rates, labour, &c. The balance-sheet should also show all that the farmer is owing, or that is owing to him. The valuation of the stock at the year's end must also be put against the stock at the beginning. The respective sides added up at once show the nature of the year's transactions.

Cirencester, Dec. 13.

Dec. 18.—At the sessional examination at the Royal Agricultural College, the following students were placed at the head of the classes in the various departments. Practical Agriculture : Thomas W. Peile, of Repton Priory, Derbyshire.—Chemistry : George Maw, of Worcester.—Natural History : George Maw.—Veterinary Medicine and Surgery : George Maw.—Surveying, Civil Engineering, and Mathematics : Richard L. Fell, of Ulverston, Lancashire.

Home Correspondence.

Butter-Making.—Shall I add to what your correspondents, "Clitheroe" and "T. B." have written on butter-making? If Turnips be given fresh to the cows as they are pulled up, the butter will taste very little of the Turnips, or turnipy, as it is called ; but if they are clamped or suffered to lie long in large heaps after being pulled, I think there is no art yet known that will prevent the butter from having the strong unpleasant flavour of the Turnips. The Devonshire plan of butter-making produces about 16 per cent. more butter than the common plan of making it by the churn does. The difference of quantity is caused by there being incorporated in the butter, by the Devonshire plan of making it, about one pound of casein, or the curd of milk, in every five pounds of

oleaginous matter, called butter. This, however, does not affect the flavour of the butter when used for common purposes, except when the butter is melted, or made into melted butter; but when so used, the casein is, to most persons, unpleasant, as it gives the melted butter the flavour of toasted cheese. Should any lady or gentleman like to adopt the Devonshire plan, which makes most delicious butter, for all common purposes, it is easy to buy a little churned butter for melting; or if health be studied, it would be better to have no melted butter at all in either case. The Devonshire butter tastes equally as rich as the other kinds do, and it contains more real nutriment, as the casein it contains is analagous to the fibrin of flesh, and, of course, is more nutritious than the mere oleaginous matter called butter. *Geo. Wilkins.*

Milk.—I have not read the "Mysteries of London." I wonder if the author included in his category that most mysterious article milk. Simple as country people, in their simplicity, deem it, milk, as vended in London, is enveloped in a cloud—I beg pardon, in a fog—of mysteries. First, is the mystery of its manufacture. I think I read, some years ago, in your journal, a paper reflecting on the supineness of the agriculturists in not availing themselves of the cheap and rapid communication with the metropolis, afforded by railways for the conveyance of milk. Here we have a station on the South Western line, and all the farmers for miles around it do send, or have sent milk to London, pure good milk, the produce of cows fed entirely on the produce of their farms. At the London terminus then there is every morning and every evening a supply of real milk. So far all is simple enough—now begins the mystery. The cans containing this milk are spirited away by the myrmidons of the mysteriarchs, who, under the name of milkmen, and milk-salesmen, supply the breakfast and tea-tables of the great metropolis with what they still facetiously call milk. It certainly is not the milk of human kindness—it is the milk of human selfishness. What process or processes the genuine article undergoes in the laboratories of these lacteal magicians I do not presume to say, but the mention of them leads one to the second mystery. It is this: every person appears to be fully aware that the mysterious mixture used is not milk; yet all persist in calling it milk, and in swallowing it. Londoners, more particularly, whenever the subject is mentioned, launch out into a sea of conjecture as to the origin and constituents of the thing. Each will produce his cargo of ingredients and anecdotes, amongst the former of which you are sure to find brains prominently brought forward. Londoners are considered to be an acute race. Has this curious preparation of brains swallowed daily, one generation after another, had the effect of enlarging and invigorating the brain of the consumer? Some powerful temptation must lurk about it, or the next mystery I shall mention would be dissipated. The farmers here receive for their milk, after paying the expense of carriage, three-halfpence a quart. Some of the London men have actually desired to have milk for that sum, the cowkeeper still paying the cost of sending it. The salesman keeps this milk at this time of the year 24 hours, and complains if it will not keep so long. He then takes off the cream, and complains if it is not thick. After that the skim milk is carried into the laboratory, and issues like the Phœnix, a new bird, milk new from the cow. My third mystery is that the purchaser should be willing to pay 4*d.* a quart for the dregs of a liquid which, before the essence, the most valuable portion, was extracted, cost but twopence. This is the age of chemistry; and the milk chemists are alchemists. I began this article because yours is pre-eminently an agricultural journal. I should withdraw it, but I reflect that it is also open to those who write on the mysterious products of chemistry, one of which is milk. Will any one who has been engaged in the abstruse science draw the curtain? *W. R. Carter, Eel-Moor Farm, Cove, Bagshot, January 5.*

Artificial Hatching Apparatus.—Being in London at this time of year, and, like the rest of folks, fond of seeing the various amusements, &c., I paid my second visit to the hatching apparatus in Leicester-square. Belonging to the class of small farmers, and believing it is of no use crying "help, help," as too many do, I prefer the maxim of "God helps them who help themselves" and am on the *qui vive*, as to any benefit which may be derived from any improvement of our old methods. With this view I paid my second visit, and bought a pamphlet, with which I must say I am much interested; as, if the calculations therein set out are only one-half true, I do not think we have much reason to be afraid of injury by free trade. I take, for instance, the following estimate of cost and profits of a one-tray incubator, briefly thus:—

COST.	£	s.	d.
Incubator	21	0	0
Eggs	7	10	0
Food	45	0	0
Charcoal	4	10	0
	78	0	0

RECEIPTS.	£	s.	d.
For Fowl	135	0	0
Value incubator	19	0	0
	154	0	0
Expenses	78	0	0
Profit	76	0	0

That is, 76*l.* or 78*l.* left to pay rent, &c.; and the estimate of profit on a five-tray incubator is stated at 389*l.* &c., which I need not recapitulate, as I dare say you have the pamphlet, or at least have read it. Now, Mr. Editor, if, as I said before, this estimate be only double the amount, which may reasonably be expected, how is it that it is not more generally practised? There must, methinks, be some practical difficulty not mentioned in the said pamphlet; and although I feel inclined to solve the problem myself, yet, as I remember reading in your excellent Paper, nearly four years ago, many able articles on the subject, not then having a "notion" to take up with the project, I did not pay that attention to it I should do now. But as those papers are not now in my possession, you would greatly oblige me, if you would, in your answers to correspondents, give me your opinion as to the practicability of the scheme, and the reason why you think it has not become more adopted by the public. A hint or two of this kind will prove most acceptable, as by them I may judge on the probability of success. Poultry (of all kinds) is certainly looking up, as you may now find hundreds kept where (when I was a boy) they were considered almost a pest; they cannot, therefore, now be thought so unprofitable. Still for all that, I should like to know the data against Cantelo's (the *pros* he states himself) hatching, which it appears must exist or it would have been by this time of much more frequent use. There is no question but that he can hatch them; what I want to know is, can it be followed out at a profit? I do not require a more lengthy answer than convenient, though I don't care how explicit. The fact is, I have an inclination to purchase a four or five-tray one, and should like your unprejudiced practical opinion on its merits first. *John Murray, Bockle, near Dover.* [To hatch poultry is an easy art; to *rear* them artificially is exceedingly difficult.]

Ireland.—No country under the sun has been more favoured by Nature than Ireland, but man has taken little advantage of the kindness of Providence. It may weary the mind to repeat the oft-told tale of a productive soil, minerals in abundance, and prodigious water power, comparatively neglected. A dog in the manger system is pursued. "We will not improve our own condition, neither will we allow the kindly disposed to assist us." Strange infatuation! There must be some hidden cause for the destruction of the best men, more powerful than ignorance. The introduction of capital into Ireland is the only means of regenerating the country; but how can individuals be expected to risk both money and life where a secret society of assassins can perpetrate deeds of horror, in broad daylight; not only on unoffending persons, but upon those who are acknowledged to be most active in contributing to the wants of the industrious, and promoting the welfare of their neighbours? Maltreating an enemy in a cowardly manner is characteristic of a want of principle and honour; but cruelly to destroy or wound a friend, indicates the lowest grade of depravity. In our sister country there must be an extraordinary misapprehension as to the value of property, to account for the idea that men who have consented to pay rent for land (a sufficient acknowledgment that it does not belong to them), should imagine, because they have possession they may retain it, and break the conditions originally agreed on. If a person enters a shop and selects goods, he is expected to satisfy the demands of the tradesman, and generally with ready money. Another rents land; and because he is given credit for 12 months, declines paying his landlord; whose agent insisting upon either the rent or the resignation of the holding, is murdered in cold blood. Was Ireland a colony far away from the mother country, the distance might be used as a bad reason for mis-government and ill-managed property; but when London is only a 12 hours' journey from Dublin, what is there to prevent the prosperity of one country being equal to the other? What is driving the population away, not to settle in the Canadas or Australia, but to throw themselves into the United States? It cannot be that their treatment amongst the Yankees is more humane than among their own countrymen. The evil is deep seated. Every calamity that has befallen Ireland of late years is attributed to the Union; an event which should naturally have been a blessing to both countries. A landed proprietor is as much bound to attend to the interests of his tenants as he is to his own household, and should not delegate essential duties to an agent. It has been too much the fashion in England and Ireland to consider business habits as beneath the notice of a man of fortune; thus causing the ruin of thousands. Spending an income without knowing from whence it is derived is followed by its own punishment to the individual, and draws many others into the same scrape who little deserve it. The sale of encumbered estates speaks volumes. Mortgage follows mortgage to satisfy extravagance, till the broad acres dissolve into parchment, leaving the original owner penniless. There is one important point which never seems to trouble the improvident. Does he ever ask himself the question—"Am I answerable for the talents entrusted to me, whether they be of intellect or gold, or both?" The continued emigration from Ireland is no subject of congratulation, although not to be wondered at, considering the unsettled state of society. Men who have lived for years without intercourse with their landlords, paying heavy rents during the season of abundance and protection, content to exist on Potatoes, not caring sufficiently for common comforts to use exertion to obtain them; these men are at sea without a rudder when adversity overtakes them, unprepared with the savings of former years against a rainy day, and without knowledge or perseverance to follow a better course of agriculture. If a child grows up to manhood, innocent of the rudiments of education, who is to blame for his ignorance? His parents must be answerable for such neglect. In the case of labourers and small farmers, whose notions of tillage extend to the rudest system of planting Potatoes, and sprinkling a few grains of Wheat on an ill cultivated but generous soil, to whom should they look for advice and instruction, under difficulties, to enable them to keep pace with other countries, and to bear up against the disastrous famine caused by the Potato blight? Unfortunately the poorer Irish were left to their own invention, and remained unconscious of the resources of their magnificent country, pursuing the same mistaken plan, involving themselves in misery. Emigration may be termed voluntary, but under the circumstances it is compulsory. The best men are crossing the sea when there is plenty of room for them at home, under skilful guidance. Their sinewy arms may be wanted ere long! *Falcon.*

Mr. Mechi's Dr. and Cr. Account has caused no small sensation in the agricultural world, but more particularly amongst the anti-high-farming party. Has a correct view been taken of the document? Mr. Mechi is an enthusiastic and extravagant experimentalist, and farmers should be much obliged to him for spending his money, in order to show them what quicksands and rocks they should avoid. Mr. Mechi may have been mistaken in his speculations, as many practical men supposed he would be; but because he has been too sanguine as to his profits, there is no justice in condemning a judicious outlay on land. Some distinction should be made between reckless and high farming; the latter term does not appear to be understood. It means laying out cash in draining, manuring, and improving land, for which a larger return will be received than if the farm was left half-tilled and full of weeds. Common sense high farming is cultivating the soil to the extent that will remunerate the tenant for capital laid out (not an extravagant expenditure for one year) the result to be shown in the course of three or four years' cropping. If Mr. Mechi is given time, he may not prove so far wrong as many people imagine. If high farming will not pay—that is, feeding the soil according to its production—low farming, that is, scratching undrained land to enable the weeds to flourish, making it a puddle in winter, and a turnpike road in summer, will never answer. If a man succeeds in an undertaking, contrary to the usual practice, he is lauded up to the skies; should he fail, no abuse is too severe to shower down upon his devoted head. It is in vain to censure and ridicule high farming with the hope of returning to protection. Whatever relief may be bestowed upon land, in the shape of removing some of the burthens now weighing heavily upon tenants and landlords, a large duty upon the importation of foreign grain into this country can never again exist. Rents must be based on the price of bread and meat, and lowered accordingly, and leases granted to men with money in their pockets. Shopkeepers do not make the same profits they used to do, neither can farmers hope to live without increased energy. *Falcon.*

On the Application of Lime to Grass Land.—When we consider the vast quantity of lime that is removed by a crop of Grass, it seems reasonable to suppose that some means ought to be taken to restore that element to the soil, if the soil does not already contain a sufficient amount. Two tons of red Clover will carry off 130 lbs. of lime—two tons of Rye-grass 33 lbs. This is from an analysis by Professor Johnston, whose high authority cannot be doubted; and from analysis we find all Grasses to contain lime in large proportions, especially Clovers and Lucerne. Although this quantity of lime appears a great deal, carried off by these crops, yet very small when compared with the weight of the soil, as one cubic foot weighs about 80 lbs.; and the presence of a much greater quantity of lime is necessary to be present in the soil than what is actually required by the various crops, as the roots or feeding organs do not come in contact with the hundredth part of the soil. The clear, glassy part of the stems of Grass is composed of a silicate of potash or a silicate of soda; and, in the absence of either of these substances, lime in contact with sand or flint will render it sufficiently soluble to enter into the organism of plants, and will also set at liberty matters that have been taken up in the soil, and quite unfit in that state for the food of plants. If Grass is not carried away in the shape of a crop of hay, but is used as a pasture for milk cows or growing stock, still a great amount of lime is removed by those animals; 100 lbs. of bones contain above 57 lbs. of lime. Milk, too, carries off carbonate and phosphate of lime in great abundance. Yet it must be remembered that there is a marked difference between the full grown animal and a young or growing one; the former excretes carbonate and phosphate of lime in its liquid and solid excrements, whereas Nature has so organised the young animal that the greater part of the lime eaten in its food is assimilated for the growth and extension of its bones; if such was not the fact, how could bones possess the immense quantity of lime in their composition? So, even by this means, the soil becomes deficient of lime, if all the excrements of such young animals was returned to it; if such soil did not contain a sufficiency of lime, which there is much reason to doubt, as crop after crop removed lime, and seldom lime is applied as a dressing for Grass land; and certain it is that we cannot arrive at anything like accuracy in the absence of analysis; and practical experimenters and farmers will do well to consider this. I do not wish to mislead them, neither should they be led away by any wild theory, but first prove on a few square yards if the result is satisfactory, then extend to as many square acres. I am speaking from practical application of lime to Grass land. Science dictated this to me, and its application was attended with the most beneficial results. I have written this on the suggestion of a gentleman whom I recommended to

Grass. The season I should recommend to apply lime is now, or as early as possible after, as in the winter months lime exercises its most beneficial influence on the soil. I should apply three tons to the acre. There is much difference in the quality of lime; whichever contains the greatest amount of pure carbonate of lime is the best for agricultural purposes. The lime I should recommend to be slaked, spread on in as quick a state as possible, and immediately brushed in both lengthways and across; red and white Clover will appear in much greater abundance than for years previous to the use of lime. Lime is by no means so extensively employed as it ought to be; it ought to be used and regulated to the kind of crop. Potatoes are much benefited by its use; 9 tons, with their tops, will take from the soil 270 lbs. of lime—45 tons of Turnips, with their tops, will carry off 140 lbs. of lime; hence the benefit arising to Turnip crops from the use of bones, from the fact of their supplying lime, in addition to the organic constituents. *G. Grey Watson, Ribston, Wetherby.*

Land Draining.—In the midst of numerous floating conflicting opinions, I am not now desirous to add to the long list of counsellors; but as one who has thought deeply, written much, and practised extensively on nearly every variety of soil and subsoil in one or other of the counties of Durham, York (the three ridings), Nottingham, Lincoln, Leicester, Bedford, and Hertford, I wish, by your favour, to record that I have never failed, under the most unfavourable circumstances, to produce the best results by means of drains 3 feet deep, and 18 feet apart, in direction of the greatest descent, making provision for a free circulation of pure atmospheric air through each and all the drains. In a few particular cases, I had recourse to the aid of boring at the bottom of the drains, at short intervals, and thus afforded, at a very trifling cost, free and effectual vent to deeper lying waters. In stating the above, allow me to observe that the professors of very deep draining are one and all silently abandoning in practice their pet and concomitant theory of distant drains, and I will venture to opine that expense will speedily remove the film from the other eye also. *Simon Hutchinson, Manthorpe Lodge, Grantham, Lincolnshire.*

Recipe for Brewing Unfermented Bitter Ale.—Boil your copperful of water (mine holds three quarters of a hogshead); when boiling, remove it to the mash-tub; there let it remain sufficiently clear to see your face in it; then add two bushels of malt; stir it well up, and cover it over with bags, to keep in the steam; let it stand three hours, draw it off, put it into the copper, and add to it 2 lbs. of the best Farnham Hops; boil it one hour very gently, and then turn it off boiling hot, Hops and all, into your cask (a half hogshead I use). Do not fill the cask quite full, but let it be about 3 inches lower than the bung-hole, to allow it to form a head. Upon no account break this head, nor disturb it in any way. Do not bring it down until it is quite cold—the time varies from three to six weeks according to the weather, the temperature of the cellar, or the size of the cask. It is fit to drink in about four or six months, when it will be as bright as amber. Upon no account use any yeast, as it must not ferment. I always brew in this way, and have never had a failure. Many of my friends (from having tasted my beer) have asked me for the recipe, and have brewed in this way, and one public brewer follows the same plan, and has a very great and increasing demand for it. With my small copper, I always brew two hogsheads in a day. Strong beer brewed in this way does not come to drinking for 12 to 15 months. I must add, that it will never turn sour, and is as good at the end of the barrel as at the beginning. *J. W.*

Short-strawed Wheat.—Your correspondent "Clitheroe" enquires for the "shortest strawed Wheat." The Golden Drop is the most dwarfy variety known here, and is as heavy as any produced. A parcel under our notice was shipped here of late weighing 65½ lbs. per bushel; enclosed is a sample, which appears tolerably true to its kind—sometimes it exceeds 68 lbs. It is a correct idea to select the shortest strawed kinds for high cultivation, as the tall kinds get lodged and deteriorated in quality and quantity by heavy rains, which indeed is much to be deplored. The best alternatives we know of to obviate this evil, are selecting stocks of the dwarfest growths, sowing moderately thin, with precision, say 3 pecks to 1 bushel per acre, and treading light land crops with sheep in early spring. Short-strawed Wheat is also not so subject to be mildewed as tall. The "Golden Drop" is shorter in the straw than "Piper's Thickset." Eighty bushels per acre, however, is too great an extreme calculation for "Clitheroe" to presume he can grow under any circumstances; though high cultivation may go very far to effect it. *Hardy and Son, Maldon, Essex.*

Societies.

Tyneside.—*Benefit of Science to Agriculture.*—Mr. Grey, of Dilston, said, he had been rejoiced to hear the forcible remarks of the chairman, as to the importance of combining science with practice. In societies of this kind they were too much occupied in handying compliments to each other; but if gentlemen would lay themselves out to explain the principles on which the improvement of agriculture depended, these societies would have something of the character of educational institutions; they were too busy to take advantage of them; but in institutions of this kind, if every man who had experience would give the result of it, great benefit would ensue. Education, in the common acceptance of the term, meant the mechanical act of reading and writing; but these things, important as they were, were but the first steps in a ladder, the top of which they were unable to reach in a life-time. Their education went on from day to day, if they only used ordinary application. Their farmers' clubs more especially had a tendency to bring forth the experience of those who attended them—to give the farmers a stimulus in teaching them to think for themselves, and in breaking down that lethargic state of mind which usually belonged to those who merely followed in the beaten track of their forefathers. He was the more especially glad to hear the compliment which his friend had paid to science on this occasion, because he recollected, at a very important meeting of this county, the value of science was spoken of in somewhat of a sneering and disparaging style. If the question was asked what science had done for agriculture, the answer was a very simple one. He would look back 50 years, in one particular case, when they had no other instrument than a flail to thresh out their corn, and when corn was laid a fortnight together in a state very unfit for grinding. There was no comparison between this slow process and the expedition of their threshing machines—whether driven by steam, water, or horses—with which they could thresh their stack and have it ready for market in a very few hours. He would ask if, in this instance, mechanical science had done no good to agriculture? Then look at the whole round of their improved implements, fitted to perfect and cheapen cultivation. Let them look at the prospect of having a machine introduced, that would cut down their harvests with much greater expedition than hitherto, and then say whether science was doing nothing for agriculture. The Chairman had touched upon chemical science, which was more intricate in its operation. That science was now doing for agriculture what the railroads had done for commercial men. It was carrying them from the point at which they stood, to the point to which they would ascend, in a speedy and certain manner. Had it not taught them what was the component parts of their soils, and in what respect any of them were deficient? It had taught them to apply certain manures for the raising of certain crops—that manures having a considerable portion of nitrogen were beneficial for Wheat—that those possessing alkalies were best fitted for leguminous crops—and that for promoting luxuriant root crops, they should resort to the phosphates and phosphoric acid—whilst, if they applied these things indiscriminately, they would have given their money in vain. It had been his endeavour, in connexion with this Society and the Hexham Farmers' Club, to make them the encouragers of inquiry and knowledge. If he had been the means of rousing any mind to think for itself, he should think he had not laboured in vain.

Reviews.

Observations upon the Nature, Properties, and Value of the Patent Solid Sewage Manure, with a Description of Wicksteed's Patent Process for its Manufacture, &c. London: John Weale, 59, High Holborn.

The subject of this tract ought not to be permitted that comparative neglect which, during the past few months, it has received. The relative merits of the two plans for the disposal of sewage manure—that which sends the whole in the liquid form to the land, and that which precipitates the principal ingredients in a solid form for carriage as ordinary manure—will hinge mainly upon the question of economical conveyance, which has hitherto received an answer in favour of the liquid sewage. The extreme dilution, however, of sewage water renders the matter doubtful; and we accordingly present our readers with the following extracts from this tract on the other side of the question.

"Hitherto, the chief difficulty to be overcome has arisen from the extreme state of dilution in which the water is delivered from the sewers. From an analysis made by Professor Aikin, of Guy's Hospital, and Mr. Nash, in the year 1845, of the sewage-water from five of the metropolitan sewers, it was found that 560 tons of sewer-water contained only one ton of fertilising matter, suspended or dissolved, and therefore, for the purpose of rendering that single ton available as a manure, the enormous amount of 560 tons must be, by some means or other, distributed over the land; and just in proportion as the use of water for sanitary and manufacturing purposes is extended, will this difficulty increase.

"Among the successful cases of the application of sewage, in its liquid state, that of Edinburgh has been most commonly referred to; but it cannot be taken as an example of the value of sewage-water unless applied in similarly-circumstanced localities; for, although the application of it to the meadow lands near that city has proved to be a source of very large profit to the landholder, this successful result has arisen from a rare combination of favourable circumstances, viz., proximity of the locality of demand to that of supply, and the capability of the transmission of water by natural channels, instead of by expensive artificial means.

"But taking it for granted that the sewer-water can be cheaply supplied to the land, it must not be assumed that from every 560 tons of sewer-water conveyed in case, it is certain that a large proportion, varying with the nature of the soil and seasons, must flow off the land, or through the underground drains, to the natural water-courses of the district; for it appears from an analysis made by the late Professor Phillips, the Government chemist, of the Edinburgh water, before and after it had flowed over the meadows, that out of 52 grains of solid matter in suspension, in a gallon, 37 grains had been deposited; and out of 37 grains held in solution, only $4\frac{3}{10}$ grains; or, taking the matters held in suspension, 71 per cent. of the fertilising matter had been employed, but only 5 per cent. of matters held in solution, which are well known to be far superior to those held in suspension; therefore, so far as the water flowing off the land is concerned, great expense in transmission must be incurred to produce a very inadequate result, unless the locality renders a recourse to artificial means unnecessary—a circumstance rarely to be expected.

"The want of success of the once favourite scheme of supplying liquid manure, 'by means of pumping-engines and pipes, analogous to that of the great water companies,' will not appear surprising to any one who is aware of the power required to overcome the friction created in its passage through long lines of pipes, and the extravagant outlay necessary to provide pipes and machinery for the distribution of the liquid manure over an area sufficiently large to utilise the whole supply of sewage from a large town. If the cost of supplying a town with water be great, owing chiefly to the extent of pipage required, although the houses adjoin each other—how enormous must it be when the supply is to be transmitted to distant farms, instead of houses; in fact, to counties instead of towns.

"For these and other reasons (and after having, in 1845, tested the pipe scheme by calculations and detailed estimates), my own opinion was decidedly averse to this mode of distribution of sewage-water; not that it was physically impossible, but because it was commercially unprofitable.

"The next step in my examination was, to ascertain whether the manure held in suspension in sewer-water could be collected and prepared for transmission at a remunerative price; and having found that, owing to the little value as a fertiliser of this portion of the sewage water, as compared with that held in solution, it would not yield a profit; and having also considered that the supernatant liquor that would flow away after the manure had been deposited, would contain the most valuable of the fertilising salts, and, moreover, that if it had not been deodorised, then, on account of the necessity of exposing it in extensive depositing reservoirs, it would become a greater nuisance that when flowing direct into the streams,—I therefore abandoned this scheme also.

"At that period, however, the impression made upon the public mind by the advocates of the liquid manure scheme was exceedingly favourable to their mode of distribution. They not only urged the instance of the Edinburgh meadows, and a few other experiments on a smaller scale, but contended that the fact of its being in the liquid instead of the solid form, was an essential element in the value of the liquid sewage. At the same time the general feeling was hostile to a solid manure scheme, inasmuch as the popular notion of the solid manure was, that it consisted only of the matters mechanically suspended, and that these could not be combined with the solids held in solution.

"Upon considering and reflecting upon this popular notion, I was led to the following conclusions:—

"1st. That although, for certain crops, liquid manure might be preferable to solid manure, and that, in fact, guano was frequently diluted and applied in a liquid form, yet it was as frequently applied with great advantage in its dry state, its strength being first reduced by an admixture with dry ashes.

"2nd. That it appeared to me that the question of the advantage of using manure in a solid or liquid form, was perfectly independent of the value of the fertilising matter contained in it, so long as it was not too much diluted.

"3rd. That river water, of itself, used in irrigation, was more or less valuable in proportion to its muddiness, its value as an irrigant being dependent not only upon the quantity of salts originally contained in it, but also upon the additional salts and organic matter washed down by floods passing over arable lands; at the same time, the chemical nature of the earth passed over would affect its value.

"4th. That all sewage, when towns are abundantly supplied with water, would be too much diluted; it, therefore, it could be concentrated to that state of strength which the farmer has found to be most advantageous, when he dilutes either guano or the liquid farmyard manure (collected in tanks), the application of it to the land would be more economical, as there would then be no necessity to carry more water than was absolutely required for the purpose.

"5th. That it would be better, therefore, if the fertilising matter could be separated from the excess of water, or obtained in a dry state like guano; as it would enable the farmer to apply it in the solid or liquid state, whichever he found most suitable to the land, the crop, or the season.

"With these views I applied to Professor Aiken in 1845, who, after consideration, recommended that lime should be mixed with the sewage water; not in such large proportion as would drive off any ammonia which it

strength of the London sewer water of that year). The effect of this application was immediate and extraordinary—first, in depriving the water of all smell; secondly, in precipitating the most valuable salts and organic matter held in solution, as also the lime used in the process. After settling, the supernatant water was clear and limpid; and inasmuch as, in the process, most of the salts of lime originally contained in the water before it entered the sewers were also precipitated, it had become softer than it originally was; and its being tasteless, inodorous, and freer from salts and organic matter than it was before its admixture with the sewage, seems to be a conclusive argument that the constituents which were valuable as manure had been separated. This product, consisting of an admixture of—first, the solids held in suspension; second, those dissolved in the water; and third, the lime used in the process (being itself a manure), constitutes the description of solid manure, the manufacture of which I have advocated for years past."

Miscellaneous.

Bath and West of England Agricultural Society: Proposed Exhibition of Implements and Stock in the West of England.—A Society, under the above denomination, has been recently established in the West of England; and from the spirit with which it has been received, and the great encouragement given to it, we have every reason to believe that it will be most eminently successful. The chief promoter of the Society was, we learn, T. D. Acland, Esq., son of the much-respected member for North Devon, to whom much credit is due for his zeal and exertions. The subscription list already presents a goodly appearance, many of the first persons in the western counties having added their names to it; and we have no doubt, when it is more fully known, it will receive general encouragement. A preliminary meeting of the subscribers and friends to this very laudable undertaking was held at the Globe Hotel, Exeter, on Friday, the 12th inst., "for the purpose of electing a committee of selection, to whom the nomination of 12 members, to act on the first council of the Society, will be confided. The meeting was well attended. Sir Thomas Acland, Bart., M.P., was unanimously called to the chair, and briefly opened the business of the meeting by speaking of the great benefit likely to arise from the Society. Sir John Kennaway, Bart., after some pertinent observations in favour of such institutions, proposed the committee of selection. Mr. W. E. Rendle, of Plymouth, said that about a month since, not having any knowledge of this excellent Society, he had written his views on the subject of having an exhibition of implements and stock at Plymouth, to the hon. and much respected member for South Devon, Sir Ralph Lopes, Bart., to which letter Sir Ralph replied, recommending him to wait and first see the prospectus of the Society. He would observe that the inhabitants of Plymouth, Stonehouse, and Devonport exceeded 100,000, in addition to the population of the surrounding towns and villages; and there could be no doubt that such an exhibition would be attended by many thousands, as it could not fail to attract large bodies of persons from the east of Cornwall, the south and north of Devon, &c., thus giving an opportunity to a great number of persons of seeing an exhibition, of which they had only up to that time heard by name.—It is generally understood that the exhibition of 1852 will be held at Bridgewater or Taunton, and it is not improbable that the one for 1853 may be held in Plymouth—a circumstance of no mean consideration to the town. *Plymouth Herald.*

The Labourer's Balance Sheet.—As we are talking of balance sheets, permit me to lay before you the labourer's balance sheet. As there are many in our towns and cities with tolerably good wages, who don't know how to live—it may be useful.

	£	s.
48 weeks' labour at 8s.	19	4
4 weeks' harvest, at 21s. 6d.	4	6
Extra wages, earned occasionally by hoeing, dibbling, &c.	1	0
Wife's earnings at gleaning, weeding, &c.	2	10
4 bushels of Wheat in the garden, at 5s.	1	0
	£28	0

Analysis of Labourer's Expenditure; average of family—man, wife, and 3 children.

	s.	d.
9 4 lb. loaves, at 5d.	3	9
1½ lb. of the fat of pork, at 6d.	0	9
1 lb. of cheese	0	7
½ lb. of butter	0	6
2 ozs. of tea	0	6
1 lb. of soft sugar	0	4
½ lb. of soap	0	3
½ lb. of candles	0	2½
Coals and firing	0	8
Boots for the man	0	4½
Boots and shoes for his family	0	4½
Clothing for man	0	7
Clothing for woman and family	0	9
Pins, needles, thread, worsted, &c.	0	1
Confinements, (doctor's fee, &c.)	0	4
General medical attendance, by 5s. annual club payments	0	1
	10	1½
52 weeks at 10s. 1½d., £26	7	7
Rent	3	10
	£29	17

From the above statement, which I believe to be strictly accurate, it is quite clear that unless the wife earns more than the sum I have stated they cannot have the comforts I have described.—*Mr. Mechi's Second Paper.*

has furnished an account of butter-making, which I mean to adopt; but will he be so kind as to say what sort of milk-pans he uses; if they be of the common red earthenware or glazed ware, as it will require a body of some substance to withstand the heat of a hot plate. And will cream, set aside for a few days, do for churning by this process?"

CATTLE, &c.: *Victis.* "Farming for Ladies" is a good book for your purpose. An Alderney cow; Berkshire pigs; Spanish fowls; Aylesbury ducks.

DAIRY MANAGEMENT: *Agricola, jun.* Read Mr. Milburn's little book "The Cow" for information about the profits of dairy management. Lime is best applied in compost with vegetable mould. The guillotine chaff-cutter is as neat and efficient an instrument as you can employ. On farm book-keeping, read the article "Accounts" in Blackie's "Cyclopedia of Agriculture."

EARLY POTATOES: *A Small Farmer.* If you have good stable dung, you need not buy guano or sulphate of ammonia, or any other artificial manure.

MR. MECHI: *W Grant.* You would see that the review was accidentally delayed.

REAPING MACHINES: *W T.* Mr. Slight, of Edinburgh, knows more about reaping machines than any other man. See his paper in the new number of the Edinburgh Quarterly Journal of Agriculture. We do not know of any such apparatus of circular saws having ever been used as a reaping machine, and think you are mistaken. Your wish about John Bull's honour in this matter will be gratified by an extract from Mr. Slight's paper next week.

SHEEP: *H B.* The sheep should be penned upon the Clover, and feed it down; eight to ten sheep per acre, for four or five months, will be kept by one acre of *good* Clover.

SMITHFIELD: *A R.* The reports are the judgment of the reporter, and not a statement of fact. The beasts are sold at so much a head—the reporter judges them to weigh so many stone (8 lbs.), and reports the price per stone accordingly.

TURNIPS: *T L.* The common white Stone Turnip is one of the earliest sorts you can sow. Whether it will stand your early spring frosts, however, we doubt. Sow in the end of April, to be ready in August.

Markets.

COVENT GARDEN, JAN. 17.

English Pine-apples are pretty well supplied, considering the season. Hothouse Grapes are nearly over. A few foreign Pears are still furnished. The best English kinds fetch good prices. They consist of Glout Morceau, Beurré Rance, and Easter Beurré. Oranges are plentiful and good. Nuts are nearly the same as last quoted. Carrots, Turnips, Cabbages, &c., are sufficient for the demand. Potatoes are generally good in quality. Lettuces and other salading are sufficient for the demand. Mushrooms are still dear. Cut flowers consist of Heaths, Pelargoniums, Mignonette, Stephanotis, Bignonia venusta, Camellias, and Roses.

FRUIT.

Pine-apples, per lb., 3s to 6s	Almonds, per peck, 6s
Grapes, hothouse, p. lb., 4s to 7s	— sweet, per lb., 2s to 3s
— Lisbon, per lb., 9d to 1s	Oranges, per doz., 1s to 1s 6d
Apples, kitchen, per bushel, 2s to 3s 6d	— per 100, 6s to 10s
Pears, dessert, p. doz., 2s to 6s	Nuts, Barcelona, p. bsh. 20s to 22s
Lemons, per doz., 1s to 2s	— Brazil, p. bsh., 12s to 14s
Walnuts, per bush., 12s to 24s	Filberts, per 100 lbs., 70s to 90s

VEGETABLES.

Cabbages, per doz., 8d to 1s	Parsnips, per doz., 6d to 1s
Broccoli, p. bunch, 8d to 1s 3d	Leeks, per bunch, 1d to 2d
Asparagus, p. bundle, 4s to 6s	Shallots, per lb., 6d to 8d
Seakale, per basket, 1s to 2s	Garlic, per lb., 6d to 8d
Rhubarb, p. bundle, 1s to 1s 6d	Artichokes, Jerusalem, per bf. sieve, 9d to 1s
Potatoes, per ton, 45s to 80s	Lettuce, Cab., p. score, 4d to 1s
— per cwt., 2s to 5s	— Cos, per score, 3d to 1s
— per bush., 1s 6d to 2s 6d	Small Salads, p. punn., 2d to 3d
Turnips, p. bunch, 1d to 2d	Horse Radish, p. bundle, 1s to 4s
Cucumbers, each, 1s to 3s	Mushrooms, p. pot., 1s to 2s 6d
Radishes, per doz., 9d to 1s	— per bushel, 7s to 10s
— Turnip, p. doz., 9d to 1s	Sorrel, per hf. sieve, 6d to 9d
Celery, p. bundle, 6d to 1s 6d	Fennel, per bunch, 2d to 3d
Carrots, per bunch, 4d to 6d	Savory, per bunch, 2d to 3d
Brussels Sprouts, p. half sieve, 1s 6d to 2s	Thyme, per bunch, 2d to 3d
Spinach, per sieve, 1s to 1s 6d	Parsley, per doz. bun., 2s to 3s
Onions, p. bunch, 1d to 5d	Mint, per bunch, 1d to 2d
— Spanish, p. doz., 1s 6d to 3s	Basil, p. bunch, 3d to 4d
Endive, per score, 9d to 2s	Marjoram, do., 3d to 4d
Beet, per doz., 6d to 1s	Watercress, p. 12 bunchs. 4d to 6d

WOOL.

BRADFORD, WEDNESDAY EVENING, Jan. 14.—There is no material change to report in the state of the wool market; the inquiry for the best class of sorted and fleece wool continues active, and the turn of prices in favour of the seller. In middle class wools there is not quite so brisk a demand, as the supply of them is relatively greater, but prices are quite firm. The utter impossibility of replacing from the country at prices in any degree commensurate with those current in this market renders staplers indifferent regarding sales, unless increased prices can be obtained. Short wool is rather more inquired for at late rates.

THURSDAY.—There is a quietness in the purchase of wools, especially of the middle and lower classes. The prices sought lately totally preclude any business being done except on the narrowest scale possible.

COAL MARKET.—FRIDAY, Jan. 16.

Wallsend Hetton, 17s. 3d.; Eden Main, 16s. 6d.; Russell's Hetton, 17s. 3d.; Belmont, 16s. 9d.—Ships at market, 34.

POTATOES.—SOUTHWARK, MONDAY, Jan. 12.

The committee report that the trade during the past week has been very heavy, and lower prices for some sorts have been submitted to. The weather has been very mild for the season. The following are this day's quotations:—Yorkshire Regents, 60s. to 80s.; Scotch ditto, 55s. to 65s.; Cups, 50s. to 60s.; Kent and Essex Regents, 60s. to 75s.; Wisbeach, 50s. to 65s.; French, 60s.

HAY.—Per Load of 36 Trusses.

SMITHFIELD, Jan. 15.

Prime Meadow Hay	72s to 77s		Clover	70s to 85s	
Inferior ditto	63	68	2d cut	67	75
Rowen	60	63	Straw	21	25
New Hay	—	—		J. COOPER.	

CUMBERLAND MARKET, Jan. 15.

Prime Meadow Hay	75s to 80s		Inferior	65s to 75s	
Inferior ditto	60	70	New Clover	—	—
New Hay	—	—	Straw	24	28
Old Clover	78	86		JOSHUA BAKER.	

WHITECHAPEL, Jan. 15.

Fine Old Hay	72s to 76s		Old Clover	—s to —s	
New Hay	68	72	Inferior ditto	—	—
Inferior ditto	50	63	New Clover	75	84
Straw	20	24	Inferior ditto	60	70

HOPS.—FRIDAY, Jan. 16.

Messrs. Pattenden and Smith report that there continues a good demand for all descriptions of Hops, and the late advance is fully supported. Currency:

Mid & East Kents	140s to 252s	Sussex	112s to 130s
Weald Kents	120s to 150s	Yearlings	95s to 110s

Very choice higher.

BEASTS, 3565; SHEEP AND LAMBS, 24,780; CALVES, 114; PIGS, 360.

FRIDAY, Jan. 16.

We have a large supply of Beasts and a small demand; consequently it is difficult to realise Monday's quotations, except for choicest kinds. Although the number of Sheep is not very large, trade is so depressed they can scarcely be disposed of. The small amount of business done is at rather lower rates. We have a large supply of Calves, but chiefly foreign. The few good English Calves on sale make as much as of late; inferior kinds are lower. Our foreign supply consists of 550 Beasts, 1590 Sheep, and 242 Calves. The number of Milch Cows is 115.

Best Scots, Herefords, &c.	3 6 to 3 10		Best Long-wools	3 6	— 3 10
Best Short-horns	3 4	— 3 8	Ditto Shorn	...	...
2d quality Beasts	2 8	— 3 0	Ewes & 2d quality	2 10	— 3 4
Best Downs and Half-breds	4 0	— 4 4	Ditto Shorn	...	...
Ditto Shorn	...	...	Lambs	0 0	— 0 0
			Calves	2 8	— 4 0
			Pigs	2 8	— 3 8

BEASTS, 1030; SHEEP AND LAMBS, 3600; CALVES, 292; PIGS, 320.

MARK LANE.

MONDAY, Jan. 12.—This morning's market was but moderately supplied with English Wheat from Essex and Kent, the condition, particularly of the latter, having suffered considerably, the prices of this day se'nnight were readily accepted. Foreign met a slightly increased inquiry, but the sales were not extensive, nor did we observe any alteration in its value. —Flour is a tolerably fair sale at a trifle over last week's rates.—There is a good demand for Barley, and fine malting must be quoted 1s. per qr. dearer.—The value of Beans and Peas remains unaltered.—Oats meet a fair inquiry at the rates of last week.

PER IMPERIAL QUARTER.	s.	s.		s.	s.
Wheat, Essex, Kent, & Suffolk...White	40	48	Red	37	39
— — fine selected runs...ditto	43	46	Red	39	42
— — Talavera	46	48			
— Norfolk, Lincoln, & York...White	36	40	Red	—	
— Foreign	34	50			
Barley, grind. & distil., 25s to 26s...Chev.	28	32	Malting	25	27
— Foreign...grinding and distilling	22	26	Malting	—	
Oats, Essex and Suffolk	18	19			
— Scotch and Lincolnshire...Potato	20	23	Feed	19	21
— Irish	18	21	Feed	17	19
— Foreign ...Poland and Brew	18	21	Feed	16	19
Rye	28	30	Foreign	—	
Rye-meal, foreign...per ton	—				
Beans, Mazagan ...24s to 27s...Tick	25	30	Harrow	25	30
— Pigeon ...27 — 32... Winds	30	31	Longpod	24	26
— Foreign ...Small	22	30	Egyptian	23	25
Peas, white, Essex and Kent...Boilers	32	34	Suffolk	33	35
— Maple...26s to 28s ...Grey	24	26	Foreign	27	34
Maize ...White	—		Yellow	—	
Flour, best marks delivered ...per sack	35	40			
— Suffolk ...ditto	26	32	Norfolk	26	32
— Foreign ...per barrel	15	22	Per sack	28	33

FRIDAY, Jan. 16.—Excepting 9470 barrels of Flour, the arrivals of breadstuff have been small this week. To-day's market was fairly attended by buyers, and the business transacted in Wheat although less extensive, was on fully as good terms as on Wednesday, being in many instances 1s. per qr. over Monday's prices. Flour being held for an advance of 1s. per sack and barrel, causes the sale to be limited, but at late prices a considerable clearance might be effected.—Barley is scarce, but the finest qualities are the turn dearer.—Beans and Peas remain as last quoted.—The Oat trade is slow at Monday's prices.—Owners of floating cargoes of Wheat and Maize are holding for an advance.

ARRIVALS THIS WEEK.

	Wheat. Qrs.	Barley. Qrs.	Oats. Qrs.	Flour.
English	2330	1660	870	3090 sacks
Irish	—	—	2180	
Foreign	310	—	2140	830 sacks

IMPERIAL AVERAGES.	WHEAT.	BARLEY.	OATS.	RYE.	BEANS.	PEAS.
Dec. 6	37s 6d	27s 0d	18s 2d	27s 6d	30s 6d	29s 6d
— 13	37 5	26 8	18 6	27 2	30 2	30 0
— 20	37 7	26 6	18 3	27 4	29 9	29 6
— 27	37 2	26 3	18 3	28 1	29 2	29 0
Jan. 3	37 2	26 7	17 9	26 11	28 7	28 4
— 10	37 4	26 5	17 10	30 1	28 9	28 1
Aggreg. Aver.	37 4	26 6	18 2	27 10	29 6	29 1
Duties on Foreign Grain	1 0	1 0	1 0	1 0	1 0	1 0

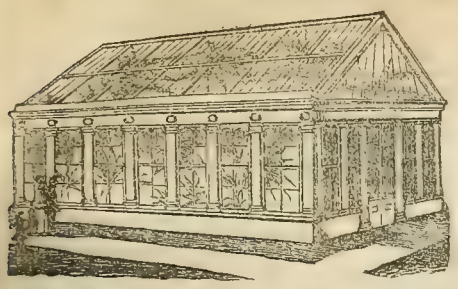
Fluctuations in the last six weeks' Averages.

PRICES.	DEC. 6.	DEC. 13.	DEC. 20.	DEC. 27.	JAN. 3.	JAN. 10.
37s 7d	...	...				
37 6			...	...	...	...
37 5	...	...	...	...	...	...
37 4	...	...	...	...	...	
37 2	...	...	...	...	...	...
37 2	...	...	...	...		...

LIVERPOOL, TUESDAY, Jan. 13.—At our market this morning, all descriptions of English, Irish, and foreign Wheat and Flour assumed a more languid tone than of late, and the transactions on the whole being more limited than usual, any further advance in the various qualities of each was unattainable, and holders were not disposed to recede from the currency of this day se'nnight. Barley and malt, upon a fair demand, was held firmly, and somewhat higher prices were required, Egyptian Beans were rather cheaper; all other kinds, as well as Peas, remaining unaltered in value. Oats, being scarce, advanced 1d. per 45 lbs., and Oatmeal improved 6d. per load over the rates of this day week. Indian Corn on the spot brought an advance of 1s. per qr.—FRIDAY, Jan. 9.—Upon a slender attendance of country millers at our Corn Exchange to-day, and our local dealers buying less freely, the demand for either English or foreign Wheat was but moderate, and the sales effected were at the full rates of Tuesday last. Barley and Malt continue without alteration, and in Beans or Peas little or no change was apparent. Good mealing Oats, being scarce, were the turn dearer, and Oatmeal improved 3d. per load. With rather more inquiry for Indian Corn on the spot, a few parcels were taken to-day on slightly higher terms, and in the course of the week several floating cargoes changed hands at extreme rates.

GREEN AND HOTHOUSES, [illegible]
Machinery, at J. LEWIS' Horticultural Works, Stamford Hill, Middlesex, warranted best materials, and the cheapest in England.—A List of Prices sent by enclosing two postage stamps.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER,
AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.



GRAY AND ORMSON, Danvers-street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

G. & Co. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders, they can with the greatest confidence give the most satisfactory references.

Their Hot-Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating Hot by Water can be made available.

HOTHOUSES, GREENHOUSES, ETC.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

E. DENCH, PATENT HOTHOUSE WORKS, KING'S-ROAD, CHELSEA.—The superior qualities in every respect of these Structures having been proved in all parts of the United Kingdom, has caused a greater demand for them than E. D. could execute; he has been obliged to have perfect and powerful machinery made to meet the numerous orders, and can now execute any amount of work to great perfection, with dispatch, and for quality and price to defy all competition. Patent Hothouses, with excellent glass 3 feet long by 1 foot wide, every front sash to open, and every top one to slide down, with pulley made of the same materials as the electric telegraph wires, which require no painting; delivered free to Wharf or Railway Station, at 1*s.* 2*d.* per foot super., complete, having been fitted, and every portion marked previously, making a Greenhouse 16 ft. 6 ins. long, 12 ft. rafter, 400 ft., 23*l.* 6*s.* 8*d.*; 24 ft. 6 ins. long., do. do., 526 ft., 30*l.* 13*s.* 8*d.*; 28 ft. 6 ins. long, 15 ft. rafter, 712 ft., 41*l.* 10*s.* 8*d.* Heating by Hot-water on the most approved and economical principles.

THERMOMETERS.

HENRY BAKER'S (90, Hatton Garden, London), List of Prices. Every instrument made by him warranted accurate.—Vertical self-registering THERMOMETER, for heat and cold, of the best construction, and not liable to get out of order, 14 inches high, in copper case, 1*l.* 5*s.*; in japan case, 1*l.* 1*s.*, and 1*l* ; 10 inches high, in copper case, 1*l.* 2*s.*; in japan case, 18*s.* Horizontal Thermometers for registering the extreme of cold only, 4*s.* 6*d.*; Hot-bed Thermometers, in oak frames, 1*l.* 1*s.*; copper frames, 1*l.* 5*s.* Thermometers for Brewing, Baths, &c., in copper cases, 14 inches, 7*s.* 6*d.*; 10 inches, 5*s.* 6*d.*; 8 inches, 4*s.* 6*d.*; in japan cases, 14 inches, 5*s.*; 10 inches, 3*s.* 6*d* ; 8 inches, 2*s.* 6*d.* Dr. Mason's Hygrometer, or wet bulb Thermometer, for showing the humidity of the air, with tables, ivory scale, 1*l.*; wood, 15*s.* An invaluable instrument in Hothouses, Sick Chambers, &c. Wheel Barometers from 1*l.* 1*s.* each, sent, securely packed, without fear of getting out of order.

FOUNTAINS FOR PLAYING SCENTED WATERS.

PURE WATER raised to any height from a small stream, where a fall can be obtained, by

FREEMAN ROE'S

IMPROVED RAM;



Deep-well Pumps, Water-wheels, Baths, Hot-water Apparatus, Fountains, and Fire Pumps. Towns supplied with Gas or water. Drawings and Estimates made.

FREEMAN ROE, Hydraulic and Gas Engineer, 70, Strand, London; and Bridgefield, Wandsworth.

A PRIZE MEDAL FOR SUPERIOR LOCKS
WAS AWARDED TO J. H. BOOBBYER, AT THE GREAT EXHIBITION OF 1851.

PATENT SPADES, DAISY RAKES, SCYTHES, Draining, and other Garden Tools. Mole Traps, 6*s.* per dozen. Carpenters and Smiths' Tools, &c. Ladies' Garden Tools, 7*s.* 9*d.* a set. Sword-scrapers for Gardens, 1*s.* 2*d.* each. Patent Fumigators for destroying insects on plants, in greenhouses, &c.; at Messrs. J. H. BOOBBYER and Co.'s (late STRUCH and BOOBBYER), Ironmongery, Brass-foundry, Nail and Tool Warehouse, 14, Stanhope-street, Clare-market, London. Established nearly 200 years for the sale of goods from the best Manufactories at the lowest prices. Goods forwarded to any part on the receipt of remittance.

WATERPROOF PATHS.—Those who would enjoy their Gardens during the winter months should construct their Walks of PORTLAND CEMENT CONCRETE, which are formed thus:—Screen the gravel of which the path is at present made from the loam which is mixed with it, and to every part of clean gravel add one of sharp river sand. To five parts of such equal mixture add one of Portland Cement, and incorporate the whole well in the dry state before applying the water. It may then be laid on 2 inches thick. Any labourer can mix and spread it. No tool is required beyond the spade, and in 48 hours it becomes as hard as a rock. Vegetation cannot grow through or upon it, and it resists the action of the severest frost.

It is necessary, as water does not soak through it, to give a fall from the middle of the path towards the sides.

Manufacturers of the Cement, J. B. WHITE and SONS, Millbank-street, Westminster.

F and BUILDINGS of all kinds, the new Registered HORIZONTAL GAS STOVE is perfect in its operation, free from smell, and cannot get out of order. Price 30*s.*—STEVENS AND SON, Darlington Works, Southwark Bridge road, London.

CHEAP AND DURABLE ROOFING.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

F. M'NEILL AND Co., of Lamb's-buildings, Bunhill-row, London, the Manufacturers and only Patentees of THE ASPHALTED FELT FOR ROOFING

Houses, Farm Buildings, Shedding, Workshops, and for Garden purposes, to protect Plants from Frost.

At the Great National Agricultural Shows, it is this Felt which has been exhibited and obtained TWO SILVER MEDAL PRIZES, and is the Felt SOLELY patronised and adopted by

HER MAJESTY'S WOODS AND FORESTS,
HONOURABLE BOARD OF ORDNANCE,
HONOURABLE EAST INDIA COMPANY,
HONOURABLE COMMISSIONERS OF CUSTOMS,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANIC GARDENS, REGENT'S PARK,

And on the Estates of the Dukes of Sutherland, Norfolk, Rutland, Newcastle, Northumberland, Buccleuch (at Richmond) the late Earl Spencer, and most of the Nobility and Gentry and at the ROYAL AGRICULTURAL SOCIETY'S HOUSE, Hanover-square.

It is half the price of any other description of Roofing, and effects a great saving of Timber in the construction of Roofs. Made to any length by 32 inches wide.

PRICE ONE PENNY PER SQUARE FOOT.

*** Samples, with Directions for its Use, and Testimonials of seven years' experience, with references to Noblemen, Gentlemen, Architects, and Builders, sent free to any part of the town or country, and orders by post executed.

☞ The Public is cautioned that the only Works in London or Great Britain where the above Roofing is made, are

F. M'NEILL AND CO.'S

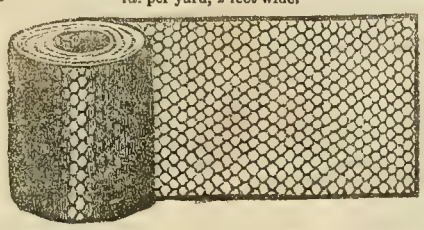
Patent Felt Manufactory, Lamb's-buildings, Bunhill-row, London, where Roofs covered with the Felt may be seen.

The new Vice-Chancellor's Courts, at the entrance of Westminster Hall, were roofed with F. M'NEILL and Co.'s Felt about two years since, under the Surveyorship of Chas. Barry, Esq., R.A. Her Majesty's Commissioners of Woods and Forests are so satisfied with the result that they have ordered the Committee Rooms at the Houses of Parliament to be roofed with their Felt. Quantity altogether used, 24,000 feet.

NOTE.—Consumers sending direct to the Factory can be supplied in lengths best suited to their Roofs, so that they pay for no more than they require.

Every information afforded on the construction of Roofs, or any proposed particular application of the Felt.

GALVANISED WIRE GAME NETTING.—
7d. per yard, 2 feet wide.

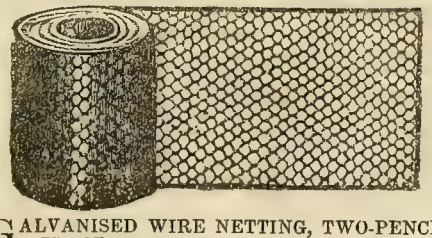


		Galvanised.	Japanned Iron.
2-inch mesh, light, 24 inches wide	...	7*d.* per yd.	5*d.* per yd.
2-inch " strong "	... 9 "	6½ "	
2-inch " extra strong "	... 12 "	9 "	
1½-inch " light "	... 8 "	6 "	
1½-inch " strong "	... 10 "	8 "	
1½-inch " extra strong "	... 14 "	11 "	

All the above can be made any width at proportionate prices. If the upper half is a coarse mesh, it will reduce the prices one-fourth. Galvanised sparrow-proof netting for Pheasantries, 3*d.* per square foot. Patterns forwarded post free.

Manufactured by BARNARD and BISHOP, Market-place, Norwich, and delivered free of expense in London, Peterborough, Hull, or Newcastle.

WIRE NETTING ONE PENNY PER SQUARE FOOT.



GALVANISED WIRE NETTING, TWO-PENCE PER SQUARE FOOT.—This article requires no painting, the atmosphere not having the slightest action on it. It was exhibited at the late Metropolitan Cattle Show, and was highly eulogised both for its utility and pretty appearance, and acknowledged to be the cheapest and best article ever produced. It forms a light and durable fence against the depredations of hares, rabbits, and cats, and is peculiarly adapted for Aviaries, Pheasantries, and to secure poultry; and by the galvanised requiring no paint, it answers admirably for training all kinds of creeping plants. Large quantities always kept in stock, of 18, 24, 36, and 48 inches wide; it can, however, be made to any dimensions desired. Patterns forwarded free of expense.

12 inches wide	3*d.* per yard.	30 inches wide	7½*d.* per yard.
18 " "	4½*d.* "	36 " "	9*d.* "
14 " "	6*d.* "	48 " "	1*s.* "

Galvanised do., 1*d.* per foot extra.

Extra strong Imperial Wire Sheep Netting, 3 feet, 1*s.* 6*d.* per running yard; if galvanised, 2*s.* Also every description of Wire Nursery and Fireguards, Wire House-lanterns and Shades, Fly-proof Dish Covers, Meat Safes, &c.; Window Blinds, 1*s.* 10*d.* per square foot, with bolts complete, in mahogany frames; Gothic Garden Bordering, 6*d.* per running foot; Flower Trainers, from 3*d.* each; Garden Arches, 20*s.* each. Flower Stands, from 3*s.* 9*d.* each; Galvanised Tying Wire for Plants and trees, Dahlia Rods, and every description of Wire-work; Weaving, for the use of paper-makers, millers, &c.—At the Manufactory of THOMAS HENRY FOX, 44, Skinner-street, Snow-hill, London.

Mealy Bug, Scale, Thrip, and all other Insects, without injury to the plants.

CLARKE and Co., Gardeners, Seedsmen, and Florists, Percy-cross Nursery, Walham-green, Fulham, continue to send out to all parts (on receipt of 5*s.* in stamps or otherwise), this invaluable article, in small sealed stone bottles. For testimony of its excellence, see *Gardeners' Chronicle*, page 821, 1851; and page 3, 1852. Printed directions, how to apply it, sent with each bottle.

Post-office Orders, payable at Brompton, to CHARLES CLARKE.

WARMING AND VENTILATING.

D. AND E. BAILEY, 272, Holborn, having had many years' experience in warming buildings by Hot Water, continue to erect Hot Water Apparatus on the most approved principles, for Mansions, Warehouses, Conservatories, and other Horticultural Buildings, and they beg to introduce to the public a BOILER of their invention, which has been used with great success, and has this season been put up in the gardens of the Horticultural Society, Chiswick, and is noticed and commended in the *Gardeners' Chronicle* of Saturday, Sept. 20, 1851, page 598. Dr. Arnott's Ventilating Valves, upon the best construction, many having been made under the kind superintendence of Dr. Arnott himself. Also a very complete, cheap, and efficient Portable Cooking Apparatus or Cottagers' Stove.

WICKHAM-MARKET SCHOOL, for GENERAL and SCIENTIFIC EDUCATION, especially with regard to AGRICULTURE. Patron, the Right Hon. Lord RENDLESHAM, M.P. At this Establishment a sound and liberal Education may be obtained on moderate and inclusive terms. A vacancy for an articled Pupil, who will enjoy unusual advantages.—For Prospectuses apply to Mr. DOWNES, Wickham-Market, Suffolk.

AGRICULTURAL AND SCIENTIFIC EDUCATION.

MESSRS. NESBIT'S ACADEMY, 38, Kennington-lane, Lambeth, near London.

"For my own part, I do not scruple to avow the conviction that ere long a knowledge of the principal truths of chemistry will be expected in *every educated man*; and that it will be as necessary to the statesman and political economist, and practical agriculturist, as it is already indispensable to the physician and the manufacturer."—*Liebig.*

In this SCHOOL, in addition to the general routine studies, which include the Classics, Mathematics, and French and German languages, every facility is afforded for the acquisition of a sound knowledge of CHEMISTRY. The pupils are practically taught in the laboratories, which are fitted up with everything essential for the most extensive chemical investigations.

The principles of Geology, Botany, and the other departments of Natural Philosophy, are clearly elucidated and explained. Eminent Professors of the Metropolis lecture regularly to the pupils on subjects of literary and scientific interest.

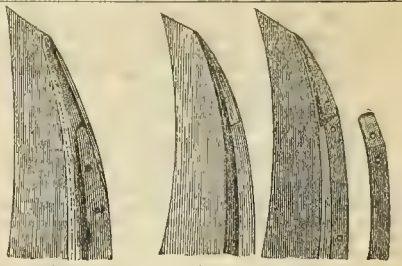
The students have likewise access to a large and well-assorted Library, comprising the most recent works on science and literature; to a valuable collection of Minerals and Geological specimens from various parts of the globe; and to an extensive suite of Mathematical and Philosophical Instruments.

The course of study likewise comprises every essential for the Railway Engineer, Architect, and Practical Surveyor.

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AND

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Gandavensis splendens, very superb, each	2	6
Insignis, 7*s*. 6*d*. per doz.; Psittacinus, per doz.	1	6

ANEMONES.

100 vars., beautiful and distinct, named, double	24	0
50 vars., do., 12*s*. 6*d*.; 25 vars., do.	7	0
Mixed, finest double, per 100, 10*s*. 6*d*.; very fine	7	6

Lilium lancifolium, and a variety of other choice roots, see Catalogue, sent free, on application.

Remittance required from unknown correspondents. Carriage free to London, and on Ipswich, Bury, and Norwich line.

BASS and BROWN, Seed and Horticultural Establishment, Sudbury, Suffolk.

OVERSTOCK AT THE NURSERIES, FORRES.—The Subscribers beg to offer the under-noted Plants which are well topped, fibrous rooted, and of the finest quality, at the following wholesale prices:—1 and 2-year transplanted Larch, from 1 to 2 feet high, 4*s*. 6*d*. to 12*s*. per 1000; true native Highland Scotch Pine, 1 and 2 years transplanted, 2*s*. 6*d*. to 10*s*. per 1000, according to their size; transplanted Pinus excelsa, 1 to 2 feet, 50*s*. per 100; fine Cedrus Deodara, specimen plants, 2 to 3 feet, 2*s*. 6*d*. each. If orders are forwarded early, these prices will include payment of freight to London.

JOHN GRIGOR and Co., Nurseries, Forres, N.B.

GEORGE BAKER'S DESCRIPTIVE CATALOGUE OF AMERICAN PLANTS, CONIFERÆ, ROSES, ORNAMENTAL SHRUBS, FRUIT AND FOREST TREES, &c., may be had on application, by enclosing two postage stamps.—Windlesham Nursery, Bagshot, Surrey.

EARLY ALBION KIDNEY POTATO.

EDWARD MITCHELL, having a surplus stock of SEED POTATOES of this first-rate early variety, begs most respectfully to offer them to the public, and the trade generally, as being one of the very best and earliest varieties grown, it being full three weeks earlier than the Ash-leaf or Walnut-leaf Kidney Potatoes; also a greater cropper, and far superior in flavour, than any other variety grown. Price, per bushel 8*s*., with the usual discount to the trade.

Post-office orders are expected from unknown correspondents.

Bristol Gardens, Kemp-town; and 55, Marine Parade, Brighton.

FLORISTS' FLOWERS AT REDUCED PRICES.

CAREY TYSO, FLORIST, &c., Wallingford, Berks, *begs to state that in making up the undermentioned assortments of Flowers, quality is particularly regarded, and a great reduction is made in the price of each variety.*

		s.	*d*.
*RANUNCULUSES, 100 splendid named sorts, 2*l*. to £4	0*s*. 0*d*.		
Ditto	100 fine mixed	8*s*., 15*s*., and 1	0 0
*Ditto	50 choice Seedlings, named	3 15	0
ANEMONES, 50 splendid double varieties, 12*s*. 6*d*. to 1		0	0
PANSIES, 25 excellent varieties	15*s*. to 1	5	0

TREATISE on RANUNCULUS, 6*d*.; post free, 8*d*. Ditto on ANEMONE, 3*d*.; post free, 4*d*.

Choice Ranunculus, Anemone, Pansy, and Sweet William Seeds, 2*s*. 6*d*. per packet. Imported German Seeds of best quality. Catalogues sent for two labels.

* These assortmen's sent post free. Anemones charged 6*d*. per dozen for postage and box.

DAHLIA ROOTS, CHRYSANTHEMUMS, ETC.

THOMAS BARNES has a stock of sound roots of his superb yellow Dahlia, GEORGE GLENNY, at the following prices, viz.:—large roots, 10*s*. 6*d*.; smaller ditto, 7*s*. 6*d*.; pot ditto, 5*s*. each, or 30*s*. per dozen, with all the leading sorts of last and former years. Priced list on application.

CHRYSANTHEMUMS, best in each class, now ready, 12*s*. per dozen.

MAHONIA AQUIFOLIA.—The best plant for forming covers in strong bushy transplanted plants, 60*s*. per 1000. Where 5000 and upwards taken; 50*s*. per 1000.

Dane Croft Nurseries, Stowmarket, Jan. 24.

CHOICE FLOWERING PLANTS FOR THE PRESENT SEASON.

YOUELL AND CO. beg to call the attention of those desirous of decorating their Greenhouse or Conservatory at this period, to the following, in fine bushy plants:—

CAMELLIAS, very superior kinds, beautifully furnished with bloom-buds, 33*s*. per doz.

EPACRIS, in 20 of the handsomest varieties, abundantly set for flower, 9*s*. per doz.

ERICAS, fine bushy and blooming plants, 9*s*. per doz.

CORRÆA speciosa major, Cooperii, bicolor, and other fine varieties, now coming into bloom, 9*s*. per doz.

CINERARIAS, new and extra fine sorts, 6*s*. to 9*s*. per doz.

12 very select Greenhouse and Stove Plants,	18*s*.		
25 do.	do.	do.	30*s*.
50 do.	do.	do.	50*s*.

LILIUM LANCIFOLIUM ALBUM, flowering bulbs, 6*s*. to 9*s*. per doz.

LILIUM LANCIFOLIUM RUBRUM and ROSEUM, flowering bulbs, 12*s*. per doz.

LILY OF THE VALLEY, strong for forcing, &c., 5*s*. per 100.

NEW FRENCH AND BELGIAN DAISIES, in 50 best sorts, 9*s*. per doz.

CHOICE FRUITS.

YOUELL AND CO. beg to call the attention of those gentlemen now about planting or replenishing their Fruit and Kitchen Gardens to the following choice articles:

TRUE FASTOLFF RASPBERRY.

Y. and Co. beg to announce they are now executing orders for the above in fine strong Canes of the same stock as they had the honour of supplying her Majesty's Gardens and most of the Nobility. 15*s*. per 100.

Fine large WHITE RASPBERRY, 3*s*. per doz.

PEACHES, NECTARINES, and APRICOTS, 4 years trained and forward for bearing, 5*s*. each.

CHERRIES and PLUMS, 4 years trained, 3*s*. 6*d*. each.

PEARS and APPLES, fine espalier, 24*s*. per doz.

The above are of the most select kinds, and worked from the Stock of the Horticultural Society of London, and are warranted correct to their sorts.

STURMER AND ANGLESEA PIPPIN, fine Espalier, 24*s*. per doz.; Standards, 1*s*. 6*d*., Dwarfs, 1*s*. each.

GOOSEBERRIES, in 36 of the best kinds, selected for size and flavour, 3*s*. 6*d*. per doz.

CURRANTS, improved large White Dutch, 4*s*. per doz.
" Black Naples, 4*s*. per doz.
" Large Red Grape, 2*s*. 6*d*. per doz.
" Victoria or Raby Castle, 4*s*. per doz.
" Knight's Large Red, 5*s*. per doz.
" " Sweet Red, 5*s*. per doz.

RHUBARB, fine roots, fit for forcing, &c., comprising Mitchell's Royal Albert, 9*s*. per doz.; Myatt's Linnæus, 9*s*. per doz.; Myatt's Victoria (the largest), 9*s*. per doz.; Tobolsk, 6*s*. per doz.

ASPARAGUS, Giant (strong), 2 and 3 years, 2*s*. 6*d*. and 3*s*. 6*d*. per 100.

SEAKALE (strong), 1*s* 6*d*. per doz.

ROSES, Standards and Half-standards, of the very best sorts in cultivation, 12*s*. to 15*s*. per doz.

EVERGREEN PRIVET, 2½ to 4 feet, strong, 35*s*. per 1000, or 4*s*. per 100.

*All orders of 2*l*. and upwards delivered free to any Railway Station within 150 miles of the Nursery.*

Royal Nursery, Great Yarmouth.

DWARF PEAS.

HAIRS'S DWARF MAMMOTH KNIGHT'S, acknowledged the best out, 2*s*. 6*d*. per quart.
BISHOP'S LONG-PODDED, 1*s*. per quart.
BURBIDGE'S ECLIPSE, 1*s*. per quart.

The above Peas have been most extensively grown in the principal horticultural establishments in the kingdom, and pronounced superior in every respect to the tall growing varieties.

FLOWER SEEDS.

ESCHSCHOLTZIA CALIFORNICA ALBA, a pure white, very good, 6*d*. per packet.
IPOMŒA BURRIDGII, splendid hardy creeper, 6*d*. per packet.
SAPONARIA CALABRICA, var. MULTIFLORA, one of the best bedding plants out, 6*d*. per packet.
TROPÆOLUM COCCINEUM, handsome, 6*d*. per packet.
EUCHNIDEA BARTONIOIDES, splendid yellow, half-hardy, 6*d*. per packet.
GAURA LINDHEIMANII, fine herbaceous plant, 6*d*. per packet.

DUNCAN HAIRS offers to the gar[illegible]g world the above small selection, as being deserved[illegible]v of universal attention. Catalogues of Garden, Ag[illegible]l, and Flower Seeds forwarded on application.

Seedsman and Florist, Whole[illegible] and Retail, 109, St. Martin's-lane, London.

PELARGONIUMS.

JOHN DOBSON is now sending out Plants of all the leading varieties, well established in 3 and 4 inch pots, and requiring an immediate shift into 6-inch pots. No charge for hamper or package, and carriage paid to London. The Seedlings of 1850 raised by Mr. E. Beck are in very fine health, and can be strongly recommended. A Descriptive Catalogue of Mr. Beck's Seedlings of 1849 and 1850 may be had upon application.

Twelve of the following fine Show varieties for 42*s*., hamper, package, and carriage to London included in the price, and plants given to compensate for long carriage:—Chloe (new), Constancy (new), Purpurea (new), Constance, Cupy, Dorcas, Emily, Pet, Ruby, Rosalind, Painter, Sarah, Governor, Loveliness, Magnificent, and Field Marshal.

Twelve of the following good and distinct varieties for 21*s*., hamper, &c., included in the price:—Star, Alonzo, Emelia, Gulielma, Ondine, Rosamund, Centurion, Lalla Rookh, Blanche, Mont Blanc, Delicatissima, Gustavus, and Crusader.

Twelve of the following good and distinct Seedling ANTIRRHINUMS, which have been greatly admired for their fine colours and freedom of bloom, and warranted to give satisfaction, for 15*s*.:—Brilliant, Sylph, Dazzle, Dazzle Superb, Adonis, White Perfection, Gem, Achilles, Purity, Grandis, Picturata, Rosalind, Delicata, Esteem, Beauty Supreme, Rufus, Alba Striata, and Youngii.

ANTIRRHINUM SEED saved from the above varieties, in packets, forwarded post free, for eight postage stamps.

HOLLYHOCK SEED saved from Rosea grandiflora, Queen, Mulberry Superb, Model of Perfection, Conspicua, and other fine varieties, in packets of 100 seeds, sent in exchange for 18 postage stamps.

J. D.'s General Descriptive Catalogue of all the leading varieties of Beck's, Foster's, Hoyle's, and other raisers' Pelargoniums; Story's new Seedling Fuchsias; also Verbenas, Phloxes, Cinerarias, &c., may be had in exchange for one postage stamp.

JOHN DOBSON begs to inform the numerous enquirers that his PRACTICAL OBSERVATIONS ON THE CULTIVATION OF THE PELARGONIUM, for the Home Stage or for Exhibition, is in the hands of the Printer, and will shortly be ready

LOVEGROVE'S SEEDLING POTATO (TRUE).

JOHN DOBSON having a large quantity of this very fine Potato, which has been proved to be one of the best Potatoes out for early forcing and general crop, offers them at 2*s*. per peck, bag included. Also Ash-leaved Kidney, Jackson's Kidney, Shaw, and every other approved sort, at the lowest prices.

A Catalogue of Kitchen Garden Seeds, containing all the most approved sorts of Vegetable Seeds, at the lowest prices, may be had in exchange for one postage stamp. The Seeds are very fine, and warranted true to name.

Woodlands Nursery, Isleworth, Middlesex.

SUTTON'S COLLECTIONS OF GARDEN SEEDS, CARRIAGE FREE.—The advantages of purchasing these "Collections of Seeds" are threefold, viz., superiority of sorts, superior germinating quality, and great economy in the cost. Our sorts of Seeds are not all in the possession of other Seedsmen, and we feel confident that our Collections are far superior to others, both in quality and in quantity.

A CLERGYMAN, whom we have had the honour of supplying many years, writes us, "*I have much satisfaction in recommending your Seeds to various friends, as I find they are much pleased with them;*" and another purchaser says, "*I never received so numerous a Collection, so good in quality, from any house.*" We therefore confidently recommend these gentlemen who are not themselves acquainted with the best sorts of vegetables, to order immediately (while we have a large Stock), one of the undermentioned complete Collections:—

	£	*s*.	*d*.
No 1.—A COMPLETE COLLECTION OF GARDEN SEEDS, FOR ONE YEAR'S SUPPLY OF A LARGE GARDEN; including the best sorts for succession of Peas, Beans, Broccoli, Cucumbers, Melons, Lettuces, Cauliflowers, and every other sort of Vegetable required, in full quantities	2	10	0
No. 2.—A COMPLETE COLLECTION, in quantities proportionately reduced	1	10	0
No. 3.—A COMPLETE COLLECTION, equally choice sorts	1	1	0
No. 4.—A SMALL AND VERY CHOICE ASSORTMENT	0	12	6

If some kinds of Seeds are already possessed, purchasers are requested to name them, that increased quantities of others may be sent in lieu of them.

N.B.—The above Collections will be sent CARRIAGE FREE, as see our Advertisement on 2d page of the *Chronicle* of the 10th.

⁂ A List of the quantities contained in each Collection may be had post free in return for One Penny Stamp, addressed JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

SEED POTATOES.—The importance of cultivating those sorts of Potatoes which, from their vigorous habit of growth and early maturity, are least subject to disease, has induced us for several years (ever since the first general development of the disease), to make many experiments as to the sorts most desirable, and the cultivation most suitable. Our New Seed List contains the names and prices of the principal kinds, and will be sent post free on receipt of One Penny Stamp.—Address, JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

NEW SEEDS, TRUE TO THEIR KINDS.—Nutt's Champion Celery; Hunter's Prolific and Lord Kenyon's Favourite Cucumber; Garraway's Victory of Bath Melon; Sangster's Number One Pea; SUTTON'S Superb Cos Lettuce; SUTTON'S Imperial Cabbage; Hairs' Dwarf Mammoth Pea; Gregory's Early Hangdown Bean; Bishop's "Last and Best" Pea; and all other new kinds.

JOHN SUTTON and SONS *have received the above direct from the parties who introduced them, and can supply them at their current prices, which will be seen in their New Priced Seed Catalogue just published, and which may be had post free for one penny stamp.*

Also a List of the Contents of "SUTTON'S COMPLETE COLLECTION OF SEEDS" for one penny stamp.

TO NOBLEMEN AND GENTLEMEN PLANTING.

THOMAS JACKSON and SON respectfully solicit attention to, and an inspection of, their very healthy and extensive Stock of frequently transplanted TREES and SHRUBS, amongst which will be found Araucarias, 4 feet high; Deodar Cedars, 12 feet; Cedars of Lebanon, 9 feet; Pinus excelsa, 6 feet; Ditto patula, 6 feet; Ditto insignis, 4 feet; Ditto cephalonica, 5 feet; Ditto morinda, 5 feet; Ditto Gordoniana, 2 feet; Irish Yews, 12 feet; English ditto, 6 feet; Pyramid ditto, 5 feet; Taxodium sempervirens, 8 feet; Cryptomeria japonica, 5 feet; Chinese Junipers, 6 feet; Irish ditto, 4 feet; Cupressus torulosus, 6 feet; Ditto Goveniana, 5 feet; Ditto Uhdiana, 5 feet; Ditto sempervirens, 8 feet; Green and Variegated Hollies, 7 feet; Broad-leaved ditto 5 feet; Weeping ditto, 6 feet; Arbutus procera and unedo, 4 feet; Magnolia grandiflora, Exmouth, 5 feet; Ditto acuminata, 8 feet; Paulownia imperialis, 7 feet; Weeping Willows, 10 feet; Weeping Ash, 16 feet; Large Aucubas, Common and Portugal Laurels, Chinese and American Arbor-vitæ, Tree Pæonies, Daphnes, Laurestinus, Berberis, Red Cedars, Rhododendrons, Azaleas, Kalmias, Forsythias, Weigelias, Evergreen Oaks, and all the other favourite Trees and Shrubs (covering upwards of 20 acres of nursery ground); also Fruit and Forest Trees of various sizes in great quantity, and about a million of Quick fit for making or mending fences, from 2*s.* to 15*s.* per 1000.

Prices, which are very low, may be obtained on application.

All orders of two pounds or upwards delivered at any of the carrier's offices in London, or by our own carts within 12 miles of the Nursery.—Nursery, Kingston, Surrey, Jan. 24.

TRANSPLANTED THORN QUICKS, at half price, for ready cash.—SELLING OFF, a few hundred thousand of the stock of Transplanted Thorn Quicks, the property of the late Mr. John M'Craith, Nurseryman, of Kilkenny (as advertised in the *Chronicle* of last month), still remain undisposed of; and, as the whole must be cleared off this season, they are offered at the following greatly reduced prices. Two years old transplanted Thorns, 14 to 18 inches in length; circumference, 3-8ths to 7-16ths, 9*d.* per 1000. Three years old, transplanted; length, 17 to 24 inches; circumference, half an inch to 5-8ths, 1*s.* 3*d.* per 1000; 100,000 of the former, or 50,000 of the latter size delivered carriage free on board steamer at Dublin or Waterford.—Apply to Mrs. SUSANNA M'CRAITH, High-street Kilkenny, Ireland.

ROBERT M. STARK, NURSERY and SEEDSMAN, Edinburgh, begs to intimate that his DESCRIPTIVE LIST OF SELECT GARDEN AND FLOWER SEEDS for the Season is now ready, and may be had on application. The Editor of the *North British Agriculturist* has described it as "all that could be desired as a Garden Seed List," and that he has "rarely seen one in which more taste and care have been displayed, even in the minutest details." He "can therefore recommend it with confidence."

Purchasers of Seeds may have a condensed Garden Calendar gratis.

Priced Lists may also be had of Forest, Ornamental, and Fruit Trees, Shrubs, Roses, Greenhouse, Herbaceous, and Alpine or Rock Plants, Hardy Ferns, and Aquatics, &c.

1, Hope-street, and Edgehill Nursery, Jan. 24.

SUPERB NEW PINK GERANIUM—"LADY HOMESDALE;" ANTIRRHINUM—"NOVELTY;" AND CALCEOLARIA—"BEAUTY OF MONTREAL."

WILLIAM F. SMITH begs to offer the following new varieties of the present season, and which he can with confidence recommend to all admirers, as a very great acquisition in each of their respective classes, viz.—

GERANIUM, "LADY HOMESDALE" (SMITH).—A beautiful deep rosy pink, with clear white centre, large globe truss, fine compact habit, and profuse bloomer. Highly valuable either for bedding or pot culture. Strong plants in May, 5*s.* each.

ANTIRRHINUM, "NOVELTY" (SMITH).—Dark rose tube, upper lip pure white, very distinct and attractive. Strong plants in May, 3*s.* 6*d.* each.

CALCEOLARIA, "BEAUTY OF MONTREAL" (SMITH).—A fine bright crimson, dwarf habit, and a very free bloomer. A valuable and distinct variety for bedding. Extra fine strong plants in May, 2*s.* 6*d.* each.

☞ Usual discount to the trade when three are taken.

A large assortment of bedding plants in April and May, at very moderate prices, including Heliotropes, Scarlet and other Geraniums, Verbenas in varieties, Cupheas, Lobelias, Phloxes, Petunias, Pentstemons, &c., &c., Catalogues of which may be had on application; also of Garden and Flower Seeds.

Riverhead Nurseries, near Sevenoaks, Jan. 24.

SAMUEL FINNEY and Co. beg respectfully to inform their Friends and the Public that their new PRICED SEED CATALOGUE FOR 1852 is now ready, and may be had, postage free, on application. It contains a list of all the most approved kinds of Vegetable Seeds in cultivation, together with a very choice selection of German and other Flower Seeds, which are all fully described, stating the time of sowing, and whether hardy, half-hardy, or tender; the height, colour, and time of flowering, with much other useful information. The Collections of Seeds, which they supplied in former years, having given such general satisfaction, they are again induced to offer them as under:—

		£	*s.*	*d.*
No. 1.	A complete collection of Vegetable Seeds for one year's supply of a large garden	2	5	0
No. 2.	Do. do. in smaller quantities	1	10	0
No. 3.	Do. do. do. do.	1	1	0
No. 4.	Do. do. do. do.	0	12	6

The kinds and quantities contained in each Collection are stated in the Catalogue.

Delivered, free, at any station on the following Railways:—Newcastle, York, and Berwick; North British, Leeds and Thirsk; York and Scarborough, Newcastle and Carlisle, and Lancaster and Liverpool.—Gateshead Nursery, Jan. 24.

HOSEA WATERER'S Descriptive Catalogue of AMERICAN PLANTS, CONIFERS, ROSES, &c., is just published, and may be had on application, enclosing two postage stamps, to Mr. HOSEA WATERER, Knap Hill Nursery, Woking, Surrey.

SANGSTER'S NEW EARLY NO. 1 PEA.

HAY, SANGSTER, and CO., in submitting the above valuable PEA to the public, can recommend it with the greatest confidence, as the largest podded and best Early Pea known, and of first-rate quality; height, 2 feet, Price 2*s.* 6*d.* per quart.

York Regent Potatoes, from prepared cuttings, 6*s.* per bush. Cambridge Radical, 6*s.* do. A first-rate second early, 6*s.* do. American Native, 6*s.* do. White Blossom Kidney, 6*s.* do. Brighton Pink Kidney, 6*s.* do.

For Testimonials, see *Gardeners' Chronicle*, Nov. 8, p. 705.

Post-office orders to be made payable at the Borough Post-office to HAY, SANGSTER, and Co., Nursery and Seedsmen, Newington Butts, London. One-bushel hampers and booking, 1*s.* 6*d.*; two-bushel, 2*s.* 6*d.* Sacks, 2*s.* 6*d.* each.

STANDISH and NOBLE'S detailed Advertisement will appear in this Paper on the first Saturday in every Month, to which they invite the attention of all interested in HARDY ORNAMENTAL PLANTS. Their Descriptive Catalogue, with the Treatise on the "Cultivation of American Plants," can still be had, by enclosing six stamps for postage.

Gentlemen requiring the services of a Landscape Gardener, can procure such by applying to the Advertisers.

Bagshot, Surrey, Jan. 24.

MITCHELL'S MATCHLESS WINTER PARSLEY.—J. M. having saved a much larger quantity of Seed this season than last, can offer it to the public at a much reduced price. Wholesale, to seedsmen, 1*s.* 3*d.* per lb.; any quantity under 10 lbs. will be charged 2*s.* per lb. Can be sent to any part of the World, on receipt of a Post-office order, made payable to JOHN MITCHELL, Ponder's-end, Enfield, Middlesex.

DOUBLE ITALIAN TUBEROSE ROOTS, 4*s.* per dozen.—The annual importation of the above-named beautiful and fragrant Flower has just been received, and large and well selected Bulbs may be obtained, without disappointment, at A. CORBETT'S Foreign Warehouse, 18, Pall-mall.

N.B. Printed regulations for treatment sent; also, just arrived, very moist and open Parmasan Cheeses.

SEED AND HORTICULTURAL ESTABLISHMENT, SUDBURY, SUFFOLK.

THE BEST EARLY PEAS, ETC.

Taylor's New Early Prolific	Early Grotto Marrow
Early Emperor	Fairbeard's Surprise
Essex Champion [Dwarf	,, Champion of England
New Long-podded Bishop's	Burbidge's Eclipse

Also the best new later sorts.

	£	*s.*	*d.*
20 fine and new sorts of Peas, 1 quart of each, for succession	0	14	0
A complete assortment of vegetables, with a number of very choice and new kinds, including the above	2	10	0
An assortment containing 12 quarts of Peas in 12 sorts, and other seeds equally choice, &c.	1	10	0
An assortment equally choice	1	0	0
An assortment of choice and esteemed sorts	0	10	6

The above Collections will give the fullest satisfaction. The names of the sorts may be had on application, and if any are not wanted, enlarged quantities of others will be sent to make up the amount. Our Seeds comprise the very finest sorts, which are universally approved.

The priced Seed Catalogue will be sent on application. Also Wholesale prices to the trade.

Goods sent carriage free to London, Ipswich, Norwich, or any station on the line.

Post-office orders payable to STEPHEN BROWN, or to BASS and BROWN.

SUPERB NEW EARLY PROLIFIC MELON, "VICTORY OF BATH."

GARAWAY, MAYES, and Co. having purchased the entire stock of the above MELON, beg to offer it to the public as a variety unequalled in flavour and productiveness. It obtained a Certificate of Merit at the April Show, in Bath; First Prize at Chiswick, in May; also two First Prizes at Bath, in May and June last. It was grown in pots with Bromham Hall, under precisely the same treatment, and Ripe Fruit cut full six weeks earlier. The whole of the fruit exhibited were grown in pots.

MELONS. Per Packet—*s.* *d.*		CUCUMBERS. Per Packet—*s.* *d.*	
Victory of Bath	2 6	Lord Kenyon's Favourite	1 0
Bromham Hall	1 0	Victory of Bath	1 0
Camerton Court	1 0	Roman Emperor	1 0
Trentham Hybrid Green Flesh	1 0	Holm Pierpoint Wonder	1 0
Beechwood	1 0	Kelway's Victory	1 0
With all other approved sorts.		With all other approved sorts.	

G., M., and Co. also beg to inform their friends that they are now prepared to send out their well selected stock of Agricultural, Kitchen, and Flower Garden Seeds, the latter grown under their own inspection. Catalogues to be had on application. G., M., and Co. can with confidence recommend their stock, as every article is thoroughly proved before sent out.—Durdham Down Nurseries, Bristol, Jan. 24.

EPPS' COLLECTIONS OF KITCHEN GARDEN SEEDS.—No. 1, containing 24 quarts of the newest and best kinds of Peas and all other seeds in proportion, inclusive of Melons and Cucumbers £ 2 10 0

No. 2, in proportionate quantities 1 10 0

No. 3, ditto ditto 1 1 0

No. 4, ditto ditto 0 12 6

A list of the quantity in each collection may be had on application, also a Descriptive Catalogue of Seeds, &c., &c.

The highest reference can be given in all parts of the United Kingdom. Carriage paid to any Railway Station in London.

W. J. EPPS begs to remark, that in consequence of his being one of the largest Seed Growers in the market, he is in a position to supply the above very satisfactory.

High-street and Bower Nurseries, Maidstone.—Jan. 24.

RANDALL'S PROLIFIC RHUBARB.—In submitting the above to the public, E. R. begs to state that while possessing all the qualities of Myatt's Linnæus, it is nine days earlier, of superior flavour, upright in growth, and producing large stems, all of equal size. Roots 2*s.* 6*d.* each, to be obtained at the principal Seed-houses in London, and of EDWARD RANDALL, Loughborough Gardens, Brixton, Surrey. Orders accompanied with a remittance will be promptly attended to.

N.B. The usual discount to the Trade.

TOBACCO PAPER FOR SMOKING GREENHOUSES, &c.—CLARKE and Co., Gardeners, Seedsmen, and Florists, Percy Cross Nursery, Walham Green, Fulham, an supply any quantity of this article; price given on application.—The trade supplied.

KITCHEN GARDEN AND FLOWER SEEDS.—SEEDS of the best quality, and at moderate prices, may be had of CHANDLER and SONS, Nursery and Seedsmen, Wandsworth-road, Surrey.

CAMELLIAS, with flower-buds, 30*s.* and 42*s.* per dozen.

Also a great variety of Greenhouse Plants, viz., Epacris Chorozemas, Corræas, Acacias, &c., 12*s.* and 18*s.* per doz.

Post-office Orders payable at Kennington-cross.

NEW CUCUMBER, "CAPTIVATION."—This is one of the most beautiful and perfect Cucumbers ever yet grown, both for its length, prolific bearing, and superiority over all other Cucumbers. It is confidently asserted that whoever grows this Cucumber once, will ever continue to do so. Sold in packets of three seeds, 5*s.*; or five seeds, 7*s.* 6*d.*

TILEY'S "PHENOMENA" CUCUMBER.—This Cucumber was sent out for the first time last season, and never was such a demand for a Cucumber known as for this one. Little need be said as to its qualities, it being a splendid Cucumber, quick grower, length from 24 to 28 inches, and a most abundant bearer. Whoever purchases seed of this, will find all they want in a Cucumber. Sold in packets, 2*s.* 6*d.*, or a packet of this, and one of "Captivation," for 6*s.* For further particulars, see *Gardeners' Chronicle*, for January 3, 1852. Also other older, but good, varieties therein priced and named.

A remittance must accompany the order from unknown correspondents, either by post-office order or penny postage stamps, when the whole, or any quantity of the above, as the case may be, will be forwarded to any part.

Sold by EDWARD TILEY, Nurseryman and Seedsman, 14, Abbey Churchyard, Bath.

E. T. begs to return his sincere thanks for the numerous orders and many complimentary letters he has received this season from his numerous friends and the public.

GLASS FOR CONSERVATORIES, GREENHOUSES, PIT FRAMES, ETC.

JAMES PHILLIPS and CO. beg to hand in their prices of SHEET GLASS for cash:

Cut to order in Panes not above 40 inches long.		Packed in Boxes of 100 feet each.	£. *s.* *d.*
16 ozs.	3*d.* to 3½*d.*	6 by 4, 6½ by 4½	0 13 0
21 do.	3½*d.* to 5*d.*	7 by 5, 7½ by 5½	0 15 0
26 do.	5*d.* to 7½*d.*	8 by 5, 8 by 5½	0 16 0
In Crates of 300 ft., 16 ozs. to the foot, 2¾*d.* per foot.		8 by 6, 8½ by 6	0 17 6
		9 by 7, 10 by 8	1 0 0

FOREIGN SHEET GLASS, of very superior quality, packed in cases of 200 feet, and in sizes varying from 36 by 26 to 44 by 30 inches, at 38*s.*, 40*s.*, to 42*s.* per case.

HARTLEY'S PATENT QUARRY GLASS.

Milk Pans, from 2*s.* to 6*s.* each, Propagating and Bee Glasses, Cucumber Tubes, Lactometers, Lord Camoy's Milk Syphons, Tiles and Slates, Wasp Traps, Plate, Crown, and Ornamental Glass, Shades for Ornaments, Fern Shades, and every article in the Trade.

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GLASS.

THOMAS MILLINGTON'S FOREIGN SHEET GLASS is far superior to any other manufacture, as well as cheaper. In 100 feet boxes packed for immediate delivery.

6 inches by 4 and 6½ by 4½	...	...	...	13*s.*	0*d.*
7 ,, 5 and 7½ by 5½	...	...	...	15	0
8 ,, 5 and 8 by 5½	...	...	...	15	0
8 ,, 6 and 8½ by 6½	...	...	...	17	6
9 ,, 7 and 10 by 8	...	...	...	20	0
12 ,, 10 and 13 by 9	...	...	...	20	0

And many other sizes, or cut to order in various thicknesses.

Cases containing large Sheets, in 100, 200, and 300 feet, at 21*s.* per 100 feet.

ROUGH PLATE, perfectly flat, ⅛ in. thick, best manufactured

In sizes under 15 inches	.....	6*d.*	per foot.	
,, ,, 35	,, ...	8*d.*	,,	
,, ,, 50	,, ...	9½*d.*	,,	
,, ,, 75	,, ...	12*d.*	,,	

Milk Pans, 2*s.* to 6*s.* each; Metal Hand-frames, Glass Tiles and Slates; Cucumber, Propagating, and Bee Glasses; Wasp Traps, Glass Shades, and Plate Glass, at 87, Bishopsgate-street Without, same side as Eastern Counties Railway.—Established 100 years.

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THE BRITISH HEATING AND VENTILATING COMPANY. Offices, 14, Lincoln's-inn-fields, London. Under Hazerd's Patent.—The Company has now been successfully employed in all parts of the Kingdom, in PUBLIC and PRIVATE BUILDINGS, CHURCHES, CONSERVATORIES, FACTORIES, DRYING-HOUSES, &c., where a genial and healthy atmosphere is required.—Particulars and testimonials can be obtained by applying at the Company's Office.

Parties about to build, or those who suffer inconvenience from present arrangements, will save expense by consulting the Patentee, Mr. Hazerd, who has made ventilation and warming a peculiar study for years.

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CHARLES TURNER'S Plants of all the leading varieties are unusually strong and healthy. Purchasers should lose no time in making their selections, as the plants should now receive their final shift. Catalogues on application.
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Ranunculuses, Anemones, Auriculas, Pelargoniums, and Lilium Lancifolium.

HENRY GROOM, Clapham Rise, near London, by appointment FLORIST TO HER MAJESTY THE QUEEN, AND TO HIS MAJESTY THE KING OF SAXONY, begs to recommend the above Flowers, which he can supply, of the best quality.

	£	s.	d.
100 Ranunculuses, in 100 superfine sorts, named ...	2	10	0
Superfine mixtures, per 100, from 5s. to ...	0	10	6
100 Anemones, in 50 superfine sorts, named ...	1	10	0
Superfine mixtures (double), per 100, from 6s. to ...	0	10	6
25 Auriculas, in 25 superfine sorts, named ...	3	3	0
25 Pelargoniums, in 25 superfine sorts, named ...	3	3	0
Fine named varieties, per dozen, from 12s. to ...	0	18	0
Lilium lancifolium album, per dozen, from 9s. to ...	0	18	0
,, ,, punctatum, each, from 2s. 6d. to ...	0	7	6
,, ,, rubrum true, or speciosum, do., 3s. 6d. to	1	1	0
,, ,, roseum, do., 2s. 6d. to	0	7	6
,, ,, cruentum, do., 5s. to	0	10	6

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Great attention is paid to the Seed Department of their business, every sort being carefully proved before being sent out. They grow many of the choicest sorts themselves, and procure the remainder from seed growers on whom they can place the fullest reliance for supplying articles of the best and most genuine quality. They can give reference to Noblemen and Gentlemen in almost every county in Great Britain and Ireland, who have procured the supplies from them—and herewith take the liberty of publishing some unsolicited testimonials now before them, being a few selected from several hundreds of a similar character.

From a Gentleman in Yorkshire.—I find your seeds so generally good and cheap, it quite answers my purpose to have to send to such a distance. I have grown some fine Cucumbers from your seed this season. I never saw handsomer or finer, and the best at a recent show at ——— were poor in comparison.

From a Clergyman in Cheshire.—Your seeds are very good and I will not fail to state, whenever an opportunity occurs, that I have found them always of excellent quality.

From a Gentlemen in Lincolnshire.—All your annuals are well up, and growing fast. The vegetables, too, have done admirably; so much so, that I know three or four gentlemen who will take their collection from you another season.

From a Clergyman in Dorsetshire.—I was much pleased with my last year's seeds, particularly the Cabbage, which proved to be very good. My Parsnips are also most splendid.

From a Gentleman in Wiltshire.—The seeds gave great satisfaction.

From a Clergyman in Ireland.—I have much pleasure in telling you that all the seeds grew well, and gave great satisfaction.

From another Gentleman in Lincolnshire.—My garden teems with gaiety from your seeds, and the vegetables have been, and are, most excellent. I have tried *all* the sorts now, and they are all excellent. My brother, who has a large and most beautiful garden, intends now, after seeing mine, to have all his annuel and vegetable seeds from you in future.

From a Colonel resident in Ireland.—I have seen some very fine Broccoli plants, the seeds of which were got from you by the Honourable ——, named Rendle's Willcove. I should be obliged by your sending me 3 oz., &c.

From a Barrister in Devonshire.—Your seeds have answered so well that I have recommended my brother-in-law to procure what he requires from you.

From a Clergyman in Herefordshire.—I approved very much of your seeds last year, all of which were excellent.

From a Gentleman resident near London.—I have found this year, *as before*, that your seeds always come up true, and produce a better plant, in proportion to the quantity sown, than those obtained from others.

From Mr. J. C. Moore, Gardener to the Most Noble the Marquis of Downshire.—I beg leave to return you my most sincere thanks for your very interesting and good work called the "Price Current and Garden Directory," which is the most useful guide to the gardener I have yet seen.

From the Journal of the London Horticultural Society.—PARSLEY, RENDLE'S Noble Garnishing, from Mr. RENDLE: This is stronger growing than the preceding, and beautifully curled. An excellent variety.

They could fill the columns of this Paper with extracts of letters and opinions of the Press, if it were requisite to do so; but the above will, they trust, be sufficient to prove the general excellency of their Seeds. In fact, it is their interest to send out only what is good; they would be only injuring themselves were they to do otherwise.

They would particularly direct attention to their Collections of Vegetable and Flower Seeds, which they have the fullest confidence in recommending, from the universal satisfaction they have given to their numerous customers.

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JOHN WATERER begs to announce that he has published a new CATALOGUE of Hardy Rhododendrons, Azaleas, Roses, Conifers, &c., and which may be obtained by enclosing two postage stamps.

The colours of all the Rhododendrons worthy of cultivation are described; thus purchasers are afforded every facility in making selections.

The Gardeners' Chronicle.

SATURDAY, JANUARY 24, 1852.

MEETINGS FOR THE ENSUING WEEK.

MONDAY,	Jan.	26	Entomological (Anniversary)....8 P.M. British Architects ....8 P.M. Geographical ....8½P.M.
TUESDAY,	—	27	Civil Engineers ....8 P.M. Medical and Chirurgical ....8½P.M. Zoological ....9 P.M.
WEDNESDAY,	—	28	Microscopical....8 P.M. Society of Arts ....8 P.M.
THURSDAY,	—	29	Antiquarian ....8 P.M. Royal ....8½P.M.
FRIDAY,	—	30	Royal Institution....3½P.M.
SATURDAY,	—	31	Medical....8 P.M.

THERE is nothing like Fact. Conjecture is a useful acquaintance, and every now and then does a man a service; it leads, as they say, to "highly suggestive" speculations, which we have no thought of undervaluing. But Fact is a friend who never changes with circumstances; happen what may, it is true to its destiny, and no one can go wrong who relies upon it—rationally. Unfortunately the comparison we have here ventured upon making may be carried further; for conjectures are as plentiful as acquaintances, as easy to have, and as ready to be lost; while facts are as scarce as friends, with this merit, that if they are hard to come by, they are as unwilling to leave us.

Among the matters that a gardener most wants information about is the ORIGIN OF ROOTS; he wishes to produce them artificially; it is almost a daily necessity. By hap-hazard he often succeeds, but every now and then he wholly fails; and this, it may be assumed, from not knowing what their true origin is. If he looks into the books to which he naturally turns for information, he finds little help. "Roots are produced by leaves," says one writer; "roots are not produced by leaves," says another; that "roots are produced by bark," we are assured by one author of no small eminence, while another declares that the root "is invariably an extension of the longitudinal or fibro-vascular system, except when it is first born in the embryo." But what is the truth among all this? Perhaps the following little fact may assist the inquiry.

A young gardener, Mr. WILLIAM FORD, sent us the other day, from Lord RODNEY'S residence, at Berrington, a piece of Celery, of which the annexed sketch is a representation:



"This leaf of Celery," he writes, "is one from amongst many others that have come under my notice within the last few days, with numerous roots formed upon them, with a general resemblance to the enclosed. In the first instance the leaves were broken by the branches of an Apple tree falling upon them; in a few days after the accident occurred, the Celery was earthed up, and the broken leaves were placed once more in an erect position. I now find, when digging for use, that the broken leaves have emitted roots quite freely."

It will be observed, that at the fractured part of this specimen there has been formed a "callus," or swelling of polygonal cellular matter, by which the wound has been healed. From near the outside rises up a line of young roots, which are, in fact, a direct continuation of the woody veins that lie just beneath the lower (outer) surface of the stalk of the Celery leaf. They appear no where else. Examined with the microscope, it is found that the veins themselves consist of bundles of long dotted tubes, lying over, or encasing, spiral vessels of considerable size—the customary structure of the veins of leaves. These bundles were broken through when the leaf was fractured. The microscope further shows, that from the end of every one of the veins proceeds a bundle of dotted tubes, *without spiral vessels*, which tubes, being clothed externally by the cellular matter extending from the "callus," have become roots.

In this instance, then, it is perfectly clear, that the origin of the Celery roots is in the fibro-vascular tissue of the veins, and that no other kind of tissue contributes to the structure of the roots, except a thin layer of that cellular matter which pervades all organs whatsoever. This is a FACT, which no one can gainsay.

May we not assume, then, that roots are extensions of the woody bundles which constitute the tough elastic fabric of a plant? That consequently no roots will come unless a sufficient quantity of such bundles in a fully organised state is present? That for this reason all cuttings or layers which are to form new roots must have their wood fully formed, although young, or they cannot produce roots? And that finally attempts to strike cuttings which are so young and tender, that they have no sound wood in them, must be failures? These are CONJECTURES which experience will confirm or otherwise dispose of.

THERE has always been some degree of doubt about the luminous appearances exhibited by the flowers of certain phenogams, though it is difficult to resist the number of authorities of greater or less credit, on whose evidence the matter rests. There has also been some scepticism, especially amongst German writers, respecting the phosphorescent light emitted by certain fungi, or by wood in a peculiar state of decomposition. M. TULASNE has, however, set this matter at rest, by his excellent paper on *Agaricus olearius*, and other luminous fungi, published in the "Annales des Sciences Naturelles" for 1848, in which he has most carefully described the phenomena, not only in the fungi themselves, but in dead Oak leaves, and in branchlets of the same tree. KÜTZING has, however, in the first part of his "Introduction to Botany," lately published, called the subject in question again, possibly not having seen M. TULASNE'S Memoir, though contained in a journal which perhaps has a wider circulation than any other of the kind, and of which an abstract was given in the "Botanische Zeitung," for 1849. But, unfortunately, too many German botanists of the present day do not give either the credit or attention to memoirs written by botanists of other countries, to which they are entitled. It is evident, that if this carelessness or superciliousness were general with naturalists of all countries, science must at length become a mass of almost inextricable confusion.

OUR attention has been more especially called to the subject by the communication of a piece of luminous mycelium by Mr. BABINGTON. All phosphorescence, indeed, had vanished when it reached us, a fortnight after it was observed, and all efforts to renew the growth of the mycelium proved vain. Mr. BABINGTON'S account is this: "A Fir tree which had just been cut down was so phosphorescent as to attract the notice of some friends passing by, who cut some of it away, and I saw the light myself in a dark room the same evening. I next day examined the Scotch Fir, and found that a fungus was the agent of the phenomenon. It is not possible to say to what species the mycelium belongs, but it is a fact added to the mass of evidence which exists on the subject."

KÜTZING is inclined to resolve all such phenomena into mere cases of spectral illusion, a notion which may at once be pronounced unwarranted, at least as regards fungi, if due attention be paid to the reports of botanists capable at once of correct observation and worthy of credit. The analogous phenomena in Phænogams are somewhat different, and admit perhaps of question. LINK said many years ago that they who see them are persons who see spectres, and KÜTZING reports a passage from GÖTHE in support of this view. "On the 19th of June, 1799, late in the evening, when the twilight was passing into a clear night, as I was walking up and down with a friend in the garden, we remarked very plainly about the flowers of the Oriental Poppy, which were distinguishable above everything else by their brilliant red, something like flame. We placed ourselves before the plant and looked steadfastly at it, but could not see the flash again till we chanced, in passing and repassing, to look at it ob-

liquely, and we could then repeat the phenomenon at pleasure. It appeared to be an optical illusion, and that the apparent flash of light was merely the spectral representation of the blossom of a blue green."

This is ingenious enough, and is at least worthy of attention, as regards the phenomena mentioned by GÖTHE, but it has no bearing upon the instances of luminous phenomena recorded by TULASNE, or that communicated by Mr. BABINGTON. These are no cases of any possible subjective process, but if there is anything objective in the world, these must be so. It would be as reasonable to call the light of a glow-worm subjective, as the equally certain, though more rare phenomena, exhibited by subterranean Rhizomorphæ, and other luminous fungi, to say nothing of the undoubted luminosity of the plant mentioned in our columns for 1845, p. 383.

STRAWBERRY FORCING.

WHEN we consider the number of parts which compose the flower of a Strawberry, and that the rudiment of each part is contained in the bud, even when it is so small as scarcely to be visible to the naked eye, we may infer that great caution is required to bring forth those minute objects in a perfect state of development, by artificial means.

When the bud of a Strawberry flower has attained the size of a pin's head, let a cross section be examined through a lens or microscope; this section will be found to comprise a certain number of rings or circles; these consist of, first, the calyx; second, the corolla; third, the male organs; fourth, or centre point, the female organs. These must be produced in a perfect state; each organ must be capable of performing the office assigned it by nature, otherwise the act of fertilising, or setting the fruit cannot be accomplished.

Over excitement in any degree whilst the flowers are in the bud-state, will derange their structure; one part will grow into another, and the result will be abortive flowers, which will wither away soon after they expand; being incapable of performing their functions, they are of no further use.

Nature is our best guide. We ought not to "force" our Strawberry plants into flower, but move them gently on in a temperature very little above that to which they are subjected in the open ground during the season when they are in the same stage of growth. This cannot be done effectually unless a house or a pit is specially appropriated for them. A Strawberry pit (with perfect control over the internal atmosphere, as far as regards heat and air), wherein the plants are to flower and set their fruit, is almost indispensable to any establishment where forced Strawberries are wanted. After the fruit is fairly set the plants may be removed to sunny situations, near the source of ventilation, in Pineries or Vineries; it is then that this delicious fruit will endure forcing.

We sometimes see the above plan followed, but a more common practice is to remove the Strawberry plants from a cold pit to a Vinery, where forcing is about to commence. At the end of one month the temperature in this case must of necessity be either too low for the Vines or too high for the Strawberries. The produce of the former being the most valuable, of course the Vines demand primary consideration. Fruit, indeed, is obtained from Strawberries under this treatment, but it is usually deformed, which shows that the ovules have been imperfectly fertilised. Two-thirds of the flowers usually die off, and are said to have "damped."

The meteorological state of the atmosphere surrounding the plants during the time they are in flower, is also an important consideration. That a certain degree of dryness in the air is necessary to insure fertilisation, is a well-known fact, but it is often greatly overrated. It is not absolutely necessary that the atmosphere of the house should be kept continually in a dry state during the whole time the plants are in flower; it is only requisite that a comparative degree of dryness be maintained for a few hours each day, which (if the fructifying organs are in proper condition), will be sufficient to cause the sides of the anthers to shrink and liberate the pollen, which immediately comes in contact with the stigma, and the operation is soon completed. Syringing must be withheld. It is my opinion that an over dry atmosphere is frequently a source of mischief, even to the setting of fruit: it impedes, or partially destroys, the vital energies of plants, and, of course, also the vital actions of their flowers. *G. Buchan, Trentham.*

BRITISH SONG BIRDS.

(CAGE BIRDS, No. 46.)

No. LXIII.—We were true prophets, whilst announcing in our last Chapter that a single week would make a remarkable difference in the voices of the blackbird and the thrush. It has done so—so remarkable a change as to be deserving of comment.

As we make a point of rising betimes—bearing in mind the dictum "caned into us" by the worthy pedagogue who took charge of us in boyhood,

"Diluculo surgere saluberrimum est—"

no one better than ourselves could tell of the birds' early movements. At 6 A.M., we spring from our nest; and by so doing, hear the very first voice that is audible in the garden, and in Ravenscourt Park.

Since the recent heavy rains—so plentiful in quantity, and so acceptable for their services, the voices of the birds seem to have recovered their *original* quality and tone. We now hear the blackbird at the first streak of dawn, quite melodiously discoursing; and half an hour after him, the thrush "piping" most merrily and joyously. In both instances, we perceive that the birds are all either "mated," or making offers of themselves "for acceptance." It is right pleasing to listen to these harmless, eloquent tales of love and affection,—so unresistingly urged, so unconditionally accepted; nor can we help saying, after our own fashion of plain-speaking, that we wish things were as well "ordered" amongst ourselves. It would be better for us, and for society too. Full many a time have we wished—positively wished, in our early days, that we were a sky-lark!

But now we must imagine—a distressing thing for our imagination to dwell on!—that our readers have a blackbird, and are going to keep him. The first thing then to consider, under such circumstances, is a proper cage.

Formerly, *wicker* cages were in great vogue; but they are horrible dwellings for a joyous bird to inhabit; and we are glad to observe they are nearly obsolete. In their stead, we have been largely the means of introducing proper-sized wooden cages; wide, deep, and tall, thereby affording the tenant room to be "comfortable." It is marvellous to think, that until the present moment—and even now we are "fools" in the matter of bird-cages, no attempt whatever has been put forth to build a handsome, appropriate, or becoming cage for animals, in whom some people's very existence has been bound up! We repeat, we never have seen,—never do see, any cage that is at all adapted either for the well-being of the prisoner or for the ornament of a drawing-room. Hence, in many cases, the confiding of a "pet" canary to the tender mercies of a servant-maid, and consequently, to the somewhat less tender mercies of a pampered cat. All this is in bad taste; and we hope in our life-time to see it altered. Surely we have amongst us men sufficiently clever to make a bird-cage "to order!" And is our taste so utterly depraved, that we can originate no improvement? Surely not, let us hope.

The fittings-up of the cage must be well looked to. One side must be entirely boarded; and the other *half* boarded, from the bottom upwards. This will prevent draughts sweeping through the cage. The top must also be of wood, shelving down on either side. The receptacles for food and water must be *outside*, always. They should be of white delph,—deep, and fitted into wooden boxes. By this means, the food will be kept from being scattered, and the trough of the cage from being wetted. These are two grand considerations. There should be three perches in every cage. One lofty perch across the cage, and two lower ones to enable the bird to get at his food and water. These should be of deal, painted; and square. Round perches are altogether objectionable. The front of the cage should be of rounded, "wooden wires," rather close together, as these birds like retirement; and they should be suspended from some window where the aspect is mild.

In early spring, they should face the sun. When His Mightiness shows the first indication of his glorious presence being about to appear, do *you* be in readiness to spring from your couch. There is a treat even now preparing for us—which we who rise so *very* early already luxuriate in, one that makes us laugh at the roughness of "Sturdy old Winter." HE may do us some little mischief, it is true, but we shall rise superior to it all, and join at an early day, with all our little friends, in bidding him adieu for a long season.

Few can know,—none indeed save those who live in the country, how delightful it is to hear once again the song of this glossy, happy, noble rogue:—

> —'Tis long, 'tis very long—
> Since, standing at our garden window,
> The blackbird sung us forth; from yonder bough
> That hid the arbour—loud and full at first,
> Warbling his invitations.

Yet do we recognise his voice, and joy in the thought of again living in his presence. Our lawn shall yield him, as of old, his breakfast,—our fruit-trees his dessert; our foliage his protection; and our garden shall be his home. It is a bargain. *William Kidd.*

CLERODENDRON SQUAMATUM.

THE large panicles of bright scarlet flowers, and the handsome foliage of this Clerodendron, constitute it one of the most striking and attractive of summer flowering plants. During its growing season it requires to be kept in a moist and warm atmosphere; but after it begins to produce its flowers, it will submit to be placed in a cooler situation, and may be removed to a conservatory or greenhouse, where it will continue to produce a succession of blooms from May to September. Although it will thrive and flower, however, in a conservatory during summer, I do not mean to state that this is its proper situation; few ladies visit the stove, and they cannot derive any pleasure from the finest specimens it may contain; it, therefore, becomes desirable to remove all plants which will submit to this treatment to a cooler atmosphere. Those who choose to grow this as a stove plant, have but to allow it plenty of pot room, and supply it liberally with manure water, during its growing season, and keep it clear of insects, to secure large specimens loaded with blossoms from May to November. I grow it, however, for the decoration of the conservatory exclusively; and as I imagine that in most cases it will be more desirable there, in the shape of moderately large specimens, than in considerably finer examples of cultivation, in a comparatively unfrequented house, I will confine the following remarks to its treatment, so as to prepare it for the decoration of the conservatory.

I seldom keep plants which have flowered over the winter, hence I require to propagate a new stock every season. I procure cuttings as early as they can be had, without injuring my plants, and they are readily obtained from weakly shoots, which have been out-grown by others, and which are useless upon the plants. As soon as the wood of these is moderately firm, they are slipped off with a heel, trimmed and planted in sandy peat, and covered with a bell glass. The pots are plunged in a mild bottom heat, and attended with water and shade, as may be necessary. They soon emit roots, when they should be potted singly, in 5-inch pots, and treated rather kindly until they become established. It is not necessary to encourage them to make rapid growth this season, nor to aim at attaining large specimens; the object should be rather to secure dwarf hardy plants, with thoroughly ripened wood. To secure this, I avoid shifting above once during the summer, when they receive 7-inch pots; if these become full of roots, and the plants appear to suffer for want of pot room, I supply them occasionally with a little weak liquid manure water. They should occupy a situation near the glass; a cold frame, kept rather close, will suit them perfectly during summer. On the approach of cloudy, damp weather, they must be removed to a pit or house where they can receive a little artificial heat, just sufficient to prevent their being injured by damp. Their proper situation during the winter is a pit, where the temperature may average about 50°, and where they can be placed near the glass.

As early in January as possible they should be placed in a moist, growing atmosphere, and, if necessary, every leaf must be carefully washed with a sponge and soapy water, so as to perfectly clear them of insects. If the drainage of any of the pots appears defective, this should be examined and repaired. When they have started into growth, any of the plants which incline to be leggy should be stopped; but as plants with single stems form the handsomest specimens, endeavour, by growing them slowly during the first season, to avoid the necessity for stopping. As soon as they have fairly started, shift into 10-inch pots, using soil composed of equal portions of sandy loam, turfy peat, and thoroughly decomposed cow dung, to which add a sufficient quantity of silver-sand to keep the compost porous. Water sparingly until the roots strike into the fresh soil; but syringe morning and evening, and maintain a moist atmosphere. The plants should be placed near the glass, and if the temperature can be maintained at about 80° during the day, and 65° at night, they will grow away very freely. With proper treatment they will be ready for their final shift about the middle of April. I use 13-inch pots, and soil as for last shift. I continue to maintain a moist warm atmosphere, and syringe liberally. If a place can be found for them in a pit where the heat is supplied by means of dung-linings, and where they can be kept warm and moist, they will grow rapidly, and soon begin to develope their flowers. When a plant produces some half-dozen branches tipped with flowers, it may be considered a fair specimen, and should be removed to a place where it can be gradually accustomed to a freer circulation of air and a lower temperature. This must, however, be done very gradually and carefully, otherwise it will receive a severe check. A slight shade during bright sunshine will be necessary after removal to a dry atmosphere.

The plants should be ready for removal to the conservatory about the end of May, or early in June. Previous to being placed there, they should receive any necessary attention that may be required to render them perfectly free from insects. This plant is not peculiarly liable to their attacks, but red spider and thrips will sometimes gain a footing upon it, if not prevented. They must not be placed in a situation in the conservatory where they will be exposed to currents of drying air, but should occupy a sheltered place, at least for a time. If the conservatory is kept moderately close, this Clerodendron will grow and flower until the middle of September. It will be advisable to supply it freely with manure-water, particularly after the pots become full of roots.

After the weather has become too cold for its being farther useful in the conservatory, it may either be thrown to the rubbish heap, or placed in the stove, where it will continue to flower for some time longer. In case the stock of young plants is deficient, those that have done flowering may be turned out of their pots, their balls reduced; cut back, repotted in small pots, and placed in a moderately warm situation, to induce them to grow a little. Such plants may be made to form very large specimens next season. *Alpha.*

HERBS.

No. IV.—GREEN PEPPERMINT.—It is very easy to have this all the winter. Mr. Chapman, of Vauxhall, grows whole pitfuls of it, but, like other things, it thrives best in winter with a little bottom heat. Before planting the roots, about 2 feet of dung or tan are put in, then mould, in which the roots are inserted, covering them slightly. For successional supply, shoots can easily be pulled up and planted in a second bed, 4 inches apart. Gardeners in a small way might place a little dung on faggots, then on that some mould, and on that the roots; by putting hot dung all round, vegetation would com-

mence immediately. I have often followed this plan in private families.

Peppermint is very largely grown round Mitcham; not less than 300 acres are occupied with it for distillation, Peppermint-water being much used in medicine. For new plantations the ground is dunged and ploughed by April, and as soon as the shoots grow 4 inches in length they are pulled up, with roots attached, and planted in rows 1 foot apart and 6 inches distant in the row. If the head is cut off in planting, the lower eyes all grow and make a good crop the first year. Peppermint, like Couch-grass, sends up shoots at every joint, and after a couple of seasons or so the shoots get so crowded that they become weak, the leaves small and hard, the blossom poor. In this state it is not half so good for distillation. About Mitcham, however, much attention is paid to its after cultivation. They manure the ground the second year, and dig out furrows half a rod apart, throwing the mould over the beds. If new crops are wanted from these beds, plants are selected for the purpose, as described above. The third year the Mint is all ploughed down in November, a judicious practice, when we consider the sort of plant we have to deal with. In this way the destruction of all weeds and seed weeds is effected, as well as the manuring of the land if required. In spring the Mint comes up thick, strong, and healthy, producing an enormous herbage and amount of flower. It is cut down when just going out of bloom, and carried to the drying houses; for the more its watery juices are evaporated the finer the extract is.

It is not only extensively grown at Mitcham, but I am informed that in the adjoining parishes there are at least 300 acres of Peppermint cultivated every year. Spearmint is not grown, as it does not yield much juice. *James Cuthill, Camberwell.*

AUTUMN AND WINTER FRUIT-BEARING TREES AND SHRUBS.

Pyrus aucuparia canadensis. — This small tree resembles the well known Mountain Ash. It grows from 12 to 20 feet in height, is of neat, erect, branching habit, with dark green, winged, Ash-like leaves; the opposite leaflets are seated upon a central crimson leaf-stalk. In summer it is conspicuous, on account of its ample corymb-like bunches of small creamy-white blossoms, which, in the early part of autumn, are succeeded by large terminal and pendent clusters of bright or crimson berries. During this period it forms a very picturesque object for back-ground effect in flower-garden shrubberies.

Pyrus microcarpa.— This is somewhat smaller in growth than the preceding, but it is similar to it in habit; it has a lighter green aspect, expanding its bloom a little earlier; its opposite twin leaflets are attached to a still richer crimson central column than in P. canadensis; it yields apparently equally large and gracefully pendent corymbs of bright ruby or coral-red berries.

Cotoneaster frigida is a highly ornamental small tree, which grows from 10 to 20 feet in height; it has a neat erect growth, appearing in mild seasons as an evergreen until the opening of the new year. It has oval lanceolate leaves, purplish grey stems; in summer garlanded with a profusion of snow-white Hawthorn-like blossoms, which are succeeded by multitudes of conspicuous rich crimson-coloured fruit, which, being retained upon the plant in mid-winter, render it very gay.

Cotoneaster affinis.—This is a much more robust sub-evergreen tree than the preceding; it attains a height of from 6 to 15 feet, and is distinguished by its much more diffuse branching habit, broader oval or oblong-lanceolate dark green leaves, which are well contrasted in summer by a profusion of densely crowded clusters of creamy white heavily scented blossoms, and succeeded by equally dense and numerous clusters of bright crimson fruit, which are larger and more brilliant in effect than in the last-described species. Two specimens in the arboretum here form fine objects of diverse outline. The largest is branched from its base, and, though not exceeding 10 or 12 feet in height, it has a circumference of nearly 80 feet. It is remarkable for the divergent outline of its main branches; and being less prolific in the smaller growth, its entire habit is singularly adapted for the display of its ample dark-green leaves and erect bunches of gay-coloured fruit. For an extensive park-like lawn, plants of the habit now described would form a very beautiful and valuable feature. The second specimen adverted to is a standard, having a stem about 10 feet high, which is surmounted by a head clothed with clusters of crimson haws, which in autumn have a very pretty effect.

Cratægus tanacetifolia is an ornamental tree-like shrub, which grows from 6 to 12 feet in height, and has hoary, cut, or divided leaves, fragrant white blossoms, and beautiful large yellow Apple-like berries in autumn.

Cratægus odoratissima.—This is a neat, small tree, for single effect, with small divided hoary leaves, and highly fragrant flowers, which are succeeded by numerous clusters of rich red fruit.

Cratægus aromia. — A tree-like shrub, which grows from 10 to 20 feet in height, and is well adapted for flower garden or park lawns, Grass spaces, &c.; it has deeply lobed leaves, snow-white blossom, and numerous large, rich, Apricot coloured fruit.

Cratægus orientalis.—An ornamental small tree, forming a close compact head, with small downy divided leaves, and large snow-white fragrant vernal flowers which are succeeded by clusters of dark purplish-crimson fruit.

Cratægus heterophylla is a small, spring-flowering, hardy tree, possessing a dense pyramidal head, with small shining lanceolate, wedge-shaped leaves, and a profusion of snow-white blossoms. Fruit crimson. *William Wood, Fishergate Nurseries, York.*

FOREIGN GARDEN GLEANINGS.

Both at Dresden and at Berlin, the taste for window gardening prevails to a great extent: but at neither place were the flowers in great variety, or well grown. The commonest Geraniums, Lantanas, Dahlias, Verbenas, &c., &c. The practice of double windows at Dresden appears to be universal, and the space between the sashes is admirably adapted for window gardening, making a kind of Ward's case, keeping the plants free from dust; and nearly every house had in this space a few favourite plants lodged there in pots, boxes, or baskets. The favourite fashion now appears the growing Ivy and other trailing plants, either in wreaths or against little ornamental trellises. I think much might be done in England in this kind of decoration for tables, &c.; though, perhaps, already our bazaars have imported these pretty trellises of varnished wood. The following is a sketch of a table with Ferns and Ivy which I saw in a draper's shop at Augsburg; but this is only one of an endless variety of similar ornaments, all equally pretty. I should observe that the cut does not show that the back (A) is a looking glass. Whilst I have spoken of the want of good common flowers, and the universal love of them, I ought to except the beautiful wreaths of Dahlias and Oak or Ivy leaves and other flowers, which are made and bought by nearly all Nothing can be more dexterous or elegant than the



way in which the flower-women weave their wreaths. At Leipsic, Dresden, and Berlin, the markets were filled with these weavers of wreaths, and we found them stationed at almost every corner of the streets; they are sold either to ornament graves with (and when put to this purpose, Amaranthus, and other like flowers, are more generally used), or they are given on name and other fête days as presents; and nothing can be prettier than the crowds of the poorer or middling classes, returning from the fruit and vegetable market, each bearing either a wreath or a bunch of flowers.

One thing struck me in the gardening of Germany, which is the love of fine foliage; and whole parterres and clumps are planted solely to exhibit specimens of foliage, I think much might be done in this country with the same object. And I should recommend this to the consideration of Mr. Beaton, who appears to do so, and write much, on parterre gardening. Amongst the different plants cultivated for this purpose, the Ficus elasticus appears to be a favourite; the Canna indica, C. discolor, and especially the New Zealand Flax, which is also grown in large quantities in vases on many of the architectural terraces; and though less formal than the Aloe, its leaf is very picturesque and ornamental. There is a large Calladium much used in these parterres, Arundo Donax, the Palma Christi, and Maranta zebrina from the stove appears to stand out for the summer, and many other plants of varied and beautiful foliage; and even the fine leaves of the red and yellow Beet, the Cardoon, Artichoke, and Rhubarb, were not disdained in the borders at Charlottenburgh and Potsdam, where great attention appears to have been bestowed on this kind of leaf gardening. I have a few more observations on the gardens at Potsdam, which I will send at a future time. *Dodman.*

Home Correspondence.

Stacking Ice.—According to your invitation at p. 35, I send you the result of two trials respecting the keeping of ice, which although not extending over a long period of time, are not on that account the less conclusive. In the beginning of December last a load of ice, 1 inch thick, was obtained, pounded fine, and put into the passage of an ice-house, filling the passage with straw, and taking every precaution to exclude the air. It being intended for use at Christmas, no further trouble was taken with it; however, at that time, it was found to have nearly all disappeared, not more than two pailsful being left. Early in January another load was obtained, about half an inch thick, which was stacked without pounding, in the centre of a barn floor, merely laying 6 inches of straw at the bottom and on the top. At the presen time, January 20th, I can safely assert that two pails-ful have not disappeared; and I would not mind venturing a wager that ice could still be found here at midsummer. *J. W. J.*

How to Crop a small Kitchen Garden. — As, doubtlessly, many of your readers have no walls against which they can grow Tomatoes, and, as the many more may not have space enough between the trees to produce sufficient for the demands of the establishment, the following plan, which is extensively practised by the market gardeners round London, may be of service. As the mode of sowing, potting, and general management till planting-out time practised by them is, I presume, the same as that followed by every cultivator, I shall confine my remarks to the mode of preparing the ground for their reception, and to their culture from the time they are planted out where they are finally to grow. Let a piece of ground be chosen that lies well to the sun; part of a south border will do very well. Mark out one or more spaces (in length according to the number of plants) 4 feet wide, running east and west, draw a line down the centre and chop it out; take the earth out from one side of the mark to the depth of a foot or rather better, and place it on the other side of the mark, placing it in form of a V inverted. If more than one bank is required, let the next extend to the edge of the first trench, so as to leave the trench its full width, 2 feet; make the surface of the bank quite smooth with the back of the spade. Dig in some well-rotted dung, then proceed to put out the plants; open a hole with a trowel close to the bottom of the bank, turn the plant out of the pot, place it in the hole, and close the earth well about its roots; go 18 inches, then plant another, and so proceed till all are planted. Give a little water to settle the earth about their roots, and mulch the ground with rotten dung; observe to supply them well with water in dry weather, and they are very fond of a good dose of liquid manure once or twice a week. When they commence growing break out all their shoots but three; when they require support, cover the bank with stable litter, and peg the shoots down with wooden pegs, training the centre one in an upright position, the other two in a sloping direction at equal

distances from it; when each shoot shows two bunches of blossom, stop them one joint beyond the flowers; keep all shoots cleared away as fast as they make their appearance, and remove a leaf or part of one where it overshadows the fruit; and, above all, keep them well supplied with water, and they will grow an immense size. Should the season prove unkind, so that they do not ripen well, cut them when full grown, and lay them on some hay in a frame, giving a little air when the sun shines, and they will ripen very well. By following the above mode of culture, I have been enabled to grow and ripen sufficient for the demands here in this wet, northern locality. *J. Steel, Clitheroe.*

Blackberries.—What are Blackberries supposed at London to be? Black Currants are universally so designated in Scotland. I am told that in England the term Blackberry is applied to the Bramble, and I see in Lindley's "Vegetable Kingdom," that both Raspberry and Blackberry are brought under the term Rubus—so I suppose we must hold the English practice to be the correct one; though I do not see why the name Blackberry should be appropriated rather to the Rubus than to the Ribes. Is not the fruit of the Rubus an Etærio, or collection of drupes? and that of Ribes a proper berry or bacca? If so, is it not more proper to call a black Currant a Blackberry, than to call a Bramble by that name? Had the botanical name Rubus been made use of, your Kelso correspondent would not have made the mistake he did, and saved himself from a sneer. *Edinensis.* —— In Scotland black Currants are called "Blackberries;" and the fruit of Rubus fruticosus is called "Brambleberries;" in this part of the country every one knows the latter by the term "Blackberries;" but in speaking of Blackberries about Kelso, black Currants are understood. In some parts of the north of England, Blackberries are not known. They are there called "Bumble-skites," and in some places "Bow-wow-arts," strange names, it must be owned, but the lower class of people does not know what a Blackberry is. Your correspondent, Mr. Taylor, has misunderstood you. *J.L.M.*

Mandarin Orange.—The Mandarin Orange, lately noticed in your columns, is not, I believe, the small aromatic sweet fruit now so common in the London shops, but a larger fruit. The Orange usually sold in London is imported from Lisbon, and is there called the Tangerine; and there are two varieties of this kind grown, as noticed in your account of the Mandarin. They soon lose their flavour, and in Lisbon are only eaten when quite fresh, and are usually brought to table attached to a portion of the branch on which they grew. The variety called Tangerine in Lisbon is considered more tender, and more susceptible of injury from frost and wet, than the ordinary Orange-tree. I suppose both the varieties I have noticed are figured in Risso's fine work, but I have not the means of referring to it. *Dodman.* [There are two kinds of Mandarin Orange, the large and the small, both of which have the peculiarity of the rind separating spontaneously from the pulp, so that the latter is loose within the former.]

Orchard Houses.—

> With head of brick, and brain of clay,
> "A Hertsman" slowly plods his way.

Some of your distant readers may not be acquainted with Hertfordshire; let me therefore tell them that it is an agricultural county, and, of course slow, as are many Hertsmen, or more properly, Hertfordshire men. We have no coal, no iron, no stone, nothing useful as durable building materials but chalk and clay, of the former we make mortar, of the latter, bricks; therefore "A Hertsman" thinks that bricks and mortar only ought to be employed in building green houses or forcing houses. I at one time, like our friend named above, was also slow, and I built 10 houses for forcing and other purposes with bricks and mortar, the roofs with sliding sashes, tenons, and mortices, and all the old and expensive paraphernalia; but when cheap glass and cheap Swedish timber came, I found I was not fast enough. I wanted more ground covered with glass for the same money, and so I have built 12 houses without a brick or a bit of mortar in them, and I may add, without mortices, or tenons, or sliding sashes; the roofs are all fixed, the rafters being 20 inches asunder, and as I have progressed I have improved. My timber and glass house, No. 1, is a Vinery; this was my first experiment; it was built roughly, but last season it gave me a fine crop of Grapes, free from mildew, and, indeed, has always done so. No. 12, my last, is a span-roofed house, 60 feet long and 20 feet wide, certainly not rickety or cowhouse-like, but light and neat, and eligible for the purpose it is built for. No. 13 will, I trust, soon be finished. Your readers must come and see and judge for themselves of the eligibility of these structures. I recognise in "A Hertsman," one who is very full of prejudice, which, with a touch of envy, must and will make him, like many other Hertsmen, slow. He impugns my veracity in saying that orchard houses cannot be built "at the price I talk about." My builder lives in the village of Sawbridgeworth; if he will apply to me, I will give him his name, and guarantee that he will do all at the price I talk about. *Thomas Rivers.*

Mealy Bug.—I received a basket of stove plants in October last, and among them were examples of Gardenia Fortuni, infested with this pest. A strong solution of tobacco-water was prepared, and three applications perfectly eradicated it. This simple and safe remedy will be found quite efficacious; if applied at the heat of 120°, so much the better. The testimony respecting Messrs. Clarke's mixture is conflicting—at Chiswick it is effectual—my friend, Mr. Kidd, at Garnstone, pronounces it worthless and harmless; while a third party startles us with the intelligence that it effectually destroys both bugs and plants. Who is right? *Richard Robertson, Stoke Edith Park, Hereford, Jan.* 21.

False Cones on the Spruce Fir.—In Notices to Correspondents, p. 24, these are stated to be unsuccessful attempts to form cones. This is an erroneous view of the matter, for these false cones are in reality caused by an insect, usually supposed to be a species of aphis, but belonging I believe to a different genus. The apparent cone-scales are leaves altered by the attacks of this little creature, and caused thereby to take the form of little cups. Early in the year these cups are closed, and then a number of the insects may be found within each of them. Perhaps Mr. Westwood, or some other entomological correspondent, will inform us of the name of the insect, which belongs, I believe, to a tribe concerning which very little information is accessible. The many curious changes caused in plants by the action of the different species of aphis upon them would form an interesting subject for a series of papers. In your columns for 1843, p. 661, is an explanation similar to the above, from Prof. Henslow. *Charles C. Babington.*

Trinity College Garden, Dublin.—Presuming from a notice in the *Gardeners' Chronicle* of the 10th inst., signed "Dodman," that you are likely to give your readers a sketch of the different botanic gardens, I beg to hand you the accompanying note, which gives the exact state of this place. The trees and shrubs are arranged according to the Linnæan system, with the Linnæan class and order, and natural order, marked on a label to the most conspicuous species of each genus; the English or local name, with the country, is also lettered on every label, so as to afford every desirable information. At the commencement of this arrangement a large label directs attention to the two systems, showing that a line is drawn between them in every case, to prevent the slightest confusion. In the British and general arrangements of herbaceous plants, the system of Decandolle is adopted, because his highly useful "Prodromus" is the work chiefly used here in the description of genera and species, and also because Dr. Mackay's "Flora Hibernica" is so arranged. These two arrangements have the orders attached to the name of the first plant in each order, with larger labels for the divisions. The medicinal plants are arranged according to Jussieu's "Genera Plantarum," with the classes and orders distinctly marked, as in the other compartments; in this one, however, the English or local names are fully given, as in the case of the trees and shrubs. The ornamental parts, including borders, lawns, walls, &c., afford the fullest information in the style of labelling, with the exception of the use of the Linnæan system, which is dispensed with. In every compartment a large label is placed to indicate the mode of arrangement, and every plant is labelled, so as to give as much instruction as we usually meet with in catalogues. The in-door collections, which are extensive, are also arranged, as far as practicable, in natural orders, with every available information added to the name of every plant. Thus, your readers will perceive that a student or visitor can have no difficulty in finding out any particular plant, nor can he be astray as to the systems adopted. Trees and shrubs planted originally, according to the Linnæan system, could not well be altered, otherwise Dr. Mackay would be likely to arrange the entire garden on the plan of "The Vegetable Kingdom." This remark also applies to the medicinal plants which were arranged many years ago, and are now very much grown. As far as the gardening part is concerned, it is not my place to speak; but I would be glad to show it to any competent judge just now. When I remind you that our good friend, Dr. Harvey, keeper of the College Herbarium and Botanical Museum, kindly affords every information required in this department, I think it will not be denied that "Dodman" would realize his best hopes in a closer inspection on his next visit to Dublin. As you have seen our garden, and having now given a brief statement of its botany, I need only say that, being the person employed to carry out Dr. Mackay's instructions in the management of the garden, I feel I should be wrong in remaining silent; for, in any general sketch of botanical gardens, it is only fair that the real state of each of them should be fully understood, especially by such of your readers as have not visited Dublin. *John Bain, University Botanic Garden, Dublin.*

Rain at Cirencester in 1851:—

January	... ...	4.05	August	... ...	2.90
February	... ...	0.85	September	... ...	0.50
March	... ...	4.60	October	... ...	2.67
April	... ...	1.13	November	... ...	0.64
May	... ...	1.45	December	... ...	1.65
June	... ...	2.63			
July	... ...	2.74			25.81

30.42 is the average of the last seven years.

Thomas C. Brown.

Propagation of Eels.—About seven or eight years ago Mr. Stebbing, of Easthall, in the parish of Paglesham, employed sawyers to saw some timber for wheelwrights' purposes, under the direction of F. Burham, the wheelwright employed on the farm. After the timber was cut or sawn it was thrown into a small pond, where great numbers of small eels had been known to be every year. When the timber had been in the pond for some length of time the wheelwright took it out, and in doing this he discovered something slimy in its nature between several of the pieces. Curiosity led him to examine it, and he found young eels of the smallest size imaginable. He first showed them to Mr. Stebbing; he then gathered some leaves that grew by the side of the pond, and brought some of the slime to me at Canewdon, which is the adjoining parish to Paglesham. This slime, as I call it, appeared to be full of small eels from one-third of an inch in length to an inch, the smallest resembling fine short hair; the next size consisted of eels perfectly formed, but white all over; the next had a dark or black mark from head to tail; and the largest exhibited the same shape and colour as young eels in a brook or running stream may frequently be seen to possess, although hardly an inch long. *J. W. Potton, Miller, Canewdon, near Rochford, Essex.*——I caught an eel left by the tide in a small pool on the sands near B——l, and for a boyish whim carried it home alive, and placed it in a very small tank of salt water. The next morning, to my surprise, I found two small eels, one in the act of leaving the mother. Now I have not a doubt but that this fact may be questioned; yet I must believe what I saw. *Observator.*—Having noticed the communications on this subject which have recently appeared in your columns, I am desirous of mentioning a fact which appears to me to throw some light upon the localities in which eels are bred, though it leaves the question of the mode of generation precisely where it stood before. Like your correspondent "T. G.," I have many times seen columns of small eels, three or four inches long, ascending the Ribble and other rivers, in the months of May and June, at considerable distances from the sea; but only on one occasion have I seen them under circumstances which evidently brought them near the place of their nativity. I happened to be attending the Lancaster Spring Assizes in the month of March, in (I believe) the year 1826, and learning that there was a remarkably high tide in the estuary of the Lune, I walked down to the river-side about high-water, and found that the tide had covered the Grass in many places; and, as it began to ebb, I observed something moving in every small hollow which had been overflowed, and in which a little water had been left behind. On examination, I found that the moving bodies were exceedingly diminutive eels, rather less, to the best of my recollection, than three-quarters of an inch long, very light coloured, and almost transparent, but exhibiting in every respect the true form of the mature eel. They had evidently followed the water to its extreme verge, where it could not have been more than an inch deep; and that they must have been very numerous was clear from the large numbers which were left behind and perished; for that they did perish I found on the following day, when they were lying dead by hundreds on the Grass. Probably some of your correspondents, who reside in localities favourable for making observations on this subject, may be induced to pay a little attention to it. If the young eels make their appearance in the same manner every year, by the use of a fine muslin net, the exact period of their first appearance may be ascertained, with probably other facts calculated to throw light on the obscure question of their generation. *J. G., Manchester.*

Glass Walls.—I was glad to see that another step is taken for the increase of the use of cheap glass; I have only wondered that the progress has been so slow. I believe that Mr. Rivers and myself were amongst the first, if not the first, to follow your advice, and apply the use of cheap glass to the cultivation of fruit. Although I am glad to see the experiment of glass walls will be tried, I own I do not expect any very good result from the proposed upright double walls of glass. In the first place, you will, in a double wall of glass applied to the growth of an espalier, use as much or more glass than would be needed for glass and sashes sufficient to make an orchard house 18 to 20 feet wide, which could be filled with trained plants, and also different fruit trees and Strawberries, Salads, &c., in pots and boxes; and where a body of warm air can be better preserved than in a mere shallow upright glass box; in fact, one of Mr. Rivers' orchard houses could be made for less money, and hold at least ten times the number of plants. As in the glass walls there must be very strong sashes, to form and sustain these upright walls; and moreover, the mode of ventilating, *i. e.*, by opening the sashes at right angles with the wall, will not only shade a portion, but will be perpetually liable to breakage, and to be blown back by the wind, and render the border useless. Again, the glass being placed upright, the sun's rays will always, or nearly always, pass diagonally through the glass; and I think, as regards Peaches and Nectarines, it is not likely that either the fruit or wood of these would, without the warmth of a wall, be able to ripen. Two 9 feet sides, and allowing 2 feet for the top, will make 20 feet depth of sash; now if this be used so as to make one of Mr. Rivers' buildings, you will, without the cost of moveable sashes or the iron frame-work to hold them, have an orchard-house 18 feet wide by the mere addition of a few half-inch boards and Larch poles. And as to the saving of ground which you mention, how can the ground be better employed than being covered with a protection of glass? I have, I think, improved on the plan of Mr. Rivers' orchard-houses, and I propose to send you the details of this in a short time. [The following has been received since the above was in type]: Although Mr. Rivers's observations were, in the main, very similar to those I sent you, yet I hope you will insert the remarks I furnished, as I think the principal objections to the glass walls are not noticed by Mr. Rivers, viz., the difficulty there will be in opening and shutting the windows, the chance of breaking, &c., and the impossibility of keeping the small narrow frame, wall, or glass box cool in hot, and

warm in cold weather. We all know how difficult it is to preserve an equal temperature in a small room. Again, if the trees are always to be backed and faced with the glass casings, frequent syringing will be absolutely necessary, or red spider will be a certain infliction; and I do not see how this operation is to be performed without opening all the windows on both sides. I need not say the quantity of broken squares incident to opening and shutting of sashes. If, in the summer, all the sashes, or at least those in front, are to be removed, and stored away, this will be a very inconvenient operation, and the chances of fracture considerable; however, we have all the same object, namely, to advance "the use of cheap glass in the best and most economical mode," and therefore I am glad that this new plan is to be tried. As I think my plan of ventilation is somewhat more complete than that described by Mr. Rivers, I propose to send you a drawing of an orchard house I am now putting up. It is, however, possible that the patentees of the glass walls will be able to show that my objections do not apply to these new structures. As regards the growing Peach and Nectarine trees, trained near the ground, and protected by lights, which have been more than once described in the *Chronicle*, I should observe that this season the wood has ripened completely under the glass trellis, and quite as well as that of trees trained on our ordinary garden walls. *Dodman.* [Yes; but the fruit did not ripen. We cannot but think the speculations about glass walls altogether premature; they are certainly not liable to some of the accidents anticipated in this communication.]

Societies.

Horticultural, *Jan.* 20.—C. Barclay, Esq., in the chair. Mr. Franklin, gr. to Mrs. Lawrence, sent a nice collection of Orchids and other plants, for which a Banksian Medal was awarded. It consisted of Dendrobium formosum, the variety of Zygopetalum crinitum called cæruleum, a good example of Cœlogyne cristata; the scarce Warrea Lindeniana, with two graceful spikes of pendulous brown and white flowers; and two masses of Heliconia brasiliensis, exhibiting the real appearance such plants present in their native country. —Messrs. Loddiges furnished a promising new purple-flowered Dendrobe, obtained from the north-west coast of New Holland, and a white variety of Barkeria Skinneri. — Mr. Chapman, gardener to J. B. Glegg, Esq., sent a handsome smooth-leaved Cayenne Pine Apple, for which a Banksian Medal was awarded. It weighed 7 lbs. 8 oz. — From Mr. Davis, of Oak Hill, East Barnet, came a small example of the Blood Pine Apple, and a dish of Oldaker's West's St. Peter's Grapes, plump and fine, and beautifully covered with bloom. A Certificate of Merit was awarded for the latter.—24 sorts of Seedling Potatoes were exhibited by Mr. Newton, of Brewer-street, Golden-square.—Mr. Spencer, gr. to the Marquis of Lansdowne, at Bowood, sent a model of a moveable span-roofed glass house, which he considers preferable in several particulars to Mr. Ewing's glass walls. It is intended to represent a house some 10 feet high and 8 feet wide at bottom, with a walk up the middle, and trees trained to a wire trellis below each inclination of the roof. It is to stand north and south, and is to be so constructed that it can be taken down and put up again when and wherever it is wanted, the glass being laid level on strips of vulcanised india-rubber, and kept in its place by wooden beadings screwed down to the rafters. A material point connected with it is, that it is well ventilated both at top and bottom—at top by means of ventilators moving by their middle under a raised coping, and at bottom by the same contrivances hinged at top, and opening outwards simultaneously by means of a wheel with three or four cogs, and a pulley or two. It was observed that such a house would, no doubt, be found useful for many gardening purposes; but, that it could not be compared with glass walls, on account of the dissimilarity of the purposes they were severally intended to answer. — Mr. Lawrence, of Parliament-street, sent a flower-stand.— From the Garden of the Society came the useful winter-flowering Selago distans; Echeveria retusa, a hardy greenhouse succulent, which would make a good window plant; Corræa Goodii; the Winter Heath (E. hiemalis), Muraltia Heisteria, three kinds of Epacris, the large variety of Snowdrop called Galanthus plicatus, and blossoms of Chimonanthus fragrans, and its larger variety, which flower profusely every winter on a conservative wall in the garden. The same establishment also furnished examples of Beurré Rance Pears, five varieties of the better known kinds of Apples, and two sorts of Cardoon, an esculent which does not generally receive the attention which it deserves. The latter consisted of, 1st, Cardon a côtes rouges—a new variety, whose leaves are destitute of the usual sharp spines or prickles, with which some others are furnished. The stalks have a reddish tinge; but they blanch whiter than those of any other kind; 2d, Cardon de Tours—leaves prickly, stalks large and solid; a vigorous-growing sort, and not so apt to run to flower as the old Spanish Cardoon is in dry summers. These had been grown in trenches, like Celery; but it was stated that they require to have at least 6 inches deep of cow-dung in the bottom of the trenches. The plants were wound up with straw bands in October, and well banked up with earth, notwithstanding which they were considerably checked by the frequent sharp frosts which occurred last November.— The alteration in the Bye-Laws, printed at p. 774, 1851, was read a second time.

Books Received.

Wight's Illustrations of Indian Botany (Vol. 2, Part 3).—This completes the second volume, and extends as far as Salvadoraceæ. It contains 35 very useful coloured plates, and an abundance of highly instructive letter press, which Indian botanists will not be slow to appreciate.

The Mystery of the Danube, by D. Urquhart, Esq. (Bradbury and Evans).—A political pamphlet.

The Portrait Gallery of Distinguished Poets, &c., with Biographies. Part 1 (large 8vo, Orr and Co.).—A book beautifully got up.

Chambers's Pocket Miscellany. Vol. 1 (small 12mo). —One of the admirable series by which Messrs. Chambers are endeavouring to civilise the poorest classes.

The Cottage Gardeners' Dictionary, by G. W. Johnson (8vo, Orr and Co.).—A closely printed volume, containing a great quantity (927 pages) of matter fairly compiled, and not calling for criticism in this place.

Pictures of Travel in the South of France, illustrated. By A. Dumas (12mo, with numerous woodcuts) —A translation of one of this popular author's attempts at blending truth and fiction, in which we do not think him by any means so happy as in his novels. The illustrations are in the form of vignettes, which strike us as having been printed from casts much worn, or originally very inferior to those which English engravers would have produced.

Ireland: Observations on the People, the Land, and the Law in 1851, *with especial reference to the Policy and Practice of the Encumbered Estates Court* (2d edition, 8vo, Hodges and Smith), is a pamphlet full of, we trust well founded, hopes of Ireland's future prosperity; for ourselves, we own that we are not sanguine as to the advance of any country that allows itself to become the arena for ceaseless religious and political agitation.

Sharp's New Gazetteer (2d vol., 8vo, Longmans), consists of two closely printed 8vo volumes, each containing above 1000 pages, filled full of statistical, local, and antiquarian details, condensed into the smallest possible space. It is confined to the British islands and narrow seas, and includes notices of above 60,000 places, among which we have failed to discover omissions, even by trying for the most obscure hamlets and out of the way little known islets. The Appendix contains the census of 1851, a short but good chronological table, and other very important matters. As a work of reference, this is indispensable to those who are interested in the local statistics of the United Kingdom.

The Journal of the Royal Agricultural Society of England, Vol. 12, Part 2 (8vo, Murray).

Walpers, Annales Botanices Systematicæ, Vol. 1, Fasc. 1 (8vo, Leipsic, Hofmeister).

Pritzel, Thesaurus Literaturæ Botanicæ, Fasc. 7, and last (4to, Leipsic, Brockhaus).

Ledebour, Flora Rossica, Fasc. 11 (8vo, Stuttgart, Schweizerbart).—This is wholly occupied by the Russian Chenopods.

Bonorden, Handbuch, der Allgemeinen Mykologie (8vo, Schweizerbart, Stuttgart), a volume introductory to the study of Fungi, with 12 neat 4to plates of the minute species.

FLORICULTURE.

Roses for Exhibition, in a Cut State, in June or July (continued from p. 39).—*Damask Perpetual.*— Magador: Rich crimson, shaded with purple, very double, superb —Wilkinson. *Hybrid Perpetuals.*— Amandine: Outer petals light blush, with deeper centre, beautiful — Curtis; ditto, ditto —Wilkinson. Aubernon: Deep rose colour, perfect, superb— Wilkinson. Augustine Mie: Delicate pink, of fine form, with stiff glossy petals—Curtis; rosy blush, large, globular, and beautiful—Lane. Augustine Mouchelet: Pale outer petals, with rich deep crimson centre, superb, and very fragrant—Curtis; deep rose, crimson centre —Foster. Baronne Prevost: Bright rose, very large —Appleby; brilliant rose, very large, vigorous grower —Bircham; bright rose, immensely large and magnificent—Curtis; largest rose—Foster; large fine rose— Francis; most beautiful—Lane; one of the best— Wood. Baronne Hallez: Light crimson, exquisite, shape splendid—Appleby; crimson, large and fine— Lane; a finely shaped and beautiful new rose— Rivers. Beranger: Deep rosy pink, transparent, very large and double, a fine new Rose—Wood. Caroline de Sausal: The palest flesh colour, finely shaped and beautiful—Appleby; a "blush Baronne Prevost"—Curtis; cupped, large, and very double—Lane; very large and full—Paul; ditto—Wood. Dr. Marx: Rich carmine, perfect, and highly fragrant—Curtis; deep rosy carmine—Foster; rosy carmine shaded, splendid—Francis. Duchesse de Montpensier: Rosy blush, perfect shape— Appleby; shaded blush, shape exquisite, a distinct and striking variety—Rivers; delicate glossy pink, satin-like, of exquisite shape, and deliciously scented— Wilkinson. Duchess of Sutherland: Deep pink, of beautiful form, and highly fragrant—Curtis; bright rose, red edge — Foster; deep pink, of beautiful form and highly fragrant—Wilkinson; one of the best — Wood. Géant des Batailles: Most glowing crimson — Foster; very fine deep ruby crimson, large, compact, cupped, and double; a very superb and splendid flower—Francis; vivid, scarlety crimson, of beautiful habit. A bed of this variety has a splendid effect—Wilkinson. General Brea: Bright reddish crimson, globular and beautiful — Lane; a finely shaped, free blooming, and excellent Rose — Rivers. General Negrier: Light rose, elegantly shaped — Appleby; shape exquisite, habit rather dwarf and compact—Rivers. Lady Alice Peel: Beautiful deep pink, dwarf—Appleby; very beautiful, often delicately veined with carmine—Curtis; a charming variety—Rivers. La Reine: Brilliant glossy rose, one of the largest and most beautiful—Bircham; large and double, sometimes delicately veined in autumn—Curtis; very large—Foster; superb—Francis; very large and full—Paul; ditto— Wilkinson; magnificent—Wood. Louise Peyronny: Clear brilliant pink petals, very large, globular, a free opening "La Reine"—Curtis; rosy pink, globular, large and double—Lane; silvery rose, very large and full—Paul. Lucie de Barante: Brilliant rose, a most perfect and beautiful new variety, with the perfume of the Cabbage Rose—Rivers. Madame Guillot: Deep pink, large and perfect—Appleby. Madame Laffay: Brilliant rosy crimson, a good pillar Rose— Wilkinson. Madame Lamoricière: Bright pink, new and distinct, shape exquisite—Appleby. One of the most beautiful new Roses—Wood. Mrs. Elliot: Light lilac crimson, of erect growth, a good pillar Rose — Wilkinson. Noëmi: Rosy pink, a beautifully shaped new variety— Appleby; glossy rosy pink, fine shape—Lane. Prince Albert: Rich crimson purple, very double—Wilkinson. Queen Victoria: White, shaded with peach, colour of the old Celestial Rose, large and full—Paul. Reine des Fleurs: Light pink, superb—Appleby; rosy pink, delicately shaded, very fine, of erect growth—Curtis; pink, tinted with lilac, shape exquisite, habit dwarf and compact —Rivers; rosy pink, delicately shaded, very fine—Wilkinson. Robin Hood: Rosy carmine, graceful habit, blooms in clusters—Bircham; lilac rosy pink, splendid shape— Lane. Soleil d'Austerlitz: Bright crimson, very beautiful, of medium growth, very fragrant—Curtis. Standard of Marengo: glowing crimson, firm petals — Francis. William Griffiths: Bright lilac rose, a new variety, with stiff petals and most perfect and elegant shape— Rivers. William Jesse: Crimson, back of the petals pale lilac, immensely large, of the most perfect shape, highly fragrant and magnificent, a good pillar Rose— Curtis; light crimson—Foster; crimson tinged lilac, beautiful—Francis; highly fragrant and magnificent, a good pillar Rose — Wilkinson; one of the finest— Wood. The above splendid class of Roses gives a constant succession of flowers from June to November; they require a rich soil and close pruning —Appleby. Some few are of so luxuriant a growth as not to give autumnal blooms in abundance—in short, they want summer pruning; to effect this most easily, the cultivator should shorten some of the longest shoots in July to about half their length—Curtis. For fragrance and beauty, the Roses of this division are unequalled—Lane. They thrive best in a rich soil, with close pruning, regulated a little by the rate of growth— Paul. All the Roses of this group are fragrant and perfectly hardy: in short, no Roses are so well worthy the atttention of the lovers of flowers—Rivers. To the cultivator, for exhibition, they are of the greatest importance—Wood. *J. E.*

(*To be concluded in our next.*)

Royal Botanic Society's Schedule of Prizes for 1852.—The Exhibition days are to be Wednesdays, May 19th, June 9th, and 30th. Upon a hurried glance through this Schedule, which is just to hand, our attention was naturally first fixed on Class IV., in which Carnations, Picotees, Pinks, Pansies, &c., are invited. It will be remembered that we complained of an evil that existed in these schedules in former years, for which we suggested a remedy; and we are happy to find that our suggestion has brought about the desired change. Classes are now formed for private growers and for dealers, giving the private grower, however, every chance of also competing with the dealer with the subjects above enumerated. *J. E.*

The Chrysanthemum.—We have just received a shilling treatise on the cultivation of this flower for the production of specimen blooms, by Mr. Taylor, of Stoke Newington, concerning which it is unnecessary to say more than that its author is one of the most successful growers and exhibitors of the flower in question. His instructions are therefore well worth attention; and we heartily commend them to the notice of our floral friends, trusting that the wishes of the author, as expressed in the preface, may be fully realised. *J. E.*

Stoke Newington Chrysanthemum Society.— We understand that at the forthcoming anniversary meeting, on the 29th inst., several important topics are to be discussed. The officers for the year are to be chosen, and some rules revised, to meet certain changes which experience has pointed out to be necessary. *J. E.*

Catalogue of Dahlias and Geraniums received from Mr. C. Kimberley, Pimley, near Coventry. *J. E.*

Pelargoniums, seedlings of 1851. These are the produce of seeds ripened and sown in 1850, and which have bloomed in 1851 for the first time; such as may then have exhibited promising qualifications are "cut down," and treated in the usual way. They will form subjects of exhibition in 1852. *J. E.*

Miscellaneous.

Grape Mildew.—The *Journal des Débats* of the 24th of September, 1851, contains a feuilleton, by Monsieur Lion Foucault, on the occurrence of this disease in France. It seems to have spread universally from the stoves to the Vines in the open air, and to yield to none of the prescribed remedies. M. Guérin Méneville found in September, 1850, in the south of France, a similar, if not the same, *Oidium* on Sainfoin, though the surrounding Vineyards were unattacked. The same *Oidium* occurred also in the course of the same year

on Clover, as well in localities where the Vines were affected, as where they were free from disease. Professor Crevelli, of Milan, has found the *Oidium* on *Verbascum*,* *Ranunculus acris*, and other weeds, and has figured the sporos of every variety, and believes that all are referable to one and the same species. He has also found, in the neighbourhood of Gap, on Willows, a mould not distinguishable from that of the Vines; and at Paris, Clover and Groundsel have been gathered covered with *Oidium*. Monsieur Robineau believes that the true enemy of the Vine is a species of *Acarus*, which occupies the larger veins of the leaves or the point where the leaf is given off from the stem, and which extracts its juice with its proboscis. Linnæus had observed these insects on exotic plants in stoves. They have at first six and then ten feet. Monsieur Robineau refers the Potato disease to similar mites which suddenly spread over whole fields, and derange the process of nutrition. *Botanische Zeitung, Nov.* 21.

Sale of Conifers.—Plants of Araucaria imbricata, the Deodar, and Pinus excelsa, varying from 1 foot to 2 feet in height, were sold by Mr. Stevens on Wednesday last. They fetched respectively from 5*s.* 6*d.* to 1*l.* per lot, of from 6 to 25 plants.

Calendar of Operations.

(For the ensuing week.)

GENERAL REMARKS.

THE difficulty of obtaining a crop of wall-fruit has of late years brought several plans into notice, to counteract the inclemency of our spring months, by affording shelter to trees while in bloom. Whatever means are employed should now be got into working order; for the sooner protection is now given—not exactly from cold, but from the effects of bright sun, following upon sharp frosts—the better will it be for the trees, by preventing, on the one hand, extreme atmospheric changes, which more particularly prove fatal to the Apricot and Peach; and inducing a later bloom, on the other, when the chances of preserving it are increased. We therefore advise canvas screens, netting, and other protecting materials, to be in readiness, should bright sunny days occur; to place before south walls especially—east and west walls, not being so liable to extreme solar heat at this season, may remain some time longer uncovered.

PLANT HOUSES.

Camellias will now be approaching their full beauty, and will be benefited by occasional waterings with weak manure water; be careful when the bloom is expanded not to wet them, or they soon become spotted, and lose their beauty. Chinese Azaleas, when opening their blooms, are improved by assistance with liquid manure. There is scarcely a class of plants so serviceable as these; as, by management, they may be had in bloom from December to July. Those intended for forcing next season should now be started into growth by heat and gentle syringing; when the buds are formed, they may be potted, which is the best time for plants of this habit. Heaths, Epacris, and New Holland plants, in general, will now require a general look over; the surface of the pots should be cleaned, the pots themselves washed, and the plants so placed as to have all the advantages of light and air the house will afford them. As the young growth in some kinds will now be commencing, more room must be allowed, to avoid anything like a weak habit; frequently turn the plants round, and let cleanliness and a pure well ventilated atmosphere be the great object of the cultivator, with this class at all times. CONSERVATORY.—Still continue to bring from the forcing-houses or pits Roses, Lilacs, Honeysuckles, Thorns, and other forced plants, and bulbs; to replace such as are going out of bloom. Much care will be required to maintain the requisite show of bloom, and not to exceed the required temperature. Stove plants introduced here will require a day or two in an intermediate house, to prepare them for a lower temperature. Hybrid Rhododendrons, and the best kinds of hardy Azaleas, will require large supplies of water as they progress into bloom; standard Rhododendrons are magnificent plants for forcing purposes; a very gay plant, too, for this purpose is the Daphne Cneorum, but it will not stand much heat. Attend to the routine of plant culture in the other plant-houses; the present damp, dark weather will require slight fires and an abundance of air. PELARGONIUMS AND FUCHSIAS.—The former will now soon require a shift, unless for early blooming; those required for late flowering should now be stopped, and a portion more next month. Fuchsias, for early blooming, will require starting a short time before they get a shift.

FORCING DEPARTMENT.

PINERY.—When the early crop is showing bloom some care must be taken to ensure the perfect development of the flowers, or misshapen fruit will be the result. For this purpose the air of the house should be dry, and a slight additional temperature allowed, especially on bright days. Whether grown in pots or in an open bed, the bottom heat should be kept steady, between 80° and 90°. We never advise moving fruiting Pines after they have shown fruit, and when additional bottom heat is necessary the leaves or tan between the pots should be carefully removed and fresh material introduced, to give the required warmth. With Pines growing over hot water pipes, this trouble is avoided. At this season the fruiting stock may require water; we have never found anything better than clear soot water for Pines, but at this season, when the growth is not very active, stimulants should be applied with caution. Mind the young stock do not suffer from damp at this season, which they are very liable to do if grown in dung pits. Air must be given sufficient to produce a free circulation, and the top heat kept up to 60° or 65°, either by linings of dung, or by the aid of pipes. Remove into a shed, if not done before winter, a stock of loam for spring potting. MELONS AND CUCUMBERS, now up, require great attention; they must be near the glass, should have bottom heat, and will require air each fine day; a temperature of from 65° to 70 should be aimed at. Cucumbers in bearing will now be subject to mildew, and for this your remedy, sulphur, must be promptly applied; and the anti-mildew treatment closely followed, *i. e.*, a rather dry, well aerated atmosphere, varying from 65° to 80°, by which much trouble with this pest of damp, bad ventilated houses is saved. STRAWBERRIES.—Some of the forwardest may now be placed in a house to bloom; many growers place them in feeders, which, at this season, we consider a bad plan. A thick piece of turf, which allows the waste water to escape, and at the same time, feeds the roots, is better; a still better way, if extra fine fruit is wished for, is to procure pots a size larger than what the Strawberries are in; fill them about one-third with turfy loam, and place the pot with the growing plant in this; the roots will find ample food in the loam below, and the outer pot will protect the roots of the Strawberry from the direct action of the sun later in the season; and, moreover, they can be moved from one house to another without sustaining injury.

* Authentic specimens, gathered at Milan, of the *Oidium* on Verbascum, received from Dr. Montagne, exhibit a very different species from *O. Tuckeri*.

FLOWER GARDEN AND SHRUBBERY.

As soon as the weather will permit, the beds and borders in the flower garden should be looked over; and whatever fresh material is required, should now be added. Of course the plants intended for each bed are known, and, with this understanding, the beds should be prepared accordingly. Immediately the Roses in beds are pruned (let the edgings be pared), fork them over, so as to have them in a neat form; and the same should be done in succession to every description of bed or border, as finished. Prune and nail or tie creepers against walls and trellising. Guard spring-flowering bulbs against mice and game, which are often destructive to such. Anemones, and some sorts of Tulips, may now be planted for successional blooming, and make fresh plantations of Lily of the Valley, and other similar plants, which come in for a variety of purposes.

FLORISTS' FLOWERS.

AURICULAS will now be on the stir, consequently they will require more attention, not only with regard to watering, but also a very watchful eye must be kept on insects The green fly is a sad pest; perhaps the best way of getting rid of them is to take a large sized camel-hair brush and sweep round the heart and amongst the leaves; a large collection may thus be gone over in a very short period. Seedlings will often bloom now. As they flower, if they exhibit any good properties, take a small piece of deal, rub it with white-lead, on which designate the character of the flower, whether grey, grey or white edge, or self; after being thus marked, the flowers should be plucked, to strengthen the plant. TULIPS.—Let these be carefully protected; excessive wet is very prejudicial, and a little care will be trouble well bestowed. CARNATIONS and PICOTEES.—By all means get the soil intended for potting under cover; here it can be well attended to in all weathers; it will lose nothing by turning and intermixture; and a bright look-out must be kept for that inveterate foe "the wire-worm;" as far as our experience goes, every one caught is worth a shilling.

KITCHEN GARDEN.

As soon as the ground becomes sufficiently dry to work, begin to prepare the quarters for the general spring crops, by frequent turnings, determined by the condition and property of the soil. As a general rule all vegetable ground should be worked to a fine tilth, and to a considerable depth, if the nature of the ground will allow it. Another rule should be, never to crop ground whilst it is wet; and a third should be, never to sow or plant too thick, unless special reasons exist for the contrary. A second crop of Peas and Beans may now be planted, as every locality, and nearly every gardener, have their favourite kinds of vegetables. It is useless giving names; to those, however, not acquainted with these matters, we may add, useful lists of all the distinct vegetables are to be found in the back Numbers of the *Gardeners' Chronicle*, Spawn Mushroom beds when the heat has declined to 80°, and cover up with 1½ inch of dry turfy loam, beating the whole firm and solid. Should the heat further decline, cover with dry hay, or short straw, to increase the heat. Prepare fresh materials for beds—we use fresh droppings, turn over till they are quite dry, and a small proportion of fresh dry loam. Beds in bearing, when dry, should be sprinkled occasionally with tepid water. The temperature of the house should be from 55° to 58°, kept moist by evaporating troughs over the heating apparatus.

State of the Weather near London, for the week ending Jan. 22, 1852, as observed at the Horticultural Garden, Chiswick.

Jan.	Month's Age	Barometer. Max.	Barometer. Min.	Temperature. Of the Air. Max.	Min.	Mean	Of the Earth. 1 foot deep.	2 feet deep.	Wind.	Rain.
Friday.. 16	24	29.840	29.703	52	37	44.5	45	43	S W	.07
Satur. .. 17	25	30.241	29.951	47	34	35.5	44	42	W.	.00
Sunday . 18	26	30.326	30.276	44	22	33.0	41½	41	S.W.	.00
Monday 19	27	30.141	29.980	47	28	37.5	39½	40	S.	.00
Tues. .. 20	28	29.769	29.695	49	28	38.5	40	40	S.	.03
Wed. .. 21	29	29.957	29.377	53	38	45.5	41	40½	S W	.26
Thurs... 22	1	29.396	29.263	47	31	39.0	42½	40½	S.W.	.00
Average		29.954	29.749	48.4	29 7	39.0	41.8	41.0		.36

Jan. 16—Densely and uniformly overcast; fine; overcast; rain.
— 17—Clear; very fine; clear; frosty.
— 18—Hoar frost; very fine; hazy at night.
— 19—Fine; very fine; hazy.
— 20—Cloudy; densely clouded; overcast; rain.
— 21—Fine; overcast; boisterous, with rain at night.
— 22—Clear; very fine; overcast; slight shower; clear.
Mean temperature of the week, 2 deg. above the average.

State of the Weather at Chiswick, during the last 26 years, for the ensuing week, ending Jan. 31, 1852.

Jan.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 25	44.0	33.8	38.9	12	0.90 in.	1	3	2	1	4	8	4	3
Mon. 26	44.8	32.5	38.6	12	0.34	1	4	2	3	1	8	4	3
Tues. 27	43.8	32.3	38.1	12	0.43	1	3	3	—	3	11	4	—
Wed. 28	44.9	32.0	38.4	13	0.17	2	3	2	—	—	11	7	1
Thurs. 29	43.3	34.5	38.4	10	0.32	3	4	—	1	2	7	9	4
Friday 30	43.8	31.8	37.8	11	0.38	2	2	3	3	3	6	6	1
Satur. 31	43 8	31.6	37.7	13	0.32	2	4	1	2	3	6	1	4

The highest temperature during the above period occurred on the 28th, 1834, and 1846—therm. 56 deg.; and the lowest on the 25th, 1827—therm. 15 deg.

Notices to Correspondents.

BIRDS: *A.* We think it most likely that your view is correct, and that the death of the parrot *was* caused by the circumstance you mention. It is a grievous loss, truly, after so long an attachment.—*John T.* Flax and Canary *only*.—*Maria E.* The cage is infested with vermin. Destroy it, and procure another immediately.—*Delta.* If three years old, all the more desirable; and of course the more valuable.—*Jane D.* Sugar is bad under any circumstances. Discontinue its use at once.—*Arabella M.* The colour is of no consequence, if the song be fine. The two seldom go together.—*William.* Draw the stumps of the feathers gently from the tail, one by one; they will be replaced by others in less than a month.—*E H.* Not more than 3*s.*, certainly.—*Georgianna.* Let it be open in front *only*. This keeps away all draught.—*Penelope.* In the middle of April, if the weather be not very boisterous.—*Ninetta.* Not the first year, certainly; as this bird is naturally shy.—*Letitia.* It is a "sweet song" linnet, and worth the price asked for it.—*Mary B.* Not till the end of March, as the climate is so very variable.—*Maria W.* Soap and water. A soft sponge is preferable to flannel.—*Sarah J.* It proceeds from dirt. Neglect causes the nails of many birds to drop off. Be careful how you handle so tender a subject whilst cleansing his feet.—*J J.* Fig-dust is most improper food. It renders the cage unwholesome, and injures the bird. German paste is preferable.—*C W.* We will write you fully by post, and tell you how to act when your bird is visited with these distressing "fits."—*J B.* We advise the immediate discontinuance of the Cayenne, and also recommend that the nightingales should be kept each in a separate room, and not moved oftener than is necessary. These birds have "odd" tempers. They know their own value, and make *you* know it also! We shall be happy to receive the 'sketch' you allude to.—*E T.* Your suggestion is a good one, and shall have our best attention. It possesses much interest for all lovers of birds.—*L G W.* To answer the questions you have put to us, would occupy a whole column of this paper. Send your name and address, and we will write you by post.—*G W.* Many thanks. We will attend to your wishes at the earliest possible moment. *W. K.*

BOOKS: *G.* Probably Lawson's "New Catalogue," which we shall notice shortly, contains the best short account of Coniferous plants. There is a long and very useful account of them in Loudon's "Arboretum," with numerous woodcuts. Lambert's "Pinus" contains coloured figures of the greater part of the old sorts. All these books can be had through the trade.

CONIFERS: *R A H.* Cupressus Goveniana is in growth pyramidal, like most of the tribe, but it is said not to be more than a "bush" (15 ft. high). It would fitly take a place in a forma parterre, where Cypress form, but not height, is required. Your Ruellia salicifolia probably has the points of its leaves burned, in consequence of the air being too dry; unless cold currents of air have passed over them.

GARDEN ALLOTMENTS: *N O P.* See pages 737 and 738 of our volume for 1847.‡

HEATING: *Clericus.* Smoke flues will answer; but you should not make them *dip*, if you can prevent it: they are apt to choke with soot at the dip. The house is very awkwardly contrived for any kind of heating. Probably your best plan will be to carry a flue from the stoke-hole to the right under the floor, as far as the left hand corner of the door; then to let it rise above the floor and pass along the inside of the walk till it reaches the dwelling house, where it might enter a chimney to be built for the purpose. If you cannot do this we do not see what you can do, except employ hot-water pipes, which will be costly. Should the latter be necessary, you cannot do better than consult some of the very respectable firms whose advertisements you so often see in our columns.

JAPAN LILIES: *H.* You had better not disturb them at present. We are unable to understand your question about Cauliflowers.‡—*C R.* They have proved hardy about London.‡

MOORE'S BRITISH FERNS: *E C.* You will find all the information that we can give you in the review of the work published at p. 823, 1851. We cannot recommend dealers.‡

NAMES OF PLANTS: *J L.* Ilex balearica, Quercus austriaca, and apparently Juniperus flaccida.—*Amateur.* An indeterminable bit of some Juniper. The Cape Gooseberry is Physalis edulis.—*J P.* 2 looks like a bit of Pyrus coronaria; 4, Cacalia articulata; 1, Cassinia leptophylla; 3, Poa rigida.

PALM TREE: *W M.* "The" Palm tree? What Palm tree? There are several hundred species. If you mean the Date Palm used in religious processions, you may raise it from seed by sowing Date stones in a hotbed, or may purchase it of a nurseryman, for all can procure it, although all do not keep it. You can keep it alive in a Vinery.

PLAN DRAWING: *B J.* You had better take lessons from some person capable of giving instructions in such matters. It is not to be learned from books.‡

SEEDS: *L B S.* Sow your seeds in a hotbed in the beginning of March, in the same way as tender annuals. If they will not grow under such treatment they will not be enabled by galvanism, which has no known influence upon vegetation. All the electrical speculations have been proved experimentally to be delusions.

TEMPERATURE: *E C.* We are unable to explain the discrepancy. There can be no doubt about the accuracy of the Chiswick observations.‡

THE MACKINTOSH TESTIMONIAL: *Aberdoniensis.* This has been advertised in our columns; to which we must refer you and others interested in the matter.

TIMBER HACKING: *N M.* Thanks; it is an instructive illustration of the mischief an ignorant woodman must do.

MISC: *A H.* You should consult an engineer respecting the subject of your inquiry about heating; but it will be useless to do so unless you furnish him with more data than you have sent us. Three-inch pipes should only be used for very peculiar purposes. The Moss that comes on garden pots grows from seeds, deposited on the sides of the pots by wind, or carried in the water employed by gardeners.—*J R G.* The Scarlet Runner or French Bean is not an annual, like the common Pea or Bean, but a fleshy-rooted perennial.—*Cymro.* You can have the Number.

PERUVIAN GUANO.

CAUTION TO AGRICULTURISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

ANTONY GIBBS AND SONS, AS THE ONLY IMPORTERS OF PERUVIAN GUANO,

Consider it to be their duty to the Peruvian Government and to the Public again to recommend Farmers and all others who buy to be carefully on their guard.

The character of the parties from whom they purchase will of course be the best security, and in addition to particular attention to that point, ANTONY GIBBS AND SONS think it well to remind buyers that—

The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 9l. 5s. per ton, less 2½ per cent.

Any resales made by dealers at a lower price must therefore either leave a loss to them, or the article must be adulterated.

THE LONDON MANURE COMPANY beg to offer PERUVIAN GUANO, warranted perfectly genuine; Superphosphate of Lime, Wheat Manure, Concentrated Urate, Irish Peat Charcoal, Gypsum, Nitrate of Soda, and every artificial Manure, on the best terms. Also a constant supply of Salt for Agricultural Purposes, at a low rate. English and Foreign Linseed Cake, Rape Cake, &c.

EDWARD PURSER, Secretary, Bridge-street, Blackfriars.

MANURES.—The following Manures are manufactured at Mr. LAWES's Factory, Deptford Creek:

Turnip Manure, per ton	...	...	£7 0 0
Superphosphate of Lime	...	...	7 0 0
Sulphuric Acid and Copralites	...	...	5 0 0

Office, 69, King William-street, City, London.

N.B. Peruvian Guano, guaranteed to contain 16 per cent. of Ammonia, 9l. 10s. per ton; and for 5 tons or more, 9l. 5s. per ton, in dock. Sulphate of ammonia, &c.

FOSSIL BONES AND PSEUDO-COPROLITES (FROM THE SUFFOLK CRAG).

EDWARD PACKARD AND CO., of Ipswich, having erected very powerful Machinery for the purpose of reducing these Phosphatic Nodules to a fine Powder, and being in the immediate locality of where they are found, are now prepared to supply them on the most economical terms, in any quantity, either Ground, Whole, or Dissolved in Acid. They form the cheapest source of Phosphate of Lime in the market, and are peculiarly eligible for manufacturing Superphosphate of Lime in conjunction with Bone.

Prices and every information connected with their use forwarded on application to EDWARD PACKARD and Co., Artificial Manure Manufacturers, Ipswich, Suffolk.

FARMERS AND GARDENERS are invited to try the NEW and VALUABLE MANURE, PEAT CHARCOAL, impregnated by pressure with the fertilising matter of the LONDON SEWAGE, the Ammonia, Phosphates, and Fæces being absorbed, and the water left bright and palatable. Sold at the Charcoal and Sewage Works, Stanley Bridge, Fulham, Middlesex, at 60s. per ton, 4s. per cwt., and 2s. 6d. per half cwt.

AGRICULTURAL AND SCIENTIFIC EDUCATION.

MESSRS. NESBIT'S ACADEMY, 38, Kennington-lane, Lambeth, near London.

"For my own part, I do not scruple to avow the conviction that are long a knowledge of the principal truths of chemistry will be expected in *every educated man*; and that it will be as necessary to the statesman and political economist, and practical agriculturist, as it is already indispensable to the physician and the manufacturer."—*Liebig*.

In this SCHOOL, in addition to the general routine studies, which include the Classics, Mathematics, and French and German languages, every facility is afforded for the acquisition of a sound knowledge of CHEMISTRY. The pupils are practically taught in the laboratories, which are fitted up with everything essential for the most extensive chemical investigations.

The principles of Geology, Botany, and the other departments of Natural Philosophy, are clearly elucidated and explained. Eminent Professors of the Metropolis lecture regularly to the pupils on subjects of literary and scientific interest.

The students have likewise access to a large and well-assorted Library, comprising the most recent works on science and literature; to a valuable collection of Minerals and Geological specimens from various parts of the globe; and to an extensive suite of Mathematical and Philosophical Instruments.

The course of study likewise comprises every essential for the Railway Engineer, Architect, and Practical Surveyor.

The Terms of the School, with further particulars, may be had on application, either personally or by letter.

Mr. Nesbit's Works on Land Surveying, Mensuration, Gauging, Arithmetic, English Parsing, Education, &c., may be had of all booksellers.

REFERENCES.—Dr. D. B. Reid, F.R.S.E., &c., Author of "Elements of Practical Chemistry," "Theory and Practice of Ventilation," &c., Houses of Parliament, Westminster; J. Gardner, Esq., M.D., Author of "The Great Physician," &c., Editor of "Liebig's Letters," &c., Mortimer-street, Portland-place, London; John Shittler, Esq., Wimborne, Dorset; Thos. Saunders, Esq., Watercombe, near Dorchester; J. Gater, Esq., West End, near Southampton; and W. Shaw, Esq., Editor of the *Mark Lane Express*, London.

STEPHENSON AND Co., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of Scientific Horticulturists to their much Improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description; but to those who have not seen them in operation, prospectuses will be forwarded, as well as references of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the Kingdom.

S. and Co. beg to inform the Trade that at their Manufactory, 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood, erected on the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

A PRIZE MEDAL FOR SUPERIOR LOCKS WAS AWARDED TO J. H. BOOBBYER, AT THE GREAT EXHIBITION OF 1851

PATENT SPADES, DAISY RAKES, SCYTHES, Draining, and other Garden Tools. Mole Traps, 6s. per dozen. Carpenters and Smiths' Tools, &c. Ladies' Garden Tools, 7s. 9d. a set. Sword-scrapers for Gardens, 1s. 2d. each. Patent Fumigators for destroying insects on plants, in greenhouses, &c.: at Messrs. J. H. BOOBBYER and Co.'s (late STEACH and BOOBBYER), Ironmongery, Brass-foundry, Nail and Tool Warehouse, 14, Stanhope-street, Clare-market, London. Established nearly 200 years for the sale of goods from the best Manufactories at the lowest prices. Goods forwarded to any part on the receipt of remittance.

WATERPROOF PATHS.—Those who would enjoy their Gardens during the winter months should construct their Walks of PORTLAND CEMENT CONCRETE, which are formed thus:—Screen the gravel of which the path is at present made from the loam which is mixed with it, and to every part of clean gravel add one of sharp river sand. To five parts of such equal mixture add one of Portland Cement, and incorporate the whole well in the dry state before applying the water. It may then be laid on 2 inches thick. Any labourer can mix and spread it. No tool is required beyond the spade, and in 48 hours it becomes as hard as a rock. Vegetation cannot grow through or upon it, and it resists the action of the severest frost.

It is necessary, as water does not soak through it, to give a fall from the middle of the path towards the sides.

Manufacturers of the Cement, J. B. WHITE and SONS, Millbank-street, Westminster.

HOSE FOR LIQUID MANURE, FIRE ENGINES, or GARDEN PURPOSES, made of Canvas, lined and coated with Gutta Percha. It is exclusively used by agriculturists, and at the Government Public Works, giving great satisfaction. Also, KASE'S FORCE and SUCTION PUMP, which is the most simple and complete; it will throw 40 gallons per minute, 40 feet high, and it is not at all liable to get out of order. Price, 5l. 10s.; on wheels and stand, 7l. 7s.

BURGESS and KEY, 103, Newgate-street, London.

NEW CAST STEEL DIGGING-FORK. The FORK alluded to by MR. MECHI in this Paper of the 10th. This light and effective Instrument only 5 lbs. weight, 5 prongs, quite elastic, is capable of digging all sorts of soil, from stiff clay to the hardest gravel; never bending, straining or breaking in their work, keeping sharp points, and requiring no repairs; used by all the London Gardeners.

All kinds of Forks in the same material, (cast steel), Spades Shovels, Grafting and Draining Tools, &c., made only by WINTON AND SONS, Dove Mills, Birmingham.

NEW AGRICULTURAL PEA.

BISHOP'S LAST AND BEST, 28s. per bushel, 7s. 6d. per peck (bags included).—This PEA was raised by Mr. Bishop, the raiser of the garden variety known as Bishop's Long-podded (of established reputation), and was presented by him to some of his relatives in Perthshire, in which northern climate it has answered exceedingly well; its early habits ensuring a crop where later varieties fail. Its merits consist in being remarkably early, and certainly much better cropper than any out; as many as 60 and more pods have been counted on one plant. It grows but two feet high, of remarkably robust habit, and always branches into two and sometimes three or more stems. Mr. Charles Smart, of Rainham, Kent, upon whose farm the Peas offered were grown, allows the Subscriber to state that a better or more likely useful Pea never came under his notice.—DUNCAN HAIRS, Seedsman, Wholesale and Retail, 109, St. Martin's-lane, London.

Catalogues of Agricultural Seeds sent free.

M'CORMICK'S AMERICAN REAPER.—BURGESS and KEY, Agents, 103, Newgate-street, London.—Extract from Mr. Pusey's Report on the Agricultural Implement Department, Great Exhibition.—"Mr. M'CORMICK'S Reaper, in this trial, worked as it has since worked at Cirencester College, and elsewhere, to the admiration of practical farmers, and therefore received a Council Medal. Mr. Hussey's sometimes became clogged, as in the former trial at Tiptree, and therefore could not possibly obtain that distinction."—Price of Reaper, 25l.

The Agricultural Gazette.

SATURDAY, JANUARY 24, 1852.

MEETINGS FOR THE TWO FOLLOWING WEEKS.
THURSDAY, Jan. 29—Agricultural Imp. Soc. of Ireland.
THURSDAY, Feb. 5—Agricultural Imp. Soc. of Ireland.

THE gold derived from California during 1850 is estimated at 12,000,000*l.*, and it is thought that the value of the yield for 1851 will not be less than 15,000,000*l.* These are certainly large amounts; more than the most sanguine anticipated, even taking into consideration the energies of the people employed in collecting it. The question is, how long can the present rate of supply be maintained? That the auriferous region of California is richer than the average does not admit of a doubt. There are, however, many reasons (statistical as well as geological), into which we cannot now enter, to preclude the expectation that the united golden produce of Siberia, California, and Australia will produce any considerable effect on the money value of commodities, beyond checking that downward tendency which has prevailed for the last 40 years, and which may be attributed, in a great measure, to the diminished productiveness of the mines of the precious metals in Mexico and Peru. This, however, is not the prevalent opinion; and some are looking with hope, and some with dismay, to the prospect of such an alteration in prices as took place in the 16th and 17th centuries, in consequence of the discovery of the American mines. Now that all chance of a revival of the protective system has vanished, landowners and leasehold tenants are dreaming of the return of the golden age, when ASTRÆA shall revisit the earth, with her scales so readjusted that Wheat shall once more sell for 120*s.* the quarter. On the other hand, annuitants and other recipients of fixed incomes are dreading the diminished command over the necessaries and comforts of life, to which they shall be obliged to submit. Admitting such a change to be possible—an admission, however, which we are by no means disposed to make—it may not be uninteresting to inquire what its effects would be on the industrial classes in general, and on the agricultural class in particular, including the farmer, the labourer, and the landowner.

It is unquestionable that an advance in the money value of commodities stimulates industry while it is in progress. Producers seeing the articles which they produce continually exchanging for a greater quantity of the precious metals, are induced to prepare more of them for market. Their profits are increased by the advance in the price of the raw material while the manufacture is in progress; and the profits of the speculator are thus added to the ordinary profits of their trade. Most producers, moreover, are working more or less with borrowed capital, and by a rise of prices they are able to discharge their obligations with a smaller quantity of produce than they bargained for when the debt was contracted; they thus gain an advantage at the expense of the capitalist. A whole community can be benefited by an increase in the stock of the precious metals only through the stimulus thus given to production; for its metallic wealth will always bear a very small proportion to its material wealth, and the value of commodities in exchange for one another will remain the same during a general rise of prices, caused by the increase of gold and silver, except in the case of particular commodities, whose relative value may be changed by local and temporary causes. Producers will benefit at the expense of consumers; they who produce more than they consume will find their wealth, measured by money, to have increased in a given time. They who consume more than they produce will find theirs diminished. That class, probably the largest, who are both consumers and producers, will find their condition scarcely altered, except by the excess or diminution of their production over their consumption, which, in most cases, will be but small.

A rise of prices, however, caused by an increased production of the precious metals, only stimulates industry so long as it is in progress. When prices again become stationary, and all classes are again placed in the same relative position, its effects cease; and, taking into consideration the derangement of the existing condition of society which accompanies it, it is doubtful whether the increase of industry produced by it, at particular periods, has not been counterbalanced by the misery which that derangement occasioned.

There are probably few periods in our history when complaints of distress were louder and more general than during that influx of the precious metals by which prices were gradually quintupled during the sixteenth century. The effect during that was greater than during subsequent centuries, when the absolute quantity of gold and silver produced was much greater, but bore a much smaller proportion to the quantity previously in existence. The manner in which the different classes of society were affected by the change may be read in the sermons of Bishop LATIMER; his complaints that everything was "of too much;" his invectives against forestallers and regraters, graziers, inclosers, step-lords, and rent raisers. It may be read also in the legislation of the period which vainly endeavoured to counteract the unseen and unsuspected cause of the evil, and to produce artificial cheapness, by acts to prohibit forestalling, regrating, and inclosures, and to compel the rearing of calves. In a work published in 1581, under the title of a "Briefe Concerte, touching the Commonweale of this Realme of England," the particular grievances of each class are detailed in the form of a dialogue between a knight or landowner, who had served in Parliament, a husbandman, his tenant, a merchant or shopkeeper in a large town, a manufacturer of caps or hats, and a doctor of divinity. It will surprise some of our readers to learn that a period during which the price of agricultural produce quintupled was a period of agricultural distress. Yet, so it was.

The farmer grumbles with the air of a man who feels it his duty, as well as his interest, to grumble. He complains of the rise of rents, though, if he held his land under an old lease, he was probably making money enough to purchase it in fee. "These inclosures," he says, "undo us all; for they make us pay dearer for our land that we occupy, and cause that we can have no land, in manner, for our money, to put to tillage. All is taken up for pasture, either for sheepe, or for grazing of cattel." He vouches for a fact which modern witnesses before Agricultural Distress Committees have only been able to predict, declaring that he had known a dozen ploughs laid down during the preceding seven years, within a compass of six miles, so that where threescore persons and upwards had their livings, now one man with his cattel hath all. He commiserates the condition of the agricultural labourers deprived of the means of subsistence, and unable, when employed, to live by their wages, all things being so dear. "These sheep," he adds, "are the cause of all these mischieves, for they have driven husbandry out of the country, by the which was increased before all kind of victuals, and now altogether sheepe, sheepe, sheepe."

For once the agricultural and manufacturing interests sympathised with one another. The latter

agrees with the farmer, and confirms his lamentations by his own experience, declaring that though he gave his workmen 2*d.* a day more than heretofore, they were unable to live on their wages; while by reason of this dearness of everything, and the consequent inability of artificers to keep so many apprentices as they had been wont, many cities, wealthy and well inhabited as heretofore, were fallen to poverty and desolation; adding, "it was never merry with poor craftsmen since gentlemen became graziers." He paints in dismal colours, not only the decay of cities, but of bridges and roads, because men of his occupation no longer dying rich, were unable to leave bequests for their maintenance. The merchant corroborates the complaints of the manufacturer, and describes poverty as reigning in all towns except London, their houses, streets, walls, hedges and roads fast hastening to decay; he bewails the dearness of all things, such as there had not been the like for the last 20 or 30 years. This dearth, as he calls it, was not confined to the produce of our own soil, but extended to merchandise from beyond sea, of which he details a long catalogue, enumerating among our imports not a few articles which now figure among our staple exports. "These cost more," he says, "by the third part than they did a few years before; and all 'vitagle is as deer or deerer again, and no cause of God's part thereof, as far as I can perceave, for I never saw more plenty of corne, Grasse, and cattel of all sorte than we have had this present and have had (as ye know) all these 20 years passed continually, thanked be our Lord God.'" The extension of this dearth to imported articles rather staggers his faith in the cause assigned for it by popular opinion, namely, the sheepe; and he very prudently concludes, that if they were the cause thereof, or anything else, it were pity but they might be removed. The landowner alleges that the commercial and manufacturing classes had it in their power to raise the price of their commodities as the price of food and other necessaries rose; which the landowners had not, in consequence of the greater portion of their estates being let on leases, which would not expire in the lifetime of a generation; "and by reason thereof many of us, as you know, that have departed out of the country of late, have been driven to give over our households, and to keep eyther a chamber in London, or to wayte on the court uncalled, with a man and lackey after him where he was wont to keepe half a score of clean men in his house and twenty or twenty-five other persons beside every day in the weeke; and such of us as do abyde in the country still, cannot, with two hundredth a year, keepe that we might have done with two hundred marks, sixteen years ago." Hence it was that gentlemen turned graziers, being enforced to stock such portions of their land as fell in with sheep and cattle, as to hire land of others for the same purpose, "to helpe to make up the decaye of our revenewes, and to maintain our old estate withal, and yet all is little enough."

Who will venture to compare this picture of distress arising from high prices with that produced by low prices in our day? Amid the general complaints of all classes beneath the pitiless pelting of the golden shower, one thing is certain, namely, that the labouring classes were the chief sufferers, because the advance in the price of the necessaries of life constantly preceded the advance of their wages.

We return to the Influence of Climate on the necessities and produce of plants—the subject of our last week's leading article.

We think that Dr. Daubeny slightly reverses the principles upon which the action of superphosphate is hinged. He says: "It might require a certain vigour in the plant to extract the requisite amount of phosphate and alkali from the soil. By the application of ammoniacal manures, this increased vigour may, as it would appear, be imparted to the cereal crops, but not to the Turnips." In our opinion it is the existence of vigorous and rapidly-growing climatic conditions which *demand a ready supply of the essential element phosphorus.* For it is seen that phosphoric manures are most marked in these circumstances, inasmuch as the slowly growing and less vigorous Turnips and Barley crops of early spring are not much benefited by the application of phosphoric manures, but under the more genial conditions of May and June these substances tend to put the plants in full possession of the soil, by promoting the rapid development of primary organs, and they are thus enabled to turn the riches of nature to the best account. The Wheat at Rothamstead grows slowly and obtains its phosphates and alkalies as fast as it requires them; but under the exuberant heat and moisture of the Delta of the Nile the ashes of burnt excrements, when applied to the Wheat plant, may then be required, owing to the same circumstances of rapidity of growth which are imparted to the Barley through the atmospheric conditions of the month of May in Scotland and Ireland. No doubt the increase of a crop by the application of phosphates, when the soil is not deficient in these essential matters, is pre-eminently seen in the Turnips, but this is chiefly in consequence of the smallness of its seed and rapidity of its growth. The seeds of cereals contain a much larger amount of phosphates in proportion to the absolute quantity they require than Turnips, and they are thus more independent of an artificial supply than the latter in their incipient stages of growth. In the same way the increase of crop is much less in the Potato through the application of phosphates—the larger the sets the smaller the increase. Those plants which are in full possession of the soil—such as Clover or Grass, are not benefited by phosphates, unless the soil is deficient of them, as in the case of the pastures of Cheshire.

We before pointed out that *late* sown Turnips might be decreased in the weight of bulbs if large doses of nitrogenous manures were applied. But as Swedes had to be sown comparatively early in Scotland they required to be liberally dressed with manures yielding ammonia, and there was no danger of applying too much of this element if the crop was sown in time; it may be confidently stated that phosphates alone are seldom or never relied upon to raise this crop in the north. In the common Turnips, however, which were late sown, phosphatic manures, without any other substances, could often be most beneficially employed. In England, Mangold supplies the place of the Swede in regard to early culture; but it must also have a large quantity of nitrogen in the manure; there is no risk of over-dosing it, for it will produce coarse bulbs on those situations where the richest dung-hills have just been removed. Green crops thus require nitrogenous manures to be added in great excess to produce satisfactory results. When the crop is drawn from the ground, they no doubt withdraw a great quantity of nitrogen, but they leave their succulent and unexhausted roots, which in their turn yield food for the cereals, which extract the juices of their roots in the seeding process. It is to this principle that we must look for the universally recognised exhausting properties of grain. It is totally different with our fine Grasses, for they maintain their vegetative powers which are displayed in the increase of leaf, at the very moment they may be ripening their feathery seeds; and what a small amount of substance is transformed in their case in comparison to that of the cereals. The succulent roots of Grasses remain in the land and become the rich pabulum for grain crops.

In the case of the Bean and some other plants, a different set of principles come into play. There is no crop grown in our rotation which is more dependent on a supply of nitrogenous, and probably carbonaceous manures, during the first stages of its growth, than the common spring-sown Bean. If manure be not liberally applied, its produce is entirely dependent on the seasons, except on the very richest soils. "It apparently requires the manure to develope its foliage, and when the season becomes more genial, it can then rely more upon the atmosphere for its nitrogen, and its vegetative powers coexist with its flowering and seed-forming processes, as in the case of the Grasses. It is possible that it may take abundantly from the soil at one stage of its growth, and add at another, through the large quantity of roots which it leaves in the ground. The Bean, however, is a very exhausting plant on light land, or in shallow soils; as the deficiencies in physical properties, or atmospheric conditions, require more manure to afford a compensation."

Lucerne must just be regarded to stand in the same relation in dry and warm countries as the Grasses in those of an opposite character. Tull describes this as a plant of a "nature nearly approaching to that of a shrub; it has a tap root that penetrates deeper into the bowels of the earth than any other vegetable she produces." Although Lucerne can thrive upon a bare soil, where the Grasses could not exist, and may be seen growing with as much ease as the Broom or Furze in the calcareous shingle of a railway cutting under the clear skies of France; yet the irrigation of water and a fertile soil adds much to its productive powers. If the roots of this plant did not penetrate deeper than the Grasses, it would very probably be ruled by the same atmospheric conditions. The Orange trees in Paris, where the roots are confined to a limited area, require to be richly manured; but where their roots are allowed to range the soil at pleasure, as in the groves of Seville—water is all the food they need—we think there is little doubt that the deeper and freer range which all plants have in the soil, enable them not only to obtain more manure, but to economise what they actually absorb. There is much analogy in the characters of Lucerne, Sainfoin, and Clover; it will be seen that they transform a very small proportion of their nutritive matter into seed, and they do not exhaust their roots in this process, as is the case with the cereals, Turnips, &c., which are most exhausting crops.

We think it will now be evident that the division of plants into classes, which are supposed to rely more upon the atmosphere for their nitrogen in one than in another, is much too wide for practical purposes; for if we really examine into the matter, it will appear, as Mr. Goodiff has so happily said on another subject, that we are merely disputing about the "colours of the Chameleon." In Italy irrigation maintains continuous growth in the Grasses; but in Britain, where they are watered by the rains of heaven, they possess this quality naturally. In the latter case, this seems to be owing to temperature relative to the amount of vapour of water in the atmosphere, which seems to act as a sort of aerial irrigation. It is to the varieties of this arrangement within the British islands, to which we must now look for a solution of some of the propositions stated above. *R.*

DRAINAGE OF CLAY SOILS.

A work of interest to landowners and farmers, as affording them a test of the power of 4 feet drains in clay soils to lay the land dry; and to the public, as a commencement of drainage, with a view to the healthiness and enjoyment of a district, is now in progress in a situation open to the observation of many of your readers in their visits to London. I refer to the drainage of the Regent's-park and Zoological Gardens, which is being effected by tile drains of 4 feet and upwards deep, and at intervals of 24¾ feet (the Zoological Gardens at 16½ feet). As the subsoil is clay, as strong and impervious as any in the kingdom, the working of these drains will offer a severe test of the use of deep drains in such soils. The question as to the use of shallow drains in this soil has already been practically answered by their failure to lay this ground dry. Its drainage has several times been attempted, with wood and tile drains, at depths varying from 18 inches to 30 inches deep; and it is intersected by them at narrow intervals and in all directions, but it still continues cold, and a source of fog and damp to the neighbourhood, the consequence of its subsoil lying water-sodden in the winter, to within a foot or two of the surface.

The pernicious consequences of having an under stratum of water so near to the surface have long affected this neighbourhood. The wettest parts of the park have become known to the inhabitants by the fog they see issuing from them on autumn evenings; and in the Zoological Gardens the animals have suffered severely from the cold generated by the damp soil on which they are kept. This rise of fog from wet spots has often reminded me of the description in the Arabian Nights of the issuing forth of the Evil Genie on being released from a vase in which he had been shut up; he is said to have risen like a pillar of smoke and gradually to have spread out and covered the ground. Indeed my imagination has embodied the rolling vapour we see rising off marshes and damp ground, and it requires no great stretch of fancy when we consider the colds and fevers it generates, to accompany the fisherman and give form to what has so much power of mischief, and we have learnt so much to dread.

By the communications to your Paper on draining, it is evident there is much to be learnt by an examination of the cuttings in the Regent's Park. I would point out to those who have a difficulty in believing the possibility of drains of 4 feet drawing down the surface water—that wherever the drains approach to within about 25 feet of the lakes or ponds—the water finds its way into the drains. The season has been singularly dry, and from the long absence of rain the subsoil everywhere, except at this distance from standing water, is as dry and hard as in the height of summer. Now let me ask those doubters of the possibility of surface water reaching 4 feet drains in clay—How is it the water from the lakes and ponds finds its way into the drains at 25 feet distance? and if water will penetrate laterally through banks of clay of 25 feet, must not its perpendicular descent 4 feet be much easier?

The imperfection of any other form of tile than that of the pipe for draining is also shown in the condition in which most of the old drains are found—these were laid with horse-shoe tiles, and are generally choked by the soil having become pressed up into them, and not as many have supposed by the tiles having been squeezed in the ground. This squeezing up of clay into the cavities of drains has hitherto been a serious cause of their obstruction. I have taken up drains formed of wood, brick, chalk, and stone, and laid carefully, into which the soil in the course of a few years has been pressed as tight and as hard as is the adjoining unbroken ground. The changes clay undergoes at different seasons—its expansion by water, and softened condition in winter, and when the heavy pressure it is under at 3 or 4 feet from the surface at once explains how it is forced up into all cavities.

Although there can be no question the improvement in the pasturage will pay for the expenditure, and that the public will have greater enjoyment of their beautiful airing ground, from its being made drier,

still it is probable the Government have rather had in view, in deciding on doing this draining, the importance to the health of the metropolis, of laying the land around it as dry as possible. The Board of Health made some enquiries last year, with a view to ascertain the effect that has already been produced by draining, and the answers showed the diminution of fever and ague, in districts wherever extensive drainage had been carried out; and when we bear in mind the extensive tracts of marshes and undrained land in the neighbourhood of the metropolis, and that fevers and agues arise within the metropolis itself, at certain seasons during the prevalence of winds coming off the marshes, the drainage of the Regent's Park, it is to be hoped, will be an example for landowners to consider the importance of draining their estates, with a view to health, and at least to lay the land around their houses dry; for it is a curious fact that the houses of many of our wealthiest landowners are surrounded by large tracts of undrained land; and many of their parks would be considered plague spots if standing in the centre of towns. *Hewitt Davis, 3, Frederick's-place, Old Jewry, Dec.* 23.

THE REAPING MACHINE.

[From a paper by Mr. Slight, of Edinburgh, in the current volume of the Highland Society's Transactions, we extract the following passage on the origin of the American reaper. The whole paper is a complete and most interesting historical report on reaping machines.]

The year 1826 may be held as an era in the history of this machine, by the invention, and the perfecting as well, of a really effective mechanical reaper. This invention is due to the Rev. Patrick Bell, now minister of the parish of Carmylie, in Forfarshire. The principle on which its cutting operation acts is that of a series of clipping shears. When the machine had been completed, Mr. Bell brought it before the Highland and Agricultural Society, who appointed a committee of its members to inspect its operation in the field, and to report. The trials and the report being favourable, the Society awarded the sum of 50*l.* to Mr. Bell for his invention, and a correct working model of the machine was subsequently placed in the Society's Museum. The invention shortly worked its way to a considerable extent in Forfarshire; and in the harvest of 1834, the writer, in a short tour through that county, saw several of these machines in operation, which did their work in a very satisfactory manner. Dundee appears to have been the principal seat of their manufacture, and from thence they were sent to various parts of the country. It is known, also, that four of the machines were sent to the United States of America, and this circumstance renders it highly probable that they became the models from which the numerous so-called inventions of the American reapers have since sprung. At the great fair or exhibition held at New York in 1851, not fewer than six reapers were exhibited, all by different hands, and each claiming to be a special invention; yet in all of them the principal feature—the cutting apparatus—bears the strongest evidence of having been copied from Bell's machine. There are slight variations, as might naturally be expected, in the cutters, but the original type is evident throughout. It is remarkable, too, that in Hussey's reaper, which, by the American reports of the fair, appears to have been the first of the kind brought out in the Union, there is the closest possible resemblance to Bell's, the original; but, as we shall have occasion hereafter to notice, it is but an imperfect though cheap imitation.

Notwithstanding the perfection of Bell's reaper, it has rather unaccountably been allowed by our agriculturists to fall into disuse, and only in a few cases have its operations been kept up to the present time. One of the most interesting of these is that of Mr. J. Bell, of Inch-Michael, in the Carse of Gowrie, a brother of the inventor. Mr. Bell has a strong natural bias towards mechanics, and during 14 years, in which he has regularly worked his reaper, he has taken a particular pleasure in seeing it put in proper working order at the commencement of the harvest; so prepared, it is then managed with perfect success by any ploughman of ordinary intelligence. By these simple precautions, Mr. Bell has been enabled in the most satisfactory manner to reap on an average four-fifths of all his grain crops every year; the remaining fifth, more or less, according to the season, being too much laid for the machine, has been reaped by the scythe—no sickle having been used on his farm during all this period. The expense of machine-reaping has, in this case, been found not to exceed *3s. 6d.* per imperial acre. Under these favourable views of the efficiency and economy of Bell's reaper, a question naturally arises, What has been the cause of such a machine falling so much into disuse? One obvious reason is, that all the best reaping-machines herein referred to may very appropriately be said to have appeared before their time—that is to say, before the subject on which they were to act had been prepared for their reception. In the first quarter of the present century, furrow-draining, levelling high ridges, and filling up the old deep intervening furrows, were only beginning to assume their due prominence in the practice of agriculture; and so long as these improvements remained in abeyance, the surface of the land was very ill suited for such operations as that of a reaping-machine. Hence serious obstacles were presented to its application; but as these are fast being removed, there is a prospect of a more successful application of machinery, of whatever kind, being now brought to bear upon the field operations of the farm.

Whatever be the causes that may have operated against the extension of Bell's machine, we have seen that, in the hands of a good manager, one of them has served well during a period of 14 years, and it seems capable of serving at least 14 more, thus holding out a strong recommendation to the re-adoption of it, or some other equally good or better, if such may be found.

In the process of working this machine, Mr. Bell's practice is to employ one man driving and conducting the machine; eight women are required to collect the cut corn into sheaves, and to make bands for these sheaves; four men to close and bind the sheaves, and two men to set them up in stooks—being in all 14 pair of hands, besides the driver of the horses, whose time reckons along with them; and the work performed averages 12 imperial acres per day. These data have been obtained from 14 years' experience of the machine, and have therefore a strong claim upon the consideration of the farmer. The expense in money for reaping by such a machine will of course vary a little with the rate of wages; but, on an average, it may be taken at *3s. 6d.* an acre, including the expense of food to the workers. This, in round numbers, may be taken at a saving of one-half the usual expense of reaping by hand, at the lowest calculation; and the saving on a farm where there might be 100 acres of cereal and leguminous crop would do more than cover the price of a machine of the best quality in two years.

The importation of two reaping-machines from America has already been adverted to, as also their resemblance in principle to that of Bell's, leading, when coupled with other circumstances, to the conclusion, that not only those two imported, but all the reaping-machines now used in the Union, are based upon the same principle, which is the leading feature—the cutter—in Bell's. In the American machine, the framework is so constructed and arranged that the horses draw the machine, walking by the side of the standing corn, as in Mann's and others already referred to; but that change in the application of the power, as well as the construction of the whole framework, are mere matters of detail, without at all touching the principles recognised by the Highland and Agricultural Society in the award given in favour of Mr. Bell's machine. It must be observed, too, that the oldest of the American reapers—Hussey's—contains nothing beyond the cutters, and that is essentially Bell's, with this very unimportant difference, that the cutting-blades, instead of acting from centre bolts, are fixed dead upon a vibrating bar, corresponding to the bar so named in the description of Bell's, and of course move along with that bar, producing that everyday form of shears—the parallel motion shears. The maker has stopped short at that point where all inventors in this field of mechanics have found their greatest difficulty—the collecting and delivering the corn after being cut; for in all attempts at machine-reaping, the cutting process seems to have presented little if any difficulty; but it was not until Bell's and Mann's machines came upon the field that anything appeared deserving the name of a collecting and delivering apparatus. Mr. Hussey, it would appear, had met the same difficulty, but taking a short method of obviating it, he gives forth his machine with the cutter only, leaving all the after-details to be performed by manipulation. By thus leaving the machine in a half-completed state, he is obliged in most cases, it is understood, to employ beside the driver two men upon the machine, to collect and deliver. In consequence of these half-measures of construction, the framework and gearing of this and all the other American reapers are very simple, and, as a matter of course, very similar to the original, excepting such changes as are required to let the horse walk in front by the side of the standing corn.

M'Cormick's machine, which, on its first appearance in England, had the cutters nearly identical with the one above described, has latterly been fitted with one long straight-edged and finely-serrated cutter, giving apparently a new character to the machine, though in fact it is no more than engrafting a new idea upon the original—Bell's. Mr. M'Cormick has also gone a step beyond his neighbour, Mr. Hussey, by taking from our original also the revolving vanes in front for collecting and holding the corn to the cutter. By these means the machine is made more effective, and operates with the assistance of one man upon the machine besides the driver. In all other respects it is not sensibly different from the other. Of the other reapers incidentally alluded to as of American construction, and judging from the published figures of each, they stand—two with the revolving vanes, like M'Cormick's, and two without, like Hussey's. Of the actual performance of the two Transatlantic visitors little can yet be said, neither of them having yet performed a day's work in this country—and by that alone can their proper value be determined. The first is given out as capable of cutting 15 acres a-day, with two horses walking at the rate of 2¾ miles an hour. The second is warranted to the same extent, with the same power walking at the same rate. But these results, so far as this country is concerned, can only be of necessity the result of calculation, seeing they have not done a day's work; and as we have seen that Mr. Bell's well-tested machine should, by calculation, cut 18 acres a-day, with two horses walking 2½ miles an hour, whereas in practice it can only accomplish 12 acres, it is not unreasonable to suppose a like shortcoming between calculation and practice, bringing the results, in the case of the Americans, down to 10 acres, or even less, as few farm-horses will be found to continue to walk even at 2½ miles an hour. The price of Hussey's machine is quoted by the makers at 21*l.*; that of M'Cormick at 30*l.* It is difficult to see how such a difference of value can exist in two machines differing so little from each other in their general structure and performance.

A sketch has here been given of the progress, through half a century, of the attempts to establish an effective reaping-machine by British machinists; and it has been shown that the latest and most successful of them, though sanctioned and rewarded by the Highland and Agricultural Society, yet has, from some undefined cause, been suffered to be almost neglected by both agriculturists and machinists; fortunately, however, a successful practice of 14 years has amply established its true and valuable character. In this interim our American brethren have been, in the usual Western phrase, going ahead; and, amongst many subjects, with that also of the reaping-machine. Two of them, sent to the Exhibition, stirred up the whole agricultural body of Britain—aided greatly, no doubt, by the universal excitement under which the entire community then laboured. But however meritorious these reapers may have been, they still are but copies, and imperfect ones, of that machine which had previously acquired the highest degree of merit in this country. This claim is made, not with any view to disparage the exertions of the Americans, or to undervalue their mechanical productions—the importance of which, in all departments of the arts, is already known over the civilised world, but simply with the view of establishing a fact, and attributing priority of invention to the true author—a circumstance too often overlooked, especially in matters mechanical, where the original has not been covered by a patent.

Time alone can decide the question of ultimate success in this country. We have, on the one hand, the original form of our own countryman's invention satisfactorily surviving the test of 14 years' practical operation; and, on the other, the general success which has attended the introduction of its imitation into the United States; but we cannot doubt that the operation of another harvest will go far to solve the point.

Home Correspondence.

Butter.—You have an article on the Duke of Bedford's farming operations, in which it is stated that his cows never have Swedes, "as they taste in the milk." I send you some butter made from cows fed entirely on Swedes, and you may judge yourself whether or no they spoil the milk. *A Constant Reader.* [The butter has no taste; certainly that of Swedes has gone. Will you still further oblige us by stating your way of making it?]

Mr. Mechi has published his Balance Sheet, and the result in a pecuniary point of view is far from being satisfactory; a farm of 170 acres showing under his management an annual loss of 653*l.* 18*s.* 4*d.*; but, then, he cannot devote "that close attention at markets, and rigidly vigilant observance of fractionalities, and details so necessary to agricultural success," or to insure a profitable result in any business which man may undertake. The farmers of this country have often been twitted with want of skill, laxity in their arrangements, unmethodical in their operations, and with tardiness to adopt every new-fangled novelty which any cynic may find it his interest to trumpet forth as the realisation of his own ideas. While they state their case in grumbling at low prices, the cost of guano, and being altogether unprosperous—to find a remedy for these complaints, and to dispel this despondency, is no doubt the earnest wish and intention of many writers of our agricultural literature; and to show that it is groundless, is evidently the intention of those spirited capitalists who so bounteously devote their funds to bring the soil into a state of perfect fertility, and unite therewith a zealous endeavour to devise the best and most suitable appliances and means to manufacture this raw material to the greatest advantage; but it is painful to witness the carping, misanthropical language often made use of, which invariably creates mistrust, and utterly annihilates every prospect of the intended reformation being effected. Come along with me, my lads, has saved many a ship when destruction seemed inevitable, and in every case where trial and vicissitude perplex and cause anxiety; encouragement and example will always be found to succeed, but vituperous scurrility will only lead to dogged indifference, and the preacher of it will ultimately have to content himself with exclaiming (as is the case with some writers and speakers on farming matters), "Get along you lubbers." In every business, the object of which is profit, there will be found some prosperous and others the contrary—one man making a fortune, and his neighbour selling the same articles on the verge of ruin—and why? simply, because the former superintends his own affairs, and is characterised by good management, and the latter by everything besides. Farming, with present prices, will not admit of any levity; but untiring perseverance and assiduity must be brought to bear upon the whole management, and yoked on to every operation; but it is unreasonable to expect that the stringent observance of nice points can be at once carried out by those who have hitherto been accustomed to a good deal of freedom in their arrangements: this can only be accomplished by fully disclosing a good example in the profitable result of energetic and well-directed farming. Let us turn to Mr. M'Culloch, at Auchness, whose results have withstood a tornado of criticism without any remarkable holes having been picked in them, notwithstanding that they have been harrowed beneath the teeth of discord by a writer whose feelings must have been analogous to those of a

toad, under the implement of his own choice. Compare them per acre with the experience of Mr. Mechi : —

	M'Culloch.	Mechi.	Difference.
	£ s. d.	£ s. d.	£ s. d.
Rent	1 0 2	1 13 1	0 12 11
Labourers' and tradesmen's wages and bills, Sundries, &c.... ...	2 5 10	4 6 8	2 0 5
Seeds	0 1 11	0 5 8	0 3 9
Taxes	0 1 10	0 7 0	0 5 2
Food for cattle	1 9 11	9 3 5	7 13 6
			10 15 9
Manures	1 5 5	0 16 0	0 9 5
	6 5 1	16 11 5	10 6 4 excess.
Profit...	2 15 3	.....	.....
Loss	.....	3 17 0	.....
Wheat	38 bushels	36 bushels	.....

This discloses a wide disparity in management. Mr. McCulloch expends 6*l.* 5*s.* 1*d.* per acre, where Mr. Mechi lays out 16*l.* 11*s.* 5*d.*, and has a profit of 2*l.* 15*s.* 3*d.* per acre ; the latter shows a loss of 3*l.* 17*s.*, while this saving of expense and better management procure from the soil a greater amount of produce, which can only be accounted for because Mr. McCulloch's head is not situated on Mr. Mechi's shoulders. As said by yourself, Mr. Mechi's greatest error lies in his adoption of a system of cattle feeding which must be unprofitable, whereas the practice of Mr. M'Culloch will always give the best possible result, so far as the manufacture of meat is concerned, and with a view to benefit Mr. M. in particular and cattle feeders in general, I would submit to them a consideration of this system. The cattle are fed twice a day, morning and afternoon, on cut Swedish Turnips, every animal receiving about 75 lbs. at each feed, or 150 lbs. a day. In the middle of the day they get a supply of boiled food, which is prepared in the following manner :—A boiler, 200 gallons in capacity, is filled about three-fourths with water, into which, when at the boiling point, is stirred the requisite quantity of bruised Oats, Beanmeal or Linseed, at the rate of from 3 lbs. to 4 lbs. to each animal ; this is stirred in the boiling water for 20 minutes, after which the boiler is filled up with chaff or cut straw, and the whole mass commingled and left simmering, the fire being allowed to die out. This is done in the afternoon ; the mixture is left in the boiler during the night, removed into a large cooler next morning, and given to the cattle in the middle of the day. Some time since Mr. Mechi was reported to have said that he had been informed by a leading agriculturist that he could never make a beast pay for more than 4 or 5 lbs. of purchased food a day, and that he intended to adopt it. I hope for his own sake, that upon the appearance of his next balance-sheet he will show that he practises what he preaches, and not allow himself to be classed among those unworthies who exclaim—don't do as I do, but do as I tell you. *J.*

Leases and Agreements.—I beg to call your attention to a subject interesting to many of your readers. It is the practice of many persons to draw their own agreements, with a view to save expense—but it is not generally known by landlords as well as tenants that all lettings beyond three years are now required to be under seal (by deed, in other words), and that numbers of their present agreements are, in law, leases, and as such void (see 8 and 9 Victoria c. 106). Several cases of the kind have come under my notice, and either party can put an end to such contracts by giving six months' notice in writing previous to the termination of any current year—being merely yearly tenants, subject of course to the terms of their agreements. I am not prepared to say that a court of equity would not afford relief (in case of either party throwing up such agreement) in some cases, but few would hazard an appeal to a court where the expenses are ruinous and the delays interminable. The safest way is to have either an agreement for a lease, or still better a lease at once, if the period is to extend beyond three years ; both parties then secure their tenure. *M. P.*

Chevalier Barley.—I have grown for many years in the county of Essex, on the border of Herts, the variety of Barley called "chevalier," and till within the last few years, the grain grown by myself and others in my neighbourhood was superior to that of any other kind of Barley, and brought the highest price in the market ; still the straw was always weaker than that of other kinds in previous use, and generally became lodged at an early period, but that disadvantage I always observed to be in a great degree counteracted by an after tendency in the ear to become erect, and thus enable it to obtain nourishment to feed and mature the grains. The latter peculiarity has of late ceased, and the straw and ear, when lodged, which generally happens before the ear is filled, now remain prostrate ; and the consequence is, that the produce becomes thin, of dark colour, and bad malting quality, of which I hear most farmers now complaining. This is a serious disadvantage to the Barley-grower, and I shall be glad to learn from any of your correspondents whether these defects are to be attributed to natural decay of the particular species, or to want of proper management in the selection of seed, or to any other circumstance over which the farmer has any control ; and if the opinion should be that the variety is worn out, I shall feel much obliged for any information which will enable myself and others to substitute another sort free from the objections which I have stated. *A Constant Reader.*

Inundated Land.—I have read many of the articles in the *Gazette* with interest, and residing near the coast where much arable land has been unfortunately overflown with sea-water, and such land is well known to become absolutely sterile for many years, producing no kind of herbage or corn whatever. No doubt the same occurrence has happened in many other parts of the kingdom with the same detrimental effects ; yet, notwithstanding the many nostrums and ridiculous theories and practices which have been forced upon the public notice for many years past, I have never met with any observations or suggestions for reclaiming land overflown with sea-water. The effect on arable land overflown by water direct from the German Ocean is vastly more pernicious than from the Thames ; the latter, no doubt, being much diluted by the large and constant flow of fresh water into it, so much so, that I well recollect a gentleman of experience residing by the side of the Thames, who, having been called upon to arbitrate respecting the damage occasioned by the accidental influx of sea-water from the river Crouch, giving it as his opinion that the damage occasioned but little permanent injury to the land, and that in a few years its effects would not be perceived; but though this happened 10 or 12 years since, the effects are still visible and severely felt ; and the general observation respecting such land is, that it requires from 20 to 30 years before the land becomes restored, even so as to produce a tolerable crop, and much of it requires many years longer. I will not presume to prescribe the remedy, but in the managing such land, I cannot think the practice of frequent ploughing can be so beneficial as has been generally thought. It seems to me and to others experienced in such matters, that the salts found in sea water can only be got out by time, and that, owing to the gravity of water charged with such salts, they have a tendency to sink in the land, and the water, or part of it, evaporates and leaves the salts in the land ; and if so, the turning it over by the plough must have the effect of turning the salts up and causing them again to be washed through the soil they had just left. What the effect of keeping the land well laid up, with a free draught for all water to get away, and keeping the surface of the land simply stirred up, so as to admit rain and dews, without turning it over with a plough, may do, and whether the most adviseable course to be pursued, I will not undertake to say ; but I should much wish to know the views and sentiments of others. It may be that chemistry may assist ; for if the same effect be produced as arises by the mixture of salt and lime, it would seem that by strongly liming such land and turning the lime in, and so leaving it for a considerable time, it would unite with some, if not all the salts in the soil, and neutralise their deleterious effects, and so prove not only beneficial, but help to restore to early fertility. I have had my attention frequently drawn to a large tract of land in this neighbourhood overflown a few years since by sea water. The last autumn appears to have been particularly favourable for such land, being dry, and has enabled the owner to bring it, to the eye, to a fine state of cultivation ; but I have no doubt, as has happened many times before, the first heavy rain will cause the whole to run together ; it then assumes a glassy clammy appearance, and becomes altogether impervious to air and water, and destructive to all vegetation. I hope I may be excused troubling you and your readers with so long a communication, but I am sure the importance of the subject to many suffering agricultural friends will plead my justification. *George Wood, Rochford, Essex, Jan.* 10.

Asphalte. — Would you request some of your correspondents to inform me of the value of asphalte as a material for the floors of stables, pigsties, bullock-boxes, and other buildings, where it is brought in contact with the dung and urine, and their action upon it (if any), strengthened, perhaps, by the heat of the animals. I have made enquiries of two parties, and each of them has told me of a failure in his neighbourhood, but not on his own premises ; and one of them describes the floor that once was asphalte, as being now no better than mud. But I have not been able to learn whether the asphalte was properly laid, or of a proper thickness ; or whether it is now mixed up with the mud, as I conceive would be the case, if made with unfit ingredients : or comminuted and mechanically incorporated with it, as would probably be the result of a deficiency of thickness, always supposing that the asphalte would stand if laid of proper ingredients and thickness : which is the question on which I wish the best information of your correspondents. *Regedonum.* [In past volumes there is abundant evidence of the trustworthiness of a properly made asphalte floor.]

Agricultural Statistics.—It is a subject of general regret, that there does not exist in this country any statistics at all worthy of confidence, as to the quantity of land under cultivation for agricultural purposes ; the actual produce can only be determined with accuracy when the corn is threshed; and a system professing to obtain such a return would be so difficult to work out, that it would be almost impossible to complete it. As a contribution to the suggestions hitherto made, I venture a proposition by which the actual quantity of land under cultivation could be ascertained, at an amount of trouble which would be little, compared with the importance of the subject. Place the whole matter under the management of the Poor Law Board, who should, in the month of October in each year, issue to the overseers of the poor in each parish in England and Wales, schedules to be filled up by every occupier of land in the parish, setting forth, in columns, the total quantity of acres of Wheat, Barley, Oats, Beans, Peas, pasture, &c., making a total corresponding to the number of acres as entered in the poor rate; and if desirable, the farmer should also give an estimate of the crop per acre, which would probably be nearer truth than anything we have at present. The day is past for occupiers of land to decline giving information—their position is such as to court inquiry—to them, perhaps, more than any class, is correct information needed ; and a small penalty for non-compliance would remove any difficulty in getting the form properly filled up, which, after all, would not be so difficult as filling up the property or assessed taxes return. Such a mass of figures, in the hands of an able digester, would be highly beneficial and useful ; comparisons between one county and another could be easily made, and would go a great way to remove that which has been so long a matter of reproach, namely, our complete darkness on so important a subject. *W. H.*

Corn Rent.—In your Number of the 10th of January, I find a statement of corn-rent by Mr. J. Hatton, of Burghfield, which I think far too complex. I would submit one far more simple, which would answer the same end. I began business for myself in 1804, and continued farming and grazing till 1837. I farmed in the neighbourhood of Huntingdon, and in the neighbouring counties I would reckon four grades of quality in large farms, say from 200 to 800 acres, and these four grades of quality should submit to a corn rent of 2½ bushels of Wheat, 3 bushels, 3½ or 4 bushels per acre ; and this may be done by the landlord or his agent accompanying the tenant to the nearest market at Michaelmas or Lady-day, immediately before each rent day, to the miller, who was a man of business and reckoned to buy the most Wheat, and give them the best price for that day. *James Hull, Chorlton-upon-Medlock, Manchester, Jan.* 13.

Cream.—Having had a dairy farm for some years, I have been much vexed by my milk going wrong in a very unusual way ; at times it is as good as could be wished ; at other times the cream it "casts up" is of a slimy tough nature, so much so that it will come off the milk almost entire, without breaking at all, and nearly as tough as the skin that gathers on the surface of a pot of oil paint after it (the oil paint) has stood some days. I have kept each cow's milk separate, but find that all are alike at particular times. I have also (when I knew it to be bad), had the milk carried from the cow-house immediately after it was milked to a distance of two miles, and kept in another dairy, and found it went wrong in the same manner there ; and to satisfy myself that it was not in the food that the cows got, I have had them fed for a considerable time on the produce of a farm at a distance from my own, and still it went wrong. I have also sold the produce of my own farm to other cowfeeders, whose milk it did not in any way affect. And when my cows were eating pasture on another farm, where nothing of the kind ever happened, still their milk went wrong. It happens both in summer and winter, both when their food is Grass, and when it is Turnips ; sometimes it continues for 10 days, and suddenly disappears ; at other times I am not troubled with it for more than two or three days at a time ; and the only time that I can calculate with any certainty on being exempt from it is, either when the weather is clear and frosty, or when very dry and hard. The cows are all in good health, and generally thrive well. You will greatly oblige me, if you will state whether anything of the kind ever came under your notice, what can be the cause of it, and what will be a remedy for it. P.S. The taste of the milk or butter is not perceptibly affected by it, but the appearance of the cream completely spoils the sale of it. *A Constant Reader, Aberdeen.*

Wood's Crushing Mill.—Observing in your number of Jan. 10, a correspondent "E. T.'s" enquiries, respecting Wood's crushing mills,—as a subscriber to your publication for the last six years, and belonging to the firm who originally introduced these mills, I venture to enclose you our printed papers relating to them. This description of implement was introduced by us many years since, one variety of which has of late been copied by various firms. *Walton Turner, Ipswich.*

Societies.

HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND.

Jan. 10.—The annual general meeting of the members of the Highland and Agricultural Society of Scotland was held in the Society's-hall, Albyn-place. His Grace the Duke of Roxburghe, President of the Society, occupied the chair ; 61 gentlemen, 31 of whom were tenant-farmers, were admitted as members.

The Show at Perth.—Mr. Horne, of Langwell, the Chairman of the General Show Committee, said he had the honour of reporting that the arrangements with regard to the Society's Show at Perth, which was to take place early in August, had proceeded to the entire satisfaction of the Directors, who were led confidently to anticipate a most important and successful Show.

Monthly Meetings.—Sir John Stuart Forbes said it was now his duty to bring under their notice the subject of the monthly meetings. It was with great satisfaction that he did so, because he felt strongly that this was one of the most important subjects that the Society had under its charge. It was now 10 years since these meetings had been commenced ; and he was glad to say that every year they were progressing in importance and popularity. During the last season, in particular, they made a manifest advance ; and they had also obtained a greater degree of support than had ever, at any former period, been awarded to them.

The system adopted by the Directors of requesting the attendance of gentlemen from different districts of the country had, in addition to the benefit derived from the ideas of different minds, been of great advantage in putting the Society in possession of valuable observations connected with the operations adopted in districts differently situated, having different sorts of climate, and following various modes of management.

Chemical Department.— Dr. Anderson, Chemical Professor to the Society, reported verbally on this department of their operations, and said that, during the past year, the work of the laboratory had been carried on with great satisfaction. There was scarcely any kind of analysis that could properly fall under the consideration of the chemist to which they had not had occasion more or less during the past year to execute. Among the investigations in which they had been engaged there was the investigation of the composition and comparative nutritive value of Turnips grown under different circumstances; and on the results of that investigation he had published a very extensive paper in the Transactions of the Society. He had also published a considerable number of communications during the year in the Transactions, including a review of the comparative economy of the different sorts of manure extensively employed in agriculture. They were at present engaged on several investigations, which were rapidly approaching completion, one of which related to the subject of "Finger-and-toe" in Turnips, and which had arisen, to some extent, out of the investigation connected with the Turnip crop. The botanical part of that investigation was under the charge of Professor Balfour, and the chemical part was under his (Dr. Anderson's) own superintendence. It was a very extensive investigation; but he was gratified to be able to mention that they would be able, in a short time, to make the whole of the results of the investigation public. Another subject which had occupied their attention for the last two years, and which would now be rapidly proceeded with since the investigation in connection with the Turnip crop had been finished — namely, the comparative feeding value of different sorts of crops for the feeding of cattle. There were several other matters of minor importance now under investigation, on which he hoped shortly to be able to report.

Agricultural Statistics. — The Secretary then read a memorial, which it was proposed to send to the Right Hon. Henry Labouchere, the President of the Board of Trade, on the subject of Agricultural Statistics.

Mr. Milne, of Milnegraden, said he could not conceive any object of greater importance than agricultural statistics, especially in a country that embraced so vast an amount of property belonging to agriculturists. Whilst other countries, where the agricultural interest was of less importance than here, have returns made annually of the state and value of the different crops, and the amount of land under cultivation, there is nothing of the kind in this country. The matter hitherto had been left either to mere guess-work or to accident to ascertain what was the amount of the different crops; so that every writer on agriculture had to lament that there were no means of arriving at the exact and absolute amount of the produce raised in the country, and of comparing its progress from one year to another. In the United States of America there were returns in reference to the whole country, as well as in reference to each particular State of that great Republic; and these returns related not only to the usual description of crops, but to the crops of cotton and Indian corn. They also found that in France, and other of the Continental nations, something of the same kind was published from time to time; and they knew also that the thing had been attempted, and successfully attempted, in our own country; so that there could be no difficulty whatever urged in the way of carrying it into effect. He earnestly trusted that the appeal that was now about to be made by the Society to Government, would be effectual in inducing them to institute some such machinery; and, if they did so, he had no doubt of its success.

Geological Museum.—The Secretary then read a memorial which had been transmitted to the Lords of the Treasury by the Directors, on the subject of establishing a Museum of Economic Geology and Chemistry in Scotland.

Reports of Experiments, &c.—Mr. Makgill, of Kemback, made a statement on the part of the Committee on Reports in Competition for Premiums. The reports were unusually numerous and important. The premiums were as follow:—Gold Medals have been awarded to, 1. Andrew Douie, Blair-Adam, Kinross, for a very excellent paper on Draining; 2. Richard Hodgson, of Carham-hall, Northumberland, for a Report on the Cultivation of Flax; 3. Walter Reid, Drem, East Lothian, ditto; 4. James Farquharson, Craig-house, Kincardineshire, ditto. [In connection with the cultivation of Flax, Mr. Makgill remarked that this important subject had not been overlooked by the Directors, though it had been supposed by some that they were indifferent with regard to it. It was true that they had been obliged to proceed with circumspection, and that even yet they were not in a position to offer any decided recommendation or advice, but they desired to mark their sense of the importance of the subject, as well as of the merits of the papers in competition by conferring the gold medal on the author of each.] 5. John Starforth, Edinburgh, for the best Plan of a Farm Steading; 6. Robert Boyle, tile manufacturer, Ayr, for a very comprehensive Report on the different Drain-tile and Pipe Machines brought out within the last 14 years. Medium Gold Medals have been awarded to, 1. George W. Hay, of Whiterigg, Melrose, for a Report on different varieties of Barley; 2. James Fulton, late Jamestone, Ayrshire, for a Report on the cultivation and uses of Chicory; 3. James Ritchie, C.E., Stornoway, for a Report on Tussac Grass grown in the Lewis; 4. Peter Mackenzie, West Plean, Stirlingshire, for a Report of planting on Peat Moss; 5. David Gorrie, Annat Cottage, Errol, for a Report on the Cottage Accommodation of the Carse of Gowrie. Two Reports have been received of improvements of waste land—one from a proprietor, Mr. Alexander, of Springhill, Peterhead; the other from a tenant, Mr. John Stephens, Cross-roads of Keig, Aberdeenshire. They are not in strict compliance with the Society's requirements, but as both indicate much energy, a medium gold medal has been awarded to the proprietor, and 5*l.* to the farmer. 6. Robert Milne, C.E., Aberdeen, for a Report on the application of special manures. The author of a paper on the Nutritive Value of Turnips, marked "Investigator," is recommended to continue his experiments, with the view of afterwards reporting. The authors also of two papers (the one on the varieties of the Potato, marked "Enterprise brings us many comforts;" the other on field Cabbage, marked "Justitia"), are recommended to continue and extend their experiments, with a view of reporting more extended results and in a more complete form.

Farm Memoranda.

Mr. Clifton's Estate, Lytham, Lancashire.—Near Lytham, with its mild climate and fertile soil, the valuable estates of Mr. Clifton are happily situated, consisting of 20,000 acres. About 12 years ago, the owner,* contemplating extensive improvements, engaged his as agent Mr. Fair, a gentleman of extensive practical knowledge, and who has been eminently successful, through the spirit and enterprise of the liberal proprietor, in increasing the productiveness and value of the property, by means of new roads, drainage, cultivation of the soil, farm buildings, &c. Having known the estate many years, and having had the opportunity of inspecting it from time to time, I can bear witness to the various improvements that have been successfully made. On recently going over the district, I observed that where the main drains for receiving the branch drains were formerly only 2 feet deep, they are now 6 and 8 feet. The main drain and its branches are upwards of 10 miles in length, and have been the means of providing under-drainage for more than 6000 acres, a large portion of which was formerly deprived of this advantage, and nearly half the quantity was liable to inundation. A great extent of tile drainage has been done at at a cost of from 3*l.* to 5*l.* per acre; the tiles being made on the estate, the cutting, 3 feet 3 inches deep, costs about 5½*d.* The annual value of that part of the property thus improved by drainage is already increased by 10*s.* per acre. A progressive improvement is further materially adding to the rental. Within the last eight years, nearly 20 miles of new roads have been made, and other improvements executed. A considerable extent of new thorn hedges has been planted, which are in a thriving condition; the cost in labour, exclusive of railing, in strong soils, is 5*d.* per 8 yards, and 4*d.* in those that are lighter, by which a man will earn from 2*s.* to 2*s.* 4*d.* per day. On these and other operations 160 labourers are employed, their wages being 2*s.* per day; the poor's rates are consequently diminished, being now only 1*s.* 4*d.* in the pound, and none but the aged and infirm need seek parish relief. When Mr. Fair first came to the Fylde, Turnips were seen only in the gardens; at present 1000 acres at least are grown in the fields: 18 to 20 tons per acre are considered a fair crop, but 30 tons are occasionally produced. On the farm occupied by Mr. Begbie, consisting of 450 acres, I observed sheep folded on Turnips, by nets and stakes. Great improvements have been introduced by Mr. Begbie and other Scotch farmers, who obtained leases of 19 and 21 years. Mr. Begbie practises the beneficial practice of drilling grain to a considerable extent, and his Grass seeds under the drill culture are most luxuriant. He also succeeds with drilled Beans as a preparation for Wheat. The drill machine used by him cost 10*l.*, is drawn by one horse, and sows six rows at a time. Of Wheat, he sows from 4 to 7 pecks, according to the season; of Oats, from 10 to 12 pecks; and Barley, about 10 pecks. Besides implements common in the district, cultivators of different descriptions, clod crushers, scarifiers, grubbers of various kinds, and drill machines for Beans and for all kinds of grain, are in use on the estate. Mr. Begbie, in the autumn, ploughs his land intended for Beans or green crops 10 to 12 inches deep, with three horses yoked abreast; the horses are attached to the draught by equalising swingle-trees, by which each horse must take his share of the draught; he considers that three horses yoked in this manner have as much power and work with more ease than four horses yoked in pairs, one pair before the other. When I visited Mr. Begbie, a year or two ago, he had between 50 and 60 cattle, principally bullocks, feeding on Turnips and straw, and a sort of cake composed of linseed meal and bruised grain (either Beans, Barley, or Indian corn, whichever may be the cheapest or most convenient.) The cattle are fed in courts, 10 to 13 in each court, and when first put up get what Turnips and straw they choose to take; as soon as they have begun to improve upon this food, he gives the compound in place of linseed cake or bruised corn. The compound, say for 53 cattle, is prepared as follows:—Thirty pounds of crushed linseed are gradually mixed with about 30 gallons of boiling water in a boiler, after which 130 lbs. of meal or bruised grain are added, with a handful of salt; and the mixture, after being stirred into a consistency of thick porridge, is cast into wooden moulds containing 9 lbs. each; the above quantities make about 53 cakes; each beast is allowed one cake a day. He was first induced to try this compound from having seen a recommendation of it in the *Mark Lane Express*, when the price of English-made linseed cake was very high. He estimates it, pound for pound, equal to linseed cake for feeding purposes, that is, 3 lbs. of the raw material of the mixture will go as far as the same quantity of cake; and if so, it must have been more economical, as good cake was not to be had at that time under a 1¼*d.* to 1½*d.* per pound, while the same weight of the raw material of the mixture costs only about three farthings. Horses are very fond of this compound, and by giving them daily, in addition to their other food, one of these cakes, they are kept in excellent condition; they are also very beneficial to young horses when put to hard work. Mr. Begbie informs me that he now uses linseed cake in preference, as he considers it quite as cheap and attended with less trouble. The price of linseed cake, when he used the mixture, was 13*l.* per ton; this year, home-made cake costs him at Liverpool only 7*l.* Mr. Begbie has on his farm a steam-engine of eight-horse power, erected by the proprietor at a cost of 240*l.*, exclusive of chimney. Mr. Begbie pays 10 per cent. on the cost, and has the benefit of threshing corn for the neighbouring farmers. Farm buildings and cottages for labourers have lately been erected, on an improved principle and on an extensive scale, both on Mr. Begbie's farm and on several others (a plan of Mr. Begbie's is annexed). These buildings, though extremely commodious and occupying a large extent of ground, are by no means expensive, the walls all being low and there being no lofts or floors to support. The scantling of the timber is light, hence the expense is far less formidable than many imagine; it would be difficult to state the cost, as a considerable part of old material on the spot was made use of. Mr. Clifton has been the means of improving the live stock of the country by introducing well bred short-horned bulls, and by making presents of calves to his tenantry. Some of the farmers on the higher ground make excellent cheese. In some instances, 4 cwt., of 120 lbs., per cow is produced; the average may be from 3 to 3½ cwt., which sells at the present time from 47*s.* to 52*s.* per cwt. As dairying is a favourite system, some few fields in each farm are selected for permanent pasture; the remainder are managed on a six or seven course shift, namely,—first, Oats out of Grass; second, green crops; third, Wheat or Barley, sown with seeds, which remain two or three years in pasture; or in the seven course rotation: first, Oats or Beans; second, Beans or Oats; third green crop; fourth, Wheat or Barley, with seeds, mostly three years pastured. On some light sandy or moss soils an exception may be made, as they are not always calculated to graze profitably three years in succession. Where Beans are drilled and properly manured and cleaned, an exception may also be made in this respect, as that crop so managed is considered to be the best preparation for Wheat; but Wheat after broad-cast Beans is not allowed, nor is taking two white or grain crops in succession; though in breaking up an old rushy field, of which too many are to be found in the Fylde, no objection is made to taking two successive crops of Oats, to decompose the roots of Rushes and tough Grass sward. The tenants grow as many Turnips as will convert their straw into manure, and keep their stock in thriving condition. Fixed money rents are in use, though a wish has for some time prevailed for the adoption of a rental varying with the price of produce; but the difficulty has been to commence on a basis operating equitably between landlord and tenant. No general reduction has been made on Mr. Clifton's estate, as the farms were mostly let on terms advantageous to the tenant, and the outlay is taken into consideration, compensating in many instances for diminished prices of produce. In Lytham and Warton there are well endowed schools; but in other districts not so fortunately situated, where Mr. Clifton has property, he has built schools, and is a liberal contributor towards education. The tenants contribute according to the extent and value of their holdings. The beneficial effect already arising from the establishment of these schools is most striking and remarkable. *Notes on Lancashire Agriculture.*

* Since this report was written, we have to lament the death of the late estimable owner, a gentleman indefatigably devoted to the improvement of the country and the employment and comforts of the poor.

Notices to Correspondents.

Boiler: *T E.* We can suggest nothing better than scouring. Is it copper or iron?

Chemical Nomenclature: *T G C L N.* Chlorate of potash is a compound of chloric acid and potash, the one a compound of chlorine and five equivalents of oxygen, and the other the oxide of the metal potassium. And chloride of potassium is a compound of chlorine and potassium. But your question is altogether misstated or misconceived. There is a hydrochlorate or muriate of potash. Do you refer in any way to it? It is not likely that you should be mixing chloride of potassium with bones and sulphuric acid.

Cow-Feed: *R V N.* Good hay, at 3*l.* a ton, is a great deal cheaper than Swedes at 17*s.* a ton. A cow will eat 1½ cwt. of Swedes, with straw *ad lib.*; and it will eat 20 lbs. of hay. It would thrive on much less hay than with straw mixed with it.

Linseed: *A N.* We should prefer the Linseed whole at 42*s.* a quarter, with pollard or bran, to Linseed cake at 10*l.* a ton.

LUCERNE: *B R.* Top dress with 3 cwt. of guano per acre, mingled with three or four times its bulk of loam.

POULTRY: *S H.* Spanish fowls must have white faces, without them they are not Spanish, but merely black fowls. This rule applies to both cocks and hens. They never have feathered legs.—*J Y.* The fowls exhibited successfully at Birmingham as "Shanghae," were classed with "new and distinct varieties," and rewarded as such. I do not apprehend it matters where the birds come from, provided they possess the admitted characteristics of the breed, as shown in this country. I saw last week some excellent birds from the south of France, and some very bad ones imported direct from China. There are divers breeds there as here, and unless the party employed to bring them over is himself a judge of the bird, he is as likely to bring one breed as another. It is essential to bear in mind, the competition in Cochin China fowls does not include every breed known in that country, or every kind brought from it, but it is confined to one particular sort, known here as the Cochin China Fowl. The white were imported as a distinct breed, and I am disposed to consider them as such, seeing they produce none but white chickens, and are consequently becoming common. Were they an accidental variety they would show it by varying in colour, and above all by returning to the original dark shade.—*A New Sub.* Golden and Silver Poland fowls should have blue legs without feather, well shaped bodies, and cheerful carriage; the gold and silver ground colour of the varieties well spangled with black; top knots full, formed in the hen of flat feathers growing out, and turning inwards towards the top, each feather having a slight curl that way; in the cock it is formed of straight long feathers, similar to hackles, and growing downwards.—*Epicure.* You must be guided by circumstances in selecting the proper time for killing your poultry. It is advisable that, after death, it should get cold, to enable it to keep long enough for the rigidity to disappear, and to ensure tenderness. It does not therefore signify at what time it is killed in the winter; but, in the summer, kill in the evening, that you may have the freshness of the night. *J. Baily*, 113, *Mount-street.*

ROOFS: *J E G.* A good slate roof—timber and all—will cost at least 50*s.* a square of 100 square feet; the rafters should be one foot from centre to centre. About corrugated iron, apply to Mr. Porter, late of Southwark, now of Birmingham. But a slate roof is probably the best in the long run.

SHEEP: *T F.* You may charge 5*d.* or 6*d.* a head for sheep on Turnips, and 4*d.* a head for lambs or tegs. If they have hay beside, full 6*d.* may be charged.

TANKS: *J E G.* The bricks should be laid in mortar and puddled behind; 12 feet by 3 feet, and 10 feet deep, will hold about 22,000 gallons. It must be puddled and bricked below as well as at the sides; 9 inch work is thick enough. A circular tank 10 feet deep and 4½ feet in diameter, will hold about 22,000 gallons.

Markets.

COVENT GARDEN, JAN. 24.

The market is somewhat over supplied with the coarser kinds of vegetables and trade not only for these but also for everything else is dull. English Pine-apples are plentiful, considering the season. Hothouse Grapes are nearly over. A few foreign Pears are still furnished. The best English kinds fetch good prices. They consist of Glout Morceau, Beurré Rance, and Easter Beurré. Oranges are plentiful and good. Nuts are nearly the same as last quoted. Carrots, Turnips, Cabbages, &c., are sufficient for the demand. Potatoes are generally good in quality. Lettuces and other salading are sufficient for the demand. Mushrooms are still dear. Cut flowers consist of Heaths, Epacrises, Mignonette, Stephanotis, Bignonia venusta, Camellias, and Roses.

FRUIT.

Pine-apples, per lb., 4s to 8s	Almonds, per peck, 6s
Grapes, hothouse, p. lb., 4s to 7s	— sweet, per lb., 2s to 3s
— Lisbon, per lb., 9d to 1s	Oranges, per doz., 1s to 1s 6d
Apples, kitchen, per bushel, 2s to 3s 6d	— per 100, 6s to 10s
Pears, dessert, p. doz., 2s to 6s	Nuts, Barcelons, p. bsh, 20s to 22s
Lemons, per doz., 1s to 2s	— Brazil, p. bsh., 12s to 14s
Walnuts, per bush., 12s to 24s	Filberts, per 100lbs., 70s to 90s

VEGETABLES.

Cabbages, per doz., 8d to 1s	Parsnips, per doz., 6d to 1s
Broccoli, p. bunch, 8d to 1s 3d	Leeks, per bunch, 1d to 2d
Asparagus, p. bundle, 4s to 6s	Shallots, per lb., 6d to 8d
Seakale, per basket, 1s to 2s	Garlic, per lb., 6d to 8d
Rhubarb, p. bundle, 1s to 1s 6d	Artichokes, Jerusalem, per hf. sieve, 9d to 1s
Potatoes, per ton, 45s to 80s	Lettuce, Cab., p. score, 4d to 1s
— per cwt., 2s to 5s	— Cos, per score, 3d to 1s
— per bush., 1s 6d to 2s 6d	Small Salads, p. punn., 2d to 3d
Turnips, p. bunch, 1d to 2d	Horse Radish, p. bundle, 1s to 4s
Cucumbers, each, 1s to 3s	Mushrooms, p. pot., 1s to 2s 6d
Radishes, per doz., 9d to 1s	— per bushel, 7s to 10s
— Turnip, p. doz., 9d to 1s	Sorrel, per hf. sieve, 6d to 9d
Celery, p. bundle, 6d to 1s 6d	Fennel, per bunch, 2d to 3d
Carrots, per bunch, 4d to 6d	Savory, per bunch, 2d to 3d
Brussels Sprouts, p. half sieve, 1s 6d to 2s 6d	Thyme, per bunch, 2d to 3d
Spinach, per sieve, 1s to 1s 6d	Parsley, per doz. bun., 2s to 3s
Onions, p. bunch, 1d to 5d	Mint, per bunch, 1d to 2d
— Spanish, p. doz., 1s 6d to 3s	Basil, p. bunch, 3d to 4d
Endive, per score, 9d to 2s	Marjoram, do., 3d to 4d
Beet, per doz., 6d to 1s	Watercress, p. 12 bunches, 4d to 6d

WOOL.

BRADFORD, THURSDAY, January 22.—There is a spiritless action in the wool trade, both here and in the country, and at the present prices there is no prospect of any improvement; for the spinners complain that they cannot realise cost on cheaper bought wools, and to give the advance sought on the early part of December prices, would only be making bad worse.

COAL MARKET.—FRIDAY, Jan. 23.

Holywell, 16s. 6d.; Townley, 13s. 6d.; Tanfield Moor, 13s. 3d.; Ravensworth West Hartley, 14s.; Wallsend Harton, 15s. 9d.; Wallsend Haswell, 17s. 9d.; Wallsend Braddyl, 17s. 3d.; Wallsend Ripier Grange, 16s. 6d.; Wallsend Tees, 17s. 3d.—Ships at market, 85.

POTATOES.—SOUTHWARK, MONDAY, Jan. 19.

The committee report that during the past week there have been few arrivals coastwise; still there are quite enough for the demand, which continues very limited; and no alteration in price can yet be quoted. The following are this day's quotations:—Yorkshire Regents, 60s. to 80s.; Scotch ditto, 60s. to 65s.; Cups, 50s. to 60s.; Kent and Essex Regents, 60s. to 75s.; Lincolnshire, &c., 50s. to 65s.

HAY.—Per Load of 36 Trusses.

SMITHFIELD, Jan. 22.

Prime Meadow Hay	72s	to 78s	Clover	75s	to 85s
Inferior ditto... ...	65	70	2d cut	66	75
Rowen	60	65	Straw	22	25
New Hay	—	—		J. COOPER.	

CUMBERLAND MARKET, Jan. 22.

Prime Meadow Hay	74s	to 78s	Inferior	65s	to 75s
Inferior ditto... ...	60	70	New Clover	—	—
New Hay	—	—	Straw	24	28
Old Clover	73	84		JOSHUA BAKER.	

HOPS.—FRIDAY, Jan. 23.

Messrs. Pattenden and Smith report that the trade is good and prices firm. Currency:

Mid & East Kents	140s to 252s	Sussex ...	112s to 130s
Weald Kents ...	120s to 147s	Yearlings ...	95s to 110s

SMITHFIELD, MONDAY, Jan. 19.

We have a fair average supply of Beasts; the weather being more favourable there is a cheerful trade, and in some instances prices are rather higher than on Monday last; but there is scarcely advance enough to warrant our quoting more. The supply of Sheep is small, fully adequate, however, to the demand. The dead trade having been exceedingly bad during the past week, the butchers buy very sparingly to-day, and, consequently, on the average prices are no better. Good Calves are not plentiful; these are rather dearer, but middling ones are still low. From Holland and Germany there are 504 Beasts, 1940 Sheep, and 134 Calves; from Scotland, 300 Beasts; from Norfolk and Suffolk, 1300; and 700 from the northern and midland counties.

	s	d	s	d		s	d	s	d
Per st. of 8 lbs.—					Per st. of 8 lbs.—				
Best Scots, Herefords, &c. ...	3	8	to 3	10	Best Long-wools .	3	8	to 4	0
Best Short-horns	3	6	— 3	8	Ditto Shorn ...			...	
2d quality Beasts	2	10	— 3	2	Ewes & 2d quality	3	0	— 3	6
Best Downs and Half-breds ...	4	0	— 4	4	Ditto Shorn ...			...	
Ditto Shorn					Lambs	0	0	— 0	0
					Calves	3	0	— 4	2
					Pigs	2	8	— 4	0

Beasts, 3683; Sneep and Lambs, 22,270; Calves, 174; Pigs, 380.

FRIDAY, Jan. 23.

The supply of Beasts is small; trade is cheerful for good qualities at fully late rates, but very dull for inferior kinds. The number of Sheep is very small, but the demand is so limited that it is with difficulty Monday's prices are realised. There is an advance of fully 4d. per 8 lbs. in Calves, owing to shortness of supply. Our foreign supply consists of 213 Beasts, 480 Sheep, and 94 Calves. The number of Milch Cows on sale is 110.

	s	d	s	d		s	d	s	d
Best Scots, Herefords, &c. ...	3	8	to 3	10	Best Long-wools .	3	8	— 4	0
Best Short-horns	3	6	— 3	8	Ditto Shorn ...			...	
2d quality Beasts	2	10	— 3	2	Ewes & 2d quality	3	0	— 3	6
Best Downs and Half-breds ...	4	0	— 4	4	Ditto Shorn ...			...	
Ditto Shorn					Lambs	0	0	— 0	0
					Calves	3	4	— 4	6
					Pigs	3	0	— 4	0

Beasts, 750; Sheep and Lambs, 2790; Calves, 148; Pigs, 310.

MARK LANE.

MONDAY, Jan. 19.—The supply of Wheat this morning from Essex was small, but moderate from Kent; the whole met a free sale, at an advance of 1s. per qr. upon the prices of this day se'nnight. Foreign was in fair request, particularly the best qualities, and must be written 1s. per qr. dearer.—The sale of foreign Flour is checked by the advanced rates at which it is held; fine barrels realised 23s.; best French, 34s. 6d. to 35s. per sack.—For Barley there is a good demand, at an advance of 1s. per qr.—Beans and Peas are the turn dearer.—There is a fair trade for Oats, at an improvement of 6d. per qr.

PER IMPERIAL QUARTER.	s.	s.		s.	s.
Wheat, Essex, Kent, & Suffolk...White	41	—44	Red	38	- 40
— — fine selected runs...ditto	44	—47	Red	40	—42
— — Talavera	46	—48			
— Norfolk, Lincoln, & York...White	37	—42	Red	—	
— Foreign	34	—52			
Barley, grind. & distil., 25s to 27s...Chev.	30	—34	Malting .	26	—29
— Foreign...grinding and distilling	23	—27	Malting .	—	
Oats, Essex and Suffolk	18	—20			
— Scotch and Lincolnshire...Potato	20	—24	Feed.....	19	—21
— Irish .....Potato	18	—22	Feed.....	17	—20
— Foreign .....Poland and Brew	18	—21	Feed.....	17	—20
Rye	—		Foreign .	—	
Rye-meal, foreign.....per ton	—				
Beans, Mazagan ... ..24s to 27s.....Tick	25	—30	Harrow .	25	—30
— Pigeon.....27 — 32... Winds	30	—31	Longpod	24	—26
— Foreign .....Small	22	—30	Egyptian	23	—25
Peas, white, Essex and Kent.....Boilers	32	—34	Suffolk...	33	—35
— Maple.....26s to 29s .....Grey	24	—27	Foreign .	27	—34
Maize .....White	—		Yellow ...	—	
Flour, best marks delivered ...per sack	35	—40			
— Suffolk .....ditto	27	—32	Norfolk .	27	—32
— Foreign .....per barrel	16	—23	Per sack	30	—34

FRIDAY, Jan. 23.—The supplies of grain and Flour this week have been moderate. To-day's market was fairly attended, and we experienced a good demand for English and foreign white Wheat, at an improvement of 1s. per qr. on Monday's prices, but this does not apply to red. Business was much curtailed by the high prices insisted on. The inquiry continues good for floating cargoes of Wheat and Indian Corn.—The finest descriptions of Barley brig an advance of 1s. per qr., inferior qualities 1s. to 2s. per qr.—Beans and Peas sell readily at Monday's prices.—There is a good trade for Oats, at an enhancement of 6d. per qr.

ARRIVALS THIS WEEK.

	Wheat. Qrs.	Barley. Qrs.	Oats. Qrs.	Flour.
English ...	3210	3850	1040	1650 sacks
Irish	—	600	2960	
Foreign ...	4600	7300	580	940 sacks

IMPERIAL AVERAGES.	WHEAT.	BARLEY.	OATS.	RYE.	BEANS.	PEAS.
Dec. 13.....	37*s* 5*d*	26*s* 8*d*	18*s* 6*d*	27*s* 2*d*	30*s* 2*d*	30*s* 0*d*
— 20	37 7	26 6	18 3	27 4	29 9	29 6
— 27.....	37 2	26 3	18 3	28 1	29 2	29 0
Jan. 3.....	37 2	26 7	17 9	26 11	28 7	28 4
— 10.....	37 4	26 5	17 10	30 1	28 9	28 1
— 17	38 3	27 1	18 1	27 5	27 11	28 10
Aggreg. Aver.	37 6	26 6	18 1	27 10	29 1	28 11
Duties on Foreign Grain	1 0	1 0	1 0	1 0	1 0	1 0

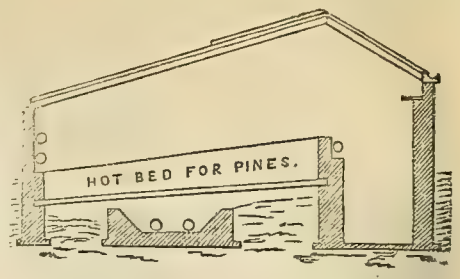
Fluctuations in the last six weeks' Averages.

PRICES.	DEC. 13.	DEC. 20.	DEC. 27.	JAN. 3.	JAN. 10.	JAN. 17.
38*s* 3*d*	...	...	...	...	...	...
37 7	...	...	...	...	...	...
37 5	...	...	...	...	...	...
37 4	...	...	...	...	...	...
37 2	...	...	...	...	...	...
37 2	...	...	...	...	...	...

LIVERPOOL, TUESDAY, Jan. 20.—The arrivals from Ireland include a moderate quantity of Oats and a liberal supply of Oatmeal, but nothing worth naming coastwise. Upon a good attendance of country millers at our Corn Exchange this morning, Wheat was taken to a fair extent for inland consumption, which, together with further sales on speculation, increased our quotations again to-day fully 2d. per 70 lbs. above the currency of this day week, upon all descriptions of English and foreign. Malting and grinding Barley were saleable at an advance of 1s. per qr. Malt was 2s. dearer. Oats maintained the advance of Friday, and fine mealing qualities were held on still higher terms. Oatmeal also improved again to-day, and advanced 1s. per load. Beans and Peas moved slowly at late rates.—FRIDAY, Jan. 16.—At our market to-day millers bought rather sparingly; for investment, however, considerable transactions have taken place this morning, and in some instances brought an advance of 1d. per 70 lbs. on Tuesday's rates. Barley and Malt were 1s. per qr. dearer. Beans and Peas ruled the same as last noted. Oats, in the absence of any fresh supply of moment, improved 1d. per 45 lbs. over the advance of Tuesday; and Oatmeal was 6d. higher again to-day. Indian Corn in warehouse here was 6d. per qr. dearer.

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WARRANTED BEST MATERIALS AND WORKMANSHIP, AT THE LOWEST POSSIBLE PRICES.



J. WEEKS AND CO., King's-road, Chelsea, Horticultural Architects, Hothouse Builders, and Hot-water Apparatus Manufacturers. The Nobility and Gentry about to erect Horticultural buildings, or fix Hot-water Apparatus, will find at our Hothouse Works, King's-road, Chelsea, an extensive variety of Hothouses, Greenhouses, Conservatories, Pits, &c., erected, and in full operation, combining all modern improvements, so that a lady or gentleman can select the description of House best adapted for every required purpose.

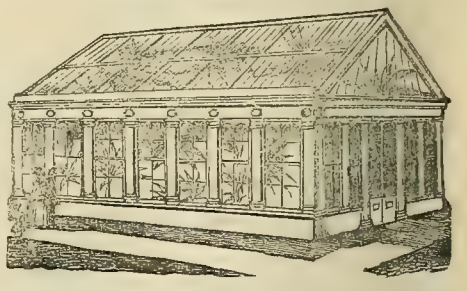
THE HOT-WATER APPARATUSES (which are efficient and economical), are particularly worthy of attention, and are erected in all the Houses, Pits, &c., for both Top and Bottom Heat, and in constant operation i the Stoves.

The splendid collection of Stoveand Greenhouse Plants are in the highest state of cultivation, and for sale at very low prices. Also a fine collection of strong Grape Vines in pots from eyes, all the best sorts.

Plans, Models, and Estimates of Horticultural Buildings; also Catalogues of Plants, Vines, Seeds, &c., forwarded on application.—J. WEEKS and Co., King's-road, Chelsea, London.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER,

AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.

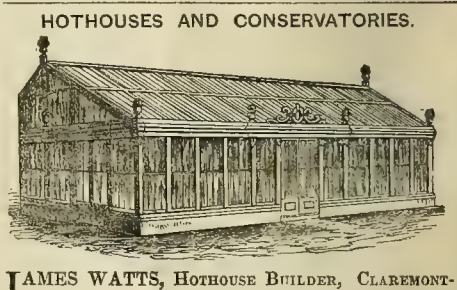


GRAY AND ORMSON, Danvers-street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

G. & Co. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders, they can with the greatest confidence give the most satisfactory references.

Their Hot-Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating Hot by Water can be made available.

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JAMES WATTS, HOTHOUSE BUILDER, CLAREMONT-PLACE, OLD KENT-ROAD, has 200 CUCUMBER and MELON BOXES and LIGHTS of all sizes, ready for immediate use, made of well seasoned materials, packed and sent to all parts of the Kingdom.

HOTHOUSES, CONSERVATORIES, &c., made and fixed complete at a considerable reduction, and Garden Lights of every description. References may be had to the Nobility, Gentry, and the Trade, in most of the counties of England.

HOTHOUSES, GREENHOUSES, ETC.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

E. DENCH, PATENT HOTHOUSE WORKS, KING'S-ROAD, CHELSEA.—The superior qualities in every respect of these Structures having been proved in all parts of the United Kingdom, has caused a greater demand for them than E. D. could execute; he has been obliged to have perfect and powerful machinery made to meet the numerous orders, and can now execute any amount of work to great perfection, with dispatch, and for quality and price to defy all competition. Patent Hothouses, with excellent glass 3 feet long by 1 foot wide, every front sash to open, and every top one to slide down, with pulley made of the same materials as the electric telegraph wires, which require no painting; delivered free to Wharf or Railway Station, at 1s. 2*d.* per foot super., complete, having been fitted, and every portion marked previously, making a Greenhouse 16 ft. 6 ins. long, 12 ft. rafter, 400 ft., 23*l.* 6*s.* 8*d.*; 24 ft. 6 ins. long., do. do., 526 ft., 30*l.* 13*s.* 8*d.*; 28 ft. 6 ins. long, 15 ft. rafter, 712 ft., 41*l.* 10*s.* 8*d.* Heating by Hot-water on the most approved and economical principles.

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CHARLES PHILLIPS'S FLOWER-POTS were distinguished above all others shown at the Royal Exhibition of 1851. They received "Honourable Mention" by the Jury, Class 27; and were deemed by the various competent persons who examined them to be superior to any submitted for the world's inspection at the Crystal Palace. They are patronised at the Royal Gardens, both at Windsor and Kew, and by the principal Nurserymen throughout the Western, Southern, and Midland Counties of England; are extensively used in Ireland and Wales, and may be seen at almost every Nursery between Plymouth and London.

All orders for the above Goods will be promptly forwarded, CARRIAGE FREE, to any Railway Station within 150 miles of the Manufactory, either in dozens, casts, hundreds, or thousands.

C. P.'s Pots are warranted to retain their colour longer than any other manufactured.

CLEAR INSIDE DIAMETER.

No.	In.	No.	In.	No.	In.	No.	In.
1 ...	1¾	6 ...	4¾	11 ...	8¾	16 ...	15
2 ...	2¼	7 ...	5¼	12 ...	9¼	17 ...	16
3 ...	2¾	8 ...	6¼	13 ...	11	18 ...	18
4 ...	3¼	9 ...	7	14 ...	12½	19 ...	20
5 ...	4	10 ...	8	15 ...	14	20 ...	22

Every description of Red Ware, Sewerage Piping, Closet Pans, Chimney-pots, Land Drain Pipes, Seakale-pots, Vases, Tiles, Bricks, &c.

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BY HER MAJESTY'S ROYAL LETTERS PATENT.

EWING'S PATENT GLASS WALLS.—One of the greatest defects in British gardening has hitherto been the uncertainty of securing a crop of fruit on common brick or stone walls, owing to the variableness and humidity of the climate. This is now remedied by substituting hollow Glass Walls, by means of which not only will the young wood in autumn be fully matured, but the blossoms will be completely protected from the frosts and biting winds of spring, and a climate secured equal to that of southern Europe.

These walls are particularly adapted to the growing of Grapes, Peaches, Nectarines, Apricots, Oranges, Lemons, and the finer sorts of Pears and Plums, producing fruit equal to that of France or Italy at no more expense than usually attending trees upon a common stone or brick wall.

Glass Walls must eventually not only take the place of brick and stone walls, but will, in a great measure, supersede the present mode of erecting hothouses, from their cheapness at first cost, the great economy of fuel and heating apparatus, the small space they occupy, and their peculiar elegant appearance. They are also admirably adapted for climbing Exotics, and a variety of other purposes.

The highest authorities on Horticultural matters in this country have expressed their unqualified approbation of these designs, at the head of whom is Dr. LINDLEY, and for whose opinion the public are referred to the leading columns of the *Gardeners' Chronicle* of December 6; also of Robert Marnock, Esq., Curator of the Royal Botanic Gardens, Regent's-park, London, in the leading columns of the *Gardeners' and Farmers' Journal*, of December 20. The patentee having made arrangements with some of the largest firms of iron-founders in the kingdom, and also with one of the most extensive British Glass manufacturers; and from the well-known respectability of those gentlemen who have become Agents, feels confident that he furnishes a sufficient guarantee that all orders in connection with the Glass Walls will be promptly and efficiently carried out in any part of England, Scotland, or Ireland.

The following are the accredited Agents, and with whom drawings of the Glass Walls can be seen, and all particulars as to prices, &c., obtained on application:—Messrs. Knight and Perry, Exotic Nursery, Chelsea; Messrs. Henderson and Co., Pine-apple-place, Edgware-road, London; Messrs. Whitley and Osborn, Nurserymen, Fulham, London; Mr. Glendinning, Nurseryman and Landscape Gardener, Chiswick, London; Messrs. Veitch and Son, Nurserymen, Exeter; Messrs. F. and J. Dickson, Nurserymen, &c., Chester; Messrs. Lawson and Son, Edinburgh, Nurserymen and Seedsmen to the Royal Agricultural Society of Scotland; Messrs. Dickson and Turnbull, Nurserymen, Perth; Mr. M'Intosh, F.R.P.S., F.R.S.S.A., author of the "Practical Gardener," "Book of the Garden," &c., late Curator of the Royal Gardens of his Majesty the King of the Belgians, and now to his Grace the Duke of Buccleuch, at Dalkeith Palace, Scotland; Mr. Fleming, F.H.S., Head Gardener, &c., to his Grace the Duke of Sutherland, Trentham, Staffordshire; Mr. Ewing, Gardener, &c., Bodorgan, Anglesea; Messrs. Pilkington, Crown, Sheet, and Plate Glass Works, St. Helen's, Lancashire.

*** Prices for facing existing brick or stone Walls with glass and iron will be given on application.

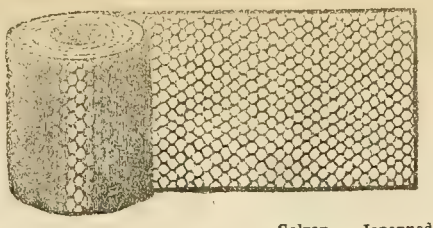
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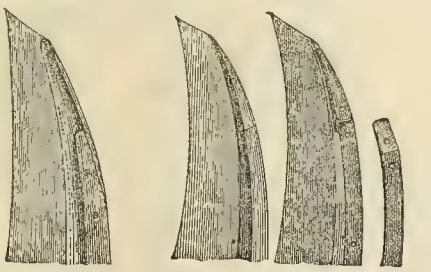


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Fig. 4 represents the point of the ordinary scythe. The back is made of wroughtiron, and the blade of cast steel, which are rivetted together. The back does not extend the whole length of the blade, and the vacancy is filled in with lead, which being liable to tear off in use, leaves the point of the back exposed, which never fails to catch in the crop, and so impede operations. This objection is neatly obviated by thus lapping the steel point *over* the end of the back, so that an uniform steel back is presented for a short distance from the point. Fig. 1 shows the back to be rivetted *under* the steel blade. Fig. 2, which, when finished, presents the appearance shown in Fig. 3, where the iron back is completely protected by the steel at the wearing point.

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KING'S ROAD, CHELSEA.

FINAL CLEARANCE SALE.

MR. D. A. RAMSAY has received instructions from Messrs. DENNIS and Co., to submit to public competition, on the premises, King's-road, Chelsea, at the latter end of February, the whole of the remaining NURSERY STOCK, comprising some extra large and many smaller Mulberry and other Fruit Trees, fine Green Hollies, Aucuba, Box, and other Evergreens, Greenhouse Plants in variety, and a quantity of useful Miscellaneous Stock, of which further particulars will be announced in future Advertisements.

ROSE HILL NURSERY, NEAR YARM,

IN THE NORTH RIDING OF THE COUNTY OF YORK.

TO BE SOLD, the Valuable NURSERY STOCK and GOODWILL of a BUSINESS established Forty Years (by the late Mr. Hedley and his successors), at Rose-hill Nursery. The Nursery Ground contains 10 acres of the best Land, well stocked with Fruit Trees, Ornamental Shrubs, Garden and Greenhouse Plants, &c., in great variety. The Land is peculiarly suited to the growth of Roses and Dahlias, of both which there is a large stock. The Stockton and Darlington Railway passes close by Yarm, and the Leeds Northern Railway, which goes through the town, will be opened in May next. A great deal of contract planting work has been done at this Nursery. No situation can be more desirable for carrying on an extensive trade. Mr. Robert Hedley is now in attendance at Rose-hill to receive orders and transact business. Any person desirous of becoming a tenant of the Nursery, to which are attached 14 acres of first-rate Grass Land, or anxious to buy the Stock, must apply to Mr. JOHN HARRISON, Grange Nursery, near Darlington; or to Messrs. MEWBURN, HUTCHINSON, and MEWBURN, Solicitors, Darlington.—Darlington, Jan. 24.

FARM TO LET, on very advantageous terms—on lease or yearly tenancy. About 300 acres of Clay Land, thoroughly drained, in a midland county, near a good market, and a good railway. The Roads, House, and Offices are all in excellent condition. Rates very low; no pressure of poor; Tithe free; Rent low; no Rabbits; very favourable entry as to tenant right; Game not strictly preserved. About 60 acres more of Grass Land might be added if desired.

Persons desirous of treating for this very eligible occupancy are requested to apply by letter to the Editor of the *Gardeners' Chronicle*, at the Office, 5, Upper Wellington-street, Strand, London.

FARM IN ESSEX,

Fourteen miles from London, within easy access of the best country markets, and of London by river; a manure wharf being within 1½ mile, along a good road.

TO BE LET, with liberal covenants, tithe free, and the main repairs to be done by the landlord, Wennington Hall, with immediate possession, comprising 274 acres adapted to Stock Farming or Market Gardening. The Farm includes a large tract of fine Grazing Marsh, well watered, some Arable Marshes of unsurpassed fertility, the residue is a friable loam. The House and premises are new, and, with the Land, are adapted to the most improved cultivation. A Railway, with a Station on the Farm, will be before Parliament this year. The rates are very moderate.—Application to be made to Mr. EDWARD SAGE, Furze House, Dagenham, Essex.

BRENTFORD END MARKET GARDEN.

TO BE LET, on Lease, with immediate possession, the well-known MARKET GARDEN GROUND, for many years occupied by Mr. Chapman; consisting of 55 acres and upwards of most productive LAND, with large Forcing Pits, filled with heating apparatus, and all other conveniences. There is a House, and the requisite Buildings.—May be viewed on application on the Premises, and further particulars obtained from Mr. WARTEE, 1, Carey-street, Lincoln's-Inn, London.

Printed by WILLIAM BRADBURY, of No. 13, Upper Woburn-place, in the parish of St. Pancras, and FREDERICK MULLETT EVANS, of No. 7, Church row, Stoke Newington, both in the County of Middlesex, Printers, at their Office in Lombard-street, in the Precinct of Whitefriars, in the City of London; and published by them at the Office, No. 5, Charles street, in the parish of St. Paul's, Covent-garden, in the said County, where all Advertisements and Communications are to be ADDRESSED TO THE EDITOR.—SATURDAY, January 24, 1852.

THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 5—1852.] SATURDAY, JANUARY 31. [PRICE 6*d*.

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NATIONAL TULIP EXHIBITION.

OFFICES: 28, BENNETT'S HILL, BIRMINGHAM.

In accordance with the expressed wish of the Directors at the Great National Tulip Meeting at Derby, that the EXHIBITION FOR 1852 should be held in Birmingham, we beg leave to call attention to the subjoined Resolutions of a Meeting held for the purpose of considering the proposition, and to invite the co-operation and support of all who may be desirous of promoting the purpose for which they were framed.

CHARLES JAMES PERRY, } Hon. Secs.
JOB COLE, }

NATIONAL TULIP SOCIETY.

At a Meeting held in the Committee Room of the Town Hall, on Tuesday, August 19th Mr. ALDERMAN LAWDEN, in the Chair, the following Resolutions were unanimously passed:—

"That this Meeting regards with much satisfaction the expressed desire of the National Tulip Society to hold its Exhibition for 1852 in this Town, and pledges itself to use its best efforts for the successful carrying out of that object.

"That a Committee be now appointed to make the necessary arrangements, and that such Committee do consist of the following gentlemen, with power to add to their number:—

HENRY ELWELL, Esq., President and Treasurer.
C. LAWDEN, Esq., Vice-President.

A. Kenrick, Esq.	E. Sheldon, Esq.
J. Willmore, Esq.	Mr. C. H. Catling.
Jonathan Harlow, Esq.	Mr. G. Moore.
T. B. Wright, Esq.	Mr. A. Pope.
E. Bower, Esq.	Mr. J. Marsden.
J. Arnold, Esq.	Mr. S. Bunn.
George Perton, Esq.	Mr. H. Pope.
J. A. Rutter, Esq.	Mr. S. Moreton.
J. Haines, Esq.	Mr. G. P. Tye.
J. Haviland, Esq.	Mr. Goudrey.

"That a Sub-scription be entered into for defraying the expense which will be thereby incurred.

"That Mr. Cole and Mr. Perry be requested to undertake the duties of Honorary Secretaries."

C. LAWDEN, Chairman.

COUNTY OF GLOUCESTER AND CHELTENHAM HORTICULTURAL SOCIETY.—The Three Shows of the above Society will be held at CHELTENHAM, on THURSDAY, MAY 13; TUESDAY, JUNE 15; THURSDAY, AUG. 26. Judges—Mr John Spencer, Mr. Ivison, Mr. Edwards, Mr. George Mills, Mr. H. Scott, and Mr. Turner.

The Schedule is now ready, and contains Prizes to the amount of 370*l*. (to be competed for at the three Shows), and may be had on application to the Hon. Secretary. The Great Western and Midland Railway Companies will convey plants, &c., intended for the Show, at a single Fare.

J. H. WILLIAMS, Hon. Sec.

Committee Room, 382, High-street, Cheltenham.

OVERSTOCK OF LARCH.—About 400,000, 1½ to 4 feet, well topped, fibrous rooted, and of the finest quality. Samples and price sent on application to JOHN SCHOLEY, Nurseryman, &c., Pontefract.—Pontefract Nursery, Jan. 31.

E. G. HENDERSON AND SON, WELLINGTON NURSERY, St. John's Wood, London, beg leave respectfully to announce they are now prepared to send out strong vigorous established plants of the newest and best French VERBENAS, of last year's growth, so as to enable present purchasers to propagate and acquire a sufficient stock, ready for the bedding out season, price 1*s*. to 2*s*. each.

Messrs. H. beg also to state that their New Vegetable and Flower Seed List is now published, and will be forwarded gratis, on application.

SUPERB NEW PINK GERANIUM—"LADY HOMESDALE;" ANTIRRHINUM—"NOVELTY;" AND CALCEOLARIA—"BEAUTY OF MONTREAL."

WILLIAM F. SMITH begs to offer the following (new varieties of the present season, and which he can with confidence recommend to all admirers, as a very great acquisition to each of their respective classes, viz.—

GERANIUM, "LADY HOMESDALE" (SMITH).—A beautiful deep rosy pink, with clear white centre, large globe truss, the compact habit, and profuse bloomer. Highly valuable either for bedding or pot culture. Strong plants in May, 1*s*. each.

ANTIRRHINUM, "NOVELTY" (SMITH).—Dark rose tube, upper lip pure white, very distinct and attractive. Strong plants in May, 3*s*. 6*d*. each.

CALCEOLARIA, "BEAUTY OF MONTREAL" (SMITH).—A fine bright crimson, dwarf habit, and a very free bloomer, valuable and distinct variety for bedding, extra fine. Strong plants in May, 2*s*. 6*d*. each.

A liberal discount to the trade when three of each are taken.

A large assortment of bedding plants in April and May, at moderate prices, including Heliotropes, Scarlet and other Geraniums, Verbenas in varieties, Cuphea, Lobelias, Phloxes, Salvias, Pentstemons, &c. &c., Catalogues of which may be had on application; also of Garden and Flower Seeds.

Beverhead Nurseries, near Sevenoaks, Jan. 31.

RENDLE'S COLLECTIONS OF NEW KITCHEN GARDEN SEEDS

Have given universal satisfaction to all who have had them. For particulars, refer to our Advertisement in this Newspaper, Jan. 24th, 1852, page 51.

CARRIAGE FREE TO ANY STATION on the principal Railways in the south of England, see page 51.

RENDLE'S SEED CATALOGUE, containing PRICES of every article, can still be had in exchange for One Penny Stamp, on application to

WILLIAM E. RENDLE AND CO., SEED MERCHANTS, Plymouth.

ESTABLISHED MORE THAN HALF A CENTURY.

SUTTON'S HORTICULTURAL CALENDAR, and PRICED DESCRIPTIVE LIST OF SEEDS AND PLANTS.—This is the most useful List yet published, containing much useful information, in 40 pages 8vo, with Newspaper stamp. It will be sent free on receipt of six penny stamps, *which charge will be deducted from all orders.*

SUTTON'S Collections of Home-Grown Seeds, the best and cheapest yet offered to the public, are sent carriage free, as see their advertisement in the second page of this Paper. *Lists of the sorts and quantities contained in these Collections will be forwarded post free in return for one penny stamp.*

Address, JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

THE NEW EARLY SWEET KERNELLED KAISHA APRICOT FROM SYRIA.—Fruit ripens early in July, juicy, sweet, and luscious, of hardy character, and good bearer; for further description see former advertisements, and the London "Horticultural Society's Journal" for July, 1849.

Messrs. VEITCH and SON are now offering good Trees of the above valuable Apricot, at the following prices, package included, with the usual discount to the trade, viz.:—

Dwarf Maiden Trees, and 1 year cut back	...	10*s*. 6*d*.
Ditto 1 year trained	...	15*s*. 0*d*.
Ditto or Standards, 2 years trained	...	21*s*. 0*d*.
Dwarf round heads in pots	...	21*s*. 0*d*.

Exeter, January 31, 1852.

TRANSPLANTED THORN QUICKS, at half price for ready cash.—SELLING OFF, a few hundred thousand of the stock of Transplanted Thorn Quicks, the property of the late Mr. John M'Craith, Nurseryman, of Kilkenny (as advertised in the *Chronicle* of last month), still remain undisposed of; and, as the whole must be cleared off this season, they are offered at the following greatly reduced prices. Two years old transplanted Thorns, 14 to 18 inches in length; circumference, 3-8ths to 7-16ths, 9*d*. per 1000 Three years old, transplanted; length, 17 to 24 inches; circumference, half an inch to 5-8ths, 1*s*. 3*d*. per 1000; 100,000 of the former, or 50,000 of the latter size delivered carriage free on board steamer at Dublin or Waterford.—Apply to MRS. SUSANNA M'CRAITH, High-street Kilkenny, Ireland.

AMERICAN NURSERY, BAGSHOT, SURREY.

JOHN WATERER begs to announce that he has published a new CATALOGUE of Hardy Rhododendrons, Azaleas, Roses, Conifers, &c., and which may be obtained by enclosing two postage stamps.

The colours of all the Rhododendrons worthy of cultivation are described; thus purchasers are afforded every facility in making selections.

SUPERB HOLLYHOCK SEED.—Well ripened Seed, warranted to be saved exclusively from Roses grandiflora, Delicata, Comet, Model of Perfection, Elegans, Formosa, Gem, Belladonna, Bicolor, Queen, Fireball, Aurantia, Rosea alba, and Sulphurea perfecta. A good mixture of the above, in packets, containing 200 Seeds, will be forwarded, post free upon the receipt of 2*s*. 6*d*. worth of postage stamps, by R. B. BIRCHAM, Hedenham Rosary, Bungay, Suffolk.

FLORISTS' FLOWERS AT REDUCED PRICES.

CAREY TYSO, FLORIST, &c., Wallingford, Berks, *begs to state that in making up the undermentioned assortments of Flowers, quality is particularly regarded, and a great reduction is made in the price of each variety.*

*RANUNCULUSES, 100 splendid named sorts, 2*l*. to £4	0*s*.	0*d*.	
Ditto 100 fine mixed	8*s*., 15*s*., and	1	0 0
*Ditto 50 choice Seedlings, named		3	15 0
ANEMONES, 50 splendid double varieties, 12*s*. 6*d*. to	1	0	0
PANSIES, 25 excellent varieties	15*s*. to	1	5 0

TREATISE on RANUNCULUS, 6*d*.; post free, 8*d*. Ditto on ANEMONE, 3*d*.; post free, 4*d*.

Choice Ranunculus, Anemone, Pansy, and Sweet William Seeds, 2*s*. 6*d*. per packet. Imported German Seeds of best quality. Catalogues sent for two labels.

* These assortments sent post free. Anemones charged 6*d* per dozen for postage and box.

GREAT SALE OF NURSERY PLANTS.

PETER BOOTH, NURSERYMAN, Falkirk, is selling off, at very cheap prices, at his extensive Nursery Grounds, a very large stock of transplanted LARCH, SCOTCH, and SPRUCE FIR PLANTS, of strong and smaller sizes, including seedlings, with a great variety of many of the other kinds of Forest and Ornamental Trees, generally grown in large nurseries; also Fruit Trees, Gooseberry, Currant, and Raspberry Bushes, &c.

A large stock and great variety of very fine, strong, healthy Evergreen and Flowering Ornamental Shrubs.

A very fine stock of Standard, Half Standard, and Dwarf Roses, many of them of the new kinds, and also of the approved and most beautiful sorts.

N.B.—As the Advertiser wishes to retire from business, a Lease of all his Nursery Grounds, which belong to himself, and every encouragement would be given to a purchaser of the above stock, and the good-will of the business, which has been carried on by his relations for more than 70 years past, and with great success.

Should a purchaser not be found, a partner with capital, and a good knowledge of the business, would be agreed with.

SAMUEL FINNEY AND CO. beg respectfully to inform their Friends and the Public that their new PRICED SEED CATALOGUE FOR 1852 is now ready, and may be had, postage free, on application. It contains a list of all the most approved kinds of Vegetable Seeds in cultivation, together with a very choice selection of German and other Flower Seeds, which are all fully described, stating the time of sowing, and whether hardy, half-hardy, or tender; the height, colour, and time of flowering, with much other useful information. The Collections of Seeds, which they supplied in former years, having given such general satisfaction, they are again induced to offer them as under:—

		£	*s*.	*d*.
No. 1.	A complete collection of Vegetable Seeds for one year's supply of a large garden	... 2	5	0
No. 2.	Do. do. in smaller quantities	... 1	10	0
No. 3.	Do. do. do. do.	... 1	1	0
No. 4.	Do. do. do. do.	... 0	12	6

The kinds and quantities contained in each Collection are stated in the Catalogue.

Delivered, free, at any station on the following Railways:—Newcastle, York, and Berwick; North British, Leeds and Thirsk; York and Scarborough, Newcastle and Carlisle, and Lancaster and Liverpool.—Gateshead Nursery, Jan. 31.

COLLECTIONS OF SEEDS, suitably selected for Gardens of various sizes, for one year's supply, at the following prices:—2*l*. 10*s*., 1*l*. 17*s*. 6*d*., 1*l*. 5*s*, 12*s* 6*d*., and 5*s*. The Seeds are of excellent quality, many of which are direct from the growers. Particulars of sorts and quantities of each Collection may be had, if required, on application.

Also, Collections of FLOWER SEEDS, chiefly Annuals, with a few good Biennials and Perennials, 100 varieties, 10*s*. 6*d*.; 50 do, 5*s*. 6*d*.; 25 selected do., 3*s*. 6*d*.; 12 do., 2*s*.

WILLIAM DENYER, Nurseryman and Seedsman, Battle, Sussex.

CUCUMBER AND MELON SEEDS.

MELON.	CUCUMBER.
Snow's Hybrid.	*Model of Perfection.
Fleming's Hybrid.	Cuthill's White Spine.
Beechwood.	Eastwood.
Sweet Melon of Ispahan.	Kenyon (true).
Munroe's Hybrid.	
Darll.	* The best Cucumber grown.
Cabul.	

A packet of any of the above will be sent post free, on the receipt of 12 Postage Stamps. Catalogues of Seeds, &c., are now published, and may be had on application to JOSEPH KEFFORD, Seedsman and Florist, 224, Market-street, Chorley, Lancashire.

CATTELL'S KITCHEN GARDEN AND FLOWER SEEDS, of generally acknowledged first-rate quality.

Descriptive Priced Catalogues of the above will be forwarded, post free, on receipt of a penny stamp for each, addressed to JOHN CATTELL, Westerham, Kent The KITCHEN GARDEN SEEDS are saved from his own selected Stocks. Among the Beets, Kales, Broccolies, Cauliflowers, Cabbages, Celeries, Cucumbers, Endives, Lettuces, Parsleys, &c., are enumerated kinds which every gardener would find worth his trial and attention.

Orders for Seeds amounting to 10*s*. and upwards will be forwarded carriage free to London, and to every station on the South-Eastern, Brighton, and South-Coast Railways.

Any of the VEGETABLE and FLOWER SEEDS may be had by post at the Catalogue prices, with the additional postage charges.

J. C. has also to offer fine plants of the Cedar of Lebanon, 6 to 7 feet high, in large pots, 15*s*. each, or 7*l*. 10*s*. per doz.; 5 feet, very fine, 10*s*. 6*d*. each, or 5*l*. 5*s*. per doz.; and smaller in proportion.

ROSES, strong, in 8-inch pots, fitting for immediate forcing. Moss, Common, and Scarlet, 18*s*. per doz.; Provence, White or Unique, Sponge and common Cabbage, Hybrid Perpetuals, of the finest forcing varieties, 18*s*. to 21*s* per doz.; Géant des Battailles, fine, on their own roots, in 5-inch pots, 24*s*. per doz.

A very large stock of the following splendid Hardy Herbaceous Plants, grown in the open ground—Delphinium Barlowii, D. grandiflorum maximum, and Œnothera macrocarpa, each at 8*s*. per doz., or 50*s*. per 100; Lily of the Valley, single, 5*s*. per 100; ditto double, 3*s*. per doz; 25 varieties of Van Houtte's new Belgian double Daisies, a good plant of each, 7*s*. 6*d*.

The following Catalogues for the present season may be had on prepaid application, enclosing stamps as named:

A Descriptive Catalogue of Roses, containing all the leading kinds; the Roses grown here are acknowledged by the trade and others who have seen them not to be surpassed by any other grower. One penny stamp.

A Catalogue of Hardy Trees and Shrubs, American Plants (of which a large collection is grown, and are particularly fine), Coniferæ, and hardy Climbers; two penny stamps.

A Catalogue of Fruit Trees, Strawberries, &c.; one penny stamp.

Seed Catalogues as above.

Remittances to accompany all orders from unknown correspondents.

NEW DAHLIAS.

E. SPARY begs to announce to his Floricultural Friends, both English and Foreign, that he intends sending out, the first week in May, 1852 the below named DAHLIAS, which E. S. can confidently recommend as constant and desirable show flowers.

ABSOLAM (SPARY'S).—Clear amber, first-rate form, and petals very constant (an acquisition in its colour). Height, 4 feet; Plants, 10*s*. 6*d*.

VICTORIA (COOK'S).—Pale primrose, tipped with lilac; exquisite form, and good centre. To exhibitors will prove a desirable light flower. Height, 4 feet; 10*s*. 6*d*.

JOHN DAVIES (COOK'S).—Crimson, occasionally shaded with puce; symmetrical fine form; petals high in centre. Always to be depended on. Height, 4 feet; 7*s* 6*d*

A Descriptive Catalogue of select new and old varieties of Dahlias is now ready. Camellias, Geraniums, Fuchsias, Cinerarias, Verbenas, and a variety of other plants; Hamburgh Vines, and other sorts (in pots), from E. S.'s celebrated stock; Bouquets, Seeds, &c.

Queen's Graperies and Nursery Ground, Park-street, Bridgeton.

ROSES.

WILLIAM WOOD AND SON beg to offer a choice assortment of ROSES at the under-named prices, the selection of sorts being left to themselves.

		s. d.
Extra fine picked tall Standards, from 6 to 8 feet, budded with 3 to 6 best varieties of Climbing and Perpetual Roses in each stem, suitable for training in the form of domes (these plants are particularly fine), each, 3s 6d. to		5 0
Superior selected Standards	Per doz. 18s. to	24 0
Fine Dwarfs and Dwarf Standards ... ,,	10s. to	18 0
Fine Dwarfs, on own roots, two of a sort ,,	...	6 0
Tea-scented Roses, in pots, very fine ... ,,	12s. to	18 0
Best varieties for Forcing, established in 6-inch pots, p. doz.		20 0
Dwarfs, on own roots, without names, per 100		30 0

N.B.—Additional plants presented with each order, with a view to lessen the expense of carriage.

Catalogues may be had, GRATIS, on application.

Woodlands Nursery, Maresfield, near Uckfield, Sussex

"PINUS AUSTRIACA,"
THE BLACK AUSTRIAN PINE.

LUCOMBE, PINCE, and Co., have now on Sale a large stock of very fine strong healthy Plants of this truly desirable PINE, from 9 inches to 2 feet high, which, having been frequent y transplanted, are very well rooted, and consequently quite safe to remove to any distance, and are of a superior quality, great attention having been paid to their cultivation; price from 20s., 40s., to 50s. per 1000. They have also some of larger sizes, from 3 to 6 feet high, equally safe to move (owing to proper attention having been paid to their roots), at proportionately higher prices. This noble and most serviceable PINE thrives in bleak exposed situations (even in poor soils), growing rapidly, and producing dense shelter in places where other trees will not grow. It also succeeds admirably close to the sea, resisting there the spray and roughest winds.

Exeter Nursery, near Exeter Jan. 31.

FINEST LANCASHIRE GOOSEBERRIES.—

Carriage paid for all orders above 5*l* to London, Liverpool, &c. The others, in 100 choice sorts, named, per 1000, 4*l*.; or 10*s*. per 100, in 50 sorts.

CURRANTS.—MAY'S Victoria or Raby Castle, red, the finest, largest, and best known, ought to be in every garden, 25*s*. per 100, or 4*s*. per doz.; Red Grape and Champagne, fine, per 100, 10*s*.; or per doz., 2*s*.

Securely packed to carry any distance, or for exportation.

Address JOHN MAY, Hope Nurseries, Leeming-lane, near Bedale, Yorkshire.

A remittance or reference from unknown correspondents is respectfully requested.

GRASS SEEDS, SEPARATE OR MIXED.

SUTTON AND SONS having for many years paid especial attention to the laying down Land to Permanent Pasture, are well acquainted with the various soils of most parts of the United Kingdom, and the Natural Grasses most suitable for each locality.

S. and SONS being also connected with the principal collectors of Grass Seeds on the continent, as well as those in Scotland and the North of England, can supply every kind of Natural and Artificial Grasses, either separate or mixed, at lowest market prices, as they always have a large stock of every kind in their Warehouses, Reading, Berks.

VERY SUPERIOR VEGETABLE SEEDS
OFFERED BY

WILLIAM E. RENDLE AND CO., SEED MERCHANTS, PLYMOUTH.

The following are very superior sorts, and should be grown in every garden—small or large. The whole are either saved by ourselves or by first-rate growers, on whom we can place the fullest confidence.

*** THE WHOLE WILL BE SENT FREE BY POST AT THE PRICES CHARGED.

Some of the sorts are very scarce; orders should therefore be sent as soon as convenient.

PARSLEY, RENDLE'S TREBLE GARNISHING, proved by the London Horticultural Society, and described in their Journal as being "*beautifully curled, and an excellent variety.*"

BROCCOLI, RENDLE'S SUPERB WILLCOVE.—This is acknowledged by all the leading Horticultural writers and growers to be by far the best Spring Broccoli in cultivation. Six Heads were exhibited in London in May last, weighing more than 80lbs. 1s. per packet

BROCCOLI, RENDLE'S EARLY PENZANCE WHITE.—This is the earliest of all the Spring Broccolies, and is well known to be so in Covent Garden Market, as the whole of the early Broccolies come from the neighbourhood of Penzance. On the 17th of FEBRUARY, 1851, they forwarded two Heads to one of the monthly meetings of the London Horticultural Society. The following is from the *Gardeners' Chronicle*, for February 22d:—"Two very fine Heads of 'Penzance Broccoli' were shown by Messrs. Rendle and Co., of Plymouth, who stated that one of the Heads weighed 3½ lbs., and was 2 feet 10 inches in circumference. The other weighed 3½ lbs., and 2 feet in circumference. These weights and measurements are without the leaves." They have but a very small supply of the seed, it being very scarce. 1s. per packet.

PARSLEY, MITCHELL'S WINTER MATCHLESS, a very superior curled and hardy variety. 6*d*. per packet.

CELERY, TURNER'S SUPERB SOLID DWARF WHITE, direct from Mr. Turner, Slough. 1s. per packet.

CUCUMBER, CUTHILL'S BLACK SPINE, saved by Mr. Cuthill. 1s. per packet.

CUCUMBER, ELPHINSTONE'S PROLIFIC BLACK SPINE, from Mr. Turner, Slough. (See his Advertisement.) 1s. 6*d*. per packet.

CAULIFLOWER, NEW EARLY, saved by Messrs. Fitch, the great market gardeners at Fulham. 1s. per packet.

BROCCOLI, TRUE WALCHEREN, saved by Messrs. Myatt, the great market gardeners at Deptford. 1s per packet.

PARSLEY, MYATT'S FINE TREBLE CURLED, saved by Messrs. Myatt. 6*d*. per packet.

MELON, CUTHILL'S SCARLET FLESH, direct from Mr. Cuthill. 1s. per packet.

MELON, TRUE CASSABAR, presented by the Pacha of Egypt to Lieut. Tancock, H.M. ship Hindostan, a splendid variety. 2s. 6*d*. per packet. (Only a few packets remain.)

LETTUCE, NEW CRYSTAL COS, a most excellent variety. 6*d*. per packet.

CABBAGE, RENDLE'S EARLY ADMIRABLE, one of the best early Cabbages. 6*d*. per packet.

CABBAGE, ENFIELD MARKET, celebrated as being the best in existence. 6*d*. per packet.

CELERY, SEYMOUR'S CHAMPION WHITE, superior to the old variety. 1s. per packet.

CARROT, TRUE DUTCH HORN, a most valuable sort for forcing. 6*d*. per packet.

CABBAGE, MITCHELL'S PRINCE ALBERT, a superior new and early variety. 6*d* per packet.

All other new Seeds, either advertised in this Paper or sent out by other dealers, can be had of the subscribers at the regular printed prices.

A General PRICED Catalogue of Seeds can be had on application to WILLIAM E. RENDLE and Co., Seed Merchants, Plymouth.

ESTABLISHED MORE THAN HALF A CENTURY.

SEED AND HORTICULTURAL ESTABLISHMENT,
SUDBURY, SUFFOLK.

BASS AND BROWN'S SEED AND PLANT LIST FOR 1852,

OR DESCRIPTIVE PRICED CATALOGUE (STAMPED TO GO FREE BY POST), IS NOW COMPLETE, AND MAY BE HAD ON APPLICATION.

WE have the pleasure, as above, of offering our 21ST ANNUAL SEED CATALOGUE, combined with our usual choice LISTS OF PLANTS. Our Seeds, which are harvested and collected with much care, will be found, we believe, as select a collection of choice varieties and kinds as can be produced. From the great number of communications from persons in all parts of the Kingdom to whom our goods have been sent, expressing their high approval of the articles supplied; and from our habitual aim to obtain those of the very best description, we can offer them with the fullest confidence.

The following, of our own selection, we wish particularly to recommend. They consist of varieties and kinds which cannot fail to afford the most complete satisfaction.

VEGETABLE SEEDS IN ASSORTMENTS.

We beg to offer the following Collections of the choicest and most approved, embracing superior new sorts in proportionate quantities of each:—

	£	s.	d.
No. 1.—COLLECTION FOR A LARGE GARDEN, containing 20 quarts of Peas, in 20 best sorts for succession; 10 best sorts of Broccoli; 8 ditto of Lettuce, with all other Vegetables in proportion	2	10	0
No. 2.—THE BEST NEW AND OTHER SORTS, IN SMALLER QUANTITIES	1	10	0
No. 3.— DITTO DITTO	1	0	0
No. 4.—A COLLECTION OF ESTEEMED KINDS FOR A SMALL GARDEN	0	10	6

*** *A complete List of the sorts and quantities of the No. 1, 2, and 3 Collections are this year furnished in the Catalogue. If any sorts are not wished for, enlarged quantities of others will be sent to make up the amount.*

FLOWER SEEDS—FIRST ASSORTMENTS.

These may be had, prepaid by post, at the prices affixed. Useful printed instructions for sowing and raising Seeds will be sent with each lot.

	£	s.	d.
100 Varieties select showy Annuals, including very splendid German Asters, Stocks, Larkspurs, Jacobæas, Zinnia elegans, also Lobelia ramosus and the three new varieties ramosus major, rosea, and propinqua; the new marbled Calliopsis, Menulia violacea, Nemesia versicolor, Gramanthus gentianoides, Cenia turbinata, Cenia turbinata alba, and other newest and best sorts	0	15	0
50 Varieties, including the same, 8*s*. 6*d*.; 30 varieties ditto, 5*s*. 6*d*.; 20 varieties ditto	0	4	0
20 Varieties best Dwarf Annuals, in large packets, for filling beds on lawns	0	7	6
12 Varieties ditto ditto ditto	0	5	0
20 Varieties choice Greenhouse Annuals, including very fine Balsam, Cockscomb, Mesembryanthemum, Matynia, Phlox Drummondii, and the two new varieties, Leopoldiana and alba oculata; new varieties of Portulacca, Rhodanthe Manglesii, Thunbergia, New Yellow Salpiglossus, &c.	0	7	6
12 Varieties ditto ditto ditto	0	5	0
20 Varieties choice Greenhouse Perennials, including very fine and new varieties of Calceolaria, Cineraria, Fuchsia, Petunia, Verbena, Kennedyas, Calendrinia umbellata, &c.	0	10	6
12 Varieties ditto ditto	0	7	6
20 Varieties Hardy Biennials and Perennials, including the new white Escholtzia, very choice Antirrhinum, Gladioli, Heartsease, Mimulus, Polyanthus, Dianthus, Brompton and Emperor Stocks, &c., 7*s*. 6*d*.; 12 varieties	0	5	0

FLOWER SEEDS—SECOND ASSORTMENTS.

	£	s.	d.
100 Varieties, select and well assorted Showy Annuals	0	10	6
50 Varieties ditto ditto	0	5	6
30 Varieties ditto ditto, 3*s*. 6*d*.; 20 ditto	0	2	6
20 Varieties Hardy Biennials and Perennials, 4*s*.; 12 varieties	0	2	6

Remittances required from unknown correspondents. Post-office Orders payable to BASS and BROWN, or to STEPHEN BROWN. Goods sent Carriage Free to London, Ipswich, Norwich, or any other Station on the line.

Stamped Copies of our Autumn Catalogue may still be had, which contains our Descriptive Lists of Roses, Herbaceous Plants, Select Evergreens and Flowering Shrubs, Hardy Climbers, Prize Gooseberries, Gladioli, and various Bulbs and Roots.

ESTABLISHED ABOUT HALF A CENTURY.

GREAT WESTERN, GREAT NORTHERN, SOUTH-WESTERN, AND SOUTH-EASTERN

SEED ESTABLISHMENT, READING, BERKS,

FOR SUPPLYING SUTTON'S HOME-GROWN SEEDS TO ALL PARTS OF THE UNITED KINGDOM.

THE GARDEN SEEDS grown in Berkshire and the Southern Counties having obtained great celebrity, and our low prices for Seeds of superior quality having gained us a very extensive connection in almost every County in the United Kingdom, we have made such arrangements with Messrs. PICKFORD AND CO. (who have Offices on most of the great lines of Railways, as will enable us to **DELIVER OUR GOODS FREE OF CARRIAGE**, as under:—

Packages of not less than Ten Shillings value are delivered free of carriage to any Office in London, Bristol, Southampton, Portsmouth, Dover, Oxford, Banbury, Gloucester, Hungerford, and all Stations on the Great Western, South-Western, and South-Eastern Railways; and all Packages of Seeds, not less than 2*l*. value, Carriage Free to the Ports of Ireland, Scotland, and Wales; or to Birmingham, Liverpool, Manchester, Lynn, York, Hull,

And any Station on the Great Northern Railway.

SUTTON'S COLLECTIONS OF GARDEN SEEDS.

	£	s.	d.
No. 1.—A COMPLETE COLLECTION OF GARDEN SEEDS, FOR ONE YEAR'S SUPPLY OF A LARGE GARDEN	2	10	0
No. 2.—A COMPLETE COLLECTION, IN QUANTITIES PROPORTIONATELY REDUCED	1	10	0
No. 3.—A COMPLETE COLLECTION, EQUALLY CHOICE SORTS	1	1	0
No. 4.—A SMALL AND VERY CHOICE ASSORTMENT	0	12	6

If some kinds of Seeds are already possessed purchasers are requested to name them, that increased quantities of others may be sent in lieu of them.

A List of the sorts and quantities may be had in return for One Penny Stamp.

N.B.—We are also growers of Mangold, Turnip, and other Agricultural Seeds, which are likewise delivered carriage free.

ADDRESS, JOHN SUTTON AND SONS, SEED GROWERS, READING, BERKS.

CAPITAL POTATOES FOR SALE.

100 Sacks of	EARLY AXFORD,	1st size.
100 do.	do.	2d size.
200 do.	BATH KIDNEY,	1st size.
200 do.	do.	2d size.
50 do.	ASH-LEAF KIDNEY RED.	
500 do.	FORTY-FOLD,	1st size.
500 do.	do.	2d size.

Growers or consumers wishing to possess some of the best sorts of POTATOES, may obtain the above on application to Mr. RICHARD WEBB, Calcot Farm, Reading; who can also supply some of the best Purple-topped Swede Seed, all saved from one bulb; and 1½ ton of Belgium Carrot Seed.

NURSERY, NORTH WARNBOROUGH, NEAR ODIHAM, HANTS.

STEPHEN SHILLING begs to thank his numerous Customers and Friends for their support, both before and since the dissolution of Partnership with his brother and as all Liabilities as well as the Business now devolves solely upon him, S. S. solicits the continuance of their custom

Orders received for Trees, &c., and supplied as usual at Winchester, Basingstoke, and Alton, at which places he attends on market day.

Catalogues forwarded post free on application.

IMPORTANT TO ALL WHO HAVE A GARDEN.

J. CHARTRES AND Co., WHOLESALE and RETAIL SEED MERCHANTS, 74, King William-street, City, London, begs to inform their Friends, and Purchasers of Seeds generally, that they have a large and very select Stock, chiefly grown under their own inspection; and, to meet the times, are determined to sell at the lowest remunerating prices.

Orders above 1*l*. forwarded, carriage paid, to any part of the Kingdom, per Rail. A Catalogue may be had on application.

January 31.

MESSRS. KNIGHT AND PERRY respectfully inform those interested in hardy TREES and SHRUBS, that their New List is just published, and may be had on application to them.

Exotic Nursery, King's-road, Chelsea.

LARGE WHITE AYLESBURY DUCKS, BLACK BOTANY BAY DUCKS, BLACK NORFOLK TURKEYS.—

The ADVERTISER has for sale a few fine specimens of the above, of the purest stock, fit for breeding, at the following prices:—Aylesbury Ducks, 7*s*., Drakes. 3*s*. 6*d*. each; Black Botany Bay Ducks, 21*s*. per couple; Black Norfolk Turkeys, 24*s*. ditto, package included.—Orders, accompanied by Post-office order, or reference, addressed to ISAAC BRUNNING, North End, Great Yarmouth, will be faithfully executed.

A HOTHOUSE AND GREENHOUSE TO BE DISPOSED OF

WILLIAM YOUNG begs to inform Noblemen, Gentlemen, Nurserymen, and others, that he has to dispose of, for a Gentleman, a good and substantial Hothouse 50 feet in length by 13 feet in width, nearly as good as new with hot water pipes complete. Likewise a Greenhouse 34 feet long by 12 wide, with stage for plants complete, which will be sold a bargain.

For further particulars apply to WILLIAM YOUNG, Milford Nurseries, Godalming.

BELGIAN SHEET GLASS.—

The above beautiful Glass 16-oz. to the foot, so strongly recommended for Horticultural purposes, can be procured at the Soho Crown Sheet, and Ornamental Glass Warehouse, 26, Soho square, upon the following CASH terms. Single cases containing 200 feet each case included, 2*l*. 2*s*.; in parcels of 5 cases at 40*s*.; in parcels of 10 cases, 38*s*. per case; or cut to any given size at 3*d*. per foot.

RENDLE'S SELECT GRASSES.

WILLIAM E. RENDLE AND Co., SEED MERCHANTS. PLYMOUTH,

Have of late years paid much attention to their selection of GRASSES *for* PERMANENT PASTURES, *&c. They supplied Mixtures, last season, for several thousand acres, and have not had a failure or single complaint; proving, in the most satisfactory manner, that their selections have given the greatest satisfaction.*

A Descriptive List will be found in our "Price Current," copies of which can be had in exchange for Six Penny Stamps.

The West of England is famous for the PERMANENT QUALITY of its RED CLOVER, or COW GRASS, tons of the Seed being dispatched to every part of Great Britain every year. We have this season contracted for a large stock, and can supply ANY QUANTITY, either Wholesale or Retail, at the lowest market prices.

For Catalogues and further particulars, apply to WILLIAM E. RENDLE AND Co., SEED MERCHANTS, PLYMOUTH.

ESTABLISHED 1786.

SURPLUS STOCK.

FOR CHEAPNESS, UTILITY, AND DISPLAY, the following are strongly recommended, CARRIAGE PAID (see below):—

SELECT HARDY HERBACEOUS PLANTS & ALPINES.

100 in 50 choice sorts, our selection ... ... 30*s.*
100 in 100 choice sorts, our own or purchaser's selection ... 42*s.*

FLOWERING AND EVERGREEN SHRUBS, ORNAMENTAL TREES, ETC.

Purchaser's, or our choice, per 100, in 100 kinds ... £2 10*s.*
Our own choice, in 50 kinds, fine ... ... £1 10*s.*
To gentlemen forming Arboretums, this is a fine opportunity.

COMMON LAURELS, 1½ to 2 feet, per 1000, 4*l.*, or 10*s.* per 100; 2 to 3 feet, bushy, per 1000, 5*l.*, or 12*s.* 6*d.* per 100.

PORTUGAL LAURELS, 1½ to 2 feet, per 100, 3*s.* per doz.; 2 to 3 feet, extra fine, 30*s.* per 100, 6*s.* per doz.

EVERGREEN PRIVET, fine, 2 to 3 feet, per 1000, 40*s.*, per 100. 5*s.*

LIMES, per 100, 30*s.*, 4 to 5 feet, fine Avenue Trees.

HORSE CHESTNUTS, 5 to 6 feet, 30*s.* per 100; 10 to 12 feet, 50*s.* per 100

ROSES, 50 splendid sorts, standards, per 100, 5*l.*, or 18*s.* per doz., fine, our own selection; 100 superb sorts, Dwarf Roses, 50*s.*, or 9*s.* per doz., our own choice; mixed do., 30*s.* per 100, or 6*s.* per doz.

GREENHOUSE PLANTS.

50 first-rate sorts, own selection, 2*l.* 10*s.*, or 15*s.* per doz.
50 ditto, purchaser's choice, 3*l.*, or 18*s.* per doz.

ERICAS, 50 finest sorts, our choice, 2*l.* 10*s.*, or 15*s.* per doz.; purchaser's choice, 3*l.*, or 18*s.* per doz.

CHINESE AZALEAS, 20 fine show sorts, our choice, 21*s.*, or 15*s.* per doz; purchaser's choice 25*s.*, or 18*s.* per doz.
A splendid opportunity for specimen growers.

HOLLYHOOK SEED, warranted to produce 75 in 100 double, 1*s.* 6*d.* per packet.

GOOSEBERRIES, finest Lancashire sorts, per 1000, 4*l.*, in 100 sorts, named, or 10*s.* per 100, in 50 sorts.

CURRANTS—May's Victoria, or Raby Castle Red, is the largest and best sort known, and ought to be in every garden. 25*s.* per 100, or 4*s.* per dozen; Red Grape and Champagne, fine, 10*s.* per 100, or 2*s.* per doz.

APPLES AND PEARS, fine clean standards, 10*s.* per doz., or 70*s.* per 100, choice of sorts left to us, very select.

PLUMS AND CHERRIES, finest sorts, standards, 18*s.* per doz., our choice; Dwarf Trained, 3*s.* 6*d.* each, or 36*s.* per doz.

APRICOTS, PEACHES, AND NECTARINES, fine three years' trained, of best sorts, own choice, 5*s.* each, or 50*s.* p. doz.

RASPBERRIES, Red Antwerp, 2*s.* per doz., or 12*s.* per 100; Monthly or Double Bearing, 12*s* per 100, or 2*s.* per doz.

STRAWBERRIES, early and late kinds, 2*s* fine sorts of merit, 3*s.* 6*d.* per 100.

Address all communications to JOHN MAY, the Hope Nurseries, Leeming-lane, Bedale, Yorkshire.

All orders above 5l. carriage paid to London, Liverpool, Birmingham, and Edinburgh, and all the intermediate Stations within 150 miles of the Nursery.

N.B. A fine stock of Larch, Spruce, Oak, &c.; sizes and price on application.

Ornamental grounds designed, executed, and furnished on liberal terms. Forest Planting by estimate.

A remittance or reference from unknown correspondents is respectfully requested.

"THE GOLDEN BALL,"
UNEQUALLED NEW YELLOW MELON.

EDWARD TILEY respectfully informs Melon growers and others generally, that he has been successful in procuring the whole stock of seed of the above beautiful and unequalled Melon, "The Golden Ball," which has been thoroughly proved by an eminent Melon grower, and acknowledged by all who saw and tested the same, to be one of the finest flavoured yellow Melons ever known; its qualities are as follows: fruit, very handsome; colour, when ripe, deep orange; shape, perfectly round; hollow crown, very thin skin; flesh, firm and very solid, and of superior melting flavour; free setter and prolific bearer; weight from 3 to 4 lbs. The contrast of this yellow Melon when set on a table with a green-flesh Melon has a most striking effect, and every person who grows the Bromham Hall should also cultivate this one as its companion, for its shape and perfection in flavour, which has proved to be unequalled. It can be obtained in packets of three seeds at 2*s* 6*d*, or seven seeds, 5*s*; or a packet of this one of the Bromham Hall, and one of any other under-mentioned, for 6*s*. E. T. feels confident the above Melon will give as great satisfaction as the following other varieties formerly sent out by him:—Tiley's Bromham Hall Melon (true), 1*s.* per packet; Tiley's Queen Melon, 1*s.* ditto; Tiley's Beechwood, 1*s* ditto; also, Beechwood Melon seed, 1*s.* ditto; Sandon Prize, 1*s.* ditto; Emperor, 1*s.* ditto; Fleming's Trentham Hybrid Persian, 1*s.* ditto; Duncan's Green Flesh, 1*s* ditto; Hampton Court, 1*s.* ditto; Egyptian (Improved), 1*s.* ditto; Blackhall's Green Flesh, 1*s.* ditto; Bailey's Green Flesh, 1*s* ditto; Camerton Court, 1*s.* ditto.

TILEY'S NEW CUCUMBER "CAPTIVATION," three seeds, 5*s.*, or five seeds, 7*s.* 6*d.*; also "Phenomenon," six seeds, 2*s* 6*d*; or this and one of Captivation, for 6*s*; also Chamberlain's Essex Hero, four seeds, 3*s.* 6*d*; Hunter's Prolific, three seeds, 2*s.* 6*d.*, or seven seeds, 5*s*; Lord Keynon's Favourite, 1*s.* per packet; Victory of Bath, 1*s.* ditto; Gordon's White Spine, 1*s.* ditto; Hamilton's Black Spine, 1*s.* ditto; Conqueror of the West, 6*d.* ditto; Butcher's Stratford-upon-Avon, 6*d.* ditto; and numerous other older varieties, at 6*d.* ditto. For further particulars of the above Cucumbers, see *Gardeners' Chronicle* of January 3, 1852.

N.B. A packet of "The Golden Ball" Melon and a packet of Captivation Cucumber, can be sent for 6*s.* A remittance must accompany the order from unknown Correspondents, either by Post-office order or penny postage stamps, when the whole or any quantity of the above, as the case may be, will immediately be forwarded free to any part.

EDWARD TILEY, Nurseryman, Seedsman, and Florist, 14, Abbey churchyard, Bath, Somerset.

SANGSTER'S NEW EARLY NO. 1 PEA.

HAY, SANGSTER, AND CO., in submitting the above valuable PEA to the public, can recommend it with the greatest confidence, as the largest podded and best Early Pea known, and of first-rate quality; height, 2 feet, Price 2*s* 6*d.* per quart.

York Regent Potatoes, from prepared cuttings, 6*s.* per bush. Cambridge Radical, 6*s.* do. A first-rate second early, 6*s.* do. American Native, 6*s.* do. White Blossom Kidney, 6*s.* do. Brighton Pink Kidney, 6*s.* do.

For Testimonials, see *Gardeners' Chronicle*, Nov. 8, p. 705.

Post-office orders to be made payable at the Borough Post-office to HAY, SANGSTER, and Co., Nursery and Seedsmen, Newington Butts, London. One-bushel hampers and booking, 1*s.* 6*d* ; two-bushel 2*s.* 6*d.* Sacks, 2*s.* 6*d.* each

HOSEA WATERER'S Descriptive Catalogue of AMERICAN PLANTS, CONIFERS, ROSES, &c., is just published, and may be had on application, enclosing two postage stamps, to Mr. HOSEA WATERER, Knap Hill Nursery, Woking, Surrey.

STANDISH AND NOBLE'S detailed Advertisement will appear in this Paper on the first Saturday in every Month, to which they invite the attention of all interested in HARDY ORNAMENTAL PLANTS. Their Descriptive Catalogue, with the Treatise on the "Cultivation of American Plants," can still be had, by enclosing six stamps for postage.

Gentlemen requiring the services of a Landscape Gardener, can procure such by applying to the Advertisers.

Bagshot, Surrey, Jan. 31.

GEORGE BAKER'S DESCRIPTIVE CATALOGUE OF AMERICAN PLANTS, CONIFERÆ, ROSES, ORNAMENTAL SHRUBS, FRUIT AND FOREST TREES, &c., may be had on application, by enclosing two postage stamps.—Windlesham Nursery, Bagshot, Surrey.

MITCHELL'S MATCHLESS WINTER PARSLEY.—J. M having saved a much larger quantity of Seed this season than last, can offer it to the public at a much reduced price. Wholesale, to seedsmen, 1*s.* 3*d.* per lb.; any quantity under 10 lbs. will be charged 2*s.* per lb. Can be sent to any part of the World, on receipt of a Post-office order, made payable to JOHN MITCHELL, Ponder's-end, Enfield, Middlesex.

DOUBLE ITALIAN TUBEROSE ROOTS, 4*s.* per dozen.—The annual importation of the above-named beautiful and fragrant Flower has just been received, and large and well selected Bulbs may be obtained, without disappointment, at A. CORBETT'S Foreign Warehouse, 18, Pall-mall.

N.B. Printed regulations for treatment sent; also, just arrived, very moist and open Parmesan Cheeses.

SUPERB NEW EARLY PROLIFIC MELON,
"VICTORY OF BATH."

GARAWAY, MAYES, AND Co. having purchased the entire stock of the above MELON, beg to offer it to the public as a variety unequalled in flavour and productiveness. It obtained a Certificate of Merit at the April Show, in Bath; First Prize at Chiswick, in May; also two First Prizes at Bath, in May and June last. It was grown in pots with Bromham Hall, under precisely the same treatment, and Ripe Fruit cut full six weeks earlier. The whole of the fruit exhibited were grown in pots.

MELONS.	Per Packet—*s.* *d.*	CUCUMBERS.	Per Packet—*s.* *d.*
Victory of Bath	2 6	Lord Kenyon's Favourite	1 0
Bromham Hall	1 0	Victory of Bath	1 0
Camerton Court	1 0	Roman Emperor	1 0
Trentham Hybrid Green Flesh	1 0	Holm Pierpoint Wonder	1 0
Beechwood	1 0	Kelway's Victory ...	1 0
With all other approved sorts.		With all other approved sorts.	

G., M., and Co. also beg to inform their friends that they are now prepared to send out their well selected stock of Agricultural, Kitchen, and Flower Garden Seeds, the latter grown under their own inspection. Catalogues to be had on application. G., M., and Co. can with confidence recommend their stock, as every article is thoroughly proved before sent out.—Durdham Down Nurseries, Bristol, Jan. 31.

DWARF PEAS.

HAIRS'S DWARF MAMMOTH KNIGHT'S, acknowledged the best out, 2*s.* 6*d.* per quart.
BISHOP'S LONG-PODDED, 1*s.* per quart.
BURBIDGE'S ECLIPSE, 1*s.* per quart.

The above Peas have been most extensively grown in the principal horticultural establishments in the kingdom, and pronounced superior in every respect to the tall growing varieties.

FLOWER SEEDS.

ESCHSCHOLTZIA CALIFORNICA ALBA, a pure white, very good, 6*d.* per packet.
IPOMŒA BURRIDGII, splendid hardy creeper, 6*d.* per packet.
SAPONARIA CALABRICA, var. MULTIFLORA, one of the best bedding plants out, 6*d* per packet.
TROPÆOLUM COCCINEUM, handsome, 6*d.* per packet.
EUCHNIDEA BARTONIOIDES, splendid yellow, half-hardy, 6*d.* per packet.
GAURA LINDHEIMANII, fine herbaceous plant, 6*d.* per packet.

DUNCAN HAIRS offers to the gardening world the above small selection, as being deservedly worthy of universal attention. Catalogues of Garden, Agricultural, and Flower Seeds forwarded on application.

Seedsman and Florist, Wholesale and Retail, 109, St. Martin's-lane, London.

TO NOBLEMEN AND GENTLEMEN PLANTING.

THOMAS JACKSON AND SON respectfully solicit attention to, and an inspection of, their very healthy and extensive Stock of frequently transplanted TREES and SHRUBS, amongst which will be found Araucarias, 4 feet high; Deodar Cedars, 12 feet; Cedars of Lebanon, 9 feet; Pinus excelsa, 6 feet; Ditto patula, 6 feet; Ditto insignis, 4 feet; Ditto cephalonica, 5 feet; Ditto morinda, 5 feet; Ditto Gordoniana, 2 feet; Irish Yews, 12 feet; English ditto, 6 feet; Pyramid ditto, 5 feet; Taxodium sempervirens, 8 feet; Cryptomeria japonica, 5 feet; Chinese Junipers, 6 feet; Irish ditto, 4 feet; Cupressus torulosus, 6 feet; Ditto Goveniana, 5 feet; Ditto Ubdiana, 5 feet; Ditto sempervirens, 8 feet; Green and Variegated Hollies, 7 feet; Broad-leaved ditto 5 feet; Weeping ditto, 6 feet; Arbutus procera and unedo, 4 feet; Magnolia grandiflora, Exmouth, 5 feet; Ditto acuminata, 8 feet; Paulownia imperialis, 7 feet; Weeping Willows, 10 feet; Weeping Ash, 16 feet; Large Aucubas, Common and Portugal Laurels, Chinese and American Arbor-vitæ, Tree Pæonies, Daphnes, Laurestinus, Berberis, Red Cedars, Rhododendrons, Azaleas, Kalmias, Forsythias, Weigelias, Evergreen Oaks, and all the other favourite Trees and Shrubs (covering upwards of 20 acres of nursery ground); also Fruit and Forest Trees of various sizes in great quantity, and about a million of Quick fit for making or mending fences, from 2*s.* to 15*s* per 1000

Prices, which are very low, may be obtained on application.

All orders of two pounds or upwards delivered at any of the carriers' offices in London, or by our own carts within 12 miles of the Nursery.—Nursery, Kingston, Surrey, Jan. 31.

SUPERB RANUNCULI, GLADIOLI, ANEMONES, &c., &c.

RANUNCULUS—prepaid by post,

With printed instructions for planting and culture.

	s.	*d.*
100 roots, in 100 varieties, superb seedling and other best sorts	70	0
50 roots, in 50 vars., 37*s.* 6*d.*; 25, in 25 vars.	20	0
100 roots, in 100 vars., very fine	35	0
50 roots, in 50 vars., 18*s*; 25, in 25 vars.	10	0
Mixed, extra, per 100, 18*s.*; very fine, 10*s*; fine border...	5	0

Hercules, White Turban, 5*s.* per dozen, and others.

GLADIOLI.

12 superb late varieties (Ramosus habit)	21	0
Brenchleyensis, brilliant rich scarlet, each	3	0
Gandavensis, each, 4*d.*; extra large	0	6
Gandavensis splendens, very superb, each	2	6
Insignis, 7*s.* 6*d.* per doz.; Psittacinus, per doz.	1	6

ANEMONES.

100 vars., beautiful and distinct, named, double	24	0
50 vars., do., 12*s.* 6*d.*; 25 vars., do.	7	0
Mixed, finest double, per 100, 10*s.* 6*d.*; very fine ...	7	6

Lilium lancifolium, and a variety of other choice roots, see Catalogue, sent free, on application.

Remittance required from unknown correspondents. Carriage free to London, and on Ipswich, Bury, and Norwich line.

BASS AND BROWN, Seed and Horticultural Establishment, Sudbury, Suffolk.

The Gardeners' Chronicle.

SATURDAY, JANUARY 31, 1852.

MEETINGS FOR THE ENSUING WEEK.

MONDAY,	Feb.	2	Entomological	8 P.M.
			Chemical	8 P.M.
TUESDAY,	—	3	Linnean	8 P.M.
			Civil Engineers	8 P.M.
			Pathological	8 P.M.
WEDNESDAY,	—	4	Society of Arts	8 P.M.
			Geological	8 P.M.
THURSDAY,	—	5	Zoological	3 P.M.
			Antiquarian	8 P.M.
			Royal	8 P.M.
			National Floricultural	2 P.M.
FRIDAY,	—	6	Botanical	8 P.M.
			Philological	8 P.M.
			Royal Institution	8 P.M.

THAT there is something rotten in the SEED TRADE can no longer be denied. The increasing complaints of our correspondents, who declare that they are supplied worse and worse every year, furnish so lamentable a proof of the deterioration of English seeds, that our duty as public journalists compels us to advert to the subject; and the more so, because the remedy lies with the public itself, and can be readily applied by the public, although by no other party.

Among our agricultural letters of this week, will be found a communication signed "A. L.," in which the writer exposes, with an evident knowledge of the arcana of seed dealing, some of the evils of our present system. He says that the farmer sows twice as much Clover seed as is necessary, because he buys bad seed; he asserts that this is equally the case with Turnip seed; and he adds, that enquiry into the trade in garden seed would reveal some equally startling facts. "There are persons" (we print a part of "A. L.'s" letter exclusively in this place), "who could tell of buying at prices two or three times greater than the article is sold for. I have known 23*s.* a bushel given for seed by parties whose own lists quoted it at 18*s.* the same season, both before and after the purchase. Others could tell of seeds being grown without any intention on the part of the raisers to sell them by their proper names, but to be killed and mixed with other seeds of like appearance. The men must be mad who do these things! not at all, competition is so great, and the public so determined to have a cheap article, that they can do no other than do as others do, or give up the trade. Now, is not this a serious subject to all the parties concerned? It must be to the purchaser, who not only gets an inferior kind, but has to sow so much thicker, that he saves nothing even in the first cost of seeds. It must be to the retail dealer, who, without any fault of his own, loses the respect of his customers by selling a bad article, though the best he can procure (it is impossible any man, whatever the extent of his occupation, can grow every description of seeds), and often suffers the loss of his best customers in consequence, besides paying heavy damages in some cases. It is equally certain to injure in the long run the wholesale business, as every retail dealer will do his best to render himself independent of the trade, by purchasing directly of the grower what he cannot produce himself."

These assertions we know to be true; and no man, aware of the facts, dares contradict them publicly. It is true that worthless seeds are killed—expressly for mixing; it is true that old seeds unable to vegetate are sold for the same purpose; it is undeniable moreover that the greatest rubbish, although still alive, goes enormously into the market, either by itself, or mixed off with seed of better quality; and, finally, as we have long ago shown to be the case, half a dozen different names are often sold at half a dozen different prices, pretending to be of half a dozen different kinds, although they all come out of the same bag. And this is so true that no honest man can be found to deny it, unless he is a simpleton utterly ignorant of the devices of dealers.

But what is the remedy for such a state of things? It is suggested that we should follow the example

of the "Lancet," and buy up samples of Peas, and other seeds, as that Paper bought up samples of tea, sugar, &c., and publish the results, thus exposing the fraudulent and establishing the character of the fair dealers. And if it were possible to tell, by simple inspection, whether a sample of seeds is adulterated, as is the case with articles of food, we would readily undertake the office. But the nature of the objects to be examined renders the trial of seeds, for any useful purpose, a very difficult operation; they must be sown, grown, carried up to the state in which they are fit for use, and then, and not earlier, reported upon—a very different process from studying a sample under a microscope. Give a man of science a pinch of ground Pepper, and in an hour he will tell you that it is made up of Capsicum husks, brown Mustard skins, flour of Mustard, Sago flour, Rice flour, Potato flour, Ginger dust, and so on. But a pinch of Cabbage seed cannot be so examined; it may consist of Turnip seed, Rape seed, red Cabbage, bastard Broccoli, runaway Savoys, or any such rubbish; but this can be ascertained only after many weeks or months. In the case of Grass seeds, fraud would be difficult to prove legally by any process whatever; for if it appears that the worthless annual Poa comes up instead of, or among, the perennial Poa seed, although there may be a moral conviction that fraud has been practised, nevertheless, there is so much possibility of error, from natural accidents, that it would be next to impossible to make out a clear case of dishonest dealing. Yet we entertain no doubt that this very kind of falsification, that is to say, selling worthless annual for valuable perennial Grasses, is of common occurrence.

Then it has been suggested that everybody should be his own seed-grower. To us it seems as reasonable to advise that everybody should be his own sugar-broker, or his own tea-broker, or that every one should weave his own linen, so that he may be sure that linen is linen, and not cotton in disguise. In the actual state of society such propositions cannot e seriously entertained: we will even add that in no state of society can a man be advantageously his own seed-grower, except on the most confined scale. A gardener may have a very fine sort of Cabbage, and if he allows no other Cabbage or Cabbage-like plant to flower near him, he may perhaps succeed in obtaining some genuine seed; but if any other kind of Cabbage flowers in his own or his neighbour's garden, he will only reap a crop of mules and monsters. And so of other things. Seed-saving must therefore be a special occupation, conducted under special circumstances. Crops must be so cut off from all other crops of the same or a similar kind, as to render mixture by muling impossible; and private individuals are not in a position to undertake any such task.

The public therefore must seek another remedy, and that remedy is to pay tradesmen a fair price for what they sell. If a man cannot live by his trade and be honest, he will abandon it; we need not state the converse of the proposition. If the public will persevere in the present ruinous race after impossible cheapness, the public must be content to suffer; and the public richly deserves it. The public deserves more; for it renders itself an accomplice in fraud, and is the great tempter who leads weak or low-principled men to the commission of offences they would not have thought of. If a baker loses a loaf of bread, and it is shown that he so placed it in his window as to tempt the poor wretch who stole it, that baker loses his remedy; if a mercer, suspecting a customer of shoplifting, can be shown to have intentionally placed goods in the way of the person suspected, so as to tempt him to the commission of the offence, that tradesman finds it difficult to obtain a conviction, and in the opinion of all right-minded men, ought to be placed in the dock, by the side of the criminal himself.

But what is the difference between the baker and the mercer on the one hand, and the public on the other? Both are alike tempters to fraud; the first put their goods in the way of people whose necessity overcomes their sense of right; the second insists upon having goods at a price at which they cannot be sold without fraud. In the one case the dealer tempts his customers to dishonesty; in the other case, the customer tempts the dealer.

Does any one believe that the poor grocer who incurs the risk of an excise prosecution, and of a fine of 100*l*., by selling a half-penny worth of adulterated pepper, would do so if he could live otherwise? But this man is required by his customers to sell for ½*d*. what would cost him ¾*d*. if it were genuine; to avoid ruin, he commits a fraud by which he gains ¼*d*. instead of losing one.

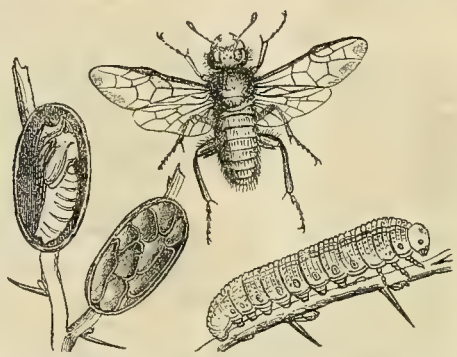
The world does not see the analogy between all these cases; it is the more fitting that it should be pointed out. The curse of our age is the eagerness with which everybody attempts to knock down prices beyond what they can bear, if commerce is to remain honest. The economist's maxim, "to buy in the cheapest market," is wretchedly misapplied; and Great Britain is the victim. Low prices must end in low position. Of this, at least, we may be sure, that, so long as men pray not to be led into temptation themselves, and at the same time fix their whole thoughts upon leading others into temptation, fraud will be triumphant, and gardeners must suffer like other people.

An arrival of Orchids, *vid* Panama and Chagres, by the Clyde (after a rapid passage of 39 days from Guayaquil), from Mr. Warcszewicz, collected on the Cordillera of the Andes at Quindios, is advertised by Mr. Stevens for sale next week. From what we learn, and observe by the drawings and specimens of some, they appear to consist of Cattleyas, Odontoglots, Oncids, and many other genera. But as Mr. Skinner, to whose charge Mr. W., as usual, has sent them, has not been able, in his present family affliction, to attend to them, the catalogues will describe them fully when issued early in the week. We would only add that the very limited means at Mr. Warcszewicz's disposal renders it desirable that gentlemen who are interested in his pursuits should do something on this occasion to assist him. He has been robbed in Guayaquil of 100 dollars in cash, as well as his collections, and has now proceeded to La Paz, in Bolivia, without pecuniary resources.

ENTOMOLOGY.

The Bee-like Sawfly.

During the winter months, when the hedges are bared of their foliage, information has often been required of us respecting certain brown, oval-shaped bodies sticking upon the twigs of the Whitethorn bushes.



These cocoons, for such in fact they are, are of a very strong leathery texture, and are generally placed at the base of the autumn shoot of the preceding year. On opening them throughout the winter months, each is generally found to contain a large green caterpillar bent up, its head and tail being brought almost into contact; but, about the end of April, the insect assumes its pupa form, in which it is greatly reduced in its length, and exhibits all the parts of the perfect insect, the antennæ and legs lying upon the breast, each inclosed in a distinct membranous case, and the wings of a small size encased in oval sheaths at the sides of the body. It is represented in this state in the left-hand part of the accompanying woodcut, and it will at once be seen, on comparing this pupa with the chrysalis of any species of moth, that that there is a complete difference—not only in the way in which the limbs are enclosed under a general covering in the moths, whilst each has a distinct covering in the pupa before us, enabling the insect to move each limb separately when ready to assume the perfect state; but also that the head of the pupa of the Whitethorn cocoon is also distinct and furnished with a pair of long jaws, in both which respects it also differs from the pupa of the moth. It is therefore evident from these particulars that the pupa before us cannot be that of a moth, although the cocoon itself is almost precisely identical in its form and texture with the cocoons of those moths which are called eggers, from the cocoons resembling the eggs of birds. The jaws are of the greatest use to the insect, as it is by their aid that it is enabled to make its escape out of its cocoon; the moths without such jaws are indeed able to effect this by emitting a peculiar fluid, which softens the threads of the cocoon, and allows their escape, but the present insect is provided with no such fluid, and is obliged to pierce the cocoon with the point of one of its jaws, near one of the ends, after which it works them conjointly, like a pair of scissors, and so cuts off a small circular cap at the end of the cocoon, and thus effects its escape, which it does immediately after assuming the winged state, the wings extending to their full size on the insect gaining its liberty. It is now discovered to be a large Hymenopterous insect, bearing somewhat of a resemblance to a bee, but with the body and legs rather more elongated, and the antennæ terminated by a short knob; the abdomen is also found to be attached by its whole breadth to the hind part of the thorax, and the body of the female is furnished on the underside, near the extremity, with a double instrument, like a pair of saws, with which it is able to make incisions in the stems or twigs of the tree, in which it deposits its eggs. These two characters, the junction of the thorax and abdomen, and the saw-like apparatus of the female, enable us to determine that the insect belongs to that section of the Hymenoptera called Terebrantia sessiliventres, and to the family Tenthredinidæ, or sawflies. The antennæ are 8-jointed, terminated by a small club, formed of the last three joints; the body is rather thickly clothed with hairs, the abdomen in the males is cylindrical and elongate, but more oval and depressed in the females, the four hind thighs are thickened and toothed beneath in the male, and the tarsi are simple,—by all of which characters the insect is ascertained to belong to the sub-genus Trichiosoma, of Leach, in the sub-family Cimbicides; it is the Tenthredo lucorum of Linnæus, being of a blackish colour, clothed with ashy orange coloured hairs on the thorax and abdomen, those on the head being of a black colour, the thighs black, the tibiæ and tarsi reddish brown, the wings slightly stained with yellowish brown, the fore-edge darker, with a black stigma, and the extremity with clouds of brown: the jaws of the males are long, and very acute at the tip, with two small teeth in the middle within; the two basal joints of the antennæ are very short and thick, the third long and slender, the fourth and fifth shorter, and of equal length, the remainder forming an elongate ovate knob. The upper lip of the male is large and rounded, and that of the female small. It varies from half to five-sixths of an inch in length, and from 1¼ to 1½ inch in the expansion of the fore wings. The insect represented by De Geer in his "Memoires," ii., pl. 33, figs. 17—23, has been given as the Tenthredo amerinæ of Linnæus, which forms Leach's subgenus Clavellaria; but the structure of the antennæ (fig. 22), and the solid structure of the cocoon (fig. 19) at once prove that De Geer's insect is a variety of Tenthredo lucorum, or one of the (perhaps too closely) allied species. His larva was found, however, upon the Sallow, whilst the Whitethorn appears to be the ordinary food of the larva of T. lucorum. The large mandibles of the males are, doubtless, formidable instruments; indeed, on one occasion I observed two individuals in fierce encounter, fighting furiously with the legs, and biting each other with their jaws, which were often locked in each other.

By means of their curious saw-like apparatus the females form small channels in the tender branches, where they deposit their eggs, from which the larvæ are hatched, which are to be met with on the Whitethorn at the beginning of August. They are of a pale dull green colour, covered entirely with minute white tubercles, which gives them a whiter appearance. In their general form they resemble the caterpillars of moths, but they possess a greater number of membranous feet—namely, seven pairs, and three pairs of jointed legs. The head is of a pale straw colour, more orange on the crown, and with a small black spot on each side, in the middle of which is a single eyelet. When alarmed, they discharge a clear greenish watery fluid from the lateral pores, placed above the spiracles, to a considerable distance. This only occurs when the insects are in a state of nature, and is exhausted after seven or eight discharges. Its object is evidently to drive off parasitic enemies, in which, however, it is often unsuccessful, as it is very common to find the interior of the cocoon filled with the smaller cocoons of Ichneumon parasites, which have lived within the body of the larva, of which the shrivelled remains are to be seen lying at one end of the cocoon. I have, in fact, obtained two distinct species of Ichneumonidæ from one cocoon of Tenthredo lucorum; and from another cocoon I have obtained specimens both of an Ichneumon and a Pteromalus.

The woodcut represents the full-grown larva, a cocoon opened to show the pupa inclosed, another cocoon opened showing the cocoons of the parasitic ichneumons, and a male of the Tenthredo (Trichiosoma) lucorum. *J. O. W.*

BRITISH SONG BIRDS.

(Cage Birds, No. 47.)

No. LXIV.—As the days gradually lengthen,—so do we perceive hourly signs of renewed life in vegetation, and symptoms of bustling activity among the feathered tribes.

We get a morning, noon, and evening visit from the little rogue in scarlet livery, who has made our garden his home through the early winter. Nor does he come unaccompanied. No! He has changed his state. A bachelor no longer, he seems aware of his importance; and his lady-love has been duly presented to us at the window. A pretty creature is she,—most truly so. "Sure such a pair were never seen!"

The thrushes, too, are now "single" no longer. Each has paid his vows, and at the shrine of affection he has resigned his heart. The same protestations have been gone through with the blackbirds; and with the same kindly results. "Dickey Dunnock" also, with such an example before him, has gone and done likewise; and the wren, with his tiny spouse, is not found wanting. Our's, now, is a "garden of delights." We look daily for nests; then for eggs; then for young, "happy families." They are all "at home" with us. We love it to be so.

The fair moon is now ten days old; and though the season is yet chilly, we fail not occasionally to take a bracing evening walk, to enjoy her light, which aids us in many *a reflection*. January has not passed over without leaving *much* to be pleasantly remembered.

But now to our weekly task. In the matter of a

blackbird, much is left to opinion. Some like a very tame, others a very wild bird. In the former case, the song is seldom so good; in the latter, the bird is generally possessed of his natural note.

These birds are imitative,—so much so, that it is difficult to procure a young bird that does not "talk gibberish." If he hears a whistle, he will try to imitate it; if a noise, he will try and copy it. This will ever be the case, where they are kept within hearing of such annoyances. The best birds are, beyond all question, those called "bat-folded,"—that is, caught wild, at night, in a net.

These birds will sometimes take kindly to a cage at once, and sing sweetly in a week; others, again, refuse to be comforted, sulk, and only volunteer a song when they are quite alone. They like too to be suspended at some considerable height. They should be procured in the autumn season; if taken now, they would fall sick and die. Their troth is pledged, their plans are laid, and all arrangements made for the season. Let us place ourselves in a similar position, by hypothesis; and ask if *we* could be happy and sing, if WE were separated from all we held dear? The case is analagous. There is no difficulty in procuring these bat-folded birds; but it will be desirable to *hear* them sing, before you become a purchaser; and to take them away in the same cage.

There will be plenty of young blackbirds in the London markets in another month. They are usually brought from the country in nests, containing four and five young birds. One of these nests you may procure for about eighteen-pence; and if you rear the birds yourself, you may chance to get *two* fine ones from the number.

Directly you get them, place them in a long cage with a wire front, so that they may have a long run. Cover the bottom with fine red dry gravel, and place the cage in the sun. Feed them with bruised Hemp seed, and crumb of bread (stale), scalded. Administer this, at the end of a short skewer, every quarter of an hour when your birds are very young—afterwards, every half-hour. Coax your birds to help themselves, from the end of the skewer, as early as you can. They are ready scholars, and soon find the way to their mouths. *Most* other animals do the same!

Be constant in supplying them with cold, fresh water; this may easily be done by dipping your little finger into a basin or cup, and allowing the water to drip from it into the bird's open mouth. *Young* birds' mouths are always open! Of course, you will see that *low* perches are fixed across the cage. On these they will presently hop, and soon show signs of maturity. They will "record" their song, ere yet they are five weeks old.

I have already dwelt at considerable length on the great importance of bringing up birds under "an eminent master." If you *will* have "good birds," *in no other way can you obtain such.* I have myself just been educating some young German canaries, and my success with them has been surpassingly great. I am entertained every evening, after the fatigues of the day, with music that might well be supposed to have emanated from a nightingale in the grove. This really repays one for one's trouble; and *such* music must be seasonable at *all* times. I name this emphatically, to encourage *all* my readers to persevere. Nothing is "impossible."

In our next chapter, we will speak of the proper food for blackbirds, and treat of several important matters connected with their health and happiness. They are easily tamed, very affectionate, very observant; and know well *who* appreciates their excellencies. A loving mistress or a kind master need never be in want of a melodious song. Where *the heart* is held captive, all the affections flow out spontaneously.

As for the blackbirds on our garden lawn,—even now they show themselves in all their glory. The rising sun gilds their plumage, and the fresh air gladdens their hearts. Perched aloft, we leave them happy, and we seldom depart without a song. This is pleasant, as the year is young.

> "As yet the trembling year is unconfirm'd,
> And Winter oft at eve resumes the breeze;
> Chills the pale morn, and bids his driving sleets
> Deform the day delightless."

But the day is even now at our doors, when Spring, with all its enchanting beauties, will burst upon us. For this, let us patiently wait. *William Kidd.*

FORSYTHIA VIRIDISSIMA.

THE following observations on this plant by J. Saul, of Washington, D.C., were published in the last Number of the Journal of the Horticultural Society.

"The value and exquisite beauty of this plant are not, I fear, sufficiently known in England, where by many it is only considered a second-rate subject. When Mr. Fortune introduced it to the Garden of the Horticultural Society from China, he spoke in high terms of its beauty, and I question much whether anything more handsome can be found among all his introductions, not excepting even the lovely Weigela rosea. It has qualities which the latter does not possess, and which must ever render it one of the most valuable of hardy plants. From specimens which I had an opportunity of inspecting in England,* I entertained a doubt ul opinion of its merits. What was my surprise last March, however, when I beheld a magnificent bush of it in the nursery of A. Saul and Co., Newburgh, New York, covered with myriads of its deep yellow blossoms. The nursery in question is situated in the highlands of the Hudson, with that noble river flowing by their base, and open to a cold breeze from the north, especially in winter, during which time the constitutional hardiness of plants can be well tested. The soil in which it grows is a gravelly loam; the plant is about 5 feet high, very bushy, and it appears to have been planted two or three years. During the summer of 1850 it made shoots from 3 to 4 feet long, which, though strong and gross, were well ripened in the autumn. The bright light and burning heat of an American sun consolidate the wood as it elongates during summer; autumn arrives, fully as warm as an English summer, and much drier. This perfects what remains of the ripening process, and enables the plant to endure the winter unprotected, through a degree of cold which has no parallel in Britain. About the middle of March it commences opening its blooms, which had been thickly set over the wood of the previous year, and by the end of the same month it is one complete mass of deep yellow. Its season of flowering, will, of course, depend on the latitude in which it is grown; here, it commenced opening its blooms on the first approach of fair weather, and while the snow still lay thickly on the ground. Compared with other early flowering plants, it was decidedly ahead of all of them. Even the early Pyrus (Cydonia) japonica had scarcely commenced expanding its flowers when the Forsythia was in full beauty. In the 1st vol. of the 'Gardener's Magazine of Botany,' p. 249, occurs the following passage:—'Unfortunately, the flowers are too delicate in texture to bear exposure to rough wind, as they are readily bruised, and soon show the effects of rough treatment; but planted and trained against a wall, or in a very sheltered situation, it will be found a useful and excellent plant.' So far is this from being correct, that I know of no plant whose blooms will bear an equal amount of 'rough treatment' uninjured. The subject of my remarks here was fully three weeks in bloom, during which time it encountered one or two falls of snow, and much wet weather, yet the blooms did not appear discoloured in the least, up to the time they dropped off, and the ground was literally covered with them. The plant was in an open, exposed situation. In order to grow this plant well in England, we must examine the causes to which success is to be attributed in the case just cited. It was not soil; for that in which the plant was placed was rather of a poor description, and I observed other plants in the same nursery growing vigorously in earth of the poorest kind. Bright light and intense heat are the conditions to which success was owing; for the plants were luxuriant and happy, such as we might expect to have seen them in their Eastern home. In England, no doubt, the best situation for it would be against a south wall, where it would receive all the sunlight possible; so circumstanced, it would ripen its wood well and yield abundance of flowers in early spring, or more probably, in the mild climate of England, it would bloom like the Cydonia japonica or Chimonanthus fragrans, the greater part of the winter. Planted out as a bush, an open, airy situation should be chosen, where it would receive the direct rays of the sun all day; in all cases it should be guarded against overmuch moisture at the root; let the soil in which it grows be dry rather than otherwise. In this way the wood would ripen well in autumn, and would be followed by an abundant bloom. The work from which I have already extracted considers it a very useful plant for winter and spring forcing, an opinion in which I entirely concur.

"In order to grow this plant for winter blooming in the conservatory or greenhouse, take strong young plants in the spring; shift them liberally, using any good compost; stop the plant, to cause it to break into several shoots—as it is rather inclined to throw one or two strong branches. As the plants progress in growth they should be shifted occasionally, and frequently stopped; the best way of effecting this is, as soon as any shoots are observed to grow longer than the others, to pinch out the extreme points; they will soon break freely: whereas if left till the wood becomes firm and then shortened, they take a longer time to break, and they never do it so freely. When the plants have completed their growth, let them be placed in an open, sunny situation,—they cannot possibly be too much in the blaze of the sun: here they should remain until autumn arrives, when they may be plunged in any convenient situation. As the plants are required to bloom they may be introduced into the forcing-house, or what in my opinion is better and quite sufficient for the purpose, a warm greenhouse, placing them in the most sunny part of it. In a house of this description the blooms would come deeper in colour; it is well known how pale and washy such colours are out of the confined atmosphere of a forcing-house. Whether used for the latter purpose, or grown in the open border, as I have already stated, I consider this plant one of the most valuable of Mr. Fortune's introductions. The Weigela, though extremely beautiful, blooms at a season when many other things are in flower, whilst the Forsythia blossoms when every stray floret is welcome."

* Some persons may have been successful in cultivating it there, but no really fine plants ever came under my notice in that country.

HERBS.

No. V.—CHAMOMILE.—A good many acres of this plant are grown round Mitcham, for the sake of the blooms. The mode of culture is as follows:—The ground is manured and dug, or ploughed, and then harrowed; old plants are lifted, divided into tufts, and planted in rows 2 feet apart, and 1 foot 6 inches distant in the row. The best time for the operation is November, as the plants have time to make roots during the winter; by hoeing and attending to it, the following spring, they soon cover the ground. The flowers are gathered in July and August. Chamomile bitter is much esteemed as an excellent tonic, and it is also used in beer, &c.; one plantation should never be permitted to stand more than a year. Clean land, the great distance the plants are apart, and never allowing them to stand more than one year, form all that can be said respecting its cultivation.

The flowers are dried in houses prepared for the purpose, with flues running through them; the flowers are spread on canvas frames, but such as Hyssop, Horehound, and other cut herbs, are hung upon lines in sheds, through which plenty of air circulates. Most of the more succulent roots and juicy herbs, however, are artificially dried in stove-houses, never in the sun.

In my last week's article on Herbs, at p. 52, the first paragraph relates to green Spearmint, and not to green Peppermint, as is there stated. The rest of the article relates to Peppermint. *James Cuthill, Camberwell.*

Home Correspondence.

Origin of Roots.—Your interesting remarks on this subject give rise to many "conjectures," and to one of them I wish to direct the attention of observing propagators. The roots of the Celery plant to which you refer appear to have been emitted from the fracture of a half broken leaf. These productive fractures are worthy of close investigation. If a hedger cuts a stiff branch from a healthy Thorn, and plants it on the spot, the chance is it will not grow; but if he plashes the hedge, and lays it as a good workman knows how, shoots which, if under earth would be roots, are almost the invariable result. Now his "plashing" is fracturing the woody fibre, but not severing it from the parent stem. It is a common remark that old cottage dames can propagate Wallflowers better than gardeners. I have watched their simple method often. They strip off a well ripened slip or side branch, give it a twist with the thumb and forefinger, and then put it by for some hours, or till the next day, and then plant it. Such slips almost invariably "strike root." Striking Carnations, and the general practice of layering, is, as it seems to me, all on the same principle of fracturing. I would suggest to propagators to try the experiment of fracturing a cutting; that is, when a cutting is duly prepared for the pot or ground, half break it half an inch or more above the bottom intended for the cicatrix, and then observe from which of the two parts the roots come first. The fracture, I suppose, should take place at a joint or bud. *J. C. M., Liverpool.*——Your remarks as to the cause of and propagation of roots may be in some degree correct, but not your deduction that the attempt to strike cuttings, young and tender, must consequently be a failure. I have to state that a few days ago my gardener, after cutting a Cucumber not immediately wanted, put the foot-stalk into a pan with a little water, by way of keeping the fruit fresh, and found, in the course of a day or two, that the small piece of stem cut from the plant, and left on the fruit, had thrown out roots. Whether this is an uncommon occurrence or not, I leave to the decision of persons better acquainted than I am with the subject of producing roots. *H. E., Enfield.* [We do not see how this experiment in any degree invalidates those of our statements to which it applies.]—— Mr. Smith, gardener, of this place, produced to me this morning (Jan. 26) a fragment of a Celery leaf which had two crops of roots upon it, similar to those described at page 51. In this instance the leaf had evidently been cut by the spade in earthing up. *C. Pocklington, Boston.*

Trinity College Garden, Dublin.—I have read Mr. Bain's letter, and I hope he does not think I meant to undervalue the merits and beauty of the Dublin Trinity College Gardens. I saw them in the autumn of 1850. At the same time I visited Glasnevin and Belfast, and if I am not mistaken, I gave a short account in the *Chronicle* of my visit to the college gardens, and stated how much obliged I was both to Dr. Mackay and Mr. Bain for their civilities and attention, and how satisfied I was at the excellent arrangement of the plants both in the garden and in the houses. *Dodman.*

Strawberry Forcing.—At p. 52, Mr. Buchan states, that a pit must be specially appropriated to Strawberries for forcing, in order to effect a proper temperature. I force about 300 plants here, and I have nothing but Vineries for them. In 1850 and 1851, my early Strawberries were sent to London, principally for presents; early in May, my employer arrived from the great metropolis, and his first words to me were, "Your Strawberries were the finest I have seen in London. I took particular notice at dinner parties, where I attended." They were produced in Vineries, and in the following simple way: I had the runners placed on small pots filled with soil; when well rooted, they were put in the fruiting pots, and placed in a sunny situation, where they remained, until the pots were likely to get broken by frost. They were then laid on their sides, to prevent wet from getting to the roots, and the pots were covered with ashes; in severe weather, some light litter was thrown over the whole. Shortly after this, the Vinery which was to receive them was well cleaned, and the Strawberry shelves hung up to the rafters, when the plants were got ready and placed on them. They remained there till the Vines were started; for the first three weeks after this takes place, the temperature is not allowed to rise above 52°, unless by sun heat; after this, I gradually raise the heat, as the days become

warmer. When the plants are in flower, water is partially withdrawn from the roots, and syringing is discontinued. This being attended to, with a temperature suiting the Vines, more Strawberries than should remain on the plants will perfectly form themselves. A day or two after this, the plants may be copiously watered with liquid manure occasionally. The plants should not be fumigated when they are in flower. *Fragaria.* ——"Nature," says Mr. Buchan, "is our best guide; we ought not to 'force' our Strawberry plants into flower." Now, in gardening, as in every thing else, there are many things which ought not to be done, more especially in the forcing department, arising often from the limited space allotted to gardeners for that purpose. There are very few places where a "pit" or any other structure is especially appropriated for Strawberries. Gardeners have to battle with difficulties. If Strawberries were required of your correspondent, and he had no such convenience as he speaks of, would he despair of producing them? I trust not. I have seen as fine fruit gathered from a Vinery as ever graced a gentleman's table. I have had them as early as January, but in February and March they have been first-rate, and that from plants which had been removed at once from a cold pit to the Vinery in all its stages, for I had no other place to bring them forward in, although I forced 5000 pots every season; it was a general rule with us to thin out the fruit, so well did it set. As regards the failure of the forced Strawberry, I am of opinion that it oftener happens from want of well established plants, plants well matured and capable of sending up a strong truss of flowers, perfectly organised in all their parts, than from the reasons adduced by your correspondent. *J. T.* [We suspect that the point of this argument is not clearly seen by our correspondents.]

Glass Walls.—I did not mean to undervalue the glass walls. Of course the parties who have patented these are satisfied as to their value; but I thought it but fair to state some objections which appeared to me obvious. I am glad however that this invention is, as you state, not liable to some of what appeared to me at first sight to be obstacles. No one of your readers will be more glad than myself to see another new mode of applying glass to the culture of fruit than myself; and I assure you that any objections stated were merely put forth for the purpose of leading to discussion; and I shall be glad to learn that the cases can be opened or shut without risk of breakage, and so ventilated as to avoid fear of red spider, at no great increase of labour, and moreover that the space in which the trees are to be encased will be neither too hot at one time nor too cold at another. *Dodman.*

How to Crop a Small Kitchen Garden.—Besides those I have previously mentioned, there are many important crops which should be grown in every kitchen garden, such as Asparagus, Artichokes, Seakale, and Rhubarb; but being permanent, they require no system of rotation. This list also includes Parsley and Chervil, which should be grown as edgings to paths, Shallots, Rampion, Vegetable Marrow, Corn Salad, Horse-radish, Herbs, &c., all which, requiring but little space, can be grown on the east and west borders; as I consider my mode of growing them, however, in no way different from that practised by others, I shall not occupy space by describing it. The following, which I omitted when treating on the culture of Lettuces and Carrots, may, however, be of service. In order to obtain some very early Paris Cos Lettuces, sow about the middle of August; thin out to 2 inches apart; let them remain in the seed bed till the middle of October; then prick into a frame, and treat them during the winter the same as those sown with Carrots; plant out in March, and they will be fit for table three weeks before those sown in October. In conclusion, I would beg to remind your readers of the necessity there exists for punctuality. If they wish to adopt my mode of cropping with success, never defer till to-morrow what can be done to-day, for delays are dangerous. Clear away all Pea sticks, stalks, &c., as soon as the produce is all used, so as to give the intervening crop the benefit of light and air as soon as possible. Also strictly observe times and seasons, so as to sow and plant at the right period, and never permit weeds to draw that nutriment from the soil which cultivated plants ought to obtain, but destroy them in their infancy, to effect which, keep the soil well stirred with a fork, which is far before the hoe; and above all, avoid that slovenly way of leaving vacant ground undug till spring. Make it a rule to manure, if required, and ridge trench all ground as soon as the crops are off in the autumn or winter. This not only benefits the soil, but it looks neater. If the garden is fenced in with a wall, keep the trees well nailed and all foreright shoots rubbed off as fast as they make their appearance, and train those that are retained for a supply of bearing wood in a straight and regular manner, removing all spurs that project too far, so as to give the trees a neat and orderly appearance. When a job is begun, let it be finished before another is commenced, and keep the walks well rolled and swept. By observing these rules, the kitchen garden may be made to wear as neat an appearance as the pleasure grounds, and fit for the family or their friends to look at, at any time, which is what we but seldom see in small establishments. *John Steel, Gardener, Bolton Hall, Clitheroe.*

Glazed Trellises.—In observing on my statement, that the wood of my Peach trees under the glazed trellis had ripened perfectly this year, you state, "Yes, but the fruit did not ripen." This year I left home before the wall fruit was ripe, and I did not come back till the season was past; but my gardener on my return told me, and now assures me, that the fruit, though the crop was small was well ripened, and of good colour and flavour, and was seen by Mr. Williams (gardener to C. B. Warner, Esq.). What can have induced you to make the assertion just quoted I cannot understand. The season before last (1850), I sent you a remarkable specimen of the fruit ripened under the glazed trellis, and it was praised in the *Chronicle*. The year before (I believe), at the Hertford show, my gardener had a prize for Peaches, half of which had been ripened on a trellis, and which could not be distinguished from those ripened on trees trained against a south wall. I may mention, that Mr. Rivers saw the crop either two or three years ago, I forget which, and described the fruit as being excellent, well ripened, and a full crop. This was either stated in the *Chronicle* or in his work on dwarf trees, I do not recollect which. I dare say he will repeat it if he sees this. It has occurred to me, that the writer of the note, as to the fruit not ripening, may have reasoned from the experiment made in the Horticultural Society's Garden. If so, he has done me injustice. God help me! I should, indeed, be sorry to have the merits of any plan of mine judged of by its repetition in the Society's garden. I have seen the way in which the trellis was put up, and the manner in which the trees are managed, and I should be surprised if any fruit had ripened. *Dodman.* [We think our correspondent should explain himself more fully. The trellis was constructed exactly as its authors directed, and not as those who managed it might have wished; the result has been fruit ripe on one side, and raw on the other. Some changes have now been made in the arrangements, which are no longer those recommended by the authors, and the succeeding season will show the effect of them. We must repeat, however, that the plan pursued, up to the beginning of last year, is believed to have been what was originally proposed, with all its merits and all its demerits.]

Hint to importers of Orchids.—Your columns have recently teemed with advertisements of Orchids imported *via* the Red Sea, from India, and I see the last mail to Southampton brings seven boxes. Have our Indian friends forgotten that there is usually frost in England in winter, and that their plants, if not killed in the Channel, would probably be killed either between Southampton and London, or in Mr. Stevens' auction-room, before they can be brought to sale. It is true this most extraordinary January may give them immunity—but such a season is not to be reckoned on once in 25 years. Having experienced the disappointment of imported plants killed on arrival in England, both from the East and West Indies, more than once, I sound a note of caution to importers. It is unsafe for tropical plants to arrive in England between November and April. I, for one, would not run the risk of buying plants imported at that season. I write principally for the sake of our Indian friends, that they may time their importations better. Warcsewicz's plants were all killed in April in England, and even December is an unsafe month; all between are most hazardous. *J. R.*

The Tomato.—I have found the following plan to succeed well in regard to the cultivation of this fruit. Having got plants as early and strong as possible, they are planted (in this late situation it is not safe to plant till the end of May or the beginning of June) in a dry south aspect, once well watered, and then kept dry, to prevent a too luxuriant growth at first, which makes them flower earlier. When they are fairly in blossom, and the fruit beginning to set, they receive liberal treatment, and are regularly trained and kept thin. By this plan I have had them ripen some years in perfection on the walls; and in unfavourable seasons I have always had a supply of good-sized green fruit, which may be ripened as recommended at page 38, or in any warm dry place in-doors; but they are not equal to those ripened on the open wall. Spare Cucumber lights have been placed over them against the wall, but without any apparent advantage, probably owing to draughts of cold air passing between the lights and the wall. I have some autumn-sown plants, which I intend to plant with the spring raised ones, in order to prove which will be the earliest. *Thomas Dowell, Arnington Hall.*——Living not very far distant from Manchester, I cannot boast of having the largest share of sunny days, but for fog and smoke I believe we can vie with any district in the kingdom. Nevertheless I generally succeed in getting a good supply of Tomatoes well ripened before autumn frosts set in. I propagate by cuttings, putting them in about the beginning of September. I need scarcely state that the lateral shoots are preferable to the leading ones. They strike readily either singly in small pots, or two or three together in larger ones; but I prefer the former method, as their roots are not so liable to get injured in potting. As soon as the plants are well rooted, they are shifted into 5-inch pots, in which they remain till about the beginning of February, when they are repotted, giving them a decent shift; nothing more is required except attention, &c., till planting out time. The tops may at this time be taken off and struck; they make excellent plants, fully the best, by the middle of May. The only objection to this system is the difficulty of keeping them over winter; but if one half of the plants only lives, the certainty of a crop will amply repay the trouble. The temperature of an intermediate house suits them best, which I have not, and this partially accounts for their dying off so at this season. My plants are at present in an early Vinery in far too high a temperature, yet most of them are looking pretty healthy; one plant has a fruit on it about the size of a Green-gage Plum. It is not uncommon to see some of them in bloom long before they are turned out; however, as soon as the Peach-house is far enough advanced for their reception, I will have them moved into it. Not only do plants raised in this way bear and ripen sooner than those produced from seed, but the fruit is both larger and there is more of it. If any of your readers have a small corner of a Peach-house trellis not filled up, it might be worse occupied than with a Tomato plant. I had one so planted last year, and the quantity of fruit it had on it would scarcely be credited. *J.B., Stretford.* ——I read the statement of your correspondent about picking his Tomatoes green and ripening them in his kitchen, or leaving them on the shelves of a hothouse. It is true, a reddish fruit will be produced by these means, and it is the mode resorted to by most gardeners who have not been able to ripen their fruit well before gathering it; and it makes a reddish, sour sauce, but without any, or at least with very little, of the true flavour, not much better than very sour Apple-sauce. Since I have lived on a clay soil I have rarely had a really well-ripened Tomato; they grow too luxuriantly, and are never sufficiently checked and thrown early into bloom. I mean to try this year. I had kept a few starved plants in pots, to plant out early, but they have been lost, or allowed to be killed by the frost. I believe fine ripe Tomatoes are imported early in the season from Lisbon; at least, I see them as early as June in the shops in Covent-garden. I believe, at Dalkeith-gardens, these plants are kept through the winter, the crops being grown in frames heated by warm water; at least, such was my impression during a short visit I paid some time ago to those beautiful gardens. *Dodman.* [We believe that the beautiful Tomatoes now seen in Covent-garden, early in the season, come from Marseilles. The Tomato, like the Aubergine, seldom ripens *well*, even in the best of our English summers. As for winter-reddened fruit, we can only say, we should be very sorry to swallow any part of it.]

The False Cones on the Spruce Fir alluded to in your Notices to Correspondents are produced by an insect, somewhat allied to the Aphides, but partaking in a few points of the nature of the Coccidæ—it has been named Adelges Abietis by Vaillot, but is described by Kaltenbach under that of Chermes Abietis. The habits of these insects are very peculiar, and a further account of them might, perhaps, be acceptable. *Oswald Mos Rolleston Hall.*

Societies.

LINNEAN, *Jan.* 20.—R. BROWN, Esq., in the chair. A collection of plants from Balmain, New South Wales, was presented by R. Wakefield, Esq. A communication was read from Mr. Yarrell, giving an account of a Cedar now growing in the garden of Mr. Johns, at Bishop's Stortford. It was planted in 1823, and is now 51 feet in height, and the trunk is 2½ feet from the ground to the first branches. A paper was read by Dr. Hooker on a species of Nostoc, discovered by Dr. Sutherland, surgeon to the late expedition in search of Sir James Franklin conducted by Captain Penny, with remarks by the Rev. M. J. Berkeley. This plant, looking like a floating scum, was found in great abundance over the whole surface of the ocean. It gave shelter to small Crustacea and many insects. Dr. Sutherland had eaten some, and pronounced it pleasant, and believes it to be more nutritious than the *tripe de roche*. Dr. Hooker had found a Nostoc with characters similar to the one described, in lakes in Thibet, at a height of 17,000 feet above the level of the sea. Mr. Berkeley had examined the Nostoc from the north seas, and, although it resembled the Nostoc commune of botanists, it had a persistent gelatinous covering around its spores, which induced him to refer it to the genus Hormosiphon, and he proposed for it the provisional name of Hormosiphon arcticus. Dr. Hooker referred to a Nostoc which grew in the streams and rivers of Tartary, and which was used extensively as an article of diet by the Chinese; this was called Nostoc edule, but he did not think it differed from N. commune. In the specimens examined by Mr. Berkeley, he found no nitrogenous compound, except in the sporules. The compound most abundant was bassorin.—A communication was read from Mr. Joseph Woods, being observations made during a botanical tour in France in 1851, in a letter addressed to the President of the Society.

BOTANICAL, OF EDINBURGH, *Jan.* 8.—The President in the chair. Several donations were announced. The following papers were read:—1. Description of Rubi. By Charles C. Babington, M.A. 2. On the growth of various kinds of mould in syrup. By Professor Balfour. 3. Professor Simpson communicated the results of some experiments made by himself and Mr. Stewart, relative to the growth of Alpine plants, after having been kept artificially covered with snow in an ice-house for many months. Seeds and plants when kept in this way during winter, and then brought into the warm air of summer, germinate and grow with great rapidity. Mr. Stewart had also made experiments with animals, and he found that the chrysalis so treated produced a moth in 11 days, after being brought into the atmosphere, while other chrysalids of the same moth, did not do so for three or four months after. In Arctic regions, the rapid growth of plants during the short summer was well known. Professor Simpson alluded to the importance of similar experiments being made on the different kinds of grain. He referred to the rapidity of harvest in Canada and other countries, where the cold lasted for many months, and he was disposed to think, that if grain was kept in

ice-houses during the winter, and sown in spring, there might be an acceleration of the harvest. He considered the subject deserving of the attention of agriculturists, for a saving of a few weeks in the ripening of the crops would be of vast consequence in Britain. Moreover, there might be less necessity for exposing the crops to the variable springs of this country, for the sowing might be retarded. 4. Notice of plants found near London. By Mr. G. Lawson. 5. Notice of the abnormal structure of a Turnip, by Mr. J. B. Davis. The author of this paper, after defining the nature of the root of the Turnip, giving some observations on tap-roots in general, and showing their relation to those of a fibrous nature, proceeded to remark that all roots are subject to variation, as well from non-development as from increased growth. He exhibited a monstrous Turnip, having the appearance of two bulbs joined in the form of an hour-glass; this he conceived to have been caused by some injury to the root, arresting the expansion of the superior or first formed bulb. He likewise exhibited another specimen presenting two bulbs united at the neck, the union extending to a third of their circumference. Mr. Davis did not believe that such montrosities as this resulted from the chemical condition of the soil, or from the opposition of any external body in the soil; but that one, instead of two, taproots were originally produced of equal dimensions. This conclusion he had arrived at, from an examination of their internal structure, having traced a mass of the small cells resembling those found towards the exterior of the bulb, rising to a considerable height through the root, thus forming an apparent wall between the two bulbs. He had likewise found, in tracing the course of the fibres, that two great masses arose from the crown, and proceeded in separate courses, one to each bulb. As a remedy for the disease, Mr. Davies recommended the raising of seed from transplanted roots. Dr. Balfour read a letter from Dr. Meyer, of Konigsberg, intimating the transmission of a collection of interesting plants from M. Patze, who has paid particular attention to the species of Willow. "As regards the Willows," Dr. Meyer remarks, "which constitute Mr. Patze's delight, I can assure you, that each specimen in leaf is taken from the same plant as those which are in flower, whether male or female. As to the hybrid forms of the genus Salix, which have caused such confusion in our systems, there is not one of them which has not been observed by M. Patze for several years, and found almost always sterile, and in small quantity among the two common species, which he suspects to be the parents." Three gentlemen were elected Fellows.

Notices of Books.

Grundzüge der Philosophischen Botanik. Von Dr. F. T. Kützing. Leipzig, 1851. 8vo, pp. xx. and 336, tab. 18.

If nothing more were expected from an introduction to Botany than a mere repetition or new arrangement of what has been perhaps better said a hundred times before, a work like that before us might well be thrown aside, and left to the mere circle of friends or pupils, with whom the author is more immediately connected. It is, however, favourite practice with professors to embody their own notions in this form, perhaps, for one reason, because in such a shape they are sure to command a certain sale; and as these treatises are often accompanied with a valuable mass of original illustration, it is absolutely necessary for those who wish for the most recent information, to have recourse to what might at the first glance be considered merely elementary books.

Whatever other fault may be found with Dr. Kützing's volume, which is, however, only the commencement of the work, there is no want of original matter; and the figures, drawn and engraved by himself, have all the merit which those in his other more ostentatious works confessedly possess.

As regards what may be called the philosophical direction of the work, on which the author lays great stress, it is not our intention to offer any observation. It is by no means in consonance with English tastes, is as fanciful as most other attempts of the kind, and is little calculated, as we conceive, to strengthen or excite any religious convictions.

It is in its details, we think, that the work is valuable, as affording much matter for reflection and giving the result of many careful observations; but, as in all the works of the author, there is a certain confusion, or rather a want of any general sound views, which is frequently very perplexing. The chemical portion, for instance, contains much that is valuable and new, but the nomenclature is so confused that it is often extremely difficult to know what the author means; and yet there are some things, such as the account which he gives of the change of chemical condition which takes place in the cells and cell-walls of certain Algæ, as indicated by change of colour, through various shades, which cannot fail to command the attention of all interested in the subject, however little we may be disposed to agree in his peculiar notions or inferences. The whole of his account of the cell-walls of Algæ is full of interest; and we trust that some chemist of comprehensive views, like Mulder, will submit it to that strict comparative analysis which can alone render it available for general scientific use.

There is the greater need for this, because our author seems to us to lay greater stress on physical agents than appears to be either safe or rational. Take, for instance, the following account of the mode of growth of the common white Cabbage rust, which seems to us to border very closely on materialism:—

"The normal cells of the epidermal stratum are filled with chlorophyl-grains. These consist of chlorophyl, wax, and a protein substance which is mixed with Bassorin. The chlorophyl-grains lose their green colour and break up into much smaller pale granules, which are either dispersed or collected by apposition or confluence into a mass. From this confluent substance, in which iodine exhibits some very fine protein molecules, one or more globular or elongated masses separate, which become clothed externally with a very fine coat of Bassorin. While this is going on the membrane of the cells, composed of cellulose (Gelin), in which these first vegetative processes took place, dissolves. The dissolved mass reacts on the Bassorin and surrounds the young fungal cells as nutriment, by means of which they become enlarged, increase more or less in length, and then, by the aggregation of protein molecules at the end, assume a globular form which, by means of the secretion of a membrane of Bassorin, repeats the above-described formation of cells as long as the requisite matter is supplied. In this manner chains of cells arise, whose articulations are, however, very loosely connected, since the coat of the primary cell which at first unites them, at last deliquesces. Other cells are elongated and branched."

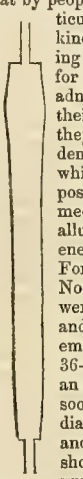
That the membrane of these cells consists of cellulose and not Bassorin, a moment's examination with the proper chemical re-agents shows most clearly, in accordance with the views of Mulder, Payen, and the best organic chemists. That cellusose is easily convertible into Bassorin, appears quite certain. Our author, in accordance with Mitscherlich, makes the principal feature in the Potato-murrain to consist of a conversion of the cellulose of the walls into Bassorin; like other points, however, in the disease, this is by no means universal. Other changes, certainly, take place quite as frequently, and even in highly diseased Potatoes, the original cellulose is often plainly discernible, from its pale violet hue, when treated with sulphuric acid and iodine. Dr. Kützing, however, seems to lay great theoretic stress on the matter, arising, probably, from the fact that yeast-cells, unlike other cells, do not consist of cellulose; from which arises, perhaps, his notion of the important part performed by Bassorin, in the origination of fungi. The elongated branched cells (mentioned at the close of the paragraph), are those of *Botrytis parasitica*, a fact which we are surprised that Dr. Kützing was not aware of, as we are also that he detected the mycelium neither of the *Cystopus* nor *Botrytis*. These, however, are minor points. What concerns us at present is the cool way in which the Professor presides, as it were, over the work of creation, in which he seems to find little difficulty. We might quote other examples to the same effect. But even in these cases, though we may not like the general tone, there is always something in the details to attract attention; as, for instance, in the origination of oil-cells in *Lavandula spica*, by means of little cavities (vacuoles), with which Dujardin's account of the formation of such cavities in certain Infusoria should be carefully compared. We may refer also to what he says about the pubescence of *Salvia*. One of Dr. Kützing's peculiar notions is, that Gum Tragacanth is a species of fungus, resembling *Nemaspora*. We suppose that he cannot have been much in the habit of examining fungi, or he could scarcely have formed such an idea, the structure being totally different. He must have deceived himself with external analogy only, than which nothing in science is more fallacious.

We have already extended our remarks beyond the space which we can usually afford for such notices, though there are many matters to which we should have liked to call attention; we must, therefore, content ourselves with assuring readers of German, that the book will certainly repay a careful perusal.

FLORICULTURE.

Roses for Exhibition in a Cut State, in June or July (*Concluded from p. 55*).—*Bourbon.*—Acidalie: White, large, very double—Appleby; white, with a rosy tinge—Foster. Dupetit Thouars: Beautiful bright crimson — Francis. George Cuvier: Brilliant rosy carmine — Appleby. Le Gracieuse: Rose, perfect, beautiful — Appleby. Le Marechal du Palais: Delicate rose, beautiful—Appleby. Paul Joseph: rich purple crimson—Foster. Proserpine: Brilliant crimson and purple—Appleby. Souvenir de la Malmaison: Pale flesh, tinted with fawn, large and splendid—Appleby; creamy flesh blush, with magnificent foliage, very large and distinct; a superb Rose—Curtis; pale flesh, beautiful—Foster; large and superb—Francis; magnificent—Lane; beautiful, very large and full—Paul; magnificent in foliage, very large and distinct; a superb Rose—Wilkinson; perhaps the best of its section—Wood; a charming family of autumn blooming Roses—Appleby; constantly in blossom from June to November—Curtis; this splendid class blooms very freely, but cannot boast much of fragrance—Lane; this section contains some of the most beautiful Roses of autumn; with them, especially, it may be said, that it is not a vigorous growth which produces the best and most perfect flowers. They are very hardy, and of free growth—Paul; the vigorous kinds require moderate, and those of compact habit, close pruning—Wood. *China Roses.*—Archduke Charles: Rose, large — Foster. Marjolin: Deep crimson — Foster. Mrs. Bosanquet: Pale flesh—Foster. *Tea Roses.*—Comte de Paris: Deep flesh coloured, blush, globular and pendulous, very large and beautiful, hardy—Curtis; rosy flesh colour, large, perfect—Francis; deep flesh coloured, blush, globular, and pendulous; very large and beautiful; hardy—Wilkinson. Devoniensis: Creamy white centre, changing to pale straw colour tinted with pink, petals thick and Camellia-like, very large and most powerfully scented, one of the hardiest of its class—Curtis; large delicate pale sulphur, superb—Francis. Elise Sauvage: Fine yellow, buff centre—Francis. Eugène Desgaches: Light rose, very double—Foster. Moiret: Pale yellow, shaded with fawn and rose, superb, very large and full—Paul. Souvenir d'un Ami: Salmon and rose shaded, large and full, fine—Paul. The Tea Roses are celebrated for their extreme delicacy of colouring and delicious fragrance; they are rather tender. The chief thing necessary for their successful cultivation is a soil well drained. A light rich soil is preferable, and a slight protection against frost suffices—Paul. *Noisette.*—Aimée Vibert: Pure white—Foster. Cloth of Gold: Outer petals pale yellow with golden centre, globular, large, and magnificent, rather a shy bloomer, but of the most luxuriant growth—Curtis; deep yellow, wants a wall—Foster; globular, large, and magnificent, rather a shy bloomer, but of the most luxuriant growth—Wilkinson. Lamarque: Pale straw — Foster; bright lemon — Francis. Pourpre de Tyre: Crimson purple—Foster. Solfaterre: Bright straw with deep sulphur centre, habit of Lamarque, rather tender, splendid for a wall—Curtis; large bright sulphur, superb—Francis; bright straw with deep sulphur centre, rather tender, splendid for a wall—Wilkinson. Noisettes certainly contain some of the very surest autumnal bloomers—Wilkinson. *J. E.*

Inconspicuous Props for Plants. — Pinks, Carnations, and many other things which require to be supported by props, frequently present the appearance, when in beds, of a grove of sticks with plants tied to them, instead of an orderly mass of well-shaped plants, which may be found on examination to owe their neatness to props which, without a search, could hardly have been discovered. The absurdity, where it is avoidable, of having props as conspicuous, or more so, than the plants which they support, is little recognised by gardeners or amateurs, but it is constantly pointed at by people of taste, who are not cultivators, and particularly by the ladies. Plant growers have a kind of necessary respect for props, from knowing their value; but it seems to me this respect for their utility sometimes degenerates into an admiration of their appearance, which leads to their being made much more conspicuous than they ought to be. Be this as it may, it cannot be denied that the true idea of their being allies, which should be kept as much out of sight as possible, is too much overlooked. The best remedy which I have discovered for the evils alluded to, is the use of well-painted, straightened wires of various lengths and thicknesses. For Pinks, I last year used 24-inch lengths of No. 11 wire, which, with two coats of green paint, were almost invisible, and proved perfectly firm and efficient as supports. For Carnations, I employed with equal success and satisfaction 36-inch lengths of No. 6 wire (about 3-16ths of an inch thick); but wire of this weight would soon have become loose in the ground, its small diameter presenting little resistance to motion, and to avoid this I employed tapering wooden shods or sockets, about an inch thick at the upper end, and 7 inches long. These were drilled throughout their length, so as tightly to fit the wires, the ends of which were passed through them and projected about an inch beyond the small ends which were thus pointed. The sockets were then dipped in boiling tar, and when this had hardened the wires received two coats of green paint. The firmness and efficiency of these props is most satisfactory, and equally so is their non-appearance. With an annual coat of paint, when out of use, they will last for years, and their first cost is trifling. Wires made quite straight by a wire-worker cost me 4*d.* per lb., which, for small sizes, comes very cheap per 100. The wooden sockets were made for me by a bobbin-turner, at 2*s.* 8*d.* per gross. When painting the wires I put a spoonful of paint into a woollen cloth laid in the hollow of the left hand, and draw them through it, a plan I find as good, and much more expeditious, than using a brush. Above will be found a sketch in outline of the socketed prop. The shoulder at the thick end of the socket is for laying hold of when pressing it into the ground. *W. C., jun., Glasgow.*



The Stoke Newington Chrysanthemum Society held its general anniversary meeting on the 29th inst. The President in the chair. The auditors' report for the past year was read, and officers elected for the present year. Some important changes were made in the rules, one of which was that uniform stands be alone tolerated at the exhibitions, the Metropolitan Dahlia stands being the measurement adopted. The day appointed for the annual exhibition of 1852 is Thursday, November 18th. Fifteen new members were added to the list, which, together with several valuable extra prizes to be offered, closed the meeting.—An amalgamation of the Shacklewell and Stoke Newington Dahlia Societies has been determined on, whereby an extended interest will be secured, and the working expenses materially lessened. Hackney is also to be fully represented, thus securing a wide field for support. The show day is fixed for Wednesday, September 1st. *J. E.*

Catalogue received from Mr. Smith, Tollington Nursery, Hornsey-road. *J. E.*

Exhibition Days Fixed. South London: April 22, May 20, June 23, July 21, Sept. 8. Cheltenham: May 24, June 22, August 24. Highgate: Sept. 14. Camberwell: Sept. 15. Caledonian: March 4, May 8, June 3, August 7, Sept. 2, Dec. 2 *J. E.*

Floricultural Review, Nos. 1 and 2, from Mr. Slater, Cheetham Hill, near Manchester. *J. E.*

Labels: *E. C.* We use strips of zinc, in which is punched a

[illegible] ; [illegible] are secured in their positions by No. 10 wire. Dinsdale's ink has remained legible for years *J. E.*

ROSES: *J R.* Next week.—*Sub, J P, Mary, and others.* A list of continuous bloomers has already been given in our columns. *J. E.*

TULIPS: *J C.* Your request shall be attended to. *J. E.*

Calendar of Operations.

(For the ensuing week.)

PLANT HOUSES.

IN pruning and training the climbers in plant houses, some regard must be paid to the time when it is desirable the plants should bloom. Thus with stove climbers, not required to bloom before the autumn, pruning may be deferred for some time yet, which for an earlier show should be done at once. Passion-flowers, Bignonias, and similar plants, which make long annual shoots, should only have their wood thinned and slightly shortened, while some others, as Combretum, Beaumontia, &c., may be spurred in. Much depends on the space allowed for their growth. In the conservatory, Kennedyas, &c., will be showing bloom, and what training they require should be done at once, but the pruning of these should not take place till after blooming. Where Orange trees are grown to decorate the flower garden during summer, care should be taken to prevent their beginning to grow previous to their removal to the open air, and more especially if the trees are wintered in a dark roofed house. Where such happens, we have always found the young leaves thin and flabby, and turn brown the first bright weather when set out; whereas, if growth is prevented till the plant is in the open air, the leaves will bear any amount of sunshine, and will carry that dark glossy hue so essential to their beauty.

FORCING DEPARTMENT.

VINERY.—Considerable care will be necessary here; the young shoots will require stopping at one or two joints above the fruit. Where the Vines are old and the leaves small two joints should be left to give a sufficiency of foliage; whereas, when the Vines are young and vigorous, one will suffice. The ventilation of the early house, this damp and dark weather, must be kept up, by making slight additional fires during the day, for this purpose; tie in the shoots, that each leaf may have its due share of light. The outside borders must have the fermenting material kept from heavy rains, or they will soon lose their heat, and a check to the now growing roots will produce much mischief. In fact, it would be preferable not to apply artificial heat to borders at all, than, after having excited the roots to commence active growth, allow the heat to decline. And it is scarcely safe to remove the covering before the crop is ripe. The necessary supply, therefore, of fermenting material should have been ascertained previous to commencing forcing. When protection from frost is only aimed at the case is different, and such may be removed towards the end of March or beginning of April, when the sun's rays begin to have an influence on the borders. As the second Vinery will now be breaking, the temperature may gradually advance to 55° by night, and may reach 70° during bright days; the moisture must be regulated in some degree by the weather. Young strong Vines are sometimes difficult to break, especially when grown on the rod system, and some ingenuity will be required in binding them, so as to cause the lower buds to break at the same time as those on the upper part of the shoot. Dress and prepare successive Vineries, that they may be brought into work as required; everything necessary to be done in the shape of painting and repairing the roofs should be effected at once. PEACH-HOUSE.—You cannot hurry Peaches at this stage, and it will be better to keep them very steady and comparatively cool, than attempt to make up for light and sun by fire-heat; dust the flowers frequently, and keep what circulation you can in the house, the health and vigour of the blooms will depend mainly on the supply of air they get; bring on the second house gently, making fires chiefly by day; the temperature at night may be 45° this mild weather, and this may be maintained without fire-heat. FIGS may have their temperature gradually raised, as the leaves advance, 1° weekly should however not be exceeded; syringe frequently. CHERRIES will require caution and their progress should be slow, fires will only be necessary by day, and even then the heat should not rise higher than 55°, to which point it should be kept, by free admission of air.

FLOWER GARDEN AND SHRUBBERY.

Wherever the soil is found to be at all poor, Roses should be frequently lifted, and have a fresh supply of compost. November is the best time for this operation, the next best the present; take each plant up carefully, and remove the contiguous earth, and replace it by a compost of strong loam and well rotted manure, when the plant, after a moderate root pruning, should be replaced in its place; all Roses are benefited by this practice every three or four years, but in poor soils it is absolutely necessary to insure a fine bloom. Proceed with the thinning out and pruning of such trees and shrubs as require it, and the planting of hardy trees and shrubs may be carried on, especially those of a deciduous habit.

FLORISTS' FLOWERS.

DAHLIAS should now be in active operation. The best way of propagation is to place the roots in sand and leaf mould over a hot-water tank, which occupies three sides of a small pit, having a passage in the centre. We place the large roots on the side nearest the back of the house, reserving the front bed for the culture when taken off. As soon as the shoots are 2 inches long we remove them, cutting them close under a joint. They are then inserted round the side of a small pot in sand, the pot being plunged to the rim in the front bed before alluded to. We do not cover them with hand-glasses, finding that by keeping a brisk heat they root extremely well without. The grower of RANUNCULUSES should have all ready for planting his bed in such a state that it may be raked down at any time, and the roots put in the first favourable opportunity. As TULIPS throw their spikes above ground, in the best managed and best protected beds there will be some that will suffer from canker. When this is perceived, remove the soil below the part affected, and cut away with a sharp penknife. Allow it to remain exposed to the air, but sheltered from wet, by placing a small handglass over it, raised from the ground with some small pieces of tile.

HARDY FRUIT GARDEN.

See our remarks last week on covering wall trees. Should frosty weather occur, everything should be in readiness. Stout canvass screens on rollers are, perhaps, the best things after glass, but they are expensive; and we doubt not moveable glass frames will soon come into general use for all the finer descriptions of wall fruit, by which means we shall be able to rival our continental neighbours in this branch of gardening. The pruning, nailing, and tying of wall trees should now be followed closely. As studs driven into the walls, either with an eye or round head, to secure the bass in tying the shoots, are much preferable to the yearly driving of nails, we strongly recommend the plan. Although the first cost is higher, it will be found much less injury arises to the trees, and the walls are preserved at the same time. Apples, Pears, and the smaller description of fruit trees, should not have their necessary pruning.

KITCHEN GARDEN.

The land for the general crop of Potatoes should be got into planting order immediately the state of the soil will permit its being moved. We do not advise the planting of the general crop in the autumn, feeling sure no advantage is gained by the plan; and as to its exempting the crop from disease, our own experience, in a large Potato district, leads to no such result. We would, however, advise planting in March, on dry, open soils. Avoid fresh and rank manure; soot, peat-ashes, and other dry absorbent manures, are preferable; and the more so, on damp and heavy lands. Prepare ground for the main crops of Parsnips (a favourite root in the West of England), Carrots, Beets, and other roots requiring a deep, good, pulverised soil. A few Early Horn Carrots with a mixture of Short-top Radish may be sown on a south border; cover over with straw or loose branches till the plants are well out of the ground. Take every opportunity to clear the vegetable quarters of rubbish, which only afford a harbour for slugs; bring on successional crops of forced vegetables, as Asparagus, Kale, Rhubarb, &c. Except for the early crop of Rhubarb, we prefer forcing the two latter vegetables where they grow; and we know of no better or cheaper way of forcing Asparagus early, than taking up the roots and placing them on bottom heat in a pit heated by hot water pipes. Later in the season, beds made permanently, and heated either by dung linings or pipes, may be adopted. Keep up the supply of French Beans by making a sowing every 10 days in small pots; attend to this vegetable in the forcing house by daily syringing, to keep down red spider. Put a little brushwood in each pot to support the plants; and pass a strand of matting round to keep them together. In some places Lettuces are required early in April, and for this purpose require forcing. Make up a bed of leaves and dung, for a slight bottom heat, on which place a shallow frame. The plants (the Cabbage Lettuces are the best for this purpose), which should have been sown early in autumn may now be planted in the frame, in light rich soil, 7 or 8 inches thick; place them near the glass, 1 foot apart each way. In giving air they will require care the first fortnight, to prevent their damping off; and if the heat keeps steady, they will grow fast, and form fine close heads by April. We prefer for ourselves that called the Dutch Dwarf Forcing.

State of the Weather near London, for the week ending Jan. 29, 1852, as observed at the Horticultural Garden, Chiswick.

Jan.	Moon's Age	Barometer. Max.	Barometer. Min.	Temperature. Of the Air. Max.	Of the Air. Min.	Of the Air. Mean	Of the Earth. 1 foot deep.	Of the Earth. 2 feet deep.	Wind.	Rain.
Friday.. 23	2	29.829	29.423	46	29	38.5	41	40	S.W.	.00
Satur.. 24	3	29.831	29.559	48	34	41.0	40½	40	S.W.	.10
Sunday . 25	4	29.945	29.775	50	27	38.5	40½	40	S.W.	.16
Monday 26	5	30.073	29.903	51	41	46.0	40	40	S.W.	.00
Tues. .. 27	6	29.583	29.467	46	29	37.5	40	40	S.	.28
Wed. .. 28	7	29.883	29.730	45	21	33.0	40	40	N.W.	.00
Thurs.. 29	8	30.090	29.924	46	34	40.0	39	39½	S.W.	.04
Average		29.891	29.683	47.4	30.7	39 1	40.1	40 1		.58

Jan. 23—Fine; very fine; clear at night.
— 24—Lightly overcast; rain.
— 25—Clear; exceedingly fine; clear; slight frost; rain.
— 26—Clear; very fine; overcast.
— 27—Fine; rain throughout.
— 28—Foggy; fine; clear; sharp frost.
— 29—Frosty, with fog; very fine; overcast.
Mean temperature of the week, ½ deg. above the average.

State of the Weather at Chiswick, during the last 26 years, for the ensuing week, ending Feb. 7, 1852.

Feb.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 1	42.9	31.7	37.3	10	0.75 in.	2	4	3	3	2	6	4	2
Mon 2	43.9	31.2	37.5	10	0.12	2	4	3	3	2	6	4	2
Tues. 3	44.7	31.3	38 0	13	0.42	2	3	3	1	2	10	3	2
Wed. 4	44.4	32.8	38 6	12	0.31	2	4	2	—	6	6	4	1
Thurs. 5	44.5	32.2	38 3	10	0.14	2	3	2	1	3	6	4	5
Friday 6	45.6	32.5	39.6	13	0.39	2	1	3	3	4	5	6	2
Satur. 7	46.4	33.2	39.8	14	0.25	2	1	3	—	3	9	6	2

The highest temperature during the above period occurred on the 3d, 1850—therm. 57 deg.; and the lowest on the 8th, 1847—therm. 5 deg.

Notices to Correspondents.

APPLE TREES: *J P.* They are attacked by American blight. Wash the branches with spirits of tar, applied with a painter's brush.

BIRDS: *Ropley.* To save your birds, you must instantaneously remove them into NEW *Mahogany* cages; and *burn* the old ones at once. The "red spider" you speak so innocently about, has been fattening on the life's blood of your birds for many weeks past. Examine your birds carefully before putting them into their new dwelling; and with the extreme end of a fine needle, remove *every one of the vermin* which are palpable to the eye. We much fear you do not read our "Weekly Advice" with due attention. We have ransacked the dictionary for words sufficiently strong to denounce these vermin. With respect to your parrots, they care little about water at this season. In the summer they like to bathe their heads.—*L G W.* We have given the subject all due consideration, and you shall know the result at the earliest possible moment.—*Anna Maria.* Your bird is overfed. Be more sparing in the "extras."—*John P.* There is nothing better at this season than a snail. They are now most plentiful. — *Susanna J.* Moist sugar, mixed with a little boiled milk, with bread soaked in it, will do "nicely." It will offer a temptation too powerful to be resisted.—*E. M'Grath.* If the bird be as represented, two guineas is by no means an overcharge.—*Rebecca F.* Two years old, at least. If younger, disappointment is the usual result,—and the loss of temper; two things to be specially avoided.—*William J.* It is the advance of the season that induces the sudden change. We are *all* equally affected by it.—*Jacques.* Its voice is hardly "melancholy." 'Plaintive' it may truly be called,—but then how sweet!—*Angelina.* We are indeed "happy" to know that we have saved your "pet's" life. We have lately worked many other similar "extraordinary cures;" and it is only *humane* to let us be told of them.—*Tabitha.* It is simply because your birds are suspended in such a manner as to *see* each other. The "excitement" thereby produced militates against *song.* Reform this.—*Amelia W.* It has taken cold. Boiled milk, in lieu of water, will remove the husk; but you *must* remove him to a close cage. We are weary of so often enforcing this.—*George P.* His feathers will be replaced with the return of spring, and his plumage will be finer than ever.—*Ninetta.* Do not give your nightingale too many mealworms; they take them off their regular food. One morning and evening, is amply sufficient.—*Jacob T.* You bought it in the street,—did you? You did wrong. "It does not sing," you say. It never will. You were *told* it was a cock,—were you? And you believed it? Wrong again,—very. There never was a cock-bird sold in the streets of London since the building of that great city; *and there never will be.* Your shilling therefore must be sacrificed at the shrine of experience.—*Josephine.* The first week in May will be quite early enough to *think* about it.—*Maria.* Your parrot will, we fear, never reform. Her habits have become "fixed." All you can do is—to rub bitter aloes over the breast and other bare parts, and if this fail, to reduce her proportions exactly by—a head.—*F G—n.* We have your name, truly; but again, no address! How is it possible for us to answer all your questions by post, not knowing where you reside? The "Worcester" post mark on your letter is at present our *only* guide! Write again. *W. K.*

BLEEDING: *P S.* We cannot advise you what to do with your tree, unless we know what has led to its bleeding, and in what state the tree now is. The leaf belongs to some Cassia, and probably to C. corymbosa.

BOOKS: *W Ward.* No such book either has been or ever will printed. Do you know that the number of different species of plants is estimated at 100,000, exclusive of varieties?

DISEASED LEAVES: *B Fielder.* You will find leaves like your own figured at p. 595 of our volume for 1849. The holes are probably produced by drops of some acrid vapour falling upon them. Are you near any chemical works? If you are you may look to them for the cause of the mischief, and yo may expect all your trees to be killed.

GRAPES: *Cartmel.* We would advise you to give your Josling's St. Alban's a further trial before you replace it with another sort. The fruit certainly has a tendency to split or crack before it is ripe; but that may be prevented by keeping the border in a uniform state. If the latter is permitted to become too dry, and suddenly saturated with water, the fruit is sure to split; but, with care to prevent this, sound Grapes may be obtained, and when had in perfection, few varieties are more esteemed.‡

HEATING: *E B E.* You cannot heat such a small place with hot water. If you dislike dung why not employ leaves, which do just as well? Sometimes gas stoves have been used for such places, but with indifferent success. It is very difficult to apply hot water to small places like yours, without incurring an expense out of all proportion to the result.

IRISH BOTANIC GARDENS: *E C.* We fear we shall be unable to find room. Your letter is very long, and does not add anything material to the *facts* already published.

MISTLETOE: *E D S.* When ripe insert the glutinous seeds into a slit or cleft on the *under* side of a branch. The reason why you fail is no doubt that birds eat the seed before it germinates; they cannot get at it if on the under side.

NAMES OF FRUITS: *J E.* 1, "Old Man" Apple; 2, Norfolk Paradise; 2, Northern Greening; 4 and 5, not known—probably local varieties; quality indifferent. 6, Wood's Seedling—it is too acid.‖—*J P Wall.* Your Pear is the Easter Beurré. With regard to its merits, it is sometimes buttery and excellent; but occasionally it is, like the specimen received, rather mealy.‖—*E W S.* 1, Hollandbury; 2, Burr Knot; 3, Northern Greening; 4, perhaps Minchall Crab, but the specimen was imperfect; 5, some wild sort.‖—*N N.* Your seedling Apple has very sweet, tender flesh, such as would be preferred by some.‖

NAMES OF PLANTS: *J T.* Young men who know nothing of science, and least of all of systematical science, should have diffidence enough to refrain from assuming the office of critics. Our correspondent at p. 53 is perfectly correct in his description of the three Cratæguses called orientalis, odoratissima, and tanacetifolia; and you are entirely wrong. As to whether a plant is a *small* tree or not, such terms of comparison are not open to criticism when employed as by the correspondent in question. Perhaps you do not know that Loudon's "Arboretum," although a useful and instructive work, is the very last to which reference can be made as an authority for names.—*H P.* Cleome speciosa.—*A A.* Acacia lophanthe.

PAMPAS GRASS: *D.* We never recommend dealers. Your nearest nurseryman can, perhaps, obtain it for you.‡

POTATOES: *Hand Co.* You must be so good as substantiate your statement by the testimony of some analytical chemist of acknowledged skill. Common chemists are unable to make such analyses in a manner that is satisfactory to the public.

RABBIT-GUARD: *J C S.* We would prefer 2 feet. Rabbits will easily leap the height of 18 inches. *W.*

WALLS; *G P.* They may be pointed as soon as all danger from frost is over.‡

MISC: *M B.* Cycas revoluta is not a very rare plant. It is seldom cultivated, because it does not produce gay flowers; of course it flowers—all cultivated plants do. Tillandsia dianthoides is a Bromeliad, not an Orchid.—*Un Jouvenceau* had better apply to M. Vilmorin, Quai de la Mégisserie, Paris; the plant he mentions is not that we know of in England. We cannot become agents. Nothing is sold from Kew.

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REFERENCES.—Dr. D. B. Reid, F.R.S.E., &c., Author of "Elements of Practical Chemistry," "Theory and Practice of Ventilation," &c., Houses of Parliament, Westminster; J. Gardner, Esq., M.D., Author of "The Great Physician," &c., Editor of "Liebig's Letters," &c., Mortimer-street, Portland-place, London; John Shittler, Esq., Wimborne, Dorset; Thos. Saunders, Esq., Watercombe, near Dorchester; J. Gater, Esq., West End, near Southampton; and W. Shaw, Esq., Editor of the *Mark Lane Express*, London.

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The Agricultural Gazette.

SATURDAY, JANUARY 31, 1852.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY,	Feb.	4—Agricultural Society of England.
THURSDAY,	—	5—Agricultural Imp. Soc. of Ireland.
WEDNESDAY,	—	11—Agricultural Society of England.
THURSDAY,	—	12—Agricultural Imp. Soc. of Ireland.

IF any of our readers will turn to our volumes for 1846, 1847, and 1848, they will see under the head "Calendar of Operations," periodical notices of the cultivation of what is sometimes designated as a Galloway, and sometimes as a South Wigtonshire farm: and at p. 13, 1846, they will find a description of this occupation. It consists of 600 acres, of which 400 are strong alluvial land all drained, and 200 are dry Turnip land: of these, 100 acres around the farm-buildings are reserved in permanent pasture for stock, and the remainder is cultivated in 10 divisions, viz., seven clayland pieces of 50 acres each in fallow, Wheat, Beans, Wheat, Barley, Clover, and Oats respectively; and three Turnip land piece of 50 acres each in Turnips, Potatoes, and Wheat or Barley respectively. Part of the fallow break, it should be stated, is sown with Vetches and Rape, both cut for forage; the Wheat stubble is manured for the Beans, and it is dug deeply for the Barley; the Clovers are manured for Wheat; the Turnip crop is manured with not less than 6 cwt. of guano and 20 bushels of bones per acre: the buildings include threshing barn, straw-houses, granaries, stalls and byres for 120 cattle—dairy, cheese-house, and dairyman's house; they include a dung-court, where the cleanings of stables and byres are daily carried and mixed, and where the contents of the urine tanks are spread weekly. The threshing-mill is driven by waterwheel, and attached to it is machinery for cutting straw and bruising corn, and close by is a cooking house, where Turnips, chaff, and Linseed are steamed for the cattle. The produce of the farm is beef, mutton, pork, with the cheese and butter of a dairy of 100 cows, and Wheat, Beans, and Barley: the extent of the farm is sufficient fully to employ the large capital, the intelligence, and the energy which have for many years been spent upon its cultivation; the farmer, not more as the tenant of one of the best appointed occupations in his district, than as being in himself well-fitted both by practical skill and experience,

and by general intelligence, to do justice to the position he occupies, naturally holds a high station among the agriculturists of the district; and taking into account his original qualifications and his long successful prosecution of a business involving so many agricultural processes and products, we may safely say that no man is better qualified, whether by experience or intelligence, to give a sound opinion on an agricultural subject.

Well, the tenant of this farm lately gave to the world his opinion of a successful experiment in the growth of cattle food at Auchness, in Wigtonshire; and, in his pamphlet on this subject, he pointed out the expediency of high farming to tenants, and of liberal covenants to landlords, as the best substitute for "protection," doctrines which might be safely argued *à priori*, but which were conclusively demonstrated by his own experience and that of his neighbours; and yet, except in his own neighbourhood, where he was already well known, he was immediately set down as a speculative enthusiast and a party politician. No one knows better than Mr. CAIRD, of Baldoon, the virulence of party political feeling; nor the powers of the English language in satire and invective. Since this first storm which he had to weather he has been employed, as our readers know, by the *Times* newspaper, on a commission to enquire and report on the condition of agriculture in England; and it is to introduce the volume of his collected reports, lately published by LONGMAN and Co.,* that we have thus referred to their author. It is needless to attempt the detailed criticism of this work in a single article—to portions of it we shall hereafter call the attention of our readers. Many of them are already well acquainted with the performance as it appeared piecemeal in the *Times:* and it will be almost universally admitted that it presented a series of interesting and instructive pictures of local agriculture. No doubt the hurried character of the investigation impressed upon its product the character of a skeleton or outline, rather than that of a full bodied and minutely detailed statement; but it will be found that the points demanding notice have been skilfully selected and ably commented upon; and that the general results to which the whole investigation conducts are fully and impartially exhibited.

THE time is rapidly approaching when the BEET-SUGAR QUESTION will be set at rest by the Irish Sugar-Beet Company. It will then be seen whether the views maintained by Professor HANCOCK and by this journal, or those adopted by Mr. SULLIVAN, were the most correct. All we can say at present, repeating our wishes for the success of the undertaking, is, that if the speculation shall turn out profitable, it must be from different data than those given in Mr. SULLIVAN'S calculations. With Beet at 15*s.* the ton, and sugar at 28*s.* the cwt., and the expenses of the manufacture those of HAMOIR and Co., as stated by Mr. SULLIVAN, it is impossible that there can be any profit. We observed, in a former article, that the best hope of success lay in the fact that the manufacture of Beet-sugar in France had increased under the equalisation of duty on native and imported sugar. To this may be added another fact, of which we have been informed by a private communication, from a source on which reliance can be placed, viz., that Beet-sugar from France and Belgium is now selling in Dublin at a lower rate than Cane-sugar. The prospects of success, however, opened by these two facts are not without some modification. The French manufacture has advanced chiefly by means of improved processes suggested by chemical science, to which the manufacturers have been compelled to have recourse, in order to meet the competition of tropical sugar. When these shall be adopted, as adopted they will be sooner or later, by the grower of Cane-sugar, the advantage which the Beet-sugar maker derives from them will be neutralised. The fact, again, that Beet-sugar is sold at a lower rate than Cane-sugar, does not prove that it was at that price manufactured with a profit; and it appears rather extraordinary that the French sugar-makers should have passed the nearer and better English market, for the more distant and inferior Irish market. We have also received private information as to the flourishing state of the sugar Beet crops in Ireland, which is adduced as another ground of hope. Mr. SULLIVAN'S calculations, it is said, are based on 15*s.* the ton as the price of Beet; but the crops are so luxuriant that it will pay the farmer to raise it at 10*s.* the ton. Small portions of the crop have been weighed, from which an average yield of 20 or 30 tons is deduced, instead of the 15 tons on which Mr. SULLIVAN calculated. We cannot admit these facts as corroborating the hopeful view of the question. There is not the slightest doubt that such crops may be raised; but so far from being an open question, whether they will yield as much sugar per ton as smaller crops, it is well known that they will not. We have more than once alluded to the statement of Sir R. KANE to this effect. Since, however, those who are so sanguine of the success of the Beet-sugar manufacture appear to shut their eyes to it, we repeat it in his own words. "I have seen," he says, "estimates of the Beet-sugar manufacture, in which the produce per acre is often taken at 20 or 40 tons, as may be readily obtained; but in such case there is little or no sugar. It has been used in forming the woody matter of the roots, and hence the light crop above described is finally the most productive." Beet, therefore, at 10*s.* the ton, may be dearer to the sugar maker than Beet at 15*s.*

In case our predictions respecting the unsucessful issue of the Beet-sugar experiment should be realised, is there nothing else to which they who are desirous of superseding tropical by home grown sugar can turn their attention? What say they to Maple sugar? Professor JOHNSTON, in his "Notes on North America," bears testimony to its excellence; and it has long formed a considerable item of rural industry in Canada and the northern states of the Union. It there affords valuable aid to the poorer class of settlers, by supplying them with an article readily converted at the nearest store into money, which settlers of this class require for the purchase of necessaries before they can be produced from their own land. Where Maple trees abound, they plunge into the woods, in the sugar season, and a family will thus make, in a few weeks, 1000 lbs. of sugar, worth from 3*d.* to 6*d.* the pound. In 1848, more than 4,000,000 lbs. of this sugar were made in Canada West, or nearly 6 lbs. for each inhabitant. In 1844, the produce of Canada East was 2,250,000 lbs. The two provinces may be fairly supposed to yield some 7,000,000 lbs., or one-fourth of their total consumption of sugar; the total quantity imported from the West Indies amounting to 20,000,000 lbs. As regards the United States, the Report of the Patent-office for 1847 estimated the Maple-sugar crop of New Hampshire, for that year, at 2,250,000 lbs.; Vermont, 10,000,000 lbs.; New York, 12,000,000 lbs.; but as it also estimated that of Michigan at 3,250,000 lbs., which is known not to have exceeded 1,774,368 lbs., in 1848, a very good sugar year, it would appear that the estimates of that office are not much to be relied on. The sugar is obtained by making an incision in the tree and collecting the sap. The first sap that flows, in April, is clear, colourless, and tasteless; but becomes sweet after standing a day or two. A few days after the tree has begun to run, the sap flows sweet. The last sap that flows makes an inferior sugar. The manufacturing process consists in boiling the sap in earthen glazed pots, when it produces, at once, a beautifully white sugar, particularly if drained in moulds, and clayed like common loaf sugar: in which state it cannot be distinguished from Cane-sugar. It is, however, generally preferred brown, and the darker the better, because of the rich maple flavour which, though novel to the stranger, is soon relished.

The manufacture of Maple-sugar does not, however, merely consist in collecting the natural produce of the woods. Provident settlers in North America preserve the sugar Maple in clearing their lands. Professor JOHNSTON found on the estate of Major CAMPBELL, in Lower Canada, 12,000 trees, yielding, on an average, a pound of sugar each. Some trees being large and strong, bear tapping in several places, and yield as much as three or four pounds. Some seasons, again, are more favourable than others; but one pound per tree is a fair average. The sugar makers rent these trees at the rate of one-fifth of the produce, or one pound of sugar for every five trees. At an average price of 4*d.* the pound, Major CAMPBELL'S fifth would therefore amount to about 40*l.* In some of the townships of the Eastern counties of Canada, Maple groves are now planted for the production of sugar; and it is expected that they will yield a greater profit than can be obtained by any other application of the land; as an excellent pasture springs up beneath the trees. If it will pay to form plantations of sugar Maple in Canada, it may be asked why it should not be equally profitable to do the same in England? Before this question can be answered, information is requested on the following points:—Whether the sugar Maple, *Acer saccharinum*, will be as productive of sugar here as in America? How many trees of sufficient size to yield a pound of sugar each will stand on an acre? And the kind of land on which the tree will flourish? With respect to the first question, it appears that even in the country in which the sugar Maple is indigenous, climate has a considerable influence on the yield of sugar. The trees are tapped in March and April, and the greatest produce is obtained when a hard frost during the night is followed by a hot sun during the day. In Upper Canada, from its proximity probably to the lakes, the weather is more variable in the sugar season, and the crop is less certain than in Lower Canada. In New Brunswick, where the Maple is not much attended to by the English settlers, it is said to be a well-ascertained fact, that the flow of sap is influenced by the direction of the wind. After a frosty night in April, the snow being still on the ground, the sap will flow freely after sunrise if the wind be W., N.W., or N.; but only sparingly with the wind blowing from the south. If, while it is flowing freely, the wind changes to south, the flow of sap will gradually diminish, and finally cease.

With respect to the number of trees capable of yielding a pound of sugar each, which will stand on an acre, we have no precise information beyond what can be inferred from their size and habit of growth, as detailed in HUNT'S "Hand-book of the Great Exhibition," under the head of Vegetable Produce; the authority for which may be presumed to be Prof. FORBES. A young tree is there said to be more productive than an old one, and is stated to be fit for sugar making when the base of the trunk is about a foot in diameter. It is stated also the trees attain a great height, and are crowned by a dense mass of foliage. If trees possessing these conditions would stand five yards asunder, we should have 154 trees to the acre; if they would require intervals of 10 yards, there would be no more than 48. Taking 4*d.* as the average price of the sugar, the rent of one-fifth would be in the former case 10*s.* per acre, in the latter, 3*s.* With regard to soil, the Maple is one of those hard woods which in America are considered indicative of good land; Professor JOHNSTON found it flourishing on the Niagara and other limestones; but he does not think that it particularly affects calcareous soils. We may expect it to thrive here on those soils upon the chalk and other strata, which are extensively under coppice, and on which the common Maple is indigenous. The length of time which must elapse before a plantation of Sugar-maple would come into bearing, precludes the probability of the establishment of a Maple-sugar Company, as a rival to the Beet-sugar Company of Ireland; but it need not deter any landowner from making a plantation, who is satisfied that it would eventually be remunerative. The trees might be planted in coppices at the distances at which it was intended that they should stand when arrived at maturity. In the interim, they would not interfere with the periodical cutting of the underwood. When the Maple began to yield sugar, the coppice might be grubbed, and the land laid down to Grass; which would be improved by the dropping of the leaves. The principal question, therefore, is, will the *Acer saccharinum* yield as much sugar in our climate as in North America? There must surely be in this country a sufficient number of trees of this species, large enough to furnish experimentally a definite answer to this question.

BEST MODE OF APPLYING ARTIFICIAL MANURES.

IN reply to the queries put to me, in a late Number by your correspondent, Mr. Campbell (page 811 1851), relative to the mode of application of the substances used as artificial manures, recommended by me for Potatoes, in page 778, I have much pleasure in communicating, for his information, so far as my humble experience will avail him, the following particulars. I have found from experience that artificial manures, whatever they may be, do not exercise so beneficial an effect, if mixed with the dung, as when the latter is first allowed to become thoroughly incorporated with the soil. After sufficient time has elapsed for the accomplishment of this, the former, if of a caustic nature, being previously blended with twice or thrice its bulk of some less exciting substance, such as burnt clay, road scrapings, charcoal, or common earth, may either be deposited along the drills with the seed, or used as a top dressing, upon the appearance of the plants above ground, according to the description of the land they are grown in—the former plan being preferred by me in stiff soils, and the latter if of a light, porous texture. By such process I, in the first instance, bring the land into an improved condition, and afterwards feed the plants with the artificial application. Whatever may be the crop cultivated, I think it better to adopt this method, and the additional trouble will be found amply repaid by the increase of produce generally obtained.

Your correspondent states, that the compositions employed by him of guano, sulphates, &c., in the cultivation of his Potatoes, were mixed with dung, but without mentioning what quantities of either were applied, or the nature of the soil itself; and therefore I can here only form a conjecture as to the cause of the failure in the result he derived, which may have arisen from his having afforded to the crop an excess of nourishment. In this respect agriculturists, in many instances, undoubtedly err; I mean, by fancying that

* "English Agriculture in 1850 and 1851;" by JAMES CAIRD, Esq., the *Times* Commissioner. LONGMAN and Co.

the more "muck" they put on, the more "grist" will it produce, because the constitution of plants with regard to food is precisely similar to that of animals; they can take in only a certain quantity, which allowance proves beneficial, whereas a surfeit only acts prejudicially to both. A practical illustration of the truth of this remark I shall narrate. At the time of my making the experiments adduced in No. 49 of your Paper, a neighbouring farmer, who ridiculed the idea of the "new-fangled manures," as he called them, being capable of surpassing in their effects, "the old-fashioned sort" that he and his father before him had used, determined, he said, "to take the shine out of me;" and with such intention, added to a piece of his land planted with Potatoes, at the rate of at least 50 good loads per acre, of rich dung. The consequence was, that the haulm grew rank and long; and on lifting the crop, the principal part, the tubers, were not only woefully deficient, but about two-thirds in a state of corruption. This, I was perfectly satisfied before-hand, would happen; but it was in vain my endeavouring then to convince him of it. The circumstance, however, tended more forcibly to strengthen the opinion I have long entertained, namely, that this esculent requires for its healthy cultivation a much less quantity of nitrogenous matter than most of our other usually grown crops. I have not myself had any of the products of our fields submitted to analysis, but in the very clever and useful little work published by Mr. Solly, entitled "Rural Chemistry," which every agriculturist will act wisely in studying, and I have read with a great deal of interest as well as profit, it is shown that in 1000 parts of dry Potato there are 15 of nitrogen, while in the same proportion of Wheat are found 23; and in 100,000 parts of the tuber and haulm of the former, 1429 of potash, while but 245 appear in the straw and grain of the latter, which proves that ammoniacal manures must be more suitable for Wheat, and those in which potash abounds for Potatoes. Professor Johnston, also, in his truly able and scientific publication, "Lectures on Agricultural Chemistry and Geology," 2d edition, page 642, in giving a detail of special manures for each crop, adds a much larger proportion of potash to that for Potatoes than to those for any of the other crops. He further states in the same work, page 366:—"If the produce of a field be at the rate of 25 bushels of Wheat per imperial acre, weighing 60 lbs. a bushel, and if the straw average twice the weight of the grain (it is often 3 and even 3½ times as much), then the quantity of inorganic matter carried off the soil by the crop will be per acre:—

In 1500 lbs. of grain, at 2 per cent. of ash	30 lbs.
In 3000 lbs. of straw, at 6 per cent	180 ,,
Total	210 lbs.

And the composition of the matter thus carried off (according to the means of an analysis before given) will be:—

	Grain.	Straw.	Total.
	lbs.	lbs.	lbs.
Potash	7.15	22 44	29 59
Soda	2.73	0.29	3802
Lime	0.85	12.09	12 94
Magnesia	3 63	6.89	10.52
Oxide of iron	0.20	2.35	2.55
Phosphoric acid	15.02	5.54	20.56
Sulphuric acid	0.07	10.49	10.56
Chlorine	...	1.97	1.97
Silica	0.35	117.94	118 29
	30	180	210

And, again, with regard to Potatoes, page 387, it is demonstrated:—"Eight tons of Potatoes contain two tons of dry matter, which leave, when burned, from 8 to 10 per cent. of ash, or in all 400 lbs. The tops of the Potato, weighing 4 or 5 tons green, contain 1000 lbs. of dry matter, leaving 18 per cent of ash, or, in all, 180 lbs. Thus the crop carries off altogether:—

In the tubers	400 lbs.
In the tops	180 ,,
Total	580 lbs.

Or about 70 lbs. less than is carried off by a Turnip crop of 20 tons. But these proportions are, as you know, very variable. The yield of bulbs and tubers by these two crops is often very much more than I have taken for the above calculation. In some districts the crop averages one-half more, and the proportion of tops, in both the Turnip and the Potato, often bears a much larger proportion to the weights of the roots than I have assumed. These circumstances must, of course, be taken into consideration in estimating the effect which any given crop, or any succession of crops of these roots, is likely to produce upon a given soil.

The relative proportions of the several substances extracted from the soil by the above crop of Potatoes, was nearly as follows:—

	Tubers.	Tops.	Total.
	lbs.	lbs.	lbs.
Potash	222.56	50 44	273 00
Soda	7.44	29.27	36 71
Lime	8 21	30 42	38 63
Magnesia	21.08	12.76	33.84
Oxide of iron	2 08	1.89	3 97
Phosphoric acid	50 20	13.72	63 92
Sulphuric acid	54 48	12.38	66 86
Chlorine	17.04	22 19	39.23
Silica	16 85	6.96	23.81
	400	180	580

By comparing these analyses, therefore, it will be seen that a very different proportion of the mineral or inorganic substances ought to be introduced into a manure for Wheat than for Potatoes; and the same observation will apply respectively with regard to every other crop. But let these artificial applications be prepared with ever so great a degree of accuracy, it cannot be expected that they will act similarly on all occasions. Soil, climate, and locality must of course exercise influences productive of very different results; and hence, in a great measure, arise the discrepancies that we so frequently hear of being experienced in the use of these manures. Nor, as every farmer knows, does the common manure always yield the same result; for its efficacy, in like manner, depends upon circumstances; and as much attention is necessary to be bestowed, I aver, upon the preparation of it properly, as in the other case.

But I have considerably digressed from the topic which ought to have constituted the chief subject of my present communication, and therefore shall return to the inquiries made by your correspondent. To answer these more satisfactorily than has already been done, I must beg the favour of his furnishing me with more minute data to guide me than he has afforded; for instance—How were the crops of his neighbours cultivated? Was the soil as well as the dung used of the same quality in his case as in theirs? Was there any drainage to the land in either or both cases? What were the crops previously grown in each? Did he take the precaution to satisfy himself that the artificial substances used were really such as had been represented to him by the vendor? The neglect of the measure mentioned in the last interrogatory, as fully detailed in my "Hints to Purchasers of Manures," that appeared in last year's Volume, page 810, to which I beg to refer him, I have no doubt accounts for the disappointment met with in the majority of cases where these manures are tried. Previous to their application, also, I consider the land being in a fit state of fertility of the most vital importance; and moreover, it must be borne in mind, that they cannot in any way alter its texture—I mean, are incapable of rendering a stiff soil porous, or adding stability to a light one. Such qualifications must be effected through other mediums. *W. D. S.*

EXPERIMENTS IN AGRICULTURE.

If every landowner were to devote an acre or two to agricultural experiments—judiciously varied, repeated, and recorded year after year—it is, I think, extremely probable that the condition of agriculture would soon be different from what it now is; there would not then be a rule of thumb, a blind adherence to antiquated practices, a strong prejudice against all innovation, and a violent hostility to all attempts made to introduce new methods of farming.

I am induced to make these remarks by observing in your Paper, of the 10th inst. (p. 27), an account of a series of experiments with various manures, which are recorded by Mr. Vernon Harcourt, who is another proof of the advantages conferred on agriculture by clergymen devoting their leisure to its improvement. A born vassal of the Archbishop of York (of which see my family have been tenants for many generations), I feel a profound veneration for the name of Harcourt, which I may perhaps be allowed to express, seeing that personally I have no favour to ask, and am not connected with either Church leases or Church lands.

Will Mr. Vernon Harcourt, when he next writes, be kind enough to say at what season these manures were applied? inasmuch as the application of the same sort of manure at different seasons (at least in Lancashire), makes all the difference between producing a very good or a very injurious effect; for instance, if night-soil or any other ammoniacal manure is applied to Wheat in the spring, say in April (with exceptions to be hereafter mentioned), it, for a time, seems to be of extraordinary benefit—the blade becomes much darker and more luxuriant, and grows away at a famous rate; but after it begins to shoot, the blade becomes yellow, and the straw discoloured, and the Wheat is always a bad sample and an indifferent yield. This I have repeated so frequently, and with the same results, that I am satisfied of its truth; whereas, if the field is manured with night-soil previous to the sowing of the seed, the effect is extremely beneficial; this manure producing (so far as my experiments have gone) better and more Wheat, and better straw, than any other I know. I have found the use of stable manure for Wheat (even when used in autumn), produce the same morbid action in the blade, the same discoloration in the straw, and the same inferiority of sample in the sack which the use of guano, nitrate of soda, or night-soil produced when used in the spring. Are these injurious effects produced in the south? The warmer climate and drier atmosphere may make a great difference in this respect.

I have also found heavy clay land derive extraordinary benefit from an abundant supply of sand and gravel from the bed of the river. Some years ago a small church was built here, and the year after I observed in the corner of the field where the grit stones were strewed that the Wheat was ripe 10 days earlier than in any other part of the field. Profiting by this hint, I had a portion of it covered with gravel at the rate of 100 cart-loads to the acre; another portion with half that quantity, and the remainder left without any. Every crop since that time (Wheat, Turnips, and Potatoes), has shown the great benefit derived from the application, and I have now covered the whole field, which, after thorough draining 4 feet deep and subsoiling, has now its third crop of Wheat in succession, which so far is very luxuriant, and of great promise.

The land occupied is too limited to make it desirable to get all the best implements, or to keep a staff of agricultural labourers; and therefore it is necessary to sow thick, to keep down Chickweed and Groundsel, which seem to be stimulated to an extraordinary degree of luxuriance by the night-soil. I find one ploughing of 12 inches deep quite sufficient to produce a good seed bed, after the clods have been broken down by the Norwegian harrow; and considering that we have here probably the worst climate in the kingdom for Wheat (50 to 60 inches of rain falling in the north of Lancashire), I think the result of my experiments worth recording, seeing that my Wheat last year was ripe on the 12th of August, and the produce 50 bushels to the acre.

Mr. Vernon Harcourt says, "There is a certain limit in all soils beyond which Nature refuses to answer your demands upon her." No doubt there is; but has it been reached yet? A field in Norfolk of five acres produced 90 bushels of Wheat to the acre in 1844; cannot scientific agriculture come up to this standard? which, so far as I remember, was the result of accident. I mean that there did not appear to have been any extraordinary appliances to produce this crop, which had followed a crop of Peas. What is wanted is a Wheat of good quality, with a straw so short that it will not lodge when highly manured; the best I have found is Piper's Thickset, but it is coarse and thick skinned. Where is there a variety shorter in the straw producing Wheat of good quality? It may be that our wretched climate is the cause of this coarseness, for there has never been a season since 1846 which has been favourable for Wheat here. I have obtained a Wheat from Chili which is shorter in the straw than even Piper's; but hitherto (after two sowings) it has not become acclimatised, although much better the second season than the first. The original sample was a beautiful white Wheat, plump and thin skinned; the produce is shrivelled and coarse, more like Rye than Wheat. Mr. V. Harcourt says it is extremely difficult to ascertain "the best methods of obtaining from the soil the greatest return that it is capable of yielding; * * * that as there are idiosyncracies in the human constitution which defeat the calculations of the physician, so are there those in the soil which perplex and disappoint the agriculturist." No doubt there is great truth in this; but has not the mechanical condition of the soil almost as much to do with fertility as its chemical composition? witness the experiments of Mr. Smith. In my own little attempts, the Wheat grown in that portion of the land which was most profusely covered with sand and gravel was earlier, brighter in the straw, and a better sample than the other. I can hardly suppose that this was owing to anything obtained from that sand and gravel (it is true the gravel was principally limestone pebbles, the sand mostly quartz), because the same effect had been previously produced by the fragments of sandstone from the stones of which the church was built, and there was previously plenty of lime in the land.

Let not Mr. Vernon Harcourt despair of the progress of chemistry as applied to agriculture, because Liebig has made a mistake in the composition of a manure; he is not a practical agriculturist but a chemist, and chemistry, as applied to agriculture, is but in its infancy; but if it be applied as perseveringly to agriculture as to some manufactures, and all the combinations of time, soil, proportion of ingredients, &c., be carefully and regularly noted, as he has done, we shall surely arrive at some practical results. In 1844 I grew 50 bushels of Wheat on an acre, and all the manure applied (except about 5 cwt. of lime) to 1¾ acre, was taken at once in a wheelbarrow! and this was the fourth white crop grown in four successive years.

I had written thus far, when your Paper, of the 17th January, came to hand; and I am pleased to observe, in your Leading article, a confirmation of my ideas, namely, that a manure which may be exceedingly valuable for a particular crop, if applied at one season is comparatively worthless at another, and that crops sowed at one season have a tendency to ripen their seeds, when, if sowed at another, there is no such tendency. To the examples mentioned by you may be added Turnips and Cabbages, the proper time to sow the latter (if we are to trust the gardeners) being limited to a few days. Peas also are so different a crop, and so inferior in quality and produce, when sowed late, that here they are almost worthless if sowed after April. I am aware that some ascribe the mildew by which late Peas are so frequently attacked to the drought to which they are exposed; but they suffer as much from this mildew in Lancashire, as elsewhere, although it is certainly not for lack of moisture.

At the risk of being thought desultory and unconnected, I may as well notice what you say about Barley, or rather request you will notice what I said about Wheat night ripening, by being sowed after Barley. This latter crop may take less nitrogen from the land, but does it not abstract a much larger quantity of soluble silica—the importance of which in the growth of grain crops has, in my opinion, never been sufficiently estimated. In a former part of this Paper I have said that, with exceptions to be afterwards mentioned, I had always found ammoniacal manures injurious to grain crops when applied in the spring. These exceptions to the usual results were produced by combining the ammoniacal manure (nitrate of soda) with silicate of soda and sulphate of magnesia, and applying the mixture as a top-dressing after rain in April. This produced, as I have before stated, 50 bushels of Wheat to the acre in 1844, the third year of the experiment. But

that same manure, applied a month later and in dry weather, produced a very injurious effect. This was not apparent until rain fell, when the Wheat began to tiller from the root, and when the rest of the field was cut this portion was only just out of flower.

Messrs. Hardy and Son say 80 bushels per acre is too great a calculation for "Clitheroe" to presume he can grow under any circumstances; but if Mr. Smith can grow 41 bushels on half the land, and without manure, is it too much to suppose that twice that quantity can be grown on the whole breadth more, particularly when manured heavily. It is true that, circumstanced as I am without implements, and compelled to sow quite too thick for a crop for the want of them, and of skilled agricultural labourers, I do not expect to produce that quantity; but when I get the Golden Drop Wheat, of which they speak, I will make a strong effort to come near it.

I experience the same fate as all innovators on agricultural routine. If my experiments fail, the remark is, "I thought so! What does he know about farming?" If I succeed it is, "I reckon nought of that, his manure will grow anything." My neighbours are like the soldier who got whipped; the drummer could hit him nowhere to please him. The climax of derision was reached when they saw me applying sand and gravel from the river to this field; and even now, when they see the effect has not been injurious, they are very incredulous about its advantages, which would perhaps have been problematical if the distance it was carted had been three miles instead of 300 yards.

Mr Vernon Harcourt speaks of the advantage derived from the use of as much night-soil as 56 lbs. of peat charcoal could imbibe; but I have not applied it in such homœopathic doses; but at the rate of 20 tons to the acre (night-soil and coal ashes from cottages), and ploughed it in as soon as the preceding crop was off the land; it is not always to be obtained in many localities in such quantities, but here it is the removal of a nuisance, and is not highly valued. Nevertheless, applied at that season, the straw is bright and the grain well fed, being a better sample than I can produce by any other manure; yet this same manure applied from a water-cart in a liquid state in the spring, gave me as wretchedly discoloured straw, and coarse shrivelled grain, as I have ever grown, barring perhaps some Chilian Wheat, which, as I had no room available, I got one of my neighbours to sow for me; and as his land was poor, I sent him some nitrate of soda and guano to sow upon it in the spring, and the result was that it was difficult to find a grain of Wheat in the whole crop (perhaps 100 square yards); my own opinion is, that the advantage which Mr. Vernon Harcourt derived from the use of charcoal and night-soil would be in a great measure due to the latter; at all events, I have seen no favourable results from the former alone, though I have seen many from the use of the latter.

It is not the true method of proceeding to manure land for a Wheat crop (presuming it has been previously pretty well exhausted), to assume that it contains none of the elements of fertility, and then apply them all: for if Wheat derives some 90 to 95 per cent. of its bulk from the carbon it contains, and derives that from the atmosphere, would not the remaining 5 to 10 per cent. be economically supplied by inorganic manures? it is true these would require to be supplied in the first instance in much greater quantity than is abstracted by the crop, because it is not probable that the whole of these inorganic manures would be taken up by the crop, and therefore much would remain in the land, but the land would increase in fertility; thus, when I began my experiments with inorganic manures on an exhausted soil, the produce of that portion of the field which I left unmanured, for the sake of comparison, was only 19 bushels per acre (1842 was a good Wheat year), whereas that portion of the field which was left unmanured in 1844 produced 41 bushels to the acre, showing a great increase in fertility; with a worse season, so far as this part of the country may be taken for comparison. The difference in either climate or latitude must produce very great differences in result; otherwise, I cannot account for the frequent use of stable dung in the south as a manure for Wheat. Here, the effect, so far as I have observed it, is injurious; the straw being discoloured and the sample coarse. This cannot be the general effect, or the use of stable manure would be confined to green crops. Another fact, in which theory and practice do not exactly square with each other, is in the use of lime and farm-yard manure, for the same crop. According to theory, the effect of such a combination ought to be the waste of a great portion of the ammonia of the farm-yard dung. Whereas, if you ask the Potato growers in this part of the country, they will tell you that they cannot grow a good crop of Potatoes, unless they combine lime with their dung, when that crop is grown; the usual course being to lime the land, plough in the lime, and harrow it down, then draw the furrows for the receipt of the dung. May not this discrepancy between theory and practice be explained, by supposing, in clay lands particularly, that the liberated ammonia combines with the clay of the soil (with which the manure is covered up), and is thus more readily laid hold of by the plant when it vegetates.

The agricultural mind was agitated some years ago, by the assertion of a foreigner (I forget his name), that he had discovered a something in which, if the seed was steeped, an excellent crop of grain might be grown without manure; this scheme died away, and we now hear nothing of it. But is it quite certain that a something may not be discovered which will increase the vitality of the plant in such an extraordinary manner, as may dispense with a portion of the manure, at least? I submit the following facts to your readers, of which I should be glad of an explanation, supposing them not to coincide in my views:—

Many years ago, the seeds of an American Mallow (I cannot give the species), were sowed in my father's garden, and the plants which sprung up grew to the height of 12 to 15 feet. These ripened their seeds, but the plants from these seeds did not grow above 3 or 4 feet high in the same garden. How is this to be explained, except by supposing that the vital energy communicated to the seeds by the hot American summer was so much greater than that derived from our own, as to force up the plants to five times the size in the same soil?

Again, what is it which makes Flax growers so particular about their seed, and which makes them attach so much importance to its having being once or twice sowed in this country before they can obtain fine Flax from it? I am not now alluding to the care taken to avoid seed infected with Dodder, but to that particular organism which is communicated to the plant by seed which has been sown the proper number of times in the country—not knowing anything of the cultivation of Flax, I take this latter fact for granted, by having seen it frequently stated.

In conclusion, I fear that much of what I have written may be thought unworthy of publication in your columns; but as great consequences sometimes spring from small causes—for instance, galvanism, with all its consequences of electric telegraphs, electro-metallurgy, &c., from the motion of a frog's leg—it may happen that the recording of an accidental circumstance in agriculture may be the foundation of a new and scientific system. I have not the slightest claim to the name of agriculturist, further than the making a few experiments, as a relaxation in the intervals of my business, entitles me to be called so; indeed, my friends laugh at what they call my enthusiasm, and say, "*Ne sutor*," &c.

T. G., Clitheroe.

Home Correspondence.

Seeds.—Some time ago the editor of the *Lancet* sent agents to the dealers in Coffee, Tea, &c., to purchase samples to be tested, and afterwards published the names of the parties whose goods were not adulterated; I have been thinking that if the editors of the *Gardeners' Chronicle* were to adopt the same course with regard to seeds—how many of our wholesale seedsmen would figure as dealers in genuine articles of first-rate quality? My own conviction is, that no firm could sell really good seeds at the prices usually asked, without being utterly ruined. That this in the end must destroy in a great measure the trade in seeds, is beyond a doubt; we can hardly suppose farmers to be so stupid as to continue to pay for samples not only second-rate in quality, but of which 25 or 30 per cent. are never intended to grow. Take Clover seed, for instance. Can it really be necessary to sow the large quantity per acre usually sown, if the seed were good; ought we not to expect half the amount to produce a crop? Then, with regard to Turnip seed, perhaps the most important article purchased by farmers, it is impossible to keep a first-rate stock up to the mark without transplanting every year; this makes it a two years' crop. The Turnips are sacrificed, and also the Barley crop afterwards. The expense of pulling and replanting the Turnips is very great; no seed is more expense, preserving from the attacks of birds; the straw is of no value as manure. Now what price can this seed be grown for? As a large grower, I can speak with confidence, that it cannot be grown for less than 20*s.* per bushel; if the crop is a bad one, it often costs 25*s.*, or even 30*s.* Swede Turnip seed has been offered to me by some of the largest houses in the trade at 15*s.*, 12*s.*, and 8*s.* per bushel; now, how is this done without serious loss to the seller. I can show how it may be brought about; in the first place, Turnip seed may be sown as a stubble crop, so as to be large enough to stand the winter, though not sufficiently large to transplant; for transplanting is of no use if the Turnips are not of sufficient size to judge of their quality; this reduces it to a one year's crop, then seed may be purchased in any quantity, warranted not to grow, which may, of course be mixed to any extent. Perhaps some persons may not believe that this is generally the case; let them prove if it is or not for themselves. Every seed in a genuine sample of Turnip, Cabbage, or similar round seed, will grow—nay, more, a great part of the small seed which flies before the blast of the winnowing machine will vegetate; if, therefore, a given quantity, say 25 or 30 seeds, be sown in a pot, and preserved by any means from the attacks of birds, the fly, &c., every seed which does not grow may be put down as either too old or as previously killed. Now, how is the farmer affected by this state of things? It requires one and a half to three pounds of seed to produce an acre of Turnips; this might be sold, one year with another, by a person who made it his whole business to produce the best sample which could be grown, at 9*d.* per lb., and it is difficult to see how he could pay the necessary expenses of sale, give the usual credit, and live by his business, at a less price; the cost therefore to the farmer is 1*s.* 1½*d.* to 2*s.* 3*d.* per acre for seed, a most inconsiderable sum when we take into account how much depends upon it in the value of the crop produced. He had better pay 20*s.* per lb. for good seed than have bad for nothing, and yet there are men who will risk a crop of Turnips to save 3*d.* or 6*d.* an acre in the price of the seed. Many persons will say, why not grow our own seed? A very natural question; but is it advisable that the division of labour in this case should be done away with? Is it advisable that each farmer should breed his own rams? or that all should be breeders of first-rate bulls? Is it not better that a class should devote their time and attention exclusively to one object for the benefit of others? And will they do so unless by it their own interest is served. If the supply were dependent on farmers alone, would it not be very irregular? When keep for sheep and other stock was scarce, there is reason to believe few would be planted for seed, as it cannot be judged as in the case of corn by the eye; the farmer's customers would be his neighbours, and if he produced more than they required, would not the old seed remain on his hands, and in time reach them in place of new? Is it to be supposed that a small grower would generally take the same trouble with a crop of this description, as a man who made it his sole object, or that he would take pains to produce a new variety during 7 or 10 years, as a man in a large business will do? It cannot be expected; and no farmer will deny that a man like Mr. Skirving, of Liverpool, has done good in raising a superior Turnip. In addition to losing the advantage of change of seed, it is very doubtful if it is not more expensive to grow than to purchase a small quantity. *A. L.*

London Milk.—In the *Agricultural Gazette*, of the 17th inst., I observed a communication from Mr. B. Carter, on the manufacture of milk in London. That gentleman has also the modesty to request more information on the subject. I happen to be a Londoner, employed in the sale of milk, and may be able to impart some information to Mr. C.; not, however, to foster his imagination regarding the ingredients used in the manufacture of milk, but to tell him a few simple facts, which, I believe, will be worth more to a gentleman of his attainments than all the information he could obtain from a Davy or a Liebig. During part of last summer my demand was more than the supply obtained from my cows; I had milk delivered at my residence from the neighbourhood of Bagshot at 2¾*d.* per quart; I beg to inform Mr. C. that the said milk was supplied to my customers in the state in which I received it; if it was pure when it left Bagshot, it was equally so when it went to the table of the consumer, so far as I was concerned. I may also say to Mr. C., that no one who is conversant with the peculiarities of milk will ever expect an abundant cream off milk sent from Bagshot to London, neither do I think that any one in this part of London would wish to try the experiment. I have known it turned before it came here, and is liable to do so before it can be used all the summer season, hence one difficulty in connection with country milk. I can scarcely let myself believe that Mr. C. is serious when he speaks about mixing extraneous and disgusting matter with milk. I believe there is not an old woman in the county of Surrey who could not tell Mr. C. that cleanliness is indispensable with milk intended to be kept from 12 to 24 hours. What we call the London season is just the most difficult season to keep milk. In general we have served the most of our customers by 7 o'clock in the morning; in many families part of that milk is kept until the afternoon, and often in a hot kitchen. Again we start at 2 in the afternoon, jolting this milk for two or three hours in the streets; and in the case of nursery supply, it is expected to keep good until the following morning; should it not do so, the probable consequence would be a transfer of custom to some other. Would it be to Mr. C.'s compound? From this Mr. C. will perceive that we London milkmen, even if we have no better quality than self at stake, have in that a sufficient spur to keep us near the mark. I may just remark, the London atmosphere, which, in Mr. C.'s estimation, is so favourable to the blossom of "self," is also congenial to the development of self-respect; but, judging from the tone of Mr. C.'s communication, the Bagshot breeze can stimulate the former, without producing a luxuriant growth of the latter. I, as well as Mr. C., know something of the value of milk in Surrey. Can Mr. C. make as much of his milk in any other form? I think not. I also think the producer is on equal terms with the dealer and consumer; however, I trust the day is not far distant when London will be supplied with milk from the country. This is a most important subject; and, if not intruding in the columns of the *Gazette*, I may at some future time state my views, how it might be promoted to the advantage of all concerned. [We shall be very glad to hear from you.] In conclusion, I beg to suggest that Mr. C. should take another survey of his province in connexion with this subject; and, inclined, as I hope ever to be, to view the deeds of human frailty with charity, I do trust that Mr. C. will find himself in the same position as Falstaff, when that notable perceived that he had been made to assume the character of a very sagacious animal, sometimes to be met with on Bagshot-heath. *P. Mitchell, 7, Kinnerton-street, Belgrave-square.*

Drainage.—Upon reading the article of "Drainage of Clay Soils," I feel that I cannot refrain from making a few remarks. The question of land drainage has been very much canvassed, and I suppose up to the present time it can scarcely be pronounced which is the best system; for my part, I consider the numerous opposite systems as but so many experiments. The plan adopted by your correspondent for the Regent's-park is, for the drains to be 4 feet deep, and at intervals of 24¾ feet; and I must here say, that I have carefully watched the

operations from the commencement, and cannot feel persuaded that it is good draining. In the first place I consider the drains uselessly deep, and in the second, the tiles are not well secured. I know by practical experience that the clay in Regent's-park is very strong and impervious, and it is this very reason why I should not have such deep draining. Your correspondent goes on to say, that the question of shallow draining has been practically answered by its failure. Has then the Regent's-park ever been before drained? I know but of two or three parts, which are in possession of gentlemen, and I can bear testimony to the efficiency of shallow draining upon 13 or 14 acres; had the whole of the Regent's-park been drained upon the same system, it would stand a much severer test than the present deep drainage. The system I speak of is to have the drains 30 to 36 inches deep, at intervals of 15 feet, the main drains 6 inches lower; lay in the tiles, and fill in 3 or 4 inches of pickings or hard cone (which can be procured from the dust-yards at a very cheap rate), brick rubbish, or any such material will answer as well; then let the cutting be half filled in and well rammed, and the remainder in the same way. It is my firm belief that this is the most effective mode of draining Regent's-park; the expense would be but little more, but there would be the gratification of its being well done. I think it is of very little consequence whether the tiles are shoe and sole, or pipe; I depend chiefly upon the drainage over the tiles to draw the water from the soil. Your correspondent speaks in flowery language of the fog that arises from the ground upon autumn evenings. That the park is very damp, and requires thorough draining I admit, but not that it is the sole cause of such fogs. There is no greater evil genie than the lake, and the best draining that can be tested will never eradicate fogs in Regent's-park; frequently towards evening the observer may see the vapour gradually rising from the water until it becomes a dense fog. I have said that I consider upon the present system the pipes are not well laid in; the reason is, because they are laid upon the clay, and no precaution whatever taken with the joints, and the earth and clay then filled in and left; the ground being allowed to settle by time, which gives anything but a neat finish. If your correspondent can explain by what means the soil is to be kept from going in the joints of the pipes with the water, and also why the cuttings of 4 feet deep are preferable to the system I speak of (namely, 30 to 36 inches deep, with good drainage), to my satisfaction, I shall then be most happy to become a convert to deep land draining. *A Constant Reader and Gardener, Portland Town.*

Wicksteed's Solid Sewage Manure.—In page 45 is Mr. Wicksteed's method of preparing his solid sewage manure, by the simple admixture of $\frac{1}{2800}$th of lime (slaked, I presume); whereby the greater part of the solid matters, dissolved as well as suspended, are precipitated, and easily collected. I wish, not merely to express my approbation of that process, and hope for its practical success; but to point out an omission, and its remedy, which may considerably improve his product. Lime will not decompose phosphate of soda, of which sewer water is likely to contain a good deal, and which will thus run to waste in the liquor. But salts of magnesia will; and the cheapest of these is the bittern or mother liquor of the common salt works. A small portion of this, added after the settlement of the lime precipitate, will, with the aid of the ammonia set free, separate the phosphoric acid from the phosphate of soda, and carry it down to the sediment. If added before, or with the lime, more or less of it would be used up by the other phosphoric salts; therefore it is best economy to let the lime first precipitate all that it will, and leave only the soda phosphate for the bittern. The proportion must, of course, be determined by experiment. The use of magnesian lime (from the magnesian limestone formation) instead of common lime, may answer the purpose, and is worth the trial; but I should not feel the same confidence in it as in salt bittern, until its efficacy be fully proved by experiment. *J. Prideaux.*

Dairy Management.—In answer to your correspondent "A. B.," I may state that the pans I use for scalding the milk are of common earthenware, glazed inside, and it is customary to boil water in them when new to test their soundness. These pans measure internally—diameter at top 14 inches; ditto at bottom, 6 inches; depth, 10 inches. Brass and tin pans are also commonly used. In answer to the question "Will cream set aside for a few days do for churning by this process?" I do not quite understand "A. B." By this process the butter is not churned. The cream is put into the butter tub, which, at this time of the year, is generally warmed with hot water previously; the cream is then worked with the flat of the hand; the butter usually "comes" in four or five minutes. The cream may be used immediately after skimming, or it may accumulate for four or five days if necessary. From the experience I have had I cannot concur in the opinion expressed by your correspondent the Rev. Geo. Wilkins, that this butter when melted has the flavour of toasted cheese, I do not remember any instance of this occurring, although I have no other butter used in my house. *T. B.*

Education.—Few people will have the hardihood, at the present time, to deny the necessity of a good education to the rising generation; consequently great exertions are being made to obtain that desideratum. And it would be well if a little more attention were paid to the quality, as well as the quantity; there is not sufficient distinction made between mere instruction and education. To instruct is to put in; to educate is to bring out. By means of the former a pupil learns to repeat, like a parrot, whatever ne has been taught; by the latter he learns to reason about it. There are numbers of farmers who wish their sons to receive a good education, and who send them to school to spend two or three years to get a smattering of Latin, *i. e.* to be *instructed*, or to gain a knowledge of *words*, and at the same time they are totally ignorant of *things*. Surely it would e better for them, if they want intellectual exercise to study chemistry, natural history, &c., things which bear upon their every-day pursuits. *J. Stollard, Agricultural School, Ipstones, Staffordshire.*

Reviews.

The Birmingham Cattle Show, 1851. *A Letter to the Right Hon. Lord Lyttelton, the President, in reply to Captain William Inge.* By the Honorary Secretary. Birmingham: 74, Newhall-street.

It appears that the pigs shown by Captain Inge were disqualified by the judges, at the late Birmingham show, on the report of the referee that their age had been wrongly stated, and they were, therefore, not allowed to compete for the prizes in competition for which they had been entered. Captain Inge brings forward, as evidence that these pigs have been wrongfully disqualified, the declaration of his bailiff and others, that their age was stated correctly. The judges and their referee hold, with confidence, to their method of judging of the age of the animals, and the managing committee of the cattle show having originally placed these matters unreservedly in the hands of the judges whom they had appointed, Captain Inge's appeal to them necessarily falls to the ground. Now, whatever be the exact truth of the matter in dispute, it is satisfactory to know that the stated age of some of the animals shown at the pig-show at Birmingham has been matter of public discussion. We do not remember being so particularly struck by the animals disqualified as with others that we could name. However excellent the method of the referee may be for determining the ages of pigs, no doubt it is liable to failure; and if, as it would appear from the confident re-assertion of his judgment in this particular case, he thinks he can in all cases tell the age of pigs correctly by the teeth, then he must certainly have passed by some of the other pens without turning up the lips of their inmates.

Miscellaneous.

Interesting Agricultural Questions.—There are many most important questions now developing themselves in agriculture, to which time will merely permit me to allude: I mean the distribution of liquid manure, by underground iron pipes. This operation has proved itself a cheap and profitable one, affording available nutriment to the plant, when its assimilating powers are fully developed by heat and light. Another important matter is, the improvement of tenacious clays, by burning or carbonising—the more foul and neglected the soil the more grateful for the operation. I have converted our concave muddy lanes into convex dry ones, by burning some 2000 cubic yards of their tenacious yellow clay shoulders, and removing it as brick-dust to our fields, at a cost of 1*s.* per yard. Professor Voelcker, of the Royal Agricultural College, has recently, and in my opinion clearly shown, that the great liberation of alkalies, &c., is highly advantageous. Practically, I find it pays well, and is available on all our heavy clays. There are millions of stubby pollards almost praying to be permitted to warm our cold clays by combustion. *Mr. Mechi's Second Paper.*

The Plough and the Spade.—What is the difference then, in point of expedition and expence, between the plough and the spade? Authority is much in these matters. "It will take a good labourer 30 days to trench an acre, and 16 to dig it well," says that most useful little work, the "Cottage Farmer's Assistant," by Cuthbert Johnson (p. 17), who is quoting from an essay on farming by the Society for the Diffusion of Useful Knowledge. Again: "With proper instruments and some experience, a labourer can dig an acre of light land, 18 inches deep in 25 days, and even 2 feet deep in 35 days." (Sinclair's "Code of Agriculture," quoted in the same work, p. 29.) Now, at the commencement of my trenching a field, I bring up only so much of the subsoil—say 4, 5, or 6 inches—as can be penetrated by the atmosphere, and prepared for use by the one year's fallow, increasing the quantity year after year, till the staple has become two good spits deep. And, when all has once been loosened in this way, and become light, the calculations I have quoted may, I think, be considered correct. Taking, then, the average of these calculations, and commencing with 12 or 13 inches, inclusive of the ploughing, the first year, and allowing for obstructions in the variety of soils to be acted on, I will reckon that one man at the outset will dig, and in after years by degrees will double dig, an acre in 30 days. Employing, as I do, six men for my work, I thus accomplish a whole acre in five days; which, at 2*s.* a day each man, would amount to 60*s.* But only the half portion of the acre is to be dug for one year's crop, and this will reduce the time to two days and a half, and the expense to 30*s.* Say, however, that the time and the expense are here underrated—that the time occupied will be three days, and the expense 36*s.* the acre; and even then, in point of economy and expedition, the ploughing and the trenching will be just on a par. Another calculation on the subject of this hand labour, will dispose of another objection, "Where are the hands to come from?" I will take a single parish as the average of many. I find, then, that in my parish of 2000 acres there are this year somewhat above 200 acres in Wheat; and that, without including the necessary attendants for other purposes on the several farms, we have 50 able-bodied labourers on the spot. I will here state that, for the better success of my plan, I sow my Wheat early, as near the 2d or 3d week in September as possible. I do this that it may tiller fully before winter, and so ripen evenly at harvest. Before the end of the month, perhaps, the "thin green lines" are distinctly visible, and I at once set to work in the intervals. Now, if it take one man 30 days to trench an acre, it will take 50 men a month and four days to trench 50 acres; and four months and a half to trench 200. But, only the half portion of these acres is to be dug, and this will reduce the extent to 100 acres; and the time it will occupy to two months and eight days. So that beginning, as I do, the last week in September, I complete my labours the first week in December; with nearly five months in hand for the casualties of frost, snow, and sickness, before I am shut out by the growing crop.—I have only to show now, by my fresh balance sheet, how, with suitable implements, on Wheat land, the whole scheme I propose is economical, as well as easy and expeditious.

One double-digging in autumn	£1	10	0
Three stirrings with scarifier at spring (1*s.*)	0	3	0
One ditto, with scarifier and harrow implement before sowing	0	1	0
Two pecks of seed (5*s.* the bushel)	0	2	6
Pressing and drilling	0	1	0
Rough rolling	0	0	6
Four hoeings between Wheat with horse-hoe implement (6*d.*)	0	2	0
Bird keeping	0	2	0
All the operations from reaping to marketing	1	2	0
Rates, taxes, and interest	0	10	0
Total amount of outlay ...	£3	14	0

The produce—supposing it equal to that of former years—in round numbers, would be:

Four quarters and two bushels of (Wheat at 40*s.*) ...	£8	10	0
One ton and 12 cwt. of straw (at 2*l.* the ton)	3	4	0
	11	14	0
Deduct outlay	3	14	0
Total amount of profit ...	£8	0	0

If I were one of those who are bent on having Wheat at all hazards on land which is not Wheat land—on land, that is, not possessing within itself naturally the mineral substances necessary to form the plant, I should act thus:—I see in a very interesting and important work conducted by Mr. Morton—the "Cyclopedia of Agriculture"—a list of all the best artificial manures for every purpose; with their composition, use, price, and high authorities which recommend them. Selecting the manure best suited to my wants—and on that point any good analyst of soils would assist me—I should apply it evenly and regularly with a drill, adjusted for the purpose to the implement frame I have described above.

The balance sheet would then stand thus:—

The items of expense, as before	£3	14	0
Artificial manure for the half-portion of each acre ...	1	0	0
Drilling manure	0	1	0
Total amount of outlay ...	4	15	0
Total amount of produce ...	11	14	0
Deduct outlay	4	15	0
Total amount of profit ...	£6	19	0

Should the stout yeoman still complain that all this is out of his usual course, requiring an unwonted expenditure of head-work as well as handiwork, to carry it out, I bid him look to the results; and ask him—or rather bid him ask himself and his own shrewd sense.—Is it not worth while? *A Word in Season.*

Notices to Correspondents.

BEER: *J W* is asked, whether in the recipe for brewing, which he furnished us in No. 3 of our journal, he alludes to the common brewers' hogshead of 54 imperial gallons, or the large cider ones used in Herefordshire and other parts, which measure upwards of double that quantity? Does he mean that he turns the Hops along with the worts, loose, into his casks, and if so, how does he prevent their coming out at the tap whenever any beer is drawn? Small holes in the end of the cock get choked up, and an open tap lets the Hops out.—*J H* asks your correspondent "J. W.," who wrote in page 45, No. 3, a recipe for brewing unfermented bitter ale, to be so kind as to state the quantity of water, malt, and Hops, for half a hogshead of ale.—*A Correspondent* will find in Dr. Lardner's "Cabinet Cyclopædia of Useful Arts," "Domestic Economy," Vol. I., pages 207 and 208, the mode of making pale ale with sugar. Its insertion in our paper would occupy too much space.

BREWING: *Malt* says, "A correspondent of the *Agricultural Gazette*, dated Jun 17, informs us of his peculiar mode of brewing beer. He particularly directs that the head or crust formed on the beer, after it has been put into the cask, must not be broken or otherwise discomposed; and that he does not bung down the cask till the beer is quite cold. Will he be kind enough to tell us how the temperature of the beer is to be ascertained, whether by finger, thermometer, or otherwise, without disturbing the head or crust? Although yeast or other ferment is not used in this mode of brewing, no doubt vinous fermentation is spontaneously perfected; and therefore those who have taken the pledge must not flatter themselves an unfermented beer has been made for them."

COMMON LAND: *E E.* There is nothing in waste land to take it out of the ordinary style of management in breaking up pasture. If the land is dry plough one half of it now and sow Oats, and give them a dressing of guano towards the end of April, if the land is poor. Get the other half pared and burned, and sow Turnips with superphosphate in May and June.

LAMENESS IN SHEEP.—You cannot do better than touch with a caustic at first, such as hydrochloric acid, and afterwards with a solution, or a powder of sulphate of copper, with a little tar over it. Dress frequently, and ke p clean. *W C S.*

MR. MCCULLOCH: *J C B.* Mr. Caird's pamphlet on "High Farming" contains the details of this gentleman's experience.

RIVER EMBANKMENTS: *T C C* would feel greatly obliged to any of our readers who may have had experience on river fencing, for information applicable to a case where the banks and bottom are a mixture of gravel and sand, and where there is a fall of about 1 foot in 6 chains. [There is information on the general subject in Blackie's 'Cyclopedia of Agriculture."]

SULPHATE OF AMMONIA: *An Old Sub.* Dissolve 1½ cwt. of sulphate of ammonia in the quantity of water which your watercart will deliver on the acre at the ordinary rate of motion of the draught horse, and spread the solution by that means early in April.

THE GRUBBER: *Constant Reader.* We have often used merely the grubber without the plough after Turnips pulled for Wheat with which seeds have been sown in spring; and we can recommend the practice when the land is clean.

THE TRUE SPANISH FOWL: *A Learner, Most Constant Reader, and others.* Entirely black plumage, blue legs; large, red, single, deeply-indented comb, and white face. That is the general description of the bird. The plumage of them, more particularly of the hen, has a rich green gloss on it; her comb always falls over on the face, and is larger than in other fowls; a perfect cock should have an upright one, but this cannot always be obtained. The carriage of both sexes is cheerful, the tail being more erect than in other varieties. The body is square and well defined, and the back tapers towards the insertion of the tail. The difference between a Spanish and a common black fowl is that the former has a white face, which should extend from the ear-lobe to the beak, and from the crown to the wattle. Such are difficult to get. The more particular parts of the queries will be answered by saying the cock gets the white face early, having much of it at six months and all at twelve. The hen does not have it in perfection till eighteen months old. She has a long skinny face, blueish in places but never red, for the first six months, and then gets gradually white. Had I to choose between two cocks, one small with white face and one large without it, I should not hesitate, but choose the smaller. I should breed Spanish from him, and black fowls from the other. I do not consider the Aylesbury ducks more delicate than any others, if it be borne in mind that they lay much earlier than their fellows. In mild weather they lay in February, and their young, hatched in March, require more care than if they appeared in May. The eggs should be set under hens, as the ducks are notoriously bad mothers, and the young should be kept from water at least a fortnight after they are hatched. *J. Bailey*, 113, *Mount-street.*

WHEAT: *Cartmel* There is no standard weight for the quarter of Wheat anywhere that we are aware. Wheat is either sold by measure or by weight; the bushel or the 70 lbs.

Markets.

COVENT GARDEN, JAN. 31

The market is well supplied with vegetables and fruit; but trade for everything is dull. English Pine-apples are plentiful, considering the season. A few hothouse Grapes still make their appearance. Foreign Pears are still furnished. The best English kinds fetch good prices. They consist of Glout Morceau, Beurré Rance, Ne Plus Meuris, and Easter Beurré. Oranges are plentiful and good. Nuts are nearly the same as last quoted. Carrots, Turnips, Cabbages, &c., are sufficient for the demand. Potatoes are generally good in quality. Lettuces and other salading are sufficient for the demand. Mushrooms are cheaper. Cut flowers consist of Heaths, Epacrises, Mignonette, Camellias, Roses, Acacias, Azaleas, Primulas, Hyacinths, Tulips, Lily of the Valley, and other forced bulbs.

FRUIT.

Pine-apples, per lb., 4s to 8s	Lemons, per doz., 1s to 2s
Grapes, hothouse, p. lb., 4s to 7s	Oranges, per doz., 1s to 1s 6d
— Lisbon, per lb., 9d to 1s	— per 100, 3s 6d to 10s
Apples, kitchen, per bushel, 2s to 3s 6d	— Seville, per doz., 1s to 3s
Pears, dessert, p. doz., 2s to 6s	Nuts, Barcelona, p. bsh., 20s to 22s
Almonds, per peck, 5s	— Brazil, p. bsh., 12s to 14s
— sweet, per lb., 2s to 3s	Cobs, per 100 lbs., 30s

VEGETABLES.

Savoys, per doz., 10d to 1s 3d	Parsnips, per doz., 6d to 1s
Broccoli, p. bunch, 3d to 1s 3d	Leeks, per bunch, 1d to 2d
Asparagus, p. bundle, 4s to 7s	Shallots, per lb., 8d to 10d
Seakale, per basket, 1s to 2s	Garlic, per lb., 6d to 8d
Greens, per doz., 2s to 3	Artichokes, Jerusalem, per hf. sieve, 9d to 1s
Rhubarb, p. bundle, 9d to 1s	Lettuce, Cab., p. score, 4d to 1s
Potatoes, per ton, 45s to 80s	Small Salads, p. punn., 2d to 3d
— per cwt., 2s to 5s	HorseRadish, p. bundle, 1s to 4s
— per bush., 1s 6d to 2s 6d	Mushrooms, p. pot., 1s to 1s 3d
Turnips, per doz., 2s to 4s	— per punnet, 9d to 1s
Cucumbers, each, 1s to 3s	Sorrel, per hf. sieve, 6d to 9d
Celery, p. bundle, 6d to 1s 6d	Fennel, per bunch, 2d to 3d
Carrots, per bunch, 4d to 7d	Savory, per bunch, 2d to 3d
Brussels Sprouts, p. half sieve, 1s 6d to 2s 6d	Thyme, per bunch, 2d to 3d
Spinach, per sieve, 1s to 1s 6d	Parsley, per doz. bun., 2s to 3s
Onions, p. bunch, 3d to 4d	Mint, per bunch, 9d to 1s
— Spanish, p. doz., 1s6d to 3s	Basil, p. bunch, 3d to 4d
Endive, per score, 9d to 2s	Marjoram, do., 3d to 4d
Beet, per doz., 1s to 2s	Watercress, p. 12 bunchs. 6d to 1s

COAL MARKET.—FRIDAY, Jan. 30.

Cowper's Hartley, 13s. 6d.; Eden Main, 16s. 6d.; Wallsend Braddyl, 17s. 3d.; Wallsend Russell's Hetton, 17s. 3d.; Wallsend Whitwell, 15s. 9d.; Wallsend Kelloe, 17s. 3d.; Wallsend Seymour Lees, 15s. 6d.—Ships at market, 79.

POTATOES.—SOUTHWARK, MONDAY, Jan. 26.

The committee report that during the past week there have been several arrivals coastwise, and a very large supply by rail; the trade still continues very heavy, at the following quotations:—Yorkshire Regents, 60s. to 80s.; Scotch ditto, 60s. to 65s.; Cups, 50s. to 60s.; Kent and Essex Regents, 60s. to 75s.; Lincolnshire and Wisbeach, &c., 50s. to 65s.

HAY.—Per Load of 36 Trusses.

SMITHFIELD, Jan. 29.

Prime Meadow Hay	72s	to 77s	Clover	75s	to 85s
Inferior ditto... ...	65	70	2d cut	70	75
Rowen	60	65	Straw	23	26
New Hay	—	—		J. COOPER.	

Trade brisk.

CUMBERLAND MARKET, Jan. 29.

Prime Meadow Hay	74s	to 78s	Inferior	65s	to 74s
Inferior ditto... ...	60	70	New Clover	—	—
New Hay	—	—	Straw	24	23
Old Clover	78	84		JOSHUA BAKER.	

WHITECHAPEL, Jan. 29.

Fine Old Hay ...	72s	to 76s	Old Clover	84s	to 88s
New Hay	68	72	Inferior ditto ...	—	—
Inferior ditto... ...	50	60	New Clover	80	84
Straw	22	26	Inferior ditto... ...	55	65

HOPS.—FRIDAY, Jan. 30.

Messrs. Pattenden and Smith report a good steady demand for all choice Hops with a short supply on offer.

WOOL.

BRADFORD, THURSDAY, January 29.—The supply is quite equal to the limited demand of the consumers, and at present prices there is but little disposition to add to their stocks. Noils and Brokes are without change.

SMITHFIELD, MONDAY, Jan. 26.

The number of Beasts is large; the favourable weather causes a considerable demand, and we are enabled to retain last Monday's quotations in most cases. Some inferior kinds remain unsold. The supply of Sheep is small, and trade more cheerful, but it is difficult to obtain higher rates. Good Calves are scarce, and late rates are fully supported. From Holland and Germany there are 333 Beasts, 1010 Sheep, and 139 Calves; from Spain, 50 Sheep; from Scotland, 400 Beasts; from Norfolk and Suffolk, 1400; and 800 from the northern and midland counties.

Per st. of 8 lbs.—	s	d	s	d	Per st. of 8 lbs.—	s	d	s	d
Best Scots, Here-					Best Long-wools	3	8	to 4	0
fords, &c. ...	3	8	to 3	10	Ditto Shorn ...		...		
Best Short-horns	3	6	— 3	8	Ewes & 2d quality	3	0	— 3	4
2d quality Beasts	2	8	— 3	2	Ditto Shorn ...		...		
Best Downs and					Lambs	0	0	— 0	0
Half-breds ...	4	0	— 4	4	Calves	3	4	— 4	6
Ditto Shorn ...		...			Pigs	2	8	— 3	8

Beasts, 3852; Sheep and Lambs, 21,250; Calves, 171; Pigs, 320.

FRIDAY, Jan. 31.

We have a good supply of Beasts both as regards number and quality; trade is slow, and Monday's prices cannot be maintained, except for a few choice Scots. The number of Sheep is exceedingly small; there is, however, considerable difficulty in disposing of them. Prices are about the same as Monday last. The supply of Calves has considerably increased; prices have, consequently fallen fully 2d. per 8 lbs. Our foreign supply consists of 344 Beasts, 460 Sheep, and 140 Calves. The number of Milch Cows on sale is 105.

Best Scots, Here-					Best Long-wools	3	8	— 4	0
fords, &c. ...	3	6	to 3	8	Ditto Shorn ...		...		
Best Short-horns	3	4	— 3	6	Ewes & 2d quality	3	0	— 3	4
2d quality Beasts	2	6	— 3	0	Ditto Shorn ...		...		
Best Downs and					Lambs	0	0	— 0	0
Half-breds ...	4	0	— 4	4	Calves	3	0	— 4	4
Ditto Shorn ...		...			Pigs	2	8	— 3	8

Beasts, 975; Sheep and Lambs, 2510; Calves, 230; Pigs, 295.

MARK LANE.

MONDAY, Jan. 26.—The supply of Wheat this morning from Essex was exceedingly small, but moderate from Kent; the whole was disposed of at an advance of 2s. per qr. upon the prices of this day sennight; the improvement realised on foreign is nearly confined to the finest quantities, and does not exceed 1s. to 2s. per qr., but being generally held for a greater advance business in the same was restricted.—The top price of town made Flour has been advanced 3s. per sack, viz., to 43s. Foreign is 1s. per sack and barrel dearer.—There is a fair demand for Barley, at an advance of 1s. to 2s. per qr.—Beans are fully as dear.—White Peas are unaltered in value, Grey are rather dearer.—The Oat trade is firm. We raise our quotations 1s. per qr.

PER IMPERIAL QUARTER.	s.	s.		s.	s.
Wheat, Essex, Kent, & Suffolk...White	44—46		Red	40—42	
— — fine selected runs...ditto	46—48		Red	42—44	
— — Talavera	46—52				
— Norfolk, Lincoln, & York...White	39—44		Red	—	
— Foreign	37—53				
Barley, grind. & distil., 27s to 29s...Chev.	30—36		Malting .	28—32	
— Foreign... grinding and distilling	21—28		Malting .	—	
Oats, Essex and Suffolk	19—21				
— Scotch and Lincolnshire...Potato	2 —24		Feed	20—22	
— Irish .....Potato	20—23		Feed	19—22	
— Foreign .....Poland and Brew	19—22		Feed	18—21	
Rye	—		Foreign .	—	
Rye-meal, foreign.....per ton	—				
Beans, Mazagan ... ..24s to 27s.....Tick	25—30		Harrow .	25—30	
— Pigeon.....27 — 32... Winds	30—36		Longpod	24—30	
— Foreign .....Small	22—30		Egyptian	23—25	
Peas, white, Essex and Kent.....Boiler-	32—34		Suffolk..	33—35	
— Maple.....27s to 30s .....Grey	26—28		Foreign .	27—34	
Maize	White	—	Yellow...	—	
Flour, best marks delivered ...per sack	38—43				
— Suffolk .....ditto	29—34		Norfolk .	29—34	
— Foreign .....per barrel	18—24		Per sack	32—36	

FRIDAY, Jan. 31.—The arrivals of grain and Flour since Monday have been small. To-day's market was thinly attended, and but little business transacted; never heless, in the sales effected of Wheat, the extreme prices of that day were obtained, and the same applies to Flour.—In the value of Barley, Beans, and Peas there is no alteration.—The Oat trade is firm at our extreme quotations.—Wheat has again advanced 1s. to 2s. per qr. throughout the kingdom; but the amount of business transacted this week has been comparatively limited. The trade, however, continues exceedingly firm, with a currency tending upwards.

IMPERIAL AVERAGES.	WHEAT.	BARLEY.	OATS.	RYE.	BEANS.	PEAS.
Dec. 20.....	37s 7d	26s 6d	18s 3d	27s 4d	39s 9d	29s 6d
— 27.....	37 2	26 3	18 3	28 1	39 2	29 0
Jan. 3.....	37 2	26 7	17 9	26 11	28 7	28 4
— 10.....	37 4	26 5	17 0	20 1	28 9	28 1
— 17.....	38 3	27 1	18 11	27 5	27 11	28 10
— 24.....	39 3	27 10	18 2	27 10	28 3	28 8
Aggreg. Aver.	37 10	26 9	18 1	27 11	28 9	28 9

Duties on Foreign Grain, 1s. per quarter.

Fluctuations in the last six weeks' Averages.

PRICES.	DEC. 20.	DEC. 27.	JAN. 3.	JAN. 10.	JAN. 17.	JAN. 24.
39s 3d	...	...	...	...	...	...
38 3	...	...	...	...	...	...
37 7	...	...	...	...	...	...
37 4	...	...	...	...	...	...
37 2	...	...	...	...	...	...
37 2	...	...	...	...	...	...

ARRIVALS THIS WEEK.

	Wheat.	Barley.	Oats.	Flour.
	Qrs.	Qrs.	Qrs.	
English ...	1240	1990	820	2330 sacks
Irish	—	—	5590	
Foreign ...	400	—	910	200 sacks

LIVERPOOL, TUESDAY, Jan. 27.—Having a good attendance of home and country millers at our Corn Exchange this morning, a fair amount of business was transacted in foreign Wheats, at a further advance on Friday's rates, making the rise on the currency of this day week about 3d. per 70 lbs., all qualities of English commanding a similar amendment. Flour advanced 1s. per barrel and 6d. per sack over the rates of Tuesday last. Prime English Malting Barley scarce, and 1s. to 2s. per qr. higher. Malt also improved 2s. per qr. The general run of Beans, though not readily saleable, were steady in value, but Egyptians declined 3d. per qr. Peas unvaried. Oats, being in limited supply, advanced 1s. per 45 lbs.; but Oatmeal hardly sustained our late quotations.—FRIDAY, Jan. 23.—The arrivals from Ireland and coastwise are generally small, and, except a fair quantity of Wheat and Beans, the arrivals from abroad are unimportant. At our market to-day holders remained firm, at an advance of 1d. to 2d. per 70 lbs; and the demand abating, and millers buying cautiously, the business of the morning passed over and closed rather quietly. Barley, Malt, and Peas in steady demand on the terms of last Tuesday. Beans are the turn lower. Oats fully support late rates. Indian Corn on the spot has been taken sparingly this morning.

HOTHOUSES, GREENHOUSES, ETC.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

E. DENCH, PATENT HOTHOUSE WORKS, KING'S-ROAD, CHELSEA.—The superior qualities in every respect of these Structures having been proved in all parts of the United Kingdom, has caused a greater demand for them than E. D. could execute; he has been obliged to have perfect and powerful machinery made to meet the numerous orders, and can now execute any amount of work to great perfection, with dispatch, and for quality and price to defy all competition. Patent Hothouses, with excellent glass 3 feet long by 1 foot wide, every front sash to open, and every top one to slide down, with pulley made of the same materials as the electric telegraph wires, which require no painting; delivered free to Wharf or Railway Station, at 1s. 2d. per foot super., complete having been fitted, and every portion marked previously, using a Greenhouse 16 ft. 6 ins. long, 12 ft. rafter, 400 ft., 23l. 6s. 8d.; 24 ft. 6 ins. long., do. do., 526 ft., 30l. 13s. 8d.; 28 ft. 6 ins. long, 15 ft. rafter, 712 ft., 41l. 10s. 8d. Heating by Hot-water on the most approved and economical principles.

Patent Sashes for Pits and Peach Walls, &c., 7d. and 8d. per foot, super.

GREEN AND HOTHOUSES, made by Machinery, at J. LEWIS' Horticultural Works, Stamford Hill, Middlesex, warranted best materials, and the cheapest in England.—A List of Prices sent by enclosing two postage stamps.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

EWING'S PATENT GLASS WALLS.—One of the greatest defects in British gardening has hitherto been the uncertainty of securing a crop of fruit on common brick or stone walls, owing to the variableness and humidity of the climate. This is now remedied by substituting hollow Glass Walls, by means of which not only will the young wood in autumn be fully matured, but the blossoms will be completely protected from the frosts and biting winds of spring, and a climate secured equal to that of southern Europe.

These walls are particularly adapted to the growing of Grapes, Peaches, Nectarines, Apricots, Oranges, Lemons, and the finer sorts of Pears and Plums, producing fruit equal to that of France or Italy at no more expense than usually attending trees upon a common stone or brick wall.

Glass Walls must eventually not only take the place of brick and stone walls, but will, in a great measure, supersede the present mode of erecting hothouses, from their cheapness at first cost, the great economy of fuel and heating apparatus, the small space they occupy, and their peculiar elegant appearance. They are also admirably adapted for climbing Exotics, and a variety of other purposes.

The highest authorities on Horticultural matters in this country have expressed their unqualified approbation of these designs, at the head of whom is Dr. LINDLEY, and for whose opinion the public are referred to the leading columns of the *Gardeners' Chronicle* of December 6; also of Robert Marnock, Esq., Curator of the Royal Botanic Gardens, Regent's-park, London, in the leading columns of the *Gardeners' and Farmers' Journal*, of December 20. The patentee having made arrangements with some of the largest firms of iron-founders in the kingdom, and also with one of the most extensive British Glass manufacturers; and from the well-known respectability of those gentlemen who have become Agents, feels confident that he furnishes a sufficient guarantee that all orders in connection with the Glass Walls will be promptly and efficiently carried out in any part of England, Scotland, or Ireland.

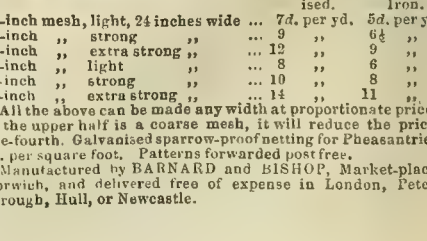
The following are the accredited Agents, and with whom drawings of the Glass Walls can be seen, and all particulars as to prices, &c., obtained on application:—Messrs. Knight and Perry, Exotic Nursery, Chelsea; Messrs. Henderson and Co., Pine-apple-place, Edgware-road, London; Messrs. Whitley and Osborn, Nurserymen, Fulham, London; Mr. Glendinning, Nurseryman and Landscape Gardener, Chiswick, London; Messrs. Veitch and Son, Nurserymen, Exeter; Messrs. F. and J. Dickson, Nurserymen, &c., Chester; Messrs. Lawson and Son, Edinburgh, Nurserymen and Seedsmen to the Royal Agricultural Society of Scotland; Messrs. Dickson and Turnbull, Nurserymen, Perth; Mr. M'Intosh, F.R.P.S., F.R.S.S.A., author of the "Practical Gardener," "Book of the Garden," &c., late Curator of the Royal Gardens of his Majesty the King of the Belgians, and now to his Grace the Duke of Buccleuch, at Dalkeith Palace, Scotland; Mr. Fleming, F.H.S., Head Gardener, &c., to his Grace the Duke of Sutherland, Trentham, Staffordshire; Mr. Ewing, Gardener, &c., Bodorgan, Anglesea; Messrs. Pilkington, Crown, Sheet, and Plate Glass Works, St. Helen's, Lancashire.

*** Prices for facing existing brick or stone Walls with glass and iron will be given on application.

TO FORESTERS, ETC.

WANTED, WILLOW POLES, fresh cut, 9 feet long, and 2 to 4 inches in diameter. Offers, with price per 100 or 1000, laid down at the nearest port, to be addressed to J. C. SOMMERS, Esq., 159, Fenchurch-street, London.

GALVANISED WIRE GAME NETTING.—7d. per yard, 2 feet wide.



	Galvanised.	Japanned Iron.
2-inch mesh, light, 24 inches wide ...	7d. per yd.	5d. per yd.
2-inch " strong " ...	9 "	6½ "
2-inch " extra strong " ...	12 "	9 "
1½-inch " light " ...	8 "	6 "
1½-inch " strong " ...	10 "	8 "
1½-inch " extra strong " ...	14 "	11 "

All the above can be made any width at proportionate prices If the upper half is a coarse mesh, it will reduce the prices one-fourth. Galvanised sparrow-proof netting for Pheasantries, 3d. per square foot. Patterns forwarded post free.

Manufactured by BARNARD and BISHOP, Market-place, Norwich, and delivered free of expense in London, Peterborough, Hull, or Newcastle.

GLASS.

THOMAS MILLINGTON'S FOREIGN SHEET GLASS is far superior to any other manufacture, as well as cheaper. In 100 feet boxes packed for immediate delivery.

6 inches by 4	and	6¼ by 4½	...	...	...	13s. 0d.
7 ,,		5 and 7¼ by 5½	...	...	...	15 0
8 ,,		5 and 8 by 5½	...	...	...	15 0
8 ,,		6 and 8½ by 6½	...	...	...	17 6
9 ,,		7 and 10 by 8	...	...	...	20 0
12 ,,		10 and 13 by 9	...	...	...	20 0

And many other sizes, or cut to order in various thicknesses. Cases containing large Sheets, in 100, 200, and 300 feet, at 21s. per 100 feet.

ROUGH PLATE, perfectly flat, ⅛ in. thick, best manufactured
In sizes under 15 inches ..... 6d. per foot.
,, ,, 35 ,, ... 8d. ,,
,, ,, 50 ,, ... 9½d. ,,
,, ,, 75 ,, ...12d. ,,

Milk Pans, 2s. to 6s. each; Metal Hand-frames, Glass Tiles and Slates; Cucumber, Propagating, and Bee Glasses; Wasp Traps, Glass Shades, and Plate Glass, at 87, Bishopsgate-street Without, same side as Eastern Counties Railway.—Established 100 years.

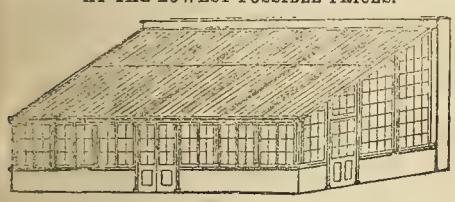
GLASS FOR CONSERVATORIES, ETC.

HETLEY AND Co. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2d. to 3d. per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices and Estimates forwarded on application for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLATES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to JAMES HETLEY and Co., 35, Soho-square, London.

See *Gardeners' Chronicle* first Saturday in each month.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER.

WARRANTED BEST MATERIALS AND WORKMANSHIP, AT THE LOWEST POSSIBLE PRICES.



J. WEEKS AND CO., King's-road, Chelsea, Horticultural Architects, Hothouse Builders, and Hot-water Apparatus Manufacturers. The Nobility and Gentry about to erect Horticultural buildings, or fix Hot-water Apparatus, will find at our Hothouse Works, King's-road, Chelsea, an extensive variety of Hothouses, Greenhouses, Conservatories, Pits, &c., erected, and in full operation, combining all modern improvements, so that a lady or gentleman can select the description of House best adapted for every required purpose.

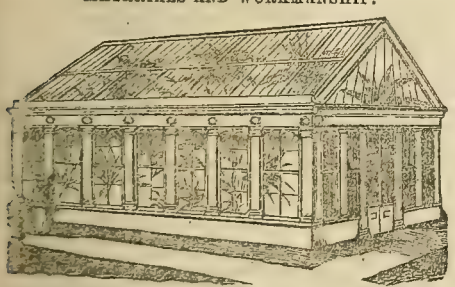
THE HOT-WATER APPARATUSES (which are efficient and economical), are particularly worthy of attention, and are erected in all the Houses, Pits, &c., for both Top and Bottom Heat, and in constant operation i the Stoves.

The splendid collection of Stove and Greenhouse Plants are in the highest state of cultivation, and for sale at very low prices. Also a fine collection of strong Grape Vines in pots from eyes, all the best sorts.

Plans, Models, and Estimates of Horticultural Buildings; also Catalogues of Plants, Vines, Seeds, &c., forwarded on application.—J. WEEKS and Co., King's-road, Chelsea, London.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER,

AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.



GRAY AND ORMSON, Danvers-street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

G. & Co. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders, they can with the greatest confidence give the most satisfactory references.

Their Hot-Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating Hot by Water can be made available.

HOT WATER APPARATUS, FOR WARMING CHURCHES, PUBLIC BUILDINGS, HOTHOUSES AND CONSERVATORIES.

P. E. WEBER AND CO., IRONFOUNDERS, Scotland Road, Liverpool, invite the attention of the public to their improved Hot Water Apparatus for Warming Churches, Public Buildings, Hothouses, and Conservatories, which their large experience in such work enables them to recommend; and for economy of fuel, durability, and freedom from nauseous smell, is unsurpassed by any other mode of heating.

Manufacturers of Steam Engines, Cranes, Kitchen Ranges, Register Grates, Stoves, Balconies, Verandahs, Entrance Gates, Railing, and all descriptions of Wrought and Cast Iron Ornamental Work.

FOR WARMING GREENHOUSES and BUILDINGS of all kinds, the new Registered HORIZONTAL GAS STOVE is perfect in its operation, free from smell, and cannot get out of order. Price 40s.—STEVENS AND SON, Darlington Works, Southwark Bridge-road, London.

GLASS.

JAMES PHILLIPS AND CO., GLASS MERCHANTS,

116, BISHOPSGATE STREET WITHOUT, LONDON,

HAVE THE PLEASURE TO HAND THEIR LIST OF PRICES OF GLASS FOR THE PRESENT MONTH, FOR CASH.

HORTICULTURAL GLASS,

Packed in Crates containing about 300 feet, and in Sheets about 40 ins. long by 30 ins. wide.

13 oz. to the foot... ... 0s 2d.
16 oz. do. 0 2½
21 oz. do. 0 3½

Cut to order in Panes.

Not exceeding 40 inches long:
16 oz. ... ... 0s. 3d. to 0s. 3½d.
21 oz. 0 4 0 5
26 oz 0 5 0 7

Packed in boxes containing 100 feet:
6 by 4 to 6½ by 4½ ins. ... 13s. 0d.
7 by 5 to 7½ by 5½ ins. ... 15 0
8 by 6 to 8½ by 6½ ins. ... 17 6
9 by 7 to 10 by 8 ins. ... 20 0

Boxes are charged 2s. each, but allowed for when returned.

FOREIGN SHEET GLASS.

Packed in 200 feet Cases, sizes varying from 38 by 26 to 44 by 30, at 38s., 40s, to 42s. per case of very superior quality.

WINDOW GLASS.

In Crates of 18 Tables.

	£	s.	d.	
Best	6	15	0	Double Crown the same price per crate, packed in 12 tables.
Seconds ...	5	17	0	
Thirds	4	16	0	
Fourths ...	3	3	0	
C. C.	2	12	0	
Coarse	2	6	0	

Subject to the usual discount for cash. Squares cut to order.

POLISHED PLATE GLASS.

Plates under 1 ft. super.	1s. 9d.		
1 foot and under 2	do.	2	4
2 do.	3	do.	2 8
3 do.	4	do.	2 10
4 do.	6	do.	3 2
6 do.	8	do.	3 6
8 do.	10	do.	3 9
10 do.	12	do.	4 0
12 do.	14	do.	4 2

Per foot super.

ORNAMENTAL OPAQUE PLATE GLASS.

PERFORATED GLASS,

FOR VENTILATION.

GLASS SLATES WITH DRILLED HOLES.

Rough Plate.

Size.	⅛ in. thick.	¼ in. thick.	⅜ in. thick.	½ in. thick.
	s. d	s. d	s. d	s. d.
Duchess ... 24+12	1 6	2 0	2 8	5 0
Small Imperial 20+14	1 5	1 11	2 7	4 10
Small Duchess 22+12	1 5	1 10	2 6	4 8
Countess ... 20+10	1 1½	1 6	2 0	3 8
Viscountess ... 18+10	1 1	1 4	1 10	3 4
Large Ladies 16+10	1 0	1 3	1 7	3 0
Ladies ... 16+ 8	0 10	1 1	1 5	2 6
Doubles ... 13+ 7	0 8	0 10	1 2	2 3

GLASS TILES.

Rough Plate. Each—s. d.		Sheet. Each—s. d.	
⅛ inch thick...	0 10	16 oz.	0 6
3-16ths do. do.	1 0	21 oz.	0 8
¼ inch thick...	1 3	26 oz.	0 10
½ inch thick...	2 0	32 oz.	1 0

50 Tiles, ¼ of an inch thick, packed in a case, 2l. 10s.

GLASS FOR CHURCHES, CHAPELS, SCHOOLS, ETC.

HARTLEY'S PATENT QUARRY GLASS,

In various lengths, of three thicknesses; a cheap substitute for Lead Lights.

HARTLEY'S PATENT ROUGH PLATE GLASS.

⅛ inch thick, or 2 lbs. to the foot; 3-16ths, or 3 lbs.; and ¼, or 4 lbs. to the foot, for Ridge and Furrow Roofs, Greenhouses, Railway Stations, Engine Sheds, Mills, Market Halls, and Public Buildings generally.

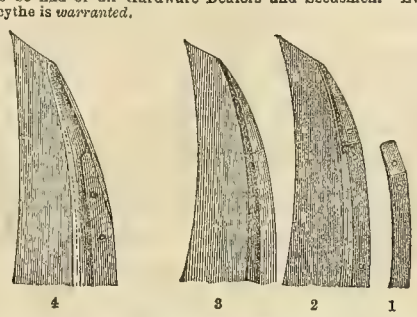
HARTLEY'S PATENT FLUTED AND CORRUGATED GLASS,

For Dome Lights, Counting-house Windows, &c.

MILK PANS, PROPAGATING GLASSES, and every article in the trade, for which a List of Prices, and every information, may be had, by addressing

JAMES PHILLIPS & CO., Glass Merchants, 116, Bishopsgate-street Without, London.

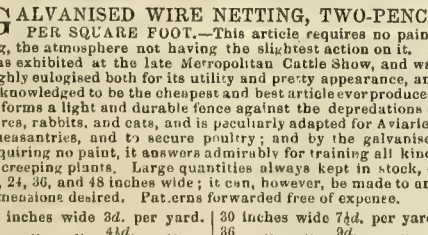
ROBERT SORBY AND SONS, Carver Street, Sheffield, beg to call the attention of Agriculturists to their REGISTERED STEEL-POINTED PATENT SCYTHE and REAPING HOOK, which possesses the advantages so long wanting to make the old Patent Scythe universally approved. A single trial must establish their decided superiority. To be had of all Hardware Dealers and Seedsmen. Every Scythe is *warranted*.



4 3 2 1

Fig. 4 represents the point of the ordinary scythe. The back is made of wrought iron, and the blade of cast steel, which are rivetted together. The back does not extend the whole length of the blade, and the vacancy is filled in with lead, which being liable to tear off in use, leaves the point of the back exposed, which never fails to catch in the crop, and so impede operations. This objection is neatly obviated by thus lapping the steel point *over* the end of the back, so that an uniform steel back is presented for a short distance from the point. Fig. 1 shows the back to be rivetted *under* the steel blade. Fig. 2, which, when finished, presents the appearance shown in Fig. 3, where the iron back is completely protected by the steel at the wearing point.

WIRE NETTING ONE PENNY PER SQUARE FOOT.



GALVANISED WIRE NETTING, TWO-PENCE PER SQUARE FOOT.—This article requires no painting, the atmosphere not having the slightest action on it. It was exhibited at the late Metropolitan Cattle Show, and was highly eulogised both for its utility and pretty appearance, and acknowledged to be the cheapest and best article ever produced. It forms a light and durable fence against the depredations of hares, rabbits, and cats, and is peculiarly adapted for Aviaries, Pheasantries, and to secure poultry; and by the galvanised requiring no paint, it answers admirably for training all kinds of creeping plants. Large quantities always kept in stock, of 18, 24, 36, and 48 inches wide; it can, however, be made to any dimensions desired. Patterns forwarded free of expense.

12 inches wide	3d. per yard.	30 inches wide	7½d. per yard.
18 ,, ,,	4½d. ,,	36 ,, ,,	9d. ,,
14 ,, ,,	6d. ,,	48 ,, ,,	1s. ,,

Galvanised do., 1d. per foot extra.

Extra strong Imperial Wire Sheep Netting, 3 feet, 1s. 6d. per running yard; if galvanised, 2s. Also every description of Wire Nursery and Fireguards. Wire House-lanterns and Shades, Fly-proof Dish Covers, Meat Safes, &c.; Window Blinds, 1s. 10d. per square foot, with bolts complete, in mahogany frames; Gothic Garden Bordering, 6d. per running foot; Flower Trainers, from 3d. each; Garden Arches, 20s each. Flower Stands, from 3s. 9d. each; Galvanised Tying Wire for Plants and trees, Dahlia Rods, and every description of Wire-work; Weaving, for the use of paper-makers, millers, &c.—At the Manufactory of THOMAS HENRY FOX, 44, Skinner-street, Snow-hill, London.

GREAT LONDON DRAINAGE COMPANY, for the construction of Tunnel Sewers, and for securing and converting the contents of the Metropolitan Sewers into a Guano. An Act of Incorporation has been applied for, and will be proceeded with during the present Session. Prospectuses may be had at 20, Throgmorton-street, and 17, Fludyer-street, London.

LOSS OF THE AMAZON.—ALARMING LOSS OF LIFE AND PROPERTY. 100 LIVES AND 100 000l. LOST for want of one of FREEMAN ROE'S FIRE PUMPS. This Pump is simple in construction; is adapted for Garden and Domestic uses, or as a Bilge Pump; and, without alteration, is a powerful Fire Engine.—Address, FREEMAN ROE, 70, Strand, London; or Bridgefield, Wandsworth, Surrey.
HYDRAULIC RAMS, FOUNTAINS, &c.

COKE CHEAP.—This economical and useful Fuel, of a very superior quality, to be had in quantities of five Chaldrons and upwards, cleared in a week, at 7s per Chaldron, at the three works of the Phœnix Gas Company, viz, Bankside, Southwark, upper Surrey side of Vauxhall-bridge foot, and Greenwich. This Coke is used in her Majesty's Conservatories as well as in private houses, and is admirably adapted for steam engines in the city of London, where no smoke is now allowed.

WATERPROOF CAPES, so as to effectually protect a man from wet while stooping down, 3s. each, suitable for Coachmen, Gardeners, Gamekeepers, Watchers, Carmen, Horse-drivers, Porters, and Agricultural Labourers. Three thousand London Policemen's second-hand Capes, re-dressed, 12s, 18s., and 24s. per dozen. Waggon and Cart Covers, Horses' Loin Cloths, Waterproof Coats, Driving Apron for Gigs, Dog-carts, and Omnibuses, &c.—R. RICHARDSON, 21, Tonbridge-place, corner of Judd-street, New-road, London.

N.B.—Transparent Sheeting, nearly 2 yards wide, 1s. per yard. One thousand yards thick Tarpauling, second-hand, 1s. per square yard, made up. South-Westers 1s. each.

GARDEN NETS, FISHING NETS, SHEEP NETS, &c.—Old TANNED FISHING NETS, ¾d. per yard, sold by others at 1½d.; new tanned twine Nets, 1½d.; worsted Garden Nets, 2½d. per yard; three-strand thread Net, to protect blossom, and the ripe fruit afterwards from wasps and flies. 6d per square yard. This article has been approved by the Horticultural Society. Samples sent. Fishing Nets, viz., drag, seine, flue, casting, hoop and trammel Nets, at very moderate charges; sheep Nets of New Zealand cord or cocoanut fibre, 1½d. per yard, nearly 4 feet high; cricket Nets, Nets to cover pheasantries, &c., very cheap.—R. RICHARDSON, 21, Tonbridge-place, corner of Judd-street, New-road.

N.B. Maker of the patent iron wire rabbit-proof fencing 6½d per square yard, in any width from 6 feet to 15 inches.

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FIFTH DIVISION OF PROFITS.

CLERICAL, MEDICAL, AND GENERAL LIFE ASSURANCE SOCIETY.

REPORT OF THE DIRECTORS,

Read at an extraordinary General Meeting, held at the Society's Office, on the 1st day of January, 1852.

In accordance with the Provisions of the Deed of Constitution, the Directors have called the present Meeting for the purpose of laying before the Proprietors and the Assured the result of an investigation of the Society's affairs for the five years ending June 30th, 1851.

On that day the Society had been in existence 27 years; and the result of this, the fifth investigation, affords, like each preceding one, abundant grounds of congratulation as to the past, and of hope for the future. This will be evident by a consideration of the following facts:—

The Income of the Society, for the year ending June 30, 1846, was £116,300; that for the year ending June 30, 1851, £136,100; being an increase, since the last Quinquennial Division, of £19,800 per annum.

In January, 1847, the surplus divided was £154,500.

The total Assets on June 30th last, exclusive of the Proprietors' paid-up Capital of £50,000, were	£864,327 11 1
The total Liabilities up to the same date were	683,112 4 1
Leaving a surplus of	£181,215 7 0

The above Surplus of £181,215 has now to be dealt with; but in order to avoid inconvenient fractions, the Directors have resolved to recommend to this Meeting to divide the sum of £180,000.

In conformity with the provisions of the original Deed (which alone regulates the present Division), one-sixth part of the Profits is to be divided among the Proprietors, and one-half among the Assured for Life. This will apportion to the Proprietors £30,000, and to the Assured for Life £90,000, leaving one-third of the said Profits, amounting to £60,000, to be laid by as a Reserve Fund. The Proprietors will thus receive a Bonus of £6 per Share, and the Assured a sum of £131,125, being the equivalent in reversion to the above amount of £90,000.

This sum of £131,125 will be added to the Policies, and be payable at the death of the respective parties, and will form an addition, varying with the different ages, from 24½ to 55 per Cent. on the Premiums received during the last five years.

In estimating the amount of liabilities, it is important to observe that each Policy has been valued separately; that there has been no encroachment on, or anticipation of, future profits; and that a mode of valuation has been adopted, whereby a larger sum than is usual with most other offices, has been retained to meet such claims as may arise. This will appear by the following examples:—

Sums set aside as the Value of a Policy for £1000.	By Offices valuing by the Northampton Three per Cent. Tables.	By the Mode adopted by this Office.	Difference in Favour of this Office at future Divisions.
	£ s. d.	£ s. d.	£ s. d.
Effected at the Age of 40, after 10 years ...	152 3 7	158 8 5	6 4 10
Effected at the Age of 50, after 10 years ...	197 17 3	215 2 0	17 4 9
Effected at the Age of 60, after 10 years ...	282 7 5	326 3 0	43 15 7

The Proprietors and the Assured are aware that hitherto the Profits at each division could only be appropriated in the proportions of one-sixth to the Proprietors, and three-sixths to the Assured, while the remaining two-sixths were thrown back into the general assets of the Society, and formed an ever accumulating Reserve Fund.

The consequence has been, that the Reserve Fund, which at the Division at the end of the first

Seven years, in June	1831	was only	£5,000
Had increased in	1836	to	6,500
,, ...	1841	to	29,500
,, ...	1846	to	51,500
And in June	1851	to	60,000

The continual increase of this Fund has up to this time operated to the disadvantage of the Assured, and has tended materially to diminish the amount of the Bonus, which would have been apportioned to them had the whole Profits been distributed at each quinquennial period. In order to obtain powers to alter the mode of Division, and for other purposes, the Directors, with the consent of the Proprietors, applied for and obtained an Act of Parliament in 1850.

By this Act the Reserve Fund is now permanently fixed at 50,000*l.*; and the Profits, at the next and all future Divisions, are to be distributed in the proportion of one-sixth to the Proprietors, and *five-sixths* among the Assured.

The effect of these changes will be to give to the Proprietors hereafter a much smaller proportion of the Profits; but, from the additional inducements held out to Assurers, the Directors venture to hope that a considerable increase of business will afford some compensation for this sacrifice.

As regards ASSURERS, whether old or new, it is clear that the recent arrangement will prove highly advantageous to them. The difficulties arising from the augmentation of a continually increasing and indivisible Surplus have thus been removed; and at the division in 1857 the Assured will participate in the proportion above stated, not only in the Profits regularly accruing from the general business, but also in the five years' interest derived from the sum of 60,000*l.* now laid by, together with 10,000*l.*, being part of the Principal.

It is confidently anticipated that the interest of the said sum of 60,000*l.*, together with the 10,000*l.*, will alone produce an amount fully equal to that portion of the Profits to which the Proprietors will be entitled; so that, upon this view, the Assured will have the benefit of *the entire profits* produced by the regular business.

The Society, therefore, presents all the advantages afforded by Proprietary Offices, and *more than all those* offered by Mutual Offices, since in this estimate no account is taken of the Profits which may be realised by Policies issued on the Non-participating Scale;—a branch of business which Mutual Offices do not usually undertake.

When the provisions of the Act came into operation on the 1st July, 1851, the Directors caused an entirely new Prospectus to be published, embodying every additional facility for Assurers which increased experience had rendered it advisable to adopt. Policies can now be effected either on a participating or a non-participating scale; the Assured have leave to reside in most parts of the world without extra charge; and claims will in future be paid at the end of *thirty days* after proof of Death, instead of three or six months, as is the general rule.

The Directors, therefore, after a period of 27 years of steady and uninterrupted prosperity, are enabled confidently to invite the attention of the Public to the great advantages offered to Assurers in this Society. An unusually ample sum has been retained to meet future claims. A large and permanent Reserve Fund has now reached the limit assigned by Act of Parliament. The expenses of management are small, and do not exceed 3½ per cent. on the income. And all persons conversant with the details of Life Assurance, will at once perceive the favourable position of the Society.

The New Prospectus can now be obtained of any of the Society's Agents, or of GEO. H. PINCKARD, Secretary.

99, Great Russell-street, Bloomsbury, London.

SALES BY AUCTION.

UPPER CLAPTON.

TO GENTLEMEN, BROKERS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS are instructed by the administrator of the late Mr. JAMES CURRY, to sell by Auction on the premises, Brook-street, Upper Clapton, on TUESDAY, February 3d, 1852, at 11 o'clock, the genuine HOUSEHOLD FURNITURE and Effects, comprising Brussels Carpets, Chairs, Bedsteads, Feather Beds and Bedding, Chests of Drawers, Mahogany, Dining, and other Tables, a capital Mahogany Sofa, a Dutch Clock, Time Piece, three excellent Watches, a Barometer, Thermometers, Oil Paintings and Prints, Books, China, Glass, Wine and Spirits, and Kitchen requisites; also a handsome Grey Mare, a covered 4-wheeled Spring Van, Cart, seven capital Ladders, eight Wine Pipes, a patent Chaff-cutting Machine, a Pair of Globes, a capital Gun, 60 bundles 7 feet Stakes, six dozen Oak Hurdles, three excellent Garden Rollers, Iron Stakes, and Garden Tools; together with the Nursery Stock, &c. May be viewed one day prior to the Sale. Catalogues may be had on the premises; and of the Auctioneers, American Nursery, Leytonstone, Essex.

IMPORTANT SALE OF VALUABLE NURSERY STOCK,

IN CONSEQUENCE OF A PORTION OF THE LAND BEING REQUIRED FOR BUILDING.

MESSRS. RAWLINGS AND GIBSON have received instructions from Mr. John Adams to sell by Auction, on MONDAY, Feb. 9, 1852, and five following days, at 11 o'clock, on the premises, Kensington-road (opposite the west end of the Great Exhibition), the whole of that valuable and extensive stock of large Evergreens, Ornamental Trees and Shrubs, &c., consisting of fine large Magnolias, Rhododendrons, Azaleas, Phillyreas, Alaternus, Laurestinus, Arbor-vitæ, green and striped Hollies; Irish, common, and fan-shaped Yews, Hemlock Spruce, Common and Portugal Laurels, Evergreen Oak, Mahonia; Common, Siberian, and Persian Lilac; Green and Variegated Box, &c. Also a fine stock of large Cedar of Lebanon, and Deodara, Araucaria, Pinus, Abies, and other valuable Coniferous Plants. Together with a valuable stock of Vines and other Fruits. The whole to be sold without reserve. May be viewed prior to the Sale, Catalogues (1*s.* each, returnable to purchasers), may be had on the premises; of the principal Seedsmen; and of the Auctioneers, 50, Hoxton-square, and Ebenezer Nursery, Shacklewell.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN BUILDERS, AND OTHERS.

MESSRS. RAWLINGS AND GIBSON have received instructions from Mr. Fisher to sell by public Auction, on the premises, Lower Claremont Nursery (near the Duchess of York), Battersea-fields, on THURSDAY, Feb. 5, at 11 o'clock, in consequence of the Lease expiring at Lady-day, the whole of the valuable NURSERY STOCK, consisting of fine Evergreens, Fruit and Forest Trees, Ornamental and Flowering Plants and Shrubs, with a fine collection of Roses, Pinks, Lilies, &c.—May be viewed prior to the sale. Catalogues may be had on the premises; of the principal Seedsmen; and of the Auctioneers, 50, Hoxton-square, and Ebenezer Nursery, Shacklewell.

IMPORTANT CONSIGNMENT.

MESSRS. RAWLINGS AND GIBSON will submit to public competition by Auction, at the Mart, Bartholomew-lane, on WEDNESDAY and FRIDAY, Feb. 4th and 6th, at 12 o'clock, about 300 STANDARD AND DWARF ROSES, consisting of all the leading varieties; also a fine collection of Coniferous and other Plants, comprising very fine Cedrus Deodara and africanus, Juniperus virginiana pendula, excelsa, oblonga pendula, squamata, and sinensis; Cupressus sempervirens and Thujæformis; 100 fine Pinus excelsa, Biota pendula, Thuja plicata; Picea cephalonica and Webbiana; 100 fine Araucaria imbricata, a number of large Cryptomeria japonica, and Magnolia grandiflora; together with 100 handsome Irish Yews, 50 Erica mediterranea, &c.—May be viewed the morning of sale. Catalogues had at the Mart; and of the Auctioneers, 50, Hoxton-square, and Ebenezer Nursery, Shacklewell.

SOUTH AMERICAN ORCHIDS.

MR. J. C. STEVENS will sell by Auction, on FRIDAY next, Feb. 6, at 12 for 1 o'clock precisely, at his Great Room, 38, King-street, Covent-garden, FOUR CASES OF ORCHIDS, collected by Mr. Warsewiez on the Cordillera of the Andes at Quindios, and just received in 39 days from Guayaquil, comprising three species of Cattleya, new; two Coryanthes, new; Miltonia, new; Cypripedium floribundum, Cycnoches (white), Trichopilias (three species), Paphinias, Anguloas, &c.; and the beautiful Masdevalia coccinea.

Catalogues are preparing, and will be forwarded by Tuesday's post.

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Dessert Spoons ,, ...	1 14 0	Soup Ladle ..... ,,	10 6
Dessert Forks ,, ...	1 10 0	Sauce ditto ..... ,,	4 6
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THE GARDENERS' CHRONICLE

AND

AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 6—1852.] SATURDAY, FEBRUARY 7. [PRICE 6*d.*

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Extra strong Red Moss, 4*s.* 6*d.* per doz., or per 100	32	0

Deliveries in London, between Oxford-street and the Bank, free.

DELPHINIUM MAGNIFICA.—This splendid Perennial Herbaceous Plant, figured in "Paxton's Magazine of Botany," and let out by myself in the spring of 1850, has proved itself by far the most beautiful of its tribe; its brilliancy of colouring and general habit, as well as its continuous flowering, distancing all competitors. The following is from the "Midland Florist" of the present month: "Last year I saw D. magnifica advertised at 10*s.* 6*d.*, and I at once ordered a plant; and although the price was 'rather saut' (salt, as we say in Scotland, I do not grudge it; for it has turned out one of the very few things that well deserved all the character given it by the advertiser. This plant commenced flowering with me about the middle of June, and continued an object of very great attraction for a long time; and now, Aug. 1st, is in all its glory." The same testimony is also given by the Editor. A limited number of plants can be furnished by about the 22d of April next, at 5*s.* each, for cash only.—A. GODWIN, Collycroft Nursery, Ashbourne.

N. B. Now ready for sending out, good plants on their own roots in pots, of Rose Géant des Batailles, 12*s.* per dozen; other best Perpetuals, 9*s.* per dozen.

FLOWER SEEDS FREE BY POST.

FRESH IMPORTED GERMAN STOCKS, ASTERS, ZINNIAS, LARKSPURS BALSAMS, HOLLYHOCKS, AND OTHER CHOICE FLOWER SEEDS.

Also, Hairs' Dwarf Mammoth Pea, Fairbeard's Champion of England Pea, Sutton's Early Goliah Pea, &c. &c., at lowest prices, as per Catalogue, which may be had for one penny stamp.—Address JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

SEEDLING POTATOES.—THE STOCK FOR SALE.—The 24 selected and distinct varieties shown and much admired by the members, gardeners, and growers present at the Horticultural Society's Rooms, on the 20th ult., are for sale, by tender, at per bushel. No one sort exceeds 15 nor is less than 2 bushels. A full description of the varieties will be forwarded on receipt of one postage stamp. Samples of each sort may be seen at Mr. LAWRENCE'S, Seedsman, &c., 18, Piccadilly; Mr. SHAILER, Nurseryman, Battersea-fields, and at the Grower's, 41, Brewer-street, Golden-square. Certificates of their several qualities may be seen from Mr. INGRAM, Royal Gardens, Frogmore; Mr. MALLESON, Royal Gardens, Claremont; Mr. TURNER, Eton College Gardens.

RENDLE'S SELECT GRASSES.

WILLIAM E. RENDLE AND CO., SEED MERCHANTS, PLYMOUTH,

Have of late years paid much attention to their selection of GRASSES *for* PERMANENT PASTURES, *&c. They supplied Mixtures, last season, for several thousand acres, and have not had a failure or single complaint; proving, in the most satisfactory manner, that their selections have given the greatest satisfaction.*

A Descriptive List will be found in our "Price Current," copies of which can be had in exchange for Six Penny Stamps.

The West of England is famous for the PERMANENT QUALITY of its RED CLOVER, or COW GRASS, tons of the Seed being dispatched to every part of Great Britain every year. We have this season contracted for a large stock, and can supply ANY QUANTITY, either Wholesale or Retail, at the lowest market prices.

For Catalogues and further particulars, apply to WILLIAM E. RENDLE AND CO., SEED MERCHANTS, PLYMOUTH.

ESTABLISHED 1786.

THE NEW EARLY SWEET KERNELLED KAISHA APRICOT FROM SYRIA.—Fruit ripens early in July, juicy, sweet, and luscious, of hardy character, and good bearer; for further description see former advertisements, and the London "Horticultural Society's Journal" for July, 1849.

Messrs. VEITCH and SON are now offering good Trees of the above valuable Apricot, at the following prices, package included, with the usual discount to the trade, viz.:—

	s.	*d.*
Dwarf Maiden Trees, and 1 year cut back	10*s.*	6*d.*
Ditto 1 year trained	15*s.*	0*d.*
Ditto or Standards, 2 years trained	21*s.*	0*d.*
Dwarf round heads in pots	21*s.*	0*d.*

Exeter, February 7, 1852.

MESSRS. J. AND H. BROWN'S NEW DESCRIPTIVE CATALOGUE OF PLANTS, &c., for 1852, can be had free for six postage stamps. They also offer the following American Plants, Fruit Trees, &c.:—

	s.	*d.*
25 Azaleas, new hardy Belgian varieties, on their own roots, with flower-buds, one of a sort by name	20	0
25 American Azaleas, do. do.	15	0
25 Hardy American Plants, one of a sort by name	10	6
12 Rhododendrons, including scarlet, white, and rose, hardy varieties	12	0
New hardy yellow Rhododendrons, each, 7*s.* 6*d.*, to	10	6
Fine hardy scarlet Rhododendrons, 2 feet, per dozen	10	0
Cedar of Lebanon, 3 feet, well grown, in pots, per dozen	10	0
6 Choice Pinus, one of a sort, in pots	10	0
Standard and half-standard, per dozen 12*s.* and	15	0
Climbing Roses, choice sorts, in pots, per dozen	6	0
Standard and half-standard, per dozen 12*s.* and	15	0
Wisteria sinensis, extra fine, in pots, 15 to 30 feet, each	3	6
12 Greenhouse Azaleas, one of a sort, blooming plants	25	0
12 choice Camellias, by name, do. do.	30	0
24 choice Ericas, one of a sort, by name	16	0
12 Orchidaceous plants, choice species, and good plants	30	0
Cinerarias and Calceolarias, choice sorts, per doz. 9*s.* to	12	0
Verbenas and Petunias, newest varieties, per dozen	6	0
6 Bulbs of Lilium lancifolium, one of a sort, for	12	0

FRUIT TREES.

Fine Dwarf and Standard Peaches, Nectarines, Apricots, Plums, Pears, and Cherries. The best and most approved sorts of these respective kinds, true to name, each, 2*s.* 6*d.*, or, per dozen	24	0
Untrained, or maiden do., 1*s.* 6*d.* each, or, per dozen	15	0
Apples, dwarfs and standards of best sorts, per dozen	15	0
Fine Gooseberries, Currants, and Raspberries, per dozen	3	0
Fine Figs, Medlars, Walnuts, and Mulberries, each	2	0
Strong Vines, from eyes and layers, in pots, per dozen	15	0
Filberts, new thin shelled and red skinned, per dozen	3	0

Rhubarb roots, Early seed Potatoes, Seakale and Asparagus plants and Garden seeds of all kinds supplied.

Albion Nursery, Stoke Newington, London.—Feb. 7.

PRICED RETAIL SEED LIST.

ABRAHAM HARDY AND SON, SEED GROWERS and SEEDSMEN, Maldon, ESSEX, beg to thank their supporters for past favours, and to offer again their Catalogue of Agricultural, Vegetable, and Flower Seeds; also, of early Seed Potatoes, free on application; or with a packet of Mignionette, or superior Parsley, for two postage stamps. Respectfully soliciting their kind recommendatory favours to inquiring friends of the genuineness of Seeds received from them on former occasions.

N.B. Wholesale Lists supplied to the Trade.

FLOWER SEEDS SENT FREE BY POST.

ROBERT WESTMACOTT begs to inform his friends that he has selected with great care his Stock of FLOWER AND VEGETABLE SEEDS for the present season, including every variety worthy of cultivation. His GERMAN SEEDS are imported from the best foreign house, and are as good as can be procured. His PRICED DESCRIPTIVE CATALOGUE will be sent by Post on receipt of One Penny Stamp, or may be had gratis at the NURSERY, Stuart's Grove, Fulham Road, Chelsea.

COLLECTIONS OF THE MOST SHOWY FLOWER SEED FOR LARGE OR SMALL GARDENS.

	One Packet of each.—	*s.*	*d.*
50	well assorted Annuals, Biennials, and Perennials	10	6
25	Do. Do. Do.	5	6
12	Do. Do. Do.	3	0

Post-office Orders made payable at Brompton.

CAMELLIA JAPONICA.

CHANDLER AND SONS beg to inform the Nobility and Gentry that their CAMELLIAS will be very fine this season. A great many are now in flower.

N.B. Cut flowers may be had.

Nursery, Wandsworth-road, London.

FINEST LANCASHIRE GOOSEBERRIES, in 100 choice sorts, named, per 1000, 4*l.*; or 10*s.* per 100, in 50 sorts. CURRANTS.—MAY'S Victoria or Raby Castle, red, the finest, largest, and best known, ought to be in every garden, 25*s.* per 100, or 4*s.* per doz.; Red Grape and Champagne, fine, per 100, 10*s.*; or per doz., 2*s.*

Securely packed to carry any distance, or for exportation.

A remittance or reference from unknown correspondents is respectfully requested.

All Orders above 5*l.* Carriage paid to London, Liverpool, Birmingham, and Edinburgh, and to any Station within 15 miles of the Nursery.

Our Descriptive Catalogue is just published, in Three Parts, and may be had gratis for four penny postage stamps to pay postage, or Parts I. and III. for one penny stamp each; Part II. for two penny stamps each, separate. Part I. contains extensive Lists of Stove and Greenhouse Plants. Part II. contains select Hardy Herbaceous Plants, Roses, Ornamental Trees, Flowering Shrubs, Evergreens, and Coniferæ. All described in height, colour, and time of flowering. Part III., select Lists of Fruit Trees of every useful description fully described, with prices and conditions, and much other useful information. Warranted to contain more practical details than any other list extant; *and the largest, cheapest, and best stock of Plants ever offered.*

Apply to JOHN MAY, Hope Nurseries, Leeming-lane, Bedale, Yorkshire.—For general Advertisement of Surplus Stock, see page 67, in last week's Paper.

CHEAP AND SELECT NURSERY STOCK.

THE SUBSCRIBERS beg to offer the following Choice Stock, at the annexed greatly reduced prices. Goods from these extensive Nurseries have given great satisfaction through out the Kingdom for many years.

	£	*s.*	*d.*
12 best Camellias, with flower buds	1	10	0
12 very best Ghent Azaleas, with flower buds	0	18	0
12 Standard Berberis dulcis, fine heads	2	0	0
12 Abies Douglasii, 3 ft., fine, in pots	4	0	0
12 do. Morinda, true, 3 feet	1	0	0
12 new Hardy Yellow Rhododendrons	3	0	0
12 Rhododendrons, scarlet, crimson, purple, white, and all shades of colours, selected from their celebrated collection of more than 100 varieties	1	10	0
100 Standard Rhododendrons, of various colours	20	0	0
100 Rhododendron campanulatum (from seed), 6 years' old, stout plants, extra transplanted	5	0	0
100 Cedar of Lebanon, 3 ft., well rooted	4	0	0
100 species and varieties of Ornamental, Flowering, and Evergreen Shrubs	2	0	0
100 fine double prize Hollyhocks, strong, 4 years' old	1	0	0
100 Dwarf Roses, splendid prize varieties, two of a sort	1	10	0
50 Standard Roses do. do., including the fine Perpetuals, strong stems, budded, 3½ ft.	3	0	0
100 True English Elm, 6 to 8 ft., for Avenues	1	0	0
1000 Laurels, extra transplanted, fine, 2 to 3 ft.	5	0	0
1000 Evergreen Privets, stout, 2 ft.	1	0	0

A few Thousands fine English Oaks, suitable for Planting in Woods, will be sold cheap. Prices of a first-rate Stock of Fruit Trees on application. A reference or remittance is respectfully solicited from unknown correspondents.

WILLIAM JACKSON AND CO., BEDALE, YORKSHIRE.

ROSES.

THOMAS CRIPPS having still on hand a very large stock of ROSES, both Standards and Dwarfs, comprising every known variety of merit, has great pleasure in offering them to the notice of his friends, being strong, healthy, and well rooted Plants.

	s.	*d.*
Extra tall picked Standards, 5 to 6 feet, stout stems, per dozen	30	0
Standard Weeping Roses, beautiful objects for planting singly on Lawns, each, 3*s.* 6*d.*; per doz.	36	0
Standards, very choice, per doz. 18*s.*, 24*s.*, and	30	0
Standards on stems, varying in height from 2 ft. to 2 ft. 9 ins., per doz. 18*s.* and	24	0
Dwarfs, finest kinds, one of a sort, per doz., 9*s.*, 12*s.*, and	18	0
Dwarfs, good kinds, do. do.	6	0
Dwarfs, do. without names, per 100	30	0
Dwarf Tea-scented Roses, budded on stems from 3 ins. to 6 ins. high, very strong plants, per doz. 12*s.* and	18	0
Climbing Roses, by name, per doz. 9*s.* and	12	0
Do. without names per 100	30	0

The above prices being applicable to Roses where the selection is entirely left to T. C., none but the very best kinds will be sent.

Plants given over to compensate for carriage, in proportion to extent of order. The trade supplied on liberal terms. Catalogues may be had on application, by enclosing two stamps

Tunbridge Wells Nursery.

GREAT WESTERN, GREAT NORTHERN, SOUTH-WESTERN, AND SOUTH-EASTERN

SEED ESTABLISHMENT, READING, BERKS,

FOR SUPPLYING SUTTON'S HOME-GROWN SEEDS TO ALL PARTS OF THE UNITED KINGDOM.

THE GARDEN SEEDS grown in Berkshire and the Southern Counties having obtained great celebrity, and our low prices for Seeds of superior quality having gained us a very extensive connection in almost every County in the United Kingdom, we have made such arrangements with MESSRS. PICKFORD AND CO. (who have Offices on most of the great lines of Railways, as will enable us to **DELIVER OUR GOODS FREE OF CARRIAGE**, as under:—

Packages of not less than Ten Shillings value are delivered free of carriage to any Office in London, Bristol, Southampton, Portsmouth, Dover, Oxford, Banbury, Gloucester, Hungerford, and all Stations on the Great Western, South-Western, and South-Eastern Railways; and all Packages of Seeds, not less than 2l. value, Carriage Free to the Ports of Ireland, Scotland, and Wales; or to Birmingham, Liverpool, Manchester, Lynn, York, Hull,

And any Station on the Great Northern Railway.

The superior quality of our Seeds is plainly testified by the numerous orders we are daily receiving from parties who have had them in previous seasons, very many of which contain remarks such as the following:—

EXTRACTS FROM LETTERS NOW BEFORE US, WHICH MAY BE SEEN AT OUR COUNTING-HOUSE.

From a Clergyman, near Darlington.

"The best kitchen garden seeds I ever had were furnished by you."

From Doneraile, Ireland.

"Lord D. would be glad to have," &c., &c. "The seeds sent last year were excellent."

From another Clergyman, at Kinsale, Ireland.

"Being so much pleased with the garden and flower seeds sent last season, induces me to send to you for my agricultural seeds also."

From Cirencester.

"I never received such a numerous collection, so good in quality, from any house."

From Ripon, Yorkshire.

"At one of the Horticultural Shows at Harrowgate, my gardener took 20 prizes, most of them from the produce of your seed; we also gained several prizes at other meetings, as many as 18 at one of them."

From Girvan, N.B.

"I have much satisfaction in recommending your seeds to various friends, as I find they are much pleased with them."

SUTTON'S COLLECTIONS OF GARDEN SEEDS.

	£	s.	d.
No. 1.—A COMPLETE COLLECTION OF GARDEN SEEDS, FOR ONE YEAR'S SUPPLY OF A LARGE GARDEN	2	10	0
No. 2.—A COMPLETE COLLECTION, IN QUANTITIES PROPORTIONATELY REDUCED	1	10	0
No. 3.—A COMPLETE COLLECTION, EQUALLY CHOICE SORTS	1	1	0
No. 4.—A SMALL AND VERY CHOICE ASSORTMENT	0	12	6

If some kinds of Seeds are already possessed purchasers are requested to name them, that increased quantities of others may be sent in lieu of them.

A List of the sorts and quantities may be had in return for One Penny Stamp.

N.B.—We are also growers of Mangold, Turnip, and other Agricultural Seeds, which are likewise delivered carriage free.

Address, JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

STANDISH AND NOBLE, NURSERYMEN,

BAGSHOT, SURREY,

Solicit attention to the following List of ORNAMENTAL PLANTS, selected from their general Nursery Stock. The greater portion are growing in the open quarters; and, from being periodically transplanted, their safe removal may be relied on. Every Plant sent out will be a healthy, robust specimen; the heights given afford but a slight criterion of their general character. To those having a star prefixed they invite special attention, as being remarkably fine, and fit for producing immediate effect. Gentlemen about to plant extensively would be repaid by making a visit to the Nursery.

All kinds of Ornamental Trees and Shrubs supplied. A fine Collection of Roses selected with reference to late autumnal blooming. Also of the best kinds of late-flowering hardy hybrid Rhododendrons, to the cultivation of which especial attention is given.

*** *Gentlemen requiring assistance in laying out or improving their grounds may procure the services of a competent person by applying to the Advertisers.*

With the exception of such names as are printed in italics, the whole of the plants in this list are perfectly hardy.

The number of inches named refer to the heights, unless otherwise stated.

ABIES BRUNONIANA, 12 ins., *2s. 6d.*; 24 ins., *5s.*, each.
" JEZOENSIS, one year's seedlings, *21s.* each.
This is one of the last novelties in Conifers. It forms a noble tree of 120 feet in height, and of very distinct character.
" DOUGLASII, 20 to 36 ins., *5s.* to *10s. 6d.* each.
ARAUCARIA IMBRICATA, 6 to 9 ins., *1s.*; 12 ins., *2s. 6d.*; 18 ins., *3s. 6d.*; 24 ins., *5s.*, each.
AZALEA, "Glory of Sunning Hill," 2s. 6d. to *5s.* each.
The best double variety in cultivation.
" OVATA, a hardy evergreen, 6 to 9 ins., *2s. 6d.* each.
" *VITTATA*, a specimen of this unique variety was awarded a Knightian medal, when exhibited last April at the rooms of the Horticultural Society. The ground colour of the flowers is white, which is beautifully striped with purple, after the manner of a Carnation. It is a very free bloomer. 9 ins., *21s.* each.
ABELIA UNIFLORA, new and distinct. A very free bloomer, *10s. 6d.* each.
BUXUS sp., from north of China, round leaved, *10s. 6d.* each.
" " long leaved, *15s.* each.
BERBERIS FORTUNII, 9 ins., *1s. 6d.*; 12 ins., *2s.*; 18 ins., *3s.*; 24 ins., *5s.* each.
" DARWINII, *7s. 6d.* to *21s.* each.
* CEDRUS AFRICANA, 18 ins., *2s. 6d.*; 24 ins., *3s. 6d.*; 30 ins., *5s.*; 36 ins., *7s. 6d.*; 48 ins., *10s. 6d.* each.
* " DEODARA, 2 to 5 ft., *2s. 6d.* to *10s. 6d.* each.
* CRYPTOMERIA JAPONICA, seedlings, very robust plants, will require no support from stakes. Plants 4 to 5 ft. high have stems as many inches in circumference. 6 ins., *63s.* per 100. 24 ins., *2s. 6d.*; 36 ins., *3s. 6d.*; 48 ins., *5s.*; 60 ins., *7s. 6d.* each.
" JAPONICA NANA, seedlings 9 to 12 inches through, *10s. 6d.* to *21s.* each.
*CUPRESSUS FUNEBRIS, seedlings, very robust plants, from the open border, nearly as wide as high, very handsome plants, 12 ins., *5s.*; 18 ins., *7s. 6d.*; 24 ins., *15s.*; 30 ins., *21s.*; 36 ins., *31s. 6d.* each. Cuttings, 6 to 8 ins., *2s. 6d.* each.
* " ELEGANS, a rapid grower, and a most graceful tree, 12 ins., *2s. 6d.*; 24 ins., *3s. 6d.*; 36 ins., *5s.*; 48 ins., *7s. 6d.* each.
* " GOVENIANA.—This is one of the most beautiful plants of its class. It has the merit of preserving its beautiful green colour during the most severe weather, 9 ins., *2s. 6d.*; 12 ins., *3s. 6d.*; 18 ins., *5s.*; 24 ins., *7s. 6d.*; 30 ins., *10s. 6d.*; 36 ins., *15s.*; 48 ins., *21s.* each.
* " LAMBERTIANA, forms a noble tree, rivalling even the Cedar of Lebanon, and succeeds well in very exposed situations. 9 to 12 ins., *1s. 6d.*; 18 ins., *2s. 6d.*; 24 ins., *3s. 6d.* each.
Grafted beneath the surface of the soil, 30 ins, *2s.*; 36 ins., *2s. 6d.*; 42 ins., *3s. 6d.*; 48 ins., *5s.* each.
CEPHALOTAXUS FORTUNII, male var., long leaves, seedlings, 21s. each.
" " female var., short leaves, seedlings, 21s. each.
CHAMÆROPS, sp., a hardy Palm from the north of China, a decided acquisition to our hardy ornamental evergreens, 21s. to 31s. 6d. each.
CLERODENDRON FŒTIDUM.—The only species of this beautiful genus which can be successfully cultivated in a cool greenhouse, a situation in which this succeeds admirably. It forms its large heads of rosy lilac flowers in great profusion. Strong plants, 21s. each.
CERASUS ILLICIFOLIA, *7s. 6d.* each.
DAPHNE JAPONICA, 12 ins., *2s. 6d.* each.
" HYBRIDUM, 12 ins., *1s. 6d.* each.
FORSYTHIA VIRIDISSIMA.—This plant is not sufficiently known. It is an early spring-flowering plant, producing its yellow blossoms in great profusion. But it rarely flowers, or but scantily when young. The plants offered are well set with flower-buds. It forces well. Bushy plants, 24 ins., *1s. 6d.*; 36 ins., *2s. 6d.*; 48 ins., *3s. 6d.*; Standards, *10s. 6d.* each.
ILEX DIPYRENA, 9 to 12 inches, *3s. 6d.* each.
" MICROCARPA, 21s. each.
" LATIFOLIA, 12 ins., *2s. 6d.*; 18 ins., *3s. 6d.*; 24 ins., *5s.* each.
" FURCATA, 21s. each.
JUNIPERUS ARGENTEA, new and very beautiful, 12 inches, *5s.* each.
" PHŒNICEA, 12 ins., *1s. 6d.* each.
" CHINENSIS, 12 ins., *1s.*; 18 ins., *1s. 6d.*; 24 ins., *2s.*; 30 ins., *2s. 6d.* each.
" TAMARISCIFOLIA, 12 ins., *1s.* each.
" FLACCIDA, 12 ins., *1s. 6d.*; 24 ins., *3s. 6d.* each.
" EXCELSA, 12 ins., *2s. 6d.*; 18 ins., *3s. 6d.* each.
" SQUAMATA, 12 ins., *1s.*; 24 ins., *2s. 6d.* each.
" CRACOVIA, 12 ins., *1s.* each.
" MACROCARPA, 12 ins., *2s. 6d.* each.
" REPANDENS, 12 ins., *9d.*; 24 ins., *1s. 6d.* each.
" OBLONGA PENDULA, 6 to 8 ins., *2s. 6d.* each.
" BEDFORDIANA, 12 ins., *1s.*; 18 ins., *1s. 6d.*; 24 ins., *2s.* each.
JASMINUM NUDIFLORUM, strong blooming plants, *2s. 6d.* each.
LIGUSTRUM JAPONICUM, 9 ins., *1s.*; 24 ins., *2s.* each.
LYCOPODIUM WILDENOVII, 5s. each.
LIBOCEDRUS CHILIENSIS, *7s. 6d.* each.
MITRARIA COCCINEA, *2s. 6d.* each.
*PICEA PINSAPO, very handsome specimens, 30 ins., *21s.* each.
" NORDMANNIANA, *10s.* to *15s.* each.
" OVATA, *10s. 6d.* each.
*PINUS INSIGNIS, 12 ins., *2s. 6d.*; 24 ins., *5s.*; 30 ins., *7s. 6d.*; 36 to 42 ins., *10s. 6d.* each.
" MURICATA, 9 ins., *10s. 6d.*; 18 ins., *21s.*; 24 ins., *31s. 6d.* each.
" MONTEZUMÆ, 12 to 15 ins., *10s. 6d.* each.
QUERCUS SCLEROPHYLLA, *21s.* to *42s.* each.
" INVERSA, *21s.* to *42s.* each.
ROSE, "FORTUNE'S YELLOW," dwarfs, *2s. 6d.* to *5s.* each.
" " " standards, *5s.* to *7s. 6d.* each.
RHODODENDRONS.—Hardy late flowering Hybrids, varying in colour from white to deep crimson. Dwarfs, *31s. 6d.* to 6 guineas per dozen; standards, *21s.* to *5* guineas each.
" COMMON PONTICUM, for covers, thrice transplanted, 12 to 18 ins. high, very bushy, *15s.* to *21s.* per 100.
SIKKIM RHODODENDRONS.—We believe we may state, without fear of contradiction, that we possess the largest plants of these beautiful Rhododendrons in the trade. The heights of those we are offering vary from 2 to 9 ins. From the altitude from whence many of them were obtained, there is great probability of their proving hardy in this country. Collections of 24 distinct kinds at 3, 5, or 9 guineas.
SPIRÆA CALLOSA.—An abundant and continued bloomer. It has large corymbs of rosy purple blossoms, and is a handsome addition to our shrubbery plants; *10s. 6d.* each.
SALISBURIA ADIANTIFOLIA (seedlings), 12 ins., *2s. 6d.* each.
*TAXODIUM SEMPERVIRENS. This and Cryptomeria japonica are amongst the most rapid-growing Conifers. In situations where such are required they cannot be surpassed. 18 ins. to 5 feet, *1s. 6d.* to *10s. 6d.* each.
TAXUS DOVASTONII, standards, 3 to 4 ft., *7s. 6d.* to *10s. 6d.* each.
" ADPRESSA, 12 ins., *2s.*; 24 ins., *5s.*; 36 ins., *10s. 6d.* each.
" BACCATA (yellow-berried var.), 12 ins., *2s. 6d.*; 24 ins., *5s.*; 36 ins., *7s. 6d.* each.
" " (golden-leaved var.) 12 ins., *1s. 6d.*; 18 ins., *2s. 6d.* each.
VIBURNUM PLICATUM, *10s. 6d.* to *21s.* each.
*WEIGELA ROSEA.—This beautiful flowering shrub should be grown by every one. It forms a handsome object in the open borders in May. It also forces well. The plants here offered are as wide as high, and will flower abundantly in the spring. 18 ins., *2s.*; 24 ins., *2s. 6d.*; 30 ins., *3s. 6d.*; 36 ins., *5s.* each.

A Descriptive Catalogue of Hardy Ornamental Trees and Shrubs; to which is prefixed a Treatise on the Cultivation of American Plants, may be had free, by enclosing six stamps for postage.

SUTTON'S HORTICULTURAL CALENDAR, and PRICED DESCRIPTIVE LIST OF SEEDS AND PLANTS.—This is the most useful List yet published, containing much useful information, in 40 pages 8vo, with Newspaper stamp. It will be sent free on receipt of six penny stamps, *which charge will be deducted from all orders.*

SUTTON'S Collections of Home-Grown Seeds, the best and cheapest yet offered to the public, are sent carriage free. *Lists of the sorts and quantities contained in these Collections will be forwarded post free in return for one penny stamp.*

Address, JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

HART AND NICKLIN, FLORISTS, Guildford, offer the undermentioned GERANIUMS:—Rosa, Silk Mercer, Major Domo (Beck's), May Queen, Flavia, and Ajax (Hoyle's), 30s. the set.

Loveliness, Christabel, Rosalind, Prince of Orange, Magnificent, Emily, Constance, Field Marshal, Virgin Queen, Alonza, Mount Blanc, and Brilliant, 20s. the set.

FANCY GERANIUMS.—Prince Albert, Prima Donna, Marian, Reine des Fleurs, Wintonia, Exquisite, Empress, Reine des Francais, Jenny Lind, Alboni, Sidonia, and Grace Darling.

The above are offered, strong and healthy. No charge for hamper, and free to any station on the South-Eastern or South-Western Railways.

PRIZE ASTER.

J. REID begs to announce to all those interested in the beauty of their flower gardens, that he is now sending out his Doubled Quilled GLOBE ASTER. This beautiful variety is already well known, having been exhibited during the last two years at all the leading flower shows in the United Kingdom, where it was universally admired, and was awarded upwards of 40 prizes. From the numerous testimonials J. R. has received, he selects the following, being the opinions of two first-rate gardeners, living in different parts of the kingdom:—

Mr. Tite, Gardener, Benson, Wallingford, has been in the habit of importing his seeds for 8 years, and during that time never had flowers to equal them sent out by J. R. Mr. Greenlees, Gardener, Bothwell-park, N. B., considers it so superior to the old varieties, that when once it is generally known it will throw them out of cultivation.—A packet will be sent post free by enclosing 12 penny postage stamps to J. REID, Monkton Nursery, Ryde, Isle of Wight.

CATTELL'S KITCHEN GARDEN AND FLOWER SEEDS, of generally acknowledged first-rate quality.

Descriptive Priced Catalogues of the above will be forwarded, post free, on receipt of a penny stamp for each, addressed to JOHN CATTELL, Westerham, Kent. The KITCHEN GARDEN SEEDS are saved from his own selected Stocks. Among the Beets, Kales, Broccolies, Cauliflowers, Cabbages, Celeries, Cucumbers, Endives, Lettuces, Parsleys, &c., are enumerated kinds which every gardener would find worth his trial and attention.

Orders for Seeds amounting to 10s. and upwards will be forwarded, carriage free, to London, and to every station on the South-Eastern, Brighton, and South-Coast Railways.

Any of the VEGETABLE and FLOWER SEEDS may be had by post at the Catalogue prices, with the additional postage charges.

J. C. has also to offer fine plants of the Cedar of Lebanon, 6 to 7 feet high, in large pots, 15s. each, or 7l. 10s. per doz.; 5 feet, very fine, 10s. 6d. each, or 5l. 5s. per doz.; and smaller in proportion.

ROSES, strong, in 8-inch pots, fitting for immediate forcing. Moss, Common, and Scarlet, 18s. per doz.; Province, White or Unique, Sponge and common Cabbage, Hybrid Perpetuals, of the finest forcing varieties, 18s. to 21s. per doz.; Géant des Battailles, fine, on their own roots, in 5-inch pots, 24s. per doz.

A very large stock of the following splendid Hardy Herbaceous Plants, grown in the open ground—Delphinium Barlowii, D. grandiflorum maximum, and Œnothera macrocarpa, each at 8s. per doz., or 50s. per 100; Lily of the Valley, single, 5s. per 100; ditto double, 3s. per doz.; 25 varieties of Van Houtte's new Belgian double Daisies, a good plant of each, 7s. 6d.

The following Catalogues for the present season may be had on prepaid application, enclosing stamps as named:

A Descriptive Catalogue of Roses, containing all the leading kinds; the Roses grown here are acknowledged by the trade and others who have seen them not to be surpassed by any other grower. One penny stamp.

A Catalogue of Hardy Trees and Shrubs, American Plants (of which a large collection is grown, and are particularly fine), Coniferæ, and hardy Climbers; two penny stamps.

A Catalogue of Fruit Trees, Strawberries, &c.; one penny stamp.

Seed Catalogues as above.

Remittances to accompany all orders from unknown correspondents.

NEW KITCHEN GARDEN SEEDS.

WILLIAM E. RENDLE, AND CO., PLYMOUTH, *have much pleasure in stating that their*

NEW PRICED CATALOGUE OF KITCHEN GARDEN AND FLOWER SEEDS

Can still be had in exchange for ONE PENNY STAMP.

RENDLE'S COLLECTIONS OF GARDEN SEEDS have given universal satisfaction, and the Subscribers have the greatest confidence in recommending them. The quantities furnished are STATED IN FULL in the "Price Current and Garden Directory," copies of which can still be obtained in exchange for Six Penny Stamps.

They can give reference to noblemen, clergymen, and gentlemen in almost every county in Great Britain and Ireland, who have procured their supplies from them; and can produce hundreds of UNSOLICITED *testimonials of the highest character. The following, just received, will suffice for the present occasion. For others of a similar character, see our Advertisement in this Newspaper, Jan 24, 1852, page 51.*

From the Hon. and Rev. ——, Ireland.
January 8th, 1852.

Gentlemen,—Enclosed is a draft for the amount of my account. It is gratifying to have again to express the satisfaction I have had in your Seeds. The kinds have been true, and the seeds have grown well. YOUR Swedish Turnip, especially, has yielded a crop superior to anything in this part of the country; many of them exceeded 12 lbs. when topped and tailed. Send me one of your collections, with *two bushels* of your Imperial Purple-top Swede Turnip, &c.

They could fill the columns of this Paper with extracts of letters and opinions of the Press, if it were requisite to do so; but the above will, they trust, be sufficient to prove the general excellency of their Seeds. In fact, it is THEIR *interest to send out only what is good; they would be only injuring themselves were they to do otherwise.*

For Further Information, refer to page 51, Jan. 24, 1852.

For Price Currents and Catalogue, apply to WILLIAM E. RENDLE and Co., Seed Merchants, Plymouth.

ESTABLISHED IN THE YEAR 1788.

SEEDS DIRECT FROM THE GROWERS.

JOHN SUTTON AND SONS, *being extensive Growers of Seeds, can supply them of such quality as to prevent the disappointment so often experienced from Seeds which have passed through many hands between the grower and the purchaser.*

As Messrs. SUTTON and SONS grow expressly for their retail trade, they can afford to pay especial attention to the stocks of their Seeds, both Agricultural and Horticultural, and at the same time to sell at the lowest remunerating prices.

For Priced Lists, address JOHN SUTTON and SONS, Seed Growers, Reading, Berks, enclosing one penny stamp.

VEGETABLE AND FLOWER SEEDS OF GENUINE QUALITY,
SENT OUT AS RECEIVED FROM THE MOST RESPECTABLE GROWERS.

WM. DENYER, SEEDSMAN and FLORIST, 32, Grace-church-street, near the Spread Eagle, London, begs to intimate that his New CATALOGUE OF SEEDS, &c., for the present season, is now ready, in which will be found several *Novelties* well worthy the attention of the Amateur and Cultivator.

W. D. also refers with confidence to his Collections of *Asters, Stocks,* &c., which have for several past seasons given great satisfaction.

Descriptive priced Lists may be had on application.

ROSES.

WILLIAM WOOD AND SON beg to offer a choice assortment of ROSES at the under-named prices, the selection of sorts being left to themselves.

	s. d.
Extra fine picked tall Standard Union Roses, from 6 to 8 feet, budded with 3 to 6 best varieties of Climbing and Perpetual Roses in each stem, suitable for training in the form of domes (these plants are particularly fine), each, 3s. 6d. to	5 0
Superior selected Standards ... ... Per doz. 18s. to	24 0
Fine Dwarfs and Dwarf Standards ... ,, 10s. to	18 0
Fine Dwarfs, on own roots, two of a sort ,, ...	6 0
Tea-scented Roses, in pots, very fine ... ,, 12s. to	18 0
Best varieties for Forcing, established in 6-inch pots, p. doz.	20 0
Dwarfs, on own roots, without names, per 100	30 0

N.B.—Additional plants presented with each order, with a view to lessen the expense of carriage.

Catalogues may be had, GRATIS, on application.

Woodlands Nursery, Maresfield, near Uckfield, Sussex.

AMERICAN NURSERY, BAGSHOT, SURREY.

JOHN WATERER begs to announce that he has published a new CATALOGUE of Hardy Rhododendrons, Azaleas, Roses, Conifers, &c., and which may be obtained by enclosing two postage stamps.

The colours of all the Rhododendrons worthy of cultivation are described; thus purchasers are afforded every facility in making selections.

Ranunculuses, Anemones, Auriculas, Pelargoniums, and Lilium Lancifolium.

HENRY GROOM, Clapham Rise, near London, by appointment FLORIST TO HER MAJESTY THE QUEEN, AND TO HIS MAJESTY THE KING OF SAXONY, begs to recommend the above Flowers, which he can supply, of the best quality.

	£ s. d.
100 Ranunculuses, in 100 superfine sorts, named ...	2 10 0
Superfine mixtures, per 100, from 5s. to ...	0 10 6
100 Anemones, in 50 superfine sorts, named	1 10 0
Superfine mixtures (double), per 100, from 6s. to ...	0 10 6
25 Auriculas, in 25 superfine sorts, named	3 3 0
25 Pelargoniums, in 25 superfine sorts, named ...	3 3 0
Fine named varieties, per dozen, from 12s. to ...	0 18 0
Lilium lancifolium album, per dozen, from 9s. to ...	0 18 0
,, ,, punctatum, each, from 2s. 6d. to ...	0 7 6
,, ,, rubrum true, or speciosum, do., 3s. 6d. to	1 1 0
,, ,, roseum, do., 2s. 6d. to	0 7 6
,, ,, cruentum, do., 5s. to	0 10 6

A new collection of Hybrid Seedling Lilies, 6 sorts named, for 15s.

DWARF PEAS.

HAIRS'S DWARF MAMMOTH KNIGHT'S, acknowledged the best out, 2s. 6d. per quart.
BISHOP'S LONG-PODDED, 1s. per quart.
BURBIDGE'S ECLIPSE, 1s. per quart.

The above Peas have been most extensively grown in the principal horticultural establishments in the kingdom, and pronounced superior in every respect to the tall growing varieties.

FLOWER SEEDS.

ESCHSCHOLTZIA CALIFORNICA ALBA, a pure white, very good, 6d. per packet.
IPOMŒA BURRIDGII, splendid hardy creeper, 6d. per packet.
SAPONARIA CALABRICA, var. MULTIFLORA, one of the best bedding plants out, 6d. per packet.
TROPÆOLUM COCCINEUM, handsome, 6d. per packet.
EUCHNIDEA BARTONIOIDES, splendid yellow, half-hardy, 6d. per packet.
GAURA LINDHEIMANII, fine herbaceous plant, 6d. per packet.

DUNCAN HAIRS offers to the gardening world the above small selection, as being deservedly worthy of universal attention. Catalogues of Garden, Agricultural, and Flower Seeds forwarded on application.

Seedsman and Florist, Wholesale and Retail, 109, St. Martin's lane, London.

TO NOBLEMEN AND GENTLEMEN PLANTING.

THOMAS JACKSON AND SON respectfully solicit attention to, and an inspection of, their very healthy and extensive Stock of frequently transplanted TREES and SHRUBS, amongst which will be found Araucarias, 4 feet high; Deodar Cedars, 12 feet; Cedars of Lebanon, 9 feet; Pinus excelsa, 6 feet; Ditto patula, 6 feet; Ditto insignis, 4 feet; Ditto cephalonica, 5 feet; Ditto morinda, 5 feet; Ditto Gordoniana, 2 feet; Irish Yews, 12 feet; English ditto, 6 feet; Pyramid ditto, 5 feet; Taxodium sempervirens, 8 feet; Cryptomeria japonica, 5 feet; Chinese Junipers, 6 feet; Irish ditto, 4 feet; Cupressus torulosus, 6 feet; Ditto Goveniana, 5 feet; Ditto Chilana, 5 feet; Ditto sempervirens, 8 feet; Green and Variegated Hollies, 7 feet; Broad-leaved ditto, 5 feet; Weeping ditto, 6 feet; Arbutus procera and unedo, 4 feet; Magnolia grandiflora, Exmouth, 5 feet; Ditto acuminata, 8 feet; Paulownia imperialis, 7 feet; Weeping Willows, 10 feet; Weeping Ash, 16 feet; Large Aucubas, Common and Portugal Laurels, Chinese and American Arbor-vitæ, Tree Pæonies, Daphnes, Laurestinus, Berberis, Red Cedars, Rhododendrons, Azaleas, Kalmias, Forsythias, Weigelas, Evergreen Oaks, and all the other favourite Trees and Shrubs (covering upwards of 20 acres of nursery ground); also Fruit and Forest Trees of various sizes in great quantity, and about a million of Quick fit for making or mending fences, from 2s. to 15s. per 1000.

Prices, which are very low, may be obtained on application.

All orders of two pounds or upwards delivered at any of the carrier's offices in London, or by our own carts within 12 miles of the Nursery.—Nursery, Kingston, Surrey, Feb. 7.

SEED AND HORTICULTURAL ESTABLISHMENT,
SUDBURY, SUFFOLK.

BASS AND BROWN'S SEED AND PLANT LIST FOR 1852,
OR DESCRIPTIVE PRICED CATALOGUE
(STAMPED TO GO FREE BY POST), IS NOW COMPLETE, AND MAY BE HAD ON APPLICATION.

WE have the pleasure, as above, of offering our 21st ANNUAL SEED CATALOGUE, combined with our usual choice LISTS OF PLANTS. Our Seeds, which are harvested and collected with much care, will be found, we believe, as select a collection of choice varieties and kinds as can be produced. From the great number of communications from persons in all parts of the Kingdom to whom our goods have been sent, expressing their high approval of the articles supplied; and from our habitual aim to obtain those of the very best description, we can offer them with the fullest confidence.

The following, of our own selection, we wish particularly to recommend. They consist of varieties and kinds which cannot fail to afford the most complete satisfaction.

VEGETABLE SEEDS IN ASSORTMENTS.

We beg to offer the following Collections of the choicest and most approved, embracing superior new sorts in proportionate quantities of each:—

	£ s. d.
No. 1.—COLLECTION FOR A LARGE GARDEN, containing 20 quarts of Peas, in 20 best sorts for succession; 10 best sorts of Broccoli; 8 ditto of Lettuce, with all other Vegetables in proportion	2 10 0
No. 2.—THE BEST NEW AND OTHER SORTS, IN SMALLER QUANTITIES	1 10 0
No. 3.— DITTO DITTO	1 0 0
No. 4.—A COLLECTION OF ESTEEMED KINDS FOR A SMALL GARDEN	0 10 6

*** *A complete List of the sorts and quantities of the No. 1, 2, and 3 Collections are this year furnished in the Catalogue. If any sorts are not wished for, enlarged quantities of others will be sent to make up the amount.*

FLOWER SEEDS—FIRST ASSORTMENTS.

These may be had, prepaid by post, at the prices affixed. Useful printed instructions for sowing and raising Seeds will be sent with each lot.

	£ s. d.
100 Varieties select showy Annuals, including very splendid German Asters, Stocks, Larkspurs, Jacobæas, Zinnia elegans, also Lobelia ramosa and the three new varieties ramosa major, rosea, and propinqua; the new marbled Calliopsis, Menulia violacea, Nemesia versicolor, Gramanthus gentianoides, Cenia turbinata, Cenia turbinata alba, and other newest and best sorts	0 15 0
50 Varieties, including the same, 8s. 6d.; 30 varieties ditto, 5s. 6d.; 20 varieties ditto	0 4 0
20 Varieties best Dwarf Annuals, in large packets, for filling beds on lawns	0 7 6
12 Varieties ditto ditto ditto	0 5 0
20 Varieties choice Greenhouse Annuals, including very fine Balsam, Cockscomb, Mesembryanthemum, Martynia, Phlox Drummondii, and the two new varieties, Leopoldiana and alba oculata; new varieties of Portulacca, Rhodanthe Manglesii, Thunbergia, New Yellow Salpiglossus, &c.	0 7 6
12 Varieties ditto ditto ditto	0 5 0
20 Varieties choice Greenhouse Perennials, including very fine and new varieties of Calceolaria, Cineraria, Fuchsia, Petunia, Verbena, Kennedyas, Calendrinia umbellata, &c.	0 10 6
12 Varieties ditto ditto	0 7 6
20 Varieties Hardy Biennials and Perennials, including the new white Escholtzia, very choice Antirrhinum, Gladioli, Heartsease, Mimulus, Polyanthus, Dianthus, Brompton and Emperor Stocks, &c., 7s. 6d.; 12 varieties	0 5 0

FLOWER SEEDS—SECOND ASSORTMENTS.

	£ s. d.
100 Varieties, select and well assorted Showy Annuals	0 10 6
50 Varieties ditto ditto	0 5 6
30 Varieties ditto ditto, 3s. 6d.; 20 ditto	0 2 6
20 Varieties Hardy Biennials and Perennials, 4s.; 12 varieties	0 2 6

Remittances required from unknown correspondents. Post-office Orders payable to BASS and BROWN, or to STEPHEN BROWN.

Goods sent Carriage Free to London, Ipswich, Norwich, or any other Station on the line.

Stamped Copies of our Autumn Catalogue may still be had, which contains our Descriptive Lists of Roses, Herbaceous Plants, Select Evergreens and Flowering Shrubs, Hardy Climbers, Prize Gooseberries, Gladioli, and various Bulbs and Roots.

ESTABLISHED ABOUT HALF A CENTURY.

HOSEA WATERER'S Descriptive Catalogue of AMERICAN PLANTS, CONIFERS, ROSES, &c., is just published, and may be had on application, enclosing two postage stamps, to Mr. HOSEA WATERER, Knap Hill Nursery, Woking, Surrey.

GEORGE BAKER'S DESCRIPTIVE CATALOGUE OF AMERICAN PLANTS, CONIFERÆ, ROSES, ORNAMENTAL SHRUBS, FRUIT AND FOREST TREES, &c., may be had on application, by enclosing two postage stamps.—Windlesham Nursery, Bagshot, Surrey.

MITCHELL'S MATCHLESS WINTER PARSLEY.—J. M. having saved a much larger quantity of Seed this season than last, can offer it to the public at a much reduced price. Wholesale, to seedsmen, 1s. 3d. per lb.; any quantity under 10 lbs. will be charged 2s. per lb. Can be sent to any part of the World, on receipt of a Post-office order, payable to JOHN MITCHELL, Ponder's-end, Enfield, Middlesex.

DOUBLE ITALIAN TUBEROSE ROOTS, 4s. per dozen.—The annual importation of the above-named beautiful and fragrant Flower has just been received, and large and well selected Bulbs may be obtained, without disappointment, at A. CORBETT'S Foreign Warehouse, 18, Pall-mall.

N.B. Printed regulations for treatment sent; also, just arrived, very moist and open Parmasan Cheeses.

SANGSTER'S NEW EARLY NO. 1 PEA.

HAY, SANGSTER, AND CO., in submitting the above valuable PEA to the public, can recommend it with the greatest confidence, as the largest podded and best Early Pea known, and of first-rate quality; height, 2 feet, Price 2s. 6d. per quart.

York Regent Potatoes, from prepared cuttings, 6s. per bush. Cambridge Radical, 6s. do. A first-rate second early, 6s. do. American Native, 6s. do. White Blossom Kidney, 6s. do. Brighton Pink Kidney, 6s. do.

For Testimonials, see *Gardeners' Chronicle*, Nov. 8, p. 705.

Post-office orders to be made payable at the Borough Post-office to HAY, SANGSTER, and Co., Nursery and Seedsmen, Newington Butts, London. One-bushel hampers and booking, 1s. 6d.; two-bushel. 2s. 6d. Sacks, 2s. 6d. each.

SUPERB NEW EARLY PROLIFIC MELON,
"VICTORY OF BATH."

GARAWAY, MAYES, AND Co. having purchased the entire stock of the above MELON, beg to offer it to the public as a variety unequalled in flavour and productiveness. It obtained a Certificate of Merit at the April Show, in Bath; First Prize at Chiswick, in May; also two First Prizes at Bath, in May and June last. It was grown in pots with Bromham Hall, under precisely the same treatment, and Ripe Fruit cut full six weeks earlier. The whole of the fruit exhibited were grown in pots.

MELONS. Per Packet—s. d.		CUCUMBERS. Per Packet—s. d.	
Victory of Bath	2 6	Lord Konyon's Favourite	1 0
Bromham Hall	1 0	Victory of Bath	1 0
Camerton Court	1 0	Roman Emperor	1 0
Trentham Hybrid Green Flesh	1 0	Holm Pierpoint Wonder	1 0
Beechwood...	1 0	Kelway's Victory ...	1 0

With all other approved sorts. With all other approved sorts.

G., M., and Co. also beg to inform their friends that they are now prepared to send out their well selected stock of Agricultural, Kitchen, and Flower Garden Seeds, the latter grown under their own inspection. Catalogues to be had on application. G., M., and Co. can with confidence recommend their stock, as every article is thoroughly proved before sent out.—Durdham Down Nurseries, Bristol, Feb. 7.

POLYANTHUS SEED.

TO THE LOVERS OF THAT BEAUTIFUL EARLY SPRING FLOWER, THE POLYANTHUS.

JAMES WOODS has again this year a quantity of POLYANTHUS SEED, which he can recommend with confidence, saved from none but named and good laced flowers. Price 1s. per packet, or sent free on receipt of 13 postage stamps, to JAMES WOODS, Florist, Harwich, Essex.

OVERSTOCK OF LARCH.—About 400,000, 1½ to 4 feet, well topped, fibrous rooted, and of the finest quality. Samples and price sent on application to JOHN SCHOLEY, Nurseryman, &c., Pontefract.—Pontefract Nursery, Feb. 7.

COLLECTIONS OF SEEDS, suitably selected for Gardens of various sizes, for one year's supply, at the following prices:—2l. 10s., 1l. 17s. 6d., 1l. 5s., 12s 6d., and 5s. The Seeds are of excellent quality, many of which are direct from the growers. Particulars of sorts and quantities of each Collection may be had, if required, on application.

Also, Collections of FLOWER SEEDS, chiefly Annuals, with a few good Biennials and Perennials, 100 varieties, 10s. 6d.; 50 do, 5s. 6d.; 25 selected do., 3s. 6d.; 12 do., 2s.

WILLIAM DENYER, Nurseryman & Seedsman, Battle, Sussex.

The Gardeners' Chronicle
SATURDAY, FEBRUARY 7, 1852.

MEETINGS FOR THE ENSUING WEEK.

MONDAY,	Feb.	9	British Architects ... 8 P.M. Geographical ... 8½ P.M. Syro Egyptian ... 7½ P.M.
TUESDAY,	—	10	Civil Engineers ... 8 P.M. Medical and Chirurgical ... 8½ P.M. Zoological ... 9 P.M.
WEDNESDAY,	—	11	Literary Fund ... 2 P.M. London Institution ... 7 P.M. Graphic ... 8 P.M. Society of Arts ... 8 P.M. Ethnological ... 8½ P.M. Pharmaceutical ... 8½ P.M.
THURSDAY,	—	12	Royal Soc. of Literature ... 4 P.M. Antiquarian ... 8 P.M. Royal ... 8½ P.M.
FRIDAY,	—	13	Astronomical (Anniversary) ... 3 P.M. Royal Institution ... 8½ P.M.

THERE is nothing in the able Report of the Board of Health of more horticultural importance than the evidence collected upon the mode of applying LIQUID MANURE. Not that it contains anything new upon the subject, but because what it does contain is well put and ably illustrated. Our own columns bear ample testimony to the difficulty of impressing upon the minds of gardeners the extreme importance of employing such fluids in a state of great dilution; for, notwithstanding our repeated warnings, and the wise practice of their neighbours, men are still to be found so unintelligent as to insist upon using strong liquid manure. "How strong may I make it?" says one correspondent. "Of what use is it, if it be weak?" writes another. "Why can't I put on plenty at once, instead of being always at it?" demands a third. In vain we advise, in vain point

out reasons; we find the same class of questions incessantly repeated. Let us hope that the following quotation from the Report before us will assist in dispersing the mistiness which still hovers over some portions of the horticultural mind:

"Sir Joseph Paxton collects at Chatsworth the manure water from water-closets, horse-dung linings, and various other sources, into large covered tanks; the waste also from a small bath is emptied into one of these, by which means the solution becomes very thin. The liquid so collected passes almost immediately into a state of incipient or partial decomposition, and thus becomes fit for the food of vegetation; when drawn off for use, *it is always greatly diluted with water*, and *never supplied except when the plants are in a state of activity and growth*; otherwise he considers the effects would in many cases be prejudicial, rather than otherwise. It is used by him liberally to Vine-borders, Peach trees, Melons, Cucumbers, Pines, and other fruits, with the most powerful and satisfactory results; in fact, the use of plant food in a liquid state, if properly prepared and administered, supersedes in a great degree the necessity for manure in a solid form; and the produce in favour of the liquid greatly preponderates, being both larger in quantity and weight, richer in colour, and superior in flavour.

"These advantages, however, could not be secured with certainty, unless the solution were so prepared as to suit the habits and requirements of the various plants to which it is supplied. This preparation is of two kinds:—First, by *diluting the liquid sufficiently with water* to prevent the spongioles of roots becoming glutted with too great a supply of food; and, secondly, rendering it of a proper temperature by the addition of hot water. Pines require the liquid at about a heat of 80° Fahr., and other plants in proportion; fruit trees, and other open air products, however, do not necessarily require the addition of hot water to the same extent as in-door produce, but are, notwithstanding, much benefited by receiving it in a moderately warm state. Wherever a steam-engine is employed, Sir Joseph Paxton's practice of artificially warming the liquid manure might be easily adopted, by allowing some of the waste steam to blow through the tank or pipe. Experience has, however, amply shown that for ordinary crops, sewerage in its usual state is the most valuable manure that has yet been introduced.

"By attention chiefly to the proper administration of liquid food, and other suitable appliances, the Pine-apple, a plant formerly considered of so slow a growth as to require three years before it could produce full sized fruit, has by Sir Joseph been so hastened in its growth, as to yield, within an average of 15 months, a far greater supply of finer fruit than was formerly produced by three years' expense and labour. From every day's experience, an instance or two out of a multitude might be cited by way of illustrating that even a much shorter period than 15 months is not unfrequently sufficient to accomplish all that could be desired. An ordinary sucker of a Providence Pine was detached from the old stock during the month of March, and was planted out in a prepared bed of soil in a pit, and in the following August it produced a ripe well-grown fruit, weighing 8 lbs. Two suckers also of a Cayenne Pine were separated and planted out in April, and in the following September, one of them produced a fruit weighing 7¼ lbs., and the other one 8 lbs. A large pit of Cayenne suckers of various sizes were planted out in a pit last spring, and in the autumn the fruit when ripened gave an average of one pound in weight for every month the plants had grown. These were not isolated or extraordinary instances of early production, but the common and natural result of this system of culture, which stimulates to extraordinary growth, and the most perfect developement. The effects of liquid manure, when applied to the roots of Vines in pots, and on rafters, and to Cucumbers and Melons, are equally apparent; the leaves assume a rich deep colour, become large and spreading, the growth is rapid and healthy, and the produce is invariably fine, plump, and becomes quickly matured."

In all this statement there is nothing except what every intelligent gardener can confirm; especially those parts printed in italics. The whole art of liquid manuring is, in fact, comprehended in the foregoing extract.

Let the manure be extremely weak; it is idle to ask how weak; liquid manure owes its value to matters that may be applied with considerable latitude; for they are not absolute poisons, like arsenic and corrosive sublimate, but only become dangerous when in a state of concentration. Gas-water illustrates this sufficiently well; pour it over a plant in the caustic state in which it comes from gas works, and it takes off every leaf, if nothing worse ensues. Mix it with half water—still it burns; double the quantity once more—it may still burn, or discolour foliage somewhat; and if it does not, much of what falls upon a plant is necessarily lost. But add a tumbler of gas-water to a bucketful of pure water, no injury whatever ensues; add two tumblers full, and still the effect is salubrious, not injurious. Hence it appears to be immaterial whether the proportion is the hundredth or the two-hundredth of the fertilising material. Manuring is, in fact, a rude operation, in which considerable latitude is allowable. The danger of error lies on the side of strength, not of weakness. To use liquid manure very weak and very often, is, in fact, to imitate nature, than whom we cannot take a safer guide. This is shown by the carbonate of ammonia carried to plants in rain, which is not understood to contain, under ordinary circumstances, more than one grain of ammonia in 1 lb. of water; so that in order to form a liquid manure of the strength of rain-water, 1 lb. of carbonate of ammonia would have to be diluted with about 7000 lbs. weight of water, or more than 3 tons. Let us not be misunderstood. We do not mean to say that any such dilution as this is absolutely necessary; we would only point to the very significant fact, that in the operations of nature, dilution is enormously beyond what cultivators usually dream of.

Let such manure be applied only when plants are in a growing state. In addition to Sir Joseph Paxton's evidence, and to the general notoriety of this rule, may be usefully added a statement made by Mr. Mitchell, Lord Ellesmere's gardener, and quoted by the Board of Health. This experienced cultivator says—

"That he has never seen any manure produce so good a crop of Strawberries as the liquid (*i. e.* town or sewer manure), has this year done at the Worsley Hall gardens. Manure,' he adds, 'often causes a crop of Strawberries to be lost, by forcing the growth of leaves. Liquid may be applied *just when the plants are forming their flower buds*, and the strength of the manure is spent in producing fruit, not leaves. When the plants were bearing, it could be seen to a plant how far the irrigation had extended.'"

Indeed it should be obvious that since liquid manure owes its value to its being in the state in which plants can immediately consume it, to administer it when they are incapable of consuming it, that is to say when they are not growing, is most absurd. This is, however, a point concerning which more requires to be said than we can to-day find room for.

ALLAMANDA SCHOTTII.

This beautiful plant, coming from Brazil, requires for its successful cultivation a warm and humid atmosphere, and except where this can be obtained, it is useless to grow it. I have little accommodation for tropical subjects in winter, and as young plants occupy less room and form equally as fine specimens as old plants, I provide fresh stock every year. I select cuttings of short jointed pieces as early in spring as they can be obtained in a sufficiently ripe state, and insert them in sandy peat, covering with a bell-glass, and plunging the pot in a smart bottom heat. As soon as the cuttings are rooted, they are potted singly in small pots, replaced in the propagating pit, and encouraged with bottom heat and a warm moist temperature, until they become established in their pots. When they appear to have made plenty of roots they are shifted into 7-inch pots, in light, sandy soil, and kept warm and moist for a time.

If it is desirable to secure large specimens for flowering early next spring, they must be encouraged to make wood, and should occupy 9-inch pots before they have finished the present season's growth. It will, of course, be necessary to equalize the growth by stopping the stronger shoots; but this should be done carefully, as such branches, when removed while soft, are apt to bleed excessively, and seldom break again strongly. Gross shoots should be broken and bent down, so as to check their over luxuriance, and they may be removed after the buds behind the fracture have begun to push. Whatever size the plants may be induced to attain this season, especial care should be paid to get the wood thoroughly ripened. Small plants, with well-matured wood, will be found greatly preferable to larger examples with soft ill ripened shoots, and they will speedily outgrow them when subjected to heat and moisture in spring. The plants should be freely exposed to light and air during the autumn months, and if they can occupy a situation in a house where the atmosphere is kept rather warm and dry, it will greatly assist to mature the wood. A pit, the temperature of which averages about 50°, will be a suitable place for them during winter; and they should receive but little water, just sufficient to prevent the soil from becoming quite dry.

As early in spring as possible place them in a moist, warm atmosphere, and encourage them to start into growth by frequent sprinklings with the syringe, and a close, warm temperature. When they commence growing, examine the state of their roots, and, if necessary, shift into larger pots, using soil composed of one-third turfy loam, one-third peat, and one-third well decomposed cowdung, with a sufficient proportion of silver-sand to render the compost porous. A quantity of broken bones or charcoal may be added with advantage, especially if the loam is of an adhesive character; water with care after potting, until the roots penetrate into the fresh soil. As the plants advance in growth they will require attention, in order to form them into compact bushy specimens; but bear in mind what has been stated above, respecting this operation. I do not stop until the plants have pushed considerably, and then I stop every shoot at once; this induces a finer mass of bloom, as all the shoots produce flower at nearly the same time. With the increase of light which the advance of the season affords, I increase the temperature, allowing it to rise during bright days as high as 90° or 95°; shutting up early, and keeping the atmosphere as damp as possible. The plants should be sufficiently forward by the middle of April to require their final shift. I use 13-inch pots, and to the more promising plants I give 15-inch pots, with an extra stopping, so as to bring them in for late flowering. When the plants have commenced to grow vigorously, after their final stopping, they should be sufficiently staked to prevent injury from accidents, and they should be placed as near the glass as possible, which will assist to keep them dwarf, and hasten their flowering. If any shoots exhibit a disposition to outgrow the others, these should be checked by being nicked, or broken down, which may be done without farther injury than retarding their growth for a week or so.

As soon as I discover that the plants have filled their pots with roots, I water with clear manure-water. As they approach the flowering state they are neatly trained, using as few stakes as possible, but as many as may be necessary to support the shoots in such a position as to secure a well formed specimen. When they commence flowering, they may be removed to a cooler and drier atmosphere, but they should not be subjected to sudden change. With proper management they will be in flower early in June, and may then be removed to the conservatory, where they will remain in great beauty during most of the summer season; that is, if the conservatory is kept rather close, and they are furnished with a place in the warmest corner of it. I avoid giving air opposite to my specimens of Allamanda, and I keep them as warm as is consistent with the general management of the house.

When their flowering season is over, the plants are thrown to the rubbish-heap; but if they can be kept over winter, they form large specimens for early blooming next season. If they are to be wintered, care must be taken to secure the perfect ripening of the wood, and such plants had better not be allowed to remain in the conservatory until late in autumn, as in that case they sometimes drop off at once. They should be removed to the stove, or some other place where the temperature will assist their ripening, and they should receive very little water. They will amply repay those who can give them a warm house, as they will grow and flower continuously from April to December. *Alpha.*

THE SALMON.—No. I.

I have been disappointed that no one has responded to my remarks about salmon, particularly those on the desirableness of some changes in the laws respecting them. I hoped that the subject was of such importance and of so much interest that some abler pen than my own would have been enlisted in the cause—if my opinions were mistaken ones that they would have been confuted—if correct, that an obscure individual would have been assisted in his attempt to call the attention of the public to the defects and anomalies of the law on the subject. Is the matter deserving no attention from the gentlemen of this country? are they so apathetic that they will stand calmly by until this monarch of the stream has become extinct; until Irish salmon—like Irish elks—are no more seen in the flesh, and only serve to furnish discussion for antiquarian instead of civic meetings?

Since my former letter I have seen an article on the salmon and sea fisheries of Ireland, in the "Dublin University Magazine," the writer of which proposes various remedies for what he admits to be an alarming evil—one which he thinks threatens the total destruction of the breed of salmon; but his remedies, in my opinion, do not go to the root of the matter. I will touch on them as I go on, and give reasons why I think they would prove insufficient, in the hope that some one whose name and influence will ensure him a favourable hearing, may be induced to take up the matter.

The writer in the "Dublin University Magazine" seems to think that one great cause why the salmon are growing so scarce is the legalising of stake-nets. He admits that the fish which are caught in these nets are in the highest condition, but he thinks that too large a proportion of the whole breed is caught in this way. Perhaps there may be some truth in this, if he means to say that the stake-nets get more than their share; but it seems a pity that, if the fish are to be caught, they should not be taken in the best condition. I have never seen a stake-net, but I do not understand that by them the fish are prevented from ascending the rivers if they wish to do so; and a great many of those so caught might never be caught at all, except by grampuses and seals; besides, if the spawning fish were efficiently protected, there would be plenty of salmon for everybody.

Some years ago I had a large female salmon brought to me full of roe, and I had the curiosity to ascertain how many ova there were in the ovaria; I therefore carefully freed them from the membranes in which they were wrapped up, and then weighed them; they weighed

5 lbs. I found that 50 of these ova weighed 70 grains; consequently 5000 weighed 7000 grains = 1 lb. avoirdupois, and 5 lbs. avoirdupois = 25,000 ova. Now, if we allow that trout and bullheads, loaches and aquatic insects and larvæ, as well as other enemies of which we know nothing, destroy on the average 99 in every 100, we should still have 250 salmon produced from one fish; and if 100 salmon spawned in a river, this would give a progeny of 25,000 salmon—an ample stock for a moderately-sized stream. It is true, the fish I have been speaking of was a large one; but we can afford to reduce them by one-half, and still have something to look at.

It may be said that estimates like the above are too loose to be of any value, and of course I can say nothing of the destruction of salmon in the sea; but, judging from what I can learn of the number of salmon spawning in the upper streams of the Ribble, and of the quantity of salmon and smelts which make their appearance in the pools of the river in a droughty May, I think that a considerably larger proportion than one in 100 goes down to the sea as salmon fry.

I have spoken above of the abundance of salmon, provided the fish could be efficiently protected whilst spawning; but this is more easily said than done. In a paragraph I saw, a few days ago, copied from the *Scotsman*, it was stated that the destruction of salmon in the Tweed, in the neighbourhood of Peebles, was going on to an extent that threatened to annihilate the breed; that large bands of men were out every night in defiance of watchers and water-bailiffs, and that the threats and intimidation resorted to by these black-fishers (poachers) had produced such an effect that the gentlemen in the neighbourhood refused to give the bailiffs any assistance, and that a nobleman had even warned them off his land. This bodes no good to the breed of salmon, but I will repeat a question which I have asked before—how can the proprietors of the fisheries expect that the heritors and tenants in the upper waters of the Tweed, and its tributaries, will lend any cordial assistance in protecting the spawning fish when they are seldom allowed* to see them when in season? Are they to furnish gamekeepers and helpers, at great expense and personal risk, for the sake of improving the revenues of the owners of the fisheries at the mouth of the river, or their tacksmen? These latter may expect that this will be done; but, in my opinion, it is absurd to think so—what is the inducement? Certainly not the profit, for they are expected (at least in this neighbourhood) to take all the trouble and be at all the expense of protection, and receive no return for it. It is not the pleasure, for they are annoyed by threats and injuries to deter them from interfering with the poachers; it may be the honour! the honour which Mr. A. B., at Peebles, or Mr. C. D., at Whitewell, or Mr. E. F., in the Welch mountains, or Mr. T. G., at Clitheroe, will derive from protecting the salmon whilst spawning in the Tweed, the Hodder, the Severn, or the Ribble, that the owners of the fisheries at the mouths of these rivers (except the Hodder), may let them at an increased rent. I repeat, as earnestly as I know how, that until the upper proprietors have an interest in the preservation of the fish, it will be unreasonable to expect that they should take great pains to preserve them.

Now the only way to give them an interest in the preservation of the fish is to allow them to have some when they are worth catching, and this can only be accomplished by a change of the law; for it is not probable that the owners of fisheries will voluntarily abandon their rights of fishing night and day for the sake of the future improvement of the fishery. The right to fish through the night ought to be abolished, and the fish ought to have a free run from 6 o'clock at night to 6 o'clock in the morning. The fisheries at the mouths of rivers would derive more benefit from this than any other parties, for if the quantity of salmon increased they would have the first chance of catching them; and that this increase would take place is probable, because it would then be the interest of all the upper proprietors to protect them. All this I have said before, but I think the matter is sufficiently important to deserve a repetition; certain I am that a continuance of the present apathy on the subject will ensure the destruction of the fish at least in this neighbourhood. *T. G., Clitheroe.*

* The law at present, according to an apt quotation I have just met with on the subject, makes the upper heritors a sort of clucking hens to hatch the fish that the people below them are to catch and eat.

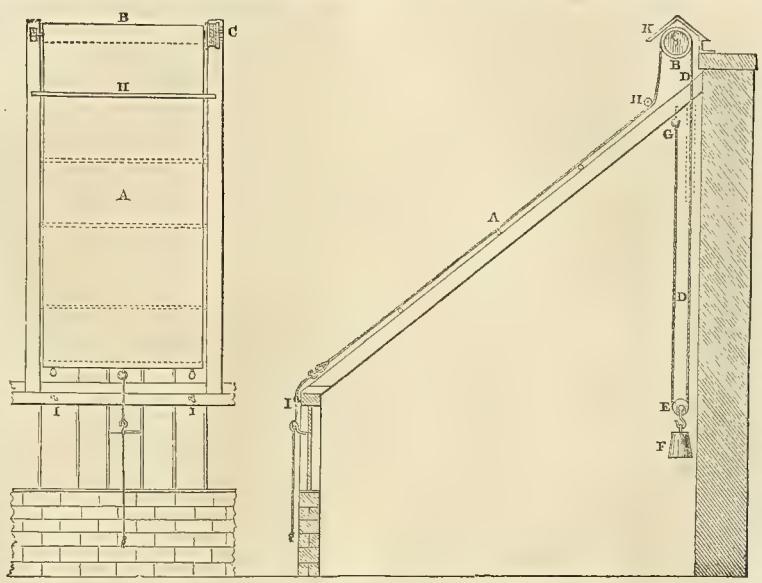
HERBS.

No. VI.—Tarragon.—The late Mr. Chapman, of Vauxhall, may be reckoned among the earliest growers of this useful herb. He was the first to cultivate it on a large scale for Covent Garden market, and at that time he had his own price for it. This was about 40 years ago. Mr. C.'s soil just suits it, being a rich deposit of mud and sand, reclaimed from the Thames very many years ago. This soil is 4 feet deep, on red sand and gravel. Tarragon is generally propagated by dividing the roots and crowns; it is easily made into cuttings, and strikes freely. April is the best time to lift plants for dividing and potting for next year's forcing. Besides borders in front of his houses, Mr. Chapman has generally 1000 8-inch pots furnished with some five and six roots in each pot. These continue in use until that out of doors pushes in March or April. Tarragon is sold in small bunches, about 6 or 8 inches long. It will thrive in a mixture of old tan and mould, but it dislikes a strong clayey soil. This herb is much esteemed by the higher classes in all countries. *James Cuthill, Camberwell.*

BLINDS FOR GLASS HOUSES.

I beg to submit to you the annexed sketch of a plan for working the blinds for covering a greenhouse, to prevent radiation during the night. For that purpose, perhaps, woollen cloth might be desired; but if coarse linen would be sufficient, it would afford the convenience of a shading during the day. The apparatus would, in some respects, be more easily adapted to a span roof, only that an additional pulley would be necessary to carry the weight to the back wall. The linen blind should be tanned, to increase its durability.

In relation to the scorching of leaves from dryness of the air by condensation, I would observe that the Polmaise plan of heating possesses a great advantage over flues or hot water, from the facility it gives of maintaining a moist air and restoring the moisture as fast as it is condensed. My house is on a modified Polmaise plan, and works most satisfactorily, the temperature equal throughout, the consumption of fuel small, and noxious insects entirely absent.



A, the blind, fixed upon upon B, the roller, the pivots of which run on iron supports fixed to the rafters. It is worked by the grooved pulley C, 5 or 6 inches in diameter. The cord D D, one end of which is fixed to the pulley, passes 5 or 6 times round it, and then descends through an opening made at the upper corner of the adjoining sash, to the pulley E, 2½ or 3 inches in diameter, from which is suspended the moving power, the weight F, and then returning upwards is hung on the hook G. By this arrangement, the pulley C does not interfere with the blind covering the whole width of the sash. The blind, in the lower end of which is inserted a wooden rod, with a cord attached to its middle or to each end, for drawing it down, passes under the rod H (which, to avoid friction, may be a roller), to bring it down to the sash, across which several wires may be stretched, to prevent its contact with the glass, so as to promote radiation; while, if necessary, a longitudinal wire at each side, 4 or 5 inches from the rafter, will prevent the rod from striking the glass. The blind being drawn down (the weight F at the same time ascending more slowly), is fixed by a looped cord at each end of the rod to hooks in the fore frame, II, when the pressure of the weight F keeps it stretched and prevents the action of the wind on it, in which it is aided by the shelter of the rafter. The escape of warm air at the orifice for the cord may be prevented by making it pass through a wooden or metal tube, 12 or 18 inches long, as shown by the dotted lines. When the blind is to be removed, it is only necessary to unhook the loops, when the weight will descend and draw up the blind. Over this apparatus a light roof of zinc or galvanised iron, K, supported on iron brackets, batted into the cope of the wall, ought to run the whole length of the house.

In the foregoing description, it should have been noticed that the placing the pulley of the blind over the adjacent sash, may render it necessary to place the rollers alternately, 3 inches higher and lower upon the rafter. But if the breadth of the side piece (or stile) of the sash be sufficient for that of the pulley, then each cord may descend in its own sash. I may also remark that the reason for the duplication of the pulley cord is, that the available space for the ascent and descent of the weight is usually less than the length of the roof to be covered. But if pits were made in the floor for the reception of the weight, to allow it to descend just far enough to roll up the blind, it might be hung directly from the pulley, and act with greater power and less friction. A lighter weight and a smaller cord would then be sufficient, and fewer convolutions of the cord upon the pulley. *J. Stewart Hepburn, Colquhalzie, near Crieff.*

BRITISH SONG BIRDS.

(Cage Birds, No. 48)

No. LXV.—We can scarcely pass through any of the streets of London, at this season, without observing a blackbird suspended in *some* situation out of doors! This is done, with a view to "harden" the birds! We might just as reasonably turn one of our dear, innocent children out, without an over-coat, and let him sit the entire day on the top of a high pole, in a public street. The "air" would do him *good*—at *this* season!

It were vain for us to wield our pen on such a subject. Song-birds are "doomed" to be martyrs to this adherence to an old custom. Hence the wiriness of their voice, the unsightliness of their persons, and the "unknown tongue" in which, for the most part, we are saluted as we pass under, or within sight of their cages. The force of our remark, and its naked truth, can be abundantly verified by any one passing from Parliament-street over Westminster Bridge. At the extreme corner of the last avenue, leading to the bridge, there we see *exposed during all seasons*, with no sides to their cages to stem the draughts—sky-larks, robins, &c., &c., in every variety. They tremble in the wind!

"Unhappy creatures; worthy of a better fate!" have we often mentally ejaculated, as we passed through this public thoroughfare. These birds *have been* "fine" birds—well chosen in the first instance; but our ear has never failed to detect their degeneracy in song, from time to time. Husky, wiry, inharmonious, shrill, and "painful" have been their musical efforts; nor would we care to call any one of them—our's. Neglect such as this, *may* proceed from ignorance; but in the present case, ignorance cannot be called "bliss;" so far at least as the poor birds are concerned. Let us, therefore, take it upon us, to make their master "wise." In setting *him* right, we preach a practical lesson to all others.

The proper food of a blackbird is—German paste, stale bun, and hard-boiled egg. They will thrive well on this, as general food. A morsel of cheese, bread and butter, a snail, an ear-wig, or a spider, varied with a few meal-worms—will keep them hearty for very many years. Always bear in mind that your birds should be rendered tame, and familiar; if possible. Attend to them yourself, and let them see that you are interested in their welfare. Careful observers are they of all personal attention, and never slow to reciprocate the feeling. We hold it as a doctrine, sound to the letter, that we can tame anything; aye, anybody. Why not? The "law of kindness" was never yet known to fail, in our memory, in any one instance where *the heart* was thrown into the endeavour to please. We must *all* fall before it. Try it.

The reason why many blackbirds fall sick, and become subject to "cramp," is—the carelessness shown with regard to cleanliness. Their sand is allowed to remain unchanged—perhaps a week. It is naturally damp from causes sufficiently obvious; but when we consider that these birds are fond of washing and splashing, and that this operation *saturates* their sand with water, how needful does it become for us to give them dry gravelly sand, *every morning!* We always *try* to reason with people who love birds—or say they do—by placing them *in loco parentis* towards them. We say—"If your bird was your child, *how* would you treat it? Would you neglect it—pass by without noticing it—or cease to think of it on every constant opportunity? Would you not rather study its happiness, by the anticipation of what you know it is fond of? and 'win' its affections by every act of kindness and endearment?" Surely you would. Well, then, the cases are parallel; for, we repeat, kindness and assiduous attention will win over anything and everything. We shall "die happy" in this firm faith; and leave posterity to find out what now they are so slow to believe.

We have said that bat-folded birds are the best. They are so; because their "wild" note will never change. Young birds are very imitative; and if kept within the hearing of parrots, and other such hideous monstrosities, the sooner their necks are wrung, or their liberty given them, the better. We once had a nestling blackbird, of whom we were very fond; and he gave early proof of the "fact" on which we are now insisting: nor was he the only witness for us. A second, an equally favourite bird of our's, shall be brought upon the *tapis*. The first, rejoicing in the name of "Mush" (he so christened *himself*), made friends with a neighbouring pot-boy, who taught him to salute me, whenever I called him to task, with—"Oh, Cri—key!!" and the second picked an acquaintance with an itinerant milk-carrier, whose instruction perfected his pupil in the musical enunciation of "*Lul-li-e-te!*" The name of the performer last alluded to, was "Clinkey." He also improvised his own christian name.

For song, then, it has become clear that none but bat-folded birds can be depended upon. Nestlings will sing loud—aye, raise a whole village at 4 o'clock in the morning; but the "wild" note forms but a small portion of their song. Any grinding organs, any dogs that may bark, or any cats that may "moll-row"—these and other drawbacks are fatal to the "Blackbird's Song." If you are possessed of a good old bird, and can bring "nestlings" up under him, in a quiet room,—then will you succeed bravely. We have done so, and found the plan answer. *In tenui labor.* No one thing, however trifling, can be well done, without taking sufficient pains with it. Oh, that people would bear this in mind!

We have now done *our* best to procure this king of birds all proper attention. He is *not* suited to a cage,—certainly not. His proper position is on the summit of a towering tree. Here, his soul, 'full to o'erflowing,' can unbosom its thoughts; and while we listen to them distilling on our ear, we sigh to think of the many cruelties we all thoughtlessly practise at this season, in placing such choristers in prisons of wire and wood! We mean it kindly; but could we read the private thoughts of our prisoners, how would our hearts yearn to let them be "free!"

Before taking leave of the blackbird,—let us make one more effort to prevent his being caught and caged at this season. Will our kind readers rise betimes, on some fine morning, and go abroad to hear the blackbird's "Matins?" If after hearing his Morning Hymn, they *still* seek to make him prisoner—then indeed will we relinquish all hopes of ever becoming an eminent special pleader. *William Kidd.*

Home Correspondence.

Luminous Plants.—The phenomenon of phosphorescent dead wood is of very frequent occurrence in some parts of the humid mountainous provinces of India, and I am perfectly familiar with it. At Darjiling, in the Sikkim Himalayah, during the damp warm summer months (May to October), at elevations of 5—8000 feet, it may be witnessed every night by walking a few yards in the forest—at least it was so in 1848 and 1849; and during my stay there billets of decayed wood were repeatedly sent me by residents, with inquiries as to the cause of their luminosity. It is no exaggeration to say that one does not need to remove from the fire-side to see this phenomenon, for if there is a log of partially decayed wood amongst the fire-wood, it is almost sure to glow with a pale phosphoric light, if the candles be removed and the fire low. A stack of fire-wood collected near my host's (Mr. Hodgson) cottage, at 7400 feet elevation, presented a beautiful spectacle for two months, and on passing it at night, I had always to quiet my pony, who strongly objected to it. The phenomenon invariably accompanies decay, and is common on Oak, Laurel (Tetranthera), Birch, and probably other timbers; it equally appears on cut wood and on stumps, but is most frequent on branches lying close to the ground in the wet forests. I have reason to believe that it spreads with great rapidity from old surfaces to fresh cut ones. That it is a vital phenomenon and due to the mycelium of a fungus, I do not in the least doubt, for I have observed it occasionally circumscribed by those black lines which are often seen to bound mycelia on dead wood, and to precede a more rapid decay. I have often tried, but always in vain, to coax these mycelia into developing some fungus, by placing them in damp rooms, &c. When camping in the mountains I have caused the natives to bring phosphorescent wood into my tent, for the pleasure of watching its soft undulating light, which appears to pale and glow with every motion of the atmosphere; but, except in this difference of intensity, it presents no change in appearance night after night. Alcohol, heat, and dryness soon dissipate it; electricity I never tried. It has no odour, and my dog, who had a fine sense of smell, paid no heed when it was laid under his nose. As far as my observations go, this phenomenon of light is confined to the lower orders of vegetable life, to the fungi alone, and is not dependent on irritability. I have never seen luminous flowers or roots, nor do I know of any authenticated instance, such namely as may not be explained by the presence of mycelium or of animal life. In the animal kingdom luminosity is confined I believe to the Invertebrata, and is especially common amongst the Radiata and Mollusca; it is also frequent in the Entomostracous Crustacea, and in various genera of most orders of insects. In all these, even in the Sertulariæ, I have invariably observed the light to be increased by irritation, in which respect the luminosity of animal life differs from that of the vegetable. *J. D. H.*

The Raspberry Case.—I have just seen in your number for the 30th of August last (p. 449), Dr. Smith's corroboration of the facts of this case, and I cannot resist the temptation of informing you that I also was acquainted with the late Mr. Maclean before his death; that he was a man of unimpeachable veracity and credit; and that I have no doubt the statement made by him was in all respects true. *John Garland, Solicitor, Dorchester.*

"There is something Rotten in the Seed Trade."—Such is the commencing remark of your leader at p. 67, and thousands there are who to their cost can testify to its truth. Some years ago I laid down a lawn of more than an acre in extent; I dug and levelled with great care and accuracy, intending it for a family archery-ground and bowling-green: it was a long oval with a carriage drive round it. I ordered a quantity of the best lawn Grass seeds from a well-known house in London, and I think the charge was about 30*s.* The seeds were sown by a skilful hand, and so carefully rolled and finished, that it might almost have been tried by a spirit-level. The seeds or something else came up, but instead of fine lawn Grass, there came up such a crop of coarse rubbish, that I had no alternative but to pare the surface and lay it down with fine turf; this of course was expensive, but the vexation was worse. Now for the remedy. Some time since you rendered the public deeply indebted to you for your persevering disclosures of the nefarious practices respecting guano, and pointed out to the purchasers one or two houses upon whose honour and integrity they might rely. As far as my knowledge extends you were quite correct; and if any mercantile house in the kingdom may be relied upon, I believe they may. And in connexion with this subject, permit me to mention a fact that took place here not long since. In passing down to the landing stage, which in fine weather I am in the habit of visiting for recreation, I pass the end of St. George's Dock, where shipping or unloading is constantly going on; one day on passing by, I observed a small schooner unloading, and from the smell she appeared to be landing guano; I stopped to see what was going on, a large pile of guano bags was close to the unloading cargo, and men were engaged in filling these bags, I asked "What are you putting into these bags?" "They call it 'ganna,' Sir." I took up an empty bag, and it was so saturated with the smell of genuine guano, that it was almost overpowering; I then went to the substance which was being landed in heaps on the quay; I took up a handful, and instead of guano, I found it to be an ochreous earth, very like guano in appearance, but too fine and crumbly, too much like yellow sandy loam, which I did not doubt it was, but put into genuine guano bags, would soon imbibe the smell, and would easily deceive those who are not accustomed to handle guano. But I have diverged from the main subject, though perhaps not uselessly—the remedy to the "seed deception." You seem to think it rests with the public. I think so too, to a considerable extent, but not entirely; why not, as in the case of guano, may not some few first-rate houses of intelligence and capital come forward and say, we will do our utmost to obtain from growers genuine seeds, and we pledge ourselves to sell to you, the public, seeds as genuine as we can possibly procure; we require no exorbitant prices, but having exerted ourselves to procure for you pure seed at as reasonable a cost as will induce the grower to grow them, we ask from you a price that will remunerate us for our knowledge, our time, and our capital; but let it be distinctly understood that we wish the credit and confidence in our house to rest entirely on the purity of the seeds that we send out! I cannot but think that if a few really sound houses would come forward on this principle they would quickly receive the confidence of the public, and would give a higher "tone" to the minor dealers. *J. C. M., Liverpool.* [We think so too].

Gardens in Cornwall.—From the remarks under this head at page 821 of the *Gardeners' Chronicle* for last year, one would imagine that your correspondent "C. B., Chichester," was inclined to doubt the correctness of the statements that have appeared from time to time respecting the mildness of the climate of Cornwall, and the supposed hardiness of various trees and plants that flourish there, but which are found too tender to live in the open air in other parts of the kingdom. I can assure your correspondent and those who may be unacquainted with the "far west," that the accounts have not been exaggerated; and as a remarkable instance in proof of this, I beg to mention that there is now at this place a plant of Rhododendron Rollissoni—a species from Ceylon—in flower in the open garden, with no other protection than the top of a hand-glass over it, to prevent its beautiful trusses of deep scarlet blossoms from being injured by the heavy rains. Another is also worthy of being recorded, which I think will be interesting to the admirers of Coniferæ. It is that of the Araucaria Brasiliensis, of which there are a number of fine specimens from 14 to 18 feet high, that have been exposed for the last 12 years, and are now as strong and healthy in appearance as if they were growing on their native hills. As your correspondent has expressed a wish for more information on this subject, I hope soon to be able to furnish him with some details respecting a few of the most remarkable hardy exotics here, which will better enable him to judge of the great difference that exists between the climate of Sussex and Cornwall. *William Beattie Booth, Carclew.*

Rain at Goodamoor, Devon.—The following fell during the year 1851, as measured by Howard's rain gauge:—

	Inches.			Inches.		
Jan.	9·93	on	29 days	Aug.	3·76	on	15 days
Feb.	1·86	...	10 ...	Sept.	2·12	...	7 ...
March	9·32	...	26 ...	Oct.	4·74	...	24 ...
April	2·72	...	15 ...	Nov.	2·55	...	20 ...
May	2·71	...	14 ...	Dec.	4·61	...	14 ...
June	3·31	...	13 ...				
July	4·98	...	17 ...	Inches, 52.61 on 204 days			

Henry H. Treby.

Polmaise Heating.—The letter of Mr. W. Fitzsimon, at p. 36, respecting this system of heating, brings all that passed in 1846-47 vividly to mind. True, its most able advocate, the late Mr. Meek, is, alas, "in the grave!" truly "others are dormant," as is evident from the state of your columns of late years. It is almost in vain to run one's eye down your weekly Index for "Heating, Polmaise," or "Polmaise Heating," as I, and I daresay others, still do, with anxious pertinacity. But are the gardening public contented to consign to oblivion such facts as were then brought before them? Is it as disagreeable to them to be "frightened" (see 1846, page 164 *c*) by Grapes *à la Polmaise*, as an humble club of "practicals," near London, felt it to be, in February, 1847, who, when a Petunia was shown to them by some member or visitor, which Mr. Meek had brought up from Nutfield (as compact, vigorous, and healthy as if growing in open ground in June or July), were so offended, that they magnanimously "voted it out of the room." Yes; these were words uttered to Mr. Meek in my hearing. "Others are dormant;" but that they exist in considerable numbers I have not the least doubt. The principle is unassailable, and I no more question the soundness of Mr. Meek's axioms, than I do such topics of the day as the nitrogenous properties of rain, or the affinity of clay for ammonia. Wherever, therefore, the principle has been judiciously developed, there do I feel sure that the happy man, like Mr. Murray, has pursued the even and contented tenor of his way; although the public may hear, now, but little about it. As a tribute to the memory of my lamented and talented brother-in-law, I am induced to ask you to bring the subject again prominently before your readers; those who would (as I have done) heat their dwellings successfully, and those who would put in motion the air of their horticultural buildings, as beneficially to their plants as Mr. Murray and Mr. Meek. When it is remembered that Mr. Murray simply applied to his Vinery (adding merely the tank or "wet blanket") the same principle by which, with Haden's excellent stove, the parish church had been heated, I may surely speak of it without having reference merely to horticulture. To revert, then, to the principle—I have a private letter, from which I extract words which I would were printed in letters of gold, if such type could bring them before every one. "You cannot," said Mr. M., in writing to me, "heat a room 30 feet by 20 feet by any fire-place in the world; I mean heat it comfortably; of course you can roast part and leave part to freeze. You will find, therefore, that the Minutes of Council recommend 'the school-room' to be heated by a stove; that is, a mitigated form of the evil, unless it is Polmaised; in other words, hooded or surrounded by a chamber (which may be regarded as an air boiler), through which the air of the room is incessantly passing, together with as much fresh air as you please to allow, and which should be regulated by circumstances, such as weather, number of children, &c." In these true, these pithy words—words unpremeditated, and not intended for the public eye—is contained the theory of absolutely uniform heating; and when put in practice the result is a delightful kind of heat, whether in the school-room or church, made pleasant by the absence of all oppression, or, in the hot-house rendered doubly attractive by the balmy May-morning feeling which pervades it. Neither in Mr. Fitzsimon's late plan, nor in one published by him in 1847, p. 717, is it clear that he allows the "air of the building itself" to circulate. If he does not, his house is in the condition of the second diagram in your Leading Article, 1846, p. 3. I am delighted to see that in both he takes the air to a cavity below the ash-pit; this, which was Mr. Meek's improved plan, insures successful action; but he will lose heat by his Stourbridge-burr covering, unless he regains it from a long length of smoke chimney or flue. Mr. Meek has said in your columns, that 2 inches of sand spread all over the top of his iron plate, lowered the house 10°; and I have discarded a similar clay top, 2 feet square (which, by-the-bye, was faulty and cracked), for the improved iron plate. Has any one found that plate (described August 28, 1847, shortly before his death) to fail? I will venture to follow Mr. F. into the noble house at Kew next week. Make a hot chamber, and surely its whole contents may be put in motion without any fresh stove. I have other memoranda of my late relative's on the subject, and I am anxious to remind the public of a few points insisted on by him and by yourself, adding one or two remarks, the result of my own experience. May I ask any correspondent inclined to object, kindly to await the conclusion of my remarks, which I will offer to you next week. *G. W., Jan.* 31.

Gourd Soup.—For a long time past I have been using with great satisfaction the Potiron jaune Gourd for soup. It is still excellent, if slightly flavoured with Carrot and Apple. *H.*

Glazed Trellises.—The following is Mr. Rivers' statement in regard to his success in growing Peaches on glazed trellises. You will glean from his remarks that his Peaches (though he had a bad crop) ripened well last autumn. *Dodman.*—"I had but a poor crop of Peaches on my trellis last autumn. The trees blossomed abundantly, but, owing to the long continuance of damp cold weather in March, the flowers dropped off. In this neighbourhood this was universal, even to the protected trees against walls and in houses without fire-heat. I had on my trellis a few Peaches which were the largest and finest I ever saw, and their flavour perfect. They ripened early in September, rather to my surprise; for, owing to a slight attack of red spider, I took off the lights in the middle of June, as the weather was moist, and kept them off for a month; this cured the spider, and yet did not seem to retard the ripening of the Peaches. It was, I think, in the autumn of 1850, that I saw on your trellis some very fine Peaches, which where ripe; it was then the middle of September, and yet you told me the lights had been off for a long period to retard them; their flavour was remarkably good. My trees (which I have just pruned) are in a most fruitful state, their growth last season was unchecked by the curl or any other disease.

As far as my experience has gone it seems that Peaches on trellises under glass will ripen, unless the late October Peaches are planted."

Strawberries.—A friend of mine, the soil of whose garden consists of a light sandy alluvium, containing no clay or loam, had unsuccessfully attempted to grow Strawberries for many years; the plants would scarcely live more than twelve months, and if he stimulated them with manure, they ran all to leaves. After many attempts, he was induced to try the following plan, which has succeeded perfectly:—He planted in the spring his rows of Strawberry plants anywhere where he had room, occasionally between the rows of early Potatoes, and when the Potatoes were dug, and the Strawberry plants began to throw out runners, he destroyed them all but two on each plant, one on each side, these he allowed to root at a foot from the parent plant; he had thus three rows, a foot distant from each other, and the whole strength of the parent was absorbed by the two younger ones, which, as he never cut away the runners, were suckled by the old one so long as nutriment could pass from one to the other; this gave him such robust young plants, that the year after he had the most amazing crop ever seen in the neighbourhood. I am afraid to say in how few square yards he grew a bushel of Strawberries, for fear of apparent exaggeration; but he, though a good and experienced horticulturist, had previously seen nothing like it; the sort was Hooper's Seedling. *T. G., Clitheroe.*

Societies.

Entomological, *Jan.* 26.—J. O. Westwood, Esq., F.L.S., President, in the chair. This being the anniversary meeting, the business was confined to the election of officers, those of the past year being re-elected. The President also delivered an address on the state and prospects of the Society, and on the progress of Entomology during the past year.

Feb. 2.—J. O. Westwood, Esq., in the chair. Amongst the donations were some interesting insects, collected by Miss Hornby during her voyages, in company with her father, Admiral Hornby; also an extensive and very valuable collection of insects from Shanghai, presented to the Society through the kindness of Dr. Carpenter. The President nominated Messrs. Curtis, Stephens, and Stainton to be Vice-Presidents. Mr. Bowring exhibited a curiously carved Chinese vase, formed of Bamboo, the inner substance of which had been gnawed to pieces by specimens of a small beetle, belonging to the genus Apate; the circumstance, as Mr. Curtis observed, was of considerable practical interest, as Bamboo was now extensively employed in this country for palings, from being supposed not to be subject to the attacks of insects. Mr. Gregson, of Liverpool, exhibited a beautiful drawing of the new British lappet moth—Gastropacha ilicifolia. Mr. Stainton exhibited some beautiful specimens of the minute moth Lithocolletes Carpinicolella, reared during the past month from the leaves of the Hornbeam, which had been found in October to contain mining larvæ, and which, having been placed in a warm room, had produced the perfect insects many weeks before the proper period; this plan of obtaining these minute moths was recommended for its facility. Mr. A. White exhibited, on behalf of Dr. Joseph Hooker, a number of insects of different orders, which he had collected in the Sikkim Himalayas. The specimens bore great resemblance to those from Bootan and Assam, and fully confirmed Mr. Hope's views of the geographical character of Indian entomology, published in Dr. Royle's work on the Himalayas. Mr. Dallas read a memoir, containing descriptions of some new exotic Hemiptera, chiefly Scutelleridæ and Pentatomidæ. Mr. F. Smith exhibited some Oak spangles, inclosing the pupæ of Cynips longipennis, the inhabitants having passed to this state within the past fortnight. He also read a note on the Triungulinus Melittæ, which he had found upon wild bees (Anthophora Haworthana), on digging them out of their nests in the spring; hence Mr. Smith is disinclined to regard the parasite as the larva of a Coleopterous insect allied to Meloe, as suggested by Mr. Newport; but rather thought it an animal belonging to the family Acaridæ, as supposed by Mr. Kirby and others. Mr. Curtis read a memoir on the nomenclature of the British species of Acanthosoma, a genus of Pentatomidan Hemiptera; and Mr. Westwood read a paper on the singular Neuropterous genus Mantispa, of which he described a number of new exotic species from the collections of Messrs. Hope and Saunders, the British Museum, and his own cabinet.

Books, &c., Received.

Huc's Travels in Tartary, Thibet, and China. A part of the Traveller's Library. (Longman and Co.) A better choice of a book for translation could scarcely have been made, or a better translator found than Mrs. Percy Sinnett. The original forms two good-sized octavos; it is here abridged into two small duodecimos; the reader must therefore be prepared to find much condensation and much omission. Opinions will necessarily differ as to what constitutes the most interesting part of such a work; we are, therefore, not surprised to find some things curtailed which we should have given fully; nor should we be justified in complaining of it. The general reader will be satisfied with what he finds; and the special reader will of course consult the original. In these days of gold-finding, it may be interesting to give one extract from M. Huc's book, describing the existence of the precious metals in Tartary.

"We were two days longer crossing the kingdom of Gechekten, and everywhere we had occasion to remark the poverty and wretchedness of the inhabitants. The country is nevertheless astonishingly rich in gold and silver, but these very treasures have been often the cause of its greatest calamities. Though there exists a severe prohibition against working the mines, it often happens that great troops of armed Chinese banditti come and search for gold; and it is said they have a remarkable capacity for discovering it, from the shape of the mountains, and the kind of plants produced on them. But such a discovery does but bring desolation on the country where it is made, for it attracts towards it thousands of vagabonds, some of whom employ themselves in robbing the inhabitants, while the rest dig for gold and silver. In 1841 the kingdom of Ouniot became the prey of a multitude of these ruffians, who continued in occupation of it for two years, and were not reduced till the king had assembled all his banners and marched against them. Being in such numbers, they made a desperate resistance; but at length, a great number of them retreated into the mine, and the Mongols, perceiving it, stopped up the entrance with great stones. For days together the cries of these unfortunate men were heard, but there was no pity for them, and they were left to perish of this frightful death. The few who escaped were taken to the king, who had their eyes put out, and then let them go."

In the original this is stated far more strongly. M. Huc really says that "a hill (*montagne*) full of gold was discovered by a Chinese goldfinder; that it was worked for two years, nearly the entire hill passing through the crucible; and that the quantity of gold thus obtained was so great as suddenly to *lower the price of gold in China by one-half.*"

Gold and silver must have been found in ancient times abundantly in the mountains of Assyria; the Russians find it in the chain of Ural, the Chinese in Eastern Tartary. Why then should it not occur in the intervening countries?

Lists of Seeds and Plants, &c., sold by Peter Lawson and Son. Square 4to. Lawson, Edinburgh.—No other country than Great Britain could have produced such a work as this. A trade list of seeds and plants, filling 400 quarto pages, beautifully printed at the authors' private press, is a phenomenon worthy of the *Annus Mirabilis* just passed by, in which, by the way, Messrs. Lawson and Co. played no inconspicuous part. The book, for it is in fact a library book, is accompanied by copious descriptions of fruit trees, and by a most useful descriptive catalogue of Coniferous plants, which alone occupies 95 pages. The latter is as indispensable to collectors as any systematical work to the mere botanist.

English Agriculture in 1850-51, by James Caird (8vo, Longmans), is a reprint of the valuable articles on this subject which have from time to time appeared in the *Times* Newspaper, from the pen of the author and of Mr. M'Donald. Documents of such solid worth should not be swamped in the files of a daily political journal; and we rejoice to see them thus collected and avowed, and rendered easy to consult by *a good index.*

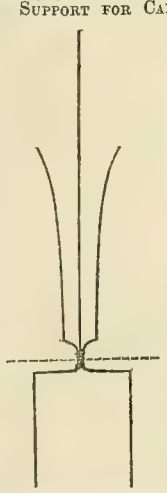
Garden Memoranda.

Mrs. Lawrence's, Ealing Park.—The grand collection of plants here—world-wide in its celebrity—is at the present time in the best possible condition. Indeed at no former period has it ever presented so favourable an aspect, and at the coming exhibitions will, doubtless, command unusual attention. Our object at present, however, is to notice the magnificent Amherstia Nobilis which it contains, a plant which few cultivators have found easy in its management; but at Ealing Park it appears to grow with a luxuriance with which the Laurel can hardly compete. The plants we have seen in various collections have generally had their leaves diseased or apparently burned at their points, thus presenting anything but a healthy appearance. The specimen at Ealing Park, which is planted out in the large stove, has every leaf green and perfect, producing at present a very striking effect, loaded as it is with long panicles of scarlet flowers, tipped with bright yellow. It is certainly a glorious example of tropical vegetation.

FLORICULTURE.

Roses.—The following are a few practical hints for those who intend to cultivate and exhibit roses, on the plan recommended at p. 7:—1st. Select plants with stems under 3 feet in height, as they produce finer blooms than taller standards. 2d. Grow at least two plants of each sort; prune one early in autumn, the other late in spring, as this will prolong the blooming season at least a month. 3d. Of the 56 summer Roses recommended for high cultivation, there are some which will occasionally produce monstrous flowers, with hard cores or green centres, which will sometimes continue throughout the season; and there are others which will at first produce a few malformed blooms, but whose succeeding ones will be perfect and beautiful. The varieties most subject to these imperfections are Adrienne de Cordouville, Ohl, Grandissima, Latour d'Auvergne, D'Agnesseau, Glorieux, Madame Hardy, and Prince Albert (H. Per.) 4. The following will generally produce perfect blooms, and one plant may be depended on, when it is inconvenient to grow more: La Volupte, or Letitia, Pachot, Princess Clementine, Crested Moss (a Provins), Boula de Nanteuil, La Circassienne, Schonbrun, Triomphe de Jaussins, Marjolin (Gallica), Paul Perras, Charles Foucquier, Comtesse de Lacepede, General Jacqueminot, Hypocrate, Triomphe de Laqueue, Las Casas, Paul Ricaut, La Ville de Bruxelles, Madame Zouteman, and Brennus. 5. The beautiful "Coup d'Hebe," although so highly recommended, will not be found eligible for this mode of exhibition. The cup will be large, but the centre will not be proportionally filled; the same remark applies to Chénédolé, for the larger the flower the less it fills up. Lady Stewart will not grow vigorously on the Dog Rose in all situations. This variety, Charles Duval, Madame Audiot, and Rose Devigne, will produce beautifully formed flowers; but unless the blooming buds be very much thinned, they will not be of sufficient size to group well with those before named. Ohl, Pope, Vandael, and Queen Adelaide, will in some seasons bloom very finely, and be valuable for exhibition as rich dark flowers; and Princess Clementine, Comtesse de Lacepede, Blanchefleur, and Madame Zouteman, are the best light ones; but the latter two require much thinning. Marjolin (Gallica) which seems to have but two growers to recommend it, is certainly one of the best show flowers, being very distinct, and ought to be in a stand of twelve. I consider Superb Striped Unique the only striped Rose large enough to be placed in a stand of first-class show Roses; it is difficult to obtain the centre sufficiently full and regular; but when a fine bloom can be obtained, the flower fully deserves its name, and is most valuable in a stand of twenty-four. 6. In the class Hybrid Perpetuals are some splendid flowers suitable for exhibition as single specimens, but a few of them are too much alike in colour to appear in the same stand as dissimilar flowers. Of the 30 kinds recommended to be grown, select about one-half, viz., those which are the most double, best formed, and of the largest size, as Augustine Mouchelet, Baronne Prevost, Caroline de Sausal, Dr. Marx, Duchess of Sutherland, Lady Alice Peel, La Reine, Reine de Fleurs, and Robin Hood, &c. Such as these will not disappoint; but very rich soil, close pruning, and thinning out of flower-buds, will be useless to such Roses as William Jesse, Mrs. Elliott, Standard of Marengo, or Soleil de Austerlitz, &c. The buds will be large, and the petals of fine form and colour; but the flowers will be thin and deficient in the centre, and would condemn a stand of first-rate double flowers. 7. Bourbon, China, and Noisette Roses, are most valuable as autumnal blooming, and a stand filled exclusively from these classes would be beautiful, in point of colour; but the flowers generally want substance, and will not show to advantage when mixed with summer Roses, except, perhaps, Acidalie, Le Merchail du Palaise, Proserpine, and the lovely Souvenir de la Malmaison; this latter Rose produces its flowers more perfect when grown upon its own roots than when worked upon the Dog Rose. During the last three seasons, prizes have been offered by the Norfolk and Norwich Society for stands of Roses (single specimens exhibited as Dahlias); this has caused a spirited competition amongst those gentlemen in the country who possess first-rate collections, and it is from the experience acquired by these exhibitions that the foregoing suggestions are offered. *R. B. Bircham, Hedenham Rosery, Bungay.*

Support for Carnations.—I observe at p. 71 a method of using wire props by a correspondent. I am not sure if I understand his plan properly, but I do not think it so good as the props I have in use for the support of Carnations, although I consider it to be cheaper. The annexed sketch represents a prop of the form I allude to. The centre stalk is ¼ rods, the two side shoots $\frac{1}{16}$ diameter, the length of the prongs 9 in., width 7 in.; the height of the rod above the ground is 36 in. and 20 in. The form I think is of advantage, and enables the grower to separate the shoots, and so to prevent the blooms from destroying each other. The cost of the above I believe to be about 7*s.* per dozen, finished. The price is, no doubt, a consideration; but these rods, with ordinary care, do not require to be renewed in a lifetime. There are advantages with the double prong; they are not easily disturbed, and they are wide enough to be quite free of the roots. *J. M., Aberdeen.*



Pruning Roses: *J. Rodolph.* Roses may be pruned at two seasons—say November and the end of March. In the former month we should have recommended the cutting out of such old wood and cross shoots as may have crowded the centre of the tree, or in any way interfered with its proper development, deferring until March the shortening of those branches that are retained, which should always be cut to an outer bud. We say that this is best done in spring, as the new wood operated on, being pithy, absorbs much moisture, and is therefore readily injured by frosts, so much so, that it is no uncommon occurrence for such shoots to be killed back one or more eyes; under such circumstances the cultivator has to go through his work a second time. Defer the shortening process until the chances of severe frost are past; but thin out at once. *J. E.*

Miscellaneous.

Hollow Bricks.—"There is nothing new under the sun," was the observation of Solomon. If you remember, it was stated that it was intended by the Boy to send over specimens of hollow bricks, at the present time in constant requisition in Tunis, for the Great Exhibition; but the interest of such a contribution was at the last

moment accidentally overlooked. In the Museum of the Bath Scientific Institution, specimens of hollow bricks used by the Romans, and dug up within a short distance of the spot where they are now deposited, may be seen by any party interested. They are double the size of those used by Messrs. Bazely and Co., and are cemented together by genuine Roman cement. And, no doubt, a machine like our modern ones for making them was also used by the Romans. It would be interesting to test the strength of these bricks, and of the cement that unites them, as compared with the modern manufacture. In Bengal, the floors of Bungalows are usually constructed with earthenware pots, commonly called "Kedgeree pots," turned over, with their orifices on the ground. Charcoal is filled between the interstices, and a coat of brick concrete is laid on the top, thus forming a perfectly dry floor. What a comfort would floors of hollow brick prove to the kitchens or cellars in some of our damp localities. *Builder.*

Calendar of Operations.

(For the ensuing week.)

PLANT HOUSES.

As the general potting season is approaching, have everything in readiness to commence operations, whenever time and the state of the plants enable you to begin. As a matter of course, where valuable plants are kept, a stock of the various kinds of loams and peat is always kept in readiness. For all potting purposes a soft sandy yellow loam is much to be preferred; such should have been dug, not more than 6 inches deep, with the turf, and after being stacked long enough for the Grass to decay, may be considered fit for use. Silver sand, rotten tree leaves, and dry well rotted cow-dung, are all necessary ingredients, in one form of compost or other. The best peats for growing Heaths, &c., are those of Wimbledon and Shirley, while some peats from the vicinity of Exeter are much prized for growing Orchids; with these general hints the cultivator must select such soils as are most readily attainable in his locality. Clean dry pots, crocks in various sizes, and dry moss, will enable you to proceed without interruption in this important part of plant growing. It has of late years become a feature in gardening to decorate the principal rooms of country mansions with plants in bloom; and as such are required more generally in the autumn, some of the stove and greenhouse plants required for this purpose should now be propagated. Plants for room decoration should be selected which keep a considerable time in bloom, and (if possible) are both showy and fragrant. As the plants for this purpose are chiefly wanted in small pots, to enable them to be turned into vases, baskets, &c., a yearly supply will be needed, and now will be a good time to put in cuttings of everything likely to be useful, or which are most in request. We will give a list next week of some suitable plants for the purpose.

FORCING DEPARTMENT.

Pinery.—By all means, now the fruiting plants are fairly started, keep the bottom-heat at that steady point which will insure a regular progressive root action. Nothing tends so much to produce ill-shapen, half-swelled fruits, as sudden changes of temperature at their roots. As the fruit advances in growth, the plant's system is largely drawn upon to support it; and if the roots are prevented, by sudden checks, from supplying the demand made upon them, the above results are sure to follow. The chief advantage of growing Pines on the open bed system, is the regularity with which they can be supplied with bottom-heat by hot-water pipes. Where the old pot system is followed, timely additions of leaves or tan should be made (without disturbing the pots), to maintain the required heat. Keep a rather dry atmosphere, until the plants are out of bloom, and mind no water is allowed to stand in the hearts of plants whose fruit are now forming. Night temperature 60°, increased to 80° by day in sunshine. Avoid cold draughts of air; but in other respects aim at a constant supply of that necessary element. Succession Pines, and those intended for fruiting later in the season, should be kept steadily growing. On this account, if the bottom-heat is declining, the plants should be lifted, and the bed turned, with the addition of fresh tan or leaves. This will stimulate the roots into action, and the plants will be in much better order for potting next month, than when their roots are in a dormant state. Night temperature 55° to 58°; day, 70° to 75°. Guard against damp; see that the fruiters are kept moderately moist. Plants in pits and frames will hardly require water for some time to come.

Vinery.—Proceed steadily with your management; make use of every hour of sunshine, and endeavour to keep the air regularly in motion in every part of the house. We suppose Polmaise is given up as a failure, and yet the principle was as correct as nature itself. Peach-house.—Follow the directions of previous weeks, till you have the fruit set. Strawberries may have a trifling advance in temperature; the truss of bloom will now be showing and a slight increase of heat will help to bring them up above the foliage. If hot-beds for Melons were made some time back, the bottom heat will now be getting steady enough to put in a ridge of rather dry turfy loam; raise this to within a foot or eighteen inches from the glass; make it rather firm than otherwise, and when the ridge attains a heat of 80° you may plant out the crop; the temperature of the frame should be kept rather dry, and should not fall below 70°, while air should be admitted more or less at all times; but much the easiest and cheapest way to grow early Melons is to plant them in hot water pits, and having pipes running under the bed for supplying bottom heat. You have the advantage of heat, light, and moisture entirely under control, and all the uncertainty of the pit and frame management vanish.

FLOWER GARDEN AND SHRUBBERY.

Wherever a high degree of keeping is insisted on in the pleasure grounds, nothing tends so much to their beauty as a close, velvety lawn. It often, however, requires considerable trouble to effect this desideratum. On rich soils the coarser Grasses prevail, and are difficult to eradicate or keep under; while on soils naturally poor, and which have been for some time under the scythe, the different kinds of mosses are found to increase in a manner prejudicial to the better sorts of lawn Grasses. As the present is the season when the mosses attain their greatest perfection, it will be found the best time to eradicate them also; a sharp-toothed iron rake, or light drag, will be the best implement for this purpose, worked sufficiently to bring up the moss, which should be cleared off, and the lawn left for some time, when a second operation may perhaps be necessary. In March, sow thickly Sheep's Fescue Grass and Crested Dog's-tail, and apply a dressing of sifted lime rubbish and fresh soil, or the latter and fine bone-dust; which, with occasional rollings to keep the land firm, will soon produce a good sward. Where herbaceous plants are grown as border flowers, a fresh arrangement of them is necessary each season, to prevent them exceeding their proper limits. Plants with the habit of Phloxes, Delphiniums, Asters, Solidago, and other strong growers should be lifted, and a spade full of fresh soil or dung placed under each; this will prolong the period of blooming, and increase the quantity of bloom.

FLORISTS' FLOWERS.

The weather lately has been anything but favourable to floricultural operations out of doors, so that amateurs have had plenty of opportunity to do various small matters which possibly may have been overlooked or forgotten. We would recommend something like the following to be attended to. The Carnation pegs to be repainted when required; the metallic wire with which they have been fastened, sorted, and tied together; the leaden layering pegs washed and straightened—if a deficiency, a quantity more cast; leaden tallies should also be prepared; hand-glasses of all descriptions should be made right, so that anything required by the amateur may be ready to his hand when wanted. Particularly see to the soil for potting Carnations; we like this operation to be attended to early, and the sooner so essential a matter as compost can be reported free from vermin the better. Look well to "frame drips," both in those of Auriculas and Carnations. All air possible, except when it rains or blows a gale of wind. Towards the latter end of the month, gentle mild rain for a short period would be of service to them, but not now. Take care that neither the one nor the other are shut down close when wet.

KITCHEN GARDEN.

Besides the general preparation for the spring crop of annual vegetables, there is a class of a more permanent character, which will require some attention at this period; of which we may mention Rhubarb, Horse-radish, Seakale, Artichokes, and Asparagus; wherever fresh plantations of the above are required, the ground should at once be got in hand. In preparing ground for vegetables intended to remain on the same ground for several years, it will be obvious more care should be bestowed on its culture previous to planting—deep trenching and manuring are essential. For Rhubarb, the ground can scarcely be ever too rich; for the succulence and crispness of this vegetable depend on its rapid growth. Horse-radish requires a deep, damp, sandy soil; trench 2 feet deep, and dig in the bottom of the trench some good rotten dung; when the ground is levelled, make holes with an iron bar 1 foot apart, 2 feet deep, and 2 feet between the rows. Select crowns with a single head, and drop one in each hole, which should be large enough to allow it to fall to the bottom; rake the ground over, and a slight crop may be sown, to come off before the Horse-radish comes up.

State of the Weather near London, for the week ending Feb. 5, 1852, as observed at the Horticultural Garden, Chiswick.

Jan. and Feb.	Moon's Age.	Barometer. Max.	Barometer. Min.	Temperature of the Air. Max.	Temperature of the Air. Min.	Temperature of the Air. Mean	Temperature of the Earth. 1 foot deep.	Temperature of the Earth. 2 feet deep.	Wind.	Rain.
Friday.. 30	9	29.979	29.624	53	29	41.0	39	40	W.	.11
Satur.. 31	10	29.919	29.510	52	39	45.5	38	38½	S.	.14
Sunday. 1	11	29.996	29.717	57	39	48.0	42	40½	S W.	.04
Monday 2	12	30.003	29.830	53	35	44.0	43	42	S W.	.04
Tues. .. 3	13	30.142	30.016	51	34	42.5	44	42	S.W.	.00
Wed. .. 4	14	30.191	29.810	55	44	49.5	42	44	S W	.13
Thurs.. 5	○	29.739	29.641	56	43	49.0	44½	42½	S.W.	.23
Average .		29.995	29.738	45.6	37 5	45.6	41.8	41 0		.69

Jan. 30—Rain; heavy clouds; clear at night.
— 31—Densely and uniformly overcast; constant rain; overcast.
Feb. 1—Rain; fine; clear at night.
— 2—Rain; cloudy and mild; densely overcast.
— 3—Clear; very fine; clear at night.
— 4—Densely and uniformly overcast; rain; cloudy.
— 5—Densely clouded; rain, and mild at night.
Mean temperature of the week, 7½ deg. above the average.

State of the Weather at Chiswick, during the last 26 years, for the ensuing week, ending Feb. 14, 1852.

Feb.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 8	45.7	33.3	39.5	15	0.67 in.	1	3	2	—	4	10	4	2
Mon 9	45.9	32.3	39.1	7	0.30	—	4	1	2	1	11	5	2
Tues. 10	45.1	31.0	38 1	9	0.52	2	4	2	2	4	7	3	2
Wed. 11	44.8	30.9	37.9	13	0.34	5	3	1	—	5	6	2	4
Thurs. 12	45.2	30.2	37.7	11	0.23	3	2	—	—	4	9	6	2
Friday 13	42.3	31.2	36.7	11	0.30	1	2	1	1	5	9	5	3
Satur. 14	46.4	33.0	39.7	8	0.50	—	1	3	1	4	8	7	2

The highest temperature during the above period occurred on the 10th, 1831—therm. 65 deg.; and the lowest on the 11th, 1845—therm. 3 deg. below zero.

Notices to Correspondents.

Acacia Wood: *Con. Sub.* The timber of Robinia Pseud-acacia is one of the most valuable we cultivate. Use it wherever great strength and great durability are required.

Bark: *Vicinus.* It is customary in the London markets to allow 45 cwt. to the load, both for timber and coppice. The price quoted relates to the load of 45 cwt. *S.*

Birds: *Repley.* We have written you by post, as requested.—addressed "to the Post-office, Alresford, Hants."—*W C.* You have done wisely to consult us, before purchasing your cage. Brass cages are not only objectionable, but *fatal* to most birds, as those who persist in using them, after our repeated cautions, are finding out daily. It is desirable, as a rule, to have your cages of *mahogany*, with *wire* fronts only. You thus avoid all draught, and your birds live "well" and "happy."—*Novellus.* All in good time. It will be six weeks before we can help you, practically. We shall then be entering spiritedly into what you now wish to know. Nothing is so palatable to the goldfinch as Groundsel and ripe Plantain. These birds if carefully attended to live many years.—*Invalid.* The case you state is an afflicting one,—to none more than to the sufferer, although "humanity" must make its friends grieve that they can render little efficient aid. These "fits" are too "confirmed" to be altogether removed; but if the poor bird has his liberty in a large quiet room, and is allowed the benefit of cheerful society—we *all* pine for want of this, sometimes—there is a good chance of his health being renewed; and of his attacks being less frequent,—less severe. But, pray keep him warm, and vary his food. A little bruised Hemp-seed will be very grateful to him, and some Watercress.—*Jane W.* You will find it, by referring to Article No. LVI.—*William P.* Yes; if you always feed it yourself. Not otherwise.—*Sarah E.* Let it go immediately, or your conscience will be ill at ease for the remainder of the year.—*James L.* Watercress is preferable to Groundsel, just now.—*Ninetta.* We rarely administer Hemp-seed; and no birds can thrive better, nor look better than do ours.—*Elizabeth F.* Try some grocers' Currants, soaked in cold water for about an hour. They are very fond of these.—*Annette.* His "fidgettiness" arises from your having given him a *round*, narrow perch. Perches for these large-sized birds should be *square*, and more substantial.—*Rebecca.* It depends upon what value you set on him. If his song be first-rate, purchase *another* bird to breed from. He should be in his second year.—*Julianna.* About the middle of May. Even then it is oftentimes cold.—*Sophie.* It is more curious than valuable. We hardly care for these so-called rarities. They possess only an *ideal* value, and their song is never first-rate.—*G W.* We have addressed you as requested; and shall be glad to hear if our "advice" has produced any beneficial change. It is only right we should be informed of our success, particularly in so afflicting a case as yours is. We never yet knew the remedy to fail.—*Anthony.* It has arisen from his having been left in a room without a fire. The cold has seized him internally, and his head finding its way behind his wing is no good sign. Prepare for the worst, and grow wise for the future. *W. K.*

Books: *A B.* There is neither a Fauna nor Flora of New Zealand; but Dr. Hooker has the latter in hand.—*W Ward.* Sweet's "Hortus Suburbiensis Londinensis" may perhaps answer your purpose.

Cranberries. *Z.* You may buy the *American* Cranberry of any respectable nurseryman. Grow it in a bed of peat earth in a rather damp part of your garden; it is not eager for water, but it dislikes drought.

Kew Gardens: *Br, Norwich.* We cannot explain the history of the article in the "Quarterly," on which it certainly does not shed much lustre. The author seems to be more familiar with ancient fables than with modern facts. It is not true that Sir William Hooker's herbarium, or any other herbarium, contains 150,000 species of plants, the highest rational estimate of all existing species not going higher than from 90,000 to 100,000. Pinus occidentalis is a botanical puzzle; there is little doubt that it exists in gardens under some more modern name. The Cuba plant is certainly in cultivation. The mule Laburnum is the well-known C. Adami, a supposed cross between C. purpureus (not nigricans) and a Laburnum. To say that the nurserymen have put 100,000*l.* into their pockets by aid of the old Kew Moutan is simply absurd. The flowers of Hibiscus Rosa sinensis are used in China to stain ladies' eyebrows, not "to blacken their shoes." And so on.

Melon Frames: *C M S.* We can scarcely doubt that your border is ruined by the Melon beds being placed *upon it.* Roots of fruit trees require exposure to air, and the sun's warmth, and cannot bear to be annually smothered by a heap of hot dung. As to liquid manure, we refer you to a leading article in another column.

Melons: *Clericus.* We regret to say we have no information whatever concerning Dr. Hull's experiments, except what has been published. Of course, the substances he employs should be used in very small quantities, or your plants will be killed, as they would be by over-doses of any kind of manure. Pentstemon cyananthus is totally different from P. azureus, and much handsomer.

Names of Plants: *C M S.* It is a Hakea of some sort, not a coniferous plant.—*P S.* Apparently a leaf of Cassia lævigata.—*J W.* Zygopetalum crinitum.

Netting: *A C E.* We never recommend dealers. ‡

Peach Trees to Plant out of Doors: *S C.* Grosse Mignonne, Noblesse, Royal George, Bellegarde, Barrington, Late Admirable. These will afford a succession.‖

Pine Apples: *A M.* You have been keeping your Pines in too high a temperature. Lower the heat of your house to 58° by night and 70° by day. Admit plenty of air, and do not allow the bottom heat to exceed 85°. Follow this for five or six weeks, and keep them rather dry at the root. Afterwards, by raising the heat of the house gradually, and, by a slight increase of bottom heat, with moderate waterings, your plants will show fruit. Earthing up will assist them. *S.*

Rhubarb Wine: *A Lady* will find a good receipt in our volume for 1846, p. 461. The stalks and leaves are the part used, and one kind of Rhubarb is as suitable as another.

The Seed Trade: We have numerous communications upon this subject; but we defer using them till another week. In the meanwhile we find it necessary to observe, that although we are glad of any and every *fact* that can be communicated respecting the sale and falsification of seeds, yet that we do not want mere gossip or surmise, and that personalities are highly objectionable. We have no right to question men's motives or to inquire into their private acts, except in so far as they are intimately connected with public transactions; and we shall be obliged by our correspondents bearing this in mind.

Trifolium minus: *Quæ.* It bears yellow flowers. It is suitable for mixing with fine seeds for lawns, where the soil is light and exposed to drought in summer. In such situations it is quite at home.‡

Tulip Tree: *P S.* In all probability the bleeding you speak of will cease as soon as the tree gets into leaf. At that time dry the wound by wiping it and scattering wood ashes over it. Then apply the following mixture: to four parts of scraped cheese, add one part of calcined oyster shells; mix them thoroughly, and squeeze them forcibly upon the bleeding wound; if the first attempt fails, try again.

Misc: *A Sub.* Two of the Numbers, viz., 37 for 1846, and 35 for 1848 are out of print; the others may be had.—*Rosa.* Cydonia japonica is sometimes grown as a standard; for this purpose work it on the Quince stock. All the ornamental Crataegi will succeed as standards.‡

SUTTON'S RENOVATING GRASS SEEDS FOR IMPROVING OLD PASTURES.—Many Old Upland Pastures, Parks, and Meadows are nearly destitute of Clovers, and the finer and more nutritious sorts of Grasses, in which case we are in the practice of furnishing such sorts only as are wanting; if these seeds are sown *early in the Season*, the improvement in the Pasture will be very considerable, and at a small expence. *Quantity of Seed required, 8 lbs. per Acre. Price Reduced to 10d. per pound.* Carriage free, as see our Advertisement in page 82 of this Paper.

Instructions on Sowing Grass Seeds, &c., may be had in return for one penny stamp.—Address JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

PERUVIAN GUANO.

CAUTION TO AGRICULTURISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

ANTONY GIBBS AND SONS, AS THE ONLY IMPORTERS OF PERUVIAN GUANO,

Consider it to be their duty to the Peruvian Government and to the Public again to recommend Farmers and all others who buy to be carefully on their guard.

The character of the parties from whom they purchase will of course be the best security, and in addition to particular attention to that point, ANTONY GIBBS AND SONS think it well to remind buyers that—

The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 9l. 5s. per ton, less 2½ per cent.

Any resales made by dealers at a lower price must therefore either leave a loss to them, or the article must be adulterated.

MANURES.—The following Manures are manufactured at Mr. LAWES'S Factory, Deptford Creek:

Turnip Manure, per ton	...	...	£7 0 0
Superphosphate of Lime	...	...	7 0 0
Sulphuric Acid and Coprolites	...	...	5 0 0

Office, 69, King William-street, City, London.

N.B. Peruvian Guano, guaranteed to contain 16 per cent. of Ammonia, 9l. 10s. per ton; and for 5 tons or more, 9l. 5s. per ton, in dock. Sulphate of ammonia, &c.

FOSSIL BONES AND PSEUDO-COPROLITES.
(FROM THE SUFFOLK CRAG).

EDWARD PACKARD AND CO., of Ipswich, having erected very powerful Machinery for the purpose of reducing these Phosphatic Nodules to a fine Powder, and being in the immediate locality of where they are found, are now prepared to supply them on the most economical terms, in any quantity, either Ground, Whole, or Dissolved in Acid. They form the cheapest source of Phosphate of Lime in the market, and are peculiarly eligible for manufacturing Superphosphate of Lime in conjunction with Bone.

Prices and every information connected with their use forwarded on application to EDWARD PACKARD and Co., Artificial Manure Manufacturers, Ipswich, Suffolk.

THE LONDON MANURE COMPANY offer the following Manures on the best terms, warranting every article strictly genuine:—Peruvian Guano, Superphosphate of Lime, Nitrate of Soda, Concentrated Urate, Peat Charcoal, Gypsum, Fishery Salt from Cornwall, also a constant supply of Salt for agricultural purposes; Linseed and Rape Cake. Peruvian Guano warranted the genuine importation of Messrs. A. Gibbs and Sons at 9l. 10s. per ton, or for 5 tons and upwards, 9l. 5s. in Dock.—40, New Bridge-street, Blackfriars.

EDWARD PURSER, Sec.

FARMERS AND GARDENERS are invited to try the NEW and VALUABLE MANURE, PEAT CHARCOAL, impregnated by pressure with the fertilising matter of the LONDON SEWAGE, the Ammonia, Phosphates, and Fæces being absorbed, and the water left bright and palatable. Sold at the Charcoal and Sewage Works, Stanley Bridge, Fulham, Middlesex, at 60s. per ton, 4s. per cwt., and 2s. 6d. per half cwt.

HOSE FOR LIQUID MANURE, FIRE ENGINES, or GARDEN PURPOSES, made of Canvas, lined and coated with Gutta Percha. It is exclusively used by agriculturists, and at the Government Public Works, giving great satisfaction. Also, KASE'S FORCE and SUCTION PUMP, which is the most simple and complete; it will throw 40 gallons per minute, 40 feet high, and it is not at all liable to get out of order. Price, 5l. 10s.; on wheels and stand, 7l. 7s.

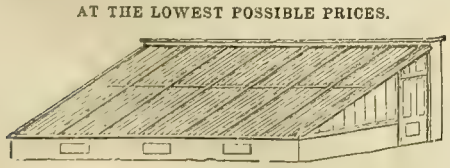
BURGESS and KEY, 103, Newgate-street, London.

FOR WARMING GREENHOUSES and BUILDINGS of all kinds, the new Registered HORIZONTAL GAS STOVE is perfect in its operation, free from smell, and cannot get out of order. Price 30s.—STEVENS AND SON, Darlington Works, Southwark Bridge-road, London.

GREEN AND HOTHOUSES, made by Machinery, at J. LEWIS' Horticultural Works, Stamford Hill, Middlesex, warranted best materials, and the cheapest in England.—A List of Prices sent by enclosing two postage stamps.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER.

WARRANTED BEST MATERIALS AND WORKMANSHIP, AT THE LOWEST POSSIBLE PRICES.



J. WEEKS AND CO., King's-road, Chelsea • Horticultural Architects, Hothouse Builders, and Hot-water Apparatus Manufacturers. The Nobility and Gentry about to erect Horticultural buildings, or fix Hot-water Apparatus, will find at our Hothouse Works, King's-road, Chelsea, an extensive variety of Hothouses, Greenhouses, Conservatories, Pits, &c., erected, and in full operation, combining all modern improvements, so that a lady or gentleman can select the description of House best adapted for every required purpose.

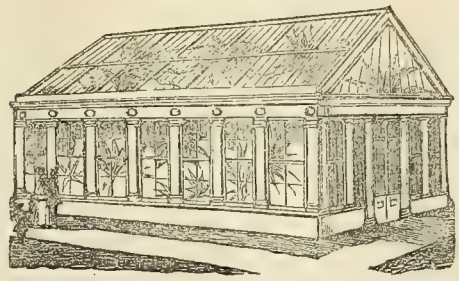
THE HOT-WATER APPARATUSES (which are efficient and economical), are particularly worthy of attention, and are erected in all the Houses, Pits, &c., for both Top and Bottom Heat, and in constant operation in the Stoves.

The splendid collection of Stove and Greenhouse Plants are in the highest state of cultivation, and for sale at very low prices. Also a fine collection of strong Grape Vines in pots from eyes, all the best sorts.

Plans, Models, and Estimates of Horticultural Buildings; also Catalogues of Plants, Vines, Seeds, &c., forwarded on application.—J. WEEKS and Co., King's-road, Chelsea, London.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER,

AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.



GRAY AND ORMSON, Danvers-street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

G. & O. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders, they can with the greatest confidence give the most satisfactory references.

Their Hot-Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating Hot by Water can be made available.

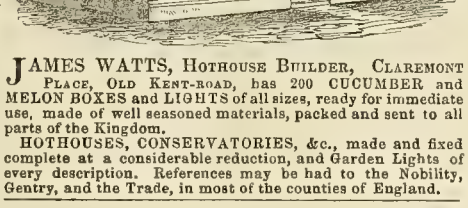
HOTHOUSES, GREENHOUSES, ETC.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

E. DENCH, PATENT HOTHOUSE WORKS, KING'S-ROAD, CHELSEA.—The superior qualities in every respect of these Structures having been proved in all parts of the United Kingdom, has caused a greater demand for them than E. D. could execute; he has been obliged to have perfect and powerful machinery made to meet the numerous orders, and can now execute any amount of work to great perfection, with dispatch, and for quality and price to defy all competition. Patent Hothouses, with excellent glass 3 feet long by 1 foot wide, every front sash to open, and every top one to slide down, with pulley made of the same materials as the electric telegraph wires, which require no painting; delivered free to Wharf or Railway Station, at 1s. 2d. per foot super., complete, having been fitted, and every portion marked previously, making a Greenhouse 16 ft. 6 ins. long, 12 ft. rafter, 400 ft., 23l. 6s. 8d.; 24 ft. 6 ins. long., do. do., 526 ft., 30l. 13s. 8d.; 28 ft. 6 ins. long, 15 ft. rafter, 712 ft., 41l. 10s. 8d. Heating by Hot-water on the most approved and economical principles.

Patent Sashes for Pits and Peach Walls, &c., 7d. and 8d. per foot, super.

HOTHOUSES AND CONSERVATORIES.



JAMES WATTS, HOTHOUSE BUILDER, CLAREMONT PLACE, OLD KENT-ROAD, has 200 CUCUMBER and MELON BOXES and LIGHTS of all sizes, ready for immediate use, made of well seasoned materials, packed and sent to all parts of the Kingdom.

HOTHOUSES, CONSERVATORIES, &c., made and fixed complete at a considerable reduction, and Garden Lights of every description. References may be had to the Nobility, Gentry, and the Trade, in most of the counties of England.

GLASS.

THOMAS MILLINGTON'S FOREIGN SHEET GLASS is far superior to any other manufacture, as well as cheaper. In 100 feet boxes packed for immediate delivery.

6 inches by 4 and	6½ by 4½	...	...	13s. 0d.
7 ,,	5 and 7½ by 5½	...	...	15 0
8 ,,	5 and 8 by 5½	...	...	15 0
8 ,,	6 and 8¼ by 6¼	...	...	17 6
9 ,,	7 and 10 by 8	...	...	20 0
12 ,,	10 and 13 by 9	...	...	20 0

And many other sizes, or cut to order in various thicknesses. Cases containing large Sheets, in 100, 200, and 300 feet, at 21s. per 100 feet.

ROUGH PLATE, perfectly flat, ⅛ in. thick, best manufactured

In sizes under 15 inches	.....	6d.	per foot.
,, ,, 35 ,,	.....	8d.	,,
,, ,, 50 ,,	.....	9½d.	,,
,, ,, 75 ,,	.....	12d.	,,

Milk Pans, 2s. to 6s. each; Metal Hand-frames, Glass Tiles and Slates; Cucumber, Propagating, and Bee Glasses; Wasp Traps, Glass Shades, and Plate Glass, at 87, Bishopsgate-street Without, same side as Eastern Counties Railway.—Established 100 years.

GLASS FOR CONSERVATORIES, GREENHOUSES, PIT FRAMES, ETC.

JAMES PHILLIPS AND CO. beg to hand in their prices for SHEET GLASS for cash:

Cut to order in Panes not above 40 inches long.		Packed in Boxes of 100 feet each.	£. s. d.
16 ozs. ...	3d. to 3½d.	6 by 4, 6½ by 4½ ...	0 13 0
21 do. ...	3½d. to 5d.	7 by 5, 7½ by 5½ ...	0 15 0
26 do. ...	5d. to 7½d.	8 by 5, 8 by 5½ ...	0 15 0
In Crates of 300 ft., 16 ozs. to the foot, 2½d. per foot.		8 by 6, 8½ by 6 ...	0 17 6
		9 by 7, 10 by 8 ...	1 0 0

FOREIGN SHEET GLASS, of very superior quality, packed in cases of 200 feet, and in sizes varying from 36 by 26 to 44 by 30 inches, at 38s., 40s., to 42s. per case.

HARTLEY'S PATENT QUARRY GLASS.

Milk Pans, from 2s. to 6s. each, Propagating and Bee Glasses, Cucumber Tubes, Lactometers, Lord Camoy's Milk Syphons, Tiles and Slates, Wasp Traps, Plate, Crown, and Ornamental Glass, Shades for Ornaments, Fern Shades, and every article in the Trade.

HORTICULTURAL GLASS WAREHOUSE, 116, Bishopsgate-street Without.

BELGIAN SHEET GLASS.—The above beautiful Glass, 16-oz. to the foot, so strongly recommended for Horticultural purposes, can be procured at the Soho Crown, Sheet, and Ornamental Glass Warehouse, 26, Soho square, upon the following CASH terms. Single cases containing 200 feet each, case included, 2l. 2s.; in parcels of 5 cases at 40s.; in parcels of 10 cases, 38s. per case; or cut to any given size at 3d. per foot.

GLASS FOR CONSERVATORIES, GREENHOUSES, PIT FRAMES, ETC.

HETLEY AND CO. are supplying 16-oz. Sheet Glass, of British Manufacture, packed in boxes, containing 100 square feet each, at the following REDUCED PRICES for cash. A reduction made on 1000 feet.

Sizes.—Inches.		Inches.		Per foot.	Per 100 feet.
	Under	6 by 4	at	1½d.	is £0 12 6
From 6 by 4 ,,		7 ,, 5	,,	2d.	,, 0 16 8
7 ,, 5 ,,		8 ,, 6	,,	2½d.	,, 0 18 9
8 ,, 6 ,,		10 ,, 8	,,	2½d.	,, 1 0 10
10 ,, 8 ,,		12 ,, 9	,,	2¾d.	,, 1 2 11

Larger sizes, not exceeding 40 inches long.

16 oz. from 3d. to 3½d. per square foot, according to size.
21 oz. ,, 3½d. to 5d. ,, ,, ,,
26 oz. ,, 3¾d. to 7½d. ,, ,, ,,

PATENT ROUGH PLATE, THICK CROWN GLASS, and PATENT PLATE GLASS for Horticultural purposes, at reduced prices, by the 100 square feet.

GLASS TILES AND SLATES made to any size or pattern, either in Sheet or Rough Plate Glass.

Propagating Glasses, Bee-hive Glasses, Cucumber Tubes, Glass Milk Pans, Glass Water Pipes, and various other articles not hitherto manufactured in glass.

PATENT PLATE GLASS.—The present extremely moderate price of this superior article should cause it to supersede all other inferior window glass in a gentleman's residence. No alteration connected with the sash is required.

GLASS SHADES, as ornamental to, and for the preservation of every description of goods susceptible of injury by exposure. Prices, since the removal of the excise duty, reduced one-half. List of Prices and Estimates forwarded on application to JAMES HETLEY and Co., 35, Soho-square, London.

FOUNTAINS FOR PLAYING SCENTED WATERS.

PURE WATER raised to any height from a small stream, where a fall can be obtained, by

FREEMAN ROE'S

IMPROVED RAM;



Deep-well Pumps, Water-wheels, Baths, Hot-water Apparatus, Fountains, and Fire Pumps. Towns supplied with Gas or water. Drawings and Estimates made.

FREEMAN ROE, Hydraulic and Gas Engineer, 70, Strand, London; and Bridgefield, Wandsworth.

THERMOMETERS.

HENRY BAKER'S (90, Hatton Garden, London), List of Prices. Every instrument made by him warranted accurate.—Vertical self-registering THERMOMETER, for heat and cold, of the best construction, and not liable to get out of order, 14 inches high, in copper case, 1l. 5s.; in japan case, 1l. 1s., and 1l.; 10 inches high, in copper case, 1l. 2s.; in japan case, 18s. Horizontal Thermometers for registering the extreme of cold only, 4s. 6d.; Hot-bed Thermometers, in oak frames, 1l. 1s.; copper frames, 1l. 5s. Thermometers for Brewing, Baths, &c., in copper cases, 14 inches, 7s. 6d.; 10 inches, 5s. 6d.; 8 inches, 4s. 6d.; in japan cases, 14 inches, 5s.; 10 inches, 3s. 6d.; 8 inches, 2s. 6d. Dr. Mason's Hygrometer, or wet bulb Thermometer, for showing the humidity of the air, with tables, ivory scale, 1l.; wood, 15s. An invaluable instrument in Hothouses, Sick Chambers, &c. Wheel Barometers from 1l. 1s. each, sent, securely packed, without fear of getting out of order.

The Agricultural Gazette.

SATURDAY, FEBRUARY 7, 1852.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY, Feb. 11—Agricultural Society of England.
THURSDAY, — 12—Agricultural Imp. Soc. of Ireland.
WEDNESDAY, — 18—Agricultural Society of England.
THURSDAY, — 19—Agricultural Imp. Soc. of Ireland.

THE plain English farmer is not generally supposed to be fond of figures—no matter whether the term be understood of book-keeping or of rhetoric. As to the former, it is commonly believed that he is far less diligent than the tradesman and manufacturer in accurately recording and balancing his money-matters, notwithstanding his predilection for facts and dry details; in short, that he pays less attention to farm accounts than to accounts of farms, such as he reads during the long evenings in the newspapers. As to the latter, together with what belongs to it, the farmer's papers and periodicals usually take for granted that their readers will be better pleased with an endless succession of dull particulars of tillage, cropping, feeding, slaughtering, drain-piping, double-digging, &c., than with the same items now and then embodied in language that shall be attractive to the general reader. And, accordingly, these particulars are seldom accompanied by elucidations of the principles from which the facts derive their merit, and by which they attract the attention of the educated classes. To write matter in such a way as to be entertaining and instructive to all classes—landowners, agents, private gentlemen, large farmers, small plot cultivators, labourers, artisans, &c., must, of course, be difficult; but much may be done towards accomplishing the task; and much is already done when once the desirability of the object is felt and acknowledged. With articles of the character we have pointed out, occasionally interspersed among the scientific essays and farming controversies, which occupy a large part of our agricultural journals and magazines, our literature would gain credit among popular readers who now discard it for its technicalities and its inflexible business style and matter; and other

minds being thus interested in agricultural speculations and discoveries, the farmers' difficulties and success would be better understood by townspeople and manufacturers, there would be both a juster and higher appreciation of the agricultural class, and a more general sympathy felt for them and their interests. But the principal advantage of such contributions would be that they would greatly assist in the work of agricultural education. For we understand by that term something more than the process by which a man, naturally skilful in the art of eating and drinking for his own support, shall be artificially indoctrinated with the methods of preparing meat and drink for the support of others.

We think that this ought to be kept in view by journalists and authors who feed the agricultural mind with information and instruction. Why should not a space be allotted among the columns of valuable and indispensable market statistics, farm memoranda, general correspondence, &c., to articles written in a freer and more discursive temper, which, while treating of agricultural topics, should branch out also into more general remark? Such papers, of course, ought not to trench with undue proportion upon the scientific essays, balance-sheet debates, agricultural and commercial reports, and the thousandfold matters of consequence belonging to the theory, art, and business of farming, and to rural life and economy in general; but we say that an occasional paper of the sort we are advocating, would do much to break our minds away from the supreme love of treatise and estimate, tough argument, and still more stoutly-pretentious opinion, and attract a larger number of busy and inquiring intellects to the study of our especial line of pursuits.

Has the *Agricultural Gazette* accomplished no good result, let us ask, by the publication of the "Chronicles of a Clay Farm?" wherein not only the burrowings and pulverations of "Talpa" (cunning *mole!*) in the to-other-kind-of-workers, incorrigible subsoil, are most engagingly set forth; but the principles of all the greater branches of husbandry are strikingly enunciated, and made to illustrate great general truths in the natural, mental, and moral worlds? And what of the lively "leaders" by "C. W. H." and other writers, dancing and playing, perhaps crosswise on the highway, with hind-leg over the trace, to the amusement and enspiriting, rather than displacency, of the coach passengers and bystanders, and not at all betraying any incapacity or unwillingness for drawing the vehicle gaily onward when the frolic is over? It is true that some farmers, who seemingly think that *ideas* have nothing to do with newspapers, that *facts* are alone required, and that every agricultural editor ought to scare away intruders with the notification, "no information admitted *except on business*,"—have declared that such articles, in their opinion, contain very little useful or really new information, and that they only take up room which might be better occupied. But the great majority value such compositions as successful attempts to popularise some of the most important and fundamental principles of agriculture, and to put the various lessons required in such a forcible way as to command the attention and assent, and indelibly impress the memory of all classes of readers. Now, without attempting any imitation of these various papers, we intend to venture upon the pathway thus indicated. We shall not aim at effecting all the objects we have pointed out; perhaps one pen could scarcely equal the task. Nor shall we dare to undertake the teaching of the higher and grander doctrines we have alluded to; that would be both affectation and presumption on our part. But we wish to support our proper share in the enterprise; and our performance, humble though it will be, must be upon a stage to which we are accustomed, in a character with which we are familiar, and before an audience in whose presence we feel at home. *I. A. C.*

ON THE CULTIVATION OF CARROTS.

[We have received from Mr. Blundell the following paper on this subject, read before the Botley Farmers' Club.]

My object in bringing before your notice the subject of Carrot culture is—because I believe it to be one of the utmost importance, in connection with our system of root culture, which for many years has been increasing to a great extent, and will no doubt continue to increase in a still greater ratio, whilst corn continues at a low and unremunerating price; and, I think I shall be able to show you that the Carrot crop is likely to take a prominent position in root culture on many of our best soils, because of their great value for feeding purposes and certainty of the crop, whereas the Turnip has become more hazardous and uncertain, arising from causes over which we have little or no control; and where they have been cultivated for many years, good crops of Turnips cannot be produced, except at a great expense in manure,—in proof of which I take my own farm as an instance; for, although it is greatly increased in its general fertility, yet I could grow as good crops of Swedish Turnips 20 years ago without manure as I can at the present time by an outlay of 40*s.* per acre in artificial manures. I think I shall be able to state my subject most advantageously by speaking of it in separate divisions; I therefore propose,

1. *Soil.* The best soil for Carrots is a rich deep sand, yet I have known good crops raised on very poor sands, and they may be also successfully cultivated on all dry soils usually appropriated to the growth of Turnips, except thin chalk and shallow gravelly land; clay soils are not considered well adapted for the growth of this root, chiefly because it is difficult to get them into good tilth; yet I have obtained upon some of the clay portions of my land very good Carrots, for although the roots grew more out of ground and were ill-shaped, they have proved a heavy and valuable produce.

2. *Rotation of Crops.*—Like all other root crops it is of great importance which place in the rotation shall be assigned to it. I have had excellent crops grown after Turnips fed off by sheep, too late for sowing Barley; and when a few acres are required to be drawn from the land, this is a good course for the crop; but the kindest and best course is—first Turnips fed off, sown to Barley, after which to be autumn tilled. The next rotation to which I must allude, is the only one by which Carrots can ever be extensively cultivated without deranging the usual four-course system, that is, by substituting the Carrot for the Turnip crop, viz., Wheat, Carrots, Barley or Oats, Clover. I would further observe that this crop may, if required, be grown successively on the same land with greater advantage than any other root crop.

3. *Tillage.*—The finest possible tilth, extended to the greatest depth practicable, and entirely free from the roots of Grass and weeds, is the most advantageous state of the soil for this root; the actual amount of tillage, &c., required will of course depend upon the state of the land and the preceding crop; for instance, when the Carrot crop is intended to follow that of the Turnip fed off, the amount of tillage required will be comparatively trifling, the land having been previously well tilled for the Turnips, one ploughing and subsoiling will generally prove sufficient, with immediate harrowing, rolling, &c., which will give a fine surface, and retain sufficient moisture to vegetate the seed. But in both the other courses of crops alluded to, namely, Carrots after Barley or Wheat, autumn tillage is all important, and the land being generally clean where the Barley crop has succeeded the Turnips—I recommend that as soon as possible after harvest the land should be ploughed as deep as the furrow can be turned, the subsoil plough following, stirring the land to a good depth: then to be harrowed and rolled until quite fine, and if the season permit, plough and subsoil as before, crossways, remaining in that state during the winter until the month of March, when it should be harrowed fine, and ploughed into ridges of such size as the nature of the soil may require, but the more level the land lies the better, and as soon as the weeds make their appearance destroy them by the scarifier and harrows; the land should not be ploughed again on any account, but use the scarifier and harrows a day or two before the time appointed for sowing. In case of the crop following that of Wheat, it often happens that the land is partially infested with Couch Grass and root weeds, which should be destroyed by the use of the scarifier and burnt, previous to the commencement of the course of tillage before named.

4. *Manure.*—In all soils congenial to the growth of Carrots, where a liberal course of cultivation has been pursued for some years previous, it may be said that the Carrot does not require any manure, a large and heavy produce being almost certain; yet I have found it do well to drill with the seed about 2 cwt. of superphosphate with a few ashes, for the purpose of forwarding the young plant earlier to the hoe, and in advance of the weeds. I cannot advise the use of farm-yard manure for this crop: however, in case of land being out of cultivation, or not well suited for its culture, I would apply some artificial manure; I think the best for the purpose is Peruvian guano, to be applied broadcast, previous to the last ploughing, as I have found, when harrowed in on the surface, it encourages the growth of weeds, and causes the Carrot plant to throw out an unusual number of small surface roots, which are detrimental to its most profitable growth.

5. *Seed and time of Sowing.*—The seed should be quite new, and the quantity required will be about seven pounds per acre, which should be hand rubbed and entirely free from burr; it may then be drilled by an ordinary Turnip drill with the greatest regularity. The best time for sowing, I have found to be the last week in April, or the first week in May, at which time in ordinary seasons the seed will vegetate immediately, which is essential in advancing the plant out of the way of the weeds, whereas in sowing earlier, as formerly, about the 25th of March, the weeds grow and gain the ascendancy over the young plants to such an extent, as to endanger the crop in wet seasons, and at all times to greatly increase the cost of hoeing; a further advantage of late sowing will be found in the opportunity afforded for completing the tillage, and the destruction of weeds.

6. *Drilling and Hoeing.*—Upon shallow soils, the land should be stitched into ridges two feet apart (drilling a single row on each ridge), for the purpose of giving a greater depth of soil for the plants to root in, and in extreme cases where land is unusually subject to weeds, it will allow of the free use of the horse-hoe. But upon all Carrot soils well tilled, the best mode I have found is to drill upon the flat at 14 or 16 inches apart, for although the horse-hoe cannot so readily be used at this distance, because the weeds should be hoed out early, and before the plant is large enough to bear the horse-hoe, yet the hand-hoe will be more effectual at the narrow distance, because the plants meet across the drills quickly, and permanently check the growth of weeds during the remainder of the season; whereas in the wide distance, although the horse-hoe may be continually employed, yet there will be sure to be a constant succession of weeds springing up, by reason of the Carrot greens not being able to meet across the space, until a late period in the season. The flat hoeing should be commenced between the rows as soon as the lines can be distinctly seen, and after the plants have attained the height of five or six inches, then use a four-inch hand-hoe, and cut the plants out into little bunches four inches apart, then let women or boys follow, and single out the bunches, leaving the strongest plant; only one more hoeing will then be required if the season has been favourable; a few tall weeds may arise during the summer, which, with the plants that may have run up for seed, should be hand pulled. I estimate the cost of these operations as follow:—First hoeing 6*s.* per acre, singling 7*s.* do., last hoeing 5*s.* do., and weeding 2*s.* per acre.

7. *Taking up and Storing.*—The usual time of taking up the crop is during the months of October and November, but in case of growing them to any considerable extent, it would answer the purpose to commence somewhat earlier, for although the root might be in a growing state, yet such is the value of the Greens whilst in full growth, that a portion of the root might be sacrificed in order that a heavy crop of Greens may be used for feeding at an earlier period. The lifting the crop should be performed with a strong three grained prong, inserted at the side of the plant, pressing the prong obliquely with one hand, and pulling the Greens perpendicularly with the other. The mode of storing the roots must in a great measure depend upon the use to be made of them; when required for the feeding of horses, cows, pigs, &c., they may be well kept by placing in a continuous heap, about 4 feet wide at bottom, carried up to a point, and thatched with straw, with a little covering of earth, leaving a small portion of thatch bare at the top to prevent heating; for although frost will not rot them like Mangold Wurzel or Potatoes, yet they lose a portion of their nutrition after being frozen; in case of storing for sheep in open field feeding, the best plan would be to pit them upon the land, in the same manner as is often adopted with the Swedish Turnip; but in this crop this mode is especially required, because hares and rabbits are so remarkably fond of this root, that great depredation would be committed if not covered with earth. When required to be kept until late in the spring, let the heaps be carefully turned over, and the sprouted Greens rubbed off; in this way they may be preserved for use full of nutrition, until an advanced period of the season.

8. *The Application of the Crop.*—In my own experience I have found them very valuable food for fatting early lambs, and my two years' experiments upon it form the subject of an essay, for which I received a premium at the Fareham agricultural meeting in September last, wherein I have shown a saving of one-half the cost of oil-cake and corn, by the use of the white Carrot, as compared with former seasons whilst feeding on Swedish Turnips. I have found during two seasons, that cows, whilst feeding on Carrots, did not make so good butter as when feeding on Swedish Turnip, that made from the Carrot being pale in colour and insipid in flavour. I have not used Carrots for feeding farm horses to such a sufficient extent as to speak positively upon the subject, but I have noticed well authenticated facts of their having been used for this purpose in several counties, Suffolk in particular, as far back as the year 1775, where Carrots formed a part of the regular weekly allowance upon some farms, five bushels or 2½ cwt. being substituted for one bushel of Oats, more recent experience shows about the same proportionate value, and it is also found by some a most excellent food for young colts whilst kept in yard during the winter months. As a food for fattening oxen, they are said to be very good, as also for fatting sheep; in order to decide this point, I am now experimenting upon it; and in feeding store pigs, I have found them the most desirable root, having used them for four years past.

9th. *The Comparative Value of the Crop.*—I will now endeavour to make a comparative estimate of the cost of production and value between this root and the Swedish Turnip, believing that if it fail to give an increased value in produce above that root its cultivation will not extend materially; supposing the land to be clean, I propose as the tillage for—

1 *Acre of Swedes.*			
4 ploughings, 9*s.*	£1	16	0
6 draggings, 9*d.*	0	4	6
6 rollings, 9*d.*	0	4	6
12 harrowings, 5*d.*	0	5	0
Seed 3 lbs, 1*s.*	0	3	0
Manure, 2½ cwt. superphosphate	0	17	6
1 qr. bones, fine	0	18	0
25 bush. ashes, carting, &c.	0	6	0
Drilling	0	2	0
2 hoeings	0	9	0
Horse-hoeing	0	3	0
Pulling, stacking, &c	0	9	0
	£5	17	6

1 *Acre of Carrots.*			
2 ploughings	£1	0	0
2 subsoil ditto, 10*s.*	1	0	0
6 draggings, 9*d.*	0	4	6
6 rollings, 9*d.*	0	4	6
12 harrowings, 5*d.*	0	5	0
1 scarifying,	0	4	0
Manure, 2 cwt. superphosphate	0	14	0
20 bush. ashes, carting, &c.	0	4	0
7 seed, 2*s.*	0	7	0
Drilling,	0	2	0
Hoeing and weeding	1	0	0
Lifting and pitting	1	6	0
	6	11	0
	5	17	6
	£0	13	6

The above estimate shows the entire cost of production, and storing for use, the balance in favour of the Swedes, 13*s.* 6*d.*, and I estimate the feeding value on the land of a good crop of Swedes and Carrots as under—

Produce of 1 *Acre of Swedes.*			*Produce of* 1 *Acre of Carrots.*		
20 tons, at 6*s.* per ton	£6	0 0	25 tons, at 7*s.* per ton	£8	15 0
2½ tons tops, at 2*s.* ...	0	5 0	6 tons tops, at 3*s.*.....	0	18 0
Balance in cost of production brought forward	0	13 6		9	13 0
				6	18 6
	£6	18 6	Balance in favour of Carrots	£2	14 6

The balance in favour of Carrots, 2*l.* 14*s.* 6*d.* per acre, for feeding sheep on the land, I consider fair, my estimate of the feeding value being on one-sixth in favour of Carrots, it is therefore not at all in unison with the chemical analysis given by Professor Johnston, which gives rather more than one-third in favour of Carrots, stating the per centage of solid or nutritious matter, at 20 in Carrots, and at 12 in the Swede, but I am of opinion that a correct estimate cannot be found of their relative value until further experiments in feeding have been gone into. I believe, however, there is a further value by improvement of the land, first by deepening the soil, in cultivating and digging the crop, and also an extra value left in the land, by consuming a crop in excess of the Swedish Turnips. In conclusion, it cannot be doubted that the importance of this crop, which, after paying for deep tillage and clean cultivation, yields a large amount of produce for the consumption of live stock, and returning a great quantity of the best manure, entitles it to be considered superior to most other root production with which we are acquainted; and the circumstance of being able to feed or fatten all the live stock of the farm, with a crop which requires only a limited outlay for manure, is at once peculiar and decisive, and is calculated to excite some degree of wonder that the cultivation has not been more extensive, for although its use has been known for many years, yet its cultivation has been confined to a few particular districts. *J. Blundell.*

Home Correspondence.

Cochin China Fowls.—Observing, in a late Number, some remarks by Mr. Baily, of Mount-street, relative to Cochin China fowls, he will, I hope, permit me to correct what I conceive to be a misstatement respecting the white variety of that breed. He says:—"The white were imported as a distinct breed, and I am disposed to consider them as such, seeing that they produce none but white chickens." Mr. Baily could not, I think, have noticed a letter some months ago of mine on this subject, wherein I stated that the large stock of white Cochin China of Mr. E. Herbert were bred from a cock and hen of dark colours, and what I dwelt upon in that communication as singular and uncommon, compared with other breeds, was, that they should retain their pure white colour, though intermixed with dark fowls exactly bred alike, and it would be an interesting fact to ascertain, as Mr. Herbert sold a cock of the pure white at the Birmingham show to a successful breeder of the other most esteemed variety—the cinnamon colour—whether by an admixture with them, a plumage blended with white would be obtained in the progeny—that not having been the result in Mr. Herbert's experience. *E. F. W.*

Agriculture.—How is it to be accounted for that men are now enquiring after knowledge like babes, and disputing like boys, about cultivating the ground? Perhaps because new men are always coming forth, trusting more to their own than experience of others. I remember before I left Norfolk, more than 30 years ago, working amongst farmers when a boy, that a Mr. Garrard planted three acres of Wheat, side by side, one sown and the other drilled, the third hand dibbled. The last of the three was most most prolific and abundant. My father, who had nearly an acre of land, was accustomed to sow part with Hemp, as affording employment in the winter for spinners, and he showed me one time how strong and healthy it was; he added he had put the night manure upon it. Hints like these may be instructive. But is there not in that old-fashioned book which declares that One made the earth and all things that grow upon it, the most important information, even on agriculture, of any book under the sun, and is it not there said that Isaac sowed in that land, and received in the same year a hundred-fold, and the Lord blessed him. "Honour the Lord God, *so* shall thy barns be filled with plenty, and thy presses burst out with new wine." *C. T.*

Short Strawed Wheat.—A passage in your paper of the 17th inst. says:—"The Golden Drop is shorter in the straw than Piper's Thickset." I reply to your Maldon correspondent, that Piper's Thickset is from 6 to 12 inches shorter in the straw than the Golden Drop—if by that name he means the same sort that I do. I have never seen a shorter sort than Piper's Thickset. *J. D. Piper.* [Nor have we.]

Devonshire Dairy Management.—As I see in the *Gardeners' Chronicle* that one of your readers requests information with regard to the Devonshire system of dairy keeping, I am willing to afford the benefit of many years' experience for his advantage, having myself introduced it into this part of the country. As a marketable produce, I feel convinced it would never succeed in the north, as the farmers do not see enough for their money, as the bulk in appearance is considerably diminished by its solidity. With respect to the apparatus, tin vessels answer the best for scalding the milk; they form a better resistance than pottery to the heat of the stove. The scalding must at least be continued for three-quarters of an hour, till you can no longer bear your finger in it, and rapping the vessels with the knuckles will produce a dull heavy sound; it is then ready for removal. After remaining 12 hours in the dairy to cool, the cream may be collected by a skimmer, and kept for several days, or in winter for a week, without turning sour; it must be then well flapped (as the dairy-maid calls it), for about 10 minutes—sometimes five are sufficient—of course depending upon the weather, in a small wooden tub. I have four cows, only one of which is in full milk; and by this process the dairy maid, after supplying my family of 17 with abundance of milk and cream, can make 17 lbs. of butter every week. She says it is an immense saving both in time and labour; the butter is much richer, and keeps longer without turning sour than any other kind. I shall be glad to answer any further questions that may be given in your paper on this subject, and hope that these few directions may prove useful. I find that I have not mentioned that the more shallow the vessels are in which the milk is scalded, the better and the more the cream will rise; eight quarts is abundantly sufficient to each pan, spread over as large a surface as the stove or hot hearth will allow, admitting of the depth of from 3 to 4 inches. *Sarah H., Westmoreland.*

The Cultivation of the Carrot.—The irregularity and patchiness of crops of Carrots and Mangold appeared to me to be very general; I had heard this variously accounted for, but I suspected the main cause to be an irregular distribution of seed, either superficially or in depth in the soil. As seed time is approaching, it may interest some of your readers to learn the mode of proceeding we adopted last season, and the result. We obtained Carrot seed sufficient to sow four acres, and mixed it with a liberal supply of turf ashes until the seeds were well separated, when the mass was freely sprinkled with water and turned over. The turning and mixing was repeated daily for a week, with a slight watering on the second and fourth days; the seeds were thus thoroughly separated, and in a state to run freely and regularly through the drill. The land was then made firm by rolling, in order that the seed should be deposited as nearly as possible at an equal depth, and also near the surface. The seed was drilled in rows 18 inches apart, and there followed an abundant and very regular plant over the entire surface. After horse-hoeing, the crop was hand-weeded, with the intention of leaving the plants four inches apart in the rows at maturity; but the ground being at the time rather too dry to admit of the roots coming up freely, the top only was pulled off in many cases, leaving the root in the ground, which formed a new head, and the root consequently continued growing, which we did not discover till we commenced digging, when the roots were much closer than we had intended, over a considerable proportion of the ground. Before the end of August the rows were nearly obliterated, and in September the four acres presented one dense mass of dark green foliage, without an uncovered spot, which continued to the harvesting of the crop in October. Having harvested our Carrot crop, which was a fair one the preceding year, at 15*s.* per acre, we offered 20*s.* this season, seeing the crop was a heavy one. It was soon apparent that good men could hardly earn a shilling a day at that rate, and we increased the price to 31*s.* 6*d.*; and I am satisfied the men did not earn at that rate more than 1*s.* 6*d.* a day, the roots were so much more numerous than usual, from the cause I have mentioned. The roots when topped were all hauled home—the number of loads set down, which were as uniform as they could be made. Seven loads were at different times led to the weighing machine, and the entire weight of the seven loads were divided by seven to get at an average weight of the loads, and the result was a total weight of 31 tons 1 cwt. per acre of roots, and 8½ tons of tops. The latter were left in heaps, and were not carried for a long time after they were cut, and consequently had lost weight considerably.* The Mangold Wurzel seed was treated to some extent in the same way, but not with so much manipulation and care; nor was the soil in so favourable a condition for the reception of the seed. This, and long continued dry weather, which is unfavourable to sprouted seed, kept the seed so long in the ground that we considered it must have perished; and we provided fresh seed, and were about to sow the ground again, when, on a close inspection, on removing the earth in various places, the seed was discovered to be in a state of vegetation. It was not fully up under eight weeks from the time of sowing, which was, no doubt, attributable to its being deposited too deep in consequence of the weather not having permitted sufficient consolidation of the soil before sowing. The plant, however, was as abundant and regular as the Carrots, with the exception of two or three rows which had been missed altogether by the driver. The early check was never recovered; and though the crop was entire, the yield of roots over 14 acres averaged only 21 tons per acre when led from the land. These results clearly indicate the advantage of careful preparation of the seed in the mode suggested—consolidation of the ground sufficiently to secure its deposit at equal depths, and very near the surface, which are further secured by removing all the weights off the levers of the drill. We adopted the same mode of sowing our Swedes and Turnips last season, with the exception of the mixing and wetting the seed, with similar success. *C. Lawrence.*

An Effectual Method to prevent Milk tasting of Turnips.—As soon as the milk is brought into the dairy (warm from the cows), pour into it, in the proportion of half a pint of boiling water, to a gallon of milk; cover it over with a cloth, four times doubled, for half an hour; then strain and pour it into milk dishes to stand for cream. N.B. I have never known this receipt fail, unless the dairy-maid put a wooden cover over the milk-pail instead of a cloth, which absorbs the steam, and entirely removes any unpleasant taste, even when the cows are fed on yellow Turnips and straw, which makes the butter require no colouring of Carrot, and have the appearance of summer butter. *B.*

Inundated Land.—In your last week's *Gazette* a correspondent invites suggestions as to the best and quickest mode of getting rid of the injurious effects of salt on land that has been inundated by the sea. Residing very near the sea, I have had several practical and unpleasant proofs that the soil is incapable of retaining salt from water passing through it, in the fact that two of my wells, situated near the sea, become impregnated with salt water several times every year, when the tides become unusually high. The fact, too, has also been well shown by Professor Way's experiments. Allow me, therefore, to suggest as a pretty certain method of unsalting land, to underdrain the same in such manner that the rain-water shall be compelled to pass through it and escape by the drains. It is evident that the soil nearest the surface will first receive the benefit, and the process would be assisted by the land being laid down to pasture for some years, as this would prevent the necessity of ploughing, to which your correspondent very properly objects; and also in the state of pasture the land could readily imbibe all the rain that may fall, without the necessity of allowing any to escape by surface draining. *W. C. S.*

Gold and Industry.—How far an influx of gold would affect prices, and to what extent such influx may be anticipated to result from the discovery and exploration of the gold fields in California and Australia, must to some extent, at least, be a matter of speculation for the present. In your leader of a late week, you incline to the opinion that gold will not be found in quantity sufficient to induce higher prices, and that is not desirable for the interest of the industrial classes of the country that it should be so. Perhaps you will permit an old subscriber to join issue with you on these points. The predictions of the most learned geologists as to the strata in which alone gold would be found, and also in reference to its general scarcity, have already been falsified by facts now well authenticated. And if 15,000,000*l.* of gold were found in California in 1851, under the rude system hitherto in operation in that region, surely now that Australia is found to be equally rich in the precious metal, and the energy and science of the Anglo-Saxon race will be brought to bear on the several fields of mineral wealth, for the first time in the world's history, disclosed to human enterprise, it is not too much to assert that 30,000,000*l.* per annum will be the yield of gold for some years to come. I will not for the present argue the question, how far a general rise of prices might operate advantageously or otherwise on the ordinary relations in agriculture and commerce, but shall confine myself to its effect as between the industrial classes and the public creditor. The fact, that the industry of the country has somewhere about 27,000,000*l.* per annum dead weight on its shoulders, must not be lost sight of. We have fulfilled our obligations to the national creditor under circumstances of great difficulty, and God forbid that the time should ever come when we are unable or unwilling to do so. A greater catastrophe could not occur in a commercial country than a national bankruptcy: yet many intelligent and experienced men have thought such an event more than probable under a continued range of low prices. You say some dreamers in their distempered fancy, and under the influence of golden visions, picture to themselves Wheat at 120*s.* a quarter once again; and as protection is not now the charm, but gold, it is hardly necessary to say that the rise in the price of Wheat, if it should occur, may be expected to accompany a general rise in the various productions of industry, and in the price of labour, the raw material itself. To illustrate the matter, therefore, let us pay the interest of the national debt in Wheat at 40*s.* per quarter, the public creditor will receive the exchangeable value of 13,500,000 quarters of Wheat; but let Wheat be at 120*s.* per quarter, and 4,500,000 quarters of Wheat will realise the interest of the debt. The fundholder must remember that the standard of value has been fixed in gold, and the currency restricted for his protection at a time when gold was scarce and year by year increasing in scarcity. The bargain was struck and has been observed by the nation,—and this, notwithstanding the depreciation in the value of the products of industry attendant on free trade, a legislative act; and should gold, from natural causes, become depreciated in value, and fall even to the worth of silver, ounce per ounce, the fundholder must be content with his bond. Other great interests in the country have suffered by unforeseen events, and the fundholder cannot be exempted from the common lot of humanity. *R. F. W.*

Liquid Manure Deodorisers.—In reply to the query of your correspondent "Ammonia," in a late number of the *Agricultural Gazette*, there are various substances that will remove the offensive odour complained of by him, such as sulphate of iron, nitrate of zinc, chloride of lime, &c., which, by being dissolved in water and stirred in with the contents of the well, will not at all interfere with the pumping out of the liquid; and, if not used in too large a quantity, which must be regulated according to circumstances, and may, in a great measure, be deter-

* The land sown with Carrots had been manured the previous autumn with 10 one-horse carts of fresh dung, spread and ploughed in immediately.

mined by the test of the nasal faculty, do little or no harm to the manure when applied to the land, while they possess the advantage of fixing the ammonia therein. But should a doubt be entertained as to the correctness of such really proving unhurtful, a piece of board, with a good allowance of dry chloride of lime, in proportion to the dimensions of the well, spread upon it, and suspended therein, close to the surface of the liquid from a bar fixed across the orifice, and the atmospheric air kept excluded by a covering, for a few days previous to pumping, the objectionable effluvia will, if not entirely destroyed, at all events be found to occasion little annoyance, and no injury whatever be produced to the manure. This is the plan I myself adopt, and find it most satisfactory. If, however, the liquid has remained long in the well, it may be necessary to repeat the operation; that is to say, put a fresh supply of the chloride of lime on the board, several times, at intervals of three or four days for instance, before the desired effect can be obtained. In France, sulphate of iron is employed very extensively in the preparation of "poudrette," as well as other artificial manures containing animal matter, and is there considered to be beneficial instead of injurious to vegetation, and from the few practical trials I have made with it, I am inclined to be of the same opinion, particularly in regard to Potatoes and Grass, applied in the form of a weak solution. But I mean to put its effects to a further proof next season before I form a definite opinion of its merits. Nitrate of zinc, I should imagine, must be detrimental, but chloride of lime, used in moderate quantity, has been proved by various agriculturists to be attended with advantage. *W. D. S.*

An Account of a Large Crop of Wheat.—A two-acre field of glebe in my occupation was drilled with Wheat at the rate of six pecks of seed per acre, in October, 1850. Immediately before sowing, two chaldrons of lime, and one ton of salt, which had been mixed together two months previously, were harrowed in. The rows were 8 inches apart. The land was thrice hoed in the spring of 1851, with Dr. Newington's hand-row cultivator. Up to the middle of July the Wheat looked remarkably promising; but about that time, some high winds, with heavy rain, laid half the field quite flat, and the birds destroyed a great deal. I have just threshed the crop, and the produce is as follows:—12 quarters of best Wheat; 2 quarters of small, weighing 59½ lbs. per bushel; and 3 bushels of offal, or 115 bushels in all. I have sold the

12 quarters, at 18*s.* 6*d.* per coomb ...	£22	4	0
2 quarters of small	3	0	0
3 bushels of offal	0	7	6
Total value of crop	£25	11	6

J. L. S., Edingthorpe Rectory, Norfolk.

Turnipy Butter.—The simplest and most convenient preventative against this taint, and one to the efficacy of which I can speak from daily experience, is to let your cows have their feed of Turnips immediately after being milked, and at no other time. *B. B. B.*

Cultivation of Flax in Britain.—Enhanced importance has been attached to this subject by the articles upon it in the Journal of the English Agricultural Society; to the one particularly, which is found in No. 27, lately published, commencing page 235, on "Claussen's Flax Culture." In taking a cursory glance at its prominent features, there will be no attempt made to describe the modes of culture—those belong to practical agriculture; but there are several points, purely theoretical, which appear to require serious investigation. However desirable it may be to produce Flax at home, in consequence of the vastly increased demand for cotton, amounting at the present time to "770 millions of pounds, or upwards of 1000 tons per day;" especially, as by the process hereafter to be described, the Flax fibre attains not only the texture but the pure white colour of cotton; yet "among agriculturists there exists very generally a strong prejudice against the cultivation of the crop, founded mainly upon the opinion of its exhaustive character, and the great difficulty of bringing the Flax into a suitable condition for the market." This difficulty has been met and obviated by the discoveries of the Chevalier Claussen, and therefore we pass it by for the present; but a few words upon the former objection will not be irrelevant. By the exhaustion of land is implied a condition so altered by the too frequent repetition of any individual crop, as to render it incapable of producing that crop in any degree of perfection. While we admit the factas undeniable, that soil of any description may by such cropping be rendered as it were sterile, the following questions are suggested: How and in what sense is it exhausted, and has it sustained any loss of weight or substance? or, has any material change in its mineral ingredients been effected, either as respects quantity or quality? As to the former, it stands upon trustworthy record that a Willow tree was grown in an earthen vessel in the same soil, watered with distilled or rain water only, without any manuring matter, or the accession of a particle of fresh earth, and yet, at the end of five years, when the Willow was taken up, its weight, together with that of the leaves, was found to have increased 119¼lbs., while that of the earth was decreased only to the extent of two ounces. Chemical analysis of soils, conducted upon the modern and most refined principles, will neither throw much light upon the theory of exhaustion nor will they seriously impugn the authority of Van Helmont or that of his experiment just alluded to. It does not appear from any trustworthy evidence that the inorganic mineral elements of the soil are much affected by cultivation, therefore we may conclude that little benefit can be derived from the artificial introduction of such substances as the silicates of lime, alumina, or potassa; but the case is very different when decomposable putrescent manures are employed, hence the efficiency of that best of all fertilisers, farm and fold manure. Chemistry must fail to detect those invisible elements which operate the conversion of organic substances into vital sap, and cause its introsusception by the absorbent vessels of plants. If such be the fact, then, chemistry is perfectly incapable to impugn a theory, which, for a time was believed to interpret the doctrine of rotation of crops. Fecal exudation from the roots cannot be doubted, the odour of the soil during the growth of Peas, Beans, and Brassicas, proves the fact; and thus in every case of specific individual failure of crop, we are justified in believing that the ground is not only exhausted of its store of decomposable organic elements, but poisoned and degraded by excrementitious matter ejected by the roots of the plants. As to Flax in particular, admitting the necessity of caution, I conclude this paper by quoting the following paragraph from the article in the journal, page 267:—"It is scarcely necessary to enter into any arguments to prove that the soil and climate of the United Kingdom are well adapted for the cultivation of Flax. It has been grown to some extent in almost every part of the country, it has been cultivated with success upon a newly reclaimed Irish bog, in the fen districts of England, on the summit of the Wicklow mountains, by Mr. Warnes upon the Beacon Hill of Norfolk, in the Highlands of Scotland, in the midland counties of England, by Sir Richard A. O'Donnell on the western shores of Galway and Mayo, upon rich and poor, clayey and gravelly, alluvial, and indeed upon almost every variety of soil." *J. T.*

Game.—I have read Mr. Cuthill's late communication, but I do not think he has been more fortunate in his arguments than before. No one denies that some gentlemen do overdo the thing considerably, but is that any reason why we should not have any more game at all? He might as well say that because some people over-eat themselves and die of a surfeit, therefore the rest of the world must give up eating dinner. But let me ask him one simple question: Why have I not as perfect a right to breed partridges as poultry on my estate if I please? And what right have the "nightly bandits," as he very justly calls them, to steal one more than the other? If he pleads the temptation and the facility of the robbery, may not the same argument affect the keeping of sheep or anything else that is left exposed all night in the open fields? But I firmly believe that the poacher would not become a bit more honest, if there were no game; but in default of one object of depredation, would take to stealing something else. The idea that they would become honest workmen is all fudge. And I am the more confirmed in my opinion, because it has been proved, in numberless instances, that they have not been driven to it through want; indeed, any such plea is the exception, not the rule. As to Mr. Cuthill's story of the gentleman at Farnham, I cannot at all understand it. I have yet to learn by what means any one can prevent their pheasants from flying into their neighbour's fields, as well as the law which could prevent the said neighbour from killing the said pheasants, if he chose. It would be rather a curious process which would enable any one to distinguish their own from their friend's pheasants, when on the wing, even if it were necessary to do so, or else give up shooting altogether. As to the uncultivated headlands, &c., I have partly disposed of that question, so I shall say no more about it here. He then talks about the "best of land in the neighbourhood of the metropolis being only let at 5*s.* and 7*s.* 6*d.* an acre, all through game." I should like to know where that land is; at present, I must beg leave to doubt the fact, with all courtesy, as well as his assertion that, "when the Game-laws are done away with, land will rise in price in every acre." That it may here and there is very likely, indeed most probable; but that any such general result will arise, I cannot think that even Mr. Cuthill himself seriously believes. As to his concluding remarks about the price of game, and his joke about cats doing instead of rabbits, I have only to repeat what I have before said, that no good reason has yet been adduced for doing away with what is unquestionably a very abundant, and, among certain classes, a very common kind of food. If abuses do sometimes attend the preservation of game, let them by all means be remedied; but do not let us burn down the house because some of the timbers need repair. *W. F. G. F.*

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

A Monthly Council was held at the Society's House, in Hanover-square, on Wednesday last, the 4th inst.: present—The Earl of Ducie, President, in the chair; Duke of Richmond, Earl of Chichester, Viscount Hill, Lord Berners, Lord Portman, Sir John V. B. Johnstone, Bart., M.P., Sir Robert Price, Bart., M.P., Colonel Austen, Mr. Barnett, Mr. Raymond Barker, Mr. S. Bennett, Mr. Bramston, M.P., Colonel Challoner, Mr. Evelyn Denison, M.P., Mr. Druce, Mr. Garrett, Mr. Brandreth Gibbs, Mr. Grantham, Mr. Hamond, Mr. Fisher Hobbs, Mr. Law Hodges, M.P., Mr. Hudson (Castleacre), Mr. Jonas, Mr. Kinder, Mr. Langston, M.P., Mr. Miles, M.P., Mr. Millward, Mr. Pendarves, M.P., Mr. Pusey, M.P., Mr. Shaw (London), Mr. Shelley, Prof. Simonds, Mr. Thompson (Moat-hall), Mr. C. Hampden Turner, Prof. Way, Mr. Jonas Webb, and Mr. Wilson (Stowlangloft).

The following new Members were elected:—

Brutton, Charles, Northernhay, Exeter
Thomas, Rev. W. Jones, Caer Howell, Montgomery
Thomas, Evan, Ffynonau, Brecon
Martin, William, Kilchoan, Lochgilphead, Argyll
Cole, Capt. Wm. Willoughby, Auchanrigh, Lochgilphead
Whiteway, Wm. R., Kingsbridge House, Ashburton, Devon
Beaumont, Wentworth Blackett, Bywell-hall, Newc.-on-Tyne
Martin, John, Terristown, Truro, Cornwall
Thompson, George A., Kirk House, Brampton, Cumberland
Bruce, Lewis Knight, Keston, Bromley, Kent
Macdonald, Major J. H., Dancer's-hill House, Barnet, Herts
Roper, J., Nascott House, Watford, Herts
Mace, John Ellis, Ashford-road, Tenterden, Kent
Gales, Richard Norman, Holland Farm, Kensington
Simpson, Edward, Pigwell Farm Dairy, Dalton
Fraser, James B., Reelick, Inverness
Russell, John, The Wyelands, Chepstow, Monmouthshire
Hemming, H. K., Lismore Castle, Waterford, Ireland
Deane, Wm. A., Glen Cottage, Great Torrington, Devon
Leeds, Robert, West Lexham, Litcham, Norfolk
Ackworth, Nat. Brindley, The Hook, Potter's Bar, Middlesex
Squire, William, Barton-place, Barton Mills, Suffolk
Dickson, William, East Wickham, Welling, Kent.

The names of 32 candidates for election at the next monthly meeting were then read.

Finances.—Mr. Raymond Barker, chairman of the Finance Committee, laid before the Council the report on the accounts of the Society to the end of the previous month; from which it appeared that the current cash-balance in the hands of the bankers was 3491*l.* He also laid before the members the quarterly statement of income and expenditure, and of funded capital and liabilities.

Prize Essays.—Mr. Pusey, M.P., Chairman of the Journal Committee, reported to the council the following adjudications by the Judges of Prize Essays and Reports, since the last meeting, namely:—

I. To William Bearn, of Handley Farm, near Towcester; the prize of 50*l.*, for the best Report on the Farming of Northamptonshire.

II. To Thomas Rowlandson, of Brompton, Middlesex; the prize of 10*l.*, for the best Essay on the Production of Butter.

Animals Exhibited.—On the motion of Mr. Miles, M.P., seconded by Mr. S. Bennett, Mr. Barnett's motion: "To take into consideration the number of animals, or in the case of sheep or pigs the number of pens of the same denominations, to be shown in each class by the same person: with a view to restricting the number," was referred to a Committee consisting of the past and present Stewards of the Cattle-yard, including the mover and seconder of this resolution.

Appointment of Judges.—Lord Portman brought under the consideration of the Council the whole of the important question of the future selection of Judges for the Country Meetings of the Society. The Council adopted the preliminary propositions of his Lordship, reserving the remaining propositions for consideration and final decision at their next Monthly Meeting.

Veterinary Inspection.—On the motion of Mr. Thompson, seconded by Mr. Shelley, the whole question of the veterinary inspection of animals exhibited at the country meetings of the Society was referred to a committee, consisting of the Duke of Richmond, Lord Portman, Mr. Hamond, Mr. Fisher Hobbs, Mr. Miles, M.P., Mr. Milward, Mr. Shaw (London), Mr. Shelley, and Mr. Thompson.

Steward of Cattle.—On the motion of Mr. Milward, seconded by the Duke of Richmond, Mr. Barnett, of Stratton Park, Bedfordshire, was appointed one of the Stewards of the Cattle-yard at the Country Meetings of the Society, in the place of Mr. Stokers, who retires this year by rotation.—The Council then adjourned to their weekly meeting for practical communication and discussion on Wednesday next at 12 o'clock, when all members of the Society would, as usual, have the privilege of attending.

Reviews.

The Journal of the Royal Agricultural Society of England. Volume 12, Part 2. John Murray, Albemarle-street.

For the sake of those of our readers who are members of the Agricultural Society of England, we refer to the contents of this volume of its journal. The current number contains the remainder of Mr. Clarke's full and interesting report on the agriculture of Lincolnshire; a very instructive and detailed report on the comparative fattening qualities of different breeds of sheep by Mr. Lawes; a paper on the agricultural geology of England and Wales, by Mr. Trimmer, than whom no one has more closely studied the superficial deposits through which almost alone agriculture is influenced by geology; a statement of the causes of the efficacy of burnt clay, by Dr. Augustus Voelcker, to which we shall hereafter call the attention of our readers; articles on the mismanagement of farm horses; the chemical and agricultural character of the chalk formation; the diseases occurring after parturition in cows and sheep; the cultivation of Mangold and Carrots jointly at Badminton; the points of Jersey cattle; on dried blood as manure; and a long report to H.R.H. the President of the commission for the Exhibition of the Works of Industry of All Nations, on agricultural implements, by Ph. Pusey, M.P. The periodical fully maintains the high standing at which Mr. Pusey's able editorship has maintained it; and we know of no work which has done more both to increase and diffuse agricultural information than the Journal of the English Agricultural Society of England.

Farmers' Clubs.

Carlisle District, *Jan.* 9: *The Sheep, its Management and Utility.*—Mr. Bell, of Highberries, read a paper on this subject, from which the following are extracts:—

By a tabular statement, made a few years ago, of the population and number of sheep computed to be kept in the different states of Europe, that of Spain stands highest. With a population of 13,500,000, she has 18,700,000 sheep, or 1385 sheep

to every thousand inhabitants. Great Britain and Ireland, with a population of 24,500 000, have 32,000,000 sheep, or 1306 for every thousand inhabitants. Now as Ireland, with seven or eight millions of inhabitants, is computed to possess not more than two millions of sheep, Great Britain, independent of Ireland, must stand considerably higher than any other country in Europe in comparing the number of sheep kept in the country with the inhabitants; more especially if we compare the weight of mutton and the weight of wool produced in the respective countries. The following different breeds of sheep are to be found in Great Britain:—The Teeswater breed, the Lincolnshire breed, the Dishley or Leicester breed, the Cotswold breed, the Romney-marsh breed, the Devonshire breed, the Ross or Ryeland breed, the Wiltshire breed, the Berkshire breed, the Dorsetshire breed, the Norfolk breed, the Dun-faced breed, the Southdown breed, the Cheviot breed, the Black-faced breed, the Herdwick breed, the Welsh breed, the Shetland breed, and the Merino or Spanish breed. Some of the above varieties will be found to suit one locality better than another, and some will certainly prove more profitable in any situation than some of the others, yet all of them have their advocates. The breeds most commonly kept in this district are the Disbley or Leicester, the Southdown, the Cheviot, the Blackfaced, the Herdwick, and animals bred between these varieties. The Leicesters are the only sheep, or nearly so, that are kept in this district, permanently, on arable farms; and when very fat mutton is in demand they are undoubtedly the most profitable; but as it is, the rams of this variety are put to ewes of all the other varieties. They are a valuable stock for crossing, as their produce generally unite more of good size, and propensity to fatten, on good keep, than that from any other variety of sheep. As this is the variety of sheep with which I am most intimately acquainted, it may perhaps not be improper to give my experience in breeding this sort of sheep. My first object has been to get a good stock of ewes, of good frame and symmetry, moderately large, and well covered with wool of good quality. Having done so, my next consideration has been to get a ram of as good quality as possible, and remote from my own stock in consanguinity. And when I have seen any defect in my ewes, my rule has been to select a ram that seemed to possess in the highest degree those good qualities of which my ewes have seemed deficient; and more especially to have him of sound and robust constitution. I generally put my ewes to the tup about the middle of October, and about this time, or as soon after as convenient. I generally have them smeared with tar and butter mixed with a little arsenic, and not dipped, as has of late become the fashion. Having put my ewes to tup, I generally mark down the date at which the first ewe is tupped, which I know by having the tup's breast well rubbed with red paint, which he imparts to the ewe; and if she break not, which generally happens, if at all, at the end of 17 days, I look for her to lamb at the end of five months, which generally happens within a few days over or under the time. I pursue the same course with all the rest of my ewes. Up till Christmas, except in very hard winters, I never give my sheep anything but Grass; after that time I generally place troughs where my ewes go, and give them about half a pint of Oats each in the day; and, when Grass gets scarce, I give them a scanty allowance of Turnips daily; and in stormy weather an allowance of hay—taking care to have a piece of rock salt placed in the end of each trough, which they soon learn to lick, and which is held to be most efficacious in preventing rot. When lambing time arrives, which generally commences about the latter end of March, I make it a rule to house them at night as they fall in, and thus prevent the loss of lambs that would frequently happen if suffered to lamb out of doors at that cold season of the year. After my ewes have lambed, I generally put them on the best Grass, reserved for them, or, failing Grass, I serve them more liberally with Turnips, continuing their allowance of Oats till Grass becomes more plentiful. Shortly after the Grass becomes plentiful, during May, it becomes necessary to lighten the sheep of its fleece, which is an operation too well known to require any observation from me. There is one thing I would caution every farmer against, and that is, against keeping more sheep than he can well maintain; and in winter, as well as summer, to remove them from one field to another, as much as possible, so that they may not be compelled to eat the rank Grass that springs from their own dung, as nothing, I believe, acts more detrimentally on the constitution of the sheep than being compelled, from want, to eat such Grass. By pursuing this course I have had very few deaths amongst my sheep, and have otherwise been as successful as most of my neighbours in breeding. As Leicesters or Dishleys are the most symmetrical of all the sheep kind, it may not be out of place to describe the good qualities a sheep of this sort ought to possess. It ought to be distinguished by its mildness and meekness of countenance, and instinctive docility. It ought to possess length and cleanness of head, being moderately wide between the eyes, with fine ears of moderate length, having both head and ears covered with very short hair. The neck ought to be full up to the head, and not falling below, but straight between the head and top of the shoulder, and expanding deeper and broader towards the breast and sides. Its back ought to be straight from the shoulder to the loins, with good hind quarter and full rump. It should possess a wide breast projecting well forward, capacious chest with substantial width of carcase and fulness of form, depth and compass of twist; legs well apart, of fine clean bone, and moderate length; a coat of moderately fine wool, down to the knees and houghs, of moderate length. Nor are these all the qualities it ought to possess. It ought also to be mellow to the touch, not loose and flabby, nor hard and harsh, but soft with firmness, as denoting good quality of mutton, and propensity to fatten. This is a highly cultivated race, and universally diffused over the lowland districts of the kingdom, Cumberland possessing a fair proportion. The Southdowns are a valuable race of sheep, that take their name from an extensive range of dry chalky hills in the county of Sussex, and were originally a mountain breed, but have been much cultivated by eminent breeders all over the kingdom; and are now in very high repute for their superior mutton and wool. "Prime Old Downs" are at present quoted at the highest price in Smithfield market. There are a few, here and there, interspersed through Cumberland, principally in the hands of gentlemen. The Cheviots are a race of sheep in high estimation as a mountain breed, and take their name from those beautiful green hills that form the north-eastern boundary of England. Their mutton is highly esteemed, and their wool is of the finer description, and applied to many useful purposes. They are considered hardier than the Southdowns, and better fitted for a humid climate. They are widely spread over the green hills of Scotland, and have superseded the Blackfaced sheep in many of the less heathy districts. In England, too, they are extensively cultivated; and latterly great numbers have been exported to Ireland. In Cumberland they principally occupy the lands adjoining the north-eastern boundary. The Blackfaced or Heath breed are a hardy and healthy race, that live and thrive on the most rugged and barren mountains, where no other race of sheep could subsist. Hence they are a most valuable stock of animals. Their mutton is of the very best and most savoury description, fully bearing out the remark of the great Lord Bacon, "that the flesh of the sheep is better tasted where they feed upon wild and woodsome herbs." Their wool, though coarse, when made into clothing, affords real comfort to the poorer classes. They are principally cultivated on the most mountainous and heathy districts, all over Scotland and the north of England. In Cumberland they are principally found in the Alston district, on the southern and eastern confines of the county. The Herdwick is esteemed a most valuable mountain breed, and shows more docility than most of the mountain varieties of sheep in these islands. I am informed by a friend of mine, who resides in the Lake district, that it is a truly interesting scene to see the shepherd with provender on his back, calling through the mountains, with his fleecy charge gathering around him, or following him in file, seeking the sheltered recess from the inclemency of the winter's storm. Their mutton is highly esteemed, and their wool a shade finer than that of the Blackfaced or Heath breed. This variety is found nowhere that I am aware of but in the Lake district in Cumberland and the adjoining counties. All the varieties of sheep I have named are bred, more or less, in their purity in their native walks; yet a great many, nay, all the other varieties are crossed by the Leicester, and very useful stocks are the produce. The Leicester and Southdown cross produces a valuable animal, as I witnessed on the farm of my friend Mr. Syme, of Redkirk, in the summer of 1850. The Half-bred, between the Leicester and Cheviot, are too well known and highly esteemed to require any commendation from me. Betwixt the Leicester and Blackfaced is also a valuable breed. The Leicester and Herdwick also make a valuable cross. Those I have mentioned are the principal breeds arising from stocks kept in this district or county, yet there are other crosses introduced annually into this neighbourhood as a moving stock; that is, only to keep for one year, make fat, pass away, and give place to others. This is generally the case where the land is not well drained or sufficiently dry by nature to warrant the farmer in keeping a permanent stock. The custom most generally practised, and certainly most prudent, is for the farmers to buy in lambs in autumn, keep them well during winter, either on Grass or Turnips, or both, and having them forward in condition in the spring, either to sell them or feed them out themselves. It is very important that this kind of stock, and indeed all others, be kept in as dry and healthy situations as possible, and not allowed to stroll over swampy ground and stagnant meadows in open winters, neither to eat the fath that springs from the dung of the horse till after a severe frost, as such meat has a tendency to produce rot, the most dangerous and destructive of all diseases to the sheep. When lambs, or as they are after Martinmas, in the year of their birth, called hogs, are put upon Turnips, it frequently happens that they go on well and thriving for a time, and then all of a sudden take to dying, and die very fast, sometimes two or three in a day. As an antidote to this, the strewing of Fir branches has had the most salutary effect; as the resinous nature of the Fir, whose leaves and bark they eat with avidity, counteracts that tendency to scouring in the bowels which is likely to arise from long feeding on Turnips. Hay given to Turnip-sheep during winter has had the happiest effect in preventing Turnip-disease, as it supplies the stomach with a sufficiency of carbon, which is wanting in Turnips, and thereby prevents disease. There are many farmers who keep not a permanent stock, but who buy in ewes, either Cheviot or Blackfaced, and put them to a Leicester tup, and sell the lambs fat about the months of June or July. Many of them are very indifferent as to what description of tup is put to such ewes, and look to size more than quality. Now this, I think, is a great mistake, as it is generally allowed that no animal takes more to its male parent than the sheep. Then I say it is of the very first importance to have a tup with as many good qualities as possible, more especially of those wanting in the ewe. Some are in the habit of putting such breeding ewes on Turnips during the winter, even up to the time of lambing, but this I strongly condemn, as I have seen the worst results arise therefrom. The ewes get into too high condition, and the lambs also, and when the time of gestation is complete, they are often too large to be separated from their dams. Hence a few Turnips given daily, rather sparingly, is much better and safer for lambing ewes than placing them upon Turnips altogether. When they have lambed, a generous supply of food becomes an absolute necessary. I wish here to observe, that when ewes take lambing, they ought to be narrowly watched; and if they do not bring forth in a reasonable time, they should be closely examined; and if the lamb has made its appearance, in any shape, some skilful and delicate hand ought to be introduced, to feel that it be in its proper position; and if it be not, it ought to be adjusted without delay, and nature assisted in effecting the birth, as a great many lambs are lost by the birth being too long delayed. After their birth lambs are sometimes subject to costiveness, especially if their dams are kept upon food not sufficiently succulent, or of too stringent a nature. And this they show by standing and straining as wishing to avoid their excrement. A small dose of castor-oil, assisted by an injection, has generally the effect of rectifying the bowels. Lambs are also subject to scouring during the summer months and also at other seasons. This I have frequently counteracted by giving a tablespoonful, more or less, to each, of a medicine prescribed in the Farmers' Almanack for the scouring in calves, repeating it till the scouring ceases. Having given you my experience in the breeding and rearing of sheep, I may perhaps be allowed to say that the sheep is the most profitable stock that comes upon a farm; for while it distributes its manure more equally than any other over the surface of the ground, thereby rendering fruitful comparatively barren land, its mutton sells for the best prices in the market, and pays the farmer as well as beef, independent of the great annual return in the shape of wool which he receives. The extension of sheep stock, and the cultivation of Flax, have recently been held out by some landlords, as a panacea for the difficulties of the British farmer in these times of severe agricultural depression. Of Flax I shall say nothing; but this I will say, within my recollection the number of sheep kept in this district on arable land has more than quadrupled, and yet mutton and wool command remunerating prices; and if we take the experience of the past as a guarantee for the future, we may safely say that the extension of sheep stock is the most likely means of improving our condition.

Calendar of Operations.

FEBRUARY.

DORSET FARM, *Feb.* 2.—This is a time of the year when there is little to report upon. The work is chiefly ploughing when the weather permits, and carting dung for the Turnip crop when it is wet. And through all the past month it has been very wet, but yet mild, and Grass is plentiful and now green, especially the water meadows; they reaped a rich dressing by the heavy rains that we had, which brought down the accumulation of the whole season, and we have now the prospect of some good spring feed for our ewes and lambs. The greater part of our lambs are now dropped and are doing pretty well. The flock after lambing eat Turnips, and in addition to the Grass (which they are upon part of the day, and if the weather is bad by night too) they have what hay they choose. Our fatting sheep are fed in the fields on cut Swedes and hay, and when they are nearly fit to kill are taken to the house and tied up, getting then a little corn besides. We find that they thrive rapidly in the house for six or eight weeks, but after that they make no progress; long confinement seems to impair their health. Perhaps this arises from the vapours of their house, and also from their feet getting out of order. Our work, which has been driving dung and mending roads, will now be ploughing after the Turnips for Oats and Barley; most of our fallow ground is now ploughed a second time. Work is well advanced, and we shall have an early season unless we meet with some frost, which will do harm to the young Grass. The Wheat crop looks promising, generally took in the ground. The same remark applies to Vetches, which are far advanced. *G. S.*

Notices to Correspondents.

Boiler versus Steamer: Celticus. We prefer the latter as cheaper and less wasteful of fuel. But we use both.

BURNED CLAY: *Johannes.* It is a first-rate improvement on all clay soils, especially in the case of alkaline clays, as Dr. Voelcker tells us in the current number of the "English Agricultural Journal," an abstract of whose paper we will shortly give you.

CAKE: *R Burneiston.* From a slight microscopic examination, we should place them in the order of quality, thus: American, Cessina, New Orleans. But a chemical examination, which of course we cannot give them, is the only true test of their relative merit.

CARTS: *W Bracker.* We have no hesitation in expressing our decided preference of carts for all harvest or other strictly farm carriage. In conveying heavy loads to market over good roads, waggons probably have the advantage.

CHICORY AND BEET: *Dartmoor.* We have to apologise for the delay of this answer. The former may be sown thus:—The land must be got into good tilth, and well manured before the end of April. Let it lie till the first or second week in May; it will become finer in consequence of the delay. The hoe may then be employed to draw shallow drills a foot apart, and a child may drop a few seeds every 6 inches in the drill, and a woman with a rake will then cover the seed. The ground may be got over very rapidly in this way. The seed will come up in bunches, and should be singled as soon as 2 or 3 inches high, and hoeings during the summer months, followed by harvesting (digging by fork) in November, complete the process. The roots when dug may be pitted, and cleaned and washed at leisure during winter. They are to be cut up in pieces the size of a Walnut, and dried on a kiln. Beet is dibbled in rows 2 feet apart, and 14 or 16 inches apart in the rows, the land being cultivated precisely as for Turnips, and its subsequent cultivation the same as that of the Turnip. For full details you may see Blackie's "Cyclopedia of Agriculture."

DRAINAGE: *Regidonum* may be assured that the Inclosure Commissioners will consent to such depth of drains as are really right and proper under the circumstances of each case; but we believe the money at their disposal is all but gone; so that if "Regidonum" wants any of it he must make haste. We cannot at all agree with Mr. Hutchinson that people are getting tired of 4 feet drains. We know the contrary to be the fact over a great part of England at least.

GORSE: *Cromer.* On very poor land it will pay. But land that will grow Turnips and Barley had better not be sown to Gorse.

RELATIVE VALUE OF FOOD: *T D.* For every lb. of hay you give your cattle, you will probably reduce your consumption of Swedes by 5 or 6 lbs., and the effect of the substitution of a portion of good hay for a portion of the Swedes is advantageous—that is, the animal is more nourished by the 1 lb. of hay than by the 5 lbs. of Swedes. Old meadow hay, well made, is better than Clover hay.

SMALL FARMING: *Veetis.* We regret that we have no record of your former question; but supposing it to have referred to books on the general management of a small farm, probably Mr. Blacker's essay on "The Improvement of Small Farms," would suit your purpose; or, "Hints on Agricultural Economy, as the remedy of Agricultural Distress," by O. O. Roberts.

ERRATUM: *Ellen.* Many thanks for your correction. The second tank named in page 62 should have been stated to hold barely 1000 instead of 22,000 gallons. The information was carelessly extracted from a table we calculated many years ago, and published in page 124, 1844.

Markets.

COVENT GARDEN, FEB. 7.

The market continues to be well supplied with vegetables and fruit; but trade is still dull. English Pine-apples are plentiful, considering the season. A few hothouse Grapes still make their appearance. Foreign Pears have nearly disappeared. The best English kinds fetch good prices. They consist of Glout Morceau, Beurré Rance, Ne Plus Meuris, and Easter Beurré. Oranges are plentiful and good. Nuts are nearly the same as last quoted. Carrots, Turnips, Cabbages, &c., are sufficient for the demand. Potatoes are generally good in quality. Lettuces and other salading are sufficient for the demand. Mushrooms are cheaper. Cut flowers consist of Heaths, Epacrises, Mignonette, Camellias, Roses, Acacias, Azaleas, Primulas, Hyacinths, Tulips, Lily of the Valley, and other forced bulbs.

FRUIT.

Pine-apples, per lb., 4s to 8s	Lemons, per doz., 1s to 2s
Grapes, hothouse, p. lb., 4s to 7s	Oranges, per doz., 1s to 1s 6d
— Lisbon, per lb., 9d to 1s	— per 100, 3s 6d to 10s
Apples, kitchen, per bushel, 2s to 3s 6d	— Seville, per doz., 1s to 3s
Pears, dessert, p. doz., 2s to 6s	Nuts, Barcelona, p. bsh, 20s to 22s
Almonds, per peck, 5s	— Brazil, p. bsh., 12s to 14s
— sweet, per lb., 2s to 3s	Cobs, per 100 lbs., 80s

VEGETABLES.

Savoys, per doz., 10d to 1s 3d	Parsnips, per doz., 6d to 1s
Broccoli, p. bunch, 8d to 1s 3d	Leeks, per bunch, 1d to 2d
Asparagus, p. bundle, 4s to 7s	Shallots, per lb., 8d to 10d
Seakale, per basket, 1s to 2s	Garlic, per lb., 6d to 8d
Greens, per doz., 2s to 3	Artichokes, Jerusalem, per hf. sieve, 9d to 1s
Rhubarb, p. bundle, 9d to 1s	Lettuce, Cab., p. score, 4d to 1s
Potatoes, per ton, 45s to 80s	Small Salads, p. punn., 2d to 3d
— per cwt., 2s to 5s	HorseRadish, p. bundle, 1s to 4s
— per bush., 1s 6d to 2s 6d	Mushrooms, p. pot., 1s to 1s 3d
Turnips, per doz., 2s to 4s	— per punnet, 9d to 1s
Cucumbers, each, 1s to 3s	Sorrel, per hf. sieve, 6d to 9d
Celery, p. bundle, 6d to 1s 6d	Fennel, per bunch, 2d to 3d
Carrots, per bunch, 4d to 7d	Savory, per bunch, 2d to 3d
Brussels Sprouts, p. half sieve, 1s 6d to 2s 6d	Thyme, per bunch, 2d to 3d
Spinach, per sieve, 1s to 1s 6d	Parsley, per doz. bun., 2s to 3s
Onions, p. bunch, 3d to 4d	Mint, per bunch, 9d to 1s
— Spanish, p. doz., 1s 6d to 3s	Basil, p. bunch, 3d to 4d
Endive, per score, 9d to 2s	Marjoram, do., 3d to 4d
Beet, per doz., 1s to 2s	Watercress, p. 12 bunchs. 6d to 1s

COAL MARKET.—FRIDAY, Feb. 6.

Carr's Hartley, 13s. 6d.; Eden Main, 15s. 9d.; Wallsend Russell's Hetton, 16s. 6d.; Wallsend Lambton, 16s. 6d.; Wallsend Stewarts, 16s. 6d.—Ships at market, 91.

POTATOES.—SOUTHWARK, MONDAY, Feb. 2.

The committee report that there has been a very limited supply coastwise, but a considerable quantity by rail; the weather keeps mild and open for the season, which curtails the consumption, but a slight improvement has taken place for some sorts. The following were the quotations:—Yorkshire Regents, 65s. to 80s.; Scotch ditto, 65s. to 70s.; Cups, 55s. to 60s.; Kent and Essex Regents, 60s. to 80s.; Cambridge and Wisbeach, &c., 60s. to 70s.

HAY.—Per Load of 36 Trusses.

SMITHFIELD, Feb. 5.

Prime Meadow Hay	72s to 76s	Clover	80s to 85s
Inferior ditto ...	65 70	2d cut	70 75
Rowen	60 65	Straw	23 26
New Hay	— —		J. COOPER.

CUMBERLAND MARKET, Feb. 5.

Prime Meadow Hay	75s to 80s	Inferior	70s to 74s
Inferior ditto	60 70	New Clover	— —
New Hay	— —	Straw	24 28
Old Clover	78 84		JOSHUA BAKER.

HOPS.—FRIDAY, Feb. 6.

Messrs. Pattenden and Smith report that there is a firm and steady trade for all sorts, and the supply of the Sussex growth is very limited. Currency:

Mid & East Kents	110s to 250s	Sussex ...	... 115s to 130s
Weald Kents	... 110s to 157s	Yearlings ...	... 95s to 110s

WOOL.

Bradford, Wednesday, Feb. 4.—Our wool market during the week has not shown any indications of increasing flatness, but on the contrary the transactions have been on rather a larger scale than the preceding three weeks. Prices have not varied materially, and may be considered as very firm for the finest sorts, with a slightly upward tendency. Middle and inferior classes of deep-grown wool are more plentiful in stock, and the turn of prices is evidently in favour of buyers. Growers are firm in their demands for the little wool still remaining in the country, and the consequence is an absence of transactions. Short Wools and Noils are unaltered in either inquiry or price.

SMITHFIELD, Monday, Feb. 2.

The number of Beasts being very large, and the dead markets over supplied, our trade is exceedingly heavy, and prices are about 2d. per 8 lbs. lower. They cannot all be sold, even at this reduction. We have but a small supply of Sheep; the demand, however, is so limited, that it is only in a few instances that higher prices are obtained. Good Calves are still scarce; trade is brisk at Friday's quotations. From Holland and Germany there are 577 Beasts, 820 Sheep, and 138 Calves; from Spain, 60 Sheep; from Scotland, 450 Beasts; from Norfolk and Suffolk, 1800; and 500 from the northern and midland counties.

Per st. of 8 lbs.	s	d	s	d
Best Scots, Hereford, &c.	3	6	3	8
Best Short-horns	3	4	3	6
2d quality Beasts	2	6	3	0
Best Downs and Half-breds	4	0	4	4
Ditto Shorn				

Per st. of 8 lbs.	s	d	s	d
Best Long-wools	3	8	to 4	0
Ditto Shorn				
Ewes & 2d quality	3	0	3	4
Ditto Shorn				
Lambs	0	0	0	0
Calves	3	0	4	4
Pigs	2	8	3	8

Beasts, 4176; Sheep and Lambs, 18,990; Calves, 161; Pigs, 280.

Friday, Feb. 6.

The supply of Beasts is small, but there is a slow trade for them. Purchasesrs are unusually scarce. The little business transacted is at a reduction of about 2d. per 8 lbs. The number of Sheep is also small, but quite equal to the demand. Monday's quotations are realised in most instances. We have but few Calves on offer, several expected from Holland not having arrived. Good qualities are readily disposed of at advanced prices. Our foreign supply consists of 118 Beasts, 210 Sheep, and 46 Calves. The number of Milch Cows on sale is 125.

Best Scots, Hereford, &c.	3	4	to 3	6
Best Short-horns	3	2	3	4
2d quality Beasts	2	4	2	10
Best Downs and Half-breds	4	0	4	4
Ditto Shorn				

Best Long-wools	3	8	4	0
Ditto Shorn				
Ewes & 2d quality	3	0	3	4
Ditto Shorn				
Lambs	0	0	0	0
Calves	3	4	4	8
Pigs	3	0	4	0

Beasts, 660; Sheep and Lambs, 2640; Calves, 138; Pigs, 310.

MARK LANE.

Monday, Feb. 2.—The supply of English Wheat to this morning's market was small, and the condition wretched; it met a tolerably quick sale at the full prices of Monday last. For foreign, the demand, which at first was very slow, improved towards the close, but no advance upon late prices could be established.—The business doing in Flour is limited; prices remain unaltered.—The supplies of Barley continue small, and the trade is firm at an advance of 1s. per qr.—Beans and Peas remain as last quoted.—The Oat trade is firm, and Monday's prices are fully maintained.

Per Imperial Quarter.	s.	s.		s.	s.
Wheat, Essex, Kent, & Suffolk...White	44	46	Red	40	42
— — fine selected runs...ditto	46	48	Red	42	44
— — Talavera	46	52			
— Norfolk, Lincoln, & York...White	39	44	Red		—
— Foreign	37	53			
Barley, grind. & distil., 27s to 30s...Chev.	32	37	Malting	30	33
— Foreign...grinding and distilling	23	29	Malting		—
Oats, Essex and Suffolk	19	21			
— Scotch and Lincolnshire...Potato	2[illegible]	24	Feed	20	22
— Irish...Potato	20	23	Feed	19	22
— Foreign ...Poland and Brew	19	22	Feed	18	21
Rye	—		Foreign	—	
Rye-meal, foreign...per ton	—				
Beans, Mazagan ...24s to 27s...Tick	25	30	Harrow	25	30
— Pigeon...27 — 32... Winds	30	36	Longpod	24	30
— Foreign	22	30	Egyptian	23	25
Peas, white, Essex and Kent...Boilers	32	34	Suffolk...	33	35
— Maple...27s to 30s ...Grey	26	28	Foreign	27	34
Maize	—		Yellow...		—
Flour, best marks delivered ...per sack	38	43			
— Suffolk ...ditto	29	34	Norfolk	29	34
— Foreign ...per barrel	18	24	Per sack	32	36

Friday, Feb. 6.—There has been a fair arrival of foreign Wheat for the season since Monday, but small of all other descriptions of grain. To-day's market was thinly attended, and the value of all articles fully maintained, but the business doing is limited.—Floating cargoes of Wheat and Maize are held for former prices, with but little doing.

Imperial Averages.	Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.
Dec. 27	37s 2d	26s 3d	18s 3d	28s 1d	39s 2d	29s 0d
Jan. 3	37 2	26 7	17 9	26 11	28 7	28 4
— 10	37 4	26 5	17 0	26 1	28 9	28 1
— 17	38 3	27 1	18 11	27 5	27 11	28 10
— 24	39 3	27 10	18 2	27 10	28 3	28 8
— 31	39 10	28 6	18 2	27 6	28 11	28 4
Aggreg. Aver.	38 2	27 1	18 1	28 0	28 7	28 7

Duties on Foreign Grain, 1s. per quarter.

Fluctuations in the last six weeks' Averages.

Prices.	Dec. 27.	Jan. 3.	Jan. 10.	Jan. 17.	Jan. 24	Jan. 31.
39s 10d	...	...	...	...	...	
39 3	...	...	...	...		...
38 3	...	...	...		...	...
37 4	...	...		...	...	...
37 2		...	...	...	...	...
37 2	...		...	...	...	...

Liverpool, Tuesday, Feb. 3.—There was a limited attendance of buyers at our Corn Exchange this morning. The sales of Wheat were moderate, at much the same prices as on Tuesday last. Flour was very little dealt in, and the price was considered slightly easier for barrels. French sack Flour was fully as dear. Indian Corn was without change. Fine mealing Oats were scarce, and brought full prices. Barley was 2d. per bushel dearer. Beans and Peas were unaltered in value.—The Wheat plant is reported to be looking remarkably well, and the season, so far, has been highly favourable for it.—Friday, Jan. 30.—Exclusive of 3335 qrs. of Wheat and 5576 barrels of Flour from America, the arrivals from abroad, as well as those from Ireland since Monday last, are perfectly insignificant, and we have none whatever coastwise. Our market to-day assumed an extremely dull aspect relative to Wheat and Flour, and sales were altogether unimportant; notwithstanding, holders were as firm as before, and adhered steadily to the rates of Tuesday. Malting and grinding Barley being in limited supply, and Malt not plentiful, were each 1s. per qr. dearer. Beans and Peas barely sustained late rates. Good mealing Oats may be noted 1d. per 45 lbs. higher; the value of other kinds, as well as Oatmeal, remaining unvaried. Indian Corn met with little attention, but was not cheaper.

FLOWER POTS! FLOWER POTS! FLOWER POTS!

CHARLES PHILLIPPS'S Flower-Pots were distinguished above all others shown at the Royal Exhibition of 1851. They received "Honourable Mention" by the Jury, Class 27; and were deemed by the various competent persons who examined them to be superior to any submitted for the world's inspection at the Crystal Palace. They are patronised at the Royal Gardens, both at Windsor and Kew, and by the principal Nurserymen throughout the Western, Southern, and Midland Counties of England; are extensively used in Ireland and Wales, and may be seen at almost every Nursery between Plymouth and London.

All orders for the above Goods will be promptly forwarded, Carriage Free, to any Railway Station within 150 miles of the Manufactory, either in dozens, casts, hundreds, or thousands.

C P.'s Pots are warranted to retain their colour longer than any other manufactured.

CLEAR INSIDE DIAMETER.

No.	In.	No.	In.	No.	In.	No.	In.
1	1¾	6	4¾	11	8¾	16	15
2	2¼	7	5½	12	9½	17	16
3	2¾	8	6½	13	11	18	18
4	3¼	9	7	14	12½	19	20
5	4	10	8	15	14	20	22

Every description of Red Ware, Sewerage Piping, Closet Pans, Chimney-pots, Land Drain Pipes, Seakale-pots, Vases, Tiles, Bricks, &c.

Phillipps's Price List and Weston-Super-Mare Almanac and Guide for 1852, forwarded to any party who may desire it, on receipt of a postage stamp.

Manufactory, Locking Road, Weston-Super-Mare, Somerset.

BAKER'S PHEASANTRY, Beaufort-street, King's-road, Chelsea, by special appointment to her Majesty and H. R. H. Prince Albert.—ORNAMENTAL WATER FOWL, consisting of black and white swans, Egyptian, Canada, China, barnacle, brent, and laughing geese, shieldrakes, pintail, widgeon, summer and winter teal, gadwall, Labrador, shovellers, gold-eyed and dun divers, Carolina ducks, &c., domesticated and pinioned; also Spanish, Cochin China, Malay, Poland, Surrey, and Dorking fowls; white, Japan, pied and common pea-fowl, and pure China pigs; and at 3, Half-moon-passage, Gracechurch-street, London.

BANTAMS.—SIR JOHN SEBRIGHT BANTAMS (Gold Spangled). A few very fine birds of the above breed, hatched in 1851, to be Sold; also a few Gold Pheasants (cocks), hatched 1851.—Apply, post paid, to David Bailie, Gardener, Longcrofts Hall, Lichfield.

COCHIN CHINA FOWLS.—About 40 young birds, nearly full grown, of the purest blood in this country, bred from stock imported by the Advertiser, 21s. per couple; single Cocks at 12s. 6d.—Apply by post office order, or direct to George Wakeling, 62, Gracechurch-street, London.

BUDDING'S LAWN MOWERS.

MR. SAMUELSON, Britannia Iron Works, Banbury, Oxon (successor to the late James Gardner), to avoid the disappointment experienced last season, as regards their delivery, will feel obliged by orders for the above machines, and for GARDEN ROLLERS being given as early as possible.

Delivery free to all places on the London and North-Western, and Great Western and Midland Railways.

Drawings and price lists forwarded on application as above.

MR. SEELEY begs leave to remind gentlemen intending to lay down fountains during the approaching spring, that the work will be better prepared at the present time than if delayed to a later season. He has the means of supplying a considerable variety of designs, but for want of premises sufficiently extensive to keep already manufactured, at least two months is usually required to prepare a fountain. He therefore respectfully solicits early orders.

New-road, Regent's-park, Feb. 7.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

EWING'S PATENT GLASS WALLS.—One of the greatest defects in British gardening has hitherto been the uncertainty of securing a crop of fruit on common brick or stone walls, owing to the variableness and humidity of the climate. This is now remedied by substituting hollow Glass Walls, by means of which not only will the young wood in autumn be fully matured, but the blossoms will be completely protected from the frosts and biting winds of spring, and a climate secured equal to that of southern Europe.

These walls are particularly adapted to the growing of Grapes, Peaches, Nectarines, Apricots, Oranges, Lemons, and the finer sorts of Pears and Plums, producing fruit equal to that of France or Italy at no more expense than usually attending trees upon a common stone or brick wall.

Glass Walls must eventually not only take the place of brick and stone walls, but will, in a great measure, supersede the present mode of erecting hothouses, from their cheapness at first cost, the great economy of fuel and heating apparatus, the small space they occupy, and their peculiar elegant appearance. They are also admirably adapted for climbing Exotics, and a variety of other purposes.

The highest authorities on Horticultural matters in this country have expressed their unqualified approbation of these designs, at the head of whom is Dr. Lindley, and for whose opinion the public are referred to the leading columns of the *Gardeners' Chronicle* of December 6; also of Robert Marnock, Esq., Curator of the Royal Botanic Gardens, Regent's-park, London, in the leading columns of the *Gardeners' and Farmers' Journal*, of December 20. The patentee having made arrangements with some of the largest firms of iron-founders in the kingdom, and also with one of the most extensive British Glass manufacturers; and from the well-known respectability of those gentlemen who have become Agents, feels confident that he furnishes a sufficient guarantee that all orders in connection with the Glass Walls will be promptly and efficiently carried out in any part of England, Scotland, or Ireland.

The following are the accredited Agents, and with whom drawings of the Glass Walls can be seen, and all particulars as to prices, &c., obtained on application:—Messrs. Knight and Perry, Exotic Nursery, Chelsea; Messrs. Henderson and Co., Pine-apple-place, Edgware-road, London; Messrs. Whitley and Osborn, Nurserymen, Fulham, London; Mr. Glendinning, Nurseryman and Landscape Gardener, Chiswick, London; Messrs. Veitch and Son, Nurserymen, Exeter; Messrs. F. and J. Dickson, Nurserymen, &c., Chester; Messrs. Lawson and Son, Edinburgh, Nurserymen and Seedsmen to the Royal Agricultural Society of Scotland; Messrs. Dickson and Turnbull, Nurserymen, Perth; Mr. M'Intosh, F.R.P.S., F.R.S.S.A., author of the "Practical Gardener," "Book of the Garden," &c., late Curator of the Royal Gardens of his Majesty the King of the Belgians, and now to his Grace the Duke of Buccleuch, at Dalkeith Palace, Scotland; Mr. Fleming, F.H.S., Head Gardener, &c., to his Grace the Duke of Sutherland, Trentham, Staffordshire; Mr. Ewing, Gardener, &c., Bodorgan, Anglesea; Messrs. Pilkington, Crown, Sheet, and Plate Glass Works, St. Helen's, Lancashire.

*** Prices for facing existing brick or stone Walls with glass and iron will be given on application.

M'CORMICK'S AMERICAN REAPER.

BURGESS and KEY, Agents, 103, Newgate-street, London.—Extract from Mr. Pusey's Report on the Agricultural Implement Department, Great Exhibition.—"Mr. M'Cormick's Reaper, in this trial, worked as it has since worked at Cirencester College, and elsewhere, to the admiration of practical farmers, and therefore received a Council Medal. Mr. Hussey's sometimes became clogged, as in the former trial at Tiptree, and therefore could not possibly obtain that distinction."—Price of Reaper, 25*l*.

FLAX SEED FOR SOWING.

J. CROW, Agent to Thomas Beale Browne, Esq., begs to inform Flax growers that he has some very fine SEED once sown from Riga, and grown by Mr. Browne, which is the best seed for sowing in this country. It is of the greatest importance to Flax growers to have clean and proper seed, that the Flax may be of good quality. Sent in any quantity, not less than 2½ bushels, which is sufficient for an English acre of ground; with instructions for sowing.—Direct to J. Crow, Hampen, Andoversford, Gloucestershire.

NEW AGRICULTURAL PEA.

BISHOP'S LAST AND BEST, 28*s.* per bushel, 7*s.* 6*d.* per peck (bags included).—This PEA was raised by Mr. Bishop, the raiser of the garden variety known as Bishop's Long-podded (of established reputation), and was presented by him to some of his relatives in Perthshire, in which northern climate it has answered exceedingly well; its early habits ensuring a crop where later varieties fail. Its merits consist in being remarkably early, and certainly much better cropper than any out; as many as 60 and more pods have been counted on one plant. It grows but two feet high, of remarkably robust habit, and always branches into two and sometimes three or more stems. Mr. Charles Smart, of Rainham, Kent, upon whose farm the Peas offered were grown, allows the Subscriber to state that a better or more likely useful Pea never came under his notice.—Duncan Hairs, Seedsman, Wholesale and Retail, 109, St. Martin's-lane, London.

Catalogues of Agricultural Seeds sent free.

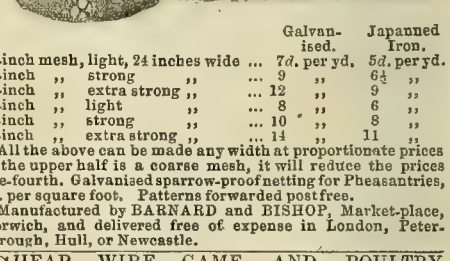
STEPHENSON and Co., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much Improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description; but to those who have not seen them in operation, prospectuses will be forwarded, as well as references of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the Kingdom.

S. and Co. beg to inform the Trade that at their Manufactory, 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

Coservatories, &c., of Iron or Wood, erected on the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

FOREIGN CORN TRADE.—The Emperor of Russia, it is apprehended, will prohibit the export of Grain from his dominions; and the demand for Wheat upon the Continent must produce an exciting effect, and increase the vast importance of sound information, which, for upwards of 20 years has always been found in the MARK LANE EXPRESS—the authority of the Corn Trade, both Home and Foreign.—Office, 246, Strand, London.

GALVANISED WIRE GAME NETTING.—7*d.* per yard, 2 feet wide.

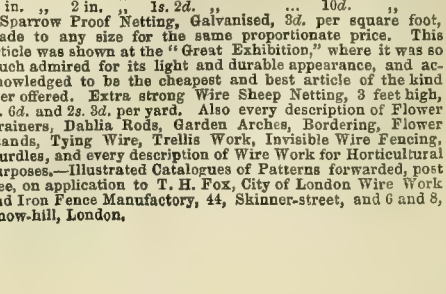


	Galvanised.	Japanned Iron.
2-inch mesh, light, 24 inches wide	7*d.* per yd.	5*d.* per yd.
2-inch ,, strong ,,	9 ,,	6½ ,,
2-inch ,, extra strong ,,	12 ,,	9 ,,
1⅝-inch ,, light ,,	8 ,,	6 ,,
1⅝-inch ,, strong ,,	10 ,,	8 ,,
1⅝-inch ,, extra strong ,,	14 ,,	11 ,,

All the above can be made any width at proportionate prices If the upper half is a coarse mesh, it will reduce the prices one-fourth. Galvanised sparrow-proof netting for Pheasantries, 3*d.* per square foot. Patterns forwarded post free.

Manufactured by BARNARD and BISHOP, Market-place, Norwich, and delivered free of expense in London, Peterborough, Hull, or Newcastle.

CHEAP WIRE GAME AND POULTRY NETTING, 5*d.* per running yard;



GALVANISED ditto, 7*d.* per running yard, 2 feet wide.

	Galvanised.	Not Galvanised.
24 in. wide, 2 in. mesh,	7*d.* per yard.	5*d.* per yard.
30 in. ,, 2 in. ,,	9*d.* ,,	6½*d.* ,,
36 in. ,, 2 in. ,,	10½*d.* ,,	7½*d.* ,,
48 in. ,, 2 in. ,,	1*s.* 2*d.* ,,	10*d.* ,,

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"THE GOLDEN BALL,"

UNEQUALLED NEW YELLOW MELON.

EDWARD TILEY respectfully informs Melon growers and others generally, that he has been successful in procuring the whole stock of seed of the above beautiful and unequalled Melon, "The Golden Ball," which has been thoroughly proved by an eminent Melon grower, and acknowledged by all who saw and tested the same, to be one of the finest flavoured yellow Melons ever known; its qualities are as follows: fruit, very handsome; colour, when ripe, deep orange; shape, perfectly round; hollow crown, very thin skin; flesh, firm and very solid, and of superior melting flavour; free setter and prolific bearer; weight from 3 to 4 lbs. The contrast of this yellow Melon when set on a table with a green-flesh Melon has a most striking effect, and every person who grows the Bromham Hall should also cultivate this one as its companion, for its shape and perfection in flavour, which has proved to be unequalled. It can be obtained in packets of three seeds at 2s 6d, or seven seeds, 5s; or a packet of this one of the Bromham Hall, and one of any other undermentioned, for 6s. E. T. feels confident the above Melon will give as great satisfaction as the following other varieties formerly sent out by him:—Tiley's Bromham Hall Melon (true), 1s. per packet; Tiley's Queen Melon, 1s. ditto; Tiley's Bowood, 1s. ditto; also, Beechwood Melon seed, 1s. ditto; Windsor Prize, 1s. ditto; Emperor, 1s. ditto; Fleming's Trentham Hybrid Persian, 1s. ditto; Duncan's Green Flesh, 1s ditto; Hampton Court, 1s. ditto; Egyptian (Improved), 1s. ditto; Blackhall's Green Flesh, 1s. ditto; Bailey's Green Flesh, 1s. do.; Camerton Court, 1s.; Victory of Bath, 2s. 6d. do.

TILEY'S NEW CUCUMBER "CAPTIVATION," three seeds, 5s., or five seeds, 7s. 6d.; also "Phenomenon," six seeds, 2s. 6d; or this and one of Captivation, for 6s; also Chamberlain's Essex Hero, four seeds, 3s. 6d; Hunter's Prolific, three seeds, 2s. 6d., or seven seeds, 5s; Lord Keynon's Favourite, 1s. per packet; Victory of Bath, 1s. ditto; Gordon's White Spine, 1s. ditto; Hamilton's Black Spine, 1s. ditto; Conqueror of the West, 6d. ditto; Butcher's Stratford-upon-Avon, 6d. ditto; and numerous other older varieties, at 6d. ditto. For further particulars of the above Cucumbers, see *Gardeners' Chronicle* of January 3, 1852.

N.B. A packet of "The Golden Ball" Melon and a packet of Captivation Cucumber, can be sent for 6s. A remittance must accompany the order from unknown Correspondents, either by Post-office order or penny postage stamps, when the whole or any quantity of the above, as the case may be, will immediately be forwarded free to any part.

EDWARD TILEY, Nurseryman, Seedsman, and Florist, 14, Abbey Churchyard, Bath, Somerset.

SEED POTATOES FOR SALE; carefully selected and true. Early Higham Shaws, 4l. per ton; Forty-folds, 4l. 10s. per ton; delivered in London in quantities of not less than 10 cwt.—Apply to W. BRIDGLAND, Bromley, Kent.

HOT WATER APPARATUS FOR WARMING CHURCHES, PUBLIC BUILDINGS, HOTHOUSES AND CONSERVATORIES.

P. E. WEBER AND CO., IRONFOUNDERS, Scotland Road, Liverpool, invite the attention of the public to their improved Hot Water Apparatus for Warming Churches, Public Buildings, Hothouses, and Conservatories, which their large experience in such work enables them to recommend; and for economy of fuel, durability, and freedom from nauseous smell, is unsurpassed by any other mode of heating.

Manufacturers of Steam Engines Cranes, Kitchen Ranges, Register Grates, Stoves, Balconies, Verandahs, Entrance Gates, Railing, and all descriptions of Wrought and Cast Iron Ornamental Work.

FARM TO LET, on very advantageous terms—on lease or yearly tenancy. About 300 acres of Clay Land, thoroughly drained, in a midland county, near a good market, and a good railway. The Roads, House, and Offices are all in excellent condition. Rates very low; no pressure of the poor; Tithe free; Rent low; no Rabbits; very favourable entry as to tenant right; Game not strictly preserved. About 60 acres more of Grass Land might be added if required.

Persons desirous of treating for this very eligible occupancy are requested to apply by letter to the editor of the *Gardeners' Chronicle*, at the Office, 5, Upper Wellington-street, Strand, London.

SURREY.—FARMS TO LET.

TO BE LET, at Michaelmas next, GUILES HILL FARM, in the parish of Ockham, formerly in the occupation of the proprietor, consisting of 262 acres, of which 196 are Meadow and Pasture, and the rest Arable. The latter has been drained, and is unincumbered with hedges or timber. The homestead, erected chiefly within the last few years, is capacious and substantial, and comprises, beside the dwelling-house, several cottages for labourers, and ample accommodation for Dairying, or for Rearing or Fatting Stock. The incoming valuation is very light. The tenant will have the privilege of sporting over his occupation.

Also in the adjoining parish of Wisley, the MANOR FARM, of 212 Acres, of which 101 are Arable, the rest Meadow and Pasture. The Meadow land can be watered in the driest season. The tenant will have the privilege of sporting over his occupation.—For particulars, apply to Mr. W. KAYE, East Horsley, Ripley, Surrey.

BRENTFORD END.—MARKET GARDEN.

TO BE LET, ON LEASE, with immediate possession, most productive MARKET GARDEN GROUND, containing 55 acres, with two excellent residences. A large House, and three Cottages, two capital Vineries, large forcing Pits, and all other conveniences, and requisite buildings.—May be viewed, and particulars obtained from Mr. WARTER, 1, Carey-street, Lincoln's-inn, London.

TO BE LET, 16 Acres of LAND, situated in Woodlane, Shepherd's Bush. It has been drained, and is now adapted for Market Gardeners, and particularly for the growth of Strawberries. For particulars enquire at Messrs. LACY and BRIDGES, 19, Kings Arms Yard, Coleman-street, City, London.

TO NURSERYMEN, FLORISTS, ETC.

TO BE LET, on Lease, with immediate possession, a SMALL NURSERY, eligibly situated in one of the most fashionable Watering-places in the County of Devon.

For further particulars, apply to Messrs. NUTTING and SONS, Seedsmen, 46, Cheapside, London.

SALES BY AUCTION.

IMPORTANT SALE OF VALUABLE NURSERY STOCK,

IN CONSEQUENCE OF A PORTION OF THE LAND BEING REQUIRED FOR BUILDING.

MESSRS. RAWLINGS AND GIBSON have received instructions from Mr. John Adams to sell by Auction, on MONDAY, Feb. 9, 1852, and five following days, at 11 o'clock, on the premises, Kensington-road (opposite the west end of the Great Exhibition), the whole of that valuable and extensive stock of large Evergreens, Ornamental Trees and Shrubs, &c., consisting of fine large Magnolias, Rhododendrons, Azaleas, Phillyreas, Alaternus, Laurestinus, Arbor-vitæ, green and striped Hollies; Irish, common, and fan-shaped Yews, Hemlock Spruce, Common and Portugal Laurels, Evergreen Oak, Mahonia; Common, Siberian, and Persian Lilac; Green and Variegated Box, &c. Also a fine stock of large Cedar of Lebanon, and Deodara, Araucaria, Pinus, Abies, and other valuable Coniferous Plants. Together with a valuable stock of Vines and other Fruits. The whole to be sold without reserve. May be viewed prior to the Sale, Catalogues (1s. each, returnable to purchasers), may be had on the premises; of the principal Seedsmen; and of the Auctioneers, 50, Hoxton-square, and Ebenezer Nursery, Shacklewell.

BISHOP MIDDLEHAM, NEAR FERRY HILL STATION, IN THE COUNTY OF DURHAM.

VERY IMPORTANT SALE OF PURE BRED SHORT HORNS.

MR. WETHERELL has received instructions from G. D. TROTTER, Esq., of Bishop Middleham, to sell by auction on TUESDAY, the 11th of May next, without reserve, his entire HERD OF SHORT HORNS, consisting of 70 lots. In offering this herd for unreserved public competition, Mr. Wetherell begs to remark that Mr. Trotter has been a very successful competitor at the meetings of the Royal Agricultural Society of England, and other agricultural societies, and amongst them many first class prize animals are to be found, from a recent inspection, he can with confidence say they are an extraordinary good herd, of first-rate quality, Mr. Trotter having had for the last 15 years, the unrestricted privilege of using all the bulls of the late Mr. Bates. The young stock are by the 3rd Duke of York (10166), and most of the cows and heifers are in calf to the same bull, and are sold in consequence of Mr. Trotter having entered into engagements which entirely preclude his giving that attention to the herd which he finds requisite.

N.B.—THE HERD MAY BE SEEN AT ANY TIME.

Catalogues are in preparation, and early in March will be ready, when further particulars will be given.—Durham, Feb. 7.

NURSERY, NEWARK, NOTTS.

IMPORTANT AND UNRESERVED SALE OF NURSERY STOCK.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, AND OTHERS.

MESSRS. WOOD will submit to public competition by Auction, on MONDAY and TUESDAY, the 23d and 24th days of February 1852, the whole of the Valuable Stock on a part of the Nursery Grounds in the occupation of Mr. John Hall Girton (late G. and T. Withers), in consequence of the expiration of the lease at Lady Day next, consisting of 70,000 Oaks, 2 to 10 feet; 20,000 Beech, 2 to 9 feet; 12,000 Birch, 2 to 14 feet; 40,000 grafted and other Elms, 2 to 12 feet; 1000 Limes, 5 to 8 feet; 40,000 Ash, 1 to 3 feet; 7000 Sycamore, 1 to 7 feet; 8000 Hornbeams, 5 to 10 feet; 8000 Poplars of sorts, 2 to 20 feet; 3000 Horse and Spanish Chestnuts, 2 to 12 feet; 100,000 Larch, 1 to 5 feet; 50,000 Spruce Firs, 1 to 8 feet; 25,000 Scotch Firs, 1 to 5 feet; 2000 Balm of Gilead Firs, 2 to 4 feet; 3000 Weymouth and other Pines, 1 to 5 feet, &c.

Also a quantity of Standard and Dwarf Fruit Trees of sorts; Evergreen and Flowering Shrubs in great variety; with a general assortment of Ornamental Trees, including Araucarias, Deodars, Pinus, and other Coniferæ. The whole of the stock will be sold in lots to suit every class of purchasers, and may be viewed, upon application, at the Nursery.

Catalogues are in course of preparation, and will be issued at the earliest possible period prior to the sale. To be had upon the premises; at the principal inns in the neighbourhood; at Mr. Tomlinson's printing-office, Newark; and at the Auctioneer's Office, Grantham.

KING'S ROAD, CHELSEA.

FINAL CLEARANCE SALES OF NURSERY STOCK, ETC.

MR. D. A. RAMSAY will sell by Auction, on the premises, King's-road, Chelsea, on TUESDAY, Feb. 24, and following day, at 12 o'clock, without reserve, by order of Messrs. Dennis and Co. (the lease having expired), Fine Evergreens, of sorts, viz., Aucuba, Hollies, Box, Irish Yews, Cedar of Lebanon, Yuccas, of sorts. The remaining extra large and many smaller Mulberry Trees, choice prize Gooseberry, and other Fruit Trees, Strawberry Plants, &c., Jessamines, extra large Ivies, and other Climbers, in pots. Also a quantity of useful Building Materials, &c. May be viewed prior to sale.—Catalogues to be had on the premises, and of the Auctioneer, Brompton Nursery, Fulham-road, Brompton.

FULHAM ROAD, BROMPTON.

TO PERSONS ENGAGED IN PLANTING.

MR. D. A. RAMSAY will sell by Auction, on the Premises, Brompton Nursery, Fulham-road, Brompton, on TUESDAY, March 9, 1852, and following day, at 12 o'clock, a large quantity of Ornamental Trees, comprising Laburnums, Acacia, Gleditschia, Thorns, Elms, Chestnut, &c.; an assortment of Evergreens, viz., Arbor-vitæ, Laurels, Privet, Box, Holly, Yews, Laurestinus, &c. A large Conservatory Stage, Alcove Arches for Walks, Flower Stands, Trainers, and other well-made Wire-works.—May be viewed prior to Sale, and Catalogues had of the Auctioneer, Brompton Nursery, Fulham-road, Brompton.

BUILDING MATERIALS.

TO GARDENERS AND OTHERS.

MR. CAIN will sell by Auction, on the Premises, St. Margarets, Isleworth, on FRIDAY, the 13th of February, 1852, at 11 for 12 precisely, by order of the Proprietor, without reserve, the fittings of Stabling and Coach-house, a quantity of Clinker Paving; the entire fittings of Laundry, and two Conservatories, with glazed roofs; French Doors, Heating Apparatus, and 120,000 of stock Bricks, glazed Sashes, Slates, Pain and Painted Roofs, capital Roofing and Rafters, 3 pair of excellent Coach-house Doors, about 1000 of excellent Iron Hurdles, a quantity of Fencing for Shrubberies, with Gates, &c. To be viewed three days previous and morning of Sale. Catalogues to be had at the principal inns; and at the Auctioneer's Offices, King-street, Richmond, Surrey.

Printed by WILLIAM BRADBURY, of No. 13, Upper Woburn-place, in the parish of St. Pancras, and FREDERICK MULLETT EVANS, of No. 7, Church Row, Stoke Newington, both in the County of Middlesex, Printers, at their Office in Lombard-street, in the Precinct of Whitefriars, in the City of London; and published by them at the Office, No. 5, Charles street, in the parish of St. Paul's, Covent-garden, in the said County, where all Advertisements and Communications are to be ADDRESSED TO THE EDITOR.—SATURDAY, February 7, 1852.

THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 7—1852.] SATURDAY, FEBRUARY 14. [PRICE 6*d.*

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SUPERB HOLLYHOCK SEED.—Well ripened Seed, warranted to be saved exclusively from Rosea grandiflora, Delicata, Comet, Model of Perfection, Elegans, Formosa, Gem, Belladonna, Bicolor, Queen, Fireball, Aurantia, Rosea alba, and Sulphurea perfecta. A good mixture of the above, in packets, containing 200 Seeds, will be forwarded, post free, upon the receipt of 2*s.* 6*d.* worth of postage stamps, by R. B. BIRCHAM, Hedenham Rosary, Bungay, Suffolk.

CAPITAL POTATOES FOR SALE.

100	Sacks of	EARLY AXFORD,	1st size.
100	do.	do.	2d size.
200	do.	BATH KIDNEY,	1st size.
200	do.	do.	2d size.
50	do.	ASH-LEAF KIDNEY RED.	
500	do.	FORTY-FOLD,	1st size.
500	do.	do.	2d size.

Growers or consumers wishing to possess some of the best sorts of POTATOES, may obtain the above on application to Mr. RICHARD WEBB, Calcot Farm, Reading; who can also supply some of the best Purple-topped Swede Seed, all saved from one bulb; and 1½ ton of Belgian Carrot Seed.

PRICED RETAIL SEED LIST.

ABRAHAM HARDY AND SON, SEED GROWERS and SEEDSMEN, Maldon, Essex, beg to thank their supporters for past favours, and to offer again their Catalogue of Agricultural, Vegetable, and Flower Seeds; also, of early Seed Potatoes, free on application; or with a packet of Mignionette, or superior Parsley, for two postage stamps. Respectfully soliciting their kind recommendatory favours to inquiring friends of the genuineness of Seeds received from them on former occasions.

N.B. Wholesale Lists supplied to the Trade.

FINE DOUBLE TUBEROSES,
4*s.* per dozen, just imported by

PAGE AND CO., SEED MERCHANTS TO THE AGRICULTURAL AND HORTICULTURAL SOCIETIES OF INDIA, &c. &c., Southampton. Priced Lists may be had upon application, containing only selected and approved varieties.

	s.	*d.*
PAGE'S BLOOD RED BEET, the finest crimson and best sort in cultivation, per packet	1	0
NEW ROYAL CABBAGE LETTUCE, per packet	1	0
PAGE'S NEW HARDY WINTER WHITE COS LETTUCE, per packet	2	6
RANDOLPH'S GREEN CURLED ENDIVE (very superior), per packet	1	0
SILVER PICKLING ONION OF NOCERA, per packet	1	0
NEW EARLY RICH SCARLET FORCING CARROT, per packet	1	0
NEW RED BELGIAN CARROT, per packet	0	6
BRUSSELS SPROUTS, warranted true imported, and very fine, per packet	1	0

Testimonials are unnecessary, as we rely upon our reputation.—Gardeners and Land Stewards' Registry Offices, 37 and 38, Oxford-street, Southampton.

CHEAP AND SELECT NURSERY STOCK.

THE SUBSCRIBERS beg to offer the following Choice Stock, at the annexed greatly reduced prices. Goods from these extensive Nurseries have given great satisfaction throughout the Kingdom for many years.

	£	*s.*	*d.*
12 best Camellias, with flower buds	1	10	0
12 very best Ghent Azaleas, with flower buds	0	18	0
12 Standard Berberis dulcis, fine heads	2	0	0
12 Abies Douglasii, 3 ft., fine, in pots	4	0	0
12 do. Morinda, true, 3 feet	1	0	0
12 new Hardy Yellow Rhododendrons	3	0	0
12 Rhododendrons, scarlet, crimson, purple, white, and all shades of colours, selected from their celebrated collection of more than 100 varieties	1	10	0
100 Standard Rhododendrons, of various colours	20	0	0
100 Rhododendron campanulatum (from seed), 6 years' old, stout plants, extra transplanted	5	0	0
100 Cedar of Lebanon, 3 ft., well rooted	4	0	0
100 species and varieties of Ornamental, Flowering, and Evergreen Shrubs	2	0	0
100 fine double prize Hollyhocks, strong, 4 years' old	1	0	0
100 Dwarf Roses, splendid prize varieties, 100 of a sort	1	10	0
50 Standard Roses do. do., including the fine Perpetuals, strong stems, budded, 3½ ft.	3	0	0
100 True English Elm, 6 to 8 ft., for Avenues	1	0	0
100 Laurels, extra transplanted, fine, 2 to 3 ft.	5	0	0
100 Evergreen Privets, stout, 2 ft.	1	0	0

A few Thousands fine English Oaks, suitable for Planting in Woods, will be sold cheap. Prices of a first-rate Stock of Fruit Trees on application. A reference or remittance is respectfully solicited from unknown correspondents.

WILLIAM JACKSON AND CO., BEDALE, YORKSHIRE.

RENDLE'S SELECT GRASSES.

WILLIAM E. RENDLE AND CO., SEED MERCHANTS, PLYMOUTH,
Have of late years paid much attention to their selection of GRASSES *for* PERMANENT PASTURES, *&c. They supplied Mixtures, last season, for several thousand acres, and have not had a failure or single complaint; proving, in the most satisfactory manner, that their selections have given the greatest satisfaction.*

A Descriptive List will be found in our "Price Current," copies of which can be had in exchange for Six Penny Stamps.

The West of England is famous for the PERMANENT QUALITY of its RED CLOVER, or COW GRASS, tons of the Seed being dispatched to every part of Great Britain every year. We have this season contracted for a large stock, and can supply ANY QUANTITY, either Wholesale or Retail, at the lowest market prices.

For Catalogues and further particulars, apply to
WILLIAM E. RENDLE AND CO., SEED MERCHANTS, PLYMOUTH.

ESTABLISHED 1786.

DWARF PEAS.

HAIRS'S DWARF MAMMOTH KNIGHT'S, acknowledged the best out, 2*s.* 6*d.* per quart.
BISHOP'S LONG-PODDED, 1*s.* per quart.
BURBIDGE'S ECLIPSE, 1*s.* per quart.

The above Peas have been most extensively grown in the principal horticultural establishments in the kingdom, and pronounced superior in every respect to the tall growing varieties.

FLOWER SEEDS.

ESCHSCHOLTZIA CALIFORNICA ALBA, a pure white, very good, 6*d.* per packet.
IPOMŒA BURRIDGII, splendid hardy creeper, 6*d.* per packet.
SAPONARIA CALABRICA, var. MULTIFLORA, one of the best bedding plants out, 6*d.* per packet.
TROPÆOLUM COCCINEUM, handsome, 6*d.* per packet.
EUCHNIDEA BARTONIOIDES, splendid yellow, half-hardy, 6*d.* per packet.
GAURA LINDHEIMANII, fine herbaceous plant, 6*d.* per packet.

DUNCAN HAIRS offers to the gardening world the above small selection, as being deservedly worthy of universal attention. Catalogues of Garden, Agricultural, and Flower Seeds forwarded on application.

Seedsman and Florist, Wholesale and Retail, 109, St. Martin's-lane, London.

CHOICE FLOWERING PLANTS FOR THE PRESENT SEASON.

YOUELL AND CO. beg to call the attention of those desirous of decorating their Greenhouse or Conservatory at this period, to the following, in fine bushy plants.

CAMELLIAS, very superior kinds, beautifully furnished with bloom-buds, 30*s.* per doz.
EPACRIS, in 20 of the handsomest varieties, abundantly set for flower, 9*s.* per doz.
ERICAS, fine bushy and blooming plants, 9*s.* per doz.
CORRÆA speciosa major, Cooperii, bicolor, and other fine varieties, now coming into bloom, 9*s.* per doz.
CINERARIAS, new and extra fine sorts, 6*s.* to 9*s.* per doz.
12 very select Greenhouse and Stove Plants, 18*s.*
25 do. do. do. 30*s.*
50 do. do. do. 50*s.*
LILIUM LANCIFOLIUM ALBUM, flowering bulbs, 6*s.* to 9*s.* per doz.
LILIUM LANCIFOLIUM RUBRUM and ROSEUM, flowering bulbs, 12*s.* per doz.
LILY OF THE VALLEY, strong for forcing, &c., 5*s.* per 100.
NEW FRENCH AND BELGIAN DAISIES, in 50 best sorts, 9*s.* per doz.

CHOICE FRUITS.

YOUELL AND CO. beg to call the attention of those gentlemen now about planting or replenishing their Fruit and Kitchen Gardens to the following choice articles:—

TRUE FASTOLFF RASPBERRY.

Y. and Co. beg to announce they are now executing orders for the above in fine strong Canes of the same stock as they had the honour of supplying her Majesty's Gardens and most of the Nobility. 15*s.* per 100.

Fine large WHITE RASPBERRY, 3*s.* per doz.
PEACHES, NECTARINES, and APRICOTS, 4 years trained, and forward for bearing, 5*s.* each.
CHERRIES and PLUMS, 4 years trained, 3*s.* 6*d.* each.
PEARS and APPLES, fine espalier, 24*s.* per doz.

The above are of the most select kinds, and worked from the Stock of the Horticultural Society of London, and are warranted correct to their sorts.

STURMER AND ANGLESEA PIPPIN, fine Espalier, 24*s* per doz.; Standards, 1*s.* 6*d*, Dwarfs, 1*s.* each.
GOOSEBERRIES, in 36 of the best kinds, selected for size and flavour, 3*s.* 6*d.* per doz.
CURRANTS, improved large White Dutch, 4*s.* per doz.
" Black Naples, 4*s.* per doz.
" Large Red Grape, 2*s.* 6*d.* per doz.
" Victoria or Ruby Castle, very fine red, 4*s.* p. doz
RHUBARB, fine roots fit for Forcing, &c., comprising Mitchell's Royal Albert, 9*s* per doz.; Myatt's Linnæus, 9*s.* per doz; Myatt's Victoria (the largest), 9*s.* per doz.; Tobolsk, 6*s.* per doz.
ASPARAGUS, Giant (strong), 2 and 3 years, 2*s.* 6*d.* and 3*s.* 6*d.* per 100.
SEAKALE, 1*s.* per doz.
ROSES, Standards and Half-standards, of the very best sorts in cultivation, 12*s.* to 15*s.* per doz.
EVERGREEN PRIVET, 2½ to 4 feet, strong, 35*s.* per 1000, or 4*s.* per 100.

All orders of 2l. and upwards delivered free to any Railway Station within 150 miles of the Nursery.

Royal Nursery, Great Yarmouth.

OVERSTOCK OF LARCH.—About 400,000, 1½ to 4 feet, well topped, fibrous rooted, and of the finest quality. Samples and price sent on application to JOHN SCHOLEY, Nurseryman, &c., Pontefract.—Pontefract Nursery, Feb. 14.

FLOWER SEEDS SENT FREE BY POST.

ROBERT WESTMACOTT begs to inform his friends that he has selected with great care his Stock of FLOWER AND VEGETABLE SEEDS for the present season, including every variety worthy of cultivation. His GERMAN SEEDS are imported from the best foreign house, and are as good as can be procured. His PRICED DESCRIPTIVE CATALOGUE will be sent by post on receipt of One Penny Stamp, or may be had gratis at the NURSERY, Stuart's Grove, Fulham Road, Chelsea.

COLLECTIONS OF THE MOST SHOWY FLOWER SEED FOR LARGE OR SMALL GARDENS.

	One Packet of each.	*s.*	*d.*
50 well assorted Annuals, Biennials, and Perennials		10	6
25 Do. Do. Do.		5	6
12 Do. Do. Do.		3	0

Post-office Orders made payable at Brompton.

CAMELLIAS.

LUCOMBE, PINCE, AND CO., respectfully inform the public, that the CAMELLIAS in their celebrated large House are rapidly coming into flower, and will soon be in greater perfection than they have ever been. For the information of those who have never seen their display of these noble plants, they may briefly state that this House is 200 feet long, and is filled with splendid specimens of the finest varieties; and they are warranted in saying is altogether unrivalled, for it has attracted every season for many years such a concourse of admiring visitors from all parts of the kingdom, as clearly proves this to be the case; indeed there have frequently been more than 20,000 flowers open at one time. Cut flowers of these are carefully packed and sent to all parts of the kingdom, and *récherché* bouquets of various flowers for weddings, balls, &c. &c., can be had at the shortest notice. In addition to the attraction of the Camellia House, L. P. and Co. beg leave to say that their New Show House, 125 feet long, leading to the above, is filled with an extensive and well assorted collection of fine plants, and will highly gratify those who honour their Nursery with a visit, for it is now and will continue to be exceedingly brilliant with all the gayest spring and other flowers.

N.B.—The Exeter Nursery was established in 1720, is situated in the valley of the Exe, contiguous to the St. Thomas's Station of the South Devon Rail, and at an easy distance from the centre of the ancient city of Exeter.

Exeter Nursery, Exeter, February 14.

ESCHOLTZIA ALBA.

JOSEPH EVANS has great pleasure in offering the above new Annual, which he has flowered the three last seasons, and which has been greatly admired, and given general satisfaction where sent last season. Packets 1*s.* each, post free. The usual discount to the trade, when three or more packets are taken.

A remittance is respectfully requested from unknown correspondents.—Rosina Garden, London-road, Cheltenham.

SUTTON'S COLLECTIONS OF SEEDS.—THE SUPERIOR QUALITY of our Seeds is fully testified by the numerous orders we receive through the recommendation of our regular customers. Our *sorts* of Seeds are not all in the possession of other Seedsmen, and we believe the quantities we give for 2*l.* 10*s.*, 1*l.* 10*s*, 1*l.* 1*s.*, and 12*s.* 6*d.* are greater than others offer.

Our attention has been called to an article in the Gardeners' and Farmers' Journal of January 17th, written by Mr. Joseph Newton, gardener to J. Harvey, Esq., of Ickwellbury House, near Biggleswade, who has had our No. 1 collection for several years successively.

The whole article, headed "Horticultural Experiments," at page 35, is highly interesting, but for economy of space we make only the following extract:—

"No. 1 was begun in the autumn, 1849, and ended February, 1851. Iron bottom, kitchen garden, north quarter, belonging to John Harvey, Esq., Ickwellbury, Bedfordshire. Notice of the crops: ground planted Oct., 1849, with SUTTONS' (of Reading) IMPERIAL CABBAGE, which was sown July 20th of the same year—14,520 plants per acre; sold all as Cabbage by May 10th, for 30*l.* 5*s.* I tried 20 of the best old and new kinds, which were treated all in the same way, in order to see which was the best. *I did not find one in a hundred run to seed.* The seed was sown in the middle of July. SUTTONS' IMPERIAL *was the Best Cabbage to cut early;* it is large, mild in flavour, and if left, will cut a good second crop in summer.—The ground was got ready for Celery by May 14th, 1850; the crop of this was sold by February, 1851, for 28*l.* 6*s.* 8*d.*; the Celery ridges planted May 15th to 17th, 1851, with SUTTONS' WHITE COS LETTUCE, that had been sown in the open ground March 1, 1850; the crop sold by July 23, for 26*l.* 17*s.* 9½*d.* Total produce for 16 months, 85*l.* 9*s.* 5½*d.* *Sutton's White Cos Lettuce is the best I have seen; it was fit for table ten days (in July) before Ady's Cos, Paris Cos, old Drumhead or Bath Cos.* All had the same care. It grows upright, wants no tying, and will grow a close Cabbage without artificial aid. Six Lettuces were grown in the space of one yard, and weighed, on the average, 3 lbs. each after the roots were cut and the waste leaves taken off; with the roots and leaves, they weighed 4 lbs. each, after the roots were washed. The roots and leaves were left on the ground, which, at 18 lbs. per yard, produced 38 tons 17 cwt. 3 qrs. 22 lbs. per acre; and had all the ground been Lettuce, in 10 weeks from the time it was planted it would have been worth 10*l.* 6*s.* 8*d.* at 4*d.* per dozen. JOSEPH NEWTON,
Gardener to J. Harvey, Esq. Ickwellbury,
Biggleswade, Beds."

N.B. The Lettuces and Cabbages above alluded to are included (with all other Kitchen Garden Seeds equally good) in each of our Collections.

JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

CEDRUS DEODARA & ARAUCARIA IMBRICATA.

WE beg respectfully to call the attention of the Nobility and Planters of Ornamental Trees to our extensive, healthy, and well-grown Stock, in pots, of the above, which we are enabled to offer at the following prices:—

		s.	d.
CEDRUS DEODARA, 1 foot, fine and bushy, per doz.	...	9	0
Do. do. 1½ to 2 feet do. do.	...	18	0
Do. do., fine selected specimens, 3 feet, very handsome, each	...	7	6
ARAUCARIA IMBRICATA, 1 foot, per doz.	...	18	0
Do. do., 1½ to 2 feet, do.	...	42	0
Do. do, fine selected specimens, 3 feet, very handsome, each	...	21	0

Carriage paid on all orders of 2*l.* and upwards to London and Hull, or to any Railway Station within 150 miles of the Nursery.

Youell and Co.'s Royal Nursery, Great Yarmouth, Norfolk.

VERY SUPERIOR VEGETABLE SEEDS

OFFERED BY

WILLIAM E. RENDLE AND CO., Seed Merchants, Plymouth.

The following are very superior sorts, and should be grown in every garden—small or large. The whole are either saved by ourselves or by first-rate growers, on whom we can place the fullest confidence.

*** THE WHOLE WILL BE SENT FREE BY POST AT THE PRICES CHARGED.

Some of the sorts are very scarce; orders should therefore be sent as soon as convenient.

PARSLEY, RENDLE'S TREBLE GARNISHING, proved by the London Horticultural Society, and described in their Journal as being "*beautifully curled, and an excellent variety.*"

BROCCOLI, RENDLE'S SUPERB WILLCOVE.—This is acknowledged by all the leading Horticultural writers and growers to be by far the best Spring Broccoli in cultivation. Six Heads were exhibited in London in May last, weighing more than 80lbs. 1*s.* per packet

BROCCOLI, RENDLE'S EARLY PENZANCE WHITE.—This is the earliest of all the Spring Broccolies, and is well known to be so in Covent Garden Market, as the whole of the early Broccolies come from the neighbourhood of Penzance. On the 17th of February, 1851, they forwarded two Heads to one of the monthly meetings of the London Horticultural Society. The following is from the *Gardeners' Chronicle*, for February 22d:—"Two very fine Heads of 'Penzance Broccoli' were shown by Messrs. Rendle and Co., of Plymouth, who stated that one of the Heads weighed 3¾lbs., and was 2 feet 10 inches in circumference. The other weighed 3½lbs., and 2 feet in circumference. These weights and measurements are without the leaves." They have but a very small supply of the seed, it being very scarce. 1*s.* per packet.

PARSLEY, MITCHELL'S WINTER MATCHLESS, a very superior curled and hardy variety. 6*d* per packet.

CELERY, TURNER'S SUPERB SOLID DWARF WHITE, direct from Mr. Turner, Slough, 1*s.* per packet.

CUCUMBER, CUTHILL'S BLACK SPINE, saved by Mr. Cuthill. 1*s.* per packet.

CUCUMBER, ELPHINSTONE'S PROLIFIC BLACK SPINE, from Mr. Turner, Slough. (See his Advertisement.) 1*s.* 6*d.* per packet.

CAULIFLOWER, NEW EARLY, saved by Messrs. Fitch, the great market gardeners at Fulham. 1*s.* per packet.

BROCCOLI, TRUE WALCHEREN, saved by Messrs. Myatt, the great market gardeners at Deptford. 1*s.* per packet.

PARSLEY, MYATT'S FINE TREBLE CURLED, saved by Messrs Myatt. 6*d.* per packet.

MELON, CUTHILL'S SCARLET FLESH, direct from Mr. Cuthill. 1*s.* per packet.

MELON, TRUE CASSABAR, presented by the Pacha of Egypt to Lieut. Tancock, H.M. ship Hindostan, a splendid variety. 2*s.* 6*d.* per packet. (Only a few packets remain.)

LETTUCE, NEW CRYSTAL COS, a most excellent variety. 6*d.* per packet.

CABBAGE, RENDLE'S EARLY ADMIRABLE, one of the best early Cabbages. 6*d* per packet.

CABBAGE, ENFIELD MARKET, celebrated as being the best in existence. 6*d.* per packet.

CELERY, SEYMOUR'S CHAMPION WHITE, superior to the old variety. 1*s.* per packet.

CARROT, TRUE DUTCH HORN, a most valuable sort for forcing. 6*d.* per packet.

CABBAGE, MITCHELL'S PRINCE ALBERT, a superior new and early variety. 6*d* per packet.

All other new Seeds, either advertised in this Paper or sent out by other dealers, can be had of the subscribers at the regular printed prices.

A General Priced Catalogue of Seeds can be had on application to William E. Rendle and Co, Seed Merchants, Plymouth.

ESTABLISHED MORE THAN HALF A CENTURY.

CHOICE CINERARIAS, CHRYSANTHEMUMS, ETC.

WM. RUMLEY AND SONS can supply the following first-rate CINERARIAS, in extra strong plants, for blooming immediately, 20 for 14*s.*, 12 for 9*s.*, or 6 for 5*s.*, or smaller plants 6*s.* per dozen, hamper and package included, viz., Adela Villiers, Azurea Multiflora, Annie, British Queen, Beauty of Uttoxeter, Crimson Perfection, Climax, Cyrus, Cerito, Hector, Incomparable Jenny Lind, Marima, Newington Beauty, Unique, Picturata, Resplendens, Vulcan, Clara, Indispensable, Alboni, Beauty of Eccles, &c. Each dozen of the above will include a plant of the splendid new Seedling Cineraria Attractive, now sending out at 2*s.* 6*d.* each.

CHRYSANTHEMUMS, from 40 extra fine varieties, 6*s.* per dozen.

Our new Descriptive Catalogue of choice Fuchsias, Verbenas, Geraniums, Dahlias, Pansies, Cinerarias, Petunias, Chrysanthemums, &c., may be had an application.

Gilling, Richmond, Yorkshire

THE RUSSIAN SUPERB.—It is now three years since the production of this splendid VIOLET; since which, plants of them have been supplied extensively to all parts of the kingdom, and are found, everywhere, easy to cultivate. The advantages of this Violet are, that it blooms far more profusely, produces a larger blossom, and is longer in the stem than any other sort; and it is fully equal in fragrance to the Neapolitan.

R. Shackell has been honoured with the following gratifying notice of a bouquet of these flowers, which he had the honour to present to her Majesty the Queen.

"Windsor Castle, Oct. 25, 1849.

"Sir,—I have received the commands of the Queen to inform you that your letter of the 23d inst., together with a plant and bouquet of Violets, have been received, and that her Majesty has been graciously pleased to accept them. I am directed to convey to you her Majesty's thanks for your attention.

"I am, sir, your obedient servant,

"Mr. Shackell. "C. B. Phipps."

Opinions of the Press, and other testimonials of high approval may be obtained, by application, to R. Shackell, by whom these Violets are supplied at 6*s.* per dozen for strong plants, package free, or 4*s.* per dozen for smaller plants, which, in quantities of not less than a dozen, will be supplied through the post, free of postage. Amounts for 1 dozen may be transmitted by postage stamps; for larger quantities by Post-office order,—Direct to Robert Shackell, Locksbrook Nursery, Bath.

SEEDLING POTATOES. — THE STOCK FOR SALE—The 24 selected and distinct varieties shown and much admired by the members, gardeners, and growers present at the Horticultural Society's Rooms, on the 20th ult., are for sale, by tender, at per bushel. No one sort exceeds 15 nor is less than 2 bushels. A full description of the varieties will be forwarded on receipt of one postage stamp. Samples of each sort may be seen at Mr Lawrence's, Seedsman, &c., 18, Piccadilly; Mr. Shailer, Nurseryman, Battersea-fields, and at the Grower's, Mr. W. J. Newton, 41, Brewer-street, Golden-square. Certificates of their several qualities may be seen from Mr. Ingram, Royal Gardens, Frogmore; Mr. Malleson, Royal Gardens, Claremont; Mr. Turner, Eton College Gardens.

JOHN HENCHMAN invites the attention of Amateurs and the Trade to his well known and extensive Stock of Choice SEEDLING CALCEOLARIAS. He is now sending out stout healthy Plants in small pots, at 6*s.* per dozen.

Ditto from the choicest seed, including a new and superior Shrubby breed, 12*s.* per dozen.

Strong plants in 48 pots for early blooming and specimen plants, 12*s.* per dozen; best varieties, 18*s.* per dozen.

Choice named PANSIES, healthy plants wintered in pots, 6*s.*, 9*s.*, and 12*s.* per dozen.

Choice Seedling CINERARIAS, fine plants, in 48 pots, just showing colour, 9*s.* to 12*s.* per dozen.

GENISTA FRAGRANS (best variety) full of bloom, in 48 pots, 6*s* and 8*s.* per dozen; in 40 and 32 pots, 2 feet high and bushy, 12*s.* to 18*s.* per dozen.

Choice CALCEOLARIA Seed, 2*s.* 6*d.* per packet.

HOLLYHOCK Seed, from Chater's best named sorts, 2*s.* 6*d.* per packet.

Choice LEMON AND ORANGE AFRICAN AND DWARF FRENCH MARYGOLD, at 6*d.* per packet.

*** Post-office orders are requested from unknown correspondents.—Edmonton, near London, Feb. 14.

CAMELLIA JAPONICA.

CHANDLER AND SONS beg to inform the nobility and gentry that their CAMELLIAS will be very fine this season. A great many are now in flower.

N.B. Cut flowers may be had.

Nursery, Wandsworth Road, London.

SUPERB RANUNCULI, GLADIOLI, ANEMONES, &c., &c.

RANUNCULUS—prepaid by post,

With printed instructions for planting and culture.

	s.	d.
100 roots, in 100 varieties, superb seedling and other best sorts	70	0
50 roots, in 50 vars., 37*s.* 6*d.*; 25, in 25 vars.	20	0
100 roots, in 100 vars., very fine	35	0
50 roots, in 50 vars., 18*s.*; 25, in 25 vars.	10	0
Mixed, extra, per 100, 18*s.*; very fine, 10*s.*; fine border...	5	0

Hercules, White Turban, 5*s.* per dozen, and others.

GLADIOLI.

12 superb late varieties (Ramosus habit)	21	0
Brenchleyensis, brilliant rich scarlet, each	3	0
Gandavensis, each, 4*d.*; extra large	0	6
Gandavensis splendens, very superb, each	2	6
Insignis, 7*s.* 6*d.* per doz.; Psittacinus, per doz.	1	6

ANEMONES.

100 vars., beautiful and distinct, named, double	24	0
50 vars., do., 12*s.* 6*d.*; 25 vars., do.	7	0
Mixed, finest double, per 100, 10*s.* 6*d.*; very fine	7	6

Lilium lancifolium, and a variety of other choice roots, see Catalogue, sent free, on application.

Remittance required from unknown correspondents. Carriage free to London, and on Ipswich, Bury, and Norwich line.

Bass and Brown, Seed and Horticultural Establishment, Sudbury, Suffolk.

SURPLUS STOCK.

FOR CHEAPNESS, UTILITY, AND DISPLAY, the following are strongly recommended, Carriage Paid (see below):—

SELECT HARDY HERBACEOUS PLANTS & ALPINES.

100 in 50 choice sorts, our selection	30*s.*
100 in 100 choice sorts, our own or purchaser's selection ...	42*s.*

FLOWERING AND EVERGREEN SHRUBS, ORNAMENTAL TREES, ETC.

Purchaser's, or our choice, per 100, in 100 kinds ...	£2 10*s.*
Our own choice, in 50 kinds, fine	£1 10*s.*

To gentlemen forming Arboretums, this is a fine opportunity.

COMMON LAURELS, 1½ to 2 feet, per 1000, 4*l.*, or 10*s.* per 100; 2 to 3 feet, bushy, per 1000, 5*l.*, or 12*s.* 6*d.* per 100.

PORTUGAL LAURELS, 1½ to 2 feet, 20*s.* per 100, 3*s.* per doz.; 2 to 3 feet, extra fine, 30*s.* per 100, 6*s.* per doz.

EVERGREEN PRIVET, fine, 2 to 3 feet, per 1000, 40*s.*, per 100. 5*s.*

LIMES, per 100, 30*s.*, 4 to 5 feet, fine Avenue Trees.

HORSE CHESTNUTS, 5 to 6 feet, 30*s.* per 100; 10 to 12 feet, 50*s.* per 100.

ROSES, 50 splendid sorts, standards, per 100, 5*l.*, or 18*s.* per doz., fine, our own selection; 100 superb sorts, Dwarf Roses, 5*l.*, or 9*s.* per doz., our own choice; mixed do., 30*s.* per 100, or 6*s.* per doz.

GREENHOUSE PLANTS.

50 first-rate sorts, own selection, 2*l.* 10*s.*, or 15*s.* per doz.

50 ditto, purchaser's choice, 3*l.*, or 18*s.* per doz.

ERICAS, 50 finest sorts, our choice, 2*l.* 10*s.*, or 15*s.* per doz.; purchaser's choice, 3*l.*, or 18*s* per doz.

CHINESE AZALEAS, 20 fine show sorts, our choice, 21*s.*, or 15*s.* per doz; purchaser's choice 25*s.*, or 18*s.* per doz.

A splendid opportunity for specimen growers.

HOLLYHOCK SEED, warranted to produce 75 in 100 double, 1*s.* 6*d.* per packet.

GOOSEBERRIES, finest Lancashire sorts, per 1000, 4*l.*, in 100 sorts, named, or 10*s.* per 100, in 50 sorts.

CURRANTS—May's Victoria, or Raby Castle Red, is the largest and best sort known, and ought to be in every garden. 25*s.* per 100, or 4*s.* per dozen; Red Grape and Champagne, fine, 10*s.* per 100, or 2*s.* per doz.

APPLES AND PEARS, fine clean standards, 10*s.* per doz., or 70*s.* per 100, choice of sorts left to us, very select.

PLUMS AND CHERRIES, finest sorts, standards, 18*s.* per doz., our choice; Dwarf Trained, 3*s.* 6*d.* each, or 36*s.* per doz.

APRICOTS, PEACHES, AND NECTARINES, fine three years' trained, of best sorts, own choice, 5*s.* each, or 50*s.* p. doz.

RASPBERRIES, Red Antwerp, 2*s.* per doz., or 12*s.* per 100; Monthly or Double Bearing, 12*s.* per 100, or 2*s.* per doz.

STRAWBERRIES, early and late kinds, 25 fine sorts of merit, 3*s.* 6*d.* per 100.

Address all communications to John May, the Hope Nurseries, Leeming-lane, Bedale, Yorkshire.

All orders above 5l. carriage paid to London, Liverpool, Birmingham, and Edinburgh, and all the intermediate Stations within 150 miles of the Nursery.

N.B. A fine stock of Larch, Spruce, Oak, &c.; sizes and price on application.

Ornamental grounds designed, executed, and furnished on liberal terms. Forest Planting by estimate.

A remittance or reference from unknown correspondents is respectfully requested.

SUPERB CEDARS OF LEBANON AND OTHER CHOICE CONIFERÆ.

LUCOMBE, PINCE, AND CO., have some remarkably fine CEDARS OF LEBANON, fit to remove with safety to any distance, which are particularly worthy of attention; also fine specimens of

Pinus insignis	Taxodium sempervirens
Cedrus Deodara	Irish Yews (*these are extraordinarily fine plants*)
Abies Douglasii	Quercus Fordii
Abies Douglasii taxifolia	Quercus Lucombeana
Araucaria imbricata	Purple Beech
Juniperus excelsa	Standard Portugal Laurels (*with fine shapely heads*)
Juniperus recurva, as Standards	

Magnolia grandiflora (var. Exmouth), strong transplanted plants of Mahonia aquifolium—suitable for underwood and various other purposes, from 3*l.* to 4*l.* per 1000.

For particulars of sizes and prices of the above apply to the Exeter Nursery, Exeter.

"THE GOLDEN BALL,"

UNEQUALLED NEW YELLOW MELON.

EDWARD TILEY respectfully informs Melon growers and others generally, that he has been successful in procuring the whole stock of seed of the above beautiful and unequalled Melon, "The Golden Ball," which has been thoroughly proved by an eminent Melon grower, and acknowledged by all who saw and tested the same, to be one of the finest flavoured yellow Melons ever known; its qualities are as follows: fruit, very handsome; colour, when ripe, deep orange; shape, perfectly round; hollow crown, very thin skin; flesh, firm and very solid, and of superior melting flavour; free setter and prolific bearer; weight from 3 to 4 lbs. The contrast of this yellow Melon when set on a table with a green-flesh Melon has a most striking effect, and every person who grows the Bromham Hall should also cultivate this one as its companion, for its shape and perfection in flavour, which has proved to be unequalled. It can be obtained in packets of three seeds at 2*s* 6*d*, or seven seeds, 5*s*; or a packet of this one of the Bromham Hall, and one of any other undermentioned, for 6*s*. E. T. feels confident the above Melon will give as great satisfaction as the following other varieties formerly sent out by him:—Tiley's Bromham Hall Melon (true), 1*s.* per packet; Tiley's Queen Melon, 1*s.* ditto; Tiley's Bowood, 1*s.* ditto; also, Beechwood Melon seed, 1*s.* ditto; Windsor Prize, 1*s.* ditto; Emperor, 1*s.* ditto; Fleming's Trentham Hybrid Persian, 1*s.* ditto; Duncan's Green Flesh, 1*s* ditto; Hampton Court, 1*s.* ditto; Egyptian (Improved), 1*s.* ditto; Blackhall's Green Flesh, 1*s.* ditto; Bailey's Green Flesh, 1*s.* do.; Camerton Court, 1*s.*; Victory of Bath, 2*s.* 6*d.* do.

TILEY'S NEW CUCUMBER "CAPTIVATION," three seeds, 5*s.*, or five seeds, 7*s.* 6*d.*; also "Phenomenon," six seeds, 2*s.* 6*d*; or this and one of Captivation, for 6*s*; also Chamberlain's Essex Hero, four seeds, 3*s.* 6*d*; Hunter's Prolific, three seeds, 2*s.* 6*d.*, or seven seeds, 5*s*; Lord Keynon's Favourite, 1*s.* per packet; Victory of Bath, 1*s.* ditto; Gordon's White Spine, 1*s.* ditto; Hamilton's Black Spine, 1*s.* ditto; Conqueror of the West, 6*d.* ditto; Butcher's Stratford-upon-Avon, 6*d.* ditto; and numerous other older varieties, at 6*d.* ditto. For further particulars of the above Cucumbers, see *Gardeners' Chronicle* of January 3, 1852.

N.B. A packet of "The Golden Ball" Melon and a packet of Captivation Cucumber, can be sent for 6*s.* A remittance must accompany the order from unknown Correspondents, either by Post-office order or penny postage stamps, when the whole or any quantity of the above, as the case may be, will immediately be forwarded free to any part.

Edward Tiley, Nurseryman, Seedsman, and Florist, 14, Abbey Churchyard, Bath, Somerset.

GRASS SEEDS, SEPARATE OR MIXED.

SUTTON AND SONS having for many years paid especial attention to the laying down Land to Permanent Pasture, are well acquainted with the various soils of most parts of the United Kingdom, and the Natural Grasses most suitable for each locality.

S. and Sons being also connected with the principal collectors of Grass Seeds on the Continent, as well as those in Scotland and the North of England, can supply every kind of Natural and Artificial Grasses, either separate or mixed, at lowest market prices, as they always have a large stock of every kind in their Warehouses, Reading, Berks.

Carriage Free to any Station on the Great Northern, Great Western, South-Western, or South-Eastern Railways.

CHOICE CUCUMBER SEED.

HENRY GREEN begs to inform his Friends and the Public in general that he has in his sole possession the whole stock of Walker's Pea-green Cucumber, purchased of Mr. Newman, gardener to the Earl of De La Warr, which H. G. is now sending out post free, in packets of six seeds, at 2*s.* 6*d.* each, or on the receipt of 30 postage stamps.

This splendid Cucumber is declared by the judges of the different exhibitions to be the BEST EARLY SORT in cultivation; it is also more productive and quicker in growth with less heat than any other variety. It has taken, during the last two years, all the first and second Prizes in Cambridge and Huntingdonshire.—Cambridge Nursery, Feb. 14.

IMPORTANT SALE OF FRUITING AND SUCCESSION PINES, the Property of a Lady declining the cultivation of Pines; consisting of about 60 Fruiting Plants in No. 8 size pots, principally Queens, and a few Black Jamaica, in the best possible health, vigorous, and perfectly clean; 80 strong Succession Plants, equally healthy and good; 170 fine young Succession Plants—altogether as fine a lot as ever were grown.—For particulars as to price, &c., apply to Mr. Jos. Fairbairn, Nurseries, Clapham.—Feb. 14.

COCHIN CHINA FOWLS' EGGS FOR HATCHING.—Fresh Eggs from these esteemed birds sent to any part of the country, securely packed, from birds weighing from 17 to 19 lbs. the couple, at 9*s.* sitting of 13 eggs, and 1*s.* box. A few young Cock Birds to dispose of, 10*s.* 6*d.* each.—Apply to Mr. H. Copland, Chelmsford. Orders attended to as first received.

IMPORTANT TO POULTRY FANCIERS.

COCHIN CHINA FOWLS' EGGS FOR SALE, from imported stock, which are of great beauty, very large, well feathered on the legs, and produce extraordinary rich eggs. This breed of fowl is most prolific, and abound with all the qualities requisite in poultry. Price of Eggs, 6*s.* per dozen; box, 1*s.* extra.

Apply to Mr. O. Steed, Grove House, Baldock, Herts.

EXQUISITE COCHIN CHINA FOWLS.—Pullets, 15*s.* each; Cockerells 10*s.* each, of the purest breed. Fresh Eggs, 5*s.* per dozen.

Address, Delta, Post-office, Ashby-de-la-Zouch.

NEW VARIETY OF SHANGHAI FOWLS.

W. TURNER being the breeder of those splendid Birds which were awarded a prize at Birmingham as a new and distinct breed, will part with a few Eggs, if applied for early, at 18*s.* per dozen; Cochin China, fine and true, 6*s.* per dozen; White-faced Spanish, 12*s.* per dozen, and 1*s.* for box. A few Spanish Birds for sale.

W. Turner, Tufnell Park Road, Holloway, London.

SEEDS DIRECT FROM THE GROWERS, CARRIAGE FREE.

JOHN SUTTON AND SONS, *being extensive Growers of Seeds, can supply them of such quality as to prevent the disappointment so often experienced from Seeds which have passed through many hands between the grower and the purchaser.*

As Messrs. SUTTON and SONS grow expressly for their retail trade, they can afford to pay especial attention to the stocks of their Seeds, both Agricultural and Horticultural, and at the same time to sell at the lowest remunerating prices,

And it is gratifying to find by the numerous orders daily received (especially since the remarks which have recently appeared in this Paper on "the Seed Trade"), that the public fully appreciate the advantages of procuring "Seeds direct from the Growers," as the surest remedy for the evils alluded to.

For Priced Lists, address JOHN SUTTON and SONS, Seed Growers, Reading, Berks, enclosing one penny stamp.

RENDLE'S COLLECTIONS OF NEW KITCHEN GARDEN SEEDS

Have given universal satisfaction to all who have had them. For particulars, refer to our Advertisement in this Journal, Jan. 24th, 1852, page 51.

CARRIAGE FREE TO ANY STATION on the principal Railways in the south of England, see page 51.

RENDLE'S SEED CATALOGUE, containing PRICES of every article, can still be had in exchange for One Penny Stamp, on application to

WILLIAM E. RENDLE AND CO., SEED MERCHANTS, Plymouth.

ESTABLISHED MORE THAN HALF A CENTURY.

"ESSEX HERO" CUCUMBER.

J. CHAMBERLAIN having thoroughly proved this excellent CUCUMBER, can with confidence recommend it to all growers as being the very best ever sent out; its length, beauty, and quality have never yet been equalled. It is a free bearer—a single plant last summer had 16 fruit on it at one time, the shortest of which was 23 inches and the largest 30½ inches, possessing every quality that could be desired in Cucumbers. It has taken seven first prizes at Colchester, Ipswich, and Chelmsford, when shown with the best sorts in cultivation exhibited by some of the best growers in England.

A Fruit of the above superb variety was sent to the Editor of the *Gardeners' Chronicle* last May; his answer was—"*J C* A very handsome Black Spine, measuring 26 inches in length." See *Gardeners' Chronicle*, 1851, No. 19, page 296.

Sold in packets of four seeds, 3*s.* 6*d.*; eight seeds, 5*s.*; or good strong plants 3*s.* each pot, 5*s.* the pair, or 24*s.* the dozen.

J. C. continues to supply the Cucumber and Melon Seeds and plants as advertised in the *Gardeners' Chronicle*, Nov. 22, 1851.

Plants securely packed in boxes to all parts for 1*s.* each order extra, and all orders of 1*l.* and upwards will be packed free, and carriage paid to London, Norwich, or any intermediate stations.

A remittance must accompany orders from unknown correspondents.

JOHN CHAMBERLAIN, Great Horkesley, Colchester, Essex.

ROSES.

THOMAS CRIPPS having still on hand a very large stock of ROSES, both Standards and Dwarfs, comprising every known variety of merit, has great pleasure in offering them to the notice of his friends, being strong, healthy, and well rooted Plants.

	s.	*d.*
Extra tall picked Standards, 5 to 6 feet, stout stems, per dozen	30	0
Standard Weeping Roses, beautiful objects for planting singly on Lawns, each, 3*s.* 6*d.*; per doz.	36	0
Standards, very choice, per doz. ... 18*s.*, 24*s.*, and	30	0
Standards on stems, varying in height from 2 ft. to 2 ft. 9 ins., per doz. ... ... 18*s.* and	24	0
Dwarfs, finest kinds, one of a sort, per doz., 9*s.*, 12*s.*, and	18	0
Dwarfs, good kinds, do. do.	6	0
Dwarfs, do. without names, per 100	30	0
Dwarf Tea-scented Roses, budded on stems from 3 ins. to 6 ins. high, very strong plants, per doz. ... 12*s.* and	18	0
Climbing Roses, by name, per doz. ... ... 9*s.* and	12	0
Do. without names, per 100	30	0

The above prices being applicable to Roses where the selection is entirely left to T. C., none but the very best kinds will be sent.

Plants given over to compensate for carriage, in proportion to extent of order. The trade supplied on liberal terms. Catalogues may be had on application, by enclosing two stamps

Tunbridge Wells Nursery.

ROSES.

WILLIAM WOOD AND SON beg to offer a choice assortment of ROSES at the under-named prices, the selection of sorts being left to themselves.

	s.	*d.*
Extra fine picked tall Standard Union Roses, from 6 to 8 feet, budded with 3 to 6 best varieties of Climbing and Perpetual Roses in each stem, suitable for training in the form of domes (these plants are particularly fine), each 3*s.* 6*d.* to	5	0
Superior selected Standards ... ... Per doz. 18*s.* to	24	0
Fine Dwarfs and Dwarf Standards ... ,, 10*s.* to	18	0
Fine Dwarfs, on own roots, two of a sort ,, ...	6	0
Tea-scented Roses, in pots, very fine ... ,, 12*s.* to	18	0
Best varieties for Forcing, established in 6-inch pots, p. doz.	20	0
Dwarfs, on own roots, without names, per 100	30	0

N.B.—Additional plants presented with each order, with a view to lessen the expense of carriage.

Catalogues may be had, GRATIS, on application.

Woodlands Nursery, Maresfield, near Uckfield, Sussex

POLYANTHUS SEED.

TO THE LOVERS OF THAT BEAUTIFUL EARLY SPRING FLOWER, THE POLYANTHUS.

JAMES WOODS has again this year a quantity of POLYANTHUS SEED, which he can recommend with confidence, saved from none but named and good laced flowers. Price 1*s.* per packet, or sent free on receipt of 13 postage stamps, to JAMES WOODS, Florist, Harwich, Essex.

EPPS' COLLECTIONS OF KITCHEN GARDEN SEEDS.—No. 1, containing 24 quarts of the

	£	*s.*	*d.*
newest and best kinds of Peas and all other seeds in proportion, inclusive of Melons and Cucumbers ...	2	10	0
No. 2, in proportionate quantities	1	10	0
No. 3, ditto ditto	1	1	0
No. 4, ditto ditto	0	12	6

A list of the quantity in each collection may be had on application, also a Descriptive Catalogue of Seeds &c., &c.

The highest reference can be given in all parts of the United Kingdom. Carriage paid to any Railway station in London.

W. J. EPPS begs to remark, that in consequence of his being one of the largest Seed Growers in the market, he is in a position to supply the above very satisfactory.

High-street and Bower Nurseries, Maidstone.—Feb. 14.

THE NEW EARLY SWEET KERNELLED KAISHA APRICOT FROM SYRIA.—Fruit ripens early in July, juicy, sweet, and luscious, of hardy character, and good bearer; for further description see former advertisements, and the London "Horticultural Society's Journal" for July, 1849.

Messrs. VEITCH and SON are now offering good Trees of the above valuable Apricot, at the following prices, package included, with the usual discount to the trade, viz.:—

Dwarf Maiden Trees, and 1 year cut back	10*s.* 6*d.*
Ditto 1 year trained	15*s.* 0*d.*
Ditto or Standards, 2 years trained ...	21*s.* 0*d.*
Dwarf round heads in pots	21*s.* 0*d.*

Exeter, February 14, 1852.

COLLECTIONS OF SEEDS, suitably selected for Gardens of various sizes, for one year's supply, at the following prices:—2*l.* 10*s.*, 1*l.* 17*s.* 6*d.*, 1*l.* 5*s.*, 12*s.* 6*d.*, and 5*s.* The Seeds are of excellent quality, many of which are direct from the growers. Particulars of sorts and quantities of each Collection may be had, if required, on application.

Also, Collections of FLOWER SEEDS, chiefly Annuals, with a few good Biennials and Perennials, 100 varieties, 10*s.* 6*d.*; 50 do., 5*s.* 6*d.*; 25 selected do., 3*s.* 6*d.*; 12 do., 2*s.*

WILLIAM DENYER, Nurseryman & Seedsman, Battle, Sussex.

CHARLES DIMMICK begs to recommend the following superb VEGETABLE and FLOWER SEEDS, which will be sent free by post, on the receipt of a Post-office order or postage stamps to the amount charged.

Four leading kinds of BROCCOLI, a packet of each for 3*s.*, viz., Walcheren, Grange's Early White, Elletson's Mammoth, and Willcove.

Four leading sorts of CABBAGE for 2*s.*, viz., Mitchell's Prince Albert (new), Atkin's Matchless (new), Nonpareil, and Sharp-top or Portsmouth.

Five leading sorts of LETTUCE for 2*s.* 6*d.*, viz., Crystal Cos (new), Paris Cos, Snow's Matchless Cos, Bath Cos (black seed), and Drumhead.

Three fine sorts of CUCUMBER for 2*s.* 6*d.*, viz., Latter's Victory of England, The Doctor, and fine Long Ridge for open air culture.

The following new and first-rate VEGETABLES, a packet of each for 2*s.* 6*d.*—new Cabbaging Borecole, new French Curled Endive, Mitchell's Matchless Parsley, Victoria Vegetable Marrow, and Orache Spinach, a very valuable summer sort.

The following new and first-rate HARDY ANNUALS for 2*s.* 6*d.*—Clarkia nerliflora (double rose), Escholtzia alba (new white), Hibiscus caliburus (new), Lupinus Moritzianus (new), and Nemophila maculata.

The following superb HALF-HARDY ANNUALS for 2*s*6*d.*—Zinnia (12 vars. mixed), Aster (24 vars. mixed), German Stock (24 vars. mixed), Thunbergia (3 vars. mixed), and Phox Drummondii.

The following BIENNIAL and PERENNIAL FLOWER SEEDS for 2*s.* 6*d.*—Sweetwilliam (extra fine), Polyanthus (extra fine border), German Scabious, Hollyhock (from 24 fine vars.), and Antirrhinum (from fine named flowers).

Collections of GARDEN and FLOWER SEEDS sent free of carriage to any station on the South-Western or South Coast Railways:—

No. 1 collection, containing 20 quarts of the best sorts of Peas for successional sowing, 5 pecks of the best Early Potatoes, with the best sorts of Broccoli, Cabbage, Lettuce, Cucumber, Celery, and Radish; with other Vegetables in sufficient quantities to supply a large garden for a year. 3*l.*

No. 2 collection, equally choice, but in reduced quantities, 2*l*

No. 3 do. do. do. 1*l.*

No. 4 do. do. do. 10*s.*

The No. 4 collection will contain 6 pints of the best Peas, 3 gallons of Early Potatoes, and a small quantity of the best Vegetables, suitable to supply a small garden for a year.

FLOWER SEEDS.

	s.	*d.*
100 varieties of the best and most showy Annuals and Biennials	15	0
50 do. do. do.	7	6
25 do. do. do.	4	0

The Seeds at this Establishment are selected from the best stocks in the country, and the growing qualities of every article is tested as soon as received, and C. D. have much pleasure in stating that he has the highest testimony of their genuineness from his regular customers, both gentlemen and market gardeners, to whom they give general satisfaction. Priced Catalogues may be had on application.

113, High-street Ryde, Isle of Wight, Feb. 14.

FINEST LANCASHIRE GOOSEBERRIES, in 100 choice sorts, named, per 1000, 4*l.*; or 10*s.* per 100, in 50 sorts.

CURRANTS.—MAY's Victoria or Raby Castle, red, the finest, largest, and best known, ought to be in every garden, 25*s.* per 100, or 4*s.* per doz.; Red Grape and Champagne, fine, per 100, 10*s.*; or per doz., 2*s.*

Securely packed to carry any distance, or for exportation.

A remittance or reference from unknown correspondents is respectfully requested.

All Orders above 5*l.* Carriage paid to London, Liverpool, Birmingham, and Edinburgh, and to any Station within 150 miles of the Nursery.

Our Descriptive Catalogue is just published, in Three Parts, and may be had gratis for four penny postage stamps to pay postage, or Parts I. and III. for one penny stamp each; Part II. for two penny stamps each, separate. Part I. contains extensive Lists of Stove and Greenhouse Plants. Part II. contains select Hardy Herbaceous Plants, Roses, Ornamental Trees, Flowering Shrubs, Evergreens, and Coniferæ. All described in height, colour, and time of flowering. Part III., select Lists of Fruit Trees of every useful description fully described, with prices and conditions, and much other useful information Warranted to contain more practical details than any other list extant; *and the largest, cheapest, and best stock of Plants ever offered.*

Apply to JOHN MAY, Hope Nurseries, Leeming-lane, Bedale, Yorkshire.—For general Advertisement of Surplus Stock, see page 67, in last week's Paper.

SAMUEL FINNEY AND Co. beg respectfully to inform their Friends and the Public that their new PRICED SEED CATALOGUE FOR 1852 is now ready, and may be had, postage free, on application. It contains a list of all the most approved kinds of Vegetable Seeds in cultivation, together with a very choice selection of German and other Flower Seeds, which are all fully described, stating the time of sowing, and whether hardy, half-hardy, or tender; the height, colour, and time of flowering, with much other useful information. The Collections of Seeds, which they supplied in former years, having given such general satisfaction, they are again induced to offer them as under:—

	£	*s.*	*d.*
No. 1. A complete collection of Vegetable Seeds for one year's supply of a large garden ...	2	5	0
No 2. Do. do. in smaller quantities ...	1	10	0
No. 3. Do. do. do. ...	1	1	0
No. 4. Do. do. do. ...	0	12	6

The kinds and quantities contained in each Collection are stated in the Catalogue.

Delivered, free, at any station on the following Railways:—Newcastle, York, and Berwick; North British, Leeds and Thirsk; York and Scarborough, Newcastle and Carlisle, and Lancaster and Liverpool.—Gateshead Nursery, Feb. 11.

HOSEA WATERER'S Descriptive Catalogue of AMERICAN PLANTS, CONIFERS, ROSES, &c., is just published, and may be had on application, enclosing two postage stamps, to Mr. HOSEA WATERER, Knap Hill Nursery, Woking, Surrey.

SANGSTER'S NEW EARLY NO. 1 PEA.

HAY, SANGSTER, AND CO., in submitting the above valuable PEA to the public, can recommend it with the greatest confidence, as the largest podded and best Early Pea known, and of first-rate quality; height, 2 feet, Price 2*s.* 6*d.* per quart.

York Regent Potatoes, from prepared cuttings, 6*s.* per bush. Cambridge Radical, 6*s.* do. A first-rate second early, 6*s.* do. American Native, 6*s.* do. White Blossom Kidney, 6*s.* do. Brighton Pink Kidney, 6*s.* do.

For Testimonials, see *Gardeners' Chronicle*, Nov. 8, p. 705.

Post-office orders to be made payable at the Borough Post-office to HAY, SANGSTER, and Co., Nursery and Seedsmen, Newington Butts, London. One-bushel hampers and booking, 1*s.* 6*d*; two-bushel, 2*s.* 6*d.* Sacks, 2*s.* 6*d.* each

AMERICAN NURSERY, BAGSHOT, SURREY.

JOHN WATERER begs to announce that he has published a new CATALOGUE of Hardy Rhododendrons, Azaleas, Roses, Conifers, &c., and which may be obtained by enclosing two postage stamps.

The colours of all the Rhododendrons worthy of cultivation are described; thus purchasers are afforded every facility in making selections.

STANDISH AND NOBLE'S detailed Advertisement will appear in this Paper on the first Saturday in every Month, to which they invite the attention of all interested in HARDY ORNAMENTAL PLANTS. Their Descriptive Catalogue, with the Treatise on the "Cultivation of American Plants," can still be had, by enclosing six stamps for postage.

Gentlemen requiring the services of a Landscape Gardener, can procure such by applying to the Advertisers.

Bagshot, Surrey, Feb. 14.

GEORGE BAKER'S DESCRIPTIVE CATALOGUE OF AMERICAN PLANTS, CONIFERÆ, ROSES, ORNAMENTAL SHRUBS, FRUIT AND FOREST TREES, &c., may be had on application, by enclosing two postage stamps.—Windlesham Nursery, Bagshot, Surrey.

MITCHELL'S MATCHLESS WINTER PARSLEY.—J. M. having saved a much larger quantity of Seed this season than last, can offer it to the public at a much reduced price. Wholesale, to seedsmen, 1*s.* 3*d.* per lb.; any quantity under 10 lbs. will be charged 2*s.* per lb. Can be sent to any part of the World, on receipt of a Post-office order, payable to JOHN MITCHELL, Pounder's-end, Enfield, Middlesex.

DOUBLE ITALIAN TUBEROSE ROOTS, 4*s.* per dozen.—The annual importation of the above-named beautiful and fragrant Flower has just been received, and large and well selected Bulbs may be obtained, without disappointment, at A. COBBETT'S Foreign Warehouse, 18, Pall-mall.

N.B. Printed regulations for treatment sent; also, just arrived, very moist and open Parmesan Cheeses.

The Gardeners' Chronicle.

SATURDAY, FEBRUARY 14, 1852.

MEETINGS FOR THE ENSUING WEEK.

MONDAY,	Feb	16	Chemical	8 P.M.
			Statistical	8 P.M.
TUESDAY,	—	17	Horticultural	2 P.M.
			Linnean	8 P.M.
			Civil Engineers	8 P.M.
			Pathological	8 P.M.
WEDNESDAY,	—	18	Microscopical (Anniversary)	7 P.M.
			Society of Arts	8 P.M.
THURSDAY,	—	19	Antiquarian	8 P.M.
			Royal	8 P.M.
FRIDAY,	—	20	Geological (Anniversary)	1 P.M.
			Philological	8 P.M.
			Royal Institution	8 P.M.
SATURDAY,	—	21	Medical	8 P.M.

THAT the state of the SEED TRADE was not painted by us in a blacker colour than it deserves, is proved by the communications that daily reach us, from all parts of the country, and from all manner of persons. Everybody complains; the old mercantile houses, whose integrity is unimpeachable, the riff-raff who swindle their customers by selling for 6*d.* what, if genuine, must have cost them 9*d.*; the gardener who pays price without question, and he whose stingy master drives him into the shop of DODGE, SHUFFLE, and Co.; even the grower, whose credit is ruined by the way in which his pure and excellent seed is treated when it falls into the hands of a "rogue in grain," all, except the well-known firm just mentioned, protest that if things are to go on as they now are, not an honest man can remain in the trade.

As we have said, there is no remedy for this except to refuse to deal with people who notoriously undersell their neighbours. Buyers must make up their minds to this, or they must submit to be wronged. We are no great friends to combination, as a general rule in the affairs of life, but cases may arise in which it becomes necessary for self-protection; and that before us is one. Let gardeners and farmers in every part of the country league together, and refuse all dealings with the low-priced houses who have cheated them or their acquaintances; let them inquire which are the firms of undoubted integrity on whom they can rely with confidence, firstly, that the seeds shall be as good as it may be possible to procure, and, next, that they will not be charged a higher price than ought to be demanded as a reasonable and fair remuneration for capital and skill. There is no difficulty in knowing where Messrs. DODGE, SHUFFLE, and Co. reside; their shops may be found in a great many places, and a man must have few acquaintances not to be able to learn their whereabouts.

We are not, however, so sanguine as to imagine that the mere payment of fair prices will secure good articles. DODGE and Co. will, no doubt, receive

with alacrity a shilling instead of sixpence for the rubbish they sell, and fools will continue to give it them; for weeds are natural to all soils, and will continue to appear, in the face of the most careful tillage. But what we contend for is this; that by paying fair prices, buyers will then be able to procure good articles, while the race after cheapness renders them now unattainable; we also contend, that the public would thus cease to be the wrong-doer, or, at least, a *particeps criminis*, which it most undoubtedly is, as matters stand.

Having said thus much of buyers, we shall not be doing our duty if we do not also address ourselves to the sellers themselves, who appear to require advice quite as much as their customers. We say, then, to those who have a character to sustain, do not enter into ruinous competition; refrain from doing what your consciences tell you is wrong, merely for the sake of catching a customer, or maintaining a losing trade; have firmness enough, when the prices of Dodge, Shuffle, and Co. are quoted, to refuse to transact business upon any such terms; sell nothing but what you know to be genuine, and let your customers go to that respectable firm, and buy the experience which alone can teach them wisdom. Finally, be true to yourselves. Do not call a man a vagabond when you find that he has cheated you, and then proceed to deal with him again.

We confidently ask the "trade" itself, whether this advice is uncalled-for or not. Unfortunately, we have too many proofs of its necessity. Let us give an example or two. "Do you know," said one great seedsman to another, "that fellow has sold me as Altringham Carrot seed all sorts of rubbish, orange, white, purple, short, long, early and late, and all my customers have sown it. What on earth shall I do?" "Do! why it served you right, and you richly deserve the consequences." "But the price was so tempting, and your's is so high. Had not I better bring an action against him?" "Do as you like, but do not deal with him." "That I will not, you may depend upon it." And what does this very man do, although he had been thus swindled, and all his customers had lost their crop, but, the very next season, go to the same person, because his prices are so low, and because something or other had been pretty good (a tub to the whale), although the Carrot seed was rubbish. This is fact, not imagination. Mr. Skirving, of Liverpool, is well known to be one of our most careful and successful growers of Turnip and other seeds; his reputation is European, and deservedly so. Yet what are called Skirving's seeds, are not uncommonly found to be mere mixtures of good and bad; Rape comes up, or one-half does not grow. And how can it be otherwise, when it is another fact that unprincipled dealers actually sell his seed at from 6*s.* to 10*s.* per bushel less than they pay him. In Scotland the system of mixing seeds had arrived at such a point, that about three years ago there was a meeting in Glasgow of the Scotch seedsmen to consider this very practice, and to devise means to put a stop to such scandalous tricks. A society called the North British Seedsmen's Association was even formed, but some of the most powerful houses in the trade withheld, or withdrew, their names, and the association, we believe, came to nothing. Fortunately such practices sometimes bring their own punishment; unfortunately punishment is so rare that the dealer can afford to pay the penalty. The following case, which is one no doubt of common occurrence, illustrates the system. A Scotch seedsman, an honest dealer, a member of this very North British Seedsmen's Association, in the spring of 1849, had purchased from a respectable house a quantity of Swedish Turnip seed; this he retailed to a farmer in his neighbourhood. The farmer resolved to save the seed of some of his bulbs, and, in the autumn of 1850, sold the produce to the seedsman from whom he had bought the seed; who, knowing that the original seed had come out of his own establishment, bought it with confidence. This seed was sent out in 1851, and produced a crop of Turnips *mixed with Rape*. The farmers of 1851 were of course indignant, and claimed heavy damages from the seedsman, who had to pay them. Now, how was this? The original seed, bought in 1849, had been mixed with killed Rape, the vitality of some of which had not been thoroughly destroyed; it grew, remained unnoticed, and in 1850 produced a profusion of seed, and by hybridisation destroyed the genuine nature of the very Turnip itself.

Thus it is, that a nefarious system drags along in its current, irresistibly, the very men who may be most anxious to strive against it.

The shape which seed-frauds assume, and with which the trade is familiar, would astonish the uninitiated, who cannot detect them, except by painful experience; and who, even then, are bamboozled by the dexterous "traveller," who is a perfect adept at explanations, excuses, and asseverations. A man buys cheap Lucerne seed, and gets a crop of black Medick; he is indignant, produces his proofs, and threatens an action; but he is persuaded that the mixture of Lucerne and black Medick is impossible, that the Medick is natural to the land, and comes by chance; and that the Lucerne was, no doubt, eaten off by the fly. Another person is tempted by a beautiful sample of Clover, not a seed of which comes up. He does not suspect the seed: but lays the blame upon his land, "which will not carry Clover," little thinking that his beautiful seed had been in the hands of dexterous chemists who had made it the very thing best calculated to sell, though not to grow. Hundreds of thousands of pounds have been lost in this way by simple-minded farmers, whose wrongs are infinitely greater than those of gardeners. But with seeds, as with guano, price tempts them, they cannot see that price may be the last point to consider, and for the sake of a shilling they are ready to sacrifice an acre. Since, however, in guano, frauds have become more difficult in consequence of the relentless exposures of its adulteration, so let us hope that seed cheating will be diminished by a similar process.

BEGONIA FUCHSIOIDES.

Among the many favourites of recent introduction in our plant houses, few are more deserving of attention than the Fuchsia-like Begonia. Its graceful habit, the brilliant colour of the flowers, the short time required to have plants in a blooming state, and the abundance with which its blossoms are produced, render it worthy of universal cultivation. To those with whom winter-flowering plants are in demand, this Begonia will be found indispensable, and when well grown and bloomed it cannot fail to be generally esteemed.

The plant being a favourite with me, I aim to have it in flower the whole, or at least the greater part of the year, and to secure this, it is necessary to propagate at two different seasons. In the first instance, cuttings are obtained in the beginning of February, selecting young healthy pieces, such as are not over full of sap, and which are rather firm; these strike freely, inserted rather thickly around the sides of 5-inch pots, and plunged in a close warm frame where the bottom heat is about 75° or 80°. Any light sandy soil will answer. I generally use equal parts of silver sand and leaf mould, the latter passed through a fine sieve and thoroughly mixed with the sand. When the cuttings are well rooted, which will be the case in the course of a month, they should be potted singly in 5-inch pots, and replaced in the propagating frame, and if they can have the assistance of a gentle bottom heat all the better. When the pots become filled with roots, shift into 8-inch ones, and place the plants in a shady corner of the stove, or wherever it may be convenient, provided a temperature of from 60° to 65° is maintained, and a moist atmosphere kept up; but unless they occupy a shady situation, it will be necessary to screen them from the midday sun, as this species is rather impatient of bright sunshine, and if thus exposed, it loses that fine glossy appearance which the foliage presents when in vigorous health. When the pots become filled with roots, a little clear manure-water will be beneficial; and they should be syringed with pure water, morning and evening. By the middle of June, they will require a final shift into 12-inch pots, and should be encouraged to make vigorous growth. With regard to stopping, they merely require to have any over-luxuriant shoot stopped, when it has attained the desired height, so as to regulate the flow of the sap, and induce the formation of lateral branches, upon which the flowers are produced. The stronger shoots should be supported by neat stakes, and tied out, so as to accommodate the side shoots which are to produce the flowers. Managed in this way they form fine bushy plants, commence blooming in October, and continue in flower till March, or even later, if kept in a temperature of 50° or 55°.

A second lot of cuttings should be got in about the beginning of July, and treated as the first, except that after the second shift, which they should receive in September, they may remain in 8-inch pots till February. During the winter they should occupy a situation near the glass, where the temperature may average from 50° to 60°. Early in February a portion of the plants may be shifted into 12-inch pots, after which a slight increase of heat will be essential to their well doing, but when subjected to a high temperature at this early season, they should receive all the light that it is possible to give them. As the plants progress in growth, they must receive attention in the way of stopping and tying, and when the pots become full of roots they should be watered frequently with clear manure. The remainder of the plants, if allowed to remain in their winter pots, and encouraged with a slight increase of temperature, will flower at an earlier period than those which occupy larger pots, or they may be left in a cool place until the middle of March, and then shifted to form a succession to those shifted in February.

This Begonia may be removed to a conservatory, when in flower, where it will continue to produce a constant succession of blossoms during several months; but unless the conservatory is treated something like an intermediate house, it will be necessary to place the plants in the warmest corner, and where they will not be exposed to currents of cold air; a situation where they can receive abundance of light, without being exposed to the direct rays of the midday sun will be necessary, in order to have the flowers well coloured. After the blooming season is over, the old specimens may be thrown away, to afford space for young plants, which bloom more freely and produce finer trusses.

The soil best suited for this Begonia in all its stages is equal parts turfy loam, peat, and well decomposed cow or horse manure. The peat and loam should be carefully broken, and used in as rough a state as the size of the shift will allow; the dung should be carefully mixed with sharp sand previous to being mixed with the peat and loam, this tends to thoroughly separate any lumps, which otherwise would be sure to form a harbour for worms; the quantity of sand should be regulated according to the nature of the loam and peat, enough being added to secure perfect drainage, as this Begonia is somewhat impatient of stagnant moisture about its roots. *Alpha.*

THE SALMON.—No. II.

Another recommendation of the writer in the magazine, is that close time should commence in August; instead of this I would recommend that it should begin when it now does (15th September), and be extended to the middle of April, for the following reasons. There are many good fish running in the first and second week of September, if the water is in favourable condition; and why should not they be caught? At all events, angling ought to be tolerated for a time after netting is prohibited. On the other hand, the proportion of kelts (spawned fish), and fish yet unspawned, is even in March very much greater than the clean fish. In the evidence given before the House of Commons in 1825, it was stated by one of the fishermen from the Tweed (I quote from memory, and may therefore quote incorrectly), that for one good fish caught up to the middle of March, 10 were caught as kelts or unspawned fish; and in the Ribble, where there used to be some salmon, I have seen a shoal of 20 kipper (kelt) fish in the middle of April. I have even seen some as late as May. It may be said that this is of no consequence, as the fishermen cannot legally take these unclean fish; but does any fisherman allow one to escape? Few fish are allowed to spawn here, and few of those that do spawn ever get back to the sea. If they were systematically allowed to do so they would in another year furnish a supply of the largest and best fish; and therefore my opinion is, that close time ought to be extended to the middle of April, by which time the kelts would mostly have returned to the sea. There is one anomaly in the natural history of the salmon, which I have never seen explained. The best fish are said to be found in some rivers from October to January—the Severn, the Ness, and the Lee, are said to produce their best fish, when in the generality of rivers they are uneatable; and a friend of mine who was in London a few days ago, told me that he saw there as fine fish from the Severn as ever he saw in his life. The evidence of the fishermen from these rivers is too decisive to doubt, that many good fish are taken in those rivers at a time when none are seen in other rivers. But those fishermen did not tell us (for I don't remember that they were asked the question) that in catching these good fish they destroyed 10 unclean fish for one good one; it is exceedingly probable that such fish are caught, because first—it is very unlikely that fish in one river spawn at a different period to others; that they don't do so in the Severn, is, I think, proved by the fact, that the kelts are found at the same season as in other rivers, and the smelts (salmon fry) also migrate in May as they do elsewhere; this being so, how is it that clean fish are found there when they are not met with elsewhere—what is there in the water of this river which induces these clean fish to run, at a time when they don't do so in other rivers? This I can't explain; it may be that these rivers flow over strata which are not so liable to foul the water—in short, I don't know anything of the reason, but it may be said, how does it happen there are clean fish at all in this season? I reply, because I don't think the salmon spawns annually; in April, when the kelts go down, there is not, so far as I have observed, a trace of spawn to be found in them, and yet the clean fish which run in January and February have the ovaria perfectly developed, and the roe at that time almost as large as mustard seed, and yet there is no reason to think that these fish, supposing them to stop in the river the whole time, would spawn before the September or October following.

When I lived on the banks of the Wharfe, the fishermen used to catch trout all through the winter, with night-lines and worms, in the highest condition—the roe distinctly visible, but very minute. A first-rate angler used to remark to me, that the dishes of trout he caught in January were in better condition than those he caught in April, which he accounted for in this way; he said only the clean fish were rising in January, whereas the spawned fish had begun to feed freely in April; and there was a larger proportion of these kelt fish among those caught at that time. If salmon spawn biennially and not annually, we can understand why there are clean fish, whilst so large a proportion are foul; but we do not yet know why clean fish enter the rivers at all. I am aware that it is said that this is for the purpose of cleaning themselves of the sea-lice that infest them in salt water; but that this is a mere conjecture is, I think, proved by the fact, that they do not attempt to go down into the sea again when they are rid of these pests. A day or two in fresh water frees

them from the lice; and yet, fish that can come up in May, and which, if unmolested would not spawn before October, never (so far as I have observed or can learn) show the slightest inclination to return to salt water before spawning; what then is the cause of their ascending the river?—not to find food; for a salmon in fresh water is rarely found with food in it—not merely to free themselves from vermin, for one would suppose that when this was accomplished they would return again to the sea; is it that they may serve as food for man, who, unless impelled by this instinct, would never see them in an eatable condition?

It may be said that the roe would not probably be matured unless the fish remained some time in fresh water previous to spawning; but neither can this be true, for, in October and November, fish are frequently caught on the spawning beds, newly run, as is evident from the brightness of their scales; for fish that have been a few days in the river, particularly in the autumn, change colour very rapidly, the males becoming red, the females (black) dark-coloured.

[I find that an error has crept into my last article on salmon, either from my own carelessness or that of the corrector of the press. At p. 85 *a*, and line 18 from the top, I am made to say "the quantity of *Salmon* and smelts which make their appearance in the pools of the river in a droughty May, &c., &c." This is not what I intended to say, nor is it true. No salmon make their appearance in the river under such circumstances. I meant to state that the quantity of *smelts*, &c., and I may have said *Salmon-smelts*, by which name salmon-fry are often called, to distinguish them from sparlings, which are also called smelts.] *T. G., Clitheroe.*

FOREIGN GARDEN GLEANINGS.

Berlin.—Taste for horticulture is certainly much more general in Berlin than in Paris, as is clearly shown by the universal desire of the citizens of the former city to make their houses gay with flowers. Notwithstanding this, Berlin must be said to possess, comparatively speaking, fewer horticultural establishments than Paris, and a large proportion of their floral riches has been contributed by our own countrymen, who have been greatly instrumental in spreading and making popular the taste for flowers, now so general in the Prussian capital.

The establishment which struck us as the most remarkable, especially for new plants, was that of M. Mathieu. Here may be found many rare annuals and well-selected perennial and hothouse plants. One house contains a remarkable collection of Bromeliads and some enormous Tillandsias. The Dahlias are of the first class, and are 25 per cent. dearer than with us. Bulbous plants from Haarlem, seeds of ornamental trees, fruit trees, vegetables, and flowering plants, are articles of considerable commerce.

In this same garden are two specimens of Yucca variegata, probably the largest in Europe; they are 6 yards high, and no less than 36*l.* has been offered for them and refused. There are also some fine plants of Laurus nobilis.

The patronage of the Prussian amateurs is distributed amongst eight gardeners of the name of Bouché. M. Fred. Bouché's establishment, which we visited, is, though of small extent, a perfect horticultural museum, and contains everything that can be reasonably expected. The most common plants there are 40 varieties or species of Canna, succulent plants, Gesnera, Achimenes, Gloxinia, and Amaryllis. The collection of Acacias is very rich, both as regards species and varieties; Azaleas, Rhododendrons, and Camellias are by no means neglected: of the latter especially there were at the time of our visit some fine pyramids. There are specimens of Epacris, and thousands of Ericas of different species, in number 500. Here too are to be found Fuchsias, Pelargoniums, Magnolias, small plants for rooms, shrubs for the open air, and all sorts of annuals, and bulbous plants.

M. F. Bouché supplies flowers for ball-rooms, soirées, &c., in the winter time, and makes a considerable sum of money in that way. The plant most used for this purpose is our common Fig, grown in pots, and with its vegetation so kept back that it does not leaf until the winter. Its price is about 2*l.* 10*s.* or 3*l.*

Pomegranates, cultivated in the same way, have the double advantage of adding to the beauty of bouquets by the brilliancy of their flowers, and of being procurable when bouquets are scarce and dear. We noticed here the double white and yellow flowered varieties, which are rare in France, Rose Laurels, middling Orange trees, more than 40 species or varieties of Citrus, large European Olive trees, from four to five yards high, and valued at 25 or 30 shillings; Tamarix gallica, which is grown in pots and forced in winter, sells for 2*l.* or 2*l.* 10*s.*, and Magnolias.

M. David Bouché, nephew of the last, confines his attention more especially to the cultivation of Amaryllis, of which he has more than 100 species, and amongst them the following: Phœnicea, reginæ, conspicua, elegans, Johnsoni major, ignea, crocata, pallida, versicolor, compressiuscula, lamprophylla, undulata, ornata, croceovitellina, amabilis, amœna rosea, longiflora, imperialis, Davidiana; these are most cultivated, but the others are by no means neglected; their price varies from 10*d.* to 1*s.* 8*d.*, and is sometimes higher.

Of all the gardens out of the town that of M. Deppe, formerly travelling gardener to the King, which is situate near Charlottenbourg, is the most worthy of notice. This garden, situate as it is on the banks of a rivulet with a very gradual fall, is very well suited to those plants which demand a damp atmosphere. On a long piece of elevated ground on the north of the enclosure, and which serves to protect it from currents of air and to prevent too rapid an evaporation, we saw an enormous Briar with double white flowers, a curious specimen found by M. Deppe, in one of his numerous travels. This gentleman enjoys a well merited reputation for his long-stemmed Roses. They are grown in pots sunk in lines in the open air in the summer, but the delicate ones are in the winter time replaced in houses.

M. Deppe, who corresponds with the house of Verdier, in France, is always well acquainted with what is going on in the latter country. Wild Briar Roses are not so good as our own, and they are cleft grafted: this process, which is liable to continual failure, is far inferior to budding, as we convinced ourselves during our stay in Prussia. We were much struck with the collection of climbing Roses which, from being almost always green, bears the name of an American prairie. We were much pleased with some beautiful Camellias, Azaleas, plants in the open air and rare shrubs, and some Pæonies grown in pots in a good alluvial soil, where they had acquired a considerable size. The Dahlias, which are numerous, are divided into four classes, according to their age and price. Several species of Oxalis, one of which is named after M. Deppe, form the borders of a small garden. This same skilful gentleman pointed out to us a specimen of Gunnera scabra, which had passed through several winters, had been exposed to 8° C. of cold, and was yet in a flourishing condition. *Masson's Report.*

BRITISH SONG BIRDS.

(Cage Birds, No. 49).

No. LXVI.—It has been a "wise saw" with many, that this day, February 14, ushers in with it the "pairing of birds." We imagine this fond idea may have originated in a multitude of causes,—amongst which, the increasing warmth of the sun, and its consequent effect upon the *physique* of the feathered tribe, is not the least "likely" of the whole.

It is a "pretty idea" to have it so laid down; and that the honour of the day should be accorded to the good Saint, "Valentine," none, we imagine, will take upon themselves to dispute. We shall not. Certain is it, that from this date, a "change comes o'er the spirit" of all Nature. The mornings get lighter; the weather more genial; the days longer; and our thoughts become more socially enlarged one towards the other. We have often thought, what *would* this lower world of our's be, if deprived of the cheerful light and genial warmth of the mighty Sol! "Clouds and sunshine" wisely alternate amongst us, and give variety to the passing scenes of life.

The gigantic strength of mother earth is now becoming daily visible. Samson like, she may be held spell-bound for a season, but her latent energies cannot be long kept down:—

> "Already now the Snowdrop dares appear,
> The first pale blossom of th' unripened year;
> As Flora's breath, by some transforming power,
> Had changed an icicle into a flower!
> Its name and hue the scentless plant retains,
> Though winter *lingers* in its icy veins."

The Alder trees, too, are putting forth their buds, energetically, and the progress of vegetation has universally commenced in right earnest. Be it our's, to *watch* its progress from day to day!

We come now to discuss the merits of The Thrush, —one of our very earliest birds of song. This is a bold, saucy rogue,—one who will not be daunted or put down by any one. He fears no enemy,—not he! And determined if possible *to have* no enemies, he sings to *all* alike. We observe that he pays due deference to the Blackbird, with whose 'Matins' he rarely interferes; but no sooner are the devotions of the latter over, than the welkin rings out with the most ravishing strains of joy. No "suppressed notes" have we here. Our hero's heart is full to the brim, and we *must* hear what he has to say,—both to his mate and to us. So rapid too is his utterance, so long his "little story" of love and happiness, —that "variety" appears in every second note he utters.

The one great business of his life appears to be devotion to his lady-love, affection to his numerous offspring, gratitude to his Maker, and fondness for the society of Man. He is rarely silent throughout the day; and at the close of evening, he whistles so long as a streak of light is visible. His "vespers," even now, rejoice our heart. The park resounds far and near with his outpourings of joyous melody.

We are now singing, be it known, of the Musical Thrush, *Turdus Musicus*—not the Missel Thrush. The latter is a much larger bird than the former; and does not sing nearly so well, nor so much. A handsome bird he is, truly; and an ornament to a garden lawn; but as a cage-bird, or a vernal chorister, he must not rank "high." The Musical Thrush is the more taper, and elegantly-formed bird of the two. When he stands erect, he is a most loveable object. His fine intelligent eye speaks eloquently for him; nor need he fear exhibiting his cerebral development. His "head" is a noble study; having only one "organ" in it—the organ of "music." *How* he "discourses" this, all of us who live in the country know to our infinite delight.

The time for "pairing" depends much on the weather. When the early part of the year is mild, and the sun visible at intervals, which has been the case this year, early pairing and early incubation are the consequence. Nests are already formed; and marriages, of course, have long since been contracted. Hence the song of the birds is "sweet." We may remark here, that never do birds sing more sweetly than when first united; *all* their best endeavours to please their spouses, and render their lives "happy," being exercised to the full. Nor do these good offices "cease and determine" until the compact can be "lawfully" rescinded with the termination of the season. Such is "birds' law." Being "moralists" in our way, we do wish these remarks of ours to extend "below the surface;" for, as we have often said, we may learn a profitable lesson every day, even by a consideration of dumb animals. They shame us, in almost every branch of their domestic economy.

The nest of a thrush, like that of a blackbird, is not very artfully concealed, consequently the school-boy and the villainous bird-catcher make sad havoc with their eggs and offspring. How often have we heard the parents bemoaning the loss of their infant progeny! in tones which would have *melted* any heart, save only those above mentioned, which are notoriously made of iron, and therefore impenetrable. There is, however, much sound sense in these noble birds. They grieve,—truly grieve for their loss; but they "sorrow not as those without hope." Making the best of matters, again do they go through the heavy duties of nidification, incubation, and hatching; and a second brood sometimes escapes the murderous scrutiny of the robber's eye.

On such occasions how joyous must be the feelings of the "happy pair!" How excessive their fondness for each other, and for their children! And with what delight must they bring them out to see the world, and teach them to provide for their own wants!

Nature, provident always, yet shines transcendently in her operations *here*. A few short weeks see her children grown up, and instructed in all the ways of "their ancestors;" and ere winter arrives, every member of her family has a bountiful provision made for them, which enables them to defy all their enemies. This is the same liberal hand that supplies all our wants. Let us be equally thankful for it! *William Kidd.*

HERBS.

No. VII.—Sweet Basil.—This, like Tarragon and other such herbs, is largely grown by Mr. Chapman, who sows it on bottom-heat in low span-roofed houses in February and March. In such places he has full command of hot-water pipes; and as Basil, like Cucumber or Balsam plants, is very liable to damp off, great care is necessary to keep it healthy at that early period of the year. When up, the plants are either potted off in 3-inch pots, or pricked out thickly in boxes, &c. They are again potted singly into 5-inch pots, and hardened off for planting out for summer use. Large quantities of it are pulled up in autumn, and hung up in sheds for winter.

Chervil is sown monthly during summer and sent to market in punnets. For winter use, it is sown out of doors in August, and in pits in September.

Knotted Marjoram is generally sown in low, span-roofed houses or pits, on bottom heat, arising from either dung or tan, and covered over with about 4 inches of mould, in which the seeds are sown, and covered lightly. The best time for sowing is February and March; when up it is potted, and gradually hardened off for out-door planting, or forced on for early use. What is left in the bed is cut when fit, and sent to market; but as this herb is wanted in winter, in a green state, the crop planted out is cut down in autumn; and when the plants begin to grow they are taken up, potted into 8-inch pots, and put in a pit or house to cut as green Marjoram. For this purpose the plants should not be allowed to ripen seed before they are cut down in autumn. *James Cuthill, Camberwell.*

Home Correspondence.

Effect of Liquid Manure on Cinerarias.—Your Leading Article on the use of liquid manure at page 83, has induced me to send you a leaf taken from a Cineraria which has been grown to its present size almost entirely by the use of weak liquid manure. I have 30 pots (8-inch) of seedling Cinerarias, three plants in a pot, and most of them measure 2 feet, and some 2 feet 6 inches in height, from the top of the pots; the leaf which accompanies this is a fair sample of their lower foliage, and from it you will be able to form some idea of the appearance they present. The soil, or rather I ought to say sand, in which they are grown, was taken from the surface of a sandy lane last spring, and was mixed, when used, with about one-third leaf-mould. In the bottoms of the pots, above the drainage, I put some clay and burnt earth to act as absorbents; and since the plants have been placed in the 8-inch pots, I have watered them constantly with liquid manure collected from the farm-yard, and used at about the rate of one gallon of liquid to 20 gallons of water. They are just now showing flower, and promise to form objects of beauty in the conservatory for some time to come. I also send a foot-stalk from one of the lower leaves of a plant upon which I was trying the effects of strong doses of liquid manure, *i. e.*, "half-and-half;" the foot-stalks became shrivelled and blotched, the leaf turned "flabby" as if it had been suffering from want of water; and it eventually died off from no other cause, apparently, than the use of over strong liquid manure. To plants grown for the sake of their seeds or fruit, apply liquid manure from the time when they are in flower, until the seeds or fruit begin to ripen; and to plants grown for their

leaves or roots from the commencement of their growth. *S. M.* [The two leaves which accompanied this communication measured 7 inches in length, 9 inches in breadth, and 26 inches in circumference. They were deep green, and in admirable health, with footstalks 6 inches long, and ¾ of an inch round].

Luminous Fungi.—As I was returning home, on foot, late in the evening in October last, I saw a light before me in a part of the road, which an avenue of thick overhanging trees made particularly dark; I took it at first to be a lantern, hung up against the side of a cart or waggon; but, on going up to the spot, I found that the light came from a piece of half-decayed bark attached to the trunk of a tree, that was lying there on a timber carriage, that had been left for the night by the road-side. The brightness was sufficient to have attracted my attention from a considerable distance. Some few days after this, my children, near the same spot, found a piece of luminous (inner) bark, which they brought home, and exhibited it in a dark corner of a room. The piece of bark was 2 or 3 feet long by some 10 inches in breadth, and from its whole surface a bright phosphorescent light was emitted. The appearance was very striking and beautiful. Many saw it, and all were equally struck with the phenomenon. It had a very strong fungus-like smell. In the course of a few days the moisture dried away, and, with it, the peculiar smell and light disappeared. I have put some pieces of it into a Mushroom-house, with a hope of again exciting the growth of the luminous fungi. *J. D. Llewelyn.*

New description of Water-pipes.—I have occasionally seen replies to correspondents, which makes me suppose you are consulted about the best material for water-pipes. As I see you recommend glass ones, allow me to inform you, that the days of tin pipes, glass pipes, iron pipes, lead pipes, and pot pipes, are gone by, and that a new material has come into use, which is likely to supersede them all. An engineer was dining with me last week, and the conversation turning on water, he said, "I am a shareholder in a company which coats iron pipes inside and out with flint glass; they are so strong that they will bear 400 lbs. pressing on the square inch; so cheap, that for sizes between 3½ to 6 inches bore they will be as cheap as cast iron (this his partner doubts at present), and for smaller bores as cheap as lead; and in addition to these pipes, we make all sorts of stew pans, baking dishes, frying pans, chemical utensils, plates, dishes, &c., and it resists all acids (except fluoric). You may make the utensils red hot, and then suddenly quench them in cold water without injury, and you may throw them down and kick them about the floor without the glass splintering or giving way in any part." The workhouse at Manchester (or one near Manchester), has already got a supply of plates for the in-door poor of the establishment. The material has been applied to greenhouses, window-frames, baths, &c., and new applications are making of it every day. Now this is no vision, like the flying machine or the perpetual motion, but a tangible reality. I have already specimens of it in the shape of stew-pans, plates, wash-hand basins, water-pipes, &c. I intend to have, if not a whole series of the articles made, at least a good many of them; their strength, cleanliness, and economy, will recommend them everywhere. The plates they make are in two or three colours, but they have not yet been able to print patterns upon them. Mine are like light-blue or lavender-coloured China plates, really very respectable in appearance, nay, even handsome. I am informed that the corporation of Manchester have consulted this company about the desirableness of applying their pipes for private taps instead of lead; and our corporation being about to supply the town of Clitheroe with water, I invited the company to send us tenders for the supply of the main pipes. I had almost forgotten to enumerate pumps; and this material, particularly for deep wells, is much cheaper than lead, to say nothing of communicating no unwholesome taint to the water. *T. G., Clitheroe.*

Grafting Pears on Quince Stocks.—Could you favour me with a little advice as to this process. I have been very unfortunate in my attempts, repeated annually, for the last four or five years; though I have worked from 10 to 15 healthy Quince stocks every season with varieties of Pear (named as suitable for Quince stocks), I cannot report more than four successful cases. I have tried "working" a foot or 18 inches above ground, and close to the ground, and by earthing up the stock over the insertion of the scion. I am so successful in grafting generally that I cannot but suspect there is some "dodge" or "wrinkle" I am not up to, as to Pears on Quinces. *W. M. R., Bishop's Castle.* [It appears that you have taken due precaution as to working close to the ground and earthing up the graft; but you do not state at what period of the season you headed down the stocks. Although the operation of grafting may not be performed till March, yet the Quince stocks ought to be headed back nearly to the ground early in January. This is the most important point to be attended to.][]

Hint to Indian Planters.—I do not remember ever to have seen that any steps have been taken to introduce to the West and East Indies three trees that would be of invaluable service to the inhabitants, viz., the Palo di Vaca (Cow Tree), to be met with on the Cordilleras, on the coast of the northern part of South America; and on the northern coasts of Barbary, the Rhamnus Lotus, producing a yellow berry of fine flavour, and, when pressed, eating like Gingerbread, and keeping for a long time; the other, the Shea Tree, resembles the American Oak, the fruit being very like the Spanish Olive. Butter is made from the kernel, keeping the whole year without salt, and is very rich in flavour, like the finest butter made from cream. It is a reflection on us that these have not been introduced both into the East and West Indies and New South Wales. *P.* [We much doubt whether these plants are worth the trouble of experimenting upon. *Cui bono?*]

Remarkable Hail-storm.—On the 25th ult. this neighbourhood was visited by one of the most extraordinary hail-storms I ever saw or heard of. The forenoon was clear, with bright sunshine, which continued until about 2 o'clock, p.m., when the sky suddenly became overcast, and foretold the approach of a heavy storm from the south west. In a short time some vivid lightning was observed, accompanied with thunder, and followed by heavy rain. By degrees the rain changed to hail, until about 3 o'clock, when the storm ended in a shower of icicles, of the most irregular and grotesque form. The annexed outline of a few I laid on paper and traced immediately after they fell, will convey some idea of their singular appearance. I expected the whole of the glass in our hothouses and frames would have been totally destroyed; but, strange to say, between 30 and 40 panes are all the damage that was done. Not so



much as a single pane of sheet glass, or of Hartley's patent rough plate was injured in the least degree. I attribute our fortunate escape to the brisk undercurrent which was blowing at the time, and in all probability caused the pieces of ice to strike the glass in an oblique direction. Had it been otherwise, it seems scarcely possible that any of the kinds of glass commonly used in hothouses could have withstood such a severe test. *Wm. B. Booth, Carclew.*

Orchard Houses.—I am not surprised that Mr. Rivers should have shown more spleen than candour in his remarks upon orchard houses at p. 54, of your widely-spread Journal. Instead of talking about heads and brains, he would have done better to disprove my assertion, that I cannot get work done at the price which he names. Perhaps he will condescend to give on of the "slow" ones a plain answer to this plain question. He says, at page 10 of his book on "Orchard Houses," that a house 21 feet long, can be built for 17*l.* 8*s.* 9*d.* It is to be tarred with Stockholm tar, coated with Asphalte felt, which is to be payed twice or thrice with coal tar and lime, and moreover the inside is to be painted with Carson's anti-corrosion paint. But no trace is to be found of these expenses in the particulars showing, at page 10, how the 17*l.* 8*s.* 9*d.* aforesaid arise. When this is explained, it is possible that you may be requested to give insertion to another enquiry from *A Hertsman.*

Cultivation of Mushrooms.—

"Fools rush in where angels fear to tread."—*Pope.*

But hark; I have just slipped on my patent pumps, therefore shall tread softly, to whisper a few questions in your Calendar writer's ear. He says at page 56, for Mushrooms, "prepare fresh material for beds. We use fresh droppings turned over till quite dry." He further recommends the house to be kept moist by evaporating troughs over the heating apparatus. Where does he get all his fresh droppings, and what success attends his system? Moisture is to be obtained by evaporating troughs. I am ever anxious to expel what he wishes to generate, and for that purpose I kindle a fire once, sometimes twice a week. Half a bushel of cinders is consumed each time. I have six beds 3 feet deep, with a walk in the centre, each bed being 20 feet long by 3 feet wide. I have gathered 4 bushels per week for the last six weeks. I expect to do the same for the next 10 weeks. I have a little more to say about the matter, but for the present I will lay on my oars, and listen to what the gentleman in "kids" has to offer. Along with this you will receive a fair sample of my Mushrooms. Are they good? *Caultie.*——[Our "droppings" are shaken out of each day's stable litter, until sufficient is obtained to make a bed. These are kept under cover, and turned over daily, till they become dry, or nearly so. When forming the beds, we mix about one-third of dry loam with the droppings, beating the whole firm together. Our object in drying the droppings, and mixing them with loam, is to prevent a too rapid fermentation in the bed, which would be at the expense of the future crop—our success is complete. Mushrooms thrive best in a somewhat moist atmosphere, which may be effected by various means; we named one, only. Much depends on the form of house and mode of heating. When grown in low sunk houses, or damp cellars, badly ventilated, a little dry fire-heat may occasionally be necessary to prevent damping off. "Caultie's" success appears to us no way remarkable. *The Writer of the Calendar.*]

The Seed Trade.—I agree with you that the remedy for the numerous complaints that are made respecting bad seeds rests with the public; but your correspondent, "J. C. M.," seems to think otherwise; and he says, "Why, as in the case of guano, may not some first-rate houses of intelligence and capital come forward and say, we will do our utmost to obtain from growers genuine seeds, and we pledge ourselves to sell to you, the public, seeds as genuine as we can procure." Now, as in guano so in the seed trade, there are houses of "intelligence and capital," who sell seeds as genuine as they can possibly procure them, and that, too at the lowest prices compatible with reasonable and fair remuneration. That the public can get genuine seeds at the prices they are so frequently advertised at, I do not believe; yet it will buy cheap rubbish, instead of the genuine article. I have myself heard many complain at the quality of their seed, and when I have said, "Give your orders next time to such a firm, I have the greatest confidence in their integrity, and I have no doubt that they will supply you with seeds as genuine as can be had," the answer I get is, "Why, Mr. S., you do not wish me to be ruined; really, the prices charged for seeds by the firm you recommend, are most exorbitant, I must try some house where I can get them cheaper." Such, in general, is the conduct of the public; and in this manner it becomes an "accomplice in fraud, to the injury of the honest and fair dealing tradesman." Farmers who are notorious for selling in the dearest market, are equally so for buying their seeds, such as Clover, Turnips, &c., in the cheapest market. I get my seeds from a London firm, in whose integrity I put the greatest reliance, and I find them invariably good, and true to name; but for these genuine seeds, I pay prices as low as is compatible with reasonable and fair remuneration. If the public prefer to buy seeds merely because they are cheap, knowing that good seeds cannot be had at such low prices, then it must be content to suffer, as it richly deserves. *M. Saul, Gardener to the Right Hon. Lord Stourton, Allerton Park, Yorkshire.*

Polmaise Heating.—Continuing my remarks on this, the simple radio-thermal system, let me recal to mind that in suggesting a cheap stove for its development, the late Mr. Meek carefully cautioned his readers against the error of connecting the principles with his, or with any other form of stove; indeed all the merit he laid claim to, was, the having shown to the world that the stove in the house at Polmaise was of secondary consideration, but that a grand natural law was beautifully developed; that the smallest and commonest stove (in other words, any heated chamber or air-boiler) could be made to evidence this system. Be it then remembered that the form of stove, or the source of heat, is immaterial, as far as the principle is concerned. Your readers should reflect that they may circulate the air in any house, by such "contrivance" as will best suit it; and I can scarcely imagine a more interesting employment than this would prove. As Mr. M. has said to me, "they may Polmaise their hot-water pipes;" and why not? Case any portion of them in a house so heated; or case, if practicable, the water-boiler itself; or get a hot chamber in the thickness of the wall; bring air to the bottom of the interior of that case or chamber, exclusively from a short drain under the floor of the house, having a grating in the pavement of the house (which drain may also communicate, or not, with the external air), and the air of the house must—I say must—be put into action, not with the rapidity of air made to pass through a hotter chamber, but nevertheless in constant agitation. In a house heated by brick flues, let the owner contrive to place over that end of the flue which is nearest to or surrounding the fire, a case made of thin sheet iron, leaving a small interval; abundance of air may be made to rush through this. In a house heated by any ordinary iron stove, it is superfluous to say that it may be Polmaised with very little tax upon the owner's ingenuity. And now may I not assume that the great Palm house at Kew may be so benefited? Surely there is some spot "below" where the system of pipes, or the boiler itself, would admit of a "large heating surface" being encased; and a comparatively short and small drain from the floor o

the house would be sufficient to set all the air travelling. For instance, a 2 feet cold air drain, which might drop suddenly and not cause much disturbance of the nearest alley, carried to the very bottom of such a hot room as I recommend, two 6 inch pipes connecting this drain with the external air, the ends to open or close at pleasure, a 4 or 5 feet circular opening to let out the hot air, close fenced to the height of 3 feet from the floor; and I cannot conceive any possible cause of failure. If there be any exposed surface of boiling water, might not the air have egress over that with excellent tropical effect? It may be gathered from what I have said, that no one need be deterred from Polmaising his house by an idea that he must disturb his whole floor for the sake of drains. I am indebted to Mr. Haden, of Trowbridge, the erector of the stove at Polmaise, and of many similar in this neighbourhood (a stove cheaper than hot-water pipes, though beyond the means of many amateurs and of small gardeners), for the confirmation of what one of your correspondents has stated, that there is no occasion to carry the cold-air drain all along the house. I have found 5 feet as effectual as 30. Mr. Meek himself says (p. 36 *b*, 1847), that on the question of drains "it may prove that the form of matter we are employing is so extremely rapid in its movements that it requires no assistance at our hands," &c.; and the Hon. Mr. Grey has stated in your columns that he did not provide any drain, but simply made an aperture to the lower part of the Polmaised stove outside his corridor, and another at the upper part. However, even after this, Mr. Meek told me he would, as a rule, recommend some drain, so as to have an undoubted "circle" of air in action. Indeed, if only for the benefit of taking the air to a space below the hot chamber, it is well worth retaining. In the only case of decided failure as to amount of heat, with which I am acquainted, this was not done. I should say that, under some circumstances, Mr. Meek's first plan of stove (page 563, 1846) may not act well; his second plan (page 573, 1847) must succeed, if free vent be given to the air when heated. I wish it to be borne in mind (as has been already recorded), that there is no perceptible draught within the house of air in its descent to the cold air grating, and that at 4 feet from the hot-air aperture the thermometer indicates only the average temperature of the building, so subtle is the fluid with which we have to deal. Reverting for a moment to the supposed case of a house now heated by hot-water pipes, in which an internal aeration has been successfully accomplished, it would follow that if cleverly done there must be such an accession of spare warmth as to admit of one or more ventilators in the roof being freely opened. I do not, however, quite like the mere letting down of sashes; there must, surely, be a double current at work at such openings. Why not, in my supposed case, try Arnott's valves, or perforated zinc, so as to let out the inside air only, receiving fresh air (through the hot chamber) from the cold air drain. I find that I am trespassing on your columns; but if I shall now ask you to record instances of my own success, it is simply from an earnest impulse which I feel to honour the memory of a benefactor to his kind, who was removed from this world before the practical results of his labours had been satisfactorily brought home to the minds of the community. Plates cracking here and there; outer brick-walls absorbing the heat of non-isolated stoves; an insufficient temperature complained of, where the hot air had egress by a mere concealed slit behind a pedestal, and other such causes, brought his favourite "Polmaise" into disrepute; but I confidently predict the growth of that seed which Mr. Fitzsimon says has already germinated, till the day when every building will be considered in an unsatisfactory state, unless its air be in perpetual motion, according to the simple radio-thermal system. *G. W., Feb.* 6.

Societies.

Linnean, *Feb.* 3.—R. Brown, Esq., in the chair. The deaths of Professor Ledebour, Professor Wahlenberg, and M. Savigny having occasioned three vacancies in the list of foreign Fellows, the President proposed the following in their stead: F. Unger, M.D., Professor of Botany at Vienna; A. Retzius, Professor of Anatomy at Stockholm; A. Braun, Professor of Botany at Berlin. Mr. B. Botfield, grandson of Dr. Withering, author of the "Botanical Arrangement of British Plants," has presented the herbarium of his grandfather to the Society. Baron Müller, J. D. Salmon, Esq., and Wm. Wing, Esq, were elected Fellows.—A paper by Mr. Newport, entitled "Further Observations on the genus Anthophorabia, Newp.," was read. The author stated that having in September last obtained specimens of this genus Chalcididæ at Gravesend, he is now enabled to prove, that although the male of this genus has been repeatedly denied to possess any eyes at all, yet that the description he originally gave of it, in this respect, in his paper read to the Linnean Society on the 20th of March, 1849, was correct. It possesses, as he then showed, a single stemmatous eye on each side of the head, and three stemmata on the vertex; and he remarked that, having specimens of the perfect insect to refer to, perhaps we may now be permitted to believe that it really does possess eyes; and more, even, than those who have affirmed it has none. He then showed that the asserted identity of Anthophorabia, with another parasite, Melittobia, cannot be a fact, if the latter has been described correctly; and referring to the description given of this in the *Gardeners' Chronicle* of May 12, 1849, pointed out that the two differ, both in regard to the eyes and to the structure of the antennæ. The author then revised some details of minor importance in part of the generic characters formerly given; and after stating that the specimens now obtained present some specific characters which he did not observe in the specimens formerly procured at Richborough, he proposed to name the insect which he now possesses, provisionally, in the event of its proving to be distinct, Anthophorabia fasciata. Some account was then given of the habits of the males and females, and also of the larva, which was shown to be an external feeder, attached to the surface of the bee-larva upon which it subsists. Specimens of both sexes of the insect were exhibited to the Fellows at the meeting.

Books, &c., Received.

Murray's Modern Cookery (small 8vo, Murray, pp. 675).—This is a new and better edition of the well-known work of Mrs. Rundell, with numerous additions and improvements. It and Mrs. Acton's book on the same subject not only stand at the head of English works on the culinary art, which is not indeed saying much in their favour, but are really of very great intrinsic excellence, and, if they were enriched with directions for the preparation of more of the continental vegetable dishes, would be complete. We fear, however, we must despair of seeing good cookery in the houses of the middle classes of this country, until the charitable persons who undertake the education of the poor shall perceive the necessity of giving servants that are to be, some notion, at least, of their household duties when they become servants. Reading and writing and cyphering are excellent branches of knowledge, but they neither make cooks nor housemaids.

Notes, Thoughts, and Inquiries. By Charles Chalmers (8vo, London; Churchill, pp. 103).—The author proposes that the soil of every country should belong to the state; that a portion of public revenue should be annually set apart for the purchase of the soil; and that by degrees the whole land should be broken up into allotments, "adequate, when cultivated, to the ample supply of food for a single family." He would have the extension of towns arrested, and the towns themselves gradually demolished. Then, having broken Great Britain up into allotments, he would have lectures on science given, "the courses of instruction to be such as are taught in our Universities, but cast into a more popular form." The courses are, however, to be given in the towns, an arrangement which strikes us as incompatible with the other plan of demolishing the towns. Should the reader care to know how Mr. Chalmers supports these rather startling propositions, he will of course procure the work for himself.

Notes on the Organisation of an Industrial College for Artisans. By T. Twining, Esq. (Privately circulated.)—A pamphlet on the best means of promoting the education of the working classes, well deserving the attention of the philanthropist, the propositions made in it being both rational and practicable. Mr. Twining understands education as we do, namely, as the training of men to a better knowledge of that particular business which they are intended to follow. Over-education is, perhaps, more disastrous to poor men than under-education, wasting their best time, and rendering them discontented with the state to which it has pleased God to call them.

Linnæa. Vol. 24, Part 5, Halle, chiefly occupied by Lang's account of North European Carices, which is now completed.

The Mystery of the Danube. By D. Urquhart, Esq, M.P. (Bradbury and Evans). 8vo.—A political pamphlet, showing how, in the opinion of the honourable gentleman, Lord Palmerston has closed the Danube, arrested exportation from Turkey, and prevented the reopening of the isthmus of Suez!

The Comic History of Rome. (Bradbury and Evans.)—This, perhaps the best of the admirable serio-comic volumes by Mr. Gilbert A'Beckett, is now completed. The "Comic Blackstone" and "Comic History of England," are volumes pregnant with truth and wisdom, whatever formalists may say to the contrary.

Mr. Sponge's Sporting Tour, Part II. (Bradbury and Evans), will be the delight of sporting men. Leech's illustrations are, we think, better than ever, if they can be better.

Collected Edition of the Writings of Douglas Jerrold. The Story of a Feather. Part I. (Punch Office.)

The Garden Companion and Florists' Guide, Part I. (4to. Orr and Co.), contains an interesting account of Mr. Warrington's parlour aquarium, and two good plates of hybrid Heaths and Pompon Chrysanthemums.

Walpers, Annales Botanices Systematicæ. Vol. II. fasc. 2.

Half-hours of English History. Knight. Part IX.—*Knight's Pictorial Shakspere.* Part XXX.—*Chambers's Pocket Miscellany.* Vol. II.—*Knight's Half-hours with the Best Authors;* a re-issue, under the name of Knight's "Companion Library." Part I.—*Knight's Curiosities of Industry.* Part V. Printing, and Cotton and Flax.—Of the last five works, we can only say that they give to the lower orders a literature of which no other country can boast the like for good purposes and real instruction.

Turner's Florist, No. 2 (Chapman and Hall), has a coloured figure of three varieties of Epacris, in addition to the usual kind of matter for which this periodical is well known.

Epimelia Botanicæ. By C. B. Presl; 4to, pp. 264, with 15 plates (Prague, Haan).—A treatise in Latin, of which the first 192 pages, and all the plates, relate to Ferns. The remainder is occupied by descriptions of supposed new genera and species of plants preserved in the herbaria to which the author has access, among which are many of Cuming's Phillippine collection.

FLORICULTURE.

Showing Verbenas.—Much diversity of opinion has always existed as to the best method of showing Verbenas; and we are not sure but that to this circumstance alone may be attributed the apparent disrepute into which this flower has fallen with our leading societies. This is the more to be regretted, as few plants possess in its way so many valuable qualifications as the Pansy, not the least of which is usefulness for decorative purposes; while for brilliancy and variety of colours, it has few equals. Let us hope that in future more attention may be paid to it. The principal value of the flower lies in its bedding properties; but we trust that it will yet form a conspicuous and natural feature at all our great flower shows. This will not be effected, however, by an exhibition of "12 or 24 varieties, in bunches" as is often required; or by "12 or 24 distinct varieties, in single trusses." The only means of showing the habit is to exhibit perfect plants; and then arises the question, how is that to be best done? We answer, in any way that displays its natural style of growth; this cannot be accomplished in pots, by erect training; hence the necessity for some trellis, which will best exhibit the trailing and natural habit of the plant, and, at the same time, display the largest amount of bloom. All formality must be avoided, and as little restraint apparent as possible. This is the objection to flat trellises, with which our metropolitan friends are familiar; let us suggest a trellis that shall in some degree meet the difficulties to which we have thus cursorily alluded; instead of a perfectly flat surface, the desired end would be better attained by one in the form of a parasol, and so arranged, that by overhanging the pot, the growth may "run riot" with perfect freedom; a wire trellis shaped like a parasol, with its handle or support not quite in the centre, would give us just the form best suited to meet the wants of the case; such a trellis should be made to sit firmly on the rim of the pot, and should then gracefully fall around it until the pot is nearly hid from view. The size of course must be optional, and is perhaps best left to the taste of the cultivator. We are happy to state that the exhibition of this flower will be warmly encouraged during the coming season, there being a few growers determined to try their skill with it; the highest award is a silver cup, but let us hope there will be other prizes graduating in value, so that many, if not all, may win who venture; 12 distinct varieties "well done," make a pretty show, but as with the Dahlia, so with the Verbena, uniform stands should be enforced. To *grow* well is a desideratum, but to *show* well, equally so: we could instance exhibitors whose collections are distinguished as much for the finish that belongs to them as for their excellence in other respects. Such growers are seldom far from the head of the classes in which they show. *J. E.*

Inconspicuous Props for Plants (see page 71).—I am glad to see that the "Inconspicuous Props" have found an advocate; but I should have admired the candour of the writer of the recommendation for their use more, if, instead of saying "the best remedy which I have discovered," he had given the source from whence he got the hint. The fact is, such a mode of superseding the common use of sticks, has been well known and practised hereabouts for a length of time. I send you herewith a copy of the *North British Agriculturist* for Nov. 1849, in which you will see to whom the credit (if any) is due for first bringing them into notice. Since that time it has been by no means uncommon to see plants supported in the manner pointed out. In 1850 plants were exhibited at the shows about Edinburgh with "well painted straightened wires of various thicknesses." Pinks were supported "with wire, which, with two coats of green paint, were almost invisible, and proved perfectly firm and efficient as supports." Not only was this the case, but frequent favourable mention was made of this plan at periods subsequent to that of the first notice in the *North British Agriculturist.* I should have left this without notice, had it not been that I thought if the plan was to be advocated at all, it might as well be so in its integrity. The use of the single wire is only part of the good which it is designed to effect. You will see from the notice in the *North British Agriculturist,* that wires can be fixed in the socket, in number to suit the requirements of the plant to be supported, one hole only being made in the ball of the plant, which will supply as many supports as may be necessary; in fact, a sort of wire frame may be made to suit any form. I have used them for Carnations for the last two or three years; if three plants are in a pot, it is used with three arms; for Pinks, &c., according to the number of stems, and I find (as well as your correspondent "W. C.") that the plan is decidedly preferable to that of stakes. But I think it right that the originality should be assigned to the right person, which he neglects to attend to. *Cuique Suum.* [We learn by the extract from the paper alluded to, that the originator of the props in question is C. K. Sivewright, Esq., of Cargilfield, near Edinburgh.]

Exhibition Days Fixed.—Handsworth and Lozells: April 28, June 29, July 27, August 24; South Devon: May 18, July 13, September 6; Hexham: September 15 and 16; Oxfordshire: April 29, May 25, June 23, July 29, September 23; National Floricultural: March 4 and 25, April 8 and 22, May 13 and 27, June 3 and 17, July 1 and 29, August 5 and 26,

September 9 and 23, October 7, November 18, December 2; London Floricultural: March 9, April 13 and 27, May 11 and 25, June 8 and 22, July 13 and 27, August 10 and 24, Septembre 14 and 28, October 12, November 9 and 23, December 14. *J. E.*

Dahlias: *Old Sub.* We should think that the nurseryman first mentioned in your letter could furnish you with what you want. We cannot openly recommend dealers. *J. E.*

Miscellaneous.

The Botanic Garden, Sydney.—We are glad to see that justice, although most tardy, has at length been done to Mr. Charles Moore, and that his salary is finally settled at 300*l.* a-year. The appointments of superintendents of botanic gardens are vested in the Secretary of State for the Colonies, and most properly, if such places are to be anything better than colonial jobs. Nevertheless, on the last occurrence of a vacancy at Sydney, some busy-bodies in the local government took upon themselves, without any authority, to confer the office upon a gentleman then resident in the colony. When, therefore, the superintendent, appointed in England, reached Sydney, he found his place already occupied. Flagrant usurpation like that of the local government could not, however, be sanctioned, and Mr. Moore, of course, assumed his office. The clique in the local government, who had just voted that 300*l.* a-year was a proper salary for their own man, decided that 200*l.* a-year was enough for a superintendent sent out from England, legally appointed, and at least as competent to fill the office advantageously as the gentleman illegally appointed. At last the legislative council has redressed the wrong, notwithstanding the attempt of half-a-dozen members of the council to secure its continuance. We regret our inability to give the names of the minority. The most conspicuous was a Mr. Wentworth, who, after assuring the council of his profound ignorance, an assertion we should have thought uncalled for, acquainted the House that among the members of the botanic garden committee were "the best botanists, perhaps, in the whole world!" a piece of information which conclusively shows the value of the opinion of this minority as to what is or is not right in the management of a botanic garden. *See Sidney Herald, Nov.* 7, 1851.

Sale of Orchids.—A small consignment, collected by Mr. Warczewicz on the Cordillera of the Andes at Quindios, was sold the other day by Mr. Stevens at the following prices, viz.:—A new Cattleya, bearing from 10 to 15 flowers on a stem and as brilliant in colour as C. Skinneri, from 3*l.* 5*s.* to 5*l.* 15*s.*; a new Coryanthes, 1*l.* 1*s.*; a white-lipped Cattleya, with yellow and carmine spots, from 1*l.* 1*s.* to 4*l.* 5*s.*; a rosy spotted white Angulon, from 2*l.* 4*s.* to 2*l.* 15*s.*; a new Oncidium, from 1*l.* 1*s.* to 2*l.* 6*s.*; Cypripedium floribundum, from 1*l.* 18*s.* to 2*l.* Other lots, of which there were in all 74, fetched from 1*l.* to 2*l.* each.

Calendar of Operations.

(For the ensuing week.)

PLANT HOUSES.

To give as great variety as possible to the conservatory, a different arrangement of the plants in pots may be made whenever a fresh supply from the forcing houses is brought in. At this season it will be proper to examine any plants which may be growing in the open borders of the house; and where any are found growing too vigorous, either a complete lifting or partial disrooting will be requisite. The great thing to guard against with plants growing in the open borders of conservatories and other houses, is to prevent the free growing kinds from crowding the more delicate ones; and which can only be done effectively by the frequent transplanting or root-pruning of the strong growers. The delicate and slow-growing kinds should at this time be examined, and any dry and worn-out soil changed for fresh compost; such plants as Brugmansias, Hibiscus, and other free growing genera, should be taken up, and have fresh compost to grow in every second year. The former would be benefited by this treatment annually. When conservatory borders are being constructed or rearranged, we suggest their being divided by 4½ inch walls into squares, the size of which may be regulated by the height the plants will ultimately attain; by this, each plant will be prevented from encroaching on its neighbour, and the desired compost for each can be given it without difficulty; while for late purposes this plan presents manifold advantages. The walls should be carried up to within 2 or 3 inches of the top, to allow for that depth of compost over them, that the surface of the border may present a uniform appearance when finished. Fires in this department will be more needed to dry up damp and to enable you to ventilate freely, than for the purpose of raising the temperature—45° may be the maximum height of temperature. As many kinds of Orchids will now be showing their new growth, the shifting of such may be proceeded with. For this purpose, logs of wood (good elbow pieces), dry fibrous peat, and sphagnum, will be required; whatever mode of growing them is adopted, it is important that they should be well secured with copper wire; those requiring baskets, as the Stanhopeas, &c., should be well packed with the compost, and made somewhat firm. Copper-wire baskets are good—will some one make a trial of India-rubber ones, for suspending them in? Bletias, Cyrtopodiums, and other terrestrial Orchids, thrive best in pots, and should have a portion of fibrous yellow loam in their compost; these may be set to work immediately, if early bloom is wanted, and a few of the freer-growing Dendrobes may be started for the same purpose. Attend to the wants of each description of plant, now on the move. The most vigilant care will be necessary where growth has commenced, to prevent drawing. Bring on successions of Roses, Chinese Azaleas, and every description of forcing stuff, for the conservatory, quickly, as its own inmates will soon be in bloom, and less auxiliary aid will be needed, when such is the case. Camellias, now fast approaching their beauty, should be frequently watered with weak manure water—see former directions.

FORCING DEPARTMENT.

Late Vineries.—When it is desirable to have Grapes fresh and plump after Christmas, a house should be devoted to the purpose; and if the kinds selected are the true variety of St. Peter's and the Barbarossa as black Grapes, and the White Muscat and Charlesworth's Tokay for white ones, you may be satisfied that the desired end is easily to be attained. Numerous writers on this point assert that Grapes should ripen in September to keep well; we have, however, found it very difficult to to keep Grapes ripening at that time fresh through January. As our Vinery is very steep, we may perhaps obtain more light in November than some others; but, certainly, we have ripened Grapes in that month of the above varieties (excepting the Barbarossa), which have been equally well coloured and flavoured as those ripened at a much earlier period; and we managed to keep the leaves green and fresh through the greater part of January, by simply covering the borders with warm litter, to preserve the roots in action. We name this, as fresh Grapes and green leaves are a boon at that period. To obtain the above, we shade the Vines, to prevent their breaking before May. Bring on the successional forcing houses, and pay every attention to the regulation of fire heat and admission of air. The bunches in the early house will now require thinning, which should take place directly the berries are discernible; aim at doing the work principally at the first operation; do not handle the bunches with dirty hands, nor allow anything greasy to touch them. Keep the house in a moderately moist state, by steaming the heating apparatus twice or oftener, daily, but not during sunshine. Peach House.—Go over the newly set fruit, and give them a slight thinning.

FLOWER GARDEN AND SHRUBBERY.

The demand for bedding out plants (in the spring) is frequently greater than the room devoted for their wintering can supply. It will in this case be necessary to commence propagating to make good the deficiencies. For all the soft wooded and free growing plants a common dung frame, having a slight bottom-heat, will suffice; fill up to within 12 inches of the glass, upon which place 4 inches of dry sandy soil, in which the cuttings may be put directly you can procure a young growth for the purpose. As the display of flowers during the early summer months depends mainly on the health of the stock at planting time, it will save labour and increase the size and healthiness of the plants by turning them out of their pots or cutting pans, into low pits or frames; any light sandy compost will serve for them to grow in, and if 6 inches of this is placed over a very slight bottom-heat, the plants will soon make rapid growth; and you will have the advantage of an abundance of cuttings for propagation, if wanted. Calceolarias, Petunias, Verbenas, and such things, answer best for this; but where time and pot room are objects, scarlet Geraniums, and nearly every variety of bedding out stuff, may be managed on the above plan. Before planting time the plants should be checked by raising them once or twice with a spade. Put in root cuttings in a brisk bottom-heat, of Bouvardias, and some kinds of Geraniums difficult to strike in the ordinary way, or of which cuttings are scarce to be got. Sow in small pots Maurandyas, Lophospermums, and other climbing annuals, to get strong by May. Keep the pleasure-grounds swept and rolled frequently, to keep down moss.

HARDY FRUIT GARDEN.

The Strawberry plantations will now require going over; for the present, however, allow the leaves of last year's growth to remain, as a protection to the crowns; the beds should be cleared of weeds, and a dressing of good rotten dung spread between the rows. We by no means advise a digging between them, but if the ground is firm, a slight pronging will do good, but only to break the crust. As soon as the pruning of espaliers and dwarf fruit trees is completed, let the ground, if poor, have a surfacing of manure, and be slightly forked over, leaving it rough for the winds of March to dry the surface, when it may afterwards be raked smooth. Pruning of all kinds should now be brought to a close, except Figs, which may yet remain. When Filberts are closely pruned, a deficiency of male blossoms sometimes occurs; in which case, stick some branches of the common Hazel, having a crop of catkins on, about the bushes, to fertilise the female flowers. Before Peaches are tied to the walls, they should be dressed with a composition, consisting of soft soap, tobacco-water, sulphur, to which add quick lime, to give it consistence. Whenever any appearance of scale is found on other wall-fruits, they should be dressed during winter with the above composition.

KITCHEN GARDEN.

We fear the getting in of spring crops on all heavy soils will be late this season. The lands in this neighbourhood are saturated to excess, and some time must elapse before anything can be done with the stronger soils. Whenever practicable, however, no time should be lost in turning and working the ground for sowing, immediately it gets in a fit state. When a supply of Peas, Beans, &c., are required regularly through the season, we make it a rule to sow a crop whenever the one sown previously is out of the ground. By sowing two kinds, each sowing differing slightly in their time of coming to perfection, no difficulty will be found in keeping a regular supply. See to Cauliflowers under glasses, or this mild weather will make them button; the glasses should be entirely removed each fine day for some weeks yet. When the critical time is over, they may be kept rather closer. Pot off a portion of Cauliflowers now wintering in frames into 8-inchh-pots; when well established and turned out, these often beat those under glasses in coming in.

State of the Weather near London, for the week ending Feb. 12, 1852, as observed at the Horticultural Garden, Chiswick.

Feb.	Moon's Age.	Barometer. Max.	Barometer. Min.	Temperature. Of the Air. Max.	Of the Air. Min.	Of the Air. Mean	Of the Earth. 1 foot deep.	Of the Earth. 2 feet deep.	Wind.	Rain.
Friday.. 6	16	30.098	29.648	49	27	38.0	46	43	N.W.	.01
Satur... 7	17	30.155	29.994	50	41	44.5	43	42	N.W.	.02
Sunday.. 8	18	30.178	29.463	53	36	44.5	43	42	S.W.	.38
Monday 9	19	29.461	29.111	45	25	35.0	44	43	S.W.	.05
Tues. .. 10	20	30.036	29.631	45	25	35.0	41	41	N.	.02
Wed. .. 11	21	30.099	29.998	44	17	30.5	39½	40	N.	.00
Thurs... 12	☾	29.914	29.664	43	25	34.0	38	39½	S.	.00
Average ...		29.991	29.644	47.0	28.0	37.5	42.0	41.5		.48

Feb. 6—Clear, very fine; shower; clear at night.
7—Clear; fine; uniformly overcast; rain.
8—Boisterous with rain; overcast; rain at night.
9—Fine; cloudy; showery, with sun at intervals; clear; frosty.
10—Snow-flakes partial ly whitening the ground; cloudy; clear.
11—Clear and frosty; fine; sharp frost at night.
12—Frosty and foggy; very fine; clear.
Mean temperature of the week, 1½ deg. below the average.

State of the Weather at Chiswick, during the last 26 years, for the ensuing week, ending Feb. 21, 1852.

Feb.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 15	47.2	32.1	39.6	11	0.25 in.	2	2	2	1	5	6	7	2
Mon 16	46.2	30.9	38.5	4	0.23	3	3	1	3	—	7	6	3
Tues. 17	46.4	32.4	39.4	9	0.32	3	1	2	3	3	5	8	1
Wed. 18	45.5	33.0	39.2	11	0.30	3	1	3	1	4	7	6	1
Thurs. 19	45.8	32.5	39.1	13	0.64	4	—	3	4	1	9	3	1
Friday 20	45.9	32.7	39.3	16	0.51	4	—	3	4	1	8	3	2
Satur. 21	47.3	33.4	40.5	14	0.20	1	3	3	4	2	5	5	2

The highest temperature during the above period occurred on the 17th, 1847—therm. 57 deg.; and the lowest on the 19th, 1845—therm. 16 deg.

Notices to Correspondents.

Books: *A Z.* You must not expect to find separate books upon every point that you may desire to investigate. The history of fungi, in their relation to timber, is to be found in works on timber, on general botany, and on fungi generally, and very much in our own columns. We cannot answer legal questions; that which you put should go to a solicitor. As to the cause of dry rot, it is undoubtedly owing to damp acting on wood in unventilated places. Under such circumstances the seeds of the dry rot fungi germinate, and the plants spread with great rapidity.

Damp Houses: are they Tenantable at Law? *A Riddler.* We suppose not: but we are not lawyers, and cannot give legal opinions. Of course you remember the case of the late Sir Thomas Marrable, who refused to occupy rooms at Brighton, because they were rendered uninhabitable by bugs. The judges decided that he was right; and we presume that if you can prove that your house is uninhabitable, because of dampness, you are in the same position as Sir T. Marrable.

Horticultural Society's Schedule: *New Sub.* Apply to the secretary, 21, Regent-street. Your question about Lucerne will be answered in the agricultural side of our Paper next week. ‡

Iron Ore: *Albert.* Apply to the officers of the Museum of Œconomic Geology, in Jermyn-street, who will inform you what the usual fee is for such an investigation as you desire to have made.

Luminosity. Received, a communication from Mr. R. Dowden, which shall have early attention.

Names of Fruits: *W B H H.* 1, Winter Crassane; 1, Court pendu plat; 2, Blenheim Pippin; 3, appears to be the Cockle Pippin.‖—*A J D.* Your Pear is the Glout Morceau.‖—*G S B* states that "hard flesh is the besetting sin of the best English Apples; Ribston and Golden Harvey are both hard. The flesh of the one sent for a name is tender for weak teeth." It is the Golden Reinette.‖

Names of Plants: *A M.* Photinia glabra.

Nemophila: *Old Sub.* It should be pronounced Nemophila not Nemophila.

Orchids: *J T.* They are not sold, nor likely to be, that we know of. At least we sincerely hope not.

Pea Chichy: *Lord C.* This is the Pois chiche of the French, and the Garbanzos of the Spaniards. It is produced by an annual called Cicer arietinum. The Peas seldom ripen in Great Britain, but may be bought of the Paris seedsmen. They are said to form the best of all *purée.*

Phillips' Fire Annihilator: *Vox.* We really cannot go into the reasons which induce persons not to use this invention so extensively as its merits appear to deserve.

Seed Lists and Catalogues of Plants. We have to acknowledge the receipt of *Waite's Seed Catalogue* for 1852, *Sutton and Son's Plant List* in 5 parts, *Knight and Perry's List of Hardy Trees and Shrubs,* and *Carter's Seed Catalogue;* in the latter we observe a name before unknown to us, Lusania calycina, concerning which information is needed. Mr. Carter's is no doubt the largest trade collection of flower seeds known in Europe.

Tea: *L W.* We see no reason to doubt the leaves being genuine. At the same time we must observe that questions of adulteration are very difficult to answer, and consume more time than it is possible to give to any one correspondent. To reply to this enquiry with absolute certainty would, for example, consume three or four hours.

Wall Trees: *Aline.* There is nothing peculiar in the management of fruit trees against a wall, when covered with moveable glass frames. The point is, to take the glass off as much as possible, using it only for protection at night, or against hail and sleet, or very cold rain, or frosts that continue after sunrise. It will not do to leave glass coverings upon walls if they in any way interfere with natural ventilation.

Misc: *W R.* Our agent will supply you for 26*s.*, if paid in advance.—*C M S.* Hakea is a well known genus; but not to be found in such antiquated books as "Miller's Dictionary." It is a Protead from New Holland, and may be seen in every modern general catalogue. As to the Melon beds, it is of course impossible to say whether they do or do not produce the mischief; but if they are within 6 or 8 feet of the wall, it is probable that they do; for it is just thereabouts that the absorbing part of the roots of the trees may be expected to be found. Keep the liquid manure till plants do begin to grow; it is of no use to give it while they are dormant. Perhaps you have a Grass field beginning to move, and to which it might be applied, if you want to get rid of it; or you may have Cinerarias, Chinese Primroses, and the like, now in need of it. But it will be the better for keeping.

PERUVIAN GUANO.

CAUTION TO AGRICULTURISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

ANTONY GIBBS AND SONS, AS THE ONLY IMPORTERS OF PERUVIAN GUANO,

Consider it to be their duty to the Peruvian Government and to the Public again to recommend Farmers and all others who buy to be carefully on their guard.

The character of the parties from whom they purchase will of course be the best security, and in addition to particular attention to that point, ANTONY GIBBS AND SONS think it well to remind buyers that—

The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 9l. 5s. per ton, less 2½ per cent.

Any resales made by dealers at a lower price must therefore either leave a loss to them, or the article must be adulterated.

THE LONDON MANURE COMPANY offer the following Manures on the best terms, warranting every article strictly genuine:—Peruvian Guano, Superphosphate of Lime, Nitrate of Soda, Concentrated Urate, Peat Charcoal, Gypsum, Fishery Salt from Cornwall, also a constant supply of Salt for agricultural purposes; Linseed and Rape Cake. Peruvian Guano warranted the genuine importation of Messrs. A. Gibbs and Sons at 9l. 10s. per ton, or for 5 tons and upwards, 9l. 5s. in Dock. EDWARD PURSER, Sec.

40, New Bridge-street, Blackfriars.

MANURES.—The following Manures are manufactured at Mr. LAWES's Factory, Deptford Creek:

Turnip Manure, per ton	...	...	£7 0 0
Superphosphate of Lime	...	...	7 0 0
Sulphuric Acid and Coprolites	...	...	5 0 0

Office, 69, King William-street, City, London.

N.B. Peruvian Guano, guaranteed to contain 16 per cent. of Ammonia, 9l. 10s. per ton; and for 5 tons or more, 9l. 5s. per ton, in dock. Sulphate of ammonia, &c.

FOSSIL BONES AND PSEUDO-COPROLITES.
(FROM THE SUFFOLK CRAG).

EDWARD PACKARD AND CO., of Ipswich, having erected very powerful Machinery for the purpose of reducing these Phosphatic Nodules to a fine Powder, and being in the immediate locality of where they are found, are now prepared to supply them on the most economical terms, in any quantity, either Ground, Whole, or Dissolved in Acid. They form the cheapest source of Phosphate of Lime in the market, and are peculiarly eligible for manufacturing Superphosphate of Lime in conjunction with Bone.

Prices and every information connected with their use forwarded on application to EDWARD PACKARD and Co., Artificial Manure Manufacturers, Ipswich, Suffolk.

FARMERS AND GARDENERS are invited to try the NEW and VALUABLE MANURE, PEAT CHARCOAL, impregnated by pressure with the fertilising matter of the LONDON SEWAGE, the Ammonia, Phosphates, and Fæces being absorbed, and the water left bright and palatable. Sold at the Charcoal and Sewage Works, Stanley Bridge, Fulham, Middlesex, at 60s. per ton, 4s. per cwt., and 2s. 6d. per half cwt.

OWEN'S ANIMALISED CARBON is now for Sale, at 2l. 5s. per ton in bulk.—The fertilising properties of this *Manure* have long since been acknowledged in Denmark, where it has been extensively used for agricultural purposes, as no less than 26,000 tons have already been sold. It is ready for immediate use, having no occasion to be ground, is equally as portable and diffusible as bones, and the low price at which it can be sold in this country must always be a paramount recommendation. *A liberal Commission allowed to Dealers or Agents.* For copies of the testimonials of its utility in this country, also for samples, apply to J. OWEN and Co., 3, Rood-lane.

Messrs. J. OWEN and Co. are now importing from their Copenhagen Manufactory SUPERPHOSPHATE OF LIME, of the very best description, containing at least 13 per cent. of Neutral Soluble Phosphate of Lime, and capable of furnishing at least 3 per cent. of Ammonia to the Soil. The "Analysis" is made by Professor J. THOMAS WAY, Consulting Chemist to the Royal Agricultural Society. The price, in London, of this powerful Manure, is 7l. per ton, cash, or Banker's Bill on London.



KOPROS,

A PATENT MANURE FOR CORN AND OTHER PLANTS,

MANUFACTURED BY THE PATENTEE,

J. M. BLASHFIELD, Mill-wall, Poplar; and also sold at No. 1 Wharf, Praed-street, Paddington-basin.—The mineral ingredients contained in this MANURE are in the most perfect soluble form for incorporation with the soil, and for continuous action; and the lightness of the bulk, when compared with other Manures, is in the cost for carriage greatly in its favour. For the past two years it has been applied to various soils and plants with very general success. Since then improvements have been made in concentrating its most important elements, and in otherwise rendering it a very efficient artificial manure, rich in ammonia, phosphates, and silicates. Price of Patent Kopros for Corn Plants, 8l. per ton; for Turnips, Swedes, &c., 6l. per ton.

Superphosphate of Lime, for Turnips, Swedes, Mangold Wurzel, and other Root Crops.

NEW AGRICULTURAL PEA.

BISHOP'S LAST AND BEST, 28s. per bushel, 7s. 6d. per peck (bags included).—This PEA was raised by Mr. Bishop, the raiser of the garden variety known as Bishop's Long-podded (of established reputation), and was presented by him to some of his relatives in Perthshire, in which northern climate it has answered exceedingly well; its early habits ensuring a crop where later varieties fail. Its merits consist in being remarkably early, and certainly much better cropper than any out; as many as 60 and more pods have been counted on one plant. It grows but two feet high, of remarkably robust habit, and always branches into two and sometimes three or more stems. Mr. Charles Smart, of Rainham, Kent, upon whose farm the Peas offered were grown, allows the Subscriber to state that a better or more likely useful Pea never came under his notice.—DUNCAN HAIRS, Seedsman, Wholesale and Retail, 109, St. Martin's-lane, London.

Catalogues of Agricultural Seeds sent free.

M'CORMICK'S AMERICAN REAPER.

BURGESS AND KEY, Agents, 103, Newgate-street, London.—Extract from Mr. Pusey's Report on the Agricultural Implement Department, Great Exhibition.—"Mr. M'CORMICK'S Reaper, in this trial, worked as it has since worked at Cirencester College, and elsewhere, to the admiration of practical farmers, and therefore received a Council Medal. Mr. Hussey's sometimes became clogged, as in the former trial at Tiptree, and therefore could not possibly obtain that distinction."—Price of Reaper, 25l.

NEWINGTON'S "PRIZE" IMPLEMENTS.—The Cultivators, Dibbles, Drills, and Manure Distributors can be seen at Mr. GABRIEL'S, 24, Arundel-street, Strand, London. Orders for the "Prize" Manure Distributor are requested to be sent early (the latter implement is now made with a single wheel, and can be adjusted to a cart).

DRAINING TILE MACHINES, & CLAY GRINDING MILLS.

MR. SAMUELSON, BRITANNIA IRON WORKS, BANBURY (Successor to the late James Gardner), to avoid the disappointment experienced last year as regards the delivery of his IMPROVED DOUBLE SPEEDED TILE MACHINES, will feel obliged by orders for this season being given as early as possible.

Price of the small Machine to deliver 4000 1½ inch, or 3000 2 inch pipes in 10 hours, 14l.

Delivery free to all places on the London and North Western, and the Great Western Railways.

Drawings may be obtained on application as above.

THE PRIZE MEDAL OF THE GREAT EXHIBITION was awarded to Mr. MILTON, for his Improved (straw) COTTAGE BEEHIVE, price 10s. 6d.; it is of simple construction, ornamental, and easily managed; enabling the possessor to obtain a large quantity of pure honey without killing the bees. Also may be had "MILTON'S Practical Bee-keeper," new edition, price 2s.; ditto, with Designs of Hives, &c., 2s. 6d.; ditto, Sheet of Illustrations, free by post, 8d.

At MILTON'S Beehive Warehouse, 10, Great Marylebone-street, Wimpole-street. Post-office orders to be made payable at the Post-office, Old Cavendish-street, London.

CHEAP AND DURABLE ROOFING.

BY HER MAJESTY'S  ROYAL LETTERS PATENT.

F. M'NEILL AND Co., of Lamb's-buildings, Bunhill-row, London, the Manufacturers and only Patentees of THE ASPHALTED FELT FOR ROOFING

Houses, Farm Buildings, Shedding, Workshops, and for Garden purposes, to protect Plants from Frost.

At the Great National Agricultural Shows, it is this Felt which has been exhibited and obtained TWO SILVER MEDAL PRIZES, and is the Felt SOLELY patronised and adopted by

HER MAJESTY'S WOODS AND FORESTS,
HONOURABLE BOARD OF ORDNANCE,
HONOURABLE EAST INDIA COMPANY,
HONOURABLE COMMISSIONERS OF CUSTOMS,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANIC GARDENS, REGENT'S PARK,

And on the Estates of the Dukes of Sutherland, Norfolk, Rutland, Newcastle, Northumberland, Buccleuch (at Richmond), the late Earl Spencer, and most of the Nobility and Gentry, and at the ROYAL AGRICULTURAL SOCIETY'S HOUSE, Hanover-square.

It is half the price of any other description of Roofing, and effects a great saving of Timber in the construction of Roofs. Made to any length by 32 inches wide.

PRICE ONE PENNY PER SQUARE FOOT.

*** Samples, with Directions for its Use, and Testimonials of seven years' experience, with references to Noblemen, Gentlemen, Architects, and Builders, sent free to any part of the town or country, and orders by post executed.

☞ The Public is cautioned that the only Works in London or Great Britain where the above Roofing is made, are

F. M'NEILL AND CO.'S

Patent Felt Manufactory, Lamb's-buildings, Bunhill-row, London, where Roofs covered with the Felt may be seen.

The new Vice-Chancellor's Courts, at the entrance of Westminster Hall, were roofed with F. M'NEILL and Co.'s Felt about two years since, under the Surveyorship of Chas. Barry, Esq., R.A. Her Majesty's Commissioners of Woods and Forests are so satisfied with the result that they have ordered the Committee Rooms at the Houses of Parliament to be roofed with their Felt. Quantity altogether used, 24,000 feet.

NOTE.—Consumers sending direct to the Factory can be supplied in lengths best suited to their Roofs, so that they pay for no more than they require.

Every information afforded on the construction of Roofs, or any proposed particular application of the Felt.

STEPHENSON AND Co., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much Improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description; but to those who have not seen them in operation, prospectuses will be forwarded, as well as references of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the Kingdom.

S. and Co. beg to inform the Trade that at their Manufactory, 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

Coservatories, &c., of Iron or Wood, erected on the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

GALVANISED WIRE GAME NETTING.—7d. per yard, 2 feet wide.



	Galvanised.	Japanned Iron.
2-inch mesh, light, 24 inches wide ...	7d. per yd.	5d. per yd.
2-inch " strong " ...	9 "	6½ "
2-inch " extra strong " ...	12 "	9 "
1½-inch " light " ...	8 "	6 "
1½-inch " strong " ...	10 "	8 "
1½-inch " extra strong " ...	14 "	11 "

All the above can be made any width at proportionate prices If the upper half is a coarse mesh, it will reduce the prices one-fourth. Galvanised sparrow-proof netting for Pheasantries, 3d. per square foot. Patterns forwarded post free.

Manufactured by BARNARD and BISHOP, Market-place, Norwich, and delivered free of expense in London, Peterborough, Hull, or Newcastle.

SUTTON'S RENOVATING GRASS SEEDS FOR IMPROVING OLD PASTURES.—Many Old Upland Pastures, Parks, and Meadows are nearly destitute of Clovers, and the finer and more nutritious sorts of Grasses, in which case we are in the practice of furnishing such sorts only as are wanting; if these Seeds are sown *early in the Season*, the improvement in the Pasture will be very considerable, and at a small expense. *Quantity of Seed required, 8 lbs. per Acre. Price Reduced to 10d. per pound.* Carriage free, as see our Advertisement in page 82 of this Paper.

Instructions on Sowing Grass Seeds, &c., may be had in return for one penny stamp.—Address JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

BY HER MAJESTY'S  ROYAL LETTERS PATENT.

EWING'S PATENT GLASS WALLS.—One of the greatest defects in British gardening has hitherto been the uncertainty of securing a crop of fruit on common brick or stone walls, owing to the variableness and humidity of the climate. This is now remedied by substituting hollow Glass Walls, by means of which not only will the young wood in autumn be fully matured, but the blossoms will be completely protected from the frosts and biting winds of spring, and a climate secured equal to that of southern Europe.

These walls are particularly adapted to the growing of Grapes, Peaches, Nectarines, Apricots, Oranges, Lemons, and the finer sorts of Pears and Plums, producing fruit equal to that of France or Italy at no more expense than usually attending trees upon a common stone or brick wall.

Glass Walls must eventually not only take the place of brick and stone walls, but will, in a great measure, supersede the present mode of erecting hothouses, from their cheapness at first cost, the great economy of fuel and heating apparatus, the small space they occupy, and their peculiar elegant appearance. They are also admirably adapted for climbing Exotics, and a variety of other purposes.

The highest authorities on Horticultural matters in this country have expressed their unqualified approbation of these designs, at the head of whom is Dr. LINDLEY, and for whose opinion the public are referred to the leading columns of the *Gardeners' Chronicle* of December 6; also of Robert Marnock, Esq., Curator of the Royal Botanic Gardens, Regent's-park, London, in the leading columns of the *Gardeners' and Farmers' Journal*, of December 20. The patentee having made arrangements with some of the largest firms of iron-founders in the kingdom, and also with one of the most extensive British Glass manufacturers; and from the well-known respectability of those gentlemen who have become Agents, feels confident that he furnishes a sufficient guarantee that all orders in connection with the Glass Walls will be promptly and efficiently carried out in any part of England, Scotland, or Ireland.

The following are the accredited Agents, and with whom drawings of the Glass Walls can be seen, and all particulars as to prices, &c., obtained on application:—Messrs. Knight and Perry, Exotic Nursery, Chelsea; Messrs. Henderson and Co., Pine-apple-place, Edgware-road, London; Messrs. Whitley and Osborn, Nurserymen, Fulham, London; Mr. Glendinning, Nurseryman and Landscape Gardener, Chiswick, London; Messrs. Veitch and Son, Nurserymen, Exeter; Messrs. F. and J. Dickson, Nurserymen, &c., Chester; Messrs. Lawson and Son, Edinburgh, Nurserymen and Seedsmen to the Royal Agricultural Society of Scotland; Messrs. Dickson and Turnbull, Nurserymen, Perth; Mr. M'Intosh, F.R.P.S., F.R.S.S.A., author of the "Practical Gardener," "Book of the Garden," &c., late Curator of the Royal Gardens of his Majesty the King of the Belgians, and now to his Grace the Duke of Buccleuch, at Dalkeith Palace, Scotland; Mr. Fleming, F.H.S., Head Gardener, &c., to his Grace the Duke of Sutherland, Trentham, Staffordshire; Mr. Ewing, Gardener, &c., Bodorgan, Anglesea; Messrs. Pilkington, Crown, Sheet, and Plate Glass Works, St. Helen's, Lancashire.

*** Prices for facing existing brick or stone Walls with glass and iron will be given on application.

THE PRIZE MEDAL, WITH "HONOURABLE MENTION," has been awarded for the GLENFIELD PATENT STARCH, by the Jurors of the Exhibition of all Nations, and is now used in the Royal Laundry. Being thus doubly noticed for its "general superiority" (a mark of distinction conferred on no other), by the Royal Commissioners and Jury, from amongst 30 or 40 Exhibitors, sets it far above every other of its Competitors.

Sold Wholesale in London by Messrs. Pantin and Turner; Hooper Brothers; Batty and Feast; Croft and Innocent; Petty, Wood, and Co.; Twelvetrees Brothers; R. Letchford and Co.; John Yates and Co.; Yates, Walton, and Turner; Clayton, Bland, and Co.; Field, Roberts, and Barber; A. Braden and Co.; Hicks Brothers; C. B. Williams and Co.; Sterry, Sterry, and Co.; Thomas Snelling; John Brewer; and Retail, by all Shopkeepers. Agents wanted; apply to Mr. R. WOTHERSPOON, 40, Dunlop-street, Glasgow.

London Depôt, WOTHERSPOON, MACKAY, and Co., 40, King William-street, City.

The Agricultural Gazette.

SATURDAY, FEBRUARY 14, 1852.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY, Feb. 18—Agricultural Society of England.
THURSDAY, — 19—Agricultural Imp. Soc. of Ireland.
WEDNESDAY, — 25—Agricultural Society of England.
THURSDAY, — 26—Agricultural Imp. Soc. of Ireland.

WE call the attention of our readers to the abridged report, in another column, of the proceedings at a monthly meeting of the Agricultural Improvement Society of Ireland, before which Mr. HARKNESS, their intelligent secretary, read a valuable paper on cattle feeding, in which was detailed the experience of many farmers in different districts of England, Scotland, and Ireland. The system of monthly discussions before the Highland Society, which has been among the most valuable results of Mr. MAXWELL'S energetic secretaryship, is, we hope and believe, about to be efficiently adopted and carried out by the Irish Agricultural Society. Nothing will be more certain either to maintain it in vigorous life and usefulness, or to awaken throughout the country a sense of its value, and of the duty of supporting it as an institution of real national importance. It possesses this sympathy and support in a less degree, we believe, than its older and more powerful sister societies. A succession of such discussional meetings as that of

which we speak will, however, we have no doubt, awaken the agricultural interest of Ireland to a sense of the usefulness and power of the Royal Agricultural Improvement Society.

It is not our intention, at present, to theorise, but rather to grapple with matters of practical importance. There can be no doubt of the fact (which has been distinctly pointed out by Humboldt in other words), that heat and moisture in the atmosphere act as a substitute or compensation for ammonia in the manure. The whole vegetable kingdom, in short, proclaims the truth of this principle in the greater or less intensity of vegetation over the earth's surface. An infinite variety of circumstances, however, modify this principle, so that at first sight many facts often apparently stand in contradiction to it. Our present design is to trace the circumstances which determine the growth of cereals and Grasses, with special reference to the practices of British agriculture.

Why is Rye-grass so valuable a nitrogen-collecting plant in some arable districts in Britain, while it is not so in others, although in both cases the mean summer temperatures, and also the amount of rain which falls, may be the same? It may be asserted as a general law, that the wider the divergence of the day and night temperatures, which implies a dry, evaporating atmosphere, the more unfavourable are the conditions for the Grasses relying on the atmosphere for their nitrogen. The month of July (*Agricultural Gazette*, No. 44, 1851) having 68° and 54° of temperature for its daily extremes in the west of England, or 66° and 50° in Scotland, maintains summer growth of Rye-grass, while in Kent, with extremes of 74° and 54°, the Rye-grass is suspended in its growth during summer, and it is there reckoned a "weed." In the north and west the succulent and vegetative powers prevail over its seed-forming or exhausting qualities. At Xalapa, in Mexico, where the Wheat merely produces foliage, the temperature is not so high as at some other stations at a lower elevation, where the Wheat plant ripens its seeds in perfection; but it is the great quantity of moisture contained in the atmosphere, in proportion to the temperature, which totally overpowers the seed-producing tendencies of the Wheat plant; for the thermometer varies only a few degrees in that region throughout the year.

Within certain limits, the growth of all cereals in Britain obeys the same law as the Rye-grass, in so far as the conditions which favour the growth of the latter also promote the incipient development of the former. In all those districts in Britain where the Oat is the principal cereal in the rotation, the lower day temperature, with the shorter range of the thermometer, extends its period of growth throughout the summer months. Here a similar principle comes into play to that which holds in mechanics, viz., that what is gained in time is lost in power, and *vice versâ*. In the eastern counties of England the Turnip cannot be cultivated for its roots over so many months as in Scotland; neither can the Oat be grown for its seeds for so long a period (with as high a *mean* temperature) in the south, where the seed-forming propensities are much greater. With a given amount of manure in the soil, the Oat in Scotland, by this means, can assimilate a much larger quantity of nitrogenous matter in its seeds than in the dry, evaporating atmosphere of the south-eastern counties, which has a great tendency to propel the plants to run on to seed in the early part of summer.

If the common varieties of Wheat did not admit of being sown in autumn, which allows it to gain possession of the ground, and to accommodate itself to the dry atmosphere of Kent or France during the spring and early summer months, then the plant would be in a great measure favoured by the same atmospheric conditions which promote the growth of Oats, if these did not interfere with the ripening of its seeds. It is a well known fact that Wheat cannot be so successfully cultivated in the dry eastern counties of England, in the spring months, as it can be in the west of England or in Scotland, where the development of the plant is maintained and promoted by less exciting conditions.

Barley will ripen in a much shorter period than the Oat, and the influence of meteorological conditions are beautifully seen in this cereal. Wherever there is a necessity felt to have Barley sown early in spring, it may be presumed that it is much more exhausting than where there is a tendency amongst the cultivators to rely on late sowing; but to make this plain, we will take one or two practical examples by way of illustration. At the last meeting of the "Trafalgar Society" in Fife, the members unanimously declared that the practice of "taking Barley after Wheat could not be considered bad farming." This may no doubt be true, for no system can be considered "bad farming" which enables those who cultivate the land to realise the greatest returns from the soil without impairing or reducing its fertility below a certain standard. There are some conditions, however, which must be observed where this rotation is followed, and there place the very opposite requirements of Wheat and Barley in regard to manure, under certain circumstances, in the clearest light. We should imagine that a knowledge of these conditions would go far to convince even Mr. Huxtable of the untenableness of the ground he has taken up in regard to all the cereals being necessarily such great spendthrifts of ammonia. The Scotch, in their superlative wisdom, forbid the growth of too great an extent of Wheat on the land, but they allow Barley to be taken after this crop, on the mistaken idea of its being less exhausting. And no doubt it is so in the sense that it requires less manure to grow it; but it is more exhausting in another view, as it can subsist on the refuse of what the Wheat has left, and through its means the cup of the soil's fertility can be more thoroughly drained to the dregs. It is a singular fact that if Barley was sown after Wheat in Scotland on the 1st of March, as few bushels of Barley would be obtained as in that of another crop of Wheat, but when it is sown in the end of May, the number of bushels would be more than doubled. Where this system of two white crops in succession is practised in the north, there is no such thing as sowing the Barley until May, when it obtains the aid of the Turnip-growing conditions of atmosphere to supplement the deficiencies of soil.

We shall now turn for a moment to an opposite view of the case in the dry climate of the south of England. The reporter in our Calendar of Farm Operations for South Hants, on the 15th April, 1850, writes: "We have finished our Barley for some little time, and the remaining portion of our land after Turnips we prefer sowing with a mixture of Oats and Barley, intended for horse feed, as we have invariably found *we cannot grow a good sample of Barley later than the middle of April*." Unless the Barley is well rooted in plants before the heat and drought of July and August, it cannot maintan a healthy growth, and it ripens prematurely. If the month of June in Scotland had day and night temperatures of 72° and 49°, instead of 64° and 48°, and July heats to correspond, it would abolish the practice of taking Wheat and Barley in succession. One would expect, *à priori*, that the spring or rather summer sown cereals, would be much less exhausting in the west of England and Ireland, where there is so much similarity in the atmospheric conditions to those in Scotland, than in the east of England, where there is a greater necessity for sowing early. This we will inquire into very shortly.

The practice of relying upon late sowings of spring crops in Scotland was at one time universal; but then the resources of agriculture were limited, and there is no better indication that can be pointed out of its modern development and progress than the more general adoption of early sowing, which points to a better manured soil, rendering the cultivation of the cereals much more certain and profitable. The practice of taking Barley after Wheat has long been discontinued in the Lothians, and Barley after green crop is every where sown early, which not only secures as great a quantity, but the quality of the grain is much improved.

The facility with which late sown Barley could have been grown with lime or ashes in Scotland under the old regime, has transmitted the notion that it was much less exhausting than Wheat, which had to develope its leaves in the cold ungenial months of spring; even Sir J. Sinclair, who had no perception of the principles involved, gave credit to some of his correspondents, who argued that Bere or Bigg, which admitted of being grown even much later than the Barley, did scarcely exhaust the soil at all. The Chevalier variety of Barley must be sown early in Scotland; and when the soil is in the condition to grow this crop it is then up to the Wheat growing pitch.

Certain courses of cropping, which are followed in the West of England, have lately attracted considerable attention and discussion. Great results are attained through the most primitive means and appliances. The superior farming in the north would have readily accounted for the whole phenomena, but the mystery is, that it is Welch farming that is accomplishing such wonders, which puzzles both our practical and scientific men. Mr. Pusey, in his admirable review, writes,—"Even the interval of a year between two white crops must suffer exception, since, for *some unknown reason*, in many places, as in *parts* of Sussex and of Lancashire, Barley seems to answer best after Wheat, and there, consequently, you must take two white crops and two (?) green crops together. In South Wales, I find by the most recent and comprehensive authority on the subject, Winsgrove Cook, the farmers do not like any conditions more stringent than this, that they should not grow more than four white crops in succession. One hardly sees, indeed, how they could."

The practice of taking two white crops in succession is now almost entirely discontinued in the best cultivated districts in the East of England; it still lingers in a few counties, where miserable returns are got. In the West, however, Barley can be grown with much less manure than in the East, and therefore it succeeds well after Wheat, in the same way as it does in Scotland. But we refer to Mr. Reid's report of the farming of South Wales, which to our mind fully explains "the unknown reason." "It appears curious that, with a climate particularly adapted for green crops, so few Turnips should be grown. It is always considered abominable farming to take two white straw crops in succession. Still, with moderately high farming, on good soils, that *abomination* may be successfully practised. Experience has proved that on the better lands Barley, after a *drawn* crop of Turnips, will frequently lodge. Even Mr. Morgan, in his Prize Essay on the Cropping of Pembroke, admits 'Barley on some soils is not a saf crop after Turnips.'"

In the able lecture delivered by Professor Way, on lime, before the Royal Agricultural Society, he seems to have been quite as much perplexed with the Welch farming as some of his audience. With all due deference to one who has done great service in extending the boundaries of that knowledge which deeply concerns our art, we would suggest, that he might find a solution of some of the residual phenomena of the chemistry of vegetation in our theory of aerial irrigation; we give the discussion on this point.

Professor Way: "In South Wales liming took place every season, and is so essential a part in their manuring, that *comparatively little care is taken of ordinary animal or vegetable refuse*. To such an extent is the conveyance of lime carried, that the Rebecca riots in that part of the United Kingdom had their origin in disputes connected with tolls levied on lime carts. It is a question what the peculiar success of the Welch system of liming arises from. Local customs were generally correct, more or less." Sir John Johnston: "It would be well worth enquiry, whether the rocks of South Wales were of such a nature as to render little animal or vegetable matter requisite in the soils which cover them; and also whether in the Welsh course of cropping any deterioration was found to take place—the lime probably set free potash or some other substance." Dr. Calvert: "With regard to the Welch soil, he thought there were some circumstances peculiary favourable to vegetation, as in the plains of Catania, in Sicily, where white Wheat was grown in successive years. The fineness of the silica (in the burnt lime), might probably in some measure account for the effect on Wheat."

Taking these opinions altogether, one is led to think that this looks very like a revival of the mineral theory in high places; whatever standard of results we are satisfied with, we believe it will be found that less ammonia in the manure will serve for the growth of Cereals in Wales than in Norfolk. We need hardly say that there is no growing of Wheat in successive years by the Welch farmers, it is merely summer Oats and Barley, and no great results are obtained, after all. Our space does not permit us to go into the subject of liming in moist climates; but the parallel of Welch farming, even on a broader scale, will be found much nearer home than Catania. Where shall we find a closer analogy in the style and modes of farming, than in comparing the Rebecca farming of South Wales with the old Paddy farming of the Emerald Isle? Arthur Young's notions concerning proper rotations and other farm practices, were sadly shocked when he made his tour through Ireland in 1776-7-8, and no wonder, for the whole precepts of the Norfolk school were grossly outraged; for the only manures that were sought after were lime-stone gravel, burnt lime, calcareous marls from the bogs, or shell sand from the sea coasts; but hear him.

"*They never sow Barley till April and often May.* No such thing as Turnips among the common farmers, though they have an excellent Turnip soil. The farmers burn their straw, for which they deserve to be hanged. The burning of straw, I forgot to remark, I found very common, where there is no turf—a most pernicious custom. It is, in fact, what I have often heard literally reported, that they burn their dunghills in Ireland. The courses are—1, Oats; 2, Oats; 3, Oats; 4, Oats; 5, Oats; 6, Oats; they leave it to graze for three or four years. This on good strong land—1, Marl for Oats; 2, Bere; 3, Bere; 4, Wheat; 5, Oats; 6, Oats; 7, Oats; 8, Oats; 9, Oats; 10, Oats. The number of these crops proportioned to the quantity of Marl laid on. With gentlemen it is—1, Potatoes; 2, ditto; 3, Wheat; 4, Oats, or English

Barley; 5, Oats; left smooth to Grass itself. Shame to them for being as bad farmers as the Paddies! Again, at Adare, when they break upland they sow first Oats and get 40 barrels an acre, and do not reckon that an extra crop; they take 10 or 12 in succession, and then they sow one of Horse-Beans, which refreshes the land enough to take 10 crops of Oats more. Were such barbarians ever heard of?"

This is only a fair sample of the cargo of Irish rotations which were followed on the better descriptions of land at that date. It has always occurred to us that Sir H. Davy must have grounded his belief that cereals were less exhausting on moist than on dry climates on a perusal of "Young's Tour in Ireland." We wonder how any one could miss the idea, after reading through the dry but invaluable statistics of the laborious editor of the "Annals of Agriculture." There is no subject which has afforded more discussion than the respective merits of the different systems of farming within the British islands. We must surely be conversant with the chief elements of the subject before the lessons or experiences of one system can be engrafted on the other, or the true bearings and tendencies of any appreciated. If there is any truth in the principles which we have endeavoured to trace and explain, it must follow that the fertility of arable land should be much easier maintained in the north and west parts of Great Britain, when compared with the dry and arid climate of the eastern counties. Might this element not help to explain and account for arable land of equal quality bringing as much rental in Aberdeenshire as in Suffolk, or in Somersetshire as in Kent? We shall take a rapid review of this subject. *R.*

EMIGRATION AND THE POTATO.

A gloss has very ingeniously been thrown upon some late papers of mine on emigration, and the value of the Potato crop, which candour will duly appreciate.

Of the Potato, whoever will attentively and honestly follow my reasonings will find that it was from the absence of other more providential measures that I inferred the Potato had become the only hope of our future prosperity, and its successful culture the only check to the destructive course of emigration. An equally attentive and honest reading would not infer that I attribute all the misery of Ireland to bad government. But I believe the prosperity of a state is the strongest proof of good government.

The decrease in population before from starvation and now from emigration is not with me an Irish question; it is an imperial one, not alone affecting our prosperity but our independence as a nation, and our liberties as a people.

It has been shown by a wiser head than mine, and one who was not long since referred to in a Leading Article of this journal, that in Ireland there is a wide field open to the people. Let the greatest energies of the Government be directed to this end, let no source of national wealth in this island be neglected, no puerile offences given, and then you put arms into every man's hand, and he will have a country worth fighting for; and it may come to that.

But why lay out money in Ireland? We have "seen something of the manner in which the millions of the public money were misappropriated through Irish local jobbing during the famine, 1846-47." Yes, seven or eight millions were miserably misappropriated, notwithstanding every remonstrance of the local jobbers; miserably misappropriated by the British Government in unprofitable labours, while poor wretches were employed on them at such wages as barely sufficed to keep for a while a lingering spark of life within their bodies, till, after unheard-of sufferings, it died out. The British people may not perhaps be aware how and under whose authority and supervision these seven or eight millions were misappropriated; the Government appointed its surveyors, treasurers, paymasters, &c., and participating in the vulgar and illiberal feeling that at first was common among the ill-judging and ill-informed vulgar, who were jealous of any private advantage being derived from the outlay of public money, would not permit any part of it to be laid out in productive employment, though repeatedly supplicated to do so by the local jobbers—the nobles and the educated classes of society, men of English origin. The consequences were, much useless destruction of roads, and of fine land laid out for roads, which have never been made passable, the unfortunate and starving farmers being taken from the tillage of their ground to those worse than unprofitable labours caused a deteriorated harvest in the following year, from the neglected fields, and thus a powerful impulse given to the natural causes that were operating our ruin.

Had the recommendations of the local jobbers been attended to in the application of these misappropriated millions, the poor farmers would have been supported while they laboured their fields under intelligent direction, abundant harvests would have blessed the soil, and much of present suffering and future wretchedness would have been avoided; a dawn of prosperity would have broken on our horizon, and we should not now have to complain of excessive depopulation. And why was all this? Lest a few thousands might be deviated by the cupidity of some necessitous creatures. Pshaw!

one half of the money expended in the payment of minions to carry on these dead works would have sufficed to prevent fraudulent outlay had any living faith been reposed in those who who were most interested in the beneficial results of the expenditure.

Ireland will be helpless;—God bless you, how much you know of Ireland. Where is the will expressed? Is it because, like the drowning, she catches at straws? Is it because she did not demand vigorously self-government, that she might have a public treasury of her own to supply her public wants and help her public weal? Is it because the strength of England appropriated her lands and gave her absentee landlords? Is it because she submits to be reviled and taunted? Give her the means to raise herself and she will have the energy and the industry to do it; her long and energetic struggle for unattainable political objects—for matters of moonshine if you please—proclaims this. The abandonment of home and all that is dear to man to seek in another hemisphere the employment that apathy denies him here, proves it. Her efforts at this moment of her great depression to extend the growth of Flax, to produce sugar from Beet, and to manufacture coal from her peat-bogs show this; and did we want proof that, with the means, Irishmen will work on to success, the editor of this Paper has supplied it by drawing Mr. Carroll's and my attention to "an Irish settlement between the Arvostook river and the great falls as industry personified." This is given as fact, other statements are made as opinions, and how far opinion may be relied on, even in very high authority, we have only to ask Dr. Johnson's (not Johnston) on "Scotland." We know here, that though there are some rollicking young fellows in Ireland, who give characters to our plays and romances, yet the staid people by far more abound, and I really believe there is not so much or so general junketting and merry-making in our now sad Ireland as in merry England. We all know that the Irish are naturally a lively and excitable people. We also know that the French are much more so, yet has this rendered their dispersion necessary to their prosperity?

But Ireland will be helpless; because Irishmen will cling to the Potato, that is, because they prefer eating Potatoes to Turnips, or growing their own food to importing food from America. Or because, as an agricultural country, having no other immediate available sources of wealth, the wish to reacquire that surplus of produce which before enabled them to export so largely by the same means.

There are men capable of deep thought, and in most cases equal to trace the finest lines between cause and effect; who yet, in some instances, allow themselves to be so blinded by their prejudices, that they form the most incongruous connections. So, because poverty and Potato tillage have been for many years co-existent in Ireland, they have so connected them together that they have brought themselves to believe the one is dependent on the other; and with a Cobbett-like antipathy to the poor Potato, they have fixed upon it the odium of being the cause of poverty. Might they not with as much reason reverse the case?

But the use of the Potato has engendered our bad system of cultivation. How has the cultivation of the Potato for human food prevented the growth of either roots or plants for cattle food? What is there incompatible in the Potato culture to the introduction of a Clover crop between two grain crops? Does a Potato crop involve a necessity for successive crops of Oats, or for leaving out land without seeds? Is the tillage of Potatoes in beds, the common tillage of them in Ireland, a bad tillage? No crop in raising can leave the ground in finer tilth than the minute division of every sod by the spade in lifting the Potatoes does; no labour of any other crop during growth can exceed it in the exposure of the soil to atmospheric action, by the throwing up successive layers of clay in the moulding of the Potatoes, and also in the exposure for several months of the uncovered subsoil in the trenches; while the dung spread and minutely divided in a thin layer between two surfaces of clay acts upon a much greater number of inorganic particles than when heaped together in drills. Indeed it is this tillage more probably than any superiority of soil that has enabled us to alternate Potatoes and Wheat for many years together.

"Falcon" is worth a hundred Potato cavillers in fathoming the bottom of our evils—neglect, neglect, and I say with him again, neglect. *J. M. Goodiff.*

[This subject has, we think, been now sufficiently discussed in these columns. The writer of the Leading Article referred to by Mr. Goodiff was himself an Inspector of Relief Committees during the famine, and could speak from experience; and we submit that all the evils Mr. Goodiff refers to in the administration of relief during that period are only so many proofs of the incompetency of Government as the means of direct or permanent assistance. Let every one act the part of a sensible man, and do the best he can for himself and family. If emigration—the result—be injurious to the interest of the country, that, more than any writing on the subject, will call the attention of Government to those evils that are within its power to remove.]

Home Correspondence.

Forking.—Having forked 21 acres 10 inches deep, and placed the land in ridges, having a basis of about 4 feet, at 1*l.* 1*s.* 6*d.* per acre, I have since forked the furrows 10 inches deeper, throwing it on the ridges, at least as much as will remain there. The cost of this, 1*d.* per rod, or 13*s.* 4*d.* per acre; so that half my land is dug 20 inches deep, and the remainder 10 inches. The forks continue to give great satisfaction, my men stating that if put in straight and level they will resist their full "prying" powers, as they call them. I wonder the makers of these forks do not advertise them in your columns, saying the price and where to be had in various parts of the country and in London. It would save me an immense deal of trouble and writing. Some of my correspondents say, "We can't get the forking done so cheap." Let them try it; unfortunately I cannot employ half the applicants I have for work at this price. *J. J. Mechi, Feb.* 4.

Drainage.—Feb. 4, raining heavily all day. The land having been saturated by previous rains, all the drains were discharging abundantly—say those at 5 feet deep and 50 feet apart, 4 feet deep and 28 feet apart, 5 feet deep and 40 feet apart—all the foregoing drained with 1 inch pipe; 2 feet 8 inches deep, and 12 feet apart, with stones under the pipe. All these drains are in tenacious plastic clay. Although all the under drains were discharging abundantly, still on the Wheat lands water was flowing from the surface, both where the land was drained deep and wide and close and shallow. Less surface water passed off the deep and wide drained. It is a mistake to suppose the first discharged waters from clays will run clear and transparent. They will do so occasionally after the first day. The water was, I think, rather less muddy from the deep drains than the shallow. On the 24 acres deeply trenched, forked, and ridged, no water appeared on the surface, showing that there had been much more evaporation than from the close surface of the Wheat lands. The drains were, however, discharging. All these lands have a smart natural incline. One of the most important benefits of very deep cultivation appears to be the filtration of all the heavenly rains. It is quite clear that when the sponge is fully charged the power of filtration or percolation is not always equal to the descending rain, which on an incline will not await its turn to descend. In this case auxiliary furrows, or a supplementary shallow drain (as cited by Lord Wharncliffe), would come in aid. I know from experience that two drains, one at 2 feet 6 inches and the other under it at 5 feet, will both discharge abundantly during continued rains, and of course empty the land or cask quicker than a single drain whether it is worth the cost is another question. The expansion of particles and roots by heavy rains in strong aluminous clays evidently renders filtration sometimes very gradual. Deep drainage must, however, be our basis, for it gives our plants a much deeper range for food, and greater safety in a dry season. *J. J. Mechi, Tiptree Hall.*

Irrigation by Subterranean Iron Pipes, with Gutta Percha Hose and Jet.—Have you or your correspondents read "Minutes of Information collected by the General Board of Health on the Practical Application of Sewer Water and Town Manures to Agricultural Production?" If not, I pray you to do so forthwith, for it is a most vital document to agriculture. It contains the Hon. D. Fortescue's communication, as recently inserted in your columns, and, in addition, a most succinct and detailed account of the cost of and return for the operation. I am sinking an additional covered tank, and have ordered two force pumps, 5½ by 20 inches, to attach to my engine. I have also ordered 15 tons of 3-inch iron proved pipes, in yard lengths. These will be delivered to me in the Thames from Glasgow, at 4*l.* 15*s.* per ton, about half the price of best oilcake. I hope to have all at work in about six weeks. I shall make arrangements for irrigating the whole of my farm when required. Strange, is it not, that the collected evidence proves that this method of irrigation is far cheaper than the open gutter or catch meadow system; the annual charge for six or eight dressings of 20 tons each being about 11*s.* to 13*s.* per acre, including 7½ per cent. on all the pipes and machinery, and all the labour. It appears a man and boy will put on in one day a quantity equal to about 200 of Crosskill's carts, and they hold 200 gallons. Last year a couple of good drenchings at 8*d.* each per acre on my Potatoes would have saved me 7*l.* or 8*l.* per acre. I hope you will give your readers ample details. I fear my Protectionist friends will now consider me most decidedly a fit subject for a lunatic asylum. Fortunately, my tanks, engine, &c., are all well adapted for the operation, and the jet will wash the solid manure from under the boards. My spring drain (30,000 gallons per diem), will be truly useful. *J. J. Mechi, Tiptree Hall, Feb.* 4.

London Milk.—The cynic will never be in want of an excuse for his snarl at poor human nature so long as men clothe their thoughts in printed words. Amid all our absurdities, where is there one more glaring than this? The moment one man grasps a pen to reply to another, in print, he becomes a porcupine, and attempts with his quill to wound his opponent, entirely neglecting, it may be, the real object of controversy. Your correspondent, Mr. P. Mitchell, reads my letter in your paper of the 17th, and instead of endeavouring to throw light upon what he admits to be an important subject, he claps down his milk pail, and begins to square at me with the ferocity of a cabman. To save your time and paper, let me suggest to Mr. Mitchell that, having my address, if he write again it would be better to write to me than at me. Let him write two letters—one upon the subject of milk, to be inserted in your paper, the other to contain all the personal matter, to be directed and posted to me. Even to himself the advantages of such a plan are manifold. He would not need to confine himself to the limited charge permitted to a man who fires from behind a printing press; he

might charge his piece to the muzzle, and fire point blank; he need not fear that I should return his fire; he shall have it all to himself, and if he kill me my representatives shall duly inform him of the gratifying result. He would save time too; his philippic might reach me on Monday instead of waiting for your publishing day. And pray, says Mr. Mitchell, do you suppose the public will quietly submit to be thus deprived of the piquancy of my satires? I therefore promise that whenever the public calls for his personalities, I will have them printed at my own expense. Return we to our mutton. When I found the writer was in the trade I hoped to learn something; but instead of a prompter I found a scene shifter, for after telling us he was able to impart information, and that he would tell us a few simple facts, those facts turn out to relate chiefly to the times of harnessing his horse to deliver his commodity. One fact does drop out. Bagshot milk does not yield "an abundant cream." How was this ascertained? I am a cautious man, and did not advance a single statement that I could not justify. I did not say that disgusting ingredients were mixed in London milk. I only said that Londoners themselves generally said so. I am no more the author of that assertion than of the joke that was played upon a cowkeeper in London during the season of last year. In the dead of the night some of his neighbours called him from his bed with the painful intelligence that his best cow had a Turnip fast in her throat, and was choking. Down came the unfortunate owner, nearly in the state in which he first made his appearance on this mortal stage, and found to his horror that a large Turnip was tightly screwed into the throat of—his pump. One fact Mr. Mitchell himself cannot deny. London milk appears to be something essentially different from country milk; there is an opacity in the one which is never seen in the other; London milk looks thicker, and has the appearance of scalded milk. Well may this be called an important subject. Fathers and mothers, read Mr. Mitchell's words! "Jolting this milk for two or three hours in the streets;" "in the case of nursery supply." Oh dear! Mr. Mitchell says self is a Bagshot blossom. Here is a fact that proves it, or turns the tables. Few, if any, of my neighbours have escaped robbery by the London milkmen. One gentleman lost 160*l.* by one man, and only last week was sued in the county court at Farnham by a neighbour, who had sent milk in the same cans, for payment of his proportion. I know many who have never been paid for milk they sent to London. What selfishness! When they are paid, the price is not 2⅝*d.* but 2*d.* a quart. After the carriage is paid, it is reduced to 1½*d.* Yet, as I have said, this small sum is very often unpaid, and I could fill one of your columns with an account of the systematic trickery resorted to to cheat the farmer. *W. R. Carter, Eel Moor Farm, Cove Bagshot.*

Forks.—I must beg of you to correct an error into which Mr. Mechi has led the public by his letter to the *Gardeners' Chronicle* of the 10th ult., wherein he speaks very highly of a new steel fork, manufactured by Mr. Harry Hinton, of Birmingham, called "Parkes' Patent," and which he has been told is cut out of a solid piece of steel by some patent process, and then hardened and tempered. In the first place there is no manufacturer of forks in Birmingham, or elsewhere, named Harry Hinton; and, in the second place, there is no person named Parkes, who has taken out a patent for forks, nor is there any patent existing in this country for forks at all; but the article he has called attention to is copied from the Americans, and anyone may make them who pleases. Had Mr. M. examined the forks shown by Messrs. Allen and Co., of New York, in the Exhibition, he would there have seen the identical fork manufactured in America, which, as a specimen of workmanship, was far superior to anything else of the kind shown. In justice, therefore, to myself and other large manufacturers of forks, I beg that you will, through the same medium, set the public right, by informing them that they can purchase the American pattern fork, for which there is no patent, from any manufacturer or blacksmith who pleases to make them. *R. A. Lyndon, Birmingham.*

[We publish this letter, originally addressed to Mr. Mechi, with that gentleman's consent, and with it the following memorandum: "I can only say that the forks supplied to me by Messrs. Harry Winton and Sons, of Birmingham, are a first-rate article, having 18 of them now in constant use. The labourers say that they increase their earnings and diminish their labour most materially. A digging-spade I received from the same firm is a superior tool. Probably this discussion may benefit Birmingham and agriculture, by drawing attention to its superior manufacture. *J. J. Mechi.*"

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

A Weekly Council was held at the Society's House, in Hanover Square, on Wednesday last, the 11th of February; present, Colonel Challoner, Trustee, in the chair; Sir Robert Price, Bart., M.P., Mr. Raymond Barker, Mr. Henry Raymond Barker, Mr. Batley, Mr. D. Barton, Mr. Dyer, Mr. Foley, M.P., Mr. Fuller, M.P., Mr. Fisher Hobbs, Mr. Majendie, Mr. Rowlandson, Mr. Shaw (London), Mr. Shelley, Prof. Simonds, Mr. Slaney, M.P., and Prof. Way.

Steam Plough.—Mr. Batley (of the firm of Messrs. Hodge and Batley, engineers, Adelphi), submitted to the inspection of the Council the model of a steam plough, invented by Messrs. Callaway and Perkiss, of Putney, the construction and peculiarities of which he explained to the members present, by reading [to them a paper on the subject. The Chairman thanked Mr. Batley for the trouble he had kindly taken in bringing this invention under their notice; but at the same time wished him to understand distinctly that the Council, as a body, never expressed any opinion on the merits or otherwise of objects thus introduced from time to time to their notice. At the country meetings of the Society the implements or machines entered for exhibition had the opportunity of being tested by actual trial in the yard or the field, and of having an opinion expressed on their performances by the judges of the Society.

Drain Pavement.—Sir John Stuart Forbes, Bart. having called the attention of the Society, as one of its members, to the advantages of the bricks manufactured at Newark Works, in Aberdeenshire, for constructing floors, into the grooved channels of which liquid matter would be received and carried off by a transverse gutter at the lower end, Mr. Forbes, their inventor and manufacturer, attended this meeting for the purpose of explaining the peculiarities of these bricks, and the construction of the flooring of cattle stalls, pig-styes, washhouses, breweries, or other places where much liquid was received and had to be conveyed away. The bricks had each a longitudinal cylindric groove through their centres, which communicated with the upper sides by means of an open slit, half an inch wide; through this groove the liquid was received from the pavement, and conveyed to the transverse gutter at the bottom, and carried away. The grooves were kept clear of accumulation, by means of an iron claw which passed into them through the open slit, and drew the obstructing substances along with it, to the lower end of the pavement. Mr. Forbes cited dryness and comfort to the animals, economy of construction, and in the saving of litter, and durability of wear, as the advantages of this pavement over flooring of the ordinary kinds in use in farm buildings. The chairman referred to the coarse red material of which the bricks now before the Council were made, and which he thought might advantageously be superseded by clay of a better quality; he also referred to the economy with which the York stone could be laid down for flooring.—Mr. Fisher Hobbs had found that pigs did not do well on red earthen flooring.—Professor Way thought the cross-gutter, receiving the liquid should be lower than the pavement.—Mr. Slaney, M.P., hoped that in the manufacture of these bricks such reduction would eventually be made in the price at which they could be supplied to farmers as had been made in tiles for draining and in other similar articles, a reduction, he remarked, that he believed from improved means of manufacture and the greater demand, had always been found as advantageous to the manufacturer as to the customer.—The Chairman thanked Mr. Forbes for the trouble he had taken in bringing this subject before the members.

American Barrow.—Mr. Slaney, M.P., having seen in the Great Exhibition last year, in the American department, a cheap and simple contrivance for easily removing earth from one part of a field to another, or from ditch bottoms, old hedges and headlands, for the purpose of filling up hollow places, he had purchased the article in question, in order that he might submit it to the Council, and if found efficient that it might prove useful to the members. He hoped this might be the case, for in a conversation he had held with a practical American farmer from Kentucky, he found that a similar contrivance had been frequently used by him with great advantage, both in gardening and farming operations. Though the same in its object, this implement differed in some respects from the Flemish Mollebart, of which the late Rev. Mr. Rham had given the following account in the Journal of the Society (Vol. II., p. 61):

The Mollebart, the use of which in the levelling of newly-trenched land has been before mentioned, is an instrument peculiarly Flemish or Dutch. It is simply a very large wooden shovel, in form like the tin dustpans used by housemaids, with a stout long handle. The bottom, which is convex, is covered all over with thin iron plates; and a stronger piece of iron forms the edge. The handle is 6 or 7 feet long, firmly fixed to the shovel, and so placed that, when the end is raised 5 or 6 feet high, the only part of the instrument which touches the ground is the edge. When it is held 3 feet from the ground the shovel rests on the convex bottom, with the edge rising a few inches above the ground; and when it is pushed quite down, and it drags on the ground, the instrument rests on the hinder part of the bottom. The width of this shovel is about 3 feet, and the length from the insertion of the handle to the sharp edge is nearly the same. Sometimes it is wider than it is long. In the middle of the border on each side are strong iron hooks, which are connected with the iron on the bottom. It is drawn by chains fixed to these hooks and united into a large link a little before the edge of the instrument. To this link are attached a common whipple-tree and bars, to which two horses are yoked abreast. Attached to the end of the handle is a strong rope of the size of a man's little finger, 14 or 15 feet long. This the driver holds coiled in the same hand which holds he handle, the reins being in the other. It is now ready to begin its operations. The man depresses the handle so that the edge of the shovel rises upwards, and directs the horses towards a heap or an eminence to be removed. As soon as they reach it the handle is raised, the edge of the instrument enters the ground or the bottom of the heap, and it is soon filled with loose earth. The handle is immediately depressed, and the whole load slides on the bottom of the shovel over the sandy surface, until it arrives at the hollow which is to be filled. The handle is then raised suddenly as high as the man can reach; the edge catches the ground, and the whole machine is overturned forwards, the handle striking on the whipple-tree: the load is thus left behind. The rope, of which the workman kept the end fast in his hand, now comes into use, and by pulling it the instrument is again reversed, and proceeds empty for a fresh load. All this is done without the horses being stopped for a moment. A skilful person will spread the earth at the same time that he deposits it: this is done by holding the rope so that the handle shall not fall over at once, but remain for a short time in an erect position. The earth is thus delivered gradually, and laid level by the edge of the instrument scraping over it. It is astonishing how much labour and time are saved by using this instrument instead of carts. It takes up about 5 cwt. or more of earth each time, and this load slides along with the greatest ease to the horses: in returning they generally trot. More complex instruments have been invented to answer the same purpose, some of which are extremely ingenious, but the simplicity of this, and the small expense at which it may be made by any common wheelwright or carpenter, or even by the farmer himself, strongly recommend it; and we do not hesitate to assert that, with a very little practice, any common labourer who can manage horses will do as much work with this simple instrument as he would with the more perfect and ingenious machine which obtained a prize from the Highland Society some years ago.

It consisted of a strong iron shovel about one yard square (sharply bevilled at its front edge, and furnished with a strong iron-rod draught-handle attached to its sides), mounted with a pair of strong oaken handles; the whole forming a hand-barrow without wheels, to be drawn along the ground on its bottom surface like a sledge. It was chiefly used in America as a road-scraper. Various modifications had been proposed of this implement: some having reference to convenience in tilting up the load of earth and regaining the handles without stopping the horses, by adjustment of the line of draught or contrivances to effect the object by complicated mechanical appendage; others, as adopted in Norfolk, he believed, by Mr. Hamond, to reduction of friction in the transport by means of two very small wheels under the shovel; and one which he, Mr. Slaney himself, thought might perhaps be worthy of consideration, namely, the escape of manure, in rows, through regulated longitudinal apertures in the barrow, on the surface of land, according to any particular object in view.—Colonel Challoner had employed a similar implement for 20 years, with great advantage, in clearing out old hedge-rows, and taking off the top surface from soil. It was made of wood, and was larger than the American barrow then exhibited, had longer handles, and was drawn by horses attached to strong whipple-trees at the side; the load being pitched over while the horses were going on.—Mr. Rowlandson remarked that a similar implement had been long in use in Lincolnshire.—Mr. Fisher Hobbs had found great advantage in the use of a tip-shovel, similar to the one used for removing earth on railways. It was simple, and worked on a pivot, and was capable of holding nearly a cubic yard of earth, which was tilted out by lifting the handles, while the horses went on. He had fonnd it a great saving, in clearing headlands, and filling up ponds or hollow ways. With one man, a boy, and a pair of horses, as much clearance might be effected as with three carts, three horses, and men.—The Chairman expressed his thanks to Mr. Slaney for the kind trouble he had taken in bringing this subject before the Council.

Communications were received: from Mr. Nesbit, giving further details of his mode of estimating the market value of guano; from Mr. Gregory Watkins, on "the necessity of trying to encourage the invention of simple and portable machines for crushing and breaking Flax-straw without any previous preparation; and so reducing its weight and bulk that it may be sent to distant retteries at a small cost of carriage; the refuse, by such process, being left on the farm as food for cattle, or for manure; Flax, in his opinion, provided the seed is also consumed, thus becoming, under a good rotation, an improver and fertiliser of the soil, instead of an impoverisher of it;" from Mr. Nolan, of Dublin, on recently imported specimens of Cochin-China fowls; from Mr. Dolbell, on preservation of Potatoes; and from Mr. Harris, on suggestions of agricultural improvements; for which the Council ordered their usual acknowledgments.

The Council then adjourned to Wednesday next.

Agricultural Improvement of Ireland, *Feb.* 3.—Earl of Clancarty, in the chair.

The Chairman, in opening the business of the meeting, said, that, as announced in the printed circular, sent to the members of council, the subject for discussion was, the best method of feeding and housing cattle, &c., on which Mr. Harkness, the secretary, had been directed to address this meeting.—Mr. Harkness commenced his paper by stating, that the subject he had selected was one of great importance to agriculturists generally, and ought to be more so to the farmers of Ireland, the physical capabilities of whose soil are so great for the production of heavy crops of Grass, Oats, Rye, Beans, Linseed and green crops required for feeding. That question was—"The most advantageous method of feeding and housing farm stock; and whether such should be fed partly with, or altogether without, cooked food." Mr. Harkness remarked, that a recent author, who published last year a useful work on live stock, said, when treating of the fattening of cattle, that "as the art of feeding is so well understood, any further, remarks on this point will be superfluous," he giving no directions as to any mode of feeding. Such a sentiment, however, evidently begets a false security in erroneous and uneconomical modes of feeding, which were most numerous and antagonistical throughout the three kingdoms, and which proved the cause of much personal and national loss; and this again resulted from the lamentable destitution of well-ascertained statistics, which pervaded every department of British agriculture. The fact is, no branch of husbandry furnished a stronger illustration of confusion of opinions and practice among agriculturists, than that of feeding farm stock to fat, and this equally applied to eminent writers as to what are denominated practical farmers—for example, Lord Kaimes, an eminent Scotch agriculturist and improver, gave his steward directions to give his cattle as much food as they could consume, while Sir John Sinclair, an eminent writer on such subjects, cautioned feeders not to overload animals' stomachs with food which could produce loathing. Dr. Coventry, too, considered "it wasteful" to give rich food to young cattle; while Cully and Cline say, "abundant nourishment is necessary from the earliest period of existence until its (the animal's) growth is complete." Arthur Young and Mr. Loudon, too, are quite at the antipodes in their opinion as to the quantity and richness of food for cattle. So much for the diversity of opinion among writers on agriculture. But the diversities or contrarieties in practice are still more prominent. While by the practice of Yorkshire, Suffolk, Scotland, and of some parts in Ireland, only 80 lbs. of Turnips are used in feeding animals 60 or 70 lbs. weight, in some parts of the same countries no less than from 150 to 240 lbs. are used to accomplish the same object. Such discrepancies in rural economy evidently arise from the want

of statistics, and of the interchange of sound information among the farming classes—a matter much to be regretted, and now the more necessary to be remedied as far as practicable. Mr. Harkness then went on to say that, impressed with such a conviction, he had recently issued a variety of printed queries, upon which he had obtained a great mass of valuable information, that portion of which, bearing on feeding, he would now summarise and submit for the consideration of the meeting. He would first address himself to the matter of fact or practical part of the subject of feeding; after which, in a future paper, the physiological and chemical branch of the general question could be treated. He then proceeded to classify the reports which he had got upon the quantities of food, and the mode of feeding of various agriculturists of long experience, whether cooked or raw, or partly cooked and partly raw. Class I.—Let us take the details on feeding partly cooked and partly uncooked food. 1. *The Midland Counties of England.*—The late Mr. Hillyard, an extensive and intelligent feeder, had used food partly cooked — bruised Linseed, boiled into jelly, and given with cut straw. He had used it raw also; but, in his well-known work on "Practical Farming," he speaks in terms of commendation of Linseed meal so used instead of oil-cake, affirming, as a fact, that "One stone of Linseed, in a mixture of other foods, will do as much towards feeding as two stones of oil-cake." And, further, speaking of compound food, he says: "I never had beasts that became better meat" than upon it, and he found it a cheaper plan. 2. *Yorkshire.*—Mr. H. went at considerable length into the details of the modes of feeding of Messrs. Marshall, Hutton, and others, all of whom had formerly fed upon oil-cake, large quantities of Turnip cut, and straw, or hay; but who gave up the old and adopted the cooked system, which was as follows: Each animal got two feeds per day of food thus prepared—10 lbs. of straw, 5 lbs. of Bean or grain meal, 2 lbs. of Linseed; the cut straw is laid upon a clean floor, the meal mixed well up with it, and the boiled Linseed jelly is then poured over the straw, and shovelled up thoroughly, and the whole left to cool and absorb the nutritious ingredients. Such quantities divide into two feeds; and 80 lbs. only of Turnip is given in two feeds, with a little uncut hay. This feeding was proved, by Messrs. Hutton, Marshall, &c., to be equally effective, at the same expense, with a saving of a month, at least, in bringing the beast to market, and at least one half of the Turnip formerly used. Mr. Hutton, in reply to Mr. Harkness's queries, says—"I have now 62 bullocks tied up, feeding entirely on prepared food (as above), many of them from 60 to 70 stone weight. I have never had one ill since I tried it, and with my food not more than from 70 to 80 lbs. of Turnip should be given to any beast; and what I have seen of this system convinces me that certainly double the quantity of stock can be maintained with the same quantity of Turnip." *Suffolk and Hampshire.*—Mr. Harkness quoted the authority of Mr. Raynbird, who wrote an excellent report on the agriculture of Suffolk, in the "Royal English Society's Journal." In these counties cooked food is also used, either as above described, or in the form of jelly pudding, made with grain, Bean, and Linseed-meal, boiled up, allowed to stand and cool, when it can be cut up and given to cattle, weight for weight, equal to oilcake, and not half the expense, though as good for fattening—only 70 or 80 tons of Turnips given. *The Cornwall Home-made Linseed-cake.*—It is boiled as above, and then poured into tin moulds of 7 lbs. This was proved to be cheaper and as good as oilcake, and only 60 lbs. of Turnips given. *Gloucestershire.*—Mr. Morton, Lord Ducie's manager of his example farm, has followed the same method, as that practised in Yorkshire, to his entire satisfaction. *Norfolk.*—This county, too, has followed the examples shown in those other counties, using cooked food both summer and winter, with a great saving of green food and straw. *Durham.*—The report from this county is to the same effect. John Gibson, Esq., Factor to Lord Londonderry, having a very large number of farm stock, fed upon his lordship's home farm, on cooked food, similar to that of Mr. Thompson, Moat Hall, Yorkshire. *Berkshire.*—Sir John Conroy, Bart., of Arbourfield, also feeds with mixed food, chiefly in cold water, extensively. Mr. H. then went on to give similar examples from the counties of Northumberland, Devon, Meath, Dumfries, Wigtonshire, and Ayr, all confirmatory of the practice of Yorkshire and Suffolk; also from Tipperary and Galway, and the Glasnevin Model Agricultural School. A large body of evidence was adduced under this head, the full details of which we regret our space does not admit of our publishing; but it amounts, in effect, to what Mr. H. explained of the Yorkshire feeding — a great saving of Turnip, and more speedy and economical feeding to fat. Let us glance now at Class II., or the system of feeding with food altogether raw. —The following notes (said Mr. H.) are taken from the reports of most experienced agriculturists, feeders who have sent great numberss of cattle, in the best condition, to the fat market, by means of uncooked food. We will arrange them, as nearly as possible, according to the weight of Turnips and straw used by the feeders:—Mr. J. Robb, Kiltarnan, Tulla, Clare. He allows to fattening cattle—of Turnip, 18 stone weight (that is, 252 lbs. a day); four pounds of Bean meal, steeped; and uncut hay without any limitation. Turnips given thrice a day. Mr. Murray, farm steward to the Earl Fitzwilliam, allows as many cut Turnips as the cattle can eat (probably nearly the same amount as Mr. Robb), with as much chaffed hay or straw, also, as they can eat; and, after being fed for two months, six or eight pounds of oil cake per day. Mr. James Rutherford, farm steward to the Earl of Durham, gives as many Turnips, and as much hay as cattle can eat, with about nine pounds of Bean meal and oilcake per day. The Earl of Derby, Knowsley Hall, Lancashire. Mr. Crisp, his lordship's farm steward, makes a similar statement as to feeding. Mr. Thomas Gillison, cattle sale-man and farmer, Liverpool, gives a similar report as to the general method of feeding in Lancashire. Mr. Stevenson, Furnstones, Hexham, Northumberland, gives 150 lbs. of Turnip, in three feeds, and 4 lbs. of cake, or 4 lbs. of compound food made of Linseed and different kinds of meal, straw uncut, and in unlimited quantity. Mr. Elliot, of Hardgrave, Dumfriesshire, feeds in a similar way to the last; but a mixture of oil-cake and bruised grains, amounting to 8 lbs. per day. Mr. Lawrie, Rigfoot, Dumfries, gives limited Turnip, 150 lbs.; uncut straw, unlimited in quantity; hay and oil-cake, 4 to 7 lbs. Mr. Anderson, Westhaven, Forfarshire, Lord Talbot de Malahide, the Hon. Captain Grey, Howick Grange, Northumberland, Mr. Gibson, Straffan, Celbridge, and various others, had reported similar methods of feeding with mixed raw food and Turnip, about 112 to 130 lbs. per day. These were the instances adduced by Mr. H. of the system of feeding cattle with raw food. What was to be deduced from such statistical data? What practical lesson on husbandry was taught by them? Did they solve the question as to the eligibility of part cooked food or altogether raw? From a careful analysis of the various reports in Class I. and II., Mr. H. said the meal and Linseed in Class I. (7 lbs.), might be fairly set off against the oil-cake and meal in Class II., amounting to 8 lbs. But as to chaff and hay, there was a balance of 4 lbs., or near 20 per cent., in favour of the partly-cooked food system; and finally, as regards the consumption of Turnip, there was a balance in favour of the cooked food system of 70 to 90 per cent. The result thus arrived at corresponds, as near as may be, with the experience and testimony of Mr. Thompson, Mr. Hutton, Mr. Marshall, of Yorkshire, &c. Their cattle, from 60 to 70 stone weight, were of first-rate quality, and brought the highest price. These gentlemen, and many others, had long pursued the raw food plan—gave it up upon a fair trial—adopted the new system, and continue, after several years, to pursue it with success and profit, first as being economical in the straw; secondly, because it saves almost one-half of the Turnip crop; thirdly, because by such system the bullocks prove paying customers for all small grain, Beans, Linseed, and Rapeseed grown on the farm; lastly, because the bullocks, by such system, fatten at least a month sooner, thus saving between keep, Turnips, and hay, from 3*l.* to 4*l.* a head. And (said Mr. H.) if such feeding and treatment of cattle will pay in England and Scotland, where rents are higher and the ground inferior in quality to that of Ireland, how superior would be the result in this country where the very bogs would grow luxuriant crops of Rape, Mangold Wurzel, and Rye; and the hard lands, Linseed, Turnips, and Oats, wherewith chiefly to feed the fine cattle and sheep of this country? Should such circumstances, thus imperfectly hinted at, not induce Irish agriculturists gravely to consider and adopt improved systems of feeding, shelter, and management of their farm stock, for the accomplishment of which the soils and climate are so favourable? These facts, or modes of feeding, form purely and practically matter of every-day husbandry, or that which should be so. Every farmer, of the most simple education, can comprehend them and put them into practice, so as to test their truth. Let this be done, and the result will prove satisfactory. *Abridged from the Irish Farmers' Gazette.*

Calendar of Operations.

FEBRUARY.

West Somersetshire, *Feb.* 1.—The weather has been unusually mild and wet for the time of year, and there promises to be as little winter as we had last year; for, with the exception of a fortnight's frost in November, we have really had no winter; but there will probably be some sharper weather later in spring, as has been the case of late years, in which, as in last year, frosts occurred in May, damaging the fruit trees, which up till then had been promising. The abundance of rain has made the Wheats, winter Vetches, and Rye, very forward, and has even occasioned Grass to spring, as if it was April. The land has been thus rendered late for working for the spring crops, particularly where the sheep have been folding off Turnips, preparatory to sowing with Barley and spring Wheat, so that it has not been ploughed up so soon as could be wished, and as it ought to be directly sheep are off, to enable the soil to have the immediate benefit of the fold. Lambing is beginning slowly; farther down the country near Taunton, however, where many of the horned Dorsets are kept, they have begun about a month ago. The continual wet has been against the fatting wethers on Turnips, which have looked thin, though otherwise healthy; with a change of weather they will soon mend; no doubt if buildings admitted of it, sheep would be better under cover, at least in wet weather. I was lately in Hampshire, where I visited a kind of model farm (near Southampton) managed by a Scotch bailiff. I saw there about 150 sheep under shed, with a passage parting them down the middle, and nothing could be better than their condition. The plan pursued was to keep them on straw to accumulate under them into manure, cleaned out about once a month, or less, as necessary. This system I do not however like so well as the tank plan of Huxtable's, which is cleaner and healthier for them one would think. There was a fixed steam-engine there, which did everything, as they say, and rather more than most of the kind. The land, gravelly and chalky, was worked in the four course; there were besides some poorer sheep, folded, for the sake of consolidating the soil, and a few breeding ewes. On the subject of machinery I may mention that while reading an old "Annual Register" (for the year 1804), which is a useful work for reference on agriculture as well as other subjects, I came upon a paragraph describing the invention of a reaping-machine, which, as that article has just come into use, and exhibited this year, it may not be uninteresting to enclose. Extract from the *Chronicle*, or newspaper portion of the "Annual Register" for September, 1804:—"A curious reaping-machine has been invented by two Americans, of the names of Dawson and Cox. It is adapted to be either moved by men or drawn by horses; it cuts off and collects the heads of Wheat, Barley, and all other grain-bearing plants as they grow in the field, without any loss of the grain, and with a wonderful abbreviation of labour." I should be curious to know whether, as this one now in use is an American invention, it was suggested by the above-named one of so many years back. I conclude it was, and that it had not then reached perfection sufficiently to be brought into use. *H. E.*

Notices to Correspondents.

Agricultural Seeds: *A L.* The article appeared, as you would see.

Bad Cream: *A Constant Reader, Aberdeen,* wishes to know what makes his cream go slimy and tough. My wife managed a dairy for many years, and she informs me that it is nothing but the wind that occasions it to be so. *W. C. Bobbington.*

Barley: *X.* In boggy exposed ground try common Bere—the Hordeum hexastichum.

Beans as a First Crop: *A Small Farmer* says:—In your Paper of January 31, under the head "Common Land," you recommend Oats as a crop on newly broken-up common or pasture land. I have seen a Bean crop succeed very well where Oats have failed. The subsoil was a rather stiff clay; and the crop amounted to near five quarters per acre.

Chicory: *X.* See last week's Notices.

Devonshire Dairy Management: *Annie* says, "I shall be much obliged if Sarah H., Westmoreland, will inform me how much butter she makes at one time in her small wooden tub, and what is the circumference and depth of the tub. She states that 17 lbs. are made weekly, but does not say how much she makes at one time. I have followed her directions, and highly approve of the plan, but I cannot turn the cream into butter under half or three quarters of an hour. I use an oblong tub, which is washed with hot water before it is used, and make 12 lbs. of butter twice a week. The butter is excellent, both in taste and colour, although the cows are fed on Swedes three times a day."

Drainage: *Rusticus.* You must ascertain the difference of level at your outfall and at the head of your drain by a process of levelling, for which you will need a levelling instrument and rod.

Draining: *X.* We do not believe it would be of any benefit to stop the drainage of a field just before dry weather.

Food for Cattle and Sheep: *X.* Straw cut into chaff, with linseed soup poured over it, requires to be supplemented with green food, in order to be good food for milking cows.

Food for Cattle: *Constant Reader.* Beans may be given soaked and crushed, as well as if they were ground into meal. Dr. Newington's hand dibble is an excellent implement—the best of its class.

Iron Boiler: *T E.* It is a simple case of iron-mould. Your water must be a solvent in some degree of the iron; and the salt of iron on and in the clothes results in their saturation or staining with the peroxide.

Gypsum: *E C.* We should have little doubt of its being useful as an application to Lucerne, but should have even greater confidence in its usefulness on a sandy than on a calcareous soil.

Lime: *Tyro.* Many cases of reputed injury by over-liming have turned out on analysis to exhibit a *deficiency* of lime in the soil: and the fertile chalk soils of England seem to show that over-liming, strictly speaking, is an impossibility. But though, directly, over-liming may not have been injurious, it is possible that indirectly, and by its influence on the texture of the soil, infertility may have arisen. We should be disposed, if liming were resolved on in your case, to apply it in earthy compost, as a top dressing in the autumn of either the third or fourth year of the rotation, that is, over the young seeds, or over the first year's Grass. It would receive a greater mixture with the soil in this way, and it would be present in the land, along with a more than ordinary quantity of vegetable matter, in connection with which it is always most efficient as a fertiliser. You must not apply lime along with any ammoniacal manure.

Load for a Pony: *Anon.* A good cob pony, 13 hands 3 inches, will draw 15 cwt. in a spring cart 26 miles on a moderately good road.

Parkes' Patent Steel Fork: *Cottager.* I do not know if they have an agent in London, but a note addressed "Harry Winton and Sons, Birmingham," would bring the desired information. *J. J. Mechi.* [See "Home Correspondence."]

Potatoes: *Anon.* We have nothing to add to what has been already said. If the land is already in good tilth and in good heart, they can be put in with the plough now 4 or 5 inches deep, every third furrow, i. e., 24 to 26 inches apart, and a foot apart in the rows. Choose as early a sort as you can get, and plant in as early a situation as you can obtain.

Prices, &c.: *W S.* Swedes will pay to grow at 13*s.* a ton. Piper's thickset is the shortest strawed Wheat we know; But Talavera or April Wheat is the best Wheat to choose at this season of the year.

Rape Cake: *X.* It may ultimately be used just as oilcake, only it is by slow steps that you can get the cattle to take it. Grind it up with oilcake, and get it gradually mixed in larger proportion, until it is the whole of the daily ration of 4 lbs.

Spring Food: *X.* The earliest spring food is Rye.

Subsoiling: *X.* You had better preserve the present relative position of soil and subsoil in your first subsoiling with the spade.

Swede Turnips for Cows: *An Original Subscriber* says:—In the late numbers of your valuable Journal I observe several communications regarding the use of Swede Turnips for milking cows. I have for three winters given Swedes to our cows without imparting the least unpleasant taste either to the cream or butter. In preparing the Turnips for use, a boy cuts off the crown, which is put aside for the yearlings, and the remainder is given (uncooked) to the cows; I conclude therefore that it is the crown only which imparts the disagreeable taste to the milk, &c.

Wheat, Flour, Bran, and Bread: *X.* A bushel of good Wheat will yield 48 to 50 lbs. of flour and 10 to 12 lbs. of bran; and about 66 to 68 lbs. of good bread may be made from the flour.

Markets.

COVENT GARDEN, Feb. 14

The market continues to be well supplied with vegetables and fruit; but trade is still dull. English Pine-apples are plentiful, considering the season. Hothouse Grapes are over, and foreign Pears have nearly disappeared. The best English kinds fetch good prices. They still consist of Beurré Rance, Ne Plus Meuris, and Easter Beurré. Oranges are plentiful and good. Nuts are nearly the same as last quoted. Carrots, Turnips, Cabbages, &c., are sufficient for the demand. Potatoes are generally good in quality. Lettuces and other salading are sufficient for the demand. Mushrooms are cheaper. Cut flowers consist of Heaths, Epacrises, Mignonette, Camellias, Roses, Acacias, Azaleas, Primulas, Hyacinths, Tulips, Lily of the Valley, and other forced bulbs.

FRUIT.

Pine-apples, per lb., 4s to 8s	Oranges, per doz., 1s to 1s 6d
Grapes, Lisbon, per lb., 9d to 1s	— per 100, 3s 6d to 10s
Apples, kitchen, per bushel, 2s to 3s 6d	— Seville, per doz., 1s to 3s
Pears, dessert, p. doz., 2s to 6s	Nuts, Barcelona, p. bushel, 20s to 22s
Almonds, per peck, 5s	— Brazil, p. bsh., 12s to 14s
— sweet, per lb., 2s to 3s	Cobs, per 100 lbs., 80s
Lemons, per doz., 1s to 2s	

VEGETABLES.

Savoys, per doz., 10d to 1s 3d	Parsnips, per doz., 6d to 1s
Broccoli, p. bunch, 8d to 1s 3d	Leeks, per bunch, 1d to 2d
Asparagus, p. bundle, 4s to 7s	Shallots, per lb., 8d to 10d
Seakale, per basket, 1s to 2s	Garlic, per lb., 6d to 8d
Greens, per doz., 2s to 3	Artichokes, Jerusalem, per hf. sieve, 9d to 1s
Rhubarb, p. bundle, 9d to 1s	Lettuce, Cab., p. score, 4d to 1s
Potatoes, per ton, 45s to 80s	Small Salads, p. punn., 2d to 3d
— per cwt., 2s to 5s	Horse Radish, p. bundle, 1s to 4s
— per bush., 1s 6d to 2s 6d	Mushrooms, p. pot., 1s to 1s 3d
Turnips, per doz., 2s to 4s	— per punnet, 9d to 1s
Cucumbers, each, 1s to 3s	Sorrel, per hf. sieve, 6d to 9d
Celery, p. bundle, 6d to 1s 6d	Fennel, per bunch, 2d to 3d
Carrots, per bunch, 4d to 7d	Savory, per bunch, 2d to 3d
Brussels Sprouts, p. half sieve, 1s 6d to 2s 6d	Thyme, per bunch, 2d to 3d
Spinach, per sieve, 1s to 1s 6d	Parsley, per doz. bun., 2s to 3s
Onions, p. bunch, 3d to 4d	Mint, per bunch, 9d to 1s
— Spanish, p. doz., 1s 6d to 3s	Basil, p. bunch, 3d to 4d
Endive, per score, 9d to 2s	Marjoram, do., 3d to 4d
Beet, per doz., 1s to 2s	Watercress, p. 12 bunchs. 6d to 1s

COAL MARKET.—Friday, Feb. 13.

Hollywell, 15s. 6d.; Eden Main, 15s. 3d.; Hastings Hartley, 13s.; Tanfield Moor, 12s.; Wallsend Riddell, 14s. 3d.; Wallsend Haswell, 16s. 6d.; Wallsend Lambton, 16s.; Wallsend Stewarts, 16s. 3d.; Wallsend Tees, 16s.—Ships at market, 265.

POTATOES.—Southwark, Monday, Feb. 9.

The committee report that during the past week the arrivals coastwise have been very limited, but the supply by rail has been very considerable. In consequence of the mildness of the weather, and the small consumption, we cannot quote any improvement in prices. The following are this day's rates:—York Regents, 70s. to 80s.; Scotch do., 65s. to 70s.; Cups, 55s. to 65s.; Kent and Essex Regents, 60s. to 80s.; Cambridge and Wisbeach, &c., 60s. to 70s.

HAY.—Per Load of 36 Trusses.

Smithfield, Feb. 12.

Prime Meadow Hay	72s to 76s	Clover	80s to 85s		
Inferior ditto... ...	65 70	2d cut	70 75		
Rowen	60 65	Straw	24 27		
New Hay	— —	J. Cooper.			

Cumberland Market, Feb. 12.

Prime Meadow Hay	75s to 80s	Inferior	65s to 72s
Inferior ditto... ...	60 70	New Clover	— —
New Hay	— —	Straw	26 30
Old Clover	78 86	Joshua Baker.	

Whitechapel, Feb. 12.

Fine Old Hay ...	72s to 76s	Old Clover	80s to 86s
New Hay	66 74	Inferior ditto ...	— —
Inferior ditto... ...	50 60	New Clover	75 84
Straw	22 25	Inferior ditto... ...	60 70

HOPS.—Friday, Feb. 13.

Messrs. Pattenden and Smith report that the demand for Hops continues the same as for some time past.

WOOL.

Bradford, Thursday, Feb. 12.—To-day little has been done in this branch of our trade; the dormant state of the yarn trade causes spinners to act with caution. In low sorts, prices have a downward tendency. Noils and Brokes are in demand, and owing to the small quantity, prices are firm.—Although the transactions in our wool market during the preceding week have only been of a limited character, the tone of firmness in the prices of the better classes of English wool continues undiminished. Staplers finding their stocks of them reducing, are unwilling sellers, unless at an improved price, and in this respection they are confirmed by the impossibility of replacing at similar rates from the country. Stocks in the hands of spinners are by no means heavy, and although in the present position of the trade they are reluctant to buy wool at current

rates, they are yet under the necessity of buying with a certain degree of regularity for immediate consumption—a circumstance which tends much to preserve firmness of prices.

SMITHFIELD, Monday, Feb. 9.

We have a large supply of Beasts, and although the weather is favourable trade is exceedingly slow. Prices on the average are about the same as on Monday last. Several remain unsold. The number of Sheep is larger, and the average quality much better than of late. The trade is scarcely so brisk, but prices remain unaltered. We have a large number of foreign Calves on offer, which meet with a dull sale, but choice qualities are not much lower. From Holland and Germany there are 495 Beasts, 1280 Sheep, and 283 Calves; from Scotland, 500 Beasts; from Norfolk and Suffolk, 2200; and 500 from the northern and midland counties.

	s	d	s	d		s	d	s	d
Per st. of 8 lbs.— Best Scots, Herefords, &c. ...	3	6	to 3	8	Per st. of 8 lbs.— Best Long-wools .	3	8	to 4	0
Best Short-horns	3	4	— 3	6	Ditto Shorn				
2d quality Beasts	2	6	— 3	0	Ewes & 2d quality	3	0	— 3	4
Best Downs and Half-breds ...	4	0	— 4	4	Ditto Shorn				
Ditto Shorn					Lambs	0	0	— 0	0
					Calves	3	4	— 4	8
					Pigs	3	0	— 4	0

Beasts, 4173; Sheep and Lambs, 22,130; Calves, 331; Pigs, 320.

Friday, Feb. 13.

The number of Beasts fresh up from our own grazing districts is very small, the supply chiefly consisting of foreign and those left over from Monday last. Trade is dull, and sales are with difficulty effected at our quotations. There are a few more Sheep; the demand is, however, brisk, and Monday's prices are freely given. Good Calves are scarce, and consequently make nearly as much as of late, but trade is heavy for middling ones at lower rates. Our foreign supply consists of 127 Beasts, 950 Sheep, and 144 Calves. The number of Milch Cows is 130.

MARK LANE.

Monday, Feb. 9.—The supply of English Wheat by land carriage samples to this morning's market was small, and disposed of at previous rates. The demand for foreign continues limited, but its late value is fully supported. The same applies to Flour.—In the value of Barley, Beans, and Peas we observe no alteration from this day week.—The supply of Oats is small, and the trade is unaltered.

Per Imperial Quarter.	s.	s.		s.	s.
Wheat, Essex, Kent, & Suffolk...White	44	—46	Red	40	-42
— — fine selected runs...ditto	46	—48	Red	42	—44
— — Talavera	46	—52			
— Norfolk, Lincoln, & York...White	39	—44	Red	—	
— Foreign	37	—53			
Barley, grind. & distil., 27s to 30s...Chev.	32	—37	Malting .	30	—33
— Foreign... grinding and distilling	23	—29	Malting .	—	
Oats, Essex and Suffolk	19	—21			
— Scotch and Lincolnshire...Potato	2	—24	Feed	20	—22
— Irish .....Potato	20	—23	Feed	19	—22
— Foreign .....Poland and Brew	19	—22	Feed	18	—21
Rye		—	Foreign .	—	
Rye-meal, foreign.....per ton		—			
Beans, Mazagan ... ..24s to 27s.....Tick	25	—30	Harrow .	25	—30
— Pigeon.....27 — 32... Winds	30	—36	Longpod	24	—30
— Foreign .....Small	22	—30	Egyptian	23	—25
Peas, white, Essex and Kent.....Boilers	32	—34	Suffolk...	33	—35
— Maple.....27s to 30s .....Grey	26	—28	Foreign .	27	—34
Maize .....White	—		Yellow ...	—	
Flour, best marks delivered ...per sack	38	—43			
— Suffolk .....ditto	29	—34	Norfolk .	29	—34
— Foreign .....per barrel	18	—24	Per sack	32	—36

Arrivals in the Port of London last Week.

	Wheat.	Barley.	Malt.	Oats.	Beans.	Peas.
Flour, 11139 sks — 5215 brls	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.
English	2630	2424	5749	1846	258	367
Irish.....	—	653	44	2441	—	—
Foreign	7025	800	—	2171	3305	—

Friday, Feb. 13.—The arrivals of foreign grain this week are small, but we are fairly supplied with English corn. Wheat has undergone no alteration, and business is quiet at Monday's prices. The same will apply to Flour.—The Barley trade is slow, and prices the turn lower.—The late quotations of Peas and Beans are fully maintained.—Oats are dull, and rather cheaper.

Imperial Averages.	Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.
Jan. 3.....	37s 2d	26s 7d	17s 9d	26s 11d	28s 7d	28s 4d
— 10	37 4	26 5	17 0	20 1	28 9	28 1
— 17.....	38 3	27 1	18 11	37 5	27 11	28 0
— 24	39 3	27 10	18 2	27 10	28 3	28 18
— 31.....	39 10	28 6	18 2	27 6	28 11	28 4
Feb. 7.....	41 2	29 8	18 11	29 7	29 0	29 0
Aggreg. Aver.	38 10	27 7	18 2	28 3	28 7	28 6

Duties on Foreign Grain, 1s. per quarter.

Arrivals this Week.

	Wheat.	Barley.	Oats.	Flour.
	Qrs.	Qrs.	Qrs.	
English ...	3630	5910	10420	2750 sacks
Irish	—	—	—	
Foreign ...	2910	380	8750	1900 brrls.

Fluctuations in the last six weeks' Averages.

Prices.	Jan. 3.	Jan. 10.	Jan. 17.	Jan. 24.	Jan. 31.	Feb. 7.
41s 2d	...	...	...	...	...	...
39 10	...	...	...	...	...	...
39 3	...	...	...	...	...	...
38 3	...	...	...	...	...	...
37 4	...	...	...	...	...	...
37 2 —	...	...	...	...	...	...

Liverpool, Tuesday, Feb. 10.—At our Corn Exchange this morning we experienced a slow limited sale for English and foreign Wheat of all descriptions, and in the absence of speculative buyers, a decline of 1d. per 70 lbs. from the prices of Tuesday last was submitted to. Flour was very little called for, but continued to support the reduced rates last noted. Barley and Malt were in fair request, and each 1s. per qr. dearer. Beans and Peas move slowly, on the terms of last week. Oats meeting little inquiry, declined ½d. per 45 lbs., and Oatmeal hardly maintained late prices. Indian Corn, being more difficult of disposal, parcels on the spot receded 6d. per qr., and in floating cargoes no sales transpired.—Friday, Feb. 6.—Upon a slender attendance of country buyers at our Corn Exchange to-day, Wheat of all descriptions met an excessively dull sale for consuming purposes, which appeared to produce a depressing effect upon the trade; several further parcels of foreign had been taken, but holders generally were not disposed to accept lower terms. Malting and grinding Barley, upon a fair demand, fully supported Tuesday's rates, and Malt continued to improve in value. Beans and Peas remained unvaried. Oats and Oatmeal barely sustained Tuesday's prices. Indian Corn was taken more freely this morning, and Tuesday's rates were maintained.

HARTLEY'S PATENT ROUGH PLATE GLASS, FOR RIDGE AND FURROW ROOFS, GREENHOUSES, RAILWAY STATIONS, ENGINE SHEDS, MILLS, MARKET-HALLS, AND PUBLIC BUILDINGS, GENERALLY.

For Conservatories, Public Buildings, Manufactories, Skylights, &c. &c.

	⅛th inch thick.	3-16th inch thick.	¼ inch thick.
	s. d.	s. d.	s. d.
Packed in Crates, for cutting up of the sizes as Manufactured:— 30 inches wide and from 40 to 50 long ... ... Or 20 ,, ,, 50 to 70 ,, ...	0 6	0 8	0 10
In Squares, cut to the sizes ordered:— Under 8 by 6	0 4	0 6	0 7
8 by 6 and under 10 by 8	0 4½	0 7	0 8
10 by 8 ,, 14 by 10	0 5	0 7	0 9
14 by 10 ,, 1½ feet super., if the length does not exceed 20 inches	0 5½	0 7	0 9
1½ feet sup. ,, 3 ,, or if above 20, and not above 30 inches long...	0 6	0 8	0 10
3 ,, ,, 4 ,, ,, 20 ,, 30 ,, ...	0 6½	0 8	0 10
4 ,, ,, 5 ,, ,, 30 ,, 35 ,, ...	0 7	0 8½	0 10
5 ,, ,, 6 ,, ,, 35 ,, 40 ,, ...	0 7½	0 9	0 10½
6 ,, ,, 8 ,, ,, 40 ,, 45 ,, ...	0 8	0 9½	0 11
8 ,, ,, 10 ,, ,, 45 ,, 55 ,, ...	0 8½	0 10	1 0
10 ,, ,, 12 ,, ,, 55 ,, 70 ,, ...	0 9	0 11	1 1
12 ,, ,, 15 ,, ,, 70 ,, 85 ,, ...	.....	1 0	1 2

Packed in boxes of 50 feet each.

Ins.	Ins.	Ins.	Ins.	s.	d.
6 by 4 and	6½ by 4½	... ...		10	6
7 by 5 ,,	7½ by 5½	... ...		12	0
8 by 6 ,,	8½ by 6½	... ...		13	0
9 by 7 ,,	9½ by 7½	and 10 by 8		15	0

Note.—Squares are charged according to the superficial contents, except where the length exceeds the restriction above, in which case the higher price is charged irrespective of the contents.

Bending.—1-8th, 6d.; 3-16ths, 9d.; ¼ inch, 1s. per foot, net.

*** *Irregular shapes are charged as squares.*

When Crates are ordered, the 30-inch widths will be sent, unless otherwise specified.

THE PATENT ROUGH PLATE, one-eighth of an inch thick, and weighing 2 lbs. to the foot, has now become an article of very extensive and increasing consumption.

It is universally admitted to be the best and most suitable Glass for Ridge and Furrow Roofs, Greenhouses, Factories, Workshops,

And all such like purposes, and is a cheap and efficient substitute for Fluted or Obscured Glass, where the object is to intercept the vision without diminishing the light. Its non-transparency, strength, and cost (being no more weight for weight than Common Sheet Glass), render it eminently suitable for the Glazing of Conservatories and Roofs of all kinds; Blinds are unnecessary, and when used in Greenhouses *no scorching occurs.*

Where still greater strength is required the 3-16ths and ¼ inch thick will be found much cheaper than the Common Rough Plate. Samples will be forwarded on application, by applying to JAMES PHILLIPS & CO., HORTICULTURAL GLASS MERCHANTS, 116, BISHOPSGATE-STREET WITHOUT, LONDON.

GLASS FOR CONSERVATORIES, ETC.

HETLEY and Co. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2d. to 3d. per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices and Estimates forwarded on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLATES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to James Hetley and Co., 35, Soho-square, London.

See *Gardeners' Chronicle* first Saturday in each month.

GLASS.

THOMAS MILLINGTON'S FOREIGN SHEET GLASS is far superior to any other manufacture, as well as cheaper. In 100 feet boxes packed for immediate delivery.

6 inches by 4	and	6½	by	4½	... ...	13s. 0d.
7 ,,		5	and	7½	by 5½	15 0
8 ,,		5	and	8	by 5½	15 0
8 ,,		6	and	8½	by 6½	17 6
9 ,,		7	and	10	by 8	20 0
12 ,,		10	and	13	by 9	20 0

And many other sizes, or cut to order in various thicknesses. Cases containing large Sheets, in 100, 200, and 300 feet, at 21s. per 100 feet.

ROUGH PLATE, perfectly flat, ⅛ in. thick, best manufactured

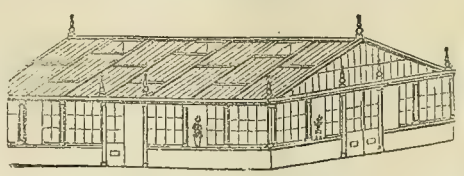
In sizes under 15 inches			6d.	per foot.
,, ,, 35 ,, ...			8d.	,,
,, ,, 50 ,, ...			9½d.	,,
,, ,, 75 ,, ...			12d.	,,

Milk Pans, 2s. to 6s. each; Metal Hand-frames, Glass Tiles and Slates; Cucumber, Propagating, and Bee Glasses; Wasp Traps, Glass Shades, and Plate Glass, at 87, Bishopsgate-street Without, same side as Eastern Counties Railway.—Established 100 years.

BELGIAN SHEET GLASS.—The above beautiful Glass, 16-oz. to the foot, so strongly recommended for Horticultural purposes, can be procured at the Soho Crown, Sheet, and Ornamental Glass Warehouse, 26, Soho-square, upon the following Cash terms. Single cases containing 200 feet each, case included, 2l. 2s.; in parcels of 5 cases at 40s.; in parcels of 10 cases, 38s. per case; or cut to any given size at 3d. per foot.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER.

WARRANTED BEST MATERIALS AND WORKMANSHIP, AT THE LOWEST POSSIBLE PRICES.



J. WEEKS and CO., King's-road, Chelsea, Horticultural Architects, Hothouse Builders, and Hot-water Apparatus Manufacturers. The Nobility and Gentry about to erect Horticultural buildings, or fix Hot-water Apparatus, will find at our Hothouse Works, King's-road, Chelsea, an extensive variety of Hothouses, Greenhouses, Conservatories, Pits, &c., erected, and in full operation, combining all modern improvements, so that a lady or gentleman can select the description of House best adapted for every required purpose.

THE HOT-WATER APPARATUSES (which are efficient and economical), are particularly worthy of attention, and are erected in all the Houses, Pits, &c., for both Top and Bottom Heat, and in constant operation in the Stoves.

The splendid collection of Stove and Greenhouse Plants are in the highest state of cultivation, and for sale at very low prices. Also a fine collection of strong Grape Vines in pots from eyes, all the best sorts.

Plans, Models, and Estimates of Horticultural Buildings; also Catalogues of Plants, Vines, Seeds, &c., forwarded on application.—J. Weeks and Co., King's-road, Chelsea, London.

FOR WARMING GREENHOUSES and BUILDINGS of all kinds, the new Registered HORIZONTAL GAS STOVE is perfect in its operation, free from smell, and cannot get out of order. Price 30s.—Stevens and Son, Darlington Works, Southwark Bridge-road, London.

GREEN AND HOTHOUSES, made by Machinery, at J. Lewis' Horticultural Works, Stamford Hill, Middlesex, warranted best materials, and the cheapest in England.—A List of Prices sent by enclosing two postage stamps.

HOT WATER APPARATUS, FOR WARMING CHURCHES, PUBLIC BUILDINGS, HOTHOUSES AND CONSERVATORIES.

P. E. WEBER and CO., Ironfounders, Scotland Road, Liverpool, invite the attention of the public to their improved Hot Water Apparatus for Warming Churches, Public Buildings, Hothouses, and Conservatories, which their large experience in such work enables them to recommend; and for economy of fuel, durability, and freedom from nauseous smell, is unsurpassed by any other mode of heating.

Manufacturers of Steam Engines, Cranes, Kitchen Ranges, Register Grates, Stoves, Balconies, Verandahs, Entrance Gates, Railing, and all descriptions of Wrought and Cast Iron Ornamental Work.

HOTHOUSES, GREENHOUSES, ETC.

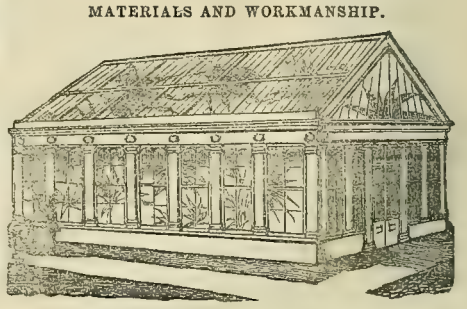
BY HER MAJESTY'S ROYAL LETTERS PATENT.

E. DENCH, PATENT HOTHOUSE WORKS, King's-road, Chelsea.—The superior qualities in every respect of these Structures having been proved in all parts of the United Kingdom, has caused a greater demand for them than E. D. could execute; he has been obliged to have perfect and powerful machinery made to meet the numerous orders, and can now execute any amount of work to great perfection, with dispatch, and for quality and price to defy all competition. Patent Hothouses, with excellent glass 3 feet long by 1 foot wide, every front sash to open, and every top one to slide down, with pulley made of the same materials as the electric telegraph wires, which require no painting; delivered free to Wharf or Railway Station, at 1s. 2d. per foot super., complete, having been fitted, and every portion marked previously, making a Greenhouse 16 ft. 6 ins. long, 12 ft. rafter, 400 ft., 23l. 6s. 8d.; 24 ft. 6 ins. long., do. do., 526 ft., 30l. 13s. 8d.; 28 ft. 6 ins. long, 15 ft. rafter, 712 ft., 41l. 10s. 8d. Heating by Hot-water on the most approved and economical principles.

Patent Sashes for Pits and Peach Walls, &c., 7d. and 8d. per foot, super.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER,

AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.



GRAY and ORMSON, Danvers-street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

G. & O. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders, they can with the greatest confidence give the most satisfactory references.

Their Hot-Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating Hot by Water can be made available.

Sales by Auction.

BLACKHEATH.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN & OTHERS.

MESSRS. PROTHEROE AND MORRIS are instructed by Mr. HALLY to sell by public Auction, on the premises, adjoining the Railway Station, Blackheath, on MONDAY, March 1, and following day, at 11 o'clock each day, the valuable NURSERY STOCK, comprising a selected assortment of Evergreens, Ornamental Trees, Flowering Shrubs, and American Plants, amongst which will be found fine specimens of Cedrus Deodara, Cryptomeria japonica, Silver Cedars, Taxodium sempervirens, Scarlet Rhododendrons, &c., together with a choice collection of Greenhouse Plants, which will include about 300 Camellias, consisting of all the approved kinds, beautifully furnished with bloom-buds, Epacris, Azalea indica, Geraniums, &c.—May be viewed one week prior to the sale, and Catalogues had, 6d each (returnable to purchasers), on the premises; of the principal Seedsmen in London; and of the Auctioneers, American Nursery, Leytonstone, Essex.

TO GENTLEMEN, NURSERYMEN, FLORISTS, AND OTHERS.

MESSRS. RAWLINGS AND GIBSON will submit to public competition, at the Auction Mart, Bartholomew-lane, on WEDNESDAY and FRIDAY, Feb. 18th and 20th, at 12 o'clock, a first-rate collection of HERBACEOUS PLANTS, the property of a Gentleman declining the fancy; also 1000 fine Standard Roses, comprising all the leading varieties, an assortment of Ornamental Trees and Shrubs, &c — May be viewed the morning of sale, and Catalogues had at the Mart; and of the Auctioneers, 50, Hoxton-square, and Ebenezer Nursery, Shacklewell, London.

STANHOPE NURSERY, GLOUCESTER-ROAD, OLD BROMPTON.

MESSRS. RAWLINGS AND GIBSON will sell by public Auction, without reserve, on MONDAY, Feb. 23d, and following day, at 11 o'clock (by order of Mr. W. Siggers, in consequence of the Lease expiring at Lady-day), the whole of the valuable NURSERY STOCK, consisting of fine Evergreens and Shrubs, Fruit and Forest Trees; also a choice collection of Greenhouse Plants, four excellent Greenhouses, 300 feet of Hot-Water Pipe, Boilers, Furnaces, Brickwork, Horses, Vans, Mahogany Counters, Desks, Seed Drawers, Market Baskets, Sun Blinds, and numerous other effects.—May be viewed prior to the sale, and Catalogues had, on the premises; of the principal Seed-men; and of the Auctioneers, 50, Hoxton-square, and Ebenezer Nursery, Shacklewell, London.

EDMONTON.

MESSRS. RAWLINGS AND GIBSON will sell by public Auction, without reserve, on the premises, Language Nursery, White Horse-lane, Edmonton, on WEDNESDAY, February 25th, 1852, and following day, at 11 o'clock (by order of the proprietor, to clear the ground for great alterations), the whole of the valuable NURSERY STOCK, consisting of very fine Evergreens, of sorts; a large quantity of handsome Standard and Dwarf Fruit Trees; also an assortment of Ornamental Shrubs, Standard Roses, &c.—May be viewed prior to the sale, and Catalogues had on the premises; of the principal Seedsmen; and of the Auctioneers, 50, Hoxton-square, and Ebenezer Nursery, Shacklewell, London.

WANDSWORTH COMMON.

MESSRS. RAWLINGS AND GIBSON respectfully announce that on MONDAY, March 1, and following days, the valuable NURSERY STOCK, growing on that portion of the ground belonging to Mr. Robert Neal, which was not offered at the Autumn Sale, will be Sold by Public Auction, without reserve. Further particulars will be announced in next advertisement.—50, Hoxton-square, London, Feb. 14

MESSRS. RAWLINGS AND GIBSON beg to announce that Catalogues of their Sales may always be obtained, postage free, on application to them, 50, Hoxton-square, London.

STANDARD AND DWARF ROSES.

MR. J. C. STEVENS will include in the Sale at his Great Room, 38, King-street, Covent-Garden, on FRIDAY next, 20th February, at 3 o'clock precisely, 500 STANDARD AND DWARF ROSES, of the best sorts of Bourbon, Hybrid Perpetual, and Noisette.

TO GENTLEMEN, NURSERYMEN, AND OTHERS.

MR. MARKS will sell by Auction, at the Sun Inn, Hitchin, on THURSDAY March 4, at 11 for 12 o'clock precisely, a newly-built GREENHOUSE, with Forcing House adjoining, in the garden attached to the late residence of William Curling, Esq., Bancroft-street, Hitchin, Herts. The Greenhouse occupies a size of 35 feet in length and 18 feet in breadth, and the Forcing House about 28 feet in length and 36 feet in breadth; also the Brick Foundations, superior stone Floor, Stage, Pump, Stove, and Hot-water Apparatus. The houses are constructed of the best materials and workmanship, and are put together with screw bolts and nuts, with the view of removal, and are in a condition equal to new; the Hot-water Apparatus being by Stephenson. Also a BRICK PIT, recently and substantially built, having eight sliding Sashes, and being 27 feet long and 8 feet broad, with lattice shelves on stout bearers, and Stove connected with it. The Pit will be sold in another Lot; by and under such conditions as will be produced at the sale.—The whole may be viewed, and further particulars had, at any time prior to the sale, on application to the Auctioneer, Hitchin, Herts.

TO NURSERYMEN, GARDENERS, AND OTHERS.

LOUTH.

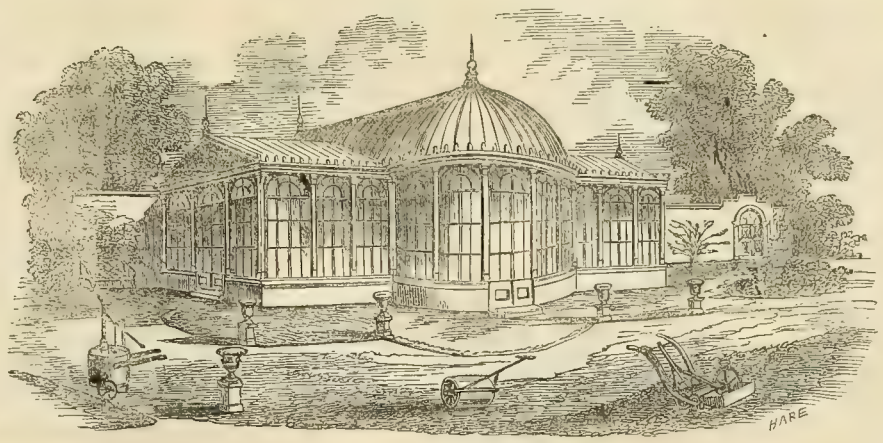
MR. T. JACKSON will sell by Auction, at the King's Head Hotel, Louth, on MONDAY, the 23d of February, at 7 o'clock in the evening, subject to conditions of sale to be then and there produced, all that old-established and well-accustomed NURSERY and GARDEN, situate near the River Lud, in Louth, in the county of Lincoln, containing Six Acres (more or less), with a suitable Dwelling-house and other Buildings standing thereon; also an extensive Glass Frame and other conveniences, for the raising and protection of Plants. A very extensive business has been carried on upon the above premises for upwards of Forty years, and their proximity to the East Lincolnshire Railway renders the situation exceedingly advantageous for a Nurseryman attending the markets of the neighbouring towns.—For further particulars, apply at the Office of Messrs. COE and WILSON, Solicitors, Louth.—Feb. 14

FOR PUBLIC SALE, at the NEW CORN EXCHANGE TAVERN, MARK LANE, on MONDAY, February 16, 10 tons of GUANO, in bulk, in lots of 10 tons each, per *Cleopatra* from Eagle's Rock, South Seas.—Cargoes, with sample and Analysis, may be had on application to CHARLES SUTHERLAND and Co., Brokers, 24, Mincing-lane.

TO BE LET, 16 Acres of LAND, situated in Woodlane, Shepherd's Bush. It has been drained, and is now cultivated as Market Gardeners, and particularly for the use with Cowkeepers. For particulars enquire at Messrs. LACY and LAWRENCE, 19, Kings Arms Yard, Coleman-street, City, London.

COTTAM AND HALLEN,

2, WINSLEY STREET, AND 76, OXFORD STREET, LONDON.



APPLICATION is requested for their NEW HORTICULTURAL LIST, containing Illustrations, Description, and Prices of

Conservatories	Mowing Machines	Hand-glass Frames	Garden Engines	Flower Sticks
Greenhouses	Fountains	Game Netting	Do. Syringes	Garden Bordering
Hot Water Apparatus	Ornamental Wire Work	Hurdles	Do. Rollers	Watering Pots
Garden Vases	Flower Stands	Garden Chairs	Flower Labels	Garden Arches, &c.,

And Tools and Machines of all kinds for Gardens, &c.

IRON HURDLES, STRAINED WIRE FENCING, GAME NETTING, &c.

AGRICULTURAL LIST UPON APPLICATION.

EVERY DESCRIPTION OF PLAIN, ORNAMENTAL, CAST AND WROUGHT IRON, AND WIRE WORK.

EXHIBITION PRIZE MEDAL GATES AND ENAMELLED MANGERS.

FARM TO LET, on very advantageous terms—on lease or yearly tenancy. About 300 acres of Clay Land, thoroughly drained, in a midland county, near a good market, and a good railway. The Roads, House, and Offices are all in excellent condition. Rates very low; no pressure of the poor; Tithe free; Rent low; no Rabbits; very favourable entry as to tenant right; Game not strictly preserved. About 60 acres more of Grass Land might be added if required.

Persons desirous of treating for this very eligible occupancy are requested to apply by letter to the editor of the *Gardeners' Chronicle*, at the Office, 5, Upper Wellington-street, Strand, London.

SURREY.—FARMS TO LET.

TO BE LET, at Michaelmas next, GUILES HILL FARM, in the parish of Ockham, formerly in the occupation of the proprietor, consisting of 262 acres, of which 196 are Meadow and Pasture, and the rest Arable. The latter has been drained, and is unincumbered with hedges or timber. The homestead, erected chiefly within the last few years, is capacious and substantial, and comprises, beside the dwelling-house, several cottages for labourers, and ample accommodation for Dairying, or for Rearing or Fatting Stock. The incoming valuation is very light. The tenant will have the privilege of sporting over his occupation.

Also in the adjoining parish of Wisley, the MANOR FARM, of 212 Acres, of which 101 are Arable, the rest Meadow and Pasture. The Meadow land can be watered in the driest season. The tenant will have the privilege of sporting over his occupation.—For particulars, apply to Mr. W. KAYE, East Horsley, Ripley, Surrey.

TO NURSERYMEN, FLORISTS, ETC.

TO BE LET, on Lease, with immediate possession, a SMALL NURSERY, eligibly situated in one of the most fashionable Watering-places in the County of Devon.

For further particulars, apply to Messrs. NUTTING and SONS, Seedsmen, 46, Cheapside, London.

TO MARKET GARDENERS, NURSERYMEN, AND OTHERS.

TO BE LET, and entered on immediately, about 2500 Feet of GLASS, well stocked with choice and superior young Vines, and a good collection of Greenhouse and Hardy Plants, fit for immediate sale, with a neat COTTAGE, and one, two, or more Acres of Land, to meet the convenience of the person taking the same, situated in a most sheltered and picturesque spot, about three miles from the increasingly populous town of Southampton, which communicates by Railway with the Metropolis and all other parts of England. Some of the soil is peculiarly adapted for a Nursery of American Plants. The Stock to be taken at a valuation.—For particulars apply to JAMES TEE, Aldermoor, near Shirley, Southampton.

GREENHOUSES, GLAZED WITHOUT PUTTY, no Leakage, simple and easy of repair, cheaper than any other system, and much more durable. Lists of prices of different-sized houses forwarded, on application to the inventor and manufacturer, ALFRED KENT, Chichester. A Greenhouse glazed upon this system can be seen at the grounds of the Royal Botanical Society, Regent's Park, London.

A PRIZE MEDAL FOR SUPERIOR LOCKS WAS AWARDED TO J. H. BOOBBYER, AT THE GREAT EXHIBITION OF 1851.

PATENT SPADES, DAISY RAKES, SCYTHES, Draining, and other Garden Tools. Mole Traps, 6s. per dozen. Carpenters and Smiths' Tools, &c. Ladies' Garden Tools, 7s 9d. a set. Sword-scrapers for Gardens, 1s. 2d. each. Patent Fumigators for destroying insects on plants, in greenhouses, &c.: at Messrs. J. H. BOOBBYER and Co.'s (late STURCH and BOOBBYER), Ironmongery, Brass-foundry, Nail and Tool Warehouse, 14, Stanhope-street, Clare-market, London. Established nearly 200 years for the sale of goods from the best Manufactories at the lowest prices. Goods forwarded to any part on the receipt of remittance.

ANTHONY'S PATENT AMERICAN CHURN makes butter in 10 minutes. It obtained the award of the Great Exhibition Medal, and also a prize at every one of the numerous Agricultural meetings at which it has been shown. It is now acknowledged to be the best Churn ever produced. 2000 have been sold in one year.—BURGESS and KEY, 194, Newgate-street, London.

ZOOLOGICAL GARDENS, REGENT'S PARK.—The HIPPOPOTAMUS, presented by H.H. the Viceroy of Egypt; the ELEPHANT CALF, and many recent additions, are exhibited daily. Admission, 1s.; on MONDAYS, 6d.

AGRICULTURAL SEEDS.

W. DRUMMOND AND SONS, SEEDSMEN, Stirling, Scotland, are now prepared to execute orders for the above, from a stock that has been selected with every possible care. They beg to call special attention to their various sorts of TURNIP, ITALIAN and PERENNIAL RYE-GRASS and NATURAL GRASSES for Permanent Pasture, the prices for which are as low as really genuine Seeds can be reared for. Catalogues, with prices and other details, may be had free on application.

N.B.—The Carriage of Seeds will be pre-paid to many of the principal Railway Stations and Shipping Ports throughout the Kingdom.—Agricultural Museum, Stirling, N.B.

WATERPROOF PATHS.—Those who would enjoy their Gardens during the winter months should construct their Walks of PORTLAND CEMENT CONCRETE, which are formed thus:—Screen the gravel of which the path is at present made from the loam which is mixed with it, and to every part of clean gravel add one of sharp river sand. To five parts of such equal mixture add one of Portland Cement, and incorporate the whole well in the dry state before applying the water. It may then be laid on 2 inches thick. Any labourer can mix and spread it. No tool is required beyond the spade, and in 48 hours it becomes as hard as a rock. Vegetation cannot grow through or upon it, and it resists the action of the severest frost. It is necessary, as water does not soak through it, to give a fall from the middle of the path towards the sides.

Manufacturers of the Cement, J. B. WHITE and SONS, Millbank-street, Westminster.

JUST PUBLISHED,

SUTTON'S HORTICULTURAL CALENDAR AND PRICED DESCRIPTIVE LIST OF SEEDS AND PLANTS, is thus noticed by the

Editor of the Gardeners' and Farmers' Journal, on 31st January:—

"This is certainly one of the best lists in circulation, containing a vast store of information relating to seeds and plants. We strongly recommend all our friends and professional readers to procure it, as we are satisfied it will come up to their expectations and wishes. We shall take an early opportunity of noticing its principal features."

The Editor also compliments us with the following remarks on the 7th February:—

"NURSERY CATALOGUES: *Sutton and Sons' Seed and Plant List.*—It is not often we have much to say under this head, but there are occasional instances of trade catalogues being issued more in the form of books than mere lists of names. The catalogue before us comes within such a category. We have already given it our commendation, and a further perusal has confirmed the favourable opinion we expressed in our number of the 31st ult. We, of course, cannot dwell at any length on its merits, but we shall extract one or two passages which we think deserve the notice of our readers at a time when so much is heard respecting the bad quality of seeds."

After making several extracts, including our "Remarks on the Cultivation of the Potato," the Editor further says—

"There is next a statement of the quantities of seed to the acre, and some very useful hints on sowing Grass seeds, and improving old pastures. Of flower seeds there is an extensive assortment, and many useful directions are given in this part. At the end is a Horticultural Calendar for every month in the year, and a List of Books recommended by Sir Joseph Paxton. From their experience of seed growing, the opinion of Messrs. Sutton is entitled to respect."

The above remarks by the Editor show that much valuable information may be obtained for the trifling charge of Six Penny Stamps, which charge is deducted from all orders.

Address JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

DO YOU WANT LUXURIANT HAIR, WHISKERS, &c.?—MISS ELLEN GRADAM, 14, Handcourt, Holborn, London, will send post-free, on receipt of 24 postage stamps, her celebrated NIOUKRENE (elegantly scented, and sufficient for three months' use), for reproducing the hair in baldness, from whatever cause, preventing the hair falling off, strengthening weak hair, and checking greyness. &c. It is also guaranteed to produce whiskers, moustachios, &c., in three or four weeks, with the utmost certainty.—"My hair has become thicker and darker by using your Nioukrene" —Mr. Morry, Eton. "My hair now curls beautifully, and looks very glossy."—Miss Main. "I have now a full pair of whiskers. Send me another pot."—Major Hutton.

JOHN KERNAN,

4, GREAT RUSSELL STREET, COVENT GARDEN, 1852.

IN OFFERING TO HIS FRIENDS AND THE PUBLIC THE ANNEXED

LIST OF VEGETABLE AND FLOWER SEEDS,

WHICH INCLUDES EVERY NOVELTY INTRODUCED UP TO THE PRESENT SEASON,

BEGS to say, to the satisfaction of his customers and himself, that he feels confident he never had SEEDS so well matured and so likely to give general satisfaction, as those so thoroughly ripened by the fine weather of last autumn; for, notwithstanding every exertion against unfavourable weather heretofore, many Seeds have not vegetated to the expectation of parties having them. It is, and always has been, J. KERNAN'S sole endeavour to do everything that lays in his power, and would prefer to do that for his customers, at a less profit, to their satisfaction, than a larger one, with a knowledge of their having a just reason to complain; for by such conduct every man ought to know he defeats his own object; hence the reduction in the present List, which is from the same cause a verity of the abundance to which the reduction is attributable.

PEAS.

	Per qt.—s. d.
Prince Albert	0 9
Early Emperor	0 9
Shilling's new early Grotto	0 9
Bishop's new long-podded	0 9
Fairbeard's Champion of England	1 0
British Queen	1 0
Knight's dwarf green and tail	0 9
Scimetar	0 9
Woodford or Nonsuch ...	0 9
Victoria Marrow	0 8
Burbidge's Eclipse ...	0 8
Dwarf green Mammoth } Tall white do. }	2 6 each.
Two of the finest Peas in cultivation.	
With all other varieties worth cultivating.	

BEANS.

	Per qt.
Early Mazagan	0 6
Sword Longpod	0 6
Hangdown	0 6
Taylor's Windsor ...	0 8
Johnson's Wonderful ...	0 8
Green Genoa	0 8
New Sion House dwarf French	1 0
Cream coloured	1 0
Liver coloured	1 0
New Long-podded Negro	1 0
Scarlet Runners	1 0
Painted Lady do. ...	1 0

	Per oz.
Beet, fine London Red ...	0 6
,, Silver, or Seakale	0 6
,, Whyte's black, per packet	0 6
Borecole, new heading, per paper	0 6
,, red and white, variegated, for garnishing	0 6
,, dwarf curled, per oz.	0 6
Brussels Sprouts (foreign seed, fine), per oz.	0 9
,, English, do.	0 6
Kohl Rabi, per paper ...	0 6
Savoy, green curled, per oz.	0 6

BROCCOLI.

	Per oz.
Myatt's Early Purple Cape	1 0
Miller's Dwarf	1 0
Chappell's Cream ...	1 0
Dancer's Early White ...	1 0
Somner's Late White ...	1 0
Willcove White, late ...	1 0
Grange's Early White,—from the original raiser	1 0
Invisible White	1 0
Purple Sprouting ...	1 0
Walcheren	1 0
Imperial Winter ...	1 0
Dwarf Siberian	1 0
Purple Syrian	1 0

CABBAGE.

	Per oz.
Nonpareil	0 6
Shilling's New Queen, fine	0 6
Atkin's Matchless ...	0 6
Early Venus	0 6
Knight's Early Dwarf ...	0 6
Early York	0 6
Large York	0 6
Early Battersea	0 6
True Cornish	0 6
Couve Tronchuda, per paper	0 6
And all other kinds in cultivation.	

CARROT.

	Per oz.
Early Scarlet Horn ...	0 3
Long Orange	0 3
Fine Surrey	0 3
Altringham, per lb. ...	1 0
White (for Agriculture), per lb.	1 0
Parsnip, Hollow Crown, per oz.	0 3

CAULIFLOWER.

	Per oz.
Mercer's fine Pearly ...	1 0
London Particular ...	1 0
Large Asiatic	1 0
Walcheren	1 0

PARSLEY.

Plain, for feeding early lambs.	
Extra Curled, per oz. ...	0 3

CRESS.

Plain, per pint	0 6
Curled	1 0
American, per oz. ...	0 3
Water, per paper ...	0 6
Mustard, per pint ...	0 6

CELERY.

	Per paper.
Cole's Superb Red ...	0 6
Seymour's Superb White	0 6
,, Superb Red ...	0 6
New Rose, solid	0 6
New Giant	0 6

CUCUMBER.

	Per paper.
Victory of Bath	1 0
Acme of Perfection ...	1 0
Syon House	1 0
Weedon's Free Bearer ...	0 6
Early Frame	0 3
Kerrison's	1 0
Walker's Rambler ...	0 6
Windsor Prize	0 6
Early Handglass ...	0 3
Early Ridge	0 3

MELONS.

Seymour's Golden Perfection	0 6
True Syon House ...	0 6
Snow's Hybrid Green-flesh	0 6
Beechwood	0 6
And all the better sorts grown for this market.	

ENDIVE.

New Imperial, per packet	0 6
Batavian, per oz. ...	0 6
Green curled	0 6
White curled	0 6

Herbs, all the kinds, per packet	0 6

LETTUCE.

	Per oz.
Brighton Cos, per oz. ...	0 9
Imperial Cos	0 9
Victoria Cabbage ...	0 9
Green Paris Cos	0 9
White Summer Cabbage	0 9
Fine London White Cos	0 9
Paris Cos	0 9
Ady's Cos	0 9
Drumhead	0 9
Bath Cos, and others ...	0 9

ONION.

	Per oz.
James's Long Keeping ...	0 6
Fine White Spanish ...	0 6
Globe	0 6
Strasburgh	0 6
Deptford	0 6
Silver-skin	0 6
Tripoli	0 9
Blood-red	0 6
Two-bladed, for pickling	0 6

RADISH.

	Per oz.
New Scarlet Olive-shaped, a delicious new variety, per oz.	0 3
New rose	0 3
Early Frame, per pint ...	0 9
Long Scarlet	0 9
Red and White Turnip ...	0 9
Black Spanish, per oz. ...	0 2

SPINACH.

	Per oz.
New Flanders, per pint...	0 6
Round, or Summer ...	0 6
Lettuce-leaved (new), ...	0 6
New Zealand, per oz. ...	0 3

TURNIPS.

	Per oz.
Early Snowball	0 3
Red American Stone ...	0 3
Teltow, for stewing ...	0 3
Early Dutch	0 3
Yellow Maltese	0 3
,, Stone	0 3
Early Snowball, per lb....	1 6
Early Dutch (earliest), true imported	1 6

AGRICULTURAL TURNIPS.	
Yellow Bullock per lb.—	0 6
Skirving's Swede... ...	0 6
Laing's ditto	0 6
Ashcroft ditto	0 6
Dale's Hybrid	0 6
Red Round	0 6
White Round	0 6
White Globe	0 6
Oxheart	0 6

	per lb.
Drumhead Cabbage ...	1 0
Thousand Headed ...	1 0

Furze, per lb., 6d.; Broom, per lb., 6d.
Coarse Grasses for Game Covers, 6s. per bushel.
Long Red and Globe Mangold Wurzel, per lb, 6d.
White Silesian, or Sugar Beet, per lb., 1s. 6d.
Chevalier Barley; Hopetoun, Tartarian, Sandy, and other Oats.
Flax, from Riga seed, one year grown in this country.
A fine collection of all the best permanent Grasses (hand picked), separate or mixed; if mixed, per bushel, 8s.
Sweet Vernal, the earliest and most suitable Grass for early Lambs, 2s. per lb.
White and Red Clover, 8d.; Lucerne, 9d.; and Trefoil, 6d. per lb.
Kohl Rabi, for Agriculture, per lb., 2s.
Italian Rye Grass. Spring and Winter Tares.
A few of the very finest Grasses for Lawns, per lb., 1s. 6d.
Myatt's fine new Strawberries.
Asparagus plants, according to age, per 100, 2s. 6d. to 5s.
Seakale do. do. do. 5s. to 10s.
Dulley's Early Scarlet Admirable Rhubarb, per root, 1s.
Myatt's Victoria do. (the largest in cultivation), 1s.
Mushroom Spawn, per bushel, 5s.
Cornwell's Victoria Raspberry, per dozen, 2s. 6d.
All the fine new Raspberries, 2s. 6d. to 3s. per dozen.
Seeds of all the new Strawberries, Raspberries, Gooseberries, and Currants, per paper, 6d.

POTATOES.

Per bushel—s. d.		Per bushel—s. d.	
Soden's Early Oxford ...	6 0	Forty-fold	4 0
Barnard's Early Frame...	6 0	Early Hen's Nest...	6 9
Shilling's Early Prolific...	6 0	Early Shaw ...	4 0
Kirke's True Ash-leaved Kidney	7 0	Prince Regent's ...	4 0
Walnut-leaved Kidney ...	7 0	Kentish Mignon ...	4 0
Ash-leaved Kidney ...	7 0	Flour-ball	5 0

And many other most productive late kinds; also seed saved from the best varieties, 6d. per packet.

Garlic, per lb., 6d. Shalots, per lb., 6d.
Budding and Pruning Knives.
Russia Mats, 1s. 6d. each Cuba Bass, per lb., 2s. 6d.
Buckwheat, Indian Corn, Rape, Hemp, &c., for Aviaries.
The trade supplied on moderate terms, with every article true to its kind. Catalogues may be had on application.

FLOWER SEEDS.

Asters, 24 distinct German varieties, in sealed packets, suitable for exhibition, the collection 10s.
A mixture, including all the colours of the above, per paper, 6d.
Do. in 12 distinct colours, the collection, 4s.
A mixture of the best varieties of late Asters, 6d.
Superb German and Prussian Stocks, 24 distinct varieties, for exhibition, the collection 10s
12 varieties of do., distinct in colours, 4s.
12 autumn flowering do., in distinct colours, 4s.
A mixture of all the finest varieties of Ten-week, per paper, 6d.
12 varieties Brompton Stocks, 4s.
A mixture of Brompton do., per packet, 6d.
12 named varieties of Hollyhocks, 3s.

Per packet—s. d.		Per packet—s. d.	
Achimenes, seeds & bulbs of all the varieties.		Tropæolum peregrinum .	0 6
Anagallis Phillipsii and others	0 6	,, pentaphyllum	0 6
Amethystea cærulea ...	0 6	,, tricolorum grandiflorum	1 0
Anemone, fine mixed ...	0 6	,, trimaculatum, new ...	1 0
Antirrhinum (all the new kinds)	0 3	,, minor coccineum ...	0 6
Argemone grandiflora ...	0 3	,, Brachyseras...	1 0
,, Barclayana ...	0 3	Ipomœa rubra cærulea...	0 6
,, speciosa	0 3	,, punctata ...	0 6
Aquilegia glandulosa ...	1 0	,, nil	0 6
,, Skinnerii ...	1 0	,, rosea	0 6
,, fine mixed German varieties	0 6	,, striata & others	0 6
Auricula, from fine named flowers ...	1 0	Thunbergia alata ...	0 6
,, alpine	0 6	,, ,, alba	0 6
Brachycome iberidifolia .	0 6	,, aurantiaca...	0 6
,, alba, new ...	0 6	,, Fryerii ...	0 6
Balsams, 12 very fine distinct colours, all double ...	5 0	,, new yellow...	0 6
,, mixture of above	0 6	Collinsia grandiflora ...	0 3
Bartonia aurea	0 3	,, bicolor	0 3
Blumenbachia insignis ...	0 6	,, ,, new dwarf	0 3
Browallia, of sorts ...	0 6	Dahlia scabigera (dwarf lilac)	0 6
Calceolarias, from a collection of named shrubby kinds	1 0	,, fine mixed ...	0 6
Calceolarias, from Herbaceous do.	1 0	Datura fastuosa, purple...	0 6
Calendrinia discolor ...	0 3	,, ,, white ...	0 6
,, grandiflora...	0 3	Delphinium or Larkspurs, distinct or mixed ...	0 3
,, umbellata — (new), fine for rockwork	0 6	Ditto, biennial and perennial varieties	0 3
,, nova sp., fine red	1 0	Digitalis or Foxglove ...	0 3
Campanula pulcherrima.	0 3	Dianthus, double white Indian pink	0 6
,, Loreii, blue	0 3	,, Knight's new hybrid ...	0 6
,, ,, white	0 3	,, double Indian	0 3
,, ,, stricta ...	0 3	,, latifolia ...	0 3
,, sylvatica ...	0 6	,, Cherii	0 6
Catananche bicolor ...	0 3	And others.	
Cistus guttatus, very dwf.	0 6	Didiscus cæruleus ...	0 6
Clintonia pulchella... ...	0 6	Eucharidium grandiflorum	0 3
,, elegans... ...	0 3	Eutoca viscida	0 3
Cockscomb, Dwarf Scarlet...	0 6	Egg plant, white	0 3
Cuphea viscosissima ...	0 6	,, purple ...	0 3
,, silenoides ...	0 6	,, new, striped	0 6
,, platycentra (new)	0 6	Eschscholtzia, 3 sorts ...	0 3
,, miniata	0 6	,, new, white	0 6
Cineraria, selected from the latest new kinds ...	1 0	Erysimum Perofskianum	0 3
Commelina alba	0 3	Fuchsias from named sorts	1 0
,, cœlestis ...	0 3	Gaillardia picta	0 6
Carnation, from named flowers	1 0	,, bicolor ...	0 3
Clarkias, all the varieties	0 3	,, Richardsonii .	0 3
Coreopsis, new marbled .	0 6	,, aristata ...	0 3
,, tinctoria ...	0 3	Globe Amaranthus, of sorts	0 3
,, Drummondii .	0 3	Geum splendens	0 6
,, nigra (new) ...	0 6	,, Wicei	0 6
Candytuft, new crimson .	0 3	Geranium, from fine sorts	1 0
,, purple ...	0 3	Grahamia aromatica ...	0 6
,, white... ...	0 3	Gramnanthes gentianoides, new	0 6
,, sweet-scented	0 3	Godetia, all the new sorts	0 3
Convolvulus major ...	0 3	Heartsease, from first-rate prize flowers ...	0 6
,, minor ...	0 3	Humea elegans	0 6
,, do. new dark	0 3	Helichrysum macranthum	0 6
,, minor, striped	0 3	,, bracteatum album	0 3
CLIMBERS.		Heliotropium Peruvianum	0 6
Cobœa scandens	0 6	,, Voltaireanum	0 6
Calampelis scaber ...	0 6	Hibiscus, of sorts ...	0 3
Lophospermum erubescens	0 6	Heliophila araboides ...	0 3
,, Hendersonii	0 6	Helianthemum (Rock Cistus	0 3
Loasa aurantiaca ...	0 6	Hollyhock, Chinese ...	0 6
Maurandya Barclayana...	0 6	,, fine mixed ...	0 3
,, new scarlet...	0 6	Ipomœa Burridgii ...	0 6
		,, quamoclit ...	0 6

Per packet—s. d.		Per packet—s. d.	
Ipomœa hybrida Kermesina	0 6	Œnothera Sellowii ...	0 3
And others ...	0 6	,, Drummondii .	0 6
Ipomopsis elegans	0 6	,, densiflora ...	0 6
Isotoma axillaris ...	0 6	,, macrocarpa ...	0 6
Jacobæa, double crimson	0 3	And others	0 3
,, ,, purple...	0 3	Papaver marcelli... ...	0 3
,, new lilac ...	0 3	,, nudicaulis ...	0 3
Kaulfussia amelloides, for edging... ...	0 3	Poppy, carnation, mixed	0 3
HANDSOME ORNAMENTAL GRASSES.		Peas, sweet, all the colours separate or mixed ...	0 3
Lagurus ovatus (Hare's-tail Grass)	0 6	Pentstemon, of sorts ...	0 6
Agrostis pulchella ...	0 6	Phlox Drummondii, various shades ...	0 6
Briza gracilis	0 6	,, Drummondii, white	0 6
,, maxima	0 6	,, Leopoldii (new) ...	1 0
Stipa pinnata	0 6	,, new, scarlet ...	0 6
Larkspurs, 12 distinct German vars.	4 0	,, oculata	0 6
,, mixed dwarf		Picotee, from named flowers	1 0
,, Rocket ...	0 3	Platystemon californica .	0 3
Leptosiphon densiflores .	0 3	Potentilla Garnieriana...	0 3
,, androsaceus .	0 3	,, Russelliana...	0 6
Loasa aurantiaca ...	0 6	,, insignis, fine new ...	0 6
Linum monogynum, fine	0 6	Polyanthus, fine mixed...	0 6
,, grandiflorum ...	0 3	Portulacca splendens ...	0 6
,, perenne	0 6	,, Thellusonii ...	0 6
,, album	0 3	,, grandiflora ...	0 6
Lymnanthus grandiflora	0 6	,, striata alba...	0 6
,, Douglasii...	0 3	,, Gilliesii ...	0 6
Lobelia heterophylla major, fine ...	0 6	,, yellow ...	0 6
,, bicolor	0 3	Primula sinensis (white fringed) ...	1 0
,, gracilis, for edging	0 3	,, lilac	1 0
,, ramosus	0 6	,, cortusoides ...	0 6
,, ,, rosea ...	0 6	Rhodanthe Manglesii ...	0 6
,, erinoides	0 3	Salpiglossis, fine mixed...	0 6
And many other biennial and perennial varieties.		,, new yellow .	0 6
Lisianthus Russellianus, in plants (seed does not vegetate well).		Salvia, of sorts	0 6
Lotus Jacobæus	0 3	Sanvitalia procumbens...	0 6
,, nova sp.	0 6	Saponaria, calabrica ...	0 6
Lupinus Hartwegii... ...	0 3	,, ocymoides ...	0 6
,, nanus	0 3	Schizanthus Hookerii ...	0 6
,, Cruikshankii ...	0 3	,, Grahamii ...	0 6
,, affinis, new ...	0 6	,, retusus alba (new) ...	1 0
,, birsutissima ...	0 6	,, humilis and others ...	0 3
And many others.		,, Priestii ...	0 3
Lychnis speciosa, new ...	0 6	,, venustus ...	0 3
,, flos Jovis ...	0 3	Schizopetalon Walkerii, very sweet	0 6
,, cœli-rosea ...	0 3	Sphænogyne speciosa ...	0 3
,, prostrata ...	0 3	Streptocarpus Rexii ...	0 6
,, scarlet	0 3	Silene Schafta	0 6
Malope grandiflora ...	0 3	,, compacta... ...	0 6
Mallow, new zebra	0 3	Stock, white pyramidal...	0 6
Malva miniata	0 6	,, Buck's Intermediate, 16 out of 24 will come double	0 6
Marvel of Peru, 6 distinct colours, each	0 3	,, Chapman's Scarlet Ten-week ...	0 3
Marigold, dwarf pigmy French	0 6	,, Shepherd's White .	0 3
Other varieties	0 3	,, ,, Purple	0 3
Mesembryanthemum tricolor	0 6	Sedum cæruleum, for rock-work	0 6
Mignonette, per oz. ...	0 6	Sultan, yellow	0 3
,, Reseda odorata grandiflora, per paper ...	0 6	,, white and purple	0 3
Mimosa sensitiva (Sensitive plant) per packet	0 6	Tagetes signata	0 3
Mimulus, from 12 distinct named varieties ...	0 6	,, lucida	0 3
,, moschatus ...	0 3	Thunbergia (*see* Climbers).	
Martynia fragrans ...	0 6	Tropæolum (*see* Climbers).	
Nasturtiums, all the sorts	0 3	Viscaria oculata	0 3
Nemesia floribundus ...	0 6	,, new dwarf ...	0 6
,, versicolor, new .	0 6	,, white	0 6
Nemophila insignis major	0 3	Violet, Russian (everflowering)	0 6
,, insignis alba (new)	0 6	Verbena, a mixture of 6 best sorts	0 6
,, discoidalis ...	0 3	Wallflower, blood red ...	0 3
,, maculata (new) ...	0 3	,, Double German, of sorts ...	0 6
Neirembergia splendens .	0 6	,, changeable ...	0 6
,, violacea ...	0 3	,, 8 vars. of Improved German	2 6
,, fine mixed	0 6	Zinnia elegans coccinea .	0 6
Nolana atriplicifolia ...	0 3	,, purpurea	0 6
,, paradoxa ...	0 3	,, aurea	0 6
Nycterinia salaginoides...	0 6	,, mixed from 20 separate varieties	0 6

Ornamental Trees and Shrubs of all descriptions.
Cedrus Deodara, Cryptomeria japonica, Taxodium sempervirens, } 2s. 6d. to 10s. 6d. each.

Named Double Anemones and Ranunculuses; Gladiolus ramosus and floribundus; Tigridia pavonia and conchiiflora; with many other flowering Bulbs and Herbaceous Plants, which may be planted out till the middle of May.
Carnations, Picotees, and Pinks, per pair, from 1s. to 3s. 6d.
All the better named Heartease from 6s. to 30s. per dozen.
Fine named Dahlias, per dozen, 12s
,, Chrysanthemums, new kinds, 12s.
Standard Dwarf and Climbing Roses, 1s. to 2s. 6d. each.
Rivers' Miniature Fruit Garden, with directions for culture and root-pruning, 2s. Rivers's Orchard House, 2s. 6d.
Rivers' new edition of the "Rose Amateur's Guide," 6s.
Rivers' new Fruit Catalogue, 6d.
Rivers' Catalogue of Trees and Shrubs, 6d.
Paxton's "Cottagers' Calendar," 3d., which ladies and gentlemen should distribute to cottagers.
Collection of 24 Annuals, mixed, recommended by Dr. Lindley as suitable for Shrubberies, 5s.
Seeds for distribution by Gentlemen to their Tenants and Cottagers on the most liberal terms.
24 papers of Hardy Annuals, 5s.
Seeds selected and carefully packed for North and South America, India, New Zealand, and Australia, in the most secure way to arrive safe at any of the above places. A most beneficial thing to be taken by emigrants is "Onion seed."

Printed by WILLIAM BRADBURY, of No. 13, Upper Woburn-place, in the parish of St. Pancras, and FREDERICK MULLETT EVANS, of No. 7, Church-row, Stoke Newington, both in the County of Middlesex, Printers, at their Office in Lombard-street, in the Precinct of Whitefriars, in the City of London; and published by them at the Office, No. 5, Charles-street, in the parish of St. Paul's, Covent-garden, in the said County, where all Advertisements and Communications are to be ADDRESSED TO THE EDITOR.—SATURDAY, February 14, 1852.

THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 8—1852.] SATURDAY, FEBRUARY 21. [PRICE 6*d*.

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NEW SEEDLING POTATO,
FROM THE USJO MOUNTAIN, NEAR THE CITY OF MEXICO.

THOMAS EARL, SEEDSMAN, Thames Ditton, Surrey, has a few bushels of this unrivalled POTATO to dispose of at 2*l*. 10*s*. per bushel, delivered free to any railway station in London. All orders, with a remittance, punctually attended to.

CUCUMBERS AND POTATOES.

JAMES LAKE, NURSERYMAN, &c., Bridgewater, Somerset, be s again to offer to the public his Seedling FIFTY-FOLD KIDNEY POTATO, six tubers of which was sent to Dr. Lindley (April 29, 1850), and produced 312; quality very good. Many other satisfactory references since then can be given.—Price 2*s*. 6*d*. per peck, or 8*s*. per bushel.

J. S., having grown from 15 to 20 lights of ABAN'S "CONQUEROR OF THE WEST" CUCUMBER very successfully for four years, can with confidence recommend it as one of the best kinds in cultivation. — Packets, containing 15 seeds, 1*s*. each. The Tra e supplied.

FLOWER SEEDS SENT FREE BY POST.

ROBERT WESTMACOTT begs to inform his friends that he has selected with great care his Stock of FLOWER AND VEGETABLE SEEDS for the present season, including every variety worthy of cultivation. His GERMAN SEEDS are imported from the best foreign house, and are as good as can be procured. His PRICED DESCRIPTIVE CATALOGUE will be sent by post on receipt of One Penny Stamp, or may be had gratis at the NURSERY, Stuart's Grove, Fulham Road, Chelsea.

COLLECTIONS OF THE MOST SHOWY FLOWER SEED FOR LARGE OR SMALL GARDENS.

	One Packet of each.—	*s*.	*d*.
50 well assorted Annuals, Biennials, and Perennials	...	10	6
25 Do. Do. Do.	...	5	6
12 Do. Do. Do.	...	3	0

Post-office Orders made payable at Brompton.

IMPORTANT SALE OF FRUITING AND SUCCESSION PINES, the Property of a Lady declining the cultivation of Pines; consisting of about 60 Fruiting Plants in No. 8 size pots, principally Queens, and a few Black Jamaica, in the best possible health, vigorous, and perfectly clean; 80 strong Succession Plants, equally healthy and good; 170 fine young Succession Plants—altogether as fine a lot as ever were grown.—For particulars as to price, &c., apply to Mr. JOS. FAIRBAIRN, Nurseries, Clapham.—Feb. 21.

MACKIE AND STEWART beg respectfully to apprise their numerous patrons and friends, that they are now sending out their CHOICE GARDEN AND FLOWER SEEDS, which have been selected with the most scrupulous care as to quality and genuineness.

COLLECTIONS OF GARDEN SEEDS,
Containing all the Choicest Sorts, may be had at the following prices:—

A complete collection, consisting of 20 quarts of the best kinds of Peas and Beans, and all other Seeds in proportion, of the best varieties, sufficient for one year's cropping of a garden	£2	2	0
Ditto, ditto, in smaller quantities, but equally choice in quality	1	1	0
Ditto, ditto, for a small garden	0	10	6

See page 2 of our Descriptive Catalogue.

COLLECTIONS OF FLOWER SEEDS.
All Flower Seeds will be forwarded free by post.

100 packets choice sorts, including all the best hardy, half-hardy, and Greenhouse Annuals ...	£1	0	0
100 ditto, very choice and showy Hardy Annuals ...	0	14	0
50 „ ditto	0	7	6
25 „ ditto	0	4	0
12 „ ditto	0	2	6
50 „ Half-hardy Annuals	0	9	0

The above collections are selected with the utmost care, and all the most showy varieties are included.

See page 24 of our Descriptive Catalogue.

Inquiries being frequently made by Amateurs and others, who manage their own gardens, respecting time of sowing, quantities required, &c., M. and S. have just published a Descriptive Price Current of their Garden and Flower Seeds, and Country Plants, with their general treatment and various uses, &c., stamped (as a newspaper), to go free by post, which will be franked to any address upon application. A Descriptive Label will be attached to each parcel.

Norwich Nurseries, and 10 and 11, Exchange-street, Norwich. February 21.

FROM THE INCUMBENT OF GRAZELY PARSONAGE.

TO MESSRS. SUTTON,

Sirs,—When you are passing through Grazely, I wish you would call in and see my Garden Lawn, Pasture, and Churchyard, which I sowed last spring with your Seeds, and which this time last year was only a Bean field but now a beautiful close Green Sward, and I am happy to say free from weeds; many gentlemen have been quite surprised to see in so short a time so good a pasture, and I hope it will continue the same, as I have invariably heard that your Grass Seeds are good and permanent.

I am, Sirs, yours obediently, *T. S*

Grazely Parsonage, Feb 13.

JOHN SUTTON AND SONS having been honoured with the above, with permission to publish it, have much pleasure in doing so, and have also the satisfaction of stating that they are *almost daily* receiving similar communications. In a letter just received from a Gentleman at Weston-super-Mare is the following passage:—"*The field I laid down last spring with your Grass Seeds gave me great satisfaction, and no little surprise to my neighbours the farmers. The purchaser of the property was also surprised at the result.*" In another letter dated Emanuel Rectory, Loughborough, Jan. 28, the Rector says:—"*The four acres which I sowed with Grass Seeds from your Establishment last spring present a very satisfactory appearance, the ground being equally covered with Grass of regular and uniform height.*"

JOHN SUTTON AND SONS having for many years paid especial attention to the laying down land to Permanent Pasture, are well acquainted with the various soils of the United Kingdom, *and can supply the sorts of Grasses and Clovers most suitable for any specified soil at* 28*s*. *per acre, with Instructions for sowing.*

Also the best CLOVERS and RYE-GRASS for alternate husbandry or to lay down for two years, at 16*s*. per acre; and SUTTON'S Renovating Mixture of Perennial CLOVERS and Finest GRASSES for improving Old Meadows and Pastures, 10*d*. per pound, 8 to 12 bs. per acre being sufficient.

Also, Finest LAWN GRASSES for Gardens, 1*s*. 3*d*. per pound, or 3*s* per gallon.

N.B.—Mangold Wurzel, Belgian Carrot, Turnip, and all other Agricultural Seeds of superior quality.

JOHN SUTTON AND SONS, SEED GROWERS, Reading, Berks.

CHEAP AND SELECT NURSERY STOCK.

THE SUBSCRIBERS beg to refer all interested in ORNAMENTAL PLANTING to their Advertisement, in the first page of the *Gardeners' Chronicle*, of the 14th inst.

WM. JACKSON AND CO., NURSERYMEN, Bedale, Yorkshire.

EPPS' COLLECTIONS OF KITCHEN GARDEN SEEDS.—No 1, containing 24 quarts of the newest and best kinds of Peas and all other seeds in proportion, inclusive of Melons and Cucumbers ... £ 2 10 0
No. 2, in proportionate quantities 1 10 0
No. 3, ditto ditto 1 1 0
No. 4, ditto ditto 0 12 6

A list of the quantity in each collection may be had on application, also a Descriptive Catalogue of Seeds, &c., &c.

The highest reference can be given in all parts of the United Kingdom. Carriage paid to any Railway Station in London.

W. J. EPPS begs to remark, that in consequence of his being one of the largest Seed Growers in the market, he is in a position to supply the above very satisfactory.

High-street and Bower Nurseries, Maidstone.—Feb. 21.

JOHN HENCHMAN invites the attention of Amateurs and the Trade to his well known and extensive Stock of Choice SEEDLING CALCEOLARIAS. He is now sending out stout healthy Plants in small pots, at 6*s*. per dozen.

Ditto from the choicest seed, including a new and superior Shrubby breed, 12*s*. per dozen.

Strong plants in 48 pots for early blooming and specimen plants, 12*s*. per dozen; best varieties, 18*s*. per dozen.

Choice named PANSIES, healthy plants wintered in pots, 6*s*., 9*s*., and 12*s*. per dozen.

Choice Seedling CINERARIAS, fine plants, in 48 pots, just showing colour, 9*s*. to 12*s*. per dozen.

GENISTA FRAGRANS (best variety) full of bloom, in 48 pots, 6*s*. and 8*s*. per dozen; in 40 and 32 pots, 2 feet high and bushy, 12*s*. to 18*s*. per dozen.

Choice CALCEOLARIA Seed, 2*s*. 6*d*. per packet.

HOLLYHOCK Seed, from Chater's best named sorts, 2*s*. 6*d*. per packet.

Choice LEMON AND ORANGE AFRICAN AND DWARF FRENCH MARYGOLD, at 6*d*. per packet.

*** Post-office orders are requested from unknown correspondents.—Edmonton, near London, Feb. 21.

THE RUSSIAN SUPERB.—It is now three years since the production of this splendid VIOLET; since which, plants of them have been supplied extensively to all parts of the kingdom, and are found, everywhere, easy to cultivate. The advantages of this Violet are, that it blooms far more profusely, produces a larger blossom, and is longer in the stem than any other sort; and it is fully equal in fragrance to the Neapolitan.

R. SHACKELL has been honoured with the following gratifying notice of a bouquet of these flowers, which he had the honour to present to her Majesty the Queen.

"Windsor Castle, Oct. 25, 1849.

"Sir,—I have received the commands of the Queen to inform you that your letter of the 23d inst., together with a plant and bouquet of Violets, have been received, and that her Majesty has been graciously pleased to accept them. I am directed to convey to you her Majesty's thanks for your attention.

"I am, sir, your obedient servant,

"Mr. SHACKELL. "C. B. PHIPPS."

Opinions of the Press, and other testimonials of high approval may be obtained, by application, to R. SHACKELL, by whom these Violets are supplied at 6*s*. per dozen for strong plants, package free, or 4*s*. per dozen for smaller plants, which, in quantities of not less than a dozen, will be supplied through the post, free of postage. Amounts for 1 dozen may be transmitted by postage stamps; for larger quantities by Post-office order.—Direct to ROBERT SHACKELL, Lockesbrook Nursery, Bath.

FINEST LANCASHIRE GOOSEBERRIES, in 100 choice sorts, named, per 1000, 4*l*; or 10*s*. per 100, in 50 sorts.

CURRANTS.—MAY'S Victoria or Raby Castle, red, the finest, largest, and best known, ought to be in every garden, 25*s*. per 100, or 4*s*. per doz.; Red Grape and Champagne, fine, per 100, 10*s*.; or per doz., 2*s*.

Securely packed to carry any distance, or for exportation.

A remittance or reference from unknown correspondents is respectfully requested.

All Orders above 5*l*. Carriage paid to London, Liverpool, Birmingham, and Edinburgh, and to any Station within 150 miles of the Nursery.

Our Descriptive Catalogue is just published, in Three Parts, and may be had gratis for four penny postage stamps to pay postage, or Parts I. and III. for one penny stamp each; Part II. for two penny stamps each, separate. Part I. contains extensive Lists of Stove and Greenhouse Plants. Part II. contains select Hardy Herbaceous Plants, Roses, Ornamental Trees, Flowering Shrubs, Evergreens, and Coniferæ. All described in height, colour, and time of flowering. Part III., select Lists of Fruit Trees of every useful description fully described, with prices and conditions, and much other useful information. Warranted to contain more practical details than any other list extant; *and the largest, cheapest, and best stock of Plants ever offered.*

Apply to JOHN MAY, Hope Nurseries, Leeming-lane, Bedale, Yorkshire.—For general Advertisement of Surplus Stock, see page 98, in last week's Paper.

CHARLES DIMMICK begs to recommend the following superb VEGETABLE and FLOWER SEEDS, which will be sent free by post, on the receipt of a Post-office order or postage stamps to the amount charged.

Four leading kinds of BROCCOLI, a packet of each for 3*s*., viz., Walcheren, Grange's Early White, Elletson's Mammoth, and Willcove.

Four leading sorts of CABBAGE for 2*s*., viz., Mitchell's Prince Albert (new), Atkin's Matchless (new), Nonpareil, and Sharp-top or Portsmouth.

Five leading sorts of LETTUCE for 2*s*. 6*d*., viz., Crystal Cos (new) Paris Cos, Snow's Matchless Cos, Bath Cos (black seed), and Drumhead.

Three fine sorts of CUCUMBER for 2*s*. 6*d*., viz., Latter's Victory of England, The Doctor, and fine Long Ridge for open air culture.

The following new and first-rate VEGETABLES, a packet of each for 2*s*. 6*d*.—new Cabbaging Borecole, new French Curled Endive, Mitchell's Matchless Parsley, Victoria Vegetable Marrow, and Orache Spinach, a very valuable summer sort.

The following new and first-rate HARDY ANNUALS for 2*s*. 6*d*.—Clarkia neriiflora (double rose), Escholtzia alba (new white), Hibiscus caliaurus (new), Lupinus Moritzianus (new), and Nemophila maculata.

The following superb HALF-HARDY ANNUALS for 2*s*. 6*d*. —Zinnia (12 vars. mixed), Aster (24 vars. mixed), German Stock (24 vars. mixed), Thunbergia (3 vars. mixed), and Phlox Drummondii.

The following BIENNIAL and PERENNIAL FLOWER SEEDS for 2*s*. 6*d*. — Sweetwilliam (extra fine), Polyanthus (extra fine border), German Scabious, Hollyhock (from 24 fine vars.), and Antirrhinum (from fine named flowers).

Collections of GARDEN and FLOWER SEEDS sent free of carriage to any station on the South-Western or South Coast Railways:—

No. 1 collection, containing 20 quarts of the best sorts of Peas for successional sowing, 5 pecks of the best Early Potatoes, with the best sorts of Broccoli, Cabbage, Lettuce, Cucumber, Celery, and Radish; with other Vegetables in sufficient quantities to supply a large garden for a year, 3*l*.

No. 2 collection, equally choice, but in reduced quantities, 2*l*

No. 3 do. do. do. 1*l*.

No. 4 do. do. do. 10*s*.

The No. 4 collection will contain 6 pints of the best Peas, 3 gallons of Early Potatoes, and a small quantity of the best Vegetables, suitable to supply a small garden for a year.

FLOWER SEEDS.

100 varieties of the best and most showy Annuals and Biennials	15	0	
50 do. do. do.	7	6	
25 do. do. do.	4	0	

The Seeds at this Establishment are selected from the best stocks in the country, and the growing qualities of every article is tested as soon as received, and C. D. have much pleasure in stating that he has the highest testimony of their genuineness from his regular customers, both gentlemen and market gardeners, to whom they give general satisfaction. Priced Catalogues may be had on application.

113, High-street Ryde, Isle of Wight, Feb. 21.

JAS. DICKSON AND SONS, NURSERY, SEEDSMEN and FLORISTS, 32, South Hanover-street, Edinburgh, in returning thanks to their numerous customers for their long-continued liberal support, take this opportunity of intimating that Mr. Jas. DODDS, who, for the last 14 years was Head Gardener to the Earl of Mansfield, at Scone Palace, Perthshire, has joined their firm.

J. D. and SONS also beg leave to acquaint Noblemen, Gentlemen, and the Public in general, that Mr. DODDS will at all times be ready to give designs for and advice on the erection of Horticultural Buildings, Laying out of Gardens, Pleasure Grounds, Plantations, &c.

J. D. and SONS have much pleasure in recommending the under noted first-rate Bedding PANSIES, raised by Mr. Gowanlock, the successful raiser of the much admired Pansy the "Duke of Perth," of which they have purchased the entire stocks. As they are decided novelties, and first-class showflowers they cannot fail in giving satisfaction to all Pansy growers. Good plants will be sent out on the 1st of March, at 10*s*. 6*d* the set, or 5*s*. if taken singly. As the stock is limited early orders are requested.

DUCHESS OF PERTH, pure white ground, deep purple margin, distinct dark blotch, with rich yellow arched eye, petals well proportioned, form perfect, and substance good.

SIR JOSEPH PAXTON, pale yellow ground with rich margin; fine velvety substance, and perfect form.

KOSSUTH, black self, the darkest we have seen, of rich velvety texture, and good form

The usual discount to the trade.

SAMUEL FINNEY AND Co. beg respectfully to inform their Friends and the Public that their new PRICED SEED CATALOGUE FOR 1852 is now ready, and may be had, postage free, on application. It contains a list of all the most approved kinds of Vegetable Seeds in cultivation, together with a very choice selection of German and other Flower Seeds, which are all fully described, stating the time of sowing, and whether hardy, half-hardy, or tender; the height, colour, and time of flowering, with much other useful information. The Collections of Seeds, which they supplied in former years, having given such general satisfaction, they are again induced to offer them as under:—

		£	s.	d.
No. 1.	A complete collection of Vegetable Seeds for one year's supply of a large garden ...	2	5	0
No. 2.	Do. do. in smaller quantities ...	1	10	0
No. 3.	Do. do. do. do. ...	1	1	0
No. 4.	Do. do. do. do. ...	0	12	6

The kinds and quantities contained in each Collection are stated in the Catalogue.

Delivered, free, at any station on the following Railways:—Newcastle, York, and Berwick; North British, Leeds and Thirsk; York and Scarborough, Newcastle and Carlisle, and Lancaster and Liverpool.—Gateshead Nursery, Feb. 21.

Ranunculuses, Anemones, Auriculas, Pelargoniums, and Lilium Lancifolium.

HENRY GROOM, Clapham Rise, near London, by appointment FLORIST TO HER MAJESTY THE QUEEN, AND TO HIS MAJESTY THE KING OF SAXONY, begs to recommend the above Flowers, which he can supply, of the best quality.

	£	s.	d.
100 Ranunculuses, in 100 superfine sorts, named ...	2	10	0
Superfine mixtures, per 100, from 5s. to ...	0	10	6
100 Anemones, in 50 superfine sorts, named ...	1	10	0
Superfine mixtures (double), per 100, from 6s. to ...	0	10	6
25 Auriculas, in 25 superfine sorts, named ...	3	3	0
25 Pelargoniums, in 25 superfine sorts, named ...	3	3	0
Fine named varieties, per dozen, from 12s. to ...	0	18	0
Lilium lancifolium album, per dozen, from 9s. to ...	0	13	0
,, ,, punctatum, each, from 2s. 6d. to ...	0	7	6
,, ,, rubrum true, or speciosum, do., 3s. 6d. to	1	1	0
,, ,, roseum, do., 2s. 6d. to	0	7	6
,, ,, cruentum, do., 5s. to	0	10	6

A new collection of Hybrid Seedling Lilies, 6 sorts named, for 15s.

CHARLES HOWDEN, NURSERYMAN and SEEDSMAN, 53, High-street, Belfast, to clear ground for other crops, at his Nurseries, Malone, offers for sale, and will ship free on board, at this port:— Per 1000.—s. d.

5 year-old THORNS, transplanted, strong	5	0
5 year-old BEECH, ASH, OAK, HAZLE, SYCAMORE, and PRIVET, transplanted	12	6
4 year-old COMMON LAUREL, do.	40	0

Orders, with remittance or satisfactory reference, will meet with prompt and careful attention.—Belfast, Feb. 21.

SUTTON'S COLLECTIONS OF HOME-GROWN SEEDS, CARRIAGE FREE.

A CLERGYMAN, whom we have had the honour of supplying many years, writes us, "*I have much satisfaction in recommending your Seeds to various friends, as I find they are much pleased with them;*" and another purchaser says, "*I never received so numerous a Collection, so good in quality, from any house.*" We therefore confidently recommend those gentlemen who are not themselves acquainted with the best sorts of vegetables, to order immediately (while we have a large Stock), one of the undermentioned complete Collections:—

	£	s.	d.
No. 1.—A COMPLETE COLLECTION OF GARDEN SEEDS, FOR ONE YEAR'S SUPPLY OF A LARGE GARDEN; including the best sorts for succession of Peas, Beans, Broccoli, Cucumbers, Melons, Lettuces, Cauliflowers, and every other sort of Vegetable required, in full quantities	2	10	0
No. 2.—A COMPLETE COLLECTION, in quantities proportionately reduced	1	10	0
No. 3.—A COMPLETE COLLECTION, equally choice sorts	1	1	0
No. 4.—A SMALL AND VERY CHOICE ASSORTMENT	0	12	6

If some kinds of Seeds are already possessed, purchasers are requested to name them, that increased quantities of others may be sent in lieu of them.

SUTTON'S Superb Lettuce, SUTTON'S Imperial Cabbage, and SUTTON'S Solid White and Pink Celery are included in each of the above Collections.

JOHN SUTTON AND SONS, Seed Growers, Reading, Berks.

DWARF TRAINED TREES OF PEACHES, MOOR PARK APRICOTS, AND GREENGAGE PLUMS, 200 handsome plants of each sort to spare.

BERBERIS AQUIFOLIUM and BERBERIS DULCIS, 500,000 plants to spare.

PRINCE ALBERT RHUBARB, 50s. per 100; 1000 for 15l.

Fifty superb varieties of HOLLYHOCKS for 42s.

EVERGREEN PRIVET, 100,000 to spare.

JEYES and Co., Nurserymen, Northampton.

A COMPLETE ARBORETUM.

C. LODDIGES AND SONS beg to state that they are now supplying the above, comprising upwards of 1200 species of TREES and SHRUBS, correctly named, for 50l., cash on delivery; and as their collection of hardy plants will have to be dispersed this season, in consequence of the land being let for building, they most respectfully suggest that all persons contemplating the formation of a COMPLETE ARBORETUM should make early application, as the stock of some species is very limited.—Hackney, Feb. 21.

CAMELLIAS.

LUCOMBE, PINCE, AND Co. respectfully announce that the CAMELLIAS in their Celebrated Large House are rapidly coming into Flower, and will soon be in greater perfection than they have ever been. In addition to the attraction of the Camellia House, L., P., and Co. beg leave to say that their New Show House, leading to the above, is filled with an extensive and well-assorted collection of fine Plants, which will highly gratify those who honour their Nursery with a visit, for it is now and will continue to be exceedingly brilliant with all the gayest Spring and other Flowers. For the particulars, see their Advertisement in last week's *Chronicle*.

EXETER NURSERY, EXETER, FEB. 20.

(ESTABLISHED IN 1720.)

SCARCE AND BEAUTIFUL FLOWER SEEDS.

EMPEROR STOCK, a perennial species, and hardy; 1400 seeds, 1s.

CINERARIA and CALCEOLARIA, selected from collections of Plants, that were admitted by all persons who saw them the finest they had ever seen; 250 seeds of the former and 500 of the latter, 1s. each paper.

MYOSOTIS AZORICUS, a bed of this on an eastern or northern aspect is very beautiful; 200 seeds, 1s.

CALENDRINIA UMBELLATA, one of the neatest growing and most brilliant flowering of all bedding plants; 1500 seeds, 1s.

SWEET WILLIAM, in 100 varieties; 10,000 seeds, 1s.

Payment may be made in postage stamps.

JEYES and Co., Nurseries, Northampton.

SEED AND HORTICULTURAL ESTABLISHMENT,

SUDBURY, SUFFOLK.

BASS AND BROWN'S SEED AND PLANT LIST FOR 1852,

OR DESCRIPTIVE PRICED CATALOGUE

(STAMPED TO GO FREE BY POST), IS NOW COMPLETE, AND MAY BE HAD ON APPLICATION.

WE have the pleasure, as above, of offering our 21st ANNUAL SEED CATALOGUE, combined with our usual choice LISTS OF PLANTS. Our Seeds, which are harvested and collected with much care, will be found, we believe, as select a collection of choice varieties and kinds as can be produced. From the great number of communications from persons in all parts of the Kingdom to whom our goods have been sent, expressing their high approval of the articles supplied; and from our habitual aim to obtain those of the very best description, we can offer them with the fullest confidence.

The following, of our own selection, we wish particularly to recommend. They consist of varieties and kinds which cannot fail to afford the most complete satisfaction.

VEGETABLE SEEDS IN ASSORTMENTS.

We beg to offer the following Collections of the choicest and most approved, embracing superior new sorts in proportionate quantities of each:—

	£	s.	d.
No. 1.—COLLECTION FOR A LARGE GARDEN, containing 20 quarts of Peas, in 20 best sorts for succession; 10 best sorts of Broccoli; 8 ditto of Lettuce, with all other Vegetables in proportion	2	10	0
No. 2.—THE BEST NEW AND OTHER SORTS, IN SMALLER QUANTITIES	1	10	0
No. 3.— DITTO DITTO	1	0	0
No. 4.—A COLLECTION OF ESTEEMED KINDS FOR A SMALL GARDEN	0	10	6

*** *A complete List of the sorts and quantities of the No. 1, 2, and 3 Collections are this year furnished in the Catalogue. If any sorts are not wished for, enlarged quantities of others will be sent to make up the amount.*

FLOWER SEEDS—FIRST ASSORTMENTS.

These may be had, prepaid by post, at the prices affixed. Useful printed instructions for sowing and raising Seeds will be sent with each lot.

	£	s.	d.
100 Varieties select showy Annuals, including very splendid German Asters, Stocks, Larkspurs, Jacobæas, Zinnia elegans, also Lobelia ramosa and the three new varieties ramosa major, rosea, and propinqua; the new marbled Calliopsis, Menulia violacea, Nemesia versicolor, Gramanthus gentianoides, Cenia turbinata, Cenia turbinata alba, and other newest and best sorts	0	15	0
50 Varieties, including the same, 8s. 6d.; 30 varieties ditto, 5s. 6d.; 20 varieties ditto	0	4	0
20 Varieties best Dwarf Annuals, in large packets, for filling beds on lawns	0	7	6
12 Varieties ditto ditto ditto	0	5	0
20 Varieties choice Greenhouse Annuals, including very fine Balsam, Cockscomb, Mesembryanthemum, Martynia, Phlox Drummondii, and the two new varieties, Leopoldiana and alba oculata; new varieties of Portulacca, Rhodanthe Manglesii, Thunbergia, New Yellow Salpiglossus, &c.	0	7	6
12 Varieties ditto ditto ditto	0	5	0
20 Varieties choice Greenhouse Perennials, including very fine and new varieties of Calceolaria, Cineraria, Fuchsia, Petunia, Verbena, Kennedyas, Calendrinia umbellata, &c.	0	10	6
12 Varieties ditto ditto	0	7	6
20 Varieties Hardy Biennials and Perennials, including the new white Escholtzia, very choice Antirrhinum, Gladioli, Heartsease, Mimulus, Polyanthus, Dianthus, Brompton and Emperor Stocks, &c., 7s. 6d.; 12 varieties	0	5	

FLOWER SEEDS—SECOND ASSORTMENTS.

	£	s.	d.
100 Varieties, select and well assorted Showy Annuals	0	10	6
50 Varieties ditto ditto	0	5	6
30 Varieties ditto ditto, 3s. 6d.; 20 ditto	0	2	6
20 Varieties Hardy Biennials and Perennials, 4s.; 12 varieties	0	2	6

Remittances required from unknown correspondents. Post-office Orders payable to BASS and BROWN, or to STEPHEN BROWN.

Goods sent Carriage Free to London, Ipswich, Norwich, or any other Station on the line.

Stamped Copies of our Autumn Catalogue may still be had, which contains our Descriptive Lists of Roses, Herbaceous Plants, Select Evergreens and Flowering Shrubs, Hardy Climbers, Prize Gooseberries, Gladioli, and various Bulbs and Roots.

ESTABLISHED ABOUT HALF A CENTURY.

ORNAMENTAL PLANTING.

C. LODDIGES AND SONS most respectfully call the attention of Noblemen, Gentlemen, and Public Companies, engaged in Ornamental Planting, to the undermentioned List of TREES and SHRUBS, which they are enabled to offer at an extraordinary reduction in price (for cash only), the land upon which their arboretum is planted being required for building.

Fine trees, from 4 to 10 feet high, of the following genera, comprising a great number of species: Acer, Æsculus, Alnus, Amygdalus, Betula, Cornus, Corylus, Cotoneaster, Crataegus, Cytisus, Fraxinus, Mespilus, Populus, Prunus, Pyrus, Ribes, Robinia, Salix, Sorbus, Spiræa, Tilia, Ulmus, 4s. per dozen, named, or a selection from the above, 25s. per 100, unnamed, and highly recommended for rough planting.

American Oaks in great variety, 10s. per dozen.

AMERICAN PLANTS.

Azalea pontica, fine bushy plants well set with bloom, 10s. p. doz.

,, Ghent and other varieties named, 18s per doz.

Rhododendron ponticum and varieties (very fine), 10s. per doz.

,, campanulatum, 2 to 4 ft. diameter, 10s. 6d. to 42s. each.

Andromedas in collections, 18s. per doz.; Vacciniums ditto, 12s. per doz.

N.B. Packing will be charged as low as possible. Post-office orders made payable at Hackney.—Hackney, Feb. 21.

CUCUMBER PLANTS.

CUTHILL'S BLACK SPINE CUCUMBER PLANTS are now ready. Cucumber and Melon Seed, 1s. per packet; Lisianthus, 1s.; the best sorts of Strawberry Seed, per packet, 2s. 6d. Cuthill's Pamphlet on the Potato (56 pages), 2s.; or by post, 2s. 4d. Also on Market Gardening Round London, 1s. 6d.; or by post, 1s. 8d. Post-office orders on Camberwell-green.

JAMES CUTHILL, Camberwell, London.

PERMANENT PASTURE.

HENRY ROGER SMITHE, of Eastling, Faversham, Kent, informs the public that his mixtures of the NATURAL GRASSES AND SMALL CLOVERS, gathered principally under his superintendence, including every sort necessary to form a Permanent Pasture, accordant with the soil, &c. (which should be particularly stated), are now ready to be delivered by Railway to any Station in England, Carriage Free, at 28s. per acre, allowing 3 bushels per acre.

MIXTURES FOR LAWNS, &c.

Any information on the nature and properties of the Grasses, the Advertiser would be pleased to give.

GREAT SALE OF NURSERY PLANTS.

PETER BOOTH, NURSERYMAN, Falkirk, is selling off, at very cheap prices, at his extensive Nursery Grounds, a very large stock of transplanted LARCH, SCOTCH, and SPRUCE FIR PLANTS, of strong and smaller sizes, including seedlings, with a great variety of many of the other kinds of Forest and Ornamental Trees, generally grown in large nurseries; also Fruit Trees, Gooseberry, Currant, and Raspberry Bushes, &c.

A large stock and great variety of very fine, strong, healthy Evergreen and Flowering Ornamental Shrubs.

A very fine stock of Standard, Half Standard, and Dwarf Roses, many of them of the new kinds, and also of the approved and most beautiful sorts.

N.B.—As the Advertiser wishes to retire from business, a Lease of all his Nursery Grounds, which belong to himself, and every encouragement would be given to a purchaser of the above stock, and the good-will of the business, which has been carried on by his relations for more than 70 years past, and with great success.

Should a purchaser not be found, a partner with capital, and a good knowledge of the business would be agreed with.

NEW KITCHEN GARDEN SEEDS.

WILLIAM E. RENDLE, AND CO., PLYMOUTH, *have much pleasure in stating that their*

NEW PRICED CATALOGUE OF KITCHEN GARDEN AND FLOWER SEEDS

Can still be had in exchange for ONE PENNY STAMP.

RENDLE'S COLLECTIONS OF GARDEN SEEDS have given universal satisfaction, and the Subscribers have the greatest confidence in recommending them. The quantities furnished are STATED IN FULL in the "Price Current and Garden Directory," copies of which can still be obtained in exchange for Six Penny Stamps.

They can give reference to noblemen, clergymen, and gentlemen in almost every county in Great Britain and Ireland, who have procured their supplies from them; and can produce hundreds of UNSOLICITED *testimonials of the highest character. The following, just received, will suffice for the present occasion. For others of a similar character, see our Advertisement in this Newspaper, Jan 24, 1852, page 51.*

From the Hon. and Rev. ——, Ireland.

January 8th, 1852.

Gentlemen,—Enclosed is a draft for the amount of my account. It is gratifying to have again to express the satisfaction I have had in your Seeds. The kinds have been true, and the seeds have grown well. YOUR Swedish Turnip, especially, has yielded a crop superior to anything in this part of the country; many of them exceeded 12 lbs. when topped and tailed. Send me one of your collections, with *two bushels* of your Imperial Purple-top Swede Turnip, &c.

They could fill the columns of this Paper with extracts of letters and opinions of the Press, if it were requisite to do so; but the above will, they trust, be sufficient to prove the general excellency of their Seeds. In fact, it is THEIR *interest to send out only what is good; they would be only injuring themselves were they to do otherwise.*

For Further Information, refer to page 51, Jan. 24, 1852.

For Price Currents and Catalogue, apply to WILLIAM E. RENDLE and Co., Seed Merchants, Plymouth.

ESTABLISHED IN THE YEAR 1788.

GREENHOUSES GLAZED WITHOUT PUTTY, no Leakage, simple and easy of repair, cheaper than any other system, and much more durable. Lists of prices of different-sized houses forwarded, on application to the inventor and manufacturer, ALFRED KENT, Chichester. A Greenhouse glazed upon this system can be seen at the grounds of the Royal Botanical Society, Regent's Park, London.

COCHIN CHINA, MALAY, AND SPANISH FOWLS FOR SALE.—Sir J. Sebright's lace-feathered gold and silver Bantams; Carrier, Almond Tumbler, and other fancy Pigeons, &c. Cochin China Fowls' Eggs, for Hatching, 6d. each, forwarded, carefully packed, on receipt of Post-office Order on Chief Office, London, with 1s. for Box, &c. Eggs of other fancy Fowls shortly.—Apply to TIMOTHY MASON, King's Cottage, North End, Fulham, London.—Letters to enclose stamp.

COCHIN CHINA FOWLS' EGGS FOR HATCHING.—Fresh eggs from these esteemed birds sent to any part of the country, securely packed, from birds weighing from 17 to 19 lbs. the couple, at 9s. sitting of 13 eggs, and 1s. box. A few young Cock Birds to dispose of, 10s. 6d. each.—Apply to Mr. H. COPLAND, Chelmsford. Orders attended to as first received.

AMERICAN NURSERY, BAGSHOT, SURREY.

JOHN WATERER begs to announce that he has published a new CATALOGUE of Hardy Rhododendrons, Azaleas, Roses, Conifers, &c., and which may be obtained by enclosing two postage stamps.

The colours of all the Rhododendrons worthy of cultivation are described; thus purchasers are afforded every facility in making selections.

CARNATIONS, PICOTEES, PINKS, AND PANSIES.

JOHN HOLLAND, Bradshaw Gardens, Middleton, near Manchester, having a very large collection of the above beautiful Flowers, offers them at the following low prices, package, &c., included:

25 pairs of Show Carnations, in 25 different varieties	£1	0	0
25 pairs of Show Picotees, in 25 different varieties	1	0	0
25 pairs of Pinks	0	8	0
25 Show Pansies, in 25 different varieties	0	10	0

Auriculas, Alpines, Polyanthuses, &c.

Catalogues on application. Post-office Orders to be made payable at Middleton, Lancashire.

HOSEA WATERER'S Descriptive Catalogue of AMERICAN PLANTS, CONIFERS, ROSES, &c., is just published, and may be had on application, enclosing two postage stamps, to Mr. HOSEA WATERER, Knap Hill Nursery, Woking, Surrey.

STANDISH AND NOBLE'S detailed Advertisement will appear in this Paper on the first Saturday in every Month, to which they invite the attention of all interested in HARDY ORNAMENTAL PLANTS. Their Descriptive Catalogue, with the Treatise on the "Cultivation of American Plants," can still be had, by enclosing six stamps for postage.

Gentlemen requiring the services of a Landscape Gardener, can procure such by applying to the Advertisers.

Bagshot, Surrey, Feb. 21.

MITCHELL'S MATCHLESS WINTER PARSLEY.—J. M. having saved a much larger quantity of Seed this season than last, can offer it to the public at a much reduced price. Wholesale, to seedsmen, 1s. 3d. per lb.; any quantity under 10 lbs. will be charged 2s. per lb. Can be sent to any part of the World, on receipt of a Post-office order, payable to JOHN MITCHELL, Ponder's-end, Enfield, Middlesex.

DOUBLE ITALIAN TUBEROSE ROOTS, 4s. per dozen.—The annual importation of the above-named beautiful and fragrant Flower has just been received, and large and well selected Bulbs may be obtained, without disappointment, at A. COBBETT'S Foreign Warehouse, 18, Pall-mall.

N.B. Printed regulations for treatment sent; also, just arrived, very moist and open Parmasan Cheeses.

SUPERB HOLLYHOCK SEED.—Well ripened Seed, warranted to be saved exclusively from Rosea grandiflora, Delicata, Comet, Model of Perfection, Elegans, Formosa, Gem, Belladonna, Bicolor, Queen, Fireball, Aurantia, Rosea alba, and Sulphurea perfecta. A good mixture of the above, in packets, containing 200 Seeds, will be forwarded, post free, upon the receipt of 2s. 6d. worth of postage stamps, by R. B. BIRCHAM, Hedenham Rosary, Bungay, Suffolk.

DWARF PEAS.

HAIRS'S DWARF MAMMOTH KNIGHT'S, acknowledged the best out, 2s. 6d. per quart.
BISHOP'S LONG-PODDED, 1s. per quart.
BURBIDGE'S ECLIPSE, 1s. per quart.

The above Peas have been most extensively grown in the principal horticultural establishments in the kingdom, and pronounced superior in every respect to the tall growing varieties.

FLOWER SEEDS.

ESCHSCHOLTZIA CALIFORNICA ALBA, a pure white, very good, 6d. per packet.
IPOMŒA BURRIDGII, splendid hardy creeper, 6d. per packet.
SAPONARIA CALABRICA, var. MULTIFLORA, one of the best bedding plants out, 6d. per packet.
TROPÆOLUM COCCINEUM, handsome, 6d. per packet.
EUCHNIDEA BARTONIOIDES, splendid yellow, half-hardy, 6d. per packet.
GAURA LINDHEIMANII, fine herbaceous plant, 6d. per packet.

DUNCAN HAINS offers to the gardening world the above small selection, as being deservedly worthy of universal attention. Catalogues of Garden, Agricultural, and Flower Seeds forwarded on application.

Seedsman and Florist, Wholesale and Retail, 109, St. Martin's-lane, London.

"THE GOLDEN BALL,"
UNEQUALLED NEW YELLOW MELON.

EDWARD TILEY respectfully informs Melon growers and others generally, that he has been successful in procuring the whole stock of seed of the above beautiful and unequalled Melon, "The Golden Ball," which has been thoroughly proved by an eminent Melon grower, and acknowledged by all who saw and tested the same, to be one of the finest flavoured yellow Melons ever known; its qualities are as follows: fruit, very handsome; colour, when ripe, deep orange; shape, perfectly round; hollow crown, very thin skin; flesh, firm and very solid, and of superior melting flavour; free setter and prolific bearer; weight from 3 to 4 lbs. The contrast of this yellow Melon when set on a table with a green-fleshed Melon has a most striking effect, and every person who grows the Bromham Hall should also cultivate this one as its companion, for its shape and perfection in flavour, which has proved to be unequalled. It can be obtained in packets of three seeds at 2s. 6d., or seven seeds, 5s; or a packet of this one of the Bromham Hall, and one of any other undermentioned, for 6s. E. T. feels confident the above Melon will give as great satisfaction as the following other varieties formerly sent out by him:—Tiley's Bromham Hall Melon (same), 1s. per packet; Tiley's Queen Melon, 1s. ditto; Tiley's Rosewood, 1s. ditto; also, Beechwood Melon seed, 1s. ditto; Windsor Prize, 1s. ditto; Emperor, 1s. ditto; Trentham Hybrid Persian, 1s. ditto; Duncan's Green Flesh, 1s ditto; Hampton Court, 1s. ditto; Egyptian (Improved), 1s. ditto; Blackhall's Green Flesh, 1s. ditto; Bailey's Green Flesh, 1s. do.; Camerton Court, 1s.; Victory of Bath, 2s. 6d. do.

TILEY'S NEW CUCUMBER "CAPTIVATION," three seeds, 5s., or five seeds, 7s. 6d.; also "Phenomenon," six seeds, 2s. 6d.; or this and one of Captivation, for 6s; also Chamberlain's Essex Hero, four seeds, 2s 6d; Hunter's Prolific, three seeds, 2s. 6d., or seven seeds, 5s; Lord Keynon's Favourite, 1s per packet; Victory of Bath, 1s. ditto; Gordon's White Spine, 1s. ditto; Hamilton's Black Spine, 1s. ditto; Conqueror of the West, 6d. ditto; Butcher's Stratford-upon-Avon, 6d. ditto; and numerous other older varieties, at 6d. ditto. For further particulars of the above Cucumbers, see *Gardeners' Chronicle* of January 3, 1852.

N.B. A packet of "The Golden Ball" Melon and a packet of Captivation Cucumber, can be sent for 6s. A remittance must accompany the order from unknown Correspondents, either by Post-office order or penny postage stamps, when the whole or any quantity of the above, as the case may be, will immediately be forwarded free to any part.

EDWARD TILEY, Nurseryman, Seedsman, and Florist, 11, Abbey Churchyard, Bath, Somerset.

SANGSTER'S NEW EARLY NO. 1 PEA.

HAY, SANGSTER, AND CO., in submitting the above valuable PEA to the public, can recommend it with the greatest confidence, as the largest podded and best Early Pea known, and of first-rate quality; height, 2 feet, Price 2s. 6d. per quart.

York Regent Potatoes, from prepared cuttings, 6s. per bush. Cambridge Radical, 6s. do. A first-rate second early, 6s. do. American Native, 6s. do. White Blossom Kidney, 6s. do. Brighton Pink Kidney, 6s. do.

For Testimonials, see *Gardeners' Chronicle*, Nov. 8, p. 705.

Post-office orders to be made payable at the Borough Post-office to HAY, SANGSTER, and Co., Nursery and Seedsmen, Newington Butts, London. One-bushel hampers and booking, 1s. 6d.; two-bushel, 2s. 6d. Sacks, 2s. 6d. each.

GEORGE BAKER'S DESCRIPTIVE CATALOGUE OF AMERICAN PLANTS, CONIFERÆ, ROSES, ORNAMENTAL SHRUBS, FRUIT AND FOREST TREES, &c., may be had on application, by enclosing two postage stamps.—Windlesham Nursery, Bagshot, Surrey.

COLLECTIONS OF SEEDS, suitably selected for Gardens of various sizes, for one year's supply, at the following prices:—2l. 10s., 1l. 17s. 6d., 1l. 5s., 12s 6d., and 5s. The Seeds are of excellent quality, many of which are direct from the growers. Particulars of sorts and quantities of each Collection may be had, if required, on application.

Also, Collections of FLOWER SEEDS, chiefly Annuals, with a few good Biennials and Perennials, 100 varieties, 10s. 6d.; 50 do., 5s. 6d.; 25 selected do., 3s. 6d.; 12 do., 2s.

WILLIAM DENYER, Nurseryman & Seedsman, Battle, Sussex

FIRST CLASS VERBENAS, FUCHSIAS, GERANIUMS, DAHLIAS, CHRYSANTHEMUMS, CINERARIAS, PETUNIAS, PICOTEES, AND CARNATIONS.

GEORGE SMITH'S SELECT CATALOGUE is now ready, containing Priced Lists of all the leading kinds of both Show and Fancy varieties, in their various classes.

G. S.'s Seedling Verbenas, Fuchsias, &c., are of great merit, having taken numerous First-class Certificates, and having been highly recommended by the Press. For description see Catalogues, which will be forwarded on the receipt of one postage stamp.

N.B. Taylor's excellent "Treatise on the Chrysanthemum," 1s.; free by post, 1s. 2d.

Tollington Nursery, Hornsey-road, Islington, London.

CHOICE CUCUMBER SEED.

HENRY GREEN begs to inform his Friends and the Public in general that he has in his SOLE possession the whole stock of Walker's Pea-green Cucumber, purchased of Mr. Newman, gardener to the Earl of De La Warr, which H. G. is now sending out post free, in packets of six seeds, at 2s. 6d. each, or on the receipt of 30 postage stamps.

This splendid Cucumber is declared by the judges of the different exhibitions to be the BEST EARLY SORT in cultivation; it is also more productive and quicker in growth WITH LESS HEAT than any other variety. It has taken, during the last two years, all the first and second Prizes in Cambridge and Huntingdonshire.—Cambridge Nursery, Feb. 21.

ROSES.

WILLIAM WOOD AND SON beg to offer a choice assortment of ROSES at the under-named prices, the selection of sorts being left to themselves.

	s.	d.
Extra fine picked tall Standard Union Roses, from 6 to 8 feet, budded with 3 to 6 best varieties of Climbing and Perpetual Roses in each stem, suitable for training in the form of domes (these plants are particularly fine), each, 3s. 6d. to	5	0
Superior selected Standards ... ... Per doz.	18s. to 24	0
Fine Dwarfs and Dwarf Standards ... ,,	10s. to 18	0
Fine Dwarfs, on own roots, two of a sort ,, ...	6	0
Tea-scented Roses, in pots, very fine ... ,,	12s. to 18	0
Best varieties for Forcing, established in 6-inch pots, p. doz.	20	0
Dwarfs, on own roots, without names, per 100	30	0

N.B.—Additional plants presented with each order, with a view to lessen the expense of carriage.

Catalogues may be had, GRATIS, on application.

Woodlands Nursery, Maresfield, near Uckfield, Sussex.

NEW ROSES.

H. LANE AND SON, Great Berkhampstead, Herts, have the pleasure to offer the undermentioned ROSES, good Dwarf Plants, as per prices affixed:

Auguste Mie	...	7s. 6d.	Rosy blush, large, globular, and beautiful.		
Apollon	...	3	6	Cherry red, very lively colour.	
Baronne Hallez	...	3	6	Crimson, large and very fine.	
Caroline de Sausal	...	5	0	Blush, beautifully cupped, large, and very double.	
Chateaubriand ...	...	2	0	Beautiful delicate pink, large and distinct.	
Chereau	...	3	0	Rose, very large and double.	
Géant de Battailles	...	1	6	Vermilion, compact, and beautiful.	
General Negrier	...	3	6	Rosy-blush, very double, large and beautiful.	
Genie de Chateaubriand		1	6	Shaded lake, expanded, and very large.	
Madame de Lamoricière		3	0	Bright rosy pink, very distinct and good.	
Pius the Ninth ...	...	2	0	Crimson lake, compact and fine.	
Princess Belgiojoso	...	1	6	Rose, globular and fine.	
Standard of Marengo	...	2	6	Crimson lake, large and splendid.	
Hybrid Bourbon, Paul Ricaut		2	6	Deep carmine, globular, and very beautiful.	
Moss Laneii ...	...	1	6	Beautiful shaded carmine, cupped, large and double.	

They also have a very large stock of EVERGREEN TREES and SHRUBS, suitable for immediate effect in making new Plantations, Avenues, &c., every plant forming a specimen; and, as a more ready guide, have selected the following, the different varieties of which will be found under their respective heads in Catalogue of Trees and Shrubs.

	Feet.		Feet.
Arbor-Vitæ	2 to 8	Pinus Cembra ...	2 to 3½
Arbutus	3 to 5	,, excelsa (fine) ...	3 to 4
Araucaria imbricata	2 to 3½	,, insignis ...	2 to 3½
Cedrus Deodara ...	2 to 6	,, Pinaster ...	2 to 3
,, Libanus ...	2 to 5	,, Weymouth ...	3 to 6
Cryptomeria japonica	2 to 8	Abies Douglasii ...	3 to 7
Cypress	2 to 5	,, Hemlock Spruce	5 to 7
Holly, green	2 to 4	,, Kutrow ...	2 to 3
,, variegated ...	2 to 4	,, Morinda ...	3 to 4
Juniper	2 to 6	,, Menziesii ...	3 to 4
,, Virginian or Red Cedar, splendid plants ...	3 to 5	,, Spruce* ...	3 to 5
Kalmia latifolia ...	3	Rhododendrons ...	2 to 8
Laurel, common ...	3 to 5	Taxodium sempervirens	2 to 5
,, Portugal (fine).	3 to 5	Yew, common ...	4 to 6
Phillyrea ilicifolia...	3 to 5	,, Irish	3 to 7

* These, the common Spruce Fir, in two varieties, the white and black, are splendid plants, bushy, according to their height.

Catalogues may be had on application, by enclosing two postage stamps.

FINE DOUBLE TUBEROSES,
4s. per dozen, just imported by

PAGE AND CO., SEED MERCHANTS TO THE AGRICULTURAL AND HORTICULTURAL SOCIETIES OF INDIA, &c. &c., Southampton. Priced Lists may be had upon application, containing only selected and approved varieties.

	s.	d.
PAGE'S BLOOD RED BEET, the finest crimson and best sort in cultivation, per packet	1	0
NEW ROYAL CABBAGE LETTUCE, per packet ...	1	0
PAGE'S NEW HARDY WINTER WHITE COS LETTUCE, per packet	2	6
RANDOLPH'S GREEN CURLED ENDIVE (very superior), per packet	1	0
SILVER PICKLING ONION OF NOCERA, per packet	1	0
NEW EARLY RICH SCARLET FORCING CARROT, per packet	1	0
NEW RED BELGIAN CARROT, per packet	0	6
BRUSSELS SPROUTS, warranted true imported, and very fine, per packet	1	0

Testimonials are unnecessary, as we rely upon our reputation.—Gardeners and Land Stewards' Registry Offices, 37 and 38, Oxford-street, Southampton.

PELARGONIUMS.

JOHN DOBSON'S GENERAL DESCRIPTIVE CATALOGUE of all the leading varieties of Beck's, Foster's, Hoyle's, and other raisers' Pelargoniums; Story's new Seedling Fuchsias, Verbenas, Phloxes, Antirrhinums, &c. &c., may be had in exchange for one postage stamp.

12 fine show varieties of Pelargoniums for 42s, hamper and carriage to London included in the price; also 12 good and distinct varieties for 21s., hamper, &c., included. The plants are strong and healthy, and no time should be lost by purchasers in making their selections.

Hollyhock Seed saved from all the leading varieties in packets of 100 seeds for 18 postage stamps. Antirrhinum Seed saved from the most distinct varieties, in packets, forwarded in exchange for eight postage stamps. The seed, if sown in gentle warmth this month, or beginning of March, will flower well during the summer and autumn.

A Catalogue of Kitchen Garden Seeds, containing all the best sorts in cultivation, may be had in exchange for one stamp. Lovegrove's Seedling Shaw, Jackson's Kidney, and other approved sorts of Potatoes for planting, at the lowest prices.—Woodlands Nursery, Isleworth.

SEEDS DIRECT FROM THE GROWERS THE MOST CERTAIN MEANS OF PREVENTING DISAPPOINTMENT.

Although we would on no account join in the accusations made against a certain class of Seedsmen, we have great confidence in stating, that *if such frauds are practised* as are described in several articles in the recent Numbers of *The Chronicle*, the public may certainly avoid all such impositions and accidents by procuring their Seeds direct from us;

And it is gratifying to find by the numerous orders daily received (especially since the remarks which have appeared on "the Seed Trade"), that the public fully appreciate the advantages of procuring Seeds direct from the Growers, as the surest remedy for the evils alluded to.

The Garden Seeds grown in Berkshire and the Southern Counties having obtained great celebrity, we have made such arrangements with Messrs. PICKFORD and Co. (who have Offices on most of the great lines of Railway), as will enable us to DELIVER OUR GOODS FREE OF CARRIAGE to most parts of the United Kingdom. Particulars may be obtained by post, on application to us, addressed JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

The Gardeners' Chronicle.

SATURDAY, FEBRUARY 21, 1852.

MEETINGS FOR THE ENSUING WEEK.

MONDAY,	Feb.	23	British Architects	8 P.M.
			Geographical	8½ P.M.
TUESDAY,	—	24	Civil Engineers	8 P.M.
			Medical and Chirurgical	8½ P.M.
			Zoological	9 P.M.
WEDNESDAY,	—	25	Geological	8½ P.M.
THURSDAY,	—	26	Royal Soc. of Literature	4 P.M.
			Numismatic	7 P.M.
			Antiquarian	8 P.M.
			Royal	8½ P.M.
FRIDAY,	—	27	Royal Institution	8½ P.M.
SATURDAY,	—	28	Royal Botanic	3½ P.M.
			Medical	8 P.M.

SOME time ago (*Gardeners' Chronicle* for 1850, p. 803) we took an opportunity of drawing our readers' attention to the rights of inventors, as at present recognised by the laws of our country; and we referred those who might wish for further information upon the subject, to a report then lately published by the Society of Arts. Since the appearance of that report, two others have issued from the "Committee on Legislative Recognition of the Rights of Inventors," appointed by the council of the same society. The subject is important, not only to manufacturers, but also to that large body of ingenious persons who occupy themselves with improving the implements at present in use, and to whom the art of cultivation is so deeply indebted.

Not a few persons decry all patent laws whatever, and, maintaining that all monopolies are bad, assert that rights of invention fall within the proposition and ought not to be recognised at all by the Governments of modern civilised nations. We suspect that some who hold this opinion, and from whom we, with all respect, differ, are led astray by the ambiguous meaning of the word monopoly. By a monopoly, we understand an exclusive right granted to a person, or limited set of persons, to do something which would, were it not for such grant, be lawful for others to do; and looking at matters as they are, a patent is no doubt a monopoly, in this sense of the word; but looking at matters as they ought to be, a patent right is no more a monopoly than any other exclusive right; for example, a right of ownership in land or goods, which is founded upon what are called the laws of nature. All rights ought to be the consequences of laws based upon the great principle of utility, so prominently brought

forward by Bentham, and expounded and corrected by Austin. Using that principle as a test, the laws which secure to certain individuals the exclusive enjoyment of land or goods are pronounced good; and, tested by the very same principle, laws which should secure to an author or inventor the exclusive enjoyment of the produce of his brain would also be pronounced good. As tried by this test, laws of the latter class are no more bad, as tending to create monopolies, than are laws of the former class, which are closely analogous.

In the report lately published by the Society of Arts, rights of inventors are not denounced as tending to create monopolies, but still we think that the word lingers in and secretly influences the thoughts of the committee, and has produced at least one result not easily attributable to any other cause. A person who, having hit upon an invention, wishes exclusively to enjoy it, cannot at present do so for longer than a certain number of years upon any conditions or terms whatever; the utmost he can obtain is a right of exclusive enjoyment for a limited number of years; and in order to acquire this right, so as to make it available through England, Scotland, and Ireland, a sum of nearly 300*l.* has to be paid; that is to say, an inventor is either robbed of his invention or fined 300*l.* for his ingenuity. Now, the committee of the Society of Arts do not, and there perhaps they are right, propose that an inventor should possess the exclusive right of enjoying his invention for ever, but they still propose to fine him to the possible extent of 85*l.*; upon what "principle of jurisprudence which should regulate the recognition of the rights of inventors" this fine is imposed, we confess ourselves at a loss to conceive. We take registration of the thing invented to be indispensable to the working of any patent or copyright laws whatever; but if such laws are, as we hold they are, beneficial to the public at large, why should not the public pay whatever expenses are necessarily incident to the benefit enjoyed? in other words, why should not the registration office be a Government office, and why should not the officers who have to manage it be paid by the Government in the usual way? or, if it should be determined to pay those officers by the bad and universally condemned system of fees, still let the inventor be taxed only so far as is absolutely necessary to pay the expenses of the office. The system of fining an inventor, whether to the amount of 300*l.* in a lump, or to the amount of 85*l.* in four instalments, seems to us to be radically wrong, and to result from the constant habit, so difficult to shake off, of considering the rights of invention as monopolies, as privileges granted to a few to the detriment of the many, whilst in truth, and in fact, such rights would, if placed on a proper basis, be no less beneficial to the public at large, than are the other exclusive rights at present enjoyed.

The principle of fining an inventor to the extent of 85*l.* by four instalments, (viz., the 1st, 5*l.*, payable at the time of registration, and by which a right of exclusive enjoyment for one year is to be obtained; the 2d, 10*l.*, to continue such right for five years; the 3d, 20*l.*, to continue it for five years more; and the 4th, 50*l.*, to continue it for five years longer), "is proposed as a means of testing whether an invention is in use, and of removing useless inventive rights that might otherwise be obstructive of improvements." Now, in the first place, by this method the greater the ingenuity of the inventor, the more beneficial the invention to the public, the heavier is the fine imposed; a person whose invention, though perhaps ingenious, is of no use, would pay 5*l.*, and very likely no more; but a person whose invention was of use, must, to enjoy the benefits of it, pay 10*l.*, 20*l.*, 50*l.*, altogether 80*l.* more than the other! In the next place such a method seems to us not to be required to attain the end in view; it would be very easy to say that no invention should confer any rights at all, unless registered in the first instance, and that such rights should last only a certain number, say five years after the first registration; but that those rights should be kept alive for another five years by registering before the first five years had expired, notice being given to that effect, and so on for as many periods of five years as might be thought desirable. The effect of this would be that no infringement occurring at any period after the expiration of five years from the date of the original registration, or of the last registered notice of renewal, could be complained of as a legal injury. We do not see any necessity for levying a fine at each renewal; and we cannot help thinking, as we have already observed, that the proposal proceeds from a lingering confusion produced by the term *monopoly*, notwithstanding the explicit reference made to that word by the committee in their first report. Until the rights of inventors and authors are recognised gratis, like other rights, proceeding, like themselves, from laws based upon the principle of general utility, we are convinced that the public will not rest contented; and unless the gentlemen who have taken the matter in hand can accomplish this, they will leave undone that which it is most important should be done.

If indeed by the payment of the 300*l.* at present necessary, or of the 85*l.* proposed by the Society of Arts, the fact of registration should be conclusive evidence of the title of the registering person to his invention as against all the world, there would be little, if any, reason to complain; but that is not so now, nor is it proposed to be the case. In order that registration should confer such a title, it would be necessary to have a court of examiners composed of legal and scientific persons, whose business it would be to examine every invention brought before them, and to pronounce whether it were a *bona fide* new invention or not, and to refuse or allow registration accordingly. Such a course the Society of Arts thinks (and in our opinion they are right), impracticable; but then, in the absence of such an inquiry, what does the registered inventor get by registration? Under the present system, as under that proposed by the Society of Arts, he merely gets the power of sustaining his invention if he can. If he thinks his invention has been, or is being pirated, he can either bring an action for damages in a court of law, or he can apply to the Court of Chancery for an injunction; but in either case the burthen of proving the invention to be new may be thrown upon the plaintiff, and in that event the production of the letters patent is not even *primâ facie* evidence of novelty, and that alone will not throw upon the defendant the onus of showing that the invention is not new. Without registration an inventor can do nothing; he has no *locus standi* with it; under the present, as under the proposed system, he is allowed to do what he can; but for such permission 300*l.* or 85*l.*, or any other sum not indispensably necessary to defray the cost of registration, is in our opinion excessive, and not warranted by any principle whatsoever.

THE EPACRIS.

For the decoration of the greenhouse and conservatory during winter, and for furnishing a supply of cut flowers at a season when they are most esteemed, the different varieties of Epacris are indispensable, and should be grown to the exclusion of many plants now used for early flowering, and known by the term "forcing plants." The sooner many of these are sent to their proper situation (the shrubbery border) and their places supplied by plants which require no stimulus to induce them to flower in winter (and which are generally more beautiful) the better for the credit of the cultivator and the satisfaction of all concerned.

The Epacris is not difficult to propagate, but like most hard-wooded plants, it strikes tardily; and as established plants, in first-rate condition, may be purchased for a trifle, perhaps the best advice I can give is—leave its propagation to nurserymen.

In purchasing plants at this season, choose young, dwarf, bushy specimens, in 5-inch pots. As early in March as convenient, carefully turn them out of their pots, and if the roots are active, shift into two sizes larger than those in which the plants have been growing. After potting, the plants should be placed in the warmest end of the greenhouse, where they can be kept rather close, and encouraged to make free growth. They should also be nicely tied out, bringing the shoots down to the edge of the pot, so as to induce bushy specimens; and any very strong shoots should be pinched back, in order to insure their breaking regularly. Water should be carefully applied until the roots have laid hold of the fresh soil; but the plants should be moistened over head night and morning, especially if the weather happens to be clear and sunny. Treated thus, the plants will soon start into vigorous growth, and should then receive more air, and a liberal supply of water at the roots. If the object in view be large specimens in the shortest possible time, the plants should be placed where the temperature will average from 50° to 55° at night, allowing it to rise 10° or 15° with sun heat, and the atmosphere should be kept rather moist, but air must be freely admitted to prevent weakly growth. It will be necessary as the plants progress to stop any shoots which may incline to outgrow the others, and to stop as frequently as may be requisite to secure compact specimens.

The best situation for the plants during summer is in a cold frame, where they can be shaded from the mid-day sun, kept moist, and freely supplied with air. In the case of the stronger growing varieties, a second shift will probably be necessary, and some of the more weakly growers may also need more pot-room; but unless this is the case previous to the middle of August, it will be better to defer shifting till the following spring. The plants should be considered to have completed their season's growth by the beginning of September, and after that time they will require attention, in order to ripen the young wood, and prepare them for winter. This will be best effected by gradually inuring them to a dry atmosphere, and full exposure to the sun's rays. If drenching rains occur, remove them to a light airy situation in the greenhouse. Water must be carefully applied during winter. Never water except when the soil is dry, and then give it liberally. The flowering will altogether depend upon the shoots having been properly ripened. Plants that were stopped late in summer will probably bloom but sparingly, while those that were not stopped after the middle of June will flower abundantly. After flowering allow them a period of comparative rest, to enable them to recruit their energies, previous to cutting back, and entering upon the second year's campaign; but this need not exceed a few weeks, and during that time they should be kept in a cold part of the greenhouse, and be very carefully watered.

Now is the time to provide for having a succession of flowering plants during the coming winter and following spring. Select plants which have been longest rested; cut these back, leaving only a few eyes of last growth, and place them in a moist growing temperature of 50°; if treated according to the following directions, these will flower about the middle of November, and if a second lot of plants is treated as above and encouraged to start into growth early in April, and a third batch in May, leaving a few to be cut back about the middle or end of May, and to start into growth without any farther assistance than the ordinary greenhouse temperature, there will be a continuous supply of blossom from November to June. When the plants have just commenced growing, shift into pots, 3 inches larger than those they occupy, and observe the same caution in watering, &c., as directed for last year. Replace any decayed stakes, and take care to spread out the branches as wide as may be necessary to form a handsome specimen. As soon as the young shoots have made an inch or two of growth, the plants should receive more air, and may be gradually removed to the greenhouse, to prepare them for being placed out of doors; but great caution must be observed in removing, for if the plants receive any sudden check at this stage, the season's growth will probably be greatly injured, and they will not flower at the time for which they are being prepared. About the middle of May, if the weather proves mild, the earliest lot may be removed to a sheltered shady situation out of doors, where they will be protected from the mid-day sun; and, to guard them against the ingress of worms, the pots should be placed upon a bed of coal ashes, three or four inches deep. The same caution must be observed in removing the successional lots of plants from the shelter of glass and a damp atmosphere. The only attention necessary during the summer will be to keep them properly supplied with water, and during dry weather to water the bed of coal ashes, which will assist in keeping the atmosphere moist. The same precautions for ripening the wood, as recommended above, must be adopted, except that the purposed floral succession should be attended to.

The best soil for the Epacris is rich turfy peat, such as is obtained from Wimbledon Common. This should be procured some 12 months previous to its being wanted for use. When required for potting, it should be carefully divested of all inert soil and coarse surface litter, and broken up by the hand into pieces hardly larger than a Filbert. It is also of great importance to select such pieces only as are in a moist, but not sodden condition. To the peat thus prepared, add a quantity of clean potsherds, broken small, and a liberal allowance of silver sand; but the proper proportion of the latter depends of course upon the nature of the peat, and it must be regulated accordingly. *Alpha.*

BRITISH SONG BIRDS.

(Cage Birds, No. 50).

No. LXVII.—A few days since, by the violence of the wind, a large and lofty Fir tree in Ravenscourt Park was snapped asunder at its centre; and falling with its full weight across one of our poultry-houses built under the park palings, the whole was prostrated, and the gold spangled inmates thereby set at liberty—*fortunately* without injury to themselves. It was an interesting sight to see them all in the consciousness of their liberty, traversing the garden, and ostentatiously enjoying the delights of freedom. The gales have done more mischief than this in our parts; and the birds who had commenced nidification have, in many instances, to repent all their toilsome preparations. The robins that have built in the Ivy bushes, appear to have escaped scot free; it is the larger birds that have suffered.

The nest of the thrush is constructed with much ingenuity. Its interior resembles a large circular cup, both in form and size. It is quite smooth to the touch, though not polished. To receive this, a substratum of tufted moss is formed. As the structure advances, the tufts of moss are brought into a rounded wall, by means of stems of Grass, Wheat, straw, or roots. These are twined with it, and with one another, up to the brim of the cup, where a thicker band of the same material is hooped round like the mouth of a basket.

When any of the straws, or other materials, will not readily conform to this required gauge, they are carefully glued into their proper places by means of saliva—this is a fact which a sceptic may realise by the careful inspection of any nest. It is worthy of examination; and a beautiful contrivance to gaze upon.

When the "shell," as it may be termed, is completed, in the manner we have described, the happy pair begin the interior masonry by spreading pellets of horse or cow-dung on the basket-work of moss and straw—begin-

ning at the bottom, which is intended to be the thickest, and proceeding gradually from the central point. This material, however, is too dry to adhere of itself with sufficient firmness to the moss, and on this account it is always laid on with the saliva of the bird as a cement. How must the patience of the little architect be taxed to lay this on so very smoothly, having no other implement than its narrow-pointed beak!

No human architect could produce any similar effect with such a tool as this, seeing that the whole surface is of one uniform smoothness; but from the frame being nicely prepared, and by using only small pellets at a time, which are spread out with the upper part of the bill, the work is rendered easier.

Some writers assert, that thrushes prefer the dung of cows for lining their nests with; but experience proves the contrary. Horse-dung is selected as being the more eligible for the purpose. This may be ascertained by comparing a piece of the dry droppings found in pastures, with the inner wall of the nest. Dry horse-dung retains *no smell;* whereas cow-dung, though exposed to the heat of the sun for many months, always retains a musky smell, resembling Indian ink.

On this wall being finished, the birds use for an inner coating little short slips of rotten wood, chiefly that of the Willow; and these are firmly glued on with the same salivary cement, while they are bruised flat at the same time, so as to correspond with the smoothness of the surface over which they are laid. This final coating, however, is seldom extended quite so high as the first, and neither of them are carried quite to the brim of the nest; the birds thinking it enough to bring their masonry near to the twisted band of Grass which forms the mouth.

The whole wall, when finished, is not much thicker than pasteboard; and though hard, tough, and water-tight, is more warm and comfortable than might, on a first view, appear, and admirably calculated for protecting the eggs or young from the bleak winds which prevail in the early part of the spring, when the song-thrush breeds. We are so great admirers of the ingenuity of these birds, that we have deemed it right to be minutely particular in describing the manner of their forming their nests. Some find fault with the nests for being water-tight from within, — thereby, they say, admitting rain to spoil their eggs; but this is ridiculous, as *one* of the parent birds invariably remains "on the premises" to prevent any such calamity in time of rain. *William Kidd.*

[Postscript.—As the season for pairing and breeding Cage Birds is fast approaching, Mr. Kidd feels anxious that the articles which have appeared in the *Gardeners' Chronicle* from his pen, on these and other subjects, should be re-printed. With this view, he has obtained permission to re-print them in his Weekly "Journal of Natural History"—(of which, see Advertisement on the back page of this day's *Chronicle.*)

Mr. Kidd's acquisition of the proprietors' interest, extends only to the first 59 chapters, inclusive. The inquiries for these Articles in a more easily accessible form, have been so numerous, that Mr. Kidd considers the above announcement will give general satisfaction—the articles themselves having long since been out of print.]

FOREIGN GARDEN GLEANINGS.

Berlin (*continued*).—The Royal Horticultural Institute, under the direction of MM. Bouché and Son, and superintended by the Royal Horticultural Society, is situate in the faubourg of Schenberg. When we first visited this establishment, in the spring, there was nothing very remarkable, except a collection of Hyacinths raised from bulbs and seeds, some Tulips, and a magnificent collection of more than 60 varieties of Amaryllis cultivated for the most part under glass.

The second time we saw the gardens, in August, we had greater opportunities of forming a satisfactory opinion on them. The gardens are divided into four sections; of these the first is entirely occupied by vegetables, but there was not much there worthy of notice, except a collection of 150 varieties of Potatoes growing in a burning sand (such is the soil of the whole garden); the walls are covered by some very fine fruit trees. The second division, comprising perennial flowering plants, contained at the time of our visit 200 species of Pinks in full flower, and also eighty first-rate varieties of Wallflower. The third division or hothouse department contains nothing very remarkable; here we saw a fine collection of more than 60 species of Canna, the finest we ever saw, and which, being well suited to the place, formed a magnificent mass, in which the flowers and foliage contrasted beautifully, the one with the other. The fourth or last division, the English garden, possesses some good trees; here it is that pupils 18 or 20 years of age pass two years in learning the art of gardening. Each of these young men possesses, moreover, an herbarium: 1, of economical plants; 2, of hothouse plants; and 3, of specimen plants.

The botanic garden, situate not far from the Horticultural Institute, is under the management of M. Bouché, who succeeded M. Otto. This garden is worthy of notice, for more reasons than one. It is remarkably rich in rare plants of all sorts; large glass-houses and the botanical school occupy the greater part of it. In this same school the natural vegetable productions are classified according to their natural affinities; and from it there is a charming view produced by two isolated zones of herbaceous and frutescent plants. The rest of the garden, planted irregularly, contains a few rustic trees of rare size and vigour; here, too, are all those hothouse plants which will in summer bear exposure in the open air. Each group has a peculiar appearance, owing as much to the plants composing it as to the manner in which they are arranged. Thus those plants which require moisture are placed on the banks of a winding brook; those which are entirely aquatic are in its bed. Little valleys, caused by the undulating ground, serve to protect the Palms, whilst a hill of stone exposes to the rays of the sun specimens of Agave, Aloe, Yucca, Cereus, Pilocereus, and other succulent plants. This arrangement, which is not uncommon in the botanic and other gardens of the north, produced both a general good effect and also pleasing isolated groups, &c. The Coniferous group especially attracted attention by magnificent specimens of Araucaria.

The hothouses are as perfect as possible. Each plant is placed in the circumstances most suitable to it. One of the houses is completely filled by a fine collection of Mimosa, in the midst of which is a large bush of pulchella. In those which contain New Holland and New Zealand plants, there are some rare specimens. In the small greenhouses, there are many uncommon and curious plants, which do not yet form articles of commerce. In the large houses are some remarkable specimens of Eugenia, Tristania in flower, Diosma, Dryandra nervosa, Banksia integrifolia 6 or 7 yards high, some Metrosideros, Hakea, Eucalyptus obliqua, and a quantity of other large plants, which represent tolerably well the young trees left for timber in our forests.

The smaller hothouses which contain flowering plants deserve to be mentioned. They contain, amongst others, four varieties of Tropæolum, viz., the blue, yellow, white, and tricolor varieties, which, being grown in different shapes, produce a very fine effect. Amongst the Bromeliads there is a magnificent Tillandsia humilis, and although the succulent plants are not largely represented, there are some fine specimens of Echinocactus Forbesii, Kensii, and formosus.

The Orchidaceous house contained some remarkable plants in flower, and a fine specimen of Vanilla with ripe fruit. We were even shown a Vanilla, called pompona by gardeners, which has the great advantage of yielding every year ripe fruit which is not less beautiful, longer, and larger, than that of the aromatica; we do not say this on our own authority, but on that of our informants.

We may mention besides, Cattleya Forbesii, Oncidium sanguineum in flower; but what most surprised us was a remarkable Asplenium nidus. There is a good collection of exotic Ferns in a house specially set apart for them. The large plants grown in a hothouse are Coffea arabica, forming a pyramid 6 yards high, a Carica Papaya, a Cecropia peltata, some large Carolineas, and Bombax, 8 to 10 yards in height.

A hothouse of an ancient construction encloses some plants worthy of notice. The tropical plants are cultivated in boxes, pots, and some are placed on pedestals, in order to prevent blanching. This house resembles the cold one in the Garden of Plants at Paris. The highest plants there are, Strelitzia angusta 19 yards, Latania borbonica 19 yards, Cocos reflexa 13 yards, Cycas glauca, Elais guineensis; the last plant, which yields oil, nearly reaches the roof; Corypha australis 17 yards, Phœnix farinifera reaching to the top of the building; Pandanus odoratissimus, latifolius, and reflexus are of large dimensions; Pothos is here placed in the circumstances suitable to it.

To the above list we may add the names of some plants which are still rare with us, and which were in flower in the month of August; they are—Oxalis lasiandra, fit for borders, Hibiscus lilacinus, a pretty little plant; Mahonia triangularis, Spiræa venusta, with red flowers, a new Bocconia, and an enormous Pentstemon perfoliatum, which would be a great addition to our ornamental plants. We shall speak of Nelumbium hereafter. In short, the Botanic Garden at Berlin is perhaps superior to that at Paris in some respects, as in new plants, large specimens, and picturesque arrangement; but inferior to it in neatness, management, cultivation, and that indescribable something which gives such a charm to the gardens at Paris. *Masson's Report.*

HERBS.

No VIII. Dried Herbs.—Dried herbs are important both for home purposes and those of shipping. They may be either dried in sheds, compressed, or bottled. The common plan of drying and keeping herbs has many objections. They are usually pulled up by the roots or cut off, and hung up in bunches in sheds; and being left open to all changes of weather they lose their fine aromatic flavour, and become musty. Mr. Lindsay, who was once head gardener at Chiswick House, showed me his plan of preserving herbs in 1834. After drying them in screens before the fire, he had them rubbed, through a sieve, and then put into paper or linen bags, compressed and put away in drawers in a dry room, where they were kept in a dry state, and where the flavour could not escape. Mr. Dickenson, a steward and cook at one of the Cambridge Universities, told me that this plan of keeping herbs answered famously, and that by drying them off quickly they were as green as could be. About Mitcham they are dried in the flued drying houses.

Cooks may perhaps object to herbs being ground, on account of not wishing them to mix with soup, but in that case it is easy to put them into bags. Another way consists in rubbing the herbs through a sieve and bottling them. The following dried bottle herbs may be purchased in Covent Garden Market, viz. knotted Marjoram, Parsley, Thyme, Mint, Basil, Lemon Thyme, Soup herbs of many sorts mixed, Savory, Sage, Penny-royal, Celery seed for soup, Tarragon, mixed herbs for stuffing; powdered Shallot, Mushrooms, and Garlic; and why not Onions, for long voyages? Herbs bottled and sealed over keep a long time.

Dried herbs are looked upon by many as not worth notice; and unless a better plan of saving them during winter is followed out, it is hardly worth while growing them; but if the drying system were adopted, then they could be dried off-hand in autumn, and at once placed in the hands of the cook, where they would at all times be ready for use. *James Cuthill, Camberwell.*

Home Correspondence.

Tropœolum Lobbianum.—This beautiful Tropæolum is worthy of a place in every collection where plants are required for winter flowering. Out of all our collection of creepers, this is by far the most showy at this season of the year. I have 10 fine specimen plants of it, which have been a complete mass of flowers ever since the middle of October last. As it does not produce seeds freely, it is advisable to propagate it by cuttings, which should be selected in June or early in July. I always place single cuttings in small pots filled with sand, and plunge them in a little bottom heat. As soon as they are well rooted, I pot them into 6-inch pots, and place them in the greenhouse. With proper treatment, they will be ready to receive their final shift into 12-inch pots about the end of August, using soil composed of equal portions of sandy loam and peat with thoroughly decomposed horse manure and a quantity of good sharp sand to keep the compost porous. After this final shift, I place a wire trellis to each plant, firmly securing it to the pot. They are then placed in the stove, and, as soon as the plants commence rapid growth, every shoot is carefully trained so as to cover the trellis regularly over. By the end of September this is complete, and the plants will be showing hundreds of bright orange flowers. As soon as the blossoms fully expand, the plants may be removed to the conservatory or greenhouse, where they will continue to produce a succession of flowers for a long time. *S. T., Lichfield.*

Double Apples.—I have sent you an Apple of a very curious shape, being one of three I had of the same sort last season. The only difference between them and the one sent is that the stalks on which they hung were attached to one end, instead of being in the usual position. I had a Peach of a similar shape which resembled two. The side next the wall grew to the ordinary size of a middle-sized Peach, but the other end was not much more than two-thirds its size. Both ends had a kernel in them. It had only one stalk. *Stopman.* [Such cases are by no means uncommon. Double Apples are produced by the natural junction of two fruits when very young].

Luminous Plants.—Although doubt may perhaps be justly attached to the reality of the luminous appearances in the flowers of Phænogams, unless there be truth in the odylic light described by Von Reichenbach, as emitted by flowers, among other things, and only visible to somnambulists and healthy persons, who from their peculiar perceptive powers he calls "sensitives," I can vouch that the occasional phenomenon of luminosity in dead wood, when observable, can be seen by all persons possessed of ordinary vision. In evidence of this I may mention that, when a boy at school in Dumfrieshire, I remember when going through a shrubbery in the dark with several companions, stumbling over and breaking down a rotten stump, which gave out so much light at the fracture as to excite the immediate attention of all present. The wood was so much decayed that it could be crumbled in the hands, and so luminous that the features of a monstrous human face, traced with the crumbled fragments on the floor of the room where I slept, kept the inmates amused and awake during half the night. The light was of that wavy, smoky kind, exhibited by traces of phosphorus, and frequently exemplified in a common way, where one has made an abortive attempt to ignite a lucifer match. *W. C., jun., Glasgow, Feb.* 12.——The curious phenomenon of phosphorescent decaying wood, which, according to Dr. Hooker, is of a common occurrence in the damp, humid woods of Sikkim Himalaya, is also observable occasionally in Ireland. I have seen it several times, and have been led by analogy of reasoning to attribute the cause to the mycelia of fungi, which I never could detect after patient investigation. During November, 1850, one of my old pupils wrote from Carrick-on-Shannon, and informed me that whilst thinning timber which grew on a boggy situation, where it was much decayed, he had occasion to pass the place along with some of his workmen after dark, when they observed several luminous spots which they were unable to account for. Marks were placed, which he examined next day, and found in each case pieces of decaying timber lying on the surface of the ground where the marks were set. Those he carried to his residence and had them put in a damp place, when the luminosity was as intense as when the timber was lying on the bog. At my request, he forwarded a piece of the wood to Glasnevin, the phosphorescent properties of which were not impaired from transmission, though shut up two days in a dry box. The phenomenon was very brilliant on the first two evenings after the piece of wood arrived, but the luminosity became gradually weaker, and was not observable after the fourth day. No

mycelia could be found developed with a good microscope of high power. *D. Moore.*

Snow Soap.—The following memorandum of some ill-experience in this matter was published in part of an article in the *Dublin Advocate*, headed "Botany in the Bohereens, or Walks after Wild Flowers." It cannot however claim to be a full answer to your correspondent's inquiry, made at p 40, as it has been written more than a month, and had then no reference to the query in question. *R.D., Cork* "During the high prices of soap oils, in 1820, an attempt was made to increase the amount of soap, by blending it with snow. This was so much of a 'flattering tale,' that the phrase, 'How are you off for soap?' was justly applied, in banter, to its believers. Every age places its own *imprimatur* on extravagant belief or unbelief, and a *little* chemistry was imagined into the snow-soap theory, in its day. It was said that the small quantity of ammonia traced in some snow became great in the soap, and our few Irish snow-falls were to become masses of wealth to the previously unwashed; but, alas! for the latter, who had no better material—the water carried off, and thus wasted, the alkali in the bruised-up soap, and the 'may it not?' of hypothetical soap-makers became a soap bubble, with its slight beauty, a froth and a failure. And so ends what we have to say of 'snow-soap-making.'"

Trees and Shrubs in Cornwall.—Mr. Booth's article, at p. 86, reminds me of my intention to forward some account of the trees and shrubs growing here; and in pursuance of my promise, I will begin with the dimensions of evergreen Oaks. No. 1 measures 56 feet in height; the circumference of the stem, at 3 feet from the ground, is 13 feet 6 inches. No. 2, height 80 feet, circumference of stem, at 3 feet from the ground, 11 feet 9 inches. No. 3, height 69 feet, circumference of stem, at 4 feet from the ground, 9 feet 7 inches; and we have dozens here ranging between 30 and 60 feet in height. Our highest Liriodendron Tulipifera measures 77 feet, and the stem, at 3 feet from the ground, is 14 feet 9 inches; Taxodium distichum is 66 feet high, and well furnished with branches from bottom to top. Pinus halepensis, which is not quite hardy in some parts of England, appears to be thoroughly so here, as is also P. teocote. Picea religiosa seems to enjoy its situation, as do also P. nobilis and P. amabilis, which are much hardier. Magnolias bloom with us very freely eight months out of the 12. The highest of those on a wall measure 30 feet; standards, 25 feet. I have a trained Myrtle 25 feet, covered with black oval berries, which are as beautiful as the summer blossoms. Veronica salicifolia, V. Lindleyana, V. speciosa, Coronilla glauca, Pittosporum Tobira, and Buddlea Lindleyana, all grow luxuriantly out of doors here, and many other things equally tender. Rhododendron caucasicum, Nobleanum, and Smithii are now in flower. A variety of shrubs stand our winters that require shelter in other parts, but I am anxious to know whether our evergreen Oaks are larger or not than those of our neighbours. *R. Lynch, Port Eliot, Cornwall.*

Management of Fern Cases.—A short time since I tried the following treatment on some plants of Adiantum Capillus-Veneris. I placed them in pots, in a mixture of bog-earth and silver-sand, the lower half of each pot being filled with pieces of broken brick. I then plunged the pots in boxes of garden mould drained in the same way, and covered them closely with bell-glasses, about 4 inches wider than the pots, but resting on the earth in the boxes, thus forming a kind of Wardian case. I kept these in a cool room, with a fire part of each day. I am much disappointed at finding the young fronds, before they are half unrolled, withering off and becoming covered with a long growth of fur; the old fronds are partially suffering in the same way, and the surface of the soil is likewise, in places, showing a plentiful crop. Can you tell me the cause of my failure? *L. N. R.* [We presume that the water of condensation passes into the mould, and is evaporated on the outside of the bell-glass.]

Kew Gardens.—The last number of the "Quarterly Review" contains an interesting and amusing article respecting these beautiful gardens, and the rarities to be seen there. No more than justice is done to the admirable mode in which everything is arranged, and the liberal manner in which the public are admitted to the gardens, stoves, &c. What a contrast to the "good old times" within my own memory, when a special application to be admitted to the *penetralia* was necessary; but there is nothing perfect under the sun, and every fountain has its bitter something, mixing with its sweet waters. Even the "Quarterly" finds fault with the rules, which prevent the harmless cockney, who has had a hot journey by rail or steam-boat, adding to the pleasure of his summer's holiday, by sitting under the shade of some fine old tree, and discussing a paper of sandwiches, &c. Why is this refused? Does this rule prevail at the Jardin des Plantes, at the Luxembourg, or at Schœnbrun? I believe not. And why should it? What harm would arise; so that the pleasure-parties did not make a coffee-room of the museum, or the stoves, or greenhouses? I believe it is only to call attention to this rule to have it reconsidered. It would be well if you were to print the rules *in extenso*, and also to print the annual reports of the curator. There has been much reform as to admission to the Royal parks, and, I believe, persons carrying bundles and servants in livery are now no longer refused admission. There is another rule at Kew which is rather stringent, and in some degree offensive; on the way to the gardens I had called at Knight and Perry's Nursery, and one or two flowers were given to a member of my family who accompanied me, which she carried in her hand; the porter refused her admission, unless the flowers were left in his charge or thrown away; at first I did not see the reason for this singular order, but it was explained that the attendants would not be able to judge whether or not the flowers had been picked in the garden (*i.e.* stolen). As it was the rule, the flowers were thrown away before entering, I observing, that persons having stolen the flowers were not likely to leave the garden with them in their hands. Why, even at the Custom-house, ladies' words are taken, as regards what they carry in their work-baskets. *Dodman.* [We take the liberty of expressing an opinion that the rules complained of in the not very decent or accurate article in the "Quarterly," are not only proper but necessary: and so we think is that about flowers.]

Orchard Houses.—At p. 102, your correspondent "A Hertsman" questions the accuracy of Mr. Rivers's estimate for the construction of an orchard house 21 feet long by 12 feet 6 inches wide. He has not read Mr. Rivers's book with sufficient attention. The estimate does not profess to be for a house "tarred with Stockholm tar," and "coated with asphalte felt." Mr. Rivers first describes his orchard house at page 6. At page 8 he expressly states that he writes of houses "in which no fire heat is used;" but he goes on to say that "a forcing orchard house" may be constructed after the same plan, and it is in this case only that the tar and asphalte are applicable. I have this very day completed an orchard house according to the plan laid down by Mr. Rivers at page 10; though I have used 21 oz. glass instead of 16 oz., and built it of the best materials, it has cost me exactly 14*l.* 3*s.* instead of 17*l.* 8*s.* 9*d.*, as estimated by him. Instead of boarding up the sides of the sunken path with 1-inch deal, I have used 4½-inch brickwork, which is better; and instead of putting in panes 20 by 15 inches, which do not look well, I have had my glass cut 28 by 20 inches, a size which exactly suits a 14 feet rafter. If your correspondent wishes to build an orchard house, I shall be happy to tell him how he may do it at the prices I have named. The particulars are shortly these:

52 cube feet of timber (Pine), cut to sizes, at 1*s.* 6*d.*	£3	18	0
Labour—two men six days, at 2*s.* 6*d.*	1	10	0
Nails and hinges	0	10	0
280 feet of glass, at 4½*d.* } 6*d.* Putting in, 1½*d.* }	7	0	0
Brick and labour for path	1	5	0
Total	£14	3	0

W. P. P., Gloucester.——Allow me to state, from my own experience, that Mr. Rivers' orchard house answers perfectly, and is as cheap, making allowances for the different prices at which timber can be bought in different localities, as he describes it. The felt, the tar, and the heating apparatus, have nothing to do with the orchard house, unless you wish to convert it into a forcing-house, and then of course extra expense must be incurred. Will you also allow me to add that, in glazing an orchard house which I have just completed, I have availed myself of the services of Mr. Alfred Kent, of Chichester, who has invented a method of glazing without the use of putty or any other adhesive material. The advantages of his plan are simply these; 1st, that there is no leakage or drip from the sash bars; 2dly, that glass if broken can be replaced in two minutes by any person who has the free use of his finger and thumb; and, 3dly, that when the house needs painting all the glass can be removed, and cleaned, and the wood-work painted with the greatest facility. The appearance is very light and elegant, and the saving about one-third. Believe me, I am a decided enemy of Messrs. Dodge, Shuffle, and Co.; but I like to encourage whatever is calculated to assist the lover of fruit or flowers in their successful cultivation; and I know of no invention, which has lately been made public, more likely to do this than Mr. Kent's. When generally known, it must entirely supersede the old plan. *A Constant Reader, Farnham, Surrey.* [This plan has been explained in our volume for 1851, at p. 499.]

Salads.—The following is the composition of a salad which may be easily obtained at this time of the year. An old friend who died at the age of 93, a few years ago, told me that, about the middle of the last century, French people used to stand in Leicester-square with little baskets of salad collected in the fields, the ingredients of which were—1, Dandelion leaves; 2, Burnet; 3, Groundsel tops (quite young); 4, Lambs' Lettuce; and I think 5, Chives, or some plant of that nature. This forms an excellent spring salad. The Dandelion is a fine aromatic bitter, the Groundsel sweet, and the Burnet, as is well known, has the flavour of Cucumber. The same lady taught me the use of the "Fat Hen" (Chenopodium album, I believe) as Spinach, which it excels, in my opinion. *Hants.*

Societies.

Horticultural, *Feb.* 17.—J. R. Gowen, Esq., treasurer, in the chair. Mrs. Villebois, H. D. Davis, Esq., J. P. Jones, Esq., G. Burns, Esq., and Mr. T. B. Lawrence, were elected Fellows. Mr. Franklin, gr. to Mrs. Lawrence, of Ealing Park, received a Knightian Medal for a nice collection of Orchids, consisting of Zygopetalum rostratum, Oncidium Cavendishii, and the handsome O. unguiculatum, a well-coloured variety of Lycaste Skinneri, and L. tetragona (?), a good example of Ansellia africana, Cyrtochilum maculatum, and cut flower spikes of the charming Amherstia nobilis, some account of which will be found at p. 87.—Mr. Wooley, gr. to H. B. Ker, Esq., contributed a well cultivated Cypripedium insigne, bearing some 15 or 16 blossoms. A Certificate of Merit was awarded it.—Messrs. Henderson, of Pine Apple-place, sent Araucaria Cookii, even a handsomer species than the Norfolk Island Pine itself; a pretty hybrid Begonia, and Franciscea confertiflora and eximia.—The Rev. Mr. Beadon, of Northstonham, furnished a boxful of striped Camellia flowers, gathered from a south wall, where they had received no artificial protection whatever, in order to show what kind of weather is experienced in Hampshire. The blossoms were exceedingly fine, without speck or blemish.—The Hon. W. F. Strangways also sent examples of the mildness of the climate of Dorsetshire, in the shape of an exceedingly interesting collection of cut specimens of flowering shrubs and herbaceous plants, all grown out of doors at Abbotsbury. Among them were Hellebores, purple Rhododendrons, Azara integrifolia, with very pretty tufts of yellow flowers; Fuchsia splendens, finely in blossom; Pulmonarias, red and blue, Saxifraga ciliosa, the rare and beautiful Scorpion Iris (I. alata), the pretty Lithospermum rosmarinifolium, which is worth growing, even under glass, on account of its beautiful bright blue blossoms, and several other plants, all finely in flower. It was mentioned, with reference to the Scorpion Iris, that it refused to flower until it was planted within reach of the spray of the sea. Although it grew satisfactorily in a more inland situation, yet it would not blossom.—Mr. Epps, of Maidstone, sent a small bit of the white-flowered Cereus anguliger, and flowers of the very fragrant Edgworthia chrysantha.—Mr. Fleming, gr. to the Duke of Sutherland, at Trentham, received a Banksian Medal for a Black Prince Pine-apple, weighing 5½ lbs., and an Enville, weighing 4 lbs. 13 ozs. Along with them were also three examples of one of the smaller kinds of Mandarin Orange. A Banksian Medal was also awarded to Mr. Butcher, gr. to W. Leaf, Esq., of Streatham, for magnificent Cannon Hall Muscat Grapes. They were just beginning to shrivel, and were distinguished by that fine violet tinge which is peculiar to this variety when produced in perfection. Along with them were some Easter Beurré Pears, in good condition.—Mr. Smith, gr. to Mrs. Wray, of Wanstead, sent a model of a contrivance for protecting and accelerating the growth of early Peas, &c. It consisted of a long glazed frame, with a span roof, whose two sides were hinged at top so as to lift up and down in order to afford the means of ventilation. The ends were moveable, so that, if necessary, other frames might be added, with a view to increase the length of the protection.—W. Everett, Esq, of Chase-side House, Enfield, contributed examples of a mode of glazing without putty. In these the glass was laid flat in grooves between strata of cork; thin pieces of cork were then placed between the edges of the glass, the latter being pressed from the bottom upwards with sufficient force to indent its edges into the cork, which is then shaved neatly off, and the whole is secured firmly in its position; this has been proved to be perfectly water-tight and efficient. This plan of glazing was stated to be as suitable for windows as for garden purposes, and in addition to others it has this advantage, the panes can at any time be moved, or when broken, new ones put in without trouble or inconvenience.—A patent garden-drill was shown by Mr. Hall, of Munster Nursery, Munster-square.—From the Garden of the Society came Angræcum virens, which it is thought will turn out to be identical with A. eburneum, Coelogyne cristata, an easily managed and showy Orchid at this season of the year; Brassavola cordata, six hybrid Epacrises, the winter-flowering Selago distans, Corræa Goodii, three Cape Heaths, and the following Apples:—Lamb Abbey Pearmain, Sweeny Nonpareil, Federal Pearmain, and Ord Apple. Cuttings of the following Pears and Cherries were distributed:—Josephine de Malines, said to be a middle-sized excellent Pear, but it has not yet been fruited in the Garden; Beurré d'Amanlis, a well known variety; Bigarreau d'Esperen, reported to be a prolific Cherry, with large pale fruit, red next the sun, and of first-rate quality; and Bigarreau d'Octobre—this variety is only recommended for its lateness, coming into use, as it does, when no other sweet Cherry is to be had. The proposed alteration in the bye-laws, which was read at two previous meetings, was on this occasion read a third time, balloted for, and carried all but unanimously. It has therefore passed into a law of the Society.

Reviews.

Familiar Letters on the Physics of the Earth. By Henry Buff, edited by A. W. Hoffman. Taylor, Walton, and Maberly. 12mo, 273 pages.

This small but admirable work is a translation, from the German, of 16 letters on subjects relating to physical geography. The letters are addressed to a person supposed to have no more knowledge of a scientific character than is usually possessed by those of ordinary education, and are written in language which is at once clear and comprehensive. The facts relating to climate, will, perhaps, be most interesting to the generality of our readers, and we have accordingly selected a passage from the 11th letter, "on the temperature of the waters, and on their influence on climate," which will give some idea of the excellent manner in which the author treats the questions touched upon by him, as well as of the style of the translation.

"The great difference of the extreme limits of tem-

perature, as well as that of the temperatures of winter and summer at different places, according as they are more or less distant from the ocean, has led to a distinction being drawn between the continental or inland climate, and the island and coast climate. The temperature of an island must, by means of the air, be brought to agree the more nearly with that of the surrounding sea, the less its circumference is, and the further it lies from the mainland. If, for instance, you compare the difference of the mean winter and summer temperatures of Teneriffe with that of Cairo; that of the Faroe Isles with that of Königsberg or of Moscow; that of Iceland or of the North Cape with that of Irkutsk; that of Dublin with that of Prague, and so on; you will readily perceive that the inland climate becomes the more marked the further the places lie towards the interior of the continent. You will observe, however, that the western coasts of the continents partake of the island climate more than do the eastern. These characters at least are distinct in the northern parts as well of the old continent as of the new.

"It is only by the knowledge of the mean summer and winter temperature of a country that you will be enabled to form a correct judgment of its fitness for being inhabited or cultivated, as well as of its entire character. At Bombay, Pondicherry, and on the whole Coromandel coast, and on the Island of Ceylon, districts of such uncommon fertility, and so well known for the luxuriance of their vegetation, and shown by their mean annual temperature of 27° C. (80°.6 F.), to be among the warmest on the globe, are, nevertheless, no hotter, but even generally more temperate, than the north of India, than Central Egypt, or than Louisiana, where, however, the mean temperature is lower. It is these high summer temperatures that enable us to grow cotton—a plant which is a native of the torrid zone—with advantage, at many places far beyond the tropics; as, for instance, in the southern states of North America, in Egypt, in Asia Minor, and even on the southern coasts of Europe. On the southern coast of Iceland, the yearly mean of temperature is not lower than at Petersburg, and the winter but little colder than at Odessa. However the peasants of this island, on account of the coolness of the summer months, can do little farming beyond the breeding of cattle, and the so-called forests there consist of nothing but stunted Birch. In the Faroe Islands, where in winter it is warmer than at Milan, on the island of Sitkha on the coast of Russian America, and on the Falkland Isles, the same mean temperature is found as at Danzig, and a higher temperature than at Königsberg. But while the eastern provinces of Prussia are pretty thickly occupied by an active agricultural population, on these islands the only corn produced is a poor Barley, which however can ripen with a mean summer temperature no higher than 8° C. (46°.4 F.). It is true that their winters are not very severe, but the summer fails to supply the warmth requisite for the usual cultivated crops. At the North Cape even Barley can no longer be cultivated, and the Birch, which a little farther south, under 76° north latitude, is still met with, here disappears. On the same isotherm in the country about the Cumberland-house Factory, and in the neighbourhood of Lake Winnipeg, in the interior of North America, the ground is, as we are assured by travellers, covered with forests, and is fruitful, and well fitted for the growth of corn. Even at Yakutsk, with a mean temperature for the year of —9°.7 C. (14°.54 F.), and for the winter months —42°.5 C. (—44°.5 F.), forest trees, and all plants which, like Wheat and Rye, only need a short but hot summer, grow well, because the mean summer temperature, notwithstanding the ever-frozen subsoil at 3 feet depth, is as high as 16° C. 60°.8 F.), and is thus equal to that of Stockholm and of Königsberg. In Nova Zembla the year gives the mean temperature as at Yakutsk. Nevertheless this island is quite uninhabitable, and devoid of vegetation, because the mean summer temperature does not rise above 2°.5 C. (36°.5 F.). The warmest day in the year gets but 11°.9 C. (53°.42 F.). On the west coast, and on the still colder east coast, only 7°.6 C. (45°.68 F.)."

To those who are unacquainted with the great processes by which the earth on which we dwell has been made and is kept fit for the habitation of man, these letters will afford general information which cannot be easily elsewhere obtained; and to those already somewhat acquainted with such matters, the present work will be found no less acceptable, inasmuch as it represents well, and in a small compass, the results of the latest and most trustworthy observations which have been made in this great department of Natural Philosophy.

Books, &c., Received.

The French in England; or, both sides of the question on both sides of the Channel. Being the story of the Emperor Napoleon's projected invasion. (Bradbury and Evans.) —A pamphlet.

Memorial regarding Amendments in the Scottish Poor-Law. By W. P. Alison, M.D. (Blackwood.) — A pamphlet.

Garden Memoranda.

Horticultural Society's Garden, Turnham Green.—Some of our readers will be interested in knowing that the fine specimen of Lælia superbiens, in the large stove, is now in full bloom. Seven spikes are now in perfection, each averaging about 10 flowers to a head, and four more spikes have yet to expand. It is certainly a glorious sight, well worth travelling a considerable distance to see.

A Rose house has just been put up in the experimental ground near the east end of the ranges of frames which occupy that part of the garden. It is erected on the plan of Mr. Rivers' orchard houses, *i. e.*, with boarded sides and a fixed glazed roof. It is 56 feet long, 23 feet wide, and 8 feet 6 inches high in the middle. The sides measure 4 feet from the ground to the spring of the roof. The top is glazed with sheet glass; and the ventilation is effected in the sides, just under the sil, by letting fall a hinged board all round, a foot wide. It has been painted by way of trial, with white zinc paint, which is free from smell and more healthy to work with than white-lead. The inside is divided into a centre bed 8 feet wide, and a border round the wall about 4 feet wide, by means of a 3½ feet path, edged with inch-thick deal, which keeps the soil in its place. The beds are slightly raised, more especially the centre one, and quite ready for the Roses, which are to be contributed, we believe, by Messrs. Rivers, Paul, and Lane. If neatly arranged, they cannot fail when in bloom to be highly attractive, and the house itself helps to "set off" this part of the garden.

The shrubberies on each side of the broad walk, leading from the conservatory to the new flower-garden, have been relieved and improved in appearance by removing the row of large Sycamore trees on the side next the kitchen-garden, and thinning out the shrubs where they had become too thick. On the other side, a Grass edging has been laid down, and the ground levelled and prepared for Grass seeds, which are to be sown as far back into the border as the Pinuses extend. This will cause the latter to stand on Grass, and render their appearance much more striking than it hitherto has been. The new flower garden itself has been lately replanted. This was necessary in consequence of Messrs. Waterer having removed the fine Rhododendrons, which were placed there for exhibition last year, to Knap-hill. It is still, however, chiefly occupied by Rhododendrons, some of which have been kindly presented to the Society by Messrs. Veitch, and Lucombe, Pince, and Co., of Exeter. Mr. Fortune's Pæonies, too, which formerly grew near the council room, have been brought here, as well as numbers of all the finer kinds of shrubs from different parts of the garden from which they could be conveniently spared.

The underwood of the "Birch clump," in the arboretum has been cleared away, and the ground has been turfed. Other clumps where they required it have also been lessened in size, and altered, so as to improve and lighten the appearance of the arboretum, which had become too much timber loaded. The small Irish Yews on the east side have also been lifted, and their places filled with Araucarias, Deodars, and other Conifers, whose habits and appearances differ sufficiently from each other to furnish variety. The removal of the Hornbeam hedge that divided the Rose border from the Rhododendron border, between the side of the council-room and the west end of the conservatory, and the widening of the narrow walk and setting back the Rhododendrons in that part of the garden, is a great improvement, and altogether the garden is being much altered for the better.

The usual preparations for the coming exhibitions are already beginning to exhibit themselves. The borders and clumps are being dug. The lawn in the arboretum is already in beautiful order, with hardly a stray leaf to be seen, and the walks in the orchard are being levelled and gravelled. While in this department we may mention that the young Peach trees on the wall are exceedingly clean and healthy, and showing well for fruit. The Pears and Apples, too, in consequence of being rested last year (the crop being cut off in early spring), are full of blossom buds, and everything gives promise of a plentiful fruit season.

The flat tanks put up by Messrs. Burbidge and Healy (and now abandoned by that firm for round pipes) in the early Vinery, after eight years' operation, have had their tops removed, when it was found that a considerable sediment, chiefly oxide of iron, had collected in them. The leaden connections between the tanks and the boiler had also given way, and are being replaced by iron ones. They may, therefore, now be expected to work well for years yet; but in order to inspect them the more readily, in case of any derangement, the tops will not be fastened down in future, but merely laid on.

In consequence of its having been found impossible to ripen Peaches on the protected trellis (put up near this Vinery), as recommended by Mr. Rivers and Mr. Bellenden Ker, considerable alterations have been made in the condition of the trellis, with a view to effect better that object. The ends of the trellis have been closed up; the back has been banked up with earth, all except about 4 inches all along the top, which have been left for permanent ventilation, while the front opening has been furnished with a perforated zinc screen to prevent cutting winds from sweeping through the frame. The inside, too, has been bricked up to within an inch or so of the trees, which, under these conditions, are to have another year's trial, the result of which will no doubt be faithfully reported. The trees look as if they would bear well.

Some of the glass houses are already gay with Begonias, Justicias, Gesnera zebrina, the blue Eranthemum pulchellum, and other plants which flower about this time. The Camellias in the large conservatory will soon be quite a mass of blossom. The Luculia is beginning to expand its highly fragrant flowers, and we noticed here a beautiful plant in a pot of the fine Berberis Nepalensis, with a head of seven spikes of yellow flowers just ready to open. It promises to be very fine. Some of the large Polygalas and Abutilons have been pruned in quite close and cleaned; in this way, they are brought within manageable bounds, and when they have made their growth they flower well.

FLORICULTURE.

Dahlias in Classes.—Among the many subjects to which early attention has been solicited, that of a classification of colours for Dahlias is not the least important. The task is difficult, we admit, as the different illustrations which have fallen under our notice fully testify; but we are anxious to offer (such as they are) our experience and opinion in a matter which abounds with interest, and affects a most numerous class of growers. We are aware that catalogues of Dahlias in a classified form have their objections as well as their recommendations; and we do not wish it to be understood that the classifying system is the only and correct one, but we argue that such a form will benefit the grower, and increase the interest of, and create a further love for the flower, as well as simplify the test for the detection of the best sorts in their respective classes. Let us examine these suppositions. The grower should be benefited by such a mode, inasmuch as he need only occupy his ground with good tenants; and thus the love of the flower will be increased by reducing the number of casualties which floriculture is heir to. We will leave the *pro contra* in other hands. We may state, however, that this division of colour or formation of groups, is by no means new; we remember that the late Mr. Samuel Girling adopted it one season, and now we find that Mr. Keynes, of Salisbury, has embraced the plan. In our divisions it will be apparent, that we differ materially from many in the classification of colours, and in our estimate of certain colours, to which peculiar varieties are referred. In the selection made to illustrate each class, we have, however, been mainly guided by the desire of providing a home for the many popular sorts that exist, rather than for the select few. Nevertheless, in this particular, we trust we have not made any great sacrifice to the important ingredient quality; with these preliminary remarks, we shall proceed to give the several heads or classes, and so start with—Class I., White Selfs: Antagonist, Ariel, Blanchfleur, Queen of Whites, Una. Class II., Blush Selfs: Defiance, Marchioness of Cornwallis, Mrs. C. Bacon, Queen of the East. Class III., White, and light grounds, tipped: Barmaid, Beauty of Kent, Charles Turner, Doctor Frampton, Delight, Gem, Lady Cathcart, Lizzy, Malvina, Miss Chaplin, Miss Vyse, Mrs. Wentworth, Princess Radzivill, Queen of Beauties. Class IV., other grounds, tipped: Albert, Andromeda, Conspicua, Douglas Jerrold, Honourable Mr. Herbert, Privateer. Class V., Mottled and Shaded: Fairy Queen, General Faucher, Magnificent. Class VI., Peaches and Pale Lilac Selfs: Alice, Anticipation, Compacta, Queen of Dahlias. Class VII., Lilac Selfs: Admiral, Duke of Cambridge, Elizabeth, Fearless, Mrs. Anderson, Queen of Beauty, Queen of Lilacs, Sir F. Thesiger. Class VIII., Purple Selfs: Beauty of Versailles, Frederick Jerome, Imbricata, Jullien, Mr. Seldon, Purple Standard, Summit of Perfection, Violet Perfection. Class IX., Scarlet and Red Selfs: Box, Carmina, John Edward, Nil Desperandum, Nonpareil, Shylock, Sir C. Napier, Sir R. Peel, Scarlet King, Scarlet Gem, Tom. Class X., Crimson Selfs: Beeswing, Captain Warner, Edmund Foster, Grenadier, King of Dahlias, Louis Philippe, Mynn, Sir F. Bathurst, Sir R. Whittington, Standard of Perfection, Thames Bank Hero, Triumphant, Utillis. Class XI., Maroon and dark Crimson Selfs: Admiral Stopford, Ambassador, Black Prince, Doctor Sandford, Essex Triumph, Gem of the Grove, John Davis, Miss Spears, Negro, Nepaulese Prince, Richard Cobden. Class XII., Yellow Selfs, Cloth of Gold, Crocus, George Glenny, Louisa Glenny, Mrs. Seldon, Yellow Standard, Yellow Superb. Class XIII., Orange, Buff, and Bronze Selfs: Aurora, Baltic, Globe, Goliah, Leda, Model, Mr. Palmer, Phantom, Princess Louisa, Roundhead, Seraph, Toison d'Or. Class XIV., Orange-scarlet Selfs: Bob, Duke of Wellington, Earl Clarendon, Morning Star, Sparkler. *J. E.*

South Devon Botanical and Horticultural Society.—At the late annual meeting of this Society the Treasurer read a financial statement, from which it appeared that the receipts for the year had amounted to 159*l.* 7*s.* 11*d.*, and that it exceeded the income by 22*l.*, but that six subscribers of the first class had not yet paid, and therefore the real deficiency would be about 16*l.* The success of the Society was, in a great measure, attributed to Mr. Rendle's having permitted it to hold its flower shows in his Botanic Garden at Plymouth. At his suggestion the days for holding the Exhibitions for the current year have been altered from May 25, July 13, and Sept. 6, to May 18, July 13 and Sept. 6. *J. E.*

Handsworth Floral and Horticultural Society.—We are glad to learn from the *Birmingham and Midland Counties Herald*, that it was found at the late annual meeting that this Society is in a flourishing condition, and that it is proposed to offer Mr. C. J. Perry some mark of respect for his services as Hon. Sec. during the seven years' existence of the Society, and that its presentation is determined on at the forthcoming meeting of the National Tulip Society's Exhibition, which is to be held in Birmingham on either the 26th, 27th, or 28th of May. *J. E.*

The Schedule of the county of Gloucester and Cheltenham Horticultural Society for 1852 is before us, and we are gratified to see that liberal encouragement is offered to intending exhibitors. With such inducements grand displays may be anticipated. The days of exhibition fixed are Thursday, May 13; Tuesday, June 15; and Thursday, August 26. *J. E.*

Catalogues Received from Mr. C. Turner, Royal Nursery, Slough, and from Messrs. Schofield and Son, Knosthrop, near Leeds.

Miscellaneous.

Remarkable Apricot Tree.—There is now growing at Cherson at Apricot tree planted by the Empress Catharine, with her own imperial hand, on the 12th May, 1787. The tree is 36 feet 6 inches high, 4 feet 7 inches in girth, and bears annually between 4 and 5 cwt. of fruit. *Neue Preuss. Zeit.*, 1851, *No.* 256.

Calendar of Operations.

(For the ensuing week.)

PLANT HOUSES.

As some portion of the present occupants of the conservatory and greenhouse will be placed out of doors for three or four of the summer months, provision must be made to supply their places, by growing a selection of plants to bloom at that period; for this purpose all the kinds of Japan Lilies are admirably adapted; and as these, and the next named, require only the shelter of a deep pit to grow in, except while in bloom, the expenses attending their cultivation are not great—the different varieties of Gladiolus are very useful in this way, and will be found equally easy to grow; should, therefore, any of the above remain unpotted, lose no time in doing it before active growth begins; equal parts of yellow turfy loam, and fibrous peat, with another portion of decayed leaves, nearly rotten and sand, will grow them to your satisfaction; the roots of the Lilies and those kinds of Gladioli which do not form perfect bulbs, should not be much disturbed in potting, or they never bloom so freely; the removal of the dry exhausted soil is all that should be attempted. After potting, plunge in sawdust, or other dry material, in a pit, and do not give water in any quantity till they begin to grow. Another tribe (Alstrœmerias) may be managed the same way, although they do not bear pot-culture so well. Amaryllids are a fine tribe of plants for this purpose; their culture is much the same, except they require bottom-heat to grow them well, and peat may be dispensed with in potting. To assist in furnishing the houses at the above time, as well as for planting out, get a stock of Tuberoses potted and plunge them in a very gentle heat. The above, with a few of the more large growing showy annuals, hardy stove plants, Fuchsias, Scarlet Geraniums, Kalosanthes, &c., will be requisite at that time to keep up the succession of flowering plants. If, therefore, the stock of Fuchsias was placed in a little heat when we advised, they will be started sufficiently to obtain cuttings, which many prefer, for growing into specimens, to old plants. If cultivators of this showy tribe would, however, be content with growing their plants into specimens the first year, and with little or no pruning allow them to bloom the second, they would be rewarded with more bloom and less foliage than we now see even on the best managed plants. To grow them from cuttings, a steady moist heat is required, and a large amount of light obtained by keeping them near the glass. Syringe frequently, and on no account allow them to get a check till they are grown to the desired size. Select young healthy plants of the best kinds of scarlet Geraniums, and shift them to grow into specimens. Kalosanthes will now require a liberal shift, using rich light soil; these will do well with Fuchsias, abundance of light and a slight heat being essential. A constant watch must now be kept for green fly, which, by timely destroying, by fumigating, at this period, will save much after trouble. The washing and cleansing of all plants infested with insects should precede their new growth, as they can then be more easily eradicated, and with less injury to the plants. Set traps for beetles and woodlice infesting Orchid-houses; these troublesome vermin require close looking after. Where the weather is mild, abundant ventilation may be given to plant-houses, and this liberal supply will produce the best effects on plants, by inducing a short-jointed sturdy habit and healthy leaves. The most valuable feature in plant growing—quantity and quality of bloom—depends mainly on these points.

FORCING DEPARTMENT.

Vinery.—In the early house proceed with thinning the bunches, having previously fixed on the number to remain, in which the strength and capabilities of the Vines must be carefully considered; as a general rule it is much the safer, and more satisfactory plan, to have too few, than too many. Aim at procuring close compact bunches, in preference to large loose ones. Now the fruit is set, a little more moisture may be allowed, which may be accomplished by frequently sprinkling the interior walls and floor of the house; and on fine days at closing time, let every part of the house (except the Vines themselves) get a good syringing; a liberal allowance of air must be given, and advantage may be taken of sunny weather to increase the day temperature; the night maximum heat should not exceed 65°. Thin out and train the shoots in the succession houses, the heat of which may gradually be raised as the amount of solar heat and light increases; when dull, dark weather intervenes, lower your heat standard accordingly. Houses just now starting will require frequent syringing and a genial growing heat maintaining, till all the buds are fairly on the move. Peach House.—The stopping, disbudding, and thinning of Peaches will require daily attendance—it would prove most injurious to deprive the plant too suddenly of all the shoots which will ultimately have to be taken off—a few, therefore, should be removed daily, pinching out the points of those not required for next season's wood, when they have advanced three or four joints, leaving two or three leaves on each. Afterwards, if the wood is too crowded, some of these may be taken clean out. The remainder form useful spurs, which in some kinds of Peaches are valuable. Thin out the young fruit, like the shoots, by degrees—having an eye, however, to those which will be required to remain for the crop, and which should be regularly distributed over the tree. This house will now be benefited by a syringing every fine morning, taking care to wash off the faded petals, and anything which may have lodged on the trees whilst they have been in bloom. The night temperature should still not exceed 50°, allowing a rise of 15° by day, and even 20° during bright sunshine. Air at all times will be requisite, in giving which be guided by the state of the weather. The second house advancing into bloom should be brought on gradually, so that the blooms may come strong, and the syringe may be used until the flowers open. Night temperature, 40°; 60° to 65° by day. If Cherries were commenced early they will now soon be in bloom, and of all our forced fruits none are so fickle in their results as this. Should bright sun occur, after some days of dark weather, the petals will often drop before impregnation of the embryo fruit has taken place; hence it will be advisable to break the direct rays of the sun by a slight shading. A very liberal allowance of air from the commencement of forcing is of the utmost importance, which should be diminished, but not discontinued through the night. When in bloom the temperature may rise to 60° or 65°. Thin the blooms (where too thickly set) before they open, and keep a look-out for a small grub which frequently coils itself upon the foliage. Figs.—Syringe frequently, and keep a temperature free from sudden changes after they have formed full-sized leaves. The night maximum may be 60°, advancing 15° in bright weather. If the roots are confined in pots or tubs, frequent waterings will be necessary, of which each alternate one should be with liquid manure. Strawberries will require attention; the green fly should be stopped at once, and as they get into bloom suspend the syringe and promote by every means their perfect developement.

FLOWER GARDEN AND SHRUBBERY.

The great drawback to the generality of English landscapes is that want of tone or warmth of colour so essential in giving expression to scenery. Much, however, may be done in relieving this dull monotony of green by the judicious introduction of groups formed of trees, the colour of whose leaves (particularly in the autumn), will have the desired effect, by affording various grades of colour, from a dull red to a rich crimson. At the head of these stands the Liquidambar, which we regret is not more frequently planted. Again, the different species of Sumach, especially Rhus venenata, die off in the autumn to various shades of red and scarlet. The scarlet and sugar Maples are valuable in this way, as is the newly-introduced Acer circinatum, a tree of great beauty in the autumn. Quercus rubra and coccinea give a duller red, while if a warm brown colour is desired, the deciduous Cypress is one of the best, keeping its leaves on for a long period. For underwood, nothing is better than the common red Dogwood, the red shoots of which, after the leaves are gone, are conspicuous at a long distance. We might name more of this class, but hope this short notice may direct attention to the subject.

KITCHEN GARDEN.

In forming beds for Asparagus, a sandy soil should be prepared, on which trench in 2 feet deep sufficient well-rotted manure to raise the ground a foot above the usual level. The manure should be well mixed with the soil, and the ground may remain till the young plants (one year's seedling), have grown a couple of inches, which will be the best time for planting them. We make our plantation in one plot, forming the rows 2 feet apart, and 18 inches between the plants. After planting, the ground is covered (when the plants are up), with the sweepings from the lawn. The second year after planting, every third row is taken up (for forcing), which forms the path, and leaves only two rows in each bed. The ground for Seakale should be similarly treated, but the plants should be 3 feet between the rows, and 2 feet apart. Sow the first crop of Celery on a slight hotbed, and small successional sowings of Cauliflower, Lettuce, Brussels Sprouts, and Radishes, may still be made on a gentle heat; and, at the same time, a few may be tried on a warm south border, to be protected with mats. Plants wintering under glass, for planting out next month, should be hardened off, by exposing them on all occasions, when the weather is open. The early crop of Peas and Beans will now require some earth drawn to the drills, to protect them, in some measure, from cutting winds. After which, the former may be protected, by striking the spray of evergreens on that side of them most exposed to cold winds; hoe between autumn-planted crops, whenever the ground is dry, and take every opportunity of forwarding the preparation of ground for the general spring crops. Where a continual supply of forced Asparagus, Kale, &c., is required, a succession must be brought forward. Plant on slight bottom-heat, in pits or frames, Potatoes, to succeed the more early ones. French Beans should be forwarded in pots, to fill up vacancies in any house at work; place them near the glass, and supply them liberally with liquid manure. Shallots, Garlic, and underground Onions may be planted, if not already done.

Erratum.—In last week's Calendar occurs a mistake, viz., under the head "Plant Houses," 24 lines from bottom, for "late purposes" read for "cultural purposes, &c."

State of the Weather near London, for the week ending Feb. 19, 1852, as observed at the Horticultural Garden, Chiswick.

Feb.	Moon's Age.	Barometer.		Temperature of the Air.			Temperature of the Earth		Wind.	Rain.
		Max.	Min.	Max.	Min.	Mean	1 foot deep.	2 feet deep.		
Friday..	13	29.824	29.584	42	30	36.0	37	38	S.	.00
Satur..	14	30.206	30.008	43	22	32.5	38½	38	S.E.	.00
Sunday.	15	30.191	30.100	49	33	41.0	38	38	S.W.	.04
Monday	16	30.176	29.777	53	43	48.0	40	39	S.W.	.03
Tues. ..	17	29.838	29.558	56	37	46.5	42	41	W.	.00
Wed. ..	18	29.747	29.596	46	27	36.5	42	41	N.W.	.00
Thurs...	19	30.018	29.783	39	23	31.0	40	40	N.W.	.00
Average ..		30.001	29.772	46.8	30.7	38 8	39 6	39 3		.07

Feb. 13—Densely and uniformly overcast; fine; overcast.
— 14—Hazy; uniformly overcast; clear and frosty.
— 15—Partially overcast; uniformly overcast throughout; rain.
— 16—Fine; overcast; densely overcast; rain; boisterous.
— 17—Cloudy; fine; densely overcast; boisterous at night.
— 18—Low white clouds; fine; frosty at night.
— 19—Clear and frosty; cold wind; clear and frosty.
Mean temperature of the week, equal to the average.

State of the Weather at Chiswick, during the last 26 years, for the ensuing week, ending Feb. 28, 1852.

Feb.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds.							
						N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 22	46.4	34.2	40.3	11	0.29 in.	3	4	6	—	2	5	5	1
Mon 23	47.3	33.5	39.9	4	0.23	3	3	1	3	—	7	6	3
Tues. 24	47.0	34.7	40.8	10	0.32	3	1	2	3	4	4	8	1
Wed. 25	48.4	35.7	41.0	11	0.30	3	1	4	1	4	6	6	1
Thurs. 26	47.5	33.8	40 6	13	0.64	4	1	3	4	1	8	3	2
Friday 27	48.0	34.9	41.5	16	0.51	1	5	3	2	5	6	3	1
Satur. 28	48 8	35.2	42.0	14	0.20	4	4	2	4	2	5	5	2

The highest temperature during the above period occurred on the 28th, 1846—therm. 64 deg.; and the lowest on the 22d, 1844—therm. 19 deg.

Notices to Correspondents.

Apple Tree: *J P.* If you will refer to p. 72 of the current year's volume, you will find that your question has been answered.‡

Botany: *G H.* Before attempting to avail yourself of any botanical garden, you should make yourself somewhat acquainted with the subject, especially since you cannot be permitted to gather specimens in such places. Begin by making yourself *master* of "Lindley's School Botany." That done we will advise you further. You may dry your specimens between sheets of brown paper, or, which is better, Bentall's paper, well pressed down. In a week or two we will give you a plan of a capital plant press. Keep your specimens, when dried, each species in a separate sheet of paper, as Continental botanists do, or upon a separate half sheet, as is the case in England. Arrange the species in genera in the order observed in the book you are studying.

Cactus Seed: *M J.* We have examined your seed and find it to be perfect. Wash it out of the seed vessels and sow it at once in shallow pans in light rather dry soil, covering but slightly. Place the pans in a gentle bottom heat, or on a shelf in the stove. It must be watered sparingly.‡

Cookery: *X.* Rampion is not cooked, but eaten like Radishes. Salsify and Scorzonera should be scraped gently, so as to strip them only of the outside peel. Then cut them into pieces of an equal size, and throw them into water, with a little vinegar, or lemon juice, to prevent their getting black. When you have scraped a sufficient quantity, boil them in water, enough to swim with ease, with a little salt, and a bit of butter. They will generally be done in three quarters of an hour. Drain them, and send them up with white sauce. There are many other ways; the sauce common in France is yellow and savoury. They are also tried after boiling, and so on, as you will learn in any *French* cookery book.

Heating: *Five Years.* We see no reason why Vines should not be grown in your house in pots. It is a mere matter of convenience whether you train them on trellises, or up the rafters. As to the size of the pots, the larger the better; a 9-inch one is sufficient, if you use liquid manure, now and then, with skill.

Horticultural Society: *Alpha.* The next meeting in Regent-street will take place on the 2d of March, at 3 o'clock. All objects intended for exhibition must be in the room at least two clear hours before the time of meeting. The party to whom the plants, or other articles exhibited, belong is admitted to the meeting.‡

Lawns: *Inquisitive.* They should be mown all the year round, unless, from wear and tear, they are worn bare; in which case, a winter's rest is useful to them. The best lawns are mown incessantly.

Lily of the Valley: *M J.* It is not too late to make a bed now. The plant likes very light soil composed chiefly of decayed leaves and sand.‡

Names of Plants: *G E.* It looks like Prunus Puddum; but the absence of leaves, &c., makes it impossible to identify it with certainty.

Seed Lists and Catalogues of Plants. We have to acknowledge the receipt of Mackie and Stewart's Descriptive Price Current of Garden Seeds and Culinary Plants; May's General Descriptive Catalogue of Plants, in three parts; Lane and Son's Catalogues of Roses, and Trees and Srubs; and Charlwood and Cummins', and Hardy and Son's Seed Lists for 1852.

Skeleton Leaves: *M'Nac.* There is no other way of preparing them than by soaking them in water until they have become rotten, and then removing the soft portions with a pin or camel-hair pencil.‡

The Oula Plant: *J W M.* As M. Huc's book consists of two 8vo volumes, without index, we must beg you to give us the vol. and page in which this plant is mentioned. We will then say whether it is possible or not to recognise it.

Misc: *Blanda.* You have possibly kept your Musa too dry. It likes plenty of water at the roots while growing (provided the drainage is good), and in hot weather it should be syringed overhead. It will succeed in a temperature of 65° by day and 50° at night. The best soil for it is good turfy loam mixed with well-rotted dung. Your Orange trees will be all the better for the assistance of a little heat in spring; care must, however, be taken not to move them out of doors afterwards, until they have been sufficiently hardened to withstand the weather.‡—*R Dixon.* You can have the Number. Please send six stamps.

*** As usual, many communications have been received too late, and others are unavoidably detained till the necessary inquiries can be made. We must also beg for the indulgence of those numerous correspondents, the insertion of whose interesting contributions is still delayed.

PERUVIAN GUANO.

CAUTION TO AGRICULTURISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

ANTONY GIBBS AND SONS, AS THE ONLY IMPORTERS OF PERUVIAN GUANO,

Consider it to be their duty to the Peruvian Government and to the Public again to recommend Farmers and all others who buy to be carefully on their guard.

The character of the parties from whom they purchase will of course be the best security, and in addition to particular attention to that point, ANTONY GIBBS AND SONS think it well to remind buyers that—

The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 9l. 5s. per ton, less 2½ per cent.

Any resales made by dealers at a lower price must therefore either leave a loss to them, or the article must be adulterated.

MANURES.—The following Manures are manufactured at Mr. LAWES'S Factory, Deptford Creek:

Turnip Manure, per ton	...	...	£7 0 0
Superphosphate of Lime	...	...	7 0 0
Sulphuric Acid and Coprolites	...	...	5 0 0

Office, 69, King William-street, City, London.

N.B. Peruvian Guano, guaranteed to contain 16 per cent. of Ammonia, 9l. 10s. per ton; and for 5 tons or more, 9l. 5s. per ton, in dock. Sulphate of ammonia, &c.

THE LONDON MANURE COMPANY offer the following Manures on the best terms, warranting every article strictly genuine:—Peruvian Guano, Superphosphate of Lime, Nitrate of Soda, Concentrated Urate, Peat Charcoal, Gypsum, Fishery Salt from Cornwall, also a constant supply of Salt for agricultural purposes; Linseed and Rape Cake. Peruvian Guano warranted the genuine importation of Messrs. A. Gibbs and Sons at 9l. 10s. per ton, or for 5 tons and upwards, 9l. 5s. in Dock. EDWARD PURSER, Sec.

40, New Bridge-street, Blackfriars.

FOSSIL BONES AND PSEUDO-COPROLITES.

(FROM THE SUFFOLK CRAG).

EDWARD PACKARD AND CO., of Ipswich, having erected very powerful Machinery for the purpose of reducing these Phosphatic Nodules to a fine Powder, and being in the immediate locality of where they are found, are now prepared to supply them on the most economical terms, in any quantity, either Ground, Whole, or Dissolved in Acid. They form the cheapest source of Phosphate of Lime in the market, and are peculiarly eligible for manufacturing Superphosphate of Lime in conjunction with Bone.

Prices and every information connected with their use forwarded on application to EDWARD PACKARD and Co., Artificial Manure Manufacturers, Ipswich, Suffolk.

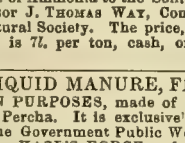
FARMERS AND GARDENERS are invited to try the NEW and VALUABLE MANURE, PEAT CHARCOAL, impregnated by pressure with the fertilising matter of the LONDON SEWAGE, the Ammonia, Phosphates, and Fæces being absorbed, and the water left bright and palatable. Sold at the Charcoal and Sewage Works, Stanley Bridge, Fulham, Middlesex, at 60s. per ton, 4s. per cwt., and 2s. 6d. per half cwt.

OWEN'S ANIMALISED CARBON is now for Sale, at 2l. 5s. per ton in bulk.—The fertilising properties of this *Manure* have long since been acknowledged in Denmark, where it has been extensively used for agricultural purposes, as no less than 26,000 tons have already been sold. It is ready for immediate use, having no occasion to be ground, is equally as portable and diffusible as bones, and the low price at which it can be sold in this country must always be a paramount recommendation. *A liberal Commission allowed to Dealers or Agents.* For copies of the testimonials of its utility in this country, also for samples, apply to J. OWEN and Co., 3, Rood-lane.

Messrs. J. OWEN and Co. are now importing from their Copenhagen Manufactory SUPERPHOSPHATE OF LIME, of the very best description, containing at least 13 per cent. of Neutral Soluble Phosphate of Lime, and capable of furnishing at least 3 per cent. of Ammonia to the Soil. The "Analysis" is made by Professor J. THOMAS WAY, Consulting Chemist to the Royal Agricultural Society. The price, in London, of this powerful Manure, is 7l. per ton, cash, or Banker's Bill on London.

HOSE FOR LIQUID MANURE, FIRE ENGINES, or GARDEN PURPOSES, made of Canvas, lined and coated with Gutta Percha. It is exclusively used by agriculturists, and at the Government Public Works, giving great satisfaction. Also, KASE'S FORCE and SUCTION PUMP, which is the most simple and complete; it will throw 40 gallons per minute, 40 feet high, and it is not at all liable to get out of order. Price, 5l. 10s.; on wheels and stand, 7l. 7s.

BURGESS and KEY, 103, Newgate-street, London.



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ATENT MANURE FOR CORN AND OTHER PLANTS,

MANUFACTURED BY THE PATENTEE,

J. M. BLASHFIELD, Mill-wall, Poplar; and also sold at No. 1 Wharf, Praed-street, Paddington-basin.—The mineral ingredients contained in this MANURE are in the most perfect soluble form for incorporation with the soil, and for continuous action; and the lightness of the bulk, when compared with other Manures, is in the cost for carriage greatly in its favour. For the past two years it has been applied to various soils and plants with very general success. Since then improvements have been made in concentrating its most important elements, and in otherwise rendering it a very efficient artificial manure, rich in ammonia, phosphates, and silicates. Price of Patent Kopros for Corn Plants, 8l. per ton; for Turnips, Swedes, &c., 6l. per ton.

Superphosphate of Lime, for Turnips, Swedes, Mangold Wurzel, and other Root Crops.

NEW AGRICULTURAL PEA.

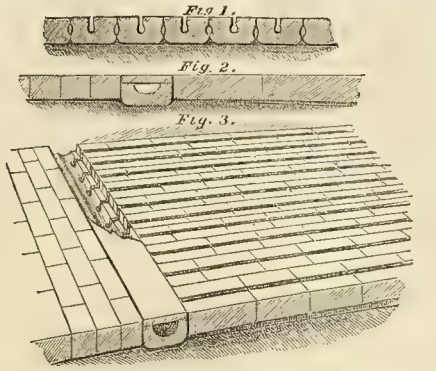
BISHOP'S LAST AND BEST, 20s. per bushel, 7s. 6d. per peck (bags included).—This PEA was raised by Mr. Bishop, the raiser of the garden variety known as Bishop's Long-podded (of established reputation), and was presented by him to some of his relatives in Perthshire, in which northern climate it has answered exceedingly well; its early habits ensuring a crop where later varieties fail. Its merits consist in being remarkably early, and certainly much better cropper than any out; as many as 60 and more pods have been counted on one plant. It grows but two feet high, of remarkably robust habit, and always branches into two and sometimes three or more stems. Mr. Charles Smart, of Rainham, Kent, upon whose farm the Peas offered were grown, allows the Subscriber to state that a better or more likely useful Pea never came under his notice.—DUNCAN HAIRS, Seedsman, Wholesale and Retail, 109, St. Martin's-lane, London.

* Catalogues of Agricultural Seeds sent free.

M'CORMICK'S AMERICAN REAPER.

BURGESS AND KEY, Agents, 103, Newgate-street, London.—Extract from Mr. Pusey's Report on the Agricultural Implement Department, Great Exhibition.—"Mr. M'CORMICK'S Reaper, in this trial, worked as it has since worked at Cirencester College, and elsewhere, to the admiration of practical farmers, and therefore received a Council Medal. Mr. Hussey's sometimes became clogged, as in the former trial at Tiptree, and therefore could not possibly obtain that distinction."—Price of Reaper, 25l.

FORBES' REGISTERED DRAIN PAVEMENT,



(*Figs.* 1 *and* 2. *Sections of Pavement and Gutter.—Fig.* 3. *Floor*).

FOR FLOORING FOR AGRICULTURAL STOCK.

THIS PAVEMENT is found to be the best, and, at the same time, the cheapest flooring for Cattle Stalls, Boxes, Stables, Pig-houses, or other floors where much liquid is spilt, and dryness required. The right to manufacture these bricks is to be disposed of, for all England, or for such district as may be agreed on. Brick and tile makers intending to make, may do so immediately; and Drawings will be sent, by applying to the inventor, WILLIAM FORBES, Newark Brick-work, Ellon, Aberdeenshire.—Parties wishing a personal interview may be waited upon by the undersigned, who is authorised to conclude an agreement, and at present in London. JAMES FORBES, No. 6, Upper Ranelagh-street, Pimlico.

STEPHENSON AND Co., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much Improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description; but to those who have not seen them in operation, prospectuses will be forwarded, as well as references of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the Kingdom.

S. and Co. beg to inform the Trade that at their Manufactory, 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood, erected on the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

A PRIZE MEDAL FOR SUPERIOR LOCKS

WAS AWARDED TO J. H. BOOBBYER, AT THE GREAT EXHIBITION OF 1851.

PATENT SPADES, DAISY RAKES, SCYTHES, Draining, and other Garden Tools. Mole Traps, 6s. per dozen. Carpenters and Smiths' Tools, &c. Ladies' Garden Tools, 7s. 9d. a set. Sword-scrapers for Gardens, 1s. 2d. each. Patent Fumigators for destroying insects on plants, in greenhouses, &c.: at Messrs. J. H. BOOBBYER and Co.'s (late STURCH and BOOBBYER), Ironmongery, Brass-foundry, Nail and Tool Warehouse, 14, Stanhope-street, Clare-market, London. Established nearly 200 years for the sale of goods from the best Manufactories at the lowest prices. Goods forwarded to any part on the receipt of remittance.

FOUNTAINS FOR PLAYING SCENTED WATERS.

PURE WATER raised to any height from a small stream, where a fall can be obtained, by

FREEMAN ROE'S

IMPROVED RAM;



Deep-well Pumps, Water-wheels, Baths, Hot-water Apparatus, Fountains, and Fire Pumps. Towns supplied with Gas or water. Drawings and Estimates made.

FREEMAN ROE, Hydraulic and Gas Engineer, 70, Strand, London; and Bridgefield, Wandsworth.

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W. DRUMMOND AND SONS, SEEDSMEN, Stirling, Scotland, are now prepared to execute orders for the above, from a stock that has been selected with every possible care. They beg to call special attention to their various sorts of TURNIP, ITALIAN and PERENNIAL RYE-GRASS and NATURAL GRASSES for Permanent Pasture, the prices for which are as low as really genuine Seeds can be reared for. Catalogues, with prices and other details, may be had free on application.

N.B.—The Carriage of Seeds will be pre-paid to many of the principal Railway Stations and Shipping Ports throughout the Kingdom.—Agricultural Museum, Stirling, N.B.

WATERPROOF PATHS.—Those who would enjoy their Gardens during the winter months should construct their Walks of PORTLAND CEMENT CONCRETE, which are formed thus:—Screen the gravel of which the path is at present made from the loam which is mixed with it, and to every part of clean gravel add one of sharp river sand. To five parts of such equal mixture add one of Portland Cement, and incorporate the whole well in the dry state before applying the water. It may then be laid on 2 inches thick. Any labourer can mix and spread it. No tool is required beyond the spade, and in 48 hours it becomes as hard as a rock. Vegetation cannot grow through or upon it, and it resists the action of the severest frost. It is necessary, as water does not soak through it, to give a fall from the middle of the path towards the sides.

Manufacturers of the Cement, J. B. WHITE and SONS, Millbank-street, Westminster.

THE PRIZE MEDAL OF THE GREAT EXHIBITION was awarded to Mr. MILTON, for his Improved (straw) COTTAGE BEEHIVE, price 10s. 6d.; it is of simple construction, ornamental, and easily managed; enabling the possessor to obtain a large quantity of pure honey without killing the bees. Also may be had "MILTON'S Practical Bee-keeper," new edition, price 2s.; ditto, with Designs of Hives, &c., 2s. 6d.; ditto, Sheet of Illustrations, free by post, 8d.

At MILTON'S Beehive Warehouse, 10, Great Marylebone-street, Wimpole-street. Post-office orders to be made payable at the Post-office, Old Cavendish-street, London.

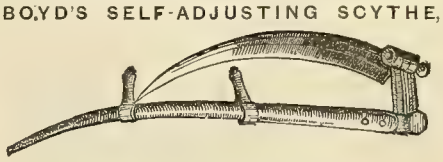
BUDDING'S LAWN MOWERS.

MR. SAMUELSON, Britannia Iron Works, Banbury, Oxon (successor to the late James Gardner), to avoid the disappointment experienced last season, as regards their delivery, will feel obliged by orders for the above machines, and for GARDEN ROLLERS, being given as early as possible.

Delivery free to all places on the London and North-Western, and Great Western and Midland Railways.

Drawings and price lists forwarded on application as above.

BOYD'S SELF-ADJUSTING SCYTHE,



APPROVED BY PRINCE ALBERT, AND UNIVERSALLY RECOMMENDED BY PRACTICAL AND SCIENTIFIC MEN.

THIS SCYTHE, when out of use, shuts up like a knife. It can be adjusted to any angle in one minute (even by persons quite unused to the implement), without the assistance of blacksmith or forge. It may be used by amateurs as well as regular labourers, without fear of accident or injury, thus rendering Mowing an easy, safe, and economical operation.

To be had of all Ironmongers, Nurserymen, &c., in the Kingdom; and Wholesale and Retail at WM. DRAY and Co.'s Agricultural Implement and Machinery Warehouses, Swan-lane, London Bridge.—A liberal discount allowed to the Trade.

The Agricultural Gazette.

SATURDAY, FEBRUARY 21, 1852.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

THURSDAY, Feb. 26—Agricultural Imp. Soc. of Ireland.
WEDNESDAY, March 3—Agricultural Society of England.
THURSDAY, — 4—Agricultural Imp. Soc. of Ireland.

"THE minutes of information collected by the officers of the General Board of Health, on the application of sewer water and town manures to agricultural production," to which the readers of the *Gardeners' Chronicle* have lately had their attention directed, is by no means a first book on its subject. A very large mass of facts had already been determined, and an already bulky literature existed in connection with this subject, before its publication. The laws which regulate the operation of sewage manure, whether as a nuisance or otherwise, had already been fully ascertained, and the object of this work, therefore, was not to determine those laws, but, making use of them as a guide in further research, to select from the many known instances of their operation the most striking illustrations of their social and their agricultural importance.

Accordingly these laws are the propositions with which the reader commences his task, and not the conclusions to which, after long detail of the facts on which they are based, the work ultimately conducts him. The process of induction—thanks to the energy of the General Board of Health and the industry of its officers—had already been performed upon a sufficiently wide basis of facts: and every one knows the conclusions to which it has led us.

"In towns, all offensive results from the decomposition of animal and vegetable matter indicate the generation and presence of the causes of insalubrity and of preventible disease, at the same time that they prove defective local administration." "In rural districts, all continuous offensive smells from animal and vegetable decomposition indicate preventible loss of fertilising matter, loss of money, and bad husbandry." These are the well known conclusions of an already lengthened research; an it is to urge, by well selected instances, their great practical importance, that the present work has been published. Mr. MECHI might well call it "a most vital document to agriculture." It not onl enunciates sound principles on the most important part of cultivation; viz., the application of manure—principles which intelligent men will be able to develope in their practice, under whatever circumstances they may be placed; but it describes all the most important cases of successful development in practice, which these principles have hitherto received, giving that full detail of method, expense, and result, which leaves positively nothing to be desired. If, therefore, we enter into any detail on the contents of the volume before us, and on the important lessons which it teaches, it is not for the purpose of dispensing with the necessity which, we

hope, our readers will feel, of procuring the work, and studying it for themselves.

Of course, it is only to the agricultural illustrations which the work contains, that we shall allude; and perhaps the best way of doing this, may be to enumerate the cases adduced, specifying the points which they severally illustrate. The description of the Edinburgh water-meadows, of the distillery farm near Glasgow, of Mr. Kennedy's farm at Myer Mill, in Ayrshire, and Mr. Telfer's farm, near Ayr, have already been extracted from the volume, and published in our first number for this year. The other appendices include the experience of Mr. Huxtable, who has used clay pipes for the subterranean conveyance and surface distribution of liquid manure, over 60 acres; a description of the irrigation with sewer-water from Milan, in a letter from the Count Arrivabene, to E. Chadwick, Esq., C.B.: a long and interesting report by William Lee, Esq., on the application of sewerage water and liquid manures to irrigation and agriculture in 15 different localities; a plan and estimate, by T. W. Rammell, Esq., C. E., of a distributary apparatus by fixed pipes and hydrants; a minute on hill-side irrigation near town, with pipes instead of catch water meadows; a statement of experiments on the distribution and use of sewer-water by steam-power to agriculture, near Clitheroe, by H. Thomson, Esq.; a trial of the application of sewer manure from a single house, communicated by Cuthbert W. Johnson, Esq.; a similar statement by John Roe, Esq., C.E.; statements of foreign practice in reference to the use of liquid manure, and records of experiments on friction through hose pipes of various dimensions. The whole of these documents furnish ample material for the formation of a safe opinion on the practicability and economy of the liquid mode of distributing manure. The conclusions to which the compiler of these "minutes" is led, are as follows:

"1. That the applications of a considerable proportion of the manures of towns in the liquid form, that is to say, as sewer water, have produced heavier crops than any other known description of manure; and that the superiority of a fourfold production of Grass above the ordinary growth on similar soils has been maintained for upwards of half a century by means of the application of the sewer manure near Edinburgh and Milan.

"2. That the like increase of fertility has been obtained by a similar application of the common farm manures, in the liquid form.

"3. That the great increase of the fertilising power of manures by their proper application in the liquid form has been displayed on various descriptions of soil, on sands, as well as on clays and loams, laid down with various descriptions of arable cultivation, but more particularly with green crops, and that the quality as well as the quantity of the produce have been improved.

"4. That the ordinary augmentation of produce by the full application of the fertilising powers of liquified or liquid manures on Grass land has been four and five fold above the ordinary amount of production in this country.

"5. That the chief advantage of the application of manure in the liquid form consists in the economy of the manure, in the promptitude of its action, in the prevention of the loss which occurs by its drying when applied in the solid form, in the like prevention of injurious emanations while it is preserved in solution in water, and in its being better fitted for quick absorption, and more readily carried beneath the surface of the soil to the roots of plants.

"6. That the method of distribution of liquid manure by steam power through fixed and flexible pipes, by jets or by shedding, is cheaper and more effectual than any other yet practised, particularly for distribution on an extensive scale and at considerable distances.

"7. That this mode of distribution has great advantage over the ancient method of irrigation by means of water-meadows:—in requiring less original outlay than the particular method usually available,—in requiring less water, and applying the manure with less waste and with less danger to the public health,—in not impeding pasturage,—in not confining the land to one description of cultivation, and in being applicable alike to arable and to Grass lands.

"8. That the apparatus for the distribution of liquid manure by means of steam or other power through fixed and flexible pipes will be equally applicable to the distribution of water on a large scale at a cheaper rate than by any other method yet known of supplying water to plants.

"9. That by the provision of the apparatus for the distribution of the manures of towns on a large scale in the liquid form the necessity will be avoided of any considerable outlay for machinery or fixed capital on the part of the owners and occupiers of land, previously to the adoption of the improved methods of culture consequent on the use of sewer manures.

"10. That whilst the proper drainage of the land diminishes the losses arising from an excess of moisture, from continued rain or excessive floods, the apparatus of under-ground pipes, and the surface apparatus for the removal and application of sewer water or liquified substances as manure, will equally serve for the application of simple water, and for the prevention or diminution of the losses and inconveniences which are occasioned to the agriculturist by irregular falls of rain and long-continued droughts.

"The chief economical results of high cultivation, as in the examples cited, to the extent of a four or five fold produce, appear to be almost as if, for the payment of 6s. per acre of new annual charges for pipes, the fertility of three or four additional farms were put upon one; and also as if, at the same time, the fences and gates, and length of roads to be maintained, and the distance for the transport of materials and produce in the farm, and for other purposes, were reduced to one-fourth or to one-fifth of the ordinary proportions."

We shall return to the volume for the purpose of laying before our readers so much of the information it contains as will illustrate the cost, the methods, and the effects of this mode of manuring land. Meanwhile, we may say that the result of calculations long since made is so perfectly confirmed by some of the cases here announced, that we may safely express the belief that in many parts of this island, and especially in Ireland, where the climate is more suitable for green crop cultivation, land might be profitably farmed at the present prices of its produce, were it to be devoted wholly to the cultivation of cattle food—and beef alone to be produced—fertility being maintained, and, no doubt, very rapidly increased, by the application of all the manure in the liquid form in the manner above recommended.

ACTION OF STORMS.

In August, 1850, I read a paper on storms before the British Association at Edinburgh, and being requested by Professor Phillips to continue my observations on the subject I had thus opened up, I did so; and in July, 1851, I forwarded another paper containing a further contribution of facts to the meeting at Ipswich. In both of these communications I merely pointed out the phenomena which occurred before and during storms. I confined my remarks entirely to facts, as I intended to discuss the theoretical part of the subject in a future paper to the Association; as, at the present time, however, the law of storms is exciting much general attention, and as the subject is particularly interesting to agriculturists, it may not be out of place here to offer a few remarks on this complicated meteorological problem.

The theory of the action of storms which is most generally received amongst scientific men, is that of the whirlwind or rotary principle. Mr. Redfield was the first to look upon storms as whirlwinds, which set extended portions of the atmosphere into a state of rapid revolution, and which had the effect of diminishing the pressure of the atmosphere over a portion of the earth's surface, by centrifugal force—the minimum depression of the barometer corresponding to the centre of the gigantic whirlwind. In fact, this rapid rotation is conceived to heap up the air on the outside of the circle, in the same manner as when a tumbler half filled with water is put into rapid revolution, the surface of the water will then be depressed in the centre of the whirl. This well known effect is supposed to illustrate a whirlwind gale, and show how the barometer begins to fall as the storm sets in, and how it continues to fall until the centre has passed, and afterwards rises and resumes its former level. This hypothesis has been adopted by Colonel Reid, and not only applied to the hurricanes within the tropics, but, considered as affording a satisfactory solution of those constant changes of temperature to which all extra-tropical climates are subject. For some years I have attentively watched the progress of storms as they pass over the British islands, but I am every day more and more convinced that the rotary theory cannot account for the phenomena.

I have arrived at the conclusion that gales of wind having an actual gyration of the elements of the storm, and translation over a given tract, never occur in the latitude of the British Islands. If you apply this theory to one storm you must also apply it to every breeze that blows, the analogy being so close and striking between the action of the winds in our ordinary weather and that of the most violent gales. I look for the solution of many of the most important phenomena in some of the more simple and well understood principles in meteorology. I cannot enter upon this task at present; my object is merely to protest against the universal application of the rotary theory of storms, which only gives us a plausible explanation of the veering of the wind, but involves us in much greater difficulties.

In the paper which I read before the physical section of the British Association at Edinburgh, I stated that there were ostensibly two classes of storms which took place in Britain. The one form was generally accompanied with heavy and often widely extended falls of rain; while the other was more commonly characterised by violent wind, but with comparatively little deposition of moisture, unless when rain was precipitated through local causes. At that time, I confined my remarks to the first class of storms, and gave as an illustration the weather during the first half of October, 1849, which afforded a remarkable instance of the slow progress that moist weather sometimes makes in advancing from the southern to the northern parts of Britain. In Scotland it is a somewhat common opinion that rain or snow will generally fall there in the course of a week or 10 days after it has begun in the south of England. This is not without some foundation, but it only occurs under certain states and conditions of the two great opposing currents from the equator and the poles. The weather of October 1849, in Scotland, furnished a very striking example, which shows that the current belief has been founded upon similar instances, which are by no means rare. A great quantity of rain had fallen over the south of England and the greater part of Ireland, up to the middle of that month, but the weather was remarkably bright and dry to the north of the Firth of Forth, in Scotland. It even rained two days, with little intermission, on the Northumberland coast, and nearly a whole day in Edinburgh, with a N.E. wind; but scarcely a drop fell in the north of Fifeshire, which was the boundary line of a deluge of rain in one direction, and bright clear weather on the other. While I was actually reading my paper at Edinburgh, a precisely similar storm was in action. In the end of July (1850), the equatorial currents were precipitating their moisture over the south of England, and seriously damaging the Wheat crops in many of the counties, while there was fine dry weather in Scotland. The Tweed was in flood one day, but the rain clouds were evaporated by the dry northerly winds, and the Firth of Forth was again the most northerly point which the rain reached. The bad harvest weather in England, of 1848, had a remarkable contrast in Scotland, where this important period was quite of the opposite character. In these rainy forms of storms, the direction in which they are moving is from S.W. to N.E. It is only in this class of storms that the wind, at the surface of the earth, blows from different points of the compass within the limits of the British Islands. These variations of the wind will often correspond very nearly to what they would do if a gigantic whirlwind were crossing the island from S.W. to N.E. This fact, which has been often observed, has given rise to the application of the rotary theory of storms. There is abundance of evidence, however, to show that what is taken for the recurving of the wind in the northern portion of the supposed circle of the revolving mass of air, is as often a modification of the north wind as of the south-west. The advocates of the rotary hypothesis have not attempted to explain in what manner the air which is in front of the revolving gale is disposed of, which is well known to be often in a state of stagnation before the most violent hurricanes. The fact has never been brought out with sufficient prominency, that a S.W. wind invariably overlies this class of storms. I am satisfied that little or no progress will be made in developing the true theory of storms, until the direction of the winds, in the upper strata of the atmosphere are attended to and registered. A stormy or boisterous east wind rarely occurs on the British Islands, except a S.W. wind is prevailing above. It is then that an east wind becomes rainy, with a low barometer; for it is a vulgar error that east winds bring the rain to the east coast of Britain from the German Ocean, they only precipitate it from the S.W. wind prevailing above, which has derived its moisture from the great Atlantic fountain.

The other class of storms is commonly attended with violent gales of wind from the S.W. and West, and to which the rotary theory of storms cannot be applied. The violent winds of August, 1850, which caused a vast amount of loss from shaking out the grain of the uncut fields in the north of England and over all the arable districts of Scotland, afforded a good type of this form. In the paper I read at Ipswich this storm was selected to illustrate this particular class. In Scotland the 15th of August was the finest day of summer, a bright clear atmosphere, with the thermometer at 81° in the shade, gave promise of a tract of auspicious harvest weather. On the afternoon, however, of the 17th, the wind set in from the S.W., which loaded the air with moisture, this seems to have taken place much about the same time over the whole west coast of Britain.* For some days previous the wind had been

* Mr. David Tennant, of Dunino, who has long paid attention to atmospheric phenomena, writes me: "I have often seen the finest summer weather broken in upon about the 15th to the 21st August by stormy and ungenial weather, and cold currents of air." The storm of August, 1847, affords an instance, and it would have been as destructive to the crops as that of 1850, but in the former the greater part of the crop was cut down. The crops in the north of England and Scotland suffered to a great extent from a storm in 1790—the description of it is given by Mr. Culley, Fenton, in the "Annals of Agriculture" of that date. In truth, a more correct description of the storm of August, 1850, and its effects, could scarcely have been written. "The rains in Northumberland have not been heavy, in general thought pretty constant through the summer; our Wheat would probably have given or yielded well to the bulk, if it had not been for the dreadful wind which began on the morning of the 23d August, and continued to blow, with unremitting violence, until the evening of the 24th. From the examination of my own farm, and the best information I have been able to gain, I am afraid not less than one quarter and a half per acre is wasted over this country, and a considerable way into Scotland, especially near the sea, which is the principal Wheat country, both in Northumberland and Scotland; and Barley, at least two quarters per acre; the Oats of the earlier kinds were mostly got down, and the Scotch or later kinds too far back to be much damaged. Nothing equal to the damage done by this hurricane ever happened in my memory before; nor could it have happened at a more unfortunate time, because our Wheat and Barley, though nearly fit, was very little of it cut, none of the grains being lodged, gave the wind so much advantage. What is very extraordinary, I am told that among the hills they have suffered very little. As a proof of the violence of the wind, the Wheat and Barley that wanted a fortnight or three weeks of being ripe, suffered nearly as much by the wind as that which was near ripe, and when it faced the south-west, which was the point the wind came from, scarce a head or ear has escaped."

North-westerly, and although the wind had changed at the surface of the earth, an upper current still prevailed from the N.W. This relation of winds in the upper and lower strata of the atmosphere is one of the most regularly recurring phenomena in the meteorology of our variable climate. It often happens this relation is never overturned in the most violent storms. In Fifeshire, the barometer at half-past 8 a.m., of the 18th, had fallen about .25 inch in the preceding 12 hours, and continued to fall until the morning of the 19th, when the wind veered to the West. During this time a very heavy gale swept over the whole island from the S.W., but its force increased with the latitude as well as the oscillations of the mercurial column. In exposed districts in the low country the damage done to the grain crops was enormous. It very often happens that the higher districts do not suffer so much in these S.W. winds, because while the wind continues from this quarter it is moist, and slight precipitations are taking place on the hills while this does not occur on the low grounds. A degree or two of dryness on the thermometrical scale of these winds dries the grain, which becomes more elastic, and the shedding thus becomes more profuse. This was particularly observed in 1850. Amongst the numerous peculiarities which distinguish this class of storms from the other which I have alluded to above, there is a prominent one, viz., that the barometer rarely gives warning of their approach. But in the rainy form of storms the barometer will frequently give warning of a change of weather some days before it takes place. In the latter class the change is taking place in the higher strata of the atmosphere, while the barometer does not fall before the storm in the former, because the change takes place at the surface of the earth. After the fall of a N.W. wind cirro-stratus cloud is often observed to make its appearance in the west. This cloud gives intimation that a S.W. wind is about to set in before the barometer is affected, or even while it is actually on the rise. So far as my observations extend, this peculiar form of cloud, which first appears on the western horizon in parallel bands, only occurs under the condition of a S.W. wind at the surface of the ground, penetrating a N.W. current, which continues to flow above. In fact, it is evident that it is the S.W. wind which supplies the moisture for the formation of this cloud, which in its turn reveals to us that entirely opposite hygrometrical and thermometrical conditions prevail above. This cold current above acts the part of a condenser of the moisture of the S.W. wind below, and sometimes throws down a considerable quantity of rain, particularly on the west coasts where the high grounds have the effect of projecting the one current into the other. To me it is very evident that the natural action of these two currents assist most materially as a propelling power, and that all storms will come to be regarded more in the light of a continuation of local effects than they have hitherto been. Unlike the other class of storms, when the wind at the surface of the ground may be blowing at a given time from very opposite points of the compass over Britain, in this class the S.W. wind generally flows in one broad stream across the island from Cornwall to Caithness. The rotary theory might explain the veering of the wind from S.W. to W. and N.W., but we would require to look for a centre many degrees of latitude to the north of the Orkney Islands, and at the same time stultify many of the best established principles in the science of meteorology. One instance of this particular form of disturbances of the atmosphere seldom occurs. On the contrary, it frequently happens that several take place at certain intervals which vary very considerably as to time. In the more violent manifestations one will succeed another in the course of six or seven days. Indeed, it will often be observed that the wind will continue to prevail above from the N.W. for weeks, while it will vary to many points of the compass below. The S.W. wind will set in and bring moisture which obscures the sky with clouds, but as soon as the wind regains the N.W. the air becomes transparent and dry. In the dreadful gales of the 18th and 19th August the upper strata of the atmosphere become intensely cold. On the 20th, 21st, 22d, and 23d of that month, hail showers with electric cumuli were more or less prevalent over Britain and Ireland; hail-storms devastated the corn fields in Forfarshire and Morayshire. On the 22d, Ben Lomond and part of the Grampians were covered with snow. Cold weather very frequently succeeds this class of storms, when they rage with great intensity. It is worthy of remark that on the 18th and 19th August, when the barometer indicated such a small amount of atmospheric pressure in Cornwall, Cumberland, Nottingham, Morayshire, and Fifeshire—the north of France and Belgium were deluged with rain, and a great extent of these low countries was under flood. Although we can anticipate the course which this particular class of storms will take with a greater amount of certainty than in the other form which we imperfectly sketched out in the first part of this communication, still their mode of action is much more complicated. If leisure permits, I intend to sketch out at next meeting of the British Association a few of the meteorological principles which appear to me to afford a clue in explaining many of the observed phenomena which occur in the disturbances of the atmosphere. *R. Russell, Kilwhiss, Fifeshire.*

Home Correspondence.

Poultry House.—Since writing you a few months back on "Diseases of Poultry," I have received several enquiries as to the best plan of building a poultry house. I cannot, perhaps, do better than state the *modus operandi* I have proceeded on. First of all, then, it should be a "*sine quâ non*" with the amateur that the house should be built with a southern aspect, and the yard gravelled, with a proper fall to let the water run freely off. For a stock of 16 to 20 fowls, a house 9 ft. by 12 ft. in the clear will be sufficiently large, built of 9-inch brickwork, the walls about 7 ft. high, if a span roof; but if a lean-to roof, which I rather prefer, then the back wall should be 10 ft. and the front one 6 ft. high, leaving two apertures near the top of the back wall 2 ft. long by 9 in. wide, to be covered with perforated zinc, to act as ventilators. Let the roof be slated, and fill up betwixt the joists with straw; a few laths nailed at intervals of 6 in. will prevent its falling down, and there will be this advantage gained: in the winter the house will be kept warm, and in the summer the radiation of heat from the slates will be prevented. Let there be two strong perches, one about 3 ft. and the other 4 ft. from the ground, so placed as to avoid the droppings soiling those birds roosting on the lower perch. Then as to the nests, I would advise their being made the whole length of the back wall; two tiers built of 4½-inch brickwork, 2 ft. deep by 18 in. wide, and 2 ft. high each; the lower ones to be separated from the upper by flat boards covered with mortar, and let the top of all be covered with boards, on a very steep incline; this will prevent the birds roosting on them at night, and keep them quite clean. There should also be a brick on edge in front of the nests, to prevent the straw and eggs from falling out. The floor I have paved with bricks, and on an incline, with a gutter; it can thus be easily washed out at any time, and, by scattering a little unslacked lime on the bricks, they are dry directly. Keep straw on the floor, and it will make the best of manure. The entrance for the birds should not be made in the door but at the side of it; with a slide and button inside, which will prevent its being opened from the exterior. I have two doors hung on the same frame; the outside one a good strong panelled door with lock and iron bar and padlock; the inner one made in the same way, but with the panels left out, and their place supplied with iron bars placed pretty close; this door is also locked. The advantages of two doors are these; in the day-time the outer door is left open, and you have a thorough ventilation all day, and in the summer it may be left open all night, while in the winter, by shutting the outer door you keep all snug and warm, and escape the depredations of the hen stealers, who at that season of the year are more especially on the "*qui vive.*" There should also be a shed in the yard for the birds in wet weather. I have two, one quite open on two sides, the other rather long, about 4 ft. wide, with a low wall and trellis work in front, which does well for dry rubbish, as the wall prevents its being scattered about the yard. The yard should be surrounded with a light fence, and where Cochin China poultry are kept it may be not higher than 4 or 5 ft., as, from the peculiar shape of the wing of this bird, they are by no means adapted for flying, besides being extremely tame. By all means give the birds a run of Grass wherever practicable. I frequently give mine the run of the kitchen garden, where they do no injury when the plants are not very small. I will conclude by stating a few of the advantages resulting from following the directions I have here given. By having a southern aspect your birds have the full benefit of the sun, which is greatly liked by them. By a low trellised fence they have free circulation of air. The lowness of the perches prevents the fowls injuring themselves when descending, and the places for the nests being made of brickwork, are easily cleaned; there is no harbour for insects, and when dirty a little hot lime being poured in sets them all right again, and then, by having the nests large and roomy, there is plenty of space for the birds, completely separated from others by the brick partition; and with hens from 8 lbs. to 9 lbs. in weight, which some of these birds weigh, they require a good large family apartment. *Henry Copland, Chelmsford.*

Agriculture in the Weald.—As there are certain well meaning but wrong-headed people who honestly believe that our national agriculture is perfection itself, and as such good folks are too apt to "snub" us innovators who are constantly advocating progression by agricultural education, enlightenment, and science, I am tempted to extract from my thousand and one agricultural communications a letter I received yesterday from "a subtle scientific," as he would be called in the *Mark Lane Express.* I was agreeably surprised to find my old nautical friend (whom I had lost sight of for some years), coming out very strong as a 4 feet drainer in wealden clays. He evidently does not like the system of four fat horses in a line, with long whips and a brace of stout attendants; and altogether he seems pretty considerably astounded at the immoveable stolidity of agricultural rurality. He is evidently attempting to introduce commercial principles as concomitants to his pecuniary and most beneficial expenditure. How far he has succeeded your readers may judge. I own that I felt immensely amused by his pungent and graphic descriptions. *J. J. Mechi, Tiptree Hall, Kelvedon, Feb.* 10. The following is the letter alluded to:—"The object of the present is neither to censure nor praise your 'Balance-sheet,' but to ask you to do me the favour to recommend me a good ploughman, if any such man is out of employ in your vicinity. The wages are 10*s.* the week, a good cottage and garden rent free, and 20*s.* extra for the harvest month; the man must understand the drill husbandry and the use of the horse-hoe. Bentall's ploughs are used here; they are becoming general in this Weald clay. As mine is a common name, you may not know me unless I add the 'captain' to it. You may ask, 'Why, captain, what in the name of the intended French invasion could induce you to become farmer?' For the present, I will only answer, so it is. I have been at farming more than four years; in that time I have deep drained nearly 500 acres of clay land; summer draining I like best, for many reasons. When I came here first, whatever field I went into, I could not see beyond it; now I have an uninterrupted view of 350 acres of my own, besides seeing the lands of my neighbours; the parish church is now to be seen, although, from the bad state of the roads, not come-at-able in the winter. I find, on the whole, that the life of a farmer is a much easier one than that of a sailor; and if my neighbours would only let me alone, I might pass my time pleasantly enough, but they go out of their way to find fault with everything I do; they even threatened to drink all the water that came out of my 4-feet drains, but, since they have seen that enough came out to drown every man, woman, and child in the parish, they have twitted me no more on that subject. The convertible system of farming, they say, will not do for this country; I mean to try it, however, at the risk of displeasing them. Yet, I often think it is cruel in me to be so continually making those people unhappy. I do not do so willingly, but some way or other I am always doing so; when they contended with me that the seeds of Thistles would not grow, and I convinced them that they did, by sowing some seed in as many garden-pots, and showed them the fine plants, I made them unhappy. When I told the rector's churchwarden that church was not written 'curch,' I thought I was doing the man a kindness, he took it the reverse; when I found that, out of 30 of my own workmen, only two could read and write, and recommended them to teach their children to do so, they took it rather as an impertinent interference in their family affairs than a kindness. How to please I know not, and latterly have left off trying. For the purpose of keeping me quiet, the rate-payers have one and all voted me into the office of poor-law guardian for the parish. Here I am again, among the officers of the Union, found as mischievous as a bull in a china shop, because I ask for a 'full, fair, and clear financial statement of accounts,' agreeable to the form of the 'poor-law board' in their general orders for accounts, No. 17, instead of an 'extract of the statistical and financial,' as heretofore given. I further ask for a 'list of the in-door paupers of the parish,' made out and signed by the master; a 'list of the out-door paupers,' made out and signed by the relieving officer, stating what relief given, where the persons reside, &c.; also a 'financial statement' for the parish, showing what money has been paid in by the overseers—how it has been expended, what the parish is in debt, or in advance to the union (No 19, *a*). Now, all this is agreeable to the rules laid down in the 'general orders for accounts,' in a book published by Knight, 90, Fleet-street, for the 'poor-law board.' If you can procure me one of your 'union' half-yearly statements, you will further oblige me. Had I not been laid on my 'beam-ends,' I could not have spared time for this long epistle; had I the pen of a ready writer, I could give you some funny stories about the farming and farmers of this district. The *Times* 'commissioner' could not find his way here, although only 35 miles from London; if he had, I could have pointed out to him good land, that is now in the same state that it was I believe in the time of William the First."

Skinless Barley.—As I have not observed in your columns any statements respecting the recently introduced Peruvian skinless Barley, I send you the result of my own experience. The year before last, I purchased one peck of the seed; I saved of the produce sufficient to sow last spring three acres, and my yield is 6½ quarters to the acre, weighing upwards of 60 lbs. per bushel. The great weight and very superior quality of the meal (having scarcely any bran), are strong recommendations, sufficient, I think, to induce a more extensive trial of its qualities. *J. S. Whittem, Coundon, near Coventry.*

Sugar Beer.—I regret that absence from home has prevented my answering "G. P.'s" queries in your Journal of the 29th November, respecting sugar beer. When it does not fine itself, I draw off about one gallon, and dissolve in it one-quarter of an ounce of the best isinglass, stirring it now and then; it will be fit for use in a few days. To mix the solution well, the best plan is to roll the barrel backwards and forwards a few times. Mr. Black, in his "Treatise on Brewing," says the price of isinglass varies from 1*s.* 6*d.* to 16*s.* per lb. "Many persons," says Dr. Paris, in his excellent "Pharmacologia" (useful not only to the medical man, but to every educated person), "gain their livelihood in London by adulterating it." Mr. Black recommends dissolving it in vinegar, which I think should be avoided; the new beer, as I know from experience, does well. I imagine this process will also fine cider, to prevent its acidification. Having only tried this plan for a 10 gallon cask, I cannot say how it will answer on a larger scale. I think beer bottled only a few weeks, in every sense, superior to old bottled; as the expression is, "it is then creaming"—excess of carbonic acid gas is no advantage, but the reverse. Wiring in this case will not be required. Dr. Paris states in his work on "Diet," "that vegetables are seldom boiled enough." From experience, I know that

Parsnips and Carrots, in fact all vegetables, well done, are nutritious and wholesome ; but very bad of digestion, if under-done. The monks of Mont St. Bernard, who, with their noble dogs, are so devoted to the relief of suffering humanity, suffer much from their elevated situation, preventing their doing their vegetables sufficiently. This would be easily remedied by the use of a "Papin's digester," which, in many respects, is so useful. Some infirmities have been attributed to the use of snow-water—I suspect falsely, as it is pure ; it rather should have been to improperly cooked victuals. *Agricola Cæsariensis.*

Directions for Guanoing Vetches, or other Growing Crop, in Spring—1. Apply it at once, twice or three times, according as the whole quantity allowed may vary from 1 to 4 or 5 cwt. to the acre, in doses of not less than 1, or more than 1½ to 2 cwt. at a time.—2. Let the first application be made, if two or three are intended, quite early in spring, probably some time in February, upon the first appearance of "growing" weather, but before the crop has, unassisted, made any decided start ; and the others at intervals of from three to six weeks, so that the last shall occur before the crop exceeds 8 or 10 inches in height. If one only is intended, it had better, perhaps, not be made until somewhat later than the former period—but this must be quite subject to the following.—3. Always choose still, damp, and, if possible, showery weather for its application, but not when the leaves are actually wet, nor when the ground is soaked with water, and by no means when the wind is east or north ; but, if there be any, it should be from the south or south-west.—4. Any knobs in it should be beaten fine with a spade and sifted, and then beaten over again until all is fine ; it may then be sown alone, but had better be mixed with once or twice its bulk of dry powdered loam or burnt clay (not marl), or ashes ; but if the latter, they must on no account be wet, or if at all damp, even, it should be sown directly it is mixed, or loss will ensue. Some mixture of this sort, which should be carefully made by repeated and regular turning of the heap, makes it more handleable, and facilitates the sowing of it with greater regularity, to ensure which, if only one dose be given, and that not by a very expert hand, it is desirable to make the compost somewhat more bulky, say, three or four times that of the guano it contains, and sow it at twice, forwards and backwards ; but otherwise this is scarcely requisite. In sound dry ground, yet not too light, it would appear from the researches of Prof. Way, beautifully corroborated by the experiments of Mr. Lawes, that it would be quite as well, if not better, to make the first application, and possibly that of the whole quantity intended, at the time of sowing the seed ; but then care should be taken in doing so not to bury the manure too deeply, and to dilute it considerably, either with other matters in the form of compost or by well mixing it with the surface soil (by very lightly harrowing it), after having sown the guano broadcast, immediately after drilling or otherwise sowing the seed ; but drilling is preferable for Vetches, quite as much as for other crops. In the particular case referred to above, the guano was applied at the rate of only 1 cwt. to the acre, mixed with its own bulk of good turf-ashes, on one part, and at double that rate, alone, upon another portion of the field of winter Vetches, when just beginning to cover the ground last spring. The land was a stiff loam, undrained, and much out of condition (having borne a crop of Oats the year before, preceded by a somewhat thin crop of Wheat, no manure having been used with either of these crops previously), and yet the Vetches where the guano had been applied very soon became so tall, compact, and strong, that on thrusting a 3-feet walking-stick upright into them, in many places on the middle of the ridges, it stood of itself and was almost hidden by the crop, although not pressed into the ground at all ; whilst upon the remainder of the field there was but a very indifferent crop, indeed. I do not attribute quite the whole of this difference to the effect of the guano, as the previous crop was rather better on the side of the field where the guano was afterwards applied ; but still the sudden inequality in the crop along the line to which the latter had extended, was very marked indeed. The difference between those portions on which the guano had been applied at different rates was much less visible, partly owing to its having been somewhat irregularly sown, and possibly in some degree also to the effect of the ashes in conjunction with the smaller quantity. *W. M. H., Bashley.*

Salt and Lime : Chloride of Potassium and Bones.—In reply to two questions in your last, the first p. 60 *b*, respecting the addition of lime to land salted by inundation : this should gradually form carbonate of soda and muriate of lime, both useful manures ; as in this manner the natron is formed (in Egypt, if I recollect right) by the action of calcareous sand on sea water. And for this purpose the earth should be kept loose at the surface, for absorption of moisture ; but not turned up from below, to bring up again the excess of salt as it gradually sinks down by the rains. The other is in the Notice to Correspondents, p. 61 *c*, respecting the mixture of chloride of potassium with bones and sulphuric acid. This, in small proportions, not exceeding one-fourth of the bone, is an improvement (except where the land already contains plenty of potash and chlorine); keeping the Turnip leaves some weeks longer green, and thus increasing the bulbs ; though it may not bring out the rough leaf quite so quickly as the mere superphosphate. Hydrochlorate or muriate of potash, when solid, differs from chloride of potassium only in containing a little (casual) water. In the present state of chemical knowledge and nomenclature they may be regarded as identical. *J. Prideaux.*

The Drainage in Regent's Park.—I was induced, after reading the communication of Mr. Hewitt Davis, to pay a visit to the draining operations in the Regent's Park, and from what I saw can bear testimony to all that gentleman said regarding the efficient manner in which the draining is being executed ; also the entire uselessness of the previous drainage that portion of the public grounds had been subjected to. An inspection of those operations will reward anyone who is interested in the improvement of the soil, unless he belong to that class who are too knowing to be convinced, or too little to observe, there he will see in the operations in progress an instructive fact, as well as a beautiful example of the right application of science to practice ; he will at the same time see in the original drains as complete a failure ; not from the use of the horse-shoe tile, as Mr. Davis supposes, but from want of judgment in the operation itself. I saw part of an old drain taken up, it was formed with the horse-shoe tile, without a sole ; and as Mr. Davies said, the cavity was filled with soil, just because it had never been a conduit for water. It is, however, my opinion, based on the experience of 15 years' use of the shoe tile, that had soles been used for the drains in the Regent's Park, in connection with a longitudinal intersection of the stratification, the present operation would not have been necessary, as the object sought, a complete surface drainage, would have been obtained. I make these observations for the information of such as may have used the shoe tile, to show there is no need of apprehension where the operation has been wisely conducted, as such might be inferred from the perusal of Mr. Davies's communication. I am free to confess that I take a different position in this question from your correspondent "A Constant Reader and Gardener ;" indeed it appears to me that the system of shallow draining has reached its utmost development, and with first-class cultivators can only be viewed as a matter of history. I could point to an instance where a whole estate was drained by the operation of a colliery, but will refrain at present in case of alarm in these exciting times. There is, however, another point where I believe Mr. Davis to be in error in his reasoning on the possibility of water reaching 4 feet drains in a perpendicular line, he states an example of it reaching 25 feet in a horizontal line ; he has also shown the subsoil was all but sealed to the perpendicular descent of the water in the superincumbent soil of the Regent's Park. This result could not be the want of moisture, for in places standing water was to be seen on the surface. What then favoured the lateral flow to 25 feet, and obstructed its perpendicular descent to 5 feet? My own impression is, that any attempt to disunite a horizontal percolation with the science of deep draining, would destroy that happy relation which constitutes the principles of a uniform subsoil drainage. The theory of deep drainage can only be viewed in harmony with all the good destined to result from it in proportion as the intelligence of the operation is associated with the laws which formed and govern the soil. *P. Mitchell, 7, Finnerton-street, Belgrave-square.*

Disease in Swans.—Having lost several swans in a peculiar way, I send you the particulars, in hopes that some one may be able to offer a remedy. A bird in full plumage, with wings erect, comes with others at feeding time, bends his neck, takes a drink, but refuses to receive food. This conduct is repeated for two or three days. He then shuns society, and will not come near, his neck being generally erect, and appearing altogether less comfortable. Under such circumstances, after a fortnight, apparently without food, death ensued. Several have gone at various times much in the same way. On opening them nothing could be detected which was likely to have caused death, except that the stomach was empty. One was taken and fed regularly with gruel by force, as soon as he was observed to be affected, but still he would not eat of his own accord, and ultimately he died like the others. There are two lakes here which comprise about 36 acres of water, the greater portion of which is 4½ feet deep, free from weeds, and the sides are pastured with deer. Besides swans, there are perhaps 200 ducks and 15 Canada geese in these lakes. The ducks are the common wild kind and divers. *G. M. Elliott, Ripley Castle, Yorkshire.*

The Seed Trade.—That "there is something rotten in the seed trade" is what no one the least interested in it can deny, and it is greatly to be feared that nothing short of a high moral principle on the part of the seed vendor, and a greater display of caution and common sense on the part of the purchaser, will effectually cure the evil. But are there nowhere any seedsmen who can really and truly be trusted? Your correspondent "J. C. M., Liverpool" (see p. 86), seems to think not, for it appears he was once cheated, "some years ago," with Grass seeds ; therefore, according to him, there are no "first-rate houses of intelligence and capital" in the kingdom, and he earnestly calls on some such to start into existence, he being certain they would "quickly receive the confidence of the public." Alas for England, Scotland, and Ireland, if there is not in all these three kingdoms an honourable and intelligent seedsman! To "J. C. M.," and all who think with him, I would respectfully say, go to any of the best cultivated farms, having for its occupant a skilful, intelligent, and liberal-minded man, and ask him whether he has reason to complain of the quality of the seeds he purchases, and I could almost venture to say that his answer will be in the negative. Go, again, to a seedsman of the same stamp, and put the same question to him, and his answer will be of a similar kind ; thus proving that there are already first-rate seedsmen, possessing both capital and intelligence ; and it is the business of the public to seek out such establishments. Doctor Solomon, of "Balm of Gilead" notoriety, who waxed rich by vending that said "soothing and life reviving cordial," when once asked by a confidential friend how he managed to gull the public to such an enormous extent by his nostrums, very honestly replied, by saying, "Look, sir, to that multitude of people who pass and repass along yon busy thoroughfare. Well, I tell you that in every hundred of them, there are 99 fools and only one wise man ; now, the fools patronise my balm, whereas the wise man knows better than do anything of the sort." And so it is, unfortunately, with the "public" in reference to the article of seeds. The wise man knows that, to secure a genuine article, he must apply to a genuine house and pay a fair price for what he gets ; while the "fool" casts his common-sense behind his back, and presses on to swallow the bait held out for him in the shape of a "saving of from 30 to 50 per cent. in the price of seeds ;" the said seed bait being artfully dressed with numerous puffing testimonials that Holloway himself would be thankful for. What pity that the public should be gulled, but what shame to those who so gull them! The time was when the seed trade was in England conducted on the most honourable and fair principles, but by too many have these been laid aside, and a quackish-looking system adopted in their stead. *S. S.* [We have omitted a part of this communication, the writer being evidently unacquainted with the operation of the laws of libel.]

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

A Weekly Council was held at the Society's House, in Hanover-square ; present, Mr. Raymond Barker, Vice-President, in the chair, Mr. D. Burton, Dr. Calvert, Col. Challoner, Mr. Dyer, Mr. Foley, M.P., Mr. Fuller, M.P., Mr. Brandreth Gibbs, Mr. Fisher Hobbs, Mr. Majendie, Mr. Nicoll, Mr. M. Paine, Mr. Parkins, Mr. Pendarves, M.P., Mr. Chandos Pole, Mr. Rowlandson, Mr. Sandbach, Mr. Shaw (London), Mr. Shelley, Prof. Simonds, Mr. Reynolds Solly, Mr. Stansfield, M.P., Mr. R. Trench, and Prof. Way.

Mr. Lister Maw communicated the results of his experience in the cultivation of the Potato and of the white Belgian Carrot, and in the employment of means for the raising and distributing of liquids in operations of draining, irrigation, and manuring.—Mr. Majendie presented to the Council, for trial by its members, a supply of a new variety of Spanish winter Bean for garden purposes, earlier and of more delicate flavour than the Windsor Bean.—Mr. Digby, Secretary of the Russian Agency in London, informed the Council that the Imperial Agricultural Society at Moscow had transmitted, for the Royal Agricultural Society of England, several models of agricultural machines, as well as samples of farm produce, which now awaited the instructions of the Council as to their disposal.—Prof. Way having, last year, received from Mr. Manning a single Potato from a supply transmitted to this country from Lima, he had made a chemical examination of one-half of it, and reserved the other half for planting in his garden. The plant proved to be of unusual size, and the tubers, on being boiled, were found to yield a large quantity of light mealy substance ; he would bring to the next Council a few of these Potatoes for distribution.

The Council ordered thanks for the favour of these communications ; and adjourned, over Ash-Wednesday, to the Monthly Meeting on the 3d of March.

Calendar of Operations.

FEBRUARY.

Lammermuir Sheep Farm.—The management of Highland sheep farms, in the absence of snow storms, being generally of the same routine character, noticed in our previous communication, we purpose, at present, to make a few remarks on the important subject of *Shelter*. On hill grazings, this consists of two kinds—natural and artificial—or a combination of both. The first may be derived from various sources ; as ravines of moderate extent, masses of rock, natural wood, conical hills, to the whole of which the same flock have access, &c. On many of the border sheep-walks, but especially in the north of Scotland, these, in different forms, varying with the geological nature of the district, constitute the principal sources of shelter, not only during snow, but also from storms of wind and rain, so injurious to sheep at all times, but so frequently attended with heavy loss during the lambing season. In the selection of suitable localities, the shepherd must be guided by experience and the season of the year ; many places, such as very steep dry banks, though admirably adapted for "black weather storms," being, if possible, even more unsafe than the open moor, during heavy falls of snow, from the danger of deep wreaths accumulated at the top slipping down, and burying all beneath them. During snow storms, perhaps no kind of shelter can compete with natural wood, where the trees are neither so tall nor so thickly planted as to choke vegetation below. On our border hills such coppices are principally composed of Birch, Mountain Ash, and several species of dwarf Willow, and appear to have been very numerous until a comparatively recent date, though few of any consequence now remain ; two or three fallen or half dead trees being all that are left to the present generation, their presence only causing us more deeply to regret their untimely decay. Indeed, the destruction of many Highland woods appears to date from the more general introduction of sheep husbandry, to the greater exclusion of cattle breeding and tillage, and to be caused either by the sheep converting them into rubbing posts, or, more probably, by their barking them during the privations of a severe winter. There can be no doubt that the most valuable artificial shelter is that afforded by judiciously placed plantations, of

moderate size, well fenced, and composed of hardy (evergreen) trees. We think that in extent they should rarely exceed 10 acres, or be less than 5. If of larger dimensions, stock will have considerable difficulty in fleeing to the lee side on any sudden change of wind; while clumps of 2 or 3 acres—except in a few naturally advantageous situations—are rarely vigorous, and seldom attain to an average height, their limited area preventing the trees from sheltering one another. Still, during storms of wind and rain, a number of these lesser sort would be exceedingly valuable, though unsafe during winter, from their not opposing an effectual barrier during severe snowdrifts. The site must, of course, vary according to circumstances, but, as a general rule, it ought to be placed in a central position, when the force of the prevailing winds has been broken by some natural obstruction before reaching it; and also, when there is plenty of rough herbage, easily accessable to the sheep during snow—the Heather in the immediate neighbourhood being generally left unburnt for this purpose. Much attention should also be paid to the quality of the soil, that it be such as will induce the vigorous growth of trees, and not—as is sometimes the case—some barren spot set aside for this purpose, simply because it is worthless for grazing, and therefore considered to be good enough for planting. We have seen clumps on a sheep farm, all planted during the same season, some 20 years ago, which afford an instructive example of this. While those on good dry soil are now affording valuable shelter, others planted on cold wet clay are doing very little, the Larches and Scotch Firs being nearly extinct, though the Spruces may still come to be of some size, unless prevented by the black game—a most destructive foe to the two latter trees, picking out the crowns to such an extent, that we have frequently seen a young Spruce divested of nearly every bud. We believe that this fact is not generally known; but to proprietors of sheep grazing, who may be improving such estates by extensive plantings, it is one which ought not to be overlooked; for they may rest assured, that much disappointment and loss will be avoided, by supplying the place of the Spruce by some other tree less palatable to this otherwise fine bird. Where suitable materials can be procured, stone fences are always preferable to those of turf. For, though more expensive at first; yet, as they require little repair when properly constructed, during an ordinary lease of 19 years, they will be found to be the cheapest in the end, the latter generally requiring to be twice rebuilt during the same time. The coping should always be made of stone; and, if possible, bedded and painted with lime, which will only add about 1½*d.* per yard to the cost, while it ensures the preservation of the wall for a much longer period than would otherwise be the case. Besides those noticed, there are other and more common descriptions of artificial shelter, such as dry stone walls of various forms; but we have already occupied too much space, and must reserve these for another time. Since the new year, the weather has been uniformly wet and boisterous. Indeed we do not remember having seen our hills so completely soaked as they are at present; the sheep drains, in many places, being scarcely sufficient to carry off the surface water. We have had only slight frosts, and very little snow; having, in a great measure, escaped the destructive storms which have prevailed of late in the north of the island. We regret to say that the continued rains and high winds have told on the sheep, in their bleached look, and considerable loss of condition. *A Lammermuir Farmer, Feb.* 9.

Notices to Correspondents.

BEER: *J W* begs to inform our correspondent in re "Beer," that the hogshead he alludes to contains 54 imperial gallons. He always "tuns off" the Hops along with the worts, loose into the cask, and he begs to assure our "Correspondent" that the small holes in the end of the cock never get choked up, and that the beer is as clear as crystal, even to the last drop (provided always that the cask is not shaken), the Hops forming a thick, strong head on the top of the beer.—If "J. H." will refer to the recipe, he will find it there stated that I use, for my own drinking, two bushels of malt, and two pounds of Hops; and that I fill my copper, which holds three quarters of a hogshead; this makes half a hogshead of beer. "J. H." must remember that the malt soaks up a portion of the water, and it is also rather diminished in boiling.—If "J. H." wishes a more potent beverage, he may increase his malt and Hops *ad libitum*. I tasted some at a friend's house last week, made with 13 bushels of malt, and 13 pounds of Hops to the hogshead, and rare, good "stingo" it was. I drank it out of a wine-glass. This very strong beer was brewed 15 months ago, and was only then just fit to drink, but it was a *bonne bouche* indeed.—"J. W." begs to inform "Malt" that he generally ascertains the temperature of his beer by finger; but it is of very little consequence when it is bunged down, provided it is quite cold. "J. W." places a piece of slate over the bunghole, to prevent dust or flies from getting in, for about six weeks; a piece of brown stiff paper then pasted over the bunghole would be just as well as a cork. The "head" which is formed on the beer prevents any air from getting to the beer itself, and the hottest summer weather, or thunder, will not in the slightest degree affect it. Doubtless vinous fermentation is spontaneously perfected; but although my name begins with a J, it is not Jonadab, neither have I ever pitched my tent with any of the family of Rechab; it is not therefore on that account that I drink unfermented beer; I can, however, assure your readers that it is the only beer of any kind that I can drink with impunity. *J. W.*

FORKS: *J. Wilson, gardener to the Rev. C. Bickmore, Coventry*, upon the discussion about forks and spades, says, that "Mr. Parkes, of Sutton, near Birmingham, makes first-rate spades."

LICE ON SHEEP: *A Small Farmer*. Tobacco water, or Bigge's sheep-dipping composition will destroy lice on sheep. The rot in sheep is not caused by any Grass or other plant, although particular Grasses will prevail on lands that will cause the rot. *W. C. S.*

LUCERNE: *New Subscriber*. Sow Lucerne in the beginning or middle of April.

OYSTER SHELLS: *X*. You want no other solvent than rain water, so far as their operation as a manure is concerned. Muriatic acid will dissolve them.

POULTRY: *George*. The fowl drops her egg from the perch, because she is not in health. She has, perhaps, laid for a long time, or from other causes is weak. It is an accidental thing, and will, no doubt, cease when the bird recovers. The egg may easily be preserved, by having the perch low, and plenty of loose sand laid under it.—*Walters*. A Cochin China fowl has an upright serrated comb, very little tail, yellow, well-feathered legs, double pendant ear-lobe, the last joint of the wing "clipped;" *i. e.* doubled up under the middle feathers, and a profusion of "fluffy" feathers about the thighs and binder parts. The Malay is a long, clean-legged fowl, with small flattened double comb, very erect in carriage; and although a noble bird in appearance, is deficient in body. The legs should be yellow, and first-rate birds should have pearl eyes, and be naked below the lower beak. The shape of the body narrows towards the tail, and the feathers should be hard, so that, in hand, the bird would seem to have but one for the whole covering. Crosses are so entirely things of fancy, no description of them can be given, as few are alike. Old cockers can tell the sex of their chickens soon after they are hatched, but they are sometimes deceived. It is difficult to lay down any time when the sex may be distinguished, as much depends on the health and condition of the chickens, and also on the time of year; the sex will show earlier in the summer than in the winter. The rules are, that the cocks have larger heads, are larger boned birds, appear longer in the legs, and close examination will show a difference in the comb. These things are plain to a practical eye, but nothing but practice will teach it.—*Vernon*. There is always a sale for good fancy fowls, even at the early age you mention, if they are really good. But unless you breed from first-rate stock, you would not find a remunerating price. Perhaps the best method of disposing of these would be by advertising them as fit to leave the hen, and inviting purchasers to see the stock from which they were bred. This is necessary, because when so young, excellences and points are not developed, and probable hereditary virtues must be looked for.—*Amateur*. Speckled Dorking fowls should be large and square. They should have five toes on each foot. The absence of this distinguishing mark would disqualify them. A white tail is no proof of purity in a grey or speckled Dorking cock, nor is it necessary he should have one.—*A B*. It is the nature of the Spanish fowl to be ragged, almost naked in plumage for a longer period than any other. As chickens they grow their feathers slowly, and as adults they lose them easily. Your feeding is very good, only I would substitute, three times per week, slaked Oatmeal for whole Barley. Let their enclosure be as large as you can, and instead of burnt oyster shells pounded, give them chalk and lime, or a basketful of bricklayer's rubbish in their pen. As they have no doubt a covered house at one extremity, let them always have a heap of wood-ashes in which they can dust themselves. Above all let them have plenty of clean fresh water daily.—*J C*. It is hard to say how large your walk should be for 12 fowls, as it must depend on your space at command, but the larger it is, the better it will answer. For 12 fowls you ought to allow from 30 to 40 feet in length, and not less than from 12 to 18 feet in width. If it be overgrown with weeds and shrubs, so much the better; you should build your house at one end, having a S. or S.W. aspect. It may be 6 feet in height, 12 feet in width, and 6 feet in depth; one-third of this space should be parted off for a laying and setting house. The nests should be on the ground, and divided, so that the hens cannot see each other; each nest should have a small head in front, to prevent eggs from rolling out. The roosting house should have perches, not more than 3 feet from the ground, running across, not along. Glazed windows are good, and should be made to open if necessary, but these are not essential. Of course all these dimensions may be reduced, if space will not permit of their being adopted. The floor of the roosting and laying houses should be of hard earth. *J. Baily*, 113, *Mount-street*.

SUNDRIES: *W B H*. Apply a covering of vegetable mould, burnt clay, or charcoal dust over the dung heap—that will detain the ammonia. Mix gypsum with it, or sprinkle dilute sulphuric acid over it, that will decompose the volatile carbonate of ammonia, and convert it into the fixed sulphate.—Mix guano with fine mould for spreading; this is better than ashes, as, if they are caustic, they will, as soon as they become moist, decompose all fixed ammonia salts, and set free volatile ammonia. Mix the guano with the soil by horse-boeing the furrows in which it has been strewed, before planting the Potato sets. Prefer guano to superphosphate for clay land, or any other, if you merely wish to raise the standard of its fertility, without reference to any particular crop.

Markets.

COVENT GARDEN, FEB. 21.

Notwithstanding the unfavourable change in the weather, the market continues to be well supplied with vegetables and fruit; but trade is still dull. English Pine-apples are plentiful, considering the season. English Grapes are over, but foreign ones may still be obtained. The best English Pears fetch good prices. They still consist of Beurré Rance, Ne Plus Meuris, and Easter Beurré. Oranges are plentiful and good. Nuts are nearly the same as last quoted. Carrots, Turnips, Cabbages, &c., are sufficient for the demand. Potatoes are generally good in quality. Lettuces and other salading are sufficient for the demand. Mushrooms are cheaper. Cut flowers consist of Heaths, Epacrises, Mignonette, Camellias, Roses, Acacias, Azaleas, Primulas, Hyacinths, Tulips, Lily of the Valley, and other forced bulbs.

FRUIT.

Pine-apples, per lb., 4s to 8s	Oranges, per doz., 1s to 1s 6d
Grapes, Lisbon, per lb., 9d to 1s	— per 100, 3s 6d to 10s
Apples, kitchen, per bushel, 2s to 3s 6d	— Seville, per doz., 1s to 3s
Pears, dessert, p. doz., 2s to 6s	Nuts, Barcelona, p. bushel, 20s to 22s
Almonds, per peck, 5s	— Brazil, p. bsh., 12s to 14s
— sweet, per lb., 2s to 3s	Cobs, per 100 lbs., 80s
Lemons, per doz., 1s to 2s	

VEGETABLES.

Savoys, per doz., 10d to 1s 3d	Parsnips, per doz., 6d to 1s
Broccoli, p. bunch, 8d to 1s 3d	Leeks, per bunch, 1d to 2d
Asparagus, p. bundle, 4s to 7s	Shallots, per lb., 8d to 10d
Seakale, per basket, 1s to 2s	Garlic, per lb., 6d to 8d
Greens, per doz., 2s to 3	Artichokes, Jerusalem, per hf. sieve, 9d to 1s
Rhubarb, p. bundle, 9d to 1s	Lettuce, Cab., p. score, 4d to 1s
Potatoes, per ton, 45s to 80s	Small Salads, p. punn., 2d to 3d
— per cwt., 2s to 5s	HorseRadish, p. bundle, 1s to 4s
— per bush., 1s 6d to 2s 6d	Mushrooms, p. pot., 1s to 1s 3d
Turnips, per doz., 2s to 4s	— per punnet, 9d to 1s
Cucumbers, each, 1s to 3s	Sorrel, per hf. sieve, 6d to 9d
Celery, p. bundle, 6d to 1s 6d	Fennel, per bunch, 2d to 3d
Carrots, per bunch, 4d to 7d	Savory, per bunch, 2d to 3d
Brussels Sprouts, p. half sieve, 1s 6d to 2s 6d	Thyme, per bunch, 2d to 3d
Spinach, per sieve, 1s to 1s 6d	Parsley, per doz. bun., 2s to 3s
Onions, p. bunch, 3d to 4d	Mint, per bunch, 9d to 1s
— Spanish, p. doz., 1s6d to 3s	Basil, p. bunch, 3d to 4d
Endive, per score, 9d to 2s	Marjoram, do., 3d to 4d
Beet, per doz., 1s to 2s	Watercress, p. 12bunchs. 6d to 1s

POTATOES.—SOUTHWARK, MONDAY, Feb. 16.

The committee report that during the past week there have been very large arrivals both coastwise and by rail, and trade is extremely dull, at a decline of from 5s. to 10s. per ton. The following are this day's quotations:—York Regents, 60s. to 80s.; Scotch do., 60s to 70s.; Cups, 55s. to 60s.; Kent and Essex Regents, 60s. to 75s.; Cambridge and Wisbeach, 50s. to 66s.

HAY.—Per Load of 36 Trusses.

SMITHFIELD, Feb. 19.

Prime Meadow Hay	72s	to 76s	Clover	80s	to 85s
Inferior ditto	65	70	2d cut	70	75
Rowen	60	65	Straw	25	28
New Hay	—	—		J. COOPER.	

A brisk trade.

HOPS.—FRIDAY, Feb. 20.

Messrs. Pattenden and Smith report that the demand for Hops continues unabated, and prices fully maintained.

WOOL.

BRADFORD, THURSDAY, Feb. 19.—There is no material alteration to report in the state of our English wool market. The transactions of the preceding week have been confined to a simple supplying of immediate wants on the part of consumers, and an entire absence of speculation characterises the operations of the trade generally. Prices for the best sorts are very firm, the quantity offering being rather limited. The stock of middle and lower wools is comparatively heavy, and prices on that account weaker, the turn being in favour of the buyers.—To-day little has been done in this branch of our trade; the dormant state of the yarn trade causes spinners to act with great caution. In low sorts, prices have a downward tendency. Noils and Brokes are in demand, and owing to the small quantity making, prices are firm.

SMITHFIELD, MONDAY, Feb. 16.

The number of Beasts was smaller, and trade more cheerful; still it was very difficult to advance prices. In a few instances choice Scots made 3s. 10d., but too seldom to quote. The supply of Sheep also less as to numbers, but the quality being good, there was a considerable weight of meat at market; hence prices were not much higher. However, everything cleared off at a slight advance. Very few Calves on offer, consequently late prices were fully realised. From Holland and Germany there are 425 Beasts, 660 Sheep, and 155 Calves; from Scotland, 500 Beasts; from Norfolk and Suffolk, 1790; and 500 from the northern and midland counties.

Per st. of 8 lbs.—	s	d	s	d	Per st. of 8 lbs.—	s	d	s	d
Best Scots, Herefords, &c.	3	6	to 3	8	Best Long-wools	3	10	to 4	0
Best Short-horns	3	4	— 3	6	Ditto Shorn	...		...	
2d quality Beasts	2	10	— 3	2	Ewes & 2d quality	3	0	— 3	4
Best Downs and Half-breds	4	0	— 4	4	Ditto Shorn	...		...	
Ditto Shorn	...		...		Lambs	...	0	0 — 0	0
					Calves	...	3	4 — 4	8
					Pigs	...	3	0 — 4	0

Beasts, 3724; Sheep and Lambs, 20,880; Calves, 199; Pigs, 340.

FRIDAY, Feb. 20.

We have a larger supply of Beasts than on Friday last. Trade is not brisk, but the weather being favourable there is a demand for good quality, at nearly as much as of late. There is an average number of Sheep. Trade for them is slow, at about Monday's quotations. Owing to the non-arrival of some foreign boats, the number of Calves on offer to-day is small, and consequently meet with a brisk sale. It is only, however, in very few instances that higher prices are obtained. Our foreign supply consists of 68 Beasts, 270 Sheep, and 32 Calves; from Norfolk and Suffolk, 350 Beasts; and 135 Milch Cows from the home counties.

Best Scots, Herefords, &c.	3	6	to 3	8	Best Long-wools	3	8	— 4	0
Best Short-horns	3	4	— 3	6	Ditto Shorn	...		...	
2d quality Beasts	2	10	— 3	2	Ewes & 2d quality	3	0	— 3	4
Best Downs and Half-breds	4	0	— 4	4	Ditto Shorn	...		...	
Ditto Shorn	...		...		Lambs	...	0	0 — 0	6
					Calves	...	3	4 — 4	8
					Pigs	...	3	0 — 4	0

MARK LANE.

MONDAY, Feb. 16.—The supply of English Wheat by land carriage samples to this morning's market was unusually small. White met a slow sale on the terms of this day se'nnight, but red must be written 1s. per qr. cheaper. Business in foreign was almost nominal.—In Flour there is very little doing.—There was a large supply of Barley at market, the greater part of which remained unsold, although offered at a reduction of 2s. per qr.—Peas support last week's rates.—Beans are dull.—The arrival of Oats is large, and the trade slow at a decline of 6d. per qr.

PER IMPERIAL QUARTER.	s.	s.		s.	s.
Wheat, Essex, Kent, & Suffolk...White	44	—46	Red	40	—42
— — fine selected runs...ditto	46	—48	Red	42	—44
— — Talavera	46	—52			
— Norfolk, Lincoln, & York...White	39	—44	Red	—	
— Foreign	37	—38			
Barley, grind. & distil., 26s to 29s...Chev.	30	—35	Malting .	29	—32
— Foreign...grinding and distilling	22	—29	Malting .	—	
Oats, Essex and Suffolk	19	—21			
— Scotch and Lincolnshire...Potato	2	—24	Feed	20	—22
— Irish .....Potato	20	—23	Feed	19	—22
— Foreign .....Poland and Brew	19	—22	Feed	18	—21
Rye	—		Foreign .	—	
Rye-meal, foreign.....per ton	—				
Beans, Mazagan ... ..24s to 27s.....Tick	25	—30	Harrow .	25	—30
— Pigeon.....27 — 32... Winds	30	—36	Longpod	24	—30
— Foreign .....Small	22	—30	Egyptian	23	—25
Peas, white, Essex and Kent.....Boilers	32	—34	Suffolk..	33	—35
— Maple.....27s to 30s .....Grey	26	—28	Foreign .	27	—34
Maize .....White	—		Yellow ...	—	
Flour, best marks delivered ...per sack	38	—43			
— Suffolk .....ditto	29	—34	Norfolk .	29	—34
— Foreign .....per barrel	18	—24	Per sack	32	—36

ARRIVALS IN THE PORT OF LONDON LAST WEEK.

	Wheat.	Barley.	Malt.	Oats.	Beans.	Peas.
Flour, 11526 sks — 19 4 brls	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.
English	4677	6678	13539	3185	889	653
Irish.....	—	90	20	1707	—	—
Foreign	4870	1176	—	14823	262	1610

FRIDAY, Feb. 13.—The arrivals of grain of all kinds this week have been moderate. To-day's market was fairly attended, and we experienced an improved inquiry for Wheat, our extreme quotations being more readily complied with. Flour is in rather more demand, but the sale is still slow. There has not been much inquiry for floating cargoes, and they continue to be held above the ideas of buyers.—The Barley trade is very firm, and prices rather in favour of the seller.—Beans and Peas remain as last quoted.—Oats are steady at Monday's rates.

IMPERIAL AVERAGES.	WHEAT.	BARLEY.	OATS.	RYE.	BEANS.	PEAS.
Jan. 10.....	37*s* 4*d*	27*s* 5*d*	17*s* 10*d*	30*s* 1*d*	28*s* 9*d*	28*s* 1*d*
— 17.....	38 3	27 1	18 11	37 5	27 11	28 0
— 24.....	39 3	27 10	18 2	27 10	28 3	28 18
— 31.....	39 10	28 6	18 2	27 6	28 11	28 4
Feb. 7.....	41 2	29 8	18 11	29 7	29 0	29 0
— 14	42 8	30 7	18 9	29 11	29 10	29 7
Aggreg. Aver.	39 9	28 4	18 4	28 9	28 9	28 9

Duties on Foreign Grain, 1*s.* per quarter.

Fluctuations in the last six weeks' Averages.

PRICES.	JAN. 16.	JAN. 17.	JAN. 24	JAN. 31.	FEB. 7.	FEB. 14.
42*s* 8*d*	...	...	...	...	...	...
41 2	...	...	...	...	...	...
39 10	...	...	...	...	...	...
39 3	...	...	...	...	...	...
38 3	...	...	...	...	...	...
37 4	—	...	...	...	...	...

LIVERPOOL, TUESDAY, Feb. 17.—Having no speculative demand for Wheat at our market this morning, and home and country millers remaining much on the reserve, the sales of foreign were restricted to a few parcels taken for Irish account, at a decline of fully 1d. per 70 lbs. from the prices of Tuesday last. Of English Wheat, however, the supply was rather less than usual, and late prices were maintained. Flour was also taken rather sparingly to-day, and receded 3d. per barrel. Malting Barley, meeting less inquiry, declined 1s. per qr., the value of grinding Barley and Malt remaining unvaried. Beans and Peas supported former prices. Oats and Oatmeal, attracting a limited degree of attention only, the former gave way 1d. per 45 lbs., and the latter 3d. per load. Indian Corn on the spot was taken rather freely at the advance of Friday.—FRIDAY, Feb. 13.—An impression more favourable to our trade has prevailed in Brunswick-street since Tuesday, and there has been some inquiry for Wheat, Flour, and Indian Corn. This feeling, however, has been rather of a speculative character, on the presumption that millers and dealers must, from necessity, shortly make up a demand. At this morning's market the business was again limited in every article of the grain trade, and Tuesday's quotations are continued, as holders were indisposed to make any concession of consequence.

HARTLEY'S PATENT ROUGH PLATE GLASS,

FOR RIDGE AND FURROW ROOFS, GREENHOUSES, RAILWAY STATIONS, ENGINE SHEDS, MILLS, MARKET-HALLS, AND PUBLIC BUILDINGS GENERALLY.

For Conservatories, Public Buildings, Manufactories, Skylights, &c., &c.	1/8th inch thick.	3-16th inch thick.	1/4 inch thick.
	s. d.	s. d.	s. d.
Packed in Crates, for cutting up of the sizes as Manufactured:— 30 inches wide and from 40 to 50 long ... ... Or 20 ,, ,, 50 to 70 ,, ...	0 6	0 8	0 10
In Squares, cut to the sizes ordered:— Under 8 by 6	0 4	0 6	0 7
8 by 6 and under 10 by 8	0 4½	0 7	0 8
10 by 8 ,, 14 by 10	0 5	0 7	0 9
1¼ by 10 ,, 1½ feet super., if the length does not exceed 20 inches	0 5½	0 7	0 9
1½ feet sup. ,, 3 ,, or if above 20, and not above 30 inches long... ...	0 6	0 8	0 10
3 ,, ,, 4 ,, ,, 20 ,, 30 ,,	0 6½	0 8	0 10
4 ,, ,, 5 ,, ,, 30 ,, 35 ,,	0 7	0 8½	0 10
5 ,, ,, 6 ,, ,, 35 ,, 40 ,,	0 7½	0 9	0 10½
6 ,, ,, 8 ,, ,, 40 ,, 45 ,,	0 8	0 9½	0 11
8 ,, ,, 10 ,, ,, 45 ,, 55 ,,	0 8½	0 10	1 0
10 ,, ,, 12 ,, ,, 55 ,, 70 ,,	0 9	0 11	1 1
12 ,, ,, 15 ,, ,, 70 ,, 85 ,,	.....	1 0	1 2

Packed in Boxes of 50 Feet Each:

Ins. Ins.	Ins. Ins.	s. d.
6 by 4 and 6½ by 4½		10 6
7 by 5 ,, 7½ by 5½		12 0
8 by 6 ,, 8½ by 6½		13 0
9 by 7 ,, 9½ by 7½	and 10 by 8	15 0

Note.—Squares are charged according to the superficial contents, except where the length exceeds the restriction above, in which case the higher price is charged irrespective of the contents.

Bending.—1-8*th*, 6*d.*; 3-16*ths*, 9*d.*; ¼ *inch*, 1*s. per foot, net.*

*** *Irregular shapes are charged as squares.*

When Crates are ordered, the 30-inch widths will be sent, unless otherwise specified.

THE PATENT ROUGH PLATE, one-eighth of an inch thick, and weighing 2 lbs. to the foot, has now become an article of very extensive and increasing consumption.

It is universally admitted to be the best and most suitable Glass for Ridge and Furrow Roofs, Greenhouses, Factories, Workshops,

And all such like purposes, and is a cheap and efficient substitute for Fluted or Obscured Glass, where the object is to intercept the vision without diminishing the light. Its non-transparency, strength, and cost (being no more weight for weight than Common Sheet Glass), render it eminently suitable for the Glazing of Conservatories and Roofs of all kinds; Blinds are unnecessary, and when used in Greenhouses *no scorching occurs.*

Where still greater strength is required the 3-16ths and ¼ inch thick will be found much cheaper than the Common Rough Plate. Samples will be forwarded on application, by applying to

JAMES PHILLIPS AND CO.,

HORTICULTURAL GLASS MERCHANTS, 116, BISHOPSGATE-STREET WITHOUT, LONDON.

GLASS.

THOMAS MILLINGTON'S FOREIGN SHEET GLASS is far superior to any other manufacture, as well as cheaper. In 100 feet boxes packed for immediate delivery.

6 inches by 4 and 6½ by 4½	...	...	...	18s.	0d.
7 ,, 5 and 7½ by 5½	...	...	...	15	0
8 ,, 5 and 8 by 5½	...	...	...	15	0
8 ,, 6 and 8½ by 6½	...	...	...	17	6
9 ,, 7 and 10 by 8	...	...	...	20	0
12 ,, 10 and 13 by 9	...	...	...	20	0

And many other sizes, or cut to order in various thicknesses. Cases containing large Sheets, in 100, 200, and 300 feet, at 21*s.* per 100 feet.

ROUGH PLATE, perfectly flat, ½ in. thick, best manufactured

In sizes under 15 inches	.....	6*d.*	per foot.
,, ,, 35 ,,	.....	8*d.*	,,
,, ,, 50 ,,	.....	9½*d.*	,,
,, ,, 75 ,,	.....	12*d.*	,,

Milk Pans, 2*s.* to 6*s.* each; Metal Hand-frames, Glass Tiles and Slates; Cucumber, Propagating, and Bee Glasses; Wasp Traps, Glass Shades, and Plate Glass, at 87, Bishopsgate-street Without, same side as Eastern Counties Railway.—Established 100 years.

GLASS FOR CONSERVATORIES, ETC.

HETLEY and Co. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2*d.* to 3*d.* per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices and Estimates forwarded on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLATES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to James Hetley and Co., 35, Soho-square, London.

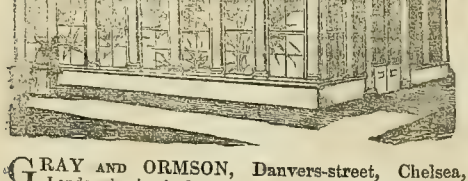
See *Gardeners' Chronicle* first Saturday in each month.

BELGIAN SHEET GLASS.—The above beautiful Glass, 16-oz. to the foot, so strongly recommended for Horticultural purposes, can be procured at the Soho Crown, Sheet, and Ornamental Glass Warehouse, 28, Soho-square, upon the following Cash terms. Single cases containing 200 feet each, case included, 2*l.* 2*s.*; in parcels of 5 cases at 40*s.*; in parcels of 10 cases, 38*s.* per case; or cut to any given size at 3*d.* per foot.

GREEN AND HOTHOUSES, made by Machinery, at J. Lewis' Horticultural Works, Stamford Hill, Middlesex, warranted best materials, and the cheapest in England.—A List of Prices sent by enclosing two postage stamps.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER,

AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.



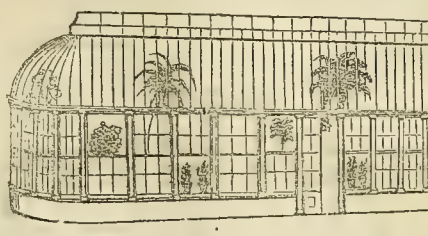
GRAY and ORMSON, Danvers-street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

G. & O. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders, they can with the greatest confidence give the most satisfactory references.

Their Hot-Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating by Hot Water can be made available.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER.

WARRANTED BEST MATERIALS AND WORKMANSHIP, AT THE LOWEST POSSIBLE PRICES.



J. WEEKS and CO., King's-road, Chelsea, Horticultural Architects, Hothouse Builders, and Hot-water Apparatus Manufacturers. The Nobility and Gentry about to erect Horticultural buildings, or fix Hot-water Apparatus, will find at our Hothouse Works, King's-road, Chelsea, an extensive variety of Hothouses, Greenhouses, Conservatories, Pits, &c., erected, and in full operation, combining all modern improvements, so that a lady or gentleman can select the description of House best adapted for every required purpose.

THE HOT-WATER APPARATUSES (which are efficient and economical), are particularly worthy of attention, and are erected in all the Houses, Pits, &c., for both Top and Bottom Heat, and in constant operation in the Stoves.

The splendid collection of Stove and Greenhouse Plants are in the highest state of cultivation, and for sale at very low prices. Also a fine collection of strong Grape Vines in pots from eyes, all the best sorts.

Plans, Models, and Estimates of Horticultural Buildings; also Catalogues of Plants, Vines, Seeds, &c., forwarded on application.—J. Weeks and Co., King's-road, Chelsea, London.

HOTHOUSES, GREENHOUSES, ETC.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

E. DENCH, PATENT HOTHOUSE WORKS, King's-road, Chelsea.—The superior qualities in every respect of these Structures having been proved in all parts of the United Kingdom, has caused a greater demand for them than E. D. could execute; he has been obliged to have perfect and powerful machinery made to meet the numerous orders, and can now execute any amount of work to great perfection, with dispatch, and for quality and price to defy all competition. Patent Hothouses, with excellent glass 8 feet long by 1 foot wide, every front sash to open, and every top one to slide down, with pulley made of the same materials as the electric telegraph wires, which require no painting; delivered free to Wharf or Railway Station, at 1*s.* 2*d.* per foot super., complete, having been fitted, and every portion marked previously, making a Greenhouse 16 ft. 6 ins. long, 12 ft. rafter, 400 ft., 23*l.* 6*s.* 8*d.*; 24 ft. 6 ins. long., do. do., 526 ft., 30*l.* 13*s.* 8*d.*; 28 ft. 6 ins. long, 15 ft. rafter, 712 ft., 41*l.* 10*s.* 8*d.* Heating by Hot-water on the most approved and economical principles.

Patent Sashes for Pits and Peach Walls, &c., 7*d.* and 8*d.* per foot, super.

FOR WARMING GREENHOUSES and BUILDINGS of all kinds, the new Registered HORIZONTAL GAS STOVE is perfect in its operation, free from smell, and cannot get out of order. Price 30*s.*—Stevens and Son, Darlington Works, Southwark Bridge-road, London.

BAKER'S PHEASANTRY, Beaufort-street, King's-road, Chelsea, by special appointment to her Majesty and H. R. H. Prince Albert.—ORNAMENTAL WATER FOWL, consisting of black and white swans, Egyptian, Canada, China, barnacle, brent, and laughing geese, shieldrakes, pintail, widgeon, summer and winter teal, gadwall, Labrador, shovellers, gold-eyed and dun divers, Carolina ducks, &c., domesticated and pinioned; also Spanish, Cochin China, Malay, Poland, Surrey, and Dorking fowls; white, Japan, pied and common pea-fowl, and pure China pigs; and at 3, Half-moon-passage, Gracechurch-street, London.

LINSEED AND CORN-CRUSHING MILLS.

E. R. TURNER and Co., Agricultural Implement Makers, Iron-founders, Millwrights, and Engineers, St. Peter's Foundry, Ipswich, beg to call attention to the following varieties of their unrivalled ROLLER CRUSHING MILLS:—

	£	s.	d.
Roller Mill, No. I., for Linseed, Oats, Malt, &c. &c....	10	10	0
Do. No. II.	7	7	0
Registered Roller Mill, for Linseed, Oats, Malt, &c., and for breaking Beans and Peas	9	9	0
Do. do. large size, for Horse or Steam Power	13	13	0
Small Hand Mill, for Oats and Beans	5	5	0

Further particulars may be had on application to the Manufacturers, by whom references can be given to gentlemen having the above Mills in use.

WINTON PARKES'S FORK for Digging, Hay, Manure, Bulb, Malting, and other purposes.—Burgess and Key, Agents, 103, Newgate-street, London.

FLOWER POTS! FLOWER POTS! FLOWER POTS!

CHARLES PHILLIPS'S Flower-Pots were distinguished above all others shown at the Royal Exhibition of 1851. They received "Honourable Mention" by the Jury, Class 27; and were deemed by the various competent persons who examined them to be superior to any submitted for the world's inspection at the Crystal Palace. They are patronised at the Royal Gardens, both at Windsor and Kew, and by the principal Nurserymen throughout the Western, Southern, and Midland Counties of England; are extensively used in Ireland and Wales, and may be seen at almost every Nursery between Plymouth and London.

All orders for the above Goods will be promptly forwarded, Carriage Free, to any Railway Station within 150 miles of the Manufactory, either in dozens, casts, hundreds, or thousands.

C. P.'s Pots are warranted to retain their colour longer than any other manufactured.

No.	Clear inside diameter, Ins.	No.	Ins.	No.	Ins.	No.	Ins.
1	1¾	6	4¾	11	8¾	16	15
2	2¼	7	5¼	12	9¼	17	16
3	2¾	8	6¼	13	11	18	18
4	3¼	9	7	14	12¼	19	20
5	4	10	8	15	14	20	22

Every description of Red Ware, Sewerage Piping, Closet Pans, Chimney-pots, Land Drain Pipes, Seakale-pots, Vases, Tiles, Bricks, &c.

Phillips's Price List and Weston-Super-Mare Almanac and Guide for 1852, forwarded to any party who may desire it, on receipt of a postage stamp.

Manufactory, Locking Road, Weston-Super-Mare, Somerset.

CATTLE SHOW OF THE ROYAL AGRICULTURAL IMPROVEMENT SOCIETY OF IRELAND.—The Annual Meeting, and National Cattle Show of this Society, will take place this year at GALWAY, on Wednesday, the 18th of August, and following days, on which occasion One Thousand Pounds and upwards (including the Challenge Cup and Medals of the Society) will be offered in Premiums, for Cattle, Horses, Sheep, Swine, Poultry, Dairy Produce, Flax, and Agricultural Implements, the particulars of which, together with Prize Sheets and Blank Forms of Entry, can be had on application to the Secretary in Dublin, or the Local Secretaries, Galway — namely, Richard A. Kirwan and Edmond O'Flaherty, Esqrs.

Monday, the 26th of July, will be the last day for lodging Notices of Entry for the Show, after which day none can be received.

Implements will be received in the Show Yard, on Saturday, the 14th, and Monday, the 16th August, so as to enable the Judges to commence their inspection on Tuesday morning early.

All stock and other articles, except horses, must be in the show-yard before 6 o'clock on Tuesday evening, the 17th August, when the gates will be closed.

Horses and Mares will be admitted only between the hours of 7 and 8 o'clock on Wednesday morning.

Arrangements are in progress for the conveyance to Galway of Stock and Implements, duly entered for exhibition, by steam boats and railways, the particulars of which arrangements will be communicated on application.

Signed by order Thomas Harkness, Sec.
Society's Rooms, 4 1, Upper Sackville-street, Dublin.

THE NEW STEEL DIGGING FORK,

MADE FROM ONE SOLID PIECE OF CAST STEEL.

THE MOST DURABLE AND ECONOMIC FORK EVER INVENTED.

Great Exhibition, Class 9, No. 259.

WINTON and SONS, Manufacturers of WINTON'S PARKES' IMPROVED DIGGING, HAY, MANURE, BULB, MALTING, and other FORKS (manufactured under the immediate superintendence of Francis Parkes). Agriculturists, Gardeners, and others interested in the profitable cultivation of poor gravelly, stony, stiff clay, and all other lands, by easy manual and juvenile labour, should make trial of WINTON'S PARKES' FORKS, which never bend, strain, or break; but retain their sharp points to the last, requiring no repair. For field, garden, yard, or stable use and in hop and cane plantations, vineyards, &c., their utility exceeds the most sanguine expectation. The nobleman to the labourer concur in the remarks of I. J. Mechi, Esq., of Tiptree-hall, Essex, as stated in the *Gardeners' Chronicle and Agricultural Gazette*, of Jan. 10, and Feb. 14, as follows:—"They answer admirably in breaking up our heavy clays, and mixing the soil in an extraordinary manner. . . . Facilitate labour quite 20 per cent. . . . It appears hardly possible to break them. . . . The men think them nearly equal to the pick-axe. . . . We have just completed 24 acres—the forks work admirably. The labourers who have them are the envy of the rest, inasmuch as they increase earnings and diminish labour."

Edward G. Tuckerman, Esq., of New York, our opposing exhibitor, remarks—"Your Forks and Tools are not only the lightest, but peculiar in construction, and of greater utility than any I ever saw."

The great body of the London Gardeners patronise these Implements, and will readily testify to their incomparable utility.

The celebrated 5-tined Digging Fork may be seen at the rooms of the Royal Polytechnic Institution, Pantheon. W. and Sons, in justice to the public, feel themselves bound to execute in regular succession, all orders with which they may be honoured, and are arranging new works, which will enable them speedily to dispatch all future orders, as well as the numerous ones now on hand, and have fixed the retail prices as follows:—5-tined Digging Forks, 6*s.* 6*d.*; 6-tined do., 7*s.* 6*d.*; 7-tined do., 9*s.* each. 3-tined Dung do, 4*s.* to 4*s.* 6*d.*; 2-tined Hay do., 2*s.* to 2*s.* 6*d.* each. 2-tined Pitching do., 4*s.* 9*d.*; 3-tined do., do., 6*s.* each.

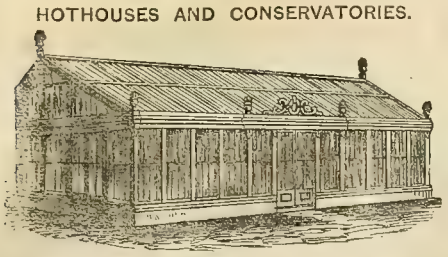
All warranted tools will in future have the brand, Winton's Parke's, Birmingham; to imitate which is forgery. Beware of spurious and inferior imitations, which are already being imposed on the public.

N.B.—All kinds of Forks in the same (cast-steel) material; Spades, Shovels, Grafting and Draining Tools, &c., of superior material and construction. To be had of Merchants, Factors, Shippers, Ironmongers, &c.

*** See our reply to Mr. Lyndon in next publication.

Address—Harry Winton and Sons, Birmingham.

HOTHOUSES AND CONSERVATORIES.



JAMES WATTS, Hothouse Builder, Claremont Place, Old Kent-road, has 200 CUCUMBER and MELON BOXES and LIGHTS of all sizes, ready for immediate use, made of well seasoned materials, packed and sent to all parts of the Kingdom.

HOTHOUSES, CONSERVATORIES, &c., made and fixed complete at a considerable reduction, and Garden Lights of every description. References may be had to the Nobility, Gentry, and the Trade, in most of the counties of England.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

EWING'S PATENT GLASS WALLS.—One of the greatest defects in British gardening has hitherto been the uncertainty of securing a crop of fruit on common brick or stone walls, owing to the variableness and humidity of the climate. This is now remedied by substituting hollow Glass Walls, by means of which not only will the young wood in autumn be fully matured, but the blossoms will be completely protected from the frosts and biting winds of spring, and a climate secured equal to that of southern Europe.

These walls are particularly adapted to the growing of Grapes, Peaches, Nectarines, Apricots, Oranges, Lemons, and the finer sorts of Pears and Plums, producing fruit equal to that of France or Italy at no more expense than usually attending trees upon a common stone or brick wall.

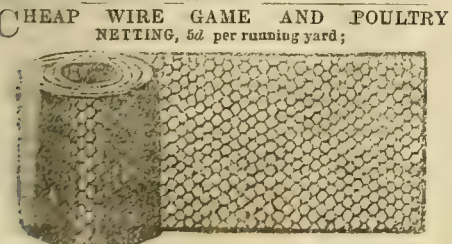
Glass Walls must eventually not only take the place of brick and stone walls, but will, in a great measure, supersede the present mode of erecting hothouses, from their cheapness at first cost, the great economy of fuel and heating apparatus, the small space they occupy, and their peculiar elegant appearance. They are also admirably adapted for climbing Exotics, and a variety of other purposes.

The highest authorities on Horticultural matters in this country have expressed their unqualified approbation of these designs, at the head of whom is Dr. Lindley, and for whose opinion the public are referred to the leading columns of the *Gardeners' Chronicle* of December 6; also of Robert Marnock, Esq., Curator of the Royal Botanic Gardens, Regent's-park, London, in the leading columns of the *Gardeners' and Farmers' Journal*, of December 20. The patentee having made arrangements with some of the largest firms of iron-founders in the kingdom, and also with one of the most extensive British Glass manufacturers; and from the well-known respectability of those gentlemen who have become Agents, feels confident that he furnishes a sufficient guarantee that all orders in connection with the Glass Walls will be promptly and efficiently carried out in any part of England, Scotland, or Ireland.

The following are the accredited Agents, and with whom drawings of the Glass Walls can be seen, and all particulars as to prices, &c., obtained on application:—Messrs. Knight and Perry, Exotic Nursery, Chelsea; Messrs. Henderson and Co., Pine-apple-place, Edgware-road, London; Messrs. Whitley and Osborn, Nurserymen, Fulham, London; Mr. Glendinning, Nurseryman and Landscape Gardener, Chiswick, London; Messrs. Veitch and Son, Nurserymen, Exeter; Messrs. F. and J. Dickson, Nurserymen, &c., Chester; Messrs. Lawson and Son, Edinburgh, Nurserymen and Seedsmen to the Royal Agricultural Society of Scotland; Messrs. Dickson and Turnbull, Nurserymen, Perth; Mr. M'Intosh, F.R.P.S., F.R.S.S.A., author of the "Practical Gardener," "Book of the Garden," &c., late Curator of the Royal Gardens of his Majesty the King of the Belgians, and now to his Grace the Duke of Buccleuch, at Dalkeith Palace, Scotland; Mr. Fleming, F.H.S., Head Gardener, &c., to his Grace the Duke of Sutherland, Trentham, Staffordshire; Mr. Ewing, Gardener, &c., Bodorgan, Anglesea; Messrs. Pilkington, Crown, Sheet, and Plate Glass Works, St. Helen's, Lancashire.

. Prices for facing existing brick or stone Walls with glass and iron will be given on application.

CHEAP WIRE GAME AND POULTRY NETTING, 5*d.* per running yard;



GALVANISED ditto, 7*d.* per running yard, 2 feet wide.

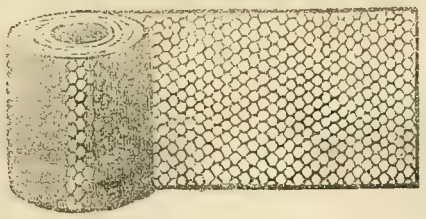
	Galvanised.	Not Galvanised.
24 in. wide, 2 in. mesh, 7*d.* per yard.	...	5*d.* per yard.
20 in. ,, 2 in. ,, 9*d.* ,,	...	6½*d.* ,,
36 in. ,, 2 in. ,, 10½*d.* ,,	...	7½*d.* ,,
48 in. ,, 2 in. ,, 1*s.* 2*d.* ,,	...	10*d* ,,

Sparrow Proof Netting, Galvanised, 3*d.* per square foot; made to any size for the same proportionate price. This article was shown at the "Great Exhibition," where it was so much admired for its light and durable appearance, and acknowledged to be the cheapest and best article of the kind ever offered. Extra strong Wire Sheep Netting, 3 feet high, 1*s.* 6*d.* and 2*s.* 3*d.* per yard. Also every description of Flower Trainers, Dahlia Rods, Garden Arches, Bordering, Flower Stands, Tying Wire, Trellis Work, Invisible Wire Fencing, &c., &c., and every description of Wire Work for Horticultural purposes.—Illustrated Catalogues of Patterns forwarded, post free, on application to T. H. Fox, City of London Wire Work and Iron Fence Manufactory, 44, Skinner-street, and 6 and 8 Snow-hill, London.

WILKS'S GOLDEN TAPESTRY PATTERNS.—The Grape Pattern, the latest addition to this series, is just published; is in square cushion, measuring, when worked, about 20 inches; price 2*s.* 6*d.*, or free for 33 stamps. The much-admired series, in which all the imperfections of the Berlin patterns are completely obviated, now comprises upwards of 24 *distinct* patterns at 2*s.* 6*d.* each. Bordess, Stripes, All-overs, Damasks, &c., at 1*s.* the sheet.

Wilks's Warehouse, 180, Regent-street, London.

GALVANISED WIRE GAME NETTING.—7*d.* per yard, 2 feet wide.



	Galvanised.	Japanned Iron.
2-inch mesh, light, 24 inches wide ...	7*d.* per yd.	5*d.* per yd
2-inch ,, strong ,, ...	9 ,,	6½ ,,
2-inch ,, extra strong ,, ...	12 ,,	9 ,,
1½-inch ,, light ,, ...	8 ,,	6 ,,
1½-inch ,, strong ,, ...	10 ,,	8 ,,
1½-inch ,, extra strong ,, ...	14 ,,	11 ,,

All the above can be made any width at proportionate prices. If the upper half is a coarse mesh, it will reduce the prices one-fourth. Galvanised sparrow-proof netting for Pheasantries, 3*d.* per square foot. Patterns forwarded post free.

Manufactured by BARNARD and BISHOP, Market-place, Norwich, and delivered free of expense in London, Peterborough, Hull, or Newcastle.

Sales by Auction.

BLACKHEATH.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN & OTHERS.

MESSRS. PROTHEROE and MORRIS are instructed by Mr. Hally to sell by public Auction, on the premises, adjoining the Railway Station, Blackheath, on MONDAY, March 1, and following day, at 11 o'clock each day, the valuable NURSERY STOCK, comprising a selected assortment of Evergreens, Ornamental Trees, Flowering Shrubs, and American Plants, amongst which will be found fine specimens of Cedrus Deodara, Cryptomeria japonica, Silver Cedars, Taxodium sempervirens, Scarlet Rhododendrons, &c., together with a choice collection of Greenhouse Plants, which will include about 300 Camellias, consisting of all the approved kinds, beautifully furnished with bloom-buds, Epacris, Azalea indica, Geraniums, &c.—May be viewed one week prior to the sale, and Catalogues had, 6*d* each (returnable to purchasers), on the premises; of the principal Seedsmen in London; and of the Auctioneers, American Nursery, Leytonstone, Essex.

TO GENTLEMEN, NURSERYMEN, & OTHERS.

MESSRS. PROTHEROE and MORRIS will submit to public competition by Auction at the Mart, Bartholomew Lane, on THURSDAY, March 4, at 12 o'clock, about 200 DOUBLE CAMELLIAS from 18 inches to 5 feet, comprising all the approved kinds, beautifully furnished with bloom buds; 200 strong Camellia Stocks, also a selected assortment of Standard and Dwarf Roses, a fine collection of American Plants, comprising fine Hybrid Rhododendrons, Ghent, and other Azaleas, Andromeda floribunda, Kalmias, Magnolas, Lilium lancifolium, choice Dahlias in dry roots, &c., may be viewed the morning of sale. Catalogues may be had at the Mart, and of the Auctioneers, American Nursery, Leytonstone, Essex.

ABSOLUTE SALE OF THE BEST COLLECTION OF CARNATIONS AND PICOTEES EXTANT.

MESSRS. PROTHEROE and MORRIS are directed by Mr. Norman, of Woolwich, to sell by Auction, at the Mart, Bartholomew-lane, the whole of his Superb Collection of Carnations and Picotees, in consequence of discontinuing their further cultivation. The first portion will be submitted to public competition at the Auction Mart, Bartholomew-lane, on FRIDAY, March 5th, at 12 o'clock. Catalogues may be obtained of Mr. Norman, Woolwich; at the Auction Mart; and of the Auctioneers, American Nursery, Leytonstone, Essex.

VERY IMPORTANT SALE OF PURE BRED SHORT HORNS.

MR. WETHERELL has received instructions from G. D. Trotter, Esq., of Bishop Middleham, to sell by auction on TUESDAY, the 11th of May next, without reserve, his entire HERD OF SHORT HORNS, consisting of 70 lots. In offering this herd for unreserved public competition, Mr. Wetherell begs to remark that Mr. Trotter has been a very successful competitor at the meetings of the Royal Agricultural Society of England, and other agricultural societies, and amongst them many first class prize animals are to be found, from a recent inspection, he can with confidence say they are an extraordinary good herd, of first-rate quality, Mr. Trotter having had for the last 15 years, the unrestricted privilege of using all the bulls of the late Mr. Bates. The young stock are by the 3rd Duke of York (10166), and most of the cows and heifers are in calf to the same bull, and are sold in consequence of Mr. Trotter having entered into engagements which entirely preclude his giving that attention to the herd which he finds requisite.

Catalogues are in preparation, and early in March will be ready, when further particulars will be given.—Durham, Feb. 21.

Descriptive priced Lists may be had on application.

STANHOPE NURSERY, GLOUCESTER-ROAD, OLD BROMPTON.

MESSRS. RAWLINGS and GIBSON will sell by public Auction, without reserve, on MONDAY, Feb. 23d, and following day, at 11 o'clock (by order of Mr. W. Siggers, in consequence of the Lease expiring at Lady-day), the whole of the valuable NURSERY STOCK, consisting of fine Evergreens and Shrubs, Fruit and Forest Trees; also a choice collection of Greenhouse Plants, four excellent Greenhouses, 300 feet of Hot-Water Pipe, Boilers, Furnaces, Brickwork, Horses, Vans, Mahogany Counters, Desks, Seed Drawers, Market Baskets, Sun Blinds, and numerous other effects.—May be viewed prior to the sales, and Catalogues had, on the premises; of the principal Seedsmen; and of the Auctioneers, 50, Hoxton-square, and Ebenezer Nursery, Shacklewell, London.

EDMONTON.

MESSRS. RAWLINGS and GIBSON will sell by public Auction, without reserve, on the premises, Language Nursery, White Horse-lane, Edmonton, on WEDNESDAY, February 25th, 1852, and following day, at 11 o'clock (by order of the proprietor, to clear the ground for great alterations), the whole of the valuable NURSERY STOCK, consisting of very fine Evergreens, of sorts; a large quantity of handsome Standard and Dwarf Fruit Trees; also an assortment of Ornamental Shrubs, Standard Roses, &c.—May be viewed prior to the sale, and Catalogues had on the premises; of the principal Seedsmen; and of the Auctioneers, 50, Hoxton-square, and Ebenezer Nursery, Shacklewell, London.

TO GENTLEMEN, NURSERYMEN, AND OTHERS.

MR. MARKS will sell by Auction, at the Sun Inn, Hitchin, on THURSDAY, March 4, at 11 for 12 o'clock precisely, a newly-built GREENHOUSE, with Forcing House adjoining, in the garden attached to the late residence of William Curling, Esq., Bancroft-street, Hitchin, Herts. The Greenhouse occupies a site of 35 feet in length and 18 feet in breadth, and the Forcing House about 28 feet in length and 16 feet in breadth; also the Brick Foundations, superior stone Floor, Stage, Pump, Stove, and Hot-water Apparatus. The houses are constructed of the best materials and workmanship, and are put together with screw bolts and nuts, with the view of removal, and are in a condition equal to new; the Hot-water Apparatus being by Stephenson. Also a BRICK PIT, recently and substantially built, having eight sliding Sashes, and being 27 feet long and 8 feet broad, with lattice shelves on stout bearers, and Stove connected with it. The Pit will be sold in another Lot; by and under such conditions as will be produced at the sale.—The whole may be viewed, and further particulars had, at any time prior to the sale, on application to the Auctioneer, Hitchin, Herts.

TO NURSERYMEN, GARDENERS, AND OTHERS.

LOUTH.

MR. T. JACKSON will sell by Auction, at the King's Head Hotel, Louth, on MONDAY, the 23d of February, at 7 o'clock in the evening, subject to conditions of sale to be then and there produced, all that old-established and well accustomed NURSERY and GARDEN, situate near the River-head, in Louth, in the county of Lincoln, containing Six Acres (more or less), with a suitable Dwelling-house and other Buildings standing thereon; also an extensive Glass Frame and other conveniences, for the raising and protection of Plants. A very extensive business has been carried on upon the above premises for upwards of Forty years, and their proximity to the East Lincolnshire Railway renders the situation exceedingly advantageous for a Nurseryman attending the markets of the neighbouring towns.—For further particulars, apply at the Office of Messrs. Coe and Wilson, Solicitors, Louth.—Feb. 21.

TO GENTLEMEN, AMATEURS, FLORISTS, ETC.

MR. ALEXANDER will sell by Auction, on TUESDAY, February 24, at 1 o'clock precisely, at the Auction Mart, near the Bank of England, a choice collection of named RANUNCULUS, comprising the leading varieties raised by Lightbody, Waterston, Kilgour, Neilson, Andrews, Boyd, Wylie, &c.; also choice Standard, Dwarf, and Climbing Roses; finest named Pinks, Hollyhocks, Iris Germanicus, Carnations, and Picotees; the whole are of the finest kinds, and can be warranted for their correctness.—May be viewed on the morning of sale. Catalogues may be had at the Mart; and of the Auctioneer, Shacklewell, London.

WANDSWORTH COMMON.

MESSRS. RAWLINGS and GIBSON will submit to public competition, by Auction, on the premises, Wandsworth Common, on MONDAY, March 1st, 1852, and Five following days, at 11 o'clock (by order of Mr. Robert Neal, in consequence of the ground being immediately required for other purposes), that portion of the valuable NURSERY STOCK which was not offered at the autumn sale, consisting of very fine Evergreens and Shrubs, including a considerable quantity of handsome Standard and Dwarf Green and Variegated Hollies; a valuable collection of American Plants, comprising some splendid specimen Scarlet and other Rhododendrons, &c.; Fruit and Forest Trees; 3000 fine Standard Roses; a rich assortment of Roses in pots; Jasminum, Clematis, Ivy, Wisteria, Gum Cistus, Carnations, Picotees, Pinks, &c.; also a quantity of rich Moulds, Paving and Building Stones, Sundry Wood, Garden Pots, &c.—May be viewed prior to sale. Catalogues (1*s.* each, valuable to purchasers), may be had on the Premises; of the principal Seedsmen; and of the Auctioneers (free of postage), 50, Hoxton-square, and Ebenezer Nursery, Shacklewell, London.

KING'S ROAD, CHELSEA.

FINAL CLEARANCE SALES OF NURSERY STOCK, ETC.

MR. D. A. RAMSAY will sell by Auction, on the premises, King's-road, Chelsea, on TUESDAY, Feb. 24, and following day, at 12 o'clock, without reserve, by order of Messrs. Dennis and Co. (the lease having expired), Fine Evergreens, of sorts, viz., Aucuba, Hollies, Box, Irish Yews, Cedar of Lebanon, Yuccas, of sorts. The remaining extra large and many smaller Mulberry Trees, choice prize Gooseberry, and other Fruit Trees, Strawberry Plants, &c., Jessamines, extra large Ivies, and other Climbers, in pots. Also a quantity of useful Building Materials, &c. May be viewed prior to sale.—Catalogues to be had on the premises, and of the Auctioneer, Brompton Nursery, Fulham-road, Brompton.

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THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 9—1852.] SATURDAY, FEBRUARY 28. [PRICE 6*d.*

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NATIONAL FLORICULTURAL SOCIETY,
21, REGENT STREET, LONDON.

The Anniversary General Meeting of the NATIONAL FLORICULTURAL SOCIETY, will be held at the Society's Rooms, 21, Regent-street, on THURSDAY, the 4th day of March next, at 1 o'clock precisely; for the Election of Officers for the ensuing year, and on other businesss.

By order JOHN EDWARDS, Hon. Sec.

P.S. The Members of the Committee are requested to attend at half-past 11 o'clock, to arrange the necessary preliminaries for such Anniversary General Meeting.

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THE SUPERIOR QUALITY OF SUTTONS' HOME-GROWN SEEDS.

Our attention has been called to an article in the Gardeners and Farmers' Journal of January 17th, written by Mr. Joseph Newton, gardener to J. Harvey, Esq., of Ickwellbury House, near Biggleswade, who has had our No. 1 collection for several years successively.

The whole article, headed "Horticultural Experiments," at page 35, is highly interesting, but for economy of space we make only the following extract:—

"No. 1 was begun in the autumn, 1849, and ended February, 1851. Iron bottom, kitchen garden, nor h quarter, belonging to John Harvey, Esq., Ickwellbury, Bedfordshire. Notice of the crops: ground planted Oct., 1849, with SUTTONS' (of Reading) IMPERIAL CABBAGE, which was sown July 20 h of the same year—14,520 plants per acre; sold all as Cabbage by May 10th, for 30*l.* 5*s.* I tried 20 of the best old and new kinds, which were treated all in the same way, in order to see which was the best. *I did not find one in a hundred run to seed.* The seed was sown in the middle of July. SUTTONS' IMPERIAL *was the Best Cabbage to cut early;* it is large, mild in flavour, and if left, will cut a good second crop in summer.—The ground was got ready for Celery by May 14th, 1850; the crop of this was sold by February, 1851, for 28*l.* 6*s.* 8*d.*; the Celery ridges planted May 15th to 17th, 1851, with SUTTONS' WHITE COS LETTUCE, that had been sown in the open ground March 1, 1850; the crop sold by July 23, for 26*l.* 17*s.* 9½*d.* Total produce for 16 months, 85*l.* 9*s.* 5½*d.* *Suttons' White Cos Lettuce is the best I have seen; it was fit for table ten days (in July) before Ady's Cos, Paris Cos, old Drumhead or Bath Cos.* All had the same care. It grows upright, wants no tying, and will grow a close Cabbage without artificial aid. Six Lettuces were grown in the space of one yard, and weighed, on the average, 3 lbs. each after the roots were cut and the waste leaves taken off; with the roots and leaves, they weighed 4 lbs. each, after the roots were washed. The roots and leaves were left on the ground, which, at 18 lbs. per yard, produced 38 tons 17 cwt. 3 qrs. 22 lbs. per acre; and had all the ground been Lettuce, in 10 weeks from the time it was planted it would have been worth 40*l.* 6*s.* 8*d.* at 4*d.* per dozen. JOSEPH NEWTON,

Gardener to J. Harvey, Esq., Ickwellbury, Biggleswade, Beds."

*N.B. The Lettuces and Cabbages above alluded to are included (with all other Kitchen Garden Seeds equally good) in each of our Collections: price 2*l.* 10*s.*, 1*l.* 10*s.*, 1*l.* 1*s.*, and 12*s.* 6*d.*; and they may also be had separately, post free, in good sized packets, 1*s.* each, to be prepaid for in postage stamps.*

Address JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

NOTICE.—The following New and Superb varieties of SEEDS can be warranted to give satisfaction to all purchasers, viz.:

HOLLYHOCK SEED.
This beautiful flower, from which a quantity of good sound seed has been procured from a gentleman amateur grower, who has one of the most superb and choice collections in cultivation; the Seed having been selected with every care and attention, it can be confidently recommended. Sold at 2*s.* 6*d.* per packet.

GERMAN ASTER SEED.
This variety has, within the last few years, been awarded upwards of 60 different prizes, and which stands unrivalled for its superiority of flower, the shape of which forms half a globe, and has been the admiration of numberless spectators. There are from 20 to 30 varieties. 1*s.* per packet.

SWEET WILLIAM SEED.
Saved from 36 superb varieties. The flowers are very large, splendid colours, and of dwarf habit. They were much admired when in bloom by countless spectators, and the seed numerously ordered by them. 1*s.* per packet.

ANTIRRHINUM SEED.
This has been selected with the greatest care from some of the finest and most superb varieties ever grown, both as to shape, colour, and habit of plant. There are more than 50 distinct and different varieties. 1*s.* per packet.

EXTRA FINE GIANT SCARLET BROMPTON STOCK SEED.
Unrivalled for its superior size and bright scarlet colour, also beautifully double; length of the spike of flower from 15 to 20 inches. Large packets 1*s.* each; or, if preferred, a packet of each of the above will be sent, postage and package free, for 5*s.*

Walcheren Cauliflower Broccoli (as imported)	1*s.*	per packet.
Tamworth Broccoli	1*s.*	,,
Wilcove Broccoli	1*s.*	,,
Cole's superb solid Celery	6*d.*	,,
Bath Cos Lettuce Seed, true; the best and finest flavoured Lettuce Seed in cultivation	1*s.*	,,
Vegetable Marrow Seed, of very superb variety and delicious flavour	6*d.*	,,

A remittance must accompany the order from all unknown correspondents, either by Post-office order or penny postage stamps, on receipt of which the Seeds shall be immediately sent.

Sold by EDWARD TILEY, Nurseryman, Seedsman and Florist 14, Abbey Churchyard, Bath.

NEW ROSES.

H. LANE AND SON, Great Berkhampstead, Herts, have the pleasure to offer the undermentioned ROSES, good Dwarf Plants, as per prices affixed:

Auguste Mie	7s.	6d.	Rosy blush, large, globular, and beautiful.
Apollon	3	6	Cherry red, very lively colour.
Baronne Hallez ...	3	6	Crimson, large and very fine.
Caroline de Sausal ...	5	0	Blush, beautifully cupped, large, and very double.
Chateaubriand	2	0	Beautiful delicate pink, large and distinct.
Chereau	3	0	Rose, very large and double.
Géant de Battailles ...	1	6	Vermilion, compact, and beautiful.
General Negrier ...	3	6	Rosy blush, very double, large and beautiful.
Genie de Chateaubriand	1	6	Shaded lake, expanded, and very large.
Mudame de Lamoricière	3	0	Bright rosy pink, very distinct and good.
Pius the Ninth	2	0	Crimson lake, compact and fine.
Princess Belgiojoso ...	1	6	Rose, globular and fine.
Standard of Marengo...	2	6	Crimson lake, large and splendid.
Hybrid Bourbon, Paul Ricaut	2	6	Deep carmine, globular, and very beautiful.
Miss Lanell	1	6	Beautiful shaded carmine, cupped, large and double.

SELECTION LEFT TO H. LANE AND SON.

Standards, of the most superior sorts, per dozen ... ... 18s.
Tall Standards, 6 to 8 feet high, Weeping or Fountain Roses, per dozen ... ... 33s.
Dwarfs, of the most superior sorts, per dozen ... 10s. to 18s.
Dwarfs, established in large pots, for immediate forcing, per dozen ... ... 21s.

They also have a very large stock of EVERGREEN TREES and SHRUBS, suitable for immediate effect in making new Plantations, Avenues, &c., every plant forming a specimen; and, as a more ready guide, have selected the following, the different varieties of which will be found under their respective heads in Catalogue of Trees and Shrubs.

	Feet.		Feet.
Arbor-Vitæ	2 to 8	Pinus Cembra ...	2 to 3½
Arbutus	3 to 5	,, excelsa (fine) ...	3 to 4
Araucaria imbricata	2 to 3½	,, insignis ...	2 to 3½
Cedrus Deodara ...	2 to 6	,, Pinaster ...	2 to 3
,, Libanus ...	2 to 5	,, Weymouth ...	3 to 6
Cryptomeria japonica	2 to 8	Abies Douglasii ...	3 to 7
Cypress	2 to 5	,, Hemlock Spruce	5 to 7
Holly, green	2 to 4	,, Kutrow ...	2 to 3
,, variegated ...	2 to 4	,, Morinda ...	3 to 4
Juniper	2 to 6	,, Menziesii ...	3 to 4
,, Virginian or Red Cedar, splendid plants	3 to 5	,, Spruce* ...	3 to 5
Kalmia latifolia ...	3	Rhododendrons ...	2 to 8
Laurel, common ...	3 to 5	Taxodium sempervirens	2 to 5
,, Portugal (fine).	3 to 5	Yew, common ...	4 to 6
Phillyrea illicifolia...	3 to 5	,, Irish	3 to 7

* These, the common Spruce Fir, in two varieties, the white and black, are splendid plants, bushy, according to their height.

Catalogues may be had on application, by enclosing two postage stamps.

EDWARD GEORGE HENDERSON AND SON, Wellington-road Nursery, St. John's Wood, London, will, on and after the 1st of May, 1852, commence sending out the following NEW FUCHSIAS, the entire stock of which they are the sole proprietors.

FUCHSIA SPLENDIDISSIMA.—Unrivalled first-class show flower, for exhibition purposes; the flowers of large size and great substance; sepals well reflexed, with fine, smooth, crimson tube, and large violet-purple corolla; the plant of good habit and free flower; altogether this is a very superior variety. 10s. 6d.

F. COMMODORE.—A noble and very distinct bold flower, of great size and substance, with extra broad sepals and bright carmine tube; a splendid large corolla, of rich plum colour, and good habit of growth; a first-rate show plant. 10s. 6d.

F. GEM OF THE SEASON.—Of excellent habit, and most profuse flowerer, in large spikes of very full ample blooms of great size and substance, glossy, smooth, rich crimson tube, and deep purple corolla; a most desirable show Fuchsia. 7s. 6d.

F. PENDULA.—A middle-sized flower, tube and sepals of rich crimson, and violet-purple corolla; habit of the plant pyramidal, with pendulous branches, unique in character and appearance from all other Fuchsias. 7s. 6d.

F. EXQUISITE.—The very acme of perfection in the class of reflexed Fuchsias, the sepals fall so very gracefully backwards, and the flowers are so truly proportioned, that it is perfectly symmetrical in form; flowers of middle size, with bright scarlet tube, and violet-purple corolla; a perfect model in shape. 7s. 6d.

The above five show Fuchsias for 40s.

F. HENDERSONII.—A novel, distinct, and very double variety; tube and sepals deep crimson, beautifully reflexed; the corolla a globular mass of fine purple petals; middle-sized flower, with graceful habit of growth; the semi-double varieties at present in cultivation in contrast with this will bear no comparison. 15s.

The above six new Fuchsias will be found admirably adapted for exhibition purposes, and will be found very superior in quality to all those hitherto grown for this purpose. We purchased the stock as follows:—Three of the above kinds from Mr. Thomas Whalley, nurseryman, Liverpool, and raised by his manager, Mr. John Smith; and the other three from a celebrated amateur in the north of England.

BEDDING CLASS OF FUCHSIAS FOR 1852.

F. GLOBOSA PERFECTA.—A perfect globe in shape, with a remarkable small slender tube; the numerous and very beautiful blooms hang long on the plant before it expands, with a dwarf, bushy, spreading habit, which renders this very attractive, especially when covered with its hundreds of graceful pendant balls of rich crimson with deep purple corolla. 7s 6d.

F. DARLING.—A very dwarf spreading bushy plant, not exceeding 18 inches in height, and exceedingly beautiful, when the plant is literally covered with very handsome reflexed flowers of the finest shape; tube and sepals bright crimson, with violet-purple corolla; a lovely Fuchsia in miniature. 7s. 6d.

F. PET.—Of a fine, dwarf, bushy habit of growth, 18 to 20 inches in height, profusely loaded with fine reflexed flowers of dark crimson, and violet-purple corolla. 7s. 6d.

The above three Bedding Fuchsias for 20s.

This new class has long been wanted to decorate the parterre, from the extreme dwarf, graceful, and bushy habit of growth, and that when covered with myriads of distinct perfect shaped flowers in miniature, with clear well defined colours, will undoubtedly render these to be universal favourites, and in future to rank equal to any bedding other plant in cultivation. These were also purchased from the same parties as we received the show kinds, and the whole of the above were carefully selected from upwards of 1800 hybridised seedlings.

A continuation of other new plants will be published next week.

CHOICE PLANTS.

YOUELL AND CO. beg to call attention to the following:—

CAMELLIAS, in very superior kinds, with flower-buds, 30s. per dozen.

Do., fine healthy plants, of choice and new varieties, without flower-buds, 21s. per dozen.

EPACRIS, fine bushy plants, in large 48's of the handsomest varieties, full of flower, 9s. per dozen.

APHELEXIS, in six best sorts, large bushy plants, in large 48's, covered with flower-buds, 12s. per dozen.

ERICAS, fine bushy blooming plants, of choice varieties, principally in large 48's, 9s. per dozen.

CORRÆA speciosa major, bicolor, and Cooperii, fine flowering plants, 9s. per dozen.

ERYTHRINA LAURIFOLIA, strong 2-year plants, 12s. per dozen.

CINERARIAS, new and extra fine sorts, good plants, in large 48's, 9s. per dozen.

ESCALLONIA MACRANTHA, the finest perhaps of the new Hardy Shrubs, strong plants, 9s. per dozen.

BERBERIS DARWINII, plants well established, 18s. per dozen.

CANTUA DEPENDENS, autumn struck, 18s. per dozen.

CALCEOLARIA "SULTAN," splendid dark variety, 9s. per dozen.

GLOXINIAS, the best sorts, large flowering bulbs, 9s. per dozen.

OXALIS FLORIBUNDA, one of our handsomest hardy herbaceous plants, excellent for bedding, 6s. per dozen.

DIELYTRA SPECTABILIS, strong plants, 9s. per dozen.

LILIUM LANCIFOLIUM ALBUM, good flowering bulbs, 6s. to 9s. per doz.

LILIUM LANCIFOLIUM RUBRUM, good flowering bulbs, 12s. per doz.

LILIUM EXIMIUM and LONGIFLORUM, good flowering bulbs, 6s. per dozen.

LILY OF THE VALLEY, strong, 5s. per 100.

NEW FRENCH AND BELGIAN DAISIES, in 50 best sorts, 9s. per dozen.

CHOICE FRUITS.

TRUE FASTOLFF RASPBERRY.

Y. and Co. beg to announce they are now executing orders for the above in fine strong Canes of the same stock as they had the honour of supplying her Majesty's Gardens and most of the Nobility. 15s per 100.

Fine large WHITE RASPBERRY. 3s. per doz.

PEACHES, NECTARINES, and APRICOTS, 4 years trained, and forward for bearing, 5s. each.

CHERRIES and PLUMS, 4 years trained, 3s. 6d. each.

PEARS and APPLES, fine espalier, 24s. per doz.

The above are of the most select kinds, and worked from the Stock of the Horticultural Society of London, and are warranted correct to their sorts.

STURMER AND ANGLESEA PIPPIN, fine Espalier, 24s. per doz.; Standards, 1s. 6d., Dwarfs, 1s. each.

GOOSEBERRIES, in 36 of the best kinds, selected for size and flavour, 3s. 6d. per doz.

CURRANTS, improved large White Dutch, 4s. per doz.
,, Black Naples, 4s. per doz.
,, Large Red Grape, 2s. 6d. per doz.
,, Victoria or Raby Castle, very fine red, 4s. p. doz.

RHUBARB, fine roots fit for Forcing, &c., comprising Mitchel's Royal Albert, 9s. per doz.; Myatt's Linnæus, 9s. per doz.; Myatt's Victoria (the largest), 9s. per doz.; Tobolsk, 6s. per doz.

ASPARAGUS, Giant (strong), 2 and 3 years, 2s. 6d. and 3s. 6d. per 100.

SEAKALE, 1s. per doz.

ROSES, Standards and Half-standards, of the very best sorts in cultivation, 12s. to 15s per doz.

EVERGREEN PRIVET, 2½ to 4 feet, strong, 35s. per 1000, or 4s. per 100.

All orders of 2l. and upwards delivered free to any Railway Station within 150 miles of the Nursery.

Royal Nursery, Great Yarmouth.

RANDALL'S PROLIFIC RHUBARB.—In submitting the above to the public, E. R. begs to state that while possessing all the qualities of Myatt's Linnæus, it is nine days earlier, of superior flavour, upright in growth, and producing large stems, all of equal size. Roots 2s. 6d. each, to be obtained at the principal Seed-houses in London, and of EDWARD RANDALL, Loughborough Gardens, Brixton, Surrey. Orders accompanied with a remittance will be promptly attended to.

N.B. The usual discount to the Trade.

"THE GOLDEN BALL,"

UNEQUALLED NEW YELLOW MELON.

EDWARD TILEY respectfully informs Melon growers and others generally, that he has been successful in procuring the whole stock of seed of the above beautiful and unequalled Melon, "The Golden Ball," which has been thoroughly proved by an eminent Melon grower, and acknowledged by all who saw and tested the same, to be one of the finest flavoured yellow Melons ever known; its qualities are as follows: fruit, very handsome; colour, when ripe, deep orange; shape, perfectly round; hollow crown, very thin skin; flesh, firm and very solid, and of superior melting flavour; free setter and prolific bearer; weight from 3 to 4 lbs. The contrast of this yellow Melon when set on a table with a green-flesh Melon has a most striking effect, and every person who grows the Bromham Hall should also cultivate this one as its companion, for its shape and perfection in flavour, which has proved to be unequalled. It can be obtained in packets of three seeds at 2s. 6d., or seven seeds, 5s; or a packet of this, one of the Bromham Hall, and one of any other undermentioned, for 6s. E. T. feels confident the above Melon will give as great satisfaction as the following other varieties formerly sent out by him:—Tiley's Bromham Hall Melon (true), 1s. per packet; Tiley's Queen Melon, 1s. ditto; Tiley's Bowood, 1s. ditto; also, Beechwood Melon seed, 1s. ditto; Windsor Prize, 1s. ditto; Emperor, 1s. ditto; Fleming's Trentham Hybrid Persian, 1s. ditto; Duncan's Green Flesh, 1s. ditto; Hampton Court, 1s. ditto; Egyptian (Improved), 1s. ditto; Blackhall's Green Flesh, 1s. ditto; Bailey's Green Flesh, 1s. do.; Camerton Court, 1s.; Victory of Bath, 2s. 6d. do.

TILEY'S NEW CUCUMBER "CAPTIVATION," three seeds, 5s., or five seeds, 7s. 6d.; also "Phenomenon," six seeds, 2s. 6d; or this and one of Captivation, for 6s; also Chamberlain's Essex Hero, four seeds, 3s. 6d; Hunter's Prolific, three seeds, 2s. 6d., or seven seeds, 5s; Lord Keynon's Favourite, 1s. per packet; Victory of Bath, 1s. ditto; Gordon's White Spine, 1s. ditto; Hamilton's Black Spine, 1s. ditto; Conqueror of the West, 6d. ditto; Butcher's Stratford-upon-Avon, 6d. ditto; and numerous other older varieties, at 6d. ditto. For further particulars of the above Cucumbers, see *Gardeners' Chronicle* of January 3, 1852.

N.B. A packet of "The Golden Ball" Melon and a packet of Captivation Cucumber, can be sent for 6s. A remittance must accompany the order from unknown Correspondents, either by Post-office order or penny postage stamps, when the whole or any quantity of the above, as the case may be, will immediately be forwarded free to any part.

EDWARD TILEY, Nurseryman, Seedsman, and Florist, 14, Abbey Churchyard, Bath, Somerset.

CUCUMBERS AND POTATOES.

JAMES LAKE, NURSERYMAN, &c., Bridgewater, Somerset, begs to offer to the public his Seedling FIFTY-FOLD KIDNEY POTATO, six tubers of which were sent to Dr. Lindley (April 29, 1850), and produced 312; quality very good. Many other references since then can be given.—Price 2s. 6d. per peck, or 8s. per bushel.—J. L. having grown from 15 to 20 lights of ABAN'S "CONQUEROR OF THE WEST" CUCUMBER successfully for four years, can with confidence recommend it as one of the best kinds in cultivation.—Packets, containing 15 seeds, 1s. each. The Trade supplied. London Agents, HURST and M'MULLEN, 6, Leadenhall-street.

SPLENDID DOUBLE HOLLYHOCK AND NEW FRENCH QUILLED ASTER.

ARCHIBALD WOOD, in submitting the above to the public, pledges himself they will give the highest satisfaction. The Hollyhock was saved from 12 of the newest and best varieties out. The Aster is truly splendid, many of the blooms last season being nearly as large as good sized Dahlias.—Packets of each free by post, for 5s., or separately, 2s. 6d., or the amount in postage stamps. The stock of seed being limited, early orders are solicited.

Barbourne Nursery, Worcester, Feb. 23.

HENRY GROOM, CLAPHAM RISE, near London, FLORIST BY APPOINTMENT TO HER MAJESTY THE QUEEN, and to HIS MAJESTY THE KING OF SAXONY, begs to say that his Spring Catalogue of PELARGONIUMS and NEW PLANTS is ready, and will be forwarded by post on application.

GLADIOLUS WELLINGTON.

MESSRS. COLE AND SHARP have been kindly favoured by J. Willmore, Esq., with the stock of the above beautiful SEEDLING, which they now offer to the public. WELLINGTON was exhibited at a meeting of the National Floricultural Society, Sept. 4, and received a Certificate of Merit, with the following description:—Colour, brilliant orange scarlet; form fine; substance good; flowers abundant; also forming the subject for the plate for the February Number of "The Garden Companion and Florist Guide." Strong flowering Bulbs, 10s. 6d. each. CINERARIA MISS TALBOT, the best of its class; pure white ground, slightly margined with lilac purple; quite distinct. Strong plants, 7s. 6d. each; smaller ditto, 5s Liberal allowance to the Trade. New and beautiful DAHLIA, "LIZZY." Messrs. C. and S. also beg to state that they have purchased the entire Stock of the above-named flower, from Mr. J. C. Perry, which they purpose sending out in May next. For description and character, see future Advertisement.—Aston-lane Nursery, Birchfield, Birmingham.

IMPORTANT SALE OF NURSERY STOCK.

WILLIAM ANDERSON, NURSERY and SEEDSMAN, Dundee, in consequence of the current Lease of his present Nursery Ground having almost expired, has commenced disposing of the whole of his NURSERY STOCK, consisting of Fruit and Forest Trees, Evergreen and Deciduous Trees and Shrubs, splendid Collection of Standard and Dwarf Roses, Pansies, Carnations, Pinks, Antirrhinums, Hollyhocks, Stage Auriculas, Herbaceous Plants, Herbs, &c. Also a number of Glass Frames; a very superior Auricula Stage, will hold 1000 pots of the usual size; a powerful Garden Engine, on barrow; a quantity of Paling, a large Wooden Shed, Barrows, Garden Implements, &c.—Full particulars given at the Seed Warehouse, 32, High-street, where also may be had Descriptive Catalogues for the current season of Garden, Flower, and Agricultural Seeds, Implements, &c.

With reference to the above notice, ALEXANDER RICKARD, Auctioneer, begs to intimate that he has received instructions from Mr. ANDERSON to sell, by public Roup, on the Ground, Tait's-lane, Hawkhill, Dundee, on WEDNESDAY, the 3d of March next, commencing at 11 o'clock forenoon precisely, and following day, if necessary, the WHOLE STOCK then remaining unsold.—No. 2, Bain-square, Dundee, Feb. 16.

(One interest.)

GERMAN ASTER AND LARKSPUR SEEDS, ETC.

THOMAS TAYLOR, NURSERY-SEEDSMAN, Weston-Super-Mare, Somerset, respectfully informs the Nobility, Gentry, and the Trade, that he has just received a first-rate Stock of the above Seeds, from the same foreign house as that procured last year, for the quality of which he received from his numerous customers the most flattering testimonials.

						s.	d.
12	Splendid Varieties Quilled Asters					2	6
6	do.	do.				1	6
12	Splendid Globe-flowered Asters					2	6
6	do.	do.				1	6
12	Splendid new Pyramidal Asters					2	6
6	do.	do.				1	6
10	Fine Selected Double Dwarf Rocket Larkspurs					2	0
5	do.	do.	do.			1	0

N.B. Orders for any quantity of the above executed and transmitted, post free, to any part of the country.

BALSAM SEED, the finest in the world, in five classes of colours, sealed Packets, with directions for culture, 2s 6d. the five, or 9d. singly. Mimulus Gigantea, the largest in cultivation, 1s. to 5s. per plant. DAHLIAS: the Scarlet King, the finest of its class ever raised, 10s. 6d.; Sir F. Thesiger, Dr. Frampton, Sir Richard Whittington, Rob, and all the best new ones at catalogue prices; Ditto old favourites, 3s. to 9s. per dozen. Fuchsias, Geraniums, Cytisus, Racemosus, Stove and Greenhouse Plants generally, bedding out Scarlet Geraniums, 2s. 6d. to 5s. per dozen.—Post-office orders to CHARLES R. SMALLBONE, Dungannon Nursery, Fulham, payable at Putney, promptly attended to.

TRUE BLUE ORKNEY KIDNEY POTATOES,

DIRECT FROM ORKNEY, MAY BE HAD FROM

WILLIAM HAMILTON, SEEDSMAN, &c., 156, CHEAPSIDE, LONDON, price 2s. 6d. per peck; they are a most excellent Potato, and well adapted for any soil. Ash-leaf Kidney and Flourball Potatoes, 2s. 6d. per peck.

W. H. begs to inform those who may favour him with their orders for KITCHEN GARDEN SEEDS, that he will ensure their being supplied of the best quality.

A Descriptive Catalogue with prices may be had on application.

The following Flower Seeds, done up in packages so as to be easily transmitted by post, are strongly recommended, having for several years given universal satisfaction:—

					s.	d.
25	vars.	SUPERIOR HAMBRO' 10-WEEK STOCKS			19	6
		The same in smaller packets			5	6
12	,,	SUPERIOR HAMBRO' 10-WEEK STOCKS			3	6
24	,,	EXTRA FINE GERMAN ASTERS			5	6
12	,,	do. do. do.			3	6
12	,,	SPLENDID ZINNIAS			2	6
12	,,	SUPERIOR DOUBLE ROCKET LARKSPUR			2	9
6	,,	VERY CHOICE MOTTLED BALSAMS ...			2	6
50	vars.	well-assorted Hardy Annuals			10	6
25	,,	do. do.			5	6
12	,,	Beautiful Hardy Annuals			2	6
25	,,	Perennials (many choice)			7	0
12	,,	do. do.			3	6

The above Annuals are done up in descriptive labels, giving the proper mode of culture.

Herbaceous and Bedding Plants, Shading Canvass, &c. &c. —Address, WILLIAM HAMILTON, Seedsman, &c., 156, Cheapside, London.

AMERICAN NURSERY, BAGSHOT, SURREY.

JOHN WATERER begs to announce that he has published a new CATALOGUE of Hardy Rhododendrons, Azaleas, Roses, Conifers, &c., and which may be obtained by enclosing two postage stamps.

The colours of all the Rhododendrons worthy of cultivation are described; thus purchasers are afforded every facility in making selections.

HOSEA WATERER'S Descriptive Catalogue of AMERICAN PLANTS, CONIFERS, ROSES, &c., is just published, and may be had on application, enclosing two postage stamps, to Mr. HOSEA WATERER, Knap Hill Nursery, Woking, Surrey.

STANDISH AND NOBLE'S detailed Advertisement will appear in this Paper on the first Saturday in every Month, to which they invite the attention of all interested in HARDY ORNAMENTAL PLANTS. Their Descriptive Catalogue, with the Treatise on the "Cultivation of American Plants," can still be had, by enclosing six stamps for postage.

Gentlemen requiring the services of a Landscape Gardener, can procure such by applying to the Advertisers.

Bagshot, Surrey, Feb. 28.

GEORGE BAKER'S DESCRIPTIVE CATALOGUE OF AMERICAN PLANTS, CONIFERÆ, ROSES, ORNAMENTAL SHRUBS, FRUIT AND FOREST TREES, &c., may be had on application, by enclosing two postage stamps.—Windlesham Nursery, Bagshot, Surrey.

MITCHELL'S MATCHLESS WINTER PARSLEY.—J. M. having saved a much larger quantity of Seed this season than last, can offer it to the public at a much reduced price. Wholesale, to seedsmen, 1s. 3d. per lb.; any quantity under 10 lbs. will be charged 2s. per lb. Can be sent to any part of the World, on receipt of a Post-office order, payable to JOHN MITCHELL, Ponder's-end, Enfield, Middlesex.

DOUBLE ITALIAN TUBEROSE ROOTS, 4s. per dozen.—The annual importation of the above-named beautiful and fragrant Flower has just been received, and large and well selected Bulbs may be obtained, without disappointment, at A. CORBETT'S Foreign Warehouse, 13, Pall-mall.

N.B. Printed regulations for treatment sent; also, just arrived, very moist and open Parmesan Cheeses.

DWARF TRAINED TREES OF PEACHES, MOOR PARK APRICOTS, AND GREENGAGE PLUMS, 500 handsome plants of each sort to spare.

BERBERIS AQUIFOLIUM and BERBERIS DULCIS, 200,000 plants to spare.

PRINCE ALBERT RHUBARB, 50s. per 100; 1000 for 15l.

Fifty superb varieties of HOLLYHOCKS for 42s.

EVERGREEN PRIVET, 100,000 to spare.

JEYES and Co., Nurserymen, Northampton.

EPPS' COLLECTIONS OF KITCHEN GARDEN SEEDS.—No. 1, containing 24 quarts of the £ s. d.
newest and best kinds of Peas and all other seeds in
proportion, inclusive of Melons and Cucumbers ... 2 10 0
No. 2, in proportionate quantities 1 10 0
No. 3, ditto ditto 1 1 0
No. 4, ditto ditto 0 12 6

A list of the quantity in each collection may be had on application, also a Descriptive Catalogue of Seeds, &c., &c.

The highest reference can be given in all parts of the United Kingdom. Carriage paid to any Railway Station in London.

W. J. EPPS begs to remark, that in consequence of his being one of the largest Seed Growers in the market, he is in a position to supply the above very satisfactory.

High-street and Bower Nurseries, Maidstone.—Feb. 28.

FINE DOUBLE TUBEROSES,
4s. per dozen, just imported by

PAGE AND Co., SEED MERCHANTS TO THE AGRICULTURAL AND HORTICULTURAL SOCIETIES OF INDIA, &c. &c., Southampton. Priced Lists may be had upon application, containing only selected and approved varieties.

PAGE'S BLOOD RED BEET, the finest crimson and s. d.
best sort in cultivation, per packet 1 0
NEW ROYAL CABBAGE LETTUCE, per packet ... 1 0
PAGE'S NEW HARDY WINTER WHITE COS LETTUCE, per packet 2 6
RANDOLPH'S GREEN CURLED ENDIVE (very superior), per packet 1 0
SILVER PICKLING ONION OF NOCERA, per packet 1 0
NEW EARLY RICH SCARLET FORCING CARROT, per packet 1 0
NEW RED BELGIAN CARROT, per packet 0 6
BRUSSELS SPROUTS, warranted true imported, and very fine, per packet 1 0

Testimonials are unnecessary, as we rely upon our reputation.—Gardeners and Land Stewards' Registry Offices, 37 and 38, Oxford-street, Southampton.

SANGSTER'S NEW EARLY NO. 1 PEA.

HAY, SANGSTER, AND CO., in submitting the above valuable PEA to the public, can recommend it with the greatest confidence, as the largest podded and best Early Pea known, and of first-rate quality; height, 2 feet, Price 2s 6d. per quart.

York Regent Potatoes, from prepared cuttings, 6s. per bush. Cambridge Radical, 6s. do. A first-rate second early, 6s. do. American Native, 6s. do. White Blossom Kidney, 6s. do. Brighton Pink Kidney, 6s. do.

For Testimonials, see *Gardeners' Chronicle*, Nov. 8, p. 705.

Post-office orders to be made payable at the Borough Post-office to HAY, SANGSTER, and Co., Nursery and Seedsmen, Newington Butts, London. One-bushel hampers and booking, 1s. 6d.; two-bushel 2s. 6d. Sacks, 2s. 6d. each.

THE RUSSIAN SUPERB.—It is now three years since the production of this splendid VIOLET; since which, plants of them have been supplied extensively to all parts of the kingdom, and are found, everywhere, easy to cultivate. The advantages of this Violet are, that it blooms far more profusely, produces a larger blossom, and is longer in the stem than any other sort; and it is fully equal in fragrance to the Neapolitan.

R. SHACKELL has been honoured with the following gratifying notice of a bouquet of these flowers, which he had the honour to present to her Majesty the Queen.

"Windsor Castle, Oct. 25, 1849.

"Sir,—I have received the commands of the Queen to inform you that your letter of the 23d inst., together with a plant and bouquet of Violets, have been received, and that her Majesty has been graciously pleased to accept them. I am directed to convey to you her Majesty's thanks for your attention.

"I am, sir, your obedient servant,

"Mr. SHACKELL. "C. B. PHIPPS."

Opinions of the Press, and other testimonials of high approval may be obtained, by application, to R. SHACKELL, by whom these Violets are supplied at 6s. per dozen for strong plants, package free, or 4s. per dozen for smaller plants, which, in quantities of not less than a dozen, will be supplied through the post, free of postage. Amounts for 1 dozen may be transmitted by postage stamps; for larger quantities by Post-office order.—Direct to ROBERT SHACKELL, Lockerbrook Nursery, Bath.

RENDLE'S SELECT GRASSES.

WILLIAM E. RENDLE AND Co., SEED MERCHANTS, PLYMOUTH,

Have of late years paid much attention to their selection of GRASSES *for* PERMANENT PASTURES, *&c. They supplied Mixtures, last season, for several thousand acres, and have not had a failure or single complaint; proving, in the most satisfactory manner, that their selections have given the greatest satisfaction.*

A Descriptive List will be found in our "Price Current," copies of which can be had in exchange for Six Penny Stamps.

The West of England is famous for the PERMANENT QUALITY of its RED CLOVER, or COW GRASS, tons of the Seed being dispatched to every part of Great Britain every year. We have this season contracted for a large stock, and can supply ANY QUANTITY, either Wholesale or Retail, at the lowest market prices.

For Catalogues and further particulars, apply to WILLIAM E. RENDLE AND Co., SEED MERCHANTS, PLYMOUTH.

ESTABLISHED 1786.

DWARF PEAS.

HAIRS'S DWARF MAMMOTH KNIGHT'S, acknowledged the best out, 2s. 6d. per quart.

BISHOP'S LONG-PODDED, 1s. per quart.

BURBIDGE'S ECLIPSE, 1s. per quart.

The above Peas have been most extensively grown in the principal horticultural establishments in the kingdom, and pronounced superior in every respect to the tall growing varieties.

FLOWER SEEDS.

ESCHSCHOLTZIA CALIFORNICA ALBA, a pure white, very good, 6d. per packet.

IPOMŒA BURRIDGII, splendid hardy creeper, 6d. per packet.

SAPONARIA CALABRICA, var. MULTIFLORA, one of the best bedding plants out, 6d per packet.

TROPÆOLUM COCCINEUM, handsome, 6d. per packet.

EUCHNIDEA BARTONIOIDES, splendid yellow, half-hardy, 6d. per packet.

GAURA LINDHEIMANII, fine herbaceous plant, 6d. per packet.

DUNCAN HAIRS offers to the gardening world the above small selection, as being deservedly worthy of universal attention. Catalogues of Garden, Agricultural, and Flower Seeds forwarded on application.

Seedsman and Florist, Wholesale and Retail, 109, St. Martin's-lane, London.

SAMUEL FINNEY AND Co. beg respectfully to inform their Friends and the Public that their new PRICED SEED CATALOGUE FOR 1852 is now ready, and may be had, postage free, on application. It contains a list of all the most approved kinds of Vegetable Seeds in cultivation, together with a very choice selection of German and other Flower Seeds, which are all fully described, stating the time of sowing, and whether hardy, half-hardy, or tender; the height, colour, and time of flowering, with much other useful information. The Collections of Seeds, which they supplied in former years, having given such general satisfaction, they are again induced to offer them as under:—

No. 1. A complete collection of Vegetable Seeds for £ s. d.
one year's supply of a large garden ... 2 5 0
No. 2. Do. do. in smaller quantities ... 1 10 0
No. 3. Do. do. do. do. ... 1 1 0
No. 4. Do. do. do. do. ... 0 12 6

The kinds and quantities contained in each Collection are stated in the Catalogue.

Delivered, free, at any station on the following Railways:—Newcastle, York, and Berwick; North British, Leeds and Thirsk; York and Scarborough, Newcastle and Carlisle, and Lancaster and Liverpool.—Gateshead Nursery, Feb. 28.

SURPLUS STOCK.

FOR CHEAPNESS, UTILITY, AND DISPLAY, the following are strongly recommended, CARRIAGE PAID (see below):—

SELECT HARDY HERBACEOUS PLANTS & ALPINES.

100 in 50 choice sorts, our selection ... ... 30s.
100 in 100 choice sorts, our own or purchaser's selection ... 42s.

FLOWERING AND EVERGREEN SHRUBS, ORNAMENTAL TREES, ETC.

Purchaser's, or our choice, per 100, in 100 kinds ... £2 10s.
Our own choice, in 50 kinds, fine ... ... £1 10s.

To gentlemen forming Arboretums, this is a fine opportunity.

COMMON LAURELS, 1½ to 2 feet, per 1000, 4l., or 10s. per 100; 2 to 3 feet, bushy, per 1000, 5l, or 12s. 6d. per 100.

PORTUGAL LAURELS, 1½ to 2 feet, 20s. per 100, 3s. per doz.; 2 to 3 feet, extra fine, 30s. per 100, 6s. per doz.

EVERGREEN PRIVET, fine, 2 to 3 feet, per 1000, 40s., per 100. 5s.

LIMES, per 100, 30s., 4 to 5 feet, fine Avenue Trees.

HORSE CHESTNUTS, 5 to 6 feet, 30s. per 100; 10 to 12 feet, 50s. per 100

ROSES, 50 splendid sorts, standards, per 100, 5l., or 18s. per doz., fine, our own selection; 100 superb sorts, Dwarf Roses, 50s., or 9s. per doz., our own choice; mixed do., 30s. per 100, or 6s. per doz.

GREENHOUSE PLANTS.

50 first-rate sorts, own selection, 2l. 10s., or 15s. per doz.

50 ditto, purchaser's choice, 3l., or 18s. per doz.

ERICAS, 50 finest sorts, our choice, 2l. 10s., or 15s. per doz.; purchaser's choice, 3l., or 18s per doz.

CHINESE AZALEAS, 20 fine show sorts, our choice, 21s., or 15s. per doz.; purchaser's choice 25s., or 18s. per doz.

A splendid opportunity for specimen growers.

HOLLYHOCK SEED, warranted to produce 75 in 100 double, 1s. 6d. per packet.

GOOSEBERRIES, finest Lancashire sorts, per 1000, 4l., in 100 sorts, named, or 10s. per 100, in 50 sorts.

CURRANTS—May's Victoria, or Raby Castle Red, is the largest and best sort known, and ought to be in every garden. 25s. per 100, or 4s. per dozen; Red Grape and Champagne, fine, 10s. per 100, or 2s. per doz.

APPLES AND PEARS, fine clean standards, 10s. per doz., or 70s. per 100, choice of sorts left to us, very select.

PLUMS AND CHERRIES, finest sorts, standards, 18s. per doz., our choice; Dwarf Trained, 3s. 6d. each, or 30s. per doz.

APRICOTS, PEACHES, AND NECTARINES, fine three years' trained, of best sorts, own choice, 5s. each, or 50s. p. doz.

RASPBERRIES, Red Antwerp, 2s. per doz., or 12s. per 100; Monthly or Double Bearing, 12s per 100, or 2s. per doz.

STRAWBERRIES, early and late kinds, 25 fine sorts of merit, 3s 6d. per 100.

Address all communications to JOHN MAY, the Hope Nurseries, Leeming-lane, Bedale, Yorkshire.

All orders above 5l. carriage paid to London, Liverpool, Birmingham, and Edinburgh, and all the intermediate Stations within 150 miles of the Nursery.

N.B. A fine stock of Larch, Spruce, Oak, &c.; sizes and price on application.

Ornamental grounds designed, executed, and furnished on liberal terms. Forest Planting by estimate.

A remittance or reference from unknown correspondents is respectfully requested.

CAMELLIA JAPONICA.

CHANDLER AND SONS beg to invite the Nobility and Gentry to an inspection of their CAMELLIAS, which are at present in bloom, and unusually fine.

Nursery, Wandsworth-road, London.

CHARLES HOWDEN, NURSERYMAN and SEEDSMAN, 53, High-street, Belfast, to clear ground for other crops, at his Nurseries, Malone, offers for sale, and will ship free on board, at this port:—
Per 1000.—s. d.
5 year-old THORNS, transplanted, strong 5 0
5 year-old BEECH, ASH, OAK, HAZEL, SYCAMORE, and PRIVET, transplanted 12 6
4 year-old COMMON LAUREL, do. 40 0

Orders, with remittance or satisfactory reference, will meet with prompt and careful attention.—Belfast, Feb. 28.

WHEELER'S SEED LIST.

J. C. WHEELER AND SON'S priced List of Agricultural, Garden, and Flower Seeds for this season, is now ready, and will be forwarded free to any address, on receipt of one postage stamp. In making out this list, great care has been taken to exclude all useless varieties, so that it only comprises the names of the best Seeds in cultivation.—J. C. WHEELER and SON, Nurserymen and Seedsmen to the Gloucestershire Agricultural Society, 99, Northgate-street, Gloucester.

Seeds delivered, carriage free, to most parts of England and South Wales.

The Gardeners' Chronicle.

SATURDAY, FEBRUARY 28, 1852.

MEETINGS FOR THE ENSUING WEEK.

MONDAY,	March	1	Medical and Chirurgical (Anniv.)	4 P.M
			Entomological	8 P.M.
			Chemical	8 P.M.
TUESDAY,	—	2	Horticultural	3 P.M.
			Linnean	8 P.M.
			Civil Engineers	8 P.M.
			Pathological	8 P.M.
WEDNESDAY,	—	3	Society of Arts	8 P.M.
THURSDAY	—	4	Zoological	8 P.M.
			Antiquarian	8 P.M.
			Royal	8½ P.M.
			National Floricultural (Anniv.)	1 P.M.
FRIDAY,	—	5	Botanical	8 P.M.
			Philological	8 P.M.
			Royal Institution	8½ P.M.
SATURDAY,	—	6	Asiatic	2 P.M.
			Medical	8 P.M.

THE great importance of the LIQUID MANURE question, and the numerous inquiries made of us as to the application of this fluid, lead us once more to resume the subject, restricting ourselves on the present occasion to a single point, namely, the period in the growth of a plant when it may be most advantageously applied, or should be altogether withheld.

In order to understand this part of the question, it must be borne in mind—1, that *liquid manure is an agent ready for immediate use*, its main value depending upon that quality; 2, that *its effect is to produce exuberant growth*; and 3, that *it will continue to do so as long as the temperature and light required for its action are sufficient*. These three propositions, rightly understood, point to the true principles of applying it; and, if they are kept in view, no mistakes can well be made. They render it evident that the period in the growth of a plant, at which it should be applied, depends entirely upon the nature of the plant, and the object to be gained.

If, for example, WOOD and LEAVES are all that the cultivator desires to obtain, it will be evident that liquid manure may be used freely from the time when buds first break, until it is necessary that the process of ripening the wood shall begin. Wood cannot ripen so long as it is growing; wood will continue to grow as long as leaves form, and its rate of growth will be in direct proportion to their rate of development; therefore, in order to ripen wood, growth must be arrested. But the growth of wood will not be arrested so long as liquid manure continues to be applied, except in the presence of a temperature low enough to injure or destroy it. Hence it is obvious that liquid manure must be withheld from plants grown for their wood and leaves, at the latest, by the time when two-thirds of the season shall have elapsed. To administer it in such cases towards the end of the year would be to produce upon it an effect similar to that caused by a warm wet autumn, when even hardy trees are damaged by the earliest frost.

In the case of FLOWERS it is to be remembered that the more leaves a plant forms the fewer blossoms in *that season*; although perhaps the more in a succeeding season, provided exuberance is then arrested. The application of liquid manure is therefore unfavourable to the *immediate* production of flowers. It is further to be remarked that even although flowers shall have arrived at a rudimentary state at a time when this fluid is applied, and that therefore their number cannot be diminished, yet that the effect of exuberance is notoriously to cause deformity; petals become distorted, the coloured parts become green, and leaves take the place of the floral organs, as we so often see with Roses grown with strong rank manure. In improving the quality of flowers, liquid manure is therefore a dangerous ingredient; nevertheless its action is most important, if it is rightly given. The true period of applying it, with a view to heighten the beauty of flowers, is undoubtedly when their buds are large enough to show that the elementary organisation is completed, and, therefore beyond the reach of derangement. If the floral apparatus has once

taken upon itself the natural condition, no exuberance will afterwards affect it; the parts which are small will simply grow larger and acquire brighter colours; for those changes in flowers which cause monstrous development, appear to take effect only when the organs are in a nascent state—at the very moment of their birth. Hence it is clear, that in order to affect flowers advantageously by liquid manure, it should be given to plants at the time when the flower bud is formed and just about to swell more rapidly.

With fruit it is different; the period of application should there be when the fruit, not the flowers, are beginning to swell. Nothing is gained by influencing the size or colour of the flower of a fruit tree; what we want is to increase the size or the abundance of the fruit. If liquid manure is applied to a plant when the flowers are growing, the vigour which it communicates to them must also be communicated to the leaves; but when leaves are growing unusually fast, there is sometimes a danger that they may rob the branches of the sap required for the nutrition of the fruit; and if that happens, the latter falls off. Here, then, is a source of danger which must not be lost sight of. No doubt, the proper time for using liquid manure is when the fruit is beginning to swell, and has acquired, by means of its own green surface, a power of suction capable of opposing that of the leaves. At that time, liquid manure may be applied freely, and continued, from time to time, as long as the fruit is growing. But, at the first sign of ripening, or even earlier, it should be wholly withheld. The ripening process consists in certain changes which the constituents of the fruit and surrounding leaves undergo; it is a new elaboration, which can only be interfered with by the continual introduction of crude matters, such as liquid manure will supply. We all know that when ripening has once begun, even water spoils the quality of fruit, although it augments the size; as is sufficiently shown by the Strawberries prepared for the London market, by daily irrigation. Great additional size is obtained, but it is at the expense of flavour; and any injury which mere water may produce, will certainly not be diminished by water holding ammoniacal and saline substances in solution.

Root-crops stand in a different position to any of the foregoing. They are most analogous to the first of the above cases; for their roots may be compared to wood, of which they are equivalents. But there is this important difference, that whereas the quantity of wood is in direct proportion to the quantity of leaves, the reverse is the case with root-crops. The Turnip that throws up an enormous tuft of leaves has a very small bulb; and so of the Carrot. In these plants the root is formed by the leaves; but only when they themselves cease growing vigorously. The true object is to obtain plenty of foliage early enough to afford time for the after formation of the root. This is what happens under ordinary circumstances. The leaves grow rapidly during the warm weather of early autumn; but when the temperature falls, their own development is languid, and all their energy is expended in augmenting the mass below them. We entertain little doubt that by the constant application of liquid manure a Turnip might be absolutely prevented from forming more root than a Cabbage. In root-crops what is wanted is an abundant supply of liquid manure when the leaves are forming, so as to secure early a large and vigorous foliage; after which no liquid manure whatever ought to be applied. This is quite consistent with the evidence collected by Mr. Dudley Fortescue, and published in the Minutes of the Board of Health, to which we have so often of late had occasion to refer. Speaking of Mr. Kennedy's farm in Ayrshire, this gentleman says: "Of the Turnips, one lot of Swedes dressed with 10 tons of solid farm manure, and about 2000 gallons of the liquid, having 6 bushels of dissolved bones along with it, *was ready for hoeing* 10 *or* 12 *days earlier* than another lot dressed with double the amount of solid manure without the liquid application, and were fully equal to those in a neighbour's field which had received 30 loads of farm-yard dung, together with 3 cwt. of guano and 16 bushels of bones per acre; the yield was estimated at 40 tons the Scotch acre, and their great luxuriance seemed to me to justify the expectation. From one field of White Globe Turnips sown later, and *manured solely with liquid*, from 40 to 50 tons to the Scotch acre was expected. A field of Carrots treated in the same manner as the Swedes, to which a second application of liquid was given *just before thinning*, promises from 20 to 25 tons the acre."

Such we believe to be the principles that should regulate the periods of growth at which liquid manure ought to be given to plants. Those principles are founded upon what appear to be the natural requirements of vegetation—are consistent with all at present known of the subject; and seem to account satisfactorily for many of the failures that are said to have attended the application of this agent. Let us add, however, that they are fair subjects of discussion, and will be all the better understood if subjected to rational criticism. We should therefore be happy to receive the opinions of any correspondents whose *experience* enables them to coincide with, or to differ from us in this most important matter.

A late Number of the "Botanische Zeitung" contains the following notice: "Professor Schultes expressed his astonishment some years since, in an account of a journey through Saxony, published in the 'Regensburg Flora,' at the manner in which the high road between Weissenfels and Halle was adorned with gardenesque embellishments. A custom has lately sprung up at Breslau of depositing specimens of beautiful flowering plants, such as *Lilium tigrinum, Lilium lancifolium, Campanula pyramidalis*, &c., on the public promenade. These are placed there by private individuals, in the assurance that they will not be injured, and with the view of extending as widely as possible the pleasure they themselves derive from their floral treasures."

This paragraph reminds us of a practice which was long pursued by one who was an ardent admirer and cultivator of flowers, and who loved that the pleasure he himself derived from them should be shared as much as possible by his neighbours, of placing all his best specimens in a window looking out on the public street, for the express purpose of allowing others to enjoy their beauty; a privilege which they were not slow to appreciate, and for which, in various ways, they often expressed their gratitude—a quality, be it observed by the way, which we fully agree with the poet is far more common than people in their own selfishness are generally apt to allow.

> "I've heard of hearts unkind, kind deeds
> With coldness still returning:
> Alas! the gratitude of men,
> Hath oftener left me mourning."

The same admirable poet may be quoted also as showing how consonant such kindly diffusion of pleasure is with the love exhibited in the material world:—

> "Thus pleasure is spread thro' the earth
> In stray gifts to be claimed by whoever shall find;
> Thus a rich loving kindness redundantly kind
> Moves all nature to gladness and mirth."

It may not, perhaps, in our climate, be possible to follow the people of Breslau literally. It strikes us, however, that an opportunity for much interchange of good feeling and general gratification of this kind may be afforded on a very extensive scale, and one which will be seized with eagerness should the Crystal Palace ultimately be retained. A large portion of the public is necessarily excluded at present from the horticultural exhibitions, which afford, perhaps, one of the most interesting and innocent opportunities of recreation which can well be imagined. Those who have not witnessed the triumphs of horticultural art collected together on such occasions, can have no conception of what has been effected by the well directed energies of modern cultivators. Many of the exhibitors, we are convinced, would, under proper regulations, readily embrace an opportunity of giving the same privilege of enjoying the sight of these splendid productions to tens of thousands, which they now do to thousands; and we are quite sure that everything like sympathy in the higher classes, with the pleasures and feelings of those whom Providence has placed in a lower but not less honourable situation, is not without its reward in an improved tone of mutual interest, which, in the present prospects and progress of society, is perhaps the one thing most to be desired. The experience of the late Exhibition has shown that confidence in the good sense and natural taste of the public will be always well repaid; and it is no less certain that every refinement of public taste will be rewarded tenfold in moral improvement. *M. J. B.*

THE TREE VIOLET.

While several varieties of double Violets are generally esteemed and extensively cultivated, the real merits of the tree Violet are but little known. It is true that, under ordinary out-door cultivation it does not appear to possess attractions superior to other kinds; it even assumes a more prostrate form, and on this account it is often confounded with the old double blue Violet, from which it differs in several particulars, the principal being a perpetual habit of blooming, while its rival produces flowers at one season only. It is, therefore, as a pot plant, that the tree Violet becomes more especially worthy of attention; and under this kind of management, its profusion of flowers, and delightful fragrance, render it worthy of extensive cultivation.

The plan I have found eminently successful in its treatment is to take young rooted layers in April, and plant them in light rich soil, on a border having an eastern aspect. During the summer the plants are liberally supplied with water, and as they progress in growth all root-suckers and side shoots are removed. By the middle of September they may be taken up, potted into 5-inch pots, and placed in a cool frame, where in a short time they will commence blooming. As autumn advances I remove them to a light and airy part of the greenhouse, where they continue to flower until April; at that time they are shifted into pots a size larger than those they occupy and again receive the shelter of a frame. I prefer this season for the subsequent annual shifts. About the middle of May they are placed out of doors under a north wall, care being taken to prevent worms from getting into the pots, by placing them on a layer of coal ashes; all decayed foliage and suckers are removed, and if large plants are desired it is requisite to take off all side shoots during this season. On the approach of autumn frosts the plants should be conveyed to their winter quarters, and treated as before. If due attention has been paid to keeping them in a healthy growing state, they will now be furnished with strong stems, 4 or 5 inches high, surmounted by a crown of large fragrant flowers; if necessary, the plants may be neatly staked, but under good cultivation supports will not be required.

When the season of potting again arrives, I shift into 8-inch pots, first carefully removing any unhealthy roots, or worn out stagnant soil; in the latter case it is preferable to shake away the whole of the ball, destroying as few fibres as possible; a tier of side shoots may now be allowed to proceed from the crown of the plant, these will naturally bend downwards to the edge of the pot; and a second tier being afterwards formed, as the crown advances in growth, fine pyramidal specimens from 12 to 15 inches in height will be obtained. When in perfection, these will be studded with flowers from the edge of the pot upwards. In subsequent shifts the ball should be carefully reduced, so as to allow repotting into the same sized pot as that the plants was growing in. I find 9 or 10-inch pots sufficient for the largest size; the plants may be annually shifted in these for some years with advantage.

The compost which I find most suitable for this plant consists of two parts good turfy loam and one part well decomposed leaf soil, adding a sufficiency of sharp sand to render the material porous; during the more active season of growth, an occasional watering with clear manure water will be beneficial, and a sprinkling of clean water over head, during the heat of summer, will assist in keeping down red spider; should that pest, however, make its appearance, the pots should at once be laid on their sides, and the plants well syringed on the under part of the leaves, as the ultimate beauty of the plant depends on the preservation of fine healthy foliage during summer. *Alpha.*

FOREIGN GARDEN GLEANINGS.

Berlin *(continued)*.—It only remains to notice the decorations of the edifices and public places of Berlin; and of these we must say that we were by no means struck with the way in which the gardens are kept; we visited them several times and in different seasons, and we were always surprised not to see that succession of well chosen flowering plants which renders such places attractive. The gardens of the country houses in the neighbourhood are, however, very pretty, being filled in front with ornamental, and behind with useful, plants.

Botanic Garden at Halle.—Small as is the garden belonging to the University at Halle, it would be wrong not to notice it; it contains some very fine collections, and is in every respect worthy of the celebrated school to which it belongs.

Establishment at Erfurt.—The most remarkable establishment for the cultivation of annual and perennial plants is that of M. Appelius. Every novelty is here; from this garden it was that we obtained our beautiful collection of white, red, yellow, and copper-coloured Xeranthemum, but by far the best cultivated of all the plants is the Stock, of which there are more than 150 choice varieties. The seeds are first sown in the open earth, and are then potted; but as soon as the period for fertilisation arrives, they are placed under sheds, that they may not be injured by changes in the atmosphere, which would materially damage the plants, either by dispersing or by washing away their pollen. At the time of our visit there were 50,000 pots arranged on shelves and under sheds, occupying nearly one-half of the whole garden. This gentleman trades largely in seeds and indigenous and foreign flowers.

Erfurt Botanic Garden is of middling size, situated in the midst of the town, and is under the superintendence of M. Bernard. The school contains some pretty plants and a small nursery; in other respects there is little difference between it and similar gardens, found in small Prussian towns.

M. Fred. Adolphe Haage's Establishment at Erfurt.—This splendid establishment deserves notice as much on account of the fine condition of the plants as of the great skil with which they are cultivated. Many plants rare with us are to be found here; all fine hothouse plants are cultivated here on a large scale. Among them may be mentioned Cycas circinalis and revoluta in propagation, which fill a small house, and of which several are already a yard in height; the price was about 15*l*.; edible Dions of extraordinary sizes; more than 100 varieties of greenhouse Acacias; a splendid collection of Erica, by the side of which is a quantity of Epacris, in pyramids of some 7 or 8 feet in

height ; a group of large specimens of rare shrubs, such as Araucaria excelsa and Brasiliensis, Grevillea robusta, Aralia trifoliata, Agnostus sinuata, Dammara, and Dacrydium. It is too, in this establishment, that there are some of the largest plants of Erythrina Crista-galli, behind which a man might hide himself with ease. Not to mention many other things which well deserve notice, we cannot omit the magnificent collections of Mamillarias, Echinocacti, and Melocacti (of which there are more than 600 species or varieties, and some thousand individuals). The latter plants are arranged in the fine season on an enormous rock, covered with earth to the depth of a few inches, and which, affording all requisite shelter, allows each plant to be placed in the light and heat required by it.

Market Gardening at Erfurt.—Erfurt appears to be the oldest market gardening town in Germany. Its vegetables have a great reputation, and nearly all Europe is supplied with the seeds of its Cauliflowers. Red Cabbages, Onions, Celery, and Cucumbers are sold in great quantities ; common and black Spanish Radishes and all other sorts of vegetables abound. The ground is most successfully cultivated on the alternating principle. Numerous streamlets supply moisture in summer and warmth in winter. These watercourses are used to nourish large Cress beds which were copied first at Senlis, then at St. Gratien, and Enghien-les-Montmorency, and of which we must say a few words.

Almost all the grounds near Erfurt are watered by streams flowing from springs that are cool in summer and warm in winter. The springs are divided into two parts, upper and lower, and on these are placed boards of different widths. The first, 12 feet wide, are used entirely for vegetables ; the others, only 9 feet wide, and 15 inches lower down, are used entirely for the cultivation of Cress. All these planks terminate in a little stream, so that by means of a sluice the lower ones are inundated ; a second sluice, placed at the other end, allows the water to flow into another stream, which cuts the garden in two, in a line parallel to the course of the first stream. In this way a considerable quantity of Cress is grown and cut every year ; it is sold at a high price in the neighbourhood of Erfurt and even in Berlin.

The soil of the gardens near Erfurt is deep, very fertile, and of a blackish colour ; it is admirably suited to the growth of vegetables. *Masson's Report.*

THE SALMON.—No. III.

The writer in the "Dublin University Magazine" has one very good suggestion, namely : that no net shall be allowed that will hold a fish of less than 5 lbs. weight ; this would supply a large quantity of breeding fish, supposing that these fish could be protected when spawning ; but, as I have previously remarked, unless the upper proprietors were allowed a good supply of 10 lb. fish the 5-pounders would not have much chance of returning to the sea again.

Another suggestion is to prohibit the killing of salmon fry, even with rod and line ; but, setting aside the impossibility of enforcing such a law, I see no more reason for prohibiting the catching of these fish (the most delicate eating of all fish, in my estimation) because they might, if they lived, become salmon, than I do for prohibiting the eating of eggs, because, if they were not eaten, they might be barn-door fowls some day or other.

It is very desirable that the passage of salmon over weirs and waterfalls should be facilitated by every means which does not interfere with what is of still more importance —the efficiency of the water-power for manufactures. On this subject I can speak with great confidence, as I have studied it for many years, and I have no hesitation in saying that there are few weirs which I have seen which could not be altered so as to greatly facilitate the passage of the salmon over them, and that without impairing the efficiency of the water power.

Another practice which ought to be put down with great severity is that of fishing with salmon-roe ; it is so destructive a bait for trout, when properly prepared, that it is in great request by all *pot-hunting* fishermen, and sells as high as *5s.* per lb. With it a man may clear a pool of every trout it contains. A young friend of mine, who had heard of the excellence of salmon-roe as a bait, worried me when he came to visit me to procure some for him. I got him as much as a wine-glass would hold. On seeing him again some time after, I asked how the salmon-roe had succeeded. He said, "Do get me some more ; with that you gave me I killed 50 trout ; each grain of it caught a fish."

The high price at which salmon-roe sells gives a great stimulus to the poachers ; the roe produced by a large salmon being worth three or four times the value of the fish ; and scarce as salmon are in this neighbourhood, I have just heard of a poacher, who has, or had, a few days ago, nine or ten pounds of this potted roe, of itself sufficient, if duly hatched, to stock the whole river with salmon.

I am very much afraid that there will be nothing effectually done to remedy this state of affairs, because the parties who interest themselves to obtain a change in the law are chiefly the proprietors of the fisheries at the mouths of the rivers, who, like Sancho Panza, when he was ordered to whip himself for penance, laid on very gently. An article in the *Daily News*, of a short time ago, seems to make this sufficiently apparent ; I quote the *Daily News* for what follows :—

"In 1849, the House of Commons, on the motion of Mr. Anstey, appointed a committee to inquire into the state of the inland fisheries of Ireland ; the obstructions which hinder the enjoyment of the same, and the best mode of removing these obstructions. The committee, after a laborious investigation, presented their report to the House ; in that report the state of the fisheries is described to be most languishing, and the causes of decline are pointed out ; it is shown that the rights of fishing have everywhere been usurped by private and illegal monopoly, and the law has by common consent been suffered to fall into desuetude ; that the proprietors of these illegal fisheries have been suffered to employ illegal engines of every kind to insure the largest possible amount of destruction ; whilst on the other hand, the poor debarred of their common right have practised reprisals wherever they dared, poaching in the upper waters, and destroying fish in season and out of season, and by every description of device ; and in these malpractices, according to the report, *they are generally abetted* by the magistrates of the upper waters. * * * * * * It only remains to be added, that with scarcely an exception, none but Irish members sat upon this committee.

"Thus far all is clear and intelligible enough ; Mr. Anstey was requested to prepare a bill ; the session came ; the bill was laid on the table, read a first time, and printed ; but when the day appointed for the second reading came round, the member for Donegal, Mr. Conolly, supported by a majority of those very Irish members who had voted for the report, induced the House to reject the bill, as an unconstitutional invasion of public and private rights. * * * * Another bill has been prepared, almost word for word like the rejected one, and the member who has charge of it is Mr. Conolly ! Truly, the Irish question is exceedingly hard to be understood."

I fear that this quotation, although much abridged, will be too long for the patience of your readers ; but, long as it is, it is too short to do justice to the ability of the writer,—but it is, I think, sufficient to show that if the wolves make laws, the sheep will not be very well protected. I trust that if this second bill comes before the House of Commons next session, it will not be left to the guidance and management of Irish members : but that gentlemen having no sinister views or interests to serve, will be induced to interest themselves in the question, and determine on, and pass a comprehensive and well-digested law, which shall embrace the whole kingdom. I have seen it stated that the Duke of Sutherland had given a jubilee to the salmon in his rivers in Sutherlandshire, for either one or two years, and I have heard within a few days that there is an extraordinary increase of the salmon, in consequence of this judicious liberality ; can his Grace be induced to give the country the benefit of his experience, by requesting his factors to publish the results of his experiments ?

The writer in the "University Magazine," winds up his paper by an account of the herring fishery in Ireland, for which he modestly demands a grant of the public money. As I know nothing about herring fisheries, I will say nothing about them,—but merely remark, that it is with the Irish, give, give, give ! as if England had so much money that she did not know what to do with it, and Ireland was entirely destitute ; if an experimental farm is to be established—a grant ; the establishment of manufactures—English capital ; the forming of a railroad—a loan from Government ; and yet if land is to be sold, there is plenty of Irish capital to buy it : and I saw it stated in the papers a short time ago, as the assertion of an Irish official, to (I think) the Irish Freehold Land Society, that he knew there was as much unemployed Irish capital as would buy up 13 or 14 Irish counties. I should be digressing, or I could give you a chapter (and a disastrous one), of the employment of English capital in Ireland ; and then they scream out Ireland for the Irish ! The little town where I was born, with less than 4000 inhabitants, finds work and shelter for more Irishmen than I believe the whole of Ireland (barring, perhaps, the province of Ulster), does Englishmen. Ireland for the Irish ! shortly it will be, England for the Irish also.

In conclusion, I would urge on all the country gentlemen to consider seriously whether they will allow the breed of salmon to become extinct ; when a judicious and equitable law would give such a chance for the increase and due protection of the fish, and the consequent increase of value in the fisheries.

I may perhaps be allowed to add, that this change of the law would not be of the slightest pecuniary benefit to me ; the only advantages which I should derive from it would be, the probability there would be of excellent sport for me as an angler, and the health and enjoyment which would be attained in the pursuit. *T. G., Clitheroe.*

Home Correspondence.

Acacia dealbata.—Of all hardy winter blooming plants with which I am acquainted, this is by far the best. In order to give some idea of its beauty, I may state that it is handsomer, both in flower and foliage, than the well known Acacia armata. The plant here proves that in the neighbourhood of London, at least, it is perfectly hardy ; it has been planted 20 years, and now it covers 18 square feet of wall ; it is literally one mass of bloom from top to bottom, and is so conspicuous that it may be seen a quarter of a mile off. I usually take the precaution to nail it close to the wall in autumn, and in case of a continuance of more than 15° of frost, a woollen net is thrown over it ; its blooming this year is not an exception, for it has only missed flowering two years since it was planted, and these mishaps were occasioned by the young shoots being cut back by the frost. Every one knows what soil Acacias require ; but remember, ground for them must be thoroughly drained. *J. Rust, gardener to W. Everett, Esq., Enfield.*

Gardens in Cornwall.—I have not been without good specimens of Cinerarias and scarlet Salvias in the open garden during the whole winter ; to-day (Feb. 19), I gathered a beautiful bouquet of them. Yet we have had hard frost several times during the last four months ; indeed, the frost was so severe, that I found it impossible to penetrate the ground with a spade. It, however, did not continue longer than two or three days at a time. My garden is rather more than a mile from the sea, on the north coast, the elevation being from 400 to 500 feet above it. *G. W. M., St. Juliot Parsonage, Cornwall.*

Cucumber Roots.—It has been asked if it is a common occurrence for the stalks of Cucumbers to produce roots. I have cut Cucumbers and laid the stalks in water, by the side of hot-water pipes in a Vinery, and they have emitted roots freely. In this way I have kept Cucumbers in good condition longer than by any other method. Some may imagine that the fruit will shrivel ; but with me they are as solid as if they were growing upon the plant. If, for want of time, or ground not being ready, my Brussels Sprouts or Broccoli get too long in the leg, I always twist the stalk, and bring the root upwards. I find they root freely where the stalk is twisted, and always make better plants, than when planted in the ordinary way, with their long legs ; this is from 16 years' practice, and I believe it to be a good plan always to twist the stalks of all the Brasica tribe, except Cauliflowers, when they are planted out. They make about three times as many roots to support the plant, and those extra roots are near the surface, where they are most useful. *G. T., Witham.*

Old Pear Trees.—Five years ago, I leased an old mansion with extensive gardens ; the Jargonelle Pear trees were very large, but they bore only a few fruit on the extreme ends of the branches. My gardener said it was all owing to bad pruning, and he would make them bear in a year or two, which has never taken place. About 18 months ago I was in a friend's garden, whose Pear trees had been in the same condition 12 months before I was there ; he had cut off with a sharp chisel all the old spurs, which had got cankered, leaving the branches quite bare, and when I saw them they were making strong young shoots all over the trees. I saw my friend the other day, and he told me that his trees were showing one mass of flower-buds this year. He also painted his trees with spirits of tar (cost *2s.* per gallon), which killed all green moss and vermin. On my return from seeing my friend's garden, I got my carpenter, and commenced at one of the trees, cutting off all the spurs, except the bearing ones at the ends of the branches. My gardener came to see what we were about ; after looking for some time, he said he had seen much, but he had never seen a tree so thoroughly spoiled, and turned upon his heel. I proceeded with my experiment on some of the trees ; I cut off the spurs of the one side, leaving the other to the gardener. All the tree, and the parts of the other trees that were cleared of spurs, sent out nice strong shoots, and I have no doubt that in another year they will bear well. My gardener has become a convert to the plan, as last autumn he went over the whole of the trees, cutting off the cankered spurs ; he has also gone over the espalier Apple trees, and cut off every other spur, which I think will make them bear better, as they produced little else than leaves ; what blossom was on them was much eaten with vermin. I have got all the trees in the garden painted with spirits of tar ; before doing so, all the trunks were scraped, taking off the loose and dead bark. The painting is a very simple process ; the person has only to take care not to touch the buds with the tar. As to mealy bugs, I had one tree, an Irish Pitcher, covered with them, and I intended rooting up the tree ; but before doing so, I thought of giving it a thorough good painting with the spirit, which seems to have had the effect of killing the bugs. *Tyro, Edinburgh.*

Polmaise Heating.—Greatly interested in this subject, I have entered into it with some of the late Mr. Meek's enthusiasm, and have "Polmaised" a stove, whenever I had the power ; always with successful action, whether placed high or low. In the case of a neighbouring ancient church, at the top of a hill, I was allowed to put a little stove, holding a mere hatful of coke, into an old niche, which we converted into a hot chamber, adding a long length of common iron pipe chimney ; we brought air from the centre aisle, under a short pew, then carried up a trunk perpendicularly, to the bottom of the niche ; the stove was troublesome to manage, but the action was perfect, the heat from so much iron considerable ; and, from the loftiness of the church, the volume of air heated was very great ; and yet a man of education told me the cold air would not travel up the perpendicular drain ! Again, in the place where I live, a schoolroom, 30 feet by 20 feet, and 26 feet high to the apex, is heated by another square iron stove, price *12s. 6d.*, but which we have deepened by one course of fire-bricks. This is fixed in the fireplace of the room, walled up flush with the face of the stove ; the smoke pipe is 4-inch gas-pipe, running up the chimney, which is stopped at about 12 feet high, and thus we get a long funnel of an "air chamber," from which, by contrivance, we admit the hot air by two ventilators, one (to avoid waste of heat) just above the stove, the other at the top of the funnel. The floor of the room is laid hollow, there are three gratings in it, and four small external gratings below the floor line. This heats the room perfectly ; I expect this stove will last one or two winters longer, before we need put in a permanent one ; as the fire is in contact with bricks, it does not require any excessive attention. In my own dwelling-house I have adopted Mr. Rivers' idea of a brick Arnott stove (see page 5, 1846), which I have surrounded, nearly in Mr. Meek's manner, with a hood of freestone, but I have added a third door, to dislodge and remove clinkers from the bottom of the furnace, and to stir the fire. I insert a loose brick within this door when the fire is made up ; I do not let it go out once a

a month, and the attendance it requires is a very few minutes every 12 hours. My stove is larger and deeper than Mr. Rivers', and has, as I have said now, an iron plate at the top; it consumes only from five to six farthings-worth of coke in 24 hours. If I should relate all that has been said by friends and inmates about the pleasant, healthy, uniform heat we get, it would be thought fanciful. The stove, much to the advantage of the cook, is situated in a scullery on a level with the hall; a short drain from the hall supplying cold air below the ashpit. A large ventilator in the wall gives exit to the heated air from off the top and sides of the stove. I have made no communication with the external air, as the hall is large, 30 feet by 10 feet, and for two-thirds of its length it is as much as 20 feet high, with many doors. By leaving open the door of any room, especially if we close the register flap in its chimney, the air becomes sensibly interchanged with that of the warm hall. My latest experiment has been in our union workhouse, where a freestone partition runs across a high building, now to be used for schools. A Phœnix stove is on the girls' side; its chimney carried through the partition, and up 30 feet high on the boys' side. In the one school I have Polmaised the stove, in the other, the first few feet of the chimney, bringing air up direct from the hollow floors, each of which has one internal grating, and external communication. The action appears perfect, and the rooms sweet. Sufficient has now been said to show how easy is the practical adaptation of Polmaise wherever there is "a will." I may add that a gentleman, one of Mr. Meek's most esteemed correspondents, in writing to me lately, used these words, "It has never failed with me." I gather from your columns that want of power has been a complaint of some who have followed Mr. Meek's plans, at least his earlier ones. May I not suggest that in nine cases out of ten, three sides of the hooded stove might be built without inconvenience within the area of the building, whether on or below the floor line; this would give immense advantage, and if the fourth (*i. e.* external) side, were in a potting or working shed, it would be a nice arrangement. Iron conducts heat, as we know, almost too rapidly, and therefore cools as quickly; I take it, however, that even 9-inch brickwork retains or deadens too much heat, and therefore I think Mr. Meek's suggestion of a 14-inch stove (for the sake of a large heated mass of bricks), would not have been a step in the right direction. Mr. Lewis, of Stamford-hill, has some very neat double-cased (*i. e.* Polmaised) iron Arnotts; but probably a 9-inch brick stove, proportionate in size to the space required to be heated, if placed "within the area of the building," may conduct, in all cases, sufficient heat, combined with what may be obtained from the chimney pipe or flue. Nothing is cleaner than an Arnott stove, nothing more simple, or more under the command (as to degree of heat), of a person with common intelligence, though not, I fear, to be trusted to female management (in a village school, for instance). Mr. Meek's stove is quite on this principle. The iron plate may be a course or two higher above the furnace than in his plan, and therefore less liable to be cracked. I am able to say that the identical plate described by Mr. Meek (28th August, 1847) is now, after five years' trial, working perfectly well. Let me point out that, wherever it is strictly copied, the four thin plates of iron (H), must rest on the cast-iron plate (F), as will be evident on attentive perusal; in the engraving they appear to be asunder. Let attention be paid to Mr. Rivers' fire-lump (F), which is excellent; and let a clinker-door (not too small) be adopted. If the heat at the doors be not wasted, I would not try to isolate more than the three inner sides of the stove, which will give the mason a great advantage, and save both time and expense. I have never been annoyed with gas, thanks to your hint of drilling a hole in the fire-door; not one of my doors is latched. To sum up what I have been saying, I cannot imagine a cheaper way of going to work than a brick Arnott, an iron plate for the top, exactly answering Mr. Meek's description, but of any size required, and bars, doors, chimney pipe, elbows, and soot door (with damper, if for a hothouse), from the nearest foundry or large ironmonger's. At the neighbouring city I find these are always to be had, and Stourbridge bricks and burrs of every size, so that the expense of a clever mason for a few days is all that is needed, beyond some inexpensive material. In conclusion, I must apologise for the length of my remarks, which I hope will be excused, on account of the earnest interest I take in the promulgation of this most pleasing subject. *G. W., Feb.* 9.

Orchard Houses.—If "A Hertsman" will apply to Mr. Burton, builder, Sawbridgeworth, who furnished me with the estimate given in my little pamphlet, he will build him as many houses as he can want on the same terms. By employing Larch, from 5 to 6 inches in diameter, once cut through for studs, I have and can build them at a considerably less cost than the estimate. I have no "spleen," but I will confess to having been amused at the first letter of "A Hertsman;" his last I did not see till yesterday. *Thos. Rivers, Feb.* 25.

Tomatoes.—The following is my plan of ripening them by the summer's sun in this northern climate, for I am situated in the North Riding of Yorkshire. Although Tomatoes are in great request here, I have no glass to spare for such plants. I sow my seed early in February in a Cucumber frame. When the plants are fit to handle I pot them into 5-inch pots, and encourage their growth in a warm frame until they are a good size. They are then placed in a cold frame until the season for planting out against a south wall has arrived. Their growth is encouraged in every possible way until the plants are two or more feet high, either with one or two stems. The top is then taken off, and every lateral removed as soon as it appears. Removing the laterals is essential to the early production of flowers and fruit; plants treated in this way will produce flowers in great abundance at every point, and in good time to ripen fruit by means of sunheat. *Tomato.*

Peaches on Protected Trellises.—It is remarked that Peaches on the trellis in the garden at Chiswick have failed to ripen; this must, I think, be owing to its standing in an exposed situation and to its being of small extent, so that the draughts at the back and at each end dissipate the heated air too rapidly; my trellis is 60 feet long and 7 feet wide. I had but few Peaches last year, but they ripened well, and were some of the largest and finest in flavour I ever tasted. To check the red spider the lights were taken off three or four weeks in June and July, but this did not prevent their ripening at the usual period; they are mid-season varieties, *i. e.*, from the 6th to the 10th of September. The trees made fine healthy shoots, and are now in a most promising state; my trellis was open at back all the summer, the lights in front are about 9 inches from the ground. *Thos. Rivers, Sawbridgeworth.*

Orchids for the Million.—Amongst the most easy of cultivation is the Zygopetalon Mackayii, and the different similar species and varieties. It is a very free flowerer, and blooms through the end of autumn and winter, and is very handsome. My gardener considers that with a little care it might be so grown as to flower twice a year. *Dodman.*

Osage Orange (*Maclura aurantiaca*).—I should be glad to know if this plant is generally known and cultivated in this country. In 1849 I brought some seeds from Ohio; they were planted and have grown well, making handsome plants. In this country, and in all countries North of Ohio, I find they are deciduous; but in Arkansas and the Southern States they are evergreen. I may observe, that my plants have had entirely out-of-door treatment, and that they are very healthy. *Inquisitor, Lee Place, Lewisham.* [The plant is not uncommon, and quite hardy; but it never has flowered.]

Rain at Itchen Abbas (*near Winchester*), *Hampshire.*—

	Ins.	Wet days.		Ins.	Wet days.
January ...	4·08	... 20	August	2.10	... 12
February ...	1.25	... 10	September	0.23	... 4
March ...	4.33	... 18	October ...	3.51	... 16
April ...	1.93	... 14	November...	0.48	... 10
May ...	0.83	... 12	December...	1.61	... 6
June ...	1.80	... 13			
July ...	2.34	... 20	Total ...	24·49	... 155

Averaging 2.04 inches to each month, or nearly 0.16 to each rainy day. *W. W. Spicer.*

Removing Dead Branches from Forest Trees. — "Expertus" asks (see p. 37) whether I would suffer dead and rotten boughs to remain on forest trees to the injury of the timber? I answer—decidedly not; nor had I the opportunity would I suffer them to exist at all, but off with them as closely as possible. Nevertheless this is an exceptional case merely, and has nothing to do with systems of pruning. A late correspondent put the question, in one of your Numbers—"What is Pruning?" and proceeded to answer it; but as far as my recollection serves, his answer referred chiefly, if not entirely, to exceptional cases, in most of which I felt disposed to concur. Now, it is easy to state cases in which pruning or lopping may be quite necessary, in all which I avowed myself a pruner from the beginning of the controversy, especially in giving a direction to trees in their infancy. Afterwards to prune forests or plantations, where the design is to accelerate maturity at the earliest period of time, seems to me to be a piece of mistaken economy, as its tendency is obviously at once to injure the quality of timber and retard its growth. I allude of course to systematic pruning. As "Expertus" does not wish to prolong the subject, I hope I may feel assured he is convinced of the impropriety of systematic pruning, as well as those correspondents who formerly opposed my views; I should greatly prefer such a feeling to any prolongation of the subject. *Quercus.*

Bokhara Clover (*Melilotus leucantha*) is very attractive to bees. It grows 6 or 7 feet in height, and bears numerous wreaths of small white flowers. When the foliage is slightly dried it becomes extremely sweet, smelling like new-mown hay, or the Tonquin Bean. A small sprig kept in the pocket, or in a drawer or wardrobe, is sure to discover itself by its agreeable odour. Its seed should be sown in spring. *Hardy and Son Maldon.*

Societies.

Linnean, *Feb.* 17.—R. Brown, Esq., in the chair. The Secretary announced that the Palæontographical Society had presented a complete set of their works. The new volume of the Ray Society's publications, being a monograph on the family of Cirripedes, was presented by the author, C. Darwin, Esq. A continuation of Mr. Joseph Wood's notes of a botanical tour in France was read. Mr. Curtis made a communication on the fact observed by M. Lortet, of Lyons, that the snow which covers Soldanella alpina forms around the plant a mould or case produced by the melting of the snow. The inference drawn from this fact by M. Lortet was, that plants gave out heat. The President had not heard this fact stated before.

Botanical of Edinburgh, *Feb.* 12.—Professor Balfour in the chair. Several donations to the library were announced. The following papers were read:—1. On the uses of Stillingia sebifera, or Tallow Tree of China, being the substance of a communication made to the Agricultural and Horticultural Society of India; by D. J. Macgowan, M.D. 2. On Victoria regia, Lindl. By Mr. Otto, Curator of the Hamburg Botanic Garden. Communicated by Mr. G. Lawson. This communication consisted of an account of the mode of treatment adopted by Mr. Otto, in the successful cultivation of the Victoria in the Hamburg Botanic Garden, accompanied by observations on the plant's growth. The quickest development he observed was in the case of the 15th leaf, from the 19th to 20th August, which increased about 9 inches in 24 hours, and from the 20th to 21st of the same month, when it increased 11 inches in 24 hours. The leaf stalks only extend after the leaves are nearly full grown. After giving a full detail of the progress of the plant, and the development of flowers and fruit, Mr. Otto enumerated many other exotic aquatics which he had successfully cultivated in the same Aquarium. 3. On the structure and reproduction of Volvox Globator. By J. Sibbald, Esq. 4. On the development of the Sporidia and Spores of Lecanora tartarea. By W. T. C. Thomson, Esq. The author gave a sketch of the structure of Lichens in general and of their mode of nutrition and re-production. He commenced by giving a definition of the terms used. He considered spores as being the ultimate germinating cellules, the product of the division of the compound granular cell which is the result of the union of the conjugating cells in cryptogamic plants; sporidia as the compound granular cells, the product of the union of conjugating cells; protosporidia as the simple cells of Lichens in which the two conjugating cells are afterwards formed; gonidia as free cellules derived from and part of the cellular tissue of the parent plant, capable of continuing to a certain extent their development when free from the parent, without the intervention of the true generative act of conjugation (the analogues of free buds or bulbils in Phanerogameæ). Mr. Thomson also considered the proembryo in Ferns and other cryptogams as the cellular expansion formed by the development of the gonidium, and containing the conjugating cells. This pro-embryo, then, corresponds to the ordinary cellular expansion of Lichens.—Dr. Balfour stated that Mr. Dick had analysed the leaf of Livistona chinensis, Sabal umbraculifera, Chamærops humilis and arborescens, grown in the Palm House of the Royal Botanic Garden, and had detected a very notable quantity of manganese in their composition. He exhibited on a platina wire an opaque bluish green bead, the result of fusing the ashes with carbonate of soda in the outer flame, so as to produce manganate of soda (soda mineral chameleon); and a transparent violet bead obtained by heating the ashes with borax and a trace of nitre, so as to produce a glass coloured like the amethyst by oxide of manganese.—Mr. M'Nab read the following report on the state of vegetation in the Edinburgh Botanic Garden, from 8th Jan. till 11th Feb.

Name.	Date of Flowering. 1852.	1851.	1850.
Rhododendron atrovirens ...	Jan. 14	Jan. 2	...
Garrya elliptica...	,, 20	,, 14	Dec. 24
Rhododendron Nobleanum ...	,, 23	Feb. 2	...
Geum pyrenaicum	,, 23	Jan. 20	March 22
Erica herbacea...	,, 24	,, 16	...
Corylus Avellana	,, 25	,, 16	Feb. 16
Azara dentata	,, 26	...	...
Alnus glutinosa	,, 27	,, 13	...
Galanthus nivalis	,, 28	,, 17	Feb. 11
Knappia agrostidea	,, 31	,, 28	,, 22
Daphne Mezereon	,, 31	,, 28	,, 22
Eranthis hyemalis	,, 31	,, 15	,, 14
Cornus mascula	Feb. 2	Feb. 14	...
Symphytum caucasicum ...	,, 2	Jan. 23	March 14
Galanthus plicatus	,, 3	,, 28	Feb. 14
Crocus Susianus	,, 3	,, 26	,, 16
Helleborus lividus	,, 3	,, 11	March 19
Sisyrinchium grandiflorum ...	,, 3	,, 27	,, 12
Potentilla Fragariastrum ...	,, 5	,, 26	Feb. 5
Helleborus [illegible]orus	,, 10	,, 20	,, 14

Mr. M'Nab also laid before the meeting the following Report of Temperatures observed at the Botanic Garden from the 8th January to the 11th February, 1852:—

Date. 1852.	9 P.M.	Daylight, A.M.	Lowest during Night.	Date. 1852.	9 P.M.	Daylight, A.M.	Lowest during Night.
Jan.	Deg.	Deg.	Deg.	Jan.	Deg.	Deg.	Deg.
8	39	38	35	26	38	30	28
9	34	28	28	27	35	45	28
10	29	33	28	28	49	39	39
11	37	37	31	29	36	37	35
12	37	32	32	30	42	39	37
13	23	31	21	31	38	35	35
14	40	42	37	Feb.			
15	42	44	37	1	40	42	40
16	40	40	35	2	45	43	43
17	40	46	38	3	45	44	42
18	42	45	38	4	43	43	43
19	45	43	40	5	40	41	39
20	42	43	43	6	37	37	37
21	43	42	36	7	43	40	40
22	40	38	40	8	40	37	37
23	42	40	36	9	35	36	30
24	41	40	36	10	35	36	24
25	49	48	45	11	45	45	43

Mr. M'Nab read the following extract from a letter from Dr. G. M'Nab, Kingston, Jamaica, dated 13th January, 1852: "With reference to your inquiries regarding the paper made from the Spanish Dagger Plant, exhibited at the Botanical Society by Mr. Sawers on the 13th November last, I have to state that the Spanish Dagger is the Yucca aloefolia, a plant very common in this country for making fences; the fine paper-looking substance is got by breaking the lower part of the leaf along the midrib, then pulling each half

gently from the cuticle which covers the upper surface. It is most easily got from the young leaves, as in them only it separates freely; it can also be got equally well from the young leaves of the Yucca gloriosa. It is an excellent article for making artificial flowers, as it takes on colours freely."—A communication was read from Mr. Keddie, of Glasgow, in which he stated that he had found vast profusion of Batrachospermum vagum in the pools and rivulets immediately under the upper part of Goatfell, in Arran, about the place where the granite comes into contact with the schistose rocks.—Two new members were elected.

MICROSCOPICAL, *Jan. 28th.*—Dr. ARTHUR FARRE in the chair. Mr. W. King, of Stepney, and Mr. H. Perigal of Chelsea, were elected Fellows.—A paper was read by Mr. Quekett, on the structure of Raphides. The author commenced by stating that inorganic substances were found in plants under two circumstances. First, in crystals, as in the case of phosphate and oxalate of lime; second, as a portion of the tissue, as in the case of silica in the bark of Equisetaceous and Gramineous plants. The crystals were stellate or single, from the $\frac{1}{10}$ to the $\frac{1}{1000}$ of an inch in diameter. Single crystals of oxalate of lime were acicular, those of phosphate of lime were rhomboidal. Numerous plants were referred to, in which Raphides were found, as the species of Cactus, the Lime, Rhubarb, Elm, Apple, Onion, and other plants. The author exhibited drawings of artificial Raphides, which had been formed in the tissue of Rice-paper, by the late Mr. Edwin Quekett, by immersing the cells first in lime-water and afterwards in oxalic acid. In conclusion, the author gave a detailed account of some stellate Raphides he had found in great abundance in a species of Cactus. On dissolving up the inorganic matter of these crystals, by means of hydrochloric acid, he was surprised to find that an organic base was left, perfectly similar in form to that of the crystal which had been dissolved. From this fact, Mr. Quekett inferred that all these crystals were deposited with organic matter. He referred to the structure of calculi in the human and animal body, which were always deposited upon or with an organic base, as proof that this law was general, and that the deposition of inorganic salts in the tissues of plants and animals was always connected with the growth of organic matter. Dr. Lankester referred to the case of crystals in Chara upon the surface of the plant, which seem to originate in cells, in the same manner as hairs. Dr. Mantell enquired as to the mode of growth of the crystals in the interior of the cell.

Garden Memoranda.

ROYAL NURSERY, SLOUGH.—Considerable alterations for the better have been effected here since our last visit. One or two new glass houses have been put up, and others remodelled and modernised. In one of the latter, which is attached to Mr. Turner's dwelling-house, was a small bank of Camellias coming nicely into bloom, intermixed with Lilacs and shrubs of that sort, which submit to gentle forcing. Among these none were more interesting than the Chinese Jasminum nudiflorum, whose primrose flowers, set off by the shining deep green leaves of the Camellias, had a cheerful and enlivening effect. In the neighbourhood of London this plant is now in flower on the open wall, where it is very ornamental at this comparatively dull season. Chinese Primulas, Hyacinths, early Tulips, and other forced bulbs, completed the floral decorations of this house. We may mention here that few plants are better adapted for early spring flowering than Dielytra spectabilis. The value of this Fumewort for the purpose is not sufficiently known. A few strong plants with from three to six spikes of gracefully pendant rosy flowers in full perfection have a charming effect. They should be lifted out of the open border, and placed in a gentle heat for a short time, until they have got well established, and as they come into flower they may be introduced to a cold house, where they will continue in beauty for a considerable time. A hand-glass put over those in the open ground at night will accelerate their growth, and bring them earlier into flower. Mr. Turner has erected a small house expressly for the growth of fancy Pelargoniums, which like a little more warmth than the ordinary kinds. They must not, however, be kept too close, or the wood will become drawn, and the flowers will be deficient in colour. At Slough they receive plenty of air all day (if the weather is at all suitable), even if a fire should be required to maintain the requisite temperature. Great attention is paid to watering, and the branches are well tied out, as much for the purpose of admitting air and light to the heart of the plants as to give them shape. Such treatment is well repaid, for we never saw more promising specimens than at present exist here. This remark also applies to the ordinary kinds which are cultivated here in quantity, both for exhibition and other purposes. A large and commodious house, erected some time ago, has been appropriated to their culture; here they have plenty of light and room, and we expect it would be difficult to find elsewhere plants in such robust health, and exhibiting so much hardiness of constitution. The stage in this house has the same inclination as the roof, and yet it is sufficiently low to enable the plants to be overlooked and closely inspected with facility. Tulips are just beginning to peep through the soil; they are matted over whenever the weather is so severe as to be likely to injure them. The quantity of Carnations at this nursery is immense; and we have never seen plants healthier or in better condition. A discoloured leaf could hardly be discovered on the whole stock. Up to the present time they have been kept nearly perfectly dry; but as soon as the weather sets in more genial they will be permitted to receive gentle showers. Pansies were showing their familiar faces both in the open air and in pits. It is surprising that this plant is not more sought after than it is for early spring decoration, for it will bloom from the middle of January onwards. Mr. Turner has some capital examples in pots for the forthcoming exhibition at Chiswick. One plant occupies an 8-inch pot, and the leading shoots (from four to seven in number) are arranged so as to form a handsome specimen without being too stiff. The latter evil belonged to all that we saw exhibited last year. He recommends the following as suitable for showing in pots. *Selfs of various Shades:* Blanche, Constantine, Duke of Perth, Ibrahim Pasha, Lucy Neal, Ophir, Polyphemus, Pompey, Rainbow, and Sambo. *Varieties with White Grounds:* Aurora, Almanzor, Caroline, Climax, Madame Sontag, Miss Thomson, Mrs. Beck, Mrs. Hamilton, Penelope, Sir R. Peel, and Royal Visit. *Varieties with different Shades of Yellow Ground:* Addison, Constellation, Duke of Norfolk, Diadem, Elegant, Euphemia, France Cycole, Iron Duke, Inventor, Mr. Beck, Masterpiece, Ophelia, Robert Burns, Sir Philip Sidney, Supreme, and Zabdi. Dahlias were in heat, and pushing freely.

FLORICULTURE.

THE RANUNCULUS is admitted by all to be the *ne plus ultra* of floral perfection, and yet we are sorry to say its culture is all but neglected by florists in general. We hope that its present limited cultivation may be extended, and that ere long all will be more familiar with its appearance; few flowers can be grown in so limited a space and with so small an annual cost. Look at the Hollyhock, the Dahlia, the Pelargonium, and the Tulip, they each require "an establishment," and they have it east, west, north, and south; and further, every season adds to the list of cultivators. Do these flowers possess individually greater beauties than that for which we plead? Its symmetry is *recherché*, its brilliancy unsurpassed, and for variety it stands alone! Among southern growers of this flower, Messrs. Tyso, Costar, Airzee, Reeves, and Hook, stand prominent; but these are not enough. It is numbers and increased popularity we require. Our midland florists seem to be as neglectful of our favourite as we are about London; and whatever may be the doings of our more northern brethren, of whom Mr. Lightbody is the acknowledged head, no cheering reports of great gatherings or of national demonstrations reach us; we will, however, no longer indulge in reproaches, but trust that a change in favour of the subject of our present remarks may soon be effected, and with a view to accelerate this desideratum, we take the liberty of pointing out the best methods of cultivation; and which are to be found in Messrs. Tyso's little treatise on "The Ranunculus," which is the result of many years' experience. No one intending to commence growing this flower could do better than study the little work we have just named. The following hints as to soil, formation of beds, and planting, will be valuable at this season of the year.

"The foundation of all good culture is the adaptation of the compost to the natural habitats of the plant. Experience teaches that the Ranunculus delights in a rich hazelly loam. If therefore the natural soil of the garden be unfavourable, procure the top spit of a pasture, of rather heavy and tenacious but not clayey qualities, with the turf, and lay it in a ridge some months, and turn it two or three times before use.

"To give precise and accurate directions in print for selecting a suitable soil is difficult, but it is deserving of remark, that a pasture abounding with, and luxuriantly sustaining, the British varieties of Ranunculus, or Butter-cups, as they are usually called, has also been found congenial to the Asiatic species.

"The addition of fertilising agents to maiden soil is of paramount importance. Many composts have been recommended to the amateur, the proportionate ingredients of which have been prescribed with the precision of a physician's formula. The secret of vigorous foliage and enormous blooms has been a mixture of powerful chemical stimulants, or a substratum of cow-dung a foot thick, or some other equally unnatural process! Our advice is to avoid quackery. Many valuable collections have been ruined by excessive applications of suitable manures, or the use of such as are destructive rather than nutritive.

"Decayed stable and cow-dung, in equal quantities, constituting together about one-third, added to two-thirds of loam, will, when mixed and thoroughly incorporated, form a compost for the main depth of the bed; reserving a portion of loam sufficient to make a top layer of soil two inches deep, to which about half the above-stated proportions of well decomposed manure may be added. It is of importance that the tubers should not be placed in contact with fresh manure, as it engenders disease in the roots, and consequent injury to the plants.

"Having chosen an open but not exposed part of the garden, which will admit of the beds being laid down about east and west, remove the earth a foot deep, and from 3 feet to 3 feet 4 inches wide, and fill the bed with the prepared compost, to within 2 inches of the surface; leave it thus a month, and then add the reserved top soil. These operations are best done in autumn, that time may be allowed for the earth to settle. The surface of the beds should be level, and not more than an inch higher than the paths, in order that the roots may be kept regularly cool and moist; and as the Ranunculus thrives on a firm bottom, the compost should not be disturbed at the time of planting, more than is just needful for that operation. During winter the surface may be pointed up rough to take the benefit of frosts, but in no case should this be done more than 2 inches deep. The beds may be neatly edged with inch boards painted lead colour, and in case named sorts are planted, should be numbered with white paint to correspond with the numbers entered in the amateur's list. As a bed, well constructed at the commencement, will admit of several successive plantings with an annual addition of fertilising materials, it is worthy of the particular care of the cultivator, though the preparation at first may involve some little trouble and expense.

"The best season for general planting is the last fortnight in February—the plants have not then to contend with the severities of the winter. In some favourable seasons roots may be planted with advantage in October; they will have more time to vegetate, and establish themselves; will make stronger plants, and will bloom more vigorously, and about a fortnight earlier than if planted in spring. Considerable hazard, however, attends autumn planting, and it is not recommended, except by way of experiment, to those who possess a large stock and can afford to risk a portion.

"In fine weather, towards the close of February, rake your beds perfectly level, and divide them into six longitudinal rows for mixed roots, allowing 4 inches from the outside row to the edge; or for named sorts, mark your rows transversely at distances of 5 inches asunder, and plant six roots in a transverse row. Draw drills one inch and a half deep, and plant the roots with the claws downwards, with a gentle pressure to secure them in the soil, so as to be one inch and a half from the crowns to the surface. When planting on a small scale a dibble with a shoulder at the precise depth may be used, but in large quantities it is an inconvenient method, and planting at the bottom of a drill with slight pressure, and without disturbing the subsoil, is attended with similar advantages to the use of a dibble, and in practice will be found to have some points of preference. If the top soil is light after planting, it may be gently beaten with the back of a spade; this operation, however, must be only done in dry weather." *J. E.*

INCONSPICUOUS PROPS FOR PLANTS.—I have been from home, or I should have written sooner, to disclaim the plagiarism attributed to me by a correspondent, at p. 103. In doing so, I have simply to state that I was unconscious that wire and props, similar to those described by me at p. 71, had been previously noticed elsewhere; and further, that I have not yet had the gratification of seeing such things used by any one but myself. I am quite disposed to give Mr. Sivewright all the merit claimed for him as *originator* of the props in question; I am not, however, indebted to him or any one else for a hint on the subject, which has engaged my attention since 1839, when I first employed painted straightened wires to support Hyacinths in pots. The plan I then adopted for these plants is so good that it may be worth description, as it secures the almost total concealment of the prop. The wire is bent about 4 inches from the end to be placed in ground (which end is inserted in a wooden socket) so as to form a curve over the bulb, and in this way the supporting portion of the wire rises from the centre of the bulb close to the flower stem, and is all but concealed by it. In conclusion, I think your correspondent might have claimed merit for Mr. Sivewright or others without being discourteous to me. *W. C., jun., Glasgow, February* 23.

ANTIRRHINUMS: *C.E.* These were invited by one society last season, but with so short a notice, that there was no competition. No doubt they can be shown well in pots. The variety in question is in the hands of the dealers. *J. E.*

CATALOGUE received from Messrs. Downie and Laird, 17, South Frederick-street, Edinburgh. *J. E.*

CINERARIAS: *T S.* An occasional application of liquid manure will assist their flowers. To every 30 gallons of rain water add one peck of either sheep or cow-dung; in the absence of these you may use horse droppings, and after well mixing, let the whole stand for at least 12 hours, when it will be fit for use without diluting. Apply it twice a week to strong growing kinds, but less frequently to the more delicate sorts. *J. E.*—*F T, Daventry.* A flower of full average size and of good colour (white strongly tipped with deepish purple). The petals are not broad enough to form a first-rate flower of so large a size, and the indenture at the tip of each was an otherwise good variety. Of the two blooms sent, one was much damaged. *J. E.*

HOLLYHOCK SEED: *H H.* Well-ripened seeds, if sown in the open ground in drills, between the present time and the end of March, will not only make good plants, but, with care, many will bloom in September. Stirring the surface of the soil, giving liquid manure, mulching in the hottest weather and the like, will by autumn meet with certain reward. *J. E.*

NITRE: *J K.* We have had no experience with it, and we believe it is not used by any of our best cultivators. *J. E.*

TULIPS: *Z.* says, "My bed is fairly up, and looking promising if not well." So many exchanges of varieties having been made last season between the south and north makes us anxious for the arrival of the blooming season. *J. E.*

MISC.: *E Bennett Dulwich*, shall not be forgotten. *J. E.*—*W. P. A.* To adopt your suggestion would be to create opposition. Class showing legitimately belongs to them and not to us; we say, let well alone; time will tell its own tale. *J. E.*

Calendar of Operations.

(For the ensuing week.)

PLANT HOUSES.

IN carrying out the potting of the general stock of plants at this season, regard must be had to the object

for which the plants are ultimately intended; to grow for exhibition is one thing and for the general purposes of country mansions another; we do not mean but that the plants should be grown equally well for both purposes, but in the majority of cases it will be found that for the embellishment of country seats, a larger number of moderate-sized specimens is preferable to a small number of large ones; while for decorating rooms, &c., we have previously pointed out that the smaller-sized plants are the most useful. Without going into detail how every class of plants should be dealt with in potting, we may observe, that for strong-growing plants, as Clerodendrons, &c., a rich compost should be used. Ixoras and their allies thrive best in equal parts of turfy loam and peat; and the same may be used for most soft-wooded stove and greenhouse plants—while compact, fibrous peat, and clean, sharp, gritty sand are indispensable for hard-wooded plants, both stove and greenhouse. In some instances (and especially where a somewhat large shift is given), broken pieces of soft brick, freestone, or broken charcoal may be mixed with the ingredients while potting. Shy-growing, delicate rooted plants should have only a small shift at a time; in this respect, however, much must be left to the cultivator. Previous to potting, soak the balls of such plants as are found to be dry, and liberate the roots slightly, that they may speedily take hold of the new soil. After potting a gentle watering should be given, and the plants kept a trifle closer for a few days. During very bright days the conservatory may require the shades being put over the roof; this will keep the bloom longer on the plants, and prevent large currents of cold air in the house, which lowering the sashes to the degree otherwise required would necessarily produce. Keep every part clean, and fill up all vacancies by supplies from the forcing houses. Pelargoniums will require constant looking after; fumigate on the first appearance of green fly. This class of plants requires a light place in the house, and should be sufficiently near the glass to prevent drawing. Those intended for early blooming should be placed at the warm end of the house. At this season an occasional watering with very weak manure water may be given; this, however, if carried to excess, is apt to cause the colours to run. The plants for the July blooming should now have their final shift. They will previously have been stopped, and the young shoots must be thinned out to the desired number, to form a specimen; a slight syringing may be given on the afternoon of fine days, but taking care the leaves get dry before night. Fancy Pelargoniums require a lighter oil and a trifle more heat. Calceolarias may now have their last shift; and, with Pelargoniums, should have a night temperature of not less than 45°.

FORCING DEPARTMENT.

Pinery.—The general shifting of the young stock of Pines will take place next month, and for this purpose a stock of dry loam should be ready, that when the favourable time arrives, no delay may take place. Where tan is used as a means of giving bottom heat, a supply should be on hand. In potting, be guided by the state of the roots and general health of the plants. To get the roots into action, the linings should now be kept up, and every means taken to start them into growth, previous to their being potted. Fruiting plants, when out of bloom, may have a slight damping occasionally, on fine afternoons, with tepid water. Tie up each fruit to one or two stakes, that the fruit and crown may be perfectly upright. In giving air guard against currents, and close the house early; towards evening, a slight admission of air should again be given, not sufficient to lower the temperature below the necessary point, but to keep the internal air in motion. If the fruit is wanted quickly, the night heat may be raised to 65° or 68°; and as light and heat are daily increasing, advantage should be taken of a few degrees each bright day. The increase of heat, at this season, will require the waterings to be more frequent, the water for which should not be less than 80°; and prefer giving less at a time, and more frequently, than large gluts at once. A change of cold weather having taken place, the outside borders of forcing houses should now be examined, and, if necessary, additions made to keep up a certain amount of heat. The increased fire heat in forcing houses which this will entail should be combined with a proportionate amount of moisture, more particularly as the days are bright, the external air remarkably dry, and consequently the moisture will be abstracted from them much more rapidly. Strawberries in bloom should be kept something drier; the fertilisation of the bloom depends mainly on the pollen becoming dry enough to detach itself; to effect this, we find a temperature in the day of 68° or 70° necessary. Air should be given early, but the plants will not be injured by being closed up for two or three hours in the after part of the day; a small quantity, however, should be left on at night. The fruit will set better by the plants being kept rather dry than damp at this season; see Calendar No. 4, respecting placing them in feeders. Melons, in frames, when sufficiently advanced, will require stopping (presuming there is one plant to each light). Select four of the strongest shoots; allow these to grow nearly to the sides of the frame, when they should be again stopped, the lateral shoots from which will show the young fruit. Remove all superfluous shoots and male blossoms; and throw all the energies of the plant into the fruit bearing shoots. Pay great attention, that none of the principal leaves are injured, as on their health, and entirety, the success mainly depends. Whether in frames or houses, the bottom heat should be kept steady at 85° or 90°; to which former point the daily temperature may rise, allowing it to decline to 70° by night; admitting a regular but cautious supply of air at every opportunity. These general remarks will serve for Cucumbers, with the exception, that the latter require rather more atmospheric moisture. As the roots of the plants extend themselves in the bed, additions must be made to the ridges, by adding, at two or three times, fresh portions of soil till the bed is complete; a fresh, somewhat strong, turfy loam, suits the generality of Melons best.

FLOWER GARDEN AND SHRUBBERY.

Move into pits, and other shelters, the stock of bedding-out plants, wintered in Vineries and other houses, now wanted for other purposes. Attend to the propagation of such plants as you are deficient in. If some of the bedding stuff has been planted out in frames, as we formerly advised, so that no damping occurs, after they begin to grow the danger will cease. Scarlet Geraniums, the fancy kinds of Pelargoniums, and the older bedding sorts, as Unique, Lady Mary Fox, &c., may now have a small shift; stop the tendency of the latter kinds to bloom at this period, by pinching out the buds, and encourage them into bushy plants, before they are planted out. A few annuals, for select purposes, may now be sown, as Cobœa scandens, Lophospermum, Maurandya, Tropæolum aduncum, and the scarlet, ten-week, and German Stocks, for early blooming; all the above will require sowing in small pots in a slight heat. The borders, in connection with the shrubbery, should now be finished digging or forking for the present, and heavy soils should be left rough, and exposed to the winds of March. The preparations of beds and parterres, for summer flowers, should now be forwarded, paying due regard to their future occupants, in forming the compost for each. After the proper additions of fresh soil, &c., have been made, the beds should be frequently turned over, to dry and pulverise. Herbaceous plants, as soon as they are above ground, should be forked between; and next month will be a good time to form fresh beds of these beautiful hardy plants, to which additional novelties are yearly being added. Provide some kind of protective material for the early flowering scarlet Rhododendrons, and a few other things, whose beauty is often cut short by spring frosts.

HARDY FRUIT GARDEN.

Now is the time to begin with protecting the bloom of all our most valuable wall fruits, if such has not been already done with some, by way of retarding them. Canvas—old fish netting, placed loose and double, or single woollen netting—should be brought into demand, according to circumstances. The spray of the Spruce Fir affords a cheap and useful shelter when other and better things cannot be had. And where Beech woods abound, the undergrowth, with the dry leaves attached, is certainly very little inferior to some of the more expensive plans.

FLORISTS' FLOWERS.

Amateurs may now fairly begin their pleasing duties. One of the first things that claim attention will be potting Carnations and Picotees; according to the old system, this was often deferred till April, even till the plants had began to spindle. It will be found far better to begin now: the soil, as a matter of course, being in a fit state of preparation. If florists mean to excel, they must take due precaution, and it would hardly be wise to remove the plants from a frame, and plant them in the blooming pots, without some protection from the rain, frost, and sleet, which we shall yet most assuredly have. Top-dress Auriculas, carefully removing the surface soil, and fill up with rich compost; look well after green fly, and increase the quantity of water. If Ranunculuses are not already planted, level down the bed the first fine day, and get them in; plant in drills 4 inches asunder, and 1 inch deep; beat the bed with the back of a spade, so that the bulbs may be firmly fastened; this is a great point in their future well-doing.

KITCHEN GARDEN.

The present dry weather will act most seasonably on soils saturated by the late heavy rains. The preparation of ground intended for spring cropping should therefore be pushed forward, that nothing in the state of the ground may prevent the sowing and planting of the various crops, whenever the proper time arrives. In kitchen gardens (and generally for field culture as well), it will be found the most desirable to sow everything in drills, both as regards appearance and the after cultivation of the crop. And this plan, where room is an object, affords facilities for interlining the main crop; either with others of a shorter duration, or to succeed the first planted. We often see this plan followed by the London market-gardeners—quite a sufficient plea for its adoption, whenever economy of space is an object. We have before remarked that ground for vegetables should be worked deep; there are very few vegetables whose roots will not penetrate to a considerable depth if the ground is open enough to receive them. The autumn-sown Onions may now be planted out in lines 1 foot apart; and a few very small ones of the last year's crop may be added to come in early. In dry situations a sowing may be made of the general crop, but it will be safer to wait for a week or two, in most places. Sow on dry sandy loam a small crop of Short-horn Carrot, and on a warm border Six-week Turnip; successional sowings of small salads and Radishes may be made every fortnight; and in the same way keep up regular sowings of Peas and Beans. Harden off everything in frames for planting next month; and prick off the young Cauliflowers and other spring raised vegetables, into frames, or cutting pans, for transplanting out afterwards. Sow a small crop of round Spinach. The early crop of Peas may now be struck, as it will give them more shelter; proceed with the making of plantations of Kale, Rhubarb, &c.; protect the latter by covering the crowns during frosty weather. Whenever the state of the ground will permit, the main crop of Potatoes may now be planted. The mode of planting matters but little, provided they are not buried too deep, and have sufficient room between the rows to allow the sun and air to act freely on the foliage; for this purpose the rows should, if possible, run north and south; on heavy soils, a sprinkling of dry lime, soot, or wood ashes over the seed would be of benefit.

State of the Weather near London, for the week ending Feb. 26, 1852, as observed at the Horticultural Garden, Chiswick.

Feb.	Moon's Age	Barometer. Max.	Barometer. Min.	Temperature. Of the Air. Max.	Of the Air. Min.	Of the Air. Mean	Of the Earth. 1 foot deep.	Of the Earth. 2 feet deep.	Wind.	Rain.
Friday.. 20	29	30.186	30.117	38	15	26.5	38	38	N.W.	.00
Satur. .. 21	1	30.362	30.233	42	32	37.0	36	38	W.	.01
Sunday . 22	2	30.574	30.423	46	22	34.0	37	37	N.E.	.00
Monday 23	3	30.637	30.572	46	23	34.5	37	38	N.E	.00
Tues. .. 24	4	30.509	30.362	42	31	36.5	37	37	N.E.	.00
Wed. .. 25	5	30.333	30.205	45	29	37.0	37½	37½	E.	.00
Thurs... 26	6	30.334	30.225	43	33	38.0	38	38	N.E.	.01
Average....		30.418	30.305	43.1	26 4	34.8	37.2	37 6		.02

Feb. 20—Clear and frosty, with cold N. W. wind; sharp frost at night.
" 21—Severe frost; bright sun; densely clouded; slight rain.
" 22—Overcast; cloudy and cold; clear and frosty.
" 23—Fine but cold; densely clouded; frosty.
" 24—Clear and cold; fine; cloudy and cold.
" 25—Cloudy; clear and cold; clear with slight frost at night.
" 26—Slight rain; cloudy and cold; uniformly overcast.
Mean temperature of the week, 6 deg. below the average.

State of the Weather at Chiswick, during the last 26 years, for the ensuing week, ending March 6, 1852.

Feb. and March.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 29	46.0	36.0	41.0	2	0.23 in.	1	1	—	1	—	1	1	—
Mon. 1	47.4	35.3	41.4	10	0.23	—	4	3	—	6	5	4	3
Tues. 2	49.0	37.7	43.3	9	0.62	3	3	3	—	2	9	5	1
Wed. 3	49.8	34.7	42.2	12	0.45	2	2	2	1	3	7	6	2
Thurs. 4	49.3	32.7	41.0	10	0.48	3	7	—	3	2	5	5	1
Friday 5	48.2	32.2	40.2	8	0.40	2	5	3	—	4	6	4	2
Satur. 6	47.8	32.5	40.2	9	0.25	1	6	2	1	2	4	4	6

The highest temperature during the above period occurred on the 1st, 2d, and 3d of March, 1846—therm. 60 deg.; and the lowest on the 5th, 1845—therm. 13 deg.

Notices to Correspondents.

Birds: *Semper auditor tantum.* We are much of your way of thinking, as you will see with a little patience; not that we regard what you object to as lying beyond the scope of our journal.

Books: *A M.* Sanders' practical Treatise on the Culture of the Vine, reviewed at p. 327 of our last year's volume.‡

Cottage Stoves: *Northwood.* Much the best cottage stove that we have seen is that sold by Baileys, of Holborn. It is probably what you saw in Prince Albert's Model Cottages, for it was there. We use it ourselves.

Grape Borders: *Cartmel.* An excellent covering for borders may be made with galvanised iron sheets, as represented in our vol. for 1851, page 165. Without some protection of the sort, rain will soak in—unless the drainage is very much more perfect than usual. It is as well to paint the stems of your Vines in the spring, before forcing is begun. Use one part of flowers of sulphur, two of lime, and six of clay, mixed well together in water.

Heating: *Clericus.* We believe one to be as good as the other; boilers owe their excellence as much to good setting as to any intrinsic merit, or more. The charges are reasonable in either case; but take care to know what is exactly meant by "man's expenses." In lieu of that you had better pay *a fixed sum.*

Leaf-rooting: *J T, Hertford.* Your Chrysanthemum is nothing but a cutting rooted from the lower end. What has that to do with the emission of roots by broken leaves?

Orchard Houses: *F S.* Apply to Mr. Rivers, Nurseryman, Sawbridgeworth, Herts, the author of the pamphlet in question, and from whom it may be procured.

Pear Trees: *E T.* They are covered with mussel scale (see p. 735, 1843). The best remedy is washing well with water of the temperature of from 150° to 160°.‡

Peas: *R Mc N.* If your seed rots or splits, your land must be either wet and heavy, or you sow too late. The latter evil, of course, you can avoid, but the former is not so easily dealt with. Ridging the ground, and sowing on the faces of the ridges, will, however, in some measure, assist in giving the the seed a drier bed. If this fails, then all you can do is to have recourse to some such artificial protection as that mentioned in our report of the Horticultural Society's meeting in last week's Number.‡

Sea-Coast: *G S M.* If you apply to Messrs. Lawson, of Edinburgh, you may obtain such Grass seeds as are fit for the purpose. You will find little among trees: unless it be Sea Buckthorn. If the beach were dry sand, Pinasters would soon take possession of it: but salt mud is hardly capable of bearing any growth even of copsewood.

Seed Lists and Catalogues of Plants. We have to acknowledge the receipt of Lawson and Son's Agricultural Seed List for 1852; also Wheeler and Son's Catalogue of Plant and Seeds for gardening and other purposes.

Water Plants: *F H.* Add Butomus umbellatus, Villarsia nymphæoides, Sagittaria, any hardy species, or all; Myosotis palustris, Nuphar advena and Kalmiana, and Hottonia palustria. Sink the roots of the Nuphars in wooden boxes filled with mud; plant the others in the banks below the water level, and leave them to spread.

Misc.: *W B.* Apply to the agent who supplies you with the Paper.—*A G E.* The charge will be 3s., which can be remitted by Post-office order, made payable to James Matthews.

*** As usual, many communications have been received too late, and others are unavoidably detained till the necessary inquiries can be made. We must also beg for the indulgence of those numerous correspondents, the insertion of whose interesting contributions is still delayed.

PERUVIAN GUANO.

CAUTION TO AGRICULTURISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

ANTONY GIBBS AND SONS, AS THE ONLY IMPORTERS OF PERUVIAN GUANO,

Consider it to be their duty to the Peruvian Government and to the Public again to recommend Farmers and all others who buy to be carefully on their guard.

The character of the parties from whom they purchase will of course be the best security, and in addition to particular attention to that point, ANTONY GIBBS AND SONS think it well to remind buyers that—

The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 9l. 5s. per ton, less 2½ per cent.

Any resales made by dealers at a lower price must therefore either leave a loss to them, or the article must be adulterated.

THE LONDON MANURE COMPANY offer the following Manures on the best terms, warranting every article strictly genuine:—Peruvian Guano, Superphosphate of Lime, Nitrate of Soda, Concentrated Urate, Peat Charcoal, Gypsum, Fishery Salt from Cornwall, also a constant supply of Salt for agricultural purposes; Linseed and Rape Cake. Peruvian Guano warranted the genuine importation of Messrs. A. Gibbs and Sons at 9l. 10s. per ton, or for 5 tons and upwards, 9l. 5s. in Dock. EDWARD PURSER, Sec.

40, New Bridge-street, Blackfriars.

MANURES.—The following Manures are manufactured at Mr. LAWES's Factory, Deptford Creek:

Turnip Manure, per ton	...	...	£7 0 0
Superphosphate of Lime	...	...	7 0 0
Sulphuric Acid and Coprolites	...	...	5 0 0

Office, 69, King William-street, City, London.

N.B. Peruvian Guano, guaranteed to contain 16 per cent. of Ammonia, 9l. 10s. per ton; and for 5 tons or more, 9l. 5s. per ton, in dock. Sulphate of ammonia, &c.

FARMERS AND GARDENERS are invited to try the NEW and VALUABLE MANURE, PEAT CHARCOAL, impregnated by pressure with the fertilising matter of the LONDON SEWAGE, the Ammonia, Phosphates, and Fæces being absorbed, and the water left bright and palatable. Sold at the Charcoal and Sewage Works, Stanley Bridge, Fulham, Middlesex, at 60s. per ton, 4s. per cwt., and 2s. 6d. per half cwt.

FOSSIL BONES AND PSEUDO-COPROLITES.

(FROM THE SUFFOLK CRAG).

EDWARD PACKARD AND CO., of Ipswich, having erected very powerful Machinery for the purpose of reducing these Phosphatic Nodules to a fine Powder, and being in the immediate locality of where they are found, are now prepared to supply them on the most economical terms, in any quantity, either Ground, Whole, or Dissolved in Acid. They form the cheapest source of Phosphate of Lime in the market, and are peculiarly eligible for manufacturing Superphosphate of Lime in conjunction with Bone.

Prices and every information connected with their use forwarded on application to EDWARD PACKARD and Co., Artificial Manure Manufacturers, Ipswich, Suffolk.



KOPROS,

PATENT MANURE FOR CORN AND OTHER PLANTS,

MANUFACTURED BY THE PATENTEE,

J. M. BLASHFIELD, Mill-wall, Poplar; and also sold at No.1 Wharf, Praed-street, Paddington-basin.—The mineral ingredients contained in this MANURE are in the most perfect soluble form for incorporation with the soil, and for continuous action; and the lightness of the bulk, when compared with other Manures, is in the cost for carriage greatly in its favour. For the past two years it has been applied to various soils and plants with very general success. Since then improvements have been made in concentrating its most important elements, and in otherwise rendering it a very efficient artificial manure, rich in ammonia, phosphates, and silicates. Price of Patent Kopros for Corn Plants, 8l. per ton; for Turnips, Swedes, &c., 6l. per ton.

Superphosphate of Lime, for Turnips, Swedes, Mangold Wurzel, and other Root Crops.

TO AGRICULTURISTS.

OWEN'S ANIMALISED CARBON is now for Sale, at 2l. 5s. per ton in bulk.—This Manure has been introduced, with the most beneficial results, at St. Croix and the Mauritius, in the growth of the Sugar Cane, as proved by testimonials from the planters. The powerful fertilising properties of the Carbon have long since been acknowledged in Denmark, where it has been extensively used for agricultural purposes, as no less than 26,000 tons have already been sold. It is ready for immediate use, having no occasion to be ground, is equally as portable and diffusible as bones, and the low price at which it can be sold in this country must always be a paramount recommendation. *A liberal Commission allowed to Dealers or Agents.* For copies of the testimonials of its utility in this country, also for samples, apply to J. OWEN and Co., 3, Rood-lane.

Messrs. J. OWEN and Co. are now importing from their Copenhagen Manufactory SUPERPHOSPHATE OF LIME, of the very best description, containing at least 18 per cent. of Neutral Soluble Phosphate of Lime, and capable of furnishing at least 3 per cent. of Ammonia to the Soil. The "Analysis" is made by Professor J. THOMAS WAY, Consulting Chemist to the Royal Agricultural Society. The price, in London, of this powerful Manure, is 7l. per ton, cash, or Banker's Bill on London.

HOW TO KEEP HORSES FOR LESS THAN ONE SHILLING per DAY each.—Do you bruise your Oats? No. Then you lose one bushel out of three. A firm in London is saving 240l. per annum by the process. The articles and numerous references may be seen at MARY WEDLAKE and Co.'s, 118, Fenchurch-street, London. A pamphlet on the above may be had, post free, 1s. A list, with 167 illustrations, post free, 6d.

NEW AGRICULTURAL PEA.

BISHOP'S LAST AND BEST, 28s. per bushel, 7s. 6d. per peck (bags included).—This PEA was raised by Mr. Bishop, the raiser of the garden variety known as Bishop's Long-podded (of established reputation), and was presented by him to some of his relatives in Perthshire, in which northern climate it has answered exceedingly well; its early habits ensuring a crop where later varieties fail. Its merits consist in being remarkably early, and certainly much better cropper than any out; as many as 60 and more pods have been counted on one plant. It grows but two feet high, of remarkably robust habit, and always branches into two and sometimes three or more stems. Mr. Charles Smart, of Rainham, Kent, upon whose farm the Peas offered were grown, allows the Subscriber to state that a better or more likely useful Pea never came under his notice.—DUNCAN HAIRS, Seedsman, Wholesale and Retail, 109, St. Martin's-lane, London.

Catalogues of Agricultural Seeds sent free.

A PRIZE MEDAL FOR SUPERIOR LOCKS

WAS AWARDED TO J. H. BOOBBYER, AT THE GREAT EXHIBITION OF 1851.

PATENT SPADES, DAISY RAKES, SCYTHES, Draining, and other Garden Tools. Mole Traps, 6s. per dozen. Carpenters and Smiths' Tools, &c. Ladies' Garden Tools, 7s. 9d. a set. Sword-scrapers for Gardens, 1s. 2d. each. Patent Fumigators for destroying insects on plants, in greenhouses, &c.: at Messrs. J. H. BOOBBYER and Co.'s (late STURCH and BOOBBYER), Ironmongery, Brass-foundry, Nail and Tool Warehouse, 14, Stanhope-street, Clare-market, London. Established nearly 200 years for the sale of goods from the best Manufactories at the lowest prices. Goods forwarded to any part on the receipt of remittance.

CHEAP AND DURABLE ROOFING.

BY HER MAJESTY'S  ROYAL LETTERS PATENT.

F. M'NEILL AND Co., of Lamb's-buildings, Bunhill-row, London, the Manufacturers and only Patentees of THE ASPHALTED FELT FOR ROOFING

Houses, Farm Buildings, Shedding, Workshops, and for Garden purposes, to protect Plants from Frost.

At the Great National Agricultural Shows, it is this Felt which has been exhibited and obtained TWO SILVER MEDAL PRIZES, and is the Felt SOLELY patronised and adopted by

HER MAJESTY'S WOODS AND FORESTS,
HONOURABLE BOARD OF ORDNANCE,
HONOURABLE EAST INDIA COMPANY,
HONOURABLE COMMISSIONERS OF CUSTOMS,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANIC GARDENS, REGENT'S PARK,

And on the Estates of the Dukes of Sutherland, Norfolk, Rutland, Newcastle, Northumberland, Buccleuch (at Richmond), the late Earl Spencer, and most of the Nobility and Gentry, and at the ROYAL AGRICULTURAL SOCIETY'S HOUSE, Hanover-square.

It is half the price of any other description of Roofing, and effects a great saving of Timber in the construction of Roofs. Made to any length by 32 inches wide.

PRICE ONE PENNY PER SQUARE FOOT.

*** Samples, with Directions for its Use, and Testimonials of seven years' experience, with references to Noblemen, Gentlemen, Architects, and Builders, sent free to any part of the town or country, and orders by post executed.

☞ The Public is cautioned that the only Works in London or Great Britain where the above Roofing is made, are

F. M'NEILL AND CO.'S

Patent Felt Manufactory, Lamb's-buildings, Bunhill-row, London, where Roofs covered with the Felt may be seen.

The new Vice-Chancellor's Courts, at the entrance of Westminster Hall, were roofed with F. M'NEILL and Co.'s Felt about two years since, under the Surveyorship of Chas. Barry, Esq., R.A. Her Majesty's Commissioners of Woods and Forests are so satisfied with the result that they have ordered the Committee Rooms at the Houses of Parliament to be roofed with their Felt. Quantity altogether used, 24,000 feet.

NOTE.—Consumers sending direct to the Factory can be supplied in lengths best suited to their Roofs, so that they pay for no more than they require.

Every information afforded on the construction of Roofs, or any proposed particular application of the Felt.

DRAINING TILE MACHINES, & CLAY GRINDING MILLS.

MR. SAMUELSON, BRITANNIA IRON WORKS, BANBURY (Successor to the late James Gardner), to avoid the disappointment experienced last year as regards the delivery of his IMPROVED DOUBLE SPEEDED TILE MACHINES, will feel obliged by orders for this season being given as early as possible.

Price of the small Machine to deliver 4000 1½ inch, or 3000 2 inch pipes in 10 hours, 14l.

Delivery free to all places on the London and North Western, and the Great Western Railways.

Drawings may be obtained on application as above.

THE PRIZE MEDAL OF THE GREAT EXHIBITION was awarded to Mr. MILTON, for his Improved (straw) COTTAGE BEEHIVE, price 10s. 6d.; it is of simple construction, ornamental, and easily managed; enabling the possessor to obtain a large quantity of pure honey without killing the bees. Also may be had "MILTON'S Practical Bee-keeper," new edition, price 2s.; ditto, with Designs of Hives, &c., 2s. 6d.; ditto, Sheet of Illustrations, free by post, 8d.

At MILTON'S Beehive Warehouse, 10, Great Marylebone-street, Wimpole-street. Post-office orders to be made payable at the Post-office, Old Cavendish-street, London.

LINSEED AND CORN-CRUSHING MILLS.

E. R. TURNER AND Co., AGRICULTURAL IMPLEMENT MAKERS, IRON-FOUNDERS, MILLWRIGHTS, and ENGINEERS, St. Peter's Foundry, Ipswich, beg to call attention to the following varieties of their unrivalled ROLLER CRUSHING MILLS:—

	£	s.	d.
Roller Mill, No. I., for Linseed, Oats, Malt, &c. &c....	10	10	0
Do. No. II.	7	7	0
Registered Roller Mill, for Linseed, Oats, Malt, &c., and for breaking Beans and Peas	9	9	0
Do. do. large size, for Horse or Steam Power	13	13	0
Small Hand Mill, for Oats and Beans	5	5	0

Further particulars may be had on application to the Manufacturers, by whom references can be given to gentlemen having the above Mills in use.

M'CORMICK'S AMERICAN REAPER.

BURGESS AND KEY, Agents, 103, Newgate-street, London.—Extract from Mr. Pusey's Report on the Agricultural Implement Department, Great Exhibition.—"Mr. M'CORMICK'S Reaper, in this trial, worked as it has since worked at Cirencester College, and elsewhere, to the admiration of practical farmers, and therefore received a Council Medal. Mr. Hussey's sometimes became clogged, as in the former trial at Tiptree, and therefore could not possibly obtain that distinction."—Price of Reaper, 25l.

ANTHONY'S PATENT AMERICAN CHURN makes Butter in 10 minutes. It obtained the award of the Great Exhibition Medal, and also a prize at every one of the numerous Agricultural meetings at which it has been shown. It is now acknowledged to be the best Churn ever produced. 2000 have been sold in one year.—BURGESS and KEY, 103, Newgate-street, London.

AGRICULTURAL SEEDS.

W. DRUMMOND AND SONS, SEEDSMEN, Stirling, Scotland, are now prepared to execute orders for the above, from a stock that has been selected with every possible care. They beg to call special attention to their various sorts of TURNIP, ITALIAN and PERENNIAL RYE-GRASS and NATURAL GRASSES for Permanent Pasture, the prices for which are as low as really genuine Seeds can be reared for. Catalogues, with prices and other details, may be had free on application.

N.B.—The Carriage of Seeds will be pre-paid to many of the principal Railway Stations and Shipping Ports throughout the Kingdom.—Agricultural Museum, Stirling, N.B.

MILK, CHEESE, AND BUTTER.

HENRY BAKER, OPTICIAN, 90, Hatton Garden, London, advises any one who keeps Cows to send two postage stamps, and obtain a description of his LACTOMETER, with its uses, and the results of experiments with it upon different Milks. Lactometers, complete, in a mahogany box, 10s. 6d.; Do., with cheaper fittings, 7s. 6d. and 5s.; Hydrometers for testing sulphuric acid, 5s., 7s., and 10s. No consumer of acid should be without one, as it is often sold highly diluted. Saccharometers for Brewing, with tables, 5s., 7s., and 10s. Pediment Barometers, from 1l. each. Wheel Barometers, from 1l. 1s. each. Packed carefully for the country, there being nothing to fear of them getting out of order, as they are warranted to be properly made and good instruments.

FROM THE INCUMBENT OF GRAZELY PARSONAGE.

To MESSRS. SUTTON,

Sirs,—When you are passing through Grazely, I wish you would call in and see my Garden Lawn, Pasture, and Churchyard, which I sowed last spring with your Seeds, and which this time last year was only a Bean field, but now a beautiful close Green Sward, and I am happy to say free from weeds; many gentlemen have been quite surprised to see in so short a time so good a pasture, and I hope it will continue the same, as I have invariably heard that your Grass Seeds are good and permanent.

I am, Sirs, yours obediently,

T. S.

Grazely Parsonage, Feb. 13.

JOHN SUTTON AND SONS having been honoured with the above, with permission to publish it, have much pleasure in doing so, and have also the satisfaction of stating that they are *almost daily* receiving similar communications. In a letter just received from a Gentleman at Weston-super-Mare is the following passage:—"*The field I laid down last spring with your Grass Seeds gave me great satisfaction, and no little surprise to my neighbours the farmers. The purchaser of the property was also surprised at the result.*" In another letter dated Emanuel Rectory, Loughborough, Jan. 28, the Rector says:—"*The four acres which I sowed with Grass Seeds from your Establishment last spring present a very satisfactory appearance, the ground being equally covered with Grass of regular and uniform height.*"

JOHN SUTTON AND SONS having for many years paid especial attention to the laying down land to Permanent Pasture, are well acquainted with the various soils of the United Kingdom, *and can supply the sorts of Grasses and Clovers most suitable for any specified soil at* 28s. *per acre, with Instructions for sowing.*

Also the best CLOVERS and RYE-GRASS for alternate husbandry or to lay down for two years, at 16s. per acre; and SUTTON'S Renovating Mixture of Perennial CLOVERS and Finest GRASSES for improving Old Meadows and Pastures, 10d. per pound, 8 to 12 lbs. per acre being sufficient.

Also, Finest LAWN GRASSES for Gardens, 1s. 3d. per pound, or 3s. per gallon.

N.B.—Mangold Wurzel, Belgian Carrot, Turnip, and all other Agricultural Seeds of superior quality, a Priced Catalogue of which may be had in return for one penny stamp.

Address, JOHN SUTTON AND SONS, SEED GROWERS, Reading, Berks.

The Agricultural Gazette.

SATURDAY, FEBRUARY 28, 1852.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY, March	3	Agricultural Society of England.
THURSDAY,	4	Agricultural Imp. Soc. of Ireland.
WEDNESDAY,	10	Agricultural Society of England.
THURSDAY,	11	Agricultural Imp. Soc. of Ireland.

THE experience of comparatively few years upon a farm, in any instance where the observer has exercised ordinary carefulness and industry, suffices for the determination of a number of useful data, on which may be built estimates and calculations, as trustworthy as such things ever are in connection with agriculture. Among them is the fact—for so it may be called—that in the case of stock of ordinary quality at least 1 lb. of beef or mutton may be calculated upon, after payment of all expenses of attendance, as free for every 200 lbs. of green food consumed. This will be regarded by many as indicating a return below the truth; but taking it along with the statements of the ordinary acreable produce of such food which have to be reduced by the amounts lost in keeping and in cleaning before the food is eaten, it is more likely to turn out too favourable a statement for the farmer. But this is where green food only, with straw, is consumed; where grain is also given, a smaller quantity corresponds to a larger net return. Let us therefore in the following statement assume 1½ cwt. of green food to be worth 5d. in meat, besides the manure produced by its consumption. We believe that 100 acres of suitable land, of high fertility, worth, say, 2l. per acre, may produce 3200 tons of green food per annum. Suppose the rotation to be as follows:—1, Common Turnip; 2, Italian Rye-grass; 3, Mangold Wurzel; 4, Cabbages; 5, Vetches followed by Rape; 6, Swedish Turnips and Carrots; and it would only need that the Turnips yield 28 tons per acre, the Italian Rye-grass about 40 tons, the Mangold Wurzel 32 to 34 tons, the Cabbages about 40 tons, the Vetches and Rape 12 tons apiece, and the Swede and Carrots 20 to 22 tons per acre, in order to the attainment of such a result; and these crops are ordinary results under a suitable climate, and with the manuring we shall give them. Now 3200 tons at 5d. for every 1½ cwt., are equal to nearly 900l., or 9l. per acre over the 100 acres in question.

To produce the crops referred to would involve an expenditure of 40s. in rent, and probably 4l. or more in seed and labour. The capital in these respects required is upwards of 600l. The stock required to consume 3200 tons of food per annum will be about 150 cattle, or 150 at a time, supposing

them bought and sold at six months intervals, and a capital of 1500*l.* is needed here. They will need about 4 lbs. of grain a day apiece, or 80 tons a year, corresponding to about 600*l.* in cattle food; a sum which is repaid by the growth of beef, in addition to the 5*d.* for every 1½ cwt. made upon the green food eaten. The capital in rent, labour, seed, cattle, and cattle food, is thus 2700*l.*, against which as yet there appears a return of 300*l.* per annum, or upwards of 11*l.* 10*s.* per cent.

Now the manuring we should propose would be by means of subterranean pipes and hydrants for its distribution in the liquid form. The cattle should be fed on boarded floors, or at least without the use of *straw* as litter, and everything should pass into and from the cistern in which it was properly diluted, after the manner referred to in the "Minutes of Information," published by the Board of Health, which we last week brought under the notice of our readers. Of the cost of this mode of applying manure, the following instances referred to in these "Minutes" will be some indication.

Name of Place.	No. of English acres.	Mode of application.	Cost of works, and apparatus.	Annual interest, &c., at 7½ per cent.	Annual working expenses.	Total annual charges per English acre.	Observations.
			£ s. d.	£ s. d.	£ s. d.	£ s. d.	
Glasgow.							
Mr. Harvey's farm ..	508	Steam engine, pumps, under-ground iron main pipes, and iron distributing pipes.	1450 0 0	108 15 0	240 10 0	0 13 9	10 feet thick of Grass cut from an acre in six months.
Ayrshire.							
Myre Mill farm ...	508	Steam engine, pumps, under-ground iron mains, gutta percha hose, and jet pipe.	1586 0 0	118 19 0	162 10 0	0 11 1	70 tons of Grass cut from an acre in six months.
Canning Park farm ...	50	Ditto	210 0 0	15 15 0	11 0 0	0 10 8½	14¼ feet thick of Grass cut in seven months.
Leg or Dunduff farm...	50	Gravitation, under-ground iron mains, gutta percha hose, and jet pipe.	191 0 0	14 6 6	3 10 0	0 7 1½	12 stacks per annum previously; 80 stacks last year.
Staffordshire.							
The Duke of Sutherland, — Hanchurch farm, near Trentham.	83	Steam engine, pumps, under-ground iron mains, gutta percha hose, and jet pipes.	520 13 4	39 1 0	18 6 0	0 13 9¾	Tanks constructed sufficient for 300 acres.
Lancashire.							
Halewood farm ...	120	Ditto	521 12 0	39 2 5	19 15 2	0 9 9¾	One dressing of liquid, equal to 25 to 30 tons of farm-yard manure per acre.
Cheshire.							
Liscard farm	150	Ditto	672 1 10	50 8 0	17 11 0	0 9 8¾	A fourth crop of Grass being weighed was found equal to 10 tons per acre. It was the lightest crop cut off the same land.
Glamorganshire.							
Porth Kerry farm ...	50	Gravitation, under-ground iron mains, gutta percha hose, and jet pipe.	300 0 0	22 10 0	10 0 0	0 13 0	Tanks constructed sufficient for 300 acres. Between 9 and 10 feet of Grass cut.

Now in combining these figures with those expressing above the probable returns from the crops so manured, it must be remembered that the greater portion of the sum spent in the apparatus needed for this mode of applying manure, is properly the investment of the landlord, who will in many instances be able to offer land thoroughly furnished in this respect for the rent, 2*l.*, which has been proposed; and the observations in the above Table will also indicate how, by the adoption of the Grasses and Clovers as the source of the green food required for the cattle, the acreable produce may be greatly increased, and the expenses of cultivation greatly diminished, beyond the amounts at which we have put them. Some of the instances referred to in this Table we shall hereafter describe in detail in another section of our Journal; meantime we may express our confident belief that the mode of applying manure here recommended, especially to green crops, will hereafter be found greatly to cheapen the cost and increase the amount of agricultural produce.

Is it possible to exhaust the Soil of the Inorganic Constituents of Plants? We certainly do draw the inference that it is from the constant use of inorganic manures. But is this conclusion either founded on scientific investigation or sustained by practical experience? "Thousands of years," says Liebig, "have been necessary to convert stones and rocks into the soil of arable land, and thousands of years more will be requisite for their perfect reduction, that is, for the complete exhaustion of their alkalies." A twelvemonth's fallow, practice tells us, of land that has been in tillage from time immemorial, is sufficient, without deepening the soil, to restore a fertility which will enable this exhausted land to yield several remunerative crops, affording us a practical proof of the justice of scientific disclosure, that a surface of the globe, not, perhaps, exceeding on an average six inches in depth, has been subjected for near six thousand years to atmospheric action, without the exhaustion of its alkalies or other inorganic constituents of plants, where the rocks, from whose disintegration they have been formed, originally contained them in proportions requisite for general vegetation. And does not the disintegration of stones and rocks keep pace with the demands of vegetation on the soil?

Without deepening the soil, merely exposing the old worked surface to the action of the atmosphere, Tull obtained twelve successive crops of Wheat without any apparent deterioration. The Rev. Mr. Smith has now obtained his seventh crop, and each successive crop improving, by only working half the land in a fallow each year, but each time bringing up fresh soil—perhaps an unnecessary labour, as a fractional part of an inch in depth would probably furnish sufficient alkalies for a crop.

By leaving to pasturage, without raising any fresh soil to the action of the atmosphere, we restore fertility to exhausted land, not by adding thereby any of these constituents to it, but, on the contrary, taking from it such portions of them, as, having become further reduced, or rendered soluble, were taken up by the herbage; for, as Liebig says, speaking of the country round Naples, "The animals fed on these fields" (fields left out to pasturage, after corn bearing, unmanured), "yield nothing to these soils which they did not formerly possess. The weeds upon which they live spring from the soil, and that which they return to it, as excrement, must always be less than that which they extract. The fields, therefore, can have gained nothing from the mere feeding of cattle upon them; on the contrary, the soil must have lost some of its constituents;" and this land has, he says, borne for thousands of years a corn crop every third year without a particle of manure.

If in 6000 years 6 inches of the surface of the globe has not been exhausted of its inorganic vegetable constituents, what reason is there to apprehend an exhaustion of them under any course of tillage, when with so little labour we may subject a few inches of new soil to the direct influences of the atmosphere; when "a single cubic foot of felspar is sufficient to supply a wood covering a surface of 26,910 feet with the potash required for five years?"

These remarks are called forth by objections to the system of growing successional crops of grain without manure, in rows at such intervals as admit of working the ground between them during the whole period of their growth, that it will annually deteriorate the land, and, in the long run, totally exhaust it.

Whatever may be our agricultural systems, we find that in continual tillage our crops deteriorate, and we cry out the land is exhausted; this is so far true that we have used up the soluble inorganic matters which a too sparing exposure of the soil to atmospheric action has limited, but it is false as regards the land, which still contains an inexhaustible store of inorganic matters, though in a state not immediately fit to enter into the vegetable organism. There are two ways of rendering them so. The one which, under the name of high farming, introduces into the soil a mass of matters which, while they operate on the crude alkalies of the soil, supply it also with organic and inorganic constituents; a plan which is open to the undoubted objection that it requires an amount of capital rarely possessed by farmers.

The other, which we may call "a system of perpetual fallows," keeps the soil continually open to the reception of the inexhaustible, because constantly renewing, stores of organic matters and other fertilising influences of the atmosphere, which exert probably a greater energy on the crude inorganism of the soil than manures do, and with perhaps, in the long run, less expense of mechanical power. The same object, as regards fertilisation, which high farming aims at, is thus attained without its cost in manures; indeed, without the same necessity of feeding for the dunghill. And it has the very great advantage of adapting itself to the circumstances of every farmer, for the poorest may thus carry on without deteriorating his soil, and with a most effectual destruction of weeds, a continuous production of grain crops, manuring and cultivating only such a breadth of green crops as he can highly manure and afford to consume, while from the perfect tilth and cleanliness of his land the expense in the preparation for green crops will be much diminished.

Without then going to the length of recommending a continuous production of grain crops, may we not suggest the expediency as profitable of adding a grain fallow to the other fallow crops of our course? Of such a fallow crop being as remunerative as any broadcast or narrow-row crop, we have ample proofs. We do not wish our readers to draw from these remarks the inference that agriculture ought immediately to resolve itself into an alternate, but coexistent system of fallow and corn crop over the arable land of this country: but we think that they fairly tend to prove the great value of mere tillage and fallow operations performed upon the land during the growth of our crops, whatever they may be. *G.*

DIGGINGS BY A FEN FARMER.—No. I.

During the last few years the English press has put forth strong and continued efforts to provide the public with accurate knowledge concerning the state and prospects of our agricultural districts. Descriptions of every farming county, its general aspect, soils, division of property, size of holdings, style of husbandry, condition of its tenantry, situation of its labourers, &c., &c., have been supplied. And descending into detail, full particulars of single farms, the mode of conducting operations, the expenditure and returns, have been ferreted out and put in print.

A mass of highly valuable information has thus been collected and made known; and the entire community have learnt what an important section, hitherto thrust too unceremoniously into the back-ground, are doing for their own support and for augmenting the wealth and hapniness of the kingdom. Districts where neglect, wastefulpess, and old-fashioned incompetency, have been keeping back agricultural improvement, and scarcely increasing their production while the population multiplied, have been shown up to general disapprobation; while, on the other hand, localities in which advancement has been the rule, where peculiar skill or boldness have been put forth under untoward circumstances, where the occupiers have kept abreast of modern discoveries, and have augmented the yield from the soil in a large and satisfactory ratio, have been exhibited to universal applause and partial emulation. We wish in the series of papers we are now commencing, to bring certain of such successfully-farmed tracts still more minutely before the eye of British agriculturists, as containing both advice and encouragement.

But then our observations will not refer simply to the recent achievements of agriculture; we mean to travel back into past ages, and see what was then the state of husbandry and of the rural population. We believe there is very great advantage in contrasting our own times with those of bygone centuries, and in comparing our present tillage of land, breeding of live stock, manufacture of implements, marketing of produce, &c., with the agricultural practices of our forefathers. We believe there is very much to be learned from the narrative of the means by which we have been enabled to perceive such a distinction between our past and present modes of industry, much to be gathered for our direction and encouragement for the labours that lie before us.

However, as we lately said, we see no reason why we should always be tied strictly to the subject of present or even of past cultivation; we mean, therefore, to touch upon other topics in connection with these. While treating of some localities which have well acquitted themselves from all charge of slothfulness and want of progressive spirit, we shall enter a little into the physical history of these tracts—giving an account, as it were, of their birth and parentage, as well as the story of their education and after life; describing their origin and land preparation for the use of man and for the conquest of the spade and plough. Think you that this can hardly be a profitable exercise for your thoughts? Consider what Britain is, and you will quickly perceive how rich such a topic as that we have selected from a crowd of others might be in suggestiveness to your powers of reflection; you will see how vast a realm of interest and wonder now trodden heedlessly beneath thousands of farming boots and hob-nailed highlows, may be announced, opened, and displayed to men who may not even have learned that such a kingdom lies there to be explored. We do not speak of our native country commercially or politically; we do not ask you to consider her internal trade, her traffic to all quarters of the globe, her wealth, her power, her spread of civilisation,

morality, and religion among the nations ; but simply to contemplate her with the eye of a geographer and a naturalist.

Look at the wildest scenes of our land, up in the extreme north of Scotland or in its western islands, where the very bones of the world seem to show themselves, protruding through the skin. Look at the Grampians, Cheviots, the mountains of Cumberland and Wales, the moorlands of Yorkshire and Derbyshire, and the granitic wilds of Devon and Cornwall ; where summits naked or moss-covered pierce the clouds, and attract the moisture which foams in torrents and cascades down their mighty slopes and precipices, gathering into deep lakes at their feet ; where long slopes and spreading table-lands have been covered with trembling quagmires of peat and water ; where deep valleys, once overshadowed with forests, but now denuded of their pristine glory, lie in richly-green meadows; naturally irrigated by the brooks, whose water-worn banks display the fertile mould formed from the wreck of those woods ; where cotters build their humble homesteads by the brink of rivulet and tarn, mow the prolific meadow-hay, and cut fuel up on the boggy declivities above them ; where the heathery heights, wet with perpetual showers, are ranged by black-faced flocks ; and enclosing stone-walls, climbing upon the steeps, encroach upon the elevated domain of the grouse and black cock ; where, beautifying the landscape, hang adventurous cultivated patches, the far-seen monuments of men's undaunted perseverance. All these mountains and moor-lands—whether still in native grandeur, defiant of man's efforts to subdue and change, or wrought in some degree into food-bearing, and clad with verdure and fruitfulness by his hand—have great lessons for us. Why should not the mountaineer, whilst reading every day a sublime and mysterious leaf of the great book of nature, be taught also that the glittering rock he treads under foot was once a mass of molten lava shot forth from the earth's inner abysses ; that far down are now resting, upon liquid fire, the roots of the self-same mountain of stone, high up on which he is seeking his scattered sheep among the lichen-covered storm-rent crags ? There is the farmer ploughing, sowing, and harvesting, close by the black group of chimneys, machinery, piles of buildings, lines of railway-trucks, which mark the mouth of a coal-pit, all hemmed round by huge mounds of cinereous refuse. His tillage, his carting, his draining, are a mere skimming of the thin upper surface compared with the great excavations which are burrowing in the profound depths of that mine. Why should he not read now and then in his newspaper a few words about the origin of those thick seams of coal, and their growth and decay from fossil wood ; about the injection of those exhaustless metallic veins, or whatever ore may chance to lie beneath him ? Why should not his agricultural magazine resolve some of the conjectures he may often have struck out as to the finding of such strange and valuable things at such a depth from air and sunlight ; as to the wondrous upheaval of stone layers thousands of yards thick, so that these minerals can be reached, and men thus be enabled to make the country, hill and dale, all hollow in their searching and stealing of the hidden wealth. Why should he not be reminded at times of the stupendous scale upon which the globe is built ; and, by way of reflection, of the comparative triviality of all his efforts at cultivating, breeding, hay-making, and manuring, considered with respect to the work he has to perform as an immortal being. We believe that occasional allusions to even such moral topics, remote as they may appear from the business of farming, ought to be sprinkled upon the pages of our agricultural literature, to render the solid food they may contain more fragrant and refreshing.

Look, again, at a more pleasant order of landscape—the rich Lothians of Scotland, the green hills and valleys of central, southern, and eastern England. And why should not the farmer and his men be told how the fertile clays they are underdraining and grain cropping, were changed from their ancient condition of wood and tangled copse, where Saxon swine were herded, where red deer, wolves, and badgers, found sport for monarchs, yeomen, and peasantry ; or from swamps and river-flooded morasses, into a cultivable state ; how the fine Turnip and Barley lands were rescued from the mischievous dominion of Heath and Furze, and rabbits, and from the utter waste and barrenness of naked flints and blowing sand, to be enriched and clothed with vegetable food for men, and flocks, and herds ?

Or go to the sea coast. Stand upon the granite cliffs, against whose cubic masonry the huge ocean-waves, unbroken for hundreds of leagues, hurl themselves in vain ; and, lashed into furious foam by the unswerving stone, fling up their defiant spray to the very brow of the beetling heights. The cultivator who raises a scanty, and often storm-blasted produce in the salt atmosphere of that wild region, and whose chief companions are the gulls and cormorants that breast the dancing surge, or watch their fish from the dripping crags, is wont to ponder on far different matters from the mere routine of his daily avocations. Reflections, speculations, spring up within his mind, awe and gratitude possess his heart, as he beholds that vast sea flood—every pint weighing a pound—which swells and thunders in vain against the unyielding ground beneath his feet. And when we are describing the agriculture of such a place, ought we not to touch upon the nature of the scenery which so powerfully influences the thoughts and taste of the inhabitants, moulding their character and imprinting peculiarities upon their manners ? Visit the low shore, where, instead of the abrupt wall of rock boldly withstanding the ocean, the shelving sands let the tidal billows roll and exhaust their violence upon a slope ; where the sea, grinding material from one line of coast, piles up the shingle beach into a barrier against its own inroads ; or where the loose sand blown into hillocks and matted and bound down by the root fibres of the Sand-reed and Sedge, curb the advances of the salt flood. When speaking of the rural condition of such localities, may we not advantageously refer to these battles of the elements, and the principles upon which they perform the service of defence to man ? What reason is there against our mentioning such scenes in connection with the agricultural description of the neighbourhood, or against our offering a reflection upon them ; as, for instance, in the present case, quoting those words of the prophet—"Fear ye not me ? saith the Lord : will ye not tremble at my presence, which have placed the sand for the bound of the sea by a perpetual decree, that it cannot pass it ; and though the waves thereof toss themselves, yet can they not prevail ; though they roar, yet can they not pass over it." Or look at other portions of our long encircling coast-line, is it not admissible in agricultural journals to observe what large areas of our country are being eaten away by hungry Neptune ; and on the other hand, what immeasurably broader tracts are being recovered from the ocean. May we not venture to remark upon the changeless cliff, the natural beach that repels the sea and protects low-lying ground from overflow, the artificial embankment raised to check the tidal flow and make dry the slimy flats which have been given to us by the waters, —as different objects of interest and instruction for the tiller of the soil. But we would not limit the occasional digressions of our journalists and their correspondents to topics in rural history, in various branches of natural science or moral reflection. We see no objection to allusions to other industrial occupations than those of farmers, graziers, and labourers. Let the agriculturist be told how creeks and rivers have had their muddy banks built over with pile-constructed wharves, until at last they have become seaports with harbours flanked by miles of stone piers, and docks of thousands of acres expanse ; so that where once the ancient vessel traded for grain, wool, or metal, the pirate crew sheltered, or the fisherman chose his dwelling and landing-place, now floats the merchant fleet which maintains commerce with every nation round the globe. Let him be taught how the factories of cotton, wool, silk, iron, &c.—the loams, the hammers, the water-wheels, and steam-engines—have added to the agricultural resources of his country, the power of manufacture and mining ; all which combined have made Britain greatest in the world. Let him be pointed to the deep railway cutting or tunnel through a mountain ; to the mighty viaduct whose exalted roadway is supported, as it were, upon the tops of solid steeples ; to the marvellous bridges, to the long canals carried level over valleys and through uplands,—to the great channels of rivers turned aside in their course ; and such intimations cannot fail to give him a larger, clearer, and juster view of the relative importance of the work of cultivation, and expand and enlighten his appreciation of the labours of his brethren of the nation, who are not following his especial pursuit : by such a view he will be led to exclaim, in like language to that of Job,—"Surely there is a vein for the silver, and a place for the gold where they fine it. Iron is taken out of the earth, and brass is molten out of the stone. Man searcheth out all perfection ; the stones of darkness, and the shadow of death. As for the earth, out of it cometh bread ; and under it is turned up as it were fire. He putteth forth his hand upon the rock ; he overturneth the mountains by the roots. He cutteth out rivers among the rocks; and his eye seeth every precious thing. He bindeth the floods from overflowing ; and the thing that is hid bringeth he forth to light."

The sum of our remarks is that we wish to see a little more freedom of treatment occasionally introduced into communications published in farmers' magazines and papers. We throw out the hint, that such districts as we have alluded to might form the subject of useful and interesting descriptions ; and propose ourselves to take up those parts of our country with which we are more especially conversant :—which, though of considerable superficial extent, would probably be overlooked by a general describer of the surface of our island ; and which, flanking the great river mouths, and spreading out into wide flats, in some counties, present the dullest prospect to the spectator. *I. A. C.*

LECTURE ON IRRIGATION.

By J. G. B. Marshall, B.A., C.E.

By irrigation is meant the process of sending a small depth of water over a tract of ground for a short time. Inundation consists in letting on a large quantity to stagnate and deposit matter which acts in renovating and fertilising the soil. The latter cannot but be considered highly advantageous when we recollect its effects on the banks of the Nile, Ganges, Rhine, &c. It is, however, only where large masses of water can without much trouble be allowed to flow over ground that it can be practised. Nature first taught its advantages, and the farmer will not fail to avail himself of such a source of manuring, without even the expense of carriage, when it is in his power to do so. This will happen but seldom. Inundation acts by direct additions to the land, but other causes must be sought for the beneficial effects of irrigation. It is well known that even pure (distilled) water, carefully applied in irrigation would act most advantageously. Many reasons might be assigned for this.

Among the explanations afforded by practice and theory on this subject, three may mentioned :—1st. Water is never absolutely pure. Hence it will act as a liquid manure. 2d. It will by its abundance dissolve, and thus make available to plants many parts of the soil which were not before suitable for their support. 3d. If the principle of Macaire be true—that plants reject part of the sap, which is not suitable for their growth ; thus forming a deposit about their roots analagous to the fæces of animals ; it can readily be imagined how water let on and then carefully withdrawn or moved about, would act as a purifier, renovator, and feeder. The latter especially concerns us, as it is generally in Grass land which is never moved by tilling, which is subjected to irrigation, a purifier is especially needed, if such a thing be required at all.

It is not, however, the province of the engineer to use arguments for adopting the practice or otherwise. He only pretends to point out how it should be done. Indeed no one doubts the advantages of having a water meadow, yet still we commonly see this cheap fertiliser, this high road which itself would prepare and carry food to plants—despised and neglected—nay left to ruin vegetation when the caprice of the weather overswells its waters. But the day approaches when proper restraints will be applied to this Leviathan instrument of costless restoration to exhausted soil, when it shall be as universally applied as it is found.

Even a small stream, intermitting streams, or accumulated rain water may be used for irrigation. In these cases you only require a reservoir, in which water may be collected and retained till the proper time for introducing it. These must be formed water tight, at some higher level than the ground which is to be watered. The most usual case of irrigation, is where a river flows through some low-lying flat grounds.

You must have the means of making the water flow on the ground and also of taking it off. Hence you require a higher level and a lower level than the ground. The stream must be higher. Much land may, however, be watered by a stream which is lower than itself at the nearest point, if the fall be rapid. For by preceeding up some way, and gaining a higher point, a channel may be cut with a slight slope, which will reach the field at a high enough level to send the water over it. Another channel may then be sought or formed to convey the water back to the river, after it has performed its office.

The rules in irrigation are to supply water to the plants while growing, but never to let it stagnate about them, in which case it would produce in them the characters of sub-aquatic plants.

The first process, therefore, is to find the relative levels by the use of the spirit level, or some other means, if you have not got a contour map. The next consideration is the size and shape of the channel. The shape has been pointed out.

The first part of the lecture, which has been omitted, gives in detail the mathematical formula for the determination of the dimensions, discharges, &c., of channels along which water flows, and the relations which inseparably connect themselves with certain velocities and discharges. The following is one of the conclusions arrived at :—A channel should present as little resistance as possible. Hence make them as large as possible in section, and as small as possible in border. The semicircle would be the most suitable form of border, as may on these principles be proved geometrically. Next come the regular figures, semi-hexagon, semi-pentagon, and semi-square, or rectangle, whose depth is half its breadth. This is the most *habile* form, but now come into consideration the stability of the materials. To prevent the banks crumbling down, a certain slope must be adopted. This depends on the nature of the clay, but in general may be two horizontal to one vertical. The depth should be one-half of the average breadth. The size must depend on the quantity you can obtain, or which you wish to take. A dam or weir is sometimes formed across the river to throw a larger quantity into the channel, at the time when it is proper to turn it on the land. Flood-gates are also formed in the channel to regulate the influx of the stream. You see from the formula that the velocity, and therefore the quantity, depends on the slope or rate of inclination. It is therefore for you to determine whether you prefer a large quantity lower down or a smaller at a higher point, for by increasing the fall you augment the quantity. When the water has spread over the land to some distance (say 15 or 20 feet) below the feeder, another channel is formed to convey it to another portion, and so on till it reaches the channel, through which it escapes. When the declivity is gentle between the channel and the river, and the supply abundant, a series of successive tracks may be cut, and the water may thus be used over and over again in successive portions. This is called catch work ; but it is found in practice, whatever may be the cause, that water when thus used four or five times loses its beneficial effects, if it does not become positively injurious. It is said that this is owing to its having taken up some substances which are injurious to vegetation. The surface of the ground should be made as level as possible, and a means must be always obtained of taking away the water. This may be done by continuing a channel some way down the river. If the land is stiff and retentive, it must be drained and made porous, when it will act like a filter, allowing the water to pass through, but catching all that it contains, besides being materially improved by it; for it will probably form passages for the air, and the roots of plants will then strike deeper. There are particular times when water should be put on. If the meadow is covered with some water during frost, the temperature will never get below the freezing point, as all know who are acquainted with the subject of heat as a science. Hence the plants continue to grow. The flood-gates must however be closed when the temperature rises, else the effects of stagnation ensue. The usual time to put on water is before Christmas during the time of frosts. In mild weather it may be put on during the night and turned off during the day, while the frost lasts ; when the Grass springs the water is let on, and after a short time turned off again till the ground dries for a few days, a ternating the wetting and drying. The warmer the weather is, the shorter must the time be during which the water is left on, to prevent fermentation. When the Grass is six inches long, it must be turned off till after mowing. In summer the floodings must be very short—about 24 hours—but very frequent. Attention to this is most requisite; the water

may be left on in winter, even to inundation, where in summer it would destroy the crop.

There is another method of irrigation, which may be practised with advantage in some places. The ground is laid out in plots, by large parallel channels, and then small tracks are dug or formed with the plough perpendicularly from the one to the other. The water flows along these latter, thus descending from one of the large ones to the other. This is watering, but not properly irrigation. The best land for water meadows appears to be a loose gravel; such are those on the Avon, in Wiltshire, which are completely composed of shingle and pebbles. It appears essential to good water meadows that the substratum should be porous. If this is not naturally the case, as in clays, drainage is indispensable. A peat-bog, if drained and watered, will form a good mead. It is curious too, that the more porous the soil, the less water is required, probably because the porous soil is soon soaked, while the clay will keep the water running over its surface, preventing it reaching the roots of the plants for some time. Clay lands therefore require the water longer than gravel. Sand or gravel spread over clay meadows essentially improves them; it should merely be laid over the surface; it acts most likely in retaining the water on the clay, preventing evaporation. Chalk is also an excellent thing, when carefully added. It is deplorable to see what quantities of land, lying round streams of all sizes, within the reach of this most excellent source of increased vegetation, still lack its judicious application. No one doubts its advantages, yet thousands neglect to avail themselves of it. In many cases this is the result of habit; their fathers did it not, neither will they (rather too much veneration for the dead). But the majority of cases arises from some appropriation of water by an individual to his own purpose, as a motive power or otherwise. He may not say that others have no right to use the water which passes through their land in common to them and to him; but he prevents their applying it in their own manner if it tends to impede his application of it. He may have some justice in his favour, but millions of acres are not only not irrigated, but occasionally, nay, we might say periodically, drowned, in consequence of such individual, local, and partial uses—abuses they were better termed. In nine cases out of ten, right of occupation is the only claim such people have to make such injurious uses of water, which is just what they would prevent others from doing, lest they should suffer from their neighbours those injuries which they themselves inflict on all who are joint owners of such waters in common with them. Yet such occupation constitutes property in English law, and there is therefore now no remedy, except the usual one in such cases afforded by time—the avenger, the vindicator of right, and the potentate who sooner or later wipes out injustice. May his influence soon extend to this case! May we see it! Mills moved by water are the most usual obstructions. A mill keeps the water at a certain level too high for drainage. Millions of acres are thus rendered impracticable to the thorough drainer; millers will not allow the adaptation of streams to irrigation, lest they should suffer in their effective power. But now steam, the daughter of time's descendants—civilisation and science—comes in and says: here is a power which you may apply at your own convenience as to time and place, without submitting to the caprice of rain and terrestrial undulations. Use this power and you will save carriage to low and inconvenient sites, far from consuming communities, besides a thousand other inconveniences. These obstructions injure the community at large; it is therefore not beyond the scope of a legislative enactment. The greatest quantity of produce, both Grass and beef, and therefore corn, is not raised. We are importing what our waters would supply if skilfully treated and divested of local and individual incumbrance. It will be our business shortly to point out some farther grievances of the kind, to show the extent of them, and to suggest a remedy.

Home Correspondence.

Drainage Pavement.—We have received the following note from the inventor and advertiser of these bricks, regarding the report of a meeting of the Royal Agricultural Society of England, in a late number of our paper:—"From the brevity of the report, I see the price of pavement is omitted; and by the reference of the chairman to the 'economy with which the York stone could be laid down for flooring,' the impression is left that the stone is the cheapest flooring of the two, whereas the chairman stated the price of the stone to be 8*d.* per square foot, which is just *three times* the price of the drain pavement, viz., 2*s.* per square yard. Should you think the matter of any importance to the agricultural world, I should feel obliged by your letting this fact be known. *James Forbes, 6, Upper Ranelagh-street, Pimlico.*"

The Seed Trade.—The articles which have lately appeared in your pages respecting the seed trade, have given great satisfaction to many of your readers in this country, where all agree that sad tricks are resorted to in London in order to sell cheap seeds. The evils complained of have been more especially pursued since the practice of sending "travellers" from seed-houses has come into fashion; these "travellers" leave London, and other large towns in England, about the end of May or beginning of June, with instructions to allow no house to undersell the one which employs them. Each is furnished with a list of prices and abstracts of accounts. Some customers pay when called upon, but many do not. These "travellers" pursue each other through England, Scotland, and Ireland, like horses at a steeple-chase. They leave their priced lists everywhere they can, representing the advantage which their particular house offers over every other. Messrs. Dodge and Co.'s traveller is however often first, and offers a leading article or two at a much lower price than any of the others. He sometimes, as in Swedish Turnip seed for instance, makes a difference of as much as 3*s.* per bushel. Now, how is this low price to be met? The traveller may reason with his customers after this fashion—"Our house purchases for cash; we have the greatest confidence in our growers, they have never deceived us; and our prices are as low as it is possible for us to have them; at present prices, our house can hardly do more than meet its expenses. Messrs. Dodge and Co. will require cash when they ship their goods to your order." Oh no! is the reply; they will take off 5 per cent., or give 12 months credit! The traveller communicates with his employers, no doubt advising them to meet the prices of Dodge and Co., who sells for less money than they pay the grower. Now observe how the low price of the firm just mentioned is met: the first thing is to ascertain whether or not the house possesses any trio (old seed having no growing power); if this does not happen to exist of the description wanted, inquiry is made in the trade until it is procured, say at 1*s.* 6*d.* or 2*s.* per bushel. When taken home, it is well dusted, and shaken backwards and forwards in a sack, into which some sweet oil has been introduced to give the material a bright colour, which lasts for some time, if the shaking process is well performed, and by this means the price of Swedish Turnip, or anything else, is made to meet Dodge and Co. in the market. Seedsmen (even the very best of them) have a great deal to answer for. They do not pay the grower a price which sufficiently remunerates him, or enables him to pay attention enough to his stock. In this lies the chief cause of the evil—what remedy has the public? It may go to a respectable house, which was a remedy at one period; but now that will not secure it against spurious Turnip, or doctored Clover seed. Trefoil, highly coloured by the use of indigo, is largely imported into this country, and sold for good English Red Clover. An action at law, for the disappointment of a crop, either by failure, or by its not being true in character, would certainly, I think, do much to bring matters into a better position. There can be no doubt that in most cases damages would be obtained; and I trust that farmers and gardeners will not fail to take some such step as this to protect themselves against the tricks of dishonest seedsmen. *Veritas, Dublin.*

The New Steel Digging Fork.—With reference to your publication of the 14th February, containing a letter signed "R. A. Lyndon, Birmingham," under the head "forks," in justice to my esteemed friend, Mr. Harry Winton, whom I have known as a manufacturer, at his Dove Mills, Cleveland-street, Birmingham, for the last five years, I beg to say he was sole exhibitor of the forks and tools so much approved of by J. J. Mechi, Esq., and others; and, moreover, Mr. Winton is fully justified in stating manufacturer of "Winton's Parkes' Forks," which stamp or brand may be regarded by the public as a warranty of their superiority and genuineness. Mr. Winton has recently invented several other descriptions of forks, which are made under my superintendence, and are likely to become highly serviceable to the public. *Francis Parkes, Sutton Coldfields, Feb.* 19.

Mr. Winton's Forks.—Allow me to contradict Mr. Lyndon's assertion in your Paper of the 14th instant, and to say that I have for many years been a manufacturer; and the public may depend on our united efforts to continue to supply them with those agricultural and horticultural tools of that superior cast, which, up to this time, they continue to prize. *Harry Winton (for Winton and Sons), Dove Mills, Birmingham.*

A Voice from the Diggings.—In No. 6 of your journal, you refer to the last report of the Royal Agricultural Society of England, with a commendable endorsement, for the sake of your readers who are members of that society. I hope the Council of the Royal Agricultural Society will perceive the pungency of your remark. You do not refer to the report for the sake of your readers who are non-members, as the price of the publication renders it inaccessible to them. If the Society exercised a little more generosity, and offered their Journals at a price which made but a small appeal to the pocket, they would be rendering a service to a class of men who desire to initiate agricultural progress. *A. B.* [We need not say that the notice referred to was intended for those who are *not* members of the Society.]

Butter.—In answer to "Annie's" inquiries respecting butter-making, she must excuse my objecting to her oval tub. A round one, of 10 in. in depth, and 1 ft. 8 in. in diameter, will make from 10 lbs. to 12 lbs. at a time. And, being round, is more entirely subjected to the action of the hand, in beating the cream, than the oval shape; and even as small a quantity as a pound may be made at one time, on this plan. The long continued damp weather is the reason why the butter takes longer than usual in making, as, like all other processes, this system is affected by the state of the atmosphere; the excess, either of heat or cold, is preferable to damp. The hand must be scalded as well as the tub, and the cows should not be allowed Turnips for, at least, two hours before milking, which will entirely prevent the taste in the milk. *Sarah H., Westmoreland.*

Emigration to Canada.—I send you a copy of a letter which I have received from the Government emigration agent at Quebec, and which, as the season is opening for emigration to Canada, you may think sufficiently interesting to the public to deserve being published, entirely or partially, in the *Agricultural Gazette. Vere Foster, 5, Whitehall-yard, London, Feb.* 22.—"(Copy) Quebec, January 23, 1852.—My dear Sir: I this morning received your note of the 25th ult., with a copy of your printed circular, which I have read with much interest, as it contains a great deal of valuable information and most useful directions to intending emigrants. I do not see that I can add anything to it, as you have so fully enlarged on all the points necessary and useful. I cannot avoid stating that I think you under-estimate the advantages which Canada offers for the reception of the surplus poor, but able bodied, labour of the United Kingdom. In the first place it can be reached at a less cost (?), and with equal comfort as any port in the United States; the advantages and facilities of our inland transport you have fully set forth in your paper. I have never been able to ascertain the extent of mortality on the passage to New York, and therefore cannot give any comparison between it and this port, but the inclosed return of the past season's emigration will satisfy you as to the healthy condition of the emigration of 1851. . . I should wish to impress upon all parties desirous of assisting or superintending the emigration of poor persons, particularly females, the great importance of securing their early arrival in this country; they should not land here later than July. All those who arrived here early in the season were immediately provided for in a satisfactory manner; and Mr. Hawke, the (Government emigration) agent at Toronto writes that, out of 700 young females landed at his agency, not a dozen remained unemployed a fortnight after, and he has no doubt but an equal and even greater number would find service at good wages if sent out in 1852. Canada never offered a better opening than at present for all parties seeking employment; wages are unusually high, and likely to continue so; labourers on our railroads get from 4*s.* (Canada currency equal to 3*s.* 2½*d.* British) to a dollar per day, and the construction of the line from this city to Melbourne, 97 miles, will go into full operation in the spring, and will afford employment to those who may not have the means of proceeding up the country immediately on landing from the vessel. I cannot furnish you with the rates of transport inland for next season, but I anticipate they will be fully as low as those of last season. A new line of first-class steamers will run from this city to Hamilton, the head of Lake Ontario, without transhipment. Emigrants were conveyed this distance, 570 miles, for 10*s.* (8*s.* British)—2 dollars—last season, and on some occasions for less, but a fair price to calculate on is 15*s.*—3 dollars; all luggage free; time, 3 to 3½ days. You will see from my report that one-fourth of our emigration of last year were paupers, and many of these, particularly the Highlanders, were sent out here in a wretched state. Of our whole pauper emigration about one-third (3386), landed here in September and October, at a season altogether too late to admit of a prospect of their being able to secure any provisions before the winter sets in. They have all, however, been dispersed over the country; and although, doubtless, many have been exposed to suffering, yet no cases of aggravated suffering have reached me. *I cannot but feel that the parties who sent these people out at so unfavourable a period in the year have incurred a serious responsibility.* [The italics are mine. While I was in Canada last September, 1950 highlanders arrived, shovelled out from the estate of a wealthy gentleman, scarcely any of them speaking English, and all landed without a penny, or any provision being made by that gentleman for their support, or conveyance up the country to where employment might be had, which, as Mr. Buchanan states, is, at so late a season of the year, very difficult to be found so far north. *Vere Foster.*] You are aware the emigrant tax to Canada is reduced 30 per cent. this year; adults now pay one dollar; children, 5 to 15 years of age, 75 cents., and all under 5 years free.

"Vere Foster, Esq. *A. C. Buchanan.*"

A Word in Season.—My attention has been drawn to the following letter, which has appeared in the *Northampton Herald*, in answer to one signed "Cautious." I do not ask you to incumber your paper with "Cautious'" figures, although they have been useful in bringing the reply; but I feel certain you will estimate Mr. Smith's answer very differently. I am glad to find that very many agriculturists visited Mr. Smith last year; for in consequence the plan is being tried very generally. I can truly say that my inspection of his crops has been a more valuable lesson to me than any I ever before received. Highly as I have seen reason to estimate the value of deep and finely pulverising cultivation, I was not prepared to see such results, unaided by manure, and in opposition to all my previous conceptions of the occasion for change of cropping. It may be useless to ask large occupiers to think of learning from the cultivators of 8 or 10 acres; but small holders of land have here a practice they can readily adopt, and that comes recommended by a return which holds out the greatest inducement to give it a trial. What does the manure cost? is a question I never yet knew a farmer able to answer. Market gardeners have told me from 10*l.* to 30*l.* per acre per annum. But this I, as a farmer, do know—that to gain this manure, two-thirds of the produce of most farms is applied, and in many cases without much other return. *Hewitt Davis, 3, Frederick's-place, Old Jewry.* "Vicarage, Lois Weedon, Jan. 28, 1852.—Sir: The following is a detailed account of last year's outlay and profit on a 4-acre piece of Wheat, at Milthorpe, in the parish of Lois Weedon, in this county, being the first year of my entrance upon that land:—

	£	*s.*	*d.*
Paid for ploughing, the half portion of each acre, at 12*s.* per acre	1	4	0
Harrowing, levelling, and cleaning the foul stubble, at 10*s.* per acre	2	0	0
Pressing the channels for the seed, at 1*s.* per acre ...	0	4	0
Dropping the seed by hand, at 5*s.* per acre	1	0	0
4 pecks and 1 gallon of seed, at 5*s.* per bushel ...	0	5	7½
Rolling, at 6*d.* per acre	0	2	0
Hoeing between the rows, at 3*s.*, scarifying the intervals, at 3*s.*, bird-keeping, at 4*s.* per acre ...	2	0	0
Reaping, 9*s.*, carrying to barn and unloading, at 6*s.* per acre	3	0	0
Threshing and winnowing 20½ qrs. at 2*s.* 11½*d.* per qr.	3	0	2½
Rates and taxes, 4*s.* 8*d.* per acre, and interest on 20*l.* for outlay, implements, &c., 20*s.*	1	18	8
Total outlay	£14	14	6
20½ qrs. of clean Wheat, exclusive of tail, at 35*s.* ...	35	0	0
8 tons of straw, at 40*s.* per ton	16	0	0
Gross produce	£51	0	0
Deduct outlay	14	14	6
Total amount of profit to proprietor ...	£36	5	6

The plan upon which this crop was grown was that

of having Wheat in triple rows, 1 foot apart, with a fallow interval of 3 feet between each triple row. So that there is this startling peculiarity of result, that these 20½ qrs. of clean grain were, in reality, the produce of about half the land—of two acres, instead of four. Not only so. These four acres were what is usually deemed exhausted. They had never known a bare fallow in the memory of man. Four years before I took to them from my tenant they had been manured for Swedes, which were eaten off the land. They had had no dressing for the three following crops, the rotation ending with a heavy crop of Wheat, sown broadcast. And in this state, the stubble standing, I entered upon them in October, 1850. I then simply ploughed the land an inch deeper than usual, cleaned and levelled it, and so, without further preparation, got in my seed. In the following month, when the plant came up, I sent in my spadesmen, and trenched the intervals for the succeeding crop. I very respectfully ask the farmer's attention to these facts—facts, the certainty of which it lies within the reach of any Northamptonshire man to prove. Here we have Wheat upon Wheat, upon exhausted land, with no manure, with little more than a peck of seed to the acre; and yet from the half portion of these four acres we have a yield of 41 bushels. I ask him—How is this? There is, in truth, no mystery or magic in it at all. For when I said I had no manure for my Wheat I spoke incorrectly. I have manure in abundance; organic and inorganic manure for an endless succession of Wheat crops on the same four acres of land. For, what *is* manure? The farmer knows, from experience, that manure is that which, somehow or other, restores fertility to his exhausted land, and gives him good crops. But, did he ever ask himself what there was in the straw and the dung to do this? Let him go to some 'cunning' men, able and willing to teach, and he will learn that his home-made manure contains, not only the organic food for the plant, but a variety of mineral or inorganic substances, out of which, after undergoing certain mysterious combinations in the soil, and so becoming fitted for assimilation by the plant, the straw and the grain of Wheat are made up. Let him ask further, and the same clever man of cultivated, common sense will tell him, that the clay, or loamy subsoil of his Wheat land contains the very same mineral or inorganic bodies, and therefore the very same elements of fertility, with that manure which he carries from his yard, or buys in the market. Here, then, is the cherished object I have in view in bringing up the subsoil to the surface. Buried below, out of the reach of the atmosphere, the cold clay bottom, and the hard-bound pan of loamy gravel, are worse than valueless. But, lay bare a few inches by degrees. To do more than that at the outset would be a wasteful and injurious expense. Begin with two shallow spits deep. Raise, in short, just so much of the subsoil as can be pierced through by the winter's frost and burnt by the summer's sun, and you open a mine of mineral food for your plant that is practically inexhaustible. When Professor Way spoke of the cost of doing this, he was not aware of the system of fallow intervals. 'Allowing,' said he, 'a certain and considerable yearly diminution of the mineral elements of fertility in the land, we have yet, so to speak, an almost infinite supply of these bodies in the soil itself, provided we knew how we might economically avail ourselves of it. This—the item of expense—is, after all, the turning point.' Had he known of a plan by which one moiety of an acre could be made to yield a produce equal to that of a whole acre, he would not have wanted a solution to his problem. He would have found it in the fact, that for this moiety of an acre there is, of course, only half the labour and half the expense of an entire acre required for trenching. Having provided this mineral supply of food, and laid open the intervals for a winter and summer fallow, the organic elements of fertility will come of themselves. For 'fallowing,' says Mr. Nesbit, 'is, in fact, a system of manuring from the air. And when the Wheat plant follows the fallow, the additional materials accumulated from the air increase the crop, perhaps, by two or three quarters per acre.' Carbon and nitrogen are wanted, and the atmosphere contains them both, in the forms of ammonia and carbonic acid; and with every shower of rain, every descent of the dew, and every fall of snow, they are brought down into the porous soil and there retained, either for future use or to be taken up by degrees by the growing plant. All that is wanted is, to give to each well-separated plant fair play, by letting in upon it sun and air; to afford its roots width and depth to pasture in, and to keep the surface of the soil open and free from weeds. Do this, and, be assured, Nature will do the rest. But, if I use no yard-manure, what becomes of the straw? I do not sell it. No good farmer, I conceive, would do so, though he could get for it 2*l.* a ton, because he knows that its intrinsic value is much beyond that. I have purchased it for many years, and never could get it under 40*s.* But when it is turned into manure for crops that require forcing, but which Wheat will not bear, I carry it to my land, fresh and unexhausted of its richness, and bury it deep in the well-tilled and retentive clay. With what result? My winter Beans, and all my principal root crops, are planted in single rows, 5 feet apart; and, a few weeks ago, I weighed my Swedes taken from a measured rood of ground, and the amount was 6 tons 15 cwts., being upwards of 27 tons to the acre. Before the Swedes were sown, I cut from the spot on which they grew a heavy crop of early Rye. From the intervals between the Swedes I drew 60 bushels of Potatoes. And in the lines from which they were taken there is now, in vigorous growth, a crop of winter Beans. In another part of the field there was an acre of winter Beans, which yielded last autumn between seven and eight quarters; and, in the intervals, Wurzel, also a heavy crop. I value my straw at its worth to myself; and, with such results as these, I do not hesitate to charge it in my balance-sheet at 2*l.* a ton. One word more, and I have done. At the opening of my letter I have given the *bonâ fide* balance-sheet of the operation of my system on four acres of Wheat land, from the first ploughing to the sale of the last sack. The account, it appears, is not satisfactory to your correspondent of last week; and he has been pleased to give his version of how my account should stand. I cannot accept his version, because it is full of error as to matters of fact; and calculations based upon error are utterly worthless. It is in error, because (1) I paid 12*s.*, and not 13*s.*, for ploughing. (2) I did not dig for last year's crop at all. Each crop bears its own expense, from the first tillage of its moiety of land to the selling of the grain. (3) I did not stack, or thatch, or take in the crop, but carried it at once to the barn. (4) The average price of the Wheat per quarter was 35*s.*, including all expenses. (5) I charged nothing for tail-Wheat or chaff. (6) I had eight tons of straw, not four. Nor do I feel disposed even to touch upon his anticipated balance-sheet of my crop another year, for the yield may vary, prices may change, expenses may alter; and I think it will better further the cause of truth if we wait till the next crop be carried, and the produce sold.—I am, Sir, your obedient servant, S. Smith."

Drainage and Deep Cultivation.—When it rains very heavily, you will find me walking my fields and examining the drains and water-courses. We had heavy rains from the 11th to the 14th inst. On the 13th, 14th, and 15th, drains discharged abundantly from all my Wheat lands; whilst on similar soils, ridged up by the fork, and on other land ploughed 12 inches deep with six horses, not a drain discharged, nor was any water seen between the ridges. The remark applied equally to land drained 5 feet deep, 28 feet apart; and also to land drained 12 feet apart, and 2 feet 8 inches deep. No drains discharged from the young Clovers. Late on the day of the 15th there was a trifling discharge from both the young Clovers and ploughed and dug lands. The whole of these lands were alike in quality, a tenacious plastic clay. The conclusions I drew from the apparent discrepancy was, that very deep cultivation permits an enormous evaporation even during winter, for you may see the steaming vapour as it rises from the fallowed ground. I apprehend, then, that it is wise to deeply ridge up our heavy land before winter, to promote evaporation; and that in the spring we should keep the surface fine, to retain the moisture. In our dry eastern counties, those who plough their heavy lands often in the spring frequently miss their plants of roots. A gardener who digs his ground deep before winter, does not redig it three or four times in the spring. The young Clovers I suppose evaporate much moisture by their leaves, and are thus well suited to our heavy lands. Tares do the same. There could be little evaporation from the finely harrowed young Wheats, or the drains would not have discharged so immediately and abundantly. I am a confirmed deep drainer. As I pondered over the steaming drains and flowing ditches, I sorrowed for those who, from want of means or inclination, were deprived of these benefits. Their basin will be full to the brim, and Sol's cheering beams will, instead of vivifying mother earth, be wasted in converting the stagnant water into steam. *J. J. Mechi, Tiptree Hall, Jan.* 27.

Reviews.

Suggestions as to Reform in some Branches of the Law. By James Stewart, Esq. 2d Edit. Stevens and Norton. 8vo, pp. 131.

This work is a re-issue of some suggestions upon the same subject, published by the author 10 years ago, with additional matter, showing what has been done in the way of law reform since that time, and what still remains to be done.

With respect to facilitating the transfer of real property, which is the subject of the second chapter, and that in which our readers are most interested, the author says:

"Within the last ten years great progress has been made, not, I am afraid, in facilitating the transfer of land in this country, but in bringing home to the public mind the importance of this subject. This, in fact, cannot be exaggerated. I do not hesitate to state my conviction, as the result of more than 25 years' experience as a conveyancer, and after great consideration of the subject, that the present law, which impedes the free transfer of land, its expense and delay, deprive the landowner of the value of his land to the extent of 10 years' purchase, and that the fee-simple of freehold land should bring in the market, on the average, 40 years' instead of 30 years' purchase. I further believe, that a few judicious alterations in the law would soon enable the landowner to realise this advance in price. It is needless to point out the vast consequence of this to the landowner, more especially at the present moment, when many a worthy gentleman is struggling to live on the difference between the rent payable *to* him and the interest payable *by* him. Facilities for the transfer of land should now be demanded by all, as the means of relieving the landowner from his chief present difficulties, and of enabling this countr to go on for the future with greater prosperity than ever to all classes."

The great expense caused by deeds of unnecessary length, has always given rise to just complaints, and will continue so to do so long as deeds are paid for, not in proportion to the skill or amount of *mental* labour bestowed upon them, but according to the quantity of words which may be crammed into them. The object of a purchaser is to secure some evidence of his title to the land he buys, and the shorter and simpler this evidence is the more satisfactory it is to him; but in the very same proportion is it unprofitable to those who prepare it for him, and who are paid worse for a plain, short, compressed instrument (the result, perhaps, of much consideration and thought) than for one unintelligible, long, and verbose, requiring little skill, but plenty of manual labour. An Act of Parliament was passed a few years ago (8 and 9 Vic. c. 119) with the express object of remedying this abuse; but the application of the short forms thereby provided was left to the discretion of private individuals, and although by the adoption of those forms deeds may be shortened, and although the amount of remuneration to those preparing them does not depend upon their length, the Act has fallen into disuse. That long instruments can always be dispensed with is by no means asserted; in intricate family settlements, whether by deed or will, lengthy statements cannot be avoided; but that is no reason why the evidence of the title of a common purchaser, or of the contract entered into between a landlord and his tenant should not, even without a system of registration, be much more short and simple than it usually is. For our own part, without pretending to be acquainted with the legal difficulties which beset the subject, we do not see why land should not be as easily transferred as money in the funds. That for this purpose great changes would have to be introduced, we have no doubt; above all, a complete system of registration would have to be established, and perhaps also a parliamentary title to start with. Difficulties, impossibilities, and objections of all kinds, are, of course, stated to exist, and urged by all interested in maintaining the present system. The law reformer, like any other person introducing a change, must expect and be prepared to meet considerable opposition; but in the end he will, if judicious, prevail.

The other subjects touched upon by Mr. Stewart are the mode of professional remuneration, the Court of Chancery, the enfranchisement of copyholds, which we hope to see made compulsory before the end of the present session of Parliament, and the consolidation of the law in general. All these topics are of great interest and importance, but, not bearing so directly upon the subjects discussed in this journal as the transfer of property, we must refer our readers for information upon them to the work itself. The reissue of these suggestions at the present moment is likely to keep alive that spirit of improvement which, if it may be said to have been called forth by Lord Brougham's celebrated speech on law reform, has been in no small degree nourished and made fruitful by the activity of Mr. Stewart.

Miscellaneous.

Prices of Wheat.—"It is now ascertained," says the Paris correspondent of the *Times*, of Wednesday last, "that the late decline in the price of flour in the Paris market has been occasioned by over speculation. The buyers, having purchased a greater stock than they could conveniently hold over, have been compelled to change their position and become sellers. Prices, however, have remained stationary for the last eight days. Flour of superior quality brings from 54 f. to 56 f., good quality from 52 f. to 53 f., and ordinary samples from 50 f. to 51 f. the sack of 157 kilogrammes. Accounts from the agricultural districts state that the price of Wheat has fallen 1 f. per 100 kilogrammes, in Lorraine. In the Vosges the fall has been 2 f. the 100 kilogrammes. At Dijon and Grey likewise the complete cessation of all demand for Alsace has occasioned a backward movement. Wheat has risen in the Loire from 17 f. 50 c. to 18 f. the 50 kilogrammes, in consequence of a brisk demand for the north of France and Belgium. Some cargoes of flour shipped at Nantes for Algeria have met a ready sale there. The Minister of War proposed to receive tenders for the delivery of Wheat at Metz, Thionville, and Longwy, but the prices demanded varying from 28 f. to 30 f. the quintal, exceeding the *maximum* fixed by the Minister, no adjudication took place. The country cattle markets continue to be well supplied with stock, and sales are easily effected at a remunerating price to the graziers."

Notices to Correspondents.

Ants: *Agricultor.* How are they to be destroyed? We can hardly suggest anything beyond cutting open the hillocks and spreading them before winter, which is ineffectual unless the weather be severe. Try gas water over the heaps, in addition to cutting them open.

Bacon: *C F B.* The smoking is performed by hanging them in rooms, not as in ordinary cases heated with stoves—but in smoke rooms where sawdust is kept burning. Perhaps some of our readers will give you the details of the Somersetshire method.

Charcoal: *W G R.* The process can be described, but the general terms employed would not instruct the labourer in the due performance of the details. One of your men will learn more from a day or two with the charcoal burners themselves, than by reading anything we could say.

Dairy Operations: *Subscriber.* We would steam the roots apart from the hay, and afterwards mix. In all probability

the steaming may drive off much of that aroma to which the taste of butter from cows fed on their roots is derived. We should be exceedingly glad to have your experiments on the relative merits of churns.

Draining: *Rusticus.* Stephen's book, extracted from his "Book of the Farm," is full of useful detail, though whether it is explicit on the particular subject you allude to we cannot say.

Extraordinary Produce of Wheat: *Norseman.* "T. G." was right—there was no misprint. The field he alluded to is near Stalham, in Norfolk. In 1844 it produced 11 quarters of Wheat per acre. We do not know Kase's force-pump.

Grass Land: *Cartmel.* Drainage, proper manuring, and bush or other harrowing will maintain a pasture in condition without the need of ploughing up and relaying it. Lime alone will not do, but that and sheep folding on land that has been drained will do.

Guano for Wheat: *An Old Subscriber.* You cannot do wrong by sowing in moist weather towards the end of March, and harrow or hoe it in: 3 cwt. per acre is generally a proper quantity.

Hoe: *X.* A common horse-hoe of unusual lightness would be perfectly adapted for draught and use by a pony. Flax can be grown for stalk and seed, and a quarter of an acre will yield 3 bushels of seed, if pulled before ripe, as it should be; an eighth of an acre, if allowed to ripen.

Lime and Salt: *H M.* We would slake 60 bushels of lime with brine, and leave it exposed to the air in a dry place for some weeks; and then mix it with an equal quantity of vegetable mould and spread it over an acre of your pasture land. Do it evenly, notwithstanding that the moss occurs only in patches.

Mangold Wurzel: *M A.* Plant the roots immediately—they ought to have been planted in autumn, 2 feet apart in rows a yard apart, in land clean, and in good heart, but not recently manured. The roots will shoot forth and have a *late* crop of seeds.

Manure for Young Grass: *Juvenis.* Mix 2 or 3 cwt. of Peruvian guano with several times its bulk of loam, and spread it evenly over an acre, early in March.

Mill: *X.* Apply to Dean and Dray, London.—On chaff-cutters, inquire of any implement maker.

"Night Ripening:" *T G.* We have had a far more extensive experience of this subject than was at all agreeable—not, however, as the result of growing Wheat after Barley. You will find all that is known of the subject in the article "Blight" in Blackie's Cyclopedia. We do not know the cause. We should be glad to have your opinion and that of other correspondents on the subject.

Markets.

COVENT GARDEN, Feb. 28.

Although the weather still continues cold, the market is well supplied with vegetables and fruit; but trade is dull. English Pine-apples are plentiful, considering the season. English Grapes are over, and foreign ones are a trifle dearer. The best English Pears fetch good prices. They still consist of Beurré Rance, Ne Plus Meuris, and Easter Beurré. Oranges are plentiful and good. Nuts are nearly the same as last quoted. Strawberries in small quantities have just made their appearance. Carrots, Turnips, Cabbages, &c., are sufficient for the demand, and there is some fine Cornwall Broccoli in the market. Potatoes are generally good in quality. Lettuces and other salading are sufficient for the demand. Mushrooms are cheaper. Cut flowers consist of Heaths, Epacrises, Mignonette, Camellias, Roses, Acacias, Azaleas, Primulas, Hyacinths, Tulips, Lily of the Valley, and other forced bulbs.

FRUIT.

Pine-apples, per lb., 4s to 8s	Oranges, per doz., 1s to 1s 6d
Grapes, Lisbon, per lb., 9d to 1s 6d	— per 100, 3s 6d to 10s
Apples, kitchen, per bushel, 2s to 3s 6d	— Seville, per doz., 1s to 3s
Pears, dessert, p. doz., 2s to 6s	Nuts, Barcelona, p. bushel, 20s to 22s
Almonds, per peck, 5s	— Brazil, p, bsh., 12s to 14s
— sweet, per lb., 2s to 3s	Cobs, per 100 lbs., 80s to 100s
Lemons, per doz., 1s to 2s	

VEGETABLES.

Savoys, per doz., 10d to 1s 3d	Beet, per doz., 1s to 2s
French Beans, p. 100, 2s 6d to 4s	Parsnips, per doz., 4d to 1s
Broccoli, p. bunch, 5d to 1s 3d	Leeks, per bunch, 1d to 2d
— heads, each, 2d to 4d	Shallots, per lb., 8d to 10d
Asparagus, p. bundle, 3s to 8s	Garlic, per lb., 6d to 8d
Seakale, p. basket, 1s 3d to 2s 6d	Artichokes, Jerusalem, per hf. sieve, 9d to 1s
Greens, per doz., 2s to 3	Lettuce, Cab., p. score, 4d to 1s
Rhubarb, p. bundle, 6d to 1s 3d	Small Salads, p. punn., 2d to 3d
Potatoes, per ton, 45s to 80s	Horse Radish, p. bundle, 1s to 4
— per cwt., 2s to 5s	Mushrooms, p. pot., 1s to 1s 3d
— per bush., 1s 6d to 2s 6d	— per punnet, 9d to 1s
Turnips, p. doz., 1s 6d to 2s 6d	Sorrel, p. hf. sieve, 1s 3d to 1s 6d
Cucumbers, each, 1s 6d to 4s	Fennel, per bunch, 2d to 3d
Celery, p. bundle, 6d to 1s 6d	Savory, per bunch, 2d to 3d
Carrots, per bunch, 4d to 7d	Thyme, per bunch, 2d to 3d
Brussels Sprouts, p. half sieve, 1s to 1s 6d	Parsley, per doz. bun., 2s to 3s
Spinach, per sieve, 1s to 1s 6d	Mint, per bunch, 4d to 6d
Onions, p. bunch, 3d to 4d	Basil, p. bunch, 3d to 4d
— Spanish, p. doz., 1s 6d to 3s	Marjoram, do., 3d to 4d
Endive, per score, 1s to 2s 6d	Watercress, p. 12 bunchs. 6d to 1s

POTATOES.—Southwark, Monday, Feb. 23.

The committee report that during the past week the arrivals coastwise have been limited, but still a very large supply by rail. Trade in a very languid state. The following are this day's quotations:—York Regents, 65s. to 80s.; Scotch do, 60s to 70s.; Perth and Forfarshire Cups, 60s. to 65s.; Fifeshire do., 55s. to 60s.; Kent and Essex Regents, 60s. to 75s.; Cambridge and Wisbeach, 55s. to 65s.

HAY.—Per Load of 36 Trusses.

Smithfield, Feb. 26.

Prime Meadow Hay	72s	to 78s	Clover	75s	to 85s
Inferior ditto... ...	65	70	2d cut	68	75
Rowen	60	65	Straw	25	28
New Hay	—	—		J. Cooper.	

Cumberland Market, Feb. 26.

Prime Meadow Hay	74s	to 78s	Inferior	65s	to 75s
Inferior ditto... ...	60	70	New Clover	—	—
New Hay	—	—	Straw	28	32
Old Clover	78	84		Joshua Baker.	

Whitechapel, Feb. 26.

Fine Old Hay ...	70s	to 76s	Old Clover	80s	to 88s
New Hay	68	74	Inferior ditto ...	—	—
Inferior ditto... ...	50	63	New Clover	76	84
Straw	25	30	Inferior ditto... ...	60	70

COAL MARKET.—Friday, Feb. 28.

Eden Main, 15s. 3d.; Hastings Hartley, 13s. 3d.; Wallsend Harton, 13s. 9d.; Wallsend Haswell, 16s. 3d.; Wallsend Hetton, 16s. 3d.; Wallsend Stewarts, 16s.; Wallsend Tees, 16s.—Ships at market, 149.

HOPS.—Friday, Feb. 27.

Messrs. Pattenden and Smith report that the demand continues good at late prices.

WOOL.

Bradford, Thursday, Feb. 26.—Our wool market has continued quiet throughout the preceding week, almost the only class of wool inquired for being of the best description, and this, from its comparative scarcity, commands a good price. Lower classes are neglected, and can only be sold when a reduction is submitted to. This is rarely and most reluctantly conceded by staplers, as they are well aware of the impossibility of replacing their stocks from the country to afford current rates. The transactions of the past week must be considered below the average even of this season of the year, but the stocks of consumers are fast reducing, and a partial return of activity seems probable at no distant period. Short wool and Noils are a rather slower sale at previous rates. We cannot report any decided change in our yarn and piece markets since last week.

SMITHFIELD, Monday, Feb. 23.

We have a larger supply of Beasts, and although the weather was good, and the demand rather extensive, and lower prices on the average submitted to, a clearance could not be effected. The supply of Sheep was again small; the trade scarcely so good as on Monday last. There was not, however, a quotable difference. There were a few more Calves, and the demand much smaller; consequently, prices were nearly 4d. per stone lower than on Monday last. From Holland and Germany there are 493 Beasts, 860 Sheep, and 173 Calves; from Spain, 50 Sheep; Scotland, 450 Beasts; from Norfolk and Suffolk, 2400; and 400 from the northern and midland counties.

Per st. of 8 lbs.—	s	d	s	d	Per st. of 8 lbs.—	s	d	s	d
Best Scots, Here-fords, &c. ...	3	4	to 3	6	Best Long-wools .	3	10	to 4	0
Best Short-horns	3	2	— 3	4	Ditto Shorn ...			...	
2d quality Beasts	2	8	— 3	0	Ewes & 2d quality	3	0	— 3	4
Best Downs and Half-breds ...	4	2	— 4	4	Ditto Shorn ...			...	
Ditto Shorn					Lambs	0	0	— 0	0
					Calves	3	0	— 4	6
					Pigs	3	0	— 4	0

Beasts, 4094; Sheep and Lambs, 21,470; Calves, 219; Pigs, 320.

Friday, Feb. 27.

The number of Beasts is small, and the demand equally so. Trade is very slow, at Monday's quotations. Although there are very few Sheep on offer, they cannot all be sold, notwithstanding there is a disposition to take lower rates. Calves are more plentiful, and the dead markets are now pretty well supplied from the eastern counties, consequently prices here are lower, especially for middling qualities. Our foreign supply consists of 126 Beasts, 410 Sheep, and 146 Calves; from Norfolk and Suffolk we have 300 Beasts; 10 from the midland, and 135 Milch Cows from the home counties.

Best Scots, Here-fords, &c. ...	3	4	to 3	6	Best Long-wools .	3	8	— 4	0
Best Short-horns	3	2	— 3	4	Ditto Shorn ...			...	
2d quality Beasts	2	8	— 3	0	Ewes & 2d quality	2	10	— 3	4
Best Downs and Half-breds ...	4	0	— 4	4	Ditto Shorn ...			...	
Ditto Shorn					Lambs	0	0	— 0	0
					Calves	2	8	— 4	2
					Pigs	3	0	— 4	0

Beasts, 749; Sheep and Lambs, 2870; Calves, 223; Pigs, 340.

MARK LANE.

Monday, Feb. 23.—The supply of English Wheat to this morning's market was moderate, and quickly disposed of at the extreme rates of this day's'ennight. There was also some demand for export. Foreign met a limited inquiry, but in the business transacted prices were well supported. Some demand was experienced for floating cargoes for the Continent.—There is not much doing in Flour, and its value is unaltered.—Barley was sought after, at rather higher prices.—In the value of Beans and Peas there is no alteration.—The trade for Oats is slow, and out of condition parcels are the turn cheaper.

Per Imperial Quarter.	s.	s.		s.	s.
Wheat, Essex, Kent, & Suffolk...White	44	—46	Red	40	—42
— — fine selected runs...ditto	46	—48	Red	42	—44
— — Talavera	46	—52			
— Norfolk, Lincoln, & York...White	39	—44	Red		—
— Foreign	37	—53			
Barley, grind. & distil., 26s to 29s...Chev.	31	—35	Malting .	29	—32
— Foreign...grinding and distilling	22	—29	Malting .		—
Oats, Essex and Suffolk	19	—21			
— Scotch and Lincolnshire...Potato	2	—24	Feed	20	—22
— Irish .....Potato	20	—23	Feed	19	—22
— Foreign .....Poland and Brew	19	—22	Feed	18	—21
Rye		—	Foreign .		—
Rye-meal, foreign.....per ton		—			
Beans, Mazagan ... ..24s to 27s.....Tick	25	—30	Harrow .	25	—30
— Pigeon.....27 — 32... Winds	30	—36	Longpod	24	—30
— Foreign .....Small	22	—30	Egyptian	23	—25
Peas, white, Essex and Kent.....Boilers	32	—34	Suffolk...	33	—35
— Maple.....27s to 30s .....Grey	26	—28	Foreign .	27	—34
Maize .....White		—	Yellow ...		—
Flour, best marks delivered ...per sack	38	—43			
— Suffolk .....ditto	29	—34	Norfolk .	29	—34
— Foreign .....per barrel	18	—24	Per sack	32	—36

Friday, Feb. 27.—The arrivals of foreign Wheat this week have been small, but good of other grain. Wheat was in better demand towards the close of to-day's market, having buyers for Ireland, the west coast, the Continent, and on speculation.—The prices of Flour are well maintained, without much doing.—The value of Barley, Beans, and Peas remain as on Monday.—There is a large supply of Oats; the trade is slow, but prices are unaltered.

Imperial Averages.	Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.
Jan. 17.....	38s 3d	27s 1d	18s 1d	27s 5d	27s 11d	28s 0d
— 24.....	39 3	27 10	18 2	27 10	28 3	28 18
— 31.....	39 10	28 6	18 2	27 6	28 11	28 4
Feb. 7.....	41 2	29 8	18 11	29 7	29 0	29 0
— 14.....	42 8	30 7	18 9	29 11	29 10	29 7
— 21.....	42 9	31 0	19 4	30 5	30 2	30 5
Aggreg. Aver.	40 8	29 1	18 7	28 9	29 9	29 2

Duties on Foreign Grain, 1s. per quarter.

Fluctuations in the last six weeks' Averages.

Prices.	Jan. 17.	Jan. 24.	Jan. 31.	Feb. 7.	Feb. 14.	Feb. 21.
42s 9d	...	...	...	...	...	
42 8	...	...	...	...		...
41 2	...	...	...		...	...
39 10	...	...		...	...	...
39 3	...		...	...	...	...
38 3		...	...	...	...	...

Liverpool, Tuesday, Feb. 24.—The upward tendency in Mark-lane yesterday was expected to have produced an improvement in the Wheat trade here this morning, but although we had a good attendance of home and country millers, they continued to exercise the same caution as of late, and transactions in Wheats were limited in amount, sellers remaining firm at late quotations. Flour slightly exceeded the reduced rates of Friday; Malting Barley and Malt declined 1s. per qr. each on Friday; grinding Barley was 2d. per 60 lbs. dearer today. Beans were held on rather higher terms, and Peas remained unvaried. Oats having been taken sparingly, receded ½d. per 45 lbs., whilst Oatmeal was less easy to purchase, and quite as dear as before.——Friday, Feb. 20.—Upon a slender attendance at our market this morning, we have to note an extremely dull sale for all descriptions of Wheat, whether English or foreign; holders, nevertheless, adhered firmly to the reduced rates of Tuesday, which remain unvaried. Malting Barley and Malt receded 1s. per qr each, grinding Barley remaining steady at late prices. Beans and Peas in slow request on the terms last noted. Oats and Oatmeal scarcely maintained their previous value. Indian Corn was in tolerable request, at late quotations, and several cargoes now calling at ports have changed hands.

GLASS FOR CONSERVATORIES, GREENHOUSES, PIT FRAMES, ETC.

JAMES PHILLIPS and CO. beg to hand in their prices of SHEET GLASS for cash:

Cut to order in Panes not above 40 inches long.		Packed in Boxes of 100 feet each.	£. s. d.
16 ozs.... ...	3d. to 3½d.	6 by 4, 6½ by 4½ ...	0 13 0
21 do.	3½d. to 5d.	7 by 5, 7½ by 5½ ...	0 15 0
26 do.	5d. to 7½d.	8 by 5, 8 by 5½ ...	0 15 0
In Crates of 300 ft., 16 ozs. to the foot, 2½d. per foot.		8 by 6, 8½ by 6 ...	0 17 6
		9 by 7, 10 by 8 ...	1 0 0

FOREIGN SHEET GLASS, of very superior quality, packed in cases of 200 feet, and in sizes varying from 36 by 26 to 44 by 30 inches, at 38s., 40s., to 42s. per case.

HARTLEY'S PATENT QUARRY GLASS.

Milk Pans, from 2s. to 6s. each; Propagating and Bee Glasses, Cucumber Tubes, Lactometers, Lord Camoy's Milk Syphons, Tiles and Slates, Wasp Traps, Plate, Crown, and Ornamental Glass, Shades for Ornaments, Fern Shades, and every article in the Trade.

HORTICULTURAL GLASS WAREHOUSE, 116, Bishopsgate-street Without.

GLASS.

THOMAS MILLINGTON'S FOREIGN SHEET GLASS is far superior to any other manufacture, as well as cheaper. In 100 feet boxes packed for immediate delivery.

6 inches by 4 and	6½ by 4½	...	...	...	13s. 0d.
7 ,,	5 and	7½ by 5½	...	...	15 0
8 ,,	5 and	8 by 5½	...	...	15 0
8 ,,	6 and	8½ by 6½	...	...	17 6
9 ,,	7 and	10 by 8	...	...	20 0
12 ,,	10 and	13 by 9	...	...	20 0

And many other sizes, or cut to order in various thicknesses. Cases containing large Sheets, in 100, 200, and 300 feet, at 21s. per 100 feet.

ROUGH PLATE, perfectly flat, ⅛ in. thick, best manufactured

In sizes under 15 inches				6d. per foot.
,, ,,	35	,,	.....	8d. ,,
,, ,,	50	,,	.....	9½d. ,,
,, ,,	75	,,	.....	12d. ,,

Milk Pans, 2s. to 6s. each; Metal Hand-frames, Glass Tiles and Slates; Cucumber, Propagating, and Bee Glasses; Wasp Traps, Glass Shades, and Plate Glass, at 87, Bishopsgate-street Without, same side as Eastern Counties Railway.—Established 100 years.

GLASS FOR CONSERVATORIES, ETC.

HETLEY and Co. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2d. to 3d. per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices and Estimates forwarded on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLATES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to James Hetley and Co., 35, Soho-square, London.

See *Gardeners' Chronicle* first Saturday in each month.

BELGIAN SHEET GLASS.—The above beautiful Glass, 16-oz. to the foot, so strongly recommended for Horticultural purposes, can be procured at the Soho Crown, Sheet, and Ornamental Glass Warehouse, 26, Soho-square, upon the following Cash terms. Single cases containing 200 feet each, case included, 2l. 2s.; in parcels of 5 cases at 40s.; in parcels of 10 cases, 38s. per case; or cut to any given size at 3d. per foot.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER.

WARRANTED BEST MATERIALS AND WORKMANSHIP, AT THE LOWEST POSSIBLE PRICES.



J. WEEKS and CO., King's-road, Chelsea, Horticultural Architects, Hothouse Builders, and Hot-water Apparatus Manufacturers. The Nobility and Gentry about to erect Horticultural buildings, or fix Hot-water Apparatus, will find at our Hothouse Works, King's-road, Chelsea, an extensive variety of Hothouses, Greenhouses, Conservatories, Pits, &c., erected, and in full operation, combining all modern improvements, so that a lady or gentleman can select the description of House best adapted for every required purpose.

THE HOT-WATER APPARATUSES (which are efficient and economical), are particularly worthy of attention, and are erected in all the Houses, Pits, &c., for both Top and Bottom Heat, and in constant operation in the Stoves.

The splendid collection of Stove and Greenhouse Plants are in the highest state of cultivation, and for sale at very low prices. Also a fine collection of strong Grape Vines in pots from eyes, all the best sorts.

Plans, Models, and Estimates of Horticultural Buildings; also Catalogues of Plants, Vines, Seeds, &c., forwarded on application.—J. Weeks and Co., King's-road, Chelsea, London.

HOTHOUSES, GREENHOUSES, ETC.

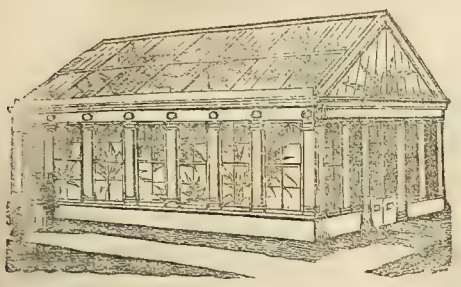
BY HER MAJESTY'S ROYAL LETTERS PATENT.

E. DENCH, PATENT HOTHOUSE WORKS, King's-road, Chelsea.—The superior qualities in every respect of these Structures having been proved in all parts of the United Kingdom, has caused a greater demand for them than E. D. could execute; he has been obliged to have perfect and powerful machinery made to meet the numerous orders, and can now execute any amount of work to great perfection, with dispatch, and for quality and price to defy all competition. Patent Hothouses, with excellent glass 3 feet long by 1 foot wide, every front sash to open, and every top one to slide down, with pulley made of the same materials as the electric telegraph wires, which require no painting; delivered free to Wharf or Railway Station, at 1s. 2d. per foot super., complete, having been fitted, and every portion marked previously, making a Greenhouse 16 ft. 6 ins. long, 12 ft. rafter, 400 ft., 23l. 6s. 8d.; 24 ft. 6 ins. long., do. do., 526 ft., 30l. 13s. 8d.; 28 ft. 6 ins. long, 15 ft. rafter, 712 ft., 41l. 10s. 8d. Heating by Hot-water on the most approved and economical principles.

Patent Sashes for Pits and Peach Walls, &c., 7d. and 8d. per foot, super.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER,

AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.



GRAY AND ORMSON, Danvers-street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

G. & O. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders, they can with the greatest confidence give the most satisfactory references.

Their Hot-Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating by Hot Water can be made available.

FOR WARMING GREENHOUSES and BUILDINGS of all kinds, the new Registered HORIZONTAL GAS STOVE is perfect in its operation, free from smell, and cannot get out of order. Price 30s.—STEVENS AND SON, Darlington Works, Southwark Bridge-road, London.

GREEN AND HOTHOUSES, made by Machinery, at J. LEWIS' Horticultural Works, Stamford Hill, Middlesex, warranted best materials, and the cheapest in England.—A List of Prices sent by enclosing two postage stamps.

TERRA COTTA VASES, TAZZAS, FLOWER TRAYS, FIGURES, &c., manufactured by T. M. BLASHFIELD, Mill Wall, Poplar, and sold at No. 1 Wharf, Praed-street, Paddington. These Vases, &c., are of a light stone colour, and are carefully modelled and burnt, and warranted to stand heat and frost; and this Terra Cotta is the only material for such works which does not sustain injury from smoke and sulphurous gases.

PERMANENT PASTURE.

HENRY ROGER SMITHE, of Eastling, Faversham, Kent, informs the public that his mixtures of the NATURAL GRASSES AND SMALL CLOVERS, gathered principally under his superintendence, including every sort necessary to form a Permanent Pasture, accordant with the soil, &c. (which should be particularly stated), are now ready to be delivered by Railway to any Station in England, Carriage Free, at 23s. per acre, allowing 3 bushels per acre.

MIXTURES FOR LAWNS, &c.

Any information on the nature and properties of the Grasses, the Advertiser would be pleased to give.

PROTECTION OF WALL FRUIT FROM FROST.

WILLIAM EAST begs to announce for Sale several large Wool Nets for protecting Wall Fruit from Frost. Wool and Twine Nets made to order, and to any size. Ladies and Gentlemen who may be pleased to favour him with their orders, may rely on the strictest punctuality.

W. EAST, 5, Belvoir Terrace, Vauxhall Bridge Road, Pimlico.

EWING'S PATENT GLASS WALLS.—The following are the Agents, and on application to whom drawings may be seen, and all other information obtained:—Messrs. Knight and Perry, Nurserymen, &c., Chelsea; Messrs. Henderson and Co., Nurserymen, Pine-apple-place, London; Messrs. Whitley and Osborn, Nurserymen, &c., Fulham, London; Mr. Glendinning, Nurseryman, &c., Chiswick, London; Messrs. Veitch and Son, Nurserymen, Exeter; Messrs. Dickson, Nurserymen, Chester; Messrs. Lawson and Sons, Nurserymen, Edinburgh; Messrs. Dickson and Turnbull, Nurserymen, Perth; Mr. M'Intosh, F.R.S., Gardener to the Duke of Buccleuch, Dalkeith; Mr. Fleming, F.H.S., Gardener to the Duke of Sutherland, Trentham, Staffordshire; Mr. Ewing, Gardener, Bodorgan, Anglesea; Messrs. Pilkington and Co., Plate, Crown, and Sheet Glass Works, St. Helen's, Lancashire.

These Walls can, when desired, be made wide enough for a person to enter, by which they become elegant hothouses on the best principle. Existing Walls covered with Glass and Iron.

GIDNEY'S IMPROVED PRUSSIAN HOE.—This exceedingly useful garden implement, so much in demand, and which has obtained the first prize at several of the first horticultural meetings, as the best and most useful garden tool *extant*; also testimonials from the principal horticultural journals and leading practical gardeners, is now ready for delivery, and may be obtained of any principal ironmonger, and Seedsman, or of the manufacturer, J. W. GIDNEY, Ironmonger, East Dereham, Norfolk. Price (ready for use), neatly handled, 1s 6d.; of whom may be had the new drill hoe, and the Norfolk Blomfield hoe. Copies of testimonials sent on application to the manufacturer.

IRON HURDLES, FENCING, ETC.

STEPHENSON AND PEILL, 61, Gracechurch-street, London, and 17, New Park-street, Southwark, beg to inform their friends and the public generally they are now manufacturing Iron Hurdles, at the following low prices:—For sheep, 6 ft. long 3 ft. high, 5 bars, 2s. 2d. each; and for cattle, 6 ft. long, 3 ft. 3 in. high, 5 bars, 2s. 6d. each.

TANNED NETTING, for the Protection of Fruit Trees from frost, blight, and birds, and for the security of fresh-sown seeds, either in gardens or fields, at 1d. per square yard, 200 yards for 14s., 500 yards for 30s., 1000 yards for 50s. Scrim canvas for wall fruit, netting for sheep folds; a considerable saving of labour, and less expense than hurdles. Rush blinds in great varieties, rick cloths, with poles, &c. Marquees, tents, awnings, and temporary rooms, with boarded floors, elegantly lined and lighted for balls, &c., on sale or hire. Carriage, cart, and truck covers impervious to rain; cloths for the covering of furniture in change of residence, &c. Tarpaulings on hire for houses under repair, at THOMAS EDDINGTON & Co.'s, 17, Smithfield-bars, and Old Kent-road.

N.B. Orders and inquiries per post punctually attended to.

NEW SORTS OF AGRICULTURAL SEEDS.

BISHOP'S LAST AND BEST PEA (*for double cropping*).

NEW SHORT PARSNIP (*for shallow or heavy soils*).

SKINLESS CHEVALIER BARLEY,

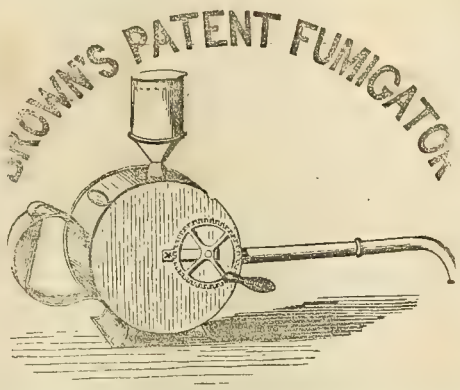
The sort shown by MESSRS. SUTTON *at the Great Exhibition, weighing 65 lbs. per bushel, and of which "honourable mention" was made in the Royal Commissioners' Report.*

A Priced Catalogue of the above valuable articles, and of all the best sorts of Mangolds, Carrot, Turnip, and other Agricultural Seeds may be had in return for one postage stamp, addressed JOHN SUTTON and SONS, Seed Growers, Reading, Berkshire.

SUTTON'S RENOVATING GRASS SEEDS FOR IMPROVING OLD PASTURES.—Many Old Upland Pastures, Parks, and Meadows are nearly destitute of Clovers, and the finer and more nutritious sorts of Grasses, in which case we are in the practice of furnishing such sorts only as are wanting; if the seeds are sown *early in the Season*, the improvement in the Pastures will be very considerable, and at a small expense. *Quantity of Seed required, 8 lbs. per Acre. Price Reduced to 10d. per pound.* Carriage free, as see our Advertisement in page 82 of this Paper.

Instructions on Sowing Grass Seeds, &c., may be had in return for one penny stamp.—Address JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

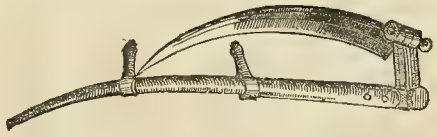
PRICE TEN SHILLINGS AND UPWARDS.



A PORTABLE INSTRUMENT for Fumigating Greenhouses, Stoves, and Frames, or Shrubs and Flowers, in the open air, more effectually in conjunction with SANGSTER'S FLORUMBRA, without injuring the most delicate plant; delivering the smoke cool, in a dense mass, and effecting a great saving of Tobacco.

Manufactured and supplied to the Trade by Messrs. BARBER and GROOM, London; and may be had of all Ironmongers, Seedsmen, and Florists.

BOYD'S SELF-ADJUSTING SCYTHE,



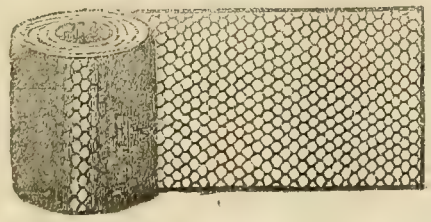
APPROVED BY PRINCE ALBERT, AND UNIVERSALLY RECOMMENDED BY PRACTICAL AND SCIENTIFIC MEN.

THIS SCYTHE, when out of use, shuts up like a knife. It can be adjusted to any angle in one minute (even by persons quite unused to the implement), without the assistance of blacksmith or forge. It may be used by amateurs as well as regular labourers, without fear of accident or injury, thus rendering Mowing an easy, safe, and economical operation.

To be had of all Ironmongers, Nurserymen, &c., in the Kingdom; and Wholesale and Retail at WM. DRAY and Co.'s Agricultural Implement and Machinery Warehouses, Swan-lane, London Bridge.—A liberal discount allowed to the Trade

---

GALVANISED WIRE GAME NETTING.—7d. per yard, 2 feet wide.



	Galvanised.	Japanned Iron.
2-inch mesh, light, 24 inches wide ...	7d. per yd.	5d. per yd
2-inch ,, strong ,, ...	9 ,,	6½ ,,
2-inch ,, extra strong ,, ...	12 ,,	9 ,,
1½-inch ,, light ,, ...	8 ,,	6 ,,
1½-inch ,, strong ,, ...	10 ,,	8 ,,
1½-inch ,, extra strong ,, ...	14 ,,	11 ,,

All the above can be made any width at proportionate prices. If the upper half is a coarse mesh, it will reduce the prices one-fourth. Galvanised sparrow-proof netting for Pheasantries, 3d. per square foot. Patterns forwarded post free.

Manufactured by BARNARD and BISHOP, Market-place, Norwich, and delivered free of expense in London, Peterborough, Hull, or Newcastle.

HEAL AND SON'S ILLUSTRATED CATALOGUE OF BEDSTEADS, sent free by post, contains designs and prices of upwards of ONE HUNDRED different Bedsteads, in Iron, Brass, japanned Wood, polished Birch, Mahogany, Rose-wood, and Walnut tree Woods; also their priced List of Bedding, and their new warerooms enable them to keep one of each design fixed for inspection. They have also, in addition to their usual stock, a great variety of the best designs of PARISIAN BEDSTEADS, both in wood and iron, which they have just imported. HEAL and SON, Bedstead and Bedding Manufacturers, 196 (opposite the Chapel), Tottenham Court Road, London.

STATION ROAD NURSERY, REDHILL, REIGATE.

BEAUTIFUL VARIETIES OF THE FOXGLOVE.

C. MITCHELL having been successful in raising many beautiful varieties of the above plant, has no hesitation in stating that they would be an acquisition and ornament to any lawn, pleasure ground, or shrubbery. They flower freely in various soils and localities, and are as hardy as the common variety.

Notice in the *Gardeners' Chronicle* of July 19, 1851:—"FOXGLOVES: *C. Mitchel* Beautiful in shape and marking, and well worth preserving, more especially the light kinds so finely spotted in the inside with pink."

Small Plants	6s. per doz.
Strong do.	12s. do.
Seed	2s. 6d. per packet.

C. M. will transmit any quantity of the above, on receipt of a Post-office order for the amount.

WATERPROOF PATHS.—Those who would enjoy their Gardens during the winter months should construct their Walks of PORTLAND CEMENT CONCRETE, which are formed thus:—Screen the gravel of which the path is at present made from the loam which is mixed with it, and to every part of clean gravel add one of sharp river sand. To five parts of such equal mixture add one of Portland Cement, and incorporate the whole well in the dry state before applying the water. It may then be laid on 2 inches thick. Any labourer can mix and spread it. No tool is required beyond the spade, and in 48 hours it becomes as hard as a rock. Vegetation cannot grow through or upon it, and it resists the action of the severest frost. It is necessary, as water does not soak through it, to give a fall from the middle of the path towards the sides.

Manufacturers of the Cement, J. B. WHITE and SONS, Millbank-street, Westminster.

FRUIT TREES, POULTRY, ETC.

TANNED GARDEN NETTING for protecting Fruit Trees from Frost, Blight, and Birds, or as a Fence for Fowls, Pigeons, Tulip and Seed beds, can be had in any quantity or length, from JOHN KING FARLOW'S Fishing Tackle and Net Manufactory, 5, Crooked-lane, London Bridge, at 1½d. yard wide, 3d. two yards, or 6d. four yards wide. All orders above 20s. accompanied with Post-office order, stamps, or London reference, carriage free.

BEES! BEES!!

W. KING, the inventor of the Safety Hive with Three Drawers, begs to call the attention of the public to his PATENT SAFETY HIVE containing EIGHT DRAWERS, and several other decided improvements, of which a full description, with engraving and plain directions for management, may be had, post free, by sending three postage stamps to the proprietor.

W. KING, Littlebury, Saffron Waldon, Essex.

TO GARDENERS AND FLORISTS.

MR. SEELEY, preparatory to the re-arrangement of his Show-yard for the summer season, offers a portion of the old stock of Garden Ornaments (such as have become stained by exposure to the London atmosphere) at a considerable reduction of price. This is an opportunity deserving the attention of the trade.—Artificial Stone Works, Nos. 1 to 4, Keppel Row, New-road, Regent's-park, London.

WHITE AND CINNAMON COCHIN-CHINA FOWLS for SALE; also fine black Spanish Fowls, 25s. per couple; Sebright Bantams, &c.; Cochin-China Eggs, 6s. per doz., from birds weighing 18 to 20 lbs. per couple. White-faced Spanish and other fancy fowls' eggs, 12s per dozen. A remittance to accompany all orders, and letters to enclose a stamp.

WILLIAM TURNER, Florist, Tufnell-park, Holloway, London.

P.S. Java Bantams Wanted.

FOWLS FOR SALE.—A Lady who has some birds from the same stock as those which obtained the first prize at Birmingham, can part with a few eggs at 2s. each, or 1l. the dozen. Also some Spanish, from pure bred birds, at 6d. each.—Address H. C., Mr. Pritchard's, 33, Brewer-street, Regent-street, London.

FRUIT TREES, FLOWER AND SEED BEDS, ETC.

NEW TWINE NETTING, to protect the bloom of Peach, Nectarine, Apricot, and other trees; Flower and Seedbeds from frost, blight, and afterwards the Ripe Fruit from birds; or as a fence against fowls, pigeons, cats, &c. New Twine Netting, 1 yard wide, 1½d. per yard; 2 yards wide, 3d. per yard; half-inch mesh ditto, 2 yards wide, 5d per yard. Worsted Netting, 2 yards wide, 4d. per yard. Sheep-folding Net, of superior quality, 4 feet high, 4d. per yard. The Repaired Tanned Fishing Netting, 2 or 3 yards wide, 1½d. per yard; 4 or 6 yards wide, 3d. per yard; exactly the same as advertised by others at double the above prices. Casting Nets, 1s. per yard round, complete. Drag Nets for ponds, lakes, and rivers, with purse complete, 12 yards long, 1l. 5s.; 20 yards long, 2l. Flue Nets, complete, 1s. per square yard. Rabbit Nets, on cord, 12 meshes wide, 2d. per yard, or 8s. per 50 yards. Nets made to order, and the trade supplied, at WILLIAM COLLINGFORD'S, 1, Strathmore-terrace, Shadwell, London. Orders by post punctually attended to. Orders above 2l. will be forwarded, carriage paid, to any Railway Station in the Kingdom. Caution.—Parties are advertising Tanned Net, 2 yards wide, 3d. per yard, without stating it is Old Net.

DO YOU WANT LUXURIANT HAIR, WHISKERS, &c?—CRINILENE has been pronounced by thousands to be the only preparation that can be relied upon for the restoration of the hair in baldness from any cause, preventing the hair falling off, strengthening weak hair, and checking greyness, and for the Production of Whiskers, Moustachios, Eyebrows, &c., in a few weeks with certainty. It is elegantly scented, and sufficient for three months' use; will be sent post free, on receipt of 24 postage stamps, by Miss DEAN, 48, Liverpool-street, King's Cross, London. Testimonial: Dr. Thompson says—"It is a beautiful preparation, and the only one I can recommend."

SHIRTS.

FORD'S EUREKA SHIRTS are not sold by any hosiers or drapers, and can be obtained only at 185, Strand. Gentlemen in the country or abroad, ordering through their agents, are requested to observe on the interior of the collar-band the stamp—"FORD'S EUREKA SHIRTS, 185, Strand," without which none are genuine. They are made in two qualities—First quality, 40s. the half dozen; second quality, 30s. the half dozen. Price lists containing directions for self measurement and every particular, are forwarded post free, and the pattern books to select from, of the new Registered Coloured shirting, on receipt of six stamps.

RICHARD FORD, 185, STRAND, LONDON.

ALLSOPP'S EAST INDIA PALE AND OTHER BURTON ALES.—The public is respectfully informed the ALES of this season's Brewings are now ready for delivery, and may be obtained Genuine in Casks of 18 Gallons and upwards, either singly or in any quantity, at their respective Stores, as under, where also a List of the Bottlers may be had:—The Brewery, Burton-on-Trent; 61, King William-street, City, London; Cook-street, Liverpool; High-street, Birmingham; The Exchange, Manchester; Royal Brewery, Dudley; and 33, Virginia-street, Glasgow.

New Serial Work by Mr. Charles Dickens.

This day is published, price One Shilling, the First Monthly Number of

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BY CHARLES DICKENS.

WITH ILLUSTRATIONS BY HABLOT K. BROWNE.

To be completed in TWENTY MONTHLY NUMBERS, *uniform with* DAVID COPPERFIELD, *&c.*

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"The peculiarities of 'Sponge's Tour' render it a thoroughly sporting novel, produced by a profound practitioner in the hunting field, and it is admirably illustrated by Leech."—*Bell's Life.* London: BRADBURY and EVANS, 11, Bouverie-street.

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London: W. S. ORR and Co., Amen-corner.

PART VIII. of the Re-Issue of the HORTICULTURAL MAGAZINE will be ready March 1. Contents:—Passion Flower, with Six Wood Engravings—Covered Balconies—Lists of Plants for Wardian Cases—Planting Tulip Beds—Cajanus Bicolor, the Pigeon Pea—Hints for the Management of Geometrical Flower Gardens—Pine-apple, and disrooting—Advance of the Petunia and Pink; and other useful information. Price 1s.; post free 18 stamps.

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A MEDICAL TREATISE ON NERVOUS DEBILITY AND CONSTITUTIONAL WEAKNESS, with Practical Observations, illustrated with Anatomical Plates, in Health and Disease. This work, emanating from a qualified member of the medical profession, the result of many years' practical experience, is addressed to the numerous classes of persons who suffer from the various disorders acquired in early life. In its pages will be found the causes which lead to their occurrence, the symptoms which indicate their presence, and the means to be adopted for their removal.

London: JAMES GILBERT, 49, Paternoster-row; HANNAY, 63, Oxford-street; MANN, 39, Cornhill; and all Booksellers.

STABLE ECONOMY.

A TREATISE ON THE MANAGEMENT OF HORSES, in relation to Stabling, Grooming, Feeding, Watering, and Working. By JOHN STEWART, V.S. The fourth edition. Price 6s. 6*d.*

By the same Author,

ADVICE TO PURCHASERS OF HORSES. A new edition. Price 2s. 6*d.*

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EVERY MAN HIS OWN BUTLER. By CYRUS REDDING, Author of "The History and Description of Modern Wines."

London: WILLIAM TEGG and Co., 85, Queen-street, Cheapside, London.

Sales by Auction.

ABSOLUTE SALE OF THE BEST COLLECTION OF CARNATIONS AND PICOTEES EXTANT.

MESSRS. PROTHEROE AND MORRIS are directed by Mr. Norman, of Woolwich, to sell by Auction, at the Mart, Bartholomew-lane, the whole of his Superb Collection of Carnations and Picotees, in consequence of discontinuing their further cultivation. The first portion will be submitted to public competition at the Auction Mart, Bartholomew-lane, on FRIDAY, March 5th, at 12 o'clock. Catalogues may be obtained of Mr. Norman, Woolwich; at the Auction Mart; and of the Auctioneers, American Nursery, Leytonstone, Essex.

BLACKHEATH.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN & OTHERS.

MESSRS. PROTHEROE AND MORRIS are instructed by Mr. HALLY to sell by public Auction, on the premises, adjoining the Railway Station, Blackheath, on MONDAY, March 1, and following day, at 11 o'clock each day, the valuable NURSERY STOCK, comprising a selected assortment of Evergreens, Ornamental Trees, Flowering Shrubs, and American Plants, amongst which will be found fine specimens of Cedrus Deodara, Cryptomeria japonica, Silver Cedars, Taxodium sempervirens, Scarlet Rhododendrons, &c., together with a choice collection of Greenhouse Plants, which will include about 300 Camellias, consisting of all the approved kinds, beautifully furnished with bloom-buds, Epacris, Azalea indica, Geraniums, &c.—May be viewed one week prior to the sale, and Catalogues had, 6*d.* each (returnable to purchasers), on the premises; of the principal Seedsmen in London; and of the Auctioneers, American Nursery, Leytonstone, Essex.

TO GENTLEMEN, NURSERYMEN, & OTHERS.

MESSRS. PROTHEROE AND MORRIS will submit to public competition by Auction at the Mart, Bartholomew Lane, on THURSDAY and FRIDAY, March 4 and 5, at 12 o'clock, about 200. DOUBLE CAMELLIAS from 18 inches to 5 feet, comprising all the approved kinds, beautifully furnished with bloom buds; 200 strong Camellia Stocks, also a selected assortment of Standard and Dwarf Roses, a fine collection of American Plants, comprising fine Hybrid Rhododendrons, Ghent, and other Azaleas, Andromeda floribunda, Kalmias, Magnolas, Lilium lancifolium, choice Dahlias in dry roots, &c., may be viewed the morning of sale. Catalogues may be had at the Mart, and of the Auctioneers, American Nursery, Leytonstone, Essex.

WANDSWORTH COMMON.

MESSRS. RAWLINGS AND GIBSON will submit to public competition, by Auction, on the premises, Wandsworth Common, on MONDAY, March 1st, 1852, and Five following days, at 11 o'clock (by order of Mr. Robert Neal, in consequence of the ground being immediately required for other purposes), that portion of the valuable NURSERY STOCK which was not offered at the autumn sale, consisting of very fine Evergreens and Shrubs, including a considerable quantity of handsome Standard and Dwarf Green and Variegated Hollies; a valuable collection of American Plants, comprising some splendid specimen Scarlet and other Rhododendrons, &c.; Fruit and Forest Trees; 3000 fine Standard Roses; a rich assortment of Roses in pots; Jasminum, Clematis, Ivy, Wisteria, Gum Cistus, Carnations, Picotees, Pinks, &c.; also a quantity of rich Moulds, Paving and Building Stones, Sundry Wood, Garden Pots, &c.—May be viewed prior to sale. Catalogues (1s. each, valuable to purchasers), may be had on the Premises; of the principal Seedsmen; and of the Auctioneers (free of postage), 50, Hoxton-square, and Ebenezer Nursery, Shacklewell, London.

ORCHIDS.

ESTABLISHED PLANTS IN GOOD HEALTH.

MR. J. C. STEVENS is instructed to sell by Auction, at his Great Room, 38, King-street, Covent-garden, on FRIDAY, 12th March, at 12 for 1 o'clock, a Collection of ORCHIDS, the property of a Baronet deceased, comprising established Plants in good health of most of the showy and popular varieties. Catalogues are preparing.

TO ORCHID GROWERS.

MR. J. C. STEVENS has received per last Overland Mail from Calcutta, several boxes of the beautiful Orchid, VANDA CÆRULEA (in very good condition), which he will Sell by Auction, at his Great Room, 38, King-street, Covent Garden, on TUESDAY next, 24 March, at 1 o'clock precisely.—Catalogues are preparing, and will be forwarded as usual.

HACKNEY NURSERY.

MR. J. C. STEVENS is directed by Messrs. LODDIGES to offer for unreserved sale on their premises, at Hackney, on TUESDAY, March 16, at 12 for 1 o'clock, about 500 CAMELLIAS, most of which are well set with flower buds, and of very handsome form, from 3 to 6 feet. They will comprise fine plants of the double white, imbricata, Donkelaari, candidissima, aulica, Marchioness of Exeter, and the finest varieties. Also some extraordinary beautiful specimens of Araucaria excelsa, Cunninghamii, glauca, and the rare A. Bidwellii.—Catalogues will be forwarded on application one week prior to the sale.

FULHAM ROAD, BROMPTON.

IMPORTANT SALE OF NURSERY STOCK, ETC.

MR. D. A. RAMSAY will sell by Auction, on the premises, Brompton Nursery, Fulham-road, Brompton, on TUESDAY, March 9, and following day, at 12 o'clock, without reserve, a large assortment of ORNAMENTAL TREES, comprising Laburnums, Acacia, Thorns, Gleditschia, Chestnut, Elms, &c. Also a large quantity of Evergreens, in choice varieties, a Conservatory Stage, Alcove, Arches for Garden Walks, Flower Stands, Trainers, and other well made Wire Works, &c.—May be viewed prior to sale, and catalogues had of the Auctioneer, Brompton Nursery, Fulham-road, Brompton, London.

CROYDON, SURREY.

THE STOCK OF FOREST TREES OF A NURSERYMAN.

MESSRS. BLAKE are directed to sell by Auction upon the grounds opposite the Mail Coach Inn, Croydon Common, on WEDNESDAY, March 10, at 12 o'clock (in consequence of the Land being required for Building purposes), 10,000 Larch Firs, from 2 to 3 feet high; 8000 Bedded Spruce ditto; 7000 Bedded Oaks; 6000 Bedded Ash, Beech and Hazels; 8000 Spanish Chestnuts; 300 Walnuts; 2000 Mountain Ash, Weeping Willows, Elms, Turkey Oaks, Sycamores, Acacias, and Poplars; 700 Hollies, Lilacs, and Scotch Firs; 8000 transplanted strong Quick. May be viewed at the sale, and catalogues had of Mr. Dean, Nurseryman, Croydon Common; at the Inns in the neighbourhood; at Garraway's Coffee-house, Change-alley; the Artichoke Inn, Newington Causeway; and of Messrs. Blake, Croydon.

TO GENTLEMEN, AMATEURS, FLORISTS, AND OTHERS.

MR. ALEXANDER will sell by Auction, at the Mart, near the Bank of England, on WEDNESDAY, March 10, at 1 precisely, a first-rate Collection of Carnations and Picotees, the stock of Mr. W. Bragg, of Slough; they comprise all the newest varieties in cultivation; also several entirely new kinds, only in this collection; together with a choice assortment of Dahlias in pot roots, including all the latest varieties; fine new Hollyhocks, Pinks, Pansies, Standard Roses, miscellaneous Plants, &c., &c. May be viewed on the morning of Sale. Catalogues had at the Mart, and on application to the Auctioneer at Shacklewell, London.

SALE OF RARE AND VALUABLE GREENHOUSE PLANTS.

DALGLEISH AND FORREST have the honour to announce that they have received instructions to sell by auction at Rose Park, Trinity, upon WEDNESDAY, the 10th of March, and following days, the far-famed and valuable collection of GREENHOUSE PLANTS and EXOTICS, which belonged to the late Professor Dunbar, comprising—

300 CAMELLIAS, from 2 to 7 feet high.
200 HEATHS and EPACRIS. 50 AZALEAS of sorts.
50 RHODODENDRONS. ORANGE TREES.
STANDARD ROSES. CEDRUS DEODARA.
ARAUCARIA IMBRICATA, from 5 to 8 feet high.
32 PINES of the finest sorts.
CEDARS OF LEBANON, CACTI, FUCHSIAS.
With a very large assortment of Stove and other Plants.

Catalogues will be ready for delivery, and the whole on view, by ticket, from WILLIAM WOOD, Esq., St. Andrew-street, or the Auctioneers, a week before the sale.

TO GENTLEMEN, NURSERYMEN, AND OTHERS.

MR. MARKS will sell by Auction, at the Sun Inn, Hitchin, on THURSDAY, March 4, at 11 for 12 o'clock precisely, a newly-built GREENHOUSE, with Forcing House adjoining, in the garden attached to the late residence of William Curling, Esq., Bancroft-street, Hitchin, Herts. The Greenhouse occupies a site of 35 feet in length and 18 feet in breadth, and the Forcing House about 28 feet in length and 16 feet in breadth; also the Brick Foundations, superior stone Floor, Stage, Pump, Stove, and Hot-water Apparatus. The houses are constructed of the best materials and workmanship, and are put together with screw bolts and nuts, with the view of removal, and are in a condition equal to new; the Hot-water Apparatus being by Stephenson. Also a BRICK PIT, recently and substantially built, having eight sliding Sashes, and being 27 feet long and 8 feet broad, with lat ice shelves on stout bearers, and Stove connected with it. The Pit will be sold in another Lot, by and under such conditions as will be produced at the sale.—The whole may be viewed, and further particulars had, at any time prior to the sale, on application to the Auctioneer, Hitchin, Herts.

FARM TO LET, on very advantageous terms—on lease or yearly tenancy. About 300 acres of Clay Land thoroughly drained, in a midland county, near a good market, and a good railway. The Roads, House, and Offices are all in excellent condition. Rates very low; no pressure of the poor; Tithe free; Rent low; no Rabbits; very favourable entry as to tenant right; Game not strictly preserved. About 60 acres more of Grass Land might be added if required.

Persons desirous of treating for this very eligible occupancy are requested to apply by letter to the editor of the *Gardeners' Chronicle*, at the Office, 5, Upper Wellington-street, Strand, London.

SURREY.—FARMS TO LET.

TO BE LET, at Michaelmas next, GUILES HILL FARM, in the parish of Ockham, formerly in the occupation of the proprietor, consisting of 262 acres, of which 196 are Meadow and Pasture, and the rest Arable. The latter has been drained, and is unincumbered with hedges or timber. The homestead, erected chiefly within the last few years, is capacious and substantial, and comprises, beside the dwelling-house, several cottages for labourers, and ample accommodation for Dairying, or for Rearing or Fatting Stock. The incoming valuation is very light. The tenant will have the privilege of sporting over his occupation.

Also in the adjoining parish of Wisley, the MANOR FARM, of 212 Acres, of which 101 are Arable, the rest Meadow and Pasture. The Meadow land can be watered in the driest season. The tenant will have the privilege of sporting over his occupation.—For particulars, apply to Mr. W. KAYE, East Horsley, Ripley, Surrey.

TO NURSERYMEN, FLORISTS, ETC.

TO BE LET, on Lease, with immediate possession, a SMALL NURSERY, eligibly situated in one of the most fashionable Watering-places in the County of Devon.

For further particulars, apply to Messrs. NUTTING and SONS, Seedsmen, 46, Cheapside, London.

TO FARMERS AND LAND AGENTS.

TO BE DISPOSED OF, the OCCUPATION OF A FARM, desirably situate 50 miles from town, in a good corn district, comprising a capital residence, the best arranged agricultural buildings in the county, and 200 Acres of superior Land in a high state of cultivation, together with the business of a Corn Mill, and the whole or share of an old and well-established Auctioneer's and Land Agency business. To a person of active habits the above offers an opportunity seldom to be met with.—Apply to Mr. BOULTER, 58, Cheapside, London.

TO BE LET, on Lease or otherwise, a SMALL NURSERY, with Greenhouses, Pits, and Frames; Greenhouse Plants, Shrubs, Roots, &c., to be taken at valuation, or otherwise, at a small rental, with or without the Dwelling-houses.—Apply on the premises to W. LYNN, Park-street, Southampton-street, Camberwell, Surrey.

Printed by WILLIAM BRADBURY, of No. 13, Upper Woburn-place, in the parish of St. Pancras, and FREDERICK MULLETT EVANS, of No. 7, Church row, Stoke Newington, both in the County of Middlesex, Printers at their Office in Lombard-street, in the Precinct of Whitefriars, in the City of London; and published by them at the Office, No. 5, Charles-street, in the parish of St. Paul's, Covent-garden, in the said County, where all Advertisements and Communications are to be ADDRESSED TO THE EDITOR.—SATURDAY, February 28, 1852.

THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 10—1852.] SATURDAY, MARCH 6. [Price 6d.

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THE ROYAL GARDENERS' BENEVOLENT INSTITUTION.—Notice is hereby given that an Election of Two Pensioners on the Funds of this Society will take place in June next. All persons desirous of becoming candidates are requested to apply in writing to the Secretary for a form of application, which must be returned, with testimonials, &c., as required by the Rules, on or before the 31st inst., after which time they will not be received. By Order

Edward R. Cutler, Secretary,
97, Farringdon-street, London, March 4.

NEW CALCEOLARIAS.

MR. HENRY MAJOR, Knosthorpe, near Leeds, begs to announce that a Descriptive List of his splendid new Shrubby CALCEOLARIAS is now ready, and may be had on application as above. Letters to be prepaid. Very select Calceolaria Seed, 2s. 6d. per packet; very select Pansy seed, 2s. 6d. per packet; first-rate Pansies, from 1s. to 2s. 6d. each.

HENRY GROOM, Clapham Rise, near London, Florist by appointment to Her Majesty the Queen, and to His Majesty the King of Saxony, begs to say that his Spring Catalogue of PELARGONIUMS and NEW PLANTS is ready, and will be forwarded by post on application.

SUTTON'S COLLECTIONS OF GARDEN SEEDS
are the best yet offered.

KITCHEN GARDEN SEEDS.

No. 1. A complete Collection for one year's supply of a large Garden	£2	10	0
No. 2. A complete Collection, in rather smaller quantities	1	10	0
No. 3. Ditto ditto ditto	1	1	0
No. 4, Ditto ditto ditto	0	12	6

HARDY AND SHOWY FLOWER SEEDS,
(POST FREE),
Which may be sown where they are intended to bloom.

No. 5. A Collection of the best 50 sorts known ...	0	10	6
No. 6. A Collection of the best 36 sorts known ...	0	7	6
No. 7. A Collection of the best 24 sorts known ...	0	5	0

Bokhara Clover, Borage, and other seeds for Bees.
Priced Catalogues may be had in return for one penny stamp.
Also, for 6 stamps, "Sutton's Horticultural Calendar," which is pronounced by the Editors to be the most useful work of the kind extant.
Address—John Sutton and Sons, Seed-growers, Reading, Berks.

CARNATIONS, PICOTEES, PINKS, AND PANSIES.

YOUELL and CO. are now sending out beautiful selections from their superb and extensive collection of the above, in remarkably strong and healthy plants, at the following prices:—

	£	s.	d.
25 pairs of superb varieties of Carnations and Picotees, by name	3	0	0
12 do. do. do. do.	1	10	0
12 do., very fine do. do.	1	16	0
12 do. do. do. do.	0	18	0
Intermixed border do. do., per dozen pairs	0	9	0
Tree old Close Carnation ,, ...	0	12	0
12 sorts of finest Pinks, by name	0	12	0
Pansies, all the newest and very best show flowers, per doz	0	12	0
Do. fine showy border varieties, per dozen ...	0	6	0

All Orders of 2l. and upwards delivered free to any Railway Station within 150 miles of the Nursery.
Royal Nurseries, Great Yarmouth.

NEW ROSES,
WHICH STILL MAY BE HAD OF
THOMAS CRIPPS, Nurseryman, Tunbridge Wells, Kent.

HYBRID PERUTUAL.	Stds.	Dwfs.
Auguste Mie ...	0 0	7 6
Baronne Hallez ...	5 0	3 6
Caroline de Sansal	5 0	0 0
Clarisse	3 6	3 0
Duchesse de Montpensier	3 0	2 0
Grande de Batailles	2 0	1 6
General Cavaignac	5 0	0 0
General Negrier ...	5 0	3 6
George Lecamus ...	3 6	2 6
Grand Vic	3 6	0 0
Le more d'Eare ...	3 6	2 6
Madame Guillot ...	3 0	2 0
Madame Laurioricère	3 6	3 0
Reine des Fleurs ...	0 0	2 0
Standard of Marengo	3 6	2 6
DAMASK PERPETUAL.		
New white Rose du Roi	0 0	3 0
PERPETUAL MOSS.		
Hermann Kergel ...	5 0	3 6
BOURBON.		
Bernardin de St. Pierre	3 0	2 0
Comte Bobrinsky ...	3 6	3 6
Paul and Virginia	5 0	0 0
HYBRID CHINA.		
Paul Ricaut	3 6	2 6
Triomphe de Jeanux	2 6	2 0

Catalogues descriptive of the above may be had on application, by enclosing two postage stamps.

CAMELLIA JAPONICA.

CHANDLER and SONS beg to invite the nobility and gentry to an inspection of their CAMELLIAS, which are at present in bloom, and unusually fine.
Nursery, Wandsworth Road, London.

JOHN DOBSON begs to inform the admirers of the FUCHSIA that he is in possession of the entire stock of four new and distinct Seedlings, raised by W. H. Story, Esq., of Whitehill, Newton Bushel. The success of this gentleman as a raiser of Seedlings will be a sufficient guarantee that the flowers are first-rate; and J. D. feels no hesitation in recommending them. They were all greatly admired, and pronounced by excellent judges, who saw them in bloom, to be first-rate in every respect. Strong plants in April. Package and carriage free to London. Early orders will insure the first selections.

Agnes ...	10s. 6d	Aurora ...	10s. 6d.
Fantome ...	7s. 6d.	Peculiarity ...	7s. 6d.

A Descriptive Catalogue of Story's new Seedling Fuchsias; Beck's, Foster's, Hoyle's, and other raisers' Pelargoniums, &c., may be had in exchange for one postage stamp.
J. D.'s Catalogue of all the best sorts of Kitchen Garden Seeds may be had for one postage stamp.
A large stock of Bedding-out Plants in April, from 2s. to 9s. per dozen.
The PELARGONIUM.—John Dobson's "Practical Observations on the Cultivation of the Pelargonium" is now ready, and may be had in exchange for eight postage stamps, upon application.—Woodland Nursery, Isleworth.

MESSRS. J. and H. BROWN offer the following selected PLANTS, FRUIT TREES, &c., which they will forward to any part of the kingdom; also their new Descriptive Priced Catalogue for 1852.

	s.	d.
25 Azaleas, new hardy Belgian varieties, on their own roots, with flower-buds, one of a sort, by name ...	20	0
25 American Azaleas, do. do.	15	0
25 Hardy American Plants, one of a sort, by name ...	10	6
12 Rhododendrons, including scarlet, white, and rose, hardy varieties	12	0
New hardy yellow Rhododendrons, each, 7s. 6d. to .	10	6
Fine hardy scarlet Rhododendrons, 2 feet, per doz.	10	0
Cedar of Lebanon, 3 feet, well grown, in pots, per doz....	10	0
All the choice Pinus, Araucarias, Cryptomerias, and Taxodiums, of various sizes, in pots; list of prices sent by post.		
Climbing Roses, choice sorts, in pots, per dozen	6	0
Standard and half standard Roses, per dozen 12s. and	15	0
Wisteria sinensis, extra fine, in pots, 15 to 30 feet, each...	3	6
12 Greenhouse Azaleas, one of a sort, blooming plants ...	25	0
12 choice Camellias, by name, do. do.	30	0
24 choice Ericas, one of a sort, by name	16	0
12 Orchidaceous Plants, choice species, and good plants	30	0
Cinerarias and Calceolarias, choice sorts, per doz., 9s. to	12	0
Verbenas and Petunias, newest varieties, per dozen ...	6	0
6 Bulbs of Lilium lancifolium, one of a sort, for	12	0

FRUIT TREES.

Fine Dwarf and Standard Peaches, Nectarines, Apricots, Plums, Pears, and Cherries. The best and most approved sorts of these respective kinds, true to name, each 2s. 6d., or, per dozen 24 0
Untrained or maiden do., 1s. 6d. each, or, per dozen ... 15 0
Apples, dwarfs and standards of best sorts, per dozen ... 15 0
Fine Gooseberries, Currants, and Raspberries, per dozen 3 0
Fine Figs, Medlars, Walnuts, and Mulberries, each ... 2 0
Strong Vines, from eyes and layers, in pots, per dozen ... 15 0
Filberts, new thin shelled and red skinned, per dozen ... 3 0
Rhubarb Roots, early seed Potatoes, Seakale and Asparagus plants, and Garden Seeds of all kinds; also a selection of the most approved Flower Seeds, 18 papers, 5s.; 36 papers, 10s., sent free by post.
Albion Nursery, Stoke Newington, London, March 6.

NEW ROSES ON THE MANETTII STOCK.
WOODLANDS NURSERY, MARESFIELD, NEAR UCKFIELD, SUSSEX.

WM. WOOD and SON have much pleasure in offering fine Dwarf Plants in pots, of the following really good new Roses, worked on the Manettii Stock.

HYBRID PERPETUAL. Per plant.—	s.	d.
*Auguste Mie, glossy pink, very large, superb	7	6
*Baronne Hallez, bright rosy crimson	3	6
Blanche de Beaulieu, pale flesh, perfect shape	3	6
Caroline de Sansalles, pale blush, very large, a superb Rose	5	0
Graziella, rich brilliant pink, very beautiful	5	0
*General Cavaignac, deep flesh, a fine Rose	3	6
*Madame Fremion, brilliant carmine, perfect shape, a first-rate new Rose	5	0
*Rosine Margottin, delicate flesh	3	0
Souvenir du Petit Roi de Rome, delicate pink, very beautiful	5	0
*Standard of Marengo, rich crimson, very showy ...	2	6
William Griffith, bright lilac Rose, most perfect shape, one of the finest	5	0
Madame Lamoricière, bright pink, superb	3	0

Also the following well-known favourites—MANETTII STOCKS:

Per plant.—	s.	d.
Bourbon Comte Bobrinsky	2	6
*— Dupetit Thouars	1	6
Hybrid Bourbon, Paul Ricaut	2	6
*China, Mrs. Bosanquet, per dozen, 15s., or	1	6

The kinds marked thus *, may also be had on their own roots at the same price.

ROSES Left to W. W. and SON'S SELECTION:

Fine selected tall Standard Union Roses, from 6 to 8 ft., these plants are particularly fine, each			3 6
Superior selected Standards	Per doz.	18s. to	24 0
Fine Dwarfs and Dwarf Standards ...	,,	10s. to	18 0
Fine Dwarfs, on own roots, two of a sort	,,	...	6 0
Tea-scented Roses, in pots, very fine ...	,,	12s. to	18 0
Best varieties for Forcing, established in 6-inch pots, p.doz.			20 0
Dwarfs, on own roots, without names, per 100			30 0

N.B.—Additional plants presented with each order, with a view to lessen the expense of carriage.
Catalogues may be had Gratis, on application.

GLADIOLUS WELLINGTON.

MESSRS. COLE and SHARP have been kindly favoured by J. Willmore, Esq., with the stock of the above beautiful SEEDLING, which they now offer to the public. WELLINGTON was exhibited at a meeting of the National Floricultural Society, Sept. 4, and received a Certificate of Merit, with the following description:—Colour, brilliant orange-scarlet; form fine; substance good; flowers abundant; also forming the subject for the plate for the February Number of "The Garden Companion and Florist Guide." Strong flowering Bulbs, 10s. 6d each.
CINERARIA MISS TALBOT, the best of its class; pure white ground, slightly margined with lilac purple; quite distinct. Strong plants, 7s. 6d. each; smaller ditto, 5s. Liberal allowance to the Trade.
New and beautiful DAHLIA, "LIZZY." Messrs. C. and S. also beg to state that they have purchased the entire Stock of the above-named flower, from Mr. J. C. Perry, which they purpose sending out in May next. For description and character, see future Advertisement.
Aston-lane Nursery, Birchfield, Birmingham.

DERBY.

EVAN PAUL, son of the late Adam Paul, of the Cheshunt Nurseries, and for the last four years with Messrs. J. A. Henderson and Co., of the Pine-apple Nurseries, London, respectfully informs his friends and the public that he is about to open an establishment in the Nursery and Seed line at Derby. It will be his constant aim to obtain every novelty of merit among Trees, Plants, and Seeds of the best quality and purest race, which his long knowledge of the leading members of the profession offers him facilities of doing. He hopes by this course, and a careful attention to business, to obtain the support and confidence of lovers of gardening, which have been so long accorded to his father and brothers at the Cheshunt Nurseries.

WHEELER'S SEED LIST.

J. C. WHEELER and SON'S Priced List of Agricultural, Garden, and Flower Seeds for this season, is now ready, and will be forwarded free to any address, on receipt of one postage stamp. In making out this list great care has been taken to exclude all useless varieties, so that it only comprises the names of the best Seeds in cultivation.—J. C. Wheeler and Son, Nurserymen and Seedsmen to the Gloucestershire Agricultural Society, 99, Northgate-street, Gloucester.
Seeds delivered, carriage free, to most parts of England and South Wales.

MOSS ROSES.

WILLIAM MARTIN and SON beg to offer for Sale 800 CRIMSON MOSS and WHITE PROVENCE ROSES, good, strong, one year bedded plants, at 15s. per 100. Post-office Orders, on Brentford, punctually attended to.
South-street, Isleworth.

FINAL PLANTING OF THE RANUNCULUS.—As the final planting of our superb Collection is about to take place, we beg to recommend early orders from persons desirous to plant.
Selections, in strong roots, at the following reasonable charges, and sent free by post, with printed directions for planting and treatment:—

	s.	d.
50 varieties, superb Seedling, and other best sorts ...	37	6
50 varieties, very fine	18	0
Mixed, per 100, extra, 18s.; very fine, 10s.; fine border	5	0

ANEMONES.

50 varieties, finest double, 12s. 6d.; or free by post ...	14	0
Mixed, per 100, finest, 10s. 6d.; very fine	7	6

Remittances required from unknown correspondents.
Bass and Brown, Seed and Horticultural Establishment, Sudbury, Suffolk.

ESTABLISHED 1777.

MACKIE and STEWART beg respectfully to apprise their numerous patrons and friends that they are now sending out their CHOICE GARDEN AND FLOWER SEEDS, which have been selected with the most scrupulous care as to quality and genuiness.

COLLECTIONS OF GARDEN SEEDS,
Containing all the Choicest Sorts, may be had at the following prices:—

A complete collection, consisting of 20 quarts of the best kinds of Peas and Beans, and all other Seeds in proportion, of the best varieties, sufficient for one year's cropping of a garden	£2	2	0
Ditto, ditto, in smaller quantities, but equally choice in quality	1	1	0
Ditto, ditto, for a small garden	0	10	6

See page 2 of our Descriptive Catalogue.

COLLECTIONS OF FLOWER SEEDS.
All Flower Seeds will be forwarded free by post.

100 packets choice sorts, including all the best hardy, half-hardy, and Greenhouse Annuals	1	0	0
100 ditto, very choice and showy Hardy Annuals ...	0	14	0
50 ,, ditto	0	7	6
25 ,, ditto	0	4	0
12 ,, ditto	0	2	6
50 ,, Half-hardy Annuals	0	9	0

The above collections are selected with the utmost care, and all the most showy varieties are included.
See page 24 of our Descriptive Catalogue.
Inquiries being frequently made by Amateurs and others, who manage their own gardens, respecting time of sowing, quantities required, &c., M. and S. have just published a Descriptive Price Current of their Garden and Flower Seeds, and Culinary Plants, with their general treatment and various uses, &c., stamped (as a newspaper), to go free by post, which will be franked to any address upon application. A Descriptive Label will be attached to each parcel. Also Descriptive List of Flower Seeds now ready; with a Treatise on Sowing the hardy, half-hardy, and tender respectively stamped to go free by post.
Norwich Nurseries, and 10 and 11, Exchange-street, Norwich, March 6.

NEW GARDEN SEEDS.

CLARKE AND Co. SEEDSMEN and FLORISTS, 86, High-street, Borough, beg to inform their friends and the public that their New Catalogue, of Garden and other Seeds, is now ready, and will be forwarded, post free, on application.

TESTIMONIAL TO MR. CHARLES M'INTOSH, Head Gardener to the Duke of Buccleuch, Author of "The Practical Gardener," &c.—As the Subscription Lists will be closed by the middle of March, Subscribers are respectfully requested to come forward with their subscriptions as early as possible; those at a distance remitting the amount by post-office order, payable to the Secretary.

By order of the Committee, ISAAC ANDERSON, Secretary.
Edinburgh, 41, York-place, Feb. 24, 1852.

SUTTON'S RENOVATING GRASS SEEDS FOR IMPROVING OLD PASTURES.—Many Old Upland Pastures, Parks, and Meadows are nearly destitute of Clovers, and the finer and more nutritious sorts of Grasses, in which case we are in the practice of furnishing such sorts only as are wanting; if the seeds are sown *early in the Season*, the improvement in the Pastures will be very considerable, and at a small expense. *Quantity of Seed required, 8 lbs. to 12 lbs. per Acre. Price Reduced to 10d. per pound.* Carriage free, as see our Advertisement in page 82 of this Paper.

Instructions on Sowing Grass Seeds, &c., may be had in return for one penny stamp.—Address JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

"FLOWERS FOR BEES."

FROM

ABRAHAM HARDY & SON, SEEDGROWERS AND SEEDSMEN, Maldon, Essex,

"BOKHARA CLOVER" (MELILOTUS LEUCANTHA) an ornamental hardy perennial, grows 6 to 7 feet high, with numerous wreaths of white flowers. This is very attractive to the bees, which cause a constant "humming" round each plant, as in an apiary. Its foliage, slightly dried, possesses the most agreeable odorous properties imaginable; and if kept in the pocket, drawer, or wardrobe, in winter, discovers itself by a sweetness similar to new-mown hay, woodroof, or the Tonquin bean. —Price 6*d.* per packet.

"TREE MIGNONETTE" (RESEDA GRANDIFLORA), a hardy perennial, suitable to grow near an apiary. It attains a height of from 2 to 4 feet, producing abundance of blossoms, like sweet mignonette.—Price 6*d.* per packet.

"SWEET MIGNONETTE" (RESEDA ODORATA), 8*d.* per oz.

HARDY & SON'S general priced Retail Seed Catalogue on application. All post free.

MAULE AND SONS beg to offer their respectful thanks to the Planters of HIMALAYA CONIFERA of the United Kingdom, America, and on the Continent, who have favoured them with their patronage, more particularly for the CEDRUS DEODARA, of which they are extensive growers; and as the applications daily are numerous, in order to prevent unnecessary trouble, they publish their scale of prices.

CEDRUS DEODARA.

Height.	per doz.	per 100.	per 1000.
6 inches to 9 inches.....	12*s.*	£3 15 0	£35
9 inches to 1 foot	18*s.*	5 0 0	40
1 foot to 1½ foot.....	24*s.*	7 10 0	70
1½ foot to 2 feet.....	30*s.*	10 0 0	
2 feet to 2½ feet.....	36*s.*	12 10 0	
2½ feet to 3 feet.....	42*s.*	15 0 0	
3½ feet to 4 feet.....	60*s.*	23 0 0	

The above are all grown from seed in suitable sized pots.

3½ feet to 4 feet..... 70*s.* 25 0 0

Grown without pots, and regularly transplanted.

The height quoted is as near as can be stated, but does not convey an adequate idea of the quality of the plants offered, as in most instances they measure as much in diameter as their quoted height.

As the season for planting seedlings in the nurseries is now arrived, MAULE and SONS beg to inform those gentlemen who may wish to acclimatise young plants of the Himalaya Conifers to any particular locality, that they can be supplied with healthy one-year seedlings, which have been grown in the open ground, unprotected to the present time, at the following prices:—

Abies morinda ... per 100	8*s.*	Pinus excelsa ..... per 100	10*s.*
,, Khutrow ... ,,	8*s.*	Picea Webbiana... ,,	20*s.*
,, Smithiana . ,,	8*s.*	,, Pindrow ... ,,	20*s.*
Cedrus Deodara . ,,	40*s.*		

Stapleton Road Nurseries, Bristol.

NOTICE.—The following New and Superb varieties of SEEDS can be warranted to give satisfaction to all purchasers, viz.:

HOLLYHOCK SEED.

This beautiful flower, from which a quantity of good sound seed has been procured from a gentleman amateur grower, who has one of the most superb and choice collections in cultivation; the Seed having been selected with every care and attention, it can be confidently recommended. Sold at 2*s.* 6*d.* per packet.

GERMAN ASTER SEED.

This variety has, within the last few years, been awarded upwards of 60 different prizes, and which stands unrivalled for its superiority of flower, the shape of which forms half a globe, and has been the admiration of numberless spectators. There are from 20 to 30 varieties. 1*s.* per packet.

SWEET WILLIAM SEED.

Saved from 36 superb varieties. The flowers are very large, splendid colours, and of dwarf habit. They were much admired when in bloom by countless spectators, and the seed numerously ordered by them. 1*s.* per packet.

ANTIRRHINUM SEED.

This has been selected with the greatest care from some of the finest and most superb varieties ever grown, both as to shape, colour, and habit of plant. There are more than 50 distinct and different varieties. 1*s.* per packet.

EXTRA FINE GIANT SCARLET BROMPTON STOCK SEED.

Unrivalled for its superior size and bright scarlet colour, also beautifully double; length of the spike of flower from 15 to 20 inches. Large packets 1*s.* each; or, if preferred, a packet of each of the above will be sent, postage and package free, for 5*s.*

Walcheren Cauliflower Broccoli (as imported)	1*s.* per packet.
Tamworth Broccoli	1*s.* ,,
Wilcove Broccoli	1*s.* ,,
Cole's superb solid Celery	6*d.* ,,
Bath Cos Lettuce Seed, true; the best and finest flavoured Lettuce Seed in cultivation	1*s.* ,,
Vegetable Marrow Seed, of very superb variety and delicious flavour	6*d.* ,,

A remittance must accompany the order from all unknown correspondents, either by Post-office order or penny postage stamps, on receipt of which the Seeds shall be immediately sent.

Sold by EDWARD TILEY, Nurseryman, Seedsman and Florist, 14, Abbey Churchyard, Bath.

LARGE SURPLUS STOCK.

WILLIAM E. RENDLE AND CO., Plymouth, are now disposing of a LARGE SURPLUS STOCK of the following, which are offered on *very moderate terms:*—

SCOTCH FIRS.—Four hundred thousand fine two years old seedling. 2*s.* per 1000.

TRANSPLANTED SCOTCH FIRS.—One year transplanted, nice young stuff, and well rooted, at 5*s.* per 1000.

JUDD'S GIANT ASPARAGUS.—An immense stock of fine roots. Two years, 1*s.* 6*d.* per 100; three years, 2*s.* 6*d.* per 100.

SEAKALE ROOTS, 3*s.* 6*d* per 100; stronger, 5*s.* per 100.

Apply to WILLIAM E. RENDLE and Co., Nurserymen, Plymouth. ESTABLISHED IN THE YEAR 1786.

FINE GRASS LAWNS.—The importance of securing pure and fine SHORT GRASSES for GARDEN LAWNS has for many years engaged our especial attention, and we believe that SUTTON'S FINE MIXED LAWN SEEDS are unrivalled. We have the satisfaction of receiving the thanks and commendations of many professional Gardeners and others, who, since using their seeds, have discontinued the expensive practice of cutting and carting old green sward to form new lawns.

The following testimony has been received, and is only similar to very many others:—

From Arlington Court, near Barnstaple, Devon.

"I shall always in future send to you, as the Grass Seeds proved entirely to my satisfaction."

From Ealing Thorpe Rectory, North Walsham.

"The Grass Seed you sent me was most excellent. Three months ago I had no lawn at all; I have now a close, short, verdant lawn, the wonder of my neighbours."

These Grass Seeds will be sent carriage free, according to our former Advertisements. Price 1*s.* 3*d.* per lb., 3*s.* per gallon, 21*s.* per bushel.

Address—JOHN SUTTON and SONS, Seed-growers, Reading, Berks.

DAHLIAS.—NEW SORTS AND OTHER KINDS.

CLARKE AND CO., SEEDSMEN AND FLORISTS, 86, High-street, Borough, beg to inform their friends and the public, that their New CATALOGUE of CHOICE DAHLIAS is now ready, and will be forwarded (post free) on application.

LANDSCAPE GARDENING.

EXCLUSIVELY PROFESSIONAL.

MR. THOROLD, of Norwich, offers his services to the Nobility and Gentry as a LANDSCAPE AND ORNAMENTAL GARDENER, in the highest style of the Art, including Decorations around a House, forming Water, Approaches, Picturesque Scenery, Correcting the Works of Amateurs, &c.

PERMANENT PASTURE.

HENRY ROGER SMITHE, of Eastling, Faversham, Kent, informs the public, that his mixtures of the NATURAL GRASSES AND SMALL CLOVERS, gathered principally under his superintendence, including every sort necessary to form a Permanent Pasture, accordant with the soil, &c. (which should be particularly stated), are now ready to be delivered by Railway to any Station in England, Carriage Free, at 23*s.* per acre, allowing 3 bushels per acre.

MIXTURES FOR LAWNS, &c.

Any information on the nature and properties of the Grasses, the Advertiser would be pleased to give.

FRUIT TREES, POULTRY, ETC.

TANNED GARDEN NETTING for protecting Fruit Trees from Frost, Blight, and Birds, or as a Fence for Fowls, Pigeons, Tulip and Seed beds, can be had in any quantity or length, from JOHN KING FARLOW'S Fishing Tackle and Net Manufactory, 5, Crooked-lane, London Bridge, at 1½*d.* yard wide, 3*d.* two yards, or 6*d.* four yards wide. All orders above 20*s.* accompanied with Post-office order, stamps, or London reference, carriage free.

BAKER'S PHEASANTRY, Beaufort-street, King's-road, Chelsea, by special appointment to her Majesty and H. R. H. Prince Albert.—ORNAMENTAL WATER FOWL, consisting of black and white swans, Egyptian, Canada, China, barnacle, brent, and laughing geese, shieldrakes, pintail, widgeon, summer and winter teal, gadwall, Labrador, shovellers, gold-eyed and dun divers, Carolina ducks, &c., domesticated and pinioned; also Spanish, Cochin China, Malay, Poland, Surrey, and Dorking fowls; white, Japan, pied and common pea-fowl, and pure China pigs; and at 3, Half-moon-passage, Gracechurch-street, London.

STANDISH AND NOBLE, NURSERYMEN,
BAGSHOT, SURREY,

Solicit attention to the following List of ORNAMENTAL PLANTS, selected from their general Nursery Stock. The greater portion are growing in the open quarters; and, from being periodically transplanted, their safe removal may be relied on. Every Plant sent out will be a healthy, robust specimen; the heights given afford but a slight criterion of their general character. To those having a star prefixed they invite special attention, as being remarkably fine, and fit for producing immediate effect. Gentlemen about to plant extensively would be repaid by making a visit to the Nursery.

All kinds of Ornamental Trees and Shrubs supplied. A fine Collection of Roses selected with reference to late autumnal blooming. Also of the best kinds of late-flowering hardy hybrid Rhododendrons, to the cultivation of which especial attention is given.

*** *Gentlemen requiring assistance in laying out or improving their grounds may procure the services of a competent person by applying to the Advertisers.*

With the exception of such names as are printed in italics, the whole of the plants in this list are perfectly hardy.

The number of inches named refer to the heights, unless otherwise stated.

ABIES BRUNONIANA, 12 ins., 2*s.* 6*d.*; 24 ins., 5*s.*, each.
,, JEZOENSIS, one year's seedlings, 21*s.* each.
This is one of the last novelties in Conifers. It forms a noble tree of 120 feet in height, and of very distinct character.
,, DOUGLASII, 20 to 36 ins., 5*s.* to 10*s.* 6*d.* each.
ARAUCARIA IMBRICATA, 6 to 9 ins., 1*s.*; 12 ins., 2*s.* 6*d.*; 18 ins., 3*s.* 6*d.*; 24 ins., 5*s.*, each.
AZALEA, "Glory of Sunning Hill," 2*s.* 6*d.* to 5*s.* each.
The best double variety in cultivation.
,, OVATA, a hardy evergreen, 6 to 9 ins., 2*s.* 6*d.* each.
,, *VITTATA*, a specimen of this unique variety was awarded a Knightian medal, when exhibited last April at the rooms of the Horticultural Society. The ground colour of the flowers is white, which is beautifully striped with purple, after the manner of a Carnation. It is a very free bloomer. 9 ins., 21*s.* each.
ABELIA UNIFLORA, new and distinct. A very free bloomer, 10*s.* 6*d.* each.
BUXUS sp., from north of China, round leaved, 10*s.* 6*d.* each.
,, ,, ,, long leaved, 15*s.* each.
BERBERIS FORTUNII, 9 ins., 1*s.* 6*d.*; 12 ins., 2*s.*; 18 ins., 3*s.*; 24 ins., 5*s.* each.
,, DARWINII, 7*s.* 6*d.* to 21*s.* each.
* CEDRUS AFRICANA, 18 ins., 2*s.* 6*d.*; 24 ins., 3*s.* 6*d.*; 30 ins., 5*s.*; 36 ins., 7*s.* 6*d.*; 48 ins., 10*s.* 6*d.* each.
* ,, DEODARA, 2 to 5 ft., 2*s.* 6*d.* to 10*s.* 6*d.* each.
* CRYPTOMERIA JAPONICA, seedlings, very robust plants, will require no support from stakes. Plants 4 to 5 ft. high have stems as many inches in circumference. 6 ins., 63*s.* per 100. 24 ins., 2*s.* 6*d.*; 36 ins., 3*s.* 6*d.*; 48 ins., 5*s.*; 60 ins., 7*s.* 6*d.* each.
,, JAPONICA NANA, seedlings 9 to 12 inches through, 10*s.* 6*d.* to 21*s.* each.
*CUPRESSUS FUNEBRIS, seedlings, very robust plants, from the open border, nearly as wide as high, very handsome plants, 12 ins., 5*s.*; 18 ins., 7*s.* 6*d.*; 24 ins., 15*s.*; 30 ins., 21*s.*; 36 ins., 31*s.* 6*d.* each. Cuttings, 6 to 8 ins., 2*s.* 6*d.* each.
* ,, ELEGANS, a rapid grower, and a most graceful tree, 12 ins., 2*s.* 6*d.*; 24 ins., 3*s.* 6*d.*; 36 ins., 5*s.*; 48 ins., 7*s.* 6*d.* each.
* ,, GOVENIANA.—This is one of the most beautiful plants of its class. It has the merit of preserving its beautiful green colour during the most severe weather, 9 ins., 2*s.* 6*d.*; 12 ins., 3*s.* 6*d.*; 18 ins., 5*s.*; 24 ins., 7*s.* 6*d.*; 30 ins., 10*s.* 6*d.*; 36 ins., 15*s.*; 48 ins., 21*s.* each.
* ,, LAMBERTIANA, forms a noble tree, rivalling even the Cedar of Lebanon, and succeeds well in very exposed situations. 9 to 12 ins., 1*s.* 6*d.*; 18 ins., 2*s.* 6*d.*; 24 ins., 3*s.* 6*d.* each.
Grafted beneath the surface of the soil, 30 ins., 2*s.*; 36 ins., 2*s.* 6*d.*; 42 ins., 3*s.* 6*d.*; 48 ins., 5*s.* each.
CEPHALOTAXUS FORTUNII, male var., long leaves, seedlings, 21*s.* each.
,, ,, female var., short leaves, seedlings, 21*s.* each.
CHAMÆROPS, sp., a hardy Palm from the north of China, a decided acquisition to our hardy ornamental evergreens, 21*s.* to 31*s.* 6*d.* each.
CLERODENDRON FŒTIDUM.—The only species of this beautiful genus which can be successfully cultivated in a cool greenhouse, a situation in which this succeeds admirably. It forms its large heads of rosy lilac flowers in great profusion. Strong plants, 21*s.* each.
CERASUS ILLICIFOLIA, 7*s.* 6*d.* each.
DAPHNE JAPONICA, 12 ins., 2*s.* 6*d.* each.
,, HYBRIDUM, 12 ins., 1*s.* 6*d.* each.
FORSYTHIA VIRIDISSIMA.—This plant is not sufficiently known. It is an early spring-flowering plant, producing its yellow blossoms in great profusion. But it rarely flowers, or but scantily when young. The plants offered are well set with flower-buds. It forces well. Bushy plants, 24 ins., 1*s.* 6*d.*; 36 ins., 2*s.* 6*d.*; 48 ins., 3*s.* 6*d.*; Standards, 10*s.* 6*d.* each.
ILEX DIPYRENA, 9 to 12 inches, 3*s.* 6*d.* each.
,, MICROCARPA, 21*s.* each.
,, LATIFOLIA, 12 ins., 2*s.* 6*d.*; 18 ins., 3*s.* 6*d.*; 24 ins. 5*s.* each.
,, FURCATA, 21*s.* each.
JUNIPERUS ARGENTEA, new and very beautiful, 12 inches, 5*s.* each.
,, PHŒNICEA, 12 ins., 1*s.* 6*d.* each.
,, CHINENSIS, 12 ins., 1*s.*; 18 ins., 1*s.* 6*d.*; 24 ins., 2*s.* 30 ins., 2*s.* 6*d.* each.
,, TAMARISCIFOLIA, 12 ins., 1*s.* each.
,, FLACCIDA, 12 ins., 1*s* 6*d.*; 24 ins., 3*s.* 6*d.* each.
,, EXCELSA, 12 ins., 2*s.* 6*d.*; 18 ins., 3*s.* 6*d.* each.
,, SQUAMATA, 12 ins., 1*s.*; 24 ins., 2*s.* 6*d.* each.
,, CRACOVIA, 12 ins., 1*s.* each.
,, MACROCARPA, 12 ins., 2*s.* 6*d.* each.
,, REPANDENS, 12 ins., 9*d.*; 24 ins., 1*s.* 6*d.* each.
,, OBLONGA PENDULA, 6 to 8 ins., 2*s.* 6*d.* each.
,, BEDFORDIANA, 12 ins., 1*s.*; 18 ins., 1*s.* 6*d.*; 24 ins., 2*s.* each.
JASMINUM NUDIFLORUM, strong blooming plants, 2*s.* 6*d.* each.
LIGUSTRUM JAPONICUM, 9 ins., 1*s.*; 24 ins., 2*s.* each.
LYCOPODIUM WILDENOVII, 5*s.* each.
LIBOCEDRUS CHILIENSIS, 7*s.* 6*d.* each.
MITRARIA COCCINEA, 2*s.* 6*d.* each.
*PICEA PINSAPO, very handsome specimens, 30 ins., 21*s.* each.
,, NORDMANNIANA, 10*s.* to 15*s.* each.
,, OVATA, 10*s.* 6*d.* each.
*PINUS INSIGNIS, 12 ins., 2*s.* 6*d.*; 24 ins., 5*s.*; 30 ins., 7*s.* 6*d.* 36 to 42 ins., 10*s.* 6*d.* each.
,, MURICATA, 9 ins., 10*s.* 6*d.*; 18 ins., 21*s.*; 24 ins., 31*s.* 6*d.* each.
,, MONTEZUMÆ, 12 to 15 ins., 10*s.* 6*d.* each.
QUERCUS SCLEROPHYLLA, 21*s.* to 42*s.* each.
,, INVERSA, 21*s.* to 42*s.* each.
ROSE, "FORTUNE'S YELLOW," dwarfs, 2*s.* 6*d.* to 5*s.* each.
,, ,, ,, standards, 5*s.* to 7*s.* 6*d.* each.
RHODODENDRONS.—Hardy late flowering Hybrids, varying in colour from white to deep crimson. Dwarfs, 31*s.* 6*d.* to 6 guineas per dozen; standards, 21*s.* to 5 guineas each.
,, COMMON PONTICUM, for covers, thrice transplanted, 12 to 18 ins. high, very bushy, 15*s.* to 21*s.* per 100.
SIKKIM RHODODENDRONS.—We believe we may state, without fear of contradiction, that we possess the largest plants of these beautiful Rhododendrons in the trade. The heights of those we are offering vary from 2 to 9 ins. From the altitude from whence many of them were obtained, there is great probability of their proving hardy in this country. Collections of 24 distinct kinds at 3, 5, or 9 guineas.
SPIRÆA CALLOSA.—An abundant and continued bloomer. It has large corymbs of rosy purple blossoms, and is a handsome addition to our shrubbery plants; 10*s.* 6*d.* each.
SALISBURIA ADIANTIFOLIA (seedlings), 12 ins., 2*s.* 6*d.* each.
*TAXODIUM SEMPERVIRENS. This and Cryptomeria japonica are amongst the most rapid-growing Conifers. In situations where such are required they cannot be surpassed. 18 ins. to 5 feet, 1*s.* 6*d.* to 10*s.* 6*d.* each.
TAXUS DOVASTONII, standards, 3 to 4 ft., 7*s.* 6*d.* to 10*s.* 6*d.* each.
,, ADPRESSA, 12 ins., 2*s.*; 24 ins., 5*s.*; 36 ins., 10*s.* 6*d.* each.
,, BACCATA (yellow-berried var.), 12 ins., 2*s.* 6*d.*; 24 ins., 5*s.*; 36 ins., 7*s.* 6*d.* each.
,, ,, (golden-leaved var.) 12 ins., 1*s.* 6*d.*; 18 ins., 2*s.* 6*d.* each.
VIBURNUM PLICATUM, 10*s.* 6*d.* to 21*s.* each.
*WEIGELA ROSEA.—This beautiful flowering shrub should be grown by every one. It forms a handsome object in the open borders in May. It also forces well. The plants here offered are as wide as high, and will flower abundantly in the spring. 18 ins., 2*s.*; 24 ins., 2*s.* 6*d.*; 30 ins., 3*s.* 6*d.*; 36 ins., 5*s.* each.

A Descriptive Catalogue of Hardy Ornamental Trees and Shrubs; to which is prefixed a Treatise on the Cultivation of American Plants, may be had free, by enclosing six stamps for postage.

SEAKALE.

HUGH LOW AND CO. have to offer a quantity of fine Roots of the above, at from 5*s.* to 7*s.* 6*d.* per 100.
Clapton Nursery, March 6.

HOSEA WATERER'S Descriptive Catalogue of AMERICAN PLANTS, CONIFERS, ROSES, &c., is just published, and may be had on application, enclosing two postage stamps, to Mr. HOSEA WATERER, Knap Hill Nursery, Woking, Surrey.

GEORGE BAKER'S DESCRIPTIVE CATALOGUE OF AMERICAN PLANTS, CONIFERÆ, ROSES, ORNAMENTAL SHRUBS, FRUIT AND FOREST TREES, &c., may be had on application, by enclosing two postage stamps.—Windlesham Nursery, Bagshot, Surrey.

A COMPLETE ARBORETUM.

C. LODDIGES AND SONS beg to state that they are now supplying the above, comprising upwards of 1200 species of TREES and SHRUBS, correctly named, for 50*l.*, cash on delivery; and as their collection of hardy plants will have to be dispersed this season, in consequence of the land being let for building, they most respectfully suggest that all persons contemplating the formation of a COMPLETE ARBORETUM should make early application, as the stock of some species is very limited.—Hackney, March 6.

FRUIT TREES, ETC.

H. BIGLAND AND Co., NURSERYMEN and SEEDSMEN, Manchester, beg to offer APPLE and PEAR TREES, &c., at the following very low prices:—

Standard Apple Trees	... ...	9*s.* per dozen.
Do. Pear Trees	... ...	12*s.* ,,
Trained do. for walls	...	30*s.* ,,

H. B. and Co. beg also to call attention to their complete Collections of VEGETABLE and FLOWER SEEDS, to suit any sized Gardens, which they keep ready put up, for particulars of which see their printed Catalogue, which may be had on application.

N.B. Carriage paid on all orders of 2*l.* and upwards.

FIRST CLASS VERBENAS, FUCHSIAS, GERANIUMS, DAHLIAS, CHRYSANTHEMUMS, CINERARIAS, PETUNIAS, PICOTEES, AND CARNATIONS.

GEORGE SMITH'S SELECT CATALOGUE is now ready, containing Priced Lists of all the leading kinds of both Show and Fancy varieties, in their various classes.

G. S.'s Seedling Verbenas, Fuchsias, &c., are of great merit, having taken numerous First-class Certificates, and having been highly recommended by the Press. For description see Catalogues, which will be forwarded on the receipt of one postage stamp.

N.B. Taylor's excellent "Treatise on the Chrysanthemum," 1*s.*; free by post, 1*s.* 2*d.*

Tollington Nursery, Hornsey-road, Islington, London.

DOUBLE ITALIAN TUBEROSE ROOTS, 4*s.* per dozen.—The annual importation of the above-named beautiful and fragrant Flower has just been received, and large and well selected Bulbs may be obtained, without disappointment, at A. CORBETT'S Foreign Warehouse, 18, Pall-mall.

N.B. Printed regulations for treatment sent; also, just arrived, very moist and open Parmasan Cheeses.

AMERICAN NURSERY, BAGSHOT, SURREY.

JOHN WATERER begs to announce that he has published a new CATALOGUE of Hardy Rhododendrons, Azaleas, Roses, Conifers, &c., and which may be obtained by enclosing two postage stamps.

The colours of all the Rhododendrons worthy of cultivation are described; thus purchasers are afforded every facility in making selections.

DWARF TRAINED TREES OF PEACHES, MOOR PARK APRICOTS, AND GREENGAGE PLUMS, 500 handsome plants of each sort to spare.

BERBERIS AQUIFOLIUM and BERBERIS DULCIS, 200,000 plants to spare.

PRINCE ALBERT RHUBARB, 50*s.* per 100; 1000 for 15*l.*

Fifty superb varieties of HOLLYHOCKS for 42*s.*

EVERGREEN PRIVET, 100,000 to spare.

JEYES and Co., Nurserymen, Northampton.

ORNAMENTAL PLANTING.

C. LODDIGES AND SONS most respectfully call the attention of Noblemen, Gentlemen, and Public Companies, engaged in Ornamental Planting, to the undermentioned List of TREES and SHRUBS, which they are enabled to offer at an extraordinary reduction in price (for cash only), the land upon which their arboretum is planted being required for building.

Fine trees, from 4 to 10 feet high, of the following genera, comprising a great number of species: Acer, Æsculus, Alnus, Amygdalus, Betula, Cornus, Corylus, Cotoneaster, Cratægus, Cytisus, Fraxinus, Mespilus, Populus, Prunus, Pyrus, Ribes, Robinia, Salix, Sorbus, Spiræa, Tilia, Ulmus, 4*s.* per dozen, named, or a selection from the above, 25*s.* per 100, unnamed, and highly recommended for rough planting.

American Oaks in great variety, 10*s.* per dozen.

AMERICAN PLANTS.

Azalea pontica, fine bushy plants well set with bloom, 10*s.* p. doz.
,, Ghent and other varieties named, 18*s.* per doz.
Rhododendron ponticum and varieties (very fine), 10*s*, per doz.
,, campanulatum, 2 to 4 ft. diameter, 10*s.* 6*d.* to 42*s.* each.
Andromedas in collections, 18*s.* per doz.; Vaccinium ditto, 12*s.* per doz.

N.B. Packing will be charged as low as possible. Post-office orders made payable at Hackney.—Hackney, March 6.

DWARF PEAS.

HAIRS'S DWARF MAMMOTH KNIGHT'S, acknowledged the best out, 2*s.* 6*d.* per quart.
BISHOP'S LONG-PODDED, 1*s.* per quart.
BURBIDGE'S ECLIPSE, 1*s.* per quart.

The above Peas have been most extensively grown in the principal horticultural establishments in the kingdom, and pronounced superior in every respect to the tall growing varieties.

FLOWER SEEDS.

ESCHSCHOLTZIA CALIFORNICA ALBA, a pure white, very good, 6*d.* per packet.
IPOMŒA BURRIDGII, splendid hardy creeper, 6*d.* per packet.
SAPONARIA CALABRICA, var. MULTIFLORA, one of the best bedding plants out, 6*d.* per packet.
TROPÆOLUM COCCINEUM, handsome, 6*d.* per packet.
EUCHNIDEA BARTONIOIDES, splendid yellow, half-hardy, 6*d.* per packet.
GAURA LINDHEIMANII, fine herbaceous plant, 6*d.* per packet.

DUNCAN HAIRS offers to the gardening world the above small selection, as being deservedly worthy of universal attention. Catalogues of Garden, Agricultural, and Flower Seeds forwarded on application.

Seedsman and Florist, Wholesale and Retail, 109, St. Martin's lane, London.

SANGSTER'S NEW EARLY NO. 1 PEA.

HAY, SANGSTER, AND CO., in submitting the above valuable PEA to the public, can recommend it with the greatest confidence, as the largest podded and best Early Pea known, and of first-rate quality; height, 2 feet, Price 2*s.* 6*d.* per quart.

York Regent Potatoes, from prepared cuttings, 6*s.* per bush. Cambridge Radical, 6*s.* do. A first-rate second early, 6*s.* do. American Native, 6*s.* do. White Blossom Kidney, 6*s.* do. Brighton Pink Kidney, 6*s.* do.

For Testimonials, see *Gardeners' Chronicle*, Nov. 8, p. 705.

Post-office orders to be made payable at the Borough Post-office to HAY, SANGSTER, and Co., Nursery and Seedsmen, Newington Butts, London. One-bushel hampers and booking, 1*s.* 6*d.*; two-bushel. 2*s.* 6*d.* Sacks, 2*s.* 6*d.* each.

CARNATIONS, PICOTEES, PINKS, AND PANSIES.

JOHN HOLLAND, Bradshaw Gardens, Middleton, near Manchester, having a very large collection of the above beautiful Flowers, offers them at the following low prices, package, &c., included:

25 pairs of Show Carnations, in 25 different varieties	£1	0	0
25 pairs of Show Picotees, in 25 different varieties ...	1	0	0
25 pairs of Pinks	0	8	0
25 Show Pansies, in 25 different varieties	0	10	0

Auriculas, Alpines, Polyanthuses, &c.

Catalogues on application. Post-office Orders to be made payable at Middleton, Lancashire.

SCARCE AND BEAUTIFUL FLOWER SEEDS.

EMPEROR STOCK, a perennial species, and hardy, 1400 seeds, 1*s.*

CINERARIA and CALCEOLARIA, selected from collections of Plants, that were admitted by all persons who saw them to be the finest they had ever seen; 250 seeds of the former and 500 of the latter, 1*s.* each paper.

MYOSOTIS AZORICUS, a bed of this on an eastern or northern aspect is very beautiful; 200 seeds, 1*s.*

CALENDRINIA UMBELLATA, one of the neatest growing and most brilliant flowering of all bedding plants; 1500 seeds, 1*s.*

SWEET WILLIAM, in 100 varieties; 10,000 seeds, 1*s.*

Payment may be made in postage stamps.

JEYES and Co., Nurseries, Northampton.

SAMUEL FINNEY AND Co. beg respectfully to inform their Friends and the Public that their new PRICED SEED CATALOGUE FOR 1852 is now ready, and may be had, postage free, on application. It contains a list of all the most approved kinds of Vegetable Seeds in cultivation, together with a very choice selection of German and other Flower Seeds, which are all fully described, stating the time of sowing, and whether hardy, half-hardy, or tender; the height, colour, and time of flowering, with much other useful information. The Collections of Seeds, which they supplied in former years, having given such general satisfaction, they are again induced to offer them as under:—

		£	*s.*	*d.*
No. 1.	A complete collection of Vegetable Seeds for one year's supply of a large garden ...	2	5	0
No. 2.	Do. do. in smaller quantities ...	1	10	0
No. 3.	Do. do. do. do. ...	1	1	0
No. 4.	Do. do. do. do. ...	0	12	6

The kinds and quantities contained in each Collection are stated in the Catalogue.

Delivered, free, at any station on the following Railways:—Newcastle, York, and Berwick; North British, Leeds and Thirsk; York and Scarborough, Newcastle and Carlisle, and Lancaster and Liverpool.—Gateshead Nursery, March 6.

FINE DOUBLE TUBEROSES,

4*s.* per dozen, just imported by

PAGE AND Co., SEED MERCHANTS TO THE AGRICULTURAL AND HORTICULTURAL SOCIETIES OF INDIA, &c. &c., Southampton. Priced Lists may be had upon application, containing only selected and approved varieties.

	s.	*d.*
PAGE'S BLOOD RED BEET, the finest crimson and best sort in cultivation, per packet	1	0
NEW ROYAL CABBAGE LETTUCE, per packet ...	1	0
PAGE'S NEW HARDY WINTER WHITE COS LETTUCE, per packet	2	6
RANDOLPH'S GREEN CURLED ENDIVE (very superior), per packet	1	0
SILVER PICKLING ONION OF NOCERA, per packet	1	0
NEW EARLY RICH SCARLET FORCING CARROT, per packet	1	0
NEW RED BELGIAN CARROT, per packet	0	6
BRUSSELS SPROUTS, warranted true imported, and very fine, per packet	1	0

Testimonials are unnecessary, as we rely upon our reputation.—Gardeners and Land Stewards' Registry Offices, 37 and 38, Oxford-street, Southampton.

EPPS' COLLECTIONS OF KITCHEN GARDEN SEEDS.—No. 1, containing 24 quarts of the newest and best kinds of Peas and all other seeds in proportion, inclusive of Melons and Cucumbers ... £ 2 10 0
No. 2, in proportionate quantities 1 10 0
No. 3, ditto ditto 1 1 0
No. 4, ditto ditto 0 12 6

A list of the quantity in each collection may be had on application, also a Descriptive Catalogue of Seeds, &c., &c.

The highest reference can be given in all parts of the United Kingdom. Carriage paid to any Railway Station in London.

W. J. EPPS begs to remark, that in consequence of his being one of the largest Seed Growers in the market, he is in a position to supply the above very satisfactory.

High-street and Bower Nurseries, Maidstone.—March 6.

FLOWER SEEDS SENT FREE BY POST.

ROBERT WESTMACOTT begs to inform his Friends that he has selected with great care his Stock of FLOWER AND VEGETABLE SEEDS for the present season, including every variety worthy of cultivation. His GERMAN SEEDS are imported from the best foreign house, and are as good as can be procured. They consist of Stocks, Asters, Larkspurs, Balsams, Hollyhocks, double Wallflowers, Dianthus, Poppies, Zinnias, &c. His PRICED DESCRIPTIVE CATALOGUE may be had on application.

COLLECTIONS OF THE MOST SHOWY FLOWER SEEDS FOR LARGE OR SMALL GARDENS.

	One large packet of each.—*s.*	*d.*
50 well-assorted Annuals, Biennials, and Perennials ...	10	6
25 Do. Do. Do. ...	5	6
12 Do. Do. Do. ...	3	0

The above Flower Seeds may be had in smaller packets at half the price.—Stuart's Grove Nursery, Fulham Road, Chelsea.

CUCUMBERS AND POTATOES.

JAMES LAKE, NURSERYMAN, &c., Bridgewater, Somerset, begs to offer to the public his Seedling FIFTY-FOLD KIDNEY POTATO, six tubers of which were sent to Dr. Lindley (April 29, 1850), and produced 312; quality very good. Many other references since then can be given.—Price 2*s.* 6*d.* per peck, or 8*s.* per bushel.—J. L. having grown from 15 to 20 lights of ABAN'S "CONQUEROR OF THE WEST" CUCUMBER successfully for four years, can with confidence recommend it as one of the best kinds in cultivation.—Packets, containing 15 seeds, 1*s.* each. The Trade supplied. London Agents, HURST and M'MULLEN, 6, Londenhall-street.

SEED AND HORTICULTURAL ESTABLISHMENT, SUDBURY, SUFFOLK.

BASS AND BROWN'S ANNUAL SEED AND PLANT LIST FOR 1852. A few more newspaper-stamped copies can be supplied; also stamped copies of the Autumn Catalogue, which contains the Roses, Herbaceous Hardy Plants, a few select and new Shrubs, Hardy Climbers, Prize Gooseberries, &c.

ASSORTMENTS OF VEGETABLE SEEDS.

For more detailed statement, see *Gardeners' Chronicle* of Jan. 31st, and Feb. 7th and 21st.

No. 1 Collection	... ...	£2	10	0
No. 2 do.	... ...	1	10	0
No. 3 do.	... ...	1	0	0
No. 4 do.	... ...	0	10	6

FLOWER SEEDS FREE BY POST.

Useful printed instructions for sowing and raising seeds sent with each order.

BEST ASSORTMENTS.

100 varieties of best and newest Annuals	£0	15	0
50 varieties, 8*s.* 6*d.*; 20 varieties, 6*s.* 6*d.*; 20 varieties	0	4	0
20 varieties of best Dwarf Annuals, large packets, for filling out lawn beds, &c.	0	7	6
12 varieties, do.	0	5	0
20 varieties choice and new Greenhouse Annuals ...	0	7	6
12 varieties, do.	0	5	0
20 varieties of choice and new Greenhouse Perennials	0	10	6
12 varieties, do.	0	7	6
20 varieties choice and new Biennials and Perennials	0	7	6
12 varieties, do.	0	5	0

CHOICE IMPORTED GERMAN SEEDS.

A superb collection of Stocks, Asters, Wallflower, Larkspur, Balsams, Senecio, Zinnia, Cockscomb, Indian Pink, &c. See Catalogue, page 4.

GRASS SEEDS,

Assorted and mixed, of the very best sorts, for the purposes required.

Mixtures for permanent Pastures, Park Mixtures, and Mixtures for fine Lawns, Bowling-greens, &c.; also Mixtures to suit all soils and situations.

For Priced List of Grasses, see our Seed and Plant List, page 14, by which each sort may be had separately.

TRUE ITALIAN RYE-GRASS, ENGLISH AND IMPORTED.

☞ Our Mixtures of Grasses have given the highest satisfaction.

Remittances required from unknown correspondents. Post-office orders to be made payable to BASS and BROWN, or to STEPHEN BROWN. Goods sent carriage free to London, Ipswich, Norwich, or any station on the same line.

ESTABLISHED ABOUT HALF A CENTURY.

TRUE BLUE ORKNEY KIDNEY POTATOES,

DIRECT FROM ORKNEY, MAY BE HAD FROM

WILLIAM HAMILTON, SEEDSMAN, &c., 156, CHEAPSIDE, LONDON, price 2*s.* 6*d.* per peck; they are a most excellent Potato, and well adapted for any soil. Ash-leaf Kidney and Flourball Potatoes, 2*s.* 6*d.* per peck.

W. H. begs to inform those who may favour him with their orders for KITCHEN GARDEN SEEDS, that he will ensure their being supplied of the best quality.

A Descriptive Catalogue with prices may be had on application.

The following Flower Seeds, done up in packages so as to be easily transmitted by post, are strongly recommended, having for several years given universal satisfaction:—

		s.	*d.*
25 vars.	SUPERIOR HAMBRO' 10-WEEK STOCKS	10	6
	The same in smaller packets	5	6
12 ,,	SUPERIOR HAMBRO' 10-WEEK STOCKS	3	6
24 ,,	EXTRA FINE GERMAN ASTERS	5	6
12 ,,	do. do. do.	3	6
12 ,,	SPLENDID ZINNIAS	2	6
12 ,,	SUPERIOR DOUBLE ROCKET LARKSPUR	2	9
6 ,,	VERY CHOICE MOTTLED BALSAMS ...	2	6
50 vars.	well-assorted Hardy Annuals	10	6
25 ,,	do. do.	5	6
12 ,,	Beautiful Hardy Annuals	2	6
25 ,,	Perennials (many choice)	7	0
12 ,,	do. do.	3	6

The above Annuals are done up in descriptive labels, giving the proper mode of culture.

Herbaceous and Bedding Plants, Shading Canvass, &c. &c. —Address, WILLIAM HAMILTON, Seedsman, &c., 156, Cheapside, London.

The Gardeners' Chronicle.

SATURDAY, MARCH 6, 1852.

MEETINGS FOR THE ENSUING WEEK.

MONDAY,	March	8	Medical (Anniversary)	5 P.M.
			British Architects	8 P.M.
			Geographical	8½ P.M.
			Syro Egyptian	7½ P.M.
TUESDAY,	—	9	Civil Engineers	8 P.M.
			Medical and Chirurgical	8½ P.M.
			Zoological	9 P.M.
			Literary Fund (Anniversary)	2 P.M.
WEDNESDAY,	—	10	London Institution	7 P.M.
			Society of Arts	8 P.M.
			Graphic	8 P.M.
			Pharmaceutical	8½ P.M.
			Geological	8½ P.M.
THURSDAY	—	11	Royal Soc. of Literature	4 P.M.
			Antiquarian	8 P.M.
			Royal	8½ P.M.
FRIDAY,	—	12	Astronomical	8 P.M.
			Royal Institution	8½ P.M.
SATURDAY,	—	13	Royal Botanic	3½ P.M.
			Medical	8 P.M.

ON the 4th of last November the thermometer fell to 22° near London, with little or no notice. Snow covered the midland counties, and even reached the straits of Calais in the form of sharp sleet; yet gardens sustained no damage. Ten degrees of frost by Fahrenheit's thermometer failed to produce any sensible injury; or, if the cold left traces behind, it was upon the young leaves of such hardy shrubs as the Pontic Rhododendron. Chinese plants, Australasian plants, Chilian and Patagonian plants, experienced no more inconvenience than those of central Europe; and yet we have seen the same amount of cold lay a garden as utterly waste as if a firebrand had passed over it.

The reason of this was, we apprehend, two-fold. For some time before the 4th of November, scarcely any rain had fallen, and the whole season had been singularly dry. The temperature too had been very low, varying between 45° and 55°, with only an occasional rise to 60° by day, and generally ranging from 28° to 39° by night. Under these

circumstances the tissues of plants were almost empty of fluid, and in a state approaching that of winter torpor; two conditions calculated beyond all others to enable vegetation to resist cold. But this was not all. If, as often happens, the night's hard frost had been succeeded by a rapid rise of temperature under a bright sun, it is probable that the disastrous effects of an early and excessive fall of autumnal temperature would have been experienced. But for 10 days after November 4th, the temperature did not rise by day higher than from 45° to 47°, and the constitution of the frozen plants was thus subjected to no violent reaction.

If those who have greenhouses to manage will rightly apply this fact it will teach them a valuable lesson. It ought to show them how unimportant it is to plants skilfully managed, whether "frost gets at them" or not, and what a serious error they commit, when, for the sake of preserving their plants alive, they keep up incessant fires by night. It is in this way that they ruin their specimens, forcing them into a spindling growth, and rendering fine and abundant bloom impossible. The business of a good gardener is not to know how to keep his greenhouse plants warm, for any noodle can do that; but how to enable them to bear cold, thus consulting his master's pocket, his own personal convenience, and the health of the plants under his care. If anybody doubts the soundness of this doctrine, let him visit the garden of the Horticultural Society at this time, and there examine the state of the reticulated Camellia, which has lived for these 20 years in a pit with 4-inch walls, where it is sheltered in winter from nothing but wet and a bright sun succeeding a hard frost. No Laurel bush can be in a more perfect state of robust vigour.

If, from the frost of Nov. 4, we turn our attention to the present spring, and observe the way in which tender plants have endured it, we shall find that facts all lead to the same conclusion, as that which the foregoing observations are intended to support. In all directions, we find so-called tender bushes, living without a symptom of having been exposed to cold. Camellias, and the evergreen Beech of New Holland, as green as they were last August; New Holland Acacias flowering even at Enfield; Fuchsias with their latest wood scarcely injured; little Chilian shrubs disregarding all our cold. And yet, in this month of March, in the environs of London, the thermometer falls night by night to 18°, 17°, 16°, and even some degrees lower, if the real amount of cold is taken in the absence of radiant heat. But we are dry; no rain falls; the wind is easterly, and the temperature is so uniformly low, that no tender plants as yet show a sign of vegetation in the open air. It is evident then that the experience of the spring points in the same direction as that of last autumn; namely, to the small effect of English cold upon exotic plants, provided they are dry, torpid, and well sheltered—not, as is generally thought necessary, from the north wind, and cold, but from sun and warmth.

These considerations lead to questions of the highest interest to gardens, irrespective of their obvious connection with greenhouse management; and we shall endeavour to find an early opportunity of explaining what those questions are.

Since these remarks were in type, the radiating thermometer has fallen (March 5), to 8°. We shall next week report the result.

FOREIGN GARDEN GLEANINGS.

Gotha.—It is some time now since this town first became celebrated for its fine Orange trees, and we were therefore very sorry not to be able to examine the garden in detail. All we can say is, that of all the German gardens we have seen that of Gotha is most remarkable for its rich and well arranged collections; the Orange trees are by no means inferior to those in the public parks of France.

Leipsig Botanic Garden is to the right of the town, of a tolerable size, and under the directions of M. Plachnik. The school of botany occupies a considerable portion of the garden, and is as complete as usual. Economical plants are on the side nearest the Elster, and its waters, which often overflow, give them a remarkable growth. On the opposite side are some rare trees and bushes. There are two houses, one heated, the other not. In the first there is a collection of scarce and remarkably well grown Ferns, and some Orange trees; in the second there is nothing worth mentioning.

The soil of Leipsig is very fertile, and the town is surrounded by pleasure gardens. Fruit trees abound and bear well; vegetables are plentiful, and of the best quality. Although when there the season was not far advanced, we saw Cherries, Plums, Gooseberries, Peaches, and particularly Apricots. Another thing worthy of note at Leipsig is the great number of public walks which surround the town, they are more like English gardens than promenades.

Attenbourg.—The castle of Attenbourg, placed on a high chalk rock, is a remarkably fine object; and Nature and Art are so blended as to leave no room for criticism. There is a railroad to the foot of the castle. In the garden the useful and agreeable are found intermingled. The hothouses are not, however, concealed from view, and their uncommon position gives them rather a pleasing appearance. The enormous chalk rock is covered with a thick turf, constantly moist by water which flows from the very top, to which the visitor is conducted by shaded spiral walks. All the clumps which bound the curves in the walks, or which form the hedges, are of a single species; masses of Antirrhinum occur here and there, and produce an admirable contrast with the surrounding objects.

The forcing and other hothouses are very large. Pine Apples are forced in considerable quantities, but their languid vegetation, and small fruit, showed that their cultivation was not well understood: the flower garden is pretty, but contains few new plants. We were not a little surprised to find the gardener dressed in short breeches, white stockings; a waistcoat of the time of Louis XIV., and shoes with enormous buckles. *Masson's Report.*

CULTURE OF THE CAMELLIA.

Of all the plants to be found in British gardens, this is perhaps the most universally esteemed; and, if its glorious, Rose-like flowers of many colours—its finely-shaped, coriaceous, dark green leaves—and the season at which it produces its blossoms are considered, it would probably be difficult to name a plant more deserving of favour. It is about as hardy, and as easily cultivated as the common Laurestinus, and if once fairly established in a situation out of doors, not exposed to the mid-day sun, it will withstand the severity of our modern winters without the slightest protection. I cannot assert, however, that it will flower as well in such a situation, as it does when treated as a greenhouse plant; nevertheless, I can safely state, that, as a hardy evergreen shrub, it is deserving of more attention than has hitherto been bestowed upon it. Whatever its value for out-of-door purposes may be, however, at present it is most esteemed for the decoration of our plant-houses during the dull and cheerless months of winter, and I will confine the following remarks to its proper culture for this purpose.

The Camellia may be propagated by cuttings, but the usual nursery practice is to graft or inarch on stocks of the single red and Middlemiss red varieties. Cuttings of these root freely, provided they are taken off in a properly ripened state. After being prepared, and potted in very sandy soil and watered, they should be placed in a cold frame till cicatrized, and then introduced into gentle bottom heat, where they will soon form roots; they may be potted singly in small pots early in spring, or as soon as they are rooted, and kept close and warm until they have completed their growth, when they should be gradually hardened off. The best plants will be ready to be used for stocks at the proper season, but the smaller ones will require another year's growth. Grafting is generally performed in autumn, and the plants should be kept in a close house or pit, until a union is effected. The best time for inarching is just before the plants begin to grow. Although the above is the common practice as regards propagating the Camellia, those who prefer saving the trouble of grafting or inarching, &c., may do so by striking cuttings of the variety which they desire to increase, until experience has furnished the nice judgment requisite in selecting cuttings in a proper state as to ripeness, there will doubtless be many failures, but once overcome this difficulty, which must be done to ensure success with stocks, and it will be found that one variety of the Camellia may be struck almost as easily and certainly as another.

A soil consisting of about equal parts light turfy loam and fibry peat, broken up by the hand into pieces about the size of a Hazel nut, and liberally mixed with broken bones, lumps of charcoal, and sharp sand, will be found to suit all the purposes of cultivation perfectly. Where peat is difficult to obtain, a small quantity of leaf soil may be substituted for it. The plants will grow in any light soil; but when placed in peaty material the foliage is darker and more luxuriant than when loam only is used. In potting, care must be observed to secure perfect drainage, as stagnant water about the roots is very injurious. It will be found good practice to select some of the most fibry pieces of the peat, and to cover the draining materials with them; this, mixed with small pieces of bone or charcoal, is more congenial to the roots than moss, and they also last longer. The proper time for potting is, in my opinion, when the plants are about to start into growth; but some successful growers prefer potting after they have made their wood. Water must be carefully supplied after shifting, until the roots get hold of the fresh soil. In potting hard-wooded plants generally, I raise the fresh soil a little higher than the old ball, by placing a rim of turfy pieces sufficiently above it to prevent the water from escaping at the sides; this prevents the fresh soil from becoming sodden, and causes most of the water to pass through the ball where the roots are.

Any person possessing a sufficient stock of plants, and the necessary accommodation, may have a supply of Camellia blossoms from August to May. To secure this it will be necessary to place a portion of the plants in a growing temperature of 60° or 65° in January or early in February, and others at intervals of a month or six weeks, leaving the latest portion to make their wood and set their flower-buds in a cool house; it may, however, be necessary to remove the late plants to a higher temperature to induce them to form flower-buds; but except in the case of very vigorous young plants this will hardly be required. The Camellia is somewhat easily injured by the direct rays of the sun while in a growing state; it enjoys a shady situation under Vines. The plants should be freely supplied with weak manure water at all seasons, and especially while growing, and they will be benefited by frequent syringings. As soon as they have made their wood and formed their flower-buds, they must be removed to a cooler situation, and, as soon as the weather will permit, may be placed in a sheltered, shady place out of doors. The plants which were placed in heat in January or February will probably be in flower in August; but, if not, they may be removed to a warmer atmosphere, to encourage them to develope their buds.

When they have done flowering, they should be allowed a season of comparative rest, and must not be overwatered, nor excited by a high temperature; from 35° to 45° will be sufficient at that time. They should also receive a thorough cleaning, which I generally effect by means of a liberal syringing with water, at a temperature of 160°; but if they are infested with scale, or thrips, it will be advisable to remove these pests by means of a dry brush previous to syringing. It is also of importance to select for early growth such plants as have their wood buds in a forward state; and unless this is attended to the plants will have a tendency to become naked, as unless the buds are in such a state when placed in heat, those on the points of the shoots only will start into growth.

I do not believe that the Camellia, if treated as I have directed, will get into ill health; but for the sake of those whose plants may have acquired that condition, I will state that sickly plants had better be turned out of their pots, all sour soil removed, and then repotted in the smaller pots which will receive the ball, using sandy soil; they should also be cut back, and as soon as convenient place them in a gentle bottom heat, and keep them close and moist, but water very carefully until the roots have become established. When they have done growing, gradually harden them off, and remove the flower-buds. The plants will probably be in a fit state for a moderate shift at the beginning of next year, but they must not be allowed to bear more than one flower to a shoot this season. Indeed, I suspect that sickness is frequently induced by allowing the plants to carry more flowers than they can support; two upon a shoot are as many as ought to be permitted upon healthy plants; and, if they are weakly, this number should be reduced. *Alpha.*

RATEABILITY OF A NURSERYMAN'S STOCK IN TRADE.

APPEAL.

Messrs. Lane v. Parish of Berkhampstead.

On Tuesday, 24 inst., a Court of Special Session was held at the King's Arms Tavern, Berkhampstead, for the determination of appeals for this district. Sir Astley Cooper, Bart., in the chair. Present—T. P. Halsey, Esq., M.P. for the county, Smith Dorrien, Esq., Major-Gen. Finch, F. J. Moore, Esq., Rev. Thomas Bingham, T. F. M. Halsey, Esq., &c.

Mr. John Day, Solicitor, supported by Mr. T. D. Paine, Surveyor, appeared on behalf of the appellants; Mr. Francis, Solicitor, and others, represented the respondent parish.

Messrs. Lane are extensive nurserymen, holding a very considerable portion of land or nursery ground within Berkhampstead and Northchurch parishes, exclusively appropriated to horticultural purposes in the way of trade. A large portion within Berkhampstead parish is covered with glass or greenhouses, which are thus constituted the implements or utensils of trade, as the means of carrying on their business. The parish officers in making the last rate affixed an additional value to these premises of 50*l.*, alleged to be for the assessment of "tenants' rights," or "lights," against which charge Messrs. Lane instituted this appeal.

Apart from the trade question of the assessment of a nurseryman's stock to the relief of the poor, in no other instance throughout the parish were the fixtures and fittings of trade, boilers, vats, tallow melters' coppers, steam-engines, nor plant of any description made amenable to the rate; therefore, on this ground, Messrs. Lane felt themselves justly aggrieved, and gave notice of their appeal against the rate, not so much as an invidious attack upon themselves as that in this respect the rate was "unfair, unjust, and unequal."

Mr. Lane declared his intention, if redress could not be obtained at the Court of Special Session, to carry the question to the next General Quarter Session at Hertford for decision, in order to obtain a case to be referred to the Court of Queen's Bench as to the actual point at issue, viz, whether green or hot houses are liable to be assessed for the relief of the poor; and whether, if assessable, are they properly assessed when assessed separately, or in respect of land as improved by their erection, when exclusively devoted to the purposes of trade, such being the stock in trade of the nurseryman, and therefore exempt under 3 and 4 Victoria, cap. 89.

From Mr. Paine's report it appeared that heretofore Mr. Lane had been assessed to the parish in the rateable value of 61*l.* per annum, exclusive of the now additional charge of 50*l.* for "tenants' rights," or "lights" sought to be charged. Mr. Paine's opinion was, that the rateable value of Mr. Lane's occupation, as the integral holding, was only 40*l.* per annum. This statement was made in accordance with the Parochial Assessment Act, 6 and 7 William IV., cap. 96, and upon the same data after which the survey and valuation of Isleworth, Chelsea, and other parishes had been prepared by him; but more particularly in relation to Isleworth, which contained glass and hot and greenhouses to a larger extent than almost any other parish. The assessment of Isleworth had already been confirmed in consequence of the appeal of Messrs. Farnell, brewers, and had stood the test. This latter appeal was well set forth when described as the appeal of the produce or profits of the "Mash Tun," which are real, definite, and ascertainable against the produce of the "soil," which, at all times, is fluctuating, precarious, and vacillating.

Mr. Paine contended that even if greenhouses were declared to be rateable, they could only be assessed for the nominal value which they conferred upon the soil, and ought in law never to be separately assessed; since such an occupation could not possibly be divided from the land itself, or even if so,

possession never could be enjoyed without trespass on the land adjacent. To confirm this proposition, Mr. Paine quoted a letter of instruction which he had received from the Poor-Law Board, wherein it was set forth, "that it was inexpedient to divide entire occupations into portions, or assess such portions in fractional parts, even though the integral occupation belonged to different landlords, inasmuch as the several parts may combine to enhance the value of the whole." Mr. Paine considered the actual and integral value of the beneficial occupation; adding, that the "vexata quæstio," whether greenhouses, as stock in trade, could be brought into assessment, and if assessable, not being separate but combined holdings, alleged to confer value upon land? Can they be assessed otherwise than as land improved thereby? in which latter case, those deductions allowed by 6 and 7 Wm. IV, cap. 96, from the annual value, being the cost of maintenance, repairs, and reinstalment necessary to be performed to command such value, such would nearly consume the sum of the actual value from year to year, and leave the rateable value of hot or greenhouse a merely nominal impost. From these circumstances, Mr. Paine deduced the impracticability of the assessment of greenhouses, when exclusively devoted to horticultural purposes. These erections are, for the most part, inexpensive, and only temporary in their construction; hence the risk which necessarily arises from accidental breaking of glass, through warping of sash bars, or otherwise, from the constant operation of opening and closing, from the difference of temperature required to be sustained, glass being the medium between the internal warmth and external frost in winter, and liability to almost actual demolition, through hail storms in summer. Besides which, there are many repairs, painting, &c., included in the charges of maintenance and re-production, which, if recited, would exhibit such an amount as would absorb and swallow up any reasonable interest on original cost, which might be considered in the light of yearly rental, so that the respondent parish, even if the decision had been in their favour, would, at the best, have only "gained a loss," had the award of the Court even been in their favour.

Mr. Paine's report concluded with the following observations:—"Should such a precedent ever be established as the assessment of 'tenant's rights,' or 'lights,' it would be difficult to define its limits, circumscribe its operation, or specify with any degree of accuracy the real signification, or estimate the rateable value, in reference to a term so arbitrary in its application, and so ambiguous, vague, and indefinite in its purport; while it may be still more difficult to state on whom next the impost may fall, or what interest may not be subject to its operation."

The Court ultimately decided that the 50*l.* charge for "tenant's rights" or "lights" could not be sustained, that the respondent parish should bear the costs of the appeal, and that the premises should be referred to the two surveyors, Mr. Paine on behalf of Mr. Lane, who was appointed to meet the parochial surveyor to determine the future value of Mr. Lane's occupation exclusive of "tenant's rights," and the expenses of such survey were to be born by the parish.

Home Correspondence.

Vines in Pots.—The practice of fruiting Vines in pots has become pretty common of late years; and if we could easily overcome the preparatory steps to insure a crop, it would become still more general, and perhaps be as economical as the ordinary method. Few, however, except Mr. Rivers, are so sanguine as to suppose that the same plants may be grown for a series of years in the same pots, or have the means of accomplishing such feats as the Messrs. Elphinstone, who, in the course of the same season, from single eyes, can produce good crops, and also ripen them. That, indeed eclipses the far-famed Mr. Crawshay, who, some years ago, undertook from single spurs planted in a prepared border inside a Vinery, to furnish its roof with canes, capable of bearing a full crop the following season. My usual plan of preparing pot Vines, is to strike them in small pots from eyes in spring. Shift them once or twice during the summer, and endeavour to get the wood well ripened. The following spring I place them in their fruiting-pots, generally shaking away all or most of the soil from their roots, and sometimes coiling a portion of the stem an inch or two beneath the mould. I then plunge them in a gentle hotbed, and when the shoots are 3 or 4 feet in length, I remove them to a Vinery, placing them against the back wall, about 4 feet from the roof; and as the Vine grows, I train it in a circle, by which means, at the end of the season, the lower buds are as plump as those at the upper ends of the shoots, which are stopped when they are 7 or 8 feet in length, and are reduced 2 feet more when they receive their winter pruning. Last year I fruited some, which were struck the previous season, that were equal to two-year-old plants; but then they had been carefully attended to, and had had a pit to themselves, where they were trained near the glass—the grand secret of success. I am, however, puzzled to know what to do with plants which have fruited. I generally throw them away; but I am informed that a very successful grower of Vines in pots places his plants, which have borne fruit, in a strong heat the following season, and when they have developed their leaves, cuts them down, shakes (even though they show an abundance of fruit!) all the soil from them, repots in fresh material, and stimulates again to make a new rod for another season. Now, this appears to me to be wasting the energies of the plants. It is like making a labourer walk a long journey before he begins work. If they are worth keeping at all, would it not be better to cut them down before exciting them, in order that the juices stored up in their roots might be turned to useful account? *J. M.*

Pine Growing at Chatsworth.—I observe at page 84, that Sir Joseph Paxton has produced a Providence Pine-apple, weighing 8 lbs., in six months from an ordinary sucker. I have been employed where Pines were cultivated as successfully as in any place in England, viz., at Trentham, and I allow that good Pine-apples can be produced in 15 months; but how they are ripened from ordinary suckers in such perfection as that just quoted in six months, more especially Cayennes and Providence, I am at a loss to guess, even with the aid of all the liquid manure that could possibly be applied to them. If a sucker is left upon the old stock till it acquires a large size, the fruit in many instances will be formed before it is removed from the parent plant. Hence such cannot with propriety be called ordinary suckers, nor would I like to depend on them for the production of perfect fruit; but, calculating that a Pine requires five months from the time of "showing" before it ripens,—in that case, those at Chatsworth only had one month for growth, which is certainly very little for an ordinary Providence Pine sucker. I had always considered that Providences, Cayennes, and Montserrats required longer time in ripening than Queens; and I am sure that if Sir J. Paxton would kindly give your readers some account of his management and also of the size of his suckers, he would confer a favour on many. *J. M., Donegal, Ireland.* [The above has been submitted to Sir Joseph Paxton, and the following is his reply. At Chatsworth the Pine suckers are grown on the parent plants until spring, when they are separated, and planted out at once into the fruiting beds. The three suckers alluded to by your correspondent were detached and planted out in March, and in a month afterwards they showed fruit, which ripened and was cut at the end of August. Cayennes grow as quickly as any other sort, and produce better fruit, superior in weight to any other kind of the same age; they have fruited with us 9¼ lbs., and are certainly the best winter Pines which can be grown. Small plants will produce at that season fruit weighing from 4 to 7 lbs.; but some persons have grown Havannahs under the name of Cayenne, and the difference in the plants is not very perceptible until they fruit. There are fewer imperfect fruit from good suckers of any kind than from old plants, provided the suckers show fruit whilst the roots are in an active state, for the size depends entirely on the vigour of the roots at the time of showing. The fruit cut at Chatsworth during the summer of 1851 is as follows. We commenced in May and ended in September:—

	lbs.	oz.	
No. 1	9	8	...
,, 2	8	12	...
,, 3	7	11	...
,, 4	9	4	...
,, 5	7	0	...
,, 6	7	0	...
,, 7	8	12	...
,, 8	6	4	Cayenne
,, 9	7	4	Cayenne
,, 10	8	0	...
,, 11	8	8	...
,, 12	7	0	...
,, 13	8	0	...
,, 14	7	12	...
,, 15	7	8	...
,, 16	8	0	...
,, 17	7	4	...
,, 18	8	12	...
,, 19	8	0	...
,, 20	6	8	Cayenne
,, 21	7	0	...
,, 22	6	8	Cayenne
,, 23	7	8	...
,, 24	7	12	...
,, 25	6	0	...
,, 26	5	8	Cayenne
,, 27	9	12	...
No. 28	5	12	Cayenne
,, 29	5	8	Do.
,, 30	6	0	Do.
,, 31	6	8	Do.
,, 32	6	7	Do.
,, 33	5	0	Do.
,, 34	8	8	...
,, 35	7	8	...
,, 36	7	0	Antigua
,, 37	5	0	Trinidad
,, 38	4	0	Do.
,, 39	6	8	Cayenne
,, 40	5	0	Do.
,, 41	7	0	...
,, 42	12	0	...
,, 43	10	0	...
,, 44	9	0	...
,, 45	8	0	...
,, 46	7	8	...
,, 47	11	0	...
,, 48	7	12	...
,, 49	5	0	Trinidad
,, 50	8	7	...
,, 51	8	5	...
,, 52	7	0	...
,, 53	5	8	...
,, 54	7	8	...]

The Seed Trade.—Waite v. Swaine.—In this trial, in the Court of Common Pleas, reported at p. 71 of the news part of your paper, I think the Lord Chief Justice in his decision has established a bad precedent, and one which may give much trouble. According to the evidence of the defendant, it appeared "that the seeds supplied, particularly the Potato seeds, were of a different sort to those ordered, and of very inferior quality." In his judgment, the Lord Chief Justice said, "In respect to some of the items in the account, the seeds having altogether failed, the plaintiff was not entitled to recover; but as regards the seed, although the seed was different to that ordered, the defendant had received the benefit of its produce, whatever it was, and the plaintiff was entitled to recover its actual value." And thus it appears, that, let a seedsman supply whatever rubbish he may, he can recover its value in a court of justice. Now, in my opinion, this is wrong. Supposing I, tempted by the low prices of Dodge and Co., purchase sufficient seed of Ash-leaved Kidney Potatoes to plant an acre of ground, my intention being to clear them directly they are ready for market, and plant the ground for a second crop with Celery. But instead of the Potatoes being cleared by the middle of July, as would be the case with Ash-leaves, they prove to be Chapman's or Cambridgeshire Kidneys, and are not fit to dig until October. Then the crop, instead of being worth, say 10*s.* per bushel, only realises one-fourth of that sum, and I lose my crop of Celery also. Now in this case, instead of paying Dodge and Co. the value of their seed, I contend I ought to recover from them the difference in value between the late and early crop of Potatoes, and also the value of the acre of Celery (less the expenses of cultivation) which I should have had, if the Potatoes supplied had been true to name. What say you? *W. P. A., Blackheath.* [We say that you are right in justice, whatever you may be in law.]

Luminosity.—Among the primitive range of the Fichtelgebirge, so named from its Pine forests, in the centre of Germany, is a mountain called the Luchsberg. It appears as if composed of huge rounded fragments of granite lying piled one upon another in various directions, leaving deep cavernous interstices between, of great extent and profound darkness, owing not less to the overhanging rocks, than to the tall Pines that spring from their crevices. In the obscurer parts of these recesses, there is seen glimmering upon the damp soil, sometimes in considerable quantity, a number of luminous grains, of a colour resembling the greenish yellow of the chrysolite, but shining with a spontaneous lustre, somewhat between that of the gem and of gold. Its light varies from the moon-like character of the cat's eye, or the glow-worm, to the semi-metallic brilliancy of boracite. This beautiful phenomenon, to whatever substance it may be attached, accompanies any quantity of the moist earth of the cave, that may be gathered up in the hand; brought to the light of day it disappears, and the collector is left with a lump of worthless dirt, in place of the seeming jewel. Nor will its beauty, though it return for a while, prove of long duration, even when restored to its original darkness. The mystery is dispelled, the charm is broken, and, its hollowness once betrayed, the false light of the mouldering earth seems incapable of keeping up the delusion. The mysteries of mines and metals have, in Germany, been from old times associated with legendary tales of the supernatural power of gnomes and kobolds, who are supposed to guard them, and to punish in various ways the trespasses of avaricious man into their subterranean empire. What more mischievous, and at the same time morally appropriate revenge can they take upon the covetous intruder, than to entice him to a laborious search after gold which, with an irony worthy of Mephistopheles, they cause to turn to dust in the very hands that have gathered it? Applied to avarice, the lesson is the same as that taught by the story of the Dead Sea Apple as applied to pleasure, but the romantic humour of the German legend gives an additional zest to the truth of its moral. Luchsberg, the Lynx mountain, has an evident relation to the phenomena of phosphorescence; the name of the animal itself being probably derived from Lux, in allusion to the brightness of its eye, and so many Latin etymologies are discoverable among the languages of northern Europe, that this need not seem too far fetched. After all, what is this luminosity? Is it phosphorescent Moss or minute fungi, or does the rotten wood itself become luminous, like decayed animal matter, without the intervention of a subsequently developed vegetation? Is not the light of the *ignis fatuus* the spontaneous produce of decomposition? Any experiments that can be made upon, or researches into the nature of any sort of spontaneous light, not the produce of combustion, are highly interesting, and may, possibly, be eventually of great utility, in the hope of discovering the means of producing a sufficiently bright light for useful purposes without fire. *S.*

The Deodar.—I suspect that there are peculiarities connected with the habit of this tree, which have not hitherto been noticed, and which, if well founded, will reveal some interesting features relating to this noble conifer. Having only one specimen of age to indicate its true character, I beg to ask: 1st, is it generally known that the lateral branches do not attain the horizontal position until they are three years old? 2nd, that the pendant top changing its direction every year makes one complete revolution in three years, and so ascends like a screw? Perhaps some of your readers will obligingly answer these questions. *Eben.*

Early Leafing in the case of a Horse Chestnut.—I have sent you a leaf taken from a Horse Chestnut which is growing in Huntsmore Park. The tree which produced it is about 40 feet high, and about the same in diameter. For a good many years past it has never failed to bring forth fresh leaves about the 1st of March, and this year I observed some buds open in February. The frosty winds of spring often blacken and destroy a portion of the foliage, but in some seasons it escapes unhurt; it blossoms late, and has small flower spikes. It makes very little growth, and hardly ever ripens fruit, and it retains its leaves in autumn after other trees of the same kind are quite bare. The soil of the park is a black alluvial deposit on loose gravel, and is very warm and dry. *A. Dawson, Iver, Bucks, March* 2.

Polmaise Heating.—Your correspondent "G. W." appears to think that by adopting my arrangements the circulation may be found to be deficient; but I can assure him, that if the heating apparatus be kept low and well under the house, with a free ingress of external air passing under and over the stove, and allowed to ascend into the house and escape by perpetual ventilation, there will be no deficiency in that respect. With regard to the iron plate and clay covering, the first has stood the fiery ordeal for several years without flinching; as for the latter it might answer better than a brick arch, though not so durable. Indeed a pit or house might be Polmaised without either, by a common flue, provided it was kept well under the house in a hot chamber, communicating with the external air. *W. Fitzsimon, Catterick.*——Having read the articles in your late numbers relative to this system of heating plant-houses, I think it due to the subject to mention, that after visiting the late Mr. Meek's place, and studying his last improved plan of stove, I employed his builder to put up one for me in a conservatory, and subsequently had two others built by our village workmen, one in a Vinery, and the other for a hot stove house. All these stoves have been in use ever since, that is, three or four entire seasons, and with complete success. There was lately a slight escape of gas in the stove house, proceeding from a minute crack in the iron plates. This defect was easily remedied by placing a piece of flat sheet iron over the crack and covering it with fine sand, as the edges of the plate are, in order to prevent any escape of gas between the brick work and the hot plate. This liability of the iron plate to crack, is, in fact, the only imperfect part of the plan; of three stoves which I have in use, that of the hothouse, which has been in a heated state with few intermissions for some years, is the only one that has cracked. The mischief has not extended, and with proper attention in maintaining a moderate heat, I hope it will not. *Suburban.* — In sympathising with

the relative of the late talented and ingenious Mr. Meek, I beg to say that the Polmaise stove is too cheap, too simple, though unerring, according to the laws of nature, ever to get into vogue. Gentlemen will not judge for themselves, when manufacturers of expensive stoves clamour for profit. In a castle in Wales, I have three Polmaise stoves, the one in the hall is lighted inside, the other two outside the building. I purpose having another for the corridor. In one the cold air is admitted through a channel, immediately from the bottom, which, as well as the hot air chamber, faces a circular staircase, that is heated at the same time as the hall. It answers well, burning screened cinders, considered by servants partly refuse. My guide was Mr. Meek's plan in 1847, p. 153. The circulating hot-water apparatus is useless for private houses, expensive in fuel and attendance, and suitable only for public buildings, where no insurance can replace the contents, and where expense, trouble, and repairs are no annoyance. I had two of them, which were thrown away and replaced by the Polmaise stoves, which, after three years' trial, have exceeded my expectation, and will please all who admire simplicity. *Cæsar's Tribute.*

Victoria Regia.—It may be interesting to your readers to know, that the plant of Victoria regia, at Kew, has again commenced flowering, this being the third season of the same plant. It was placed in the tank in April, 1850, and produced its first flower on the 16th June, and the last on the 25th Dec. In 1851, the first flower opened on the 21st April, and the last on the 1st Jan. of the present year. During these two periods it produced, on the average, three flowers weekly. To-day (March 2), it has opened its first flower for the season, and the second and third flowers are seen in their respective stages; and, from appearance, we anticipate a succession of blossoms as hitherto. Amherstia nobilis has also been in flower. *J. Smith, Royal Botanic Garden, Kew.*

Fruit of Stephanotis floribunda.—A magnificent plant of Stephanotis, after being in constant flower from May to November, has formed both double and single specimens of its fruit, which have been forwarded to the Royal Gardens at Kew. At Feniscowles, where the fruit in question was produced, this beautiful climber has reached about 70 feet in length. *G., March 3.*

Fumigating Plant-Houses.—The use of Cayenne pepper for this purpose, was stated some 12 months back in a contemporary journal, but not having much faith in the plan I never tried it. A short time back, however, having no tobacco-paper, and not liking to give 4*s.* 6*d.* per pound for tobacco, I made an experiment of a small quantity of tobacco and Cayenne combined, and am delighted with the result. Choosing a damp still night, about two quarts of glowing fire was placed upon a wire sieve, and that was elevated upon three bricks in the pathway of the centre house (three being smoked at the same time) to increase the draught. Over the fire some nitre paper torn into small pieces was placed, then a handful of damp stable litter, and then the tobacco, which had been damped and thoroughly impregnated with the pepper. The quantity used was 6 oz. of tobacco and 2 oz. of Cayenne, the expense being about 3*s.*; and the houses were 90 ft. long, 16 ft. wide, and tolerably lofty. One hour after the fire was out, not a living insect could be found; and I am quite sure the tobacco and Cayenne did fully as much execution as when we used 7 lbs. of tobacco-paper at an expence of 10*s.* 6*d.* The Cayenne was a common kind, which I purchased at 8*d.* per ounce; but no doubt common Chillies would be better than adulterated pepper, and these I intend to grow for my own use this season. Thus you see "fumigators" are rendered useless; a very small quantity of tobacco with Cayenne is sufficient, and what is still better, the horrible stench of strong tobacco or tobacco-paper is got rid of; for with the small quantity used, the smell is driven quite off in 24 hours. Let me, however, caution the reader that the tobacco and Cayenne, in addition to destroying insects, are an excellent recipe to "catch a good cold," for myself, my foreman, and an assistant, had each to pay that penalty for our knowledge. I fancy the pepper fumes opened the pores of the throat and chest too much; and as, after inhaling it we were glad to suck in large volumes of cold air as a "cooler," we each got chilled in the same way. In fact, our throats were so much heated, that we were obliged to make three or four attempts to drink a glass of cold beer. It is however quite unnecessary to enter the house if the fire is properly lighted at the first start, and the paper, litter, and tobacco are damped at the time they are put on. If the sieve is placed near the door, then by opening it a little the draught is increased, and the necessity for entering the house entirely obviated. *Wm. P. Ayres, Brooklands Nursery, Blackheath.*

Vitality of Seeds.—Last summer, Miss Ingilby gave me a few seeds to sow, which, after a considerable time, came up, and proved to be the Dracocephalum canariense. They had been gathered by Miss Ingilby, at Brussels, in 1825, and have been kept in paper ever since, without any particular care being taken of them. *G. M. Elliott, Ripley Castle.*

Rain in Pembrokeshire.—I send you a statement of the quantity of rain, measured in two gauges at this place in 1851 (Pembroke Dockyard), one on the top of a tower 42 ft. 6 in. from the ground, the other 5 feet above it, both equally exposed. During the year 1850, the upper gauge received almost always the greatest quantity of rain, contrary to the received opinion and Mr. Phillips' experience with gauges on the top and at the foot of York Minster. (Mr. Williams' results in the Lake district cannot come into comparison.) As the upper gauge was 8 inches in diameter, and the lower one only 5 inches, it was suggested to me that possibly the larger area of the upper gauge was the cause of the greater quantity of rain caught in it; I therefore reversed the position of the two gauges on the 1st of April, and the result is still that the 8-inch gauge receives more than the lower. I intend on the 1st of April next to place them both side by side at the lower level.

Date.	Thermometer. Absolute Max.	Absolute Min.	Mean.	Average Max.	Average Min.	Mean.	Rain. 8-inch Gauge.	5-inch Gauge.	No. of wet days.
1851. January ...	55	30	42.5	49.2	39.8	44	42 ft. 6 in. from the ground. 7.201	5 feet from the ground. 5.290	30
February ...	54	23	38.5	48	36.6	42.3	1.084	0.948	16
March	51.5	26	40.2	49.9	36.8	44.3	4.280	4.316	28
April	59.5	29	44.2	53	37.1	45	5 feet from the ground. 2.593	42 ft. 6 in. from the ground. 2.045	15
May.....	68	29	48.5	57.7	42.3	50.2	1.234	1.042	14
June	80	36	58.	64.7	50.8	57.7	2.024	2.336	12
July	74	42	58	66.2	51.9	59	3.409	3.270	19
August.....	72	44	58	67.2	54.8	61	2.325	2.115	18
September *	71.5	38.5	55	63.2	46.7	55	1.084	0.904	6
October.....	61	27	44.5	57.2	47.2	52.2	3.553	3.411	23
November...	52	25.5	38.7	47.7	41.6	44.6	3.124	2.313	27
December...	55	24.5	39.75	47.20	39.12	43.16	1.156	1.246	17
Means	63.1	31.1	47.1	55.9	43.3	49.6	Total, 32.956 / Mean, 2.746	29.357	223

It will be seen that we have not had a very dry year. 223 days' rain was found in one or both of my gauges, besides which, on 15 days, water was found in the gauges to the amount of .059 inches deposited from fog or dew condensed on the sides of the funnels. It will be seen, that while most of the southern and eastern and midland counties were complaining of want of water, Pembrokeshire has had a larger share of rain in 1851 than in 1850. In the latter year the quantity measured was 23.650 inches; the number of days on which rain was found in the gauge was 182, being 7.506 inches, and 41 wet days fewer than in 1851. It is singular, also, that this year the very rainy climate of Windermere shows a curious difference in the number of wet days compared with Pembrokeshire; at Bowness in 1851 60.239 inches fell in only 179 days, being nearly double our quantity in 44 fewer days, while in 1850 at Bowness 64.284 inches fell in 217 days, being 40.634 inches more in 35 more days than we had here.

	Rain. 1850.	1851.	Wet days. 1850.	1851.
Pembroke Dockyard ...	23.650 ...	31.156 ...	182 ...	223
Bowness, Windermere...	64.284 ...	60.239 ...	217 ...	179*
Difference	+ 30.634	+ 29.183	+ 35	... — 44

The year 1851 has been colder at this place than 1850; but the mean temperature of the seasons has been singularly equable.

	1850.	1851.
Mean temperature of Winter	41.9° ...	43.76°
,, ,, Spring	47.73 ...	46.5
,, ,, Summer	59.76 ...	59.23
,, ,, Autumn	51.83 ...	49.6
,, ,, Year	50.6	49.62
December 1849 has been taken to find winter temperature for 1850, and of 1850 for 1851.		
Difference between hottest and coldest months	22.7° ...	19.4°
Ditto between summer and winter ...	17.86 ...	15.47
Maximum temperature, June 25.. ...	80° June 30,	80°
Minimum temperature, Jan. 16	23° Feb. 26,	23°

T. S. P.

Pruning the Young Forest Trees in Hyde Park and Kensington Gardens.—I have read many communications in your journal on the subject of pruning forest trees. I take much interest in it, and I have had some little experience. May I request any of your readers, who are fond of woodcraft, and who are advocates for or against pruning, to be good enough to take a walk in Hyde-park and Kensington-gardens, to examine the young trees in plantations in those localities. If they be advocates for pruning, they will see it carried out to the wildest extent, in some cases to the lopping away of almost half the tree, and in most, to great mutilation. Whoever may be the working manager of this, and I should like to know his name, he has kindly blackened over the various cuttings he has made, not to offend the eyes of those who walk there; as, I verily believe, in many instances, without such dressing, we should see trees with more gaping wounds than bark. I trust that most of your readers are much younger than myself, in which case they will now have the question about pruning, *i. e.*, wholesale pruning, practically decided. In the places I have named the good or the mischief is done; either those trees, mutilated by their guardians, cruel only to be kind, will thrive and flourish under the infliction, or they will not. I abstain from giving my opinion, as it would be of no value; but I should very much like to hear your opinion, or that of any practical man, after examining the plantations I have mentioned. *J. W. London.*

Strawberries.—"What is one man's meat is another's poison," seems to be true as to Strawberries as well as many other things. I recollect a lady who used to say that three Strawberries would poison her outright; that if she even eat one she should "swell as big as a house." She did try, and did not swell quite so large as she promised, but yet she was very ill. Now the Marquise de Créquy in her memoirs, speaking of Fontenelle, says, "il avait la plus grande confiance et la plus tendre estime pour les fraises." That, in fact, he always had a fever in the spring, and used to say "If I can only last out till Strawberries come in, I shall get well." He lived to the age of 99, and always attributed his longevity to a good course of Strawberries every season. This reminds one of the old monkish rhyme in favour of Sage—

"Cur moritur homo cui salvia crescit in horto."

Speaking of the medicinal virtue of Strawberries, I believe, in the old pharmacopœias, the seeds of the wood Strawberries were noticed as diuretics, at least I have seen them so recommended in some old MS. of domestic medicine. Recurring to Fontenelle, I assume that your readers are aware of the story told of him by Voltaire, that being very fond of Asparagus, which he liked dressed with oil, whilst a particular friend of his preferred them plain boiled; and having invited his friend to a feast of "the Grass," he had very honestly desired that half should be plain boiled for his friend, the other half being dressed in oil for himself. Whilst they were waiting ½ for the coming of dinner, Fontenelle's guest dropped down in an apoplectic fit, on which the first impulse of the host was to rush to the stairhead screaming out to the cook, "All in oil! all in oil!" Now Madame de Créquy rescues the fame of Fontenelle, and shows that when Voltaire told the story of him, it had happened to some other savant or gourmand some 50 years before. This story reminds one of that which appeared in the papers of a celebrated doctor now dead, who left his friend at a railway station in an apoplectic fit, because he had a party to dinner. *Dodman.*

North British Seedsmen's Association.—I am desirous to correct a statement which appeared at p. 100 with reference to this association. From the terms of the article referred to, it might be implied that many members of this association had withdrawn from it, and that it no longer exists. Will you allow me to inform your readers, that the association is in full operation, and that not one of the members has withdrawn from it. It is proper, however, to explain that, notwithstanding the success which attended the association at and for some time after its formation, it has not lately met with the encouragement which might have been expected. The principal difficulty arose from some of the influential Scotch houses in the trade, while they admitted the necessity for such an association, withholding their names on the ground that it could not work unless the London seedsmen would conform. And although often apprised of the existence and objects of the association, not one of the London houses has joined, but they have uniformly declined to become members, for reasons best known to themselves. The very excellent articles which have lately appeared in your Journal with reference to seed adulteration must have made the public generally aware of the enormous extent to which it is practised. The trade unfortunately have been too well aware of the practice for some time. It was to provide a remedy for this state of things, that the "North British Seedsmen's Association" was organised in June 1849. It was considered advisable for the interests of the trade, that the persons engaged in it should unite for the purposes generally of affording assistance and protection to each other, in all questions of commercial and legal difficulty, connected with their business, and particularly, if possible, to check and put an end to the nefarious practice of adulterating seeds for sale. In the pursuit of these objects, the association has been successful to no inconsiderable extent; but in order to realise all the advantages which are to be expected from its operation and influence, it is necessary that it should have the support or co-operation, as far as possible, of all engaged or interested in the trade. Much might be effected if every buyer of seeds made it a *sine qua non* that the party who supplies him with this article should, beyond the ordinary assurance implied in a fair price for a fair article, give further assurance of his sincerity in being or becoming a member of such an association. Were this acted upon the buyer would not only be attending to his own interest as a matter of private policy, but forwarding the general interest of the trade and the public, and the detestable practice of adulteration so prevalent and much complained of would soon cease to exist. I take the liberty of enclosing, for your information, a copy of the rules of the association, and will be glad to furnish you or any of your readers with any further information that may be desired with reference to it. *Geo. Smith, Secretary, 5, St. Vincent Place, Glasgow.*

* In ten months, the number in June and July not having been counted.

Societies.

Horticultural, *March* 2.—Sir C. Lemon, Bart., M.P., in the chair. Lady D. Nevil and M. Sneyd, Esq., were elected Fellows. Of subjects of exhibition, Messrs. Rollisson sent a small but curious form of Cycnoches, which was apparently new to gardens. It was stated to have been purchased at one of Mr. Linden's sales.—Mr. Blake, gr. to J. H. Schröder, Esq., contributed a nice collection of Orchids, consisting of exceedingly well cultivated plants of Cœlogyne cristata, covered with flowers; Ansellia africana; the white-blossomed Dendrobium Heyneanum, perhaps in better condition than it had ever been seen in before; a fine plant of Epidendrum odoratissimum, and one of the higher coloured varieties of Lycaste Skinneri. A Knightian Medal was awarded.—Messrs. Jackson received a Banksian Medal for Maranta sanguinea (?) a South American plant, which they have succeeded in flowering at Kingston for the first time in England. It requires a stove, and is valuable for its handsome foliage and the beauty of its flowers.—Messrs. Hayes, of Edmonton, sent two single fringed seedling Chinese Primulas. One had handsome, large, bright rosy purple flowers; the other was chiefly remarkable for its stiff dwarf habit and disposition to curl, which was strikingly observable in the leaves.—From Messrs. Veitch came a flowering branch of Acacia dealbata, cut from a standard tree 20 feet high, and about as much through, which is now blooming in great beauty in their nursery. It stands on Grass in their private ground, and is stated to be perfectly hardy at Exeter.—Messrs. Standish and Noble, of Bagshot, furnished on this occasion the first example of a new Sikkim Rhododendron in flower. It was named R. ciliatum, and is really very handsome, the flowers being blush, shaded on the outside with pink, very large for the size of the plant (which was scarcely 6 inches high) and well formed. The leaves were small, pale green, and covered with long hairs. It was mentioned that, owing to its dwarf habit and large blossoms, it would be valuable in the hands of the hybridist for dwarfing and giving a more desirable habit to some of our already existing kinds. The specimen sent had been forced, and therefore under out-door culture, if it should prove to be hardy, which is expected, the flowers will no doubt become deeper in colour. A Banksian Medal was awarded.—Mr. Atkins, of Painswick, Gloucestershire, sent a very handsome Cyclamen, the produce of a cross between C. persicum and C. Coum. It partook very much of the habit of the latter, while the flowers and leaves had the colour of persicum. A Certificate was awarded it.—A Ripley Queen Pine-apple, weighing 3 lbs. 3 oz., was communicated by Mr. Jones, gr. to Sir J. Guest, Bart.—Nice bunches of Black Hamburgh Grapes, just ripened, for which a Certificate was awarded, came from Mr. Mitchell, of Brighton, and "new yellow crowned" Seakale, from Mr. Prestoe, gr. to E. W. Blunt, Esq., of Kempshall Park.—The most remarkable plant exhibited, by far, was the Nepal Ash-leaved Berberry (Berberis nepalensis), from the Society's Gardens; the main stem, in this instance, terminated in a cluster of 6 spikelets (each nearly 6 inches long) of fine dark yellow flowers, which, if it should fruit in this country, will be succeeded by beautiful purple oblong berries. The leaves are of a yellowish green, large, and very handsome; and if the plant should prove to be hardy, it will certainly be a very great requisition to British gardens. It was mentioned that Mr. Fortune had met with a Berberry (not B. japonica) very much like it in China, and that another (the Acanthus-leaved Berberry) resembling it, but still very different, and probably handsomer, was to be found in the country about Ootacamund in the Neilgherries. The latter, which has round fruit (not oblong), may, however, be more tender than nepalensis, which comes from the more northern Himalayas.—The other plants from the garden consisted of a gaily flowered bush of Forsythia viridissima, Echeveria retusa, four kinds of Epacris, three Cape Heaths, Corræa Goodii, and Styphelia tubiflora, together with cuttings of the following fruit trees which were distributed to Fellows—viz. Reine Hortense Cherry, whose fruit is described to be large, of first-rate quality, and to ripen in July; Triomphe de Jodoigne, reported to be a good melting Pear, fit for use in December; Claygate Pearmain and Fifi Apples. The latter is described as being an abundant bearer, and likely to prove a good kitchen Apple; it was remarkable as a seedling of the Ribston Pippin, without a trace of the colour, form, or quality of that variety.

Books, &c., Received.

Murray's Reading for the Rail: Music, and the Art of Dress. A reprint from the "Quarterly Review" of two admirable articles, the latter of which both sexes of all classes may read to their profit.

Longman's Travellers' Library: Holcroft's Memoirs, written by himself. A well printed duodecimo of more than 300 pages, full of amusement and instruction for those who wish to know how a man "cradled in poverty, with no education save what he could pick up for himself amidst incessant struggles for bare existence," at last contrived to take his place among the most distinguished writers of his age. His anecdotes of horses are among the best on record.

The Farmers' and Cottagers' Guide. By Alex. Campbell. Fourth edition, revised and enlarged. Groombridge. (A pamphlet.) Although chiefly intended for Ireland, this may be advantageously perused by the gardeners of England, Wales, and Scotland.

Keith Johnson's Physical School Atlas. The same, General School Atlas. Blackwood. Small folio.—It is impossible to exaggerate the merits of Mr. Keith Johnson's works on Geography. They stand confessedly at the head of English books of their class. The two handsome and very cheap volumes now before us are admirably reduced from the larger works, so as to render them adapted to the purposes of schools. The maps are admirable specimens of drawing, printing, and colouring—clear and distinct—with no superfluity of places, nor any deficiency as regards those with which young people require to be made acquainted. Let us add that the letter-press is one of the most beautiful specimens of typography that has yet issued from the Scotch press. Every gardener's library should contain both volumes, or at least the first.

Home Truths for Home Peace; or Muddle defeated. Second edition. Effingham Wilson. 12mo., pp. 176.—The Muddles form a large family, of which we all of us know something, and some a great deal. Gardeners and farmers, with their servants, without being worse than others, abound in them. "Always doing, never done;" working like asses, struggling, striving, groaning, moaning, always behindhand, never in time, too late for one thing, too early for another; Turnips sown so early that they rot or run to seed, Celery so late that it has no time to grow; Grapes cut half ripe, Apples left to drop from the trees; everything when it should not be, nothing when it should be; tools out of place, or unfit for use when wanted; weeds overtopping flower beds, copsewood overtopping trees; gates without hinges, locks without keys, roads never mended till a cart is upset and a horse half-killed,—such are a few of the symptoms by which horticultural and agricultural Muddles are unmistakeably known. We recommend this little book to their careful perusal; for if anything can render them rational, and useful to those among whom they live it is it that will do so. We also recommend it not less strongly to those who experience the misery of muddling servants; it is exactly the book for a kitchen library, where there is such a thing.

The Solar System. By J. R. Hind. Orr and Co. 12mo. pp. 140. A part of these publishers' "Readings in Popular Literature."

The Constitution and Functions of the Coroner, &c. By J. Toulmin Smith. Trelawney Saunders. (A pamphlet.)

Observations on the Effect of the Californian and Australian Gold, &c. Bumpus. (A pamphlet.)

Thoughts on an Income Tax and on a Property Tax. By Thomas Gisborne. Murray. (A pamphlet.)

Memorial Regarding Amendments in the Scottish Poor-law, proposed by Dr. Alison, &c. Blackwood. (A pamphlet.)

Letters to John Bull, Esq., on Affairs connected with his Landed Property, and the Persons who live thereon. By Sir E. Bulwer Lytton, Bart. Eleventh edition. Blackwood. (A pamphlet.)

Garden Memoranda.

Belton Gardens, near Grantham, Lincolnshire.—There is at present in flower here a fine plant of the Large-headed Brownæa (B. grandiceps.) It is a native of the mountain forests of Caraccas, and of woods near Cumana, whence it was sent to Europe many years ago. The plant itself is not uncommon in English gardens; but it is seldom met with in flower. It is stated to have been a very shy flowerer at Belton, and it would be desirable to know the best mode of treatment for securing an annual show of bloom. The blossoms are produced in a short spike, tier above tier; every day witnessing the expansion of a new tier above those of the former days, till at last the whole mass becomes a large globe of crimson flowers. The foliage, too, is very handsome. The following statement respecting the cultivation of this plant is extracted from the "Botanical Register" for 1841, t. 30. "It should be grown in a damp stove. When the seeds are good they are easily raised if sown in light soil and plunged in a tan pit or hotbed. A rich free soil that will not get hard or sour is the best for its after growth. It is only in a large house that it can thrive well for any length of time, and be seen in its greatest beauty; and if it is planted out in the border, or in a large tub, with sufficient room for its leaves, it forms a magnificent object."

Messrs. Chandler's Nursery, Vauxhall.—Lovers of Camellias will be glad to learn that the extensive collection of this favourite flower, for which this nursery is celebrated, is now in full bloom. When we state that they form a bank, 160 feet in length, and some 8 or 10 feet deep, some idea will be gathered of the kind of entertainment which it may be expected a visit to so large a display will afford. Red kinds, as altheæflora, Chandlerii, Woodsii, imbricata, &c., are abundant and fine, and the old double whites have flowered better this year than usual, few of the buds having dropped, a circumstance perhaps to be attributed to the mild winter having caused less fire heat to be employed, and therefore to the air being more moist and congenial to the health of the plants. The whole collection is neatly arranged, and in excellent condition.

FLORICULTURE.

The Antirrhinum.—What characteristics of a useful flower does the Snapdragon not possess? Has it not a first-rate habit—ample foliage, and brilliant and well-contrasted colours? And is it not capable of being cultivated in pots? It has but one fault; and that is the freedom of seeding, which the Antirrhinum inherits beyond control; hence the little advance in point of form, which this flower has made for years; let us see whether or not it is incapable of "improvement." The flowers are produced on spikes, varying from say 10 to 20 inches in length, every tier of blooms decreasing in size as they approach the top, and the buds about the summit seldom expanding; yet, on all, or very nearly all, seed is formed, and from a single spike sufficient may be harvested to fill many villa gardens with plants the following year, for if sown when ripe, they make blooming stock by Midsummer. These innumerable seedlings overpower the cultivator, and arrest the onward march of improvement. Decapitate even but a few selected spikes, just when the lower blossoms are showing colour, and then allow only 3, 4, or 5 flowers to perfect themselves on each spike; this will give you a crop of enlarged blossoms, and the probable result will be a "packet of good seeds." Mr. Riley, of Huddersfield, has been engaged in the improvement of this flower; Mr. Pawsey has done, and is doing, much in regard to it. Mr. Dobson, we know, "likes it," and Mr. Lochner "grows a few examples of it;" and we are sure its capabilities only need be pointed out to enlist many in its cause. The requirements necessary to render it a favourite are brilliancy of colours; if party-coloured, then they should be well defined. The flowers should be smooth on the surface of both upper and lower lips, which must be also well rounded, of good texture and size; the colour of the tube, for the sake of contrast, should be white. Flowers that possess in some degree these properties only should be selected for seed-bearing, and with such the parents will soon be eclipsed. The progress will be the more certain if seed be saved from the best bloom that can be found, which, when chosen, should be the only one permitted to remain on the plant. *J. E.*

The Ranunculus.—Perhaps the following hints respecting the way in which I treat and successfully flower the scarlet and yellow Turban varieties may not be unacceptable, as in my opinion they merit a prominent situation in every flower garden, on account of the brilliant display they create at a season when such is most desirable; and they do not interfere with bedding out half-hardy plants. In preparing the bed for the reception of the roots, I remove the soil entirely to the depth of 18 inches, replacing it by a few inches of drainage, adding about 1 foot of rotten manure; on this I place about 6 inches of yellow loam (I do not incorporate the soil with the manure), I then rake it into a flat surface, allowing the bed to sink lower, if anything, than its edging, in order that it may the better convey water to the roots, which they require in liberal quantities during a dry season. I plant the third week in November, in rows 4 inches apart, with the dibble, inserting the roots with their prongs downwards; I then fill up the cavity with sand, raking the ground level, and gently patting it with a spade. As the blooming season advances I protect them at night by placing hoops across the bed, over which I put mats, to guard against sudden changes, as wind, frost, and rain; this I continue till they have done blooming, but in the day time I remove the temporary covering, unless the weather should prove unfavourable. As sudden showers are likely to occur at this season, the cultivator should be on the alert, or his blooms will be seriously damaged. In order to prolong the flowering season, I shade them during hot sunshine; by following the above directions, not one of my roots has failed to bloom. *John F. M'Elroy, Gardener to W J. Lancaster, Esq., Stamford-hill.*

National Floricultural Society. — The Anniversary meeting of this Society was held on Thursday last. Last year's officers were all re-elected except Messrs. Beck, Fairbairn, Gray, and Newhall, who retired from the Committee, and were replaced by Messrs. Dobson, Ivery, Cook, and Smith. From the Auditor's report (dated Feb. 13), it appears that the money in the hands of the Treasurer is 3*l.* 0*s* 10*d.*; and that on January 8th, subscriptions to the amount of 31*l.* 13*s.* were still unpaid.

Catalogue received from N. Gaines, Surrey-lane, Battersea; also the Schedule of Prizes for 1852, of the Hull, East Riding of Yorkshire, and Lincolnshire United Floral and Horticultural Society. *J. E.*

Cinerarias: *J H.* Belle of the Village is a lively purple on a white ground; Crusader, deep purple self. Both possess much to commend, but they were so "bunched up" in the lucifer box that we refrain from further particularising them; the light variety is the better of the two. *J. E.*

Exhibition Days Fixed. Derby: May 26, August 4; Hull: May 27, June 24, August 4, September 16. *J. E.*

Misc.: *J H F.* Not worth trial; let them flower, and then we should recommend you to replace them with fresh plants from your neighbouring nurseryman. Camellias may be retarded, but the flowers would be little esteemed in May. Carnations may be planted from the present time till April. We are now potting and planting 1000 pairs. *J. E.*

Miscellaneous.

Continental Climates.—It is a grand mistake to believe that any of our neighbours are much better than ourselves in that respect. If they be, it is more in the fact, that the order of the seasons is more regular, and that the particular character of the time has fewer variations than in England. So much is this the case, that we appreciate perfectly the distinction a foreigner once made to us—that England has weather, but no climate—meaning that every imaginable change is at all times possible, and that for four weeks of June sun and wind, we often are requited with a December that even Naples might envy. It may be set down as certain, that except in a few favoured spots along the shores of the Mediter-

ranean and in Sicily, our winters are milder than those of the Continent. A Paris winter is a vile compound of cold, slush, damp, fog, and foul smells. A Brussels one is all the preceding, plus sleet and storm. A German winter is an affair of stoves, double windows, fur mantles, and foot-warmers, frozen fountains, and no mail every second or third day. Italy has a dozen climates. Milan, all rain and wind. Turin both, in diminished degree. Florence alternates between an Irish January and a West Indian tornado. With the Sirocco, come fog, mud, and neuralgia; with the Tramontano wind you have falling pottery and pleurisies. Rome is Ireland with a Pontine fever; and Naples is all that sun and wind can make it. The autumns are uniformly fine abroad, finer and less changeable than in England. As for spring, it only exists in "Thomson's Seasons." The continental summers are almost unexceptionably good. In mountain districts there are certain periodical rains, but they rarely last long, or cause much inconvenience. An English invalid has few valid reasons for leaving his own shores, save such as the change of scene and the novelty of travel suggest. Pisa, it is true, offers some advantages to the weak chested; but then the whole available extent of Pisa is the quay along the Arno. Away from this, you encounter cutting winds and cold blasts, and all the rigours of a northern winter. There are a few secluded nooks along the Mediterranean, such as Nestre and Spezzia, which combine the advantages of sea-air with all the luxuriance of a tropical vegetation. *Dickens's Household Words.*

Orchids.— A few fine plants of Vanda cærulea just imported were sold by Mr. Stevens on Tuesday last. They fetched from *1l. 1s.* to *3l. 15s.* per lot, each consisting of several plants.

Calendar of Operations.

(For the ensuing week.)

GENERAL REMARKS.

In carrying on the several departments of gardening, whether on a large or small scale, a classification of the different kinds of work should be made, and a corresponding number of hands allotted to each department. A little practice will soon enable a workman to become expert at any certain description of work; and, consequently, enable him to do more than if employed indiscriminately at various things. By a judicious subdivision of labour, gardening, like other businesses involving various kinds of work, will proceed, even in pressing seasons like the present, with regularity and dispatch.

PLANT-HOUSES.

In addition to the plants now undergoing potting, a large number will necessarily be left, not requiring that operation at this season; it will, however, be requisite to examine, if possible, the roots of such plants as to their drainage and general conditions; one great cause of plants dying suddenly is owing to the soil in which they grow becoming impervious to water. This is more frequently the case with plants grown in peat. Care should, therefore, be taken at this time to make the balls sufficiently porous, either with a small iron rod or blunt pointed stick, that the water may pass freely through them, and equally moisten the whole mass of roots. In making the holes be careful not to injure the principal roots. After this the pots or tubs in which the plants are growing may have a surfacing of fresh compost; although in growing most plants into specimens, pruning may not be required at any one particular season, as the plant's growth should be constantly watched, and coaxed into the desired shape, yet, a number of things will require some kind of annual pruning, and which should always precede the new growth.

FORCING DEPARTMENT.

Vinery.—The Muscat, Cannon Hall, and one or two other kinds of Grapes, oftentimes produce irregular bunches, through imperfect fertilisation of the berry. The pollen, being attached by a viscous secretion to the anther, can only disengage itself when the atmosphere is both warm and dry; the flowers, as well, are frequently too thick on the bunches to expand properly; in this case a partial thinning of the bloom-buds before flowering is attended with benefit. This, with a dry temperature of not less than 70°, will obtain the desired end, especially if assisted by artificial fertilisation. Keep up a steady heat in the early house, taking advantage of sun heat by closing the house rather early, and keeping the necessary internal circulation up by contrivances independent of the sashes; as the berries will now be swelling, moderate watering should be given to the borders inside the house; if these borders are well drained and in an exhausted state, very liberal quantities of manure-water, weakened by the addition of warm water to bring it to about 75°, may be given with safety. The inside borders of Vineries now commencing work, should have a similar soaking, leaving, however, the principal manure waterings to the time when more active growth has taken place. The second house will require the precautions we gave in former calendars, when they get into bloom, and the necessary training and stopping be given to this house, and those which are a stage or so later. The shoots of Vines after this time (particularly if they are vigorous) will often grow themselves off. If such is likely to occur, the shoots should be gently bent a trifle each day into their proper form, doing it when the sun has the greatest power, at which time the shoot will be most pliable.

Peach House.— Proceed gradually with thinning the young fruit and shoots. It is generally the practice to leave the final thinning of Peach trees till after stoning, to allow for some dropping off at that critical period of forcing. We are inclined to believe that this having more on the tree than Nature can carry on to perfection, is the principal reason why so many frequently fall at that time, and therefore advise only a few more to be left than will ultimately be required for the crop. The second house will now be setting the fruit. The early house should be well syringed in the afternoon of each fine day. Watch for green-fly; and keep the floors, &c., of forcing houses of all kinds damp, particularly during bright days. Strawberries will enjoy this bright weather. Pay attention that the supply of water is regular. Whenever a sufficient number of flowers are set to form a crop, take off the remaining blooms; this will both quicken the period of ripening, and add materially to the size of the fruit. In the number to be kept, be guided by the sort of Strawberry and size of the pot. Bring on regular successions of plants to succeed those now swelling of their fruit.

FLORISTS' FLOWERS.

We would advise our friends, who intend to try the experiment of growing Pinks in pots, immediately to get their plants in the large pots for blooming. The soil, or compost, should be rich, rather heavy than light; being half-maiden loam, with a fourth very rotten manure, and a fourth leaf-soil, and river sand. To our certain knowledge they are well grown thus in the vicinity of Edinburgh; and for the last two years the prizes given for Pinks by the Caledonian Horticultural Society have been gained by flowers which had been cultivated in pots. It will be advisable now to go carefully over the Tulip bed; there will be a few weeds to remove, and the soil should be carefully stirred, so that cracks may be filled up, and the earth made moderately fast about the neck of the rising plant. Hollyhocks should now be planted out. Strong roots of last year's growth should have their shoots (which are now apparent) reduced to three; those which are taken off, if inserted in small pots, in sandy loam, and placed in a gentle bottom heat, will soon strike root.

HARDY FRUIT GARDEN.

As frosty nights are now common, the protection of wall trees will require great care. Of course, if canvass or other screens are used on rollers, to let up and down, they must be drawn up each morning. Nettings, &c., are generally fixed, and should not be brought nearer the face of the wall than 2 feet, except towards the top; this will permit the air freely to the trees, and act equally well as a protection. Where the trees are only covered with Evergreen spray or branches of the Beech, the stems of Standard Apricots, Peaches, &c., should be protected by hay-bands or something similar. We feel convinced the prevalence of the Moor Park Apricot, and some others of our best fruits, to lose large limbs, arises in some measure from the sudden transition, at this season, from severe frost (at night) to hot sun during the day, causing a disruption of some portion of the vessels, conveying the sap upwards, and ending in the death of the branch.

KITCHEN GARDEN.

Premising the land is by this time prepared, the principal crops of Onions, Carrots, Parsnips, &c., may now be sown; and for after-transplanting Leeks, Savoys, Walcheren Broccoli, and Cauliflower, in a somewhat sheltered place. Sow Lettuce, Radishes, and small salading in small quantities, every fortnight through the season. Provided the present mild weather continues, the Cauliflower and Lettuce plants wintered in frames may be planted, selecting (for this) a warm place, or, where this cannot be obtained, plant them in drills 8 or 9 inches deep, and 2 feet apart; the ridges between the rows will afford them shelter, and may be levelled down as the plants advance; the Lettuce will not need the same depth of drill or distance apart. We generally practise this plan throughout the summer (for the facilities it affords for watering the plants), having a poor and dry soil to contend with. Plant out successional crops of Cabbage, including some red ones for pickling; Cauliflower, under glasses, will require surfacing and occasional waterings in dry weather. Peas and Beans, hoe between, and sow for succession. Asparagus beds should now be forked over, working the land fine, that the heads may come up straight. If manure was laid on the beds in the autumn, nothing more at this time will be required; if not, some very rotten dung may be forked in. A path alone between the beds is necessary, and therefore we see no motive for having deep alleys, and advise their being filled up with good compost, which will assist the plants; nor need the soil cover the crowns to a greater depth than 6 inches for any purpose. A number of things in this department will now require attention; and, in sowing and planting out the various crops, a knowledge of the demand for each, and the season when it is most required, must be constantly kept in view.

State of the Weather near London, for the week ending March 4, 1852, as observed at the Horticultural Gardens, Chiswick.

Feb. and March.	Moon's Age.	Barometer.		Temperature.					Wind.	Rain.
				Of the Air.			Of the Earth			
		Max.	Min.	Max.	Min.	Mean	1 foot deep.	2 feet deep.		
Friday.. 27	7	30.136	29.963	46	32	39.0	38	38	N.	.01
Satur.. 28	8	29.715	24.628	50	30	40.0	38½	38½	N.W.	.01
Sunday.. 29	9	29.872	29.749	43	24	33.5	39	38	N.W	.05
Monday 1	10	29.803	29.710	49	34	41.5	37½	38½	W.	.06
Tues. .. 2	11	29.850	29.749	49	19	34.0	38	39	N.E	.00
Wed. .. 3	12	30.203	29.957	45	19	32.0	37	38	N.E.	.00
Thurs... 4	13	30.538	30.312	46	15	30.5	37	37	N.E.	.00
Average		30.016	29.865	46.8	24.7	35.8	37.8	38.1		.07

Feb. 27—Hazy clouds; uniformly overcast at night.
— 28—Slight rain; cloudy; clear at night
— 29—Clear, overcast and cold; clear and frosty.
March 1—Fine; cloudy and fine; overcast.
— 2—Overcast; fine, clear and frosty.
— 3—Sharp frost; fine; very cold in afternoon; frosty.
— 4—Sharp frost; clear; bright sun; clear and frosty.
Mean temperature of the week, 6 deg. below the average.

State of the Weather at Chiswick, during the last 26 years, for the ensuing week, ending March 13, 1852.

March.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain	Prevailing Winds.							
						N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 7	49.0	32.5	40.8	10	0.10 in.	3	4	3	1	4	6	3	2
Mon 8	49.7	32.8	41.2	9	0.17	2	5	3	1	9	3	2	5
Tues. 9	50.2	32.2	41.2	7	0.47	2	3	2	2	3	7	3	4
Wed. 10	50.7	32.5	41.6	11	0.69	3	4	1	3	3	5	4	5
Thurs. 11	50.2	33.0	41.6	10	0.20	1	3	4	4	3	9	1	2
Friday 12	50.9	32.8	41.9	12	0.23	5	2	2	3	2	7	4	1
Satur. 13	50.6	34.8	42.7	11	0.30	—	2	3	3	1	6	7	4

The highest temperature during the above period occurred on the 9th, 1826—therm. 68 deg.; and the lowest on the 10th, 1847—therm. 7 deg.

Notices to Correspondents.

Amaryllids, &c.: *J T A.* The collection about which you inquire was sold by auction.‡

Bignonia cherere: *R A H.* To make it flower it must be grown with plenty of bottom-heat, such as a tan pit will give, and have a good deal of space to run in. The name, pronounced Kerere, is that which it is said to bear in Cayenne, whence it comes.

Birds: *Francesca.* Your bird is suffering from asthma, and no doubt caught a severe cold during its last moult. Let the regular food be Canary, Flax, and Rape-seeds. Discontinue the Hempseed immediately. In lieu of cold water, give him for two days new milk, boiled. By all means keep him in a cage, open at the front only. This will secure him from draught. At the end of a week administer a little raw, finely scraped rump steak, moistened with water; once daily, for three days. This will work a cure, and your little friend will soon regain his sprightliness and song. Do not give him too much green food.—*Louisa C.* The "living insects" you speak of are the cause of your bird's illness. Procure him a new mahogany cage, and destroy the old one immediately. Also carefully remove with the point of a fine needle every insect you can detect lurking amongst his feathers.—*R.* Use canary and flax, *only*; and discontinue sugar altogether. It is "trash" that causes the death of so very many birds.—*L J W.* Your bird's feet have been injured by dirt. Do not attempt to pick off the "round ball," without previously soaking the feet in warm water. After this, let the cage and the perches be kept thoroughly clean. Do not put your birds up for breeding till the middle of April.—*Florence B.* Your kind feelings are to be commended. No doubt, the bird *is* a hen, and if it be set free in a fortnight's time, it will be easily able to procure its living. As you reside in the country, there can be no difficulty in the matter. Your favourite will not wander far away.—*Rosa.* You must, on no account, do as you propose. The bath, at this season, is fatal to these birds,—bringing on cramp and other ailments. The food you are in the habit of using is quite correct; excepting the Hempseed,—which discontinue. If you want a first-rate songster, it will cost you three guineas. It is in vain for *you* to try and instruct your pupil. You must, so far as he is concerned, take the will for the deed. In a very few weeks, we shall go fully into the merits of these really valuable birds, and then we will enlarge upon what in this place is necessarily inadmissible. Keep your bird out of the reach of all draughts. *W. K.*

Books: *Alpha.* Both "Ladies' Botany" and "School Botany."

Boronia serrulata: *R A H.* It is evident that your plant was transferred unskilfully to a large pot, after its roots had become pot-bound. This is too common a practice; but we doubt your having a legal remedy. In all such cases it is advisable to turn the plants out of their pots, and examine their condition when first bought. The state of the roots will, however, hardly account for the final death of the plant.

Helleborus niger: *T M.* It is a dangerous poison, that is to say, the root contains one; but it is childish to be afraid of its hurting you. Who ever heard of the poor Christmas Rose, the glory of our winters, doing any harm to those who handle it?

Mushrooms: *Caultie.* We could not suspect your name to be misread, for that of *Caustic* is not in any way applicable to your style. But if your language is not caustic it is offensive, and such as we cannot permit you to apply to our correspondents. The writer of the Calendar is one of the most skilful practical men in the United Kingdom, or he would not have been selected for so difficult a task; and we cannot permit him to be assailed by those who are unacquainted with the commonest amenities of civilised society. No doubt Mushrooms may be grown well in many ways: but what then?

Names of Fruits: *W Noakes.* 1, Fearn's Pippin; 2, Scarlet Crofton.‖—*Z.* 1, Golden Knob; 2, probably Beauty of Kent; 3, some Apple only fit for cider; 4, Fearn's Pippin.‖

Names of Plants: *Alpha.* It is not a Juniper, but a Cypress—no doubt Cupressus sempervirens.

Onions: *Hardy and Son.* The seeds of "transmuted Onions from Shallots" grew well in the Society's garden. We observed that the produce was clustered, of various shapes and colours, but mostly tinged with red. The flavour was stronger than even that of the Blood Onion. They appear to be good keepers.‖

Orchard Houses: *J H.* The house is not in Farnham, but in a village near the town. Who said that Dodge, Shuffle, and Co. have a shop at Farnham? It is a good rule for all men never to defend themselves till they are attacked.

Seakale: *Q Q.* Fork in your manure between the rows of stools immediately after the cutting has ceased. The salt should be applied in April.‡

Seeds: *Clericus rusticus.* All the seeds require to be raised in a hotbed, and treated as *tender* annuals. They will not bear our summers.

Sulphate of Ammonia: *J. J.* Half an ounce dissolved in a gallon of water will be enough for Pelargoniums before they come into flower.‡

Transplanting Evergreens: *Q Q.* Much diversity of opinion exists as to the best time for performing this operation. In England we have found the best months for transplanting them to be September and October; but in Ireland, owing to the dampness of the climate, they may possibly be transplanted with safety in spring. If so, they should be removed just when their buds begin to swell.‡

Vases: *R A H.* Add Lysimachia nemorum (yellow), and Sedum Sieboldii (rose-coloured). If you cannot keep the Lysimachia damp, then you might substitute the common Heliotrope, or the dark purple kind called Voltaireanum, which does very well in the summer.

Misc.: *A Subscriber.* We supply the *trade* in sheets; therefore can only recommend you to apply to your agent.

*** As usual, many communications have been received too late, and others are unavoidably detained till the necessary inquiries can be made. We must also beg for the indulgence of those numerous correspondents, the insertion of whose interesting contributions is still delayed.

PERUVIAN GUANO.

CAUTION TO AGRICULTURISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

ANTONY GIBBS AND SONS, AS THE ONLY IMPORTERS OF PERUVIAN GUANO,

Consider it to be their duty to the Peruvian Government and to the Public again to recommend Farmers and all others who buy to be carefully on their guard.

The character of the parties from whom they purchase will of course be the best security, and in addition to particular attention to that point, ANTONY GIBBS AND SONS think it well to remind buyers that—

The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 9l. 5s. per ton, less 2½ per cent.

Any resales made by dealers at a lower price must therefore either leave a loss to them, or the article must be adulterated.

FOSSIL BONES AND PSEUDO-COPROLITES.

(FROM THE SUFFOLK CRAG).

EDWARD PACKARD AND CO., of Ipswich, having erected very powerful Machinery for the purpose of reducing these Phosphatic Nodules to a fine Powder, and being in the immediate locality of where they are found, are now prepared to supply them on the most economical terms, in any quantity, either Ground, Whole, or Dissolved in Acid. They form the cheapest source of Phosphate of Lime in the market, and are peculiarly eligible for manufacturing Superphosphate of Lime in conjunction with Bone.

Prices and every information connected with their use forwarded on application to EDWARD PACKARD and Co., Artificial Manure Manufacturers, Ipswich, Suffolk.

THE LONDON MANURE COMPANY offer the following Manures on the best terms, warranting every article strictly genuine:—Peruvian Guano, Superphosphate of Lime, Nitrate of Soda, Concentrated Urate, Peat Charcoal, Gypsum, Fishery Salt from Cornwall, also a constant supply of Salt for agricultural purposes; Linseed and Rape Cake, Peruvian Guano, warranted the genuine importation of Messrs. A. Gibbs and Sons, at 9l. 10s. per ton, or for 5 tons and upwards, 9l. 5s. in Dock. EDWARD PURSER, Sec.

40, New Bridge-street, Blackfriars.

MANURES.—The following Manures are manufactured at Mr. LAWES'S Factory, Deptford Creek:

Turnip Manure, per ton	... ...	... £7	0 0
Superphosphate of Lime	... ...	... 7	0 0
Sulphuric Acid and Coprolites	...	... 5	0 0

Office, 69, King William-street, City, London.

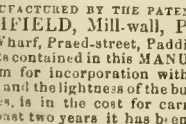
N.B. Peruvian Guano, guaranteed to contain 16 per cent. of Ammonia, 9l. 10s. per ton; and for 5 tons or more, 9l. 5s. per ton, in dock. Sulphate of ammonia, &c.

FARMERS AND GARDENERS are invited to try the NEW and VALUABLE MANURE, PEAT CHARCOAL, impregnated by pressure with the fertilising matter of the LONDON SEWAGE, the Ammonia, Phosphates, and Fæces being absorbed, and the water left bright and palatable. Sold at the Charcoal and Sewage Works, Stanley Bridge, Fulham, Middlesex, at 60s. per ton, 4s. per cwt., and 2s. 6d. per half cwt.

TO AGRICULTURISTS.

OWEN'S ANIMALISED CARBON is now for Sale, at 2l. 5s. per ton in bulk.—This Manure has been introduced, with the most beneficial results, at St. Croix and the Mauritius, in the growth of the Sugar Cane, as proved by testimonials from the planters. The powerful fertilising properties of the Carbon have long since been acknowledged in Denmark, where it has been extensively used for agricultural purposes, as no less than 26,000 tons have already been sold. It is ready for immediate use, having no occasion to be ground, is equally as portable and diffusible as bones, and the low price at which it can be sold in this country must always be a paramount recommendation. *A liberal Commission allowed to Dealers or Agents.* For copies of the testimonials of its utility in this country, also for samples, apply to J. OWEN and Co., 3, Rood-lane.

Messrs. J. OWEN and Co. are now importing from their Copenhagen Manufactory SUPERPHOSPHATE OF LIME, of the very best description, containing at least 18 per cent. of Neutral Soluble Phosphate of Lime, and capable of furnishing at least 3 per cent. of Ammonia to the Soil. The "Analysis" is made by Professor J. THOMAS WAY, Consulting Chemist to the Royal Agricultural Society. The price, in London, of this powerful Manure, is 7l. per ton, cash, or Banker's Bill on London.



KOPROS,

PATENT MANURE FOR CORN AND OTHER PLANTS,

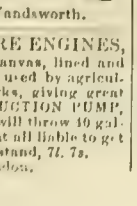
MANUFACTURED BY THE PATENTEE,

J. M. BLASHFIELD, Mill-wall, Poplar; and also sold at No. 1 Wharf, Praed-street, Paddington-basin.—The mineral ingredients contained in this MANURE are in the most perfect soluble form for incorporation with the soil, and for continuous action; and the lightness of the bulk, when compared with other Manures, is in the cost for carriage greatly in its favour. For the past two years it has been applied to various soils and plants with very general success. Since then improvements have been made in concentrating its most important elements, and in otherwise rendering it a very efficient artificial manure, rich in ammonia, phosphates, and silicates. Price of Patent Kopros for Corn Plants, 8l. per ton; for Turnips, Swedes, &c., 6l. per ton.

Superphosphate of Lime, for Turnips, Swedes, Mangold Wurzel, and other Root Crops.

FOUNTAINS FOR PLAYING SCENTED WATERS.

PURE WATER raised to any height from a small stream, where a fall can be obtained, by



FREEMAN ROE'S

IMPROVED RAM;

Deep-well Pumps, Water-wheels, Baths, Hot-water Apparatus, Fountains, and Fire Pumps. Towns supplied with Gas or water. Drawings and Estimates made.

FREEMAN ROE, Hydraulic and Gas Engineer, 70, Strand, London; and Bridgefield, Wandsworth.

HOSE FOR LIQUID MANURE, FIRE ENGINES, or GARDEN PURPOSES, made of Canvas, lined and coated with Gutta Percha. It is exclusively used by agriculturists, and at the Government Public Works, giving great satisfaction. Also, KASH'S FORCE and SUCTION PUMP, which is the most simple and complete; it will throw 40 gallons per minute, 40 feet high, and it is not at all liable to get out of order. Price, 5l. 10s.; on wheels and stand, 7l. 7s.

BURGESS and KEY, 103, Newgate-street, London.

THERMOMETERS.

HENRY BAKER'S (90, Hatton Garden, London), List of Prices. Every instrument made by him warranted accurate.—Vertical self-registering THERMOMETER, for heat and cold, of the best construction, and not liable to get out of order, 14 inches high, in copper case, 1l. 5s; in japan case, 1l. 1s., and 1l; 10 inches high, in copper case, 1l. 2s.; in japan case, 18s. Horizontal Thermometers for registering the extreme of cold only, 4s. 6d.; Hot-bed Thermometers, in oak frames, 1l. 1s.; copper frames, 1l. 5s. Thermometers for Brewing, Baths, &c., in copper cases, 14 inches, 7s. 6d.; 10 inches, 5s. 6d.; 8 inches, 4s. 6d.; in japan cases, 14 inches, 5s.; 10 inches, 3s. 6d.; 8 inches, 2s. 6d. Dr. Mason's Hygrometer, or wet bulb Thermometer, for showing the humidity of the air, with tables, ivory scale, 1l.; wood, 15s. An invaluable instrument in Hothouses, Sick Chambers, &c. Wheel Barometers from 1l. 1s. each, sent, securely packed, without fear of getting out of order.

AGRICULTURAL SEEDS.

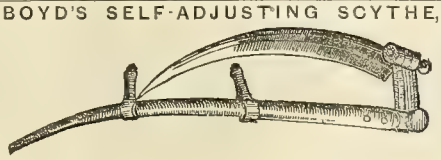
W. DRUMMOND AND SONS, SEEDSMEN, Stirling, Scotland, are now prepared to execute orders for the above, from a stock that has been selected with every possible care. They beg to call special attention to their various sorts of TURNIP, ITALIAN and PERENNIAL RYE-GRASS and NATURAL GRASSES for Permanent Pasture, the prices for which are as low as really genuine Seeds can be reared for. Catalogues, with prices and other details, may be had free on application.

N.B.—The Carriage of Seeds will be pre-paid to many of the principal Railway Stations and Shipping Ports throughout the Kingdom.—Agricultural Museum, Stirling, N.B.

M'CORMICK'S AMERICAN REAPER.

BURGESS AND KEY, Agents, 103, Newgate-street, London.—Extract from Mr. Pusey's Report on the Agricultural Implement Department, Great Exhibition.—"Mr. M'CORMICK'S Reaper, in this trial, worked as it has since worked at Cirencester College, and elsewhere, to the admiration of practical farmers, and therefore received a Council Medal. Mr. Hussey's sometimes became clogged, as in the former trial at Tiptree, and therefore could not possibly obtain that distinction."—Price of Reaper, 25l.

BOYD'S SELF-ADJUSTING SCYTHE,



APPROVED BY PRINCE ALBERT, AND UNIVERSALLY RECOMMENDED BY PRACTICAL AND SCIENTIFIC MEN.

THIS SCYTHE, when out of use, shuts up like a knife. It can be adjusted to any angle in one minute (even by persons quite unused to the implement), without the assistance of blacksmith or forge. It may be used by amateurs as well as regular labourers, without fear of accident or injury, thus rendering Mowing an easy, safe, and economical operation.

To be had of all Ironmongers, Nurserymen, &c., in the Kingdom; and Wholesale and Retail at WM. DRAY and Co.'s Agricultural Implement and Machinery Warehouses, Swan-lane, London Bridge.—A liberal discount allowed to the Trade.

LINSEED AND CORN-CRUSHING MILLS.

E. R. TURNER AND CO., AGRICULTURAL IMPLEMENT MAKERS, IRON-FOUNDERS, MILLWRIGHTS, and ENGINEERS, St. Peter's Foundry, Ipswich, beg to call attention to the following varieties of their unrivalled ROLLER CRUSHING MILLS:—

	£	s.	d.
Roller Mill, No. I., for Linseed, Oats, Malt, &c. &c....	10	10	0
Do. No. II.	7	7	0
Registered Roller Mill, for Linseed, Oats, Malt, &c., and for breaking Beans and Peas	9	9	0
Do. do. large size, for Horse or Steam Power	13	13	0
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The Agricultural Gazette.

SATURDAY, MARCH 6, 1852.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY,	March 10—	Agricultural Society of England.
THURSDAY,	— 11—	Agricultural Imp. Soc. of Ireland.
WEDNESDAY,	— 17—	Agricultural Society of England.
THURSDAY,	— 18—	Agricultural Imp. Soc. of Ireland.

THE number of societies now in progress of formation, and the increasing public interest in the subject, may render some remarks on POULTRY EXHIBITIONS acceptable at the present time. The close connection between poultry and the cottage or farm also makes information desirable. It is, doubtless, pleasant and gratifying to receive silver medals and other premiums, not for their intrinsic value, but because the gainers of these honorary trifles have been the objects of much care, and often the pets of a whole family. But the good of a poultry exhibition is only partly seen when the medals are shown; and the pride of the successful exhibitor is among the least important of its effects—new and profitable breeds are pointed out and encouraged.

It has seemed strange that, while the French, Dutch, Belgian, Scotch, and Irish agriculturists made it a business to supply the London market with poultry and with millions of eggs, those in the neighbourhood of the metropolis viewed the subject with indifference, if not with contempt. But things are changed; and cocks and hens, viewed simply as pets 50 years ago, are now assuming importance; and among the most gratifying results of these socie-

ties is the destruction of the old idea that one fowl is as good as another. The most profitable breeds are sought after, and wherever good birds are exhibited, they are sure to be sold. Hertfordshire had been for years notorious for bad poultry. To remedy this, and before Exhibitions sprung up, the Earl of Verulam offered a prize of 5*l.* for the best Dorking cock and hen bred in the county. There was little competition the first year, and the prize was laughed at; nevertheless, the breed was sought, and now, at the annual agricultural meeting in September, Hertfordshire can show as good Dorking fowls as any county in England. Now, these fowls have eaten no more than the most worthless bird would have done, but they are worth twice as much as those they replaced. The difference in value is clear gain.

A gentleman in Wiltshire, largely engaged in farming pursuits, changed his breed of fowls three years ago, and has since openly declared he now always gets nearly one-third more for every fowl than he did before, and that in the local market there is no sale for the ordinary poultry till his own is disposed of. The fact that a good fowl is to be bought has created a demand. In other places, where eggs are much in request, the Hamburgh fowls, the real pencilled breed, are found profitable, as they never set. All this improvement is the consequence of poultry exhibitions, where the merits and properties of the different varieties are openly discussed, and practicians, theorists, buyers, and sellers, come in contact, to their mutual benefit.

Nothing has operated so much to the advantage of those interested in the subject as the clause making it imperative on all exhibitors to fix a price on their specimens. The purchaser sees what he buys, he forms his own comparisons, and learns more from one Exhibition than from all the books that were ever published.

The association between cattle and poultry is perfect, because those who keep the one have always conveniences for the other. Both belong to country life, and in an age like this, when the useful and profitable of every description is eagerly sought, a "show" gives at one glance that which unassisted research would labour at for years.

Many of the competitors are "fanciers;" that is, they cultivate poultry as an amusement, chiefly because from circumstances they cannot operate on a large scale. But another class see in it an auxiliary to a favourable balance-sheet, and it is to the latter class we would offer a few words of advice or explanation, as it may be taken. Most articles of consumption for the table have two seasons, both profitable; a premature one for production before the natural period, when prices are good because of scarcity, and a later one when quantity makes up the remuneration; but let it never be forgotten that quality much influences the value in the latter case. These two seasons in poultry may be thus divided,—scarce from the middle of March to the end of June; plentiful all the rest of the year. Hard poultry is never valuable; it must be young. Pains, then, should be taken to hatch out chickens in December, January, and February. Feed them well from the first; kill them at 14 or 16 weeks old, and they will pay well in the London market. This is well known and proved in Surrey, Sussex, and parts of Kent and Berkshire for fowls; and for ducklings in the neighbourhood of Aylesbury.

It would perhaps be unwise to attempt this on a very large scale, because fowls kept in numbers are very prone to disease; but let the cottagers' wives each have a walk, and let there be a stipulated sum for every chicken reared, and a small prize offered for the most successful poultry wife, and it will be seen that it is not so difficult to rear early chickens, and also that it is a profitable trade to do it.

In connection with poultry exhibitions, we should like to see money prizes for poultry the *bonâ fide* property of agricultural labourers; we are sure the wife would earn more by fowls, in the long run, than by field work, with all its disadvantages, and we think it would add to the comfort and well-being of the class. They would be better off in the world, and the labourer would have his home and children better looked after. If poultry is ever destined to play an important part in the food of the country, it is by this class that the large quantity will be bred.

To those who may not care to undertake the trouble of fatting, we would point out another profitable mode of keeping poultry. Let them breed carefully from the best and purest stocks: in all probability they will be successful in exhibiting, and we would refer them to the fortunate at the "midland counties" as to whether there be not a full and continuous demand, at lucrative prices, for good stock birds.

As in every other pursuit, success is only the reward of pains-taking; and unless it is intended to pay attention to the subject, disappointment will be the result.

It augurs sound advancement to the science of agriculture, when we have begun to discuss in good earnest the idiosyncracies of soils, as these are manifested by plants which grow upon them; for these are the ultimate tests of all our doings and conjectures. The paper by Mr. Harcourt, detailing his agricultural experiments, was certainly valuable as an effort to keep us in the proper track of investigation. As "Clitheroe," in his enthusiastic review of that paper, has asked us some questions which lie in our way, we willingly give our opinion on the interesting topics which he has thrown out for discussion.

We believe with Mr. Harcourt that the practice of agriculture, like that of medicine, will always be in a great measure empirical; but science will yet no doubt do much to illustrate experience. Vegetation will ever remain a mystery: the slight approaches which we make towards understanding the wonderful relations of a living plant to the inorganic world, only serve to reveal the wide gulf which separates our finite attainments from that which is beyond and past finding out. But the science of chemistry has thrown a flood of light on our practices, by making us familiar with the properties of those materials which are necessary for building up animal and vegetable structures; and we shall yet, no doubt, be laid under further obligations to it. Still, on the other hand, the causes of the diseases of plants are often very obscure, and the disturbing elements are also so connected and numerous that special influences become difficult to trace and distinguish. Some plants are exceedingly susceptible of an ill-regulated supply of the elements of growth, so that either excess or want may induce disease; the Wheat, at certain stages of its growth, affords a good instance, for its constitution appears to be nicely balanced and to be easily upset, under very opposite circumstances. What a vast complexity of conditions regulate and limit its productive powers! Almost every field has a scale of its own, and a line which cannot be crossed with impunity; excess of food is often as injurious as scantiness of supply, for in the case of the Wheat plant we must have special and peculiar care,

> "Lest being over-proud with sap and blood,
> With too much riches it confound itself."

The fact is as stated by "Clitheroe," "that, if night-soil or any other ammoniacal manure is applied to Wheat in the spring, say in April, it for a time seems to be of extraordinary benefit," but that through the consequent luxuriance of the blade the yield and sample of grain are always bad. In the moist climate of Lancashire Wheat is no doubt easier overdone with nitrogenous manures, than in the drier and warmer parts of England. As before pointed out, this holds true in regard to all the cereals, but especially of the spring or summer sown grains. This circumstance of cereals requiring less manure in the west than that which they demand in the east of England, acts in some measure as a compensation for the deficiency in ripening qualities of the former counties.

But, says "Clitheroe," "if the field is manured with night-soil previous to the sowing of the seed, the effect is extremely beneficial; and I am pleased to observe in your leading article a confirmation of my ideas, namely, that a manure which may be exceedingly valuable for a particular crop, if applied at one season, is comparatively worthless at another." Now, a number of well known and generally recognised practices indicate that the experiments of the laboratory must often lose the force of absolute truth when they are tested in the field; and we do not think the explanation needed is at all referable to the principles which govern, according to the season of the year, the successful application of manures entirely different in their composition, which we attempted to trace in the article referred to. We believe that this particular effect of night-soil, as being injurious when applied in spring, and beneficial as an autumn dressing, is partly due to a washing out from the soil of the ranker elements of luxuriance. We are quite aware that the absorptive powers of clay-soil may be stated as an objection to this view of the matter; but if "Clitheroe" had applied the usual dose of nitrate of soda to his Wheat in autumn, he would not have had to complain of its effect at harvest. We are also aware that the discussion of this question opens up a very wide field, in which science has done little as a guide; our practice here is quite empirical. The application of liquid manure is most powerful in its effects on vegetation when it is applied at the growing period; this is also true of all the more soluble manures, as nitrates and sulphates. It is from well-tried experience of the truth of this principle that Mr. Kennedy, at Myremill, has built tanks capable of containing an immense accumulation of liquid manure, which is to be distributed over the land only when the plants are in the condition to take it up. It is found that even argillaceous soils are not benefited much by liquid manure when it is applied in autumn. And a sudden application of ammoniacal manures to Wheat when its juices are in active circulation, when it will make use of all that is presented to it, will often prove destructive to its healthy functions.

There are other considerations which must not be lost sight of in this matter: when night-soil has been applied in autumn, it gives greater vigour to the Wheat, and the land becomes stocked with a much larger number of plants in spring; now on certain descriptions of land this will sometimes act rather unfavourably, by encouraging more plants than the soil can well support. If the land is of a light texture, the precocious promise of a flush in the early part of spring is seldom realized at harvest, and it would seem that the overcrowding of plants so far disturbs or interferes with their healthy functions, as necessarily to result in a waste of the means we employ to fertilise the land. The most economic form and manner in which manures should be applied to our different cultivated plants, is a subject of paramount importance, to which we can do no more at present than allude.

"Another fact," writes "Clitheroe," "in which theory and practice do not exactly square with each other, is in the use of lime and farm-yard manure for the same crop. The mixing of lime with putrifying matters has been much condemned in theory, but we are not satisfied if this is quite so bad in theory or practice as is commonly imagined. It is no doubt true that alkalies drive off ammonia, but they have the effect, under certain circumstances, of fixing ammonia when they are present in dunghills, by influencing the putrefactive process. For when these substances are in contact with putrid matters, the nitrogen is oxidated and nitrates are formed. The theory of nitrification is somewhat obscure, but the process of making nitre is well understood, it is merely inducing putrefaction in animal and vegetable substances, and in the presence of alkalies which determine the formation of nitric acid. It is worthy of consideration whether unslaked lime might not be used with advantage in assisting to change the waste matters of large towns into a more manageable form, without impairing their valuable constituents.

"Clitheroe" requests us to notice what he said about "Wheat night ripening, by being sowed after Barley." We do not profess to give an explanation of his experience in this matter, but, taken in connection with his land having been so much benefited by sand from the river, it indicates that its mineral condition is at fault; and the Wheat plant is thus rendered more susceptible of adverse influences than when the soil is better compounded. It would appear that there are certain limits up to which plants can dispense with certain elements that impart a sound frame or maintain healthy functions. The want of these mineral elements renders the balance more easily deranged, which is exhibited more readily in an adverse season, or through an extra supply of nitrogenous food. In a fine season the flaggy Wheat of the Lincolnshire fens is very productive; but how susceptible are the crops to atmospheric influences!

The communication of "Clitheroe" affords amongst other interesting topics which we cannot allude to, a fine illustration of what we have already said about crops requiring much less manure in the West of England. Manure appears to be little cared for in his quarter, for, as in Wales and Ireland, it is a "nuisance, and is not highly valued." We suspect his "neighbours" manage matters a good deal on the Rebecca system; like all others who farm in moist climates, he considers it a feat to raise cereals. His crops are good, however—"considering that we have here probably the worst climate in the kingdom for Wheat (50 or 60 inches of rain falling), I think the result of my experiments worth recording, seeing that my Wheat last year was ripe on the 12th of August, and the produce 50 bushels to the acre." Very good indeed.

> "He dwells on praises which he duly shares,
> And thus without a blush commends himself."

R.

THE TILLAGE OPERATIONS OF TURNIP CULTURE.

In order that we may appreciate the importance of the Turnip crop, we should consider it under three aspects —1st, as a cleaning crop, or in the relation it bears to the other crops as part of a rotation; 2d, as an alimentary crop, or as valuable for the amount of food it places at the disposal of the farmer for his animals; 3d, as a manurial crop, or important as the means of increasing the manure on the farm. I shall touch but shortly on the last two of these divisions at present, and in doing so attempt to answer these two questions—What addi-

tional number of cattle is a farmer enabled to keep from increasing his growth of Turnips? and what is the value of the manure from an acre of Turnips? It is calculated that an acre of Turnips of 22 tons will keep two cattle that will feed to 35 stones Dutch each for five months. And as it is considered that Turnips are more profitable when used in connection with some other substance, an addition of 6 or 8 lbs. per day of oilcake, or other auxiliary of equal value, for each animal, will enable the same quantity of Turnips to keep three animals. It is found, by a gentleman who has ample opportunities of arriving at such a result, that in the consumption of an acre of Turnips, the two cattle getting nothing else than Turnips and straw will consume 13 kemple of straw, or 16 stones of 22 lbs. each, and that each kemple produces one ton of dung. Hence an acre of Turnips produces 13 tons of dung at *5s.* = *3l. 5s.* The manurial value of the Turnip is estimated here wholly on the supposition that the straw would be quite valueless, unless the Turnip was employed as a means of reducing it to manure, or, in other words, that would be the manurial value of the Turnips if they were entirely eaten on the ground by sheep. When a farm is situated advantageously for the disposal of straw at a fair price, and the buying of manure with little carriage, the value of the straw becomes a most important item, and ought certainly to be taken into account by the farmer before deciding on what system of management he should adopt for supplying his farm with manure—whether by feeding or by selling straw, and buying manure. Having now seen the great value of the Turnip crop, we will proceed at once to the more immediate consideration of this day's discussion. For the proper cultivation of the Turnip crop, the soil ought to be thoroughly drained, pulverised, cleaned, and manured. These are the four essential points in the successful growth of the Turnip. The necessity of drainage will be readily admitted, and need not be further alluded to here; but in these days of high farming the proper working of the soil is far too often overlooked. As fat hides many blemishes in a premium bull, so it is thought by some that a heavy manuring will make up for defects in the working of the land. But there cannot be a greater mistake; one false step taken, one neglect in the proper tidding of the soil, in preparing it for the Turnip crop, will tell not only on that crop, but on all the succeeding ones of the rotation. One farmer who understands thoroughly the working of the land, will produce better crops with much less manure than another who is ignorant of the art. The working of the land shows the farmer's skill—the heavy manuring, his wealth. Both ought to be there; and when combined, form a powerful agent, which judiciously exerted, gives us the *beau ideal* of a good farmer. In prosecuting the subject, we shall suppose that we are going through the first rotation at the beginning of a lease, when the land is generally found to be unusually dirty. Always taking for granted that the land is either naturally dry, or has been thoroughly drained, the first thing to be done is to give to the stubble in the autumn, immediately after the white crop has been removed, a strong furrow in no case less than 9 inches deep, and as narrow as it is possible to make it, consistently with the proper position of the furrow, when turned over at 9 inches in depth; it should not be wider than 11 inches—theory says 12⅔ inches. It is better, however, that the furrow should be deeper than 9 inches; which can be accomplished by putting three horses abreast into the ordinary plough, or a stronger one made for the purpose, and going to the depth of 12 or 13 inches, if the soil will admit of it; or if there is not sufficient depth of soil, the field may be subsoiled. It is not found advisable to go so deep in some districts as to bring up any of the subsoil. I have never found any evil result from mingling a little of my subsoil with the soil, say about an inch at a time, when the soil was only about 9 inches deep; but on the contrary, throughout the rotation there has been a manifest advantage. In spring, whenever the ground is dry enough, the field should be cross ploughed, the furrows being as deep as to bring up all weeds that were buried in the autumn, but never deeper than the stubble furrow, as the new soil brought up in spring, not being exposed to the mollifying influence of the winter's frost will be very apt to cause annoyance in the after working of the land. After the furrows have been levelled down by the harrows, the break-harrows, drawn by four horses, should be put on. This I consider a most efficient implement for tearing to pieces the clods; and it can be used, where it would be impossible for the most improved grubbers to work, from their liability to being choked. The break harrow should be followed by a series of harrowings and rollings, when the weeds will be found to be well separated from the soil; and from their being in great abundance, should be raked together, carted off, and formed into a heap. The grubbers should then be set to work, and followed by the harrows and rollers, and the weeds gathered by women and carted off; it should be grubbed again the contrary way, and the harrowing, rolling, and gathering of the weeds repeated. It should then receive another furrow, and be harrowed, rolled, and gathered, by which time it will probably be found to be clean. I will not refer at present to autumn cleaning, as I think it would be quite impossible for the grubber to work well in land supposed to be so dirty as this is. It will be thought by some that there is much needless expense here, but there is nothing more than what is absolutely necessary, and the first expense will be found to be the least; for if the land is properly cleaned now, and a correct system of farming adopted afterwards, the same expense will never have to be repeated during the lease. If the field is not as dirty as in the case just mentioned, much labour will be saved by adopting a different process of cleaning. If the land is infected with small patches of knot Grass in different parts of the field, the first thing to be done, after the removal of the white crop in autumn, is to dig out the roots, with three pronged forks, made for the purpose, and to remove them from the field. This will prevent the separation of the knots of the roots, which would take place in the after tillage, and be the cause of a great deal of additional labour, as every knot would become an independent plant. The stubble furrow is then given, as before described. In the spring, when the land is thoroughly dried, the harrows are used to level the furrows, and the grubber is then wrought transversely to the winter furrow; and after the harrow and roller have done their part, what weeds remain are gathered and carted off. If the land is clean enough, and sufficiently pulverised, the drilling may be proceeded with immediately; if not, the field should be grubbed again, in the direction of the furrows, and harrowed, rolled, and gathered again. The grubber I use is the improved Finlayson's harrow, which I find does its work so well that I have considered it unnecessary to exchange it for any of the new varieties now recommended. Last summer I sowed Turnips on upwards of 30 acres which received no other preparation than that just described; and I never had my land better pulverized for the seed, notwithstanding the extreme wetness and openness of the previous winter. They had all been either summer-fallowed or green-cropped in the previous rotation, and were consequently not dirty. On one part there were a good many butter-cups which the grubber did not bring up as well as I would have liked, but they were all brought to the surface on drilling the land, and were gathered off after the drills were formed. About 25 acres of my land thus treated were clay of medium tenacity, on which I would not have attempted Turnips, had it not been thoroughly drained; I consider such management, indeed, far more advantageous to clay soils than to light Turnip lands; for generally it is when such soils are lying in the cross furrows, that they are injured by wet weather; and it is of the utmost consequence to have them drilled up as soon as possible after they are broken up from the winter furrow. Hence also they should never be wrought but in small divisions at a time, only as much being grubbed up from the winter furrows as will be one day's or at the most two days' sowing. The less the roller is used on them the better; and we will require its use the less, the drier we plough our land in the autumn, and work it in the spring. Another advantage derived from this plan of management is that the moisture in the soil, so necessary for the germination of the seed, is not allowed to escape so readily as when the land has been repeatedly ploughed. The land being now supposed to be clean and ready for the sowing of the Turnip, the first operation is to form the drills. This is done by some farmers with a double mould-board plough, and by most with the common plough. I generally attach to the land side of my plough a piece of twisted iron, 18 inches in length and 9 in width, which converts the common plough for the time being into a double mould-board plough. If an ordinary quantity of manure is put in the drills, they need not be made wider than 27 inches; but if a large dose is applied, it is better to make them from 27 to 30 inches; if the light manures above are sown, the drills should not be made so deep or so wide, if the land is thoroughly cleaned and pulverised before the Turnip is sown. The late Mr. Hunter, of Tynefield, found that he had always 3 or 4 tons per acre more when he made his drills from 24 to 26 inches than when they were made from 27 to 30 inches. The great objection to the drills being closer than 27 inches is, that horse labour cannot be employed with advantage. It is at least deserving of attention, whether, if the light manures are to be employed as extensively to the Turnip crop as recommended, it would not be more to the farmer's benefit to make the drills closer and the plants more distant from one another in the rows. *From an Address by Mr. M'Lagan, jun., of Pumpherston, Mid-Lothian, at a late meeting of the Highland Society.* [The remainder of Mr. M'Lagan's address will be given next week.]

Home Correspondence.

Dairy Management.—Your kind correspondent "Sarah H.," has quite eclipsed a certain person I have somewhere heard or read of, who had "losh gang lavie," *i. e.* enough and to spare of milk and cream for his wife and six apprentices from a ewe tethered on a village green; the only difference between him and your correspondent is that the former occupied a nook in this small island some half century ago, in the good old times, when witchcraft and superstition rode rampant o'er the land; when wrinkled old crones were welcomed to the cozie fire-side, that they might make auld crumie fill the milk-bowls to overflowing; and lest, unluckily denied the shelter of a barn or byre, they should, with a withering look, dry up the contents of the capacious udder. The latter, I trust, lives in a time when facts or figures are all that is wanted by the farmer, regardless of the evil eye with its cantrip power, which I trust is now closed in death; and, alas! the rank *Grass* now waves over the bosoms of its believers. But to the point about dairy management; your correspondent says that, "as a marketable produce I feel convinced it would never succeed in the north, as the farmers do not see enough for their money, as the bulk is considerably diminished by its solidity." Farmers in the north never buy butter; they sell it, and they care nothing about bulk, except at the end of harvest; and they reduce it to "solidity" as soon as possible. The scalding, ropping, skimming, and flopping, I pass over at present until I gain more experience in these important matters; but I would be glad if your correspondent would oblige a north country farmer with answers to the following queries: What breed are the four cows, and on what are they fed? Is 10, 15, or 20 quarts per day full milk, or how much do they give collectively? What quantity of milk and cream is considered abundance for a family of 17? and lastly, Is the milk used by the family before, or after it is scalded or skimmed? I have a reason for asking this last query, which I trust I can satisfactorily explain to you. We have got dishes, commenced scalding, and my good wife proposes that I should take the blue milk for my supper, instead of the delicious potful which I have long enjoyed. She says it is part of the management implied though not expressed; that is my reason for asking the question; but as there is to be a fortune made I quietly submit, only begging a few facts and figures to encourage me in my probation of self-denial. But how about facts and figures. In your Leader lately, you made the startling announcement that "the plain English farmer is not generally fond of figures," and you propose, with a view to draw agriculturists after you, occasionally to discard facts and figures, and mount and soar to the dreaming delightful realms of imagination, to jostle and elbow your way among the "hair-brained sentimental race." Well, all I have to say is, good luck attend you; only, after taking your occasional holiday among the gowany braes, you can have no objection to set soberly to work and give a plain English farmer a bit of a touch at addition or subtraction now and then; let me tell you we have too little of the former and too much of the latter at present prices. *J. C., Northumberland, Feb.* 11.

Taste of Swedes removed from the Milk.—As you expressed a wish to know how the flavour of Turnips was got rid of in the butter which I sent you, and which was made from the milk of cows fed, morning and evening, on Swedes, I beg to inform you and your readers that the only precaution adopted is, that the cream, before being placed in the churn, should stand in a room with a fire, and raised to the temperature of 65° Fahr. This prevents a tedious operation in churning, and, with ordinary cleanliness in the dairy, butter so made will never taste of Turnips. This is the whole mystery of destroying the flavour of Turnips in butter; an experience of a dozen years in a large dairy may be relied on. *Constant Reader.*

Winter Temperature of Open Ponds.—In a Leading Article, at p. 19, of the 10th of Jan., after an account of the effects produced on water by radiation, and the protection afforded to plants by the ice with which ponds are covered in winter, you go on to say that there are some circumstances under which water plants suffer greatly, and from a singular cause; but one which, when looked into, is sufficiently simple and intelligible. As you do not appear to have hit upon the true reason, allow me to quote a little further, and then give my reason for this singular effect. You say that "in a very fine but still night water is cooled less rapidly than the earth. Under such circumstances the bottom of the pond cools more rapidly than the surface; the plants become colder—in fact some degrees below the freezing point," &c. I submit that such reasons are inadmissible, for there would be an immediate upward current, which, as water is such an excellent conductor of heat, would immediately equalise the temperature of all the water above 40°, and stratified (if I may use the expression), above the water of this temperature, there would be another layer of water of equal but gradually decreasing temperature until it reached below 32°. The explanation I would offer is this: It is well known that if water is kept perfectly still, it may be cooled down considerably, or at least some degrees below 32°, without freezing; but the moment it is put in motion a portion of it is converted into a spongy porous ice, and the temperature rises to 32°. What may be the case in the rivers of the south of England I cannot say, but in the rapid streams of the north this process goes on on a very extended scale in severe frosts; the water in the still pools (before they are frozen), is cooled down to below 32°, and as soon as this cooled water reaches the next stream, precipitation (if I may so call it), takes place, and the spongy ice lays hold of every projecting pebble, which serves as a nucleus, in the same way as threads and bits of stick serve in the crystallisation of salts. After a severe frost, when followed by bright sunshine next morning, I have seen thousands of these bits of spongy ice rising to the surface of the water from the stones to which they had been attached. I have seen, after long continued frost, the course of a stream completely altered by this bottom ice (as it is called here); and I have also seen a weir with a wall of ice upon it of 3 feet high (raised in a single night) by the same cause. Now apply this to the bottom ice in ponds (but which, I must confess, I never saw); the night being calm, the water gets cooled below 32°, but then a breeze springing up, the water becomes agitated, precipitation takes place, and the plants serving as nuclei, become immediately clothed with this spongy ice, and the sun shining next morning, imparts so much warmth to the plants that the ice thaws in contact with them and rises to the surface. Of course, if the sun does not shine next morning, and the frost continues, the plants may be clothed with this coat of ice for a longer time. *T. G.,*

Clitheroe. [We cannot admit the soundness of our correspondent's explanation of the formation of bottom ice, or "ground gru." We are well acquainted with the statements of Arago and other writers as to the cause of this curious phenomenon; and after a careful consideration of the subject, believe that it is due to radiation, and not to any other cause. Bottom ice has been observed in ponds on perfectly still nights, when there was no breeze to agitate the surface of the water. The water in the pools between the rapids of rivers can hardly ever be still enough for the waters to fall below the freezing point and yet remain fluid; the temperature of water in such situations is not below 33°.]

Potatoes.—The importance of cultivating those sorts of Potatoes which, from their vigorous habit of growth, are least subject to disease, has induced us for several years (ever since the first general developement of the disease) to make many experiments as to the sorts most desirable, and the cultivation most suitable. Notwithstanding some conflicting appearances in the course of our experiments, we are fully satisfied: 1st. That early sorts generally suffer least from disease. 2d. That early planting ensures the largest crop, with less liability to disease. 3d. That removing the haulm immediately or soon after disease is manifested, generally prevents entirely the tubers becoming affected by the disease, without materially diminishing the crop, but that there is no advantage in digging up the Potatoes. 4th. That if the ground is in tolerably good condition no manure need be put in at the time of planting, and that if manure is considered necessary at that time it should be well-decomposed stable or farm-yard dung, and that in either case a top dressing of Peruvian guano or superphosphate of lime, raked in as soon as the haulm is 4 to 6 inches high, will increase the crop without increasing the tendency or liability to disease. 5th. That a change of seed Potatoes (or a change of soil) is productive of great improvement in the flavour and the bulk of produce. 6th. That the undermentioned sorts are the least liable to disease, (being of vigorous habit and generally ripe before the disease becomes prevalent) and are also of fine flavour, and with one or two exceptions very productive. Sorts of Potatoes especially recommended, after growing them in competition with a great many others in our sample ground: the prices will be reduced when larger quantities are taken of either sort. Soden's Early Oxford, and Early Tenweeks, the very earliest round Potatoes; Early Frames, rather similar; British Queen, one of the earliest and most prolific round Potatoes; Early American, fine flavour and cropper; Forty-fold, second early, excellent; Rylott's Flour Ball, (worthy of its name); Early Cockney, Fox's Seedling, Early Manley, all first-rate early sorts, but rather similar; Jackson's Golden Drop, very dwarf haulm, suitable for forcing; Early Ashleaf Kidney, a well-known early sort; Jackson's Improved Ashleaf, much more prolific; Fifty-fold Kidney, a most extraordinary cropper, and good Potato; Red Ashleaf Kidney, as productive as No. 387, and as mealy as No. 383, keeps well till the next summer; Walnutleaf Kidney, similar, but having rather rounder and shorter haulm; Early Shaw, oblong in shape, second early; Chesterman's Seedling, one of the greatest improvements in early round Potatoes, from propagation by seed; York Regents, first rate sort for the main crops, keeps well till spring; Dr. Nelson's Favourite; this is a Potato of superior quality, presented to us by the Rev. J. Nelson, D.D., certainly one of the very best: our stock this year is very limited. "Chinese" and "Russian" proved good sorts, but too similar to others. *Sutton and Sons, Reading.*

The Seed Trade.—Your correspondent "Veritas," (p. 140), might with justice have stated that the majority of your readers, on this, as well as on the other side of the channel, would cordially join in the *éloge* which your recent articles on this subject so justly deserve; and I am fully persuaded that, while you have served thereby, and that most materially, the interests of your numerous subscribers and of the public, those articles have also tended to promote the best interests of the fair trader. I cannot, however, but think that your correspondent is guilty of "general and exceptless rashness" when he denounces, at least by implication, the whole of the trade as equally guilty with "Messrs. Dodge and Co.;" while the particularity with which he details, not only the materials used in depreciation, but the entire process, would lead one to infer that he has taken part therein. Let us hope, if such is the case, now that conscience "which makes cowards of us all," has resumed its legitimate sway, that his connection, whether with "Messrs. Dodge and Co.," or with the competitors of that respectable house, has ceased, and that he will atone for the serious offence he has committed, by using every just effort to prevent the continuance of a practice by which the fair trader and the public are alike defrauded. In any event, the remedy suggested by "Veritas" is one that should be administered with extreme caution, inasmuch as I can scarcely imagine even "Messrs. Dodge and Co." so infatuated as to supply an article which would totally fail; hence, to say nothing of the "glorious uncertainty of the law," the probability is that the plaintiff would only recover for the difference in value between the crop *de jure* and the crop *de facto*, an amount which, in nine cases out of ten, would not suffice to pay the portion of costs struck off by the taxing-master. Dealing with a house on which reliance might be placed, would be far more effectual, and less costly; such can yet be found, notwithstanding the gloomy and too truthful picture drawn by "Veritas," and to point them out would seem to be the most effectual mode of serving the public, though it would be invidious to mention names, except as types of a class. *B., Gloucester, March 2.* [Our correspondent will, we hope, see, upon consideration, that it would be very unfair to the many most respectable seed-merchants, if we were to give the names he has added to his letter. We quite agree with him in opinion as to the high character of those houses; but to single them out would have the effect of doing a great wrong to others of equally high character; and that, we are certain, is not the intention of our correspondent.]

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

A Monthly Council was held at the Society's House in Hanover Square, on Wednesday last, the 3d of March: present, the Earl of Ducie, President, in the Chair; Lord Southampton, Lord Portman, Sir Charles Lemon, Bt., M.P., Sir John V. B. Johnstone, Bt., M.P., Sir Robert Price, Bt., M.P., Mr. Alcock, M.P., Mr. Raymond Barker, Mr. Barnett, Mr. S. Bennett, Mr. Brandreth, Captain Stanley Carr, Mr. W. G. Cavendish, M.P., Colonel Challoner, Mr. Druce, Mr. Garrett, Mr. Brandreth Gibbs, Mr. Grantham, Mr. Fisher Hobbs, Mr. Hudson (Castleacre), Mr. Jonas, Mr. Kinder, Mr. Lawes, Mr. Milward, Mr. Pendarves, M.P., Mr. Sanford, Mr. Thompson, Mr. Turner (Barton), Professor Sewell, Mr. Shaw (London), Mr. Villiers Shelley, Professor Simonds, Professor Way, and Mr. Jonas Webb.

George Parker Tuxford, Esq., of 246, Strand, London, was elected a Governor of the Society.

The following new Members were elected:

Painter, John, Burley-on-the-Hill, Rutlandshire
Ryland, Thomas, Great Lister-street Works, Birmingham
Crawley, John, Stockwood Park, Luton, Bedfordshire
Young, Francis Ayerst, Hawkhurst, Kent
Arkcoll, Thomas, Guestling, Hastings, Sussex
MacLundsborough, John, Otley, Yorkshire
Gibson, John, Pensher, Fence-houses, Durham
Rous, Capt. G., Grenadier Guards Club, Pall-mall, London
Macdonald, Major James H., Dancer's-hill, Barnet, Herts
Powell, John, 41, Threadneedle-street, London
Haycock, William, South-street, Huddersfield, Yorkshire
Cobham, A. C., Shinfield Manor-house, Reading
Bertinson, Richard, Thurlby, Bourne, Lincolnshire
Evans, James Eaton, Haverford-west, Pembrokeshire
Hubback, Thomas, Sunlaws-hill, Kelso, Roxburghshire
Burgess, William, 103, Newgate-street, London
Wilson, John, Erdington by Ayton, Berwickshire
Wood, Weston, North Cray-place, Kent
Webb, R. J., 53, Brompton-row, Middlesex
Smith, Joseph, The Oaks, Epsom, Surrey
Langton, W. H. P. Gore, Newton-park, Bath
Jones, Henry, Cynghordy, Llandovery, Carmarthenshire
Sidney, S., Thurlow Cottage, Clapham, Surrey
Sampson, Thomas, Winfield, Battle, Sussex
Heseltine, E., Blackheath-park, Kent
Fry, James Thomas, Baston, Bromley, Kent
Vallentine, Robert, Royal Agricultural College, Cirencester
Jollands, William, Bursdalls, Lindfield, Sussex
Wrench, Robert, King William-street, London-bridge
Smith, Rev. Samuel, Weedon-Lois Vicarage, Towcester, Northamptonshire
Richards, Edward P., Plasnewydd, Cardiff, Glamorganshire
Pratt, Frederick, Seddlescombe, Sussex
Wrench, John Money, King William-street, London-bridge
Smith, James, Lower Bakeham Farm, Egham, Surrey
Jarvis, Thomas A., Higher Bolberry, Kingsbridge, Devon
Abbot, William, Salcott, Maldon, Essex
Morgan, James Thomas, Dany Cruug, near Brecon
Woods, Rev. George, Shapwycke, Chichester, Sussex
Benson, George, Ludwycke-hall, Shrewsbury
Greaves, Richard, Cliff-house, Warwick
Woodward, Edmund, Chorley, Lancashire
Tiffen, Joseph, North Skirlaugh, Hull.

Finances.—Mr. Raymond Barker, chairman of the Finance Committee, presented to the Council the report of that committee on the accounts of the Society to the last day of the month just ended; from which it appeared that the current cash-balance in the hands of the bankers was 3224*l.*

Poultry Prizes.—Mr. Villiers Shelley, chairman of the Poultry Prize Committee, laid the following report before the Council.

"The Poultry Prize Committee beg to report the following recommendations to the Council.

I. That the following prizes be offered by the Society:

1. Fowls.

(1). To the owner of the best cock and two hens of the Dorking (white, speckled, or grey), Surrey, or old Sussex or Kent. 5*l.*
To the owner of the second-best do. do. 3*l.*
To the owner of the third-best do. do. 2*l.*
(2). To the owner of the best cock and two hens of the Malay, Cochin-China, or other Asiatic breed. 3*l.*
To the owner of the second-best do. do. 2*l.*
(3.) To the owner of the best cock and two hens of the Spanish, Hamburgh, or Polish breed. 3*l.*
To the owner of the second best do. do. 2*l.*
(4). To the owner of the best cock and two hens of any other pure breed. 3*l.*
To the owner of the second-best do. do. 2*l.*
(5). To the owner of the best cock and two hens of any mixed breed. 3*l.*
To the owner of the second-best do. do. 2*l.*

2. Turkeys.

(1). To the owner of the best cock and two hen turkeys. 4*l.*
To the owner of the second-best do. do. 2*l.*

3. Geese.

(1). To the owner of the best gander and two geese. 3*l.*
To the owner of the second-best do. do. 2*l.*

4. Ducks.

(1). To the owner of the best drake and two ducks of the Aylesbury or any other white variety. 2*l.*
To the owner of the second-best do. do. 1*l.*
(2). To the owner of the best drake and two ducks of any other good variety. 2*l.*
To the owner of the second-best do. do. 1*l.*

5. Guinea Fowls

(1). To the owner of the best cock and two hen Guinea fowls. 2*l.*
To the owner of the second-best do. do. 1*l.*

"II. That the following special suggestions be adopted:—

1. That the certificate form be similar to the general form hitherto used by the Society, making the requisite adaptations in its terms.
2. That the Poultry be subject to all general regulations of the Society's Shows, and be sent to and removed from the Show-yard at the same time as the other live stock.
3. That the Directors and Stewards of the Yard be requested to appoint a person specially to the Poultry Department.
4. That the coops for the exhibition of the Poultry be provided by the Society.
5. That the Honorary Director be desired, in his plan of the Yard, to include arrangements for the requisite accommodation of the Poultry."

This Report was adopted by the Council.

Entries of Stock.—Mr. Barnett, Chairman of the Limitation of Entries' Committee, laid before the Council the following Report:—

"The Limitation of Entries Committee, having ascertained the number of animals entered last year, by particular exhibitors, for the Windsor Meeting, consider the circumstances under which that meeting was held, and the large amount of entries of Live Stock made on that occasion, as having been exceptional from the ordinary case of other years; and they beg, accordingly, to recommend to the Council, that no change should at present be made in the established principles and practice of the Society, in reference to the entries at its Country Shows, until they have had given to them the further trial and experience of another year."

This Report was also adopted by the Council.

Vice-President.—On the motion of Lord Portman, seconded by Mr. Brandreth, Mr. Miles, M.P., of Leigh Court, was unanimously elected one of the Vice-Presidents of the Society, in the vacancy on that list occasioned by the decease of Sir Thos. Sherlock Gooch, Bart.

General Member of Council.—On the motion of Mr. Raymond Barker, seconded by Mr. Jonas, the Earl of March, M.P. for West Sussex, was unanimously elected a General Member of Council, to fill the vacancy on that list created by the transfer of Mr. Miles's name to the list of the Vice-Presidents.

Judges.—On the motion of Lord Portman, seconded by Mr. Thomson, the question of the best mode in which the nomination and selection of Judges for the County Meetings of the Society should in future be made, was again taken into consideration and resolutions adopted [a connected statement of which will be given in our next report].

Days of Show.—Mr. Milward having brought under the consideration of the Council the question of the period during which the Society's Show of Live-Stock at Lewes should be open to the public, and the days on which the animals should be brought to the yard and removed from it, it was carried, on the motion of Mr. Fisher Hobbs, that this question should be referred to the General Lewes Committee, with a request that they would report to the Council, at their next monthly meeting, the arrangements proposed for adoption under that head.

Veterinary College.—The Governors of the Royal Veterinary College transmitted to the Council a report of their measures and proceedings connected with the application of the grant of 200*l.*, voted to them by the Council in March last for one year. On the motion of Mr. Brandreth Gibbs, this report was referred to the Veterinary Committee of the Society, with a request that they report to the Council their recommendations on the subject at the next monthly meeting. Mr. Brandreth gave notice, that he should move, on the bringing up of the report, that the Council take into their consideration the question of the renewal or discontinuance of that grant for the future.

Essays and Reports.—Mr. Pusey, M.P., Chairman of the Journal Committee, transmitted to the Council a report on the number of essays and reports received by the 1st inst. (the latest day for their reception), in competition for the Prizes of the Society in that department. These documents were 28 in number, and included many interesting and elaborate papers. They were as usual referred to the Journal Committee for investigation into their comparative merits, and adjudication of their relative claims for the prizes offered in the several classes.

Specimens of Wheat.—The Rev. Professor Henslow and Miss Molesworth favoured the Council by the transmission of a further supply of specimens of Wheat for the Cereal Herbarium of the Society; for which the Council ordered their best thanks to be returned. At the request of the Council, Mr. Brandreth kindly undertook to superintend the arrangement of these specimens, on the same plan as the former specimens had been arranged under his care.

Agricultural Geology.—The Council accepted with their best thanks, the offer made to them by Mr. Trimmer, author of the Prize Essay on Agricultural Geology in the last number of the Journal, to deliver a Lecture before the members, at one of the weekly meetings, on the Practical Connection between the Results of Geological Action and their Influence on the nature of the Soil, and its Conditions for Farming Purposes. At the suggestion of Mr. Raymond Barker, the delivery of this lecture was arranged not to take place until after Easter, in order that a larger number of the members may be enabled to attend.

Hanoverian Agriculture.—Mr. Hudson, of Castleacre, placed at the disposal of the Society the correct series of the periodical publication of the Hanoverian Agricultural Society, transmitted to him every fortnight by that institution, as one of the honorary members; a favour for which the Council expressed to Mr. Hudson its best thanks.

The Council then adjourned to their weekly meeting on Wednesday next.

Miscellaneous.

Will Animals Pay for Purchased Food?—I reply—decidedly not, even with the very best management. I mean, if you leave out of the calculation the manure they leave; but if you desire to restore or maintain fertility, no doubt that feeding animals is the cheapest mode of obtaining manure; especially if the crops can be consumed on the land, without the cost of removal and recartage of the manure. Having, as shown by my balance-sheet, made much meat from purchased food, I am enabled to draw exact conclusions on this subject, and I find that my calculations correspond with those of other authorities. According to my calculations, it takes to make one pound of butcher's meat (beef or mutton),—

	Price of Food.	Value of Meat.
8 to 9 lbs. of linseed oil-cake to make 1 lb. net	7*d.* to 9*d.*	4½*d.* to 6*d.*
45 lbs. of Hay, 3*l.* 15*s.* per ton ...	1*s.* to 1*s.* 3*d.*	
160 lbs. of Swedes, 10*s.* per ton ...	8*d.* to 9*d.*	
8 to 9 lbs of Beans or Barley, 33*s.* per quarter ... ... to 9 lbs. of Rape-cake, 5*l.* per ton	6*d.* to 7*d.* 4¾*d.*	

I forgot to mention, that it takes 1-7th less to make a pound of pork; because, when we sell a pig, we sell its skin at the same price, whereas the skin of a bullock or sheep is sold as offal, and it weighs 12½ to 15 per cent. of the whole net weight. It takes about 7 pounds of Barley-meal to make one pound of pork, net dead weight. Mutton always sells as an average 15 per cent. higher than beef, and is therefore more profitable to raise; besides, there is less offal. A friend of mine, a close calculator, who on 1500 acres does not keep a bullock, says, "those who keep many bullocks will never want to make a will." I think he is right. These calculations always show the impolicy of Grass lands as intended for hay for feeding purposes. The loss of ammonia in hay-making must be enormous. I never make any now. The result of my experience in feeding is, that Rape-cake, at 5*l.* per ton, is our cheapest food; but, no doubt, when generally used, its price will approximate more closely with Linseed-cake, and thus diminish the advantage; although less palatable than Linseed-cake, it contains equal properties. When a farm has arrived at a certain state of fertility, it would be unwise to continue largely the purchase of artificial foods. The foregoing is a startling table! Especially when we add attendance, lodging, interest of money, and vital casualties. Of course, I do not infer that an animal would be fed entirely on one kind of food, which I consider injudicious. I have valued the hay and Turnips, not at the cost, but at the price for which they would sell if taken off the farm. Our ladies would hardly credit, when they sit down to dinner, that it takes 11 lbs. of Swedish Turnips to make 1 ounce of meat—yet such is the fact. Indeed, there are times when 100 tons of Turnips have not made 1 ounce of mutton. We often hear, and know, that during severe and stormy weather, large flocks of sheep have consumed whole fields of frozen Turnips, and actually come out leaner than they went in. Although this is not an uncommon practice, it is evidence of very injudicious management; the animals, for want of shelter and dry food, being in a constant state of diarrhœa. Under such mismanagement stock is ruinous; but the prices to which I have alluded have reference to stock well managed and sheltered. To allow extreme relaxation in the bowels of animals is to waste their food. Warmth, powdered chalk, or dry food will prevent this. I find, practically, that by placing my sheep, at night, on open boarded floors, they do remarkably well folded on the root crops during the day. The great advantage of being able to feed off the root crops on the land is very obvious. For instance, with 25 tons per acre of Swedes, the cost of

Pulling and stacking	£0	8*s.*	0*d.*
Carting	0	6	0
Cutting, scraping, recarting	0	11	0
Making into manure, carting out, turning over, recarting to land, spreading, &c. ...	0	15	0
Total	£2	0	0

Taking this as a rough, but approximate estimate, here are two rents gone, and the manure partly wasted by evaporation—besides loss of time. We need not wonder that there are few sheep farms to let in comparison with heavy lands; besides, the landlords' economy of buildings is an important consideration. *M. Michel's Second Paper.*

Increase of Pauperism.—The number of adult able-bodied persons relieved under the Poor-laws on the 1st of January, 1852, is shown in a return made to the House of Commons on Wednesday. This table is the best index we have to the condition of the labouring poor of the country. With want of employment the number of the adult able-bodied paupers increases most rapidly, while it decreases almost as rapidly with abundance of work, especially if food is cheap at the same time. The annual report from the Poor-law Board last year shows that the total decrease per cent. on the number of adult able-bodied paupers relieved on the 1st of January, 1850, as compared with the 1st of January, 1849, was 15.4; the 1st of January, 1851, as compared with the 1st of January, 1850, was 14.7. The return presented last week shows the decrease per cent. on, on the 1st of January, 1852, as compared with the 1st of January, 1851, 11.2. Comparing the number of adult able-bodied persons in receipt of relief on the 1st of January, 1852, with the number of the same class in receipt of relief on the 1st of January, 1851, it will be seen by the annexed table that there was an increase in three English counties, and a decrease in 39, reckoning the Yorkshire Ridings as separate counties; and as regards the Welsh counties, an increase in 5 and a decrease in 7. It may be well to look at the several counties, arranged according to their rates of decrease:

DECREASE PER CENT.		DECREASE PER CENT.	
Hereford	25.4	Durham	9.9
Leicester	21 8	Monmouth	9.5
Warwick	21 6	Cambridge	8.7
Nottingham	20 0	Suffolk	8 7
Surrey	19.1	Cornwall	8.5
Salop	17 9	Essex	8.3
Dorset	17.5	Huntingdon	8 2
Derby	17 4	Lincoln	8.1
Middlesex	17.0	Sussex	6.6
Devon	16.1	Somerset	6.4
Cumberland	15.2	Oxford	6 0
Nottingham	14.5	Worcester	5.0
Gloucester	14 2	York, W. R.	4.5
Norfolk	13.9	York, N. R.	3.7
Kent	13 2	Stafford	2.8
Lancaster	13 2	Bedford	2.4
Buckingham	12 5	Northampton	1.1
Wilts	11.7	Westmoreland	0.4
Hertford	11.4	Wales	4.8
Berks	11.3		
Northampton	10.5	Total decrease	11.2
INCREASE PER CENT.		INCREASE PER CENT.	
Chester	1.6	York, E. R.	2.3
Rutland	3.0		

Notices to Correspondents.

AMERICAN CHURNS: *Constant Reader.* The whiteness and softness of the butter is not the fault of the churn, but of the milk. How are the cows fed?

BONE-DUST: *Constant Subscriber.* Sow about 12 or 16 bushels per acre over the land before ribbing it to form the seed drills for Turnips. Or sow 3 cwt. of superphosphate of lime, *i.e.* bone-dust and sulphuric acid, in a similar manner, along with a half-dressing of dung.

CHARCOAL: *J M H.* We must inquire about prices.

FARM-BUILDINGS: *J P.* You will find the subject discussed by the best authority on the subject in "Blackie's Cyclopedia;" or you will find Ewart's book on the subject very useful. (Longmans.)

PERUVIAN BARLEY: *Clericus Juvenis.* An opinion was stated on this subject in No. 8, which we have no doubt is perfectly trustworthy. We add your note on the subject. "It seems to possess the highest malting properties, but owing to its increase of bulk in the process, 10 combs enlarging to 14½ coombs, and the duty being then levied, although subsequent contraction takes place to its original bulk, he extra sum paid unfairly for malt duty prevents the application of the grain to its proper use. A specimen of malt is enclosed."

SEEDS: *D D.* We do not understand your question. Is the land to be laid down permanently? and is it for a lawn or for cow feed?

SIR R. PEEL: *W H.* We are not aware; our impression is that there was no general reduction of rents on his estates, but that he offered to assist in the improvement of the land.

ERRATA: *Forking.* In page 107, *for* "1*l.* 1*s.* 8*d.*," *read* "1*l.* 6*s.* 8*d.* per acre;" *for* "yard lengths of iron piping," *read* "three yard lengths."

Markets.

COVENT GARDEN, MARCH 6.

Although the weather still continues cold, the market is well supplied with vegetables and fruit; but trade is dull. English Pine-apples are plentiful, considering the season. Hothouse Grapes are over, and foreign ones are a trifle dearer. The best English Pears fetch good prices. They still consist of Beurré Rance, Ne Plus Meuris, and Easter Beurré. Oranges are plentiful and good. Nuts are nearly the same as last quoted. Strawberries in small quantities continue to make their appearance. Carrots, Turnips, Cabbages, &c., are sufficient for the demand, and there is some fine Cornwall Broccoli in the market. Potatoes are generally good in quality. Lettuces and other salading are sufficient for the demand. Mushrooms are cheaper. Cut flowers consist of Heaths, Epacrises, Mignonette, Camellias, Roses, Acacias, Azaleas, Primulas, Hyacinths, Tulips, Lily of the Valley, and other forced bulbs.

FRUIT.

Pine-apples, per lb., 4*s* to 8*s*	Oranges, per doz., 1*s* to 1*s* 6*d*
Grapes, Lisbon, per lb., 9*d* to 1*s* 6*d*	— per 100, 3*s* 6*d* to 10*s*
Apples, kitchen, per bushel, 2*s* to 3*s* 6*d*	— Seville, per doz., 1*s* to 3*s*
Pears, dessert, p. doz., 2*s* to 6*s*	Nuts, Barcelona, p. bushel, 20*s* to 22*s*
Almonds, per peck, 5*s*	— Brazil, p, bsh., 12*s* to 14*s*
— sweet, per lb., 2*s* to 3*s*	Cobs, per 100 lbs., 80*s* to 100*s*
Lemons, per doz., 1*s* to 2*s*	

VEGETABLES.

Savoys, per doz., 10*d* to 1*s* 3*d*	Beet, per doz., 1*s* to 2*s*
French Beans, p. 100, 2*s* 6*d* to 4*s*	Parsnips, per doz., 4*d* to 1*s*
Broccoli, p. bunch, 5*d* to 1*s* 3*d*	Leeks, per bunch, 1*d* to 2*d*
— heads, each, 2*d* to 4*d*	Shallots, per lb., 8*d* to 10*d*
Asparagus, p. bundle, 3*s* to 8*s*	Garlic, per lb., 6*d* to 8*d*
Seakale, p. basket, 1*s* 3*d* to 2*s* 6*d*	Artichokes, Jerusalem, per hf. sieve, 9*d* to 1*s*
Greens, per doz., 2*s* to 3	Lettuce, Cab., p. score, 4*d* to 1*s*
Rhubarb, p. bundle, 6*d* to 1*s* 3*d*	Small Salads, p. punn., 2*d* to 3*d*
Potatoes, per ton, 45*s* to 80*s*	Horse Radish, p. bundle, 1*s* to 4
— per cwt., 2*s* to 5*s*	Mushrooms, p. pot., 1*s* to 1*s* 3*d*
— per bush., 1*s* 6*d* to 2*s* 6*d*	— per punnet, 9*d* to 1*s*
Turnips, p. doz., 1*s* 6*d* to 2*s* 6*d*	Sorrel, p. hf. sieve, 1*s* 3*d* to 1*s* 6*d*
Cucumbers, each, 1*s* 6*d* to 4*s*	Fennel, per bunch, 2*d* to 3*d*
Celery, p. bundle, 6*d* to 1*s* 6*d*	Savory, per bunch, 2*d* to 3*d*
Carrots, per bunch, 4*d* to 7*d*	Thyme, per bunch, 2*d* to 3*d*
Brussels Sprouts, p. half sieve, 1*s* to 1*s* 6*d*	Parsley, per doz. bun., 2*s* to 3*s*
Spinach, per sieve, 1*s* to 1*s* 6*d*	Mint, per bunch, 4*d* to 6*d*
Onions, p. bunch, 3*d* to 4*d*	Basil, p. bunch, 3*d* to 4*d*
— Spanish, p. doz., 1*s* 6*d* to 3*s*	Marjoram, do., 3*d* to 4*d*
Endive, per score, 1*s* to 2*s* 6*d*	Watercress, p. 12 bunches, 6*d* to 1*s*

POTATOES.—SOUTHWARK, MONDAY, MARCH 1.

The committee report that during the past week the supply constwise has been moderate, but a considerable quantity still coming by rail, and the trade more languid than the previous week, from the general inferior quality, the consumption is not half what it usually is at this period of the season. The following are this day's quotations:—York Regents, 65*s.* to 80*s.*; Scotch do, 60*s* to 70*s.*; Perth and Forfarshire Cups, 60*s.* to 65*s.*; Fifeshire do., 55*s.* to 60*s.*; Lincoln and Wisbeach, 50*s.* to 65*s.*; Kent and Essex, 60*s.* to 75*s.*

HAY.—Per Load of 36 Trusses.

SMITHFIELD, MARCH 4.

Prime Meadow Hay	72*s* to 78*s*	Clover	75*s* to 84*s*
Inferior ditto	65 68	2d cut	68 74
Rowen	60 63	Straw	26 30
New Hay	— —		J. COOPER.

COAL MARKET.—FRIDAY, MARCH 5.

Wallsend Riddell, 14*s.* 9*d.*; Wallsend Braddyll's Hetton, 15*s* 6*d.*; Wallsend Haswell, 17*s.*; Wallsend Hetton, 17*s.*; Wallsend Stewarts, 17*s.*; Wallsend Tees, 17*s.* — Ships at market, 120.

HOPS.—FRIDAY, March 5.

Messrs. Pattenden and Smith report that there continues a steady demand for all sorts, at firm prices.

Mid & East Kents	140*s* to 240*s*	Sussex	115*s* to 130*s*
Weald Kents ...	120*s* to 147*s*	Yearlings	90*s* to 110*s*

WOOL.

BRADFORD, THURSDAY, March 4.—The English wool market has been extremely dull during the preceding week, and only a limited quantity has changed hands. Prices of the heavier class have receded, and must now be quoted with the turn in favour of buyers. Fine wool continues in comparatively more active request, commanding late quotations; but the prices realised here are such as leave any profit on those current with the farmers entirely out of the question. Short wool and noils, being only produced in limited quantity, are a ready sale at full prices.

SMITHFIELD, MONDAY, March 1.

We have a few more Beasts to-day; however, the trade is cheerful, the weather being very favourable, and Friday's prices are well supported. Trade is very slow for Sheep; but the number being small, they are disposed of. Prices are lower for big long-woolled Sheep; choice Downs are making about the same as of late. We have but few Calves on offer, consequently they are rather dearer. From Germany and Holland there are 363 Beasts, 570 Sheep, and 115 Calves; from Scotland, 500 Beasts; from Norfolk and Suffolk, 2400; and 250 from the northern and midland counties.

Per st. of 8 lbs.—s d	s d	Per st. of 8 lbs.—s d	s d
Best Scots, Herefords, &c. ... 3	4 to 3 6	Best Long-wools . 3	6 to 3 10
Best Short-horns 3	2 — 3 4	Ditto Shorn ...	...
2d quality Beasts 2	8 — 3 0	Ewes & 2d quality 2	8 — 3 4
Best Downs and Half-breds ... 4	0 — 4 4	Ditto Shorn ...	...
Ditto Shorn		Lambs 0	0 — 0 0
		Calves 3	0 — 4 4
		Pigs 3	0 — 4 0

Beasts, 4144; Sheep and Lambs 20,870; Calves, 141; Pigs, 350.

FRIDAY, March 5.

The number of Beasts to-day is small; the demand also is very limited. However, the favourable weather enables us to retain Monday's quotations, and a fair clearance is effected. The supply of Sheep and the trade for them, as usual this time of year, is unimportant. It is with difficulty that Monday's prices are attained for the few on offer. There is more activity in the Calf trade, and in some instances a slight advance is realised. Our foreign supply consists of 97 Beasts, 180 Sheep, and 80 Calves. The number of Milch Cows is 140.

MARK LANE.

MONDAY, March 1.—The supply of Wheat from Essex this morning was very small, from Kent fair; good dry samples commanded the full prices of this day se'nnight, but out-of-conditioned parcels, of which the great bulk consisted, were with difficulty disposed of at our quotations. Foreign met a retail inquiry only, but in the sales made the extreme rates of last week were realised.—Fine Malting Barley sells readily at last week's prices, but the trade is dull for other descriptions.—Beans and Peas remain as last quoted.—There is a large supply of Oats, and factors hold firmly for late rates.

PER IMPERIAL QUARTER.	s. s.		s. s.
Wheat, Essex, Kent, & Suffolk...White	44—46	Red	40—42
— — fine selected runs...ditto	46—48	Red	42—44
— — Talavera	46—52		
— Norfolk, Lincoln, & York...White	39—44	Red	—
— Foreign	37—53		
Barley, grind. & distil., 26*s* to 29*s*...Chev.	31—35	Malting .	29—32
— Foreign...grinding and distilling	22—29	Malting .	—
Oats, Essex and Suffolk	19—21		
— Scotch and Lincolnshire...Potato	2 —24	Feed	20—22
— Irish .....Potato	20—23	Feed	19—22
— Foreign .....Poland and Brew	19—22	Feed	18—21
Rye	—	Foreign .	—
Rye-meal, foreign.....per ton	—		
Beans, Mazagan ... ..24*s* to 27*s*.....Tick	25—30	Harrow .	25—30
— Pigeon.....27 — 32... Winds	30—36	Longpod	24—38
— Foreign .....Small	22—30	Egyptian	23—25
Peas, white, Essex and Kent.....Boiler	32—34	Suffolk...	33—35
— Maple.....27*s* to 30*s* .....Grey	26—28	Foreign .	27—34
Maize .....White	—	Yellow ...	—
Flour, best marks delivered ...per sack	38—43		
— Suffolk .....ditto	29—34	Norfolk .	29—34
— Foreign .....per barrel	18—24	Per sack	32—36

FRIDAY, March 5.—The arrivals of grain this week have been moderate; the principal part of the foreign supply consists of Egyptian. To-day's market was thinly attended, and in the almost total absence of business, prices of Wheat must be considered as last quoted. The Flour trade is dull, but a sale of low qualities to some extent was made for export.—Barley, Beans, and Peas remain unaltered in value.—The Oat trade is very firm, and fine qualities bring rather more money.

IMPERIAL AVERAGES.	WHEAT.	BARLEY.	OATS.	RYE.	BEANS.	PEAS.
Jan. 24.....	39*s* 3*d*	28*s* 10*d*	18*s* 2*d*	27*s* 10*d*	28*s* 3*d*	28*s* 8*d*
— 31	39 10	28 6	18 2	27 6	28 11	28 4
Feb. 7.....	41 2	29 8	18 11	29 7	29 0	29 0
— 14.....	42 8	30 7	18 9	29 11	29 10	29 7
— 21.....	42 9	31 0	19 4	30 5	30 2	30 5
— 28	42 3	30 7	19 6	30 7	29 10	29 5
Aggreg. Aver.	41 4	29 8	18 10	29 4	29 4	29 3

Duties on Foreign Grain, 1*s.* per quarter.

ARRIVALS THIS WEEK.

	Wheat.	Barley.	Oats.	Flour.
	Qrs.	Qrs.	Qrs.	
English ...	3530	3370	2650	1770 sacks
Irish	—	700	5520	
Foreign ...	7910	1520	8930	3480 brls.

Fluctuations in the last six weeks' Averages.

PRICES.	JAN. 24.	JAN. 31	FEB. 7.	FEB 14.	FEB. 21.	FEB. 28.
42*s* 9*d*	...	...	...	...	...	...
42 8	...	...	...	...	...	...
42 3	...	...	...	...	...	...
41 2	...	...	...	...	...	...
39 10	...	...	...	...	...	...
39 3	—	...	...	...	...	...

LIVERPOOL, TUESDAY, March 2.—Notwithstanding the improvement noted in many of the English markets last week, we have no impulse from London this morning of sufficient importance to enliven the trade here to-day; still a moderate share of business was transacted in good useful qualities of Wheat, and all descriptions of this grain were held firmly at the rates of Tuesday last. Flour continued to meet a fair demand at the currency of this day se'nnight. Malting Barley and Malt were the turn cheaper; whilst grinding Barley remained steady in value. Beans and Peas in moderate request at late prices. Oats moved slowly at late rates, but Oatmeal was held for an advance of 3*d.* per load. Indian Corn on the spot met a retail sale; we had more inquiry, however, for floating cargoes, at full prices.—FRIDAY, Feb. 27.—Transactions in Wheat at our market this morning were unimportant, and prices remained nominally unvaried. Flour was in moderate demand, holders remaining firm. Barley and malt in fair request, the latter recovering the decline of Tuesday last

HARTLEY'S PATENT ROUGH PLATE GLASS,

FOR RIDGE AND FURROW ROOFS, GREENHOUSES, RAILWAY STATIONS, ENGINE SHEDS, MILLS, MARKET-HALLS, AND PUBLIC BUILDINGS GENERALLY.

For Conservatories, Public Buildings, Manufactories, Skylights, &c., &c.	1/8th inch thick.	3-16th inch thick.	¼ inch thick.
	s. d.	s. d.	s. d.
Packed in Crates, for cutting up of the sizes as Manufactured :— 30 inches wide and from 40 to 50 long ... Or 20 ,, ,, 50 to 70 ,,	0 6	0 8	0 10
In Squares, cut to the sizes ordered :— Under 8 by 6	0 4	0 6	0 7
8 by 6 and under 10 by 8	0 4½	0 7	0 8
10 by 8 ,, 14 by 10	0 5	0 7	0 9
14 by 10 ,, 1½ feet super., if the length does not exceed 20 inches	0 5½	0 7	0 9
1½ feet sup. ,, 3 ,, or if above 20, and not above 30 inches long...	0 6	0 8	0 10
3 ,, ,, 4 ,, ,, 20 ,, 30 ,,	0 6¼	0 8	0 10
4 ,, ,, 5 ,, ,, 30 ,, 35 ,,	0 7	0 8½	0 10
5 ,, ,, 6 ,, ,, 35 ,, 40 ,,	0 7½	0 9	0 10½
6 ,, ,, 8 ,, ,, 40 ,, 45 ,,	0 8	0 9½	0 11
8 ,, ,, 10 ,, ,, 45 ,, 55 ,,	0 8½	0 10	1 0
10 ,, ,, 12 ,, ,, 55 ,, 70 ,,	0 9	0 11	1 1
12 ,, ,, 15 ,, ,, 70 ,, 85 ,,	.....	1 0	1 2

Packed in Boxes of 50 Feet Each:

Ins. Ins.	Ins. Ins.	s. d.
6 by 4 and 6½ by 4½	... ...	10 6
7 by 5 ,, 7½ by 5½	... ...	12 0
8 by 6 ,, 8½ by 6½	... ...	13 0
9 by 7 ,, 9½ by 7½ and 10 by 8	... ...	15 0

Note.—Squares are charged according to the superficial contents, except where the length exceeds the restriction above, in which case the higher price is charged irrespective of the contents.

Bending.—1-8th, 6d.; 3-16ths, 9d.; ¼ inch, 1s. per foot, net.

*** *Irregular shapes are charged as squares.*

When Crates are ordered, the 30-inch widths will be sent, unless otherwise specified.

THE PATENT ROUGH PLATE, one-eighth of an inch thick, and weighing 2 lbs. to the foot, has now become an article of very extensive and increasing consumption.

It is universally admitted to be the best and most suitable Glass for Ridge and Furrow Roofs, Greenhouses, Factories, Workshops,

And all such like purposes, and is a cheap and efficient substitute for Fluted or Obscured Glass, where the object is to intercept the vision without diminishing the light. Its non-transparency, strength, and cost (being no more weight for weight than Common Sheet Glass), render it eminently suitable for the Glazing of Conservatories and Roofs of all kinds; Blinds are unnecessary, and when used in Greenhouses *no scorching occurs.*

Where still greater strength is required the 3-16ths and ¼ inch thick will be found much cheaper than the Common Rough Plate. Samples will be forwarded on application, by applying to

JAMES PHILLIPS AND CO.,

HORTICULTURAL GLASS MERCHANTS, 116, BISHOPSGATE-STREET WITHOUT, LONDON.

GLASS.

THOMAS MILLINGTON'S FOREIGN SHEET GLASS is far superior to any other manufacture, as well as cheaper. In 100 feet boxes packed for immediate delivery.

6 inches by 4 and	6½ by 4½	... ...	...	13s. 0d.
7 ,,	5 and 7½ by 5½	... ...	...	15 0
8 ,,	5 and 8 by 5½	... ...	...	15 0
8 ,,	6 and 8½ by 6½	... ...	...	17 6
9 ,,	7 and 10 by 8	... ...	...	20 0
12 ,,	10 and 13 by 9	... ...	...	20 0

And many other sizes, or cut to order in various thicknesses. Cases containing large Sheets, in 100, 200, and 300 feet, at 21s. per 100 feet.

ROUGH PLATE, perfectly flat, ⅛ in. thick, best manufactured.

In sizes under 15 inches	.....	6d. per foot.
,, ,, 35 ,,	.....	8d. ,,
,, ,, 50 ,,	.....	9½d. ,,
,, ,, 75 ,,	.....	12d. ,,

Milk Pans, 2s. to 6s. each; Metal Hand Frames, Glass Tiles and Slates; Cucumber, Propagating, and Bee Glasses; Wasp Traps, Glass Shades, and Plate Glass, at 87, Bishopsgate-street Without, same side as Eastern Counties Railway.—Established 100 years.

GLASS FOR CONSERVATORIES, GREENHOUSES, PIT FRAMES, ETC.

HETLEY AND CO. are supplying 16-oz. Sheet Glass, of British Manufacture, packed in boxes, containing 100 square feet each, at the following REDUCED PRICES for cash. A reduction made on 1000 feet.

Sizes.—Inches.	Inches.	Per foot.	Per 100 feet.
Under 6 by 4	at	1½d.	is £0 12 6
From 6 by 4 ,,	7 ,, 5 ,,	2d.	,, 0 16 8
7 ,, 5 ,,	8 ,, 6 ,,	2½d.	,, 0 18 9
8 ,, 6 ,,	10 ,, 8 ,,	2½d.	,, 1 0 10
10 ,, 8 ,,	12 ,, 9 ,,	2¾d.	,, 1 2 11

Larger sizes, not exceeding 40 inches long.

16 oz. from 3d. to 3½d. per square foot, according to size.
21 oz. ,, 3½d. to 5d. ,, ,, ,,
26 oz. ,, 3¾d. to 7½d. ,, ,, ,,

PATENT ROUGH PLATE, THICK CROWN GLASS, and PATENT PLATE GLASS for Horticultural purposes, at reduced prices, by the 100 square feet.

GLASS TILES AND SLATES made to any size or pattern, either in Sheet or Rough Plate Glass.

Propagating Glasses, Bee-hive Glasses, Cucumber Tubes, Glass Milk Pans, Glass Water Pipes, and various other articles not hitherto manufactured in glass.

PATENT PLATE GLASS.—The present extremely moderate price of this superior article should cause it to supersede all other inferior window glass in a gentleman's residence. No alteration connected with the sash is required.

GLASS SHADES, as ornamental to, and for the preservation of every description of goods susceptible of injury by exposure. Prices, since the removal of the excise duty, reduced one-half. List of Prices and Estimates forwarded on application to James Hetley and Co., 35, Soho-square, London.

GREEN AND HOTHOUSES, made by Machinery, at J. Lewis' Horticultural Works, Stamford Hill, Middlesex, warranted best materials, and the cheapest in England.—A List of Prices sent by enclosing two postage stamps.

HOTHOUSES, GREENHOUSES, ETC.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

E. DENCH, PATENT HOTHOUSE WORKS, King's-road, Chelsea.—The superior qualities in every respect of these Structures having been proved in all parts of the United Kingdom, has caused a greater demand for them than E. D. could execute; he has been obliged to have perfect and powerful machinery made to meet the numerous orders, and can now execute any amount of work to great perfection, with dispatch, and for quality and price to defy all competition. Patent Hothouses, with excellent glass 3 feet long by 1 foot wide, every front sash to open, and every top one to slide down, with pulley made of the same materials as the electric telegraph wires, which require no painting; delivered free to Wharf or Railway Station, at 1s. 2d. per foot super., complete, having been fitted, and every portion marked previously, making a Greenhouse 16 ft. 6 ins. long, 12 ft. rafter, 400 ft., 23l. 6s. 8d.; 24 ft. 6 ins. long., do. do., 526 ft., 30l. 13s. 8d.; 28 ft. 6 ins. long, 15 ft. rafter, 712 ft., 41l. 10s. 8d. Heating by Hot-water on the most approved and economical principles.

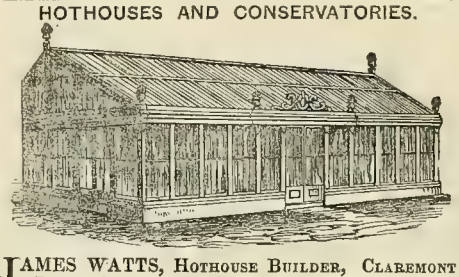
Patent Sashes for Pits and Peach Walls, &c., 7d. and 8d. per foot, super.

EWING'S PATENT GLASS WALLS.—The following are the Agents, and on application to whom drawings may be seen, and all other information obtained:—Messrs. Knight and Perry, Nurserymen, &c., Chelsea; Messrs. Henderson and Co., Nurserymen, Pine-apple-place, London; Messrs. Whitley and Osborn, Nurserymen, &c., Fulham, London; Mr. Glendinning, Nurseryman, &c., Chiswick, London; Messrs. Veitch and Son, Nurserymen, Exeter; Messrs. Dickson, Nurserymen, Chester; Messrs. Lawson and Sons, Nurserymen, Edinburgh; Messrs. Dickson and Turnbull, Nurserymen, Perth; Mr. M'Intosh, F.R.S., Gardener to the Duke of Buccleuch, Dalkeith; Mr. Fleming, F.H.S., Gardener to the Duke of Sutherland, Trentham, Staffordshire; Mr. Ewing, Gardener, Bodorgan, Anglesea; Messrs. Pilkington and Co., Plate, Crown, and Sheet Glass Works, St. Helen's, Lancashire.

These Walls can, when desired, be made wide enough for a person to enter, by which they become elegant hothouses on the best principle. Existing Walls covered with Glass and Iron.

FOR WARMING GREENHOUSES and BUILDINGS of all kinds, the new Registered HORIZONTAL GAS STOVE is perfect in its operation, free from smell, and cannot get out of order. Price 30s.—Stevens and Son, Darlington Works, Southwark Bridge-road, London.

HOTHOUSES AND CONSERVATORIES.

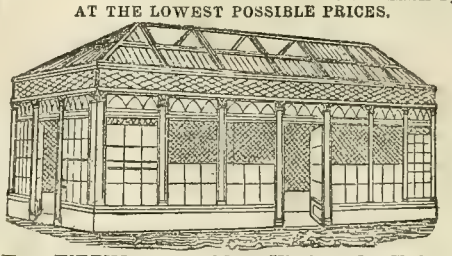


JAMES WATTS, Hothouse Builder, Claremont Place, Old Kent-road, has 200 CUCUMBER and MELON BOXES and LIGHTS of all sizes, ready for immediate use, made of well seasoned materials, packed and sent to all parts of the Kingdom.

HOTHOUSES, CONSERVATORIES, &c., made and fixed complete at a considerable reduction, and Garden Lights of every description. References may be had to the Nobility, Gentry, and the Trade, in most of the counties of England.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER.

WARRANTED BEST MATERIALS AND WORKMANSHIP, AT THE LOWEST POSSIBLE PRICES.



J. WEEKS AND CO., King's-road, Chelsea, Horticultural Architects, Hothouse Builders, and Hot-water Apparatus Manufacturers. The Nobility and Gentry about to erect Horticultural buildings, or fix Hot-water Apparatus, will find at our Hothouse Works, King's-road, Chelsea, an extensive variety of Hothouses, Greenhouses, Conservatories, Pits, &c., erected, and in full operation, combining all modern improvements, so that a lady or gentleman can select the description of House best adapted for every required purpose.

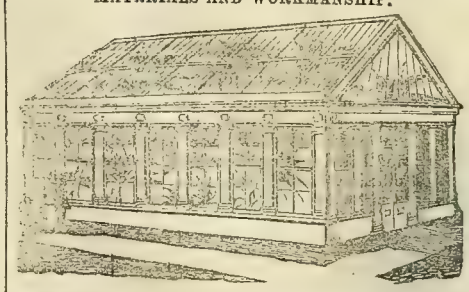
THE HOT-WATER APPARATUSES (which are efficient and economical), are particularly worthy of attention, and are erected in all the Houses, Pits, &c., for both Top and Bottom Heat, and in constant operation in the Stoves.

The splendid collection of Stove and Greenhouse Plants are in the highest state of cultivation, and for sale at very low prices. Also a fine collection of strong Grape Vines in pots from eyes, all the best sorts.

Plans, Models, and Estimates of Horticultural Buildings; also Catalogues of Plants, Vines, Seeds, &c., forwarded on application.—J. Weeks and Co., King's-road, Chelsea, London.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER,

AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.



GRAY AND ORMSON, Danvers-street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

G. & O. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders, they can with the greatest confidence give the most satisfactory references.

Their Hot-Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating by Hot Water can be made available.

FLOWER POTS! FLOWER POTS! FLOWER POTS!

CHARLES PHILLIPS'S Flower-Pots were distinguished above all others shown at the Royal Exhibition of 1851. They received "Honourable Mention" by the Jury, Class 27; and were deemed by the various competent persons who examined them to be superior to any submitted for the world's inspection at the Crystal Palace. They are patronised at the Royal Gardens, both at Windsor and Kew, and by the principal Nurserymen throughout the Western, Southern, and Midland Counties of England; are extensively used in Ireland and Wales, and may be seen at almost every Nursery between Plymouth and London.

All orders for the above Goods will be promptly forwarded, Carriage Free, to any Railway Station within 150 miles of the Manufactory, either in dozens, casts, hundreds, or thousands.

C. P.'s Pots are warranted to retain their colour longer than any other manufactured.

CLEAR INSIDE DIAMETER.

No.	Ins.	No.	Ins.	No.	Ins.	No.	Ins.
1	1¾	6	4¾	11	8¾	16	15
2	2¼	7	5¼	12	9¼	17	16
3	2¾	8	6¼	13	11	18	18
4	3¼	9	7	14	12¼	19	20
5	4	10	8	15	14	20	22

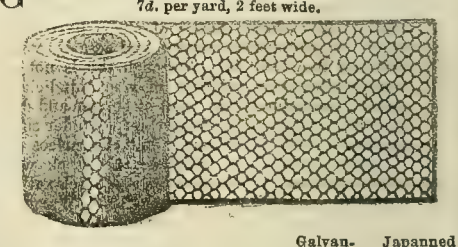
Every description of Red Ware, Sewerage Piping, Closet Pans, Chimney-pots, Land Drain Pipes, Seakale-pots, Vases, Tiles, Bricks, &c.

Phillips's Price List and Weston-Super-Mare Almanac and Guide for 1852, forwarded to any party who may desire it, on receipt of a postage stamp.

Manufactory, Locking Road, Weston-Super-Mare, Somerset.

GALVANISED WIRE GAME NETTING.—

7d. per yard, 2 feet wide.

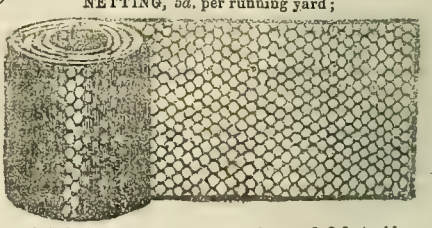


	Galvanised.	Japanned Iron.
2-inch mesh, light, 24 inches wide ...	7d. per yd.	5d. per yd
2-inch ,, strong ,, ...	9 ,,	6½ ,,
2-inch ,, extra strong ,, ...	12 ,,	9 ,,
1⅝-inch ,, light ,, ...	8 ,,	6 ,,
1⅝-inch ,, strong ,, ...	10 ,,	8 ,,
1⅝-inch ,, extra strong ,, ...	14 ,,	11 ,,

All the above can be made any width at proportionate prices. If the upper half is a coarse mesh, it will reduce the prices one-fourth. Galvanised sparrow-proof netting for Pheasantries, 3d. per square foot. Patterns forwarded post free.

Manufactured by BARNARD and BISHOP, Market-place, Norwich, and delivered free of expense in London, Peterborough, Hull, or Newcastle.

CHEAP WIRE GAME AND POULTRY NETTING, 5d. per running yard;



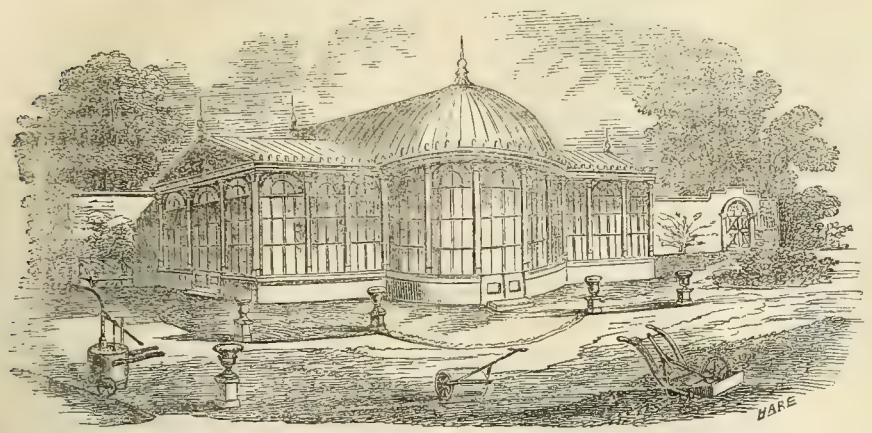
GALVANISED ditto, 7d. per running yard, 2 feet wide.

	Galvanised.	Not Galvanised.
24 in. wide, 2 in. mesh, 7d. per yard.	...	5d. per yard.
30 in. ,, 2 in. ,, 9d. ,,	...	6½d. ,,
36 in. ,, 2 in. ,, 10½d. ,,	...	7½d. ,,
48 in. ,, 2 in. ,, 1s. 2d. ,,	...	10d. ,,

Sparrow Proof Netting, Galvanised, 3d. per square foot, made to any size for the same proportionate price. This article was shown at the "Great Exhibition," where it was so much admired for its light and durable appearance, and acknowledged to be the cheapest and best article of the kind ever offered. Extra strong Wire Sheep Netting, 3 feet high, 1s. 6d. and 2s. 3d. per yard. Also every description of Flower Trainers, Dahlia Rods, Garden Arches, Bordering, Flower Stands, Tying Wire, Trellis Work, Invisible Wire Fencing, Hurdles, and every description of Wire Work for Horticultural purposes.—Illustrated Catalogues of Patterns forwarded, post-free, on application to T. H. Fox, City of London Wire Work and Iron Fence Manufactory, 44, Skinner-street, and 6 and 8 Snow-hill, London.

COTTAM AND HALLEN,

2, WINSLEY STREET, AND 76, OXFORD STREET, LONDON.



APPLICATION is requested for their NEW HORTICULTURAL LIST, containing Illustrations, Descriptions, and Prices of

Conservatories	Mowing Machines	Hand-glass Frames	Garden Engines	Flower Sticks
Greenhouses	Fountains	Game Netting	Do. Syringes	Garden Bordering
Hot Water Apparatus	Ornamental Wire Work	Hurdles	Do. Rollers	Watering Pots
Garden Vases	Flower Stands	Garden Chairs	Flower Labels	Garden Arches, &c.

IRON HURDLES, STRAINED WIRE FENCING, GAME NETTING, &c.

AGRICULTURAL LIST UPON APPLICATION.

EVERY DESCRIPTION OF PLAIN, ORNAMENTAL, CAST AND WROUGHT IRON, AND WIRE WORK.

EXHIBITION PRIZE MEDAL GATES AND ENAMELLED MANGERS.

BELGIAN SHEET GLASS.—The above beautiful Glass, 16-oz. to the foot, so strongly recommended for Horticultural purposes, can be procured at the Soho Crown, Sheet, and Ornamental Glass Warehouse, 26, Soho square, upon the following CASH terms. Single cases containing 200 feet each, case included, 2*l.* 2*s.*; in parcels of 5 cases at 40*s.*; in parcels of 10 cases, 33*s.* per case; or cut to any given size at 3*d.* per foot.

GREENHOUSES GLAZED WITHOUT PUTTY, no Leakage, simple and easy of repair, cheaper than any other system, and much more durable. Lists of prices of different-sized houses forwarded, on application to the inventor and manufacturer, ALFRED KENT, Chichester. A Greenhouse glazed upon this system can be seen at the grounds of the Royal Botanical Society, Regent's-park, London.

BUDDING'S LAWN MOWERS.

MR. SAMUELSON, Britannia Iron Works, Banbury, Oxon (successor to the late James Gardner), to avoid the disappointment experienced last season, as regards their delivery, will feel oblized by orders for the above machines, and for GARDEN ROLLERS, being given as early as possible.

Delivery free to all places on the London and North-Western, and Great Western and Midland Railways.

Drawings and price lists forwarded on application as above.

GIDNEY'S IMPROVED PRUSSIAN HOE.—This exceedingly useful garden implement, so much in demand, and which has obtained the first prize at several of the first horticultural meetings, as the best and most useful garden tool *extant*; also testimonials from the principal horticultural journals and leading practical gardeners, is now ready for delivery, and may be obtained of any principal ironmonger, and Seedsman, or of the manufacturer, J. W. GIDNEY, Ironmonger, East Dereham, Norfolk. Price (ready for use), neatly handled, 1*s.* 6*d.*; of whom may be had the new drill hoe, and the Norfolk Blomfield hoe. Copies of testimonials sent on application to the manufacturer.

THE PRIZE MEDAL OF THE GREAT EXHIBITION was awarded to Mr. MILTON, for his Improved (straw) COTTAGE BEEHIVE, price 10*s.* 6*d.*; it is of simple construction, ornamental, and easily managed; enabling the possessor to obtain a large quantity of pure honey without killing the bees. Also may be had "MILTON'S Practical Bee-keeper," new edition, price 2*s*; ditto, with Designs of Hives, &c., 2*s.* 6*d.*; ditto, Sheet of Illustrations, free by post, 6*d.*

At MILTON'S Beehive Warehouse, 10, Great Marylebone-street, Wimpole-street. Post-office orders to be made payable at the Post-office, Old Cavendish-street, London.

ZOOLOGICAL GARDENS, REGENT'S PARK.—The HIPPOPOTAMUS, presented by H.H the Viceroy of Egypt; the ELEPHANT CALF, and many recent additions, are exhibited daily. Admission, 1*s.*; on MONDAYS, 6*d.*

COCHIN CHINA, MALAY, AND SPANISH FOWLS FOR SALE.—Sir J. Sebright's Gold and Silver-laced Bantams. Carrier, Almond Tumbler, and fancy Pigeons, &c. Cochin China Fowls' Eggs for batching, 6*d*, and Shanghai Ditto from birds of immense size, 1*s.* each, forwarded on receipt of Post-office order, payable Chief Office, London, with 1*s.* for box, &c. Eggs of all the above, and Polish Fowls, Gold and Silver Pheasants, &c., shortly. Letters to enclose stamp. Apply to TIMOTHY MASON, King's Cottage, North End, Fulham, London.

FRUIT TREES, FLOWER AND SEED BEDS, ETC.

NEW TWINE NETTING, to protect the bloom of Peach, Nectarine, Apricot, and other trees; Flower and Seed Beds from frost, blight, and afterwards the Ripe Fruit from birds; or as a fence against fowls, pigeons, cats, &c. New Twine Netting, 1 yard wide, 1½*d.* per yard; 2 yards wide, 3*d.* per yard; balloon mesh ditto, 2 yards wide, 5*d* per yard. Worsted Netting, 2 yards wide, 4*d.* per yard. Sheep-folding Net, of superior quality, 4 feet high, 8*d.* per yard. The Repaired Tanned Netting, 2 or 3 yards wide, 1½*d.* per yard; 4 or 5 yards wide, 3*d.* per yard; exactly the same as advertised by others at double the above prices. Casting Nets, 1*s.* per yard round. Garden Nets for ponds, 1 foot 6 inches with posts complete, 12 yards long, 1*l.* 5*s*; 20 yards long, 2*l.* Fish Nets, complete, 1*s.* per square yard. Rabbit Nets, on cord 12 inches wide, 2*s.* per yard, or 6*s.* per 50 yards. Net made to order and the trade supplied at WILLIAM COLLINGWOOD'S 1, Sussex-terrace, Stradwell, London. Orders by post punctually attended to. Orders above 2*l.* will be forwarded, carriage paid, to any Railway Station in the Kingdom. Cattle Nets 5 miles and advertising Tanned Net, 2 yards wide, 2½ per yard, without creating it is Old Net.

FARM TO LET.—The lands to be entered upon on the 1st of November and 2nd of February next, and the house on the 1st of March, 1853. Clayley Hall farm, situate in the township of Handley, eight miles from Chester; comprising about 300 acres of arable and pasture land in a ring fence, bounded on one side by the turnpike road from Chester to Whitchurch, and on another side by the road to the Tattenhall station on the London and North Western railway, distant two miles. The land is of good quality; rates moderate; nearly the whole of the farm is under-drained; the house and buildings excellent. The rent may fluctuate with the corn averages, and the tenant may have the sporting over the farm and about 16 acres of woodland within it, if desired. Apply to Mr. JOHN PALIN, Christleton, near Chester.

FARM TO LET, on very advantageous terms—on lease or yearly tenancy. About 300 acres of Clay Land, thoroughly drained, in a midland county, near a good market, and a good railway. The Roads, House, and Offices are all in excellent condition. Rates very low; no pressure of the poor; Tithe free; Rent low; no Rabbits; very favourable entry as to tenant right; Game not strictly preserved. About 60 acres more of Grass Land might be added if required.

Persons desirous of treating for this very eligible occupancy are requested to apply by letter to the editor of the *Gardeners' Chronicle*, at the Office, 5, Upper Wellington-street, Strand, London.

TO NURSERYMEN, FLORISTS, ETC.

TO BE LET, on Lease, with immediate possession, a SMALL NURSERY, eligibly situated in one of the most fashionable Watering-places in the County of Devon.

For further particulars, apply to Messrs. NUTTING and SONS, Seedsmen, 46, Cheapside, London.

TO BE LET, A FURNISHED MANSION, in Hampshire—HACKWOOD HOUSE, Pleasure Grounds, &c., with the right of Sporting over the Manor, will be Let, on moderate terms, to an eligible tenant, for such number of years as may be agreed upon. The mansion contains every accommodation for a Nobleman's or Gentleman's Family with a large Establishment. It is situate about a mile and a half from the Basingstoke Stations of the Great Western and South Western Railways (which are within an hour of London); in the midst of an extensive Park, ornamented with large timber and numerously stocked with deer. The Manor exceeds 7000 acres, contains several ponds and streams which afford excellent perch, jack, and trout fishing; abounds in game and wild fowl, which are strictly preserved; and is hunted by three packs of fox-hounds.—Apply to W. MASSEY, Esq., 26, Wimpole-street, London; or Mr. THOMSON, Hackwood Park, Basingstoke.

TO GENTLEMEN CARRIER-PIGEON FANCIERS.

TO BE SOLD, in small lots or singly, a large collection of first-rate CARRIERS, consisting of Blacks, Duns, and Blues, well worth the immediate attention of gentlemen in the fancy.—Apply to Mr. POTTER, 5, Cook's-terrace, Old St. Pancras-road, London.

"WHERE SHALL WE GO THIS MORNING?" Such is usually the query over the breakfast table with visitors to London. Let us answer the question. If you can admire the most beautiful specimens of Papier Maché manufacture which are produced in this country, displayed in the most attractive forms—if you want a handsome or useful Dressing-case, Work-box, or Writing-desk—if you need any requisite for the work table or toilet—or if you desire to see one of the most elegant emporiums in London, then you will go to MECHI'S, 4, LEADENHALL STREET, near the India House, in whose show-rooms you may lounge away an hour very pleasantly.

THE ROYAL EXHIBITION.—A valuable, newly-invented, very small, powerful Waistcoat-pocket Glass, the size of a Walnut, to discern minute objects at a distance of 4 to 5 miles, which is found to be invaluable for YACHTING, and to SPORTSMEN, GENTLEMEN, and GAMEKEEPERS.

TELESCOPES.—A new and most important INVENTION in TELESCOPES, possessing such extraordinary powers that some 3*l.* inches, with an extra eye-piece, will show distinctly Jupiter's moons, Saturn's ring, and the double stars. They supersede every other kind, and are of all sizes—for the Waistcoat pocket, Shooting, Military purposes, &c. Opera and Race-course Glasses with wonderful powers; a minute object can be clearly seen from 10 to 12 miles distant.—Invaluable acoustic instruments for relief of extreme deafness.—Messrs. S. and B. SOLOMONS Opticians and Aurists, 39, Albemarle-street, opposite the York Hotel, London.

IRON HURDLES, FENCING, ETC.

STEPHENSON AND PEILL, 61, Gracechurch-street, London, and 17, New Park-street, Southwark, beg to inform their friends and the public generally they are now manufacturing Iron Hurdles, at the following low prices:—For sheep, 6 ft. long 3 ft. high, 5 bars, 3*s.* 2*d.* each; and for cattle, 6 ft. long, 3 ft. 3 in. high, 5 bars, 3*s.* 6*d.* each.

TERRA COTTA VASES, TAZZAS, FLOWER TRAYS, FIGURES, &c., manufactured by T. M. BLASHFIELD, Mill Wall, Poplar, and sold at No. 1 Wharf, Praed-street, Paddington. These Vases, &c., are of a light stone colour, and are carefully modelled and burnt, and warranted to stand heat and frost; and this Terra Cotta is the only material for such works which does not sustain injury from smoke and sulphurous gases.

A BEAUTIFUL HEAD OF HAIR.

ROWLAND'S MACASSAR OIL has chiefly acquired celebrity for its rapid and extraordinary efficacy in nourishing, preserving, and beautifying the human hair. Its regenerative powers, in particular, are constantly shown by inducing a fresh growth of hair where baldness has hitherto prevailed. It imparts an additional vigour to the roots of the hair, together with a glossy brightness, a silky softness, and a tendency to curl. For inducing an accelerated growth of whiskers, moustachios, or eyebrows, the Macassar is unfailing in its stimulative operation. In reference even to the hair of early childhood, the use of the Oil is attended with the happiest effects; mild, invigorating, and purifying in every instance, it dispels scurf and dandriff, and renders unnecessary the use of the fine comb. In all climates it alike displays its incomparable results, and has long been an established favourite in India.—Price 3*s.* 6*d.* and 7*s.*; or Family Bottles (equal to four small), at 10*s.* 6*d.*; and double that size, 21*s.* On the wrapper of each bottle are the words, ROWLANDS' MACASSAR OIL, in two lines.

Sold by A. ROWLAND and SONS, 20, Hatton Garden, London; and by all Chemists and Perfumers.

DO YOU WANT LUXURIANT HAIR, WHISKERS, &c.?—CRINILENE has been pronounced by thousands to be the only preparation that can be relied upon for the restoration of the hair in baldness from any cause, preventing the hair falling off, strengthening weak hair, and checking greyness, and for the Production of Whiskers, Moustachios, Eyebrows, &c., in a few weeks with certainty. It is elegantly scented, and sufficient for three months' use; will be sent post free, on receipt of 24 postage stamps, by Miss DEAN, 43, Liverpool-street, King's Cross, London. Testimonial: Dr. Thompson says—"It is a beautiful preparation, and the only one I can recommend."

"KNOW THYSELF."—The secret art of discovering character from handwriting is still practised by Mr. ELLISON, with astonishing success. His curious delineations of the mental qualities, talents, and defects of his applicants are very full, filling the four pages of a sheet of paper, the style of the description differing from everything yet attempted. Test this by sending any specimens of the writing of yourself, or of those in whom you are interested, with the fee of 14 postage stamps, to Mr. RAPHAEL ELLISON, 151, Strand, London.

METCALFE AND CO.'S NEW PATTERN TOOTH-BRUSH and SMYRNA SPONGES.—The Tooth-Brush has the important advantage of searching thoroughly into the divisions of the teeth, and cleaning them in the most extraordinary manner, and is famous for the hairs not coming loose.—1*s.* An Improved Clothes-Brush, that cleans in a third part of the usual time, and incapable of injuring the finest nap. Penetrating Hair-Brushes, with the durable unbleached Russian bristles, which do not soften like common hair. Flesh-Brushes of improved, graduated, and powerful friction. Velvet-Brushes, which act in the most surprising and successful manner. The genuine Smyrna Sponge, with its preserved valuable properties of absorption, vitality, and durability, by means of direct importations, dispensing with all intermediate parties' profits and destructive bleaching, and securing the luxury of a genuine Smyrna Sponge. Only at METCALFE, BINGLEY, and Co.'s, Sole Establishment, 130 B, Oxford-street, one door from Hölles-street.

METCALFE'S ALKALINE TOOTH POWDER, 2*s.* per box.

CAUTION.—Beware of the words "From METCALFE'S," adopted by some houses.

DEAFNESS AND SINGING NOISES IN THE HEAD AND EARS EFFECTUALLY CURED.—DR. BARKER'S celebrated remedy for deafness, &c., permanently restores hearing, enabling the patient in a few days to hear the ticking of a watch, even in cases where the deafness has existed for many years from any cause whatever, and has been successful in hundreds of cases where instruments and surgical assistance have failed in giving relief. It removes all those distressing noises in the head and ears, and, by its occasional use, will prevent deafness occurring again at any future period. The remedy will be sent free by post, with full instructions, on receipt of 7*s.* 6*d.* by Post-office order, or postage stamps, by Dr. ALFRED BARKER, 43, Liverpool-street, King's Cross, London. At home daily, 10 till 1 and 4 till 8, Sundays excepted.

HOUSE FURNISHING AND INTERIOR DECORATIVE ESTABLISHMENT, 451, OXFORD-STREET, and 18, SPRING-STREET, PADDINGTON, near the Great Western Railway, London.—Cabinet Furniture of every description at marked prices—Brussels Carpet, 2*s.* 6*d.* per yard.—Damask Curtains, 10*d.* per yard and upwards; Ditto, in Silk and Worsted (French fabric), nearly two yards wide, at 8*s.* per yard.—The best Floor Cloths that can be made, cut to any dimensions, 2*s.* 3*d.* per yard. The largest Manufactory in London for Paper Hangings, English and French Decorations, adapted either to the Cottage or the Mansion, fitted up, showing the side of a room finished for occupation.

PROTECTION AGAINST FROST.

FRIGI DOMO.—A perfect protector against frost, a non-conductor of heat or cold, and cheaper in price than bass matting. A canvas made of prepared hair and wool, adapted to many horticultural and floricultural purposes, for covering up, where a fixed temperature is required. It is 2½ yards wide, and of any required length at 1*s.* 4*d.* per yard run.—Manufactured only by E. T. ARCHER, Carpet Manufacturer, 451, Oxford-street, and 18, Spring-street, Paddington, near the Great Western Railway, London.

SHIRTS.

FORD'S EUREKA SHIRTS are not sold by any hosiers or drapers, and can be obtained only at 185, Strand. Gentlemen in the country or abroad, ordering through their agents, are requested to observe on the interior of the collar-band the stamp—"FORD'S EUREKA SHIRTS, 185, Strand," without which none are genuine. They are made in two qualities—First quality, 40*s.* the half dozen; second quality, 30*s.* the half dozen. Price lists containing directions for self measurement and every particular, are forwarded post free, and the pattern books to select from, of the new Registered Coloured shirting, on receipt of six stamps.

RICHARD FORD, 185, STRAND, LONDON.

E. G. HENDERSON AND SON beg to offer the undermentioned NEW PLANTS, which they can strongly recommend, and are confident will give the greatest satisfaction.

ANTIRRHINUM HENDERSONII (HENDERSON'S).—This is decidedly the greatest novelty that has appeared in this tribe for years. Tube and ground colour white, distinctly marked throughout each petal with broad bands of deep carmine; the stripes and ground colour are so evenly balanced, that each flower is an exact counterpart of every other on the plant; quite free from blotching or run colours. This very interesting new character to this plant will give great satisfaction to every Antirrhinum grower, and even to those who are not generally partial to this tribe. We purchased the entire stock of the above from Mr. George Parsons, Brighton. Price 7s. 6d. each.

CALCEOLARIA WELLINGTON HERO (HENDERSON'S).—A shrubby bedding variety, of a rich deep golden yellow colour, an excellent trusser, with large flowers; the plant is of good habit, and was awarded a label of commendation. See the National Floricultural Society's Transactions, June 12, 1851. A very desirable variety. Price 7s. 6d.

CALCEOLARIA TOM THUMB (HENDERSON'S), of a very dwarf shrubby habit, and abundant trusser, flowers of a deep rich crimson colour, and, without exception, the best dark variety in cultivation for bedding purposes. Price 10s. 6d.

CHRYSANTHEMUM HENDERSONII (HENDERSON'S).—This very remarkable variety originated in Italy, and flowers in the open ground early in September; indeed, so early, that this variety has done flowering before the generality of Chrysanthemums has commenced to bloom. From this peculiar character of the plant, we fully expect it will prove to be the progenitor of a new class, adapted to give a new feature in decorating the flower garden. When the more delicate flowers have faded, these will just appear in pristine beauty. The plant is of dwarf habit, 2 feet in height, belonging to the Chinese class, and so dense a flowerer that every morsel of young wood is thickly clustered with flower-buds; indeed, the whole plant is literally one mass of well-formed, orange-yellow flowers. By having the branches neatly pegged down in the beds, the whole would look like a fine bed of Ranunculus during the autumnal months, which will render this a great acquisition. We purchased the entire stock from M. Pele, of Paris. Price 10s. 6d.; and for every two plants ordered three will be sent.

DELPHINIUM HENDERSONII (HENDERSON'S).—This extremely beautiful and interesting distinct hybrid was raised by M. Chauvier, of Paris, from D. chiliensis crossed with D. elatum splendens, and partakes much of the fine branching character of the former, large laciniated foliage of dark glossy green; flowers of large size and well formed, with very broad ample petals, of rich deep azure-blue, finely contrasted with a bold white eye, which renders this plant very conspicuous indeed, and will form one of the principal gems of the flower garden during the ensuing summer. It is figured in the "Gardeners' Magazine of Botany," vol. I, page 57, and was also awarded a Certificate of Merit at the National Floricultural Society, 21, Regent-street, Aug. 21, 1851; see Transactions of this Society, page 41. We purchased the entire stock of M. Chauvier, of Paris. Price 10s. 6d.

ERICA ELEGANTISSIMA (HENDERSON'S).—This very beautiful Heath is an interesting hybrid between E. hyemalis and E. Hartwellii, and retains all the good points of these popular and favourite parents; excellent habit of growth, and most abundant, free-flowering plants, so much so, that each terminal shoot produces large clusters of deep rose and white coloured flowers, varying from five to ten, according to the strength of the shoot; the tube of good substance and moderate size, terminating with fine square lips of pure white. Figured in the "Gardeners' Magazine of Botany," vol. I, page 81. We purchased the entire stock of this from Mr. Burnett, Yorkshire. Price 42s.

E. NOBILIS (HENDERSON'S), a fine hybrid seedling raised by Mr. Story, from E. tricolor splendens set with old grandiflora; the flowers sometimes come in single, but more frequently in double whorls, measuring 3½ inches in diameter, slightly curved at the base, shading off into a clear bright straw colour, or pale yellow; tips recurving and finely marked. Figured in Beck's "Florist," vol. I. page 289. The entire stock of this was purchased from W. H. Story, Esq., Devonshire. Price 42s.

GERANIUM HENDERSONII (HENDERSON'S).—This great desideratum, so long wished for, is at last attained, by raising a perfect white Geranium, in the zolane or scarlet class. This extremely novel kind gives very large handsome trusses of elegant white flowers, and is also a remarkably free flowerer, which forms a grand contrast to the splendid rich scarlet flowers of this favourite class, which must render this a great acquisition, wherever the latter is cultivated. We purchased the entire stock from Mr. Franklin, Middlesex. Price 7s. 6d. each.

G. EXTRAVAGANZA (HENDERSON'S).—A very singular and distinct new hybrid belonging to the section marked No. 7 in our Catalogue as "Curious Geraniums." This fine variety possesses flowers of good size and substance; large bold trusses of deep crimson; each of the five petals has a large black maroon blotch, nearly covering the whole of the petals; good habit and free flowerer. Strongly recommended for bedding. Price 7s. 6d.

G. ODORATISSIMUM GRANDIFLORUM (HENDERSON'S).—A very fine lemon-scented hybrid, of strong and very compact habit of growth, with large trusses of flowers, in the style of the fancy class, with splendid foliage, and highly scented; colour rosy purple, veined with dark blotches in the upper petals; likely to prove a good bedding variety. Price 7s. 6d.

Wellington Nursery, St. John's Wood, London.

BALSAM SEED, the finest in the world, in five classes of colours, sealed Packets, with directions for culture, 2s 6d. the five, or 9d. singly. Mimulus Gigantea, the largest in cultivation, 1s. to 5s. per plant. DAHLIAS: the Scarlet King, the finest of its class ever raised, 10s. 6d.; Sir F. Thesiger, Dr. Frampton, Sir Richard Whittington, Rob, and all the best new ones at catalogue prices; Ditto old favourites, 3s. to 9s. per dozen. Fuchsias, Geraniums, Cytisus Racemosus, Stove and Greenhouse Plants generally, bedding out Scarlet Geraniums, 2s. 6d. to 5s. per dozen.—Post-office orders to CHARLES R. SMALLBONE, Dungannon Nursery, Fulham, payable at Putney, promptly attended to.

GLENFIELD PATENT STARCH.—NOW USED IN THE ROYAL LAUNDRY.—The Ladies are respectfully requested to make a trial of the GLENFIELD PATENT DOUBLE-REFINED POWDER STARCH, which, for Domestic Use, now stands UNRIVALLED. Sold by nearly all the Oil and Colourmen and Chandlers in London, and throughout the Kingdom.—Agents wanted; apply to Mr. R. WOTHERSPOON, 40, Dunlop-street, Glasgow.

London Depot: WOTHERSPOON, MACKAY and Co., 40, King William-street, City.

EMPLOYMENT FOR EVERYBODY.

MR ALLEN WOOD, 160, High-street, Rochester, continues to send free to all parts of the kingdom his 12 valuable, easy, and respectable methods of realising 1l. to 4l. per week, by either sex, according to time spent. A. W. has advertised these methods now nearly 12 months, was the inventor, and has benefited hundreds. A pile of thankful letters prove that fact. Send a directed, stamped envelope and 12 postage stamps, and they will be forwarded by return of post. Rely it is no falsehood; it is a certainty, and without risk.

N.B. Four new methods added, making 16. Families and emigrants ought not to be without them.

YOUELL AND CO. beg to draw attention to their Advertisement of last week, as well as to the following.

CAMELLIAS of the choicest kinds, in good plants, 21s. per dozen. Possessing a large stock, we are induced to offer them at this price. To those anxious to form fine specimens, this is a grand opportunity.

Gloxinia Petoiana, the superb light variety sent out by us last season, the finest of its class; strong bulbs, 3s. 6d. each.

Jasminium gracile, one of the most fragrant of flowers, 12s. per dozen.

Veronica Andersonii, very choice, of the easiest culture, 1s. 6d each.

Nerium, 6 fine new varieties, extra strong, 6s. each.

Coleonema pulchra, nice plants, 9s. per dozen.

Leschenaultia formosa and Baxteri major, strong, 9s. p. doz.

Diosma ericoides—its sweetly-scented foliage excellent for bouquets—nice bushy plants, 6s. per dozen.

Mitraria coccinea; this fine hardy shrub produces numerous scarlet flowers, very similar in form and colour to Erica splendens, strong and bushy, 9s. per dozen.

Quercus lanata, the king of evergreen Oaks, 3s 6d each.

Quercus Fordii, splendid evergreen tree, 1 foot, 9s.; 1½ feet to 2 feet, 18s. per dozen.

Ilex latifolia; the Laurel-like foliage of this fine hardy shrub renders it peculiarly desirable; strong, 1 to 1½ foot, 12s. per doz., 3 to 4 feet, 5s each.

Ilex Sheppardii, a fine variety, with very broad foliage, 1s. 6d. each.

Weigela rosea, Forsythia viridissima, Jasminium revolutum, and Escallonia Montevidensis, 2 feet, bushy, 9s. per dozen; Hedera Regneriana, Passiflora cærulea, and Clematis montana, 9s. per dozen, very strong; sweet-scented Clematis, extra strong, 6s. per dozen; Euonymus japonica, silver-striped, strong, 4s per dozen.

Roses, dwarf climbers and others, in many fine varieties, 5s. per dozen.

Fancy Geraniums, choice sorts, 9s. per dozen.

Rockets, double white, strong plants, 3s. per dozen.

Ditto, purple, ditto, 6s. per dozen.

Phloxes, in many fine new varieties, 6s. per dozen.

Statice latifolia and pseudo-armeria; these fine hardy plants 6s. per dozen.

Herbaceous plants in great variety, per 100 species and varieties, 25s.

Choice ditto in pots, 4s. per dozen.

Fuchsias, very fine varieties of last year, and others; strong plants, 6s. per dozen.

CONIFERS.

Being large holders of these, we propose to sell at the following prices;—

Araucaria imbricata, 1 foot, 18s.; 1½ to 2 feet, 42s. per dozen.

Cedrus Deodara, the sacred Cedar of the Himalayas, as hardy as the Larch, and perfectly evergreen; plants very bushy, 1 ft., 9s.; 1½ to 2 feet, 18s. per dozen.

Juniperus (Cupressus) Uhdeana, a very ornamental species, 1 to 1½ foot, 9s per dozen.

Juniperus Bedfordiana, very bushy, 1 to 1½ foot, 6s. per doz.

Pinus excelsa, of fine silvery foliage, 1 to 1½ foot, 9s.; 3 to 4 feet, 30s. per dozen.

Cedrus Libanus, 4 to 6 feet; and C. argenteus, 1 to 1½ foot, 2s. 6d. each.

Picea cephalonica, 15 inches, 2s. 6d. each.

" Pindrow, 6 inches, 9s. per dozen.

" Nordmanniana, 4 inches, 30s. per dozen.

Pinus Gerardiana, 6 to 9 inches, stout and bushy, 6s. p. doz.

Abies morinda, true, fine plants, 1½ to 2 feet, 20s. per dozen; 1 to 1½ foot, 6s. per dozen.

Abies pumila, dwarf and bushy, 12s. per dozen.

" orientalis, true, do. do., 12s. per dozen.

" Menziesii, one of the most distinct of Conifers, its silvery foliage forming a striking contrast to the deep green of other species, 9 to 12 inches, 9s.; 12 to 18 inches, 12s. per dozen.

Cryptomeria japonica, 2 to 3 feet, seedlings, in fine health, 42s. per dozen.

Cupressus torulosa, a fine evergreen, of the most symmetrical form, 1 to 1½ foot, 9s. per dozen.

All orders of 2l. and upwards delivered free to any railway station within 150 miles of the Nursery.

Royal Nursery, Great Yarmouth.

EXTRACT FROM A LETTER FROM LORD CAMOYS' STEWARD, TO MESSRS. SUTTON AND SONS:

"The Pasture laid down with the Grass Seeds you supplied to Lord Camoys about five years' since, is the admiration of the neighbourhood for its early springing and for the fineness and luxuriance of its herbage.

"Yours truly, JOSEPH A. LANGFORD.

"Stonor, near Henley-on-Thames.—Feb. 24, 1852."

FROM THE INCUMBENT OF GRAZELY PARSONAGE.

To MESSRS. SUTTON,

Sirs,—When you are passing through Grazely, I wish you would call in and see my Garden Lawn, Pasture, and Churchyard, which I sowed last spring with your Seeds, and which this time last year was only a Bean field but now a beautiful close Green Sward, and I am happy to say free from weeds. Many gentlemen have been quite surprised to see in so short a time so good a pasture, and I hope it will continue the same, as I have invariably heard that your Grass Seeds are good and permanent.

I am, Sirs, yours obediently, T. S.

Grazely Parsonage, Feb. 13.

JOHN SUTTON AND SONS having been honoured with the above, with permission to publish it, have much pleasure in doing so, and have also the satisfaction of stating that they are *almost daily* receiving similar communications. In a letter just received from a Gentleman at Weston-super-Mare is the following passage:—"*The field I laid down last spring with your Grass Seeds gave me great satisfaction, and no little surprise to my neighbours the farmers. The purchaser of the property was also surprised at the result.*" In another letter dated Emanuel Rectory, Loughborough, Jan. 28, the Rector says:—"*The four acres which I sowed with Grass Seeds from your Establishment last spring present a very satisfactory appearance, the ground being equally covered with Grass of regular and uniform height.*"

JOHN SUTTON AND SONS having for many years paid especial attention to the laying down land to Permanent Pasture, are well acquainted with the various soils of the United Kingdom, *and can supply the sorts of Grasses and Clovers most suitable for any specified soil at* 28s. *per acre, with Instructions for sowing.*

Also the best CLOVERS and RYE-GRASS for alternate husbandry or to lay down for two years, at 16s. per acre; and SUTTON'S Renovating Mixture of Perennial CLOVERS and Finest GRASSES for improving Old Meadows and Pastures, 10d. per pound, 8 to 12 lbs. per acre being sufficient.

Also, Finest LAWN GRASSES for Gardens, 1s. 3d. per pound, or 3s per gallon.

N.B.—Mangold Wurzel, Belgian Carrot, Turnip, and all other Agricultural Seeds of superior quality, a Priced Catalogue of which may be had in return for one penny stamp.

Address, JOHN SUTTON AND SONS, SEED GROWERS, Reading, Berks.

PROTECTION OF WALL FRUIT FROM FROST.

WILLIAM EAST begs to announce for Sale several large Wool Nets for protecting Wall Fruit from Frost. Wool and Twine Nets made to order, and to any size. Ladies and Gentlemen who may be pleased to favour him with their orders, may rely on the strictest punctuality.

W. EAST, 5, Belvoir Terrace, Vauxhall Bridge Road, Pimlico.

Sales by Auction.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will sell by Auction, at the Mart, Bartholomew-lane, on WEDNESDAY, March 10, at 12 o'clock, a first-rate Collection of Carnations and Picotees, Lancashire Gooseberries, selected Standard and Dwarf Roses, Dahlias in dry roots, &c., the property of Mr. Willmer, of Sunbury.—May be viewed the morning of Sale. Catalogues had at the Mart, and of the Auctioneers, American Nursery, Leytonstone, Essex.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS are instructed by Mr. W. PAMPLIN, to submit to public competition by Auction at the Mart, Bartholomew-lane, on THURSDAY, March 11, at 12 o'clock, about 250 CHOICE DOUBLE CAMELLIAS, ranging from 18 inches to 5 feet, exceedingly well furnished with bloom buds, and in a fine state of cultivation; also Azalea Indica, Erica, Cytisus, Cinerarias, selected Standard and Dwarf Roses, choice Dahlias in dry roots, Fuchsias, Pæonias, with a rich assortment of American Plants, &c. May be viewed the morning of sale. Catalogues may be had at the Mart, and of the Auctioneers, American Nursery, Leytonstone, Essex.

TO NOBLEMEN, GENTLEMEN, FLORISTS, & OTHERS.

MESSRS. RAWLINGS AND GIBSON will sell by Auction, at the Mart, Bartholomew-lane, on WEDNESDAY and FRIDAY, March 10 and 12, at 12 o'clock, 1000 fine Standard and Dwarf Roses, 300 choice Dahlias in dry roots, a rich assortment of Herbaceous Plants, Carnations, Picotees, and Pinks, 100 varieties of Hardy Annual Flower Seeds, a variety of Plants in Bloom, &c. The above comprise all the leading varieties in cultivation.—May be viewed the morning of Sale, and Catalogues had at the Mart, and of the Auctioneers, 50, Hoxton-square, and Ebenezer Nursery, Shacklewell, London.

ORCHIDS.

ESTABLISHED PLANTS, IN GOOD HEALTH.

MR. J. C. STEVENS is instructed to sell by Auction, at his Great Room, 38, King-street, Covent Garden, on FRIDAY, March 12, at 12 for 1 o'clock, a COLLECTION OF ORCHIDS, the property of a Baronet, deceased, comprising established specimen Plants, in good health, and most of the showy and popular varieties. May be viewed the day prior and morning of sale, and Catalogues had.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN & OTHERS.

BUFF COTTAGE, WALHAM GREEN.

MR. KIRK has been favoured with instructions to sell by Auction, on the above Premises, on TUESDAY, March 9, at 12 o'clock, by order of the proprietor, the ground being let for building, very fine Superior and Ornamental Evergreens, Shrubs, &c., Greenhouse, Summer-houses, Pits, Frames, &c., comprising Aucuba japonica, 5 ft. to 6 ft., Phillyrias and Laurels, 6 ft. to 7 ft., Variegated and Green Hollies, 10 ft., Arbor-Vitæ, Box, Arbutus, and Firs, 10 ft to 12 ft., Portugal Laurels, and Laurestinus, 7 ft., Limes, Birch, Poplars, and Laburnums, 15 ft., Yews, 5 ft., 40) yards to 500 yards of Box Edging, Roses of Sorts, Rhododendrons, &c. Fruit-bearing Trees, Apples, Pears, Plums, Peaches, Nectarines, Apricots, Vines, and Filberts. Turf, Greenhouse, Summer-houses, Pits, Frames, &c. May be viewed the day prior and morning of sale. Catalogues had on the premises, and at the Offices of Mr. KIRK, 19, Brompton-row, Brompton, near London.

CROYDON, SURREY.

THE STOCK OF FOREST TREES OF A NURSERYMAN.

MESSRS. BLAKE are directed to sell by Auction upon the grounds opposite the Mail Coach Inn, Croydon Common, on WEDNESDAY, March 10, at 12 o'clock (in consequence of the Land being required for Building purposes), 10,000 Larch Firs, from 2 to 3 feet high; 8000 Bedded Spruce ditto; 7000 Bedded Oaks; 6000 Bedded Ash, Beech and Hazels; 8000 Spanish Chestnuts; 300 Walnuts; 2000 Mountain Ash, Weeping Willows, Elms, Turkey Oaks, Sycamores, Acacias, and Poplars; 700 Hollies, Lilacs, and Scotch Firs; 8000 transplanted strong Quick. May be viewed at the sale, and catalogues had of Mr. Dean, Nurseryman, Croydon Common; at the Inns in the neighbourhood; at Garraway's Coffee-house, Change-alley; the Artichoke Inn, Newington Causeway; and of Messrs. Blake, Croydon.

TO GENTLEMEN, AMATEURS, FLORISTS, AND OTHERS.

MR. ALEXANDER will sell by Auction, at the Mart, near the Bank of England, on WEDNESDAY, March 10, at 1 precisely, a first-rate Collection of Carnations and Picotees, the stock of Mr. W. Bragg, of Slough; they comprise all the newest varieties in cultivation; also several entirely new kinds, only in this collection; together with a choice assortment of Dahlias in pot roots, including all the latest varieties; fine new Hollyhocks, Pinks, Pansies, Standard Roses, miscellaneous Plants, &c., &c. May be viewed on the morning of Sale. Catalogues had at the Mart, and on application to the Auctioneer at Shacklewell, London.

FULHAM ROAD, BROMPTON.

IMPORTANT SALE OF NURSERY STOCK, ETC.

MR. D. A. RAMSAY will sell by Auction, on the premises, Brompton Nursery, Fulham Road, Brompton, on TUESDAY, March 9, and following day, at 12 o'clock, without reserve, a large assortment of ORNAMENTAL TREES, comprising Laburnums, Acacia, Thorns, Gleditschia, Chestnut, Elms, &c. Also a large quantity of Evergreens, in choice varieties, a Conservatory Stage, Alcove, Arches for Garden Walks, Flower Stands, Trainers, and other well-made Wire Works.—May be viewed prior to sale, and Catalogues had of the Auctioneer, Brompton Nursery, Fulham Road, Brompton, London.

TANNED NETTING, for the Protection of Fruit Trees from frost, blight, and birds, and for the security of fresh-sown seeds, either in gardens or fields, at 1d. per square yard, 200 yards for 14s., 500 yards for 30s., 1000 yards for 50s. Scrim canvas for wall fruit, netting for sheep folds; a considerable saving of labour, and less expense than hurdles. Sun blinds in great varieties, rick cloths, with poles, &c. Marquees, tents, awnings, and temporary rooms, with boarded floors, elegantly lined and lighted for fêtes, &c., on sale or hire. Carriage, cart, and truck covers impervious to rain; cloths for the covering of furniture in change of residence, &c. Tarpaulings on hire for houses under repair, at THOMAS EDGINGTON & Co.'s, 17, Smithfield-bars, and Old Kent-road.

N.B. Orders and inquiries per post punctually attended to.

Printed by WILLIAM BRADBURY, of No. 13, Upper Woburn-place, in the parish of St. Pancras, and FREDERICK MULLETT EVANS, of No. 7, Church-row, Stoke Newington, both in the County of Middlesex, Printers, at their Office in Lombard-street, in the Precinct of Whitefriars, in the City of London; and published by them at the office, No. 5, Charles-street, in the parish of St. Paul's, Covent-garden, in the said County, where all Advertisements and Communications are to be ADDRESSED TO THE EDITOR.—SATURDAY, March 6, 1852.

THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 11—1852.] SATURDAY, MARCH 13. [PRICE 6*d.*

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THE NATIONAL TULIP SOCIETY.—The next ANNUAL EXHIBITION of this Society will be held at the Town Hall, Birmingham, on Thursday, May 27, next.

Schedules are now ready, and may be had on application at the Office, 28, Bennett's Hill.

C. J. PERRY, J. COLE } Hon. Secretaries.

Birmingham, March 13.

THE ROYAL GARDENERS' BENEVOLENT INSTITUTION.—NOTICE is hereby given that an Election of Two Pensioners on the Funds of this Society will take place in June next. All persons desirous of becoming candidates are requested to apply in writing to the Secretary for a form of application, which must be returned, with testimonials, &c., as required by the Rules, on or before the 31st inst., after which time they will not be received. By Order

EDWARD R. CUTLER, Secretary,

97, Farringdon-street, London, March 4.

HORTICULTURAL SOCIETY OF LONDON.
PRIVILEGED TICKETS.

The Exhibitions will take place on the Second Saturdays in May, June, and July, namely,

MAY 8, JUNE 12, JULY 10.

All Fellows who shall apply, on or before Tuesday, the 20th of April, may obtain, at the PRIVILEGED RATE of Three Shillings and Sixpence each, any number of tickets NOT EXCEEDING FORTY-EIGHT; but no application for such tickets will be received after that day. *Fellows of the Society subscribing for tickets at this price will be allowed a clear week from the 20th of April during which they may claim them.* AFTER THAT PERIOD ALL THE 3*s.* 6*d.* TICKETS SUBSCRIBED FOR, BUT NOT ISSUED, MAY BE CANCELLED.

After the 20th of April, any further number of tickets will be delivered to Fellows on their personal application or written order, at the price of *Five Shillings* each ticket.

SPECIAL POWER OF FELLOWS.—Fellows of the Society not only enter free at half-past 12, but can also introduce one friend, WITH A TICKET, at gate No. 4, in the Duke of Devonshire's Road. Or the Fellow's power may be transferred to a brother, sister, son, daughter, father, mother, or wife, residing in the Fellow's house, provided the person to whom the transfer is made be furnished with a ticket signed by that Fellow. That is to say, the power of entering early may be transferred, but not the right to FREE admission.

GEORGE BAKER'S DESCRIPTIVE CATALOGUE OF AMERICAN PLANTS, CONIFERÆ, ROSES, ORNAMENTAL SHRUBS, FRUIT AND FOREST TREES, &c., may be had on application, by enclosing two postage stamps.—Windlesham Nursery, Bagshot, Surrey.

FLORISTS' FLOWERS FOR 1852.

THOMAS BARNES has now ready his Descriptive CATALOGUE, including Dahlias, Fuchsias, Verbenas, Petunias, Phloxes, Chrysanthemums, Bedding Plants, &c., which may be had on prepaid application.

Danecroft Nurseries, Stowmarket, Suffolk.

DOUBLE ITALIAN TUBEROSE ROOTS, 4*s.* per dozen.—The annual importation of the above-named beautiful and fragrant Flower has just been received, and large and well selected Bulbs may be obtained, without disappointment, at A. CORBETT'S Foreign Warehouse, 18, Pall-mall.

N.B. Printed regulations for treatment sent; also, just received, very moist and open Parmesan Cheeses.

IMPORTANT TO POTATO PLANTERS.—Procuring sound Seed is the surest means to have a good crop. We have now left only a few Tons of YORK REGENTS, CAMBRIDGE RADICAL, AMERICAN, NATIVE, AND WHITE BLOSSOMED KIDNEY POTATOES, the produce of our last year's prepared cuttings, at prices formerly advertised. Prepared cuttings of the following sorts will be ready about the second week in May:—

	s.	*d.*
York Regents ... ... per 1000	10	6
American Native ... ... ,,	10	6
Cambridge Radical ... ... ,,	10	6
Early Oxford ... ... ,,	15	0

Packages, for 1000, 1*s.*; 500, 2*s.* 6*d.*; 200, 1*s.* 6*d.*

No orders will be provided for which are not to hand in the first week in April. Post-office orders to be made payable at the Borough Office to HAY, SANGSTER and Co., Newington Butts, London, 6th March, 1852.—Subjoined is the analysis of two highly respectable Chemists, of our stock in hand:—

"According to your request, we have examined the Potatoes, the produce of your prepared cuttings, and have found them to contain fully 17 per cent. of Starch, by treating them in the usual manner. "MAURICE SCANLAN, F.C.S.

"ALFRED ANDERSON, F.C.S.

"London, 9th March, 1852.

"Messrs. Hay, Sangster, and Co., Newington Butts."

HOSEA WATERER'S Descriptive Catalogue of AMERICAN PLANTS, CONIFERS, ROSES, &c., is just published, and may be had on application, enclosing two postage stamps, to Mr. HOSEA WATERER, Knap Hill Nursery, Woking, Surrey.

CARNATIONS, PICOTEES, PINKS, AND PANSIES.

YOUELL AND CO. are now sending out beautiful selections from their superb and extensive collection of the above, in remarkably strong and healthy plants, at the following prices:—

				£	*s.*	*d.*
25 pairs of superb varieties of Carnations and Picotees, by name				3	0	0
12	do.	do.	do.	1	10	0
12	do.	very fine	do.	1	16	0
12	do.	do.	do.	0	18	0
Fine mixed border do., per dozen pairs				0	9	0
True old Clove Carnation ,, ...				0	12	0
12 pairs of finest Pinks, by name				0	12	0
Pansies, all the newest and very best show flowers, per doz.				0	12	0
Do. fine showy border varieties, per dozen ...				0	6	0

All Orders of 2*l.* and upwards delivered free to any Railway Station within 150 miles of the Nursery.

Royal Nursery, Great Yarmouth.

CUCUMBER PLANTS.

CUTHILL'S BLACK SPINE CUCUMBER PLANTS are now ready. Cucumber and Melon Seed, 1*s.* per packet; Lisianthus, 1*s.*; the best sorts of Strawberry Seed, per packet, 2*s.* 6*d.* CUTHILL'S Pamphlet on the Potato (56 pages), 2*s.*; or by post, 2*s.* 4*d.* Also on Market Gardening Round London, 1*s.* 6*d.*; or by post, 1*s.* 8*d.* Post-office orders on Camberwell-green.

JAMES CUTHILL, Camberwell, London.

EXTRACT FROM A LETTER FROM LORD CAMOYS' STEWARD, TO MESSRS. SUTTON AND SONS:

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N.B.—Mangold Wurzel, Belgian Carrot, Turnip, and all other Agricultural Seeds of superior quality, a Priced Catalogue of which may be had in return for one penny stamp.

Address, JOHN SUTTON AND SONS, SEED GROWERS, Reading, Berks.

BALSAM SEED, the finest in the world, in five classes of colours, sealed Packets, with directions for culture, 2*s.* 6*d.* the five, or 9*d.* singly. Mimulus Gigantea, the largest in cultivation, 1*s.* to 5*s.* per plant. DAHLIAS: the Scarlet King, the finest of its class ever raised, 10*s.* 6*d.*; Sir F. Thesiger, Dr. Frampton, Sir Richard Whittington, Rob, and all the best new ones at catalogue prices; Ditto old favourites, 3*s.* to 9*s.* per dozen. Fuchsias, Geraniums, Cytisus Racemosus, Stove and Greenhouse Plants generally, bedding out Scarlet Geraniums, 2*s.* 6*d.* to 5*s.* per dozen.—Post-office orders to CHARLES R. SMALLBONE, Dungannon Nursery, Fulham, payable at Putney, promptly attended to.

DAHLIAS, PANSIES, CARNATIONS, PICOTEES, PINKS, ETC.

JOHN SCHOFIELD AND SON have now ready a very Choice and Select Catalogue of the above FLORIST FLOWERS. Strong healthy plants of the most established Favourites can be supplied at the following low rates:—

PANSIES	from 4*s.* to 15*s.* per dozen plants.
CARNATIONS ...	from 9*s.* to 20*s.* per dozen pairs.
PICOTEES	from 9*s.* to 20*s.* ,, ,,
PINKS	from 3*s.* to 12*s.* ,, ,,
DAHLIAS (in May)	from 6*s.* to 12*s.* ,, plants.

A few Packets of PANSY SEED, selected with care, 2*s.* 6*d.* per packet. Early application is respectfully requested.

Knowsthorpe, near Leeds, Yorkshire.

PORTUGAL LAURELS, ETC.

JAMES MACINTYRE having a large stock of PORTUGAL LAURELS, PHILLYREA, and LAURESTINAS, of various sizes and very superior growth, begs to offer them at very low prices, which may be obtained on application to him at the Taunton Nurseries, Somerset.

NEW AND RARE PLANTS.

HENRY WALTON, FLORIST, &c., Edge-end, Marsden, near Burnley, Lancashire, begs to inform his Friends and the Public in general that his SPRING CATALOGUE of choice New Geraniums, Dahlias, Fuchsias, Verbenas, Petunias, Cinerarias, Antirrhinums, &c., is now ready, and may be had by enclosing two stamps. Also strong, healthy plants of "Jenning's King" Pansy, universally allowed to be the best dark purple self out, 5*s.* each; or 24 selected from Autumn Catalogue, to include one plant of the above "King," for 1*l.*, package included. A choice collection of Bedding Plants will be ready in April, including Verbenas, Heliotropes, all the leading sorts of scarlet Geraniums, &c. It is respectfully requested that all orders be accompanied with a Post-office order, made payable at Marsden, Lancashire.

N.B. Catalogues of choice Carnations and Picotees (of which H. W. possesses a good collection), may be had for one stamp.

FIRST-CLASS VERBENAS, FUCHSIAS, GERANIUMS, DAHLIAS, CHRYSANTHEMUMS, CINERARIAS, PETUNIAS, PICOTEES, AND CARNATIONS.

GEORGE SMITH'S SELECT CATALOGUE is now ready, containing Priced Lists of all the leading kinds of both Show and Fancy varieties, in their various classes.

G. S.'s Seedling Verbenas, Fuchsias, &c., are of great merit, having taken numerous First-class Certificates, and having been highly recommended by the Press. For description see Catalogues, which will be forwarded on the receipt of one postage stamp.

N.B. Taylor's excellent "Treatise on the Chrysanthemum," 1*s.*; free by post, 1*s.* 2*d.*

Tollington Nursery, Hornsey-road, Islington, London.

JOHN HENCHMAN invites the attention of Amateurs and the Trade to his well known and extensive Stock of Choice SEEDLING CALCEOLARIAS. He is now sending out stout healthy Plants in small pots, at 6*s.* per dozen.

Ditto from the choicest seed, including a new and superior Shrubby breed, 12*s.* per dozen.

Strong plants in 48 pots for early blooming and specimen plants, 12*s.* per dozen; best varieties, 18*s.* per dozen.

Choice named PANSIES, healthy plants wintered in pots, 6*s.*, 9*s.*, and 12*s.* per dozen.

Choice Seedling CINERARIAS, fine plants, in 48 pots, just showing colour, 9*s.* to 12*s.* per dozen.

GENISTA FRAGRANS (true variety) full of bloom, in 48 pots, 6*s.* and 8*s.* per dozen; in 40 and 32 pots, 2 feet high and bushy, 12*s.* to 18*s.* per dozen.

Choice CALCEOLARIA Seed, 2*s.* 6*d.* per packet.

HOLLYHOCK Seed, from Chater's best named sorts, 2*s.* 6*d.* per packet.

Choice LEMON and ORANGE AFRICAN and DWARF FRENCH MARYGOLD, at 6*d.* per packet.

*** Post-office orders are requested from unknown correspondents.—Edmonton, near London, March 13.

SEED AND HORTICULTURAL ESTABLISHMENT,
SUDBURY, SUFFOLK.

BASS AND BROWN'S ANNUAL SEED AND PLANT LIST FOR 1852, containing 36 pages, now supplied, prepaid, for four postage stamps, as the newspaper-stamped copies are distributed. A few more stamped copies of the Autumn Catalogue, which contains the Roses, Hardy Plants, Climbers, Prize Gooseberries, &c.

VEGETABLE SEEDS,
OF THE VERY BEST SORTS IN CULTIVATION.

ASSORTED COLLECTIONS, 50*s.*, 30*s.*, 20*s.*, and 10*s.* 6*d.*, or any sorts supplied separate, at the lowest prices, for first-rate quality. See Catalogue.

FLOWER SEEDS,
FREE BY POST.

Useful printed instructions for sowing and raising seeds sent with each order.

BEST ASSORTMENTS.

	£	*s.*	*d.*
100 varieties best and newest Annuals	0	15	0
50 varieties, 8*s.* 6*d.*; 30 varieties, 6*s.* 6*d.*; 20 varieties	0	4	0
20 varieties of best Dwarf Annuals, large packets, for filling out lawn beds, &c.	0	7	6
12 varieties, do.	0	5	0
20 varieties choice and new Greenhouse Annuals ...	0	7	6
12 varieties, do.	0	5	0
20 varieties choice and new Greenhouse Perennials	0	10	6
12 varieties, do.	0	7	6
20 varieties choice and new Biennials and Perennials	0	7	6
12 varieties, do.	0	5	0

CHOICE IMPORTED GERMAN SEEDS.

A superb collection of Stocks, Asters, Wallflower, Larkspur, Balsams, Senecio, Zinnia, Cockscomb, Indian Pink, &c. See Catalogue, page 4.

GRASS SEEDS,

Assorted and mixed, of the very best sorts, for the purposes required.

Mixtures for Permanent Pastures, Park Mixtures, and Mixtures for fine Lawns, Bowling-greens, &c.; also Mixtures to suit all soils and situations.

For priced List of Grasses, see our Seed and Plant List, page 14, by which each sort may be had separately.

TRUE ITALIAN RYE GRASS, ENGLISH AND IMPORTED, &c. Our Mixtures of Grasses have given the highest satisfaction.

Remittances required from unknown correspondents. Post-office orders to be made payable to BASS and BROWN, or to STEPHEN BROWN. Goods sent carriage free to London, Ipswich, Norwich, or any station on the same line.

ESTABLISHED ABOUT HALF A CENTURY.

FRUIT TREES, ETC.

H. BIGLAND AND Co., NURSERYMEN and SEEDSMEN, Manchester, beg to offer APPLE and PEAR TREES, &c., at the following very low prices:—

Standard Apple Trees ... ... 9s. per dozen.
Do. Pear Trees ... ... 12s. ,,
Trained do. for walls ... 30s. ,,

H. B. and Co. beg also to call attention to their complete Collections of VEGETABLE and FLOWER SEEDS, to suit any sized Gardens, which they keep ready put up, for particulars of which see their printed Catalogue, which may be had on application.

N.B. Carriage paid on all orders of 2*l.* and upwards.

FLOWER SEEDS SENT FREE BY POST.

ROBERT WESTMACOTT begs to inform his Friends that he has selected with great care his Stock of FLOWER AND VEGETABLE SEEDS for the present season, including every variety worthy of cultivation. His GERMAN SEEDS are imported from the best foreign house, and are as good as can be procured. They consist of Stocks, Asters, Larkspurs, Balsams, Hollyhocks, double Wallflowers, Dianthus, Poppies, Zinnias, &c. His PRICED DESCRIPTIVE CATALOGUE may be had on application.

COLLECTIONS OF THE MOST SHOWY FLOWER SEEDS FOR LARGE OR SMALL GARDENS.

	One large packet of each.—*s.*	*d.*
50 well-assorted Annuals, Biennials, and Perennials ...	10	6
25 Do. Do. Do. ...	5	6
12 Do. Do. Do. ...	3	0

The above Flower Seeds may be had in smaller packets at half the price.—Stuart's Grove Nursery, Fulham Road, Chelsea.

FINE DOUBLE TUBEROSES,

4*s.* per dozen, just imported by

PAGE AND Co., SEED MERCHANTS TO THE AGRICULTURAL AND HORTICULTURAL SOCIETIES OF INDIA, &c. &c., Southampton. Priced Lists may be had upon application, containing only selected and approved varieties.

	s.	*d.*
PAGE'S BLOOD RED BEET, the finest crimson and best sort in cultivation per packet	1	0
NEW ROYAL CABBAGE LETTUCE, per packet ...	1	0
PAGE'S NEW HARDY WINTER WHITE COS LETTUCE, per packet	2	6
RANDOLPH'S GREEN CURLED ENDIVE (very superior), per packet	1	0
SILVER PICKLING ONION OF NOCERA, per packet	1	0
NEW EARLY RICH SCARLET FORCING CARROT, per packet	1	0
NEW RED BELGIAN CARROT, per packet	0	6
BRUSSELS SPROUTS, warranted true imported, and very fine, per packet	1	0

Testimonials are unnecessary, as we rely upon our reputation.—Gardeners and Land Stewards' Registry Offices, 37 and 38, Oxford-street, Southampton.

DWARF PEAS.

HAIRS'S DWARF MAMMOTH KNIGHT'S, acknowledged the best out, 2*s.* 6*d.* per quart.
BISHOP'S LONG-PODDED, 1*s.* per quart.
BURBIDGE'S ECLIPSE, 1*s.* per quart.

The above Peas have been most extensively grown in the principal horticultural establishments in the kingdom, and pronounced superior in every respect to the tall growing varieties.

FLOWER SEEDS.

ESCHSCHOLTZIA CALIFORNICA ALBA, a pure white, very good, 6*d.* per packet.
IPOMŒA BURRIDGII, splendid hardy creeper, 6*d.* per packet.
SAPONARIA CALABRICA, var. MULTIFLORA, one of the best bedding plants out, 6*d* per packet.
TROPÆOLUM COCCINEUM, handsome, 6*d.* per packet.
EUCHNIDEA BARTONIOIDES, splendid yellow, half-hardy, 6*d.* per packet.
GAURA LINDHEIMANII, fine herbaceous plant, 6*d.* per packet.

DUNCAN HAIRS offers to the gardening world the above small selection, as being deservedly worthy of universal attention. Catalogues of Garden, Agricultural, and Flower Seeds forwarded on application.

Seedsman and Florist, Wholesale and Retail, 109, St. Martin's-lane, London.

NEW AND CHOICE PLANTS.

HART AND NICKLIN, FLORISTS, Guildford, Surrey, recommend the following choice Seedling

CINERARIAS.

BEAUTY SUPREME, pure white, centre narrowly edged with deep crimson, beautifully cupped, 5*s.*
BEAUTY OF COMB BANK, pure white, centre edged with crimson purple, dark disc. 5*s.*
FORGET-ME-NOT, white centre, blue edge, fine bold flower. 5*s.*

When the three are taken, 10*s.* 6*d.* Blooming plants.

These were raised by Mr. Bates, gardener at Comb Bank, near Sevenoaks, and exhibited by him at the Horns Tavern in April, 1851, and greatly admired.

PANSIES.—Penelope, Robert Burns, Sylvia, Mr. Beck' Queen of England, Duke of Norfolk, Ophir, Hector, Mrs. Beck, Gulnare, Sambo, and Plantagenet. 10*s.* free by post.

FANCY GERANIUMS.—Alboni, Reine des Fleurs, Marian, Wintonia, Prince Albert, Prima Donna, Exquisite, Queen Superb, Empress, Grace Darling, Jenny Lind, and Defiance. 20*s.* the dozen.

Fine Picotees, 6*s.* per dozen pairs.
Fine Pansies, 8*s.* do. do.

Superior Primula sinensis, Antirrhinum, and Sweet William Seed, each 1*s.* per packet, free.

CHOICE PLANTS.

YOUELL AND CO.

BEG TO CALL ATTENTION TO THE FOLLOWING:—

CAMELLIAS of the choicest kinds, in good plants, 21*s.* per dozen. Possessing a large stock, we are induced to offer them at this price. To those anxious to form fine specimens, this is a grand opportunity.

Epacris, fine bushy plants, in large 48's of the handsomest varieties, full of flower, 9*s.* per dozen.

Aphelexis, in six best sorts, large bushy plants, in large 48's, covered with flower-buds, 12*s.* per dozen.

Ericas, fine bushy blooming plants, of choice varieties, principally in large 48's, 9*s.* per dozen.

Corræa speciosa major, bicolor, and Cooperii, fine flowering plants, 9*s.* per dozen.

Erythrina Laurifolia, strong 2-year plants, 12*s.* per dozen.

Cinerarias, new and extra fine sorts, good plants, in large 48's, 9*s.* per dozen; in 60 size pots, 9*s.* per dozen.

Escallonia Macrantha, the finest perhaps of the new Hardy Shrubs, strong plants, 9*s.* per dozen.

Cantua Dependens, autumn struck, 18*s.* per dozen.

Calceolaria "Sultan," splendid dark variety, 9*s.* per dozen.

Calceolaria "Kentish Hero," fine for bedding, 6*s.* per dozen.

Gloxinia Petoiana, this superb light variety sent out by us last season, the finest of its class; strong bulbs, 3*s.* 6*d.* each.

Gloxinias, the best sorts, large flowering bulbs, 9*s.* per dozen.

Jasminum gracile, one of the most fragrant of flowers, 12*s.* per dozen.

Veronica Andersonii, very choice, of the easiest culture, 1*s.* 6*d.* each.

Nerium, 6 fine new varieties, extra strong, for 6*s.*

Coleonema pulchra, nice plants, 9*s.* per dozen.

Leschenaultia formosa and Baxteri major, strong, 9*s.* p. doz.

Diosma ericoides—its sweetly-scented foliage excellent for bouquets—nice bushy plants, 6*s.* per dozen.

Mitraria coccinea; this fine hardy shrub produces numerous scarlet flowers, very similar in form and colour to Erica splendens, strong and bushy, 9*s.* per dozen.

Oxalis floribunda, one of our handsomest hardy herbaceous plants, excellent for bedding, 6*s.* per dozen.

Dielytra spectabilis, strong plants, 9*s.* per dozen.

Lilium lancifolium album, good flowering bulbs, 6*s.* to 9*s.* per dozen.

Lilium eximium and Longiflorum, good flowering bulbs, 6*s.* per dozen.

Lily of the Valley, strong, 5*s* per 100.

New French and Belgian Daisies, in 50 best sorts, 9*s.* per doz.

Quercus lanata, the king of evergreen Oaks, 3*s.* 6*d.* each.

Quercus Fordii, splendid evergreen tree, 1 foot, 9*s.*; 1½ feet to 2 feet, 18*s.* per dozen.

Ilex latifolia; the Laurel-like foliage of this fine hardy shrub renders it peculiarly desirable; strong, 1 to 1½ foot, 12*s.* per doz., 3 to 4 feet, 5*s.* each.

Ilex Sheppardii, a fine variety, with very broad foliage, 1*s.* 6*d.* each.

Weigela rosea, Forsythia viridissima, Jasminium revolutum, and Escallonia Montevidensis, 2 feet, bushy, 9*s.* per dozen; Hedera Regneriana, Passiflora cærulea, and Clematis montana, 9*s.* per dozen; very strong; sweet-scented Clematis, extra strong, 6*s.* per dozen; Euonymus japonica, silver-striped, strong, 4*s* per dozen.

Roses, dwarf climbers and others, in many fine varieties, 5*s.* per dozen.

Fancy Geraniums, choice sorts, 9*s.* per dozen.

Rockets, double white, strong plants, 3*s.* per dozen.
Ditto, purple, ditto, 6*s* per dozen.

Phloxes, in many fine new varieties, 6*s.* per dozen.

Statice latifolia and pseudo-armeria; these fine hardy plants 6*s.* per dozen.

Herbaceous plants in great variety, per 100 species and varieties, 20*s.*

Choice ditto in pots, 4*s.* per dozen.

Fuchsias, very fine varieties of last year, and others; strong plants, 6*s.* per dozen.

CONIFERS.

Being large holders of these, we propose to sell at the following prices;—

Araucaria imbricata, 1 foot, 18*s.*; 1½ to 2 feet, 42*s.* per dozen.

Cedrus Deodara, the sacred Cedar of the Himalayas, as hardy as the Larch, and perfectly evergreen; plants very bushy, 1 ft., 9*s.*; 1½ to 2 feet, 18*s.* per dozen.

Juniperus (Cupressus) Uhdeana, a very ornamental species, 1 to 1½ foot, 9*s* per dozen.

Juniperus Bedfordiana, very bushy, 1 to 1½ foot, 6*s.* per doz.

Pinus excelsa, of fine silvery foliage, 1 to 1½ foot, 9*s.*; 3 to 4 feet, 30*s.* per dozen.

Cedrus Libanus, 4 to 6 feet; and C. argenteus, 1 to 1½ foot, 2*s.* 6*d.* each.

Picea cephalonica, 15 inches, 2*s.* 6*d.* each.
,, Pindrow, 6 inches, 9*s.* per dozen.
,, Nordmanniana, 4 inches, 30*s.* per dozen.

Pinus Gerardiana, 6 to 9 inches, stout and bushy, 6*s.* p. doz.

Abies morinda, true, fine plants, 1½ to 2 feet, 20*s.* per dozen; 1 to 1½ foot, 6*s.* per dozen.

Abies pumila, dwarf and bushy, 12*s.* per dozen.
,, orientalis, true, do. do., 12*s.* per dozen.
,, Menziesii, one of the most distinct of Conifers, its silvery foliage forming a striking contrast to the deep green of other species, 9 to 12 inches, 9*s.*; 12 to 18 inches, 12*s.* per dozen.

Cryptomeria japonica, 2 to 3 feet, seedlings, in fine health, 42*s.* per dozen.

Cupressus torulosa, a fine evergreen, of the most symmetrical form, 1 to 1½ foot, 9*s.* per dozen.

CHOICE FRUITS.

TRUE FASTOLFF RASPBERRY.

Y. and Co beg to announce they are now executing orders for the above, in fine strong Canes of the same stock as they had the honour of supplying to her Majesty's Garden and most of the nobility. 15*s.* per 100.

Fine large White Raspberry, 3*s.* per dozen.

Peaches, Nectarines, and Apricots, 4 years trained, and forward for bearing, 5*s.* each.

Cherries and Plums, 4 years trained, 3*s.* 6*d.* each.

Pears and Apples, fine Espalier, 24*s.* per dozen.

The above are of the most select kinds, and worked from the Stock of the Horticultural Society of London, and are warranted correct to their sorts.

Sturmer and Anglesea Pippin, two of the very best early and late table Apples, fine Espalier, 24*s.* per dozen; Standards, 1*s.* 6*d*, Dwarfs, 1*s.* each.

Gooseberries, in 31 of the best kinds, selected for size and flavour, 3*s.* 6*d.* per dozen.

Currants, improved large White Dutch, 4*s.* per dozen.
,, Black Naples, 4*s.* per dozen.
,, Large Red Grape, 2*s.* 6*d.* per dozen.
,, Victoria or Raby Castle, very fine red, 4*s.* per dozen.

Rhubarb, fine roots, comprising Mitchell's Royal Albert, 9*s.* per dozen, Myatt's Linnæus, 9*s.* per dozen; Myatt's Victoria (the largest), 9*s.* per dozen; Tobolsk, 6*s.* per dozen.

Asparagus, Giant (strong), 2 and 3 years, 2*s.* 6*d.* and 3*s.* 6*d.* per 100.

Seakale, 1*s.* per dozen.

Roses, Standards and Half-standards, of the very best sorts in cultivation, 12*s.* to 15*s.* per dozen.

Evergreen Privet, 2½ to 4 feet, strong, 35*s.* per 1000, or 4*s.* per 100.

30 packets of Choicest Flower Seeds, free by post, for 6*s.*

All orders of 2l. and upwards delivered free to any Railway Station within 150 miles of the Nursery.

ROYAL NURSERY, GREAT YARMOUTH.

FINE YEW TREES.

ROBERT HOLBERT has a large quantity of fine transplanted YEW TREES from 2 feet to 4 feet high; also a quantity of larger plants from 6 feet to 7 feet. They are remarkably handsome specimens, and will be sold at low prices, which may be known on application to ROBERT HOLBERT, Nurseryman, Gloucester.

TRUE BLUE ORKNEY KIDNEY POTATOES,

DIRECT FROM ORKNEY, MAY BE HAD FROM

WILLIAM HAMILTON, SEEDSMAN, &c., 156, CHEAPSIDE, LONDON, price 2*s.* 6*d.* per peck; they are a most excellent Potato, and well adapted for any soil. Ash-leaf Kidney and Flourball Potatoes, 2*s.* 6*d.* per peck.

W. H. begs to inform those who may favour him with their orders for KITCHEN GARDEN SEEDS, that he will ensure their being supplied of the best quality.

A Descriptive Catalogue with prices may be had on application.

The following Flower Seeds, done up in packages so as to be easily transmitted by post, are strongly recommended, having for several years given universal satisfaction:—

	s.	*d.*
25 vars. SUPERIOR HAMBRO' 10-WEEK STOCKS	10	6
The same in smaller packets	5	6
12 ,, SUPERIOR HAMBRO' 10-WEEK STOCKS	3	6
24 ,, EXTRA FINE GERMAN ASTERS	5	6
12 ,, do. do. do.	3	6
12 ,, SPLENDID ZINNIAS	2	6
12 ,, SUPERIOR DOUBLE ROCKET LARKSPUR	2	6
6 ,, VERY CHOICE MOTTLED BALSAMS ...	2	6
50 vars. well-assorted Hardy Annuals	10	6
25 ,, do. do.	5	6
12 ,, Beautiful Hardy Annuals	2	6
25 ,, Perennials (many choice)	7	0
12 ,, do. do.	3	6

The above Annuals are done up in descriptive labels, giving the proper mode of culture.

Herbaceous and Bedding Plants, Shading Canvass, &c, &c.—Address, WILLIAM HAMILTON, Seedsman, &c., 156, Cheapside, London.

FINE GRASS LAWNS.—The importance of securing pure and fine SHORT GRASSES for GARDEN LAWNS has for many years engaged our special attention, and we believe that SUTTON'S FINE MIXED LAWN SEEDS are unrivalled. We have the satisfaction of receiving the thanks and commendations of many professional Gardeners and others, who, since using our seeds, have discontinued the expensive practice of cutting and carting old green sward to form new lawns.

The following testimony has been received, and is only similar to very many others:—

From Arlington Court, near Barnstaple, Devon.

"I shall always in future send to you, as the Grass Seeds proved entirely to my satisfaction."

From Eding Thorpe Rectory, North Walsham.

"The Grass Seed you sent me was most excellent. Three months ago I had no lawn at all; I have now a close, short, verdant lawn, the wonder of my neighbours."

These Grass Seeds will be sent carriage free, according to our former Advertisements. Price 1*s.* 3*d.* per lb., 3*s.* per gallon, 21*s.* per bushel.

Address—JOHN SUTTON and SONS, Seed-growers, Reading, Berks.

A NEW SEEDLING POTATO.

MESSRS. WHEELER AND SON have much pleasure in offering a New Seedling Potato, called

"THE PRINCE OF WALES."

It is an excellent Early Potato, in fact one of the earliest in cultivation, so early that it escapes the disease more than any other variety. It is a great bearer, of excellent quality, and, as we have a good stock, we can offer it at a low price. We have much pleasure in adding the following extract from the *Gardeners' Chronicle and Agricultural Gazette* of the 12th of April last:—

"PRINCE OF WALES POTATO: MESSRS. WHEELER, *of Gloucester*. We can speak, from personal experience, to the excellent quality, productiveness, and *earliness* of this variety."

We can offer it at 2*s.* 6*d.* per peck, or 9*s.* per bushel, bag and package included. All quantities of a bushel and upwards would be delivered carriage free to any Railway Station in England or Wales.

J. C. WHEELER and SON, 99, Northgate-street, Gloucester Nurserymen and Seedsmen to the Gloucester Agricultural Society.

NEW ROSES,

WHICH STILL MAY BE HAD OF

THOMAS CRIPPS, NURSERYMAN, Tunbridge Wells, Kent.

	Stds.	Dwfs.
HYBRID PERPETUAL.	*s.* *d.*	*s.* *d.*
Auguste Mie	0 0	... 7 6
Baronne Hallez ...	5 0	... 3 6
Caroline de Sansal	5 0	... 0 0
Chereau	3 6	... 3 0
Duchesse de Montpensier	3 0	... 2 0
Géants des Batailles	2 0	.. 1 6
General Cavaignac	5 0	... 0 0
General Negrier ...	5 0	... 3 6
George Lecamus ...	3 6	.. 2 6
Jean d'Arc	3 6	... 0 0
Léonore d'Este ...	3 6	... 2 6
Madame Guillot ...	3 0	... 2 0
Mdme. Lamoricière	3 6	... 3 0
Reine des Fleurs ...	0 0	... 2 0
Standard of Marengo	3 6	... 2 6
DAMASK PERPETUAL.		
New white Rose du Roi	0 0	... 3 0
PERPETUAL MOSS.		
Hermann Keryel ...	5 0	... 3 6
BOURBON.		
Bernardin de St. Pierre	3 0	... 2 0
Comte Bobrinsky ...	3 6	... 2 6
Paul and Virginia	5 0	... 0 0
HYBRID CHINA.		
Paul Ricaut	3 6	... 2 6
Triomphe de Bayeaux	2 6	... 2 0

Catalogues descriptive of the above may be had on application, by enclosing two postage stamps.

NEW AND CHOICE FLOWER SEEDS.

FREE BY POST.

MESSRS. WHEELER AND SON have selected out of their large collection of Flower Seeds the most beautiful and showy varieties, each sort distinct in colour, and calculated to produce a fine effect when planted out in beds or groups in the flower-garden. They have marked each variety with its Botanical and English Name—Height—Time of Flowering—Colour of the Flower—Manner of Growing—Whether Erect or Trailing, &c.—the Time it should be Sown, and with other valuable Hints as to its cultivation.

In selecting these varieties care has been taken to exclude all shy-bloomers, or such which have an insignificant appearance, so that the collections will comprise only those which are really showy and handsome, and which prove to the entire satisfaction of any lady or gentleman who might be disposed to order them. The

GERMAN STOCKS, ASTERS, ZINNIAS, LARKSPURS, &c., are most superb. The collections will be sent free by post to any part of the Kingdom at the following prices:—20 Extra Fine Varieties, all distinct, 5*s.*; 50 ditto ditto, 10*s.* 6*d.*; 100 ditto ditto, 20*s.*

J. C. WHEELER and SON, 99, Northgate-street, Gloucester. Nurserymen and Seedsmen to the Gloucestershire Agricultural Society.

STANDISH AND NOBLE'S detailed Advertisement will appear in this Paper on the first Saturday in every Month, to which they invite the attention of all interested in HARDY ORNAMENTAL PLANTS. Their Descriptive Catalogue, with the Treatise on the "Cultivation of American Plants," can still be had, by enclosing six stamps for postage.

Gentlemen requiring the services of a Landscape Gardener, can procure such by applying to the Advertisers.

Bagshot, Surrey, March 13.

LARGE SURPLUS STOCK.

WILLIAM E. RENDLE AND CO., Plymouth, are now disposing of a LARGE SURPLUS STOCK of the following, which are offered on *very moderate terms*:—

SCOTCH FIRS.—Four hundred thousand fine two years old seedling. 2*s.* per 1000.

TRANSPLANTED SCOTCH FIRS.—One year transplanted, nice young stuff, and well rooted, at 5*s.* per 1000.

JUDD'S GIANT ASPARAGUS.—An immense stock of fine roots. Two years, 1*s.* 6*d.* per 100; three years, 2*s.* 6*d.* per 100.

SEAKALE ROOTS, 3*s.* 6*d* per 100; stronger, 5*s.* per 100.

Apply to WILLIAM E. RENDLE and Co., Nurserymen, Plymouth. ESTABLISHED IN THE YEAR 1786.

CUCUMBERS AND POTATOES.

JAMES LAKE, NURSERYMAN, &c., Bridgewater, Somerset, begs to offer to the public his Seedling FIFTY-FOLD KIDNEY POTATO, six tubers of which were sent to Dr. Lindley (April 29, 1850), and produced 312; quality very good. Many other references since then can be given.—Price 2*s.* 6*d.* per peck, or 8*s.* per bushel.—J. L. having grown from 15 to 20 lights of ABAN'S "CONQUEROR OF THE WEST" CUCUMBER successfully for four years, can with confidence recommend it as one of the best kinds in cultivation.—Packets, containing 15 seeds, 1*s.* each. The Trade supplied. London Agents, HURST and M'MULLEN, 6, Leadenhall-street.

MAULE AND SONS beg to offer their respectful thanks to the Planters of HIMALAYA CONIFERA of the United Kingdom, America, and on the Continent, who have favoured them with their patronage, more particularly for the CEDRUS DEODARA, of which they are extensive growers; and as the applications daily are numerous, in order to prevent unnecessary trouble, they publish their scale of prices.

CEDRUS DEODARA.

Height.	per doz.	per 100.	per 1000.
6 inches to 9 inches.....	12*s.*	£3 15 0	£35
9 inches to 1 foot	18*s.*	5 0 0	40
1 foot to 1½ foot.....	24*s.*	7 10 0	70
1½ foot to 2 feet.....	30*s.*	10 0 0	
2 feet to 2½ feet.....	36*s.*	12 10 0	
2½ feet to 3 feet.....	42*s.*	15 0 0	
3½ feet to 4 feet.....	60*s.*	23 0 0	

The above are all grown from seed in suitable sized pots.

3½ feet to 4 feet..... 70*s.* 25 0 0

Grown without pots, and regularly transplanted.

The height quoted is as near as can be stated, but does not convey an adequate idea of the quality of the plants offered, as in most instances they measure as much in diameter as their quoted height.

As the season for planting seedlings in the nurseries is now arrived, MAULE and SONS beg to inform those gentlemen who may wish to acclimatise young plants of the Himalaya Conifera to any particular locality, that they can be supplied with healthy one-year seedlings, which have been grown in the open ground, unprotected to the present time, at the following prices:—

Abies morinda ... per 100	8*s.*	Pinus excelsa ..... per 100	10*s.*
,, Khutrow ... ,,	8*s.*	Picea Webbiana... ,,	20*s.*
,, Smithiana. ,,	8*s.*	,, Pindrow ... ,,	20*s.*
Cedrus Deodara . ,,	40*s.*		

Stapleton Road Nurseries, Bristol.

SURPLUS STOCK.

FOR CHEAPNESS, UTILITY, AND DISPLAY, the following are strongly recommended, CARRIAGE PAID (see below):—

SELECT HARDY HERBACEOUS PLANTS & ALPINES.

100 in 50 choice sorts, our selection ... ... 30*s.*
100 in 100 choice sorts, our own or purchaser's selection ... 42*s.*

FLOWERING AND EVERGREEN SHRUBS, ORNAMENTAL TREES, ETC.

Purchaser's, or our choice, per 100, in 100 kinds ... £2 10*s.*
Our own choice, in 50 kinds, fine ... ... £1 10*s.*
To gentlemen forming Arboretums, this is a fine opportunity.

COMMON LAURELS, 1½ to 2 feet, per 1000, 4*l.*, or 10*s.* per 100; 2 to 3 feet, bushy, per 1000, 5*l.*, or 12*s.* 6*d.* per 100.

PORTUGAL LAURELS, 1½ to 2 feet, 20*s.* per 100, 3*s.* per doz.; 2 to 3 feet, extra fine, 30*s.* per 100, 6*s.* per doz.

EVERGREEN PRIVET, fine, 2 to 3 feet, per 1000, 40*s.*, per 100, 5*s.*

LIMES, per 100, 30*s.*, 4 to 5 feet, fine Avenue Trees.

HORSE CHESTNUTS, 5 to 6 feet, 30*s.* per 100; 10 to 12 feet, 50*s.* per 100.

ROSES, 50 splendid sorts, standards, per 100, 5*l.*, or 18*s.* per doz., fine, our own selection; 100 superb sorts, Dwarf Roses, 7*s.*, or 9*s.* per doz., our own choice; mixed do., 30*s.* per 100, or 6*s.* per doz.

GREENHOUSE PLANTS.

50 first-rate sorts, own selection, 2*l.* 10*s.*, or 15*s.* per doz.
50 ditto, purchaser's choice, 3*l.*, or 18*s.* per doz.
ERICAS, 50 finest sorts, our choice, 2*l.* 10*s.*, or 15*s.* per doz.; purchaser's choice, 3*l.*, or 18*s.* per doz.
CHINESE AZALEAS, 20 fine show sorts, our choice, 21*s.*, or 15*s.* per doz; purchaser's choice 25*s.*, or 18*s.* per doz.
A splendid opportunity for specimen growers.

HOLLYHOCK SEED, warranted to produce 75 in 100 double, 1*s.* 6*d.* per packet.

GOOSEBERRIES, finest Lancashire sorts, per 1000, 4*l.*, in 100 sorts, named, or 10*s.* per 100, in 50 sorts.

CURRANTS May's Victoria, or Raby Castle Red, is the largest and best sort known, and ought to be in every garden. 2*s.* per 100, or 4*d.* per dozen; Red Grape and Champagne, fine, 1*s.* per 100, or 2*s.* per doz.

APPLES AND PEARS, fine clean standards, 10*s.* per doz., or 7*s.* per 100, choice of sorts left to us, very select.

PLUMS AND CHERRIES, finest sorts, standards, 18*s.* per doz., our choice; Dwarf Trained, 3*s.* 6*d.* each, or 36*s.* per doz.

APRICOTS, PEACHES, AND NECTARINES, fine three years' trained, of best sorts, own choice, 5*s.* each, or 50*s.* p. doz.

RASPBERRIES, Red Antwerp, 2*s.* per doz., or 12*s.* per 100; Monthly or Double Bearing, 12*s.* per 100, or 2*s.* per doz.

STRAWBERRIES, early and late kinds, 25 fine sorts of merit, 3*s.* 6*d.* per 100.

Address all communications to JOHN MAY, the Hope Nurseries, Leasning-lane, Bedale, Yorkshire.

All orders above 5l. carriage paid to London, Liverpool, Birmingham, and Edinburgh, and all the intermediate stations within 150 miles of the Nursery.

N.B. A fine stock of Larch, Spruce, Oak, &c.; sizes and price on application.

Ornamental grounds designed, executed, and furnished on liberal terms. Forest Planting by estimate.

A remittance or reference from unknown correspondents is respectfully requested.

HENRY GROOM, CLAPHAM RISE, near London, FLORIST BY APPOINTMENT TO HER MAJESTY THE QUEEN, and to HIS MAJESTY THE KING OF SAXONY, begs to say that his Spring Catalogue of PELARGONIUMS and NEW PLANTS is ready, and will be forwarded by post on application.

FINAL PLANTING OF THE RANUNCULUS.—As the final planting of our superb Collection is about to take place, we beg to recommend early orders from persons desirous to plant.

Selections, in strong roots, at the following reasonable charges, and sent free by post, with printed directions for planting and treatment:—

	s.	*d.*
50 varieties, superb Seedling, and other best sorts ...	37	6
50 varieties, very fine	18	0
Mixed, per 100, extra, 18*s.*; very fine, 10*s.*; fine border	5	0

ANEMONES.

50 varieties, finest double, 12*s.* 6*d.*; or free by post ...	14	0
Mixed, per 100, finest, 10*s.* 6*d.*; very fine	7	6

Remittances required from unknown correspondents.

BASS and BROWN, Seed and Horticultural Establishment, Sudbury, Suffolk.

"FLOWERS FOR BEES."

FROM

ABRAHAM HARDY & SON, SEEDGROWERS AND SEEDSMEN, Maldon, Essex.

"BOKHARA CLOVER" (MELILOTUS LEUCANTHA) an ornamental hardy perennial, grows 6 to 7 feet high, with numerous wreaths of white flowers. This is very attractive to the bees, which cause a constant "humming" round each plant, as in an apiary. Its foliage, slightly dried, possesses the most agreeable odorous properties imaginable; and if kept in the pocket, drawer, or wardrobe, in winter, discovers itself by a sweetness similar to new-mown hay, woodroof, or the Tonquin bean. —Price 6*d.* per packet.

"TREE MIGNONETTE" (RESEDA GRANDIFLORA), a hardy perennial, suitable to grow near an apiary. It attains a height of from 2 to 4 feet, producing abundance of blossoms, like sweet mignonette.—Price 6*d* per packet.

"SWEET MIGNONETTE" (RESEDA ODORATA), 8*d.* per oz.

HARDY & SON'S general priced Retail Seed Catalogue on application. All post free.

NOTICE.—The following New and Superb varieties of SEEDS can be warranted to give satisfaction to all purchasers, viz.:

HOLLYHOCK SEED.

This beautiful flower, from which a quantity of good sound seed has been procured from a gentleman amateur grower, who has one of the most superb and choice collections in cultivation; the Seed having been selected with every care and attention, it can be confidently recommended. Sold at 2*s.* 6*d.* per packet.

GERMAN ASTER SEED.

This variety has, within the last few years, been awarded upwards of 60 different prizes, and it stands unrivalled for its superiority of flower, the shape of which forms half a globe, and has been the admiration of numberless spectators. There are from 20 to 30 varieties. 1*s.* per packet.

SWEET WILLIAM SEED.

Saved from 36 superb varieties. The flowers are very large, splendid colours, and of dwarf habit. They were much admired when in bloom by countless spectators, and the seed numerously ordered by them. 1*s.* per packet.

ANTIRRHINUM SEED.

This has been selected with the greatest care from some of the finest and most superb varieties ever grown, both as to shape, colour, and habit of plant. There are more than 50 distinct and different varieties. 1*s.* per packet.

EXTRA FINE GIANT SCARLET BROMPTON STOCK SEED.

Unrivalled for its superior size and bright scarlet colour, also beautifully double; length of the spike of flower from 15 to 20 inches. Large packets 1*s.* each; or, if preferred, a packet of each of the above will be sent, postage and package free, for 5*s.*

Walcheren Cauliflower Broccoli (as imported)	1*s.*	per packet.	
Tamworth Broccoli	1*s.*	,,	
Wilcove Broccoli	1*s.*	,,	
Cole's superb solid Celery	6*d.*	,,	
Bath Cos Lettuce Seed, true; the best and finest flavoured Lettuce Seed in cultivation	1*s.*	,,	
Vegetable Marrow Seed, of very superb variety and delicious flavour	6*d.*	,,	

A remittance must accompany the order from all unknown correspondents, either by Post-office order or penny postage stamps, on receipt of which the Seeds shall be immediately sent.

Sold by EDWARD TILEY, Nurseryman, Seedsman and Florist, 41, Abbey Churchyard, Bath.

NEW ROSES ON THE MANETTII STOCK.

WOODLANDS NURSERY, MARESFIELD, NEAR UCKFIELD, SUSSEX.

WM. WOOD AND SON have much pleasure in offering fine Dwarf Plants in pots, of the following really good new Roses, worked on the Manettii Stock.

HYBRID PERPETUAL.	Per plant.—	*s.*	*d.*
*Auguste Mie, glossy pink, very large, superb		7	6
*Baronne Hallez, bright rosy crimson		3	6
Blanche de Beaulieu, pale flesh, perfect shape		3	6
Caroline de Sansalles, pale blush, very large, a superb Rose		5	0
Graziella, rich brilliant pink, very beautiful		5	0
*General Cavaignac, deep flesh, a fine Rose		3	6
*Madame Fremion, brilliant carmine, perfect shape, a first-rate new Rose		5	0
*Rosine Margottin, delicate flesh		3	0
Souvenir du Petit Roi de Rome, delicate pink, very beautiful		5	0
*Standard of Marengo, rich crimson, very showy ...		2	6
William Griffith, bright lilac Rose, most perfect shape, one of the finest		5	0
Madame Lamoricière, bright pink, superb		3	0

Also the following well-known favourites—MANETTII STOCKS: Per plant.—*s.* *d.*

Bourbon Comte Bobrinsky	2	6
* — Dupetit Thouars	1	6
Hybrid Bourbon, Paul Ricaut	2	6
*China, Mrs. Bosanquet, per dozen, 15*s.*, or	1	6

The kinds marked thus *, may also be had on their own roots at the same price.

ROSES LEFT TO W. W. AND SON'S SELECTION:

Fine selected tall Standard Union Roses, from 6 to 8 ft., these plants are particularly fine, each	3	6
Superior selected Standards ... ... Per doz.	18*s.* to 24	0
Fine Dwarfs and Dwarf Standards ... ,,	10*s.* to 18	0
Fine Dwarfs, on own roots, two of a sort ,,	6	0
Tea-scented Roses, in pots, very fine ... ,,	12*s.* to 18	0
Best varieties for Forcing, established in 6-inch pots, p. doz.	20	0
Dwarfs, on own roots, with names, per 100	30	0

N.B.—Additional plants presented with each order, with a view to lessen the expense of carriage.

Catalogues may be had GRATIS, on application.

WHEELER'S SEED LIST.

J. C. WHEELER AND SON'S Priced List of Agricultural, Garden, and Flower Seeds for this season, is now ready, and will be forwarded free to any address, on receipt of one postage stamp. In making out this list great care has been taken to exclude all useless varieties, so that it only comprises the names of the best Seeds in cultivation.—J. C. WHEELER and SON, Nurserymen and Seedsmen to the Gloucestershire Agricultural Society, 99, Northgate-street, Gloucester.

Seeds delivered, carriage free, to most parts of England and South Wales.

EPPS' COLLECTIONS OF KITCHEN GARDEN SEEDS.—No. 1, containing 24 quarts of the newest and best kinds of Peas and all other seeds in proportion, inclusive of Melons and Cucumbers ... £ 2 10 0
No. 2, in proportionate quantities 1 10 0
No. 3, ditto ditto 1 1 0
No. 4, ditto ditto 0 12 6

A list of the quantity in each collection may be had on application, also a Descriptive Catalogue of Seeds &c., &c.

The highest reference can be given in all parts of the United Kingdom. Carriage paid to any Railway Station in London.

W. J. EPPS begs to remark, that in consequence of his being one of the largest Seed Growers in the market, he is in a position to supply the above very satisfactorily.

High-street and Bower Nurseries, Maidstone.—March 13.

GREAT SALE OF NURSERY PLANTS.

PETER BOOTH, NURSERYMAN, Falkirk, is selling off, at very cheap prices, at his extensive Nursery Grounds, a very large stock of transplanted LARCH, SCOTCH, and SPRUCE FIR PLANTS, of strong and smaller sizes, including seedlings, with a great variety of many of the other kinds of Forest and Ornamental Trees, generally grown in large nurseries; also Fruit Trees, Gooseberry, Currant, and Raspberry Bushes, &c.

A large stock and great variety of very fine, strong, healthy Evergreen and Flowering Ornamental Shrubs.

A very fine stock of Standard, Half Standard, and Dwarf Roses, many of them of the new kinds, and also of the approved and most beautiful sorts.

N.B.—As the Advertiser wishes to retire from business, a Lease of all his Nursery Grounds (which belong to himself), and every encouragement, would be given to a purchaser of the above stock, and the good-will of the business, which has been carried on by his relations for more than 70 years past, and with great success.

Should a purchaser not be found, a partner with capital, and a good knowledge of the business, would be agreed with.

ROSES.

MESSRS. WILLISON, of the Rose Nursery, Whitby, having a large stock of strong, healthy, well-rooted plants of the fine old ever-blooming BLUSH CHINA ROSES (this being the proper time for planting in exposed situations), and they being suitable for Shrubberies, Flower Borders, Avenues, &c., giving a gay profusion of Flowers often until after Christmas (it is particularly adapted for winter Bouquets, either grown in a sheltered situation or forced in a greenhouse), beg to offer them at the low price of 20*s.* per 100.

N.B. All orders must be accompanied with a remittance or a proper reference.—Whitby, March 13.

BRITISH QUEEN POTATO, as early as the Shaw, and quality of the Regent, 6*s.* per bushel.

LAPSTONE KIDNEY, an exceedingly fine late kind, very fine flavour, 6*s.* per bushel; to be had of NUTTING and SONS, 46, Cheapside, London.

Seed for Agricultural, Horticultural, and Floricultural purposes of all kinds, of best stocks and growth.

The Gardeners' Chronicle.

SATURDAY, MARCH 13, 1852.

MEETINGS FOR THE ENSUING WEEK.

MONDAY,	March	15	Statistical (Anniversary) ..... 3 P.M. Chemical ..... 8 P.M.
TUESDAY,	—	16	Horticultural .. .. 3 P.M. Linnean ..... 8 P.M. Civil Engineers ..... 8 P.M. Pathological ..... 8 P.M.
WEDNESDAY,	—	17	Society of Arts ..... 8 P.M. Microscopical ..... 8 P.M. Ethnological ..... 8½ P.M.
THURSDAY	—	18	Antiquarian ..... 8 P.M. Royal ..... 8½ P.M.
FRIDAY,	—	19	Philological..... 8 P.M. Royal Institution..... 8½ P.M.
SATURDAY,	—	20	—Medical ..... 8 P.M.

AMONG the *Primates* of the GARDENING WORLD, must no doubt be enumerated the TRADESCANTS, to whom, father and son, an ancient monument still exists in Lambeth Church-yard, on which Time and parochial negligence have done their worst. This record of "long forgotten lore" some antiquarian friends are desirous of restoring; and, as we heartily wish them success, a corner of our columns may be worse occupied than by saying who the TRADESCANTS were, and what their claims upon posterity. The persons who bore this name were famous in their day. Emigrants from Flanders, as is generally believed, they were among the first to begin that introduction of exotic plants which has rendered Great Britain the emporium of horticultural rarities. In the catalogue of their garden, as published by the second TRADESCANT, we find Hollyhocks, Southernwood, Wormwood, the classical Acanthus, Prince's Feathers, that "great Flouramour or purple flowre gentle," Anemones of all sorts, Dogsbane; the "Arbor Judæ or Judas Tree with red flowres," which proves that they possessed hybernatories for their plants; the Birthworts of the South, also so incapable of bearing English cold that they are scarcely now to be found among us; numerous North American plants, meadow Saffrons from Constantinople; that "Fragraria Novæ Angliæ nondam descripta" the mother of our KEENS' Seedlings, and Scarlet and British Queen Strawberries; the "Hippomarathrum," or Rhubarb of the Monks, Marvels of Peru, "Paralysis fatua, foolish Cowslip, or Jack-an-apes on Horseback," probably the green monster of the common Oxlip, Pappas or Virginian Potatoes, "Populus alba Virginiana Tradescanti," apparently one of our Tacamahacs; Musk Roses, Double Yellow

Roses, and "Muscovie Roses," Fox Grapes, from Virginia, White and Red Burlett Grapes, Currant Grape, Muscadells, "Frontignack or Musked Grape, white and red," and as many other rarities of the day as fill more than 100 pages of the catalogue.

Along with this was a museum, or ark, full of curiosities. "Birds, their egges, beaks, feathers, clawes, and spurres," among which was "the claw of the bird Rock, who, as authors report, is able to trusse an elephant;" a whole bird of the "Doder, from the island Mauritius; it is not able to flie, being so big;" "four-footed beasts, with some hides, hornes, hoofs;" fishes, "shell-creatures," insects and serpents; fossils; "outlandish fruits, and the like, which are part of the Materia Medica. (Encroachers upon that faculty may try how they can crack such shels.)" In short, in TRADESCANT's ark was to be found the germ of our present British Museum. King CHARLES I., his Queen, the Duke and Duchess of BUCKINGHAM, the Archbishop of CANTERBURY, and all the lords and ladies of the court, are described as "Principall Benefactors," to the collection, which must have been a marvel for its time; so that, in the words of a manuscript note now before us, "the TRADESCANTS, both father and son, though common gardeners, were persons of uncommon genius."

According to SMITH, the elder TRADESCANT was for a considerable time in the service of the Lord Treasurer SALISBURY and Lord WOOTTON. He travelled into various parts of Europe, even reaching Russia, not a usual resort of Englishmen in those days, and is said to have been on board a fleet sent against the Algerines, in 1620. With his collections of Natural History, he appears to have settled at Lambeth, after which, about the year 1629, he obtained the title of gardener to King CHARLES I. His son is said to have travelled in North America, bringing home with him the blue-flowered perennial, which now bears his name, the American Strawberry above mentioned, and many other plants before unseen in England. The date of the death of the first TRADESCANT is unknown; his son died 22d April, 1662, having previously buried a son, who died 11th September, 1652. It was the second TRADESCANT who gave his collections to ELIAS ASHMOLE, 16th December, 1659, and thus laid the foundation of the Ashmolean Museum at Oxford.

The widow of the second TRADESCANT erected in Lambeth Church-yard a monument to the memory of her father-in-law, husband, and son, and she herself was accidentally drowned in a pond, 3rd April, 1678.

This monument is now in a state of dilapidation; it is described by SMITH "as a curious and rather splendid tomb, remarkable for its allusive decorations." The promoters of its restoration say:—"The monument was repaired by public subscription in 1773, but has now again fallen into decay. The inscription also on the stone that covers ASHMOLE's grave, who was himself buried in Lambeth Church, is now very nearly effaced. The restoration of that Church, now nearly finished, seems a fit occasion for repairing both these monuments. It is therefore proposed to raise a fund for the perfect restoration of the tomb of the TRADESCANTS, according to its original form, as represented in two drawings preserved in the Pepysian Library at Cambridge, and also for renewing ASHMOLE's epitaph. The cost will not be less than 100*l.*, and assistance is earnestly requested from all who are anxious to preserve ancient monuments, especially those who are following the same pursuits as the TRADESCANTS, and who are daily deriving benefit and delight from the labours and discoveries of these first of English gardeners and naturalists."

We should say that those who have a few shillings to spare cannot do better than transmit them for this laudable purpose to Sir WILLIAM J. HOOKER, K.H. &c., &c., Royal Gardens, Kew; Sir CHARLES G. YOUNG, Garter; JAMES FORBES YOUNG, Esq., M.D., Lambeth; PHILIP BURY DUNCAN, Esq., keeper of the Ashmolean Museum, Oxford; the Rev. C. B. DALTON, Rectory, Lambeth; or to Messrs. REEVE, Henrietta-street, Covent Garden; Messrs. VAN VOORST, Paternoster-row; Mr. PAMPLIN, Frith-street, Soho; or to the Old Bank, Oxford.

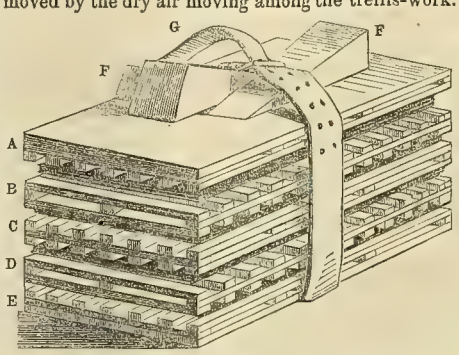
Gardeners more especially should stand by their order, and give some aid to the preservation of the few memorials that exist of their great predecessors.

WE are so frequently asked what is the best apparatus for DRYING PLANTS, that a few words on the subject, now that the season for studying botany has begun, will, we trust, be generally acceptable.

For botanical purposes, plants are dried by pressure between sheets of paper. After being deprived of superfluous parts, and having had the thick useless wood, if any, shaved off, the specimens are laid between some kind of stout coarse paper (BENTALL's is the best), in thick bundles, weighted down, and thus kept until the paper has become damp, by absorbing moisture from the specimens. The bundles are then unpressed, the paper dried, or changed for such as is dry, and the specimens are replaced to be again pressed. And this operation is continued until the specimens have become perfectly deprived of moisture. But the operation is tedious, and requires to be carefully watched, lest the bundles should become heated, in which case the specimens change colour, and rot, or fall in pieces. Continual shifting in the summer, even day by day, is therefore indispensable. This arises from the sheets of paper being pressed into compact masses, through which air is unable to circulate.

Of the many attempts to overcome this difficulty by far the best is one proposed (we think) by Mr. HENFREY, in his "Botanical Gazette;" and from which the idea of that which is here represented and described was mainly taken.

It was proposed to make wooden partitions of trellis-work, of any convenient size, by nailing narrow laths, half an inch apart, to both sides of cross laths, two of which would form the ends of the partitions. These partitions were to be placed among the sheets of paper containing the specimens to be dried; the top and bottom were to be stout boards, and the whole when put together was to be pressed in the usual way. By this contrivance air was enabled to circulate freely among the sheets of paper, shifting the specimens became needless, and all the trouble attending that operation, as well as the risk of heating, was completely removed. Nothing, in short, could answer better; for a specimen once placed in such a press, and left to dry, might remain till the whole of its water was removed by the dry air moving among the trellis-work.



The annexed cut represents this apparatus as a little improved by further experience:—A and E, the top and bottom, consist of half-inch boards, with the inner side trellised by *longitudinal* laths, half an inch apart; this is better than having the top and bottom untrellised. C is a trellised partition formed of laths, nailed *longitudinally* to cross-laths about 6 inches apart; B and D are similar partitions, formed by nailing laths *crosswise* upon three longitudinal laths; this is much better than having all the trellis-work longitudinal, in which case the bearing is less equally distributed, and the trellis work is apt to break accidentally. A dozen sheets of paper (more or less) filled with plants are placed between each pair of partitions; and the whole is bound down by a stout leathern strap, G; but as this strap may not communicate sufficient pressure, wooden wedges, F F, are driven between the strap and the top board, by which means any amount of bearing may be secured.

If too many sheets of paper are not placed together between the partitions, plants thus managed will generally require no attention whatever from the time they are placed between the sheets; but the press may stand on the floor of a dry room, and the plants be examined only when it may be perfectly convenient to do so.

THE AZALEA.

THE glowing banks of Azaleas which are annually exhibited at the May Exhibitions at Chiswick, and which form the most striking feature of these interesting displays, fully bear me out when I state that there is hardly a more showy plant in cultivation than that under notice, or one more deserving of the care of all who take delight in gardening. But its recommendations are not confined to floral display in May, for it adds the property of being easily induced to bloom during the winter months, when its flowers are especially acceptable, either in the conservatory or bouquet, and its culture is sufficiently easy to bring it within the reach of those whose accommodation is but limited.

In buying a stock to commence with, select young, dwarf, healthy plants, such as are not pot bound, and endeavour to procure them from a collection not infested with *thrips*. As early in spring as is convenient, place them near the glass in a house or pit, where a moist growing atmosphere is maintained, and where the night temperature averages from 50° to 55°. When they have occupied this situation for a fortnight or so, in order to induce a little root action, move them out of their pots; and if the ball is full of active roots, pot at once into pots two sizes larger than those in which they have been growing. The best soil for the Azalea is rich fibry peat, which should be cut twelve months before it is wanted, and should be in a moist but not wet state when used. The fibry portions only should be employed, and carefully broken up by the hand into small pieces about the size of a garden Bean, mixing them with sufficient sharp silver sand just to insure porosity after decay of the fibre has taken place. A sprinkling of clean potsherds and charcoal will also be useful in keeping the soil open, and permeable to water. The pots should be carefully drained. Upon the crocks place a thin layer of fibry peat, and upon that sprinkle some silver sand. In potting, make the fresh soil rather firm, and raise it sufficiently above the ball to prevent the water from passing off through the new soil. If the plants are sprinkled overhead morning and evening, very little water will be required at the roots during the first fortnight after potting. The roots will soon lay hold of the fresh soil, and then they may receive a more liberal supply of water. But at this early season, and in this stage it is easy to over-water. As the plants advance in growth, and the days become warmer, it will be necessary to admit air freely, but avoid cold currents, which are injurious to the tender foliage and wood.

Towards May the plants will probably have completed their growth, and unless they show a tendency soon to a second growth, the points of the shoots had better be pinched out, which will prevent their setting flower-buds, and if they are allowed to remain in a moist and moderately warm situation they will break into growth a second time, and with proper management this may be well ripened and hardened before winter. An airy situation in the greenhouse will suit best during winter, and while there they will require comparatively little water.

On the return of spring they may again be placed in heat, potted, and treated as recommended for last season, except that when they have completed their growth and set their flower-buds they should be gradually hardened off, and ultimately removed to a shady place out of doors, where they must be carefully watered, and to prevent worms entering the pots they should stand upon a bed of coal ashes, at least 4 inches deep. I have said nothing about training; but any person can effect that, as the Azalea requires less than most plants. I will presume, therefore, that the plants are by this time nice little specimens, and every shoot tipped with flower-buds. They must be placed in the greenhouse as soon as danger from frosts or drenching rains occurs. If it is wished to have them in flower at a given time during winter, place them in a situation where the temperature may average from 50° to 60° some six weeks previously, and keep them properly supplied with water. Some of the varieties have a tendency to make wood when excited by heat previous to flowering; but one season's experience will teach the cultivator that these are better left for late blooming, and also how many of his sorts belong to this division. Care must be exercised in removing the plants to the greenhouse or conservatory while in flower at this season; they require a temperature from 45° to 50°, and they must not be placed near where air is admitted.

When they have done flowering, remove the decayed blossoms, &c., and allow them a short period of rest before placing them in heat. If it is desired to secure a supply of blooming plants during the winter and spring months, this must be provided for by placing a portion in a growing atmosphere as early in spring as possible, and others in succession till July, removing each lot to cooler quarters when the growth is completed, and the flower-buds set. With this timely preparation, and the placing of the plants in a moderate heat some six weeks before the flowers are wanted, it will be easy to have a supply of blossoms from the end of December to the end of May. But it will be useless to attempt to force the Azalea unless it has been prepared for early blooming by early growth, &c.

Most of the varieties are propagated by cuttings of the young wood, selected in a firm but not hard state. These should be inserted in sandy peat, covered with a bell glass, kept in a cool part for a month or so, and then placed in a mild bottom heat, when they will soon emit roots, and may be potted singly in small pots, and kept close until established. The weaker growing varieties are better grafted upon healthy stocks of the stronger growing kinds, but any of the sorts will thrive upon their own roots; and the varieties which are usually grafted will form nice dwarf specimens if grown from cuttings. Cultivated in this way, however, they are somewhat tender, andliable to die suddenly if not properly treated. *Alpha.*

FOREIGN GARDEN GLEANINGS.

DRESDEN.—Amongst the best establishments of this far-famed town is that of Jacob Seidel, well known in the north for his Camellias, Azaleas, Rhododendrons, &c. Of Camellias there are from 550 to 560 species or varieties; the pyramidal ones are not more than 4 yards, whilst the standard ones are 5 or 6 yards in height. Those in espalier, which are kept in a house uncovered in summer, are about 3¼ or 4 feet high; this same house has three rows of Camellia in pyramid, which are not unlike the specimens of fruit trees found in our own gardens. The largest specimens are grown in tubs; the price of some of them is about 23*l.* 10*s.*

The specimens of Rhododendron arboreum deserve to be mentioned, on account of their size and healthy appearance. The Rhododendrons, of which there are

some 170 species or varieties, are arranged according to their height and worth. Although we were not much struck with the Rhododendrons in general, we were very pleased with the number and size of the Azaleas, which were larger than any we ever saw.

There are more than 200 species or varieties of Azalea indica, and at least 250 of other sorts. Nowhere have we seen such fine specimens of Azalea indica. They are arranged in pots according to their height, and are in summer in the open air. The plants of the same size are placed together, but at convenient distances the one from the other; each plant is surrounded by a pretty sort of crown, varying in diameter from 1½ yard to ⅔ yard; each size has a board and scale corresponding to it. The tall, straight, slender, branchless stems 2⅔ yards high, are placed first, then those 2¼ yards, then those 2 yards, &c. A beautiful effect is produced by this gradation, combined with the excellent forms and sizes of the plants.

There was a large specimen of Rhododendron pardoloton, but the ponticum was in no way remarkable. This section of plants is equally well composed; it was amongst its 60 species that we were surprised to find a magnificent specimen of chryselectrum, still very rare.

The next best establishment for Camellias was, we were told, the garden of his Royal Highness Prince John, Duke of Saxony, situate in a corner of the town, and under the superintendence of M. Wendschuch. The garden contains a large collection of Amaryllis, and some good Orchidaceous plants. In the house containing the last-mentioned plants, is the largest Nepenthes distillatoria which exists; it is planted in the open soil, on the side of a pit, in a small tub, kept constantly under water. Its branches were, when we saw it, 3½ yards long, and layered down. This same garden contains a large quantity of Camellias, Azaleas, and Rhododendrons; the first and last especially were fine, many middle-aged specimens forming pyramids 2¼ or 2¾ yards in height. They were worth from 4*l.* 12*s.* to 6*l.* 10*s.*

The botanic garden adjoins one of the promenades which surround the town; its school is tolerably complete, and the general appearance of the plants is good. This establishment possesses a small collection of common plants, another of experimental plants, and another square place where, every year, handsome trees are planted out for the summer. We noticed there a Stadmannia australis, which had grown more than 2 yards, and the leaves of which had doubled in length and breadth. The houses, though small and ill-constructed, contain some plants worthy of notice. A collection of Echinocactus, Cactus, Mammillaria, Melocactus, is equally well cultivated. The pots are in summer surrounded with sand, and placed out of the direct rays of the sun.

The vegetable and fruit markets resemble those of Leipzig in every respect; but outside the town there are splendid Vineyards, covering the south and east sides of the fertile mountain chain which surrounds the town. The ground is divided into hundreds of small lots, each having its own pretty little house built by the proprietor, according to his means and taste. *Masson's Report.*

BRITISH SONG BIRDS.

No. LXVIII.—Short has been the triumph of the poor blackbirds and thrushes, in an anticipated early spring! The late drenching rains, and tempestuous gales, have disturbed all their serenity; and for a season materially interfered with the joyousness of their song. The blackbirds' voices, until within these last few days, have been silenced altogether, and all preparations for the completion of nests have been suspended. At the present time of writing, however, operations are again being commenced.

It is curious to observe their solicitude, when thus interrupted by the changes in this uncertain climate of ours. They seem altogether put out for the time being, and only make their appearance in our gardens at intervals. If the feathered tribe ever *do* "think," it must surely be at such seasons as these!

Now that the heavy rains have ceased, and the sun is beginning to shine brightly, we may expect to see the birds speedily resume all their suspended duties. These keen, biting winds, may indeed retard their operations for a while; but their perseverance under difficulties will enable them soon to make up for lost time.

In our last, we dwelt much upon the admirable construction of the thrush's nest, and particularly spoke of the progressive architecture of the builder. We should have remarked, that the rounded form of this framework is produced by the bird measuring it, at every step of the process, with its body; particularly with the part extending from the thigh to the chin. It is this *uniform* course of action in all the tribe that causes us to make the discrimination between "instinct" and "reason." If we found an *exception* to a rule, facts would be against us; but it is not so.

The thrush lays four, sometimes five eggs. They are of a blue cast, spotted with black at the larger end. The nest is built in a Fir, or Holly; sometimes on the stump of a tree; and very frequently near the ground. It is easily discoverable, and therefore often becomes the property of the highway robber. The heads of these diabolical vagrants are a study worthy of the phrenologists. The savages would appear to have but *one* organ in their whole system—we hardly need say that we mean the organ of "Destructiveness." Being in such constant operation, no wonder its owners are such "adepts" in their unnatural vocations!

We may now look for an early return to the joys of spring. We have bid adieu to the heavy rains; and however cold the atmosphere, still the sun shows his glorious head at intervals, and cheers us by the way. The birds are not slow to notice this, and we sometimes find them giving way to the outburst of their full hearts. Would we were able once and for ever to prevent any of our field birds and garden warblers from being immured in cages! We do not advocate it,—we never did; but we do try hard to win them kind treatment *when* kept in confinement. Only let us hope we have not altogether laboured in vain! *William Kidd.*

WHAT THE EPACRIS ONCE WAS.

It is many years since we first became acquainted with Epacris grandiflora—a good and useful plant, but one that has suffered much ill-treatment from early cultivators, for its powers of endurance are great. Any plant approaching what we would now call a specimen, was sure to be rusty in the foliage and dead at the points of the shoots. What a contrast to the noble bushes of it which of late years have been exhibited, clothed profusely with both foliage and bloom.

Epacris miniata, being comparatively of late introduction, has escaped much of the bad treatment to which grandiflora was subjected. It is deservedly held in high estimation by plant growers, and is to be seen frequently in great perfection in many collections at our great exhibitions.

Epacris pungens, and pulchella, of late years have fallen into disrepute, owing to their not flowering seasonably for the shows; nevertheless they are still worthy of a place in the greenhouse. I have a vivid recollection of the beautiful specimens of these plants, which were at one time exhibited by Mr. Green at 21, Regent-street. They were tall, many-stemmed, with gracefully drooping branchlets, clothed with wreaths of flowers.

Epacris impressa, together with campanulata, alba, rosea, rubra, grandiflora, and other varieties, are very desirable plants for floral display, during the winter months. Indeed, to ladies and gentlemen who have only a greenhouse, they are indispensable; they are of easy culture, simply requiring during winter all the light that can be given them by day, and protection from frost at night. The soil best adapted for their growth, is the same as that which is proper for Heaths. As the flowers are always produced on the young wood, it is necessary that shortly after blooming, the shoots be cut back, and properly thinned and regulated. And the plants should be re-potted, giving them a moderate shift. They should be kept in the house until they begin to grow, when they may be put out of doors in a sheltered situation, or into cold frames, if these are to spare. At first, they merely require to be protected from heavy rains, and from frost at night. As the weather becomes warmer, and the plants commence growing freely, they should be fully exposed to the sun's rays, taking care that the pots are shaded, to prevent too rapid evaporation and consequent injury to the young roots. They may be watered with much advantage at this stage of their growth, with weak manure water. It is very essential that the water be well aired for a day or two before using it, as thousands of plants in pots are yearly destroyed by employing water at a low temperature from wells, tanks, and ponds, from which the sun's rays are excluded. Their rapid growth and vigorous health will amply repay the little attention they require, and although Epacris impressa and its varieties may not be elevated into distinction by their display at our great exhibitions, yet they will be not the less appreciated by all admirers of pretty flowers. *Tassel.*

RATEABILITY OF A NURSERYMAN'S STOCK IN TRADE.

Mr. Editor—The account in your Paper at p. 148, headed as above, and purporting to be a "Report of an Appeal," Messrs. Lane *v.* Parish of Berkhamstead, is so likely to mislead, that I consider it necessary to give you a true version of the case. Mr. Day, the appellant's solicitor, without entering into the case, requested the magistrates to give their assent to an arrangement which had been agreed to by the parties, viz., that the whole charge for "lights" should be struck out of the rate, and that the appellant should be allowed his costs. To this arrangement the magistrates gave their confirmation, and the case was concluded; consequently the whole statement, as regards Mr. Paine's report and the decision of the magistrates on the merits of the case, is a pure fabrication. The parish officers stated their intention to apply for a fresh valuation of Mr. Lane's premises previous to another rate being made. *T. Finch, Churchwarden, Berkhamstead, March 6.*

[The communication in question was sent us by the plaintiffs in this case; the original lies at our office, where it can be inspected.]

Home Correspondence.

Fumigating Plant Houses.—I have been induced to try the plan recommended by Mr. Ayres in a small house here, and I am happy to state that I am delighted with the result; it is not only effectual, but economical, as more than half the tobacco consumed in the ordinary way of fumigating is saved. For my experiment I used ½ lb. tobacco-paper, and about the fourth part of a pennyworth of nitre; instead of Cayenne I used chillies, having had some by me of last year's growth. I have fumigated the same house (which is 24 ft. long, by 16 ft. wide), frequently by the old system, viz., with a common flowerpot and a pair of bellows, and also with Brown's Patent Fumigator, but I never was so satisfied with either as I am with the plan in question, although there was always more than double the quantity of tobacco-paper used. I will therefore henceforth discontinue the old plan, but the fumigator will be useful for Cucumbers, Melons, plants in frames, and Standard Roses, &c. A few days ago I had occasion to fumigate a range of houses here 132 ft. long; if I had known of Mr. Ayres's plan then, more than half the tobacco-paper would have been saved, and all the inconvenience attending the old system avoided. As regards Mr. A's recipe "to catch a good cold," I cannot say a word, as neither myself nor foreman ever entered the house during the operation; we contented ourselves with a peep through the glass, and an occasional one in at the door, the wire sieve and its contents being placed there, as recommended by Mr. Ayres. *George Brown, Chirk Castle Gardens, North Wales.* [Why use tobacco paper, instead of tobacco? It costs less money, no doubt; but is the money so economically expended?]

Silk, and Silkworms.—It has occurred to me, that if we could bring our silkworms into life in June, when the Mulberry is in full leaf, and the weather is settled into summer dryness, the silk might be raised, to at least the same advantage, as it is in the south of France in the variable weather of the month of May. There, owing to damp, it is often necessary to have fires lit in the rooms occupied by the silkworms. I find from the tables published in Sir James Clark's "Influence of Climate," that the average temperature for June at Chiswick and London ranges between 60° and 61°, being exactly equivalent to that of Montpelier and Pau, in the south of France, in May. But is it possible to hatch the silkworms when we please? I recollect very well in my boyhood, some 40 years ago, having accelerated the birth of these little creatures by carrying the eggs in my pocket; that they never lived to taste the Mulberry leaf, but were fed on Lettuce, and, I think, Elm leaves, or some such sorry fare. The opposite task would not be quite so easy, but I think very practicable; and this brings me to the object I have in view in addressing you. I wish to enlist a few of your readers, who have the opportunity, as fellow experimenters with myself, in ascertaining whether this can be done without injury to the after health of the silkworms. My plan is at once to consign some silkworms' eggs to an ice-house, not however without a little wrapper of cotton-wool about them, and a place being chosen for them, where they will not be liable to be wetted. There I propose to allow them to remain till the middle of June, and then to take them out and transfer them to some cool place that they may not be thawed too rapidly. I have yet another string to my bow. I intend to cork up some eggs safely in a bottle, and to bury it about 2 feet in the ground, that is to say, at such a depth as would prevent the germination of any ordinary seed. A shady but dry place should be selected. The buried eggs would, of course, be brought forth at the same time (the middle of June) as those from the ice-house. It then seems necessary to carry on the experiment, not only until we ascertain that the worm comes forth from the shell, but that also its vital powers are unimpaired, and that the silk produced is not deficient in quantity or quality. In short, it is desirable that the whole experiment be worked out. I hope some of your readers will undertake it, and communicate to you the issue of the trial. I am the more anxious for this, because if the result is to be practically useful it ought to be based on more than one experiment; and because I may, very probably, myself be called away from home in the summer months, so as not to be able personally to attend to the matter. *H. J. S., Lattenbury-hill, St. Ives, Hunts.*

Culture of the Pine Apple.—As I have been very successful in the cultivation of Pine Apples, more especially the common Queen, my experience may be worth recording. The pit I used was a pigeon-holed brick pit, heated by hot water in pipes. Oak leaves were used for bottom heat and for plunging the plants in, and stable dung was employed for linings. As to soil:—Having obtained a sufficient quantity of good fibrous peat, containing a small portion of sand, it was broken into pieces by the spade, and frequently turned and watered with strong liquid manure from the farm-yard, for about two months. In June, having the required number of suckers, they were potted in the above kind of soil, in 8-inch pots, plunged in a bottom heat of about 80°, and shaded for about three weeks during the hottest part of the day, admitting a little air by tilting the back part of the lights. No watering or syringing was required during this time, from which till about the middle of September, the temperature was kept at from 80° to 90°. by day, and 70° by night, slightly syringing every other day, and watering as occasion required. From the above period, the temperature was reduced to about 65° or 68° by day, and 55° by night during the winter, syringing and watering being seldom needed. In the beginning of February the plants were repotted into 11-inch pots, using the same compost as before. At this time the bed was renewed, by adding a fresh supply of Oak leaves, taking care in the turning of it to place the new leaves at the bottom and old ones at the top, so that the bottom of the pots when plunged might just rest on the new material. The temperature was gradually increased as the season advanced, and watering and syringing were more freely resorted to till June, when the plants received their final shift. The largest specimens were placed in 16-inch pots, the smaller in 15-inch pots, using the same soil as before. They were now syringed freely, but watered sparingly, giving plenty of air, and slightly shading with such material as netting during the hottest part of the day; as the heat of the season declined, shading, watering, and syringing were, for the most part discontinued, and the temperature gradually reduced

to about 70° by day, and from 60° to 65° by night during the short days. In the beginning of February, the pit was again renewed, and particular care taken to keep up the bottom-heat by linings; the plants being freely syringed and watered, and the temperature gradually raised, admitting air when required. They soon began to show fruit, when the temperature was raised to about from 85° to 95° by day, and from 70° to 75° by night. When in flower, syringing was discontinued; but, when out of blossom, it was freely used, and frequent waterings of liquid manure water were applied, until the fruit was fully swelled, but it was sparingly used after that. By the above practice I have been able to cut handsome fruit, each weighing from 4 to 5 lbs. *H. Williams.*

Temperature of Pond-bottoms.—In the case where some surface ice exists, radiation from the bottom implies the pellucidity of the ice. Therefore it may be prevented by frequent breaking up of that ice with a spud or other instrument; for the fragments coalesce again into a substance nearly untransparent. *A. H.*

Cockney Lunchers in Kew Gardens.—I am sorry you do not agree with me as to allowing the cockneys to eat their luncheons in the gardens at Kew; first, because I think it is a selfish prohibition; next, because the gardens are very large, and are rather pleasure-gardens than mere botanic gardens; and, lastly, I cannot see what harm can arise from a few parties sitting under trees and enjoying themselves. However, it is well to discuss these matters, and at last one gets at the rights of a question. It was not long ago that only well-dressed people, out of livery, and without bundles, were allowed to pass through the parks; people will not believe this 10 years hence. How have the middling classes behaved at the Zoological Society? and how well I recollect the forebodings of their misconduct that disturbed the breasts of the conservative members of Council. I repeat, that in foreign gardens, as far as my experience goes, there is no such prohibition, unless, indeed, some new regulations may have been made at Paris—where it seems all that is liberal is changed, but whether as regards admission to gardens, I do not know. *Dodman.*

Polmaise Heating.—I perceive that this system of heating, of which so much was written and said some years back, is again brought prominently before your readers. I must say it appears to me to have been much overrated as to its power and capability of being applied with extraordinary advantage to horticultural purposes. Before I became practically acquainted with the system, I admired the able articles written in its favour, by (in my opinion) its too sanguine advocates, and nothing gave me greater pleasure than reading over those glowing descriptions of its working, wherein it was stated, that walking into a house heated by Polmaise, you felt yourself, as it were, transported into a most beautiful tropical clime, with a circulation in the air that made the foliage of all the plants move most delightfully, and that looking at a thermometer suspended in such a house, you would be quite surprised at the height it stood at; and the way this was accounted for by the writers, was this; "that it was the general movements in the air that caused you to be so much mistaken as to the actual heat of the house." Now this all looks very fine on paper, as it will be allowed by all persons at all acquainted with horticulture, that to have a free circulation of air with perfect command over the heating and moistening of it, in a plant house is a most desirable object to be attained. To say Polmaise does not cause a circulation would be going too far; but why endeavour to make it appear that heating by Polmaise is the only way of insuring this? Is it not well known that any heated surface will cause a movement in the air that surrounds it, and then where is the advantage of Polmaise over the other methods of heating in this respect? Surely there cannot be any, when a person has to get a lighted candle and hold it near either of the openings to find there is a sort of current. Something like this must have struck the late lamented Mr. Meek when, in talking of drains and air, he said, "It may prove that the form of matter we are employing is so extremely rapid in its movements that it requires no assistance at our hands. My experience of Polmaise reaches over about six years, and about the same number of different-shaped heating surfaces, and in no case did it answer my expectation. In fact, I have now an immense heating surface applied to a house (formerly set apart for growing Orchids, and heated sufficiently for that purpose by a hot-water apparatus) now occupied with Pelargoniums and some such matters, yet, in case of frost, I never depend on it, but turn to the hot-water apparatus, which luckily was not removed." The above remarks apply to Polmaise when put in opposition with a hot-water apparatus, which, I venture to predict, it will never supersede. As an adjunct to the other different systems of heating, I could say something from experience, but I fear I have already made this communication too long. *E. M. C.*——I have a Polmaise with which I am well satisfied, though I find imperfections in some particulars; one is that it requires much more attention than a hot-water apparatus, if you require the heat to be kept up; another is the generation of gas by which the top of my stove has twice been raised, and a serious, because pernicious, escape of gas into the house took place. Your correspondent "G. W.," alludes to a remedy for this evil, by drilling a hole in the door of the flue, and on this point I beg for explicit directions. I find that though my stove (made by Lewis) has only been in use three years, and has not been subjected to any severe heat, the top and the door have been burnt through, and the water pan much damaged. I would ask of "G. W." whether this should be so, and also at what distance from the stove he places the pan. The stove is in one corner of my house, and the stove over the water pan stands about 1½ foot above the level of the floor; when anything occurs below I am compelled to remove this stove, and cut away the cement in which it is bedded on two sides into the wall; this makes an unsightly patch, and I would inquire whether any wood flap, or anything else can be substituted for a broad flat stove or slate. "G. W." speaks of Mr. Meek's book: I wish he would publish another edition, with those improvements which a longer trial of so novel and valuable a system of heating houses has brought forth. *D. Stroud.* [As to the *furnace* door, drill through it a hole half an inch in diameter, and explosive air will never again accumulate.]

Cheap Protection for Wall Trees.—Being desirous of affording my Peach and Nectarine trees some protection, and disliking the unsightly wooden poles generally used for keeping the covering material off the trees, for wood I have substituted iron, which I think will last longer and answer the purpose better, besides being far less conspicuous. My plan is to drive pieces of iron into the wall for stays, the top ones being 2 inches from the wall, the middle ones 3 inches, and the bottom ones 4 inches. Through these I pass iron rods ¾ inch in diameter, which are drawn tight by means of nuts at either end of the rods. My blinds consist of very coarse canvass, which is 2½ feet wide. It is cut into the required lengths, and four pieces are sown together. This forms a blind 10 feet wide; it is tacked on to a lath the same length, 1¼ inch wide by ¾ inch thick. The iron stays at the top of the wall are turned up 1 inch at the ends, where the laths lay; two of the wires pass through the laths, which are thus kept firmly in their places. The bottom of the blind is provided with a very thin piece of wood, similar in shape to that used at the bottom of window blinds. A pulley is fixed into the wall at the top in the centre of each blind, and by means of a piece of string all can be raised or lowered in a few minutes. *Edgar Sanders, Kingswood Lodge.*

Helleborus Niger or Christmas Rose.—It is surprising that this plant, which has been so long in this country, so beautiful and so valuable on account of the season at which it flowers, should be so rarely met with in gardens. I believe one cause is, that people think it requires a mild winter, in order to bring out its flowers. In the report of the last meeting of the Horticultural Society, I see that the Hon. F. W. Strangways exhibited, among other things, some Hellebores (not Helleborus niger. *Ed.*) with a view to show the mildness of the climate in Dorsetshire. It may be interesting to know that in Yorkshire it grows and flowers exceedingly well every winter. I have several large plants in my flower borders here, which every winter, for nearly four months at a time, are objects of great beauty. Severe frosts injure the flowers which happen to be open when such frosts prevail, but as soon as there is a change of weather they are succeeded by fresh blossoms; and in this way there is a succession of flowers from the middle of December till the middle of April. They grow in borders of strong loam, they never receive any protection, and I never saw them so fine in any of the southern counties as they are here. *M. Saul, Allerton-park, Yorkshire.*

Rain at Holne Vicarage on the Banks of Dart, Dartmoor.—The following fell during the year 1851, as measured by Howard's rain gauge:—

	Inches.		Inches.
Jan.	21.88	Aug.	4.17
Feb.	3.89	Sept.	2.24
March	2.54	Oct.	5.88
April	13.63	Nov.	2.44
May	2.32	Dec.	5.73
June	5.80		77.92
July	7.40		

T. H., and H. H. Treby.

Orchard Houses, Protected Trellises, and Glass Walls.—Your correspondent, "A Hertsman," has, I think, treated Mr. Rivers with great suspicion in the matter of the cost of these structures. Having paid two visits to that gentleman's establishment during the past autumn, I can bear witness to the very satisfactory results obtained by him, and see no motive that he could have (even if his character for probity were not, as it is, of the highest order) for deceiving the public. Such houses as Mr. Rivers builds may answer the purpose of country gentlemen with small establishments, or clergymen, or of any one whose income would permit him to have such an adjunct to his rural pleasures. Although I confess I should not like to see such in the gardens of our aristocracy, where everything should be substantially built, yet I most fully approve of their plan, and believe that as they have repaid Mr. Rivers with certain crops of fruit, so they will also gratify those who may try them with similar results. I saw, too, Mr. Rivers' Peach trellis, and he told me that he had some very fine Peaches from it (as he has recently stated in your Paper). His trees were in such a beautiful state that if he would have sold them I would have given a good price for them; but they were too full of promise to be parted with. You will perhaps allow me, with all deference to you, to express my wonder that you have not allowed the merits of the new glass walls to be more fully discussed in your columns. Seeing that we have no dependence on our fickle climate, and that we have no alternative but to use glass in some form if we wish for fruit, this is a subject in which all are interested. I hail Mr. Ewing's plan as a step in the right direction, but believe that it is not now so perfect as it will be after it has undergone its ordeal. The Horticultural Society will do the country good service in testing its merits. I agree in some of the remarks of your clever correspondent "Dodman," and hope that you will receive any doubts which may arise on the subject in the minds of others, and discuss them, feeling assured that we shall all benefit thereby. *Henry Bailey, Nuneham.* [We certainly did not understand "A Hertsman" to question Mr. Rivers' veracity, which is above suspicion. What he seems to have doubted was whether Mr. R. had not, like others, deceived himself in the matter of estimates. *As soon as glass walls are in action* we shall be most ready to have their merits discussed.]

Societies.

Linnean, *March* 2.—Robert Brown, Esq., in the chair. A collection of specimens from the Herbarium of the late Dr. Sibthorp, illustrative of the Flora Græca, and collected by Dr. Sibthorp during his travels in Greece, was presented by Dr. Daubeny.—Mr. Adam White exhibited several specimens of the Eurostus validus of Dallas, captured by Mr. Fortune in the north of China, and drew attention to the fact, that although the insect when dry was brown, when immersed in spirits of wine it presented a beautiful green colour.—Mr. White made some general remarks on the importance of ascertaining the colours before death, as in many animals important specific characters may be thus obtained, which do not exist in preserved specimens.—Mr. Hope exhibited a series of drawings of the insects of Australia, by the Misses Harriet and Helena Scott, intended to illustrate a great work on the Entomology of Australia by their brother. The drawings, which were remarkable for their beauty and accuracy, were accompanied by a paper from Mr. Swainson, containing remarks on the more remarkable forms of insects contained in the collection. These notes were confined chiefly to the butterflies and moths, of which family many rare and remarkable species are found in Australia, representative and supplementary of those known in Europe and other parts of the world. Mr. Hope exhibited a fruit of the Araucaria Bidwillii. This tree attains a height of 80 or 90 feet, and produces a fruit the size of a man's head, being the largest of any of the family in Australia.—A continuation was read of Mr. Wood's botanical tour in France.—Dr. Thomas Thompson was elected a Fellow.

Entomological, 1*st March*—J. O. Westwood, Esq., F.L.S., President, in the chair. Amongst the donations received since the last meeting, was a box of insects from Hong-Kong, sent by J. C. Bowring, Esq., containing various interesting species, amongst which was a perfect moth reared from the larva, which is parasitic on Fulgora candelaria; also two boxes of British Lepidoptera, presented by Messrs. Douglas and J. F. Sheppard.—Mr. A. White exhibited a box of insects from New Holland and New Zealand, including a specimen of the fine Campylocnemis Schröteri, and a species of Enigma. He also gave some account of an extensive collection brought from Shanghai, and the interior of China (to the distance of 400 miles), by Mr. Fortune, amongst which was a specimen of the rare Dicranocephalus Wallichii, hitherto supposed to be a native of Nepaul.—Mr. Lubbock brought for distribution a number of specimens of Sirex duplex, of which he had reared nearly 100 males, and only a single female, from larches, near Bromley, Kent.—Mr. Augustus Shepherd exhibited a remarkably light-coloured variety of Hipparchia Galathea, taken in Essex. Mr. Douglas stated that he had reared Gelechia costella from larvæ, which had burrowed into the stems of Solanum dulcamara, but which, in the young state had fed within, and subsequently on the outer tegument of the leaves of the same plant. He also exhibited a specimen of Monohammus sartor, taken on the banks of the Regent's-park, and of Coccinella reppensis, from Mickleham, as well as a small white apodal larva, communicated by Dr. Marshall Hall, three of which had been voided by one of his patients, who had been in ill health for a long period. It had been doubted whether they were really larvæ or worms; but their structure proved them to be larvæ of a species of Muscidæ, allied to the common blow-fly, differing materially in structure from the larvæ of Anthomyia canicularia, which has been more commonly voided under similar circumstances. Mr. Curtis mentioned a case in which the larvæ of a species of Muscidæ had been voided by a boa constrictor, and Mr. Westwood stated that several of the serpents and lizards in the Jardin des Plantes, which had been fed with flies, had subsequently died in consequence of the larvæ of the flies hatching in their intestines. Mr. S. Stevens exhibited various beautiful exotic Lepidoptera from Brazil, collected by Mr. Bates, as well as from Richmond River, New Holland, and Shanghai. Mr. F. Bond exhibited a monstrous chrysalis of Sphinx ligustri, the tongue case of which was bifid.—Mr. A. White exhibited a large water insect (Belostoma sp.), of which a great cloud had been observed in the air, over the Persian Gulf, by the captain of the vessel which had brought over the recent cargo of the Nineveh marbles, and Mr. W. W. Saunders stated that this insect often visited lighted apartments after dark in India.—Mr. S. Stevens exhibited specimens of Dryophilus anobioides, reared (for the third year) from dried broom stumps, and Mr. F. Smith stated that he

had annually bred numbers of Ochina ptinoides from Ivy stumps.—Mr. Curtis communicated a plan for cleansing insects from mould, by means of the vapour of spirits of wine, as practised by Signor Ghiliani in Italy; and Mr. Douglas read a note on the habits of the larva of Phorodesmia smaragdaria, translated from the German of Dr. Koch.

Reviews.

The British Species of Angiocarpous Lichens, elucidated by their Sporidia. By the Rev. W. A. Leighton, B.A. London: Printed for the Ray Society, 1851. 8vo., pp. 101, tab. lith. xxx.

Too little regard has been paid, especially in this country, to the reproductive organs of Lichens to which the attention of physiologists has lately been called by the observations of Itzigsohn and others. The work before us is intended to remedy in part this reproach, but though extremely useful, as far as it goes, the execution is very far from being equal to the conception. The figures are extremely rough, and though the forms of the sporidia are well given, the sections are by no means so neatly or so well made out as the present demands of science require. The author does not seem to be acquainted with the observations of De Notaris in the same direction, and amongst matters of detail he does not always refer to the place where the best information is to be obtained; as for instance under Sphærophora, though he adverts to the observations of De Montagne, he does not mention the admirable figure and notes of Dr. Hooker in the "Flora Antarctica." As the author promises another series of these observations, we think it not superfluous to throw out the above hints, especially calling attention to the necessity, in dissections, of giving something like a representation of the structure of the frond, which is of nearly as much importance as the organs of fructification, though much more difficult of investigation; the shape of the asci too, ought always to be at least described, and also that of the paraphyses, which appears to have been generally neglected. These are of great importance in the Lichens with an open disc, the condition of the surface of which requires close examination. The characters too of the species examined should be given, as well as of the fruit.

It has been objected by some that the dissections are not accompanied by figures of the general appearance of the species, but it must be remembered that the additional expense would have been great, and very bad lithography is absolutely unfit for matters which require great skill in designing, and clearness of outline. As the sources from whence the specimens (generally authentic), were derived are uniformly indicated, the botanist may be content to refer to the figures which are quoted. The preceding remarks, we would observe, are made in no unfriendly spirit, but in the hope of rendering the succeeding volume or volumes more perfect.

Garden Memoranda.

Messrs. Henderson's Nursery, Pine-apple-place.—At the present season—when hard frosts and cold north-easterly winds prevail, when pits are closely matted up at night, and when everything out of doors that is at all tender is protected—it is quite refreshing on entering the show-house here to find oneself, as it were, in the midst of a miniature garden gay with blossoms, as in the month of May. We have seldom seen this house look more interesting than it does just now. The shelves and tables are literally loaded with flowering plants, and these are happily such as a person with even very limited means might have in bloom about this time of year; for most of them require but very little forcing. Here we had a most beautiful collection of Hyacinths in bloom; there, a batch of Camellias; while the rest was made up of Pelargoniums, Cinerarias, Cytisus racemosus, Azaleas, Tree Mignonette, Violets, spring Heaths, Cyclamens, Primulas, Lilacs, Fairy Roses, Tulips, Crocuses, and Narcissi. Among Pelargoniums the best for early work are acknowledged to be Album multiflorum, Washington, and Gauntlet. The latter is extremely showy on account of its fine colour, and it requires very little artificial excitement to bring it into blossom. Napier is the earliest of all; but its flowers are so inferior in beauty to those of the kinds we have just mentioned, that it has rather fallen into disrepute. Of Hyacinths, Waterloo (double red), and Vanqueur (single white), are among the very best for early flowering. Nimrod is a good single light blue, and Amicus a fine dark blue. Among Tulips, the Double Yellow Tournesole, and the Double dark red Rex Rubrorum, are most esteemed. Sir Walter Scott and Prince Albert Crocuses are kinds worthy of notice on account of their size and beauty. We had nearly omitted to mention that we saw in this house a pot full of the opposite-leaved Saxifrage, quite a mass of round, lively, gay pink flowers. For early spring decoration this plant is well worth attention, as is also the pretty Primula altaica from the neighbourhood of the Bosphorus. Both may be had in flower with very little trouble. All that is required is merely to lift them out of the open border, bring them forward in a cold pit, and, when in blossom, remove them to the greenhouse shelf, where they are very ornamental. The Pelargoniums in the two houses next the show-house, as well as those in the specimen house, looked promising. The Orchids were neatly arranged and in good health; but with the exception of the Wallich Phaius, a Dendrobe or two, and some Oncids, few of them were in bloom. In the Heath-house the handsome Epacris Hyacinthæflora candidissima, was finely in flower. This is certainly the best of the white kinds. In the specimen house several plants of the Intermediate Eriostemon were in full bloom even at this early season, and the free-flowering small growing E. scabrum was just beginning to expand. The lilac-blossomed Mirbelia floribunda was very handsome, as was also the white-flowered Gnidia pinifolia. Small plants of the charming Hovea pungens were also exceedingly gay, as were some of the smaller Acacias, which are suitable for pot culture. Those plants, however, which would perhaps be the greatest favourites with most people, were two noble specimens of Dielytra spectabilis, ornamented with fine racemes, clothed with pink flowers for at least a foot in length. One of these plants, well furnished with fine foliage and gay blossoms, measured quite 3 feet in height, and as much in diameter. The floral display in the Camellia-house, though now past its best, is still well kept up. Notwithstanding the cold winds we have experienced, even the delicate petals of the flowers here preserve their beauty unimpaired. Ipomœa Horsfalliæ was developing its lovely blossoms in one of the stoves in which Stephanotis floribunda has just been cleaned and re-trained. In a collection of variegated plants in this house, was Maranta (?) sanguinea in bloom, and a really handsome thing it is, fully confirming our account of it at p. 151. Messrs. Henderson have also a new Dracæna, called nobilis, which promises to be even handsomer than terminalis. The leaves are broader, and quite as highly coloured.

FLORICULTURE.

Culture of the Tree Carnation.—This charming plant is commonly called the Winter-flowering Carnation, from the desirable characteristic it possesses of blooming throughout that season. The name of Tree Carnation may be familiar to some of your readers, as the plant itself is not of recent introduction, although very few varieties seem originally to have been known, and those have now been entirely superseded by sorts lately imported; for it is our continental neighbours who have been so successful in raising them, and to whom we are principally indebted for these invaluable acquisitions; for not only are the varieties now more diversified in colour, but their growth and habit are altogether improved. In addition to their bright and varied colours, they are deliciously fragrant, a desideratum which cannot be too highly appreciated, some of the varieties being equal in perfume to the common Clove. Persons desirous of cultivating this tribe of Carnations should procure nice young plants, and keep them in a cool frame until the weather permits them to be exposed entirely to the open air, but at this season the lights should be taken off whenever it is practicable. Those who have old plants should strike cuttings this month, as young plants grow rapidly throughout the summer, and make by far the best specimens for winter blooming. Before taking cuttings, the plants should be put into a warm house, or one that is kept rather close; and those who have not this convenience should put them in the warmest part of the greenhouse; if this is done, the plants are excited to grow, and if the cuttings are then taken off, they will strike root more readily. Care should be taken to strike only from vigorous plants, and to select strong and healthy cuttings; for if this is not done, and the cuttings are taken from delicate and cankery plants, the colours of some of the varieties are inclined to run, besides which, the plants always maintain a sickly appearance. Tree Carnations will supply an abundance of cuttings, as most of the varieties continually throw out a profusion of laterals, which can be taken off at any season without injury to the parent plant; indeed, taking a few of them off in autumn has rather a tendency to strengthen the flowering shoots than otherwise. To insure cuttings taking root, either late in autumn or at this season, they must be struck in a little heat, but the cutting pots should not be covered with a glass, for if this is done, the cuttings will fog or damp off; besides which it is not necessary; and if no glass be used, they will want occasionally looking over, and any Grass carefully removed that is likely to create damp. After the cuttings are well rooted they should be potted singly into, say, 4-inch pots, and kept in a rather close and moist atmosphere until fully established, when they should be gradually hardened off in a cool frame. At this stage the tops may be pinched out, which will greatly assist the formation of nice plants. To those who have not the convenience of supplying warmth for striking cuttings during winter, I should recommend their being struck at the latter end of summer, to be potted off and kept in a cool frame during the winter, care being taken to keep them rather dry—a rule which should always be observed in wintering Carnations. The cutting pots should be prepared by first giving a good drainage of any sherds of a porous nature, then a few rough pieces of turfy loam to prevent the soil from being carried through the sherds; after this, take equal proportions of loam and silver sand, mix together, and fill until within a quarter of an inch of the rim, then complete by filling up with silver sand. Tree Carnations will thrive luxuriantly in a good maiden soil or loam mixed with a little silver sand, to which may be added a slight sprinkling of leaf-mould: the same soil may be used throughout the season, except when the plants are first shifted from the store pot, when a little more silver sand should be used. In spring the plants should be removed from the frame, and placed upon an open border, in any favourable situation; but first prepare it by spreading a thin layer of ashes, which will prevent worms from entering the pots. If at this time the plants require potting, a shift should be given them, but care must be taken not to over-pot them. I find that many varieties thrive better if gradually shifted into their blooming pots, say first from 3-inch into a 6-inch pot, and so on in proportion. The plants are comparatively no trouble during summer; they merely want watering, and sometimes stirring up the surface soil; but as they grow, care must be taken to secure the stems nicely with some neat sticks. The principal insects that attack them are the green flies; and these are easily removed by sprinkling with a little tobacco-water. If the weather and situation prove excessively hot in the summer, the plants may be removed with advantage to a border that is slightly shaded from the mid-day sun. If the above mode of treatment is followed, by the autumn the plants will have thrown up from three to eight stems each, and be laden with a profusion of buds, which, if the plants are removed to a greenhouse as soon as the weather is beginning to get damp and cold, will expand, and afford a continuance of blossom throughout the winter. These Carnations are not only valuable for their display in the greenhouse, but are, I may say, unequalled as a winter flower for the bouquet and other purposes, to which cut flowers are applied. The following are the names and colours of 12 of the best and most distinct varieties:—Attila, scarlet and white flake; Belle Zora, salmon pink, striped and mottled with crimson; Cassandra, bright cerise; Gertrude, lavender, mottled with white; Incomparable, deep rose, striped with crimson; La Sermi, blush white, mottled with rose; La Vestale, scarlet self; Le Zephir, purple; Madonna, blush, striped, and mottled with crimson; Proserpine, large dark crimson; The Baron, white, mottled with rose on the edge; Union, crimson, mottled with white. *William Bull, Wellington-road.*

Mr. Norman's Carnations and Picotees which were sold the other day by Mr. Protheroe, fetched 28*l.* for 180 pairs, being more than 3*s.* per pair; several lots of Mrs. Norman and similar scarce kinds realised 6*s.*, 7*s.*, and 8*s.* per pair. *J. E.*

Auriculas and Polyanthuses: *Stranger.* Now that the flower-buds are apparent, encourage by good treatment. *J. E.*

Camellias: *E., Liverpool.* When in town visit the nursery referred to, and you will see the leading varieties in flower, when you should select for yourself; a selection thus made must afford more gratification than when left to "an authority;" tastes like doctors differ. *J. E.*

Catalogue received from Mr. John Salter, Versailles Nursery, Hammersmi h. *J. E.*

Cinerarias: *F and J Smith.* An interesting batch, and evidently from a good strain. *J. E.—D F.* All pretty; but wanting in many properties esteemed by florists. They came in excellent condition. *J. E.*

Dahlia: Lizzy is the very *acme* of form and highly attractive, on account of it's cheerful colour; it will never be more than a front row flower; it is of Birmingham origin: Scarlet King was noticed at the time. See Sept. 20, 1851. *J. E.*

Pansies: *W B.* You should by all means take off the early buds, the shoots will be strengthened by the operation; top-dressing will not be needed unless the plants are in vigorous growth; any time this month will do. Keep down green-fly by fumigation. *J. E.*

Pelargoniums: *W C.* Sorts advertised for sending out last autumn may now be had in the shape of fresh struck cuttings, at a less price no doubt, but you will save nothing by buying such things; a plant at a guinea obtained early and well grown, is now fully worth what it cost; moreover it is probable that a cutting or two could have been made from the original plant. Look to our report at page 727, 1851, where all that were rewarded by the "National" are enumerated. *J. E.*

Pinks: *T.* The top-dressing may be got on as soon as the frost has left the ground; it would be imprudent to use it when the surface soil of your beds is frozen; fortunately, we had ours thickly distributed previously to the present hard weather. We anticipate that much of the usual uplifting after frosts will be avoided; if so, to the no little welfare of our stock. Pinks, perhaps, are at this season less prepossessing in their appearance than most stock, nor will they improve till some warm weather and mild showers set them growing. *J. E.—Thomas H.* It is useless to give a list now, as no good would result from planting at this season. Refer to our volume of last year. *J. E.*

Seedlings: *G G.* We cannot think seedlings are admitted into competition with "flowers out," in the general class showing, at the Society in question; you must, therefore, be in error as regards Dahlia Phantom. *J. E.*

North London Exhibition Day for Chrysanthemums is fixed for November 25. *J E.*

Miscellaneous.

Evils of indiscriminately Watering Plants in Pots immediately after being shifted.—To insert cuttings of plants, particularly those of a soft, woody, or succulent nature, into moist materials, before the wounds made in preparing them are healed over, is often attended with fatal consequences, from the moisture finding its way into the pores of the plant, thereby causing putrefaction and decay. The woody parts of plants being more consolidated and less porous than their roots, are altogether less calculated to imbibe an undue portion of moisture, yet we find that even these do so to a most injurious extent; therefore, we may reasonably conclude that roots mutilated and placed in the same circumstances would have a greater chance, from their peculiar organization, to suffer from such a cause; nor can there remain a doubt that they do so. This points out as most injudicious, the practice of turning plants out of their pots reducing their balls, as the case may

be, thereby lacerating every fibre, and placing every rootlet in a worse position than a cutting, and then finishing the operation by giving a good drenching of water, which, as we have already seen, must make dire havoc among the previously reduced channels by which the plants receives its food. Such is, in a great measure, the cause of delicate plants suffering so much from shifting, of the check they receive, unless the operation be carefully performed, and consequent loss of time in recovering from its effects. Still this is an every-day practice, that has descended to us hallowed by the customs of ages, and sanctioned by the highest authorities. Who ever heard of directions for shifting or potting plants, that did not end thus?—Give the whole a good watering, to settle the mould in the pots, and the operation is completed. After shifting or transplanting plants in hot weather, when a dry atmosphere causes, by excessive evaporation, an unusual drain upon the roots, the necessity of a supply will soon become apparent; and administering it under such circumstances is less injurious than under any other, from the activity maintained in every part of the plant, rendering stagnation an unlikely occurrence. But even then, when practicable, it is better to confine them in a close moist atmosphere, which, with water over-head and shade, will enable them to exist through the medium of the leaves until growing has commenced, and the roots are in a condition to receive, without injury, the necessary supply. It is, however, when there is a deficiency of heat, vegetation languid, and a corresponding danger from excess of moisture, that such precaution is most required, and the contrary practice most hurtful. Among seedlings of tender sorts, the mortality from such maltreatment is truly great; and when the impossibility of transplanting such without, in some shape, hurting their few and almost unformed spongioles, scarcely more consolidated than the fluid in which they are thoughtlessly immersed, is considered, their certain destruction is not to be wondered at. The advantages these derive from the treatment described, led me first to examine more closely what I deem a matter of much importance. Before quitting the subject I may add, that the injury inflicted by such treatment is not confined to plants alone; the soil, also, is oftentimes irreparably injured. It has been placed between the sides of the pot and the root-bound ball containing the plant, where, being in a comparatively loose state, it receives the whole of the water that is considered sufficient to moisten the whole mass; as, where there is so little resistance, it is as effectually repelled by the hard, and much more by a dry, ball as by the sides of the pot. This reduces what has been added to the condition of a puddle, and in this state it stands a good chance of being baked as hard as a brick. At all events, it has been totally unfitted to afford that nourishment to the plant it otherwise would have done. Such consequences may be avoided by applying moisture gradually; but if some time is allowed to elapse there is not so much to fear, even from the usual soaking, as the old and new material must, in the interim, have become equally dry; a state, let it be remembered, indispensable to the thorough incorporation of such materials. *Hovey's Magazine of Horticulture.*

Death of Mr. Oldaker.—We regret to have to announce the death of Mr. Oldaker, which took place on the 9th inst., at a very advanced age. He was gardener to Sir Joseph Banks, and we believe received a pension from the Emperor of Russia till his death. He was "a practical gardener" of the Horticultural Society of London, admitted to the privileges of Fellow.

Calendar of Operations.

(For the ensuing week.)

PLANT-HOUSES.

As active growth has now begun with the inmates of these houses, great care should be taken, by the free admission of air at all opportunities, and by keeping the plants at a sufficient distance apart, to prevent drawing. Directly, therefore, the newly-potted plants have taken to their shift, place them in situations where they can obtain the necessary amount of light and ventilation. Syringe stove and soft-wooded plants generally with tepid water, on the afternoons of sunny days; and keep a good amount of ventilation to hard-wooded greenhouse plants, but avoid anything like currents of cold air. Tie, and train into some desired shape, everything requiring such assistance, as the growth proceeds.

Orchid House.—Those kinds commenced their new growth, will require a warm, moist atmosphere; particularly Vandas, Aerides, Saccolabiums, and their allies, which should be placed at the warm end of the house, if a separate house is not appropriated to their growth. Daily shading will be necessary, and frequent syringing, to preserve the required humidity; keep a sharp look out for insects, which are a sad pest to these plants. Any kinds required for late blooming may be removed to a somewhat cooler temperature, now the regular house is kept up to its maximum point, which should not be under 65° by night, with a proportionate day temperature.

FORCING DEPARTMENT.

Vinery.—Strong young canes, the first year of bearing, when left any considerable length, are difficult to break regularly; such should be bent backwards, to allow the eyes at the lower end to push equally with the topmost; after which they may be trained in their proper position during bright sun. The leaves of Vines, where the border is at all cold or wet, often flag; the best preventive of this is to cover the border with warm dung and leaves before forcing commences. If such has not been done, lay Moss neatly round the main stem up to the top of the house, which, by being kept damp, will keep the bark moist, and facilitate the flow of sap upwards. Remove this immediately the roots in the border get in an active state. Vines in the late houses now breaking or swelling their buds, should be frequently damped, to keep the bark moist for the above reasons, although their roots may be in a perfectly healthy state.

Pinery.—In whatever way Pines are grown, the present month is the best in which to commence proceedings; when the plants grow in a bed of free soil, heated either by hot-water pipes, or by linings of hot stable-dung applied underneath (which is the more general plan in the neighbourhood of Paris), much less trouble follows their cultivation, and as a rule, heavier fruit is the result. The greater part of the Pines, however, in this country are in pots, and to these our directions are intended to apply. Amongst all the ingredients recommended for growing them, use only those soft yellow turfy loams, so highly prized for potting in general; if such is poor, a small portion of well-rotted manure may be added; this compost is quite sufficient for every purpose of pot culture. Where the plants grow in the open soil of a bed, one half of turfy peat may be added, with a portion of sand; many good growers use all peat,—we ourselves have procured heavier Pines from loam in its pure state, assisted by weak manure waterings: in potting, let the first shift be a small one, and if our previous directions have been followed, the roots will have made some progress, and nothing further will be required than the removal of any worn-out soil from the ball, and the liberation of the roots. On the open bed system, when the plants are intended to fruit, they should be placed at a sufficient distance apart, to allow for their ultimate growth, in which be guided by the kind of Pine planted. As a rule, Providences and large growing kinds will require 3 ft. in the row, and 2 ft. between the rows, and Queens a somewhat less distance. After potting let the plants be replunged in a bottom heat of 85°, at a distance to allow for their growth till next potting time.

FLOWER GARDEN AND SHRUBBERY.

Wherever a continuous show of flowers (through the season) is an object, allow me again to recommend a well assorted collection of herbaceous plants, for, although they are not so well adapted for the parterre as their more fashionable congeners, yet the beauty, variety, and lengthened period through which they delight us, ought to procure for them a universal introduction. What can be finer than some of the Delphiniums, Phloxes, Lychnis, Gentians, and a host of things, similar in habit, keeping up a succession of bloom from April to November? Make good, by constant propagation, any deficiencies not yet filled up in the stock of plants required for the open borders in May. There are several things of which a large quantity required for edging and other purposes, and which may be planted out at once from the cutting-pan; amongst these the dwarf Lobelias are indispensable, and should be propagated in large quantities. As the time for gradually hardening off these things is approaching, get them so arranged that plants requiring similar management may be placed together. Presuming the pruning in this department is finished, and the necessary additions of manure and fresh soil made to the borders, let the lawns, &c., have a good sweeping, and afterwards be well rolled two or three times, that the turf may be clean and firm, before mowing, which in some places will soon be requisite.

HARDY FRUIT GARDEN.

The present frosty nights, with clear cold days, will require increased vigilance to fruit trees against walls; everything at present is in favour of a crop, and the present low temperature is decidedly beneficial, by retarding the period of blooming. Plums, Cherries, and the best kinds of Pears, on east and west walls, should have some kind of protection given them before the bloom expands; for this purpose (and for south walls as well), we use temporary wooden copings, 1 ft. wide, as a conservative, and the trees are further protected with either double fish netting, or Beech spray. Finish the pruning of all kinds of fruit trees; and the training of espaliers and wall trees should be finished without delay.

KITCHEN GARDEN.

The principal work here is the getting in the various crops named in last week's Calendar. The planting out of Cauliflowers, &c., there recommended, should, however, be suspended till a change of weather occurs. In most places the land is in capital order, and the planting of Potatoes should now be brought to a close as quickly as possible. Trench, or dig over roughly, any plots not immediately required for cropping, to give them the advantage of the weather. Now the land is dry take the opportunity of wheeling sufficient dung to the vegetable quarters to serve for the season, that a final cleaning up of the quarters may be made preparatory to putting the gravel walks and paths in a state of complete repair for the summer. Kidney Beans sow every fortnight in pots, using a richer soil as the days advance, and guard against thrips and red spider, which infest this favourite vegetable when forced in houses; to avoid this a pit should be appropriated to their growth after this time, if such is heated with hot water, and the Beans are planted 18 inches from the glass on a foot of light rich soil, over a slight bottom heat, they will save much anxiety, and amply repay for pit room; a temperature of 60° should be maintained to grow them fully. The last Mushroom bed may be made for the season, unless special reasons exist for growing them throughout the summer.

State of the Weather near London, for the week ending March 11, 1852, as observed at the Horticultural Gardens, Chiswick.

March.	Moon's Age.	Barometer.		Temperature.					Wind	Rain.
				Of the Air.			Of the Earth			
		Max.	Min.	Max.	Min.	Mean	1 foot deep.	2 feet deep.		
Friday.. 5	14	30.739	30.648	45	19	32.0	36	37	S.E.	.00
Satur.. 6	15	30.710	30.693	46	25	35.5	36	37	N.E	.00
Sunday.. 7	16	30.685	30.579	50	28	39.0	35½	36	N.E.	.00
Monday 8	17	30.543	30.459	49	31	40.0	36½	36½	N.E.	.00
Tues.. .. 9	18	30.446	30.286	52	30	41.0	37½	37	N.E.	.00
Wed. .. 10	19	30.382	30.300	46	26	36.0	38½	37½	E.	.01
Thurs.. 11	20	30.240	30.217	45	34	39.5	38½	37½	N.E.	.00
Average .		30.536	30.449	47.5	27.5	37.5	36.9	36.9		.01

March 5—Sharp frost; clear, with bright sun; clear and frosty.
— 6—Frosty; hazy; barometer very high; fine; clear.
— 7—Frosty, slight dry haze; fine; slight haze.
— 8—Uniform haze; overcast throughout.
— 9—Cold dry haze; fine; clear at night.
— 10—Hazy; fine; foggy in the evening; slight drizzle.
— 11—Slight drizzle; overcast and cold; densely overcast at night.
Mean temperature of the week, 3½ deg. below the average.

State of the Weather at Chiswick, during the last 26 years, for the ensuing week, ending March 20, 1852.

March.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds.								
						N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	
Sunday 14	51.3	36.2	43.8	10	0.70 in.	1	4	3	1	4	9	4	2	
Mon 15	50.9	34.3	42.6	14	0.49	4	4	1	3	5	3	4	2	
Tues. 16	51.5	34.0	43.2	9	0.25	1	6	4	1	4	7	3	2	
Wed. 17	50.3	33.9	42.1	7	0.35	3	4	3	1	3	6	5	1	
Thurs. 18	50.3	33.7	42.0	6	0.10	3	6	1	1	3	6	3	3	
Friday 19	51.6	34.2	42.9	6	0.33	2	3	4	1	2	8	5	1	
Satur. 20	51.8	34.8	43.3	10	0.36	1	2	4	1	1	11	2	1	

The highest temperature during the above period occurred on the 19th and 20th, 1836—therm. 69 deg.; and the lowest on the 17th and 20th, 1815—therm. 16 deg.

Notices to Correspondents.

Botany: *G H.* Read a Leading Article in this week's Paper, where you will find the information we understand you to be in search of.

Conifers: *W B.* Sow your seeds in pans in pure yellow loam now, and place them in a cold frame. They do not require heat. ‡

Edgings: *Sub.* Acorns sown thickly, or Ivy, make excellent edgings; but all such things *must* require clipping.

Glass: *R Farquhar.* The sample you have sent is Hartley's patent rough plate; the best of all kinds for horticultural purposes. The Aberdeen glaziers are mistaken; or the two names have the same meaning. We cannot enter into private correspondence. — *Williams.* Use Hartley's patent rough plate, by all means; but do not let the squares be more than a foot wide. Remember, too, that the larger the squares the less ventilation you can have by the laps; so that you must provide for the admission of air in some other way.

Grapes: *Weltoniensis.* We believe that the Barbarossa Grape was confined to the garden of the late Mr. Ward, of Cowes. If in the trade, the nurseryman with whom you deal will be able to procure it for you.

Heating: *Winchester.* It is almost impossible to give you any formula that is practically valuable. If you will say the length, breadth, and depth at back of your house, and name the kind of plants to be cultivated in it, we will tell you what number of pipes will be necessary to secure your object.—*W.* 1, yes; 2, yes; 3, White Sweetwater, Black Hamburgh, Lombardy; 4, not very important; a matter of taste more than of necessity; 5, the roof may slope in any degree, not less than 35°; 6, cannot you graft the main branches all at once, without heading back to the main trunk? That is what we should do.—*J H B.* The flow and return ought to be 4-inch not 2-inch pipes. The time required to heat your house is, as you state it, excessive. Moreover, the 2-inch flow and return pipes will soon choke up, or at least become much less in diameter, if you use hard water.—*X Y Z.* 85° is as high as should be maintained.

Hydraulic Works: *G F.* We strongly recommend you to use the Portland cement sold by White and Sons, of Milbank-street, Westminster.

Insects: *Anna Emily.* The insects infesting your kitchen are a small species of cockroach (Blatta germanica), an insect of very rare occurrence in this country. The circumstance of its occurrence, and the facts you mention, are therefore curious. We should think they might be destroyed by fumigating the kitchen two or three times with brimstone, closing the chimney previously. *W.—H F R.* The top end of the Rose stock which you have sent contains a number of grubs or larvæ of two different kinds of insects, the white ones are those of the Aphis Lion (Cemonus unicolor). See our Vol. for 1850, p. 35. We may shortly state that the burrows are formed by the small parent wasp, and filled with aphides, upon which their progeny feed as soon as hatched. Shortly after all their store is consumed, as is now the case, they are transformed to inactive pupæ, and in a few weeks become active winged flies. The other darker coloured grubs are the larvæ of a species of saw-fly, whose curious history is at present under investigation. *W.*

Mints: *W Cox.* Trust to your nose and taste for the difference between Peppermint and Spearmint. We cannot undertake to teach "young beginners" the "whole particulars" of anything. You must get books that do so. Buy the "Tree Rose," one of the most useful of manuals. You must apply to your bookseller for trade information.

Model Cottages: *Enquirer.* Such as Prince Albert's, each consisting of four tenements, will cost between 440*l.* and 480*l.*, according to the printed statement. Park paling varies so much in price, according to the locality, and the kind of paling, that we can say nothing on that point. Why not obtain tenders from two or three different carpenters?

Names of Fruits: *J C X.* Your Apple is the Herefordshire Pearmain.‖

Names of Plants: *Sub.* Anomatheca cruenta, not suited for bedding out.

Netting: *A R T.* Dip it in a solution of chloride of zinc; the strength is not material. Berberis nepalensis is a new pinnated kind (or Mahonia), very handsome in foliage. It is scarce, but may be bought of the trade. The question of artificial manures is surrounded with difficulties. Guano alone is of any uniform strength. There is no doubt that the home made article is what should be relied upon; and, with the aid of peat charcoal, the preparation is simple, effectual, and inoffensive. But then the peat charcoal is too dear.

Rhynchospermum jasminoides: *W H.* It is a greenhouse plant; it will succeed in a mixture of loam, peat, and sand ‡

Worms on Lawns: *H B.* Lime water prepared by letting water stand over caustic lime, and pouring it off clear, applied continually, will bring them out of their holes, when they must be collected and destroyed. ‡

Young Gardener: *J A M.* Make him, first, a good practical labourer. Then let him learn, in addition to what is usual, mensuration, with the rudiments of chemistry, and as much botany and vegetable physiology as circumstances will permit. At the same time get him into some good private garden—a small one first, and when he is 18 as large a one as you can. Above all things take care that nothing which your kindness may prompt you to do will have the effect of lifting him above his sphere.

Misc: *V E.* Prince's Feather does not droop, Love-lies Bleeding does. There is a green variety of the latter.

NEW SORTS OF AGRICULTURAL SEEDS.

TRUE GIANT SAINTFOIN, *10s. per bushel.*
BISHOP'S LAST AND BEST PEA *(for double cropping).*
NEW SHORT PARSNIP *(for shallow or heavy soils).*
SKINLESS CHEVALIER BARLEY.
TRUE ASIATIC HYBRID CLOVER.

The sort shown by MESSRS. SUTTON *at the Great Exhibition, weighing 65 lbs. per bushel, and of which "honourable mention" was made in the Royal Commissioners' Report.*

A Priced Catalogue of the above valuable articles, and of all the best sorts of Mangolds, Carrot, Turnip, and other Agricultural Seeds may be had in return for one postage stamp, addressed JOHN SUTTON and SONS, Seed Growers, Reading, Berkshire.

TRUE LARGE RED ALTRINGHAM CARROT.

WM. JACKSON AND Co., SEED MERCHANTS, having grown a few cwts. of Seed of this excellent large CATTLE CARROT, from selected roots, offer it to the public at 1*s.* per lb. The growth of the Seed has been proved, and is genuine. Early orders are solicited.—Bedale, Yorkshire.

FOR COTTAGES, LODGES, &c.—A number of Ornamental Chimney Pots, suited for the above-mentioned buildings, have lately been added to the stock of AUSTIN and SEELEY.—Nos. 1 to 4, Keppel-row, New-road, London.

PERUVIAN GUANO.

CAUTION TO AGRICULTURISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

ANTONY GIBBS AND SONS, AS THE ONLY IMPORTERS OF PERUVIAN GUANO,

Consider it to be their duty to the Peruvian Government and to the Public again to recommend Farmers and all others who buy to be carefully on their guard.

The character of the parties from whom they purchase will of course be the best security, and in addition to particular attention to that point, ANTONY GIBBS AND SONS think it well to remind buyers that—

The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 9l. 5s. per ton, less 2½ per cent.

Any resales made by dealers at a lower price must therefore either leave a loss to them, or the article must be adulterated.

MANURES.—The following Manures are manufactured at Mr. LAWES'S Factory, Deptford Creek:

Turnip Manure, per ton	...	...	£7 0 0
Superphosphate of Lime	...	...	7 0 0
Sulphuric Acid and Coprolites	...	...	5 0 0

Office, 69, King William-street, City, London.

N.B. Peruvian Guano, guaranteed to contain 16 per cent. of Ammonia, 9*l.* 10*s.* per ton; and for 5 tons or more, 9*l.* 5*s.* per ton, in dock. Sulphate of ammonia, &c.

THE LONDON MANURE COMPANY offer the following Manures on the best terms, warranting every article strictly genuine:—Peruvian Guano, Superphosphate of Lime, Nitrate of Soda, Concentrated Urate, Peat Charcoal, Gypsum, Fishery Salt from Cornwall, also a constant supply of Salt for agricultural purposes; Linseed and Rape Cake. Peruvian Guano, warranted the genuine importation of Messrs. A. Gibbs and Sons, at 9*l.* 10*s.* per ton, or for 5 tons and upwards, 9*l.* 5*s.* in Dock. EDWARD PURSER, Sec.

40, New Bridge-street, Blackfriars.

FOSSIL BONES AND PSEUDO-COPROLITES.

(FROM THE SUFFOLK CRAG),

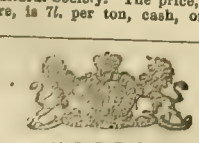
EDWARD PACKARD AND CO., of Ipswich, having erected very powerful Machinery for the purpose of reducing these Phosphatic Nodules to a fine Powder, and being in the immediate locality of where they are found, are now prepared to supply them on the most economical terms, in any quantity, either Ground, Whole, or Dissolved in Acid. They form the cheapest source of Phosphate of Lime in the market, and are peculiarly eligible for manufacturing Superphosphate of Lime in conjunction with Bone.

Prices and every information connected with their use forwarded on application to EDWARD PACKARD and Co., Artificial Manure Manufacturers, Ipswich, Suffolk.

TO AGRICULTURISTS.

OWEN'S ANIMALISED CARBON is now for Sale, at 2*l.* 5*s.* per ton in bulk.—This Manure has been introduced, with the most beneficial results, at St. Croix and the Mauritius, in the growth of the Sugar Cane, as proved by testimonials from the planters. The powerful fertilising properties of the Carbon have long since been acknowledged in Denmark, where it has been extensively used for agricultural purposes, as no less than 26,000 tons have already been sold. It is ready for immediate use, having no occasion to be ground, is equally as portable and diffusible as bones, and the low price at which it can be sold in this country must always be a paramount recommendation. *A liberal Commission allowed to Dealers or Agents.* For copies of the testimonials of its utility in this country, also for samples, apply to J. OWEN and Co., 3, Rood-lane.

Messrs. J. OWEN and Co. are now importing from their Copenhagen Manufactory SUPERPHOSPHATE OF LIME, of the very best description, containing at least 18 per cent. of Neutral Soluble Phosphate of Lime, and capable of furnishing at least 3 per cent. of Ammonia to the Soil. The "Analysis" is made by Professor J. THOMAS WAY, Consulting Chemist to the Royal Agricultural Society. The price, in London, of this powerful Manure, is 7*l.* per ton, cash, or Banker's Bill on London.



KOPROS,

PATENT MANURE FOR CORN AND OTHER PLANTS,

MANUFACTURED BY THE PATENTEE,

J. M. BLASHFIELD, Mill-wall, Poplar; and also sold at No. 1 Wharf, Praed-street, Paddington-basin.—The mineral ingredients contained in this MANURE are in the most perfect soluble form for incorporation with the soil, and for continuous action; and the lightness of the bulk, when compared with other Manures, is in the cost for carriage greatly in its favour. For the past two years it has been applied to various soils and plants with very general success. Since then improvements have been made in concentrating its most important elements, and in otherwise rendering it a very efficient artificial manure, rich in ammonia, phosphates, and silicates. Price of Patent Kopros for Corn Plants, 8*l.* per ton; for Turnips, Swedes, &c., 6*l.* per ton.

Superphosphate of Lime, for Turnips, Swedes, Mangold Wurzel, and other Root Crops.

NEW FARM SEED CATALOGUE.

RENDLE'S NEW AGRICULTURAL SEED CATALOGUE FOR THE PRESENT SEASON is just published, and can be had in exchange for ONE PENNY STAMP. It contains descriptions of all the best varieties of GRASSES for alternate Husbandry, Permanent Pasture, Ornamental Parks, and Pleasure Grounds, giving their peculiar properties, and the soils and situations to which they are best adapted. Also short descriptive accounts of all the best kinds of SWEDES, Scotch, Common, and Hybrid TURNIPS, as well as MANGOLD WURZELS, CARROTS, CABBAGES, PARSNIPS, and all other sorts of Seeds required in Agriculture.

The whole of the descriptions are in a concise and useful form, and will be found of much service to all engaged in the cultivation of the soil. The Subscribers will have much pleasure in forwarding a copy, to any address, on receipt of ONE PENNY STAMP.

Apply to WILLIAM E. RENDLE and Co., Seed Merchants, Plymouth.

ESTABLISHED MORE THAN HALF A CENTURY.

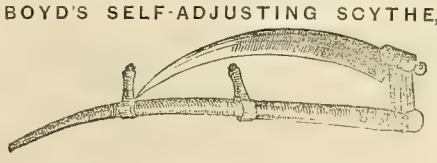
LINSEED AND CORN-CRUSHING MILLS.

E. R. TURNER AND Co., AGRICULTURAL IMPLEMENT MAKERS, IRON-FOUNDERS, MILLWRIGHTS, and ENGINEERS, St. Peter's Foundry, Ipswich, beg to call attention to the following varieties of their unrivalled ROLLER CRUSHING MILLS:—

	£	s.	d.
Roller Mill, No. I., for Linseed, Oats, Malt, &c. &c....	10	10	0
Do. No. II.	7	7	0
Registered Roller Mill, for Linseed, Oats, Malt, &c., and for breaking Beans and Peas	9	9	0
Do. do. large size, for Horse or Steam Power	13	13	0
Small Hand Mill, for Oats and Beans	5	5	0

Further particulars may be had on application to the Manufacturers, by whom references can be given to gentlemen having the above Mills in use.

BOYD'S SELF-ADJUSTING SCYTHE,



APPROVED BY PRINCE ALBERT, AND UNIVERSALLY RECOMMENDED BY PRACTICAL AND SCIENTIFIC MEN.

THIS SCYTHE, when out of use, shuts up like a knife. It can be adjusted to any angle in one minute (even by persons quite unused to the implement), without the assistance of blacksmith or forge. It may be used by amateurs as well as regular labourers, without fear of accident or injury, thus rendering Mowing an easy, safe, and economical operation.

To be had of all Ironmongers, Nurserymen, &c., in the Kingdom; and Wholesale and Retail at WM. DRAY and Co.'s Agricultural Implement and Machinery Warehouses, Swan-lane, London Bridge.—A liberal discount allowed to the Trade.

NOTICE.

HUSSEY'S AMERICAN REAPER.

WILLIAM DRAY AND CO.'S traveller, Mr. PINCE, will exhibit their celebrated CHAMPION REAPING MACHINE, in operation, on a field of long Stubble, at Chadwell-place, near Grays, Essex, on Thursday next, March 18. Price of the Reaper, 18*l.* complete.

WILLIAM DRAY and Co.'s Pamphlet on Reaping Machines, detailing their exhibition before Prince Albert, their celebrated victory at the great challenge trial, &c., forwarded, *gratis*, on application.

WILLIAM DRAY and Co., Machinists and Agricultural Implement Manufacturers, Swan-lane, London-bridge.

ANTHONY'S PATENT AMERICAN CHURN makes Butter in 10 minutes. It obtained the award of the Great Exhibition Medal, and also a prize at every one of the numerous Agricultural meetings at which it has been shown. It is now acknowledged to be the best Churn ever produced. 2000 have been sold in one year.—BURGESS and KEY, 103, Newgate-street, London.

CHEAP AND DURABLE ROOFING.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

F. M'NEILL AND Co., of Lamb's-buildings, Bunhill-row, London, the Manufacturers and only Patentees of THE ASPHALTED FELT FOR ROOFING

Houses, Farm Buildings, Shedding, Workshops, and for Garden purposes, to protect Plants from Frost.

At the Great National Agricultural Shows, it is this Felt which has been exhibited and obtained TWO SILVER MEDAL PRIZES, and is the Felt SOLELY patronised and adopted by

HER MAJESTY'S WOODS AND FORESTS,
HONOURABLE BOARD OF ORDNANCE,
HONOURABLE EAST INDIA COMPANY,
HONOURABLE COMMISSIONERS OF CUSTOMS,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANIC GARDENS, REGENT'S PARK,

And on the Estates of the Dukes of Sutherland, Norfolk, Rutland, Newcastle, Northumberland, Buccleuch (at Richmond), the late Earl Spencer, and most of the Nobility and Gentry, and at the ROYAL AGRICULTURAL SOCIETY'S HOUSE, Hanover-square.

It is half the price of any other description of Roofing, and effects a great saving of Timber in the construction of Roofs. Made to any length by 32 inches wide.

PRICE ONE PENNY PER SQUARE FOOT.

*** Samples, with Directions for its Use, and Testimonials of seven years' experience, with references to Noblemen, Gentlemen, Architects, and Builders, sent free to any part of the town or country, and orders by post executed.

☞ The Public is cautioned that the only Works in London or Great Britain where the above Roofing is made, are

F. M'NEILL AND CO.'S

Patent Felt Manufactory, Lamb's-buildings, Bunhill-row, London, where Roofs covered with the Felt may be seen.

The new Vice-Chancellor's Courts, at the entrance of Westminster Hall, were roofed with F. M'NEILL and Co.'s Felt about two years since, under the Surveyorship of Chas. Barry, Esq., R.A. Her Majesty's Commissioners of Woods and Forests are so satisfied with the result that they have ordered the Committee Rooms at the Houses of Parliament to be roofed with their Felt. Quantity altogether used, 21,000 feet.

NOTE.—Consumers sending direct to the Factory can be supplied in lengths best suited to their Roofs, so that they pay for no more than they require.

Every information afforded on the construction of Roofs, or any proposed particular application of the Felt.

M'CORMICK'S AMERICAN REAPER.

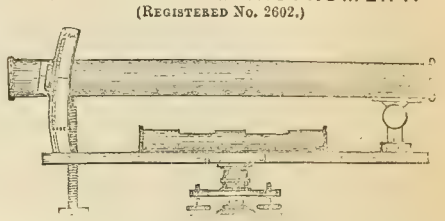
BURGESS AND KEY, Agents, 103, Newgate-street, London.—Extract from Mr. Pusey's Report on the Agricultural Implement Department, Great Exhibition.—"Mr. M'CORMICK'S Reaper, in this trial, worked as it has since worked at Cirencester College, and elsewhere, to the admiration of practical farmers, and therefore received a Council Medal. Mr. Hussey's sometimes became clogged, as in the former trial at Tiptree, and therefore could not possibly obtain that distinction."—Price of Reaper, 25*l.*

WATERPROOF PATHS.—Those who would enjoy their Gardens during the winter months should construct their Walks of PORTLAND CEMENT CONCRETE, which are formed thus:—Screen the gravel of which the path is at present made from the loam which is mixed with it, and to every part of clean gravel add one of sharp river sand. To five parts of such equal mixture add one of Portland Cement, and incorporate the whole well in the dry state before applying the water. It may then be laid on 2 inches thick. Any labourer can mix and spread it. No tool is required beyond the spade, and in 48 hours it becomes as hard as a rock. Vegetation cannot grow through or upon it, and it resists the action of the severest frost. It is necessary, as water does not soak through it, to give a fall from the middle of the path towards the sides.

Manufacturers of the Cement, J. B. WHITE and SONS, Millbank-street, Westminster.

DRAINAGE—ROAD MAKING.
NEW LEVELLING INSTRUMENT.

(REGISTERED No. 2602.)



The print represents the instrument one-fifth the real size.

THIS is a simple and effective SELF-RECORDING INSTRUMENT, suitable for Levelling Drains, Sewers, or Roads, or for measuring the elevations and depressions of ground. It consists of a Telescope, Level Graduated Arch, and Tripod Stand. The arch is so divided as to show the rise or fall, in feet and inches.

(From the *Practical Mechanics' Journal*, Feb. 1, 1851.)

"In the hands of even the most unlettered farm-servant this little instrument will afford the most correct measurement, as the operator has only to level the plate, and bring his sight to bear upon the object, when the elevation or depression is given at once. It will be a most useful contrivance for Draining or Road Making."

Price, with parallel plate screws, 4*l.*; convenient levelling pole, 4*s.*—Made only by GARDNER and Co., 21, Buchanan-street, Glasgow.

GALVANISED WIRE GAME NETTING.—

7*d.* per yard, 2 feet wide.



	Galvanised.	Japanned Iron.
2-inch mesh, light, 24 inches wide ...	7*d.* per yd.	5*d.* per yd
2-inch ,, strong ,, ...	9 ,,	6½ ,,
2-inch ,, extra strong ,, ...	12 ,,	9 ,,
1⅝-inch ,, light ,, ...	8 ,,	6 ,,
1⅝-inch ,, strong ,, ...	10 ,,	8 ,,
1⅝-inch ,, extra strong ,, ...	14 ,,	11 ,,

All the above can be made any width at proportionate prices. If the upper half is a coarse mesh, it will reduce the prices one-fourth. Galvanised sparrow-proof netting for Pheasantries, 3*d.* per square foot. Patterns forwarded postfree.

Manufactured by BARNARD and BISHOP, Market-place, Norwich, and delivered free of expense in London, Peterborough, Hull, or Newcastle.

WINTON'S PARKES' NEW STEEL DIGGING FORKS.

BURGESS AND KEY, 103, Newgate-street, London, are now prepared to supply orders for the above FORKS to a limited extent, but as the demand for them is so great, B. and K. have made arrangements with the manufacturer whereby to meet orders promptly and to any extent.

List of prices sent on application.

The Agricultural Gazette.

SATURDAY, MARCH 13, 1852.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY, March 17—Agricultural Society of England.
THURSDAY, — 18—Agricultural Imp. Soc. of Ireland.
WEDNESDAY, — 24—Agricultural Society of England.
THURSDAY, — 25—Agricultural Imp. Soc. of Ireland.

THE question, which has been so often disputed as to the value and importance of SALT FOR CATTLE, seems to be fairly set at rest by the results of an investigation undertaken at the instance of the French Government. A commission was some time ago appointed to report on various questions relative to the treatment of cavalry horses in the army. One of the subjects of inquiry was the effect of salt in their food. The commission, after the most full and careful inquiry, report that salt has no beneficial action whatever, and the best that can be said for it is that it causes no injury.

BOUSSINGAULT tried a similar series of experiments with cattle, and came to the conclusion that the

addition of salt to the fodder had not the slightest influence on the quantity of flesh, fat, or milk, obtained from the animals; "but," says Boussingault, "the salt appeared to have a favourable effect on the appearance and quality of the stock. So that for this reason a slightly higher price might have been obtained for them."

To us in England, the only result which follows the satisfactory ascertainment of the knowledge of the action of salt on animals, would be the abandonment of it in farm practice as soon as it is shown to be no value. But on the Continent it immediately assumes a political aspect. Salt is there burdened with an enormous tax, and such experiments as those above detailed, are made use of by the advocates for its continuance. The maintenance of health appears to be somewhat facilitated by the modern use of salt in cattle and sheep food; but otherwise the French experiments may generally be held to represent English experience also.

With regard to salt as a manure, we are as yet without any satisfactory information. In some places it has been found to brighten and strengthen the straw, but in by far the majority of cases it has been found to be without the slightest action. As to the reasons for the success attending the use of salt in one locality, and its failure in another, barring the variable degree in which it is present naturally in the several cases, we are as yet entirely ignorant. Should, however, this question as to its usefulness be answered in the affirmative, the cost of salt in this country will never be a barrier to its employmeut in agriculture. At all events it is a subject worthy the attention of our agricultural societies, which in this country are well able to take the place in investigating agricultural subjects, which in France is taken by the Government.

Those farmers who reside near any of our seaports where large quantities of fish are cured, have often opportunities for picking up the refuse fishery salt, which as it contains a proportion of animal matter, is both cheaper and more likely to be useful to the farmer than pure salt.

The Weald of Kent, Sussex, and Surrey—using the term in its most extensive sense, for the whole of the area within the escarpments of the North and South Downs—has the reputation of being a district in which the influence of the strata on the soil is at its maximum, from the absence of those erratic deposits which are so extensively developed in the counties north of the Thames. The author, however, of the Report on the Agricultural Geology of England and Wales, published in the last number of the "Journal of the Royal Agricultural Society," has asserted that the soils of the Weald contain more extraneous matter than is usually supposed. In confirmation of the assertion he appeals to notices in the "Geology of the South-East of England," by Dr. Mantell, in which beds of loam, sand, and flints are described as spread, at a distance from the chalk ridges, over the other strata, obscuring their outcrop and forming the immediate subsoil.

Much light has since been thrown on this subject by two papers recently published by Sir Roderick Murchison and Mr. Martin, of Pulborough; the one in the "Journal of the Geological Society," the other in the "Philosophical Magazine." From these papers which are directed chiefly to theoretical questions, much valuable information regarding the distribution of the superficial deposits, and their influence on the variations of soil may be derived, which is of great practical importance to agriculture, whatever may be the fate of the speculative part of the inquiry, and whichever may prove to be right among the many conflicting opinions as to the period when, and the agencies by which the superficial deposits south of the Thames were formed. These are points respecting which scarcely two geologists are at present agreed; but though the theories may all be wrong, the facts bearing on the geology of agriculture to which we wish to draw attention, may be considered as firmly established.

The structure of the area of the Weald, which is a valley of elevation and disruption, may be easily understood from the inspection of any geological map of England, and from the section of it in most elementary works on geology. Viewed on a ground plan, it consists of a series of half ellipses within each other, composed of the truncated edges of strata which emerge successively along a line of disturbance ranging east and west, and which dip north and south from a central ridge or dome of the Hastings or Iron Sand; the Forest Ridge, as it was named by Mantell. The corresponding halves of the ellipses are on the other side of the Channel, in that part of France called the Boulonnais. On either side of the central ridge, we have zones of the following formations, within the Weald denudation: Weald clay, lower greensand, gault clay, and upper greensand or Malm rock; while, exterior to it, we have zones of chalk, and of the superincumbent tertiaries.

Now the points established by Sir R. Murchison, and Mr. Martin, respecting the superficial deposits of this region, are these. The detritus also is distributed in east and west zones. Exterior to the chalk escarpments there are two of these zones, the outermost consisting of slightly worn chalk flints, mixed with many of the rolled pebbles of the older tertiaries (London and Plastic clay), the inner zone composed either exclusively of angular and subangular chalk flints, or of the same materials sparingly mixed, near tertiary outliers, with their rolled pebbles before mentioned. Within the Weald denudation are two other zones of detrital deposits, which Mr. Martin calls the subcretaceous zone and the Wealden zone. The slopes of the hills and the valleys of the really central ridge of iron sand, are destitute, or nearly so, of chalk flints, or other detritus, which may have been carried from the higher surrounding ridges; but the valleys occasionally present thick accumulations of re-aggregated clay or loam, derived from the adjoining hills. Towards its western extremity lumps of bog iron ore, provincially called "rag," are occasionally found in the loam; and in former times, when the wood of the Weald was more abundant, they were smelted in its iron furnaces in which charcoal was used as fuel.

In the subcretaceous zone of superficial deposits, there are many localities, both on the north and the south of the central ridge, covered with heaps of drifted and sharply-fractured flints, mixed with chert, ironstone, and sandstone, of the neighbouring and subjacent rocks, which fill hollows in the eroded surface, and are piled up in heaps, to heights varying from 50 to 300 feet above the existing drainage. A few rounded pebbles, like those of the eocene tertiaries, are also occasionally found in these deposits. Although, on the upper greensand, the gault and lower chalk, which lie between the lower greensand and the chalk with flints, a spread of flints occurs at rare intervals, those formations are generally free from such detritus. From this Sir R. Murchison infers, that those flints which cover the lower greensand and the Wealden were not derived from the chalk escarpments on the north and south, but from the western extremity of the Weald denudation, where those escarpments unite. In that case they indicate a direction from east to west in the currents of water, whatever their nature may have been, which transported these flints.

The transverse gorges by which the rivers of the Weald escape, southwards to the sea and northwards into the valley of the Thames, contain, likewise, mounds of loam, clay, sand, and chalk *débris*, mixed with sharply fractured flints, cemented in some cases by ferruginous, in others by calcareous matter, into abreccia, called in East Sussex Combe rock.

With respect to the agricultural influence of these superficial deposits within the area of the Weald, Mr. Martin declares that "on the beautiful and fertile slopes of the eastern part of Sussex, and the south-east of Kent, where the Rother and its affluents take their courses through longitudinal-fissure valleys of the central line of upheaval, beds of diluvial loam exist, made up of the washings of the surrounding ridges, and give fertility to localities which would otherwise be of comparatively little value." Sir R. Murchison, also, observes of the Wealden zone of detritus, that "in its range from West Grinstead and Ashington on the west, to the district north of Eastbourne, it is more especially distinguished by a more or less copious admixture of loam, by which the cold and sterile character of the subjacent clay is neutralised. Good crops of corn are thus visible along this argillaceous zone, which otherwise would be occupied by oaks or by weak Grass." The same author likewise remarks of the broad coast-flats of Little Hampton and Bognor, that they have all been more or less overspread with detritus, which, although of very different value to the agriculturist, has had precisely the same origin, as the pure angular flint breccia of the hill sides. No line of separation can be drawn between the many flints with reddish clay, and the few flints in copious masses of clay, loam, sand, &c. This plain of rich arable land is chiefly composed of the breaking-up of the plastic clays and sands, and of the London clay mixed irregularly. But these materials are interspersed with, and also slightly overspread with, angular chalk flints. Instead, however, of being dominant, as on the higher slopes of the South Downs, the angular flints are much more sparingly distributed through this clay or loam of the low country.

This statement is equivalent to that announced in a paper on the "Geology of Norfolk" (Journal Royal Agricultural Society, vol. vii., part II.), and repeated in the "Report on the Agricultural Geology of England and Wales" (*ibid.*, vol. xii., part II.), regarding the dependence of the variations of soils on contours which have regulated the distribution of the superficial deposits.

It is no part of the province of the "Agricultural Gazette" to discuss the conflicting opinions of geologists as to the period when the deposits south of the Thames were formed, and the agencies employed in their formation. From the attention which the subject is now receiving, and from the discussions to which they are giving rise, the truth will ultimately be elicited, as on other once disputed points of geology now settled. It is desirable for the interests of agriculture that all the superficial deposits should be mapped with the same attention to the variations of soil and subsoil, and the mineral characters of the substrata, which is bestowed in laying down, on our present geological maps, the areas occupied by certain groups of fossils, for that is nearly all the information which those maps convey. Maps of the surface geology would also furnish geologists with much sounder data than they possess at present, on which to found their theories respecting the later geological epochs which immediately preceded the present order of things.

Our opinion respecting the deposits of the country south of the Thames is, that they consist of two varieties, the one *subangular* flint gravel, mixed in some parts with pebbles of the older tertiaries, and constituting a modification of the upper erratic tertiaries of the district north of the Thames,—that this gravel was shot off the flanks of the chalk, during the fracture of it, along an east and west line, and during the denudation of the Wealden area. The other and strictly *angular* flint detritus, with its associated soils of loam, clay, and sand, we believe to be of subsequent date spread over a terrestrial surface by anomalous aqueous operations of some kind or other, sudden, violent, and transient, after the emergence of Britain from beneath the erratic, or glacial sea, and after it had been repeopled by nearly the same group of elephantine mammals which had inhabited it before that submergence. The loamy and other deposits of the Weald will thus be on the parallel of the deposits of Gaytonthorpe (fresh water) and Nar clay (marine) which are spread over the denuded surface of the erratic tertiaries in Norfolk, and which contain—in some cases are wholly replaced by—angular flints. The geologist who first described these covering deposits (Journal Royal Agricultural Society vol. vii. part II.), called them the "warp." The name is not a very happy one, seeing that it is only strictly applicable to the deep loamy deposits of low situations, such as those of the Happing and Flegg Hundreds in Norfolk, and of Little Hampton and Bognor in Sussex. He has, however, expressed his readiness to change it for any other on which geologists shall be able to agree. Till they agree on a better the name of "warp" may as well be retained.

ROTHAMSTED AND THE CRITIC "R."

During the last six or seven months there have appeared a series of articles in the *Agricultural Gazette*, for the most part signed "R.," and generally having a place in the editorial columns. The ostensible object of these articles has been to elucidate the influence of climatic agencies on the productions of the various crops of our rotations; but they have been made the occasion of a sustained attack upon the experiments at Rothamsted, or the views which have, from time to time, been founded upon them in our papers in the Journal of the Royal Agricultural Society of England. Now criticism, it must be admitted, is a very legitimate and useful means of eliciting truth; but that it may serve to attain so desirable a result, there are two elements, at least, essential to its exercise; viz., first, that the writer should show a competence to discrimination and analysis of the subject of which he treats; and secondly, that he should be candid and honest in the treatment of his author. It has, however, been said of some men, that in their use of criticism they "cavil, and dissect, and dispute till that which was merely meant as a means of discovering error and baffling false statement, becomes the only end they care about—the truth for them." And when either from the credit acquired by other writings or the plausible appearance of the articles themselves, criticism of this kind secures the auspices of a highly respectable journal, it becomes due at once, in justice to the author assailed, and to the critic's readers, that the statements should not be allowed to pass unnoticed. It is therefore with some confidence that we request the opportunity of showing the readers of the *Agricultural Gazette* how far the writer "R." is to be taken as a competent or candid exponent of our views. It may be as well to state, however, that in the execution of this task, we shall find it necessary to bring forward a considerable amount of quotation, but this, perhaps, is the less to be regretted, since the discussion of the points which will thus be brought under review, may tend to fix some useful principles in the mind of the intelligent agriculturist.

Resuming the attack with somewhat more of definiteness, our critic writes in his article of December 13th, 1851, as follows:—"Before we attempt to apply the meteorological figures which we gave in a former number, in explaining some of the causes of our varied systems of agriculture, we must first be convinced that these systems are actually required. For this end we shall take a general view of the subject in its broadest features; and we think it will appear patent to every one, that our chemistry of vegetation must have a little more elasticity in it, if it is to assist us in solving the numerous problems of a practical nature by which we are beset. Mr. Pusey, in the last number of the Royal Agricultural Journal, is still confident that, at present, Rothamsted must be considered as the principal source of trustworthy scientific information in agricultural chemistry. Now, we would say to Mr. Pusey, what we would say to any one else, 'If you think you can account for the varied systems of British agriculture by the light of Mr. Lawes' chemistry, just try it.' If our best practical authority is still going to encourage our hard-working and most useful chemists to contentment, with a mere Pisgah-view of the promised land of scientific agriculture, and is not to direct them when they wander, he may depend upon it that others will go in and possess the territory."

Then after some further general remarks, he says, "And to show that some of the difficulties with which he (Mr. Lawes) is struggling, are of his own creation, we appeal from the narrow and limited horizon of Rothamsted to that of a much wider experimental field."

The first objection which he then brings against us has reference to the classification of the plants of our rotations, according to their botanical alliances. He says, "He (Mr. Lawes) expends much care in dividing plants into classes, which he imagines have less or greater powers of relying on the atmosphere for their nitrogen. Now, this is the case to a certain extent, when they are grown under the same conditions, but this difference applies as much to species as to classes. In this respect the Wheat plant will no more admit of being taken as a type of the Graminaceous order or even of the Cereals, than the wild Mustard can be taken as a type of the nitrogen-collecting powers of the Turnip. * * * There is no country where there are greater facilities for studying the causes which modify the exhausting qualities of the Cereals and other plants, if we do not tie up ourselves to inflexible and unnatural theories."

And, finally, after a great deal of illustration bearing more or less upon the point in question, he winds up thus:—"We think it will now be evident that the division of plants into classes, which are supposed to rely more upon the atmosphere for their nitrogen in one than in another, is much too wide for practical purposes."

From these remarks, as well as from the character of the opinions which our critic adopts as his own (!) in correction of the views which he has thus chosen to attribute to our papers, it would appear that the reader is to believe that our division of the plants grown in our rotations into "classes," is arbitrary and unconditional, or, to use a term of his own—inflexible.

But let us compare these opinions of his own with those which are to be found in our papers.

In a quotation already made, he admits that different classes of plants have greater or less powers of relying on the atmosphere for their nitrogen "when they are grown under the same conditions."

And again, he says, "It is to the conditions under which they are or can be grown that we must look, when we would account for their opposite qualities and requirements, taken in connection with their known habits and functional resources."

In a previous article he had said, "Since our soil contains nitrogen in very small proportions, and since Cereals remove it, as has been found in large quantities in their products, often expending a much larger quantity in the growth and maturation of their seeds than these actually assimilate, it must be very evident that some plants which are grown in our rotations must have the power of appropriating it from the natural sources—the air and rains—or else our fields would soon be reduced to barrenness. The conditions under which any class of plants yield either less or more nitrogen in their produce than is contained in the soil, thus becoming more or less exhausting, are subjects of great practical importance in rightly apprehending the principles upon which manuring depends. The question at once suggests itself, whether this is a natural defect in their structure, in consequence of which some can grow and flourish only in a soil that has been enriched by artificial means, or through the decay of others that yield up the nitrogen contained in them; whilst some plants have the qualities of appropriating enough for their wants from the atmosphere alone. Or whether it may arise from the external conditions to which we have subjected these so-called exhausters, being inconsistent with their exercising the function of appropriating the nitrogen from these natural sources, which, unassisted, are so ample for the abundant produce of the Oak and other timber trees. We must confess that our opinions are more in harmony with the latter proposition than with the former one."

And again, speaking of the opposite characters of Turnips and Wheat, he says:—"But we maintain that it arises chiefly from the totally opposite condition in which they are grown."

In this way it is that our alleged arbitrary classification is corrected by the writer, "R." Would the reader believe that the following sentences are to be found in the very papers which the opinions just quoted are thus brought to meet and correct?

At page 229 of Part I., Vol. viii., of the Journal of the Royal Agricultural Society of England, we say—"The crops which form a rotation, belong, botanically speaking, for the most part, to the three following natural orders of plants: the Gramineæ, containing Wheat, Barley, Oats, Rye, and the Grasses, which constitute our natural pastures; the Leguminosæ, containing Beans, Peas, Tares, Lucerne, Clover, Trefoil, Sainfoin, &c.; and the Cruciferæ, containing Turnips and Rape. The Solaneæ, yielding the Potato; and the Umbelliferæ, Carrots and Parsnips, may also be noticed." To these we might add the Chenopodiaceæ, containing Mangold Wurzel, &c. But mark what immediately follows this enumeration. "For the purposes of agriculture, however, a different system of classification might be adopted with advantage, having reference to the organ or part of the plant which is the object of cultivation. In Clover, Tares, and pasture, we generally require leaf and stem, which may be termed the primary organs of plants; in the Turnip we require the bulb or intermediate organ; and in the grain crops, Peas, Beans, &c., the ultimate organ, the seed."

Thus, then, after enumerating the several botanical classes to which the most important of our agricultural crops belong, we distinctly repudiate the adoption of such a classification in its generality for agricultural purposes.

But further: in Vol. viii., Part II., of the same Journal, pages 495 and 496, we say—"Again, agricultural plants have been arranged according to their botanical alliances; and distinctions between the necessary conditions of artificial supply of certain constituents have been made, which are inconsistent with the dictates of experience, and equally so with those to which we are led when other circumstances besides the (nevertheless important) botanical distinctions are brought into consideration. The varying quantitive reliance upon the atmosphere and the soil of different natural families of plants, constitutes, indeed, a most interesting and important point of study, and the principles on which the natural system is founded may derive essential confirmation from chemical researches; but in referring the varying agricultural value of different plants to the functional characters of the several natural orders to which they belong, it must always be first decided, that the natural aim and tendency of the plant and order are favoured by our methods and objects of cultivation, and that the agricultural value of the plant is in no way dependant on a monstrous or artificial developement at variance with that of its individual health and reproductive tendencies."

With such sentences as these, distinctly declaring the conditional sense in which alone we hold the classification of agricultural plants, according to their natural orders, the impolicy, to say the least, of the writer, who in the face of them would thus seek to gain a passing credit, at once by the misrepresentation and the adoption of the views of another, and which can so easily be brought against him, is to us unaccountable! *J. B. Lawes, Rothamsted.*

[We are unable to publish at once, as we could wish, the whole of Mr. Lawes' rejoinder to the criticisms of "R."; but it shall appear piecemeal as rapidly as possible.]

THE MANURING OF THE TURNIP CROP.

I consider that too high a manurial value is put on the substances used as food by cattle, and that, as compared with the value of guano and other light manures, it will be found that the dearest dung put on our fields will be that made in our courts, if such a high manurial value be put upon the food consumed by the cattle. We have an apt illustration of this in the recently published account of Tiptree-hall. The best time for applying the manures to the Turnip crop is a most important question, and demands a few remarks. From experiments made by Mr. Wilson in England, on drainage water, by which he found that much of the soluble salts of soils was carried away by the water from the drains, I was led to believe that it was unprofitable to apply manure in autumn. The investigations of Prof. Way and Mr. Thomson proved that soils, particularly clays, had the power of absorbing the valuable constituents of manures, and they at once concluded that it would be found of advantage to apply the manures to the clay soils in autumn. I determined to put this to the test, and selected for the experiment a field that was more sandy than clayey. I dunged a part of it on the stubble about the end of November; the rest of it was ploughed without any dung, but received in the drills in spring 16 tons per imperial acre, the same quantity as was put on the stubble, and as near as possible in the same state of decomposition; 4 cwt. of guano per acre was sown in the drills over the whole field, including two ridges, which received no dung at all. The following are the results:

	Dunged on Stubble.	Dunged in Drills.	No Dung.
Bulbs	15 tons 16 cwt.	15 tons 16 cwt.	8 tons 11 cwt.
Tops	3 tons 19 cwt.	4 tons	4 tons 15 cwt.

The crop was weighed in the beginning of December. Autumn manuring possesses many advantages, the principal of which is the lightening of the labour in spring. The drier the climate is the more will its advantages be felt; for there is now no doubt that in a dry season the dung placed in the drills, by keeping the soil open for the admission of the drought, often acts most injuriously on the growth of the plant. I apply now as much dung as possible to my stubbles; in the first emptying of my courts in winter, after the roughest of the dung is driven out and formed into a heap, the rest is carted on at once and spread immediately, whatever the weather is. If not spread at once, the crows will do it for you in a manner not very satisfactory to your mind. I remember passing a field some years ago on which dung had been carted during frost, but not spread; the frost was succeeded by very boisterous weather, so that the dung lay in heaps fully a month before it was spread. Average crops of Turnips and Barley were taken off the field, but the hay was decidedly light. Shortly after the hay had been cut I passed the field, and the only green spots, the only blades of Clover to be observed on it, were on those places where the heaps of dung had lain about three years before, exposed to the weather. It is now recommended to apply the light manures to the green crops, &c., the farmyard dung to the white crops immediately succeeding. This practice, it is found, secures a better crop of Clover. The only objection to this is, the difficulty of getting the manure on the land after the Turnips have been manured, and the throwing of a great deal of labour forward to seed time. Indeed, it is not unworthy of observation that the successful growth of the Clover may be owing, in some degree, to the poaching which the land must get in carting on the manure in winter and spring.

The usual practice is to give the first sown Turnips the dung that is on the farm with light manures, and if there is not sufficient dung to go over all the Turnips, the last sown receive only light manure. Now, we think the practice ought to be reversed; the first sown Turnips should receive light manures only, by which they will be sooner ready for use in autumn, and be much better able to resist the effects of the summer drought, than if they had been put into the drills; while late sown turnips, receiving light manures alone, are far too apt to run to shaws, and seldom bulb according to expectations and appearances. Whatever practice is followed, the Swedish Turnip should always receive its full share of manure. The drills being formed, the manure should be carefully and equally spread, whatever it is; some prefer sowing the light manures broadcast, before drilling the field, when the farm-yard dung is laid down in autumn. Whatever is drilled should be sown immediately, a night never being allowed to intervene between the drilling and sowing. From the great ravages of the fly, it is recommended to use seed of different ages mixed, so that if the fly attacks the plants from the new seed, which will generally braird first, there is a chance of the braird from the old seed escaping, thus preventing the necessity of sowing over again, which is never found to do so well.

In the choice of seed, it should be ascertained, if the seed has been raised several years successively, from plants not fully developed, or from plants which have reached maturity, and been transplanted for several years successively. It is said that Turnips raised from seed, produced according to the former method, are apt to become rape-rooted, while those raised from transplanted seed are liable to become tender-rooted. It is better that the two methods should be combined—that is, every second or third year the best formed Turnips should be selected from a field and transplanted—the seed from which should be sown late, solely for the purpose of raising seed. The time of sowing depends very much on the climate. What would be considered a proper time for sowing in one climate would be thought too early in another, from the risk of the Turnips running to seed. I will, therefore, simply detail the practice followed on my own farm, about 400 feet above the level of the sea. I commence in the second week of May to sow a few early white Turnips. These are lifted soon, before they run to seed, for the use of cattle, which I intend to sell off fat in the beginning of winter, and Wheat is sown immediately after, as it would not be advantageous to sow spring Wheat in any climate in the present condition of my farm. I sow Swedes from the middle of May to the first week of June; yellow Turnips from the first week of June to the end of the month; and my whites during the first week of July. Sometimes I sow some white Turnips later, which are allowed to remain all winter on the ground, to be used by my ewes in the spring, when there is a scarcity of Grass. The quantities of seed sown are—2 lbs. of white, 2½ lbs of yellow, and 3½ lbs. of Swedish, per imperial acre. I consider it better to err on the side of sowing too thick rather than too thin, as I am surer of a rapid braird and growth through those stages when the plant is most liable to be attacked by the fly. The varieties of Turnips are endless. I have heard of one farmer who experimented on 90 different kinds. Too often the shades of difference are so trivial that one variety can scarcely be distinguished from another, and we often see the same thing under a different name. A cultivator ambitious of having his name immortalised, selects year after year Turnips with certain distinguishing marks, produces seed from them, and sells it under his name. It is taken to another district, and not being cultivated with the same care, it soon loses its individual character. Hence the great advantage of always getting the seed direct from the grower of any choice variety. And hence also the discrepancy often among farmers from different districts as to varieties of Turnips. I always sow two varieties of Swedes, Skirving's Purple-top and the Green-top Swede—the former produces the largest crop, the latter withstands the effect of frost best; of yellows, I sow Skirving's Purple-top and the Green-top Aberdeen Yellow Bullock; of whites, the variety I

generally sow is the White Globe. I have tried some of the hybrid varieties, of which Dale's has always proved best. The seed should not be sown too deep, and the drill should be rolled immediately after it is sown, so as to insure as speedy a braird as possible.

When the plants have reached a sufficient size to enable them to be thinned, which will be when they are about 2 or 3 inches above ground, the horse hoe should be passed along between the drills to eradicate any weeds growing there, and facilitate the operation of thinning, reducing the quantity of earth to be pushed away by the hand hoe. The Turnip plants are then singled out sometimes by the hand, but more frequently by the hand-hoe; if white Turnips, to the width of 8 or 9 inches, and yellows to the width of 10 inches. The proper width to which Turnips, and particularly Swedes, should be singled, is a most important point, and is dependent upon various circumstances. The Swedish Turnip differs from the other varieties in containing more nutritive matter proportionally, the larger the size to which it attains; thus it has been found that a Swedish Turnip of ordinary size contains about 6 per cent., and one of the largest size nearly 7 per cent. of nutritive matter of their whole weights; while the white varieties have afforded 4 per cent., and in the largest roots only 3½ per cent. of their whole weights. Hence it is of the utmost consequence to have the Swedish Turnip root as large as possible. From an extensive correspondence which I have had with friends who took an interest in the question, I have arrived at the following conclusion, that in low lying shaded localities, with the soil in high condition or liberally manured, the Swedish Turnip should never be singled less than 12 inches apart, and generally it will be found advantageous to do it with 15 inches. The largest Swedes ever I saw were some that had been accidentally thinned 18 inches; unfortunately they were not weighed in comparison with the rest of the field. In high exposed districts, where the land is in good heart, or has received a good allowance of the light manures, 12 inches will be found a good width. I performed a small experiment this season, but I am sorry that, from some accidental circumstances, I cannot authenticate for the produce of the wider thinned. In a field, not yet in high condition, nor highly manured, I obtained at a width of 8 inches 2 tons 4 cwt. of shaws and 15 tons 12 cwt. of bulbs; and 9 cwt. per acre in favour of the 9 inches. After the Turnips have grown a sufficient length, the horse-hoe, followed by the triangular drill harrow, should be used, so as to kill any weeds that may be between the drills. The drill harrow I find of the greatest service for shaking the weeds which have been pulled up by the horse-hoe. The hand-hoe is next used to remove any weeds which are so near the Turnip that they could not be removed by the horse-hoe. Some farmers finish off their Turnip fields by passing the bulking plough between the drills, for what reason I have never yet been informed. I am clearly of opinion that such a practice is worse than useless; the rut formed by the sole of the plough acts as a surface drain to carry any rain water that falls in summer along with the finest of the soil to the bottom of the field, instead of allowing it to sink into the soil, to minister to the sustenance of the plant, whose rootlets are spread in all directions to find the sap so necessary for the vigour of the plant. I have several times found these delicate roots at a depth of 3½ feet, spreading in the most delicate reticulations in the internal surface of my drain tiles. Having now seen my crop of Turnips fully developed, and completely clean, I will give a detailed account of the expense of labour and manure on several fields in Berwickshire, and East and Mid-Lothian, which was kept by myself. The fields were different in size and form, the ridges of some being much longer than in others, which will account in some measure for the disparity in the value of some of the operations. They were also various in soils, some being light, others heavy. A pair of horses is calculated at 10*s.* per day, as provisions, &c., were higher in price then than they are now, when 6*s.* or 6*s.* 6*d.* will be found sufficient. A good deal of dung was brought from different distances which will be readily observed by looking at the sums opposite, "driving dung to field." Men's wages were 1*s.* 8*d.* per day, and women's 10*d.*

Expense of Labour of the Turnip Crop on five different fields in the first rotation of a Lease.

Operations.	Per Imperial Acre.					
	1	2	3	4	5	Average.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Ploughing two furrows	0 19 5	0 18 5	1 11 9½ Additional ploughing.	0 17 9½	1 14 8 Additional furrows.	1 4 5
Harrowing, Rolling, and Grubbing	0 16 2½	0 10 0½	1 0 3	0 6 5	1 11 0	0 16 9½
Gathering Wrack	0 4 4½	0 2 9½	0 1 7	0 2 3	0 7 9	0 3 9
Driving Dung to Field	1 7 7	0 10 4	1 5 4	0 14 9	0 13 0	0 18 2½
Sowing, Drilling, putting Dung into Drills, &c.	0 16 1	0 15 9	0 6 11	0 8 6	0 12 7	0 11 0
Scraping	0 1 10	0 1 7	0 2 10	0 1 4	0 1 11	0 1 11
Thinning and Hoeing	0 7 6½	0 7 10	0 10 9½	0 4 11	0 7 0	0 7 7
	4 13 0½	3 6 9	4 19 6	2 15 11½	5 6 11	4 4 5

No. 1 was very dirty. No. 2 and 4 were light soil and thus easily wrought. No. 3 was drained and dunged on stubble, and great difficulty was found in reducing it in spring. Nos. 1, 4, 5, received nothing but dung. Nos. 2, 3, one-half dung, one-half guano. The braird in No. 3 was very unequal, which will account for the high sum for thinning and hoeing. The following is the average expense of labour per imperial acre of a crop of Turnips raised by spring ploughing, the grubber alone being used, and the fields comparatively clean, calculated according to the same rates as the preceding. On account of the absence of weeds, there is less women's as well as horse labour required, and the average cost of driving dung to the field is 8*s.* per acre less than in the previous instance. The fields were only once grubbed: one-half dung, one-half guano. Whole expense, including thinning and cropping, 1*l.* 18*s.* 7*d.* *Mr. M'Layan, before the Highland Society.*

Home Correspondence.

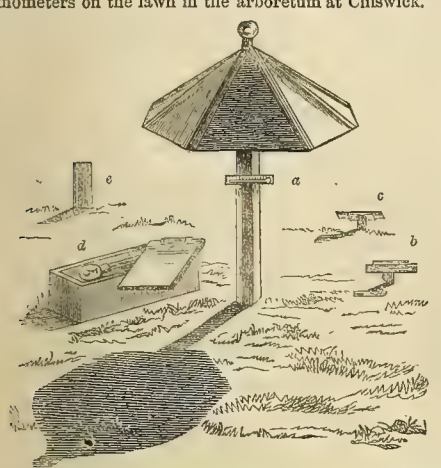
Transfer of Land.—In your publication of the 28th ult., p. 141, you insert a review of a work recently reissued by Mr. James Stewart on the subject of the transfer of land, and you quote a passage in which Mr. Stewart says, that the present law "which impedes the free transfer of land," deprives the landowner of the value of his land to the extent of 10 years' purchase; that the fee simple of freehold land should bring in the market, on the average, 40 years instead of 30 years' purchase; and that "a few judicious alterations in the law would soon enable the landowner to realize this advance in price." Now this is a very important statement and deserves attention; for, if true, every landowner ought, in justice to himself, to put his shoulder to the wheel to effect the desired object. I have not seen Mr. Stewart's work, and therefore do not know whether he enters into details showing how he arrives at this result; for myself, I am entirely at a loss to understand how he can establish the statement. Take the case of an estate worth 500*l.* a-year—its value in the present state of the law is, according to Mr. Stewart, 30 years' purchase, *i. e.*, 15,000*l.*—with Mr. Stewart's "judicious alterations," he says it will realize 40 years' purchase, *i. e.*, 20,000*l.*; a difference of 5000*l.* Now I will undertake to say that, as the law now stands, the average expense of a transfer of an estate worth 500*l.* a-year, exclusive of stamps (which must of course be discarded from the question, for they do not depend upon any particular conveyancing system) does not upon a high estimate exceed 75*l.* Here and there a case of larger cost may occur, but it is extraordinary, and arises from litigation, from which I apprehend even Mr. Stewart's system cannot always be exempt. Now let us suppose that a transfer occurs every 5 years (which I conceive to be far above the average), we thus have an expense of 450*l.* in 30 years. Let us go still further, and suppose that besides these transfers (which I assume to be on sales), there is an equal number of transfers by way of mortgage. Again I will give a high average, and state the expense to be the same as that on sale. We thus arrive at a total expense of 900*l.* in 30 years. Now assuming that even the whole of this expense can be abolished (which, however, of course cannot be the fact, for Mr. Stewart's system must cost something), how can he shew that the saving of an expense of 900*l.*, spread over 30 years, is worth a present sum of 5000*l.* I have taken the instance of an estate of 500*l.* a year, but the same observations will be applicable to one of 20*l.* a year, though not with quite so much force, for the expense of deducing title and preparing conveyance in a small case is greater in proportion than in a large one. Probably I shall be told that people are deterred from buying at all, because of the assumed uncertainty of the cost of conveyance; but, as the result of considerable experience in a conveyancing business, I do not believe this to be the fact. In the great majority of cases the expense is capable of estimate, and upon that estimate the purchase is made. In saying thus much, I do not wish it to be supposed that I contend that no improvement can be made in the present system; it is far better now than it was a few years ago, and there is undoubtedly ground for further improvements in some respects, but to assert that any alteration can be made, which will cause a difference of 10 years' purchase, or anything approaching to it, is a fallacy which ought to be exposed. Let your readers apply themselves to some more sure mode of raising the value of land than the pursuit of such a phantom as Mr. Stewart's "judicious alterations" would, in this respect, prove to be. I do not desire personal notoriety, and therefore (though enclosing my card), I request you to insert this letter as from—*A Country Solicitor.* [Mr. Stewart's "judicious alterations" we presume point to a more ready plan for the transfer of land, and of mortgaging it, &c. Now we know that in Belgium and on the Rhine, where a very easy transfer exists, land sells commonly for 40 years' purchase, whereas in England it usually sells for only 30 years' purchase. It cannot be doubted that the difference in the facility of transfer materially affects the value of the land in both countries, if it does not wholly account for the difference: and, if the latter, we have Mr. Stewart's supposed increase in the value of land accounted for at once, supposing the "judicious alterations" can be made in this country. But as to that we shall, perhaps, have something more to say in our next.]

Peat Charcoal.—It would be a satisfactory result of modern science if the bogs of unhappy Ireland, which have been a bye-word of reproach time out of mind should now become a blessing to "both him that gives and him that takes." Peat charcoal in powder, the produce of Irish bogs, is now used as the vehicle for absorbing the filthy matter from the sewers of London, and effects what a contemporary calls a "miracle." The foully charged waters are pressed through the charcoal powder, at the rate of 100 tons of sewage to 1 ton of charcoal, and the water comes out bright and tasteless as from a fountain, soft as from the clouds. "It is drank with impunity, and nobody could tell that it had not come pure from the spring," although some inappreciable antiseptic is probably retained, for though kept for many months it shows no sign of going bad. This condition presumes the water to have been taken at a pure period of the process, for when the charcoal is becoming saturated, the exuded water fouls again. The proprietors are said to be taking means to turn this pure water to account. The manure left behind affords a sufficient profit to enable the charcoal and sewage to be sold at its first cost, and, as facilities are afforded for its manufacture, it may prove a cheap and valuable addition to those fertilisers, by the use of which our lands ought to shew an energy of production equal to the stimulus given to our manufactures. It may be useful to your readers to know that charcoal and sewage manure should be mixed with twice its bulk of land or very light soil, and be sown at the rate of 10 cwt. or more per acre, according to the kind of crop. If it can be washed in a little by showers of rain or good waterings before sowing the seed it will be all the better, as the seed, before its roots are protruded, should not come in direct contact with the manure if it can be avoided, for the seed contains within itself sufficient primary nourishment of the best kind for the young germ, to which strong manures, such as this and guano, are inappropriate and even injurious. *

Agricultural Digging Forks.—My attention has been called to a letter published in the *Gardeners' Chronicle* of the 28th ult., signed "Harry Winton," and another signed by his esteemed friend, "Francis Parkes," purporting to contradict a statement made by me in a letter addressed to Mr. Mechi, which letter he published in the *Gardeners' Chronicle* of the 14th ult. I therein stated that there was no manufacturer of the American digging forks, of which he spoke so highly, in Birmingham named Harry Winton (at that time I did not know there was any person of the name in Birmingham at all), which statement I now confirm; but Harry Winton and his esteemed friend in their letters above alluded to, rather ingeniously attempt to contradict me by saying that the said Harry Winton has been a manufacturer for the last five years. They both, however, neglect to say what he manufactures. I therefore supply the omission—viz., German silver and metal spoons, dinner and dessert forks, tea and coffee services, drinking cups, &c.—and with some difficulty I have ascertained that his Dove-mill is a small shop at the corner of Hanley-street, Cleveland-street. I should not have troubled you with this explanation, but I cannot allow my statement to be impugned, particularly by people who will resort to such a method of deception as the one thus attempted to be practised upon you and the public. *W. A. Lyndon, Minerva Works, Birmingham, March* 2. [We have simply to say that to the German-silver tea and coffee services, &c., manufactured by Mr Harry Winton, Mr. Lyndon must *now* add the forks about which Mr. Mechi wrote, and to whose character of which *we* know nothing, he bears testimony. We must now close this correspondence.]

Storms.—In your paper of Saturday, Feb. 21, I observed some interesting observations by one of your correspondents, who signs himself "R. Russell, Kilwhiss, Fifeshire," on the subject of the Action of Storms. I have kept a register of the weather for some years, and have observed especially the phenomena with regard to the N.W. winds that he mentions. The appearance of the cirrostratus cloud to the W. after the fall of a N.W. wind (or even of any wind from W. to N.), has come under my notice twice in December last, and no less than five times in January; in all which cases the wind below was either S.W. at the time of observation, or set in from that quarter a few hours after; and in five cases out of the seven the temperature rose steadily through the day, and attained a maximum the subsequent night, either with rain or mist (the effect of the S.W. wind). The atmosphere was very turbid throughout the month; the fall of rain amounting to 4.48 inches. There were often two, if not three, opposite currents in the air; of these, however, that from the N.W. predominated. Previous to the severe gale of Wednesday, Jan. 21st, which raged over the whole of England, I observed four distinct currents a.m., viz., the lower S.E., next S.S.W., then W.S.W., and lastly, large beds of cirrostratus above moved from N.W.; and it is somewhat remarkable that, during the storm, the wind shifted to each of these points in succession, thus showing the tendency of the upper currents to descend into the lower atmosphere, especially during storms. Your correspondent has not adverted in his letter to a subject which appears to me to be one of considerable importance, viz., that registrars of the weather should not be content with eight points of the compass only in setting down their observations

on the wind, for in this way they only register the wind generally. It seems to me that more certainty, with regard to the influence of each particular wind on the weather, would be attained, if observers took into consideration 16 of those points. Thus, with regard to the N.W. winds, it makes considerable difference to the temperature, in winter especially, whether the wind is W.N.W. or N.N.W.; for in the latter case it will generally freeze, and in the former, not unfrequently be quite mild, but if both are registered N.W., it would be hard to account for the difference of temperature. As I am writing to you on this subject, I should be glad if you could inform me as to the aspect and height from the ground of the thermometer from which the Chiswick observations are registered; for from the great difference between those and mine, taken 30 miles N. of London (the temperature being as much higher there in the day as it is lower at night), I should imagine that the instrument is either laid upon the Grass, or that there is some extraordinary natural difference of temperature between the two places, which I should hardly think likely. *C. B. N. P.*—[The accompanying sketch shows the positions of the thermometers on the lawn in the arboretum at Chiswick.



a, represents the thermometer, by means of which the maximum temperature in the shade is registered; *b*, the one which indicates the minimum temperature; *c*, one with a black bulb, for the temperature in the sun's rays; *d*, is a thermometer, with its bulb placed in a radiator; *e*, thermometers for ascertaining the temperature of the ground.

The thermometer, *a*, is 2 feet 8 inches above the surface of the ground, and 4 inches below where a horizontal line would touch the post and the edges of the parasol. The minimum thermometer, *b*, and the maximum in the sun's rays, *c*, are each about a foot above the surface of the ground, and the thermometer *d*, about 9 inches.]

Societies.

KIRTLING, near NEWMARKET.—*A Lecture on Drainage*, of much interest to landowners and farmers, was delivered last Thursday evening in the school-room here by Hewitt Davis, Esq. The lecturer, in introducing the subject, said he could not offer any information more deserving the attention of landowners and farmers than that which was to be gained in considering the advantages to be derived from the thorough drainage of wet land; at first it might be supposed these two classes were the only gainers, but this was not so, for in drawing the water off the surface of land, by means of under-ground drains, much of the source of damp and fog is removed, and in this way the climate of the country may be greatly ameliorated and the health and enjoyment of all classes be greatly improved. In support of this view he read extracts from the evidence given to the Metropolitan Commissioners of sewers, in reply to questions as to its effects in improving the healthiness of localities, showing the diminution of fever, rheumatism and ague, in districts that had been thoroughly drained, and their greater freedom from fogs. He then spoke of the various ways in which it permanently improved the land, and contrasted these with the very limited ideas farmers had of the good to be gained. They hitherto had sought little more than to preserve their crops from the mischief from standing water, and had been adopting plans for ejecting it off their land without any consideration of the uses of rain, and of the loss that this casting it off occasioned. But the land drainer's views are not to be narrowed to the prevention of injury to the crops. His end should be to give to the soil the full benefit of its percolation. Mr. Davis described rain in its descent into the ground as carrying warmth and nutriment to the roots of plants, and as a mechanical and chemical agent of the first importance in increasing the fertility of the soil. He described vegetation as nourished by matter that the rain dissolved and supplied to the roots, and by the heat it carried from the surface and showed that the practice of rounding up of land into ridge and furrow, sealed it to the descent of rain, and deprived it of its most valuable manure. This practice of laying up the cultivated ground into beds, he considered of great antiquity; for he had observed the old lands of the clay pastures cut asunder by ancient roads, and that they extended in directions independent of existing hedges and boundaries, so that it was clear these old pastures had been in tillage, and at a period prior to the laying out of these roads and hedges; and they are evidence of the appropriation of the greater part of England to the raising of corn at a very early period, and of which we have very little account. Mr. Davis is of opinion that agriculture at that time must have been followed with much skill, and the country have possessed a population far greater than at any period of the Norman or Saxon rule, and that these evidences of a generally diffused agricultural occupation must refer to a time when the country enjoyed a security from invasion and intestinal wars, which it never had from the time of the departure of the Romans; and it is to this wonderful people, and to that early period, he traces the introduction of the ridge and furrows, and the present form of much of the old pasture-land of England. He then proceeded to explain that all vegetable matter was made up of the elements of air and water, with minute portions of minerals, which could only have entered the roots of plants in a gaseous or dissolved form; and that whilst abundance of the former may be supplied through the interstices of the soil, the latter can only be prepared and presented to the roots by the descent of rain; and that as the earth's surface is heated only by the sun's action on it, and it was a quality of heat to ascend and not descend, it was principally by the warmth carried from the atmosphere and the earth's surface to the interior, in the descent of rain, that the temperature of the vegetating soil is raised in the spring season. He then entered into the various plans that have been pursued to drain land. He showed by quotations from Columella and Cato, that the system of draining 2000 years ago had been by drains of 3 and 4 feet deep, laid with stones and wood; and that up to the introduction of tiles, in the last 50 years, little or no improvement in draining had been made. He then referred to the insecurity of any other material than tiles, and the danger in using any form but the circle. He stated that the expansion and contraction of a clay soil by wet and drought was such, at 4 feet deep, as to crush any form but the circle, or to press up the bottom so as to fill up the vacuum; and he exhibited a tile choked with clay he had brought from the Regent's Park, where they were found in all directions, and where he was now draining 4 feet deep with pipes, after many attempts had been made without success at shallower depths and with other materials. By means of glass cylinders filled with clay, he was enabled to point out "how clay became porous by the abstraction of the water," and "how it was that deeper drains carried off the water quicker than shallower," and "how heat and nutriment were taken down from the surface," and finished by showing that whilst the soil, when saturated with water, is closed to the entrance of rain water, and every shower robs it of both heat and manure, the effect of drainage is to open the earth to the receipt of warmth and nutriment from the surface, and to the free flow of air, rendering it permeable to the roots of plants, bringing it into a more healthy condition, lightening the cost of its cultivation, and in many ways increasing its fertility. After the lecture many questions were put to Mr. Davis as to the depth at which clays should be drained. He explained that having shown how clay became porous to the depth of the drains, he was quite sure they would at once be alive to the advantages of giving the greatest depth to their drains that cost would admit; and they would see the desirability of keeping the water bed that would remain at the bottom of below drains, at least 4 feet from the surface. These answers appeared satisfactory, and the meeting closed with the thanks of the visitors being unanimously voted to Mr. Davis and to the chairman.

Notices to Correspondents.

BACON: *D A*. The Gloucestershire method consists in simply salting it. It is not necessary, nor desirable, that it be smoked at all. Our answer on this subject was given a short time ago. Keep it in a dry place, and it will be good for very many months.

BLACK BARLEY: *A Subscriber* asks if it can safely be sown so late as April in Ireland? We should suppose it could.

BREWING: *A B* says, I have brewed a batch of beer in accordance with the method recommended by "J. W.," but I do not find that I have any crust of Hops floating on the surface when my beer is in the cask. I have, therefore, bunged down the cask, and have secured the vent-hole. Will "J. W." say how this comes? I transferred the liquor, Hops and all, without straining, red hot into the cask, and in spite of all my efforts the Hops persist in lying with the dregs.

BUTTER: *Cottager*. You grate the Carrot down and macerate it in water for a little, and thereafter strain so much of it as is deemed able to give a deep enough colour through a cloth into the churn, along with the cream.

CHEVALIER BARLEY. *A Constant Reader* may procure it of any seedsman; or indeed, we may be almost sure, on some neighbouring farm, for it is commonly enough known and sown now. A correspondent writes to say that he could supply some.

FOOD FOR EWES: *Beginner*. Brewers' grains, in moderation, are perhaps the best sort of purchased food you can get to give them along with the hay and straw chaff.

GAS LIME: *Reader*. It is useful as a top-dressing upon land, after it has been repeatedly turned and exposed to the air. Apply it to Grass land, either permanent or artificial, as a top-dressing. By exposure to the air some of it becomes gypsum, and that is the cause of its fertilising influence. Two tons per acre is a common application.

GRASS LAND: *G B N H*. Apply wood ashes over the strong coarse herbage; that will induce the cattle to eat it. 20 cwt. or more per acre may be applied broadcast.

HORSE-HOE. *Constant Subscriber*. One horse, on land not extraordinarily hard or foul, will get over six to eight acres of Wheat a day with one of Garrett's horse-hoes.

HUSSEY'S REAPING MACHINE: *D C*. Has it ever been applied to the cutting of Grass? or is it capable of being so applied?

LUCERNE: *C A*. Sow 6 or 8 lbs. per acre during mid-April, in shallow drills, in rows at least 12 inches apart, on good deep land, or sandy loam, or a calcareous loam in good heat, well and deeply tilled, is the best sort.

PERUVIAN BARLEY: *S B*. We have several inquiries for it. Those who have it for sale should advertise.

POULTRY: *Constant Subscriber*. I cannot help you. The appearances you mention are not very uncommon, but they seldom occur except when fowls are out of condition, or have been forced to unnatural laying, by very stimulating food. This does not appear from your dietary, unless you have given greaves too freely. I make no doubt the cause of complaint will disappear as the weather gets milder and the fowls improve in condition. Thirty hens are too many for two cocks.—*J P, Brecon*. It is disputed, but I have no hesitation (having proved it beyond contradiction) in saying, that once will serve for three weeks. Dissection will prove it also.—*Constant Reader*. A Cochin China fowl must not have five claws like a Dorking, nor must it have half as much tail as any other breed. It must not have sickle feathers. Although one colour may be preferred to another, that is matter of fancy, and a bird, good in other points, is not less pure because his plumage is darker than those now most esteemed. The correspondent who complains his swans will not eat, and consequently die of starvation, will very likely find, on examination, that although the stomachs are perfectly healthy, the birds are diseased; but the disease is in the throat, at the root of the tongue. When such is the case, and it is not uncommon, it is impossible they can eat whole corn, but they drink, and if Oatmeal be thrown into the water they will suck it off the surface. I would recommend to fence off a small space with common hurdles, say 12 feet square, on the edge of the water, half the space being water; I would place all the sickly birds therein, and several times a day I would take one of their wing feathers, completely saturated with sweet oil, and pass it down the throat, doing so as often as convenient, and continuing it each time till the passage was open and easy. Let them have gruel or meal in water at hand, and they will then feed. After a few days they will recover, as death is from starvation and not from the disease. Of course if it were necessary to put many swans under treatment at the same time, a larger space would be necessary, and it should be moved daily, like a sheep-fold.—*C G*. I give my opinion with all diffidence, and it must be taken for what it is worth. If I escape having my judgment reversed, or my opinions objected to, I shall be more fortunate than those who sit in higher courts. I still believe the white Cochin China fowls to be a distinct breed. Why should they not be? Are not the white Dorkings? I admit they may sometimes throw dark feathers, but such may be a freak of Nature, or a token of degeneracy. It is notorious they were imported white, and have remained so, except where they have been crossed with coloured birds. In such cases some of the chickens will come quite white, and may be sold as pure; but in breeding from them, their produce is very likely to come dark or pied. This would only prove the mixed origin of those particular birds, and would not affect the question of the breed. *J. Baily*, 113, *Mount-street*.

Markets.

COVENT GARDEN, MARCH 13.

Although the weather still continues cold, the market is well supplied with vegetables and fruit; but trade is dull. English Pine-apples are plentiful, considering the season. New Hothouse Grapes have made their appearance; foreign ones are a trifle dearer. The best English Pears fetch good prices. They are now confined to Beurré Rance and Easter Beurré. Oranges are plentiful and good. Nuts are nearly the same as last quoted. Strawberries are still supplied. Carrots, Turnips, Cabbages, &c., are sufficient for the demand, and there is some fine Cornwall Broccoli in the market. Potatoes are generally good in quality. Lettuces and other salading are sufficient for the demand. Mushrooms are cheaper. Cut flowers consist of Heaths, Epacrises, Mignonette, Camellias, Roses, Acacias, Azaleas, Primulas, Hyacinths, Tulips, Lily of the Valley, and other forced bulbs.

FRUIT.

Pine-apples, per lb., 4s to 8s	Pears, dessert, p. doz., 2s to 6s
Grapes, hothouse, p. lb., 15s to 20s	Oranges, per doz., 1s to 1s 6d
Grapes, Lisbon, per lb., 9d to 1s 6d	— per 100, 3s 6d to 10s
Strawberries, per oz., 1s to 2s	— Seville, per doz., 1s to 3s
Apples, kitchen, per bushel, 2s to 3s 6d	Lemons, per doz., 1s to 2s
Almonds, per peck, 5s	Nuts, Barcelons, p. bsh, 20s to 22s
— sweet, per lb., 2s to 3s	— Brazil, p, bsh., 12s to 14s
	Cobs, per 100 lbs., 80s to 100s

VEGETABLES.

Savoys, per doz., 10d to 2s	Beet, per doz., 1s to 2s
French Beans, p. 100, 2s to 3s	Parsnips, per doz., 4d to 1s
Broccoli, p. bunch, 5d to 1s 3d	Leeks, per bunch, 1d to 2d
— heads, each, 2d to 4d	Shallots, per lb., 8d to 10d
Asparagus, p. bundle, 3s to 7s	Garlic, per lb., 6d to 8d
Seakale, p. basket, 1s 3d to 2s 6d	Lettuce, Cab., p. score, 4d to 1s
Greens, per doz., 2s 6d to 4s	Radishes, per doz., 1s 6d to 2s
Rhubarb, p. bundle, 6d to 1s 6d	Small Salads, p. punn., 2d to 3d
Potatoes, per ton, 45s to 80s	Horse Radish, p. bundle, 1s to 4s
— per cwt., 2s to 5s	Mushrooms, p. pot., 1s to 1s 3d
— per bush., 1s 6d to 2s 6d	— per punnet, 9d to 1s
Turnips, p. doz., 1s 6d to 2s 6d	Sorrel, p. hf. sieve, 1s 3d to 1s 6d
Cucumbers, each, 1s to 3s	Artichokes, Jerus., do., 9d to 1s
Celery, p. bundle, 6d to 1s 6d	Fennel, per bunch, 2d to 3d
Carrots, per bunch, 4d to 7d	Savory, per bunch, 2d to 3d
Brussels Sprouts, p. half sieve, 1s to 1s 6d	Thyme, per bunch, 2d to 3d
	Parsley, per doz. bun., 2s to 3s
Spinach, per sieve, 1s to 1s 6d	Mint, per bunch, 4d to 6d
Onions, p. bunch, 2d to 4d	Basil, p. bunch, 3d to 4d
— Spanish, p. doz., 1s 6d to 3s	Marjoram, do., 3d to 4d
Endive, per score, 1s to 2s 6d	Watercress, p. 12 bunchs. 6d to 1s

POTATOES.—SOUTHWARK, MONDAY, March 8.

The committee report that during the past week the arrivals both coastwise and by rail have been considerable; and, notwithstanding the coldness of the weather, our trade still continues in the same depressed state as the previous week. The following are this day's quotations:—York Regents, 60s. to 80s.; Scotch do., 60s to 70s.; Perth and Forfarshire Cups, 65s. to 70s.; Fifeshire do., 55s. to 60s.; Cambridge and Wisbeach, 55s. to 65s.; Kent and Essex, 60s. to 75s.

HAY.—Per Load of 36 Trusses.

SMITHFIELD, March 11.

Prime Meadow Hay	72s	to 77s	Clover	75s	to 84s
Inferior ditto	63	68	2d cut	67	75
Rowen	60	63	Straw	26	30
New Hay	—	—			

J. COOPER.

Trade heavy.

COAL MARKET.—FRIDAY, March 12.

Holywell, 15s.; Eden Main, 15s.; West Hartley, 13s.; Wallsend Haswell, 16s. 3d.; Wallsend Hetton, 16s.; Wallsend Stewarts, 16s.; Wallsend Tees, 16s.; Merthyr, 23s.—Ships at market, 208.

HOPS.—FRIDAY, March 12.

Messrs. Pattenden and Smith report the Hop market firm at late prices.

WOOL.

BRADFORD, THURSDAY, March 11.—There is no improvement to record in the state of our wool market. The demand continues inactive for all classes except the best, and prices have

undergone a corresponding depression. Stocks in the hands of staplers and spinners are certainly below the average for the season of the year; but in the face of the extremely depressed position of spinners and manufacturers, there is no inclination to buy more than is absolutely required for immediate use. Short wools and noils are a good sale at full rates. Of the yarn and piece market we can only repeat the same cheerless story of many weeks past. There seems little prospect at present of a more animated state of things.

SMITHFIELD, MONDAY, March 8.

The number of Beasts is smaller than of late, and the weather continuing favourable, there is considerable activity in the trade. We are enabled to quote an advance of 2d. per 8 lbs. on Friday's prices for most descriptions. A fair clearance is effected. There are very few Sheep on offer; trade is, however, very slow, and prices are scarcely as good as on Monday last. There is more inquiry for shorn, and immediately the weather gets a little milder, those in wool will be difficult to sell. Good Calves are scarce and rather dearer, but there is no better trade for middling ones. From Germany and Holland there are 284 Beasts, 820 Sheep, and 82 Calves; from Scotland, 500 Beasts; from Norfolk and Suffolk, 1900; and 300 from the northern and midland counties.

Per st. of 8 lbs.—s	d	s	d	Per st. of 8 lbs.—s	d	s	d
Best Scots, Herefords, &c.	3	6	to 3 8	Best Long-wools	3	6	to 3 10
Best Short-horns	3	4	— 3 6	Ditto Shorn			
2d quality Beasts	2	6	— 3 0	Ewes & 2d quality	2	8	— 3 2
Best Downs and Half-breds	4	0	— 4 4	Ditto Shorn			
Ditto Shorn				Lambs	0	0	— 0 0
				Calves	3	0	— 4 6
				Pigs	3	0	— 4 0

Beasts, 3874; Sheep and Lambs 21,900; Calves, 138; Pigs, 380.

FRIDAY, March 12.

The supply of Beasts is a fair average; the weather being favourable trade is cheerful, and a clearance is effected at about Monday's prices. We have a full supply of Sheep for the time of year; trade is dull, and it is with considerable difficulty Monday's quotations are supported. Although the number of Calves is not large, the demand is so limited, that on the average lower prices are submitted to. Our foreign supply consists of 116 Beasts, 530 Sheep, and 117 Calves. The number of Milch Cows is 148.

Best Scots, Herefords, &c.	3	6	to 3 8	Best Long-wools	3	6	— 3 8
Best Short-horns	3	2	— 3 4	Ditto Shorn			
2d quality Beasts	2	4	— 3 0	Ewes & 2d quality	2	8	— 3 2
Best Downs and Half-breds	4	0	— 4 4	Ditto Shorn			
Ditto Shorn				Lambs	0	0	— 0 0
				Calves	3	0	— 4 4
				Pigs	2	8	— 4 0

Beasts, 901; Sheep and Lambs, 3350; Calves, 200; Pigs, 340

MARK LANE.

MONDAY, March 8.—Although the supply of Wheat from Essex, Kent, and Suffolk, by land carriage samples to this morning's market was small, it met a slow sale, and some considerable quantity remained undisposed of at a late hour, even at a decline of 1s. per quarter. We heard of no transactions in foreign, but a slight decline would in many cases have been accepted, had buyers presented themselves.—The trade for Barley and Peas remains the same as this day se'nnight.—Beans are a slow sale at late rates.—The Oat trade is firm, but business not extensive.—Flour is a heavy sale, and in some instances a slight reduction is submitted to.

PER IMPERIAL QUARTER.	s.	s.		s.	s.
Wheat, Essex, Kent, & Suffolk...White	44	—46	Red		40—42
— — fine selected runs...ditto	46	—48	Red		42—44
— Talavera	46	—52			
— Norfolk, Lincoln, & York...White	39	—44	Red		—
— Foreign	37	—53			
Barley, grind. & distill., 26s to 29s...Chev.	31	—35	Malting	29	—32
— Foreign...grinding and distilling	22	—29	Malting		—
Oats, Essex and Suffolk	19	—21			
— Scotch and Lincolnshire...Potato	2	—24	Feed	20	—22
— Irish	20	—23	Feed	19	—22
— Foreign .....Poland and Brew	19	—22	Feed	18	—21
Rye	—		Foreign	—	
Rye-meal, foreign.....per ton	—				
Beans, Mazagan ... ...24s to 27s.....Tick	25	—30	Harrow	25	—30
— Pigeon.....27 — 32... Winds	30	—36	Longpod	24	—30
— Foreign .....Small	22	—30	Egyptian	23	—25
Peas, white, Essex and Kent.....Boilers	32	—34	Suffolk	33	—35
— Maple.....27s to 30s .....Grey	26	—28	Foreign	27	—34
Maize .....White	—		Yellow	—	
Flour, best marks delivered ...per sack	38	—43			
— Suffolk .....ditto	29	—34	Norfolk	29	—34
— Foreign .....per barrel	18	—24	Per sack	32	—36

FRIDAY, March 12.—The arrivals of grain this week have been moderate. To-day's market was badly attended, and, with the exception of a slight inquiry for low qualities of Wheat and Flour for export, scarcely any demand was apparent; prices are consequently entirely nominal.—Barley firm at Monday's prices.—Beans and Peas remain as last quoted, with but little business doing.—The Oat trade is slow at late rates.—There is some inquiry for floating cargoes of Wheat for the Continent, but we have not heard of any transactions to-day.

IMPERIAL AVERAGES.	WHEAT.	BARLEY.	OATS.	RYE.	BEANS.	PEAS.
Jan. 31	39s 10d	26s 6d	18s 2d	27s 6d	28s 11d	28s 4d
Feb. 7	41 2	29 8	18 11	29 7	29 0	29 0
— 14	42 8	30 7	18 9	29 11	29 10	29 7
— 21	42 9	31 0	19 4	30 5	30 2	30 5
— 28	42 3	30 7	19 6	30 7	29 10	29 5
March 6	42 7	30 1	19 4	32 5	30 2	29 6
Aggreg. Aver.	41 11	30 1	19 0	30 1	29 8	29 4

Duties on Foreign Grain, 1s. per quarter.
Fluctuations in the last six weeks' Averages.

PRICES.	JAN. 31	FEB. 7.	FEB. 14.	FEB. 21.	FEB. 28.	MAR. 6.
42s 9d	...	...	...	...	...	...
42 8	...	...	...	...	...	...
42 7	...	...	...	...	...	...
42 3	...	...	...	...	...	...
41 2	...	...	...	...	...	...
39 10	...	...	...	...	...	...

LIVERPOOL, TUESDAY, March 9.—Our market this morning was tolerably well attended, but the Wheat trade opened slow, and a decline of 2d. per bushel was generally conceded, at which reduction a moderate amount of business was effected before the close. American Flour was pressed for sale from the quay, and several thousand barrels changed hands at 1s. per barrel less than this day week. Grinding Barley remained steady in value, but malting descriptions and Malt were respectively 1s. per qr. cheaper.—Egyptian Beans sold steadily at full prices. Oats recovered the depression of Friday, though the sales were merely in retail. Oatmeal was 3d. per load lower. Indian Corn in moderate request.——FRIDAY, MARCH 5.—Our market this morning exhibited an extremely dull appearance as regards Wheat of all descriptions, and prices of either British or foreign were rather lower. French and Irish Flour were the turn cheaper. Peas and Beans, upon a moderate demand, supported late prices, and few parcels of Egyptian remain unsold. Malting Barley in slow request, and rather depressed in value; grinding Barley and Malt remain unvaried. Oats and Oatmeal, meeting little notice, the former receded 1d. per 45 lbs., and the latter 3d. per load. Indian Corn continues to be taken at late prices, and cargoes afloat meet buyers, as offered, from day to day.

GLASS.

JAMES PHILLIPS AND CO., GLASS MERCHANTS,

116, BISHOPSGATE STREET WITHOUT, LONDON,

HAVE THE PLEASURE TO HAND THEIR LIST OF PRICES OF GLASS FOR THE PRESENT MONTH, FOR CASH.

HORTICULTURAL GLASS

Packed in Crates containing about 300 feet, and in Sheets about 40 ins. long by 30 ins. wide.

13 oz. to the foot	...	0s. 2d.
16 oz. do.	...	0 2½
21 oz. do.	...	0 3½

Cut to order in Panes.

Not exceeding 40 inches long:

16 oz.	...	0s. 3d. to 0s. 3½d.
21 oz.	...	0 4 — 0 5
26 oz.	...	0 5 — 0 7

Packed in boxes containing 100 feet:

6 by 4 to 6½ by 4½ ins.	...	13s. 0d.
7 by 5 to 7½ by 5½ ins.	...	15 0
8 by 6 to 8½ by 6½ ins.	...	17 6
9 by 7 to 10 by 8 ins.	...	20 0

Boxes are charged 2s. each, but allowed for when returned.

FOREIGN SHEET GLASS.

Packed in 200 feet Cases, sizes varying from 38 by 26 to 44 by 30, at 38s., 40s., to 42s. per case of very superior quality.

WINDOW GLASS.

In Crates of 18 Tables.

	£	s.	d.
Best	6	15	0
Seconds	5	17	0
Thirds	4	16	0
Fourths	3	3	0
C. C.	2	12	0
Coarse	2	6	0

Double Crown the same price per crate, packed in 12 tables.

Subject to the usual discount for cash. Squares cut to order.

POLISHED PLATE GLASS.

Plates under 1 ft. super. 1s. 9d.

1 foot and under	2	do.	2	4
2 do.	3	do.	2	8
3 do.	4	do.	2	10
4 do.	6	do.	3	2
6 do.	8	do.	3	6
8 do.	10	do.	3	9
10 do.	12	do.	4	0
12 do.	14	do.	4	2

Per foot super.

ORNAMENTAL OPAQUE PLATE GLASS.

PERFORATED GLASS,

FOR VENTILATION.

GLASS SLATES WITH DRILLED HOLES.

Rough Plate.

Size.	¼ in. thick.	⅜ in. thick.	½ in. thick.	¾ in. thick.
	s. d.	s. d.	s. d.	s. d.
Duchess ... 24+12	1 6	2 0	2 8	5 0
Small Imperial 20+14	1 5½	1 11	2 7	4 10
Small Duchess 22+12	1 5	1 10	2 6	4 8
Countess ... 20+10	1 1½	1 6	2 0	3 8
Viscountess ... 18+10	1 1	1 4	1 10	3 4
Large Ladies 16+10	1 0	1 3	1 7	3 0
Ladies ... 16+ 8	0 10	1 1	1 5	2 6
Doubles ... 13+ 7	0 8	0 10	1 2	2 3

GLASS TILES.

Rough Plate. Each—	s.	d.	Sheet. Each—	s.	d.
⅛ inch thick...	0	10	16 oz.	0	6
3-16ths do. do.	1	0	21 oz.	0	8
¼ inch thick...	1	3	26 oz.	0	10
⅜ inch thick...	2	0	32 oz.	1	0

50 Tiles, ¼ of an inch thick, packed in a case, 2l. 10s.

GLASS FOR CHURCHES, CHAPELS, SCHOOLS, ETC.

HARTLEY'S PATENT QUARRY GLASS,

In various lengths, of three thicknesses a cheap substitute for Lead Lights.

HARTLEYS PATENT ROUGH PLATE GLASS.

⅛ inch thick, or 2 lbs. to the foot; 3-16ths, or 3 lbs.; and ¼, or 4 lbs. to the foot, for Ridge and Furrow Roofs, Greenhouses, Railway Stations, Engine Sheds, Mills, Market Halls, and Public Buildings generally.

HARTLEY'S PATENT LUTED AND CORRUGATED GLASS,

For Dome Lights, Counting-house Windows, &c.

MILK PANS, PROPAGATING GLASSES, and every article in the trade, for which a List of Prices, and every information, may be had, by addressing

JAMES PHILLIPS & CO., Glass Merchants, 116, Bishopsgate-street Without, London.

GLASS FOR CONSERVATORIES, ETC.

HETLEY AND Co. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2d. to 3d per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices and Estimates forwarded on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLALES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to JAMES HETLEY and Co., 35, Soho-square, London.

See *Gardeners' Chronicle* first Saturday in each month.

GLASS.

THOMAS MILLINGTON'S FOREIGN SHEET GLASS is far superior to any other manufacture, as well as cheaper. In 100 feet boxes packed for immediate delivery.

6 inches by 4 and 6½ by 4½	...	...	...	13s. 0d.
7 ,, 5 and 7½ by 5½	...	...	...	15 0
8 ,, 5 and 8 by 5½	...	...	...	15 0
8 ,, 6 and 8½ by 6½	...	...	...	17 6
9 ,, 7 and 10 by 8	...	...	...	20 0
12 ,, 10 and 13 by 9	...	...	...	20 0

And many other sizes, or cut to order in various thicknesses. Cases containing large Sheets, in 100, 200, and 300 feet, at 21s. per 100 feet.

ROUGH PLATE, perfectly flat, ⅛ in. thick, best manufactured.

In sizes under 15 inches	.....	6d. per foot.
,, ,, 35 ,,	.....	8d. ,,
,, ,, 50 ,,	.....	9½d. ,,
,, ,, 75 ,,	.....	12d. ,,

Milk Pans, 2s. to 6s. each; Metal Hand Frames, Glass Tiles and Slates; Cucumber, Propagating, and Bee Glasses; Wasp Traps, Glass Shades, and Plate Glass, at 87, Bishopsgate-street Without, same side as Eastern Counties Railway.—Established 100 years.

EWING'S PATENT GLASS WALLS.—The following are the Agents, and on application to whom drawings may be seen, and all other information obtained:—Messrs. Knight and Perry, Nurserymen, &c., Chelsea; Messrs. Henderson and Co., Nurserymen, Pine-apple-place, London; Messrs. Whitley and Osborn, Nurserymen, &c., Fulham, London; Mr. Glendinning, Nurseryman, &c., Chiswick, London; Messrs. Veitch and Son, Nurserymen, Exeter; Messrs. Dickson, Nurserymen, Chester; Messrs. Lawson and Sons, Nurserymen, Edinburgh; Messrs. Dickson and Turnbull, Nurserymen, Perth; Mr. M'Intosh, F.R.S., Gardener to the Duke of Buccleuch, Dalkeith; Mr. Fleming, F.H.S., Gardener to the Duke of Sutherland, Trentham, Staffordshire; Mr. Ewing, Gardener, Bodorgan, Anglesea; Messrs. Pilkington and Co., Plate, Crown, and Sheet Glass Works, St. Helen's, Lancashire.

These Walls can, when desired, be made wide enough for a person to enter, by which they become elegant hothouses on the best principle. Existing Walls covered with Glass and Iron.

GREEN AND HOTHOUSES, made by Machinery, at J. LEWIS' Horticultural Works, Stamford Hill, Middlesex, warranted best materials, and the cheapest in England.—A List of Prices sent by enclosing 2 postage stamps.

HOTHOUSES, GREENHOUSES, ETC.

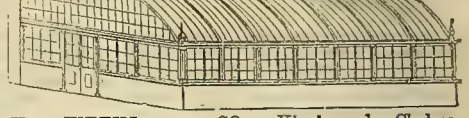
BY HER MAJESTY'S ROYAL LETTERS PATENT.

E. DENCH, PATENT HOTHOUSE WORKS, KING'S-ROAD, CHELSEA.—The superior qualities in every respect of these Structures having been proved in all parts of the United Kingdom, has caused a greater demand for them than E. D. could execute; he has been obliged to have perfect and powerful machinery made to meet the numerous orders, and can now execute any amount of work to great perfection, with dispatch, and for quality and price to defy all competition. Patent Hothouses, with excellent glass 8 feet long by 1 foot wide, every front sash to open, and every top one to slide down, with pulley made of the same materials as the electric telegraph wires, which require no painting; delivered free to Wharf or Railway Station, at 1s. 2d. per foot super., complete, having been fitted, and every portion marked previously, making a Greenhouse 16 ft. 6 ins. long, 12 ft. rafter, 400 ft., 23l. 6s. 8d; 24 ft. 6 ins. long., do. do., 526 ft., 30l. 13s. 8d.; 28 ft. 6 ins. long, 15 ft. rafter, 712 ft., 41l. 10s. 8d. Heating by Hot-water on the most approved and economical principles.

Patent Sashes for Pits and Peach Walls, &c., 7d. and 8d. per foot, super.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER.

WARRANTED BEST MATERIALS AND WORKMANSHIP, AT THE LOWEST POSSIBLE PRICES.



J. WEEKS AND CO., King's-road, Chelsea, Horticultural Architects, Hothouse Builders, and Hot-water Apparatus Manufacturers. The Nobility and Gentry about to erect Horticultural buildings, or fix Hot-water Apparatus, will find at our Hothouse Works, King's-road, Chelsea, an extensive variety of Hothouses, Greenhouses, Conservatories, Pits, &c., erected, and in full operation, combining all modern improvements, so that a lady or gentleman can select the description of House best adapted for every required purpose.

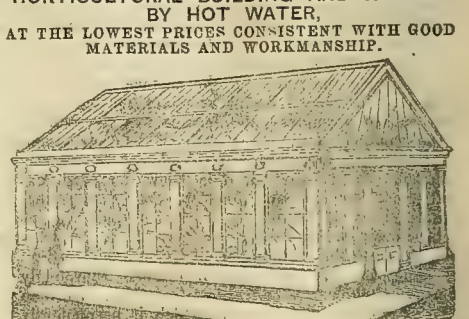
THE HOT-WATER APPARATUSES (which are efficient and economical), are particularly worthy of attention, and are erected in all the Houses, Pits, &c., for both Top and Bottom Heat, and in constant operation in the Stoves.

The splendid collection of Stove and Greenhouse Plants are in the highest state of cultivation, and for sale at very low prices. Also a fine collection of strong Grape Vines in pots from eyes, all the best sorts.

Plans, Models, and Estimates of Horticultural Buildings; also Catalogues of Plants, Vines, Seeds, &c., forwarded on application.—J. WEEKS and Co., King's-road, Chelsea, London.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER,

AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.



GRAY AND ORMSON, Danvers-street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

G. & O. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders, they can with the greatest confidence give the most satisfactory references.

Their Hot-Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating by Hot Water can be made available.

GREENHOUSE & CONSERVATORY BUILDING ESTABLISHMENT,

HOT-WATER APPARATUS MANUFACTORY,

KENSALL-GREEN, HARROW-ROAD, LONDON.

JOHN TAYLOR begs most respectfully to call the attention of the Nobility, Gentry, and Gardeners, to the very superior manner in which he erects all kinds of Greenhouses, Conservatories, Forcing Pits, &c, and all other buildings for Horticultural purposes, combining all the most modern improvements with elegance and utility. His manner of heating Horticultural Buildings, Churches, Chapels, Public Buildings, Entrance Halls, &c., has received the greatest approbation from the Nobility and Gentry by whom he has been extensively engaged.

DRAINING TILE MACHINES, & CLAY GRINDING MILLS.

MR. SAMUELSON, Britannia Iron Works, Banbury (Successor to the late James Gardner), to avoid the disappointment experienced last year as regards the delivery of his IMPROVED DOUBLE SPEEDED TILE MACHINES, will feel obliged by orders for this season being given as early as possible.

Price of the small Machine to deliver 4000 1½ inch, or 3000 2 inch pipes in 10 hours, 14*l*.

Delivery free to all places on the London and North Western and the Great Western Railways.

Drawings may be obtained on application as above.

PERMANENT PASTURE.

HENRY ROGER SMITHE, of Eastling, Faversham, Kent, informs the public that his mixtures of the NATURAL GRASSES and SMALL CLOVERS, gathered principally under his superintendence, including every sort necessary to form a Permanent Pasture, accordant with the soil, &c. (which should be particularly stated), are now ready to be delivered by Railway to any Station in England, Carriage Free, at 20*s*. per acre, allowing 3 bushels per acre.

MIXTURES FOR LAWNS, &c. THE TRADE SUPPLIED.

Any information on the nature and properties of the Grasses, the Advertiser would be pleased to give.

THE PRIZE MEDAL OF THE GREAT EXHIBITION was awarded to Mr. Milton, for his Improved COTTAGE BEEHIVE (straw), the only British Beehive for which a Prize Medal was awarded. It is of simple construction, ornamental, and so easily managed that the most unskilful can with safety obtain a large quantity of pure honey without killing the bees; price complete, 10*s*. 6*d*. They are made with extra fittings and boards, 13*s*. 6*d*. the set.

Also may be had "Milton's Practical Bee-keeper," new edition, price 2*s*

Ditto, with Illustrations, 2*s*. 6*d*.

Ditto, Sheet of ditto, free by post, 8*d*.

At Milton's Beehive and Honey Warehouse, 10, Great Marylebone-street, Wimpole-street, London.

IMPORTANT TO POULTRY FANCIERS.

COCHIN CHINA FOWLS' EGGS FOR HATCHING.—A gentleman having with very great care selected some most superior Cochin China Fowls, now offers their Eggs to those who study that most agreeable and profitable of all rural pursuits—Poultry keeping. The stock Fowls are from imported Birds, very large, of great weight, well feathered on the legs, and of choice colours. Price of Eggs, 12*s*. per dozen; box, 1*s*. extra. All orders for the above to be accompanied with a Post-office order.—Apply, by pre-paid letter, to Oliver Stead, Norton-street, Baldock, Herts.

COCHIN CHINA FOWLS.—Fresh Eggs from these highly esteemed Birds, sent to any part carefully packed at 7*s*. 6*d*. sitting of 14 Eggs, packages included, from Stocks of Cinnamon colour that obtained first prizes at Birmingham and York Poultry Shows.—Apply to Mr. James Fairhead, Seed Grower, near Braintree, Essex.

FRUIT TREES, POULTRY, ETC.

TANNED GARDEN NETTING for protecting Fruit Trees from Frost, Blight, and Birds, or as a Fence for Fowls, Pigeons, Tulip and Seed beds, can be had in any quantity or length, from John King Farlow's Fishing Tackle and Net Manufactory, 5, Crooked-lane, London Bridge, at 1½*d*. yard wide, 3*d*. two yards, or 6*d*. four yards wide. All orders above 20*s*. accompanied with Post-office order, stamps, or London reference, carriage free.

TANNED NETTING, for the Protection of Fruit Trees from frost, blight, and birds, and for the security of fresh-sown seeds, either in gardens or fields, at 1*d*. per square yard, 200 yards for 14*s*., 500 yards for 30*s*., 1000 yards for 50*s*. Scrim canvas for wall fruit, netting for sheep folds; a considerable saving of labour, and less expense than hurdles. Sun blinds in great varieties, rick cloths, with poles, &c. Marquees, tents, awnings, and temporary rooms, with boarded doors, elegantly lined and lighted for fêtes, &c., on sale or hire. Carriage, cart, and truck covers impervious to rain; cloths for the covering of furniture in change of residence, &c. Tarpaulings on hire for houses under repair, at THOMAS EDGINGTON & Co.'s, 17, Smithfield-bars, and Old Kent-road.

N.B Orders and inquiries per post punctually attended to.

STEPHENSON and PEILL, 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Manufacturers of Copper Cylindrical and Improved Conical Iron BOILERS, and Conservatory and Hot-house Builders, either in wood or iron, respectfully call the attention of the Nobility, Gentry, and Nurserymen to their simple but efficacious method of warming Horticultural and other Buildings by hot water. From the extensive works they have executed, references of the highest respectability can be given, and full particulars furnished on application.

GLASS ENAMEL, OR IRON COATED WITH GLASS.

TO GOVERNORS OF HOSPITALS, WORKHOUSES, ARCHITECTS, BUILDERS, AGRICULTURISTS, HORTICULTURISTS, and the FARMING INTEREST generally.—It has long been a great desideratum to obtain an article that would resist the action of acids, the changes of temperature, and the destructive effects of rust. This at length (after repeated attempts) has been effected in an extraordinary degree, by that beautiful and newly-invented process of COATING OR ENAMELLING WROUGHT-IRON WITH GLASS, combining at one and the same time STRENGTH AND PURITY.

Among the articles which may be enumerated as having been already prepared by this useful invention are the following:—Wrought-iron Tubes, from ¾ inch to 7 inches diameter, superseding copper, lead, and earthenware; Culinary and other Domestic Utensils in great variety, Dairy Pans and Ladles, Scoops, Cisterns, Baths, Water Closets, Pumps, Hot and Cold Water Circulating Pipes, Ornamental Gas Piping in Colours, Plain and Corrugated Roofing and other articles, too numerous to mention. The Colours which the Patentees have already been able to attain are white, iron grey, French grey, Royal purple, green, and their various shades, but they are in hopes, by the researches of chemistry and the experiments which are constantly being made, of shortly adding to the number.

Further information may be obtained, by applying to the undersigned, who will be glad to execute all orders that may be entrusted to them with the utmost despatch.

Leonard Cooper & Co.,
Agents to the Patentees, 114 Cooper-street, and 1, Bond-street, Manchester.

SIDNEY'S IMPROVED PRUSSIAN HOE.—This exceedingly useful garden implement, so much in demand, and which has obtained the first prize at several of the best Horticultural meetings, as the best and most useful garden tool *extant*; also testimonials from the principal Horticultural journals and leading practical gardeners; is now ready for delivery, and may be obtained of any principal ironmonger, and Sole Inventor of the manufacturer, J. W. Sidney, Ironmonger, East Dereham, Norfolk. Price (ready for use), carefully handled, 5*s*. 6*d*.; of whom may be had the new draining tool, called the *Norfolk Bombshell* hoe. Copies of testimonials sent on application to the manufacturer.

UNOBJECTIONABLE PROTECTION FROM THE RAIN.—This great desideratum is fully realised in BERDOE'S WATERPROOF PALLIUM, the well-known Light Overcoat for all seasons, which, *without obstructing free ventilation*, effectually resists any amount of rain; and, from its lightness and respectable appearance, is adapted for general uses at all times, equally as for rainy weather, and has long possessed an established reputation as one of the most convenient, economical, and valuable garments ever invented. Price 45*s*. Every size kept ready. Also a very large stock of Shooting Jackets, Capes, Leggings, &c. Waterproof Cloaks, Mantles, Habits, &c., for Ladies.

Berdoe, 96, New Bond-street, and 69, Cornhill (only).

HEAL AND SON'S ILLUSTRATED CATALOGUE OF BEDSTEADS, sent free by post, contains designs and prices of upwards of One Hundred different Bedsteads, in Iron, Brass, japanned Wood, polished Birch, Mahogany, Rose-wood, and Walnut tree Woods; also their priced List of Bedding, and their new warerooms enable them to keep one of each design fixed for inspection. They have also, in addition to their usual stock, a great variety of the best designs of PARISIAN BEDSTEADS, both in wood and iron, which they have just imported. Heal and Son, Bedstead and Bedding Manufacturers, 196 (opposite the Chapel), Tottenham Court Road, London.

FINE HEAD OF HAIR.

ROWLANDS' MACASSAR OIL is justly renowned throughout the world for its remarkable virtues in *nourishing, preserving,* and *beautifying* the Human Hair. It insinuates its balsamic properties into the pores of the head, nourishes the Hair in its embryo state, accelerates its growth, cleanses it from Scurf and Dandriff, sustains it in maturity, and continues its possession of healthy vigour, silky softness, and luxurious redundancy, to the latest period of human life. Its operation in cases of baldness is peculiarly active; so that, in numerous instances wherein other remedies have been tried in vain, ROWLANDS' MACASSAR OIL has superseded the ornaments of art, by effecting a complete restoration of beautiful Hair. In the growth of Whiskers, Eyebrows, and Mustachios, it is also unfailing in its stimulative operation. For Children it is especially recommended, as forming the basis of a beautiful head of hair, and rendering the use of the fine-comb unnecessary.—Price 3*s*. 6*d*. and 7*s*.; Family Bottles (equal to four small) at 10*s*. 6*d*; and double that size, 21*s*.

CAUTION.

On the wrapper of each bottle of the *genuine* article are these words, in two lines, ROWLANDS' MACASSAR OIL,

Sold by A. ROWLAND & SONS, 20, Hatton-garden, London; and by all Chemists and Perfumers.

DO YOU WANT LUXURIANT HAIR, WHISKERS, &c.?—Miss Ellen Graham, 14, Handcourt, Holborn, London, will send post free, on receipt of 24 postage stamps, her celebrated NIOUKRENE (elegantly scented, and sufficient for three months' use), for reproducing the finest hair in baldness, from whatever cause, preventing the hair falling off, strengthening weak hair, and checking greyness, &c. It is also guaranteed to produce Whiskers, Moustachios, &c., in three or four weeks with the utmost certainty.—"My hair has become thicker and darker by using your Nioukrene."—Mr. Merry, Eton. "My hair now curls beautifully, and looks very glossy."—Miss Main. "I have now a full pair of Whiskers. Send me another pot."—Major Hutton.

ZOOLOGICAL GARDENS, REGENT'S PARK.—The HIPPOPOTAMUS, presented by H.H. the Viceroy of Egypt; the ELEPHANT CALF, and many recent additions, are exhibited daily. Admission, 1*s*; on Mondays, 6*d*.

HOUSE FURNISHING AND INTERIOR DECORATIVE ESTABLISHMENT, 451, Oxford-Street, and 18, Spring-Street, Paddington, near the Great Western Railway, London.—Cabinet Furniture of every description at marked prices—Brussels Carpet, 2*s*. 6*d*. per yard.—Damask Curtains, 10*d*. per yard and upwards; Ditto, in Silk and Worsted (French fabric), nearly two yards wide, at 8*s*. per yard.—The best Floor Cloths that can be made, cut to any dimensions, 2*s*. 3*d*. per yard. The largest Manufactory in London for Paper Hangings, English and French Decorations, adapted either to the Cottage or the Mansion, fitted up, showing the side of a room finished for occupation.

PROTECTION AGAINST FROST.

FRIGI DOMO.—A perfect protector against frost, a non-conductor of heat or cold, and cheaper in price than bass mattiug. A canvas made of prepared hair and wool, adapted to many horticultural and floricultural purposes, for covering up, where a fixed temperature is required. It is 2¼ yards wide, and of any required length at 1*s*. 4*d*. per yard run.—Manufactured only by E. T. Archer, Carpet Manufacturer, 451, Oxford-street, and 18, Spring-street, Paddington, near the Great Western Railway, London.

SHIRTS.

FORD'S EUREKA SHIRTS are not sold by any hosiers or drapers, and can be obtained only at 185, Strand. Gentlemen in the country or abroad, ordering through their agents, are requested to observe on the interior of the collar-band the stamp—"FORD'S EUREKA SHIRTS, 185, Strand," without which none are genuine. They are made in two qualities—First quality, 40*s*. the half dozen; second quality, 30*s*. the half dozen. Price lists containing directions for self measurement and every particular, are forwarded post free, and the pattern books to select from, of the new Registered Coloured shirting, on receipt of six stamps.

RICHARD FORD, 185, STRAND, LONDON.

METCALFE and Co.'s NEW PATTERN TOOTH-BRUSH and SMYRNA SPONGES.—The Tooth-Brush has the important advantage of searching thoroughly into the divisions of the teeth, and cleaning them in the most extraordinary manner, and is famous for the hairs not coming loose.—1*s*. An Improved Clothes-Brush, that cleans in a third part of the usual time, and incapable of injuring the finest nap. Penetrating Hair-Brushes, with the durable unbleached Russian bristles, which do not soften like common hair. Flesh-Brushes of improved, graduated, and powerful friction. Velvet-Brushes, which act in the most surprising and successful manner. The genuine Smyrna Sponge, with its preserved valuable properties of absorption, vitality, and durability, by means of direct importations, dispensing with all intermediate parties' profits and destructive bleaching, and securing the luxury of a genuine Smyrna Sponge. Only at Metcalfe, Bingley, and Co.'s, Sole Establishment, 130*B*, Oxford-street, one door from Hollies-street.

METCALFE'S ALKALINE TOOTH POWDER, 2*s*. per box.

Caution.—Beware of the words "From Metcalfe's," adopted by some houses.

ALLSOPP'S EAST INDIA PALE and OTHER BURTON ALES.—The public is respectfully informed the ALES of this season's Brewings are now ready for delivery, and may be obtained Genuine in Casks of 18 Gallons and upwards, either singly or in any quantity, at their respective stores, as under, where also a list of the Bottlers may be had:—The Brewery, Burton-on-Trent; 61, King William-street, City, London; Cook-street, Liverpool; High-street, Birmingham; The Exchange, Manchester; Royal Brewery, Dudley; and 33, Virginia-street, Glasgow.

ART-UNION OF LONDON.
(By Royal Charter.)

Subscription closes on the 31st instant.

Every Subscriber will have an impression of a large and costly plate, of a thoroughly national character, "An English Merrymaking in the Olden Time," by W. Hull, after W. P. Frith, A.R.A., now delivering at the office on payment of the subscription. Each prize-holder will be entitled to select for himself, as heretofore, a work of art from one of the public exhibitions.

George Godwin,
Lewis Pocock, } Hon. Secretaries.

414, West Strand, March 13.

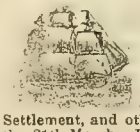
FOUNTAINS.—Many applications having been recently made to Mr. Seeley for small Fountains for Conservatories and Dairies, Mr. Seeley has prepared a List of such designs as he generally keeps suitable for that purpose, and many of which may also be adapted to small Gardens. He will be happy to forward a Copy of the List to any person residing in the country.—New-road, Regent's-park, London.

ADULTERATION OF FOOD.

HENRY BAKER, Optician, 90, Hatton-garden, London, begs to call attention to his ACHROMATIC MICROSCOPES (warranted good), which will be exchanged if not approved of. These Instruments will define the circulation of the Blood in the Frog's Foot, the Saw in the Sting of the Wasp, the Comb in the Spider's Foot, the beautiful form and varieties of Pollen in Flowers and their Structure, the Scales of the Butterfly's Wing, and also, in many instances, adulteration of Food. It is a very interesting companion, and will pass away usefully many a leisure hour, the fund for observation being inexhaustible. Price for No. 1, 3*l*. 12*s*; No. 2, 5*l*. 15*s*.; No. 3, 9*l*. 10*s*. A descriptive Book sent post free, on receipt of three postage stamps. Prepared objects, 12*s*.; injected do., 30*s*. per dozen.

TERRA COTTA VASES, TAZZAS, FLOWER TRAYS, FIGURES, &c., manufactured by T. M. Blashfield, Mill Wall, Poplar, and sold at No. 1 Wharf, Praed-street, Paddington. These Vases, &c., are of a light stone colour, and are carefully modelled and burnt, and warranted to stand heat and frost; and this Terra Cotta is the only material for such works which does not sustain injury from smoke and sulphurous gases.

MECHI'S TABLE CUTLERY has long been famed for its admirable qualities, combined with cheapness. His Manufactory is at 4, LEADENHALL-STREET, four doors from Cornhill. Balanced Ivory Handles, in sets of 50 pieces, 2*l*. 10*s*., 3*l*. 10*s*., 4*l*. 10*s*.; common Kitchen, per dozen, 10*s*., 12*s*., 16*s*. 6*d*., 21*s*., 25*s*. Table Steels, Patent Sharpeners, Cases of Dessert Knives, Sheffield Plated Goods, &c. Mechi's Penknives are excellent and economical, from 1*s*. upwards. His peculiar Steel Razors and Magic Strop and Paste have given comfort to many a suffering shaver, and the ladies pronounce his Scissors to be unequalled.



FOR PORT LYTTELTON, CANTERBURY SETTLEMENT, and other Ports in New Zealand, the first-class Passenger Ship Samarang, A. 1, 582 tons; Escott, Commander, chartered by the Canterbury Association; will sail from the port of London for Port Lyttel on, Canterbury Settlement, and other ports in New Zealan d, on Wednesday, the 24th March. For freight, passage, or further information apply at the Emigration Department of the Association, 9, Adelphi-terrace, Strand, to J. Stayner, 110, Fenchurch-street, or to Messrs. Filey and Co. 157, Fenchurch-street.

C. A. Aylmer Superintendent of Shipping and Emigration.

Feb. 17, 1852.

HOLLOWAY'S OINTMENT AND PILLS THE BEST REMEDIES FOR THE CURE OF BAD LEGS.—Mrs. Heppel, of Blyth, near Morpeth, was afflicted with a dreadful bad leg, for which she consulted the most eminent medical men in that neighbourhood, but it would not yield to their treatment; her health suffered severely, and the state of her leg was terrible—the ulcers rapidly increasing in size, and the pain most agonising. In this state she commenced using Holloway's Ointment and Pills, and after continuing them for some time, the leg was completely cured, and she is now in the enjoyment of excellent health. Mr. Wilkinson, Druggist, Blyth, vouches for the accuracy of this statement.—Sold by all Druggists; and at Professor Holloway's Establishment, 244, Strand, London.

NEW AND CHEERFUL REGISTER STOVE. The BURTON REGISTER STOVE, invented and registered by WILLIAM S. BURTON, combines in its use cheerfulness, cleanliness, and economy, to a degree hitherto deemed unattainable, while its simple beauty (obtained partly by the employment of a graceful shell in lieu of the cumbersome and ungainly bars) is the subject of general commendation. Price from 60*s*. to 10*l*. To be seen in use daily in his show-rooms, where also are to be seen

250 STOVES and 325 FENDERS, all differing in pattern, forming the largest assortment ever collected together. They are marked in plain figures, and at prices proportionate with those that have tended to make his establishment the most distinguished in this country. Bright stoves, with bronzed ornaments and two sets of bars, 2*l*. 14*s*. to 5*l*. 10*s*.; ditto with ormolu ornaments and two sets of bars, 5*l*. 10*s*. to 12*l*. 12*s*.; bronzed fenders complete, with standards, from 7*s*. to 3*l*.; steel fenders, from 2*l*. 15*s*. to 6*l*; ditto with rich ormolu ornaments, from 2*l*. 15*s*. to 7*l*. 7*s*.; fire-irons, from 1*s*. 9*d*. the set to 4*l*. 4*s*. Sylvester and all other patent stoves, with radiating hearth plates; and kitchen ranges, which he is enabled to sell at these very reduced charges.

First—From the frequency and extent of his purchases; and

Secondly—From those purchases being made exclusively for cash.

WILLIAM S. BURTON has completed some extensive alterations in his premises, by which he has TEN LARGE SHOW ROOMS (all communicating), exclusive of the shop, devoted solely to the show of GENERAL FURNISHING IRONMONGERY (including Cutlery, Nickel Silver, Plated and Japanned Wares, Iron and Brass Bedsteads), so arranged and classified that purchasers may easily and at once make their selections.

Catalogues with Engravings, sent (per post) free. The money returned for every article not approved of.

39, OXFORD-STREET (corner of Newman-street); Nos. 1 and 2, NEWMAN-STREET; and 4 and 5, PERRY'S-PLACE.

Established A.D. 1820.

THE AMERICAN GARDENERS' CHRONICLE, published monthly, at the office of C. M. Saxton, 152, Fulton-street, New York. This work will be sent free by post for one year, on 5*s*. being sent to the Editor, Andrew Mathorn, Manhattan Post office, New York. This being the only work of the kind and having a large circulation in the United States, would be a good medium for English growers to make known their Plants, Fruits and Seeds.—Any further information may be obtained by sending a post paid letter to E. Sanders, Englefield-green, Chertsey, Surrey.

AMERICAN NURSERY, BAGSHOT, SURREY.

JOHN WATERER begs to announce that he has published a new CATALOGUE of Hardy Rhododendrons, Azaleas, Roses, Conifera, &c., and which may be obtained by enclosing two postage stamps.

The colours of all the Rhododendrons worthy of cultivation are described; thus purchasers are afforded every facility in making selections.

HUGH LOW AND CO. have to offer the undernamed plants:—

ROCKET, new double crimson, will prove a very showy plant; per doz.	...	...	...	...	18s.	0d.
SCARLET GERANIUM "The Amazon" (Carpenter), has been already described in the *Gardeners' Chronicle*...	...	...	...	...	7	6
MIMULUS UNIQUE	...	...	...	...	5	0
" SAMBO	...	...	...	...	5	0
" NOVELTY	...	...	...	...	5	0
" PUNCTATA	...	...	...	...	5	0

The above named Mimuli were raised by A. Clapham, Esq., of Scarborough, and are much superior, both in colour and size of flower, to Mimulus rubinus, which was raised by the same gentleman.

H. L. and Co. can also supply healthy young plants of the undernamed Pomoon Chrysanthemums of last season, which have been carefully selected as the best and most distinct varieties, price 1s. 6d. each:—Argentine, Asmodée, Autumna, Calibre, Cybele, Maria Taillard, Modèle, Perfecta, Ne Plus Ultra, Sacramento, Surprise, and Solfaterre.

Large flowering Chrysanthemums of proved merit, 1s. 6d. each.

Continental Verbenas of 1851, 9s. to 12s. per dozen.

Seakale, fine roots, 5s. to 7s. 6d. per 100.

Clapton Nursery, March 13.

HELIOTROPIUM VOLTAIRIANUM NANUM,

Price 10s. 6d.

E. G. HENDERSON AND SON, Wellington-road, St. John's-wood, London, take this the first opportunity to inform the public that they have the above new HELIOTROPIUM, which has the fine high-coloured flowers of Voltairianum (without the bad foliage of this variety when bedded out in the garden), and the abundant flowering and dwarf habit of Corymbosum, not growing more than 9 inches high; having these good qualities combined, it will supersede all others for general culture, either in the garden or house. Mr. ANDREW HENDERSON saw this plant flowering in the garden as a seedling in September last with Mr. Chauvière, of Paris; and again on visiting Paris last week, he induced Mr. Chauvière to part with the entire stock; and as some few English nurserymen amongst others had ordered this plant, the price now being much higher than was originally intended to be charged by Mr. Chauvière, we shall book all orders in rotation as they are received after this advertisement. The stock is small, on account of the seedling plant having been lost, consequently early orders are requested.

Messrs. E. G. H. and SON beg to say the above will be sent out in May with the other new plants advertised in the two previous numbers of this Paper.

NEW AND BEAUTIFUL TIGER IRIS.

MORGAN'S TIGRIDIA CANARIENSIS.

JOSEPH MORGAN, Horticultural Establishment, Torquay, begs to call the attention of the admirers of this gorgeous flower, to the above-named large and pure rich yellow variety, thus spoken of by Dr. Lindley, in the *Gardeners' Chronicle* for August 9, 1851:—"Your Tigridia Canariensis is a fine flower, clearer yellow, and larger than Conchiflora, with the spotting better defined." This is the best time for removing them, and J. M. is now sending out strong blooming bulbs, free by post, at 15s. per dozen, or 1s. 6d. per single root. Liberal discount to the trade.—Torbay Nursery, March 13.

NEW SEEDLING GLOXINIA,

"QUEEN OF ENGLAND."

J. HODGE, NURSERYMAN, SEEDSMAN, and FLORIST, Lee-bank House, Edgbaston, Birmingham, begs leave to inform his friends and the public generally, that he intends sending out the above beautiful GLOXINIA the first week in May, at 10s. 6d. each, with one over to the trade when three are taken. Colour pure white, with a beautiful bright carmine throat, and fine habit. Was awarded a Certificate of Merit at the Birmingham and Midland Floricultural Society in May last, and pronounced by all who have seen it to be first-rate.

SAMUEL FINNEY AND Co. beg respectfully to inform their Friends and the Public that their new PRICED SEED CATALOGUE FOR 1852 is now ready, and may be had, postage free, on application. It contains a list of all the most approved kinds of Vegetable Seeds in cultivation, together with a very choice selection of German and other Flower Seeds, which are all fully described, stating the time of sowing, and whether hardy, half-hardy, or tender; the height, colour, and time of flowering, with much other useful information. The Collections of Seeds, which they supplied in former years, having given such general satisfaction, they are again induced to offer them as under:—

				£	s.	d.
No. 1. A complete collection of Vegetable Seeds for one year's supply of a large garden			...	2	5	0
No. 2. Do.	do.	in smaller quantities	...	1	10	0
No. 3. Do.	do.	do.	do.	1	1	0
No. 4. Do.	do.	do.	do.	0	12	6

The kinds and quantities contained in each Collection are stated in the Catalogue.

Delivered, free, at any station on the following Railways:—Newcastle, York, and Berwick; North British, Leeds and Thirsk; York and Scarborough, Newcastle and Carlisle, and Lancaster and Liverpool.—Gateshead Nursery, March 13.

IMPORTANT SALE OF FRUITING AND SUCCESSION PINES, the Property of a Lady declining the cultivation of Pines; consisting of about 60 Fruiting Plants in No. 8 size pots, principally Queens, and a few Black Jamaica, in the best possible health, vigorous and perfectly clean; 80 strong Succession Plants, equally healthy and good; 170 fine young Succession Plants—altogether as fine a lot as ever were grown.—For particulars as to price, &c., apply to Mr. Jos. FAIRBAIRN, Nurseries, Clapham.—March 13.

BRITISH QUEENS IN POTS FOR FORCING.—Now ready for sending out, strong, healthy, double crowned plants, in 48-sized pots, at 2l. 10s. per 100, packed in boxes, and delivered free at any of the railways; or 2l. delivered unpacked to Mr. SOLOMONS, sen., or Mr. CHARLWOOD, Seedsman, Covent Garden; or within seven miles of Isleworth. The Advertiser's British Queen Strawberries in the Great Exhibition were the largest and finest, which every one who saw them can testify; see *Morning Herald*, July 8; also see Mr. Cuthill's extraordinary account in the *Gardeners' Chronicle*, Aug. 2. He has also some strong Keens' Seedlings in pots, same price; Queen Runners, 5s. per 100. Post-office orders payable at Hounslow to Mr. THOMAS BEACH, Market Gardener, Worton, Isleworth, Middlesex.

LANDSCAPE GARDENING.

EXCLUSIVELY PROFESSIONAL.

MR. THOROLD, of Norwich, offers his services to the Nobility and Gentry as a LANDSCAPE AND ORNAMENTAL GARDENER, in the highest style of the Art, including Decorations around a House, forming Water, Approaches, Picturesque Scenery, Correcting the Works of Amateurs, &c.

Sales by Auction.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will sell by Auction, at the Mart, Bartholomew-lane, on Wednesday, March 17, at 12 o'clock, a first-rate collection of Carnations and Piccotees, also Lancashire Gooseberries, selected, standard, and Dwarf Roses, Dahlias in dry roots, &c., the property of Mr. Willmer, of Sunbury. May be viewed the morning of sale. Catalogues to be had at the Mart, and of the Auctioneers, American Nursery, Leytonstone, Essex.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS beg to announce that they will submit to Public Competition by Auction, at the Mart, Bartholomew-lane, on THURSDAY, March 18, and following day, at 12 o'clock, the second portion of Mr. Norman's celebrated collections of CARNATIONS and PICCOTEES, consisting of all the newest and best varieties in cultivation; also 100 double Camellias, from 18 in. to 5 ft., well set with bloom buds; 1000 selected Standard and Dwarf Roses, comprising Hybrid Perpetuals, Bourbons, Noisettes, Chinas, &c.; 400 blush China Roses fit for potting, Pæonias, Dahlias in dry roots, with a rich assortment of American Plants, &c., &c. May be viewed the morning of Sale; Catalogues had at the Mart, and of the Auctioneers, American Nursery, Leytonstone, Essex.

N.B. The Camellias will be sold on Thursday, March 18.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. RAWLINGS AND GIBSON will sell by Auction, at the Mart, Bartholomew-lane, on WEDNESDAY, March 17, and two following days, at 12 o'clock, 3000 fine standard dwarf and climbing Roses, fine Carnations, Picotees, and Pinks; a rich collection of herbaceous plants, Dahlias in dry roots, 100 varieties of choice Flower Seeds, &c. May be viewed the morning of sale, and catalogues had at the Mart, and of the Auctioneers, 50, Hoxton-square, and Ebenezer Nursery, Shacklewell, London.

HACKNEY NURSERY.

MR. J. C. STEVENS is directed by Messrs. Loddiges offer for unreserved SALE, on their Premises at Hackney, on TUESDAY, March 16th, at 12 for 1, about 500 CAMELLIAS, most of which are well set with flower-buds, and of very handsome form, from 3 ft. to 6 ft. They will comprise fine plants of the Double White, Imbricata, Donkelaari, Candidissima, Aulica, Marchioness of Exeter, and the finest varieties; also some extraordinary beautiful specimens of Araucaria excelsa, Cunninghamii, glauca, and the rare Araucaria Bidwellii.—May be viewed on Monday and morning of sale; and Catalogues had on the premises, and of Mr. J. C. STEVENS, 38, King-street, Covent-garden.

CHELSEA.

TO GENTLEMEN, BUILDERS, AND OTHERS ENGAGED IN PLANTING.

MR. D. A. RAMSAY will sell by Auction, on the premises, King's-road, Chelsea, on MONDAY, March 22, at 12 o'clock, without reserve, by order of Messrs. DENNIS and Co. (for the purpose of giving up possession of that portion of the ground at Lady-day), the remaining out-door NURSERY STOCK, comprising fine variegated and green Hollies, striped and green Box, Aucuba, Irish Yews, standard and other Lilacs, Ornamental Trees, Fruit-bearing and other Mulberries, prize Gooseberry and other Fruit Trees, Crimson Rhododendron, Cedar of Lebanon, Yucca, Climbers in pots, choice Roses, Box Edging, a fine collection of Pæonies, Crocus and other Bulbs; also a quantity of York Stone Paving, Slates, Brickwork, and useful Building Materials, &c. The remaining portion of the Glass, Greenhouse Plants, and other miscellaneous stock will be shortly submitted to public competition.—May be viewed prior to sale, and Catalogues had on the premises; at the principal Seed Shops; and of the Auctioneer, Brompton Nursery, Fulham-road, Brompton.

FARM TO LET, on very advantageous terms—on lease or yearly tenancy. About 300 acres of Clay Land, thoroughly drained, in a midland county, near a good market, and a good railway. The Roads, House, and Offices are all in excellent condition. Rates very low; no pressure of the poor; Tithe free; Rent low; no Rabbits; very favourable entry as to tenant right; Game not strictly preserved. About 60 acres more of Grass Land might be added if required.

Persons desirous of treating for this very eligible occupancy are requested to apply by letter to the editor of the *Gardeners' Chronicle*, at the Office, 5, Upper Wellington-street, Strand, London.

TO NURSERYMEN, FLORISTS, ETC.

TO BE LET, on Lease, with immediate possession, a SMALL NURSERY, eligibly situated in one of the most fashionable Watering-places in the County of Devon.

For further particulars, apply to Messrs. NUTTING and SONS, Seedsmen, 46, Cheapside, London.

TO BE LET, A FURNISHED MANSION, in Hampshire.—HACKWOOD HOUSE, Pleasure Grounds, &c., with the right of Sporting over the Manor, will be Let, on moderate terms, to an eligible tenant, for such number of years as may be agreed upon. The mansion contains every accommodation for a Nobleman's or Gentleman's Family with a large Establishment. It is situate about a mile and a half from the Basingstoke Stations of the Great Western and South Western Railways (which are within an hour of London); in the midst of an extensive Park, ornamented with large timber and numerously stocked with deer. The Manor exceeds 7000 acres, contains several ponds and streams which afford excellent perch, jack, and trout fishing; abounds in game and wild fowl, which are strictly preserved; and is hunted by three packs of fox-hounds.—Apply to W. MASSEY, Esq., 26, Wimpole-street, London; or Mr. THOMSON, Hackwood Park, Basingstoke.

TO BE SOLD, 30 per cent. under the manufactured price, about 1½ ton of a very superior SOLUBLE ALKALINE COMPOUND MANURE, which has been found superior to any other compound in Potato and Turnip crops; also a few cwts. of Compound Animal Manure, well adapted for general purposes.—Apply to Mr. COLES, 43, Cranbourne-street, Leicester-square.

CLAHEE AND CO., ESTATE and HOUSE AGENTS, Land Surveyors and Valuers, Agents at the West-end for the Legal and Commercial Fire and Life Assurance Society, No. 98, Piccadilly, four doors west of Cambridge-house, beg most respectfully to call attention to their Office for the REGISTER of PROPERTY for SALE and LETTING. Owners of Property for Disposal and of Town and Country Houses to be Let, Furnished, for the coming season, are requested to forward them particulars, for the registry of which no charge is made. At the request of Mr. LAHEE, of Bond-street, they beg leave to say that their business is entirely disconnected from that so long carried on by him.—98, Piccadilly.

A New and Cheaper Edition, in fcap. 8vo, price 5s.,

ROGERS'S VEGETABLE CULTIVATOR; containing a plain and accurate description of every species and variety of Culinary Vegetables: with the most approved Modes of Cultivating and Cooking them.

"A complete and intelligent manual for the kitchen garden."—*Spectator.*

"We recommend this useful volume to all persons engaged in the process of forming their own kitchen gardens, and also to all those engaged in the culture of vegetables as a business, as well as to amateurs and medical men, as containing much interesting, and valuable, and well-arranged information."—*Glasgow Reformer's Gazette.*

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On Friday, the 19th inst., will be published, in One thick Volume, fcap 8vo, with Six Coloured Maps, price 7s. 6d. cloth,

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The twenty-fifth Edition of

NEUROTONICS; OR, THE ART OF STRENGTHENING THE NERVES, containing Remarks on the Influence of the Nerves upon the Health, the Spirits, and the Temper, with an account of a new remedy for Chronic Diseases, Debility, Nervousness, Habitual Melancholy or Low Spirits, Indigestion, &c. by D. NAPIER, M.D., London: HOULSTON and STONEMAN, Paternoster Row, price 4d. May be had through any bookseller, or is sent free for five penny stamps from the Author, 503, New Oxford-street, London.

"This little work, founded upon a plain, common sense view of the animal economy, developes a new and rational system for the cure of diseases, and for strengthening a debilitated constitution. The efficacy of that system is shown by the clearest evidence, to be established beyond the possibility of doubt, and the pamphlet is well worthy the attention not only of nervous persons and invalids, but of all who value equanimity of temper, clearness of intellect, and energy of character."—*Magazine of Science.*

Printed by WILLIAM BRADBURY, of No. 13, Upper Woburn-place, in the parish of St. Pancras, and FREDERICK MULLETT EVANS, of No. 7, Church-row Stoke Newington, both in the County of Middlesex Printers, at their Office in Lombard-street, in the Precinct of Whitefriars, in the City of London; and published by them at the office, No. 5, Charles-street, in the parish of St Paul's, Covent-garden, in the said County, where all Advertisements and Communications are to be ADDRESSED TO THE EDITOR.—SATURDAY, March 13, 1852.

THE GARDENERS' CHRONICLE

AND

AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 12—1852.] SATURDAY, MARCH 20. [PRICE 6*d.*

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UNIVERSITY COLLEGE, LONDON.—ELEMENTARY COURSE OF BOTANY.—Professor LINDLEY will commence a Course of Lectures on Botany, to a Junior Class, on TUESDAY, March 23d, at 8 o'clock A.M.

SUBJECT.—The Distinctions between the Principal Natural Classes and Orders of Plants belonging to the Flora of Europe.

The Lectures will be delivered, with the exception of the Easter vacation, daily at 8 A.M. until the 1st of May, and afterwards on TUESDAYS, WEDNESDAYS, THURSDAYS, and SATURDAYS from 10½ to 11½. The Course is adapted to persons commencing the study of Botany. Fee, 2*l.*

The Course to the Senior Class will commence on the 1st of May.

THOMAS GRAHAM, F.R.S., Dean of the Faculty of Medicine.
ARTHUR H. CLOUGH, M.A., Dean of the Faculty of Arts and Laws.
CHAS. C. ATKINSON, Secretary to the Council.

March 20, 1852

IMPORTANT TO POTATO PLANTERS.—Procuring sound Seed is the surest means to have a good crop. We have now left only a few Tons of YORK REGENTS, CAMBRIDGE RADICAL, AMERICAN, NATIVE, AND WHITE BLOSSOMED KIDNEY POTATOES, the produce of our last year's prepared cuttings, at prices formerly advertised. Prepared cuttings of the following sorts will be ready about the second week in May:—

	s.	*d.*
York Regents ... ... per 1000	10	6
American Native ... ... ,,	10	6
Cambridge Radical ... ... ,,	10	6
Early Oxford ... ... ,,	15	0

Packages, for 1000, 1*s.*; 500, 2*s.* 6*d.*; 200, 1*s* 6*d.*

No orders will be provided for which are not to hand in the first week in April. Post-office orders to be made payable at the Borough Office to HAY, SANGSTER and Co., Newington Butts.

London, 6th March, 1852.—Subjoined is the analysis of two highly respectable Chemists, of our stock in hand:—

"London, March 12, 1852.

"We have now completed our examination of a sample of Potatoes grown from your prepared cuttings in comparison with another sample of the same denomination, obtained by ourselves from a highly respectable Potato salesman, with a view to ascertain the relative proportion of starch contained in each, with the following highly satisfactory result in your favour, viz.:—

	Starch.
"Those grown from your prepared cuttings ...	17 per cent.
"Potatoes from Salesman	12½ per cent.

"MAURICE SCANLAN, F.C.S.
"ALFRED ANDERSON, F.C.S.

"Messrs. Hay, Sangster, and Co., Seed Merchants, 18, Cumberland-place, Newington Butts."

MAULE AND SONS beg to offer their respectful thanks to the Planters of HIMALAYA CONIFERA of the United Kingdom, America, and on the Continent, who have favoured them with their patronage, more particularly for the CEDRUS DEODARA, of which they are extensive growers; and as the applications daily are numerous, in order to prevent unnecessary trouble, they publish their scale of prices.

CEDRUS DEODARA.

Height.	per doz.	per 100.	per 1000.
6 inches to 9 inches	12*s.*	£2 15 0	£35
9 inches to 1 foot	18*s.*	5 0 0	40
1 foot to 1½ foot	24*s.*	7 10 0	70
1½ foot to 2 feet	30*s.*	10 0 0	
2 feet to 2½ feet	36*s.*	12 10 0	
2½ feet to 3 feet	42*s.*	15 0 0	
3½ feet to 4 feet	60*s.*	23 0 0	

The above are all grown from seed in suitable sized pots.

3½ feet to 4 feet ... 70*s.* ... 25 0 0

Grown without pots, and regularly transplanted.

The height quoted is as near as can be stated, but does not convey an adequate idea of the quality of the plants offered, as in most instances they measure as much in diameter as their quoted height.

As the season for planting seedlings in the nurseries is now arrived MAULE and SONS beg to inform those gentlemen who may wish to acclimatise young plants of the Himalaya Conifera to any particular locality, that they can be supplied with healthy one-year seedlings, which have been grown in the open ground, unprotected to the present time, at the following prices:—

Abies morinda ... per 100	8*s.*	Pinus excelsa ... per 100	10*s.*
,, Kinsbrow ... ,,	8*s.*	Picea Webbiana ... ,,	20*s.*
,, smithiana ... ,,	8*s.*	,, Pindrow ... ,,	20*s.*
Cedrus Deodara ... ,,	40*s.*		

Stapleton Road Nurseries, Bristol.

PELARGONIUMS, ETC.

JOHN DOBSON'S CATALOGUE of all the leading varieties of PELARGONIUMS, Story's and other raisers' FUCHSIAS, VERBENAS, &c., &c., may be had in exchange for one postage stamp.

THE PELARGONIUM.—JOHN DOBSON'S Practical Observations on the Cultivation of the Pelargonium is now ready, and may be had in exchange for 8 postage stamps, upon application.

Woodlands Nursery, Isleworth.

ARAUCARIA IMBRICATA.—Wanted, a few thousand Seedlings.—Address J. L., care of Mr. Whitaker, Stationer, Walbrook.

SCARCE AND BEAUTIFUL FLOWER SEEDS.

EMPEROR STOCK, a perennial species, and hardy 1400 seeds, 1*s.*

CINERARIA and CALCEOLARIA, selected from collections of Plants, that were admitted by all persons who saw them to be the finest they had ever seen; 250 seeds of the former and 500 of the latter, 1*s.* each paper.

MYOSOTIS AZORICUS, a bed of this on an eastern or northern aspect is very beautiful; 200 seeds, 1*s.*

CALENDRINIA UMBELLATA, one of the neatest growing and most brilliant flowering of all bedding plants; 1500 seeds, 1*s.*

SWEET WILLIAM, in 100 varieties; 10,000 seeds, 1*s.*

Payment may be made in postage stamps.

JEYES and Co., Nurseries, Northampton.

EPPS' COLLECTIONS OF KITCHEN GARDEN SEEDS.—No. 1, containing 24 quarts of the newest and best kinds of Peas and all other seeds in proportion, inclusive of Melons and Cucumbers ... £ 2 10 0

		s.	*d.*
No. 2, in proportionate quantities	1	10	0
No. 3, ditto ditto	1	1	0
No. 4, ditto ditto	0	12	6

A list of the quantity in each collection may be had on application, also a Descriptive Catalogue of Seeds, &c., &c.

The highest reference can be given in all parts of the United Kingdom. Carriage paid to any Railway Station in London.

W. J. EPPS begs to remark, that in consequence of his being one of the largest Seed Growers in the market, he is in a position to supply the above very satisfactorily.

High-street and Bower Nurseries, Maidstone.—March 20.

FUCHSIAS, VERBENAS, AND PETUNIAS, NEW AND FIRST-RATE.

WM. RUMLEY AND SONS can supply fine healthy plants of the following first-rate new FUCHSIAS, 20 for 15*s.*, 12 for 10*s.* 6*d.*, or 6 for 6*s.*, viz.: Alpha, Brilliant, Conspicua, Clapton Hero, Consolation, Duchess of Kent, Duchess of Northumberland, Expansion, Gem of the Whites, Koh-i-noor, Louisa, Mazeppa, Madame Sontag, Northern Beauty, Princess, Psyche, Pagoda, Prince Arthur, Queen, Queen of England Resplendent, Salamander, Voltigeur (Banks's), Voltigeur (Rumley's), Viscountess (Maynard's), Wonder, &c.

VERBENAS.—The following extra fine new varieties, 6*s.* per doz., viz.: Admirable, Auricula, Beauty, British Queen, Captain Brook, Conspicua, Exquisite, Forget-me-not, Fearless, Fanny, Gulleyaz, Haidee, Jessica, Jean Bart, King, Marchioness of Cornwallis, Madame Taft, Mount Hecla, Miss Whibley, Prince of Wales, Philomel, Purple Prince, Voltigeur, Viscata, Wonder, &c.

PETUNIAS.—The following superb new varieties, 6*s.* per doz., viz.: Attraction, Alba purpurea, Beauty Supreme, Crimson King (Young's), Crimson King (Whibley's), Eclipse, Grandissima, Lolab, Mr. R. Whibley, Poure Royale, Queen of England, Rory O'More, Rosy Circle, Striata, &c.

	per dozen.	*s.*	*d.*	*s.*	*d.*
CHRYSANTHEMUMS, extra fine varieties	4	0	to	6	0
Do., Lilliputian, choice varieties	4	0	to	6	0
GERANIUMS, extra fine varieties ...	9	0	to	12	0
Do., scarlet, choice varieties ...	4	0	to	6	0
CINERARIAS, strong flowering plants ...	6	0	to	9	0
PANSIES, fine show varieties	4	0	to	8	0

The above will be forwarded immediately to any part, in fine healthy plants, hamper included; or free by post, on receipt of a Post-office order, payable at Richmond. Our General Descriptive Catalogue of Soft-wooded Plants can be had on application.—Gilliog, Richmond, Yorkshire.

NEW ROSES ON THE MANETTII STOCK.
WOODLANDS NURSERY, MARESFIELD, NEAR UCKFIELD, SUSSEX.

WM. WOOD AND SON have much pleasure in offering fine Dwarf Plants in pots, of the following really good new Roses, worked on the Manettii Stock.

HYBRID PERPETUAL. Per plant.—*s.* *d.*

*Auguste Mie, glossy pink, very large, superb	7	6
*Baronne Hallez, bright rosy crimson	3	6
Blanche de Beaulieu, pale flesh, perfect shape	3	6
Caroline de Sansalles, pale blush, very large, a superb Rose	5	0
Graziella, rich brilliant pink, very beautiful	5	0
*General Cavaignac, deep flesh, a fine Rose	3	6
*Madame Fremion, brilliant carmine, perfect shape, a first-rate new Rose	5	0
*Rosine Margottin, delicate flesh	3	0
Souvenir du Petit Roi de Rome, delicate pink, very beautiful	5	0
*Standard of Marengo, rich crimson, very showy ...	2	6
William Griffith, bright lilac Rose, most perfect shape, one of the finest	5	0
Madame Lamorticère, bright pink, superb	3	0

Also the following well-known favourites—MANETTII STOCKS: Per plant.—*s.* *d.*

Bourbon Comte Bobrinsky	2	6
* — Dupetit Thouars	1	6
Hybrid Bourbon, Paul Ricaut	2	6
*China, Mrs. Bosanquet, per dozen, 15*s.*, or	1	6

The Kinds marked thus *, may also be had on their own roots at the same price.

N.B.—Additional plants presented with each order, with a view to lessen the expense of carriage.

Catalogues may be had GRATIS, on application.

ABUTILON INSIGNE.

MR. J. LINDEN, of Brussels, is now sending out strong Plants of the above splendid Abutilon, at 12*s.* each, and small Plants, 6*s.* A Drawing of it may be seen at Mr. J. C. STEVENS'S Office, 38, King-street, Covent Garden, London.

WHITE MULBERRY TREES, expressly cultivated to promote the successful rearing of the Silkworm in Gre at Britain, at the following prices per hundred:—

4 in.	6 in.	12 in.	18 in.	2 ft.	3 ft.	4 ft.	5 ft.
5*s.*	5*s.*	10*s.*	12*s.*	15*s.*	20*s.*	25*s.*	30*s.*

Cuttings of the Morus multicaulis, of the Philippine Islands, 4*s.* per hundred; Silkworms' Eggs, 1*s.* 6*d.* per thousand, best quality.—Address Mr. CHARLWOOD, Covent-garden, London; or Mr. GEORGE BALCHIN, Godalming, Surrey.

SUPERB SHOW PANSIES, &c.—

Duke of Perth, Handasyde	Mr. Beck, Turner
Fair Flora, Byne	Lord Chancellor, Byne
Malvern, Woakes	Rubens, Turner
Polyphemus, Thomson	Supreme, Youell
Ophir, Widnall	Blue Perfection, Byne
Androcles, Youell	Helen, Hunt
Admiral, Byne	Loveliness, Fellows
Duke of Norfolk, Bell	Mrs. Beck, Turner
Eustace, Turner	Queen of England, Fellows
Juventa, Hooper	Venus, Byne

The above 20 Superb PANSIES will be sent for 10*s.* Parties having duplicates of the above will have others sent of equal merit.

25 pairs of Show Carnations ...	£1	0	0
25 pairs of Show Picotees	1	0	0

Hamper, &c., included.

JOHN HOLLAND, Bradshaw Gardens, Middleton, near Manchester, will forward the above in strong well-rooted plants, on receipt of a Post-office order, payable at Middleton, Lancashire. Priced Catalogues on application, enclosing a postage stamp. Auriculas, Alpines, Polyanthus, &c., &c.

BASS AND BROWN'S SEED AND PLANT LIST for 1852 (containing 36 pages) now sent prepaid for four postage stamps, as the newspaper-stamped copies are disposed of. Also, for two postage stamps, their Autumn Catalogue, containing the Hardy Herbaceous Plants, Roses, and various select and new Hardy Plants, Climbers, &c., kept for sale in pots.—Seed and Horticultural Establishment, Sudbury, Suffolk.

BALSAM SEED, the finest in the world, in five classes of colours, sealed Packets, with directions for culture, 2*s.* 6*d.* the five, or 9*d.* singly. Mimulus Gigantea, the largest in cultivation, 1*s.* to 5*s.* per plant. DAHLIAS: the Scarlet King, the finest of its class ever raised, 10*s.* 6*d.*; Sir F. Thesiger, Dr. Frampton, Sir Richard Whittington, Rob, and all the best new ones at catalogue prices; Ditto old favourites, 3*s.* to 9*s.* per dozen. Fuchsias, Geraniums, Cytisus Racemosus, Stove and Greenhouse Plants generally, bedding out Scarlet Geraniums, 2*s.* 6*d.* to 5*s.* per dozen.—Post-office orders to CHARLES R. SMALLBONE, Dungannon Nursery, Fulham, payable at Putney, promptly attended to.

DELPHINIUM SPECIOSUM (?) VAR. WHEELERI.

Plants to bloom this Summer, 5*s.* each, for cash, post free to any part of the kingdom.

GEORGE WHEELER, NURSERYMAN, &c., Warminster, Wilts, respectfully announces he is now sending out the above magnificent variety of fine bright blue Bee Larkspur, which was figured, and its history given, in the "Gardeners' Magazine of Botany" for October, 1851. In one of the specimens sent to the artist of that work, the principal spike, which was densely studded with blossoms, measured 14 inches long by 8½ inches diameter at its broadest part, and contained 244 blossoms and buds, the greater part being in perfection at the time; below this, several smaller and more loosely arranged flowering branches were produced. The stems grow from 3 to 4 feet in height, and are of so sturdy a habit as scarcely ever to need any support; it carries a good foliage, is of very easy culture, thriving in any good garden soil, and an extremely hardy perennial plant. The usual allowance to the Trade by the dozen.

Fine Bulbs now ready of Tigridia conchiflora, yellow, 3*s.* per dozen; ditto ditto conchiflora Wheeleri, colour orange-scarlet, on yellow ground, beautifully spotted, 4*s.* per dozen.—A large quantity of strong transplanted Thorn and bedded Rhododendrons, at very low prices, which may be obtained on application.—The King of Cucumbers, the handsomest black spine in cultivation, four seeds for 1*s.*

Warminster, March 20.

ORNAMENTAL PLANTING.

C. LODDIGES AND SONS most respectfully call the attention of Noblemen, Gentlemen, and Public Companies engaged in Ornamental Planting, to the undermentioned List of TREES and SHRUBS, which they are enabled to offer at an extraordinary reduction in price (for cash only), the land upon which their Arboretum is planted being required for building.

Fine trees, from 4 to 10 feet high, of the following genera, comprising a great number of species: Acer, Æsculus, Alnus, Amygdalus, Betula, Cornus, Corylus, Cotoneaster, Crataegus, Cytisus, Fraxinus, Mespilus, Populus, Prunus, Pyrus, Ribes, Robinia, Salix, Sorbus, Spiræa, Tilia, Ulmus, 4*s.* per dozen, named, or a selection from the above, 25*s.* per 100, unnamed, and highly recommended for rough planting.

American Oaks in great variety, 10*s.* per dozen.

AMERICAN PLANTS.

Azalea pontica, fine bushy plants, well set with bloom, 10*s.* p. doz.
,, Ghent and other varieties, named, 18*s.* per doz.
Rhododendron ponticum and varieties (very fine), 10*s.* per doz.
,, campanulatum, 2 to 4 ft. diameter, 10*s* 6*d* to 42*s.* each.
Andromeda in collections, 18*s.* per doz.; Vaccinium ditto, 12*s.* per doz.

N.B. Packing will be charged as low as possible. Post-office orders made payable at Hackney.—Hackney, March 20.

MONKTON NURSERY, RYDE, ISLE OF WIGHT.

PRIZE ASTER.

JOHN REID has great pleasure in offering the above splendid double-quilled ASTER, warranted the same sort as that to which the judges of the leading Shows in the United Kingdom awarded upwards of 4 prizes. For particulars, see our Advertisement in the *Gardeners' Chronicle* for Feb. 7. Price 1*s.* per packet; or free by post for 13 penny postage stamps.—JOHN REID Monkton Nursery, Ryde, Isle of Wight.

HEPATICAS AND MOSS ROSES.

WILLIAM FIELD, FLORIST, Flookersbrook, Chester, begs to inform the trade that he has on hand a very large Stock of the above, which he is offering at the following prices, viz., HEPATICAS, strong three and four years old Plants, in equal quantities of white, blue, and red, 26*s.* per 100, or 10*l.* 10*s.* per 1000. MOSS ROSES, strong, three and four years bedded, 16*s.* per 100, or 7*l.* 10*s.* per 1000, packing included. The above are good, and can be confidently recommended. Reference can be given to parties that have purchased.

Remittance or reference from unknown correspondents. Catalogues of Herbaceous Plants on application.

GOLDEN BALL MELON, 2*s.* 6*d.* per packet; Bromham-hall Melon 1*s.* per packet; Captivation Cucumber, 5*s.* per packet; Pœnomena, 2*s.* 6*d.* per packet; and all others as mentioned in this paper of February 21, 1852. Good sound seeds of the same can still be obtained by enclosing stamps for the amount.—EDWARD TILEY, Nurseryman and Seedsman, 14, Abbey Churchyard, Bath.

A COMPLETE ARBORETUM.

C. LODDIGES AND SONS beg to state that they are now supplying the above, comprising upwards of 1200 species of TREES and SHRUBS, correctly named, for 5*l.*, cash on delivery; and as their collection of Hardy Plants will have to be dispersed this season in consequence of the land being let for building, they most respectfully suggest that all persons contemplating the formation of a COMPLETE ARBORETUM should make early application, as the stock of some species is very limited.—Hackney, March 20.

TESTIMONIAL TO MR. CHARLES M'INTOSH,

HEAD GARDENER TO THE DUKE OF BUCCLEUCH, AUTHOR OF "THE PRACTICAL GARDENER," "BOOK OF THE GARDEN," &c.

At a meeting of Committee, held in the Council Room, Experimental Garden, on FRIDAY, the 12th of March inst., intimation was directed to be made to all subscribers, and intending subscribers, that the lists of subscriptions were in course of being made out, and printed, preparatory to the PRESENTATION, which was fixed to be made at a Dinner, to be given to Mr. M'INTOSH, in the Royal Archers Hall, Edinburgh, on FRIDAY, the 2d April next, at 5 o'clock, P.M., at which it was expected that as many of the subscribers as could conveniently attend, would be present; and that all subscriptions should be remitted to the Secretary, between this date and the 31st of March inst., in order to their being included in the printed lists, to be sent to every subscriber.

By order of the Committee. ISAAC ANDERSON, Secretary.

Edinburgh, 41, York-place, March 20.

N.B.—As the Hall can only accommodate a limited number, intimation will require to be made before the 31st inst., to Mr. FROOME, at the Royal Archer's Hall, or to Mr. M'NAB, Royal Botanic Garden, or to Mr. ANDERSON, the Secretary.

PERMANENT PASTURE.

HENRY ROGER SMITHE, of Eastling, Faversham, Kent, informs the public that his mixtures of the NATURAL GRASSES AND SMALL CLOVERS, gathered principally under his superintendence, including every sort necessary to form a Permanent Pasture, accordant with the soil, &c. (which should be particularly stated), are now ready to be delivered by Railway to any Station in England, Carriage Free, at 20*s.* per acre, allowing 3 bushels per acre.

MIXTURES FOR LAWNS, &c. THE TRADE SUPPLIED.

Any information on the nature and properties of the Grasses, the Advertiser would be pleased to give.

LANDSCAPE GARDENING,

EXCLUSIVELY PROFESSIONAL.

MR. THOROLD, of Norwich, offers his services to the Nobility and Gentry as a LANDSCAPE AND ORNAMENTAL GARDENER, in the highest style of the Art, including Decorations around a House, forming Water, Approaches, Picturesque Scenery, Correcting the Works of Amateurs, &c.

MILK, CHEESE, AND BUTTER.

HENRY BAKER, OPTICIAN, 90, Hatton Garden, London, advises any one who keeps Cows to send two postage stamps, and obtain a description of his LACTOMETER, with its uses, and the results of experiments with it upon different Milks. Lactometers, complete, in a mahogany box, 10*s.* 6*d.*; Do., with cheaper fittings, 7*s.* 6*d.* and 5*s.*; Hydrometers for testing sulphuric acid, 5*s.*, 7*s.*, and 10*s.* No consumer of acid should be without one, as it is often sold highly diluted. Saccharometers for Brewing, with tables, 5*s.*, 7*s.*, and 10*s.* Pediment Barometers, from 1*l.* each. Wheel Barometers, from 1*l.* 1*s.* each. Packed carefully for the country, there being nothing to fear of them getting out of order, as they are warranted to be properly made and good instruments.

FOR COTTAGES, LODGES, &c.—A number of Ornamental Chimney Pots, suited for the above-mentioned buildings, have lately been added to the stock of AUSTIN and SEELEY.—Nos. 1 to 4, Keppel-row, New-road, London.

WATERPROOF PATHS.—Those who would enjoy their Gardens during the winter months should construct their Walks of PORTLAND CEMENT CONCRETE, which are formed thus:—Screen the gravel of which the path is at present made from the loam which is mixed with it, and to every part of clean gravel add one of sharp river sand. To five parts of such equal mixture add one of Portland Cement, and incorporate the whole well in the dry state before applying the water. It may then be laid on 2 inches thick. Any labourer can mix and spread it. No tool is required beyond the spade, and in 48 hours it becomes as hard as a rock. Vegetation cannot grow through or upon it, and it resists the action of the severest frost. It is necessary, as water does not soak through it, to give a fall from the middle of the path towards the sides.

Manufacturers of the Cement, J. B. WHITE and SONS, Millbank-street, Westminster.

SHANGHAI, OR OSTRICH FOWLS' EGGS for Hatching, chocolate coloured, fresh, genuine, and from immense sized birds, 1*s.* each; Cochin China, white-faced Spanish, Polish, and Sebright's laced-feathered gold and silver Bantams' Eggs, 6*d.* each, and Malay ditto, 1*s.*, throughout the entire season, but a short notice often necessary. Forwarded, carefully packed, on receipt of a Post-office order, with 1*s.* for box, &c. Gold and silver Pheasants' Eggs in April, 30*s.* per dozen. Apply to TIMOTHY MASON, King's Cottage, Northend, Fulham, London, near Hammersmith gate, in whose extensive grounds the above breeds of Fowls are kept genuine and distinct for the inspection of purchasers, as a guarantee against the imposition so frequently practised. Carrier, Almond Tumbler, and other fancy Pigeons.—Letters to enclose stamps for reply.—Please copy the Address.

GARDEN NETS, FISHING NETS, SHEEP NETS.—All kinds of Garden Nets made by machines, and dipped in Kyan's preparation to prevent decay. New Twine 1 inch mesh, 1½*d.*; half-inch mesh, 2½*d.* Bunting, Worsted and Thread Nets, to protect blossom and the ripe fruit afterwards from wasps and flies, 6*d.* and 7*d.* per square yard. This article has been approved of by the Horticultural Society. All kinds of Fishing Nets very cheap. Sheep Nets of cocoa-nut fibre or New Zealand cord, 4½*d.* per yard, nearly 4 feet high.—R. RICHARDSON, 21, Tonbridge-place, New Road, London.—N.B. The tanned Garden Nets (Herring Nets), 3*d.* per yard, or 6*s* 3*d.* per 100 yards.

TANNED NETTING, for the Protection of Fruit Trees from frost, blight, and birds, and for the security of fresh-sown seeds, either in gardens or fields, at 1*d.* per square yard, 200 yards for 14*s.*, 500 yards for 30*s.*, 1000 yards for 50*s.* Scrim canvas for wall fruit, netting for sheep folds; a considerable saving of labour, and less expense than hurdles. Sun blinds in great varieties, rick cloths, with poles, &c. Marquees, tents, awnings, and temporary rooms, with boarded floors, elegantly lined and lighted for fêtes, &c., on sale or hire. Carriage, cart, and truck covers impervious to rain; cloths for the covering of furniture in change of residence, &c. Tarpaulings on hire for houses under repair, at THOMAS EDGINTON & Co.'s, 17, Smithfield-bars, and Old Kent-road.

N.B. Orders and inquiries per post punctually attended to.

FRUIT TREES, POULTRY, ETC.

TANNED GARDEN NETTING for protecting Fruit Trees from Frost, Blight, and Birds, or as a Fence for Fowls, Pigeons, Tulip and Seed beds, can be had in any quantity or length, from JOHN KING FARLOW'S Fishing Tackle and Net Manufactory, 5, Crooked-lane, London Bridge, at 1½*d.* yard wide, 3*d.* two yards, or 6*d.* four yards wide. All orders above 20*s.* accompanied with Post-office order, stamps, or London reference, carriage free.

FOUNTAINS FOR PLAYING SCENTED WATERS.



PURE WATER raised to any height from a small stream, where a fall can be obtained, by

FREEMAN ROE'S

IMPROVED RAM;

Deep-well Pumps, Water-wheels, Baths, Hot-water Apparatus, Fountains, and Fire Pumps. Towns supplied with Gas or Water. Drawings and Estimates made.

FREEMAN ROE, Hydraulic and Gas Engineer, 70, Strand, London; and Bridgefield, Wandsworth.

HOSE FOR LIQUID MANURE, FIRE ENGINES, or GARDEN PURPOSES, made of Canvas, lined and coated with Gutta Percha. It is exclusively used by agriculturists, and at the Government Public Works, giving great satisfaction. Also, KASE'S FORCE and SUCTION PUMP, which is the most simple and complete; it will throw 40 gallons per minute, 40 feet high, and it is not at all liable to get out of order. Price 5*l.* 10*s.*; on wheels and stand, 7*l.* 7*s.*

BURGESS and KEY, 103, Newgate-street, London.

Sales by Auction.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will sell by Auction at the Mart, Bartholomew-lane, on WEDNESDAY, March 24, at 12 o'clock, a first-rate collection of CARNATIONS and PICOTEES; also 500 Standard and Dwarf Roses from a celebrated grower, Lancashire Gooseberries, and Dahlias in dry roots the property of Mr. WILLMER, of Sunbury. May be viewed the morning of sale; Catalogues had at the Mart, and of the Auctioneers, American Nursery, Leytonstone, Essex.

TO NOBLEMEN, GENTLEMEN, FLORISTS, & OTHERS.

MESSRS. PROTHEROE AND MORRIS are instructed by Mr. HALLY to sell by Auction, at the Mart, Bartholomew-lane, on THURSDAY, March 25th, at 12 o'clock, about 300 CHOICE DOUBLE CAMELLIAS, ranging from 18 inches to 8 feet, well furnished with bloom buds; 200 selected standard and dwarf Roses from a celebrated grower; choice Dahlias in dry roots; Pœonias; plants in bloom; with a rich assortment of American Plants, &c.—May be viewed the morning of sale; Catalogues to be had at the Mart, and of the Auctioneers, American Nursery, Leytonstone, Essex.

TO GENTLEMEN, EXHIBITORS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS are instructed by a gentleman well known for his skill in the cultivation of choice plants to offer for Sale, at the Auction Mart, in April, a choice assortment of STOVE AND GREENHOUSE PLANTS, consisting of Azaleas, Camellias, Heaths, Eriostemons, Pimeleas, Dillwynias, Genistas, Aphelexis, Stephanotis, Zichyas, Stenocarpus, Escallonia, Epacris, &c., many of them specimens of considerable size, and fit for exhibition. Also an assortment of the same kinds, in smaller plants; with a choice collection of Show and Fancy Pelargoniums, Cinerarias, Verbenas, &c., many of them in a blooming state, and fit for immediate effect. Messrs. P. and M. beg to direct special attention to these plants, as being in splendid condition, and such as are rarely offered at the Mart. The Specimen Plants will be sold singly, and the others arranged in lots suitable to both large and small purchasers. Catalogues are preparing, and will be forwarded as usual.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. RAWLINGS AND GIBSON will sell by Auction, at the Mart, Bartholomew-lane, on WEDNESDAY and FRIDAY, March 24th and 26th, at 12 o'clock, a considerable quantity of Standard, Dwarf, and Climbing Roses, a valuable collection of Herbaceous Plants; the finest varieties of Carnations, Picotees, and Pinks; choice Dahlias in dry roots, a variety of Plants in bloom, 100 collections of Flower Seeds, &c.—May be viewed the mornings of sale, and Catalogues had at the Mart, and of the Auctioneers, 50, Hoxton-square, and Ebenezer Nursery, Shacklewell.

CARNATIONS AND PICOTEES.

MR. J. W. NEWHALL will Sell by Auction, at the Mart, Bartholomew-lane, on FRIDAY, 26th March, at 12 o'clock, the first portion of the SURPLUS STOCK of an Amateur, including, among Carnations, Flora's Garland, Holyoake's Dido, Admiral Curzon, Lorn Rancliffe, Cradle's Pet, May's Bolingbroke, &c., &c. Among the Picotees, Mrs. Barnard, Mrs. Norman, Lord Nelson, Delicata, Dodwell's Alfred, &c., &c., with a first-rate Collection of Yellow Picotees, including Conrad, Princess Alice, Mount Etna, &c. May be viewed the morning of sale; and Catalogues had at the Mart, and of the Auctioneer, Woolwich.

N.B. The Second and Third portions of the same Stock will be sold at the Mart, on WEDNESDAY, 31st March, and FRIDAY, 2d April.

TO GENTLEMEN, FLORISTS, AND OTHERS.

A FIRST CLASS COLLECTION OF CARNATIONS AND PICOTEES.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions from C. J. LOCKNER, Esq., to offer to public competition, by Auction, at the Auction Mart, Bartholomew-lane, on FRIDAY, March 26, at 12 o'clock, his surplus stock of CARNATIONS and PICOTEES; they are in the finest condition, and comprise all that is new and rare.—At the same time will be offered about 600 Standard and Dwarf ROSES, from a celebrated grower, consisting of the best varieties of Hybrid Perpetuals, Bourbons, Teas, Chinas, Noisettes, &c.; also choice Dahlias in dry roots, Fuchsias, Verbenas, and a variety of plants in bloom.—May be viewed the morning of sale; Catalogues may be had at the Auction Mart, and of the Auctioneers, American Nursery, Leytonstone, Essex.

TO NOBLEMEN AND GENTLEMEN

ENGAGED IN ENRICHING THEIR PARKS & GROUNDS.

MR. J. C. STEVENS will sell by Auction, at his Great Room, 38, King-street, Covent-garden, on FRIDAY, 26th March, at 12 for 1 o'clock, without reserve, the following HARDY CONIFERS, handsome plants in pots, viz.—

50	Splendid specimens of Araucaria imbricata ...	2½ to 3 feet.
200	Cedrus Deodara	2 feet.
2000	Ditto	1 foot.
100	Pinus excelsa	1 to 1½ foot.
100	Pinus Gerardiana, 9 inches, a very handsome Pine.	
25	Abies morinda (true) ...	1½ to 2 feet, fine and bushy.
50	Cupressus torulosa ...	1 to 1½ foot ditto.
50	Juniperus Bedfordiana ...	1 to 1½ foot ditto.
25	Abies pumila (true)	ditto.

May be viewed on the day prior and morning of sale, and Catalogues had of Mr. J. C. STEVENS, 38, King-street, Covent-garden, London.

TO ORNITHOLOGISTS.

Mr. MILTON'S WELL-KNOWN COLLECTION OF BRITISH BIRDS.

MR. J. C. STEVENS will sell by Auction, at his Great Room, 38, King-street, Covent-garden, London, on TUESDAY, 6th April, at 12 for 1 o'clock, a very valuable and nearly complete Collection of BRITISH BIRDS, set up in the best manner by the most eminent Naturalists of the present day, all in fine preservation, and arranged according to Yarrell; and a Collection of BRITISH BIRDS' EGGS, including many rare species. May be viewed on the day prior to sale, and Catalogues had of Mr. MILTON, No. 10, Great Marylebone-street; and of Mr. J. C. STEVENS, 38, King-street, Covent Garden, London.

MR. ALEXANDER will sell by Auction, at the Mart, near the Bank of England, on TUESDAY, the 23d of March, at 1 o'clock precisely, first-rate CARNATIONS and PICOTEES, the Stock of Mr. HEPWORTH, comprising the following new kinds, sent out in 1851, viz., Hepworth's President, P.B.; Comet, S.F.; Rose Helen, R.F. (the finest of its class): Kossuth, S.F.; Miss Stanley, P.F.; John Henry, S.B.; Tam.o'Shanter, S.F.; Harlequin, R.F.; and Mayor of Oldham, P.F. Picotees: Hepworth's Cerise Blanche, Robert Burns, Highland Mary, Sarah Ann, Miss Booth, Mary Helen, &c. Also Brook's Flora's Garland, Twyford Perfection, May's Hotspur, Vanguard, Tymon, Antonio. Picotees: Headley's Venus, May's Viola, Norman's Lord Nelson, Mary Anne, Isabella, &c. Also fine named Pinks, Hollyhocks, Miscellaneous Plants, &c.—May be viewed on the day of sale, and Catalogues had at the Mart and of the Auctioneer, Shacklewell.

MR. ALEXANDER will sell by Auction, at the Mart, near the Bank of England, on THURSDAY, March 25, at 1 o'clock precisely, a first-rate Collection of Carnations and Picotees, the remaining portion of the Stock of Mr. Bragg, of Slough; they comprise all the leading varieties in cultivation. Also choice named Pinks, fine new Hollyhocks, choice Geraniums, Pansies, Miscellaneous Plants, &c., &c.; together with a choice assortment of Dahlias in pot roots, including the newest varieties sent out.—May be viewed on the morning of Sale. Catalogues had at the Mart, and of the Auctioneer, at Shacklewell.

BISHOP MIDDLEHAM, NEAR FERRY HILL STATION IN THE COUNTY OF DURHAM.

VERY IMPORTANT SALE OF PURE BRED SHORT HORNS.

MR. WETHERELL has received instructions from G. D. TROTTER, Esq., of Bishop Middleham, to sell by Auction, on TUESDAY, the 11th day of May next, without, reserve, his entire Herd of Short-horns, consisting of 70 lots. In offering this Herd for unreserved public competition, Mr. Wetherell begs to remark that Mr. Trotter has been a very successful competitor at the meetings of the Royal Agri. Society of England and other Agricultural Societies, and amongst them many first-class prize animals are to be found; from a recent inspection, he can with confidence say, they are an extraordinarily good herd, of first-rate quality, and is certain the most fastidious connoisseur cannot fail to be gratified, Mr. T. having had, for the last 15 years, the unrestricted privilege of using all the Bulls of the late Mr. Bates. The young stock are by the third Duke of York (10166), and most of the Cows and Heifers are in calf to the same Bull, and are sold in consequence of Mr. Trotter having entered into engagements which entirely preclude his giving that attention to the herd which he finds requisite. N.B. The Herd may be seen at any time. Catalogues are ready, and may be had of G. D. TROTTER, Esq., and of Mr. WETHERELL.—Durham, March 20.

CHELSEA.

TO GENTLEMEN, BUILDERS, AND OTHERS ENGAGED IN PLANTING.

MR. D. A. RAMSAY will sell by Auction, on the premises, King's-road, Chelsea, on MONDAY, March 22, at 12 o'clock, without reserve, by order of Messrs. DENNIS and Co. (for the purpose of giving up possession of that portion of the ground at Lady-day), the remaining out-door NURSERY STOCK, comprising fine variegated and green Hollies, striped and green Box, Aucuba, Irish Yews, standard and other Lilacs, Ornamental Trees, Fruit-bearing and other Mulberries, prize Gooseberry and other Fruit Trees, Crimson Rhododendron, Cedar of Lebanon, Yucca, Climbers in pots, choice Roses, Box Edging, a fine collection of Pœonies, Crocus and other Bulbs; also a quantity of York Stone Paving, Slates, Brickwork, and useful Building Materials, &c. The remaining portion of the Glass, Greenhouse Plants, and other miscellaneous stock will be shortly submitted to public competition.—May be viewed prior to sale, and Catalogues had on the premises; at the principal Seed Shops; and of the Auctioneer, Brompton Nursery, Fulham-road, Brompton.

TO NURSERYMEN AND OTHERS.

WANTED, A LIVING CONCERN, with the necessary Glass and Out-buildings. The coming-in to be moderate. A decent House on the premises would be desirable.—Address, stating every particular, to A. C., No. 6, Western-terrace, New London-road, Chelmsford.

HORTICULTURAL SOCIETY OF LONDON.
PRIVILEGED TICKETS.

The Exhibitions will take place on the Second Saturdays in May, June, and July, namely,

MAY 8, JUNE 12, JULY 10.

All Fellows who shall apply, on or before Tuesday, the 20th of April, may obtain, at the PRIVILEGED RATE of Three Shillings and Sixpence each, any number of tickets NOT EXCEEDING FORTY-EIGHT; but no application for such tickets will be received after that day. *Fellows of the Society subscribing for tickets at this price will be allowed a clear week from the 20th of April during which they may claim them.* AFTER THAT PERIOD ALL THE 3*s.* 6*d.* TICKETS SUBSCRIBED FOR, BUT NOT ISSUED, MAY BE CANCELLED.

After the 20th of April, any further number of tickets will be delivered to Fellows on their personal application or written order, at the price of *Five Shillings* each ticket.

SPECIAL POWER OF FELLOWS.—Fellows of the Society not only enter free at half-past 12, but can also introduce one friend, WITH A TICKET, at gate No. 4, in the Duke of Devonshire's Road. Or the Fellow's power may be transferred to a brother, sister, son, daughter, father, mother, or wife, residing in the Fellow's house, provided the person to whom the transfer is made be furnished with a ticket signed by that Fellow. That is to say, the power of entering early may be transferred, but not the right to FREE admission.

NEW FARM SEEDS.

WILLIAM E. RENDLE AND CO., SEED MERCHANTS, Plymouth, have arranged with the Publisher of this Paper for their GENERAL LIST to appear in the Back Page NEXT SATURDAY, MARCH 27. The attention of all engaged in the cultivation of the soil is directed to it.

GRASS SEEDS, CLEAN AND GENUINE,

SEPARATE OR MIXED, TO SUIT ANY SOIL, CARRIAGE FREE, as see Messrs. SUTTON'S Advertisement in the last page of this day's *Gardeners' Chronicle.*

HENRY GROOM, CLAPHAM RISE, near London, FLORIST BY APPOINTMENT TO HER MAJESTY THE QUEEN, and to HIS MAJESTY THE KING OF SAXONY, begs to say that his Spring Catalogue of PELARGONIUMS and NEW PLANTS is ready, and will be forwarded by post on application.

GEORGE BAKER'S DESCRIPTIVE CATALOGUE OF AMERICAN PLANTS, CONIFERÆ, ROSES, ORNAMENTAL SHRUBS, FRUIT AND FOREST TREES, &c., may be had on application, by enclosing two postage stamps.—Windlesham Nursery, Bagshot, Surrey.

HUGH LOW AND CO. have to offer the undernamed plants:—

ROCKET, new double crimson, will prove a very showy plant; per doz. ... ... 18*s.* 0*d.*

SCARLET GERANIUM "The Amazon" (Carpenter), has been already described in the *Gardeners' Chronicle*... ... ... 7 6

MIMULUS UNIQUE 5 0

" SAMBO 5 0

" NOVELTY 5 0

" PUNCTATA 5 0

The above named Mimuli were raised by A. Clapham, Esq., of Scarborough, and are much superior, both in colour and size of flower, to Mimulus rubinus, which was raised by the same gentleman.

H. L. and Co. can also supply healthy young plants of the undernamed Pompon Chrysanthemums of last season, which have been carefully selected as the best and most distinct varieties, price 1*s.* 6*d.* each:—Argentine, Asmodée, Autumna, Calibre, Cybele, Maria Taillard, Modèle, Perfecta, Ne Plus Ultra, Sacramento, Surprise, and Solfaterre.

Large flowering Chrysanthemums of proved merit, 1*s.* 6*d.* each.

Continental Verbenas of 1851, 9*s.* to 12*s.* per dozen.

Seakale, fine roots, 5*s.* to 7*s.* 6*d.* per 100.

Clapton Nursery, March 20.

NEW SEEDLING GLOXINIA,
"QUEEN OF ENGLAND."

J. HODGE, NURSERYMAN, SEEDSMAN, and FLORIST, Lee-bank House, Edgbaston, Birmingham, begs leave to inform his friends and the public generally, that he intends sending out the above beautiful GLOXINIA the first week in May, at 10*s.* 6*d.* each, with one over to the trade when three are taken. Colour pure white, with a beautiful bright carmine throat, and fine habit. Was awarded a Certificate of Merit at the Birmingham and Midland Floricultural Society in May last, and pronounced by all who have seen it to be first-rate.

SAMUEL FINNEY AND Co. beg respectfully to inform their Friends and the Public that their new PRICED SEED CATALOGUE FOR 1852 is now ready, and may be had, postage free, on application. It contains a list of all the most approved kinds of Vegetable Seeds in cultivation, together with a very choice selection of German and other Flower Seeds, which are all fully described, stating the time of sowing, and whether hardy, half-hardy, or tender; the height, colour, and time of flowering, with much other useful information. The Collections of Seeds, which they supplied in former years, having given such general satisfaction, they are again induced to offer them as under:—

		£	*s.*	*d.*
No. 1.	A complete collection of Vegetable Seeds for one year's supply of a large garden	2	5	0
No. 2.	Do. do. in smaller quantities	1	10	0
No. 3.	Do. do. do. do.	1	1	0
No. 4.	Do. do. do. do.	0	12	6

The kinds and quantities contained in each Collection are stated in the Catalogue.

Delivered, free, at any station on the following Railways:—Newcastle, York, and Berwick; North British, Leeds and Thirsk; York and Scarborough, Newcastle and Carlisle, and Lancaster and Liverpool.—Gateshead Nursery, March 20.

DWARF PEAS.

HAIRS'S DWARF MAMMOTH KNIGHT'S, acknowledged the best out, 2*s.* 6*d.* per quart.

BISHOP'S LONG-PODDED, 1*s.* per quart.

BURBIDGE'S ECLIPSE, 1*s.* per quart.

The above Peas have been most extensively grown in the principal horticultural establishments in the kingdom, and pronounced superior in every respect to the tall growing varieties.

FLOWER SEEDS.

ESCHSCHOLTZIA CALIFORNICA ALBA, a pure white, very good, 6*d.* per packet.

IPOMŒA BURRIDGII, splendid hardy creeper, 6*d.* per packet.

SAPONARIA CALABRICA, var. MULTIFLORA, one of the best bedding plants out, 6*d.* per packet.

TROPÆOLUM COCCINEUM, handsome, 6*d.* per packet.

EUCHNIDEA BARTONIOIDES, splendid yellow, half-hardy, 6*d.* per packet.

GAURA LINDHEIMANII, fine herbaceous plant, 6*d.* per packet.

DUNCAN HAIRS offers to the gardening world the above small selection, as being deservedly worthy of universal attention. Catalogues of Garden, Agricultural, and Flower Seeds forwarded on application.

Seedsman and Florist, Wholesale and Retail, 109, St. Martin's-lane, London.

DOUBLE ITALIAN TUBEROSE ROOTS,

4*s.* per dozen.—The annual importation of the above-named beautiful and fragrant Flower has just been received, and large and well selected Bulbs may be obtained, without disappointment, at A. CORBETT'S Foreign Warehouse, 18, Pall-mall.

N.B. Printed regulations for treatment sent; also, just arrived, very moist and open Parmesan Cheeses.

HOSEA WATERER'S Descriptive Catalogue of AMERICAN PLANTS, CONIFERS, ROSES, &c., is just published, and may be had on application, enclosing two postage stamps, to Mr. HOSEA WATERER, Knap Hill Nursery, Woking, Surrey.

FRUIT TREES, ETC.

H. BIGLAND AND Co., NURSERYMEN and SEEDSMEN, Manchester, beg to offer APPLE and PEAR TREES, &c., at the following very low prices:—

Standard Apple Trees ... ... 9*s.* per dozen.
Do. Pear Trees ... ... 12*s.* "
Trained do. for walls ... 30*s.* "

H. B. and Co. beg also to call attention to their complete Collections of VEGETABLE and FLOWER SEEDS, to suit any sized Gardens, which they keep ready put up, for particulars of which see their printed Catalogue, which may be had on application.

N.B. Carriage paid on all orders of 2*l.* and upwards.

WHEELER'S SEED LIST.

J. C. WHEELER AND SON'S Priced List of Agricultural, Garden, and Flower Seeds for this season, is now ready, and will be forwarded free to any address, on receipt of one postage stamp. In making out this list great care has been taken to exclude all useless varieties, so that it only comprises the names of the best Seeds in cultivation.—J. C. WHEELER and SON, Nurserymen and Seedsmen to the Gloucestershire Agricultural Society, 99, Northgate-street, Gloucester.

Seeds delivered, carriage free, to most parts of England and South Wales.

NEW AND CHOICE FLOWER SEEDS,
FREE BY POST.

MESSRS. WHEELER AND SON have selected out of their large collection of Flower Seeds the most beautiful and showy varieties, each sort distinct in colour, and calculated to produce a fine effect when planted out in beds or groups in the flower-garden. They have marked each variety with its Botanical and English Name—Height—Time of Flowering—Colour of the Flower—Manner of Growing — Whether Erect or Trailing, &c.—the Time it should be Sown, and with other valuable Hints as to its cultivation.

In selecting these varieties care has been taken to exclude all shy-bloomers, or such which have an insignificant appearance, so that the collections will comprise only those which are really showy and handsome, and which prove to the entire satisfaction of any lady or gentleman who might be disposed to order them. The GERMAN STOCKS, ASTERS, ZINNIAS, LARKSPURS, &c., are most superb. The collections will be sent free by post to any part of the Kingdom at the following prices:—20 Extra Fine Varieties, all distinct, 5*s.*; 50 ditto ditto, 10*s.* 6*d.*; 100 ditto ditto, 20*s.*

J. C. WHEELER and SON, 99, Northgate-street, Gloucester, Nurserymen and Seedsmen to the Gloucestershire Agricultural Society.

A NEW SEEDLING POTATO.

MESSRS. WHEELER AND SON have much pleasure in offering a New Seedling Potato, called

"THE PRINCE OF WALES."

It is an excellent Early Potato, in fact one of the earliest in cultivation, so early that it escapes the disease more than any other variety. It is a great bearer, of excellent quality, and, as we have a good stock, we can offer it at a low price. We have much pleasure in adding the following extract from the *Gardeners' Chronicle and Agricultural Gazette* of the 12th of April last:—

"PRINCE OF WALES POTATO: MESSRS. WHEELER, *of Gloucester.* We can speak, from personal experience, to the excellent quality, productiveness, and *earliness* of this variety."

We can offer it at 2*s.* 6*d.* per peck, or 9*s.* per bushel, bag and package included. All quantities of a bushel and upwards would be delivered carriage free to any Railway Station in England or Wales.

J. C. WHEELER and SON, 99, Northgate-street, Gloucester Nurserymen and Seedsmen to the Gloucester Agricultural Society.

FLOWER SEEDS SENT FREE BY POST.

ROBERT WESTMACOTT begs to inform his Friends that he has selected with great care his Stock of FLOWER AND VEGETABLE SEEDS for the present season, including every variety worthy of cultivation. His GERMAN SEEDS are imported from the best foreign house, and are as good as can be procured. They consist of Stocks, Asters, Larkspurs, Balsams, Hollyhocks, double Wallflowers, Dianthus, Poppies, Zinnias, &c. His PRICED DESCRIPTIVE CATALOGUE may be had on application.

COLLECTIONS OF THE MOST SHOWY FLOWER SEEDS FOR LARGE OR SMALL GARDENS.

	One large packet of each.—	*s.*	*d.*
50	well-assorted Annuals, Biennials, and Perennials	10	6
25	Do. Do. Do.	5	6
12	Do. Do. Do.	3	0

The above Flower Seeds may be had in smaller packets at half the price.—Stuart's Grove Nursery, Fulham Road, Chelsea.

FIRST CLASS VERBENAS, FUCHSIAS, GERANIUMS, DAHLIAS, CHRYSANTHEMUMS, CINERARIAS, PETUNIAS, PICOTEES, AND CARNATIONS.

GEORGE SMITH'S SELECT CATALOGUE is now ready, containing Priced Lists of all the leading kinds of both Show and Fancy varieties, in their various classes.

G. S.'s Seedling Verbenas, Fuchsias, &c., are of great merit, having taken numerous First-class Certificates, and having been highly recommended by the Press. For description see Catalogues, which will be forwarded on the receipt of one postage stamp.

N.B. Taylor's excellent "Treatise on the Chrysanthemum," 1*s.*; free by post, 1*s.* 2*d.*

Tollington Nursery, Hornsey-road, Islington, London.

DAHLIAS, PANSIES, CARNATIONS, PICOTEES, PINKS, ETC.

JOHN SCHOFIELD AND SON have now ready a very Choice and Select Catalogue of the above FLORIST FLOWERS. Strong healthy plants of the most established Favourites can be supplied at the following low rates:—

PANSIES... ... ... from 4*s.* to 15*s.* per dozen plants.
CARNATIONS ... from 9*s.* to 20*s.* per dozen pairs.
PICOTEES ... ... from 9*s.* to 20*s.* " "
PINKS ... ... from 3*s.* to 12*s.* " "
DAHLIAS (in May) from 6*s.* to 12*s.* " plants.

A few Packets of PANSY SEED, selected with care, 2*s.* 6*d.* per packet. Early application is respectfully requested.

Knowsthorpe, near Leeds, Yorkshire.

AMERICAN NURSERY, BAGSHOT, SURREY.

JOHN WATERER begs to announce that he has published a new CATALOGUE of Hardy Rhododendrons, Azaleas, Roses, Conifers, &c., and which may be obtained by enclosing two postage stamps.

The colours of all the Rhododendrons worthy of cultivation are described; thus purchasers are afforded every facility in making selections.

FINE YEW TREES.

ROBERT HOLBERT has a large quantity of fine transplanted YEW TREES from 2 feet to 4 feet high; also a quantity of larger plants from 6 feet to 7 feet. They are remarkably handsome specimens, and will be sold at low prices, which may be known on application to ROBERT HOLBERT, Nurseryman, Gloucester.

STANDISH AND NOBLE'S detailed Advertisement will appear in this Paper on the first Saturday in every Month, to which they invite the attention of all interested in HARDY ORNAMENTAL PLANTS. Their Descriptive Catalogue, with the Treatise on the "Cultivation of American Plants," can still be had, by enclosing six stamps for postage.

Gentlemen requiring the services of a Landscape Gardener, can procure such by applying to the Advertisers.

Bagshot, Surrey, March 13.

SEED AND HORTICULTURAL ESTABLISHMENT,
SUDBURY, SUFFOLK.

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The Gardeners' Chronicle.

SATURDAY, MARCH 20, 1852.

MEETINGS FOR THE ENSUING WEEK.

MONDAY,	March	22	British Architects ... 8 P.M. Geographical ... 8½ P.M.
TUESDAY,	—	23	Civil Engineers ... 8 P.M. Medical and Chirurgical ... 8½ P.M. Zoological ... 9 P.M.
WEDNESDAY,	—	24	Society of Arts ... 8 P.M. Geological ... 8½ P.M.
THURSDAY	—	25	National Floricultural ... 3 P.M. Royal Soc. of Literature ... 4 P.M. Numismatic ... 7 P.M. Antiquarian ... 8 P.M. Royal ... 8½ P.M.
FRIDAY,	—	26	Royal Institution ... 8½ P.M.
SATURDAY	—	27	Royal Botanic ... 3½ P.M. Medical ... 8 P.M.

WHEN, a fortnight since, we drew attention to the effect of this unusually COLD AND DREARY SPRING upon what are called greenhouse plants, it was scarcely to have been anticipated that the result would have so entirely corresponded with our expectations. It turns out, however, that nothing whatever of an exceptional nature has occurred to demand a modification of the opinions then expressed. Very cold weather, in the month of March, the thermometer having fallen on one occasion even so low as 15°, has produced no injurious effect upon such of the vegetation of Australia, Chili, or the Cape of Good Hope, as was exposed to it, near

London; and our correspondence tells us that in other parts of England similar results have been observed. It is doubtless to the absence of rain, and to the want of everything that can excite vegetation, that this security has been owing. It has enabled the Acacias and Eucalypti of New Holland, Escallonias and other shrubs from Chili, the evergreen Beech of Tasmania, the pinnated Berberries of India, the African Myrsine from the Cape of Good Hope, and according to some, though that is not within our own knowledge, the Rhododendrons of Sikkim, to brave with impunity an amount of cold, one half of which, under other circumstances, would have been fatal.

In two points of view this fact must be considered as of the highest horticultural interest: it shows how much more hardy than is generally supposed, are many plants commonly in cultivation; and it also points out how little artificial warmth is demanded for the preservation of even much more tender plants in winter. Gardeners thence may learn that if their object is merely to preserve through the winter exotic plants from temperate climates, there is no need of patent glass and all the costly appliances of modern gardening, but that shelter, securing dryness, and plenty of air, will effect all that they require, even although their plants should be exposed to as much as 15° of frost. All this may be obtained in a barn or in one of Mr. Rivers' orchard-houses, aided, if need be, by a brick flue, which any country bricklayer will put together in a day or two; and thus the means of embellishing the open ground during summer with a large proportion of the shrubs now kept under glass may beyond all doubt be acquired. It once was the custom thus to treat greenhouse plants, as the old Orangeries (or hibernatories) of which Kew, Chelsea, Kensington Palace, Hampton Court afford familiar examples, abundantly prove. But Orangeries have gone out of fashion, for it was imagined that although it might be a gardener's business to find shelter for his plants in winter, it was no part of his duty to grow them in the summer; and so the Orangery was crammed in cold weather with torpid sticks, having little heads and pot-bound roots, which *as soon as the Mulberry was in leaf*, were put behind a hedge to gasp and struggle over the hot season; and were stuffed back again the moment the Kidney Bean leaves showed signs of frost. With modern skill, and materials like those of the Crystal Palace, we might have acres of Australian shrubberies under glass without paying a shilling for winter heat. That the day when this will happen is fast approaching we entertain no doubt; and nothing is more likely to accelerate the event than such knowledge of the real constitution of exotic plants as from this winter has been gained.

It may be observed, too, that the same knowledge ought to encourage those who have the means to multiply experiments upon the hardiness of greenhouse plants. It must be admitted by all men of experience, that analogy, or what we take for it, is but a treacherous guide; yet when we see the Blue Gum (*Eucalyptus globulus*) resisting such a winter as this, although but two years old, when trees are at their tenderest, and *Acacia dealbata*, there is good ground for hoping that all the southern Gum trees and Acacias will also prove to be as hardy; nor can we well suppose that if *Swammerdamia antennifera*, one of the very best and hardiest of our evergreens, is regardless of winter cold, other Composite plants from Van Diemen's Land, such as Eurybias, Cassinias, Olearias, and the like, will prove tender. With Mr. Young, of Taunton, Epacris heteronema has lived through this winter without injury; why, then, should not the other kinds of Epacris do the same?

We need only add to these suggestions that in experimenting upon so-called greenhouse plants, the following points should be well considered:—1. The plant should not be a seedling, nor even very young; because the younger a plant is, the more vigorous it becomes, *cæteris paribus*, and plants are tender in proportion as they are vigorous. 2. The ground should be dry: a sloping bank is among the best places. 3. They should not be exposed to our cutting dry spring winds; and therefore the west is the best aspect in this part of England. 4. They should not be exposed to the sun, which is apt to excite them into growth when they ought to be most dormant; therefore a north-west aspect is the best, and a south-east the worst, in which to plant them.

We have no little satisfaction in announcing that Government has commissioned Dr. Hooker to arrange, name, and distribute the valuable collections of dried plants made by him in the Sikkim-Himalaya and other parts of India. Should the East India Company enable Dr. Thomson to do the same, of which their well-proved desire to promote science within their territories leads us to entertain a sanguine hope, the vegetation of India will be much more accurately known than that of any part of the world, beyond the limits of Europe, if we except the north-eastern parts of America. The importance of this knowledge to manufacturers, merchants, engineers, and commercial men of all descriptions, was becoming daily more and more apparent, even before the late Exhibition of all Nations; and now presses with great additional force upon the consideration of those to whom the welfare of India is confided.

In connection with the two important operations just adverted to, a Flora Indica would of course become necessary, in which should be systematically embodied the discoveries of Roxburgh, Buchanan-Hamilton, Colebrooke, Wallich, Griffith, Royle, Wight, and all the other naturalists who have devoted themselves to the elucidation of Indian botany. The pecuniary assistance required of the Governments of Great Britain and India would be insignificant compared with the great results which we now actually possess the means of accomplishing in this country; especially if the co-operation is secured of such men as Major Madden, Capts. Champion and Munro, and Messrs. Strachey and Winterbottom.

Dr. Hooker has also in preparation the Floras of New Zealand and Van Diemen's Land, to be published under the authority of the Admiralty. Instructions have been given for the immediate preparations of these works uniformly with the Antarctic Flora, concluded in 1847. Enormous materials for the purpose have gradually accumulated, among the most important of which are those collected by Dr. Hooker himself; to which have to be added the collections of Banks and Solander in Cook's first voyage (1770), and of the Forsters in Cook's second voyage; the plants of Menzies procured in Dusky Bay; the collections of the brothers Cunningham at the Bay of Islands, in 1842; very extensive collections formed by Colenso, Bidwill, and Dieffenbach, who alone have reached the mountains and lakes in the interior of the Northern Island; materials obtained at the Bay of Islands, and on Banks' Peninsula, by Raoul, during the voyage of the French frigate L'Aube, and numerous minor contributions.

It further appears that the "Botany of the Voyage of the Herald" is to be immediately published by M. Seemann, aided by Hooker, Harvey, Churchill Babington, Wilson, Bentham, Smith, and several distinguished foreign botanists. It is gratifying to see how immediate action is now substituted for that limitless procrastination, which has utterly destroyed the value of some of our best naturalists, leaving the honour of their discoveries to be enjoyed by foreigners, and the public, which has ungrudgingly given them support, to be disgusted with researches of which it can see neither the end nor the aim.

DAPHNE ODORA ROSEA.

Of all the odoriferous plants with which I am acquainted, this is the most delightfully fragrant, surpassing, in the estimation of many, even the agreeable odour of the Rose itself, or of the Violet. It is moreover a hardy greenhouse plant, of very easy culture, requiring no forcing to have it in bloom during the short days of winter, when fragrant flowers are scarce, and much esteemed.

This variety of Daphne is usually increased by grafting it on stocks of some of the hardy kinds; but I find that it grows more vigorously on its own roots than when worked on any stock which I have tried; and I am satisfied that propagation by cuttings is preferable. Pieces of the young wood selected when about half ripe, planted in sandy soil, covered with a bell glass, and placed in a close frame, will root freely if they are kept properly supplied with water, and guarded from damp. The cuttings should be got in as early in the season as they can be obtained, in order that they may have time to become well-rooted in small pots, previous to winter. As soon as they are sufficiently established, pot them in 4-inch pots, and place them for a time in a rather close and moist situation. During winter they may occupy a place in the greenhouse, and will require no extra care beyond what is given to the inmates generally.

The Daphne is a slow growing shrub, and unless means are used to induce the young plants to make two growths during the second season, they will hardly be worth notice as flowering specimens until they are three years old. In February, place them therefore in a moist temperature of about 50° or 55°, and keep them freely supplied with water; as soon as they commence growing, examine the state of their roots, and if they require more pot room shift into pots two sizes larger, and water very carefully after potting, for a week or two, until the roots have got hold of the fresh soil. During this time a sprinkling over-head morning and evening will be beneficial. When they have completed their growth, which will probably be in about two months after placing them in warmth, it will be advisable to pinch out the points of the shoots and remove the plants to a cooler and more airy place, where the young wood will be ripened, and the buds become plump. If the plants are allowed to remain in this situation for a month, and be then placed in a moist and rather warm pit or frame, they will break into free growth, and should be shaded from the midday sun, while the wood and leaves are young and tender. Any that may appear to have filled their pots with roots should be examined and re-potted, if necessary, but the Daphne should never be overpotted; it is very impatient of stagnant moisture at the roots, and over-potting is not the best method of avoiding that. As soon as the growth is completed, begin to inure the plants to a drier atmosphere, exposing them to more air and sunshine, so as to secure the perfect ripening of the wood, and the production of blossoms. The formation of flower-buds will be indicated by the terminal buds becoming large and firm, and when this is the case the plants may be removed to a sheltered situation out of doors, or, if late in the season, to the greenhouse.

All that can properly be done this season to secure a succession of blossom, will be to place the most forward plants in the warmest part of the greenhouse, and leave the others to bloom later. As soon as they have done flowering remove them to an airy place in the greenhouse, and shorten the stronger shoots, so as to secure a compact bushy habit of growth, and allow them to remain in this situation for about a month, or till the buds become plump. They may then be treated as recommended for last growing season, except that when the first growth is matured, they may be removed to a sheltered corner out of doors. To provide for a long succession of bloom, after February the plants must be introduced, at intervals, to a growing temperature, some being left to make their growth in the greenhouse. Those induced to start about the end of February will flower about the end of September or early in October, and with a little care in keeping the most forward plants in the closest part of the greenhouse, &c., there will be no difficulty in keeping up the supply of flower till May. The peculiarly agreeable fragrance of this Daphne renders it, at any season, a special favourite with all lovers of sweet flowers; but if a few plants in bloom can be placed in the conservatory in October, when there will seldom be any necessity for giving much air till after the family have paid the house their morning visit, the atmosphere will be loaded with most agreeable fragrance. The odour of the plant is not so perceptible in a cold house, or where there is a free circulation of air, but when placed in a moderately close atmosphere it is very powerful.

A soil composed of two parts rich friable turfy loam, and one part turfy peat, freely mixed with silver sand and potsherds, broken rather small, will suit this Daphne. The loam and peat should be carefully broken up into rather small pieces, divested of all inert soil, and minutely intermixed with the sand, &c. In potting, make the fresh soil rather firm about the ball, and be especially careful to secure efficient drainage, as the plant will not succeed if there is stagnant moisture at the roots. *Alpha.*

BRITISH SONG BIRDS.

No. LXIX.—The first actual concert of the feathered tribes harmoniously blended, that we have yet heard,—we listened to on Sunday evening last. There was a full band. The wind had lulled, the afternoon was mild, and the evening clear. The *rendezvous* of the performers was Ravenscourt Park, their usual resort,—and there appeared to be all the various tribes peculiar to this locality assembled together. The voice of the blackbird, which was in the ascendant, was peculiarly sweet and mellow; the thrush too, was eloquent; the robin clear and joyous; the wren and hedge-chanter merry; and the chaffinch rehearsing with energy.

There now only wants a genial change in the weather,—some warm, refreshing showers, and some days of bright sunshine, to cause all Nature to be in a state of activity; and the sweet voices of our little friends, the birds, will be equally improved thereby.

The song of the thrush is even now breaking more and more melodiously on the ear, day by day. The temporary interruption of his song will cause his energies to be redoubled when the weather becomes more settled. Then shall we hear what he *can* do, and rejoice whilst listening to his varied powers:—

> The thrush's song
> Is varied as his plumes; and as his plumes
> Bend beauteous, each with each, so run his notes
> Smoothly, with many a happy rise and fall.
> How prettily upon his parded breast,
> The vividly-contrasting tints unite
> To please the admiring eye! So—loud and soft,
> And high and low, *all* in his notes combine
> In alternation sweet, to charm the ear.

There seems to be a mutual understanding between this bird and man, that he (the thrush) has a prescriptive right to take up his quarters just where he pleases. He seems intuitively to know that he is always a welcome visitor; and this knowledge it is that makes him so loud and so free in his song. He looks upon your garden as his own; your trees as his property; and your fruit as being provided for the refreshment and entertainment of his family. We assume all this, from the bold manner in which he takes possession of his territories.

The same remarks we have already made about the blackbird, apply with full force to the thrush. The best birds are always those which are bat-folded or netted. These possess the wild, or natural note; and when caged, they seldom or never lose it. It would,

however, be foolish as well as cruel to attempt to cage any of the old birds now. In the first place, they would not sing,—at all events for any length of time ; in the second place, they would occasion you much unnecessary trouble in attending to them throughout the summer season ; and in the third place, you would be depriving their mates of a natural protector whilst engaged in the arduous duties of incubation.

Nestling thrushes often turn out good birds if well educated ; but they are very imitative. When only two months old, they will faithfully record the melodious strains of a love-sick cat ; nor can we admit that these are much improved on by the extra "variations" that are sometimes indulged in. In such cases, it is desirable to let the performer have his immediate liberty, or your ears will ever after be doomed to sounds of feline melody. We should be wanting in our duty, did we not point out these innate propensities of the thrush. Our readers now have the remedy in their own hands.

The mode of rearing and selecting your birds, the diseases to which they are subject, and cages suitable for their reception,—will be the subjects of early inquiry. *William Kidd.*

FOREIGN GARDEN GLEANINGS.

Stralsund (Pomerania).—I have little to say about this town ; there is no garden, public or private, of any interest whatever ; but, to make up for their absence, every window is full of flowers, and the ground floors are covered with them. Here, there are brilliant Pelargoniums ; there, pretty Stocks ; in another place, immense Wallflowers ; in another, Coronillas ; in another, trees of Thlaspi, differing in form, sometimes 4 feet high, loaded with flowers. As one walks through the streets of this little town, one is struck with the soft air and beautiful blossoms, and is apt to wonder how it is that in streets such luxuries can be obtained.

Lubeck.—Although there is no botanic garden here, there are, as in most other places in Prussia, pleasant promenades and long avenues of trees, which, by their gracefulness and beauty, would well become the finest garden. The country round Lubeck is gay and fertile. The market gardens were, at the time of my visit, filled with vegetables, very common in kind, it is true, but presenting a fine appearance. I was sorry not to see in the markets our common delicate vegetables. Fruit, on the other hand, abounds, and equals our own in size and flavour, which is not a little astonishing, if we call to mind that the trees are not pruned, or, if they are, not at the right time, and only with a bill-hook.

There are five horticultural establishments, which differ from most others, inasmuch as their owners attend at one and the same time to wholesale cultivation, market gardening, arboriculture, and floriculture. Large houses are used for raising plants for sale. There are wholesale and retail seed merchants who will sell even so trifling an article as a bouquet of flowers ; so that nowhere in the town is there a regular seed or flower shop. The largest establishments belong to M. Christian Von Brocken and one of his relations ; they are both at the gates of the town ; each gentleman has also a garden in the town, in which are the hothouses. That belonging to the former gentleman, though not of a large size, contains specimens of every branch of horticulture ; market gardening, the cultivation of green crops, of annuals, and perennial plants in large quantities, all go on there ; the nurseries contain large and small trees and shrubs ; the hothouses are managed with skill ; prices are much the same as with us. The town garden of the latter gentleman does not differ materially from the one just described ; it is not so with the exterior garden, which is of considerable size. Here I saw several acres covered with large running Kidney Beans ; half the ground is occupied with leguminous and half with root crops. Green crops are grown on a similar scale and are cared for accordingly ; so that the moment a plant is discovered to be of value, it is grown on a large scale, for the sake of its seed, which is sold at a considerable profit. This gentleman, moreover, every year sells several thousand forest trees and shrubs, the produce of his nurseries, which are well kept and enjoy a considerable reputation ; his fruit trees, on the other hand, are not, comparatively speaking, so good. *Masson's Report.*

AUTUMN AND WINTER FRUIT-BEARING TREES AND SHRUBS.

(*Continued from page 53.*)

Berberry, stoneless fruited.— This is an erect, deciduous, summer-flowering shrub, which reaches, on an average, from 6 to 12 feet in height. It is not so generally known as it deserves to be, that this plant forms a very beautiful object in early autumn, at which period it stands conspicuous amongst surrounding objects by its rich crimson-tinted fruit, which is borne in such profusion as to impart a gracefully drooping outline to the slender fruit-bearing branches. I remember seeing specimens of this Berberry at Castle Howard, 10 or 12 feet in height, which were distinguished by their elegant and picturesque effect. Apart from its ornamental character, the value of its fruit for preserves, &c., adds an additional interest to its culture. It is admirably adapted for large Grass spaces or conspicuous positions in shrubbery borders, especially when encouraged to attain its greatest elevation.

Cotoneaster microphylla (small leaved).—This is well known to be a neat decumbent evergreen shrub, of rigid yet free growth, adapting itself to almost every kind of soil and situation, and, under the plastic hand of the garden-artist, conforming itself by the pliability of its branches to almost any kind of device or outline, either with a trained erect central stem, and drooping branches around it, or clothing the surface of the ground with a dense mass of leafy shade, which in summer is relieved by white starry blossoms, and in winter by crimson berries. Wherever its roots can luxuriate in a sufficient depth of soil, whether crowning the summit of a bare rock with its mantle of green, or covering the earth as with a carpet, its verdure is alike charming through storm and sunshine. It is well adapted for training against a wall, where, with a little attention to preventing exuberant shoots from protruding beyond the rest, it yields a neater, closer, and richer unbroken surface of dense foliage than perhaps any other shrub. The deep green tint of its leaves, as contrasted with the snow-white blossoms, has not inaptly been compared to "diamonds lying on a bed of emeralds." It is also admirably adapted for permanent effect in covering blank spaces on massive rock-work, or imparting a rich winter verdure to bare slopes, or breaking the outer margin, or outline, of a formal sunk-fence or wall. A very fine specimen of this shrub exists, or did exist, at the suburban villa garden attached to the residence then occupied by Mr. Atkins (late nurseryman), near Northampton. It covered a bed nearly 50 feet in circumference.

Cotoneaster microphylla Uva Ursi (Bearberry-leaved).—A neat shrub, but more robust, and far less compact and dense in its growth than the preceding, from which it also differs in having its flowers in small clusters rather than singly, and its crimson fruit also larger. When trained erect, it will reach from 4 to 7 feet, and for wall culture, for which it is well adapted, it will exceed 10 feet.

Cotoneaster thymifolia (Thyme-leaved.)—A remarkably small, neat, and compact evergreen shrub, still more dense than C. microphylla, of which it is probably but a variety. For the front of select shrubberies, or middle positions in flower borders, and the foreground of rock-work, it is a desirable novelty, furnishing its share of interest throughout the year, but especially in winter, when adorned with its small red berries.

Ilex aquifolium fructuluteo (yellow-berried).—This is a somewhat stout evergreen shrub or small tree, of erect, branching habit, and varying, according to soil and situation, from 3 to 10 feet in height. Its profusion of clear yellow fruit, amply set off by fine green leaves presents a very picturesque object, and produces a pleasing variety among other deciduous shrubs.

Hippophäe rhamnoides, fœmina (fruit-bearing.)—A neat, deciduous, branching shrub, which grows from 4 to 10 feet in height. It has a greyish aspect, with narrow lanceolate leaves, that are succeeded by a profusion of rich orange-tinted berries, with which the branches are thickly set, presenting a pretty and novel effect, contrasting well in colour with the pearly, marble-like fruit of the Snowberry, as it appears gracefully suspended from the stems, or tipping the slender twigs like tiny snowballs balanced in air. *W. Wood, Fishergate Nurseries, York.*

Home Correspondence.

Cantua bicolor.—Having heard this plant complained of as being a shy bloomer, even so much so as to render it unworthy of cultivation, I beg to inform your readers that I have now a specimen of it in great beauty, which has been treated in the following manner. In the spring of 1850 I struck a small cutting of it, and continued growing it in the most rapid manner I could in a moist stove until the autumn of the same year, when it was gradually hardened and kept in a cold greenhouse through the winter. In spring I shifted it into an 8-inch pot, placed it in a Vinery where there was bottom-heat (the house being warmed by Polmaise improved) in which it grew rapidly until Midsummer. I then gradually inured it to the open air ; water was withheld early in autumn, and it was placed on a north border until October, after which it was put in a cold house. In the second week in January it was placed again in the Vinery, and it is now covered with flowers in every stage of development, forming a beautiful object in the conservatory. The soil which I use for it is equal parts peat, leaf-mould, and loam, with liberal drainage. *R. Pettit, Gardener to Sir H. E. Bunbury, Bart., Barton-hall, near Bury St. Edmunds.*

Silk and Silkworms—The effect of heat and cold on insects.—It is possible that "H. J. S." may, by the particular treatment he proposes to adopt, retard the development of the eggs of the silkworm ; but the experiment should have been taken in hand at an earlier period than the present. The chrysalis in the cocoon should have been subjected to treatment calculated to retard the appearance of the moth, and immediately on the production of the egg some influence, analogous to that bestowed by the wand of Comus, should have been put in force. The question as to how far we possess the power of governing, by artificial means, the duration of the inert period in the lives of insects, assumes here an interest, and thus recommends experiments tending to elucidate it. My experience leads me to believe that the development of insects may be accelerated by heat. It is very certain that insects are found in hot-houses at a much earlier period than that assigned for their appearance. The common white butterfly whose chrysalis has found shelter in a hot-house, will be found fluttering against the glass some weeks before its congeners outside have made their appearance ; I have noticed repeatedly in an early Vinery where a large body of Oak leaves are annually introduced, that myriads of minute forms of insect life are quickened into existence in the month of January. In collecting insects some years since, it was a common practice to place the chrysalis of moths or butterflies, secured during the autumn, in the fruiting Pine stove, and by so doing the perfect insect was obtained at a much earlier period in the spring. I have been induced to be more particular in mentioning these facts, as an authority in such matters, M. Straus Durckheim, once assured me that my views in this regard were totally erroneous. It was in vain that I advanced the results of my experience—the learned Professor was inflexible in his opinion that no climatic influences would either retard or accelerate the developement of insects. The foregoing instances will, I believe, justify me in asserting an opinion entirely in opposition to that advanced by the gentleman I have named ; and hence, "H. J. S." may fairly argue, that as insects may be influenced by one extreme of temperature, they may by the other. If "H. J. S." really proposes to undertake the cultivation of the silkworm on a large scale, a far better plan than the one suggested would be, to build for the reception of the silkworms a range of houses, or a large ridge and furrow glass-house, in which he might successfully cultivate Vines, the produce of which would pay a handsome interest for the sum expended ; a few Mulberry trees could be kept in the house, and managed so as to produce leaves to supply the caterpillars, until the regular crop outside could be gathered for use. I can recommend this plan with greater confidence, as I once reared a large quantity of silkworms in a late Vinery. The shade afforded by the Vines, and the temperature maintained within the house for them, seemed greatly to suit the silkworms. *W. I.*

Protection of Gooseberry and Currant Tree Buds from Birds.—Covering the trees with littering dung has been recommended for this purpose ; no doubt that may answer, but it must look unsightly in a well kept garden. The plan which I have adopted is to purchase some of the very commonest white cotton thread, which can be had very cheap at any draper's shop, and to run it all over the trees from branch to branch, making it to resemble net-work. This of course affords no real covering to the trees, but the showy entangled appearance of such a number of threads scares away all birds, until the buds are so far advanced as to be safe from their attacks ; it is generally known that they commit all the mischief they effect in one or two days, and that at a time when the buds have swelled to a certain size. I therefore never put my protecting material in operation until shortly before I expect they would commence their depredations. If it were applied much before that time, their sagacity would discover its harmless character, and its purpose would be defeated. *A Young Gardener.*

Cottage Stove.—In your number for Aug. 16, 1851, I promised that, as soon as the castings for my cottage stove had been made, and they had been fitted up and tried, an advertisement should appear in this Paper. The stove has now been fitted up and thoroughly tested, and it operates admirably. The advertisement in question will therefore be found in another column. *Wm. Griffin, Eydon, Daventry.*

Stephanotis floribunda.—The case of this plant producing fruit at "Ferriscowles" (see page 150) is not a solitary one. A fine fruit, 5½ inches long, and 7½ inches in circumference, has been perfected here within the last week. My predecessor informed me that it had been more than two years in swelling. *H. H., Haverland Hall, March 12.*

Great Men Gardeners.—I recollect sending you an account some time ago, of those who loved gardens and gardening. Fond of both myself, I am always delighted to find those who are great have the same taste. Niebuhr, when tired of politics, it will be seen from the subjoined extract from his life, just published, felt great delight in his newly-acquired garden ; and Lord Lyndhurst did not wait till he got tired of politics ; for I happen to know that he has always delighted in a garden, and in gardening. *Dodman.*—"I am glad," says Niebuhr, "we seem likely to hire the garden. I do not properly understand rightly what it is that gives me such a downright passionate longing for this garden ; it is as if I had a certainty that we should spend many happy days there with our children. Give me commissions to buy seeds for you ; with the sad state of corn cultivation, it may even become a public service to introduce the culture of vegetables, that have hitherto been neglected. One can distribute seeds ; in this way a demand for them gradually arises, and from the demand, cultivation. From next autumn we can begin to raise fruit trees ; what pleasure have I often received, when a child, from the blossoming and fruit-bearing trees in my father's garden." *Berlin, Feb.* 1825.—"Our garden occupies an old bastion and part of a curtain, so that it seems to be on a hill, and has a view of the Sieben Gebirge, and the range of the so-called Vorgebirge, and the magnificent Poppelsdorf Allée. It is full of beautiful fruit trees and Vines, which are the more valuable here, as the Grapes ripen well and early, if the season is tolerable, and the aspect favourable, and good Grapes are rarely to be had in the market. From being laid out on a bastion, the lines of division in the garden have acquired a certain peculiarity which could hardly have been obtained by art. We are about to replace dead trees by new ones, and are tranquilly planting what will take years before it will produce anything. Why have you not this heavenly spring in our garden, dear Dora?" *Bonn,* 1825.

Fumigating Plant-houses.—Experience of some three or four years' duration enables me to speak well of the plan of fumigating, recommended a short time since by Mr. Ayres. Indeed, for large houses I consider it the most efficient mode that can be adopted; but although I thus far accord my meed of praise I do not think, practically speaking, that fumigators can be so readily dispensed with as Mr. Ayres wishes us to believe; for instance, while I admit the sieve mode of fumigating to be excellent on a large scale, yet for minor purposes it is wholly impracticable; and I would advise no one to introduce it into their pits or frames of Cucumbers, Melons, &c., for if they do they will most assuredly burn (if not their fingers) their plants. I had ocular demonstration of this about two years ago, and have no hesitation in saying that I think Brown's Patent Fumigator has been sufficiently long before the public, to establish its claim to being one of the most useful contrivances a gardener can possess. As applied to gardening it may be said to be, in fact, a fumigator for the million; for, in this improving age, where are they who do not secure from harm their pit, frame, or little plant-house, and standard Roses, &c., where insect life is sure to (more or less), abound under such circumstances? This machine can be used with the most perfect safety and success, while the other contrivance cannot; by it plants can be subjected to the fumes of tobacco (aye, and Capsicum), collectively or individually, without the operator (however sensitive), suffering the least inconvenience. I consider the comparative value of the one to be equivalent to that of the other, and both to be alike indispensable. *G. Fry.*

Cockney Lunchers in Kew Gardens.—How naughty it is of you, Mr. Editor, to set your influential face against people being allowed to recruit their corporeal entities in Kew Gardens, especially as they have such an advocate on their side as the eloquent, imaginative, yet practical "Dodman," the great St. George of every dragon abuse and mismanagement. You are a bold man, doubtless, but you are tilting in the dark, for surely your scientific friend cannot be the mere champion of the bodies of the visitors to Kew. No, depend upon it, sir, he knows English peculiarities well; he knows that, with the majority of our compatriots, ideas and impressions enter the brain by the mouth, and he is desirous that our admirers of botanical wonders should make tablets of their palates. Do not be surprised, sir, if, when he fully expresses his wishes, he should propose, in addition to the already splendid accommodation existing at Kew, that the authorities shall be obliged to provide in the various compartments of the gardens certain viands that shall have some association with the character of the botanical specimens with which they are surrounded. How interesting it will be to note, as one walks through society, the lasting impressions such a wise policy has fixed:—"What a delightful excursion ours was, dear, last week, to the Botanical Gardens at Kew. Oh! that delicious cup of tea, that bird's nest, and that mysterious fricassee made me think I was in China. I am sure I shall never forget those loves of Camellias.—Ah, girls! that was nothing to the turtle soup and 'rack punch they gave us in the big house. By Jove! I shall never dine at Guildhall without looking up for those large Palm leaves, those tremendous Ferns, and superb Musas.—Governor, I was so struck with the downey way of doing the thing, that what with the kangaroo-tail soup among the Epacrises, bison-hump sandwiches, and sherry cobbler in the middle of the Rhododendrons, Azaleas, and Magnolias, when I got to the Cactus house, I bolted bang through it for fear I should be obliged to top up with a roasted porcupine, *au naturel!*"—Fie, sir! let people eat and learn. What harm can there be if folks should carry baskets into gardens that are set aside for scientific recreation and mental pleasure; and even if the contents of those baskets should excite them a little, and they peradventure should dance a lively measure upon the green sward, how delightful would the scene be to the eye of a painter or a poet! Or if the "thief in the mouth should steal away the brains" of some indulgent swain, and he, satyr-like, become somnolent beneath some sylvan specimen, how satisfactory that would be to the lover of classic lore to contemplate! No, sir; we are a free people, and must have no starving restrictions. It takes three hours to see the wonders of Kew. Three hours without meat and drink! Horrible! They do these things better in France—and at Cremorne. *Urtica.*

Polmaise Heating.—It is with pleasure we have read the letters on heating by Polmaise, or circulating the air of the house round the heated surface. We put up a greenhouse in 1849, 60 ft. long, and 20 ft. wide, with span roof, and heated it in a manner deviating very little from the old brick flue, but on the principle of Polmaise, of bringing the hot air up, while the cold air sinks and passes over the heated surface, putting all the atmosphere of the house into rapid motion. The plan is cheap, certain, and effectual, the fuel used is of the cheapest description or refuse from the hot-water boilers; this house is now full of Roses coming into bloom, and in vigorous health. *H. Lane and Son, Great Berkhamstead.*

——It is no uncommon thing when a question is put to a Scotchman, for him to answer it by asking another. It has been asked, is the Polmaise system of heating dead or dying? Would there be any harm in asking the questions—Is the law of gravitation dead or dying? Is the law of Mariotte dead or dying, that tells us that the density of an elastic fluid is directly proportional to the pressure it sustains? Is there any indication of the sun cooling the air at the equator, and warming it at the poles to grow Palms and Pine Apples? When such things happen, it will be time enough to place Polmaise heating upon the sick list. Currents in the atmosphere, conveying the air with more or less velocity from one part to another, are of great service to the world. We are also informed that the principal cause of those currents of air to which we give the name of winds, is the disturbance of the equilibrium of the atmosphere by the unequal distribution of heat. The general tendency in such circumstances is for the heavier columns to displace the lighter, and for the air at the surface to move from the poles towards the equator. The only supply for the air thus constantly abstracted from the higher latitudes, must be produced by a counter-current in the upper regions of the atmosphere, carrying back the air from the equator towards the poles. The quantity of air transported by these opposite currents is so nearly equal, that the average weight of the air as measured by the barometer is the same in all parts of the earth. I would now ask those who understand the system, is there any mode of heating buildings or houses for plants that approaches so near the natural system of heating the world as Polmaise? It would be honest if the opponents of the system would point it out. If they would stand fire, we would give them specimens of nearly all the local winds of the world, such as Sirocco, which is hot, moist, and relaxing, or the hot and arid Simoom of Arabia, or the Kamsin of Egypt, or the Harmattan of Guinea, down to the gentle breeze. Or if they would stand smoke better than hot air, we would instantly turn the system into a first-rate fumigator—anything to please or convince them. If they would remain in the house, they would have the satisfaction of being clothed with one dense cloud of tobacco smoke, while the operator would scarcely ever get a smell of it. If any doubter or green-fly escaped with their lives, they would remember the Polmaise system of heating and fumigating to their dying day. *Peter Mackenzie, West Plean, Stirling.*

Rain.—The following amount has fallen at Bognor during the last seven years:—

	1845.	1846.	1847.	1848.	1849.	1850.	1851.
	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.
January ...	2.54	3.92	1.73	2.10	2.11	1.67	3.42
February ...	2.02	1.68	1.85	4.21	2.79	1.55	0.75
March ...	0.89	2.57	1.04	3.42	0.48	1.47	3.62
April	1.32	2.06	1.04	3.29	3.20	3.17	1.88
May	3.21	1.84	2.10	0.22	2.80	2.49	0.83
June	1.12	1.01	1.34	4.25	1.35	2.05	1.25
July	2.19	1.79	0.77	3.19	1.74	2.32	3.02
August ...	2.54	4.48	1.37	4.53	0.31	2.94	1.32
September ...	2.63	3.06	1.32	2.10	2.94	2.52	0.04
October ...	2.41	6.31	2.37	4.59	3.49	1.93	3.86
November ...	3.43	2.12	1.57	1.65	1.29	3.52	1.03
December ...	2.90	1.80	3.88	3.73	2.90	2.10	0.70
	27.20	32.64	20.38	37.20	25.31	27.73	21.72

It is perhaps worthy of mention that this place is within 250 yards of the sea, and that this part of Sussex is very level, being about 10 miles from the Downs. *James Graham, Bersted Lodge, Bognor.*

Press for Drying Plants.—A friend informs me that in the last number of the *Chronicle*, which I have not yet seen, credit is given to me for a contrivance for drying plants, which was described in the "Botanical Gazette." I hasten to rectify the oversight, and to refer you to the article in the "Botanical Gazette," which you will see was from my valued correspondent, T. Twining, jun., Esq., of Twickenham. *Arthur Henfrey.*

Acacia dealbata and other Spring-flowering Plants.—Having seen, at p. 133, a notice of Acacia dealbata growing against a wall at Enfield, I am induced to mention one in my own garden, which was planted about 20 years since, away from any wall; a severe winter, a few seasons after it was put out, cut down the main stem, which induced it to send up three strong shoots from the ground, and which now form the tree (if tree it may be called); each of these shoots is about 23 feet high, and very elegantly grown. Should a little genial weather succeed the present cold it will be a picture in a few days. On the south-west side of the Acacia stands a plant of Lucombe Oak, which takes away some mid-day sun from it. I can recommend Narcissus (Corbularia) tenuifolius as an early and very hardy spring flower, and one which deserves to be better known and more cultivated. It succeeds the yellow Crocus, is more hardy, and like it is well fitted for edgings of borders. These bulbs are now beautifully in flower here. In another part of my garden I have a Cyclamen, obtained by a friend from the borders of the lake of Como. I planted it out last year; it flowered in autumn, and yesterday I observed a flower-stalk apparently making an effort to form its seed-vessel. The flower is slightly scented, and it will be a valuable addition to our list of hardy Cyclamens, should further experience confirm the character I have given of it. I conceive it to be C. littorale, of the Bot. Register. C. repandum is growing near it in the open air; and though it has stood the winter, it does not appear quite so hardy as C. littorale. *John Young, Elm Cottage, Taunton, Somerset.*

The Osage Orange a Hedge Plant.—I was not aware until lately that this (Maclura aurantiaca) was hardy in England. The following is a description of the plant, written by Professor Turner, of Jacksonville, Illinois, from which it would appear that it is the very *beau idéal* of a hedge plant. "The Osage Orange, the favourite hedge-plant of the United States, has already become too well known to need any particular description. It grows in the wilds of North America, in regions further north than New York, and further south than the Carolinas. It is usually 10 to 15 feet in height, although, like the English Thorn, it is said sometimes to attain, in its native soil, a height of 50 and 60 feet. Its utility, as a hedge-plant, is no longer an experiment. Hedges of the rarest beauty and excellence have been growing in Boston, Philadelphia, and Cincinnati, in Kentucky, Tennessee, and Northern Missouri; and, in short, in all the middle and southern states. Some of these hedges have been standing for 10 or 12 years; they were planted by gentlemen of wealth and taste around their favourite walks and grounds, at a time when the plants sold at the rate of 50 dollars per thousand. Among all who have written on the subject, no unfavourable account has ever come to my knowledge. The plant and the hedge are universally admired and commended; and it is confidently believed by the best judges that it will double the real value of any farm it surrounds. But the community must first learn that there is as much difference in the quality and comparative value of hedges, and hedge-plants, as in houses, or dry goods, or anything else on sale. Recent writers thus enumerate its many advantages: 1st. Its tenacity of life is scarcely equalled. It is a native of the prairies, and will grow on any soil where common prairie Grass will grow. Overflowing the land does not harm it; it will live for weeks and months entirely under water. The dead wood is exceedingly hard and durable, and fresh shoots from the stump soon supply the place of all which have been killed by fire or cutting. 2d. Its protection is perfect. It is armed with a very stout sharp thorn under each leaf. Its iron branches soon become so interlocked that no domestic animal, and not even a common bird, can pass through it; both its thorns and its bitter acrid juice prevent all animals and insects from feeding on its branches. Its seed is like the Orange, and its roots like the Hickory; consequently it can never spread into the field, either from the seed or from the root, but keeps its own place, growing stronger and thicker, year by year. It thus perfectly secures orchards, fruit-yards, stables, sheep-folds, and pasture grounds, from all thieves, dogs, wolves, &c.; and one good gate, well locked, makes a whole farm secure from all intruders of whatever description. 3d. Its beauty is unrivalled. Its dense mass of dark green leaves, its flowers in spring, and, above all, its golden Orange fruit, make the hedge the most beautiful we ever beheld." *Thomas Lang, Kilmarnock.* [It neither flowers nor fruits in countries with so cold a summer as Great Britain. But it is quite hardy.]

The Seed Trade.—In South Wales the principal retail seed business is in the hands of druggists, who get their seeds from two highly respectable houses in London, and after paying carriage into the Principality, and allowing 30 per cent. profit, they are able to sell at the following prices, which are lower by about one-half than what London retail seedsmen charge:—the different varieties of Peas are 6*d.* per quart; Beans, 4*d.* per quart; Broccoli, 3*d.* per oz.; Cabbages, 3*d.* do.; Lettuces, 3*d.* do.; Onions, 3*d.* do.; Cauliflowers, 6*d.* do. Radishes, 4*d.* per pint; Carrots, 6*d.* per lb.; and all other vegetable seeds are similarly low. I, as well as my neighbours who have purchased seeds at these shops, have found them to produce good crops and to be true to name. How are these facts to be accounted for? *Henry Bundy, Dynevor Castle, Llandilo.*

Societies.

HORTICULTURAL, *March* 16.—Sir CHARLES LEMON, Bart., M.P., in the chair. W. Hunt, Esq., was elected a Fellow.—Among subjects of exhibition Mr. Meredith, gr. to the Duke of Sutherland, at Cleifden, sent some admirable specimens of Begonia manicata, and a hybrid raised between that sort and hydrocotylifolia. It had the general aspect of hydrocotylifolia, but added the constitutional vigour and some other peculiarities belonging to manicata; while altogether it was a more desirable plant than either of its parents. A Banksian Medal was awarded it. The same exhibitor also furnished a bouquet, with a view to illustrate a good mode of packing such things for travelling. Two parallel lines of string, about an inch apart, were fastened between the four opposite sides of a square wooden box so as to intersect each other in the middle; but at different levels. The shank of the bouquet was then passed down where the lines intersect, embedded up to the flowers in damp moss, and tied firmly to the bottom of the box. In this way the bouquet is kept fast in one position and travels safely We must add that the interest of such exhibitions as this would be greatly enhanced if they were accompanied by written explanatory memoranda. We think indeed that in the absence of such memoranda they should not receive prizes.—Messrs. Henderson, of Pine-apple-place, sent Epacris hyacinthiflora candidissima; a curious little deep yellow-flowered Acacia called squamata, with needle-like processes in the place of leaves; four plants of the Cape Lachenalia luteola; and a good specimen of Dielytra spectabilis, whose flowers were, however, somewhat deficient in colour, owing to their having been produced in too much heat. A Certificate of Merit was awarded it. —Messrs. Jackson, of Kingston, sent two Seedling Camellias named Duchess of Buccleuch, and Martinii. The latter is a promising deep crimson-flowered kind, with a white stripe down the centre of each petal.—From Ealing-park, Mrs. Lawrence sent a fine example of the Hong Kong Enkianthus reticulatus, the charming

Boronia triphylla covered with pink starry flowers, the white Eriostemon scabrum, Styphelia tubiflora, Lycaste Skinneri, the long-tailed Lady's Slipper (Cypripedium caudatum), and cut flower spikes of Amherstia nobilis. It was mentioned that at Ealing-park the Amherstia is now as large as a good sized Apple tree; that it has been in flower ever since Christmas; that nearly 170 spikes of lovely inflorescence have been cut from it; and that about as many more yet remain on the tree. A Certificate of Merit was awarded for the Cypripedium, and a Banksian medal for the stove and greenhouse plants.—An example of the Sikkim Rhododendron ciliatum, of which a good specimen was shown at the last meeting by Messrs. Standish and Noble, was furnished by Sir Joseph Paxton, from Chatsworth. On this occasion it was as colourless as the white Indian Azalea; but whether this was constitutional, or merely the effect of circumstances, could not in the present instance, be clearly determined upon. — Mr. Ingram, gr. to her Majesty at Frogmore, sent a pretty Epacris, a seedling from miniata, and a Cayenne Pine Apple, weighing 7 lbs. 2 oz. A Banksian Medal was awarded for the latter.—From Mr. Tillery, gr. to the Duke of Portland, at Welbeck, came ripe fruits of the Japan Medlar (Eriobotrya japonica), for which a Certificate of Merit was awarded. They were the produce of a tree which fills an entire house at Welbeck, and from which three or four dishes were stated to have been gathered weekly for these last six weeks, and a considerable quantity is said still to remain on the tree. They are much esteemed at Welbeck for dessert.—From the Society's garden came a pretty pink Azalea sent from China by Mr. Fortune; Rhododendron Nilagiricum, an exceedingly handsome bright rose coloured kind; Forsythia viridissima; the New Holland Dendrobium Kingianum; the little green flowered Clematis pedicellata; and some other plants, together with cuttings of the following fruit trees—viz. Jersey Gratioli, a rich melting Pear which ripens in October; March Bergamot, one of our best late Pears; Cerise de Spa, a new variety that has not yet fruited in the garden, but which is described as being first rate, ripening in July; and Millfield Apple, apparently a new kind, which was stated to have been received by the Society from Messrs. Young, of Epsom; it is roundish or somewhat Pearmain-shaped, with a rich yellowish flesh. It is in perfection in December and January.

Books, &c., Received.

The Book of the Garden. By C. McIntosh. 8vo. Blackwood.—We learn from the prospectus that the object of this book is to exhibit all that is known at the present day on the subject of gardening; as well as the results of the author's long experience and original views. The work is to consist of two divisions,—the first architectural and ornamental, in which gardening will be treated as an art of design and taste; the second, practical, which will be devoted to the theory and practice of gardening in relation to culture and management. The first division will include instructions for the formation and arrangement of gardens; plans and designs for the erection of conservatories, greenhouses, &c.; the principles of heating and ventilation; the laying out of flower gardens, geometrical, picturesque, and gardenesque. This division is to be illustrated by upwards of 1000 engravings on copper and on wood. In the second division, the theory and practice of horticulture will be treated under the four seasons—namely, winter, spring, summer, and autumn. The work will be issued in five-shilling parts, monthly; and will form, when complete, two large volumes in royal octavo. It would be premature to criticise such a work in its infancy. We shall therefore only observe that if the continuation is equal to the commencement, Mr. McIntosh's work will be a valuable epitome of modern gardening knowledge. We shall notice it formally when it has made more progress.

Pauperism and Poor-laws. By R. Pashley, Q.C. 8vo. Longmans. pp. 428. — Just now we can only notice the appearance of this most able work, to which we shall return hereafter. There is not a country gentleman, or political economist, who ought not to make himself acquainted with the important facts which Mr. Pashley's unrivalled acquaintance with parochial law has enabled him to lay before the public with a master's hand.

The Flax Industry, its Importance and Progress, &c. By E. F. Deman. 8vo. Ridgway. pp. 178.—A desultory treatise on a subject of very great present interest. The author is a practical man; if he tells his experience without much method, he does so freely and unreservedly. It is a useful addition to the treatises on Flax cultivation and dressing.

No. I. Readable Books. Tales of Mystery, Imagination, and Humour. By E. A. Poe. 12mo. pp. 256. Vizetelly.—Another series of railway readings is here commenced with some strange and startling stories, illustrated with a great many clever wood-cuts.

Humboldt's Cosmos. Vol. III., Part 2. Col. Sabine's Translation. Longman and Murray.—With this third volume of Humboldt's important work, the Uranological portion of the great author's plan is completed; to be followed, we presume, by the geological division of the subject.

Life Assurance; its Schemes, its Difficulties, and its Abuses. Pateman. 8vo. — A pamphlet. Evidently written by one conversant with the subject. The object of the author is to guard the public against certain modern life assurance offices and their delusive projects.

Garden Memoranda.

Messrs. Fairbairn's Nursery, Clapham.—Since we last visited this establishment an addition has been made to the glass houses, in the shape of a three-quarter span-roofed house 100 feet long. It is divided into stove, intermediate-house, and greenhouse. The stove is warmed by hot-water in 4-inch pipes, three of which heat a propagating bed in front, while one passes along the back. As regards the bed just mentioned, it is formed above a hollow chamber in which the pipes are laid, apertures being left along the front wall for the escape of heat from the chamber into the house. The pipes are furnished with zinc saddles, which are filled with water by means of small leaden tubes passed down through the plunging bed. In this way a warm moist bottom heat is maintained, which greatly assists the speedy rooting of cuttings. Indeed, so quickly is this process effected, that in a short narrow bed, just within the front wall of this division, sufficient bedding plants can be struck in two or three weeks to stock large establishments. From a few Verbenas, in store pots, on a shelf across the end of the house, many hundreds of young plants have already been produced. As soon as they are rooted they are hardened off and removed to cooler quarters. The bed in the centre of the house is filled with tan, and forms an excellent place to start and grow many kinds of plants in that like heat. Gardenia Fortuni was growing here with a vigour which it seldom exhibits. Allamandas of several sorts, which had been pruned hard in, cleaned, and re-trained, were just beginning to push. The charming Hoya bella and H. campanulata were both in excellent condition, as were also the sweet smelling Stephanotis floribunda, and Rhynchospermum jasminoides. The latter was beautifully in blossom. Although it will succeed in a greenhouse, it appears to enjoy a little more warmth than that structure usually affords. In the intermediate house were Boronias, Croweas, Azaleas, Pleromas, and plants of that character, which thrive all the better for a little heat at this season of the year. In the cool compartment were several nice plants of Dielytra spectabilis, which are so handsome in early spring, provided they are not forced, which impairs very much the brilliancy of their flowers. The best plan is to take up a few strong plants from the open border, pot them and place them in a cool frame or house, where they will soon show for blossom, when they may be removed to the conservatory or greenhouse, or wherever they are wanted. After they have done flowering, they may be returned to the open border. In the propagating house was a fine frame full of young Camellias, which had been grafted last October on stocks of the Middlemiss and single red. Not one of them had missed; they have already made young shoots more than an inch in length. One of the greenhouses contained a fine plant of the beautiful Ash-leaved Berberis nepalensis which has lately been flowering so well in the Horticultural Society's Garden at Chiswick. It is certainly a very fine thing, which, we trust, will prove sufficiently hardy for the open garden. It must, however, be planted in a sheltered situation, or the wind will be apt to break or otherwise injure its beautiful foliage. The fine Heaths for which this nursery is celebrated are in excellent condition; but at this early season few of them are in flower. Vernex coccinea is, however, already covered with blossoms, which looked like so many shining, bright orange-coloured berries. The ever-flowering mutabilis, regerminans, and spring gracilis were also in bloom. The open borders were gay with Crocuses, red and blue Hepaticas, and the pretty hardy Heath herbacea carnea. The latter is stated to have been in flower for more than a month past.

FLORICULTURE.

The Pelargonium.—We have been favoured with a copy of Mr. Dobson's excellent pamphlet on the cultivation of this flower. It proves, as we expected it would, one of the best guides which can possibly be put into the hands of a beginner. To general directions, given in a concise, straightforward, and practical manner, it adds a calendar of operations suited for every month in the year. Such treatises from persons qualified to teach, cannot fail to effect much good; and that Mr. Dobson is capable of giving sound instructions no one who has had the good fortune to see his plants at our great metropolitan exhibitions will for a moment doubt. He has long been a very successful exhibitor, and therefore all who wish to grow the Pelargonium well, either for show or for the home stage, cannot do better than follow his directions. The following paragraph relating to the treatment of specimen plants for March, will give some idea of the way in which the different subjects are treated: "All plants that are intended to flower in July will require stopping back the second week in this month. Keep the house rather close for a few days; this will help them to push forth their eyes. When their eyes are prominent, give air at all opportunities, by opening early in the morning, and shutting up early in the afternoon—say 3 or 4 o'clock, according to circumstances; carefully avoiding all easterly winds. Draw the syringe over the plants once or twice a week after shutting up, with plenty of sunlight and warmth. The May plants will be fast showing their trusses. In watering, give sufficient to moisten the whole ball of earth." As regards liquid manure Mr. Dobson says:—"Begin in February to water with weak manure water once or twice a week; one peck of sheep, and half a peck of cow-dung, to about 25 or 30 gallons of water, is the only stimulant I use." In order to make this intelligible, however, it will be necessary to state the kind of soil Mr. Dobson employs, which is the top spit full of fibre off a meadow, mixed with one-third green stable dung thoroughly incorporated and laid up in a heap for about two years, and well chopped over during winter. When ready for use he says, before potting, "mix up with the loam four shovels of rotten cow-dung, the older the better, to one barrowful of mould; to this add an 8-inch potful of silver sand." Such is the kind of material out of which Mr. Dobson rears the lovely masses of floral beauty, which are annually so much admired at our great flower shows; but soil, we need hardly say, is not the only thing that it is necessary to attend to, in order to have fine Pelargoniums. There are many other items that it is equally essential the grower should be acquainted with; but for the acquisition of these, we must refer him to the book itself. *J. E.*

National Floricultural Society.—Since our notice at p. 727, 1851, first class Certificates have been awarded to Hollyhocks—Pourpre de Tyre, Safranot, Pillar of Beauty, Triumphant, and Model of Perfection. To Dahlias—Miss Ward and Morning Star. To a pretty Statice, apparently a cross between imbricata and macrophylla. Certificates of Merit to Hollyhock Penelope; to Dahlias—Una, Sir F. Thesiger, and Bob; to Chrysanthemum Versailles Defiance. Labels of commendation to Pentstemon variabilis, and to Cyclamen persicum rubrum. *J. E.*

Hardiness of the Cineraria.—Having read the paper of one of your contributors at p. 39, respecting the hardiness of the Cineraria, I was unfortunately induced, on the 3d inst., to place the greater portion of my stock of these charming plants (about three dozen) in a brick pit, as I required their room in the greenhouse, where they had been wintered; and although matted up, they have been touched by the late severe frosts, and I have lost all of them. I write this that your readers may not have to regret following the advice of your correspondent. *W. G., Stoke Newington, March 13.*

Bedding Plants: *J A H.* With over *rich* treatment they cannot be expected to flower well, therefore shape your practice accordingly. *J. E*

Catalogues received from Mr. T. Barnes, Dancroft Nursery, Stowmarket, Suffolk; Messrs. John Edmondson and Co., 61, Dame-street, Dublin; Messrs. Hart and Nicklin, Guildford. *J. E.*

Cinerarias: *W P, Witham.* 1 is a bold flower, but it will not do; its faults are—ribby petals, with an indentation at the tip of each; disk flat: 2, 3, and 4 all bad: the pip not numbered possesses a thoroughly perfect disk; the style of the flower is altogether pretty, but nothing more.—*S R J, Leamington.* Too small, and, as received, reflexed beyond toleration. *J. E.*

Dahlias: *J C, Waterford.* Add, Una, white; Bob, Sir R. Peel, and Scarlet King, scarlet; Sir F. Thesiger, lilac; Dr. Frampton, Douglas Jerrold, Mrs. Hansard, Laura Lavington, and Nancy, tipped; Alice, rose; Triumphant and Sir R. Whittington, dark. At page 119 of this year's volume you will find a digest of last season's observations. *J E.*

Fuchsias: *K.* Dark—Champion of England, Diadem, Voltigeur; Light—Hebe, Prince Arthur, Sedonia, or Expansion. *J. E.*

Pansy Bloom: *J G.* Colour deep yellow ground, with rich broad bronzy maroon lacing, very uniform on lower and side petals; eye solid, dense, and well displayed in lower and side petals; upper petals of same shade as lacing; edges smooth, substance commendable; side petals meet admirably in the centre. The only defect observable is, that the surface of the ground colour of the lower petal might be smoother; on the whole, it is a flower of superlative merit. *J. E.*

Polyanthus: *W D, Ross.* A small flower, wanting circular ground colour; otherwise of average merit. *J. E.*

Schedule received of the Whitehaven and West Cumberland Society, established 1830. Show days July 9 and Sept. 17. *J. E.*

Misc: *Brighton.* By post, as requested. *J. E.*

Miscellaneous.

Skimmia japonica.—At vol. ii., No. 318, fig. 163, we referred to this plant, as a synonyme, the Limonia Laureola of Wallich, the materials at our disposal not enabling us to point out any difference. We have since been supplied with further information by Messrs. Standish and Noble, who have fruited the Skimmia japonica in abundance, and we are now satisfied that the two plants are distinct. The following letter from Mr. Standish includes the main points of difference:—"At your request, I have much pleasure in sending two or three seeds of Skimmia japonica. They have been gathered and put in sand more than a month—therefore are almost spoiled for your purpose. When perfect, they contain two seeds, but never more. Amongst the quantity that we have pulled to pieces for sowing, about one third contained two seeds—the rest only one. The whole of the berries were oval in shape. Enclosed is a leaf of our plant, and one from Mr. Luscombe's plant (Limonia Laureola). If you bruise the two you will find a great difference in the scent. Ours flowers at two inches high, and fruits at six inches; the other, although a very large plant, has never flowered out or fruited. M. Van Geert, of Belgium, tells me that he has had Limonia Laurcola many years—is quite satisfied it is not the same as ours; and, although his plant is three feet in height, and every year has all the appearance of coming into bloom, yet never comes. Many persons are selling Limonia Laureola for Skimmia japonica, and the public will be very much disappointed when they come to see the two plants, therefore I think they ought to be made acquainted with these facts. Every one who has seen Skimmia japonica in fruit has been charmed with it. We find it perfectly hardy; and, whether looking at it as an evergreen, or its very sweet-scented flowers or fruit, it is a very fine pla.'

These statements we can quite confirm; for, although both have sweet-scented leaves, yet Limonia Laureola is by no means so sweet as Skimmia japonica. The form of the leaves, too, is different—in the former flat and nearly acute—in the other more lanceolate, rather wavy, and acuminate. We must, however, add that the statement of the authors of the "Flora Japonica," that the seeds of the Skimmia japonica have no albumen, is undoubtedly a mistake. We find in Mr. Standish's perfectly ripe seeds, a large greenish embryo, with a thick layer of white albumen between it and the skin. In this respect then, the two plants are alike, and the supposed difference, of albumen in Limonia Laureola, and none in Skimmia japonica, falls to the ground. To prevent further error, we put the distinctions of the two species into the following technical form:—1. S. japonica (Thunberg, and our fig. 163); foliis lanceolatis acuminatis undulatis pyri oleutibus. 2. S. Laureola (*alias* Limonia Laureola Wallich); foliis oblongis acutis planis rutæ olentibus. The scent of the leaves of the first seems to us to resemble ripe Apples, of the latter a mixture of Rue and Fraxinella. *Paxton's Flower Garden.*

Irish Natural History.—We understand that one of the last acts of Lord Clarendon's Viceroyalty was to give a number of copies of Dr. Harvey's admirable "Sea-side Manual," as prizes to the students of the Dublin School of Design. We wish we could more often record similar instances of a just appreciation of the manner in which natural history may be made conducive to the purposes of general education.

Sale of Prof. Dunbar's Plants.—The sale of the greenhouse plants which belonged to the late Professor Dunbar took place at Rosepark, Trinity, on the 10th inst. The following are a few of the prices of the principal lots:—1 Rhododendron robustum, 4*l.* 10*s.*; 1 do. arboreum album, 5*l.* 15*s.*; 1 do. cinnamomeum—a very fine plant, 5*l.* 10*s.* The Camellias, of which there was a great number, sold on the whole at good prices. The large double white, to remove which it will be necessary to take down one end of the greenhouse, sold for the low sum of 23*l.* 2*s.*, owing to a doubt as to the possibility of moving it without serious injury, as it was thought to be deeply rooted through the tub into the border. This specimen is 14 feet in diameter, and 16 feet in height, but is not altogether of even growth. The next lot, Camellia imbricata, 8 feet in diameter, 14 in height, realised 20*l.*—this plant in a tub. Another specimen of the double white, 12 feet high, and 12 in diameter, sold for 5*l.* The largest Araucaria imbricata produced 11*l.* The Deodar, 20 feet high, one of the finest specimens in Scotland, sold for 6*l.* *Abridged from the North British Agriculturist.*

Sale of Orchids.—A collection of established plants was sold the other day by Mr. Stevens, at the following prices:—A fine plant of Lælia superbiens, in flower, fetched 17*l.* 17*s.*; L. cinnabarina, with 8 flower spikes, 3*l.*; a large Cattleya Skinneri, 15*l.* 15*s.*; Cœlogyne Lowii, 12*l.*; the beautiful Cattleya Aclandiæ, 9*l.* 10*s.*; C. marginata, ditto; C. candida, 8*l.*; a fine Aerides Brookii, 9*l.*; Vanda teres, 7*l.* 10*s.*; Dendrobium formosum, 5*l.* 5*s.*; Camarotis purpurea, 4*l.* 10*s.*; Oncidium Lanceanum, 4*l.*; Phaius albus, 3*l.* 15*s.*; Chysis bractescens, 4*l.* 15*s.*; and Saccolabium guttatum, ditto. Others fetched from 1*l.* 10*s.* to 3*l.* per lot.

Calendar of Operations.

(For the ensuing week.)

PLANT-HOUSES.

THE regulation of conservatory climbers, as well as those in other houses, will, at this season, demand attention; whatever form of training is adopted, there is no need of confining them to a stiff formal arrangement; whether the plants are in pots, or trained under the roof of the house, these plants should be managed so as to show their natural habits; therefore, in training, allow them (within certain limits) to assume a graceful (because natural) habit of growth. After training the main shoots in the most desired position for effect, the lateral shoots may be allowed to grow in a certain degree of wildness, which will be found more satisfactory to the eye of taste; and at the same time will be equally favourable for the display of bloom. While English gardeners can beat the world in culture, there is still a deal which might be usefully copied in the artistic arrangement of continental plant-houses. So soon as the different kinds of Achimenes placed in heat show indications of growth, proceed with potting the number you require (to make a succession of bloom, this may be done at twice). As this class show better when in considerable masses, place 8 or 10 tubers either in shallow pots or in pans, now made on purpose for these and similar growing plants. The soil must be light and porous, consisting chiefly of decayed leaves, sand, and turfy peat. They will require to be grown in a warm, moist house, or close pit; and as they advance in growth should be neatly staked out. Gloxinias and Gesneras should have much the same treatment and compost. The tuberous-rooted kinds should be potted singly, and slightly elevated above the soil, first shaking them completely from the old soil; while the scaly-rooted Gesneras and Gloxinia fimbriata, and some others, should be placed an inch below. These latter kinds may either be treated as single specimens or planted two or three in each pot.

FORCING DEPARTMENT.

VINERIES.—The present dry weather, and consequent dryness of the materials, should be taken advantage of. Where new Vinery borders are required, after considerable experience, we advise them to be made with but a few simple ingredients, rather more than half of which should consist of rich, half rotten turf, mixed with about equal parts of well decomposed yard manure, and the sweepings of towns (where such can be had), or as a substitute the scrapings from turnpike roads; both these latter contain a portion of finely broken down stone in the shape of grit, and will be found of great use when mixed with the manure, in keeping the border in an open healthy state for many years; these materials should be well mixed, and placed about 30 inches deep on a well drained bottom; or, which will be better, on rough flag stones left hollow underneath. Some difficulty will be experienced, during these cold winds, in managing the admission of air, as its direct action on the young leaves of the Vine is injurious. A width of Nottingham netting placed over the sliding sashes will do much in breaking the current of cold air, and preserve a more regular temperature in the house. Maintain in each department a uniform treatment according to the different stages of each crop. Keep up in all cases (except when the plants are in bloom) a moderate amount of moisture, rendered more necessary now by the dryness of the external air. Proceed with the disbudding, and subsequent stopping, and tying in, the shoots of Vines now breaking. In training, allow shoots sufficient for their leaves to occupy the greater part of the space under the glass, unless where plants are grown underneath, when a clear space should be left up each light.

PEACH-HOUSE: Tie in the young wood when of sufficient length, so as to ensure its equal distribution over all parts of the tree; on no account leave it too thick, but allow sufficient room, that the leaves may enjoy their full share of light. Nothing can be more injudicious than crowding the tree with wood in the summer, only for the purpose of cutting it away at pruning time; if properly managed now, no more wood should be left than what will be required for the next season's crop. As the first house will soon be stoning, guard against sudden variations of temperature; syringe frequently, to keep down red spider, and attack green fly with tobacco, directly it is noticed: night temperature 55°, with an advance to 75° on bright days. Bring on the succession houses gradually; pay the same attention to the thinning and disbudding as advised for the early house; the inside borders should now have frequent waterings, occasionally (especially if the trees are weak) with manure water. Cucumbers and Melons will require daily looking to; the thinning of the Vines should at all times be done very gradually, that the plants may not experience the check they always do, when deprived of a large number of shoots and leaves at one time. Impregnate the female blooms as they open, and allow no extra male flowers to expand; water as required, always minding it is of the same temperature as the pit or house. At this early season do not allow too many fruit to swell off on Cucumbers; at the same time keep up both top and bottom heat, as near as possible to our former directions.

FLOWER GARDEN AND SHRUBBERY.

As the kinds of plants intended to occupy the beds of the flower garden were, as a matter of course, decided on last autumn, a general looking over of the wintered stock should now take place, to ascertain the number in hand for the purpose; and at the same time making allowance for extras, which, in one way or other, are always wanted. So many of each of the leading kinds of bedding-out plants are now brought under notice, that it requires some skill in calling over the lists, for the purpose of selecting such as are really useful for the purpose. In Scarlet Geraniums, none are better for grouping than Collins's Dwarf or Frogmore Improved, and the Trentham Scarlet for dwarf beds; Commander-in-Chief, Punch, and Shrubland Superb, are stronger growing kinds; for baskets or vases, Tom Thumb is still the best, unless Conway's King of Nepal turns out superior. In pink and salmon-coloured varieties, Cerise Unique, Beauty of the Parterre, Judy, Pet Superb, and the old Zonale, are all desirable kinds. In variegated-leaved ones, Mangles's Silver will generally find a place for the present; Golden Chain, Dandy, and Lady Plymouth, are good for small beds or for edging to other kinds; Bridal Bouquet, when more common, will be an improvement in this class: both this and Mountain of Light should be tried this season, to test their properties for bedding purposes. Among the older kinds of common Geraniums, Unique (crimson), Lady Mary Fox, Nutans, Quercifolium superbum, Diadem, Addisonii, Sidonia, Lord of the Isles (Tillans), Rouge et Noir, will be found the most useful.

FLORISTS' FLOWERS.

Tulips are looking well everywhere, at least our correspondents are unanimous in their reports in this respect. Those who have not previously covered their beds with a net or lace should do so immediately; we may soon have hail storms, against which we are sure they will require protection. Ranunculuses: Plant without delay, as previously advised, every day deferred will seriously affect them. Plant Carnations and Picotees in the blooming pots forthwith, and recollect that they are set firmly. Cover the surface of the soil with oyster shells, this will prevent excessive evaporation, and at the same time will allow the plants to be watered without the disarrangement of the soil. Give Auriculas more water, and abundance of air in fine weather. Prepare the ground for Dahlias, by well manuring and deep digging. Pot off the cuttings which are in heat as they root.

KITCHEN GARDEN.

For several years the land has not been in so favourable a state for cropping as at the present time, and every operation connected with sowing the summer crops, and preparing ground for future ones, should be forwarded. Several of the early-sown crops, as Radishes, Carrots, &c., will now be above ground; they will therefore require the litter or spray, with which the beds have been covered, to be removed by day and re-covered each night. Beds sown with Cauliflowers, &c., should likewise be protected with some similar covering, to break the effects of cutting winds. Set traps for mice, often troublesome to early-sown Peas and Beans, and draw a ridge of earth to the windward of such as are above ground; a line of summer Spinach may be introduced between the rows of Peas at each sowing; as this crop, during the summer, only lasts a short time fit for use, a fresh sowing should be made once a fortnight, to keep up a continuous supply. Hoe and clean winter Spinach and Parsley, and encourage their growth by a dressing of soot the first rainy day. In some situations, where the soil is light, the last crop of Seakale may be covered with a ridge of earth, broken fine before putting on; the crowns should be covered 12 or 15 inches deep, and the ridge should extend 12 inches on each side the crowns. When the soil is heavy, coal-ashes or dry sand may be used for the above purpose. Potatoes in frames will require a good watering or two; and afterwards may have a slight layer of soil placed between the rows; give liberal portions of air by day, and see they are properly secured from frost by proper coverings at night.

State of the Weather near London, for the week ending March 18, 1852, as observed at the Horticultural Gardens, Chiswick.

March.	Moon's Age.	Barometer.		Temperature. Of the Air.			Of the Earth.		Wind.	Rain.
		Max.	Min.	Max.	Min.	Mean	1 foot deep.	2 feet deep.		
Friday.. 12	7	30.382	30.316	49	25	37.0	38½	38	N.E	.00
Satur.. 13	21	30.428	30.371	48	26	37.0	38	38	E.	.00
Sunday . 14	22	30.422	30.386	48	25	36.5	38	38	N.E.	.00
Monday 15	23	30.427	30.415	46	32	39.0	38½	38	N.E.	.06
Tues. .. 16	24	30.402	30.348	48	35	41.5	39	38	N.E.	.01
Wed. .. 17	25	30.333	30.299	48	31	39.5	40	39	N.E.	.00
Thurs... 18	26	30.262	30.182	44	31	37.5	40	39	N.E.	.09
Average ...		30.379	30.331	47.3	29.3	38.3	38 8	38.3		.01

March 12—Overcast; cloudy; clear and frosty at night.
— 13—Flying haze; cold and dry; clear and frosty.
— 14—Overcast and cold; uniformly overcast; frosty.
— 15—Foggy; dusky haze; densely overcast.
— 16—Cloudy; with slight drizzle; cloudy; densely overcast.
— 17—Overcast; cloudy and cold; clear at night.
— 18—Uniformly overcast; cloudy and cold.
Mean temperature of the week, 4½ deg. below the average.

State of the Weather at Chiswick, during the last 26 years, for the ensuing week, ending March 27, 1852.

March.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 21	51.8	35.3	43.5	12	0.21 in.	6	1	—	2	3	6	5	2
Mon 22	50.9	36.5	43.7	12	0.44	4	1	3	1	6	6	4	1
Tues. 23	50.3	35.6	42 9	13	0.60	5	3	2	1	4	7	3	1
Wed. 24	49.7	32.2	40.9	9	0.11	3	4	2	—	4	2	5	6
Thurs. 25	50.9	33.2	42.1	11	0.50	3	5	4	—	3	2	6	3
Friday 26	52.2	33.5	42.8	11	0.17	—	3	4	3	4	4	3	5
Satur. 27	54 0	33.2	44.6	10	0.37	1	5	4	3	1	5	7	—

The highest temperature during the above period occurred on the 27th, 1830—therm. 75 deg.; and the lowest on the 25th, 1850—therm. 14 deg.

Notices to Correspondents.

BRAN: *Orion.* It may be useful as manure, on account of the large amount of phosphates in it; but surely you will find it cheaper to feed cattle with it than to give it to a Potato crop. Fellows of the Linnean and Horticultural Societies can only be elected by ballot, after having been formally proposed.

CHINESE AZALEAS: *A Lover of Flowers.* That they are very unskilfully managed is certain; but in what way, out of many ways, we cannot tell. If you will read a paper on the Chinese Azalea, published at our p. 164, and *carefully* compare the excellent advice there given with your own practice, you will probably discover the cause of your failure. Snowdrops should never be disturbed. Perhaps the land in which they grow is water-logged in winter; doubtless they *may* be planted too deep.

GLAZE FOR CALICO: *Old Sub.* Three pints of old pale Linseed-oil, 1 oz. of sugar of lead, and 4 oz. white resin. The sugar of lead must be ground with a small quantity of the oil, and added to the remainder, incorporated with the resin by means of gentle heat. Lay it on the calico with a brush. One coat annually is sufficient. ‡

HARTLEY'S ROUGH PLATE GLASS: *X Y Z.* It may be had of any of Hartley's agents, one of whom advertises in our columns continually. ‡

HOLLIES: *J W R.* They *may* succeed moved in April, but they never fail in September.

HORTICULTURAL SOCIETY: *F H S.* If you wish to avail yourself of the bye-law authorising the Treasurer to take life-subscriptions upon the new and advantageous terms, and at the same time to save the subscription now becoming due, you must effect your payment *before the end of April*, otherwise the subscription will have to be paid, in addition to the composition.

INSECTS: *A Farmer.* The insect you have sent is a small Weevil, Curculio (or Sitona) lineatus, which nibbles the edges of the leaves of Peas and Beans in the summer time. See *Gard. Chron.*, 1844, p. 388. *W.*

NAMES OF PLANTS: *Tim.* Eranthemum pulchellum.—*E W.* The common Oncidium ampliatum, and an ugly, undescribed Mormodes.—*C L.* As far as we can judge from very shrivelled specimens, one of the Hippeastra is a variety of vittatum; the buff coloured one is no doubt pulverulentum.—*J A.* Dendrobium Gibsoni.—*P B.* 1, Cattleya lobata, a great rarity; 2, Cattleya Skinneri.—*J N.* Dendrobium nobile.

NATIONAL FLORICULTURAL SOCIETY: *J D.* We are aware of all the facts, and most disgraceful they are to the parties concerned. The printed report we know to be false in one respect, and for anything we should choose to answer for, it may be so in others. What was the opinion formed by the respectable persons composing the meeting, of those who have allowed themselves to be made into cat's-paws, was sufficiently indicated by the final vote of 18 to 2 against the proposer and seconder, who, we presume, of themselves constituted the unenviable pair. As to the comments of the paper you mention, they are beneath contempt.

PEACHES AND NECTARINES: *Sub.* It is advisable to cut them back the first year they are transplanted from the nursery. ‡

ROSES: *A B.* Your letter never reached us. ‡

SOCIETIES: *C B N P.* We know nothing of the society about which you inquire. ‡

TRADE MEMORANDA. It looks suspicious; we must make inquiry before we stir.

MISC: *L B S.* The best time for moving your large Aucuba is September. Your hedge will certainly grow all the faster for having some kind of manure applied to it in spring ‡

PERUVIAN GUANO.

CAUTION TO AGRICULTURISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

ANTONY GIBBS AND SONS, AS THE ONLY IMPORTERS OF PERUVIAN GUANO,

Consider it to be their duty to the Peruvian Government and to the Public again to recommend Farmers and all others who buy to be carefully on their guard.

The character of the parties from whom they purchase will of course be the best security, and in addition to particular attention to that point, ANTONY GIBBS AND SONS think it well to remind buyers that—

The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 9l. 5s. per ton, less 2½ per cent.

Any resales made by dealers at a lower price must therefore either leave a loss to them, or the article must be adulterated.

MANURES.—The following Manures are manufactured at Mr. LAWES'S Factory, Deptford Creek:

Turnip Manure, per ton	... ...	£7	0 0
Superphosphate of Lime	... ...	7	0 0
Sulphuric Acid and Coprolites	... ...	5	0 0

Office, 69, King William-street, City, London.

N.B. Peruvian Guano, guaranteed to contain 16 per cent. of Ammonia, 9l. 10s. per ton; and for 5 tons or more, 9l. 5s. per ton, in dock. Sulphate of ammonia, &c.

THE LONDON MANURE COMPANY offer the following Manures on the best terms, warranting every article strictly genuine:—Peruvian Guano, Superphosphate of Lime, Nitrate of Soda, Concentrated Urate, Peat Charcoal, Gypsum, Fishery Salt from Cornwall, also a constant supply of Salt for agricultural purposes; Linseed and Rape Cake. Peruvian Guano, warranted the genuine importation of Messrs. A. Gibbs and Sons, at 9l. 10s. per ton, or for 5 tons and upwards, 9l. 5s. in Dock. EDWARD PURSER, Sec.

40, New Bridge-street, Blackfriars.

TO AGRICULTURISTS.

OWEN'S ANIMALISED CARBON is now for Sale, at 2l. 5s. per ton in bulk.—This Manure has been introduced, with the most beneficial results, at St. Croix and the Mauritius, in the growth of the Sugar Cane, as proved by testimonials from the planters. The powerful fertilising properties of the Carbon have long since been acknowledged in Denmark, where it has been extensively used for agricultural purposes, as no less than 26,000 tons have already been sold. It is ready for immediate use, having no occasion to be ground, is equally as portable and diffusible as bones, and the low price at which it can be sold in this country must always be a paramount recommendation. *A liberal Commission allowed to Dealers or Agents.* For copies of the testimonials of its utility in this country, also for samples, apply to J. OWEN and Co., 3, Rood-lane.

Messrs. J. OWEN and Co. are now importing from their Copenhagen Manufactory SUPERPHOSPHATE OF LIME, of the very best description, containing at least 18 per cent. of Neutral Soluble Phosphate of Lime, and capable of furnishing at least 3 per cent. of Ammonia to the Soil. The "Analysis" is made by Professor J. THOMAS WAY, Consulting Chemist to the Royal Agricultural Society. The price, in London, of this powerful Manure, is 7l. per ton, cash, or Banker's Bill on London.



KOPROS,

PATENT MANURE FOR CORN AND OTHER PLANTS,

MANUFACTURED BY THE PATENTEE,

J. M. BLASHFIELD, Mill-wall, Poplar; and also sold at No. 1 Wharf, Praed-street, Paddington-basin.—The mineral ingredients contained in this MANURE are in the most perfect soluble form for incorporation with the soil, and for continuous action; and the lightness of the bulk, when compared with other Manures, is in the cost for carriage greatly in its favour. For the past two years it has been applied to various soils and plants with very general success. Since then improvements have been made in concentrating its most important elements, and in otherwise rendering it a very efficient artificial manure, rich in ammonia, phosphates, and silicates. Price of Patent Kopros for Corn Plants, 8l. per ton; for Turnips, Swedes, &c., 6l. per ton.

Superphosphate of Lime, for Turnips, Swedes, Mangold Wurzel, and other Root Crops.

FOSSIL BONES AND PSEUDO-COPROLITES.

(FROM THE SUFFOLK CRAG).

EDWARD PACKARD AND CO., of Ipswich, having erected very powerful Machinery for the purpose of reducing these Phosphatic Nodules to a fine Powder, and being in the immediate locality of where they are found, are now prepared to supply them on the most economical terms, in any quantity, either Ground, Whole, or Dissolved in Acid. They form the cheapest source of Phosphate of Lime in the market, and are peculiarly eligible for manufacturing Superphosphate of Lime in conjunction with Bone.

Prices and every information connected with their use forwarded on application to EDWARD PACKARD and Co., Artificial Manure Manufacturers, Ipswich, Suffolk.

M'CORMICK'S AMERICAN REAPER.

BURGESS AND KEY, Agents, 103, Newgate-street, London.—Extract from Mr. Pusey's Report on the Agricultural Implement Department, Great Exhibition.—"Mr. M'CORMICK'S Reaper, in this trial, worked as it has since worked at Cirencester College, and elsewhere, to the admiration of practical farmers, and therefore received a Council Medal. Mr. Hussey's sometimes became clogged, as in the former trial at Tiptree, and therefore could not possibly obtain that distinction."—Price of Reaper, 25l.

IRON HURDLES, FENCING, ETC.

STEPHENSON AND PEILL, 61, Gracechurch-street, London, and 17, New Park-street, Southwark, beg to inform their friends and the public generally they are now manufacturing Iron Hurdles, at the following low prices:—For sheep, 6 ft. long 3 ft. high, 5 bars, 3s. 2d. each; and for cattle, 6 ft. long, 3 ft. 3 in. high, 5 bars, 3s. 6d. each.

GIDNEY'S IMPROVED PRUSSIAN HOE.—This exceedingly useful garden implement, so much in demand, and which has obtained the first prize at several of the first horticultural meetings, as the best and most useful garden tool *extant*; also testimonials from the principal horticultural journals and leading practical gardeners; is now ready for delivery, and may be obtained of any principal ironmonger, and Seedsman, or of the manufacturer, J. W. GIDNEY, Ironmonger, East Dereham, Norfolk. Price (ready for use), neatly handled, 1s. 6d.; of whom may be had the new drill hoe, and the Norfolk Blomfield hoe. Copies of testimonials sent on application to the manufacturer.

SEE THE BACK PAGE OF THIS PAPER next Saturday, March 27, for our prices of NEW FARM SEEDS.—WM. E. RENDLE and Co., Seed Merchants, Plymouth.

A SUPERIOR STOCK OF MANGOLD WURZEL, BELGIAN CARROT, AND OTHER AGRICULTURAL SEEDS, saved from selected roots; for Prices and Description see Messrs. SUTTON'S Advertisement, in the last page of the present number of the *Gardeners' Chronicle*.

NEW FARM SEED CATALOGUE.

RENDLE'S NEW AGRICULTURAL SEED CATALOGUE FOR THE PRESENT SEASON is just published, and can be had in exchange for ONE PENNY STAMP. It contains descriptions of all the best varieties of GRASSES for alternate Husbandry, Permanent Pasture, Ornamental Parks, and Pleasure Grounds, giving their peculiar properties, and the soils and situations to which they are best adapted. Also short descriptive accounts of all the best kinds of SWEDES, Scotch, Common, and Hybrid TURNIPS, as well as MANGOLD WURZELS, CARROTS, CABBAGES, PARSNIPS, and all other sorts of Seeds required in Agriculture.

The whole of the descriptions are in a concise and useful form, and will be found of much service to all engaged in the cultivation of the soil. The Subscribers will have much pleasure in forwarding a copy, to any address, on receipt of ONE PENNY STAMP.

Apply to WILLIAM E. RENDLE and Co., Seed Merchants, Plymouth.

ESTABLISHED MORE THAN HALF A CENTURY.

TRUE LARGE RED ALTRINGHAM CATTLE CARROT SEED, home grown, 1s. per lb. See Advertisement in *Agricultural Gazette* of March 13, page 169.

WM. JACKSON and Co., Seed Merchants, Bedale, Yorkshire.

GENUINE CATTLE CABBAGE, EARLY BATTERSEA, EARLY VANACK, LARGE IMPERIAL, &c., by THOMAS WELLAND, Surrey Gardens, Godalming, Surrey, packed and delivered at the Godalming station, 3s. 9d. per 1000. The large Asiatic Cauliflower, 2s. 6d. per 100. Money orders payable at Godalming.

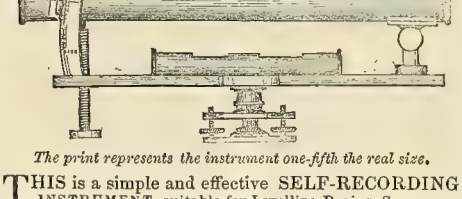
ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.

Patron—His Royal Highness PRINCE ALBERT.
President of Council—Earl Bathurst.
Vice-President—Earl Ducie.
Principal—Rev. J. S. Haygarth, M.A.

The next Quarter will commence on Tuesday, April 6. Students are admitted either as Boarders, or as Out-Students. The annual fees for Boarders vary from 45 to 80 guineas, according to age and other circumstances. The fee for Out-Students is 40l. per annum. The College course of lectures and practical instruction is complete in one twelvemonth—though for younger students a longer time is recommended. There is a department for general as well as for agricultural education. Prospectuses and information can be had on application to the Principal.

DRAINAGE—ROAD MAKING.
NEW LEVELLING INSTRUMENT.

(REGISTERED No. 2602.)



The print represents the instrument one-fifth the real size.

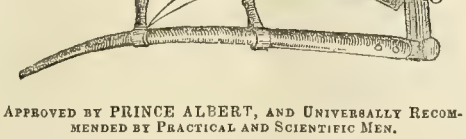
THIS is a simple and effective SELF-RECORDING INSTRUMENT, suitable for Levelling Drains, Sewers, or Roads, or for measuring the elevations and depressions of ground. It consists of a Telescope, Level Graduated Arch, and Tripod Stand. The arch is so divided as to show the rise or fall, in feet and inches.

(From the *Practical Mechanics' Journal*, Feb. 1, 1851.)

"In the hands of even the most unlettered farm-servant this little instrument will afford the most correct measurement, as the operator has only to level the plate, and bring his sight to bear upon the object, when the elevation or depression is given at once. It will be a most useful contrivance for Draining or Road Making."

Price, with parallel plate screws, 4l.; convenient levelling pole, 4s.—Made only by GARDNER and Co., 21, Buchanan-street, Glasgow.

BOYD'S SELF-ADJUSTING SCYTHE,



APPROVED BY PRINCE ALBERT, AND UNIVERSALLY RECOMMENDED BY PRACTICAL AND SCIENTIFIC MEN.

THIS SCYTHE, when out of use, shuts up like a knife. It can be adjusted to any angle in one minute (even by persons quite unused to the implement), without the assistance of blacksmith or forge. It may be used by amateurs as well as regular labourers, without fear of accident or injury, thus rendering Mowing an easy, safe, and economical operation.

To be had of all Ironmongers, Nurserymen, &c., in the Kingdom; and Wholesale and Retail at WM. DRAY and Co.'s Agricultural Implement and Machinery Warehouses, Swan-lane, London Bridge.—A liberal discount allowed to the Trade.

AGRICULTURAL PRODUCE AND FRUIT SALE ROOMS, 34, Eastcheap-street, London.—The Subscribers beg to announce to Farmers, Millers, Gardeners, and others, that they have opened the above extensive and central premises, for the Sale by Auction of Potatoes, Flour, Fruits, &c. The rate of commission charged in all cases for sale and guarantee will be one per cent. Liberal advances made on consignments. For further particulars apply to SMITH and Co., 34, Eastcheap-street, London.

COTTAGE STOVE.

GRIFFIN'S ECONOMIC COTTAGE STOVE comprises an open fireplace, oven, boiler, ironing stove, and an aperture for the emission of warm air. Price 1l. 18s. 6d. for 3 feet openings, and other sizes in proportion, delivered at Banbury. All orders and applications are requested to be addressed to WM. GRIFFIN, Lydon, Daventry.

HUSSEY'S AMERICAN REAPER.

Price 18l. complete, with Delivery Board, &c.



HUSSEY'S "CHAMPION" REAPER IN YORKSHIRE.

From Sir Tatton Sykes, Bart., to Mr. Crosskill.

Sledmere Castle, Driffield, Sept. 9th, 1851.

Sir,—I have just been seeing your Machine for reaping, and am very much pleased with it. It does its work beautifully and I have no doubt they will soon be in general use.

I am, sir, your obedient servant,
(Signed) TATTON SYKES.

HUSSEY'S "CHAMPION" REAPER IN LINCOLNSHIRE.

Fairford House, Louth, March 13th, 1852.

Sir,—I enclose a Cheque for 18l., the Cash price of Hussey's Reaping Machine. I should have done this earlier, but have been much engaged and waited to try it. I have done so on Wheat Stubble, and find it answer beyond my most sanguine expectations. I am, yours, &c., (Signed) WM. J. OSLEAR.

To Mr. Crosskill, Beverley.

W. CROSSKILL will warrant Hussey's Reaper to cut "standing" or "laid" Corn, across "ridge and furrow." W. C. is making three Reapers a day for purchasers who have already given orders for delivery in May, but cannot guarantee to deliver future orders in time for Harvest unless given immediately. Full particulars and Report of the Cleveland Challenge and Trial, &c., will be forwarded, gratis, on application per post.

CROSSKILL'S "COUNCIL" GREAT MEDAL PATENT CLOD CRUSHERS AND WHEAT ROLLERS,

For Rolling young Wheat in the Spring, &c.

At the Great Exhibition the highest award of the Council Prize Great Medal was awarded to CROSSKILL'S Patent Serrated Roller and Clod Crusher, with this commendation—"It repays its Cost the First Season of its use, &c." Reduced Prices, 18l. size, now 15l. cash.

CROSSKILL'S "COUNCIL" GREAT MEDAL ONE-HORSE CARTS,

Mounted upon Patent Wheels and Axles, manufactured almost entirely by Machinery. REDUCED PRICES—TEN PER CENT. DISCOUNT off Orders for Three Sets of Patent Wheels and Axles.

CROSSKILL'S "COUNCIL" GREAT MEDAL MILLS.

The most powerful and economical Mills, of Two, Four, and Six-horse Power, for grinding all kinds of Farm Produce, including Bones for Manure; and particularly recommended where Steam Power is used.

Lists of Prices may be had gratis, on application per post.

Please Address—MR. CROSSKILL, BEVERLEY.

GLENFIELD PATENT STARCH.—NOW USED IN THE ROYAL LAUNDRY.—The Ladies are respectfully requested to make a trial of the GLENFIELD PATENT DOUBLE-REFINED POWDER STARCH, which, for Domestic Use, now stands UNRIVALLED. Sold by nearly all the Oil and Colourmen and Chandlers in London, and throughout the Kingdom.—Agents wanted; apply to Mr. R. WOTHERSPOON, 40, Dunlop-street, Glasgow.

London Depot: WOTHERSPOON, MACKAY, and Co., 40, King William-street, City.

CHEVALIER AND PERUVIAN BARLEY.—In answer to your correspondent, page 173, I have Chevalier and Peruvian Barley. If your correspondent had looked I advertised Chevalier, Peruvian, and other Barleys, and varieties of Oats, Grasses, Turnips, and agricultural Carrots, &c., &c.—JOHN KERNAN, 4, Great Russell-street, Covent-garden, London.

PERUVIAN SKINLESS BARLEY.—The undersigned have the above on sale, grown by Mr. Whittem, of Coundon, price 5s. 6d. per bushel; weight, upwards of 60 lbs. The quantity remaining in stock being small, an immediate application will be necessary to secure it.

ASTLEY and Co., Seedsmen, &c., Coventry, March 20.

CLEVELAND AGRICULTURAL SOCIETY.

NOTICE TO INVENTORS AND MAKERS OF REAPING MACHINES.—The Committee of the above Society have resolved to offer a PREMIUM of TWENTY GUINEAS for the BEST REAPING MACHINE, EXHIBITED and TRIED before the SOCIETY in CLEVELAND, at the commencement of the ensuing HARVEST. Entries to be made on or before the THIRTIETH DAY OF JUNE NEXT, to the Secretary, of whom a copy of the CONDITIONS of trial may be had, after the 6th of April next.

THOMAS PARRINGTON, Secretary.

Lazenby, near Middlesborough, March 20.

The Agricultural Gazette.

SATURDAY, MARCH 20, 1852.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY, March 24—Agricultural Society of England.
THURSDAY, — 25—Agricultural Imp. Soc. of Ireland.
WEDNESDAY, — 31—Agricultural Society of England.

AN important subject has been recently brought before our readers—the VALUE OF LAND AS AFFECTED BY THE LAW RELATING TO IT, and the technical difficulties connected with its transfer. Mr. STEWART has recently asserted that, were these difficulties removed, land might be increased in value many years' purchase. (See ante p. 141.) In a previous publication, ("Lectures on the Transfer of Land," p. 78), Mr. STEWART made a similar statement and gave his reasons, and he has been supported by subsequent writers of distinction. Thus Mr. STUART MILLS says, "The uncertainty of the titles under which land is held must often act as a great discouragement to the expenditure of capital in its improvement; and the expense of making transfers operates to prevent land from coming into the hands of those who would use it to the best advantage, often amounting in the case of small purchases to more than the price of land, and tantamount therefore

to a prohibition of the purchase and sale of land in small portions, unless in exceptional circumstances."* A law which acts as a prohibition to the sale of an article must obviously affect its value. But Mr. Caird is even more precise. Alluding to the technical difficulties of title and legal doubts, he says: "These expensive and sometimes inextricable doubts and difficulties are the cause of the market price of land in this country being lower than on the Continent. * * We see no reason to doubt that if the transfer of land was simplified, its value might be increased by five years' purchase."† Mr. Stewart has suggested that it might be 10 years' purchase, but of course the exact amount of the increase of value must depend on all circumstances of the case. The important questions for our readers are—whether the price of land is affected in this country by the state of the law? and, if so, can that law be altered? As to the former, as Mr. Stewart was the first, we believe, to call attention to the difference of the value of land and stock in the funds in this country and other countries, it is only fair to hear what he says on this point.

"As to the question of value, there are one or two remarkable circumstances in connection with land, which meet us on the threshold in direct contrast with similar circumstances, as we find them in other countries. Let us contrast the comparative values of land and stock in the funds in England and other countries. In England on this day (Feb. 1848), consols are at very nearly 90*l.*; that is to say, 30 years' purchase. You need not be told that the funds are liable to great fluctuation in price; this has been shown within the last twelvemonth to a remarkable extent. In a time of peace these same consols have been at 100*l.*, or very near it, and they have been at 80*l.*; and yet, in spite of this variable and unsteady market, they are now at 30 years' purchase, and have been lately at 33 years' purchase. Now, is it not remarkable that land, which is of intrinsic value, which in England produces more than in any other country, the value of which does not fluctuate with wars or the rumour of wars, which remains when all other things are swept away, which may turn out of great value indeed as being available for mining, building, and more recently for railroad operations, should be usually of no more than 30 years' purchase, and frequently sells for much less? Take all these circumstances with you, and look to other countries in this respect. Take France: the three per cents. are now about 73*l.*, the credit of our own country is better, and the difference of price is thus accounted for; but the value of land in France is far greater, although there is much more of it according to the amount of population. It is frequently 35 years' purchase, and sometimes in small quantities 40 years' purchase, or even more. Take Belgium: the four and a half per cents. are at 91*l.*, but the value of land is 40, and sometimes 45 years' purchase. A hundred pounds laid out in almost all other things, will fetch more in France or in Belgium than here; but, laid out in land, it will fetch less. The reason appears to be this: in these countries, from the ready and secure mode of transfer, the land is considered the great national depository, the great safety bank of the country, to which all resort. In Belgium it has been stated to me, over and over again, by competent persons, that a small shopkeeper, or even a servant who has saved 2000 or 3000 francs, lays it out in land, as not only the safest but the readiest mode of security. Take another instance: most people have at some time of their lives wished to borrow money on their property, and of course they desire to pay as little interest as they can. Now suppose I live in London, where the greatest facility exists for this purpose, and I am the owner of freehold land, or of a leasehold house in which I live, and that I am also possessed of stock in our funds; a sudden emergency obliges me to raise a sum of money (I may be in trade; it may be absolutely necessary, to save me from ruin; and if I can raise it, it may be all sufficient for that purpose), I go to my banker's, or my friend in the city; I hand him over the title deeds to my freehold; he shakes his head at them. In the city, I apprehend, many cautious men will have nothing to say to them for this purpose; but, possibly some more adventurous man, or some West-end banker may find the needful, leaving himself a very wide margin, and probably taking some kind of collateral security, and charging me a good interest. But I have not sufficient, and I then hand him the lease of my house. I will suppose it is in a good situation, and, of course, a beneficial lease, and that the title here is quite simple. In many cases, for this purpose it is valueless. Leasehold security many most respectable bankers and offices will not look at. And if the business is done at all, the highest legal rate of interest, and sometimes more, I fear, is charged. But if I have consols, or even good foreign securities, the countenance of my banker or my broker assumes a very different aspect indeed. He will lend the money very freely, giving himself a very narrow margin, and taking a much less interest, and wanting no collateral security at all; and the whole is done at very little expense indeed. Loans on stock are thus made every day by hundreds. But now let us see the practice as to this in other countries. Take any great trading city abroad: take Frankfort, or Hamburgh, for instance, with both of which we have many relations. In the free state of Frankfort there is an excellent register founded on a map, and the securities are almost entirely houses. There is a very lively exchange in that busy town. News comes from the east or the west which affects the market. I am a resident in Frankfort; I want money; I carry my bonds, my rentes, my stock to the banker's: he tells me he does not at all like the look of things; the general credit of Europe is affected. He knows not what may happen. The funds are at 70 to-day; they may be at 60 to-morrow. He advances some money with reluctance, charges the full interest, and protects himself very carefully as to the amount. But, if I have a house in a good street of the town, he simply put on his hat, walks to the register office, demands to see the book in which the inscription of my house is set out, finds it unincumbered, and instantly gives me the money. It is the affair of half-an-hour. He gives me, further, on loan nearly the full estimated value of the house, and at the very lowest rate of interest that the state of the market allows. Thus, I am assured by a highly respectable authority, that money is frequently lent on houses at Frankfort at 3½ per cent., and even lower; when, if we can get it at all, it is here at least 5 per cent. Take also Hamburgh. There we find the same ready mode of dealing with land and houses, with this accompanying convenience: the inhabitants of that city having previously ascertained the value of all the land and houses in its territory, mutually agree to insure the repayment of any loan made on any house or land up to a certain amount, as one-half, or as it may be. Now, you begin to perceive some of the practical advantages of a ready and easy mode of transferring land and houses. In those countries they are looked upon as I have already said, almost in the light of a balance at one's banker's, on which we may draw or not, as we please. And why are we, in London and all cities large and small of this country, deprived of this great convenience, which is enjoyed in other countries? They are, surely, right, and we are wrong. Land and houses should have more intrinsic and certain value than stock and funds. I have no wish to depreciate the value of these latter securities, but I certainly wish to raise the value of the former. Give us facility of transfer, give us security of title, give us simplicity of dealing, give us moderate and certain charges, and we can have all the advantages enjoyed by the citizens of Frankfort or Hamburgh.

I think you will begin to see how much this question of the ready transfer of land concerns us as commercial people. The conclusion then that I come to as to the value of land is, that it is in this country, from our defective practice of conveyancing, unnaturally, and even absurdly low. There is less of it, compared with the population of this country, than in any other country of Europe. There is more capital to purchase it than in any other country; and if the law of transfer were made easy, and titles made simple and secure, there are more persons desirous of purchasing it. If the landowners please, it is in their power very considerably to increase the value of their land, and at the same time benefit the whole community!"*

We have made this long extract, because it is proper that the whole case should be placed before our readers. All are agreed that the present state of the law depresses the value of land. How then can the necessary alterations of that law be made, and what are they? To this part of the subject we shall shortly return, because in the present juncture, when there is a real wish on all sides to help the landowners, much may be effected. And we recommend this matter in particular, and the whole subject in general, to the consideration of our new Chancellor of the Exchequer.

* Pol. Econ. vol. 2, p. 445.
† English Agriculture in 1850-51, p. 496.

* Lectures on the Transfer of Land, pp. 71, *et seq.*

PHOSPHATIC NODULES.

Your excellent and widely-circulated publication having been the medium of many communications respecting phosphatic nodules, I solicit a space for a short notice of their existence in a stratum hitherto but little known as affording them. The town whence I write is situated geologically on the green sand—a soil in which, and in the chalk marl, are to be found in varied localities nodules presenting varied appearances, but all rich in phosphoric acid. It is not, however, to this soil that I would draw attention, which has indeed already been ably done by Mr. Paine of Farnham, but to the chalk hills bounding the town, which on the north-east constitute the Beckhampton Downs, and on the south-east form the bold outline of Salisbury Plain. At the extremity of the south-east range is situated Bratton Hill, which exhibits a section of the chalk about 20 feet deep. The upper portion is soft and friable, hardening as it descends; there is then a layer of flints, and within a foot comes a layer of nodules, deposited horizontally with the same regularity as the flints below this, with an interval of about 6 inches of chalk—another layer of nodules—and so on at various distances, averaging a foot and a half throughout the whole extent of the section. The upper layers are mere seams, in which the nodules are detached and loose—so loose indeed that they may be picked from their beds by the hand. The lower layers are more blended with the chalk, and occur in masses three or four feet in thickness, which of course do not possess the phosphoric richness of the detached nodules. The upper seams contain from twenty to twenty-five per cent. of bone earth phosphate: the lower portion, in which the nodules are mixed with the chalk, has from eight to ten. Between the place I have mentioned and Enford, which is eastward of it about fifteen miles, many sections of the chalk appear, all, excepting where the lower or upper chalk presents itself, exhibiting these same nodules, some in greater, some in less profusion. The north-east range of hills also shews the same results under the same circumstances, so that I am inclined to hope that this deposit is not peculiar to our locality, but that it prevails more or less throughout this particular geological level, which, I believe, is generally understood is the middle chalk; and it is to ascertain this point, and to induce trials of the agricultural value of these vestiges of bygone ages, which I have for more than two years in vain suggested in this neighbourhood, that I now address you. These nodules are coated over with a greenish substance, the exact chemical character of which I have not ascertained further than to satisfy myself that it contains a large proportion of silex and iron. By this green coating a mere ploughboy would easily identify them, and where blended with the chalk they present a very peculiar and distinctive mottled appearance. In size they vary from a bean to an orange, or even larger, and, being harder than the chalk, are naturally selected as a more appropriate material for mending the roads, which in this way are furnished annually with almost as much phosphate as is afforded to the adjoining lands by all the manure applied. Many an unconscious tribute is, I conceive, paid to the value of phosphoric acid in the praise bestowed on the fertilizing power of the road sweepings. Containing nearly 70 per cent. of carbonate of lime, they burn into a very tolerable lime, which disintegrates quite sufficiently for all agricultural uses, and thus, I should suppose, might be converted into a useful manure, available for almost any soil or neighbourhood. When first dug they powder easily, but from the amount of their carbonate it must be apparent to all that they cannot be converted into a mercantile superphosphate at the present price of sulphuric acid.

Having said thus much of their chemical composition and possible agricultural value, I would fain add a few words respecting their origin, but that I fear to differ from others who have taken an interest in the subject, and whose attainments are in every way much greater than my own. *Robert Clark, Chemist &c., Devizes.*

DIGGINGS BY A FEN FARMER.—No. II.

"Diggings," neither Australian nor Californian, nor for the gold nor guano of Peru. Our diggings are such as have been carried on in the low maritime plains which are called fens, and will refer rather to our dippings into the present and past condition of the farming there practised, and the history of the soils and strata there found, than to details of actual quarrying, drain-cutting, well-sinking, &c. Our searchings, and borings, and excavatings into the mass of information which has been from time to time accumulated, and lies waiting for exploration, will bring to light a variety of materials—ore and refuse; some valuable, we may hope, some worthless; some adapted for immediate use, some for future service, when they have been worked-up and prepared again; some only of interest as telling of bygone changes, and instructing us in the origin and developement of things now in existence.

We are, therefore, not about to describe operations that we have conducted with either pickaxe or spade, or experiments that we have tried with the newly-invented variety of digging-machine, to supersede the plough. Our object is simply to give the results of certain investigations we have made; to offer for the information of inquirers sections and specimens of some things contained in the world, with which they may have been hitherto unfamiliar; and to furnish material for other authors—building-stone and brick-clay for future builders.

The general scene of our diggings is laid in the great level of the fens, a plain occupying portions of six of the eastern counties of England; and being almost perfectly horizontal, with the exception of a few hills like islands scattered in its southern half. On the map, this flat appears in shape somewhat like an enlargement of the bay called the Wash, to five times its present dimensions, extending from Lincoln north to Cambridge south, and from the Wash east to Peterborough west. This area includes about 1060 square miles, or

680,000 acres. It is traversed by several tidal rivers, and by innumerable natural streams and artificial cuts, by which the upland drainage waters of many counties are carried through the district, and by which itself is drained. The whole surface, excepting the few insular high-lands, is lower than the sea and tidal streams at high-water, but higher than the level of low-water, so that by excluding the tides and issuing out the drainage water at low-tide by means of engineering works, the surface might be drained by the natural fall of the water from the land to the sea. But so little elevated are some tracts above the low-water mark, and so imperfect are the outlets for the water, that their drain-water cannot be discharged until it has been mechanically lifted up, in order to give it a greater descent and momentum sea-ward. This is done by wind or steam power, the water being raised either with a scoop wheel, or pump. The principal portion of the surface has a soil of peat-earth, locally termed fen land; whilst the parts contiguous to the Wash, and occupying much of the northern half of the level, have a soil of tidal alluvium, called marsh land.

Now, reader, we will ask you to picture to yourself the aspect of this country, as intimated in the following description.

We have said that the country is lower than the sea at high-water, and that it is preserved from the over-flowings of the salt-water by works called banks, which extend along the coast, and flank the estuaries and rivers. What, then, is the condition of the surface? Is not the "marsh land" adjoining the sea a tract of watery ground, guttered by wandering creeks—its silt and sand and slimy mud clad only with plots of oozy samphire and marine Grasses, crawled over by crabs, screamed over by gulls and herons, walked and waded over by eel-fishers, shrimp-netters, and wild-duck shooters? Is not the "fen land," occupying the principal area of the level, an expanse of black peat bogs and reedy plashes, frequented by turf-diggers, fowl-catchers, fishers, reed-cutters, and osier-growers? No. Though the level may somewhat resemble a sieged city, well guarded all around, desolation and disaster do not reign within because of the pressure of a threatening foe without. A thronged and busy population cultivate the fertile earth, raise from it abundant fruits for themselves and for exporting to other countries, build not only clustering villages but large towns, connect them with firm smooth roads, congregate in continual markets, marts, and fairs; span over the flat land in all directions with railways, and barge along interminable canals and rivers. The marsh land differs in aspect from the high country only in the absence of undulations and quarries, walls, and buildings of stone; rich fields are there, thick plantations, stout timber trees, and blooming gardens. Water does not stagnate upon the ground; the healthy labourer ploughs the bright brown fallow, regardless of the heavy downfall a few days before; for the land is dried not only by the dividing ditches, but with hollow drains undermining the subsoil. The crops are not of thin spring Wheat or half-grown Oats; scanty Beans, yellow with flowering Sow-thistles; or wiry Rape, half destroyed by wet and weeds; nor are the pastures of Couch-Grass and Bents, prickly with Thistles, and tufted with Nettles, among which starve a meagre flock of lean, shaggy sheep, and here and there a few clumsy, unthrifty oxen. The well-grazed pastures, the Clovers, the thick Coleseed, and bulky root crops, feed innumerable sheep and beasts, of improved, quickly-thriving, and valuable breeds; and instead of being left to pick their own subsistence, and become diseased from neglect and mismanagement, these animals are sheltered in winter in sheds and yards, and supplied with extra food upon the frost-bound fields, and in more genial weather not only crop the rich herbage, but enjoy the oilcake daily poured into their troughs. The arable land shows, after harvest, by its strong stubbles and great produce of Turnips and other green food, the happy results of the management which, by its demand for manures, employs so many oil-mills and bone-crushing mills both at home and abroad. The fen land, low and horizontal as it is, does not present to the eye watery patches and flooded fields, as may be witnessed after heavy rains in many of our upland valleys. But as the very existence of the tract depends upon the preservation of its drainage, all classes of the inhabitants give their attention to this point; so that the result is a more perfect system of ditches, drains, and other works for relieving the soil of its wetness, than almost any other district enjoys. The water, however, is generally visible in the ditches that part all the fields; and though never rising (except in some badly-managed localities) over the ground, seldom sinks far below the level actually needful for drying the surface-soil.

There seems to be a medium point in the drainage—over-drainage being no less possible than under-drainage. Indeed, it is well known by the Lincolnshire graziers, well understood by the peat farmers, that bullock pastures have become mossy and degenerated into sheep land, good arable has grown weaker, merely by too much drainage. This may seem a contradictory and unscientific declaration, but, nevertheless, observation confirms it as the truth. Will not the stiff marine clay, mingled with silty sand, which produces this rich pasturage, retain sufficient moisture for the nourishment of the grass, when the egress for the surplusage is provided below? Will not the spongy peat, when mingled with its subsoil of clay, possess a sufficient power of holding water for the growth of wheat and cole? Do not the hardening and gaping of the clay, and the loosening and honey-combing of the peat, arise from undue saturation rather than from over dryness? There is certainly some truth in all this; but you must not overlook the great perplexing circumstance attaching to the drainage of moist land—there is the difference between winter and summer; the fens cannot have too little water in the former season, nor can they in many parts obtain a sufficient supply in the latter. What is required is a perfect command of the water. In winter, when every available outlet is put in requisition for discharging the floods, every inconvenience and impediment to the outflow is at a maximum. The upland rivers into which the fen drains empty, are swollen with the augmented volume of the upland freshes; the tides are often raised by violent gales above their usual level—thus both endangering the embankments and hindering the seaward flow of the main streams. In the dry months, when water is wanted to refresh the pastures and force on the young green crops by sub-irrigation, great difficulties also present themselves. If water be admitted from the upland rivers into the fen ditches, there is directly felt a loss of back-water, at a time when every drop that can be drained from the hills is requisite for preserving the channel and river mouth against the incoming tidal bars of sand. If water be admitted from the sea into the creeks and drains, the thick sediment of this water falls in mud upon the bottoms of the water-courses, and forms obstructions to winter drainage. Both these practices are in constant use with the fen and marsh farmers, excepting in some districts which perhaps do not need them; and being found to possess a balance of benefit over and above the unavoidable disadvantages, will continue in vogue until great measures for the improvement of the general outfalls to the sea are carried into execution. There are some few plots to be found within the great level, which still remain overgrown with tufted Hassocks, rank Sedge, and tall whispering Reeds—memorials of what nearly the whole of the peat fens anciently were. But the surface generally is laid out in regular fields: their black mould is seen under the ploughings, tillings, and drillings of skilful farmers.

Some lands are seen dimly through the blue smoke of the burning earth heaps; larger portions than these are cut across by deep trenches, and their whole area overspread with lumps of slate-coloured clay. Farm-yards tenanted by straw-littered oxen thriving upon good food, and surrounded by stout and lofty corn-ricks, beautify the plain; and cottages and villages congregate about the highways, the bridges, and upon the borders of the uplands. The whole level, in short, is now a busy scene of agricultural labour, conducted upon a scale and system surpassed, perhaps, in no other portion of our island. Respecting the peculiarities of the farming, we shall speak in a future number. *I. A. C.*

Home Correspondence.

The Royal Agricultural College, Cirencester.—The agriculturists of this country have a right to inquire what benefits have accrued to the great cause of agricultural improvement; what favourable results have arisen in the science and practice of agriculture by the labours of the above institution? I repeat they have a right to advance the inquiry, for the cause is their own; and if there be anything besides the name of a Royal College of Agriculture, a just appreciation of the high interests involved call for a statement—full, lucid, and straightforward, of the beneficial results of that great experiment which has been making for some years in this seminary. Changes, frequent changes, it is understood, have been made in the administration of the affairs of the College, in the course of study, and in the mode of cultivating the model farm. It would be interesting, and might be instructive, to know the reasons for those changes, inasmuch as wise men are not wont to adopt changes without sufficient reasons. It is not intended to cast any blame on the council, or professors, or managers of the institution, nor to insinuate the slightest doubt that all the affairs of the College have progressed in a wise and satisfactory manner, nor that substantial benefits cannot be verified to have resulted from the labours of those engaged. It would be accepted as a boon by the agricultural world, if, as in the cases of the Royal Agricultural Society and kindred institutions, the Royal Agricultural College would publish a report, with a balance-sheet of the model farm attached, at the end of the year. It is a matter worthy the attention of the council and authorities of the Cirencester College, whether they could not combine a plan for training masters to conduct agricultural schools in various parts of the country as they shall spring up, for spring up they certainly will, it being understood that there is no text book on English agriculture adopted in the College course, and which has received the *imprimatur* of the College authorities. The hint will, I trust, be taken in the spirit with which it is given, if I suggest that it could not but serve the great cause of agricultural improvement in the present state of scientific knowledge bearing on the cultivation of the soil, if, with the ample materials within their reach, and the knowledge they themselves possess, they would give us a standard text book on English agriculture. Since the declaration of Earl Derby on the subject of education generally, a declaration which entitles him to the respect and gratitude of every true Englishman and Protestant, coupled with the recent resolution of the London Farmers' Club, on the subject of agricultural education, a resolution that does them high honour, the time is not far distant when there will be a general move through the length and breadth of the land for a generally diffused improved education in the agricultural districts, on which does mainly depend the existence of the agricultural body and the advancement of the interests of the empire. *Varro, March 9.*

Sewerage.—If diligent inquiries were made into the cause of disease, it would be found that what we eat is as much to blame as what we breathe. In the Bills of Mortality we weekly read of such a person having died in a neighbourhood where there was an open drain, insinuating that the ditch produced the complaint. Although the fumes from such a nuisance must be both disagreeable, and, to a certain extent, dangerous to health, provided persons are living in close contact with a cesspool; yet, where the drain is merely a temporary annoyance during change of weather, which is often the case, it is harmless compared with the food the poorer classes are accustomed to live upon in large towns, and which, no doubt, produces ailments for which impure air has the credit. It is not for a moment intended to defend imperfect sewers, but however perfect they may be, they will not prevent a host of maladies following the use of sausages and pies made from animals which have become unfit for sale unless disguised, having either met with accidents or fallen under the butcher's knife when at the last gasp from disease. The adulteration of bread, milk, beer, and spirits must be mentioned in their turns, each supplying a slow poison to assist in thinning the population, entailing much misery and suffering on frail humanity. Another source of evil is the want of cleanliness amongst individuals who herd together more like animals than human beings. The fetid atmosphere arising from the bodies and garments of ill-fed, unwashed creatures, confined in a small badly ventilated room, lying by the dozen on the floor, regardless of common decency, is enough to, and does, generate dysentery, fever, &c. &c., to a fearful extent. The improved plan upon which dwelling-houses of small description are now built, and the establishment of cheap baths, is a movement in the right direction. However there remains much to be accomplished by the owners of tumble-down tenements, who, receiving large rents for such ruinous places, are in duty bound to keep them in repair and wholesome, by periodically expending a little lime and water on the interior. It is pretty well known that houses in the worst parts of large towns, inhabited by trampers and casual lodgers, are considered excellent property, and let well—higher in comparison than those of a more reputable character. It is to be feared that many men, whose very hair would stand on end at the idea of visiting the abodes in question, think nothing of deriving an income from such detestable receptacles of squalid misery and vice. Many are probably unaware that they are indirectly countenancing such profligacy; in charity let us believe so. *Falcon.*

The Expense of cultivating Waste Lands would not be very great, where the ordinary wages of an able-bodied man in the rural districts are seven shillings per week; for this he has often to walk three or four miles daily, and return home at night frequently wet to the skin. Contrast this state of existence with that of the well-fed convict, who costs the country fifty pounds a year, part of which comes out of the workman's pocket, in the shape of indirect taxation. The welfare of the culprit occupies the attention of the country. Thousands are spent in reclaiming the vagabond, beginning at the wrong end. It would be wiser to shut the stable-door before the horse is stolen. Supposing, by way of novelty, the case of the peasant was brought more prominently under notice, and an attempt made to provide profitable employment for him. Idleness increases crime. When the body and mind are both occupied, a man has neither time nor inclination to associate with the dissolute; he is satisfied if he can earn a fair day's wages for the use of his limbs. The education of the children of the lower orders is an important feature in the economy of the country; but one of great consequence is training them up in industrious habits, and giving them a taste for labour,—a part of their instruction quite lost sight of. The prevention of crime would have a more beneficial effect on society than punishment after the offence has been committed. Mankind are naturally depraved: hence the importance that when young, the seeds of vice should be destroyed, and good principles instilled into the heart whilst it is capable of receiving impressions with the faith of childhood. The want amongst the rising generation of the lower orders, is that of superintendence between the ages of boyhood and manhood—a dangerous time to be kept without control or advice; with so many temptations to contend against, and having but an indifferent example at home. There is scarcely any land, however bad, that may not be made to grow something. Should it only pay the cost of cultivation for two or three years, it is better to till it with the idle hands of the neighbourhood, having a future prospect of gain, than to allow paupers to feed upon the rates. It may be tedious to sing the same song to the old tune, but it is necessary to remind men of the folly of relaxing their exertions, because produce is cheap. To throw labourers out of work under the erroneous idea that land is not worth additional trouble, in consequence of free-trade, is an act of self-destruction. Where our fellow-creatures are dependent upon labour for their livelihood, the positive profit to be derived from their employment should not, in every instance, be too rigidly considered; provided no loss is sustained, the result should be deemed satisfactory, as having kept willing men from the union. It is not to

be supposed a tenant can only think of his neighbour's benefit; after having made a fair per centage himself, a little extra exertion may be bestowed upon the poor, by finding work which will pay its own expenses, without direct profit, yet with great indirect good at the time, and with a moderate advantage of £ s. d. at a later period. Repairing farm roads, cutting hedges, clearing out ditches, pitching yards, &c., will save much in the long run, though apparently not remunerative. *Falcon.*

Memoranda.—I am a constant reader of the *Agricultural Gazette*, and have occasionally dotted down a notice on what I have read there. A correspondent, "J. D.," a few months since published some very just remarks on Vetches, but neither he nor any other writer has noticed the two different sorts, the Early Royal and the late Vetch. The seed is very much alike, but the Early Royal comes into pod just as the other blooms, making a difference of 16 days, a matter of great consequence in sheep feeding; also in another respect, as I always sow winter Oats and winter Beans with my Vetches to hold them up and to increase the quantity. The Early Royal Vetch is fit for the sickle just as the Oat is ripe; but the other Vetch being more than a fortnight later, the winter Oat sheds itself, and is such a nest for the rooks, then hard-pressed, that in their depredations they tread the Vetches into the ground and rot them; therefore if they are not intended for food, it is better not to sow the Oats and Beans with them. Having some spare Turnips, I bought a cow in milk, and having other cows, for fear of spoiling the butter, I had her milked into the pig bucket and it was given to a litter of pigs; but on the advice of "Clitheroe's" old woman, I have for two weeks kept this cow's milk separate, and find the benefit of the hot water, as the butter has no taste of the Turnips. I read last week, 20 lbs. of hay is sufficient for a cow—indeed! Some years since, when I first came here, I had four cows, and having no fodder, I put three out to the straw yard, and one with a calf I kept at home, and found she eat six trusses of 56 lbs. a week of hay, worth 4*l.* a ton, and for her expense of 12*s.* a week she paid me less than 7*s.* [We have had cows that ate 2½ cwt. of Turnips a day; but, for all that, we are safe in saying that 1 cwt. daily will keep a cow in "store" condition.] Unless there is plenty of spare food, useless for any other purposes, I fancy cows are a loss in the winter, and no gain in the summer; but they are a great luxury in a family. I have a neighbour who supplies a large town with milk, who keeps his cows in good order by cutting up the straw, and, after damping it, putting one pint of Bean-meal to every cow's portion at every feed. On the question of tanks for water, one of the most successful experiments I have made was about 20 years since. Being 100 feet above the water in a bed of chalk, and having a good run from a large stable, slated, I dug a large round hole, say 10 feet deep and 10 wide. I clayed the bottom, and laid down hard bricks. Then I had a wall built round five tiers, a foot from the outside, behind which I had stiff clay rammed down as hard as possible by three men in the hole with mallets; and so on till we reached the top, and then threw an arch. The tank holds about 60 hogsheads, and has never failed. No cement whatever; common bricks and lime and clay, very cheap, and made by a common bricklayer under my direction. Cement must be very good and well put on not to crack and leak. A foot of clay rammed in behind the brickwork, which being round is the more tightened; the more it is pressed by the clay is, in my opinion, preferable. The water comes quite clear from the slated roof, and is raised by a common pump—very useful for the house and the stable—say 10*l.* for the whole expense. Mangold Wurzel may do for store pigs, but not for breeding sows. The litter generally comes one or two days before the time, and some of them small, and not worth keeping if they do not die—*experto crede.* Before I close these hasty notes, allow me to express my admiration of Mr. Mechi's candour and chivalry—his courage in giving *such* a balance-sheet to the public shows a noble tone of mind, above any vexation at the sneers and petty remarks of those who cannot appreciate his high qualities; and then his generosity is equal to his courage, for he declares his determination to proceed, notwithstanding his losses. I cannot but fancy he has made the balance against himself greater than was necessary; at all events, I can say for myself, and I think for many others, that we are deeply indebted to Mr. Mechi for what he has done, and it gives me much pleasure to have this opportunity of thanking him. *Delta, Hants.*

Flour.—If some practical man would make the following calculations he would be doing good service to the public, as the slightest rise in the price of Wheat is made an excuse for adding on to the quartern loaf an exorbitant per centage—What should be the price of the 4-lb. loaf when Wheat is at 36*s.* per quarter? and up to 42*s.* first and second quality of flour? and also of sharps and bran? There must, of course, be variations to a slight extent dependant upon locality, but allowances can be made on this head by the consumers, when they know how many 4-lb. loaves a sack of flour will make without the adulteration of either Potatoes, Rice, or anything else. *Falcon.*

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

Judges.—At the monthly Council on February 4, the following resolutions were adopted on the motion of Lord Portman, seconded by Mr. S. Bennett:—

1. That a Committee be appointed to select the Committee of Council who are to form the Judges' Selection Committee.
2. That such Committee consist of all past Presidents and the Stewards of the Yard.

At the monthly Council on the 3d of March, the consideration of the general question was resumed; when, on the motion of Lord Portman, seconded by Mr. Thompson, the following additional resolutions were carried:—

3. That a circular be sent in the first week of April to each member of Council requesting him to send to the Secretary before the monthly meeting in May, the names of persons qualified and willing to act as judges of stock; to serve as an addition to the names sent in by other members of the Society.
4. That the list of names of persons recommended as judges be placed in the Council-room, and a copy be sent to each member of Council two weeks before the committee of selection proceed to select the judges; and that any member of the Society be at liberty to apply to the Secretary for a list of names, and to send in writing to the Secretary his objections to any name on the list; such objections to be laid before the committee of selection.
5. That the Stewards of the Yard shall report to the Council annually their observations on the exhibition of stock.

A Weekly Council was held at the Society's House in Hanover Square, on Wednesday, the 10th of March: present, Colonel Challoner, Trustee, in the Chair; Sir Robert Price, Bt., M.P., Mr. Raymond Barker, Mr. Henry Raymond Barker, Dr. Calvert, Captain Stanley Carr, Mr. Fuller, M.P., Mr. Gadesden, Mr. Fisher Hobbs, Mr. Love, Mr. Majendie, Mr. Rowlandson, Professor Simonds, Mr. Reynolds Solly, Mr. Stansfield, M.P., Mr. R. Trench, Mr. C. Hampden Turner, and Professor Way.

Breeding of Animals.—Mr. Valentine Barford, of Foscote, near Towcester, in Northamptonshire, addressed a communication to the Council on the importance of attending to those principles which regulate the production of perfectly formed stock. After referring to the steps which the Council had taken for this desirable end, and detailing the discussions on the subject in the Northamptonshire Agricultural Book Club, he concluded his communication with the two decisions arrived at by that Club, and his own general observations.

1. That, although, in all cases, the system of in-and-in breeding is not desirable in our domestic animals, yet that, when animals properly formed have been obtained, it is the only method to retain that form.
2. That forcing breeding animals of either sex, either by artificial feeding or warmth, is highly detrimental to the health of the offspring.

"From the foregoing remarks you may gather that the standard or criterion which I recommend is a certain form or conformation; and is that which Mr. Cline, in his valuable "Treatise on the Formation of Animals," recommends; for, whatever may be the opinion of the multitude, there is but one form right, be it light or heavy (and there never can be two), that admits of health, stamina, and constitution. All the best animals I have seen that have taken prizes the last 40 years, whether large or small, approximate to a certain form, and this form I will call the *sine qua non* or standard; and knowing how to produce this form is the science. If you will make breeding and rearing domestic animals a science, you will soon breed 100 good ones, where you now breed only one. We see the science of agriculture progressing, and why should the science of breeding animals be neglected? I know that the prevailing fashion is for large animals (although fashion has led many astray), but I have yet to learn that they are either the best or the most profitable; and in order properly to test this, I would very respectfully suggest to the Council the propriety, if they have the funds, of taking a farm of moderate quality, and allowing breeders to send in young stock, to be raised and fed by the Society's servants upon the principle laid down by the late Robert Bakewell, viz., by weighing their food; it would then be soon apparent which paid best for what it consumed; but whether, from local circumstances, you may prefer a large or a small animal, the same science is requisite to produce the good one. The form of the chest which Cline advocates, approaches as nearly as possible to a circle, and is not that porpoised or inverted form so fashionable in the present day, neither is it that apparent form which is too frequently (in sheep) clipped into a circle; but is that real external form which is an index of the internal structure."

Flax Cultivation.—Mr. Leyland Woods, of Chilgrove, near Chichester, called the attention of the Council to a subject of much inquiry by many persons in different parts of the country, namely, the mode in which farmers, who had grown Flax, could dispose of the straw of that crop. He, like many others, had heard of parties said to be willing to purchase that article, but it still remained on his hands unsold. Mr. Wood gave the following statement of the produce of his Flax crop in 1851:—

One acre of land gave a produce of 21 bushels of good seed, and 31 cwt. of undressed Flax straw. The soil was of middling quality on the chalk hills. The land was prepared, and the seed sown in April, after one year's Turnips, which were fed off by sheep. The Clover, sown with the Flax, looks well at the present time, March 3.

Colonel Challoner stated that he had converted his Flax-straw into manure, and capital manure he had found it make.—Mr. Rowlandson had, with others, understood from M. Claussen that there were parties who would give 3*l.* per ton for Flax-straw, but he (Mr. Rowlandson) had not been yet able to find where they were.—Mr. Gadesden understood that M. Claussen and his friends would not now offer that price.—Mr. Rowlandson thought there was no probability that the ordinary Flax-straw would be bought up to any extent in this country. Fine Flax might indeed be exported, and a good price obtained for it. He advocated the growth of Flax, but thought it desirable that persons should not embark in its cultivation and management without making themselves thoroughly acquainted with their business in this branch of speculation. He recommended that the farmers within a given district should at first grow only a few acres each of this crop, and make combined efforts to promote its success. There was now he believed no doubt of the advantages of Flax after Turnips. His friend Mr. Gadesden had made a trial of this cultivation, and found no crop of Flax on light land better than the one which followed the Turnips.—Col. Challoner suggested that Mr. Rowlandson should again favour the members with farther practical points for their guidance, similar to those he had kindly given them on a former occasion, but founded on his increased experience of the nature of the Flax crop. Mr. Rowlandson cheerfully complied with the chairman's request. He considered the growth of Flax to be easy; the ground should be in good tilth, but not too highly manured; it should be well weeded, and would take care of itself till pulled. At that stage it was that a little instruction would be required by the farmer. The process of retting, too, might be improved by easy instructions in the requisite application of scientific principles. A small sum of money would, indeed, be well expended on experiments to ascertain distinctly the definite proportions of alkali and acid to be alternately employed in the most efficient mode in the retting process. Great niceties were to be observed in this manipulation, as minute quantities were employed in large quantities of water, and slight differences in the amount of the acid or alkali would produce a great amount of difference in the result.—Col. Challoner inquired the best mode of separating the seed without injuring the straw.—Mr. Rowlandson had found knocking out the seed by striking the dry plant against the convex side of a barrel, or striking it against boards with a flat piece of wood answer perfectly well.—Mr. Gadesden considered that farmers were not in a position to prepare their Flax for manufacturers.—Colonel Challoner remarked that M. Claussen had told them at a former meeting in that room, that the farmers had only to grow Flax, remove the seed from it, and then put up the straw into bundles, when the latter would be purchased of them at a price so remunerative as to cover the expense of cultivation, and leave them the seed into the bargain.—Mr. Trench had his Flax thrashed by means of a broad flail, having a flat end like the flail used in foreign countries, and the straw then put together again by women, and sold ten miles off at 3*l.* per ton. His land was of good quality, and well prepared for the crop; yielding 2 qrs. of seed, and 2 tons of straw per acre. His Flax was of fine quality; and in competition with his neighbours within a range of 10 or 12 miles round, had obtained the prize as the finest and best.—Mr. Rowlandson hoped that Mr. Gadesden would furnish the Council with the results of his trials in the growth of Flax; the greatest pains had been taken by him to obtain correct results, by accurately weighing the Flax at the different steps of its management.—Mr. Gadesden stated, that his crop had yielded 24 bushels of seed and 32 cwt. of straw; he had sold the seed in Mark-lane at 56*s.* per quarter, and if the straw yielded one-fifth of Flax, which in the seed market would fetch 60*l.* per ton, the crop of seed and straw together, would give a return of more than 26*l.* 8*s.* per acre.—Mr. Stansfield, M.P., was trying an acre and half of Flax, on land in good tilth, after Turnips. Agricultural labour, in the neighbourhood of Leeds, where his estate was situate, was scarce and as high as 13*s.* or 14*s.* per week. The parties to whom M. Claussen had particularly referred, as the purchasers of Flax straw, namely, Messrs. Quitzow and Co., of Apperly-bridge, near Bradford, being close to Mr. Stansfield's residence, he had applied to them on this point, but found that they had given up the purchase of Flax straw, and would not buy any more. He expected to have 3 qrs. of seed to the acre, and hoped to be able to sell his straw at 3*l.* per ton. The farmer, in his opinion, ought never to have anything to do with the manufacture of Flax, but simply to raise it as a rotation crop, and sell off the straw at once. He hoped the steeping process would be dispensed with, as it spoiled all the water in the ditches of the neighbourhood where the operation was carried on.—Capt. Stanley Carr, having resided abroad for 25 years, and occupied 1000 acres of land, was desirous, as an honorary member of the Society, to state to the Council the result of his experience in the growth of Flax on his estate in Holstein. He had never seen Flax grown with profit on a large scale, anywhere. On his own property it had been grown on a small scale at first by the labouring population, who had a right to grow a little Flax for the coarse linens they required for their own use. When the Flax had been grown, manure was always subsequently required. It caused much labour to keep it clean, as it grew up too fast and got foul. Although the Flax and seed were easily disposed of, no farmer in the fine country of Holstein grew Flax on a large scale on account of its exhausting character.—Colonel Challoner remarked that last year he had grown some Flax, but found that it did not draw the land, which appeared rather improved than deteriorated by the crop.—Captain Carr observed that his own land was of a loamy nature, that Flax grown once in ten years would succeed, but once in five years was found oftener than the land would bear; but, as he had stated, the straw and seed were both sold off, and not returned to the soil.—Mr. Fuller, M.P., had found his own land bear Flax without exhaustion.—Mr. Gadesden, in Surrey, had Rye, following Flax, as fine as could be seen anywhere. He always sowed the seed broadcast.—Mr. Rowlandson remarked, that the exhaustion from the Flax crop in Germany, alluded to by Captain Carr, might, he thought, be satisfactorily explained by the circumstance of the whole of the straw and seed being removed from the farm, and nothing returned to the soil, not even the matter extracted from the straw by the retting water, which had been furnished to the Flax crop by the land on which it had

been grown. Professor Way had, in his chemical examination of Flax, published in the Journal of the Society (vol. xi., pp. 517 to 528), endeavoured to show by the composition of its ashes, the character and amount of the different substances taken up from the soil by each part of the Flax plant. These results, in connection with information supplied to him by Mr. Warnes, led him to believe that when the seeds were returned in any shape to the soil, Flax might be regarded as not an exhausting crop, the fibre and other parts of the plant taking little or nothing from the soil.—Capt. Carr fully concurred in these views, and believed that the return of the seed would repay the soil.—Mr. Rowlandson thought the Flax crop better adapted for small farmers, but he saw no reason why it should not be equally worthy the consideration of great ones. He knew 200 acres in Lincolnshire on which 7*l.* per acre was paid to grow Flax; but he believed that to manage 100 acres required a man of more than ordinary energy; even 25 acres under Flax in every farm of 300 or 400 acres would require much attention. He thought Flax-culture ought to be a component part of British husbandry. It was, indeed, peculiarly the poor man's crop, whose wife and children could devote to its details that time which was not otherwise employed. He did not, however, rest any hopes on those Utopian extensions of the employment of Flax and convertibility of its objects, that had been recently brought forward in so many shapes.—Mr. Majendie alluded to the successful manner in which Mr. Warnes was growing Flax still more extensively than formerly, in conjunction with box-feeding.

Flax Sowing.—Mr. Charles Ogle, of Rawcliffe, near Selby, Yorkshire, having been a grower of Flax for the last 20 years, and in one year had 45 acres under that crop, ventured to suggest to the Council that means should be taken to induce implement makers to construct a machine for sowing Linseed broadcast, and depositing it at 1 inch below the surface of the ground. He thought the great advantage of such a mode of sowing would be that all the seed being deposited at the same depth, it would all come up out of the ground at the same time; a point considered of much importance —for when sown in the usual method the plants come up partially when the weather happens to continue for some time dry, and the remainder only follow after a fall of rain; the late plants being of no value to the manufacturer, as its substance works away in the process of scutching, and is thrown aside with the refuse. Mr. Ogle expressed his readiness to give information on the requisites for such a machine, to any implement-maker who would apply to him on the subject. It was well known among Flax growers that a mere drill to deposit the seed in rows was not the machine required, as Linseed was always sown broadcast; and that the implement desired was one that would not only effect the same equable distribution of the seed as in good broadcast sowing, but also deposit it an inch deep in the soil.

Farmers' Flax Mill.—Mr. Hill Dickson, of Artillery-street, Bishopsgate, favoured the Council with the following communication:—

"I am engaged in making a mill for the Chevalier Claussen, that will break, scutch, and hackle Flax as it comes from the farmer, without being watered. I consider the improvements I have made will be such as will make my machine a desideratum to the farming interest; for not only will the trouble and expense of watering and grassing be dispensed with, but as it can be worked by two horses, and being on four wheels, and on a frame 6 feet by 5 broad, it can be moved from farm to farm, and consequently the great objections to Flax culture entirely overcome. Another advantage in favour of the farmer is, that with my machine he requires no practised hands—such as the Irish scutchers, at 3*s.* or 4*s.* a day—but only six boys or girls, at from 8*d.* to 10*d.* a day, to attend, and one man to feed the machine. When I have finished the machine I shall be happy to be honoured with a visit from any of the gentlemen connected with your Society, and to explain the nature of my improvements, and work the machine before them. I am making experiments at Chev. Claussen's works, in order to ascertain the difference and advantage of his discovery over that of Schenck, and the old system, a matter which I think the Council of your Society will approve of, when my whole statement is placed before them. I shall show the expense and profit attending each of the three systems of preparing Flax, and what is to be made by the spinning and weaving by each."

Mr. Love remarked that he had seen the machine, then stated by Mr. Dickson to be in the progress of completion—namely, six months ago, and two months ago. The Flax-straw was first passed through rollers, and then strained or grazed as it passed out of them. By this machinery, however, it appeared to him at those times that the fibre received injury by the means that were thus employed to prepare it; but as the arrangements were not completed by Mr. Dickson, it would be unfair to pass judgment on his apparatus until perfected. The injury might not, perhaps, be considered material in those cases in which the fibre was to be converted into the Claussen cotton, but would be so when required for long Flax. The Flax-straw was reduced by the machine to one-third of its bulk, and lost one-tenth of its weight by the operation.

Tank-Water Conduits.—Colonel Challoner, having to convey manure-water from a tank round a hill, to irrigate six or eight acres of land as water-meadows, was desirous of ascertaining the best means of accomplishing this object, as he had found wooden troughs soon become decayed.—Capt. Carr suggested earthen pipes below the surface.—Prof. Way believed the Rev. Mr. Huxtable had substituted earthen pipes for wooden ones.

Ear of Wheat Steeping.—Mr. Majendie laid before the Council a bundle of Wheat from France, as a sample of Wheat grown from grain which had been steeped by a method adopted in France for seed-Wheat sown over 30,000 acres. This sample exhibited good straw, but furnished with a bundle of ears that were found to be mere husks, almost entirely empty, containing only a few diminutive shrivelled grains. Mr. Majendie was not aware of the particular nature of the steeping employed.

Peruvian Potatoes.—Prof. Way, agreeably to promise, laid before the Council the result of his trial of the Peruvian Potato alluded to on that day fortnight. The Potato placed in his hands had not undergone, as he was supposed to have said, any chemical examination. He had merely cut it into four quarters, which he planted in his garden. The result was 50 Potatoes, of which he had then the pleasure of laying a supply before the Council, in the hope that those who continued the trial of the cultivation would in the same manner furnish supplies to the Council, in order that the stock, if good, might thus become gradually distributed and established.—A statement was made of a similar Potato from Peru having become the origin of an extended stock over one of the mountain limestone districts in the central part of England, which failed to grow, and only became rotten, when transferred to the rich garden-mould of the neighbourhood of the metropolis: it was therefore thought desirable that in reports of this Potato cultivation the members should particularly state the nature of the soil in which the trials may be made.

Mr. Chadwick, C.B., transmitted from the General Board of Health, copies of "Minutes of Information collected in respect to the Drainage of the Land forming the Sites of Towns, to Road Drainage, and the Facilitation of the Drainage of Suburban Lands;" Mr. Barthropp offered suggestions for the entry of animals at the Country Meetings of the Society; and the Hon. Edward Everett offered, as one of the Honorary Members of the Society, to promote any of the objects of the Society in the United States of America.

The Council adjourned to March 17th.

Notices to Correspondents.

Hare-Rabbits: *Alpha* asks where the pure breed of hare-rabbits is to be purchased. He must consult our advertising columns.

Lyndon's Forks: *R A Lyndon.* The correspondence on this subject, so far as it has yet reached us, has been fully published.

Tenant Right: *A B C.* There are numberless pamphlets on this subject. The following are some on both sides of the question:—1. On the Importance of a Legislative Enactment uniting the Interest of Landlord and Tenant, &c. By C. Newman, Court Farm, Hayes, Middlesex. Ridgway, Piccadilly.—2. Tenant Right: on the Necessity of some Legislative Enactment, &c. Prize Essay. By Henry Corbet, Secretary to the London Farmers' Club. "Farmers' Magazine" Office, 24, Norfolk-street, Strand.—3. Tenant Right: its Nature and Requirements, &c. By James Welch, of the Inner Temple, Esq., &c. &c. Ridgway, Piccadilly.—The Justice and Expediency of Tenant Right Legislation, Considered in a Letter to P. Pusey, Esq. By Rev. C. Neville. Ridgway, Piccadilly.

Thoughts for the Thoughtful: *A M.* You have altogether mistaken our idea.

*** Replies to many correspondents are unavoidably postponed, through the indisposition of the Editor.

Markets.

COVENT GARDEN, March 20.

Notwithstanding the continued coldness of the weather, the market is still well supplied with vegetables and fruit. English Pine-apples are plentiful, considering the season. New Hot-house Grapes have made their appearance; foreign ones are a trifle dearer. The best English Pears fetch good prices. They are now confined to Beurré Rance and Easter Beurré. Oranges are plentiful and good. Nuts are nearly the same as last quoted. Strawberries are still supplied in small quantities. Carrots, Turnips, Cabbages, &c., are sufficient for the demand, and there is some fine Cornwall Broccoli in the market. Potatoes are generally good in quality. Lettuces and other salading are sufficient for the demand. Mushrooms are cheaper. Cut flowers consist of Heaths, Epacrises, Mignonette, Camellias, Roses, Acacias, Azaleas, Primulas, Hyacinths, Tulips, Lily of the Valley, and other forced bulbs.

FRUIT.

Pine-apples, per lb., 4s to 8s	Pears, dessert, p. doz., 2s to 6s
Grapes, hothouse, p.lb., 15s to 20s	Oranges, per doz., 1s to 1s 6d
Grapes, Lisbon, per lb., 9d to 1s 6d	— per 100, 3s 6d to 10s
Strawberries, per oz., 1s to 2s	— Seville, per doz., 1s to 3s
Apples, kitchen, per bushel, 2s to 3s 6d	Lemons, per doz., 1s to 2s
Almonds, per peck, 5s	Nuts, Barcelons, p. bsh, 20s to 22s
— sweet, per lb., 2s to 3s	— Brazil, p. bsh., 12s to 14s
	Cobs, per 100 lbs., 80s to 100s

VEGETABLES.

Savoys, per doz., 10d to 2s	Beet, per doz., 1s to 2s
French Beans, p. 100, 2s to 3s	Parsnips, per doz., 4d to 1s
Broccoli, p. bunch, 5d to 1s 3d	Leeks, per bunch, 1d to 2d
— heads, each, 2d to 4d	Shallots, per lb., 8d to 10d
Asparagus, p. bundle, 3s to 7s	Garlic, per lb., 6d to 8d
Seakale, p. basket, 1s 3d to 2s 6d	Lettuce, Cab., p. score, 4d to 1s
Greens, per doz., 2s 6d to 4s	Radishes, per doz., 1s 6d to 2s
Rhubarb, p. bundle, 6d to 1s 6d	Small Salada, p. punn., 2d to 3d
Potatoes, per ton, 45s to 80s	Horse Radish, p. bundle, 1s to 4
— per cwt., 2s to 5s	Mushrooms, p. pot., 1s to 1s 3d
— per bush., 1s 6d to 2s 6d	— per punnet, 9d to 1s
Turnips, p. doz., 1s 6d to 2s 6d	Sorrel, p. hf. sieve, 1s 3d to 1s 6d
Cucumbers, each, 1s to 3s	Artichokes, Jerus., do., 9d to 1s
Celery, p. bundle, 6d to 1s 6d	Fennel, per bunch, 2d to 3d
Carrots, per bunch, 4d to 7d	Savory, per bunch, 2d to 3d
Brussels Sprouts, p. half sieve, 1s to 1s 6d	Thyme, per bunch, 2d to 3d
Spinach, per sieve, 1s to 1s 6d	Parsley, per doz. bun., 2s to 3s
Onions, p. bunch, 2d to 4d	Mint, per bunch, 4d to 6d
— Spanish, p. doz., 1s 6d to 3s	Basil, p. bunch, 3d to 4d
Endive, per score, 1s to 2s 6d	Marjoram, do., 3d to 4d
	Watercress, p. 12 bunchs, 3d to 1s

POTATOES.—Southwark, Monday, March 15.

The committee report that during the past week the arrivals coastwise and by rail have been considerable, and trade very dull. The following are this day's quotations:—York Regents, 60s. to 80s.; Scotch do, 60s. to 70s.; Perth and Forfarshire Cups, 60s. to 65s.; Fifeshire do, 55s. to 60s.; Cambridge and Wisbeach, 50s. to 65s.; Kent and Essex, 60s. to 75s.

HAY.—Per Load of 36 Trusses.

Smithfield, March 18.

Prime Meadow Hay	72s to 76s		Clover	75s to 85s	
Inferior ditto ...	63	67	2d cut	65	75
Rowen	60	63	Straw	23	30
New Hay	—	—			

J. Cooper.

Cumberland Market, March 18.

Prime Meadow Hay	75s to 80s		Inferior	65s to 72s	
Inferior ditto... ...	60	70	New Clover	—	—
New Hay	—	—	Straw	26	30
Old Clover	78	84			

Joshua Baker.

Whitechapel, March 18.

Fine Old Hay ...	70s to 76s		Old Clover	80s to 88	
New Hay	—	—	Inferior ditto ...	63	75
Inferior ditto... ...	55	65	New Clover	—	—
Straw	25	28	Inferior ditto... ...	—	—

COAL MARKET.—Friday, March 19.

Eden Main, 14s. 6d.; Wallsend Riddell, 13s.; Wallsend Haswell, 16s. 9d.; Wallsend Hetton, 15s. 6d.; Wallsend Lambton, 15s. 3d.; Wallsend Stewarts, 15s. 6d.; Wallsend Tees, 15s. 6d.—Ships at market, 177.

HOPS.—Friday, March 19.

Messrs. Pattenden and Smith report there continues a steady demand for all sorts, at firm prices.

Mid & East Kents	120s to 210s	Sussex	115s to 126s
Weald Kents ...	120s to 147s	Yearlings	90s to 110s

Old Hops, 20s. to 40s.

WOOL.

Bradford, Thursday, March 18.—The inquiry for most descriptions of English wool has continued languid during the current week, and we are not able to report any increase of cheerfulness in the general tone of the market. Prices range, however, comparatively firm, and this must be ascribed chiefly to the lightness of stocks both here and in the country. These do not seem likely to increase, as the quantity coming forward is unusually limited, even for this season of the year. The anomaly of higher prices being quoted by (and in some instances conceded to) the growers for the little wool held by them, than the rates actually realised here, still prevails to a small extent, but the general disposition seems to be to hold off entirely, and wait the result of a week or two longer. Noils and brokes being of diminished production are readily moved off at full rates.

SMITHFIELD, Monday, March 15.

The supply of Beasts is large, and although the demand is considerable, the quantity causes a reduction in price. There are also rather more Sheep. A few choice Downs are readily sold at late prices; but for all other kinds our quotations are with difficulty realised. The number of Calves is not large, but the demand is so small, that a reduction of about 4d. per 8 lbs. is generally submitted to. From Germany and Holland there are 387 Beasts, 800 Sheep, and 105 Calves; from Scotland, 600 Beasts; from Norfolk and Suffolk, 2400; and 200 from the northern and midland counties.

Per st. of 8 lbs.—	s	d	s	d	Per st. of 8 lbs.—	s	d	s	d
Best Scots, Here-fords, &c. ...	3	4	to 3	6	Best Long-wools .	3	6	to 3	8
Best Short-horns	3	2	— 3	4	Ditto Horn ...			...	
2d quality Beasts	2	4	— 2	10	Ewes & 2d quality	2	8	— 3	2
Best Downs and Half-breds ...	4	0	— 4	4	Ditto Shorn ...			...	
Ditto Shorn ...			...		Lambs	0	0	— 0	0
					Calves	2	8	— 4	0
					Pigs	2	8	— 3	3

Beasts, 4129; Sheep and Lambs 22,770; Calves, 141; Pigs, 360.

Friday, March 19.

There is but a small number of Beasts on offer to-day; however, the large supply of Monday last, and full dead markets, cause a very limited demand. Our prices are not at all improved; indeed, a clearance cannot be effected. Sheep are fully as plentiful as of late; there is very little trade for them, and Monday's quotations with difficulty obtained. Good Calves are not numerous; however, it is difficult to advance prices; middling ones are very unsaleable. From Germany and Holland we have 36 Beasts, 180 Sheep, and 89 Calves; from Spain, 250 Sheep; from Scotland, 50 Beasts; from Norfolk and Suffolk, 200; and 135 Milch Cows from home counties.

MARK LANE.

Monday, March 15.—Although the supply of English Wheat at market this morning was again small; the millers, however, having a very limited sale for Flour, were indifferent buyers, and a reduction of 1*s.* per qr. had to be submitted to upon all secondary qualities, whilst the best runs scarcely sold so well as on Monday last. The business done in foreign Wheat was of quite a retail description, and its value was nominally the same as before.—Flour was in very limited request, and rather easier to purchase.—Barley was in fair supply, and disposed of on the terms of this day se'nnight.—The receipt of Oats during the past week has been fully equal to the demand, and factors did not manage to support previous currency without some difficulty.—Beans and Peas realised much the same rates as before.

Per Imperial Quarter.	s.	s.		s.	s.
Wheat, Essex, Kent, & Suffolk...White	43	—46	Red	40	—42
— — fine selected runs...ditto	46	—48	Red	42	—44
— — Talavera	46	—51			
— Norfolk, Lincoln, & York...White	39	—44	Red		—
— Foreign	37	—53			
Barley, grind. & distil., 26s to 29s...Chev.	31	—35	Malting .	29	—32
— Foreign...grinding and distilling	22	—29	Malting .		—
Oats, Essex and Suffolk	19	—21			
— Scotch and Lincolnshire...Potato	2	—24	Feed	20	—22
— Irish .....Potato	20	—23	Feed	19	—22
— Foreign .....Poland and Brew	19	—22	Feed	18	—21
Rye	—		Foreign .	—	
Rye-meal, foreign.....per ton	—				
Beans, Mazagan .....24s to 27s.....Tick	25	—30	Harrow .	25	—30
— Pigeon.....27 — 32... Winds	30	—36	Longpod	24	—30
— Foreign .....Small	22	—30	Egyptian	23	—25
Peas, white, Essex and Kent.....Boiler	32	—34	Suffolk..	33	—35
— Maple.....27s to 30s .....Grey	26	—28	Foreign .	27	—34
Maize .....White	—		Yellow ..	—	
Flour, best marks delivered ...per sack	38	—43			
— Suffolk .....ditto	29	—34	Norfolk	29	—34
— Foreign .....per barrel	18	—24	Per sack	32	—36

Friday, March 19.—The Wheat trade was inactive this morning, and the small amount of business transacted in both foreign and English Wheat was at about Monday's rates.—There was a very limited sale for Flour at previous prices.—Barley maintained late rates. With moderate arrivals of Oats, holders evinced firmness, and the turn of price was in favour of sellers.—Beans and Peas sold on much the same terms as at the beginning of the week. There was no alteration in the value of Clover seed this morning.

Imperial Averages.	Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.
Feb. 7.....	41*s* 2*d*	29*s* 8*d*	18*s* 11*d*	29*s* 7*d*	29*s* 0*d*	29*s* 0*d*
— 14.....	42 8	30 7	18 9	29 11	29 10	29 7
— 21.....	42 9	31 0	19 4	30 5	30 2	30 5
— 28.....	42 3	30 7	19 6	30 7	29 10	29 5
March 6.....	42 7	30 1	19 4	32 5	30 2	29 6
— 13.....	42 1	30 5	19 9	30 5	30 1	29 7
Aggreg. Aver.	42 5	30 4	19 8	30 7	29 10	29 7

Duties on Foreign Grain, 1*s.* per quarter.

Fluctuations in the last six weeks' Averages.

Prices.	Feb. 7.	Feb 14.	Feb. 21.	Feb. 28	Mar. 6	Mar. 13.
42 10*d*	...	...	...	...	...	...
42 9	...	...	...	...	...	...
42 8	...	...	...	...	...	...
42 7	...	...	...	...	...	...
42 3	...	...	...	...	...	...
41 2	...	...	...	...	...	...

GLASS FOR CONSERVATORIES, GREENHOUSES, PIT FRAMES, ETC.

JAMES PHILLIPS AND CO. beg to hand in their prices of SHEET GLASS for cash:

Cut to order in Panes not above 40 inches long.		Packed in Boxes of 100 feet each.	£.	s.	d.
16 ozs.	3d. to 3½d.	6 by 4, 6½ by 4½	0	13	0
21 do.	3½d. to 5d	7 by 5, 7½ by 5½	0	5	0
26 do.	5d. to 7½d.	8 by 5, 8 by 5½	0	15	0
In Crates of 300 ft., 16 ozs. to the foot, 2¾d. per foot.		8 by 6, 8½ by 6	0	17	6
		9 by 7, 10 by 8	1	0	0

FOREIGN SHEET GLASS, of very superior quality, packed in cases of 200 feet, and in sizes varying from 36 by 26 to 44 by 30 inches, at 38s., 40s, to 42s. per case.

HARTLEY'S PATENT QUARRY GLASS.

Milk Pans, from 2s. to 6s. each, Propagating and Bee Glasses, Cucumber Tubes, Lactometers, Lord Camoy's Milk Syphons, Tiles, and Slates, Wasp Traps, Plate, Crown, and Ornamental Glass, Shades for Ornaments, Fern Shades, and every article in the Trade.

HORTICULTURAL GLASS WAREHOUSE, 116, Bishopsgate-street Without.

GLASS.

THOMAS MILLINGTON'S FOREIGN SHEET GLASS is far superior to any other manufacture, as well as cheaper. In 100 feet boxes packed for immediate delivery.

6 inches by 4 and	6½ by 4½	... ...	...	13s. 0d.
7 ,,	5 and 7½ by 5½	... ...	...	15 0
8 ,,	5 and 8 by 5½	... ...	...	15 0
8 ,,	6 and 8½ by 6½	... ...	...	17 6
9 ,,	7 and 10 by 8	... ...	...	20 0
12 ,,	10 and 13 by 9	... ...	...	20 0

And many other sizes, or cut to order in various thicknesses. Cases containing large Sheets, in 100, 200, and 300 feet, at 21s. per 100 feet.

ROUGH PLATE, perfectly flat, ⅛ in. thick, best manufactured.

In sizes under 15 inches	.....		6d.	per foot.
,, ,,	35 ,,	.....	8d.	,,
,, ,,	50 ,,	.....	9½d.	,,
,, ,,	75 ,,	.....	12d.	,,

Milk Pans, 2s. to 6s. each; Metal Hand Frames, Glass Tiles and Slates; Cucumber, Propagating, and Bee Glasses; Wasp Traps, Glass Shades, and Plate Glass, at 87, Bishopsgate-street Without, same side as Eastern Counties Railway.—Established 100 years.

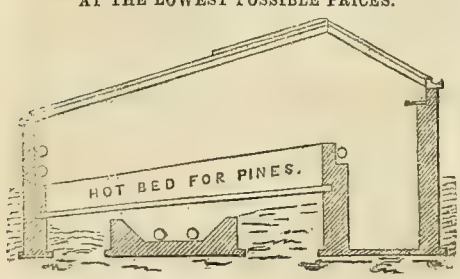
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See *Gardeners' Chronicle* first Saturday in each month.

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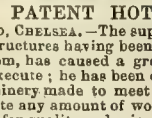
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The splendid collection of Stove and Greenhouse Plants are in the highest state of cultivation, and for sale at very low prices. Also a fine collection of strong Grape Vines in pots from eyes, all the best sorts.

Plans, Models, and Estimates of Horticultural Buildings; also Catalogues of Plants, Vines, Seeds, &c., forwarded on application.—J. WEEKS and Co., King's-road, Chelsea, London.

GREEN AND HOTHOUSES, made by Machinery, at J. LEWIS' Horticultural Works, Stamford Hill, Middlesex, warranted best materials, and the cheapest in England.—A List of Prices sent by enclosing 2 postage stamps.

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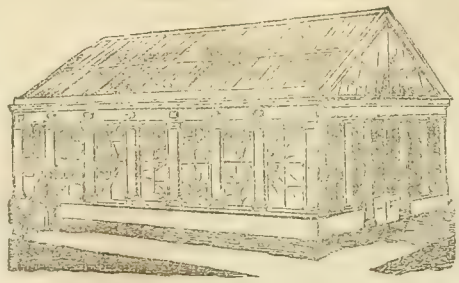
BY HER MAJESTY'S  ROYAL LETTERS PATENT.

E. DENCH, PATENT HOTHOUSE WORKS, KING'S-ROAD, CHELSEA.—The superior qualities in every respect of these Structures having been proved in all parts of the United Kingdom, has caused a greater demand for them than E. D. could execute; he has been obliged to have perfect and powerful machinery made to meet the numerous orders, and can now execute any amount of work to great perfection, with dispatch, and for quality and price to defy all competition. Patent Hothouses, with excellent glass 3 feet long by 1 foot wide, every front sash to open, and every top one to slide down, with pulley made of the same materials as the electric telegraph wires, which require no painting; delivered free to Wharf or Railway Station, at 1s. 2d. per foot super., complete, having been fitted, and every portion marked previously, making a Greenhouse 16 ft. 6 ins. long, 12 ft. rafter, 400 ft., 28l. 6s. 8d.; 24 ft. 6 ins. long., do. do., 526 ft., 30l. 13s. 8d.; 28 ft. 6 ins. long, 15 ft. rafter, 712 ft., 41l. 10s. 8d. Heating by Hot-water on themost approved and conomical principles.

Patent Sashes for Pits and Peach Walls, &c., 7d. and 8d. per foot, super.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER,

AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.

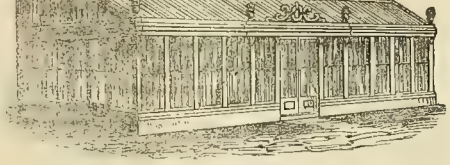


GRAY AND ORMSON, Danvers-street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

G. & O. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders, they can with the greatest confidence give the most satisfactory references.

Their Hot-Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating by Hot Water can be made available.

HOTHOUSES AND CONSERVATORIES.



JAMES WATTS, HOTHOUSE BUILDER, CLAREMONT-PLACE, OLD KENT-ROAD, has 200 CUCUMBER and MELON BOXES and LIGHTS of all sizes, ready for immediate use, made of well seasoned materials, packed and sent to all parts of the Kingdom.

HOTHOUSES, CONSERVATORIES, &c., made and fixed complete at a considerable reduction, and Garden Lights of every description. References may be had to the Nobility, Gentry, and the Trade, in most of the counties of England.

FLOWER POTS! FLOWER POTS! FLOWER POTS!

CHARLES PHILLIPS'S FLOWER-POTS were distinguished above all others shown at the Royal Exhibition of 1851. They received "Honourable Mention" by the Jury, Class 27; and were deemed by the various competent persons who examined them to be superior to any submitted for the world's inspection at the Crystal Palace. They are patronised at the Royal Gardens, both at Windsor and Kew, and by the principal Nurserymen throughout the Western, Southern, and Midland Counties of England; are extensively used in Ireland and Wales, and may be seen at almost every Nursery between Plymouth and London.

All orders for the above Goods will be promptly forwarded, CARRIAGE FREE, to any Railway Station within 150 miles of the Manufactory, either in dozens, casts, hundreds, or thousands.

C. P.'s Pots are warranted to retain their colour longer than any other manufactured.

CLEAR INSIDE DIAMETER.

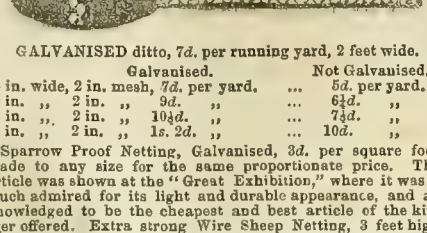
No.	Ins.	No.	Ins	No.	Ins.	No.	Ins.
1	1⅞	6	4⅝	11	8⅝	16	1
2	2½	7	5½	12	9½	17	1
3	2¾	8	6½	13	11	18	1
4	3½	9	7	14	12½	19	2
5	4	10	8	15	14	20	2

Every description of Red Ware, Sewerage Piping, Closet Pans, Chimney-pots, Land Drain Pipes, Seakale-pots, Vases, Tiles, Bricks, &c.

PHILLIPS'S Price List and Weston-Super-Mare Almanac and Guide for 1852, forwarded to any party who may desire it, on receipt of a postage stamp.

Manufactory, Locking Road, Weston-Super-Mare, Somerset.

CHEAP WIRE GAME AND POULTRY NETTING, 5d. per running yard;



GALVANISED ditto, 7d. per running yard, 2 feet wide.

	Galvanised.	Not Galvanised.
24 in. wide, 2 in. mesh,	7d. per yard.	... 5d. per yard.
30 in. ,, 2 in. ,,	9d. ,,	... 6½d. ,,
36 in. ,, 2 in. ,,	10½d. ,,	... 7½d. ,,
48 in. ,, 2 in. ,,	1s. 2d. ,,	... 10d. ,,

Sparrow Proof Netting, Galvanised, 3d. per square foot, made to any size for the same proportionate price. This article was shown at the "Great Exhibition," where it was so much admired for its light and durable appearance, and acknowledged to be the cheapest and best article of the kind ever offered. Extra strong Wire Sheep Netting, 3 feet high, 1s. 6d. and 2s 3d. per yard. Also every description of Flower Trainers, Dahlia Rods, Garden Arches, Bordering, Flower Stands, Tying Wire, Trellis Work, Invisible Wire Fencing, Hurdles, and every description of Wire Work for Horticultural purposes.—Illustrated Catalogues of Patterns forwarded, postfree, on application to T. H. FOX, City of London Wire Work and Iron Fence Manufactory, 44, Skinner-street, and 6 and 8, Snow-hill, London.

FARM TO LET, on very advantageous terms—on lease or yearly tenancy. About 300 acres of Clay Land, thoroughly drained, in a midland county, near a good market, and a good railway. The Roads, House, and Offices are all in excellent condition. Rates very low; no pressure of the poor; Tithe free; Rent low; no Rabbits; very favourable entry as to tenant right; Game not strictly preserved. About 60 acres more of Grass Land might be added if required.

Persons desirous of treating for this very eligible occupancy are requested to apply by letter to the editor of the *Gardeners' Chronicle*, at the Office, 5, Upper Wellington-street, Strand, London.

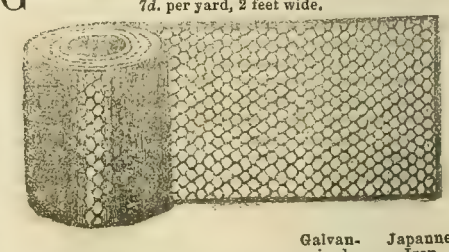
C. LAHEE AND CO., ESTATE and HOUSE AGENTS, Land Surveyors and Valuers, Agents at the West-end for the Legal and Commercial Fire and Life Assurance Society, No. 98, Piccadilly, four doors west of Cambridge-house, beg most respectfully to call attention to their Office for the REGISTER of PROPERTY for SALE and LETTING. Owners of Property for Disposal and of Town and Country Houses to be Let, Furnished, for the coming season, are requested to forward them particulars, for the registry of which no charge is made. At the request of Mr. LAHEE, of Bond-street, they beg leave to say that their business is entirely disconnected from that so long carried on by him.—98, Piccadilly.

TO MARKET-GARDENERS, HOTEL-KEEPERS, AND OTHERS.

TO BE LET, at Twickenham, near the Railway Station, the large, well-stocked, and productive GARDEN of the late Sir JONATHAN WATHEN WALLER. It embraces upwards of 3 acres, has four Graperies, and a range of Pine Pits, all in perfect order, and the walls extend upwards of 1500 feet. There is on the ground a commodious COTTAGE, containing 10 rooms in excellent repair, and fitted up with Water-closets, and other comfortable conveniences, having been occupied as summer lodgings for the family of the late proprietor. At present the whole ground is under crop. Rent, including Cottage and Out-buildings, 75l. per annum.—Apply to JAMES CLARK, 24, Billiter-street, London.

TO NOBLEMEN AND GENTLEMEN.—A married Man, aged 30, of liberal education, possessing a practical knowledge of modern Agriculture, Chemistry, Land Surveying, &c., is desirous of employment. He has had much experience in laying down land to permanent pasture, with the natural Grasses, on every variety of soil and situation. Employment being the principal object, only a moderate salary will be required.—Direct to C. E. M., Post-office, Peckham, Surrey.

GALVANISED WIRE GAME NETTING.—7d. per yard, 2 feet wide.



	Galvanised.	Japanned Iron.
2-inch mesh, light, 24 inches wide	... 7d. per yd.	5d. per yd.
2-inch ,, strong ,,	... 9 ,,	6½ ,,
2-inch ,, extra strong ,,	... 12 ,,	9 ,,
1⅝-inch ,, light ,,	... 8 ,,	6 ,,
1⅝-inch ,, strong ,,	... 10 ,,	8 ,,
1⅝-inch ,, extra strong ,,	... 14 ,,	11 ,,

All the above can be made any width at proportionate prices. If the upper half is a coarse mesh, it will reduce the prices one-fourth. Galvanised sparrow-proof netting for Pheasantries, 3d. per square foot. Patterns forwarded postfree.

Manufactured by BARNARD and BISHOP, Market-place, Norwich, and delivered free of expense in London, Peterborough, Hull, or Newcastle.

TERRA COTTA VASES, TAZZAS, FLOWER TRAYS, FIGURES, &c., manufactured by T. M. BLASHFIELD, Mill-Wall, Poplar, and sold at No. 1 Wharf, Praed-street, Paddington. These Vases, &c., are of a light stone colour, and are carefully modelled and burnt, and warranted to stand heat and frost; and this Terra Cotta is the only material for such works which does not sustain injury from smoke and sulphurous gases.

GLASS ENAMEL, OR IRON COATED WITH GLASS.

TO GOVERNORS OF HOSPITALS, WORKHOUSES, ARCHITECTS, BUILDERS, AGRICULTURISTS, HORTICULTURISTS, and the FARMING INTEREST generally.—It has long been a great desideratum to obtain an article that would resist the action of acids, the changes of temperature, and the destructive effects of rust. This at length (after repeated attempts) has been effected in an extraordinary degree, by that beautiful and newly-invented process of COATING OR ENAMELLING WROUGHT-IRON WITH GLASS, combining at one and the same time STRENGTH AND PURITY.

Among the articles which may be enumerated as having been already prepared by this useful invention are the following:—Wrought-iron Tubes, from ¾ inch to 7 inches diameter, superseding copper, lead, and earthenware; Culinary and other Domestic Utensils in great variety, Dairy Pans and Ladles, Scoops, Cisterns, Baths, Water Closets, Pumps, Hot and Cold Water Circulating Pipes, Ornamental Gas Piping in Colours, Plain and Corrugated Roofing, and other articles, too numerous to mention. The Colours which the Patentees have already been able to attain are white, iron grey, French grey, Royal purple, green, and their various shades, but they are in hopes, by the researches of chemistry and the experiments which are continually being made, of shortly adding to the number.

Further information may be obtained, by applying to the undersigned, who will be glad to execute all orders that may be intrusted to them with the utmost despatch.

LEONARD COOPER & Co.,
Agents to the Patentees, 11½ Cooper-street, and 1, Bond-street, Manchester.

EWING'S PATENT GLASS WALLS.—The following are the Agents, and on application to whom drawings may be seen, and all other information obtained:—Messrs. Knight and Perry, Nurserymen, &c., Chelsea; Messrs. Henderson and Co., Nurserymen, Pine-apple-place, London; Messrs. Whitley and Osborn, Nurserymen, &c., Fulham, London; Mr. Glendinning, Nurseryman, &c., Chiswick, London; Messrs. Veitch and Son, Nurserymen, Exeter; Messrs. Dickson, Nurserymen, Chester; Messrs. Lawson and Sons, Nurserymen, Edinburgh; Messrs. Dickson and Turnbull, Nurserymen, Perth; Mr. M'Intosh, F.R.S., Gardener to the Duke of Buccleuch, Dalkeith; Mr. Fleming, F.H.S., Gardener to the Duke of Sutherland, Trentham, Staffordshire; Mr. Ewing, Gardener, Bodorgan, Anglesea; Messrs. Pilkington and Co., Plate, Crown, and Sheet Glass Works, St. Helen's, Lancashire.

These Walls can, when desired, be made wide enough for a person to enter, by which they become elegant hothouses on the best principle. Existing Walls covered with Glass and Iron.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

ANNUAL COUNTRY MEETING OF 1852,

FOR THE SOUTH-EASTERN DISTRICT, COMPRISING THE COUNTIES OF KENT, SURREY, AND SUSSEX,

To be Held at LEWES, in the Week commencing MONDAY, the 12th of JULY.

FORMS OF CERTIFICATE to be obtained on application to the Secretary, 12, Hanover-square, London. All Certificates for the Entry of Implements and the space required for their Exhibition in the Show-Yard must be returned, filled up, to the Secretary, on or before the FIRST OF MAY, and all other Certificates by the FIRST OF JUNE, the Council having decided that in no case whatever shall any Entry be received after those dates respectively.

PRIZES FOR IMPROVING THE BREEDS OF AGRICULTURAL LIVE STOCK:

OPEN TO GENERAL COMPETITION.

MEMBERS HAVE THE PRIVILEGE OF A FREE ENTRY; AND NON-SUBSCRIBERS ARE ALLOWED TO COMPETE, ON THE PAYMENT OF 10*s.* ON EACH CERTIFICATE.

In the application for Certificates, the character and age of the Animals to be Exhibted must be stated; and in order that the proper Forms of Certificate may be sent, it is requested that in each case the Number of the Certificate Form, corresponding to the Prize to be competed for, may also be stated.

No. of Certificate Form.	CATTLE.
	SHORT-HORNS.
	Class.
1	1. To the owner of the best Bull, not exceeding five years old, calved previously to the 1st of January, 1850. 40*l.*
	To the owner of the second best ditto ditto. 20*l.*
2	2. To the owner of the best Bull, calved since the 1st of January, 1850, and more than one year old. 25*l.*
	To the owner of the second best ditto ditto. 15*l.*
3	3. To the owner of the best Cow, in milk or in calf. 20*l.*
	To the owner of the second best ditto ditto. 10*l.*
4	4. To the owner of the best Heifer, in milk or in calf, not exceeding three years old. 15*l.*
	To the owner of the second best ditto ditto. 10*l.*
	(In the case of the Cow or Heifer, to which either of these prizes is awarded, being in calf, and not in milk, the prize will not be given until she is certified to have produced a live calf.)
5	5. To the owner of the best Yearling Heifer. 10*l.*
	To the owner of the second best ditto. 5*l.*
	HEREFORDS.
6	1. To the owner of the best Bull, not exceeding five years old, calved previously to the 1st of January, 1850. 40*l.*
	To the owner of the second best ditto ditto. 20*l.*
7	2. To the owner of the best Bull, calved since the 1st of January, 1850, and more than one year old. 25*l.*
	To the owner of the second best ditto ditto. 15*l.*
8	3. To the owner of the best Cow, in milk or in calf. 20*l.*
	To the owner of the second best ditto ditto. 10*l.*
9	4. To the owner of the best Heifer, in milk or in calf, not exceeding three years old. 15*l.*
	To the owner of the second best ditto ditto. 10*l.*
	(In the case of the Cow or Heifer, to which either of these prizes is awarded, being in calf, and not in milk, the prize will not be given until she is certified to have produced a live calf.)
10	5. To the owner of the best Yearling Heifer. 10*l.*
	To the owner of the second best ditto. 5*l.*
	DEVONS.
11	1. To the owner of the best Bull, not exceeding five years old, calved previously to the 1st of January, 1850. 40*l.*
	To the owner of the second best ditto ditto. 20*l.*
12	2. To the owner of the best Bull, calved since the 1st of January, 1850, and more than one year old. 25*l.*
	To the owner of the second best ditto ditto. 15*l.*
13	3. To the owner of the best Cow, in milk or in calf. 20*l.*
	To the owner of the second best ditto ditto. 10*l.*
14	4. To the owner of the best Heifer, in milk or in calf, not exceeding three years old. 15*l.*
	To the owner of the second best ditto ditto. 10*l.*
	(In the case of the Cow or Heifer, to which either of these prizes is awarded, being in calf and not in milk, the prize will not be given until she is certified to have produced a live calf.)
15	5. To the owner of the best Yearling Heifer. 10*l.*
	To the owner of the second best ditto. 5*l.*
	SUSSEX BREED.
16	1. To the owner of the best Bull, not exceeding five years old, calved previously to the 1st of January, 1850. 20*l.*
	To the owner of the second best ditto. 10*l.*
17	2. To the owner of the best Bull, calved since the 1st of January, 1850, and more than one year old. 10*l.*

No. of Certificate Form.	CATTLE.—*Continued.*
	Class
18	3. To the owner of the best Cow in milk or in calf. 10*l.*
	To the owner of the second best ditto ditto. 5*l.*
19	4. To the owner of the best Heifer, in milk or in calf, not exceeding three years old. 10*l.*
	(In the case of the Cow or Heifer, to which either of these prizes is awarded, being in calf, and not in milk, the prize will not be given until she is certified to have produced a live calf.)
20	5. To the owner of the best Yearling Heifer. 5*l.*
	OTHER BREEDS.
	NOT BEING SHORT-HORNS, HEREFORDS, DEVONS, OR SUSSEX BREED. (CROSS-BRED ANIMALS WILL BE EXCLUDED.)
21	1. To the owner of the best Bull, not exceeding five years old, calved previously to the 1st of January, 1850. 10*l.*
22	2. To the owner of the best Bull, calved since the 1st of January, 1850, and more than one year old. 10*l.*
23	3. To the owner of the best Cow, in milk or in calf. 10*l.*
24	4. To the owner of the best Heifer, in milk or in calf, not exceeding three years old. 5*l.*
	(In the case of the Cow or Heifer, to which either of these prizes is awarded, being in calf, and not in milk, the prize will not be given until she is certified to have produced a live calf.)
25	5. To the owner of the best Yearling Heifer. 5*l.*
	HORSES.
26	1. To the owner of the best Stallion for Agricultural purposes, foaled previously to the 1st of January, 1850. 30*l.*
	To the owner of the second best ditto ditto. 15*l.*
27	2. To the owner of the best Stallion for Agricultural purposes, foaled since the 1st of January, 1850. 20*l.*
	To the owner of the second best ditto ditto. 10*l.*
28	3. To the owner of the best Roadster Stallion. 15*l.*
29	4. To the owner of the best Mare and Foal for Agricultural purposes. 20*l.*
	To the owner of the second best ditto ditto. 10*l.*
30	5. To the owner of the best two years old Filly, ditto. 15*l.*
	To the owner of the second best ditto ditto. 5*l.*
	SHEEP.
	LEICESTERS.
31	1. To the owner of the best Shearling Ram. 30*l.*
	To the owner of the second best ditto. 15*l.*
32	2. To the owner of the best Ram of any other age. 30*l.*
	To the owner of the second best ditto. 15*l.*
33	3. To the owner of the best Pen of Five Shearling Ewes of the same flock. 20*l.*
	To the owner of the second best ditto ditto. 10*l.*
	SOUTHDOWN, OR OTHER SHORT-WOOLLED SHEEP.
34	1. To the owner of the best Shearling Ram. 30*l.*
	To the owner of the second best ditto. 15*l.*
35	2. To the owner of the best Ram of any other age. 30*l.*
	To the owner of the second best ditto. 15*l.*
36	3. To the owner of the best Pen of Five Shearling Ewes of the same flock. 20*l.*
	To the owner of the second best ditto ditto. 10*l.*
	LONG-WOOLED SHEEP.
	(NOT QUALIFIED TO COMPETE AS LEICESTERS.)
37	1. To the owner of the best Shearling Ram. 20*l.*
	To the owner of the second best ditto. 10*l.*

No. of Certificate Form.	SHEEP.—*Continued.*
	Class
38	2. To the owner of the best Ram of any other age. 20*l.*
	To the owner of the second best ditto. 10*l.*
39	3. To the owner of the best Pen of Five Shearling Ewes, of the same flock. 10*l.*
	To the owner of the second best ditto ditto. 5*l.*
	ROMNEY MARSH, OR KENTISH SHEEP.
40	1. To the owner of the best Ram of any age. 20*l.*
	To the owner of the second best ditto. 10*l.*
41	2. To the owner of the best Pen of Five four-toothed Ewes with their Lambs. 10*l.*
42	3. To the owner of the best Pen of Five Ewes of any age. 10*l.*
	PIGS.
43	1. To the owner of the best Boar of a large breed. 15*l.*
	To the owner of the second best ditto ditto. 5*l.*
44	2. To the owner of the best Boar of a small breed. 15*l.*
	To the owner of the second best ditto ditto. 5*l.*
45	3. To the owner of the best Breeding Sow of a large breed. 10*l.*
46	4. To the owner of the best Breeding Sow of a small breed. 10*l.*
47	5. To the owner of the best Pen of Three Breeding Sow Pigs of a large breed, of the same litter, above four and under eight months old. 10*l.*
48	6. To the owner of the best Pen of Three Breeding Sow Pigs of a small breed, of the same litter, above four and under eight months old. 10*l.*
	POULTRY.
	FOWLS.
49	1. To the owner of the best Cock and Two Hens of the Dorking (white, speckled, and grey), Surrey, or old Sussex or Kent Breed. 5*l.*
	To the owner of the second best ditto ditto. 3*l.*
	To the owner of the third best ditto ditto. 2*l.*
50	2. To the owner of the best Cock and Two Hens of the Malay, Cochin China, or other Asiatic breed. 3*l.*
	To the owner of the second best ditto ditto. 2*l.*
51	3. To the owner of the best Cock and Two Hens of the Spanish, Hamburgh or Polish breed. 3*l.*
	To the owner of the second best ditto ditto. 2*l.*
52	4. To the owner of the best Cock and Two Hens of any other pure breed. 3*l.*
	To the owner of the second best ditto ditto. 2*l.*
53	5. To the owner of the best Cock and Two Hens of any mixed breed. 3*l.*
	To the owner of the second best ditto ditto. 2*l.*
	TURKEYS.
54	1. To the owner of the best Cock and Two Hen Turkeys. 4*l.*
	To the owner of the second best ditto ditto. 2*l.*
	GEESE.
55	1. To the owner of the best Gander and Two Geese. 3*l.*
	To the owner of the second best ditto ditto. 2*l.*
	DUCKS.
56	1. To the owner of the best Drake and Two Ducks of the Aylesbury or any other white variety. 2*l.*
	To the owner of the second best ditto ditto. 1*l.*
57	2. To the owner of the best Drake and Two Ducks of any other good variety. 2*l.*
	To the owner of the second best ditto ditto. 1*l.*
	GUINEA FOWLS.
58	1. To the owner of the best Cock and Two Hen Guinea Fowls. 2*l.*
	To the owner of the second best ditto ditto. 1*l.*

PRIZES FOR AGRICULTURAL IMPLEMENTS AND MACHINERY.

The Prizes are open to General Competition. Members of the Society have the privilege of a Free Entry; and Non-Subscribers are allowed to compete on the payment of 5*s.* on each Certificate.

Forms of Certificate to be obtained on application to the Secretary, 12, Hanover-square, London. All Certificates for the Entry of Implements, &c., will be required to state the total number of articles entered to be shown by each Exhibitor, and the space required for their exhibition; and must be returned, filled up, to the Secretary, on or before the 1ST OF MAY, 1852; the Council having decided, that in no case whatever shall any such Certificate of Implements be received after that date.

No. of Prize.	PRIZES.
1.	For the Plough best adapted for general purposes. 7*l.*
2.	For the Plough best adapted for Deep Ploughing. 7*l.*
3.	For the best One-way or Turn-wrest Plough. 7*l.*
4.	For the best Paring Plough. 5*l.*
5.	For the best Subsoil Pulveriser. 5*l.*
6.	For the best Drill for general purposes. 10*l.*
7.	For the best Steerage Corn and Turnip Drill. 10*l.*
8.	For the best Drill for small occupations. 5*l.*
9.	For the best and most economical small occupation Seed and Manure Drill for flat or ridged work. 5*l.*
10.	For the best Turnip Drill on the flat. 10*l.*
11.	For the best Turnip Drill on the ridge. 10*l.*
12.	For the best Drop Drill, for depositing seed and manure. 10*l.*
13.	For the best Manure Distributor. 5*l.*
14.	For the best Portable Steam-Engine, not exceeding 6-horse power, applicable to Threshing or other Agricultural purposes. 40*l.*
	For the second best ditto ditto. 20*l.*
15.	For the best Fixed Steam Engine, not exceeding 8-horse power, applicable to Threshing or other Agricultural purposes. 20*l.*
	For the second best ditto ditto. 10*l.*
16.	For the best Portable Threshing Machine, not exceeding 2-horse power, for small occupations. 10*l.*
17.	For the best Portable Threshing Machine, not exceeding 6-horse power, for larger occupations. 20*l.*
18.	For the best Portable Threshing Machine, not exceeding 6 horse power, with Shaker and Riddle; to be driven by steam. 20*l.*
19.	For the best Fixed Threshing Machine, not exceeding 6-horse power, with Straw-Shaker, Riddle, and Winnower, that will best prepare the Corn for the finishing dressing machine; to be driven by steam. 20*l.*
20.	For the best Corn Dressing Machine. 10*l.*
21.	For the best Grinding Mill for breaking agricultural produce into fine meal. 10*l.*
22.	For the best Linseed and Corn Crusher. 5*l.*
23.	For the best Chaff Cutter, to be worked by horse or steam power. 10*l.*
24.	For the best Chaff Cutter, to be worked by hand power. 5*l.*
25.	For the best Turnip Cutter. 5*l.*
26.	For the best Oilcake Breaker for every variety of cake. 5*l.*
27.	For the best One-horse Cart for general purposes. 10*l.*
28.	For the best Light Waggon for general purposes. 10*l.*
29.	For the best Machine for making Draining Tiles or Pipes for agricultural purposes. 20*l.*
30.	For the best Instruments for Hand-use in Drainage. 3*l.*
31.	For the best Heavy Harrow. 5*l.*
32.	For the best Light Harrow. 5*l.*
33.	For the best Cultivator, Grubber, and Scarifier. 10*l.*
34.	For the best Pair-Horse Scarifier. 5*l.*
35.	For the best Horse Hoe on the Flat. 10*l.*
36.	For the best Horse Hoe on the Ridge. 5*l.*
37.	For the best Horse Rake. 5*l.*
38.	For the best Horse Seed Dibbler or Seed Depositor, not being a Drill. 10*l.*
39.	For the best Gorse Bruiser. 5*l.*
40.	For the best and most economical Steaming Apparatus for general purposes. 5*l.*
41.	For the best Dynamometer, especially applicable to the Traction of Ploughs. 5*l.*
42.	Miscellaneous Awards and Essential Improvements, 14 Silver Medals, estimated at 21*l.*
43.	For the Invention of any New Implement, such sum as the Council may think proper to award.
44.	For the best Plough to fill in the soil cast out of drains, with not more than four horses, two and two abreast (offered by R. A. Slaney, Esq., M.P.). 10*l.*

PRIZE SHEETS, containing the LIST OF PRIZES FOR IMPLEMENTS, with the Conditions for their Competition and General Regulations for their Exhibition and Trial, are now ready, and may be obtained on application by post or otherwise to the Secretary.

PRIZE SHEETS FOR LIVE STOCK may also be obtained, but the Rules for Exhibition of such Live Stock will not be finally decided by the Council until their Meeting on the 7th of April next.—12, Hanover-square, London, March 20.

By Order of the Council,

JAMES HUDSON, Secretary.

GREAT WESTERN, GREAT NORTHERN, SOUTH-WESTERN, AND SOUTH-EASTERN RAILWAY

SEED ESTABLISHMENT, READING, BERKS.

For Supplying SUTTON'S *Home-grown Seeds, Carriage Free, to any Railway or Packet Office in London, Liverpool, Bristol, Gloucester, Oxford, Exeter, Southampton, or to any other Station on the above-named Railways.*

NATURAL GRASS SEEDS, CLOVERS, TURNIPS, MANGOLDS, &c.,

GROWN AND SOLD BY

JOHN SUTTON AND SONS, SEED GROWERS, READING, BERKS.

Under the Patronage and Recommendation of Several of the Leading Members of the Royal Agricultural Society.

HAVING various kinds of Land, situate in different localities, which we occupy for the purpose of GROWING SEEDS TRUE TO THEIR KINDS, and proving the comparative merits of each sort, we are enabled to supply our customers with Seeds of the best kinds in cultivation, and of such quality as to prevent disappointment, which system has gained us an increasing connection during *nearly Fifty Years.*

EXTRACT FROM THE "BERKSHIRE CHRONICLE," DECEMBER 4.—"In Messrs. SUTTON'S Sample Grounds are many kinds of Swedish Turnips, Mangold Wurzels, Belgium Carrots, Kohl Rabi, Drumhead Cabbage, and other Agricultural Roots, grown for the purpose of testing the merits of each sort, and selecting superior stocks for seed."

The collection of dry specimens of agricultural produce, **SHOWN BY US AT THE GREAT EXHIBITION OF 1851,** of which honourable mention was made in the Official Report, was among the articles *selected by the Royal Commissioners* to form a permanent collection; and being honoured by an application from that distinguished body for the purchase of our productions for that purpose, we presented them gratuitously and received a highly complimentary letter of thanks on behalf of **H. R. H. PRINCE ALBERT** and the Royal Commission. We were also honoured by a request from the AMERICAN GOVERNMENT for duplicate specimens and cultural information.

As economy in everything connected with Agriculture is quite necessary at the present time, we would respectfully recommend that purchasers of Seeds should be made immediately, while the prices are low and our warehouses full;

AND FOR ANY LARGE QUANTITIES WE SHALL BE HAPPY TO MAKE A SPECIAL CONTRACT, IF REQUIRED SO TO DO.

AGRICULTURAL BEET.

	Per lb. s.	d.
NEW LARGE CRIMSON; as large as any mangold, and contains 50 per cent. more saccharine matter	2	6
WHITE SILESIA SUGAR BEET	1	6

CARROT.

WHITE BELGIUM; the heaviest cropper, and most certain	0	9
LARGE RED ALTRINGHAM; the largest of the red varieties	0	10
SHORT ORANGE; for shallow soils or late sowing ...	1	0

MANGOLD WURZEL.

FROM SELECTED ROOTS.

YELLOW GLOBE (or Orange Globe) suitable for any soil	0	8
RED GLOBE; suitable for any soil	0	8
LONG RED; this sort requires good deep soil	0	8
LONG YELLOW; very similar to the preceding in shape	0	8

Mangold Wurzel Seed may be had in larger quantities **at 56s. per cwt.**

PARSNIP.

COMMON CATTLE	0	9
NEW LARGE GUERNSEY; altogether a superior kind, many of the roots weighing 7 lbs. each	1	6
SHORT HORN; very valuable for shallow or stiff soils, quite new, and very scarce	10	0

COW CABBAGE.

DRUMHEAD; from fine selected Plants, many of which weighed 60 lbs. each	3	0
FLAT SCOTCH, DUTCH, OR DRUMHEAD	2	0
THOUSAND HEADED; very productive, tall, branching	2	0
SMALL EARLY CATTLE; this, if planted 18 inches asunder, produces a very heavy crop, and in a comparatively short time	3	6

KOHL RABI.

LARGE GREEN; Turnip-rooted Cabbage	2	6
LARGE PURPLE; scarcely so large as the preceding ...	2	6

There are many varieties of Kohl Rabi, varying materially in size. From them we select the above, as most worthy of cultivation.

CLOVERS.

COMMON RED (or broad) 6*d.*, to 7½*d.*	TREFOIL (or Hop Clover) 4½*d.*
WHITE (or Dutch) 6½*d.* to 8*d.*	RED SUCKLING (Trifolium Minus) 1*s.*
MARL (or Cow Grass) 6½*d.*, to 8*d.*	ALSIKE CLOVER (very scarce) 2*s.*
TRIFOLIUM INCARNATUM 6*d.*	TRUE PERENNIAL RED CLOVER 9*d.*

RYE GRASS.

	Per bushel. s.	d.		Per bushel. s.	d.
True Italian Rye Grass	6	6	Pacey's Perennial Rye Grass	6	6
Ditto (Dickenson's improved)	7	6	Annual Rye Grass 3*s.* 6*d.* to	5	6
Evergreen Rye Grass ...	7	0			

MISCELLANEOUS.

	Per lb			
Lucerne (fresh imported)	*s.*	*d.*	Buck Wheat	Prices fluctuating.
80*s.* cwt.	0	10	Spring Vetches	
Furze, for fence and cover, 80*s.* cwt.	0	10	Saintfoin	
Broom	0	9	Giant Saintfoin	
Dwarf Rape 2*s.* gallon	0	4	Linseed or Flax, clean English	
White Mustard 1*s.* 9*d.* do.	0	3	Ditto, Riga, imported ...	
Burnet	0	10	St. John's Day Rye ...	
Chicory	3	0	Common Rye	

Skinless Chevalier Barley, 16*s.* per bushel, weighing 65 lbs.

TURNIP SEEDS.

After many years' careful attention to the growth of Turnip Seeds, we are much gratified by continually receiving expressions of great satisfaction from our customers. The following have been received from some of the largest Turnip-growers in the Kingdom and Leading Members of the Royal Agricultural Society:—

FROM HAMBLEDON, NEAR HENLEY-ON-THAMES.—"Your Hybrid Turnips and Swedes are particularly true and fine. You may mention my name to any one you please."

FROM SUTTON WALDRON, NEAR BLANDFORD.—"I have had the pleasure of praising your seeds in many quarters; this I have done from a sense of justice only."

FROM MEONSTOKE, HANTS.—"My Turnip crops are the admiration of all the farmers round, especially the Swedes and your Purple-topped Hybrid."

TURNIP SEEDS.—*Continued.*

FROM EYNSHAM, NEAR OXFORD.—"I was much pleased with your Turnips, and shall be a customer again next season."

FROM BRECON.—"I am happy to tell you my Turnips are really splendid."

FROM COLESHILL, NEAR FARINGDON, THE SEAT OF THE EARL OF RADNOR.—"The Early Six-weeks Turnip I had of you won Mr. Pusey's 20*l.* prize, on very poor clay soil."

FROM BINFIELD, BERKS.—"I shall bring you in some Swedes I have grown from your seed; they certainly are the finest I have ever seen."

	lb. s.	d.	gall. s.	d.
ASHCROFT, very large, hardy, and of quick growth, very rarely suffers from the fly (yellow flesh with reddish top)	0	10	5	0
SKIRVING'S LIVERPOOL; grown for us from seed received of Mr. Skirving	0	8	4	0
MATSON'S PURPLE-TOPT; a finely-formed Swede, but not so large as our own stock ...	0	9	4	6
LAING'S SWEDE; fine	0	9	4	6
PURPLE-TOPT YELLOW SWEDE; (Sutton's fine stock)	0	10	5	0
GREEN-TOPT YELLOW SWEDE	0	8	4	0
DALE'S HYBRID	0	9	4	6
YELLOW BULLOCK AND YELLOW ABERDEEN	0	8	4	0
POMERANIAN; large white	0	8	4	0
GREEN GLOBE; superior stock	0	8	4	0
WHITE GLOBE; fine large	0	8	4	0
GREEN ROUND (best variety of)	0	6	3	6
TANKARD; RED, WHITE, or GREEN	0	9	4	6
YELLOW TANKARD; (or Tankard Swede) ...	0	10	5	0
NORFOLK WHITE; large	0	6	3	6
WHITE STONE STUBBLE	0	6	3	6
SUTTON'S EARLY SIX WEEKS; very early and large. This is very superior to the sort commonly sold as "Six Weeks." ...	0	10	5	0
SUTTON'S PURPLE-TOPPED YELLOW HYBRID; the hardiest, largest, and most nutritious of all hybrid Turnips	1	0	6	0
LINCOLNSHIRE RED GLOBE; a superior variety, presented to us by Philip Pusey, Esq., M.P.	0	10	5	0

NATURAL GRASSES, PERENNIAL CLOVERS, &c.

(Genuine and pure Seeds.)

The following sorts of NATURAL AND ARTIFICIAL GRASSES MAY BE HAD SEPARATE, at the low prices annexed to each. All the best and most suitable of them are contained in the Mixtures for the several purposes described below:—

	Per lb. s.	d.
Achillea millefolium (Yarrow)	2	6
Agrostis stolonifera (Creeping Bent Grass)	1	3
Anthoxanthum odoratum (Sweet Vernal)	2	6
Alopecurus pratensis (Meadow Foxtail)	2	0
Avena flavescens (yellow Oat Grass) ...	2	0
Aira cæspitosa (Tufted Hair Grass) ...	1	3
Aira lutescens (yellow Hair Grass) ...	2	0
Agrostis alba (white Bent Grass) ...	1	3
Agrostis canina (Dog Bent Grass) ...	1	6
Agrostis vulgaris (common Bent Grass)	1	3
Bromus arvensis ... d Brome Grass)...	1	0
Cynosurus cristatus (Crested Dogstail)...	1	0
Dactylis glomerata (round-headed Cocksfoot)	1	0
Festuca duriuscula (hard Fescue) ...	1	3
Festuca loliacea (Darnel Fescue) ...	1	0
Festuca ovina (Sheep's Fescue)	1	3
Festuca rubra (red Fescue)	1	3
Festuca pratensis (Meadow Fescue) ...	1	0
Festuca elatior (Tall Fescue)	1	0
Festuca heterophylla (various-leaved) ...	1	3
Festuca tenuifolia (fine-leaved Fescue)...	1	6
Glyceria fluitans (floating sweet Grass) .	1	6
Glyceria aquatica (water sweet Grass)...	2	0
Holcus avenaceus (tall Oat-like Grass)...	0	9
Holcus lanatus (Woolly Grass)	0	9
Hordeum bulbosum (bulbous Barley Grass)	3	6
Lolium perenne (Perennial Rye-grass)...	0	6
Lolium perenne sempervirens	0	6
Lolium perenne Paceyanum	0	6
Lolium perenne Stickneyanum	0	6
Lolium perenne tenue	0	8
Lolium italicum (Italian Rye-grass) ...	0	8
Lotus corniculatus (Bird's-foot Trefoil) .	3	6
Medicago lupulina (black Medick Grass, or yellow Trefoil)	0	4
Milium effusum (Wood Millet Grass) ...	2	6
Phleum pratense (Timothy)	0	10
Poa nervosa (nerved Meadow Grass) ...	2	0
Poa nemoralis (wood Meadow Grass) ...	1	6
Poa pratensis (smooth Meadow Grass)...	1	6
Poa trivialis (rough Meadow Grass) ...	1	3
Poa angustifolius (narrow-leaved) ...	1	9
Poa fertilis (fertile Meadow Grass) ...	1	9
Poa sempervirens (evergreen)	2	0
Trifolium minus (red Suckling)... ...	1	0
Trifolium pratense perenne (Perennial red Clover)	0	9
Trifolium repens (white Clover), best ...	0	8
Trifolium hybridum (Alsike Clover) ...	2	0

And many other kinds.

OR AT REDUCED PRICES FOR LARGE QUANTITIES.

As some Agriculturists feel a pleasure in making their own selection of Grass Seeds, the above List is presented, with their Market Prices, but the greatest economy and certainty of success will be obtained by procuring Messrs. SUTTON'S *Mixtures as under. In these Mixtures the large and small Seeds are thoroughly incorporated, so as to insure proper combinations of sorts throughout the land sown; but, if it should be preferred, the large Seed may be had in one Mixture, and the small in another to be sown at two casts.*

Mixtures for laying down Land to Permanent Meadow or Pasture.

The sorts contained in these Mixtures are grown in different localities, and gathered separately, by the hand, expressly for this purpose, by which means all noxious weeds are excluded; they consist of the most nutritive kinds of Fescues, Poas, Sweet Vernal, Perennial Clovers, Loliums, &c., and each sort being kept separate, they are subsequently mixed in such sorts and proportions as are most suitable to the soil to be laid down. The annually increasing demand has enabled us on a larger scale to collect the Natural Grass Seed at less expense than formerly; so that a mixture which *a few years since,* would have cost 40*s.* or 50*s.* per acre, *can now be supplied for* 24*s.* *to* 28*s. per acre,* according to the sorts which the soil may require. The *quantity* we usually supply is two bushels of light seeds and 1½ lbs. heavy seeds per acre.

Mixtures for Reclaimed Marshes and Heath Lands.

Many acres of land of this description have been successfully laid down to Permanent Pasture by us, with seeds which we have found invariably to thrive on such soil; *and the cost for this purpose will be but* 22*s.* 6*d. per acre*

Mixture for laying down Chalky or Gravelly Uplands and Sheep Downs.

For this purpose Grass Seeds are annually collected from dry and hilly districts, where they are found growing spontaneously; and after many years' experience, we can confidently assure our friends that a *good and permanent* Sward may be obtained on *any* upland, from this mixture. Price 28*s.* per acre.

Mixtures for Laying down Water Meadows.

In this department also we have been very successful, many customers having expressed their great gratification at the effect of these Seeds; one of these, an eminent Agriculturist, and *Member of the Council of the Royal Agricultural Society,* has contributed a valuable essay on this subject which has recently been published by that Society in their Journal (vol. X., part II., page 462.) *Cost of Seed now reduced to* 28*s. per Acre*

Mixtures to Lay down New Park Lawns.

For this purpose all coarse growing kinds are carefully excluded, and the Sward will at all seasons present a luxuriant verdure so desirable in Parks contiguous to the Mansion. The cost of Seeds for this purpose will vary according to the nature of the soil, and other circumstances.

Clovers and Grasses for Alternate Husbandry

Mixtures for one, two, or three years Lay, at 14*s.*, 16*s.*, or 20*s.* per acre.

Renovating Mixture for Improving Old Pastures.

Many old Upland Pastures, Parks, and Meadows, are nearly destitute of Clovers, and the finer and more nutritious sorts of Grasses, in which case we are in the practice of furnishing such sorts only as are wanting; if these seeds are sown *early in the Season,* the improvement in the Pasture will be very considerable, and at a small expense. *Quantity of Seed required,* 6 to 8 *lbs per Acre. Price reduced to* 1½*d. per Pound.*

Fine Grass Lawns in Flower Gardens, &c.

The great expense of cutting and carting turves from a distance may be avoided, and a *superior* turf produced in a few months, by sowing SUTTON'S LAWN GRASS SEEDS, which consist solely of the finest and shortest growing kinds, perfectly *free from moss and other weeds. Price* 3*s. per Gallon,* or 21*s. per Bushel,* or 1*s.* 3*d. per Pound.*

Printed by WILLIAM BRADBURY, of No 13, Upper Woburn-place, in the parish of St. Pancras, and FREDERICK MULLETT EVANS, of No. 7, Church-row, Stoke Newington both in the County of Middlesex Printers, at their Office in Lombard-street, in the Precinct of Whitefriars, in the City of London; and published by them at the office, No. 5, Charles-street, in the parish of St Paul's, Covent-garden, in the said County, where all Advertisements and Communications are to be ADDRESSED TO THE EDITOR.—SATURDAY. March 20, 1852.

THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 13—1852.] SATURDAY, MARCH 27. [PRICE 6*d.*

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21, REGENT STREET.

HORTICULTURAL SOCIETY OF LONDON.
PRIVILEGED TICKETS.

The Exhibitions will take place on the Second Saturdays in May, June, and July, namely,

MAY 8, JUNE 12, JULY 10.

All Fellows who shall apply, on or before Tuesday, the 20th of April, may obtain, at the PRIVILEGED RATE of Three Shillings and Sixpence each, any number of tickets NOT EXCEEDING FORTY-EIGHT; but no application for such tickets will be received after that day. *Fellows of the Society subscribing for tickets at this price will be allowed a clear week from the 20th of April during which they may claim them.* AFTER THAT PERIOD ALL THE 3*s.* 6*d.* TICKETS SUBSCRIBED FOR, BUT NOT ISSUED, MAY BE CANCELLED.

After the 20th of April, any further number of tickets will be delivered to Fellows on their personal application or written order, at the price of *Five Shillings* each ticket.

SPECIAL POWER OF FELLOWS.—Fellows of the Society not only enter free at half-past 12, but can also introduce one friend, WITH A TICKET, at gate No. 4, in the Duke of Devonshire's Road. Or the Fellow's power may be transferred to a brother, sister, son, daughter, father, mother, or wife, residing in the Fellow's house, provided the person to whom the transfer is made be furnished with a ticket signed by that Fellow. That is to say, the power of entering early may be transferred, but not the right to FREE admission.

ROYAL BOTANIC SOCIETY,
REGENT'S PARK.

EXHIBITIONS OF PLANTS, FLOWERS, AND FRUIT.—WEDNESDAYS, May 19th, June 9th, and 30th.

AMERICAN PLANTS, SATURDAYS, May 29th and June 5th.

ROSES, SATURDAY, June 26th.

Tickets of admission are now ready for delivery, and may be obtained at the Gardens by orders from Fellows of the Society. Price, on or before Saturday, May 8th, 4*s.*; after that day, 5*s.*; or on the days of the Exhibitions, 7*s.* 6*d.* each. Fellows of the Society may obtain, on or before May 8th, packets of 30 tickets for five guineas.

THE NATIONAL TULIP SOCIETY.—The next ANNUAL EXHIBITION of this SOCIETY will be held at the TOWN HALL, BIRMINGHAM, on THURSDAY, MAY 27, next. Schedules are now ready, and may be had on application at the Office, 28, Bennett's Hill.

Birmingham, March 27. C. J. PERRY, J. COLE } Hon. Secs.

ROYAL SOUTH LONDON FLORICULTURAL SOCIETY.—Under the Patronage of her Most Gracious Majesty the QUEEN.—The FIRST EXHIBITION of the season will take place on THURSDAY, the 22d APRIL, in the Assembly Rooms, at the Horns Tavern, Kennington (open to all Exhibitors), when prizes will be awarded for the following productions, viz.: Miscellaneous and Specimen Plants, Auriculas, Heartsease grown in pots and cut blooms, Polyanthuses, Cinerarias, and Seedlings. Mr. Oakey's Band is engaged for the occasion. Admission to Members and their Friends at 12 o'clock, and to the public from 1 to 6 o'clock, at One Shilling each. The following Exhibitions will also take place at the Surrey Zoological Gardens, on Thursday, the 20th May; Wednesday, 23d June; Wednesday, 21st July; and Wednesday, 8th September. The Committee beg to inform the Members, Florists, and others, that it is their intention to receive Seedling Flowers and Plants, for opinion, from non-members as well as members, without entrance fee, and granting first class Certificates to such as are deserving, at their Monthly Meetings, to be held at the Horns Tavern, Kennington, on the following days, viz.: Thursday 15th April, 13th May, 17th June, 15th July, 19th August, 2d September, 14th October, 11th November, and 9th December; in addition to the regular exhibitions as above. The Rules, List of Prizes, &c., may be obtained from the Secretary, Mr. J. T. NEVILLE, Ebenezer House, Peckham, Surrey.

DOUBLE ITALIAN TUBEROSE ROOTS, 4*s.* per dozen.—The annual importation of the above-named beautiful and fragrant Flower has just been received, and large and well selected Bulbs may be obtained, without disappointment, at A. CORBETT'S Foreign Warehouse, 18, Pall-mall.

N.B. Printed regulations for treatment sent; also, just arrived, very moist and open Parmesan Cheeses.

PETER LAWSON AND SON'S PRICE LISTS OF SEEDS, FOREST TREES, &c., to be had free by post, or on application to their Agent, J. C. SOMMERS, 159, Fenchurch-street, London. Also the Volume of the "Synopsis of the Vegetable Products of Scotland," price 10*s.* 6*d.*, or in parts 2*s.* 6*d.* each; to be had from the above, or from Messrs. BLACKWOOD and SONS', Paternoster-row.

SUPERIOR GLOBE GERMAN ASTER,
(SAVED BY AN AMATEUR).

WILLIAM E. RENDLE AND CO. have much confidence in offering a very superior sort of GLOBE ASTER SEED, saved by an Amateur in the neighbourhood of Bath, who says:—"The sort was given to me by a friend in the neighbourhood, who has taken first prizes for several years following; and I have been equally successful. I have shown them at Bath and other places, and have always been first; indeed, no other sort has any chance with them, and I am perfectly satisfied that when you see a good bed of them in your gardens you will throw away all others."—1*s.* per packet.

Everyone who has a Garden should have a packet of this Seed.

PARSLEY, RENDLE'S TREBLE GARNISHING, proved by the London Horticultural Society, and described in their Journal as being "*beautifully curled, and an excellent variety.*"—6*d.* per packet. This should be grown in every garden.

Apply to WILLIAM E. RENDLE and Co., Seed Merchants, Plymouth.

PELARGONIUMS.

JOHN DOBSON'S CATALOGUE of all the leading Pelargoniums, Stocks, new Seedling Fuchsias, Verbenas, &c. &c., may be had in exchange for one postage stamp.

THE PELARGONIUM.—JOHN DOBSON'S Practical Observations on the Cultivation of the Pelargonium, which has been so favourably noticed in the *Gardeners' Chronicle* of March 20, is now ready, and will be sent post free on receipt of eight penny stamps.

Woodlands Nursery, Isleworth.

FLOWER SEEDS SENT FREE BY POST.

ROBERT WESTMACOTT begs to inform his Friends that he has selected with great care his Stock of FLOWER AND VEGETABLE SEEDS for the present season, including every variety worthy of cultivation. His GERMAN SEEDS are imported from the best foreign house, and are as good as can be procured. They consist of Stocks, Asters, Larkspurs, Balsams, Hollyhocks, double Wallflowers, Dianthus, Poppies, Zinnias, &c. His PRICED DESCRIPTIVE CATALOGUE may be had on application.

COLLECTIONS OF THE MOST SHOWY FLOWER SEEDS FOR LARGE OR SMALL GARDENS.

				One large packet of each.—*s.*	*d.*
50 well-assorted Annuals, Biennials, and Perennials				10	6
25	Do.	Do.	Do.	5	6
12	Do.	Do.	Do.	3	0

The above Flower Seeds may be had in smaller packets at half the price.—Stuart's Grove Nursery, Fulham Road, Chelsea.

WOODLANDS NURSERY, MARESFIELD,
NEAR UCKFIELD, SUSSEX.

WM. WOOD AND SON have to offer the following:—

	Per dozen—*s.*	*d.*
CHRYSANTHEMUMS, Continental varieties ...6*s.*, 9*s.*	12	0
DAPHNES, very fine ...18*s.* to	24	0
EPACRIS	12	0
HERBACEOUS PLANTS, fine collection, 42*s.* p. 100...6*s.* to	12	0
PENTSTEMONS ... 6*s.* to	9	0
PHLOXES ... 6*s.* to	9	0
Do. new Continental varieties	12	0
CAULIFLOWER PLANTS, very strong, per 100	4	6

Plants presented for distant carriage.

NEW AND CHOICE PLANTS.—
CINERARIAS.

Beauty Supreme, Beauty of Comb Bank, and Forget-me-Not, 10*s.* 6*d.* the set.

PANSIES.

Eustace (Turner)	Sylvia (Thompson)
Mr. Beck (do.)	Caroline (do)
Mrs. Beck (do.)	Polyphemus (do.)
Plantagenet (do.)	Lucy Neal (do.)
Example (do.)	Jenny Lind (do.)
Addison (do.)	Zabdi (do.)
Viceroy (do.)	Mrs. Anderson (Hart)
Queen of England (do.)	Ophir (Widnal)
Juventa (Hooper)	Post Captain
Masterpiece (do.)	Gem (Turner)
Guinare (do.)	Duke of Norfolk (Bell)
Supreme (Youell)	Duchess of Norfolk (do.)
Androcles (do.)	Malvern (Weakes)

Any 12 selected from the above, 6*s.*; the Collection, all of which are fine show flowers, 12*s.*, hamper included.

GERANIUMS, of fine named fancy and other kinds, 10*s.* per dozen.

PICOTEES, of good sorts, 6*s.* per dozen pairs.

PANSIES, named sorts, 4*s.* per dozen.

Superior Sweet William and Antirrhinum Seed, 6*d.* per packet.

20 packets of fine Annuals, free by post, for 3*s.*

HART AND NICKLIN, Florists and Seedsmen, 132, High-street, Guildford.

FIRST CLASS VERBENAS, FUCHSIAS, GERANIUMS, DAHLIAS, CHRYSANTHEMUMS, CINERARIAS, PETUNIAS, PICOTEES, AND CARNATIONS.

GEORGE SMITH'S SELECT CATALOGUE is now ready, containing Priced Lists of all the leading kinds of both Show and Fancy varieties, in their various classes.

G. S.'s Seedling Verbenas, Fuchsias, &c., are of great merit, having taken numerous First-class Certificates, and having been highly recommended by the Press. For description see Catalogues, which will be forwarded on the receipt of one postage stamp.

N.B. Taylor's excellent "Treatise on the Chrysanthemum," 1*s.*; free by post, 1*s.* 2*d.*

Tollington Nursery, Hornsey-road, Islington, London.

GEORGE BAKER'S DESCRIPTIVE CATALOGUE OF AMERICAN PLANTS, CONIFERÆ, ROSES, ORNAMENTAL SHRUBS, FRUIT AND FOREST TREES, &c., may be had on application, by enclosing two postage stamps.—Windlesham Nursery, Bagshot, Surrey.

INDIAN AZALEAS.

Alba	Superba Duplex	Refulgens
Ne plus Ultra	Splendida	Delecta
Rollissoni splendens	Gledstanesii	Picturata
Augusta aurantia	Herbertii	Optima
Roberti	Exquisita	Rosea punctata
Louvoniensis	Lateritia	

The above Azaleas can be supplied in 4-inch pots, well set with bloom buds, at 1*s.* 6*d.* each. Carriage paid to London.

THOMAS RIVERS, Nurseries, Sawbridgeworth, Herts.

FINE PASTURE GRASS SEEDS for laying down Land.—Hand-picked Seed at 24*s.* per acre, allowing 3 bushels of the mixed Grass Seed and 6 lbs. of Dutch Clover to each acre.—HENRY CLARKE, Seed Merchant, 39, King-street, Covent-garden, London.

MESSRS. J. AND H. BROWN offer the following selected PLANTS, FRUIT TREES, &c., which they will forward to any part of the kingdom.

	s.	*d.*
25 Azaleas, new hardy Belgian varieties, on their own roots, with flower-buds, one of a sort, by name ...	20	0
25 American Azaleas, do. do. ...	15	0
25 Hardy American Plants, one of a sort, by name ...	10	6
12 Hardy Heaths and Kalmias, one of a sort ...	6	0
12 Rhododendrons, including scarlet, white, and rose, hardy varieties ...	12	0
New hardy yellow Rhododendrons, each, 7*s.* 6*d.* to ...	10	6
Fine hardy scarlet Rhododendrons, 2 feet, per doz. ...	10	0
Cedar of Lebanon, 3 feet, well grown, in pots, per doz....	10	0
All the choice Pinus, Araucarias, Cryptomerias, and Taxodiums, of various sizes, in pots; list of prices sent by post.		
Climbing Roses, choice sorts, in pots, per dozen ...	6	0
Standard and half standard Roses, per dozen 12*s.* and	15	0
Yellow Roses, new double Persian and Cloth of Gold, per dozen ...	12	0
12 Tea-scented Roses, one of a sort, by name, in pots ...	9	0
Wisteria sinensis, extra fine, in pots, 15 to 30 feet, each	3	6
12 Greenhouse Azaleas, one of a sort, blooming plants...	25	0
12 choice Camellias, by name, do. do. ...	30	0
50 choice Greenhouse Plants, one of a sort, by name ...	45	0
Daphne odora rubra, and others, per dozen ...	30	0
24 choice Ericas, one of a sort, by name ...	16	0
12 Orchidaceous Plants, choice species, and good plants	30	0
Cinerarias and Calceolarias, show varieties, per doz., 9*s.* to	12	0
Blooming Plants, per dozen ... 9*s.* to	12	0
Fancy Geraniums, new sorts ... 9*s.* to	12	0
Verbenas and Petunias, newest varieties, per dozen ...	6	0
6 Bulbs of Lilium lancifolium, one of a sort, for ...	12	0
First-rate show Pinks and Pansies, per dozen ... 6*s.* to	9	0
First-rate Carnations and yellow Picotees ... 9*s.* to	12	0
12 Pæonies, new white, pink, and blush, of sorts ...	8	0
25 Hardy Herbaceous Plants	7	6
Hardy Ferns and other plants, for rockwork, per dozen	8	0

SUPERIOR FRUIT TREES.

Fine Dwarf and Standard Peaches, Nectarines, Apricots, Plums, Pears, and Cherries. The best and most approved sorts of these respective kinds, true to name, each 2*s.* 6*d.*, or per dozen ...	24	0
Untrained or maiden do., 1*s.* 6*d.* each, or per dozen ...	15	0
Apples, dwarfs and standards of best sorts, per dozen ...	15	0
Fine Gooseberries, Currants, and Raspberries, per dozen	3	0
Fine Figs, Medlars, Walnuts, and Mulberries, each ...	2	0
Strong Vines, from eyes and layers, in pots, per dozen ...	15	0
Filberts, new thin-shelled and red-skinned, per dozen ...	3	0

Rhubarb Roots, early Seed Potatoes, Seakale and Asparagus plants, and Garden Seeds of all kinds. A selection of the most approved Flower Seeds, 18 papers, 5*s.*; 36 papers, 10*s.*, sent free by post. Also Catalogues for the season.

Albion Nursery, Stoke Newington, London, March 27.

GAINES'S NEW SEEDLING, FANCY, AND SHOW PELARGONIUMS FOR 1852.

Gaines's Ariadne	£0 15 0	Gaines's Adele la Par-	
,, Bruno	1 1 0	part	£1 11 0
,, Giantess	1 1 0	,, Renown	2 2 0
,, Lady Adelaide	1 1 0	,, Purpurea per-	
,, Flameum	1 1 0	fecta	1 1 0

FANCY PELARGONIUMS.

Gaines's Augusta	£0 10 6	Gaines's Andromeda	£0 7 6
,, Exquisite	0 10 6	,, Ellen	0 10 6
,, Mulberry	0 10 6	,, Lady of the	
,, Countess Dow-		Lake	0 7 6
ager of Craven	0 10 6	,, Triumphant	0 15 0

GAINES'S NEW SEEDLING DAHLIAS FOR 1852.

Gaines's Ne Plus Ultra, rosy crimson, 10*s.* 6*d.*
,, Firebrand, orange scarlet, 10*s.* 6*d.*
,, Compacta, vermillion salmon, 10*s.* 6*d.*
,, Claude, fancy variety, purple tipped with white, 10*s.* 6*d.*

A Descriptive List of all the new and first-rate Fancy Pelargoniums, Show ditto; also Show and Fancy Dahlias, raised by N. G. and other cultivators, may be had by applying at the Nursery, Surrey-lane, Battersea.

FRUIT TREES, ETC.

H. BIGLAND AND CO., NURSERYMEN and SEEDSMEN, Manchester, beg to offer APPLE and PEAR TREES, &c., at the following very low prices:—

Standard Apple Trees ...	...	9*s.* per dozen.
Do. Pear Trees ...	...	12*s.* ,,
Trained do. for walls ...		30*s.* ,,

H. B. and Co. beg also to call attention to their complete Collections of VEGETABLE and FLOWER SEEDS, to suit any sized Gardens, which they keep ready put up, for particulars of which see their printed Catalogue, which may be had on application.

N.B. Carriage paid on all orders of 2*l.* and upwards.

HOME GROWN SEEDS.—In LAST WEEK'S "GARDENERS' CHRONICLE" will be seen a complete List of SUTTON'S Grasses, Mangolds, Turnips, and other Agricultural Seeds.

Priced Lists will also be sent post free (including instructions on sowing Grass Seeds, &c.), in return for one penny stamp.—Address JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

HUGH LOW AND CO. have to offer the undernamed plants:—

ROCKET, new double crimson, will prove a very showy plant; per doz ... ... 18s. 0d.

SCARLET GERANIUM "The Amazon" (Carpenter) has been already described in the *Gardeners' Chronicle* 7 6

MIMULUS UNIQUE... ... ... 5 0

" SAMBO 5 0

" NOVELTY 5 0

" PUNCTATA 5 0

The above named Mimuli were raised by A. Clapham, Esq., of Scarborough, and are much superior, both in colour and size of flower, to Mimulus rubinus, which was raised by the same gentleman.

H. L. and Co. can also supply healthy young plants of the undernamed Pompon Chrysanthemums of last season, which have been carefully selected as the best and most distinct varieties, price 1s. 6d. each:—Argentine, Amodée, Autumna, Calibre, Cybele, Maria Taillard, Modèle, Perfecta, Ne Plus Ultra, Sacramento, Surprise, and Solfaterre.

Large flowering Chrysanthemums of proved merit, 1s. 6d. each.

Continental Verbenas of 1871, 9s. to 12s. per dozen.

Seakale, fine roots, 5s. to 7s. 6d. per 100.

Clapton Nursery, March 27.

NOTICE.—The following New and Superb varieties of SEEDS can be warranted to give satisfaction to all purchasers, viz.:

HOLLYHOCK SEED.

This beautiful flower, from which a quantity of good sound seed has been procured from a gentleman amateur grower, who has one of the most superb and choice collections in cultivation; the Seed having been selected with every care and attention, it can be confidently recommended. Sold at 2s. 6d. per packet.

GERMAN ASTER SEED.

This variety has, within the last few years, been awarded upwards of 60 different prizes, and it stands unrivalled for its superiority of flower, the shape of which forms half a globe, and has been the admiration of numberless spectators. There are from 20 to 30 varieties. 1s. per packet.

SWEET WILLIAM SEED.

Saved from 36 superb varieties. The flowers are very large, splendid colours, and of dwarf habit. They were much admired when in bloom by countless spectators, and the seed numerously ordered by them. 1s. per packet.

ANTIRRHINUM SEED.

This has been selected with the greatest care from some of the finest and most superb varieties ever grown, both as to shape, colour, and habit of plant. There are more than 50 distinct and different varieties. 1s. per packet.

EXTRA FINE GIANT SCARLET BROMPTON STOCK SEED.

Unrivalled for its superior size and bright scarlet colour, also beautifully double; length of the spike of flower from 15 to 20 inches. Large packets 1s. each; or, if preferred, a packet of each of the above will be sent, postage and package free, for 5s.

Walcheren Cauliflower Broccoli (as imported) 1s. per packet.

Tamworth Broccoli ... ... 1s. "

Wilcove Broccoli ... ... 1s. "

Cole's superb solid Celery ... ... 6d. "

Bath Cos Lettuce Seed, true; the best and finest flavoured Lettuce Seed in cultivation 1s. "

Vegetable Marrow Seed, of very superb variety and delicious flavour ... ... 6d. "

A remittance must accompany the order from all unknown correspondents, either by Post-office order or penny postage stamps, on receipt of which the Seeds shall be immediately sent.

Sold by EDWARD TILEY, Nurseryman, Seedsman and Florist, 41, Abbey Churchyard, Bath.

PINE PLANTS FOR SALE, near Liverpool.—About 80 Fruiting and Succession PINE PLANTS. They are healthy and free from scale, and will be sold very cheap, in consequence of the Advertiser discontinuing the growth of them.—For further particulars, address C. E. W., Post-office, Huyton, Prescot, Lancashire.

EAST INDIA ORCHIDÆ.

MAULE AND SONS have just received by the last Overland mail from their collectors in India in the best possible condition, a quantity of fine plants of the beautiful and rare Vanda cærulea, together with the charming Dendrobium, Devoniana, Cambridgiana, Dahousiana, Roseum densiflorum, &c., &c. Phaleonopsis Saccolabium, Ærides odoratum, Maculosum affine, and its allies, together with Cœlogyne Wallichiana, Vanda teres, &c. &c.; and as much disappointment has arisen from plants being sold immediately imported, MAULE and SONS intend offering them to public competition in the early part of the summer, when established, of which notice will be given, excepting previously disposed of by private sales.

Stapleton Road Nurseries, Bristol, March 27.

J. AND J. FRASER, NURSERYMEN, &c., Lea Bridge Road, Essex, beg leave respectfully to invite attention to their superior Stock of Specimens of STOVE and GREENHOUSE PLANTS, CHINESE AZALEAS, and CAPE HEATHS, which were never in finer condition than at this time. The plant are of all sizes, varying from one foot to five feet high. The prices, which are moderate, can be had on application.

LANDSCAPE GARDENING,

EXCLUSIVELY PROFESSIONAL.

MR. THOROLD, of Norwich, offers his services to the Nobility and Gentry as a LANDSCAPE AND ORNAMENTAL GARDENER, in the highest style of the Art, including Decorations around a House, forming Water, Approaches, Picturesque Scenery, Correcting the Works of Amateurs, &c.

CHOICE SEEDS.—Packets of fine Mammoth Broccoli, Asiatic Cauliflower, Giant Curled Parsley, Gigantic Cos Lettuce, Rhubarb, Mitchell's Enfield, Cormack's and Barnes' superior Early Cabbages, Cole's and Seymour's fine Celery, the best kinds of Cucumber, Melon, and Vegetable Marrow, at 6d per packet, post free. Fine mixed German Asters, Stocks, Larkspurs, Calceolaria, Cineraria, Portulaca, Giant Victoria Stock, Canary Creeper, Zinnias, Balsams, Cobœa scandens, Cockscombs, Ice Plant, Sensitive, Auricula, Dahlia, Pinks, Polyanthuses, Geranium and Pansy, Sweet Violet, and Double Sweetwilliam, 6d. per packet, post free. 100 packets of Annuals, Biennials, and other Seeds, fit for present sowing, warranted new, for 5s.; 50 for 3s.; 36 for 2s. 6d.; 12 for 1s. Some superior Mignonette, own saving, warranted to grow well, at 8d per oz., post free.—Address, with money-order or stamps, to JAMES RICHARD BATES, Florist, &c., 163, Western-road, Brighton. A Descriptive Catalogue will be enclosed with each order, or may be had for two postage stamps.

CHOICE PLANTS.

YOUELL AND CO.,

BEG TO CALL ATTENTION TO THE FOLLOWING:—

CAMELLIAS, of the choicest varieties, 21s. per dozen. We possess a large stock of these in good healthy plants, averaging 1 foot to 15 inches in height, comprising most of the old and many fine new varieties, which will bloom well next season; as they are now about to break, we invite our friends to procure them as soon as possible; and when the selection is left to us we assure them they shall have no reason to complain.

EPACRIS, fine bushy plants, in large 48's of the handsomest varieties, full of flower, 9s. per dozen.

ERICAS, fine bushy blooming plants, of choice varieties, principally in large 48's, 9s. per dozen.

APHELEXIS HUMILIS and SUPERBUM, bushy plants, in large 48's, covered with flower-buds, 12s. per dozen.

CORNÆA SPECIOSA MAJOR, Cooperi and Bicolor, fine flowering plants, in large 48's, 9s. per dozen.

ERYTHRINA LAURIFOLIA.—This fine old favourite in strong two-year plants, 12s. per dozen.

E. VERSICOLOR, new, 2s. 6d. each.

CINERARIAS, new and extra fine sorts, flowering plants, in large 48's, 9s. per dozen; in 60's, 6s. per dozen. Great improvement has been effected of late years in this family, and they are now among the most ornamental winter and spring flowering plants that we possess, excellent for bouquets.

CANTUA DEPENDENS, this beautiful new plant, autumn struck, 18s per dozen.

CALCEOLARIA SULTAN, this finest dark variety (in fact none of the others will bear any comparison with it), nice plants, 9s. per dozen.

CALCEOLARIA "Kentish Hero," this fine orange variety, 9s. per dozen.

JASMINUM GRACILE, one of the most fragrant of flowers, 12s per dozen.

VERONICA ANDERSONII, this choice variety is of the easiest culture, a good specimen plant producing its pretty spikes of lilac flowers, from early spring till late in autumn, 1s. 6d. each.

NERIUM, six fine new varieties, extra strong, 6s., admirably adapted for a conservatory.

COLEONEMA PULCHRA, usually found among the winning collections at the great exhibitions, producing in abundance pretty pink flowers among its slender foliage. 1s. each.

LESCHENAULTIA FORMOSA and BAXTERI MAJOR, strong, 9s. per doz.

SOLLYA DRUMMONDI, from 3 to 4 inches in height, 18s. per doz. This is a new and pretty blue-flowering greenhouse climber, with broader foliage than S. Linearis, and of a different colour, a very quick grower.

ACACIA ARMATA and LINEARIS, strong bushy plants mostly showing flower, 9s. per doz.

PITTOSPORUM GLABRATUM, new, 1s. 6d. each.

METROSIDEROS SPLENDENS, scarlet, bottle brush plant, 1s. 6d. each.

METROSIDEROS DIFFUSA—its beautiful foliage and neat habit render it worthy of a place in Conservatories. Strong plants 1s. 6d. each.

CRASSULA NITIDA ODORATA. This makes a splendid specimen plant, is very fragrant, and should be in every collection. Large plants in 48's, 1s. 6d. each; smaller ditto, 9s. per doz.

CRASSULA "NAPOLEON BUONAPARTE," a fine new variety; brilliant scarlet, far superior to C. Coccinea, 2s. each.

FANCY GERANIUMS, choice sorts, 9s. per dozen.

GERANIUM ARDENS MAJOR, strong plants 9s. per doz. This fine Cape species stands unrivalled for brilliancy of colour, being a rich ruby.

FUCHSIAS. Our collection of this lovely flower comprises all the newest and best; strong plants, of last season, 6s. per doz.

F. MACRANTHA, a fine species with long purple flowers; the habit of Humboldt's Splendens, 1s. 6d. each.

CHRYSANTHEMUMS. Much improvement has been made in these of late years, and, being particular favourites of ours, we have spared neither pains nor expense in our pursuit of new and fine varieties. Our specimen plants are every year the admiration of all who see them. The collection at present comprises nearly 200 varieties, which we shall be happy to supply in strong plants, of last season's growth, the large and dwarf varieties 5s per doz.

GREEN-HOUSE CREEPERS.—Passiflora Bellottii (new and fine), P. Edulis, P. Buonapartii, Tecoma jasminoides, Kennedya Nigricans, Ipomœa Learii, &c., 1s each.

FAIRY ROSES, strong and bushy, 9s. per doz.

GLOXINIAS—many fine newvarieties, 9s. per doz.

GLOXINIA PETOIANA. This superb light variety, sent out by us last season, coloured all round with crimson lake, in the way of Fyfiana; the finest of its class, strong bulbs, 3s 6d. each.

HOYA BELLA. This plant has proved itself well worthy the high character given it when first circulated; it is one of the most lovely plants we know. Plants extra strong, showing bloom, 3s. 6d; smaller, 2s. 6d.

ÆSCHYNANTHUS LOBBII, and BOSCHIANUS. These beautiful species grow and flower profusely, either in pots or baskets, suspended from the roof of a stove or warm greenhouse, and in such a situation have a very beautiful appearance. Strong flowering plants, 1s. 6d each.

PASSIFLORA PRINCEPS, scarlet Passion flower, 1s. 6d.

" ALATA, the winged ditto, 1s. 6d.

Many other fine Stove Creepers, including:—

IPOMŒA Leis Hybrid, Mariabilis, &c., 1s. 6d. each.

JUSTICIA pumila, new, scarlet species, 1s each.

HELIOTROPIUM, Gem and Immortalité; the two best 9d. each.

ESCALLONIA MACRANTHA, the finest, perhaps, of our new hardy shrubs; strong plants, 9s. per doz.

ESCALLONIA RUBRA, excellent evergreen flowering shrub for walls, 9s. per dozen.

E. MONTEVIDENSIS, hardy evergreen, producing corymbs of white flowers towards the autumn, 9s. per dozen.

MITRARIA COCCINEA; this fine hardy shrub produces numerous scarlet flowers, very similar in form and colour to Erica splendens strong plants, 9s. per dozen; a few specimen plants 3s. 6d each.

ILEX LATIFOLIA; a fine hardy shrub of Laurel-like foliage; strong, 1 to 1½ foot, 12s. per doz., 3 to 4 feet, 5s. each.

QUERCUS FORDII, splendid distinct evergreen tree, 1 foot, 9s.; 1½ to 2 feet, 18s. per dozen.

QUERCUS ILEX VAR. HUMEI, from the estate of J. Hume, Esq., M.P.; this is a fine variety, with very broad and handsome foliage; strong plants, 2 feet, 3s. 6d each, 30s. per dozen.

WEIGELA ROSEA, a first-rate hardy shrub, 2 to 3 feet, bushy flowering plants 9s. per dozen.

FORSYTHIA VIRIDISSIMA, excellent for walls, a very choice hardy shrub, 1 to 2 feet, very strong, 9s. per dozen.

JASMINUM REVOLUTUM; this fine evergreen wall plant, extra strong, 9s. per dozen.

HEDERA REGNERIANA, the new giant Ivy, of very broad foliage, quite distinct and very robust, strong plants, 9s. p. doz.

CLEMATIS MONTANA, excellent for walls or arbours, very strong grower, producing its white flowers in great profusion, 9s. per dozen.

CLEMATIS, sweet-scented, extra strong, will furnish immediately, 6s. per dozen.

EUONYMUS JAPONICUS, silver-striped, one of our prettiest variegated shrubs, 4s. per dozen.

ROSES, dwarf, climbers, and others in choice variety, 5s. per dozen.

COTONEASTER MICROPHYLLA, strong plants in pots, 12s. per dozen.

CEANOTHUS AMERICANUS, quite hardy, 9s. per dozen.

" RIGIDUS, new and very pretty, 1s. each.

IRISH YEWS, 2 to 3 feet, in pots, 24s. per dozen.

LUCCOMBE OAKS, 6 to 8 feet, fine specimens, 5s. each.

BERBERIS FORTUNII, a most distinct evergreen, strong, 1½ foot, 1s. 6d. each.

HERBACEOUS PLANTS in great variety, not mere botanical curiosities, but showy and ornamental species, 25s. per 100 species and varieties, 4s. per dozen in pots.

OXALIS FLORIBUNDA, one of our handsomest hardy herbaceous plants, excellent for bedding, abundantly flowering during summer and autumn, 6s per dozen.

STATICE PSEUDO-ARMERIA. This also is a first-rate herbaceous plant, throwing up numerous heads of rose-coloured flowers all through the season, very strong, 6s. per dozen.

S. MARITIMA ROSEA, a pretty species, 9s. per dozen.

S. LATIFOLIA, throws up numerous spikes of feathery blue flowers through summer and autumn, extra strong, 6s. per dozen.

PHLOXES, in many fine new varieties, strong plants, in pots, 6s per dozen.

ROCKETS, double white, strong flowering plants, 3s. per doz.

Ditto, purple, ditto, 6s. per dozen.

PRIMROSES, double, in variety, 4s. per dozen.

HEPATICUS, of sorts, 4s. per dozen.

LILIUM LANCIFOLIUM ALBUM, 6s. to 9s. per dozen. and L. EXIMIUM LONGIFLORUM, 6s.

New French and Belgian Daisies, in 50 best sorts, 9s. per doz.

Lily of the Valley, strong, 5s per 100.

CONIFERS.

ARAUCARIA IMBRICATA, 1 foot, 18s.; 1½ to 2 feet, 42s. per dozen. Large size in proportion, up to 3 guineas each. This is perfectly hardy; the distinctness of its character entitles it to a place in even the smallest collection.

CEDRUS DEODARA.—The Sacred Cedar of the Himalayas; in its native regions, the grandeur and sublimity of its appearance inspire the natives with awe and reverence, and its timber they consider desecrated, if used for any other purpose than the building of temples. With us it flourishes out of doors in native luxuriance. This and the former are justly esteemed two of our finest Evergreen trees. Plants 1 foot, very bushy, 9s. per dozen; 1½ to 2 feet, 18s. per doz. Larger plants proportionately cheap.

JUNIPERUS (Cupressus) Uhdeana, a very ornamental species, 1 to 1½ foot, 9s. per dozen.

JUNIPERUS BEDFORDIANA, 1 to 1½ foot, 6s. per dozen.

PINUS EXCELSA, of fine silvery foliage, 1 to 1½ foot, 9s. per dozen; 3 to 4 foot, 30s. per dozen.

CEDRUS LIBANUS 4 to 6 feet, 2s. 6d. each.

PICEA CEPHALONICA, 15 inches, 2s 6d. each.

" PINDROW, 6 inches, 9s. per dozen.

" NORDMANNIANA, 4 inches, 30s. per dozen.

PINUS GERARDIANA, 6 to 9 inches, stout and bushy, 6s. per dozen.

ABIES MORINDA, this fine distinct species of spruce has a weeping habit, and is very robust, making shoots nearly 2 feet in one season; 1½ to 2 feet, 20s. per dozen; 1 foot, 6s. per dozen.

ABIES PUMILA, dwarf and bushy, 12s. per dozen.

" ORIENTALIS, true, do. do., 12s. per dozen.

The admirers of dwarf Pines will be well pleased with those.

ABIES MENZIESII, one of the most distinct of Conifers, its silvery foliage forming a striking contrast to the deep green of other species, 9 to 12 inches, 9s.; 12 to 18 inches, 12s. per do.

CRYPTOMERIA JAPONICA, seedlings, in fine health, 2 to 3 feet, 42s. per dozen.

CUPRESSUS TORRULOSA, a fine evergreen, of the most *symmetrical shape*, from 1 to 1½ foot, 9s per dozen.

DACRYDIUM FRANKLINII, 3 to 4 inches, 18s. per dozen.

PODOCARPUS TOTARÆ, 1 to 1½ foot, strong, 12s. per doz.

CARNATIONS, PICOTEES, PINKS.

Being the largest growers of these in England, perhaps in Europe, we offer many advantages to purchasers, and at every price quoted below. We pride ourselves on giving satisfaction to our customers by furnishing good plants of good varieties, and we beg to say that the present is an excellent season for their removal, either for pot or open ground culture.

25 pairs superb varieties of Carnations and Picotees 3l.

12 pairs " " " " 1l. 10s.

25 pairs very fine " " " 1l. 10s.

12 pairs " " " " 18s.

12 pairs fine mixed border " " 9s.

12 pairs true old Clove Carnation, 12s.

12 pairs of finest named Pinks, 12s.

Pansies, nice plants in pots, of the newest and best show flowers, 12s per doz.

Pansies, fine border varieties, good sorts, 6s. per doz.

Asparagus, Giant (strong), 2 and 3 years, 2s. 6d. and 3s. 6 per 100.

Seakale, 1s. per dozen.

Roses, Standards and Half-standards, of the very best sorts in cultivation, 12s. to 18s. per dozen.

Evergreen Privet, in large quantities, 2½ to 4 feet, strong, 35s. per 1000, or 4s. per 100.

30 packets of Choicest Flower Seeds, free by post, for 5s.

All orders of 2l. and upwards delivered free to any Railway Station within 150 miles of the Nursery.

ROYAL NURSERY, GREAT YARMOUTH.

CHEAP BEDDING PLANTS FOR THE MILLION.

JOHN HAYES, FLORIST, Farnham, Surrey, begs to say that he is prepared to send out Bedding Plants at from 1s. to 3s 6d. per dozen. The Verbenas, in pots, are unusually good, having been kept in the cold frames all the winter, and may be put out with safety at the latter end of April. Descriptive Catalogues sent on the receipt of one postage stamp.

Fifty Seeds, of a good CUCUMBER, from 12 to 14 inches long, will be sent for 12 postage stamps.

AMERICAN NURSERY, BAGSHOT, SURREY.

JOHN WATERER begs to announce that he has published a new CATALOGUE of Hardy Rhododendrons, Azaleas, Roses, Conifers, &c., and which may be obtained by enclosing two postage stamps.

The colours of all the Rhododendrons worthy of cultivation are described; thus purchasers are afforded every facility in making selections.

WHEELER'S SEED LIST.

J. C. WHEELER AND SON'S Priced List of Agricultural, Garden, and Flower Seeds for this season, is now ready, and will be forwarded free to any address, on receipt of one postage stamp. In making out this list great care has been taken to exclude all useless varieties, so that it only comprises the names of the best Seeds in cultivation.—J. C. WHEELER and SON, Nurserymen and Seedsmen to the Gloucestershire Agricultural Society, 99, Northgate-street, Gloucester.

Seeds delivered, carriage free, to most parts of England and South Wales.

GOLDEN BALL MELON, 2*s.* 6*d.* per packet; Bromham-hall Melon 1*s.* per packet; Captivation Cucumber, 5*s.* per packet; Pnenomena, 2*s.* 6*d.* per packet; and all others as mentioned in this paper of February 21, 1852 Good sound seeds of the same can still be obtained by enclosing stamps for the amount.—EDWARD TILEY, Nurseryman and Seedsman, 14, Abbey Churchyard, Bath.

BASS AND BROWN'S SEED AND PLANT LIST for 1852 (containing 36 pages) now sent prepaid for four postage stamps, as the newspaper-stamped copies are disposed of. Also, for two postage stamps, their Autumn Catalogue, containing the Hardy Herbaceous Plants, Roses, and various select and new Hardy Plants, Climbers, &c., kept for sale in pots.—Seed and Horticultural Establishment, Sudbury, Suffolk.

NEW AND CHOICE FLOWER SEEDS, FREE BY POST.

MESSRS. WHEELER AND SON have selected out of their large collection of Flower Seeds the most beautiful and showy varieties, each sort distinct in colour, and calculated to produce a fine effect when planted out in beds or groups in the flower-garden. They have marked each variety with its Botanical and English Name—Height—Time of Flowering—Colour of the Flower—Manner of Growing — Whether Erect or Trailing, &c.—the Time it should be Sown, and with other valuable Hints as to its cultivation.

In selecting these varieties care has been taken to exclude all shy-bloomers, or such which have an insignificant appearance, so that the collections will comprise only those which are really showy and handsome, and which prove to the entire satisfaction of any lady or gentleman who might be disposed to order them. The GERMAN STOCKS, ASTERS, ZINNIAS, LARKSPURS, &c., are most superb. The collections will be sent free by post to any part of the Kingdom at the following prices:—20 Extra Fine Varieties, all distinct, 5*s.*; 50 ditto ditto, 10*s.* 6*d.*; 100 ditto ditto, 20*s.*

J. C. WHEELER and SON, 99, Northgate-street, Gloucester. Nurserymen and Seedsmen to the Gloucestershire Agricultural Society.

A NEW SEEDLING POTATO.

MESSRS. WHEELER AND SON have much pleasure in offering a New Seedling Potato, called

"THE PRINCE OF WALES."

It is an excellent Early Potato, in fact one of the earliest in cultivation, so early that it escapes the disease more than any other variety. It is a great bearer, of excellent quality, and, as we have a good stock, we can offer it at a low price. We have much pleasure in adding the following extract from the *Gardeners' Chronicle and Agricultural Gazette* of the 12th of April last:—

"PRINCE OF WALES POTATO: MESSRS. WHEELER, *of Gloucester*. We can speak, from personal experience, to the excellent quality, productiveness, and *earliness* of this variety."

We can offer it at 2*s.* 6*d.* per peck, or 9*s.* per bushel, bag and package included. All quantities of a bushel and upwards would be delivered carriage free to any Railway Station in England or Wales.

J. C. WHEELER and SON, 99, Northgate-street, Gloucester Nurserymen and Seedsmen to the Gloucester Agricultural Society.

DELPHINIUM SPECIOSUM (?) VAR. WHEELERI.

Plants to bloom this Summer, 5*s.* each, for cash, post free to any part of the kingdom.

GEORGE WHEELER, NURSERYMAN, &c., Warminster, Wilts, respectfully announces he is now sending out the above magnificent variety of fine bright blue Bee Larkspur, which was figured, and its history given, in the "Gardeners' Magazine of Botany" for October, 1851. In one of the specimens sent to the artist of that work, the principal spike, which was densely studded with blossoms, measured 14 inches long by 8¼ inches diameter at its broadest part, and contained 244 blossoms and buds, the greater part being in perfection at the time; below this, several smaller and more loosely arranged flowering branches were produced. The stems grow from 3 to 4 feet in height, and are of so sturdy a habit as scarcely ever to need any support; it carries a good foliage, is of very easy culture, thriving in any good garden soil, and an extremely hardy perennial plant. The usual allowance to the Trade by the dozen.

Fine Bulbs now ready of Tigridia conchiflora, yellow, 3*s.* per dozen; ditto ditto conchiflora Wheeleri, colour orange-scarlet, on yellow ground, beautifully spotted, 4*s.* per dozen.—A large quantity of strong transplanted 3 horn and bedded Rhododendrons, at very low prices, which may be obtained on application.—The King of Cucumbers, the handsomest black spine in cultivation, four seeds for 1*s.*

Warminster, March 27.

NEW ROSES ON THE MANETTII STOCK.

WOODLANDS NURSERY, MARESFIELD, NEAR UCKFIELD, SUSSEX.

WM. WOOD AND SON have much pleasure in offering fine Dwarf Plants in pots, of the following really good new Roses, worked on the Manettii Stock.

HYBRID PERPETUAL.	Per plant.—*s.*	*d.*
*Auguste Mie, glossy pink, very large, superb	7	6
*Baronne Hallez, bright rosy crimson	3	6
Blanche de Beaulieu, pale flesh, perfect shape	3	6
Caroline de Sansalles, pale blush, very large, a superb Rose	5	0
Graziella, rich brilliant pink, very beautiful	5	0
*General Cavaignac, deep flesh, a fine Rose	3	6
*Madame Prevnton, brilliant carmine, perfect shape, a first-rate new Rose	5	0
*Rosine Margottin, delicate flesh	3	0
Souvenir du Petit Roi de Rome, delicate pink, very beautiful	5	0
*Standard of Marengo, rich crimson, very showy	2	6
William Griffith, bright lilac Rose, most perfect shape, one of the finest	5	0
Madame Lamoricière, bright pink, superb	3	0

Also the following well-known favourites—MANETTII STOCKS:

	Per plant.—*s.*	*d.*
Bourbon Comte Bobrinsky	2	6
* — Dupetit Thouars	1	6
Hybrid Bourbon, Paul Ricaut	2	6
*China, Mrs. Bosanquet, per dozen, 15*s.*, or	1	6

The kinds marked thus *, may also be had on their own roots at the same price.

N.B.—Additional plants presented with each order, with a view to lessen the expense of carriage.

Catalogues may be had GRATIS, on application.

NEW AND BEAUTIFUL TIGER IRIS.

MORGAN'S TIGRIDIA CANARIENSIS.

JOSEPH MORGAN, Horticultural Establishment, Torquay, begs to call the attention of the admirers of this gorgeous flower to the above-named large and pure rich yellow variety, thus spoken of by Dr. Lindley, in the *Gardeners' Chronicle* for August 9, 1851:—"Your Tigridia Canariensis is a fine flower, clearer yellow, and larger than Conchiflora, with the spotting better defined." This is the best time for removing them, and J. M. is now sending out strong blooming bulbs, free by post, at 15*s.* per dozen, or 1*s.* 6*d.* per single root. Liberal discount to the trade.—Torbay Nursery, March 27.

HENRY GROOM, CLAPHAM RISE, near London, FLORIST BY APPOINTMENT TO HER MAJESTY THE QUEEN, and to HIS MAJESTY THE KING OF SAXONY, begs to say that his Spring Catalogue of PELARGONIUMS and NEW PLANTS is ready, and will be forwarded by post on application.

HOSEA WATERER'S Descriptive Catalogue of AMERICAN PLANTS, CONIFERS, ROSES, &c., is just published, and may be had on application, enclosing two postage stamps, to Mr. HOSEA WATERER, Knap Hill Nursery, Woking, Surrey.

FINE YEW TREES.

ROBERT HOLBERT has a large quantity of fine transplanted YEW TREES from 2 feet to 4 feet high; also a quantity of larger plants from 6 feet to 7 feet. They are remarkably handsome specimens, and will be sold at low prices, which may be known on application to ROBERT HOLBERT, Nurseryman, Gloucester.

STANDISH AND NOBLE'S detailed Advertisement will appear in this Paper on the first Saturday in every Month, to which they invite the attention of all interested in HARDY ORNAMENTAL PLANTS. Their Descriptive Catalogue, with the Treatise on the "Cultivation of American Plants," can still be had, by enclosing six stamps for postage.

Gentlemen requiring the services of a Landscape Gardener, can procure such by applying to the Advertisers.

Bagshot, Surrey, March 27.

EXTRACT FROM A LETTER FROM LORD CAMOYS' STEWARD, TO MESSRS. SUTTON AND SONS:

"The Pasture laid down with the Grass Seeds you supplied to Lord Camoys about five years since, is the admiration of the neighbourhood for its early springing and for the fineness and luxuriance of its herbage.

"Yours truly, JOSEPH A. LANGFORD.

"Stonor, near Henley-on-Thames.—Feb. 24, 1852."

FROM THE INCUMBENT OF GRAZELY PARSONAGE.

To MESSRS. SUTTON,

Sirs,—When you are passing through Grazely, I wish you would call in and see my Garden Lawn, Pasture, and Churchyard, which I sowed last spring with your Seeds, and which this time last year was only a Bean field but now a beautiful close Green Sward, and I am happy to say free from weeds. Many gentlemen have been quite surprised to see in so short a time so good a pasture, and I hope it will continue the same, as I have invariably heard that your Grass Seeds are good and permanent.

I am, Sirs, yours obediently, T. S.

Grazely Parsonage, Feb. 13.

From Mr. Edward Jones, Steward to J. W. Birch, Esq., of Henley Park, Oxon.

"To MESSRS. SUTTON,—I am also happy to say that the 24-acre field which we laid down with your Permanent Grass Seed, has succeeded well; there is a good stock both of Clovers and Grasses."

JOHN SUTTON AND SONS having been honoured with the above, with permission to publish them, have much pleasure in doing so, and have also the satisfaction of stating that they are *almost daily* receiving similar communications. In a letter just received from a gentleman at Weston-super-Mare, is the following passage:—"*The field I laid down last spring with your Grass Seeds gave me great satisfaction and no little surprise to my neighbours the farmers. The purchaser of the property was also surprised at the result.*"

In another letter dated Emanuel Rectory, Loughborough, January 28, the Rector says:—"*The four acres which I sowed with Grass Seeds from your Establishment last spring, present a very satisfactory appearance, the ground being equally covered with Grass of regular and uniform height.*"

We are also receiving many others almost daily, and from them we select the following:—

From Gulval Vicarage.

"The Grass Seeds and Clovers sent last year answered admirably."

From Kempshot Park, near Basingstoke.

"I never had such success as with the Seeds I purchased from you, especially with the Grasses, the Yellow Mangold, and the Swedes."

From Sparrow Lodge, near Ripon.

"I enclose you a list of the prizes I obtained, mostly from your Seeds. The Mangold Wurzel was the best I ever saw."

From Brook House, near Newport, Monmouthshire.

"I have invariably found your Seeds good. I have a splendid crop of your Six Weeks Turnip, on which the sheep have been now a fortnight, and the Mangolds are very excellent."

From an eminent Agriculturist and Magistrate of Berkshire, dated Wasing Place, Jan. 22.

"Mr. M. thanks Messrs. SUTTON for their Catalogue, and will be happy to recommend them on all occasions, which he can do most conscientiously to himself, and advantageously to his friends."

From Godmanstone.

"The Turnip Seeds you sent to my son proved so true to their kind, as well as good growing seed, that I am induced to request you to send me as on the other side."

From Grove House, Tooting, March 22.

"Your Seeds, I ought to say, are exceedingly good; indeed, I think it but just to you to testify to your liberal and honest mode of conducting your business."

From a Clergyman, an eminent Agriculturist and Member of the Royal Agricultural Society.

"I have had the pleasure of praising your Seeds in many quarters beside that to which you refer. This I have done from a sense of justice only."

JOHN SUTTON AND SONS have for many years paid especial attention to the laying down Land to Permanent Pasture, are well acquainted with the various soils of the United Kingdom, *and can supply the sorts of Grasses and Clovers most suitable for any specified soil at* 28*s. per acre, with Instructions for sowing.*

Also the best CLOVERS and RYE-GRASS for alternate husbandry or to lay down for two years, at 16*s.* per acre; and SUTTON'S Renovating Mixture of Perennial CLOVERS and Finest GRASSES for improving Old Meadows and Pastures, 10*d.* per lb., 8 to 12 lbs. per acre being sufficient.

Also, Finest LAWN GRASSES for Gardens, 1*s.* 3*d.* per lb., or 3*s.* per gallon.

N.B.—Mangold Wurzel, Belgian Carrot, Turnip, and all other Agricultural Seeds of superior quality, a Priced Catalogue of which may be had in return for one penny stamp.

Address, JOHN SUTTON AND SONS, SEED GROWERS, Reading, Berks.

DWARF PEAS.

HAIRS'S DWARF MAMMOTH KNIGHT'S, acknowledged the best out, 2*s.* 6*d.* per quart.

BISHOP'S LONG-PODDED, 1*s.* per quart.

BURBIDGE'S ECLIPSE, 1*s.* per quart.

The above Peas have been most extensively grown in the principal horticultural establishments in the kingdom, and pronounced superior in every respect to the tall growing varieties.

FLOWER SEEDS.

ESCHSCHOLTZIA CALIFORNICA ALBA, a pure white, very good, 6*d.* per packet.

IPOMŒA BURRIDGII, splendid hardy creeper, 6*d.* per packet.

SAPONARIA CALABRICA, var. MULTIFLORA, one of the best bedding plants out, 6*d* per packet.

TROPÆOLUM COCCINEUM, handsome, 6*d.* per packet.

EUCHNIDEA BARTONIOIDES, splendid yellow, half-hardy, 6*d.* per packet.

GAURA LINDHEIMANII, fine herbaceous plant, 6*d.* per packet.

DUNCAN HAIRS offers to the gardening world the above small selection, as being deservedly worthy of universal attention. Catalogues of Garden, Agricultural, and Flower Seeds forwarded on application.

Seedsman and Florist, Wholesale and Retail, 109, St. Martin's lane, London.

IMPORTANT TO POTATO PLANTERS.—Procuring sound Seed is the surest means to have a good crop. We have now left only a few Tons of YORK REGENTS, CAMBRIDGE RADICAL, AMERICAN, NATIVE, AND WHITE BLOSSOMED KIDNEY POTATOES, the produce of our last year's prepared cuttings, at prices formerly advertised. Prepared cuttings of the following sorts will be ready about the second week in May:—

		s.	*d.*
York Regents	per 1000	10	6
American Native	„	10	6
Cambridge Radical	„	10	6
Early Oxford	„	15	0

Packages, for 1000, 1*s.*; 2000, 1*s.* 6*d.*; 5000, 2*s.* 6*d.*

No orders will be provided for which are not to hand in the first week in April. Post-office orders to be made payable at the Borough Office to HAY, SANGSTER and Co., Newington Butts, London, 6th March, 1852.—Subjoined is the analysis of two highly respectable Chemists, of our stock in hand:—

"London, March 12, 1852.

"We have now completed our examination of a sample of Potatoes grown from your prepared cuttings in comparison with another sample of the same denomination, obtained by ourselves from a highly respectable Potato salesman, with a view to ascertain the relative proportion of starch contained in each, with the following highly satisfactory result in your favour, viz.:—

Starch.

"Those grown from your prepared cuttings ... 17 per cent.

"Potatoes from Salesman ... ... 12½ per cent.

"MAURICE SCANLAN, F.C.S.

"ALFRED ANDERSON, F.C.S.

"Messrs. Hay, Sangster, and Co., Seed Merchants, 18, Cumberland-place, Newington Butts."

SEED AND HORTICULTURAL ESTABLISHMENT, SUDBURY, SUFFOLK.

BASS AND BROWN'S ANNUAL SEED AND PLANT LIST FOR 1852, containing 36 pages, now supplied, prepaid, for four postage stamps, as the newspaper-stamped copies are distributed. A few more stamped copies of the Autumn Catalogue, which contains the Roses, Hardy Plants, Climbers, Prize Gooseberries, &c.

VEGETABLE SEEDS,

OF THE VERY BEST SORTS IN CULTIVATION.

ASSORTED COLLECTIONS, 50*s.*, 30*s.*, 20*s.*, and 10*s.* 6*d.*, or any sorts supplied separate, at the lowest prices, for first-rate quality. See Catalogue.

FLOWER SEEDS,

FREE BY POST.

Useful printed instructions for sowing and raising seeds sent with each order.

BEST ASSORTMENTS.

100 varieties best and newest Annuals ...	£0	15	0
50 varieties, 8*s.* 6*d.*; 30 varieties, 6*s.* 6*d.*; 20 varieties	0	4	0
20 varieties of best Dwarf Annuals, large packets, for filling out lawn beds, &c.	0	7	6
12 varieties, do.	0	5	0
20 varieties choice and new Greenhouse Annuals ...	0	7	6
12 varieties, do.	0	5	0
20 varieties choice and new Greenhouse Perennials	0	10	6
12 varieties, do.	0	7	6
20 varieties choice and new Biennials and Perennials	0	7	6
12 varieties, do.	0	5	0

CHOICE IMPORTED GERMAN SEEDS.

A superb collection of Stocks, Asters, Wallflower, Larkspur, Balsams, Senecio, Zinnia, Cockscomb, Indian Pink, &c. See Catalogue, page 4.

GRASS SEEDS,

Assorted and mixed, of the very best sorts, for the purposes required.

Mixtures for Permanent Pastures, Park Mixtures, and Mixtures for fine Lawns, Bowling-greens, &c.; also Mixtures to suit all soils and situations.

For priced List of Grasses, see our Seed and Plant List, page 14, by which each sort may be had separately.

TRUE ITALIAN RYE-GRASS, ENGLISH and IMPORTED.

☞ Our Mixtures of Grasses have given the highest satisfaction.

Remittances required from unknown correspondents. Post-office orders to be made payable to BASS and BROWN, or to STEPHEN BROWN. Goods sent carriage free to London, Ipswich, Norwich, or any station on the same line.

ESTABLISHED ABOUT HALF A CENTURY.

The Gardeners' Chronicle.

SATURDAY, MARCH 27, 1852.

MEETINGS FOR THE ENSUING WEEK.

TUESDAY,	March	30	Chemical (Anniversary)	8 P.M.
			Civil Engineers	8 P.M.
WEDNESDAY,	—	31	Society of Arts	8 P.M.
			Zoological	9 P.M.
THURSDAY,	April	1	Antiquarian	8 P.M.
			Royal	8½ P.M.
			Botanical	8 P.M.
FRIDAY,	—	2	Philological	8 P.M.
			Royal Institution	8½ P.M.
SATURDAY	—	3	Asiatic	2 P.M.
			Medical	8 P.M.

UP to the 18th of this month there had been for many years no SPRING so late and cold as this. In these respects, it was even more striking than that of 1845. Continually frosty nights, little sun, no material rise of the thermometer during the day; from these causes the temperature of the earth, which is a better indicator of weather than that of the air, was

actually lower than it had been within any period during which registers to which we have access have been kept. It is true, indeed, that in March 1845, the earth, 2 feet below the surface, was on one occasion as low as 36°, and that in this year the geothermometer had not fallen lower; but the mean of the month, at 2 feet under-ground, was, up to that time, lower than in 1845 by more than half a degree. The following return proves this.

The temperature of the earth in the Garden of the Horticultural Society, for the first 18 days of March, has been as under :—

	1 Foot Deep.	2 Feet Deep.	3 Feet Deep.
March 1	37.5	38.5	41.0
,, 2	38.0	39.0	41.0
,, 3	37.0	38.0	41.0
,, 4	37.0	37.0	40.5
,, 5	36.0	37.5	40.0
,, 6	36.0	37.0	40.0
,, 7	35.5	36.0	40.0
,, 8	36.5	36.5	40.0
,, 9	37.5	37.0	40.0
,, 10	38.5	37.5	40.0
,, 11	38.5	37.5	40.0
,, 12	38.5	38.0	40.0
,, 13	38.0	38.0	40.5
,, 14	38.0	38.0	41.0
,, 15	38.5	38.0	41.0
,, 16	39.0	38.0	41.0
,, 17	40.0	39.0	41.0
,, 18	40.0	39.0	41.0
	37.77	37.75	40.5

Mean of March. 2 feet.

1838	41.46
1839	41.93
1840	41.71
1844	42.14
1845	38.37
1846	45.55
1847	41.03
1848	43.72
1849	43.70
1850	42.33

General average, 41.74.

Min. of March. 2 feet.

1838	38.5
1839	39
1840	39
1844	40
1845	36
1846	44
1847	38
1848	42.50
1849	42.50
1850	40

The following columns show how this season stood, on the 18th March, as compared with several previous ones :—

	Mean of March, 2 feet under-ground.	Minimum of March, 2 feet under-ground.
1852	37.75	36
1845	38 37	36
1847	41.03	38
1838	41.46	38.5
1840	41.71	39
1839	41.93	39
1844	42.14	40
1850	42.33	40
1849	43.70	42.50
1848	43.72	42.50
1846	45.55	44

Since the 18th the sun has gained some strength, and the temperature of the air by day has not been lower than 47°, while on the 22d and 24th it rose to 66°. Still vegetation is almost torpid; buds are swelling very slowly, and the early blossoms have, for the most part, a shrunken half-starved aspect. The continued low temperature at night, fluctuating between 25° and 28° explains this; for so little effect has the sun yet produced, that at the present moment the earth, 2 feet under-ground, has not gained more than 42°, and this maximum still remains less than the mean of 1844, 1846, 1848, 1849, and 1850.

It is, however, clear from the following evidence, that, slow as is the operation, some effect is being produced; the temperature of the soil, 2 feet under-ground, having advanced 3°, although that at 1 foot under-ground has not risen more than 2½°, owing no doubt to the continual loss of heat by nocturnal radiation.

March.	Temperature of the Earth.			Temp. of the Air.	
	1 ft. deep.	2 ft. deep.	3 ft. deep.	Max.	Min.
19	39°	39°	40°	47°	27°
20	39	39	40	56	25
21	39.5	39	41	63	27
22	41	41	41.5	66	28
23	41.5	41	42	64	25
24	41.5	42	43	66	26
25	41.5	42	43	48	—

These facts abundantly explain how it is that a warm and brilliant sun has at present exercised such small apparent influence upon vegetation.

Plants have no power of selecting their own food, but imbibe whatever is mixed up with the moisture contained in the soil in which they grow; and though a certain proportion of the necessary elements is requisite for the healthy normal growth of each particular species, a derangement of this proportion within moderate limits is not necessarily injurious; yet if it be materially altered, cultivation either becomes entirely impossible, or diseased action takes place. Thus in the neighbourhood of certain chemical works we constantly hear of greater or less damage to the surrounding vegetation, ending either in palpable disease or actual death. In these cases the air is almost constantly charged with noxious matter, and comes in contact with the tissues by means of the stomata, but to a far greater degree, doubtless, by the absorption of the surrounding atmosphere by the soil in which the plants grow. But even where this continued supply of noxious matter does not take place, the following fact will perhaps tend to show the baneful influence to vegetation which may arise even from any great temporary derangement of the atmosphere from which so large a portion of the nutriment of plants is actually derived, long after the cause has been removed.

A collection of plants, consisting principally of half-hardy Cistuses, Brooms, and composite plants from Portugal, was placed in the wide windows of a school-room where they were flourishing to a degree which gave great promise for the ensuing season. At this time a chemical entertainment was given in the room, which, as it dwelt principally on explosive matters, such as gunpowder, detonating compositions, coloured lights, and phosphuretted hydrogen, caused a great escape of various gaseous matters materially affecting the composition of the air contained in the apartment. The concluding blue signal light made it impossible for the spectators to remain much longer, and a hasty retreat was made. The room was cleared the next morning and ventilated, and in the course of a few days some of the plants were evidently much affected. Two months have now elapsed, and the diseased action is still going on, showing itself in the splitting of the leaves and occasional death, while other plants, which were at first materially injured, seem to be making a new growth from below. It is impossible to say to which particular experiment the misfortune is due, but it is easy to understand that these noxious gases, or even those which contribute to the wants of vegetation in undue proportions, having been once imbibed by a retentive substance, like humus, will be parted with gradually; and, where matters so liable to chemical change as the lining-coat and contents of vegetable cells are concerned, disease is almost certain to ensue.

It is not surprising that interested parties should deny the noxious effects of the substances with which they poison the air, which is to a far greater extent than they are probably aware the vehicle of nutrition to vegetables; but those who are called in support of their notions would do well (except the love of science be far inferior to more worldly motives) to weigh well the circumstances on which vigorous health in plants depends, and they will most assuredly discover how slight a cause is capable of exercising a very powerful action, and that any considerable admixture of heterogeneous matter cannot fail after a lapse of time to act injuriously. *M. J. B.*

WHAT AZALEA INDICA FIRST WAS.

It was in the spring of 1820 that we first saw the old Azalea indica in flower, in one of the greenhouses belonging to the late Mr. Barret, Garbrand-hall, Ewell, whose private collection of plants at that time was justly esteemed one of the finest in the neighbourhood of London. It was a nice, well managed plant, beautifully flowered; and being new to me, I was much interested with it. Plant-growing at that period was a very different affair from what it is now; specimens, such as we see in the present day, were never thought of then, for who at that time would have given space to a plant where a dozen might have stood? To arrange the plants on the stage of a large greenhouse was no easy task. In the lean-to houses, vegetation necessarily inclined towards the light; the plants on the back of the stage were tall and single-stemmed, crowded, and so placed that an unbroken bank of foliage might face the spectator from the front path, for flowers were indeed few and far between; perhaps an Epacris, a Protea, an Acacia or Mimosa, a Heath or a Corræa might diversify the view with an occasional blossom. But, nevertheless, when the plants were judiciously arranged, this bank of foliage alone had a very pleasing effect, for so closely were the plants packed together, that little unsightly was to be seen. A great revolution in plant-growing, however, shortly afterwards took place.

It was some years afterwards that Mr. Snow, then gardener to H. Palmer, Esq., of Fulham, exhibited some fine plants of Azalea, at the Horticultural Society's rooms, in Regent-street. These plants produced quite a sensation, and were the exciting cause to arouse the latent spirit of emulation, and the desire to possess and cultivate Azaleas became more general. The introduction of A. indica alba and phœnicea, together with the seedlings raised by the late Mr. Smith, of Norbiton, tended still further to recommend the Azalea to popular favour; and the appearance of A. variegata, lateritia, Gledstanesii, and Danielsiana, completely established its merits.

Among early growers of Azaleas, Mr. Green, gardener to Sir E. Antrobus, Bart., ranked as the best; and although many are the able competitors with whom he has had to contend, since the establishment of the great exhibitions at Chiswick, he has ever maintained a first place. Mr. Barnes was at one time a powerful rival; his plants, trained to one side, as was the prevailing custom of the time, were, indeed, splendid. To the Messrs. Fraser belong the merit of producing specimens, more perfect in form, and more consonant with the requirements of refined taste, than those that had preceded them. They are free from the difficulties attendant on gentlemen's establishments, which do not admit of a house or houses to be appropriated merely to grow specimens in for exhibition, and hence the crowding and one-sidedness of plants which are of necessity grown in places ill-adapted to the development of the spherical form, now so generally admired in the training of the Azalea. Nevertheless, by their skill and perseverance, these cultivators deservedly acquired a reputation in plant growing that will not be soon eclipsed. The excellence of the Azaleas, at Ealing-park, is well known, and the decision of the judges at the next May exhibitions will be anxiously looked forward to by those interested in Azalea growing. There are, however, other growers of Azaleas who do not exhibit so largely, whose plants are nevertheless admirable examples of good management; such are Mr. Carson, gardener at Nonsuch Park; Mr. Fleming, at Trentham, &c.

The Azalea is well adapted for floral display, either in the mansion, conservatory, or exhibition tent in May. By early training it will easily assume any shape or form that may be required; and I think it will be admitted that the spherical is least suited when the plants are required to adorn the mansion at routs, balls, or other festive occasions—hence the tenacity with which the early exhibitors clung to the form which best answered the aspect in which their plants were frequently placed. It was not until gentlemen and ladies with ample means, spirit, and taste, caused houses to be built suitably adapted for the growth, health, and floral developement of the plants, that much progress was made. But now the exhibition tent will amply show what money, talent, skill, and experience, properly applied, will do in plant-growing. *Tassel.*

GREAT EXHIBITION OF PLANTS AT GHENT.

The interest attached to the grand exhibition, which has lately taken place here, was general over the greater part of Europe; arising, no doubt, from its only occurring once in five years. The unsettled state of the continent has protracted the present meeting three years later than usual, so that it is now eight years since it was last held; consequently the anxiety of all in any way interested in horticultural or botanical pursuits was stimulated in no ordinary degree; for almost every town of importance, from St. Petersburgh to Brussels, was represented by a professor, amateur, or nurseryman. Continental exhibitions differ so widely in character from a great Chiswick show, that I shall endeavour to give the more striking features of it as they presented themselves, after a very minute inspection; for although I have witnessed several floral displays in different parts of the continent, this far excelled any that had come under my notice previously.

Ghent may be said to be a kind of horticultural emporium, where plants are manufactured for the chief continental establishments. The nursery business is in consequence carried on with great spirit and enterprise. The collections in these establishments boast of a vast variety of curious rare and rich botanical treasures, which to an English nurseryman would be comparatively valueless; nevertheless in most instances these are chiefly sought after by foreign amateurs: we refer particularly to Palms, Cacti, tender Conifers, and variegated plants. The latter are much in request, and hence they formed a decided feature in the exhibition. In England the respective merits of our exhibitions are estimated by the degree of excellence shown in cultivation in connection with bloom; but not one in ten of the plants staged at this show exhibited either characteristic; notwithstanding this, however, the display was both striking and grand.

The casino in which the exhibition was held is a very large building, and exquisitely adapted for such purpose at this season of the year; for during the period the plants were in it, the external temperature fell as low as 14° Fahr. No injury, however, resulted, even to Orchids, from this extreme cold. In the pilasters of the building flues are provided, and temporary stoves are placed in various directions; a pipe is fixed to the stove, and then thrust into a small aperture in the flue; these are kept going night and morning, and an agreeable warmth is maintained. A few minutes before the visitors are admitted, the pipes are drawn from the apertures, and the stoves bodily removed, with an alacrity beyond all praise, reminding one of the shifting of a scene in a theatre, so that the space for promenading was left quite clear. The visitors were placed in a most enjoyable atmosphere, in which they could examine the various productions with pleasure; no cracking of tent poles was to be feared, neither were we threatened by a north-easter or a tropical sirocco, which has consigned many thousand 5s. tickets to the flames in London; mud boots and umbrellas were at a discount; ladies did not tremble for their last new bonnet, hence every countenance beamed with happiness and pleasure.

In order to understand how the exhibition is conducted, I may state that each exhibitor has his plants arranged for the judges, or rather jury, by Saturday morning, which day is devoted to deciding the prizes. On Sunday morning they are all staged and arranged, and everything is in order by 1 o'clock, when the members of the Society and strangers are admitted. On Monday and Tuesday the casino is opened to the public; in no instance is any money taken. The mode of deciding on the medals to be awarded is very different from our system in England. Two sections are formed, over which a president and secretary preside; the first section, consisting of 38 members from different parts of Europe, was presided over by Prince Troubetzkoy, of St. Petersburgh; and the second, of 32 members, by the Duke d'Ursel, of Brussels. To each section is allotted its share of the exhibitions, and it proceeds to examine them indi-

vidually when this is done. Their comparative merits are decided by ballot, and a day is occupied by this process. As the subjects for show are brought to the casino they are all severally numbered by the clerks, and the name of every plant is entered in full. This is not only a necessary but an indispensable point, as on the following morning the plants are grouped with a view to effective display as a whole, independent of ownership; and although it might appear that great confusion would arise in thus separating them, such is not the case, notwithstanding that the specimens exhibited amounted to no less than the enormous number of 3800. The entire exhibition presented a much more striking effect, and was perhaps more tasteful than any we are accustomed to witness near London, arising from the circumstance above alluded to of setting off the plants to the best advantage; for example, a large semicircular stage had the back decorated with a variety of Palms; the end of the stage, reaching up to the Palms, was covered with a blaze of Camellias. These Palms were introduced in continuation, succeeding the Camellia. Then there was a gorgeous bank of scarlet Rhododendrons. These were broken again by a bank of tree Ferns, and the end was finished off by a mass of Ghent Azaleas in full bloom. The reader may readily conceive what kind of effect such grouping would produce, in the case of a vast exhibition, varied at every turn with magnificent Orange-trees, huge Palms, and tropical tree Ferns, with miniature tree forests of all sorts of Araucaria and other rare Conifers.

Although I have stated that cultivation does not constitute the primary element in continental gardening, there were, nevertheless, numerous examples, of which the English gardener might well have been proud. At the extreme end of the casino, and fronting one of the great banks similar to that already described, was a beautiful specimen, in a tub, of Deutzia gracilis, measuring 5 feet across and 3 feet high, and in the highest floral perfection; while on each side of it stood a standard plant of the same kind, 6 feet high. These were grafted on Philadelphus grandiflorus. The stems had moss tied on them from top to bottom, in which had been deposited a quantity of common garden Cress, which had vegetated sufficiently to produce a striking living green stem. The owner's name (Mr. J. Baumann) was represented in a similar singular manner; Cress, sown on flannel, exhibited the letters most accurately. Large examples of finely cultivated Rhododendrons, of the best scarlet and other varieties, were abundant, and in splendid bloom. The same may be said of Indian and Ghent Azaleas, which were both plentiful and good.

There were some first-rate examples of Camellia, as regards both cultivation and bloom. They were pyramidal in form, and literally covered with flowers from the pot to the apex of the cone; these varied from 5 feet to 8 or 9 feet high. Orchids were neither so good nor so plentiful as might have been expected. This might have arisen from exhibitors being deterred from sending them, being fearful of the injury they might have sustained in the transit, owing to the extreme coldness of the weather. This defect, however, was adequately compensated for by magnificent exhibitions of Amaryllids, which were grown and bloomed in the highest style of art, and they were in great variety. Hyacinths were equally abundant and fine. One feature in the exhibition, which attracted especial attention, was the hardy herbaceous plants in flower; they were quite as fine as I ever saw them in the open ground at their natural season. These were in great variety. Amongst them were Epimediums, Adonis, Tritonias, Primulas, Scillas, &c. There were a number of bouquets, but nothing very remarkable—with the exception of one or two from Madame Saeyher, which were formed of white Camellias, and each flower was bordered with Lycopodium denticulatum; another, similarly made up, had flowers of hardy Heaths instead of Lycopodium, the Heath being white and the Camellias red. This latter came from Madame A. Marie. Dr. Siebold exhibited some Pæonies not in flower, of the tree kinds introduced by him from Japan. Cacti and succulents were present in multitudes, sufficient to interest the curious in these matters, but taste for such things has lost its keen edge even on the continent. Upon the whole this exhibition displayed much skill, and certainly great enthusiasm, and the whole mode of conducting it reflected the highest credit on all concerned. Precisely at 2 o'clock the approach of the two princes, the Prince de Flandres and the Duc de Brabant, was announced by a royal salute of artillery. The officers and members of the juries were alone suffered to receive them; these were in full dress, and many of them profusely covered with military and other honorary decorations. The two young Princes were attired in military uniform, and were accompanied by a brilliant suite. They were received with the greatest enthusiasm, and remained nearly two hours inspecting minutely the various exhibitions, and conversing occasionally with distinguished botanists and professors. In the evening a grand banquet was given to the princes and others attending the exhibition from all parts of Europe. The entertainment was on a scale of sumptuous magnificence, excelling anything I have ever seen, and it would have infused fresh vitality into a London alderman; on the two following days the entire mass of the population seemed bent on nothing else but inspecting this flower show. Colleges and schools, headed by their professors and teachers, might be seen moving in columns in the most orderly manner, to visit the great object of universal attraction. The country peasants, too, were adding their thousands to the throng. It might be asked how such a gathering could possibly get admittance, much more inspect the objects contained in a room. The military, however, prevented all disorder, and the whole working of the affair seemed like mechanism, so perfectly organised was everything connected with this great exhibition. *R. G.*

BRITISH SONG BIRDS.

No. LXX.—The Wise Man has said,—"There is a time for all things." We have had cold, pitiless, nipping blasts for many weeks; and ardently longed for spring. We have waited for it; and it is even now at our doors.

The effect of the sun, whose great power appears to have been put forth for the first time on Sunday last, has become visible on every hand; and the feathered tribe are universally rejoicing in the seasonable change.

Nests of young thrushes may now be looked for at an early day; indeed we have heard of young thrushes and blackbirds having been seen ten days since. Matters are not quite so forward with us; although we believe there are several nests in our grounds, containing young birds very recently hatched. The same with two nests of robins. These early breeding birds are seldom defeated in their operations, although necessarily retarded when the weather is unusually severe.

If you wish to bring your birds up tame from the nest, it will be advisable to obtain some of the earliest broods, which generally thrive better than any others. You need not keep them *too* warm; but a piece of flannel should be thrown over the nest for a day or two till they are used to the change. When nearly fledged, remove them at once to other quarters.

A nest of young thrushes usually consists of four or five members. All these should be kept together in a long cage, with a wire front. Give them a good bottom of dry, red gravel, and place them in the sun. They will thrive wonderfully fast, thus treated. Feed them exactly the same as you would do young blackbirds. We have already spoken of this, at much length. They will soon learn to peck, and as soon to perch.

It is very difficult to distinguish a male from a female thrush, when young. Indeed, we can give no proper directions for exercising a judgment in the matter. However, if you procure your young birds early in the season, the males will soon "record" their song; and from the distension of the larynx, you will be able to discriminate the powers of their execution. Hens "jabber," the males whistle.

Thrushes, when young, are very liable to cramp. It is needful therefore to see that no water whatever be placed inside their cages. Else will they upset the vessel containing it, and be constantly walking over wet sand. These matters are very seldom rightly understood, and many birds die from the want of only common care. On no account change the food of your birds too soon. Dry food will not suit their digestion, and must not be given them until they are at least six weeks old. A snail, a morsel of bread and butter, and an atom of cheese, in connection with their soft food, will bring them nicely forward. Hang them up in the most cheerful situation you can find; and always talk to them as you pass. This will render them very tame.

Carefully guard against the incursion of Cats. We have many times thrown in a caution of this kind, *en passant*; and at this season, we feel bound to repeat it with increased remonstrance. We never did, do not, and never shall aid any one whose cruelty permits birds, and other "pets" to be domesticated with Cats. The mere sight of one of these creatures sometimes deprives a timid bird of its sanity. Loudly and sweetly as it may have sung, in times past—*such* a shock as that occasioned by the "longing eye" of an anxious cat, will unseat the intellect. We have seen and heard of many such occurrences. We therefore merely add—beware! *William Kidd.*

TRADE MEMORANDA.

Who is Mr. W. H. Newman, of Bosham, and of Lavant, near Chichester? Although bearing the same name, this gentleman is, we believe, no connection of the respectable nurserymen of that name at Chichester, nor of a miller who formerly lived at Bosham, and now resides at Bedhampton.

Home Correspondence.

Sikkim Rhododendrons.—From a remark in your able Leader of last week, it appears that the fact of most of the Sikkim Rhododendrons having, though unprotected, thriven in the open air throughout last winter is not generally known. Small plants of all the species were planted out, late in autumn, among the Rhododendron clumps on either hand of the main walk at Kew. Not one of these has been killed; all, with with few exceptions, are at this moment healthy, and many have flourished. There are the following: R. argenteum, from 6—7000 feet, and R. Campbelliæ, from 8—10,000 feet, both very strong and luxuriant; R. barbatum (8000 feet), and R. campanulatum (11,000 ft.), several plants of each strong and healthy; R. ciliatum, (10,000 ft.), several specimens in the same state, two or three have well-formed flower-buds, and will probably blossom in a week or two; R. lepidotum (12—14,000 ft.), a little of, much stronger and healthier than the plants in the greenhouse; R. argenteum (8000 ft.), a few robust specimens; R. glaucum (11,000 ft.), many particularly healthy young plants; R. campylocarpum, cinnabarinum, and Thomsoni (all from 10—12,000 ft.), several plants (a dozen or so) of each, and all strong and healthy; R. Dalhousiæ (7000 ft.), a few plants, not vigorous or promising; R. Falconeri (10,000 ft.), Aucklandii (6—7000 ft.), and lanatum (10,000 ft.), one or two fair specimens of each. The above have had no protection but such as the surrounding low Rhododendron bushes have afforded; and upon the whole they appear to have suffered less from shrivelling of the ends of the leaves, than those in the conservatory have. The trying season has, however, but now commenced, and I have little expectation of many of them surviving the spring, without much shade and moisture. The soil at Kew, even in these made beds, is light and dry; the roots of the young plants do not strike deep, and I felt the leaves of several to be quite warm under the sun of last Monday, clearly indicating a checked circulation. In their native localities, at this early state of growth, young plants have a very wet, cool subsoil in the spring months, so that though the sun's rays be more powerful than in England, they are provided, by an abundance of humidity at the roots, against any injury that would arise from a suddenly increased circulation. Most of these species again, being natives of 8—12,000 feet, experience a very much colder winter than that of England is; they are consequently kept in too excited a state here, and the spring frosts of April are all the more to be dreaded. In the Himalaya, the first great increase of temperature occurs in March, which is 8 degrees warmer than February; this brings forward the Himalayan plants, which are not exposed afterwards to night frosts. In England an equivalent increment of temperature does not occur till May; but our winters are so mild, that the cultivated Himalayan plants are as forward in April in England as they are in their native country, and consequently suffer extremely from our night frosts. In the conservatory three plants of R. ciliatum remain in flower; these flowers are very much larger than I ever saw them in the Himalaya (several blossoms are 3 inches diameter!), but nearly white, probably from the difference between the amount and intensity of solar light at 10,000 feet in May of lat. 27°, and at the level of the sea in March of lat. 52°. I have been just shown a magnificent head of R. arboreum in flower, from Mr. Barclay, of Bury Hill, who informs me that the plant is a dwarf low shrub raised from Kemaon seeds, and grown without any protection. *J. D. Hooker.*

Orchids.—What is the following Orchid, described in the voyage of the Rattlesnake, surveying Torres Straits, &c.? "I found a beautiful orchidaceous plant with the habit of Bletia Tankervilliæ, flowering in the same manner, with flower stems about 3 feet high, and from 12 to 20 flowers. The sepals were much larger than those of a Bletia, and of a rich purple colour; the column yellow, with a spur at the base of the flower about three-fourths of an inch long." Some time since there was mentioned in the notes from China a show of Orchids, all of one kind, green, very fragrant, and high-priced. I think it was stated to be an Epidendrum. What kind was this? Is it to be procured in this country? *Dodman.* [The Chinese Epidendrum was probably Cymbidium sinense. The Torres Straits plant may have been a Phaius; or, possibly, one of the antennate Dendrobia.]

Polmaised Grapes.—Are your correspondents aware (I believe that you are) that the Chasselas Musqué Grapes, exhibited by Mr. M. Leonard, of Weybridge, at the Chiswick July Show of the Horticultural Society of London, and which gained the first prize in their class, were grown in a house heated by circulation of air from a Polmaise stove with some additional heat from the smoke passing through and along a flue built on the floor of the house? I have been told by a winner of a first prize of Muscat of Alexandria Grapes, and by a winner of a first prize for Black Hamburgh, at the same Show, as well as by several others, that no Grapes could be finer; but not having often attended the Chiswick Shows, and never having seen Chasselas Musqué Grapes exhibited there before, I cannot speak as to the quality of the Chasselas Musqué then exhibited, in comparison with others of the same variety shown at previous exhibitions. Josling's St. Alban's at the same show, from Mr. Leonard, were also grown in the same Polmaise house, and certainly not a single berry of either kind was split or cracked. *J. C. X. Weybridge, Feb.* 10.

Silkworms.—"H. J. S." need not fear that the eggs of the silkworm will hatch too early for the leaf of the white Mulberry if he keeps them near the floor, in a north room without a fire, during the winter, and changes them to a dry cellar before warm weather in spring. In 1851, my English eggs began to hatch on the 14th of June; in 1850, Italian eggs were hatched on the 15th of June; and in 1849, on the 10th of June. I would advise those who wish to try the cultivation of silk, to plant all varieties of the white Mulberry with care on any well-drained soil, avoiding clay and chalk, if possible. Plenty of home-grown food is the difficulty, as foreign supply is very expensive and precarious; many sorts of leaf do not bear long carriage, and no substitute will enable the worms to work on short allowance of the leaf so wonderfully adapted to their industry. *George, North Hants.*

Forsythia viridissima and Acacia dealbata.—The communication from Mr. Saul to the Horticultural Society (see p. 69) relative to Forsythia, is calculated to convey a very erroneous impression respecting this valuable plant, which has been flowering freely with me for the last three weeks, under circumstances totally different from those Mr. Saul considers essential. It

is planted under a large Elm tree, in a little glade between high trees where it is sheltered from all except the early morning sun, and of this, while the leaves are on the trees, it has very little; consequently, in our mild, damp climate, the wood continues growing very late in the autumn. The plant, which I had from Messrs. Veitch, in August 1848, is about 3 feet high, rather drawn up on a single stem, which, last year, branched freely, and promises to make a handsome shrub. It flowers on the last year's wood. Acacia dealbata is in great beauty, as a standard tree. I turned a large plant out of my conservatory four or five years since, because it had become too large for the house, and last winter and this it has flowered most freely. *W. M. Tweedy, Alverton, Truro, Cornwall.*

Fruit Tree Trade.—I think if you were to examine our fruit tree trade nomenclature, you would find it very unsound—at least I have reason to say so. Eight years ago six dwarf trained Peach trees, and six dwarf trained Nectarines, with Apricots, Cherries, and Apple trees, were ordered to be sent from an extensive nurseryman residing in a large city in the west. The Peaches and Nectarines were to have been as follows: two red Magdalen Peaches, two Royal George Peaches, two Noblesse Peaches, two Hunt's Tawny Nectarines, two Newington Nectarines, and two red Roman Nectarines. After they were grown four years, the Peaches proved to be five red Magdalen, and one Barrington; the Nectarines were all Violet Hative, the Apricots and Apples equally wrong.—*Henry Bundy.* [Why did you not bring an action against the vendor?]

Tropæolum Lobbianum.—I am glad to see this handsome species of a beautiful genus brought under notice. I consider that wherever there is room for its cultivation it ought never to be neglected on account of its superabundance of charming flowers and great superiority over many of our climbers at this period of the year. It however wants rather more room than can be given it on a trellis in a pot. There is a plant of it at Raby Castle growing against a trellis on a back wall covering a space of 30 feet long by 12 feet high, and it has been in bloom ever since November last, producing thousands, aye, tens of thousands of bright orange scarlet flowers. It has been a perfect gem, and now that we have got more sun and length of day it is growing vigorously, and there are thousands of blossoms on it yet to come out. It is growing in a border composed of strong hazel loam, Mushroom bed dung, and charcoal well incorporated together, and turned in as rough as possible. It is watered occasionally with diluted soot or dung water, in the proportion of a quart to a 4-gallon can. I think it would make a beautiful rafter plant in a conservatory, it festoons so beautifully. The only drawback would be its old leaves turning yellow, and also the decayed flowers. I find that cuttings of it may be struck at any period of the year in ordinary soil in bottom heat. *J. F. Roberts, Raby Gardens, Durham, March* 17.

Loudon's Tomb.—I was much pleased with your notice of the Tradescants in your leading article, in a late Number. No doubt there are many others who have done much for gardening whose memory should not be forgotten. When I visited London last year, in the month of July, one of the few days I had to stay there was for the most part devoted to a search for the grave of one whom the gardening world should not forget. That same day I visited your correspondent, Mr. Cuthill, of Camberwell; and before parting, I received from him some flowers of a very fine scarlet Geranium, intended for the button-holes of my coat. With these gay flowers I set out for Kensal Green Cemetery, as fast as the London omnibus could carry me, with the intention of visiting the spot where the remains of poor Loudon are laid, and leaving the bright flowers upon his grave; for I had learned from "Cassell's London Conductor" that Loudon was buried in that beautiful cemetery. The first person I met with after entering the grounds, was one that had the appearance of a gardener. He had a wheelbarrow full of greenhouse plants in pots, going as I supposed to ornament some part of the burying-ground with them. I asked him if he knew where the remains of Loudon were interred; he told me he did not, and directed me to another where I would be sure to get information; the second person was as ignorant as the first. I tried others without getting what I wanted. I tried the old gravedigger, who had been there as I was informed ever since the cemetery was formed, but he told me that he had buried such lots of people that he did not remember the one-half of them; so he did not answer the character of the grave-digger in Blair's "Grave" of being a "hoary-headed chronicle." I resolved to ask no more of any living person that I met with, and commenced a search among the tombs for his name. I met with illustrious names, but not the one I was seeking for. I remarked, however, that among the many hundreds or perhaps thousands of different individuals that have their names recorded in iron, stone, or marble, not one was to be met with that had a bad character. The sun was getting westerly, warning me to retire, and the scarlet flowers seemed to partake of my sorrow, for they were hanging their heads too. On my way homewards I botanised by the way-side, and found some plants not common in Scotland, among which were rose-coloured and white varieties of the Butomus umbellatus. *P. Mackenzie.*

Pruning Forest Trees.—Having been a pruner of fruit and timber trees for 20 years, I venture to offer an opinion on the subject. The first thing which threw any light upon my mind respecting pruning forest trees was this: during my apprenticeship to a nurseryman, I observed that when we had to form Apple or Pear trees into standards, say 5 feet high, we always cut away all side shoots from the bottom to within 9 inches of the top, and then left every bud or branch upon the 9 inches to form a head. In making dwarf trees, we used to head 9 inches from the grafting part, and let every bud form a shoot, and by this treatment we got both dwarf and standard trees. Now, I only name this with a view to render what I have to say on pruning forest trees more clear. I feel confident that it is necessary to prune timber trees of every sort, but it is requisite that a pruner of timber should understand how the trees increase in girth, &c. A tree increases in circumference every year, that is, in the same way as if something was annually wrapped round it—and not, as some pruners will have it, that the bough grows higher from the ground every year; for I am quite certain that if a bough is 6 feet from the ground, it will always remain at 6 feet. Now, we must say something about removing boughs from trees. Some writers state that boughs should be shortened; but I am decidedly of opinion that they ought to be cut quite close to the stem; for instance, if a bough is cut 6 inches from the stem, and the tree grows in circumference every year, as if something was wrapped around it, the shortened bough in time would be buried in the stem, and become a dead knot, as we often see in timber when cut up. Now the object I have in view in pruning timber trees, is this, to get a good clear stem 8 or 10 yards high, and then to let the head grow to as large a size as it likes, the larger the better; but always keep the stem clear from any bough to from 8 to 10 yards high. An Elm tree here, which I pruned 5 years since, had quite a round bushy head before it was operated on, and it did not make wood 6 inches long upon any of its branches, but since it has been pruned it has made 1 yard of leader every year, and its other branches have lengthened in proportion. I think if we can get dwarf and standard fruit trees by the mode of treatment I have named, we may get either long or short boles to timber trees by pruning. *A Country Gardener.*

Rain.—The following is the monthly depth of rain in inches and tenths of an inch, which has fallen at Balchrystie, Colingsburgh, Fifeshire, during the last 11 years. Likewise the average monthly temperature of the air for the last year (1851). Balchrystie is 130 feet above the level of the sea.

	1841.	1842.	1843.	1844.	1845.	1846.	1847.	1848.	1849.	1850.	1851.	Average Temperature of the Air. 1851. Highest.	Lowest.
	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.
January	1.6	3 6	2.5	2.1	2 4	3 0	1.5	1 8	4.5	2.4	4.8	42.11	34.14
February	3.4	1 7	2.2	2.6	2.3	1.2	0.7	7.3	0.8	3.0	1.0	44.05	33.04
March	1.6	3.4	1.0	3.1	2.4	1.3	0.8	3.3	1.4	0.5	4.1	46.04	34.02
April	1.2	0.1	3.0	0.9	1.1	3.0	1.4	2.1	1.4	1.9	2.4	52.05	36.16
May	1.8	2.5	3.6	0.4	2.0	2.6	4.2	0.7	2.5	2.1	0.3	59.16	42.03
June	2.0	1.7	1.6	3.5	3.7	3.7	1.8	5.6	1.5	1.0	2.3	64.06	46.29
July	2.4	2.15	4.45	2.4	2.6	5.1	2.2	2.6	3.0	1.6	2.7	65.14	48.22
August	4.9	2.0	2.8	1.6	4.4	3.5	0 6	2.9	2.5	3.0	3.0	63.30	48.27
September	2 4	1.9	0 9	3.2	3.5	4.7	1.0	1.2	1.1	2.1	1.8	59.08	44.17
October	6 2	1.0	5.7	1.2	5.1	5.5	3.8	4.8	1.9	1 6	2.0	53.08	41.20
November	3 2	2.8	3 0	4.5	2.7	2 0	2 3	3.0	2.3	3.5	0.8	40.28	31.11
December	2.0	2.5	0.5	1.7	1.8	0.8	5.0	2.4	2.5	2.4	0.8	42.10	34.13
Annual amount	33.7	25.35	31 25	27.2	34.0	36 4	25 3	37.7	25.4	24.9	26.0		

The average amount of rain at Balchrystie, for the last 11 years, is 29.75 inches. Last year was 3.75 inches below the average. *Robert Forgan, Gardener to L. Buchan, Esq., Balchrystie.*

The Seed Trade.—Desirous as I am of exposing proved abuses in the trade, I cannot allow Mr. Bundy's statement at p. 182 to pass, without showing its absurdity; for the retail prices therein stated are lower than the wholesale prices of highly respectable but "cutting" houses in the London trade. Peas, Beans, and Onions I will pass over, as certain kinds may be bought at the prices quoted in many places; but Cauliflowers at 6*d.* per oz., Radishes 4*d.* per pint, Broccoli at 3*d.* per oz., and Carrots at 6*d.* per lb., is too much to pass unnoticed. Now, the wholesale price of Cauliflowers is from 9*s.* to 16*s.* per lb., the lowest price being 1*s.* per lb. more than the retail price in the Principality. Radish 22*s.* to 30*s.* per bushel, being 8*s.* to 8*s.* 8*d.* more than Mr. Bundy's quotations. Carrots 45*s.* to 56*s.* per cwt., the last price being just 6*d.* per lb. Broccoli 3*s.* 6*d.* to 16*s.* per lb.; but it must be recollected, that these prices are for seeds taken in quantities of not less than 1 lb., 1 cwt., or 1 bushel; and for small quantities, an increased price of from 10 to 20 per cent. would be charged. Some of the commoner kinds of Lettuce and Cabbage may be sold at a profit at 3*d.* per oz.; but the leading kinds of Lettuce are worth from 5*s.* to 10*s.* per lb. If, with the above facts before him, Mr. Bundy can kindly enlighten us as to the "how" of realising a profit of 30 per cent. ("without paying carriage"), we shall certainly be under a great obligation to him. I suppose, however, the Welch druggists, with their profit of 300 per cent. upon drugs, can afford to "live by their loss" upon a few seeds; but we, of the London trade, with hundreds annually to pay for rent, taxes, and shopmen, to say nothing of bad debts, certainly cannot afford to sell seeds for less than we give for them. The above quotations, it must be remarked, are only for seeds of ordinary quality; for selected samples saved with great care double the prices can be readily obtained. At the present time Snow's Superb Winter White Broccoli, in the pure state, cannot be bought under 42*s.* per pound; and I will undertake to give Mr. Bundy 21*s.* per pound for all that he can produce me next autumn; indeed there are respectable houses in the retail trade, such, for instance, Messrs. Hendersons', and Fairbairn, Mr. Turner of Slough, Mr. Glendinning, and others whom I could name, who have paid me 15*s.* to 21*s.* per pound for seed which they knew I had pure, when they could have bought seed under the same name at 5*s.* per pound in the trade. But as is remarked by Mr. McIntosh, of Dalkeith, in a letter now before me: "The greatest curse of the seed trade at the present time is the cheapness of seed; if it was of superior quality, and double the price, it would be better for both buyer and seller," for then the grower would be able to devote proper attention to his crop, and the purchaser might depend upon a genuine article being supplied to him. In addition to the profit upon seeds sold, the dealer must always be allowed a large margin of profit for "dead stock," or seeds not sold; for I have this season given to my horses and pigs old seed of Peas and Beans, some of which cost me two guineas per bushel, which is rather a heavy "drawback" upon the profit of those kinds sold at 6*d.* or 9*d.* per quart, and dear horse-feed in these free-trade times. The other day I saw an advertisement in the *Times* of 100 kinds of choice flower seeds (post free) for 5*s.* I had the curiosity to "count the cost" of putting these seeds into packets, and I find that paper, writing, man's time, and postage, would amount to from 2*s.* 6*d.* to 3*s.*, thus leaving less than one farthing each packet for seed. Need I say a word as to the impossibility of selling seeds at that price; indeed for the dealer to steal the seeds, and never pay for either paper or man's time, it would be a poor business. However there are always "flats" to be caught, and hence such dealers get a living. *W. P. Ayres, Brooklands Nursery, Blackheath.*

Societies.

Caledonian Horticultural, *March* 4.—D. Mackinlay, Esq., in the chair. The display of spring flowers was extensive and varied; and the day being fine, there was a good attendance. For the 12 best Hyacinths, produced by nurserymen in pots—the silver medal was awarded to Messrs. Dicksons and Co.; the varieties being Hercules, Grande Vidette, Grand Vainqueur, la Tour d'Auvergne, Baron von Tuyl, Abbé de Verac, Blocksberg, Prince Albert, Mars, Poniatowski, Lord Wellington, and Milton. For the six best Hyacinths, produced by practical gardeners or amateurs, in pots, the prize was gained by Mr. Henderson, gr. to C. K. Sivewright, Esq., with Grand Lilas, Grande Vidette (blue and white), Lord Wellington, La Tour d'Avergne, and Orondates. For the six best Camellias, one cut flower of each; the prize was gained by Mr. Foulis, gr. to J. Tytler, Esq., with Lady Grafton, Reine des Fleurs, Double White, Imbricata, Prattii, and Flavescens; 2, Mr. Cossar, gr. to Lady Hay, with Duchesse D'Orleans, Fimbriata, Saccoi nova, Ridolphi, Alba plena, and Carswelliana. Epacrises: 1, Mr. Reid, gr. to Professor Syme, for Christisoni, a seedling raised by Mr. Reid, at Millbank; 2, Mr. Ritchie, gr. to W. M. Innes, Esq., for a large specimen of Miniata. Cinerarias: 1, Mr. Laing, gr. to the Earl of Rosslyn, with Delight and Susannah; 2, Mr. Addison, Gosford, for Climax and Cerito. Spring Flowering Hardy Herbaceous Plants, in pots: 1, Mr. Addison, for Leucojum vernum, Saxifraga oppositifolia grandiflora, and Sisyrinchium grandiflorum. Chinese Primroses: 1, Mr. Henderson, for Double white and Fringed Double white. Forced Rhubarb: 1, Mr. Goodall, gr. to the Marquis of Lothian, for six stalks of Victoria, weighing 6 lb. 1 oz.; 2, Mr. Henderson, for six stalks of the same variety, weighing 5 lb. 15 oz. The prize of half-a-guinea, offered through the Society, by Mr. Carstairs, for the two most tastefully arranged Hand Bouquets, one round, and one flat, was gained by Mr. Laing, Dysart House. In addition to the articles furnished for competition, a number of interesting productions were sent for exhibition only. Messrs. Dicksons and Co., produced a collection of beautiful Hyacinths; Mr. Handasyde, two baskets of select Conifers and shrubs; Mr. R. M. Stark, a good plant of Dielytra spectabilis; and Mr. Carstairs, a beautiful bouquet, Pelargoniums, Duke of Cornwall, Admiral Napier, Mrs. Johnstone, and Bloomsbury, all in flower, and a bunch of Prince Albert Rhubarb, 7 inches in length from the open ground. From the garden of S. Hay, Esq., were plants of Primula serrulata and denticulata, and one of Epacris lævigata; from Mr. Ritchie, a well flowered specimen of Æschynanthus parasiticus; from Mr. Anderson, Oxenford Castle, a Seedling Cineraria; from Mr. Richardson, Clerk-street, Hyacinths; from Mr. Laing, two Seedling Cinerarias and several Hybrid

Seedling Rhododendrons; from Mr. Forrester, Ratho, 11 varieties of double Primroses and several Alpine plants; from Mr. Stirling, Moray-place, a basket of Alpines, including Scilla præcox, Galanthus plicatus, &c.; from Mr. M'Lean, Portmore, a stand of Camellia blooms; from Miss Wauchope, a Camellia plant in flower; from Mr. Calder, Seacliff, 45 varieties of Apples in good preservation, for which an honorary award was voted; and from Mr. Shearer, gr. to the Marquess of Tweeddale, four Seedling Azaleas. On this occasion 12 new members were added to the list.

Microscopical, *March* 17.—The President in the chair. Dr. Hamilton, L. S. Beale, Esq., of London, and C. C. Smith, Esq., of Bury St. Edmunds, were elected members. Mr. Shadbolt read a paper on the collection of objects for microscopic investigation. He referred more especially to the collection of the fresh-water Algæ, Diatomaceæ, and Desmideæ, in the neighbourhood of London. The two last families were to be found in the mud of rivers, ponds, bogs, and ditches. The author detailed the visible appearances in these localities of the presence of these minute organisms. He named Hay's Common, Bromley, the Salt Marshes at Northfleet, and the neighbourhood of Esher, as affording a large number of species. Several species of fresh-water Zoophytes were to be obtained in the West India docks; Chara and Nitella at Epping, and several interesting species of Algæ, Desmideæ, and Diatomaceæ in the Serpentine and the water of St. James's-park.—Mr. Warren Delarue gave a description of an apparatus by which lines of excessive delicacy could be drawn upon a plate of glass. The apparatus consisted of a lever, which, when written with at one end, moved the other over minute spaces on a small piece of glass. This was the invention of Mr. Peters, and specimens of the work were exhibited. In one instance the Lord's prayer was very distinctly engraved on a space in a slide of glass not exceeding the 1-53d of an inch square, and required a high magnifying power to read it. Mr. Delarue pointed out the value of this instrument in constructing micrometers of exceeding delicacy for the use of the microscopist.

Books, &c., Received.

The Political Experience of the Ancients, in its bearing upon Modern Times. By W. S. Tremenheere, 12mo, pp. 136. Murray. An able essay upon the state of modern periodical and other literature, with a view to correct "the immense amount of error in principles and perversions of facts pervading a great portion of it."

Government; its Uses and Abuses. By F. Coxworthy. Peirce. (A pamphlet). A farrago, including attacks upon men of science and on Government, especially the present Board of Ordnance, which dismissed the author upon grounds which we must say, upon his own showing, left the Board no choice. The copy sent to us is marked by either author or publisher—"Press, defend your rights;" a somewhat superfluous suggestion.

Walpers' Annales Botanices systematicæ. Vol. II. fasc. 3. Leguminosæ to Melastomaceæ.

The Metropolis and its Municipal Administration.—By J. Toulmin Smith. Trelawney Saunders. A pamphlet addressed to those who are interested in the government of towns, especially of the metropolis, and who incline to the errors of centralisation. The author proposes to leave the corporation of London as it is, and to group round it other corporations.

Blume, Museum Lugduno-Batavum. Nos. 21—24, concluding Vol. I.

Garden Memoranda.

Swinton-park, Bedale, the seat of Capt. O. V. Harcourt.—I recently paid a visit to this place, for the purpose of inspecting the beautiful conservatory, which, even at this season of the year, is well worthy of notice. I was most struck with one of the finest specimens of Rhododendron arboreum it was ever my fortune to meet with. This truly magnificent plant is about 7 feet high and about 6 feet in breadth, it has 150 heads of bloom now expanded, and I was informed by the gardener that he had deprived it of above 50, and stern necessity would compel him to remove more. The rich crimson scarlet of the flower makes this plant a truly imposing object; there are several other varieties of both scarlet and white in bloom, and all exhibiting unmistakeable evidence of high cultivation; but beside the above regal plant they look comparatively dim and pale. The gardener also showed me some most remarkable looking seedlings, the leaves of some being 10 inches in length. The Camellias in this house are covered with bloom, as are also some gigantic examples of the white Azalea indica; indeed, the health and vigour of all the plants in this conservatory, the colour and substance of their foliage, their abundant bloom, their "shapeliness," and their neat and appropriate arrangement, reflect great credit on the cultivator. *Alpha.*

FLORICULTURE.

Class Showing. On this subject much diversity of opinion exists; the matter, however, has been hitherto purely Midland and Northern, and has been well discussed in the "Midland Florist." In the south the prosecution of class showing does not receive as a rule that attention which its merits demand; when we state that but one society in and around London carries out the principles of the system, we at once show that the plan, although highly important, is far from being general. Occasionally we find special prizes offered by members of existing societies; for instance, Carnations and Picotees were invited in this manner at the Royal South London Floricultural Society, but without producing anything like competition. For two years the trial was made by the Hammersmith Pansy Society: at the first not a flower was set up, although two guineas were offered as rewards; at the second it proved but a scramble for the "pride of place." Then again, at the North London Chrysanthemum show last autumn, the prizes in the classes were mostly contested by, and awarded to, flowers not considered good enough for collections of twelves, sixes, &c. With these facts we have alone to deal, and we feel convinced that wherever collections are invited, class showing will only be patronised by refuse blooms—hence its merits will never be fairly tested, in conjunction with stand showing. We take it that class showing, judiciously carried out, is calculated to promote the production of the best specimens of quality in all its bearings, of the various colours, markings, &c., bringing alone into competition flowers of similar pretensions; thus whites will be matched against whites, yellows against yellows, scarlets against scarlets, purples against purples, and so on, through not only similar colours, but also their markings—feathers against feathers, flames against flames, heavy edged against heavy edged, and light edged against light edged; thus constituted, all must frankly admit, that the step is an important one, and will be the means of better enabling the public to judge of the comparative merits of the several subjects submitted to its inspection. But it is not by bringing like flowers into juxtaposition, that the object is to be attained; for a series of prizes is required, in some places first, second, and third, in others, they may extend to six, and probably even to twelve; the object being to reward the exhibition by a place consistent with its comparative merit. Here, then, we have two important elements elicited by class showing: the third and final is, shall one variety be "the flower of the day" until it is displaced by a better specimen? In other words, shall it be allowed to win more than one prize? This is a problem which is just now engaging the attention of our brother florists in the north. We have pointed out that class showing is calculated to advance real merit. Is that object attained by a multiplicity of prizes being awarded to a multiplicity of varieties? The question is easily answered, and we reply to it by asking another—what relative value exists between a fair specimen taking the twelfth prize, and that obtaining the first prize, supposing the 12 blooms to be all of average growth? Then, why award prizes to varieties of the twelfth degree, at the same time shutting out specimens of much higher merit, simply because it (the same variety) claims by its quality a forward place? Such a course of procedure is in direct opposition to the vital principles for which class showing is established and tolerated. If under *any* circumstances "one variety should win but once," let it be when not more than three prizes are offered in each class, by which means we encourage and perpetuate flowers not below the third degree of merit; yet even this course is not adopted either at Norwich or at the London Floricultural Societies where class showing is permitted. The following notice should be included in every schedule to be issued for class showing: N.B. Prizes will be awarded to two-thirds the number of entries, and every variety may win as long as it can. After so many money prizes, according to funds, let the numbers be made up to two-thirds by honorary awards; by this means, first-class quality alone will carry a variety so far until it merge into that of the second degree; this again being displaced by specimens of the third and fourth degrees. But to "shut out" specimens of high merit simply because they have already taken a place, is to "let in" others of an acknowledged inferior grade, and to encourage their growth. *J. E.*

Hardiness of the Cineraria.—This it seems is a doubtful matter; with me half-a-dozen Cinerarias have done very well in a cold frame during the past winter. They were put into the frame in October; in February three of them showed for bloom, and were removed into the house, and the rest are still in their winter quarters. They were covered with mats at night, but otherwise they were almost neglected. *W. K. W., Southampton-street, Camberwell.*——I regret that "W. G." should have lost his Cinerarias through following, as he says, my advice; though I think he will find that his disaster is not imputable to me. I related a fact which came under my notice, and which was unexpected; and it is by the contribution of such facts and discussions upon them that progress in knowledge is made. I think, however, if he will diligently consider your leading article of March 20, he will discover the real cause of the injury. I wish he were here to see my Cinerarias, which have never had any other protection than that I spoke of, for a more healthy and promising collection would be difficult to be met with. Yet the larger number of them were exposed to 12° of frost last November, as their ancestors had been on the preceding November, both owing to my want of care; yet in neither case did any injury follow, owing no doubt first to the plants not being in a growing state at the time, nor their tissues distended with sap, and partly also to the care bestowed on them afterwards in thawing them very gradually and in the dark. The frosts of this month have probably been more severe here than at Stoke Newington, the coldest point being 11°, yet mine have not been hurt in the least, but then they were not taken out of a house and transferred to the pit; and though they have been growing and some are even in bloom, the most forward have been brought indoors. I always kept them while in the pit as dry as was consistent with health during the north-east winds. *George Jeans, Tetney, Lincolnshire.*

National Floricultural Society.—Mr. Lochner in the chair. Cinerarias were contributed by Mr. Gaines, Mr. Dobson, Mr. Busby, Messrs. Arthur Henderson, Messrs. E. G. Henderson, and Mr. Lochner. Labels of commendation were awarded to Purity (Dobson) and Julia (Lochner). 36 varieties of named sorts of Pansies were sent by Mr. Turner, and a seedling, to which a first-class Certificate was awarded; it is called Sir J. Gathcart; and is a yellow-ground variety of great merit. Some very pretty foreign Camellias were forwarded by Messrs. E. G. Henderson. A few novelties were also contributed by Mr. Gaines and Mr. Henderson, in the shape of Deutzia gracilis, a Sikkim Rhododendron, and two other plants. Some well flowered Cyclamens and Epacrises completed the objects of interest. Four new members were elected, and one nominated.

Catalogue received from Mr. H. Groom, Clapham Rise, Surrey. *J. E.*

Cinerarias: *J H.* 1, purple self, white disk; 2, deep crimson self, black disk; 3, white ground tipped with grey, disk grey; 4, white ground, with bright blue tips and disk; 5, light bronzy blue self, darker disk; 6, deep blue self, same disk; 7, rosy purple self, darker disk; 8, similar to No. 5, darker disk; Belle of the Village and Crusader we have seen before. All pretty, but No. 6 is the most so, owing to its cheerful colour. Your packing 62 blooms on eight trusses in a box whose dimensions are 4 inches long, 1¼ inch wide, and 1 inch deep is a bad plan; this, together with the box being crushed in coming through the post, caused the flowers to be half spoiled before they reached us. *J. E.—W G P.* Not good enough for our present wants. *J. E.*

Red-edged Picotee: Mrs. Norman can nowhere be bought for 5s. per pair that we know of; in truth, the flower was grown by only seven persons in England and by one in Scotland last season—in all 21 pairs, and even the few pairs offered at the mart brought 7s. and 8s.; we would therefore advise you to be cautious. As a flower it is unequalled in its class, and will doubtless maintain that position, as has Mrs. Barnard in the light-edged roses; James II. can be had at half the price of Mrs. N.—it is a larger flower, much in the same way. *J. E.*

Schedule received from the Great National Tulip Exhibition, Birmingham. *J. E.*

Miscellaneous.

Glasnevin Botanic Garden.—The following is an extract from the Curator's Annual Report:—"With the view of introducing (even under unfavourable circumstances) the splendid Water-lily, Victoria regia, a brick and cement tank, 15 feet square, has been built at the end of one of the houses in the old range. In this it is expected the plant may be grown, on a small scale, next season; but in order to cultivate it to perfection, a tank of much larger dimensions will be required; or, if the means at the disposal of the committee would permit, a suitable house should be erected and appropriated to the growth of this plant, as at Kew, and elsewhere in England. In the portion of the Garden assigned for economical purposes, some interesting experiments have been made. The Sugar Beet, which is exciting so much interest at present in Ireland, has been grown on twelve different kinds of manures, prepared for the purpose by Mr. Sullivan, the chemical officer at the Museum of Irish Industry, Stephen's-green, and also on dried turf-mould, in comparison with other manures, as recommended by the Society's professor, Mr. Davy. The chief object of the former set of experiments being to test, by analysis of the roots, what effect the different kinds of manures will produce in the relative quantities of the chemical components; the results can only be known when the gentleman alluded to makes his report. I shall only at present observe that the greatest growth and weight of produce were from the mixtures containing portions of sulphate of ammonia and phosphate of lime. The following are the respective weights of Mangold Wurzel roots, grown on equal spaces of ground with the manures recommended by Professor Davy:—1st. On two barrow-loads of dried turf-mould, 1½ cwt. 3 st. 7 lbs. 2d. On one barrow-load of leaf-mould, 1 cwt. 7 lbs. 3d. On a barrow-load of leaf-mould and night-soil, mixed, 1½ cwt. 2 st. 6 lbs. 4th. On one half barrow-load of farm-yard manure and half barrow-load of charred peat, 2 cwt. 1 st. 8 lbs. These results are from experiments made on deep alluvial soil. Last May, the Council sent me a package of seeds of the "Ma," or Chinese Grass-plant, which yields the beautiful fibre of that name, accompanied with a desire that the plants should be cultivated and reported on. Portions of the seeds were sown in three different ways, viz., on a hot-bed; in pots placed in a cool frame; and on beds in the open ground. This was done on the 10th of May. Those sown in heat vegetated freely, and the young plants made rapid progress under the same temperature until the 4th of June, when they were planted out in the economical division. After this they did not grow fast, only attaining to a height of one foot during the season, and they are now blackened by the late frosts. The seeds sown in the cool frame did not vegetate so soon, nor did the plants grow so fast as those in the hot-bed; and the portion sown in the open ground were soon cut off after vegetating. These results would appear to prove that, as a remunerative crop, this plant is not suited to the climate of Ireland. It is a species of Nettle, *Urtica nivea*, of Wildenow, now changed to *Bæhmeria nivea*, which has long been under cultivation in botanical gardens, and well known to botanists, Philip Miller having cultivated it in the Chelsea Botanic

Garden as early as 1739. The roots are perennial, and will produce much stronger shoots next season, which will afford those who have been cultivating this plant a further opportunity of testing its value. A large and important addition of plants has recently been made to the collection, being chiefly the proceeds of my late journey, when I took occasion to visit most of the botanical collections in England, and to make selections from them far more extensive than I was enabled to do on any previous occasion. The respective lists from the different donors show that 925 species and varieties of plants have been sent, most of which are now growing in the garden. In public utility the Garden continues to advance steadily. Besides supplying Prof. Harvey with plants and flowers for the Botanical Lectures at the Royal Dublin Society's House, Kildare-street, and at the Botanic Garden, the Professor of Botany at the College of Surgeons, and other Lecturers connected with some of the Medical Schools in Dublin, have also been supplied. Their students have been freely admitted, on private as well as public days, for the purpose of studying the growing plants. Flowers and plants have been furnished twice every week for the use of the pupils attending the Government School of Design, and they have besides been admitted to draw from the living plants whenever they desired to do so. In concluding this report, I shall take the liberty of alluding to a subject which would tend very materially to enhance the value of this public institution, namely, the establishment of an economical museum of vegetable productions in their raw and manufactured state. The vast importance of such an adjunct to your garden must be apparent to all who have seen the museum at the Kew Botanic Gardens, or that at the Jardin des Plantes in Paris—both so much and so justly admired. I believe the managers of the Botanic Garden at Edinburgh are about commencing one ; and I trust the Royal Dublin Society will, ere long, secure to the Irish public such a valuable acquisition. To be able to show the different textile fabrics, in their various states of preparation, from the different countries on the globe, with other vegetable productions, such as gums, resins, barks, fruits, &c., and sections of the woods of trees which yield them, along with the living plants, could not fail to have a beneficial effect on the public mind. A museum such as I suggest would supply a great desideratum, and could be formed without much expense."

Irish Natural History.—We learn from a correspondent that the copies of Dr. Harvey's "Sea-side Manual," mentioned in our last (p. 184), although presented to the successful students of the Government School of Design by Lord Clarendon, were not selected or given by His Excellency, but were chosen by the Committee, and paid for out of the general funds of the Royal Dublin Society.

Sale of Hardy Conifers.—A collection, in pots, of Araucaria imbricata, Cypresses, Junipers, Pinuses, and Deodars, was sold yesterday by Mr. Stevens. The Araucarias measured from 2½ feet to 3 feet high; the others from 1 foot to 2 feet. Four of the best Araucarias fetched 12*s.* ; 10 Deodars 14*s.* ; 25 ditto, 7*s.* ; 4 Pinus excelsa, 7*s.* ; 10 P. Gerardiana (9 inches high), 10*s.* ; 5 Abies morinda, 6*s.* ; 5 A. pumilla, 7*s.* ; and 5 Juniperus Bedfordiana, 7*s.* 6*d.* Other lots sold cheaper.

Calendar of Operations.

(For the ensuing week.)

PLANT-HOUSES.

The desirableness of having plants to bloom in winter is felt by all; for this the Epacris is well adapted, and by a little management it is easily brought into flower ; select therefore a portion of the stock, cut back all straggling shoots, and remove the plants to any house at work, where there is a moderately moist atmosphere ; they will soon break, when they should be potted, and the shoots arranged and tied out ; by thus early starting them into growth, the wood becomes early ripened, and they will begin to bloom early in the ensuing winter ; in the ordinary temperature of a greenhouse a few Leschenaultias, Boronias, Hoveas, and some other hard-wooded plants may be tried in a similar way. Heaths and hard-wooded plants in general, should not be potted till after they have bloomed, when the plants should be cut in according to their habits, and a fresh growth begun before potting is attempted. With young plants growing into specimens the case is different; and some of the latter will require looking to at this season; well soak the ball before removing them into larger pots, and prefer the compost when in a somewhat dry state ; after which, a gentle watering should be given. A quantity of things which have been wintered in the houses, &c., and which are not intended to bloom for some time, may be removed to pits. This will allow more room for plants now growing, and show the plants in bloom to more advantage. The young New Holland plants and Heaths will be found to grow faster in pits and frames, through the summer months, with less care ; and if a good supply of these useful structures is at hand, the plant-houses may be kept entirely for specimens and other plants in bloom. We need not advert to the improvement this would give to the generality of plant-houses.

FORCING DEPARTMENT.

VINERY.—During bright weather, some of the Vines having tender leaves, as the Cannon Hall, and Dutch Sweetwater, may get scorched ; in this case, use very slight shading for a time, and keep the foliage as hardy as possible, by good ventilation. The same conditions are very likely to bring out the red spider, particularly where forcing has been carried on for a length of time ; the best way to prevent this pest increasing, is to wash over the pipes, or flues, with a mixture of sulphur in powder, quick-lime and water, adding a little skim-milk as a size. This should be put on in dull weather ; and if the insects are numerous, the interior walls of the house may be brushed over with the composition, which may perhaps require repeating ; but, generally speaking, if the conditions of good culture are practised, this pest will not make much head. Keep the heat steady in the early house during the stoning process, and maintain the necessary degree of moisture by frequent sprinklings. Pinch off all lateral shoots as they appear, that nothing may interfere with the final swelling of the fruit. Attend to our previous directions as regards the successional houses. Vines now breaking will require copious syringing to counteract the dryness produced by the external air. To prevent the last house from breaking too soon shade them each fine day, and throw the house open by night. Examine carefully the inside borders of all forcing houses, and see they are liberally supplied with tepid water, using liquid manure whenever circumstances point out its necessity. PINERY.—The newly potted Pines may possibly require a slight shading for a few hours during the middle of the day. If the bottom-heat is steady, they will soon commence their new growth, but it will not be advisable to water them until the roots have made some progress. Fruiting plants, directly they have done blooming, must be kept moister, both by the syringe (each fine afternoon) and by increasing the humidity of the house ; take advantage of the sun-heat by closing early. A temperature of 90° to 96° will not injure them, if accompanied by as much moisture as the air will contain, or your means can supply. Remove thus early all useless suckers, and keep the fruit in an upright position by proper staking. FIGS will now require the syringe twice daily, and frequent waterings at the roots. Keep the foliage from being too crowded, by pinching off the end of the wood where too thick ; and, above all, keep the temperature steady. The first crop will now be swelling, and require this, to prevent its falling off. STRAWBERRIES are now ripening, and, when required to be kept for some days, should be removed to a dry, airy house ; carry on the successional crops, that the supply may be continuous. The stock out of doors will require to be removed from their winter quarters, and placed in an open situation, giving them a good watering, and a surfacing if necessary. MELONS.—Keep thin of vines, preserving those only intended to carry the fruit. Make up beds for succession crops.

FLOWER GARDEN AND SHRUBBERY.

Independent of the kinds of bedding out Geraniums we recommended in our last calendar, some of the fancy kinds are specially adapted for the purpose, and could we induce them to keep their blooms better in rainy weather, they would be invaluable. In this way Anais, Beauty of Winchester, Queen Victoria, Reine des Français, and various others may be named ; and we expect some hybrids between the "Fancies," and the Lemon-scented varieties now coming out, will prove a valuable addition to this class. Among Verbenas, the task of selecting is more difficult still ; we can, however, state, that for dwarf compact habit, combined with abundance of bloom, and vividness of colour (the principal essentials for our purpose), we have found none better than Boule de Feu, Diana, Louis Napoleon, and Armida as scarlets, using Defiance for larger masses ; Mrs. Mills makes a beautiful light blue red, and Andrew is equally good as a deep violet. Mount Blanc we have found the best white, while in pink and rose coloured varieties, Burleyana, Ophir, Compacta, Madame Demesse, and King are all desirable kinds. Alfred is a rich mulberry, and makes a novel coloured hue—no doubt, there are others equally good, but we have selected the above from several hundred kinds for planting in masses. It will be necessary to mulch and water all new planted trees and shrubs. As soon as rain falls, begin with what evergreens you must move at this season, and any work requiring the removal of turf should be suspended till a change takes place in the weather.

HARDY FRUIT GARDEN.

The Strawberry plantations may now be gone over, removing the withered leaves and clearing them from weeds ; the surface between the rows may be slightly pricked over, to permit the rain to pass freely into the soil ; if no dung was given in the autumn, a good mulching may now be spread between the rows to wash in with the rains.

KITCHEN GARDEN.

The crop of Cauliflowers under glasses will require frequent waterings, using for the purpose manure-water liberally, as the size and good quality of this vegetable depends on its being grown quickly ; never allow them to get dry after this month, unless the weather is very severe : the same rule will apply to the out-door crops. The crop potted into 8-inch pots will, by this, have filled the pot with roots, and should now be carefully turned out into a warm border, forming a slight hollow round the plant to retain the waterings ; prick out under hooped beds, that they may have the protection of a mat on frosty nights, the young seedling Cauliflowers, Lettuce, Parsley, &c., sown in frames : these will be most useful to succeed the autumn raised crops. Allow plenty of air to the young Celery in frames, thin out the first crop of Horn Carrots under glass, and water frequently that the roots may be crisp. Potatoes in frames up to the present time look well ; when this crop requires water let it be given during the forenoon, and allow the sashes to remain off till the plants get dry ; as shutting them up wet would be very likely to bring on the rot.

State of the Weather near London, for the week ending March 25, 1852, as observed at the Horticultural Gardens, Chiswick.

March.	Moon's Age.	Barometer.		Temperature.					Wind.	Rain.
				Of the Air.			Of the Earth			
		Max.	Min.	Max.	Min.	Mean	1 foot deep.	2 feet deep.		
Friday.. 19	27	30.156	30.106	47	27	37.0	39	39	E.	.00
Satur. .. 20	28	30.142	30.103	56	26	40.5	39	39	S.E.	.0 0
Sunday . 21	1	30.191	30.107	63	27	45.0	39½	39	S.E.	.00
Monday 22	2	30.120	30.108	66	28	47.0	41	41	S.E.	.06
Tues. .. 23	3	30.073	29.959	61	25	44.5	41½	41	N.E.	.00
Wed. .. 24	4	29.887	29.861	66	26	46.0	41½	42	E	.00
Thurs... 25	5	30.091	29.941	48	35	41.5	41½	42	N.E.	.00
Average ...		30.094	30.026	58.5	27.5	43.0	40.43	40.43		.00

March 19—Cold haze; white clouds with very clear intervals; frosty.
— 20—Hoar frost; clear; frosty at night.
— 21—Fine; rather hazy; clear; frosty.
— 22—Very fine throughout; slight frost at night.
— 23—Slight haze; very dry air; clear and frosty.
— 24—Slight haze; overcast; densely clouded.
— 25—Clear; cloudy; overcast at night.
Mean temperature of the week, ½ deg. above the average.

State of the Weather at Chiswick, during the last 26 years, for the ensuing week, ending April 3, 1852.

March and April.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds.							
						N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 28	53.5	34.1	43.8	10	0.68 in.	2	5	4	2	3	3	6	1
Mon. 29	53.7	33.7	43.7	6	0.33	1	3	5	3	1	5	4	4
Tues. 30	53.6	34.8	44.2	8	0.11	3	4	2	1	4	2	4	6
Wed. 31	55.2	35.7	45.5	11	0.30	2	6	2	3	4	2	4	3
Thurs. 1	54.5	35.6	45.1	15	0.76	3	4	3	3	3	5	1	4
Friday 2	55.4	36.9	46.1	12	1.19	4	2	3	2	3	7	2	1
Satur. 3	56 6	34.7	45.6	5	0.20	4	3	2	1	1	6	5	4

The highest temperature during the above period occurred on the 3d April, 1846—therm. 78 deg. ; and the lowest on the 1st, 1838—therm. 16 deg.

Notices to Correspondents.

BOOKS: *Buckland*, Moore on Ferns. By no means plunge the leaves in boiling water previous to drying them.—*S F.* The text-book used by Dr. Lindley, in his junior course of botany, is his "School Botany."—*J F R.* Dr. Lindley's work on Orchids does not treat of their culture. You will find a useful series of papers on that subject in our volume for 1851.

COKE: *Micklewell.* We pay 8*s.* per chaldron to the Phœnix Gas Company, and they send it by water to Chiswick for that money. It is not a Moss—what it is we will tell you next week.

FERNS: *G S C.* We really cannot undertake to negociate exchanges ; neither can we recommend tradesmen. Nor do we understand your question. Any dealer in Ferns can supply what you appear to want, or you may get them for yourself if you run a little way into the country by rail.

FRUITS: *F and F.* There is no objection to the arrangement of fruits proposed by Dr. Pereira. If you want a more elaborate one, you will find it in Dr. Lindley's "Introduction to Botany." The "inaccuracies" to which you point in Paxton's "Botanical Dictionary" are not really what you call them, as a little consideration will tell you. A new edition of the "Vegetable Kingdom" is in preparation.

HORTICULTURAL SOCIETY: *S T Z.* There is a vacancy just now in the establishment. A young man must be recommended by a Fellow of the Society ; he must also be between 21 and 25 years of age, unmarried, able to read and write well, to cypher, and to measure simple pieces of land correctly. These are the minimum qualifications ; except that he must have been for at least three years in some good *private* garden.

NAMES OF FRUITS: *G H P.* The Apple you sent is not known. It is very acid and astringent.‖

NAMES OF PLANTS: *A B C D.* One of the varieties of Hippeastrum vittatum.—*H K.* A young plant of Polystichum lobatum.§—*J S.* 1 seems to be Pittosporum revolutum ; 2 is an evergreen Oak.—*R V Y.* The plant is Akæbia quinata, and could not by any possibility have been sent out as a Dielytra. It is a climber of rapid growth, and if trained, from the profusion of flowers, has a striking appearance, although the flowers individually look dull ; it has also a scent somewhat resembling a Wallflower, but more delicate.—*J O B.* 2, the plant commonly, but incorrectly, called D. Heyneanum ; 1 and 4, Vanda peduncularis, from Ceylon, not Manilla ; 3, Pteris tremula.—*Juvenis.* 1, Potentilla reptans ; 2, Melilotus officinalis ; 3, Chrysanthemum leucanthemum.—*J A.* It does not appear to be different from Epidendrum Stamfordianum ; but the flowers were terribly crushed.—*X Y Z.* 2, Cineraria Petasites ; 1 cannot be determined without flowers. We never recommend tradesmen. You must consult the Advertisements.—*J. S.* We believe them to be the leaves of Arum pictum.

POTATOES: *A Gardener.* These are tubers, not bulbs.

PRUNING: *Clericus.* The upright shoots which spring from the tied down branches of Pear trees trained in a conical form, must be shortened back to about an inch in length. From this base a number of shoots will probably make their appearance in May. You should then rub off a considerable portion, and allow one or two of the strongest from each spur to push 6 inches in length, and then stop them by pinching off their points above the sixth leaf from their bases. The leading shoot should be shortened to the distance of 15 inches above the tier of shoots made in the preceding year.‖

SMOKE: *J J C.* That this injures all vegetation is unquestionable. Your best way would be to water your lawn frequently, by a water-engine of considerable power or a water-cart, if you can get it on the Grass without injury to the ground. Also mow it close every time that the wind ceases to blow from the quarter that brings smoke. If the lawn wants vigour, dress it with guano at the rate of three cwt. an acre.

STEPHANOTIS FLORIBUNDA: *T D.* Several instances in which this plant has fruited have lately been recorded in our pages.‡

THE UPAS TREE: *J F R.* This plant will not poison by the atmosphere that surrounds it, but by its milky juice. Take care what you are about ; if the juice gets into a wound, or upon the eye, you had better send for a surgeon without an instant's delay ; and we trust that he may not arrive too late. As to the phenomenon you mention, we will look to it.

VINE LEAVES: *Lumbricus.* Had you sent the leaves, instead of a description of them, we might perhaps have answered your question. You say "great caution has been used as regards ventilation." What does that mean ? Perhaps you have stifled your Vines.

VINES: *B J D.* Sulphur them the moment you perceive mildew making its appearance ; but they must be quite dry when it is applied, or you will find some difficulty in removing it from the leaves, &c., after it has performed its office. You will find the French contrivance described at p. 643 1851, to be a useful and cheap sulphurator.‡

VIOLETS: *E J.* For Neapolitan and Tree Violets prepare a frame of light rich compost, consisting of loam and leaf-mould, under the shade of a north wall, for their summer quarters ; in such a situation they may be preserved from the ravages of the red spider, from the attacks of which they will certainly suffer if exposed to the scorching sun during the hot months. In this frame the offsets from the old beds should be planted about 4 inches asunder, and kept close till they have begun to form new roots. Failure in your case we imagine may be attributed to red spider.‡

PERUVIAN GUANO.

CAUTION TO AGRICULTURISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

ANTONY GIBBS AND SONS, AS THE ONLY IMPORTERS OF PERUVIAN GUANO,

Consider it to be their duty to the Peruvian Government and to the Public again to recommend Farmers and all others who buy to be carefully on their guard.

The character of the parties from whom they purchase will of course be the best security, and in addition to particular attention to that point, ANTONY GIBBS AND SONS think it well to remind buyers that—

The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 9l. 5s. per ton, less 2½ per cent.

Any resales made by dealers at a lower price must therefore either have a loss to them, or the article must be adulterated.

MANURES.—The following Manures are manufactured at Mr. LAWES'S Factory, Deptford Creek:

Turnip Manure, per ton	...	...	£7 0 0
Superphosphate of Lime	...	...	7 0 0
Sulphuric Acid and Coprolites	...	...	5 0 0

Office, 69, King William-street, City, London.

N.B. Peruvian Guano, guaranteed to contain 16 per cent. of Ammonia, 9l. 10s. per ton; and for 5 tons or more, 9l. 5s. per ton, in dock. Sulphate of ammonia, &c.

THE LONDON MANURE COMPANY offer the following Manures on the best terms, warranting every article strictly genuine:—Peruvian Guano, Superphosphate of Lime, Nitrate of Soda, Concentrated Urate, Peat Charcoal, Gypsum, Fishery Salt from Cornwall, also a constant supply of Salt for agricultural purposes; Linseed and Rape Cake. Peruvian Guano, warranted the genuine importation of Messrs. A. Gibbs and Sons, at 9l. 10s. per ton, or for 5 tons and upwards, 9l. 5s. in Dock. EDWARD PURSER, Sec.

40, New Bridge-street, Blackfriars.

TO AGRICULTURISTS.

OWEN'S ANIMALISED CARBON is now for Sale, at 2l. 5s. per ton in bulk.—This Manure has been introduced, with the most beneficial results, at St. Croix and the Mauritius, in the growth of the Sugar Cane, as proved by testimonials from the planters. The powerful fertilising properties of the Carbon have long since been acknowledged in Denmark, where it has been extensively used for agricultural purposes, as no less than 26,000 tons have already been sold. It is ready for immediate use, having no occasion to be ground, is equally as portable and diffusible as bones, and the low price at which it can be sold in this country must always be a paramount recommendation. *A liberal Commission allowed to Dealers or Agents.* For copies of the testimonials of its utility in this country, also for samples, apply to J. OWEN and Co., 3, Rood-lane.

Messrs. J. OWEN and Co. are now importing from their Copenhagen Manufactory SUPERPHOSPHATE OF LIME, of the very best description, containing at least 18 per cent. of Neutral Soluble Phosphate of Lime, and capable of furnishing at least 3 per cent. of Ammonia to the Soil. The "Analysis" is made by Professor J. THOMAS WAY, Consulting Chemist to the Royal Agricultural Society. The price, in London, of this powerful Manure, is 7l. per ton, cash, or Banker's Bill on London.

FOSSIL BONES AND PSEUDO-COPROLITES.

(FROM THE SUFFOLK CRAG).

EDWARD PACKARD AND CO., of Ipswich, having erected very powerful Machinery for the purpose of reducing these Phosphatic Nodules to a fine Powder, and being in the immediate locality of where they are found, are now prepared to supply them on the most economical terms, in any quantity, either Ground, Whole, or Dissolved in Acid. They form the cheapest source of Phosphate of Lime in the market, and are peculiarly eligible for manufacturing Superphosphate of Lime in conjunction with Bone.

Prices and every information connected with their use forwarded on application to EDWARD PACKARD and Co., Artificial Manure Manufacturers, Ipswich, Suffolk.

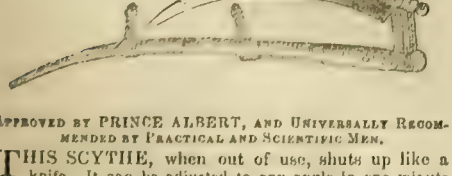
CHARCOAL AND SEWAGE MANURE.—Promote the Health and Wealth of Town and Country, by increasing the use of that valuable Manure, PEAT CHARCOAL, impregnated with the fertilising matter of LONDON SEWAGE. The ammonia, phosphates, and fæces are absorbed, and the water pressed out bright, palatable, and soft. —Sold at the Charcoal and Sewage Works, Stanley Bridge, Fulham, Middlesex, at 60s. per ton, 4s. per cwt., 2s. 6d. per half cwt.

FINE LONG RED SURREY CARROT.—A limited quantity, at 1s. 6d. per lb.—HART and NICKLIN, Seedsmen, Guildford.

THERMOMETERS.

HENRY BAKER'S (90, Hatton Garden, London) List of Prices. Every instrument made by him warranted accurate.—Vertical self-registering THERMOMETER, for heat and cold, of the best construction, and not liable to get out of order, 14 inches high, in copper case, 1l. 5s.; in japan case, 1l. 1s., and 1l.; 10 inches high, in copper case, 1l. 2s.; in japan case, 18s. Horizontal Thermometers for registering the extreme of cold only, 4s. 6d.; Hot-bed Thermometers, in oak frames, 1l. 1s.; copper frames, 1l. 5s. Thermometers for Brewing, Baths, &c., in copper cases, 14 inches, 7s. 6d.; 10 inches, 5s. 6d.; 8 inches, 4s. 6d.; in japan cases, 14 inches, 5s.; 10 inches, 3s. 6d.; 8 inches, 2s. 6d. Dr. Mason's Hygrometer, or wet bulb Thermometer, for showing the humidity of the air, with tables, ivory scale, 1l.; wood, 15s. An invaluable instrument in Hothouses, Sick Chambers, &c. Wheel Barometers from 1l. 1s. each, sent, securely packed, without fear of getting out of order.

BOYD'S SELF-ADJUSTING SCYTHE,



APPROVED BY PRINCE ALBERT, AND UNIVERSALLY RECOMMENDED BY PRACTICAL AND SCIENTIFIC MEN.

THIS SCYTHE, when out of use, shuts up like a knife. It can be adjusted to any angle in one minute (even by persons quite unused to the implement), without the assistance of blacksmith or forge. It may be used by amateurs as well as regular labourers, without fear of accident or injury, thus rendering Mowing an easy, safe, and economical operation.

To be had of all Ironmongers, Nurserymen, &c., in the Kingdom; and Wholesale and Retail at WM. DRAY and Co.'s Agricultural Implement and Machinery Warehouses, Swan-lane, London Bridge.—A liberal discount allowed to the Trade.

IMPROVED GRASS CUTTING & ROLLING MACHINE.

UNDER ROYAL PATRONAGE.

ALEXANDER SHANKS AND SON, MACHINE MAKERS, Arbroath, Forfarshire, respectfully solicit notice to their improved GRASS CUTTING and ROLLING MACHINE, for LAWNS, the complete success of which, and its acknowledged excellence and superiority over all other Machines of the kind, has now been fully confirmed. Testimonials and further particulars will be immediately franked on application.

AGENTS for London—Messrs. J. and C. Lee, Nurserymen and Seedsmen, Hammersmith; Hertford: Mr. George Folkard, Ironmonger; Liverpool: Messrs. Charles D. Young and Co., Castle Buildings, Derby-square; Sheffield: Mr. J. Law, Curator of the Botanic Gardens; Chester: Messrs. F. and J. Dickson, Nurserymen and Seedsmen; Glasgow: Messrs. Chas. D. Young and Co., 32, St. Enoch-square; Edinburgh: Messrs. Chas. D. Young and Co., 48, North Bridge; Perth: Messrs. Dickson and Turnbull, Nurserymen and Seedsmen.

M'CORMICK'S AMERICAN REAPER.

BURGESS AND KEY, Agents, 103, Newgate-street, London.—Extract from Mr. Pusey's Report on the Agricultural Implement Department, Great Exhibition.—"Mr. M'CORMICK'S Reaper, in this trial, worked as it has since worked at Cirencester College, and elsewhere, to the admiration of practical farmers, and therefore received a Council Medal. Mr. Hussey's sometimes became clogged, as in the former trial at Tiptree, and therefore could not possibly obtain that distinction."—Price of Reaper, 25l.

ANTHONY'S PATENT AMERICAN CHURN makes Butter in 10 minutes. It obtained the award of the Great Exhibition Medal, and also a prize at every one of the numerous Agricultural meetings at which it has been shown. It is now acknowledged to be the best Churn ever produced. 2000 have been sold in one year.—BURGESS and KEY, 103, Newgate-street, London.

GIDNEY'S IMPROVED PRUSSIAN HOE.—This exceedingly useful garden implement—so much in demand, and which has obtained the first prize at several of the first horticultural meetings, as the best and most useful garden tool *extant*; also testimonials from the principal horticultural journals and leading practical gardeners—is now ready for delivery, and may be obtained of any principal ironmonger, and Seedsman, or of the manufacturer, J. W. GIDNEY, Ironmonger, East Dereham, Norfolk. Price (ready for use), neatly handled, 1s. 6d.; of whom may be had the new drill hoe, and the Norfolk Blomfield hoe. Copies of testimonials sent on application to the manufacturer.

WATERPROOF PATHS.—Those who would enjoy their Gardens during the winter months should construct their Walks of PORTLAND CEMENT CONCRETE, which are formed thus:—Screen the gravel of which the path is at present made from the loam which is mixed with it, and to every part of clean gravel add one of sharp river sand. To five parts of such equal mixture add one of Portland Cement, and incorporate the whole well in the dry state before applying the water. It may then be laid on 2 inches thick. Any labourer can mix and spread it. No tool is required beyond the spade, and in 48 hours it becomes as hard as a rock. Vegetation cannot grow through or upon it, and it resists the action of the severest frost. It is necessary, as water does not soak through it, to give a fall from the middle of the path towards the sides.

Manufacturers of the Cement, J. B. WHITE and SONS, Millbank-street, Westminster.

THE PRIZE MEDAL OF THE GREAT EXHIBITION was awarded to Mr. MILTON, for his Improved COTTAGE BEEHIVE (straw), the only British Beehive for which a Prize Medal was awarded. It is of simple construction, ornamental, and so easily managed that the most unskilful can with safety obtain a large quantity of pure honey without killing the bees; price complete, 10s. 6d. They are made with extra fittings and boards, 18s. 6d. the set.

Also may be had "MILTON'S Practical Bee-keeper," new edition, price 2s.

Ditto, with Illustrations, 2s. 6d.

Ditto, Sheet of ditto, free by post, 8d.

At MILTON'S Beehive and Honey Warehouse, 10, Great Marylebone-street, Wimpole-street, London.

CHEAP AND DURABLE ROOFING.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

F. M'NEILL AND Co., of Lamb's-buildings, Bunhill-row, London, the Manufacturers and only Patentees of THE ASPHALTED FELT FOR ROOFING Houses, Farm Buildings, Shedding, Workshops, and for Garden purposes, to protect Plants from Frost.

At the Great National Agricultural Shows, it is this Felt which has been exhibited and obtained TWO SILVER MEDAL PRIZES, and is the Felt SOLELY patronised and adopted by

HER MAJESTY'S WOODS AND FORESTS,
HONOURABLE BOARD OF ORDNANCE,
HONOURABLE EAST INDIA COMPANY,
HONOURABLE COMMISSIONERS OF CUSTOMS,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANIC GARDENS, REGENT'S PARK,

And on the Estates of the Dukes of Sutherland, Norfolk, Rutland, Newcastle, Northumberland, Buccleuch (at Richmond), the late Earl Spencer, and most of the Nobility and Gentry, and at the ROYAL AGRICULTURAL SOCIETY'S HOUSE, Hanover-square.

It is half the price of any other description of Roofing, and effects a great saving of Timber in the construction of Roofs. Made to any length by 32 inches wide.

PRICE ONE PENNY PER SQUARE FOOT.

*** Samples, with Directions for its Use, and Testimonials of seven years' experience, with references to Noblemen, Gentlemen, Architects, and Builders, sent free to any part of the town or country, and orders by post executed.

☞ The Public is cautioned that the only Works in London or Great Britain where the above Roofing is made, are F. M'NEILL AND CO.'S Patent Felt Manufactory, Lamb's-buildings, Bunhill-row, London, where Roofs covered with the Felt may be seen.

The new Vice-Chancellor's Courts, at the entrance of Westminster Hall, were roofed with F. M'NEILL and Co.'s Felt about two years since, under the Surveyorship of Chas. Barry, Esq., R.A. Her Majesty's Commissioners of Woods and Forests are so satisfied with the result that they have ordered the Committee Rooms at the Houses of Parliament to be roofed with their Felt. Quantity altogether used, 24,000 feet.

NOTE.—Consumers sending direct to the Factory can be supplied in lengths best suited to their Roofs, so that they pay for no more than they require.

Every information afforded on the construction of Roofs, or any proposed particular application of the Felt.

CLEVELAND AGRICULTURAL SOCIETY.

NOTICE TO INVENTORS AND MAKERS OF REAPING MACHINES.—The Committee of the above Society have resolved to offer a PREMIUM of TWENTY GUINEAS for the BEST REAPING MACHINE, EXHIBITED and TRIED before the SOCIETY in CLEVELAND, at the commencement of the ensuing HARVEST. Entries to be made on or before the THIRTIETH DAY OF JUNE NEXT, to the Secretary, of whom a copy of the CONDITIONS of trial may be had, after the 6th of April next.

THOMAS PARRINGTON, Secretary.

Lazenby, near Middlesborough, March 27.

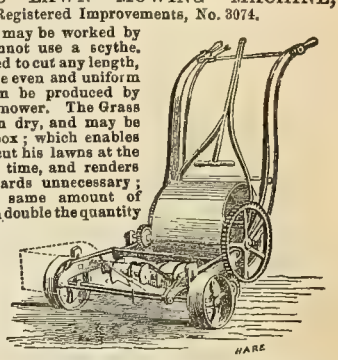
AGRICULTURAL PRODUCE AND FRUIT SALE ROOMS, 34, Eastcheap-street, London.—The Subscribers beg to announce to Farmers, Millers, Gardeners, and others, that they have opened the above extensive and central premises, for the Sale by Auction of Potatoes, Flour, Fruits, &c. The rate of commission charged in all cases for sale and guarantee will be one per cent. Liberal advances made on consignments. For further particulars apply to SMITH and Co., 34, Eastcheap-street, London.

MANUFACTURED SOLELY BY

JOHN FERRABEE AND SONS,

PHŒNIX IRON WORKS, NEAR STROUD, GLOUCESTERSHIRE.

BUDDING'S LAWN MOWING MACHINE, With Registered Improvements, No. 3074.



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J. F. & SONS, who were the sole Manufacturers of BUDDING'S MACHINES under the Patent, and who have produced and sold nearly 4000 of them, have this year increased their efficiency and perfected their operation, by improvements which are protected by Registration. The Improved Machines, in addition to the Registration Number—3074, have the name, "J. FERRABEE & SONS," cast on the frame; and none should be purchased without this guarantee.

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The Agricultural Gazette.

SATURDAY, MARCH 27, 1852.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY, March 31—Agricultural Society of England.
THURSDAY, April 1—Agricultural Imp. Soc. of Ireland.
WEDNESDAY, — 7—Agricultural Society of England.
THURSDAY, — 8—Agricultural Imp. Soc. of Ireland.

THERE is none of the daily necessaries of life of more importance than the article MILK; for, simple as it may appear, it contains all the elements essential to the full development and sustenance of the body. Science and practice amply corroborate this; for a man may be entirely supported upon a diet of milk for an indefinite period of time, and chemical analysis fully accounts for the fact. The size, strength, and hardi-

ness of Scotchmen and Irishmen have often been the subject of surprise, seeing that many of them do not taste butcher's meat from the one year's end to the other; but what they lack of butcher's meat is more than compensated by the greater quantity of dairy produce which they consume.

It is not, however, an alimentary view of the subject which we now propose discussing. For some time past, a valuable correspondence has been kept up in our columns, and we now propose throwing in our own mite into the milking-pail, by way of encouragement.

From time immemorial, three problems have particularly engrossed the attention of the farmer, in reference to milk:—to obtain the greatest quantity of milk of the best quality; to preserve the milk afterwards, until required for consumption, in the best possible manner; and to dispose of milk to the best advantage. These are the three grand problems demanding solution, and it were difficult to say which of them is the most deserving of consideration.

In practice, quantity and quality not unfrequently become two separate considerations. Some parties, for instance, do not value quantity, but quality: they prefer a very small quantity of extra rich milk to a large quantity of ordinary quality; while others are oppositely situated: if they can only get plenty of it, quality becomes a question of minor consideration.

Now, to obtain opposite results, such as these, opposite expedients must be adopted; but although such is the case, yet these expedients are somewhat analogous to each other; for, on the one hand, to obtain a small quantity of very rich milk, one of four practices may be had recourse to: first, peculiar breeds of cows, such as the Kyloe, Kerry, small Devon, and Guernsey; second, individual short-horns, Herefords, &c.—in all those breeds which give a large quantity of milk, there are always to be found exceptional cows which give a small quantity of rich milk; third, even where cows give a large quantity of milk of an ordinary quality, extra rich milk may be obtained from the afterings; and fourth, the quality of the milk may be affected by the quality of the food. On the other hand, certain breeds of cows give a large quantity. Individual Kyloes, Kerrys, small Devons, and Guernseys give large quantities of thin milk: the removal of the afterings will leave a large quantity of inferior milk; and lastly, brewers' grains and such like food, will produce a large quantity of inferior quality, whatever may be the breed of cows.

The two parties chiefly interested in this separate view of the question, are private families on the one hand, and dairy farmers who supply towns on the other. The former of these not only wish extra rich milk, and are able and willing to give any reasonable charge for it, but actually often incur a vast amount of unnecessary expense to procure it, and not unfrequently when this has been incurred, they fall short of realising their expectations. One has got a Kyloe, Kerry, small Devon, or Alderney cow, which yields extra rich milk, nothing short of London cream. The fame thereof soon reaches the ears of others looking out for this sort of thing, consequently their stalls and parks soon swarm with this far-famed Lilliputian breed; but in the selection, too many of the exceptional individuals already noticed have been included; so that disappointment or ridicule effects a speedy return to short-horns or Herefords as the sweetest and richest milkers after all. We recollect meeting with an instance where small Devons were selected, which actually did give extra rich milk, but the breed being so very valuable, calves were reared and suckled on the afterings! The first milk was set apart for the Castle by the milkman, and a calf put upon two cows to draw off the remainder, and doubtless the udders were emptied without a moment's delay. This was, perhaps, cheating the "house;" but young "Butter-cup" throve beautifully, so that the law of my lord and his steward was like the laws of the Medes and Persians; consequently our small Devons, fine as they were, had ultimately to give way to the reinstalment of the Hereford. Now, in either of these examples extra rich milk might have been obtained without the unnecessary changes and expense resorted to. In the first, either from the afterings or individual cows, exceptions to the general milking qualities of the breed; and in the second, by putting a calf to one cow, and milking the other wholly for the Castle; or, if this was not rich enough, take the afterings of the small Devon also. The disposal of the first milk under such circumstances we shall subsequently notice. In an experiment recorded in the "Lancet" some short time ago, the proportion of cream on the first milk of eight cows is stated at not one-half what it is in the last milk, showing a degree of difference in the richness of the milk scarcely credible. The object of the latter party, the market dairyman, to get an extra quantity of milk of any, even an inferior quality, is undeserving of countenance. His object ought to be the same as that of farmers in general: to get the greatest quantity of the very best quality, which we believe is the general aim.

We may, however, here notice, in passing, other expedients to which some of these parties resort in order to increase the quantity, besides giving unwholesome food to cows—we mean the often cuckoed plaint of adulteration sung by our urban friends. Out of a series of examples taken by "The Analytical Sanitary Commission" of the "Lancet" about one half were found adulterated, and in all cases the article added was "water, the per centage of which varied from 10 to 50 per cent., or one-half of the article." There is another mode of adulteration less easily detected than the adding of water, which the above Commission appears not to have sufficiently examined—we mean the mixing of skimmed milk with the first milk of the next milking, equivalent to the addition of a large per centage of water, for skimmed milk contains some 90 per cent. of water. We have still some further remarks, which shall appear in another Number.

ROTHAMSTED AND THE CRITIC "R."

But further, not only have we thus distinctly declared ourselves on the very question of such classification, but we have throughout our papers adopted it, strictly subject to the limitations here claimed.

The following are instances of our mode of classification of the various characteristic elements of ordinary rotations; for it must be particularly borne in mind that it is the *fundamental and characteristic features of British agriculture, as most generally adopted*, and as distinguished from its more local and varying practices and adaptations, that our investigations are specially designed to elucidate. In our paper on Sheep Feeding, in Vol. X., Part 1., of the Royal Agricultural Society's Journal, page 277, we say:—"The more important questions connected with such an inquiry relate—to the conditions required for the growth of Wheat and the allied *Cereal grains*, which constitute so material a proportion of the saleable products of the farm, and the nature of the exhaustion resulting from their growth and export—to the growth and sources of restorative influence of *root crops*—to the growth of the more important plants of the Leguminous family, *both those which are cultivated for their seeds*, perhaps to be sold off the farm, such as Beans, Peas, &c., *and those, such as Clover, Trefoil, Vetches*, &c., which are supposed to be employed in the production of meat and manure—and, to the chemical circumstances involved in the consumption of food by animals upon the farm, whether of home or foreign growth."

In our paper "On the Amount of Water given off by Plants during their growth" (Journal of Horticultural Society for January, 1850), we say:—"The plants selected for experiment were *Wheat* and *Barley*, of the natural order Graminaceæ; with Beans and Peas as *corn plants*, and Clover as a *fodder plant*, from the Leguminosæ; these several plants, moreover, occupying somewhat important and characteristic positions in a course of rotation. A *root crop* would also have been taken, &c." And in our paper in the Journal of the Royal Agricultural Society, Vol. XII., Part 1, page 5, our classification of agricultural crops is as follows:—"We have taken *Wheat* as the type of the *Cereal* crops, *Turnips* as the type of the *root crops*, and *Beans* as the representative of the Leguminous *corn crop*, most frequently entering into rotation." And further, in the same page, after enumerating the number of experiments devoted to the crops just mentioned, we say, "*Besides these*, others have been made, viz., some on the growth of *Clover*, &c."

We have, then, assumed, as far as regards the *Gramineous grains* and the *Leguminous corn crops*, that the general *agricultural characteristics* of the plants which these terms respectively include, *are* such as to justify the adoption of them in a classification of the plants when grown in our rotations; and if our critic would maintain that there *is nothing in common* in the functional position in our rotations of the several members of the one class, *as such*, and as contrasted with those of the other—here we would at once join issue with him. In reference to this subject, we may here observe, in passing, that we shall not soon forget the scientific appreciation and forcible discrimination with which Professor Dumas imparted the facts and their practical bearings to those around him, when, having carefully examined, with a number of his countrymen, our growing experimental Wheat crop of 1851, he was next conducted to the experimental Bean field, and had then explained to him the history of the various plots, as well as the results of our experiments on the amount of nitrogen and carbon fixed in the Wheat and in the Bean respectively, in relation to a given amount of water passed through them during their growth. But although we have thus contrasted the *general agricultural characteristics* of the Graminaceous *grains* with those of the Leguminous *corn* crops, we have always in the systematic enumerations of our several papers placed the Leguminous *fodder crops* apart from the Leguminous *corn crops*, though, as we shall some day show, this was a refinement scarcely necessary in a classification of so broad a kind.

The Grasses of our meadows, it will be seen, are not specially included in the scope of our subject, since their admission *into rotation* is only *local*, and then even in some cases questionable as an element in improved systems of agriculture. But to this question we shall recur on a future occasion. On the other hand, however, as regards our *root crops*, *never* after the first enumeration of the several natural orders ("classes") to which they belong, and which we then stated were not admissible divisions in an *agricultural* classification—*never*, we say, after this first enumeration of the *Cruciferæ*, *Umbelliferæ*, and *Solaneæ*, have these botanical distinctions again been mentioned throughout our papers; but, on the contrary, we have placed together the *root crops* from all their various natural "classes" *as such*, as fulfilling one general qualitative function *in rotation with grain*; however varied (both individually and one from another), they may be—even *qualitatively*, and pre-eminently varied as they are quantitatively—in their habits and natural requirements *in relation to different circumstances of climate and soil.*

It is, then, in this modified and accommodated manner only that we adopt a classification of the crops grown in our agricultural rotations, having reference in any degree to the natural classes to which they belong. And surely it is little conducive to the fixation of any useful general principles in the mind of the intelligent practical agriculturist if, either from the incompetency to generalisation in the mind of a writer, or merely as a resource in controversial tactics—he is to be thrown back upon the entire mass of the varied and miscellaneous facts of practical agriculture, and to be told that there are no *general* principles upon which the main elements of our rotations may be classified; but rather, that for each single detail of practice arising from climate or other varying local circumstance, a distinct and separate principle must be sought, and that they defy all method and all arrangement, such as might tend to simplicity of conception and consequent facility of application of such principles as really are involved. We maintain that such method and arrangement are much subserved by some broad classification of the various elements of our rotations, and it is when such main features shall become sufficiently defined by science, and sufficiently understood by the practical man, that he will be able, in the exercise of an intelligent observation, so to adapt his practices to the local circumstances around him, as to secure, to the utmost these will allow, the benefits which the carrying out of the principles which may be involved is calculated to yield.

But to recur to the classification which we have ourselves thought it convenient to adopt, we would say, that should it happen that in any *individual sentences* throughout our paper the distinctions and limitations which we have referred to are not fully insisted upon, we appeal to any candid and intelligent reader whether our distinct and emphatic declarations on the subject in our earlier papers, and the consistency with them of our later ones, are not sufficient amply to satisfy him in what sense alone he should read any such individual expressions. Surely it is expected of no one writing for intelligent readers on scientific subjects, that in every sentence every possible limitation to his meaning should be reiterated, as in a legal document! That he should trust nothing to the context, or to the discrimination and candour of his reader as to the legitimate interpretation of his words, when taking his subject *as a whole*, and the words themselves therefore, in their manifest spirit and intention!

The writer "R.," however, carefully selects one or two such passages as *are, when isolated*, and used apart from their context and from our more direct and emphatic declarations, calculated to support his charge against us; but we would ask him—Why it is, if it were really his wish to give a correct view of our opinion, that he says nothing to his reader of those passages already quoted from our papers, and those which will shortly follow? *J. B. Lawes, Rothamsted.*

(To be continued.)

Home Correspondence.

Transfer of Land.—I have been a good deal interested by your remarks at p. 185, on the increase in the value of land to be expected from the removal of the difficulties at present attending its transfer. This is a subject of peculiar interest to landowners, and were they to direct their energies to the improvement of the present disgraceful state of the law in England, I feel certain that they would derive more real benefit in the increased facilities and the vast saving of expense with which the transfer of property would be attended, and advances obtained on its security, than they will ever realise from the imposition of a duty on corn, whether fixed or according to a sliding-scale. And it would have the valuable recommendation besides of being obtained without injuring the feelings or pockets of any other class of the community. The remarks quoted from Mr. Stewart give a very just view of the disadvantages attending the present system in England; but I am surprised that one who is so conversant with the subject should have thought it necessary to go to Frankfort and Hamburgh to illustrate the benefits of a different system, when he must have been aware that he had only to cross the Tweed to find the plan of registration he so properly eulogises in full and beneficial operation. It is a fact, of which you southerns seem unaccountably ignorant, that, for nearly 250 years, Scotland has enjoyed the benefit of a most extensive and complete register of all deeds connected with land

or other real property; and that when, by inspection of this register, it is found that the property, whether land or houses, is unincumbered, the proprietor has no difficulty in obtaining advances on its security, at the same rate of 3½ per cent., at which Mr. Stewart says he has been assured it can be had at Frankfort. Not being a lawyer I am unable to explain technically or minutely the mode in which such transactions are effected. I would take the liberty however of referring your readers to a short article on the subject, contained in the supplement to the "Penny Cyclopædia," under the title "Registration (Scotland,)" in which it is mentioned: "The real titles of all the heritable property in Scotland are preserved in a seriatim and indexed collection in the Register House at Edinburgh. When property is offered for sale or mortgage, a 'search' generally forms part of the titles offered for inspection to the parties treating for it. This is a certificate by the proper officer, describing all registered documents regarding that particular piece of land, which have been recorded during 40 years." You thus see that there is no need to go to Frankfort for the lesson, but that you can obtain much nearer your own doors the benefit of a complete system already matured and in full operation; and what is of more importance, one which has been found by experience to answer the very objects which are now desiderated in England; and it would be well were Mr. Stewart to apply to a Scotch lawyer for an explanation of the system now in force in Scotland. Before closing, I would advert to another matter in which the benefit of the Scotch practice in dealing with land is exhibited, and that is in the advantage incidentally derived from the system of granting leases, in reducing the rate at which money can be obtained on the security of land. It is well known that in Scotland farms are usually let on leases of 19 years' duration, while houses are more commonly only let from year to year. Now when a person is to lend money either on landed or house property, he calls, as a matter of course, for a rental or rent-roll, and according as the property may be let for a longer or shorter period, he estimates the sum he can safely lend upon it, and the rate of interest he ought to demand. It is the invariable rule, however, that the rate of interest at which houses or house property can be obtained is, however undoubted the security, generally one-half per cent. above what it can be obtained for on landed security, and this difference it is believed arises from the risk which is felt, owing to the want or short duration of the lease of part of the house property being occasionally unlet. Let the English landlords then, if they want to advance the value of their property or to raise money on the easiest terms, take a lesson from the canny Scotch, and forthwith establish a general register of deeds, and grant leases to their tenants. *Scotus.*

Value of Land.—Mr. Stuart Mills (as appears by a Leader in the *Agricultural Gazette* last week), appears to think that the expenses connected with the transfer of land causes a depreciation in its value. If so, the legal expenses connected with transfers are an advantage to the tenant farmer, as, in many districts, the fee-simple of the land has for several years been too high to enable the purchaser to obtain more than 3 to 4 per cent. for his capital; and even then the rent is fixed too high, at the present prices of produce, to remunerate the tenant for skill and capital employed by him in cultivation. *C. P., Boston.*—[There is an obvious fallacy in this argument. The cost of the land has nothing to do with its letting value. That depends on the number of tenants wishing to get the land. We have a house in Regent-street, and we tell our agent we will let it for 100*l.* a year. Whether we get this depends on the number of persons wishing to have it, not upon the price that we paid for the house. If we paid more than the value of the house, that is our affair. Our argument is that, according to the rules which govern all other property, the fee simple of land is too low.]

Night Ripening.—In your reply to my enquiries about the cause of night ripening of Wheat after Barley, you appear to me scarcely to do justice to the importance of the subject. If it had merely been my own field which had been subject to this, it might have been set down to the exhaustion of the soil, or some other local cause; but when this blight is shown to be so general as to cause the farmers in an important agricultural district to abandon the growth of Barley because of its injurious effects on the succeeding crop of Wheat, it becomes more important to determine whether this injury does not extend over a much larger part of the kingdom than is generally imagined. I had hoped that the little bit of boasting at the end of my communication on Wheat was excusable; the facts I thought worthy of notice were—first, that by the use of night-soil I could grow Wheat on the same land year after year; and secondly, that by the use of gravel I could ripen it 10 days or a fortnight sooner than I could have done without it. *T. G.* [The lines to which you refer are so ambiguous, apart from their context, that we did not suppose them to imply blame. But on referring to the source whence they are quoted, we find that they are used in a scolding passage; and we have, therefore, no hesitation in expressing our regret that they were published in connection with "the little bit of boasting" of which you speak.]

Trout Spawn. The following inquiry has been sent to me from the office of the *Gardeners' Chronicle*, with a request that I would answer it: Where can fertilised trout spawn be procured? Nowhere at present; the party must wait until October or November, and then ask the proprietor of a trout stream to allow him to catch a few spawning fish. If he can get this permission he may hatch trout by thousands, by following the directions given in the article on breeding salmon and trout. The plan has been successfully followed here this winter. *T. G.*

Coal Ashes on Clay Lands.—In bygone days farmers were characterised as being like the heavy horses which ploughed their land; but the spirit of the age has imparted to them a little more quickness of perception. I have, therefore, some hope that these few hints will induce some of their number to make the needful inquiries and avail themselves of a simple and (which might be made) a cheap remedy for the stiffness of the clay grounds which lie near to the several lines of railway. The effect of coal ashes in rendering such land open and friable is well known, but the needful quantity can seldom be obtained by the farmer in his immediate neighbourhood. It has struck me that it would be possible to obtain, at a very small cost of carriage, any quantity of ashes from the waste heaps in the coal and iron districts of Staffordshire and other counties, which ashes might be brought by the railways during the winter season at a cost just sufficient to repay the wages of their servants and the use of the engines which are not needed for traffic during that dead season. I might be too sanguine, but I think by special contract they might be delivered at 1*s.* per ton per 100 miles. Such a price would bring a large supply of now useless material to the clay districts, and employ it in a useful manner. Should there be clinkers amongst them, these would form excellent drainage, either with or without tiles. I commend the subject to the notice of those whose benefit I seek, for I have no personal interest to serve. *An Englishman.*

Dairy Management.—To satisfy your correspondent's inquiries respecting my dairy management, I must first of all inform him that the study of breeds is not my department—my acquaintance with cows beginning with their produce in the dairy, and ending with confectionary on the table. Nevertheless, for his special information, I have duly informed myself that they have been fed during the winter with an equal quantity of chopped hay and Swedes boiled, and that the four have supplied 50 quarts of milk a day, 20 of which were the produce of the one cow in full milk, the others are to calve in July. The milk is laid by for the use of the family before it is scalded; as six of them out of the 17 are very young children, consuming each a quart of milk a day, so that my calculating farmer, who has the keen scent of a canny Scotchman about him, and

> "Conceals himsel as weel's he can
> Frae critical dissection,
> But keeks thro' every other man
> Wi' sharpened sly inspection,"

may easily satisfy himself as to the quantity used in the household, the rest consisting nearly entirely of the domestic branch of the establishment. But in Devonshire the scalded milk is invariably preferred by farmers and labourers, who consume it in large quantities; and unless my correspondent's palate takes the precedence of his purse, he must quietly submit to the skill and judgment of his better half, who no doubt well knows what she is about, and that she must in that case sacrifice at least two pounds of butter a week, to satisfy a farmer's "physical capacity." I will so far respect his feelings as to substitute the word "purchaser" for "farmer," which was given to spare the antipathy of gentler blood, though perhaps by so doing, to avoid a wasp's nest I plunge into a hornet's. I hope I have now satisfied the misgivings of my worthy friend of figures, and that when he has allowed his excellent partner the addition of a little more experience, subtracting therefrom his own amount of prejudice and discontent on the score of the blue milk, he will find that multiplication by three will be his product. *Sarah H., Westmoreland.*

Bottom Ice.—You say at the end of the remarks about bottom ice that you cannot admit the "soundness of my explanation, and that you are well aware of what is said by Arago and others on this curious phenomenon, and that bottom ice has been observed in ponds when there was no breeze, and that the water in pools between tha rapids of rivers can hardly ever be still enough to fall below the freezing point and yet remain fluid." I was not aware, before seeing your remarks, that either Arago or any other philosopher had ever written about bottom ice; and even now I do not know what their views are on the subject; and if the discussions in your Paper are to be settled by authority and not by argument, I can only make my bow and withdraw; but if it meets your views to allow your correspondents to state their opinions temperately, and support them with such arguments as occur to them, I do not yet feel inclined to give up my notions about bottom ice. Will you allow me to ask whether you ever personally saw ice at the bottom of a pond when there was none on the surface, and if so, under what circumstances? I have heard of such an occurrence but never witnessed it, and feel inclined to doubt the fact, unless you vouch for it; for it does appear to me that the moment the water at the bottom gets below 40° it will begin to rise to the surface, and it is so excellent a conductor that it will instantly equalise the temperature of the mud at the bottom with its own. I am neither chemist nor meteorologist, and therefore I am not able to say much about radiation; but my idea of it is, that its effects in water would be much greater in still pools than in rapid streams, and that, therefore, if radiation were the cause of bottom ice, there ought to be more of it in the pools than in the rapid streams; but the contrary is the fact, for after a severe night's frost I can frequently find the streams filled with this bottom ice, when none can be observed in the pools. Again, can the fact of the weir, which had a wall of this bottom ice of 3 feet high in a single night, be accounted for by radiation? It appears to me to be very easily accounted for by supposing that the water in the deep above was so quietly cooled down as to retain its fluidity until the shaking it got on flowing over the weir suddenly produced congelation. I think that radiation would not go on at that point (the crown of the weir) alone. Why do you think that the water in pools is never still enough to allow the water to get below 32° without freezing? On still clear nights, in long deep pools, where the body of water is perhaps fifty times as great as the current flowing into it, the motion is so extremely slow that I cannot for a moment doubt that the water gets below 32° without congelation, but when it arrives at a rapid, this ice is immediately formed. *T. G.* [Suppose the case of a body immersed in water, kept continuously below 32° Fah., will it never become incased with ice? Will it merely keep sending upwards a stream of the cooled and therefore rarefied water to the surface? Possibly it might, if it were a polished sphere or cylinder. But if, instead of being a polished surface, it presented an intricate network of all sorts of fragments, capable therefore of retaining by it most of the water in immediate contact with it—how would it be then? We believe that, notwithstanding the soundness of your general principles, the water would then freeze all round it and over it, while it remained at a temperature below the freezing point. Well, the question is, whether, by radiation through the clear water, the bottom of the stream may not fall below the freezing point of water. We think it may, and it is evident that if the water ever does get below 32° without freezing, it will remain the longer clear for radiation to act. Any apparent precipitancy in closing this discussion has arisen from its appearing to be hardly of sufficient agricultural importance to occupy further room. Ed. *Ag. Gaz.*]

Taste of Swedes removed from Milk.—I observed in a late Number of your journal an article headed, "Taste of Swedes removed from the Milk;" and as I can inform you of a more effectual method, or rather preventative, I have taken the liberty of addressing this note to you, which you are at liberty to make such use of as you may think proper. Take care in feeding your cows with Turnips, always to feed immediately after they are milked, and never before, giving them nothing but hay after they are milked. If this practice is followed, the milk will never taste of Turnip. *James Bellison.*

Newcastle Club.—A statement has appeared in a London newspaper, on the authority of the Newcastle-upon-Tyne Farmers' Club, which cannot fail to astonish agriculturists in this age of improvement. It was affirmed by more than one person present at the meeting, "that the average produce of the Wheat-growing land in Northumberland, did not exceed 19 or 20 bushels per acre!" Surely there must be some mistake here; the "north countrie" system of farming has been generally considered as worthy of imitation. Southerns could never live on these terms with their stiff lands. Before making any further remarks, it may be as well to wait for additional information on this important subject, which it is to be hoped some intelligent and practical Northumberland tenant will give. *Draining Tile.*

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

A Weekly Council was held at the Society's House in Hanover-square, on Wednesday week, the 17th of March: present, Mr. Raymond Barker, Vice-president, in the Chair, Lord Berners, Hon. W. H. Yelverton, Sir Charles Lemon, Bart., M.P., Mr. H. Raymond Barker, Mr. R. J. Brown, Dr. Calvert, Capt. Stanley Carr, Col. Challoner, Mr. Evelyn Denison, M.P., Mr. Dyer, Mr. Fuller, M.P., Mr. Gadesden, Mr. Fisher Hobbs, Mr. W. Cuthbert Johnson, Mr. Maddison, Mr. Majendie, Mr. Mainwaring Paine, Mr. Parkins, Mr. Pendarves, M.P., Mr. Rowlandson, Mr. Sanford, Mr. Slaney, M.P., Mr. Trench, Mr. Warsop, and Prof. Way.

Farmers' Flax-mill.—Mr. Hill Dickson, of Artillery-street, Bishopsgate, informed the Council that the Flax-mill to which he had referred in his former communication, as being in progress towards completion, was quite distinct from the one which Mr. Love stated, at the previous Council when that communication was read, that he had seen tried two months ago, and which he considered to be injurious to the Flax-fibre. Mr. Dickson was not aware what particular mill it was that Mr. Love had then inspected. It would be sufficient to state that it was not the one to which Mr. Dickson had invited the attention of the Council, as this mill had only been commenced six weeks ago, and was not yet completed. When that was the case, he would inform the Council of the circumstance, and request the favour of its capabilities being tested by practical trial in the presence of some members of the Council. He had great hope that this machine, when completed, would prove successful in its object of breaking and scutching the Flax grown by farmers—an object, he believed, which, however desirable, had not otherwise, up to the present time, been satisfactorily attained.

Preparation of Seed.—Mr. Martin, of 4, Hanover-square, informed the Council of the progress made in this country to test the efficacy of the late M. Van Oost's

Belgian method of preparing seeds before sowing, not simply by steeping, but by enveloping them in an artificial husk of powerful manuring matter, adapted to sustain the plant after the means employed to give increased activity to the germination of the seed had taken effect. Mr. Martin stated that this method was totally different in principle from that of M. Bickes, or those of other continental inventors, by one of which the French Wheat alluded to at the last Council by Mr. Majendie had been steeped; and concluded his communication by the following remarks:—

"In no single instance, where the seed was prepared by M. Van Oost, or since his death by myself, agreeable to the receipt left by him, has the prepared seed failed to vegetate; the plant, in most instances, during its progress to perfection, has shown a greater luxuriance of growth than the unprepared, the straw brighter and stronger, containing a larger portion of silicate of potash; the produce in quantity and quality equal, and in some instances superior to that grown on the land termed highly-farmed. In preparing Turnip seed, I have not been so fortunate; but whether that is the fault of the preparation or season, I do not know, as, in instances when I have prepared seed for parties whose farms adjoin, some have had very fine crops, and on others the seed never came up, or very sparingly. In all cases, each party found their own seed. I have prepared seed for the last five years for the Rev. Mr. Gwilt, Icklingham, Suffolk; as also for three or four years for Thos. Brown, Esq., Denver, near Downham, Norfolk. Both these gentlemen feel satisfied that this invention is an improvement upon the old system; and, acting upon their advice, I placed Mr. Van Oost's specification, in January last, in the hands of Mr. Donny, Professor of Chemistry at the University at Ghent; and I am daily expecting to receive from him Oats, Barley, and Buckwheat seed, prepared, and a concentrated manure to be applied to the land at the same time; part of this seed is prepared to be sown on light land of the most inferior quality, and part on heavy clay land in Middlesex: the results of these experiments I shall be happy to communicate to you after harvest. The term 'steep' as applied to Mr. Van Oost's method of treating seed is, in my opinion, incorrect. He always called it manuring the seed, and from the way in which the seed is prepared, this meaning is fully borne out."

MECKLENBURG POTATOES.—Mr. RAYMOND BARKER stated, that the Council having received in June last, from the Consul of Mecklenburg-Schwerin, a supply of Potatoes which had not at any time been known to be affected by the prevalent disease, with a request that they would test their cultivation in this country, and report the result, the Council had placed these Potatoes in the hands of Sir Robert Price, Colonel Challoner, Mr. Brandreth Gibbs, Mr. Shelley, Mr. Fisher Hobbs, Mr. Carden (of Templemore), Mr. Wilson, Mr. Parkins, Mr. Hamond, Mr. Burton, and himself, each of whom had undertaken to make the required trial, and to report to the Council, and through them to the Mecklenburg Consul, the results of their respective cultivation. Mr. Raymond Barker had, accordingly, prepared his own return, which he submitted to the Council in the following form, along with a sample of the sound Potatoes forming part of the produce:

Sixty-two Mecklenburg Potatoes, being each cut into halves, were, on the 18th June, 1851, planted in two rows, in a kitchen garden of light calcareous soil, without any special manuring. The plants came up on the 3d of July. The haulms went off at the end of August. The tubers were taken up on the 9th of September, and measured 3¼ gallons, of which 1½ gallon were faulty with disease, while the remainder were at the time quite sound, but several of them had since gone off diseased.

Colonel CHALLONER remarked, that on his dry sandy soil in Surrey, the Potatoes he had last year planted early in the spring were all bad, while those planted later had all proved as good as ever were eaten.—Mr. Parkins adopted autumn planting, and he had found no blight among his Potatoes.

RUSSIAN AGRICULTURE.—The Council having in June last received, on the occasion of the personal visit to the Chev. de Masslow and M. Annenkoff to the Windsor Meeting, an interesting collection of Statistical Maps, Sectional Drawings, Reports, and Specimens of Silk, from the Imperial Agricultural Society of Moscow, were at this Council favoured with a second collection of presents from the Russian Government, through the mediation of M. Kamensky, Corresponding Secretary of the Minister of Finance, to whose care they had been assigned by the Imperial Agricultural Society of Moscow and the Minister of Agriculture at St. Petersburgh. These presents may be enumerated as follows:—

I. SOILS.
1. Specimens of the Tchornoi Zem, or Black Earth of Russia, from the property of M. Von Wisin, of Tamboff—
(1) From the surface, or upper bed.
(2) From the middle bed.
(3) From the lower bed.
2. Specimens of Russian Gold-sand—
(1) From Alexandrofsk.
(2) From Great Nicolaif.
(3) From Preobrajensk.

II. PLANTS (dried Cereal specimens, Wheat, Rye, Barley, and Oats).
1. Triticum, amyleum, durum, vulgare; from Moscow and Orenburg.
2. Secale, cereale; from Orenburg, Saratoff, and Wladimir.
3. Hordeum, vulgare; from Orenburg.
4. Avena, sativa; from Wladimir.

III. SEEDS.
1. Wheat: harvest of 1850; from the Oural Steppes.
Wheat: harvest of 1850; from the Samara Steppes.
Wheat: harvest of 1851; the "Kolous," from Bessarabia.
Wheat: harvest of 1851; the "Bieloturka," from Novo-Russia.
Wheat: harvest of 1851; the "Gourka," from Novo-Russia.
2. Rye: harvest of 1851; from Nijni-Novogorod.
Winter Rye: harvest of 1851; from Model Farm, near Lipetzk, Tamboff.
Spring Rye: harvest of 1851; from Esthonia.
Barley: harvest of 1851; from Nijni-Novogorod.
4. Millet: harvest of 1851; from the farm of Charkoff.
5. Buckwheat: harvest of 1851; from the farm, near Lipetzk, Tamboff.
Buckwheat: harvest of 1851; from Tchernigoff.
6. Turnip: harvest of 1851; from Olonetz.
7. Linseed: harvest of 1851; from Pskoff.

IV. SILK.
1. Twelve samples of Silk, in hanks; produced in the districts of the Military Colony of Ukraine.
2. Twelve samples of Caucasian Silk, in hanks (of Arabian, Chinese, Italian, and Thibetian varieties); from the establishment of Mr. A. Rebroff.
3. One hundred Cocoons of Alexandroffskian, Arabian, French, Muscovian, and Thibetian Silk-worms.

V. AGRICULTURAL IMPLEMENTS.
1. Two one-horse Ploughs.
2. Two one-horse Cultivators, with one convertible Share.
3. One pair of handles, and three delving tools (spades or shovels).

VI. BOOKS.
Two copies of the Chev. de Masslow's "Historical Review of the Proceedings of the Imperial Agricultural Society of Moscow."

Colonel Challoner remarked that the peculiar character of a great portion of the soil in Russia, and the small extent to which it was found necessary for their agricultural implements, with the draught of a single horse, to penetrate into the ground for the purposes of cultivation, might render the simple implements then presented to the Council sufficient for all the purposes required; otherwise he should have thought the great leverage given by the length of the shafts, and the distance of the horse from the body of the plough, would render its management difficult to the ploughman who held the short handles. At all events, in our own soil, and at our ordinary depths of ploughing, it would require a dozen Cossacks to hold such a plough; the ground and its resistance would also, with such an implement, have great advantage over the horses. In the Scotch ploughs the horses were nearer to their work, and the ploughman had greater power over the handles.—Lord Berners referred to the difficulty experienced last year in getting ploughmen who were able to keep the neat little American ploughs steadily to their work in the ground.—Colonel Challoner believed the American and Belgian implement-makers had altered their ploughs in this respect, and brought their leverage more nearly to that of the Scotch ones.—Captain Stanley Carr, now Vice-President of the Industrial Society of Victoria, had formerly, while engaged in German farming, paid a visit to Russia, and became acquainted with its agriculture. One of the Russian ploughs then presented to the Council was, he believed, an improvement on the ancient Roman plough, introduced by degrees into the northern parts of Europe. It was calculated to plough a shallow furrow in light soils, turning it at an angle of 60°, and leaving it broken and short—a mode of cultivation considered by those who used this plough to be best adapted to the aëration of the soil, especially where the Grass-land is broken for a fallow of 12 months, from autumn to autumn, and used in Germany and Poland, as a run for merino sheep during the summer. The other plough was of the same character, but used for deeper cultivation. The two one-horse implements were used respectively as a scarifier, and as a hoe for cleaning Potato rows. The shaft frame was employed with a horse-rake placed below it. The implements of Russia were simple, and even rude; but as the object appeared to be only to "scratch" the ground, as we should consider the operation, they were perhaps sufficient for the purpose required.—Mr. Fisher Hobbs remarked, that the farmers on the continent appeared to entertain an aversion to having many implements; but he believed, in the north of Germany they were now fully impressed with the necessity of their having good implements if they expected to have good work.—Lord Berners and Mr. Brown, of Cirencester, made inquiries of Capt. Carr respecting the nature of the Grass on which the sheep were fed in Poland and south of Russia, and the circumstances under which it was produced.—Mr. Fisher Hobbs referred to the value of the hints the practical farmer may derive from communications received from foreign countries. In reference to Russia, he cited the useful varieties of the Oat we owed to that empire as an instance immediately in point.

On the motion of Colonel Challoner, seconded by Mr. Fisher Hobbs, the best thanks of the Council were unanimously voted to the Russian Government, for the favour they had conferred upon the Society by presenting to it these most interesting presents.

It may be added, that in the third volume of the "Society's Journal," pages 125 to 136, will be found Sir Roderick Murchison's valuable statement of the geological occurrence and chemical nature of the black earth of the central regions of Russia.

The Council then adjourned to their Weekly Meeting, on Wednesday, March 24.

CHEMICAL, OF LONDON, *Feb.* 16.—The President in the Chair. The following paper was read. "On the Variation in the relative proportion of Potash and Soda present in certain Samples of Barley grown in Plots of Ground artificially impregnated with one or other of these Alkalies." By Prof. Daubeny. The author details some experiments, undertaken by him at the Oxford Botanic Garden, with the view of determining whether the usual quantity of potash and soda existing in Barley might be made to vary by causing the plant to grow in soil impregnated with more than the ordinary quantity of one or the other of these alkalies. He found that when the Barley had grown in a soil which had been dressed with a strong solution either of carbonate of soda or of chloride of sodium, the ashes of the plant contained about 8 per cent. more soda than was present when the plant had grown in a soil impregnated with carbonate of potash, or left unimpregnated. This difference may admit of explanation, by supposing one alkali capable of replacing the other within the organism of the plant; but the author thinks it more probable that it arose from the sap circulating through the plant at the time when it was cut, containing in the one case more soda than it did in the other. The saline contents of the fluid of the sap would, of course, be confounded with those which had been actually assimilated by the plant, and hence, from the variation in its composition, must tend to modify the amount of the alkalies obtained from the ashes of the plant in each instance, according to the nature of the material with which the soil had been impregnated. *Chemical Gazette.*

Miscellaneous.

A New Mode of Deep Cultivation has suggested itself to me, by which manual and horse labour may be effectively combined. In clamping or earthing large mounds of Mangold Wurzel, which is done by task-work, my men plough round the heap, and then shovel the earth up, and, when that is exhausted, plough again on the same space, and raise another supply. By applying this principle in the fields, I find we can ridge up and deeply cultivate our soil, during winter, very much cheaper than by digging. I have great hope of getting 15 inches in depth, moved and thrown up in ridges, and exposed to winter frosts, for about 25*s.* per acre, or perhaps less. In the spring the ridges would merely require pulling down and levelling by the scarifier. *Mr. Mechi's Second Paper.*

How should the Cottage Farmer sow his Wheat?—The cottage farmer should sow his Wheat with a dibber. At what distances should the holes for Wheat be made?—Though holes for Wheat are usually made in rows 8 or 9 inches apart, and 6 inches apart in the rows, we would recommend that in strong and fertile soil, the holes should be 10 inches in every direction, in order to admit of perfect hand hoeing, and free circulation of air. How many grains should be dropped in each hole?—The number of grains put into a hole will depend on the season of the year, and the distances of the plants from each other. Three or four grains, if dibbled before the middle of October, will be sufficient for each hole. The number of grains after that period should be about five or seven, according as the season advances. Is there any objection to dibbling corn besides that which may arise from the supposed trouble of doing so?—Hares and rabbits are very injurious to dibbled corn, from the facility with which they bite off the branching stems when it springs up, and the freedom with which they can gambol between the plants in spring. How deep should the holes be made?—The holes need not be deeper than one, or one and a half inch for Wheat, or for any sort of corn. How many bushels of Wheat may cottagers expect to raise on a rood of very productive soil?—Cottagers may expect to have 10 bushels of Wheat on a rood of very productive soil. *From Groombridge's Elementary Catechism.*

Does Guano Pay?—This depends upon the condition of the soil. On poor exhausted soils it is a ready and cheap mode of restoring its fertility. I used it extensively when I first began farming, and when applied to the grain crops at the rate of 2 to 3 cwt. per acre it paid well; but now it has lost favour with my bailiff—which is easily accounted for, my land being at present so well filled with manure, nitrogen, or ammonia, that we can grow an ample crop without it. When the land only yielded 2 to 2½ quarters of Wheat per acre, it was grateful for guano; but now, with a produce of five quarters, there is no necessity for its use. After all, Mr. Lawes has clearly proved that where there is capital the cheapest way of obtaining ammoniacal and carbonaceous manure is by feeding cattle. His paper on that subject in the Society's Journal (Vol. VIII., p. 59), is well worthy of an attentive perusal. I except bones and superphosphate of lime from these remarks, for we can always purchase them cheaper than by feeding. A most important question arises upon the propriety and advantage of the retention of the blood and offal of our animals, and their application to the soil. In former times of "slow coaches and sleepy waggons" such a question could not have been entertained; but now that mighty steam has almost annihilated time and space, and made neighbours of the most distant suppliers and consumers, it is worth our while to consider the subject. Indeed, the necessity for a more minute agricultural economy compels us to do so. It is not generally known, even by farmers themselves, that bullocks and sheep waste in dressing from 45 to 50 lbs. out of every 100 lbs., and pigs only 33⅓ lbs. out of 100 lbs., because in the latter their skins are sold with the meat, and it is not considered offal. A reference to the "Royal Agricultural Society's Journal," or an inquiry of any butcher will confirm my statement. Now, as it takes at least one ton of Turnips to make 14 lbs. of meat (net butcher's weight), it follows that nearly half that ton has been employed in making the blood and offal, which are of the same constituents as the flesh, and which offal, if reapplied to the soil, would go far to reproduce itself by an equivalent in vegetation. The extension of home-slaughtering would be greatly facilitated by proper railway carcase vehicles, on the principle suggested by Mr. Burness. There would also be a diminution in railway carriage—there being but half the weight of the living animal to convey.* *Mr. Mechi's Second Paper.*

* I trust that our railway companies will adopt free-trade principles, and encourage traffic by charges remunerative in comparison with the absolute cost of transit. At present, with a vain attempt to realise an interest on an extravagant outlay, their charges are perfectly prohibitory on certain manures and other necessaries for the farmer.

Patent.—Felix Charles Victor Leon Levacher d'Urcle, of Paris, farmer; for improvements for increasing the produce of autumn Wheat. Patent dated June 21, 1851. These improvements are based on a supposed discovery of the patentee that autumn Wheat is, contrary to the generally-received opinion, a biennial plant; and it is to develope its natural capabilities, and rescue the plant from the state of degeneracy to which a long course of improper management has reduced it, that are the objects proposed to be attained by him. The ground in which the Wheat is to be sown must be tilled and well manured, and the sowing is directed to take place between the 20th of April and the 10th of May; it may be a few days earlier or later, but somewhere between those dates is, the patentee says, the proper moment. The field having been divided into squares of about a quarter of an acre each, diagonal rows of holes are dug at a distance of from 15 to 20 inches apart, in each of which are deposited four grains of Wheat arranged in a circle, or otherwise at a little distance from each other. This done, the holes are filled in, and when the plants have grown to a height of about 4 inches, three out of the four plants (which are supposed to have sprung up from the seed) are to be pulled up, leaving one plant only, and that the strongest and most healthy; the produce of Wheat from which, when it arrives at maturity, will be very considerably increased over the usual yield. By following out this course of treatment, the quality of the grain will be increased each succeeding year until it arrives at a state of perfection, of which, under the ordinary system, it is supposed to be quite incapable. Claims developing the biennial properties of autumn Wheat by the process described, by which its produce will be very much increased. *Mechanics' Magazine, Dec.* 20.

Hints on Sowing Grass Seeds, by Sutton and Sons.—It is highly important that the land should be cleaned from weeds, and well pulverised by repeated ploughing and harrowing before the seed is sown; and in cases where the soil is loose or sandy, it is desirable that it should be also rolled before sowing; if this is not effected, the seeds, many of which are very minute, will some of them be too deeply imbedded in the soil, while others may not be covered at all. It is also desirable that the seeds should be sown when there is not much wind, and that they should be delivered from the machine or the hand, placed rather near to the soil, otherwise the smallest and most valuable of the seeds may be carried by the wind into the adjoining field or hedgerow. The harrows, which should be very light, must be again drawn over after sowing, and, if the soil is very light and dry, the roller also; if the soil is poor, a dressing of Peruvian guano or superphosphate may be harrowed in with the seeds, at the rate of two cwt. per acre. The sorts of seeds should, of course, be selected in accordance with the nature of the soil, and the purposes to which the pasture is intended. This, and much other useful information, may be obtained from "Lowe's Elements of Agriculture," "Stephens's Book of the Farm," "Sinclair's Hortus Graminiensis," and other works. If corn is sown with the Grass seeds, it should not be more than 1 or 1½ bushels to the acre of corn, and for this purpose Oats are preferable to Barley.

Salt for the Sheep.—A relative of mine who lived in Yorkshire had a shepherd who was generally considered a fool, but whatever circumstance had given rise to the depreciating imputation, it was notorious that he had fewer deaths in his flock than there were amongst the sheep of any of the neighbouring farmers. It so happened one day that his sheep had been folded with some others that did not belong to him in a field on an adjoining farm. He wished to take them out and went to the house to tell the farmer. They were all at dinner, and the farmer said, "Well, you must wait till dinner is over, and some of the men shall go and assist you, for it is impossible you can distinguish your own sheep amongst so many others." To which the shepherd pithily replied, "M' happen if I don't know my own sheep, m' happen they'll know me." The farm upon which this occurred was one belonging to Sir Samuel Crompton. The shepherd then walked into the middle of the fold and began to whistle, when instantly his own sheep did leave the rest, and when he turned round and walked forward they followed him out of the field. (Hear.) The solution of the secret was this. When the sheep were at home he was accustomed to give them a small quantity of salt upon a slate in the fold, and whistled to attract their attention. When away they got none, but as soon as they heard the accustomed call they naturally thought the salt was at hand, and followed their shepherd to obtain it. *Captain James, at the Carlisle Farmers' Club.*

Calendar of Operations.

MARCH.

DORSET FARM, *March 22.*—It is said that March dust is valuable; and if it be so, the country must, to some extent, be enriched this season, unless, as some may think, we have an over supply of the precious material, which will somewhat derange our affairs. However, we have had the driest, and, I think, the coldest month that I ever remember. The land has worked well, and Barley is being got in with the greatest facility. But although some of it has been in the ground from three to four weeks, there are yet no signs of its coming up, and the seeds have hardly germinated. We are now beginning to find the Turnips disappear, and were it not for a good supply of Mangold and some feed in the water meadows, we should find ourselves in very straitened circumstances with our stock. But in such a season as this we feel the value of Mangold, as it is a root that may be eaten when we choose, or be left till we want it; and although it is a little more expensive to cultivate than other roots, yet I have advantages over them, which I think we compensate for. Its adaptation to its being available at any time from October to August of the following year, it gives us the power of finishing our Turnips off in better time for Barley; and although we find some exclaim against Mangold, because it is expensive to store, yet we will find those same persons driving off quantities of Turnips in the spring to make way for the Barley; so that where this is practised the balance is rather in favour of the Mangold. As the season for sowing them is now coming on, I may notice one circumstance attending their growth—that is, the great irregularity with which the seed comes up; I have thought that it must arise from the seed not being of the same year's growth. They come up often at intervals of three to six weeks. It is no uncommon thing to find sufficient for a crop coming up when the main crop is being hoed the first time. Perhaps steeping, for some time previous to sowing, might bring them up better together; but we cannot always time our sowings as we may propose, and when steeping the seed we ought to sow before it breaks, otherwise we may damage it, and render the cure worse than the disease. I think the best way is to put in a pound or two extra seed, say, instead of 4 lbs., 6 lbs. per acre. We shall shortly be planting Potatoes, sowing the Grass seeds, and then we shall prepare for the root crops. As may be expected, the Wheat does not generally look well, but if we have mild weather soon, there is nothing to fear on this point. *G. S.*

Notices to Correspondents.

BLOODHOUNDS TO TRACK SHEEPSTEALERS: *A Reader* has sent us the following: "I live in that renowned county Somerset, where the farmers are so kind as to allow the thieves to plunder them for fear of the expense of the police; can you tell me where I may write to the keepers of bloodhounds (Police somewhere) who track sheepstealers." [We cannot lend him a hand to find bloodhounds for this purpose, but we should be happy to lend him a hand in pointing out the folly of the penny-wise and pound-foolish system wherever it occurs.]

DAIRY KEEPING: *Tyro.* We rather think that the farmer gave his neighbour too good a bargain—selling butter in winter at 1*s.* per lb., and buying hay at 2*l.* 15*s.* per ton.

DRAINS: *An Old Subscriber.* The best way is to plough on the turf both ways, and so obtain a furrow wide enough to dig the drain. Then fill in, and closing over it the two furrow-slices, which still retain their hold of the sward, a roller over all presses it nearly level. Not quite, however, but a year's rest will generally bring it true. If you remove all the surplus now, your drains will want refilling six months hence. If there is a surplus of clay which may be safely removed, take it to a corner and make a compost with it.

FARMS: *X Y Z.* Your inquiry, like many others we receive, is properly the subject of advertisement duty, and must not be asked here. But we mention the fact of our receiving such inquiries, that those who have farms to let may see it to be their interest to advertise.

FLAGGED CISTERN: *A H.* It will do as well as an iron one for steaming chopped straw.

Markets.

COVENT GARDEN, March 27.

The weather is still cold, but the market is nevertheless well supplied with vegetables and fruit. English Pine-apples are tolerably plentiful, and a consignment of small examples of this fruit has this week been received from Sierra Leone, being the first importation of the kind to this country from our African possessions. A few new Hothouse Grapes have just made their appearance; foreign ones are a trifle dearer. The best English Pears fetch good prices. They are now confined to Beurré Rance and Easter Beurré. Oranges are plentiful and good. Nuts are nearly the same as last quoted. Strawberries are still supplied in small quantities. Carrots, Turnips, Cabbages, &c., are sufficient for the demand, and there is some fine Cornwall Broccoli in the market. Potatoes are generally good in quality. Lettuces and other salading are sufficient for the demand. Mushrooms are cheaper. Cut flowers consist of Heathe, Epacrises, Mignonette, Camellias, Roses, Acacias, Azaleas, Primulas, Hyacinths, Tulips, Lily of the Valley, and other forced bulbs.

FRUIT.

Pine-apples, per lb., 4*s* to 8*s*	Pears, dessert, p. doz., 2*s* to 6*s*
Grapes, hothouse, p.lb., 15*s* to 20*s*	Oranges, per doz., 1*s* to 1*s* 6*d*
Grapes, Lisbon, per lb., 2*s* to 2*s* 6*d*	— per 100, 3*s* 6*d* to 10*s*
Strawberries, per oz., 1*s* to 2*s*	— Seville, per doz., 1*s* to 3*s*
Apples, kitchen, per bushel, 2*s* to 3*s* 6*d*	Lemons, per doz., 1*s* to 2*s*
Almonds, per peck, 5*s*	Nuts, Barcelons, p.bsh, 20*s* to 22*s*
— sweet, per lb., 2*s* to 3*s*	— Brazil, p, bsh., 12*s* to 14*s*
	Cobs, per 100 lbs., 100*s*

VEGETABLES.

Savoys, per doz., 10*d* to 2*s*	Beet, per doz., 1*s* to 2*s*
French Beans, p. 100, 2*s* to 3*s*	Parsnips, per doz., 4*d* to 1*s*
Broccoli, p. bunch, 5*d* to 1*s* 3*d*	Leeks, per bunch, 1*d* to 2*d*
— heads, each, 2*d* to 4*d*	Shallots, per lb., 8*d* to 10*d*
Asparagus, p. bundle, 3*s* to 7*s*	Garlic, per lb., 6*d* to 8*d*
Seakale, p. basket, 1*s* 3*d* to 2*s* 6*d*	Lettuce, Cab., p. score, 4*d* to 1*s*
Greens, per doz., 2*s* 6*d* to 4*s*	Radishes, per doz., 1*s* 6*d* to 2*s*
Rhubarb, p. bundle, 6*d* to 1*s* 6*d*	Small Salads, p. punn., 2*d* to 3*d*
Potatoes, per ton, 45*s* to 80*s*	Horse Radish, p. bundle, 1*s* to 4
— per cwt., 2*s* to 5*s*	Mushrooms, p. pot., 1*s* to 1*s* 3*d*
— per bush., 1*s* 6*d* to 2*s* 6*d*	— per punnet, 9*d* to 1*s*
Turnips, p. doz., 1*s* 6*d* to 2*s* 6*d*	Sorrel, p. hf. sieve, 1*s* 3*d* to 1*s* 6*d*
Cucumbers, each, 1*s* to 3*s*	Artichokes, Jerus., do., 3*d* to 1*s*
Celery, p. bundle, 6*d* to 1*s* 6*d*	Fennel, per bunch, 2*d* to 3*d*
Carrots, per bunch, 4*d* to 7*d*	Savory, per bunch, 2*d* to 3*d*
Brussels Sprouts, p. half sieve, 1*s* to 1*s* 6*d*	Thyme, per bunch, 2*d* to 3*d*
Spinach, per sieve, 1*s* to 1*s* 6*d*	Parsley, per doz. bun., 2*s* to 3*s*
Onions, p. bunch, 2*d* to 4*d*	Mint, per bunch, 4*d* to 6*d*
— Spanish, p. doz., 1*s* 6*d* to 3*s*	Basil, p. bunch, 3*d* to 4*d*
Endive, per score, 1*s* to 2*s* 6*d*	Marjoram, do., 3*d* to 4*d*
	Watercress, p. 12 bunchs. 6*d* to 1*s*

HAY.—Per Load of 36 Trusses.

SMITHFIELD, March 25.

Prime Meadow Hay	72*s* to 76*s*	Clover	75*s* to 85
Inferior ditto	63 68	2d cut	68 75
Rowen	60 63	Straw	24 28
New Hay	— —		J. COOPER.

A heavy trade.

CUMBERLAND MARKET, March 25.

Prime Meadow Hay	76*s* to 80*s*	Inferior	65*s* to 72*s*
Inferior ditto	60 70	New Clover	— —
New Hay	— —	Straw	28 30
Old Clover	78 84		JOSHUA BAKER.

COAL MARKET.—FRIDAY, March 26.

Eden Main, 13*s.* 9*d.*; Wallsend Riddell, 12*s.* 9*d.*; Wallsend Haswell, 15*s.*; Wallsend Hetton, 14*s.* 9*d.*; Wallsend Stewarts, 14*s.* 9*d.*; Wallsend Tees, 14*s.* 9*d.*—Ships at market, 165.

HOPS.—FRIDAY, March 26.

Messrs. Pattenden and Smith report that there is a steady demand for Hops, at late prices.

WOOL.

BRADFORD, THURSDAY, March 25.—There is no alteration of moment to report in the state of the English wool market. The transactions generally continue to be of a limited character, as consumers are apparently resolved to purchase only for immediate requirements until more favourable indications with regard to the demand and prices of the manufactured article exhibit themselves. Notwithstanding the languid tone of the market generally, prices for almost all classes of good wool are comparatively firm, and with every apparent prospect of remaining so. The supplies coming forward from the country are unusually light, and the opinion prevails that they will continue so until new wool can be brought to market. Noils and brokes are without any material alteration in demand or prices.

SMITHFIELD, MONDAY, March 22.

Although the number was not quite so large, still the supply of Beasts was considerable; and the weather being apparently on the change, buyers were exceedingly cautious. Not higher than 3*s.* 6*d.* for good qualities could be quoted; but in a few instances that price was exceeded. A few more Sheep on offer, and the weather also operated in this department, especially as regarded big Sheep. 4*s.* 4*d.* for sizeable Downs can be quoted, but this must be considered an extreme price. Good Calves are not plentiful, and trade rather more cheerful for them. From Germany and Holland there are 206 Beasts, 530 Sheep, and 108 Calves; from Scotland, 500 Beasts; from Norfolk and Suffolk, 2500; and 300 from the northern and midland counties.

Per st. of 8 lbs.—*s* *d* *s* *d*	Per st. of 8 lbs.—*s* *d* *s* *d*
Best Scots, Herefords, &c. ... 3 4 to 3 6	Best Long-wools . 3 6 to 3 8
Best Short-horns 3 2 — 3 4	Ditto Shorn ... ...
2d quality Beasts 2 4 — 2 10	Ewes & 2d quality 2 8 — 3 4
Best Downs and Half-breds ... 4 0 — 4 4	Ditto Shorn ... ...
Ditto Shorn	Lambs ... ... 0 0 — 0 0
	Calves ... ... 3 0 — 4 4
	Pigs ... ... 2 8 — 3 8

Beasts, 3859; Sheep and Lambs, 23,070; Calves, 155; Pigs, 380.

FRIDAY, March 26.

The number of Beasts exceeds the demand, yet the weather being favourable there is a disposition to buy at about the same rates as Monday last. The supply of Sheep is larger than of late; there is very little trade for them, and it is impossible to effect a clearance without reduction of price. Calves are more plentiful, and late rates are with difficulty supported. From Germany and Holland we have 90 Beasts, 210 Sheep, and 71 Calves; from Spain, 260 Sheep; from Norfolk and Suffolk, 400; and 145 Milch Cows from home counties.

Best Scots, Herefords, &c. ... 3 2 to 3 4	Best Long-wools . 3 6 — 3 8
Best Short-horns 3 0 — 3 2	Ditto Shorn ... ...
2d quality Beasts 2 6 — 2 10	Ewes & 2d quality 2 8 — 3 2
Best Downs and Half-breds ... 4 0 — 4 4	Ditto Shorn ... ...
Ditto Shorn	Lambs ... ... 0 0 — 0 0
	Calves ... ... 2 4 — 4 4
	Pigs ... ... 2 8 — 3 8

Beasts, 857; Sheep and Lambs, 4360; Calves, 217; Pigs, 370.

MARK LANE.

MONDAY, March 22.—The supply of English Wheat from the neighbouring counties this morning was again small; the finest qualities were sold at the rates of this day se'nnight, but inferior sorts were difficult of disposal, and in some instances declined 1*s.* per qr. The demand for foreign was very limited. The Flour trade is heavy, and prices remain unaltered.—Fine Barley brings last week's prices; secondary sorts are rather cheaper.—Beans and Hog Peas barely support late rates; white are fully as dear.—There is a little doing in Oats; but we observe no alteration in their value.

PER IMPERIAL QUARTER.	*s.* *s.*		*s.* *s.*
Wheat, Essex, Kent, & Suffolk... White	43—45	Red	39—41
— — fine selected runs... ditto	45—47	Red	41—43
— — Talavera	45—51		
— Norfolk, Lincoln, & York... White	38—43	Red	—
— Foreign	37—53		
Barley, grind. & distil., 26*s* to 29*s*... Chev.	33—35	Malting .	29—32
— Foreign... grinding and distilling	22—29	Malting .	—
Oats, Essex and Suffolk	19—21		
— Scotch and Lincolnshire... Potato	21—24	Feed	20—22
— Irish ..... Potato	20—23	Feed	19—22
— Foreign .....Poland and Brew	19—22	Feed	18—21
Rye	—	Foreign .	—
Rye-meal, foreign.....per ton	—		
Beans, Mazagan ... ..24*s* to 27*s*.....Tick	25—30	Harrow .	25—30
— Pigeon.....27 — 32... Winds	30—36	Longpod	24—30
— Foreign .....Small	22—30	Egyptian	23—25
Peas, white, Essex and Kent.....Boiler	32—34	Suffolk..	33—35
— Maple.....27*s* to 30*s* .....Grey	26—28	Foreign .	27—34
Maize ..... White	—	Yellow ...	—
Flour, best marks delivered ...per sack	35—40		
— Suffolk .....ditto	27—32	Norfolk .	27—32
— Foreign .....per barrel	18—24	Per sack	32—36

FRIDAY, March 26.—The arrivals of grain this week have been moderate. The greater part of Monday's supply of Essex Wheat remains unsold, that day's prices being unobtainable; scarcely any transactions occurred in foreign, or lower rates would have been accepted. The value of Spring corn remains as on Monday, with a very inactive trade.

IMPERIAL AVERAGES.	WHEAT.	BARLEY.	OATS.	RYE.	BEANS.	PEAS.
Feb. 14.....	42*s* 8*d*	30*s* 7*d*	18*s* 9*d*	29*s* 11*d*	29*s* 10*d*	29*s* 7*d*
— 21.....	42 9	31 0	19 4	30 5	30 2	30 5
— 28.....	42 3	30 7	19 6	30 7	29 10	29 5
March 6.....	42 7	30 1	19 4	32 5	30 2	29 6
— 13.....	42 10	30 5	19 9	30 5	30 1	29 7
— 20.....	42 8	30 3	19 9	31 11	30 4	29 10
Aggreg. Aver.	42 7	30 5	19 5	30 11	30 1	29 9

Duties on Foreign Grain, 1*s.* per quarter.

ARRIVALS THIS WEEK.

	Wheat.	Barley.	Oats.	Flour.
	Qrs.	Qrs.	Qrs.	
English ...	3310	1290	40	3190 sacks
Irish	—	680	520	
Foreign ...	3380	1120	9750	— brls

Fluctuations in the last six weeks' Averages.

PRICES.	FEB. 14.	FEB. 21.	FEB. 28.	MAR. 6.	MAR. 13.	MAR. 20.
42*s* 10*d*	...	...	...	...	...	...
42 9	...	...	...	...	...	...
42 8	...	...	...	...	...	...
42 8	...	...	...	...	...	...
42 7	...	...	...	...	...	...
42 3	...	...	...	...	...	...

LIVERPOOL, TUESDAY, March 23.—The supplies of grain and Flour, both British and foreign, continue to be very moderate, but at the same time the demand we experience is almost equally contracted, and the tendency of prices during the week has been downwards. The exceedingly fine weather for farming operations during the last four weeks has no doubt influenced buyers in not taking more than present necessities require. The market this morning was again very sluggish, and Wheat declined 2*d.* to 3*d.* per bushel, and Flour 9*d.* to 1*s.* per barrel, and 1*s.* per sack from the rates of this day se'nnight. Indian Corn, Egyptian Beans, and Barley, were each easier to buy than last week. Oats and Oatmeal were unaltered in value. Altogether a very small business resulted.—FRIDAY, March 19.—The present dull state of the corn trade is well accounted for by the evident ability of the English farmer to supply the interior markets, this week's return being as large as 107,374 qrs. of Wheat at 42*s.* 10*d.*; and 60,072 qrs. of Barley, at 30*s.* 5*d.* per imperial qr. Another inactive market was witnessed to-day, the business going forward in any article of the grain trade being upon a limited scale, and prices proving more of a nominal character than otherwise.

GLASS FOR CONSERVATORIES,
GREENHOUSES, PIT FRAMES, &c.

JAMES PHILLIPS AND CO. beg to hand their prices of SHEET GLASS for cash:

Cut to order in Panes not above 40 inches long.	Packed in Boxes of 100 feet each.	£. s. d.
16 ozs.... ... 3d. to 3½d.	6 by 4, 6½ by 4½ ...	0 13 0
21 do. ... ... 3½d. to 5d.	7 by 5, 7½ by 5½ ...	0 .5 0
26 do. ... ... 5d. to 7½d.	8 by 5, 8 by 5½ ...	0 15 0
In Crates of 300 ft., 16 ozs. 2½d. per foot.	8 by 6, 8½ by 6 ...	0 17 6
	9 by 7, 10 by 8 ...	1 0 0

ANY OF THE FOLLOWING SIZES at 20s. per 100 feet, box included:—

22 by 16 ... 22 by 15 ... 22 by 13 ... 20 by 15 ... 20 by 14
20 by 13 ... 18 by 14 ... 18 by 13 ... 18 by 12 ... 20 by 12
15 by 12 ... 16 by 12 ... 17 by 12 ... 14 by 12 ... 18 by 11
17 by 11 ... 16 by 11 ... 15 by 11 ... 16 by 10 ... 15 by 10
14 by 10 ... 14 by 11 ... 13 by 10 ... 13 by 9 ... 12 by 10
12 by 9 ... 11 by 9 ... ...

ALL SIXTEEN OUNCES TO THE FOOT.

HARTLEY'S PATENT ROUGH PLATE GLASS for Conservatories, Public Buildings, Manufactories, Skylights, &c., ⅛ inch thick. Packed in boxes of 50 feet each.

6 by 4 and 6½ by 4½ ..10s. 6d. | 7 by 5 and 7½ by 5½ ...12s. 0d.
8 by 6 and 8½ by 6½ ...13s. 6d. | 9 by 7 and 10 by 8 ...15s. 0d.

FOREIGN SHEET GLASS, of very superior quality, packed in cases of 200 feet, and in sizes varying from 36 by 26 to 44 by 30 inches, at 38s., 40s., to 42s. per case.

HARTLEY'S PATENT QUARRY GLASS.

Milk Pans, from 2s. to 6s. each, Propagating and Bee Glasses, Cucumber Tubes, Lactometers, Lord Camoys' Milk Syphons, Tiles and Slates, Wasp Traps, Plate, Crown, and Ornamental Glass, Shades for Ornaments, Fern Shades, and every article in the Trade.

HORTICULTURAL GLASS WAREHOUSE, 116, Bishopsgate-street Without.

GLASS FOR CONSERVATORIES, ETC.

HETLEY AND Co. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2d. to 3d. per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices and Estimates forwarded on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLALES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to JAMES HETLEY and Co., 35, Soho-square, London.

See *Gardeners' Chronicle* first Saturday in each month.

GLASS.

THOMAS MILLINGTON'S FOREIGN SHEET GLASS is far superior to any other manufacture, as well as cheaper. In 100 feet boxes packed for immediate delivery.

6 inches by 4 and 6½ by 4½ ... ... 13s. 0d.
7 ,, 5 and 7½ by 5½ 15 0
8 ,, 5 and 8 by 5½ 15 0
8 ,, 6 and 8½ by 6½ 17 6
9 ,, 7 and 10 by 8 ... ... 20 0
12 ,, 10 and 13 by 9 ... ... 20 0

And many other sizes, or cut to order in various thicknesses.

Cases containing large Sheets, in 100, 200, and 300 feet, at 21s. per 100 feet.

ROUGH PLATE, perfectly flat, ⅛ in. thick, best manufactured.

In sizes under 15 inches ..... 6d. per foot.
,, ,, 35 ,, ... 8d. ,,
,, ,, 50 ,, ... 9½d. ,,
,, ,, 75 ,, ... 12d. ,,

Milk Pans, 2s. to 6s. each; Metal Hand Frames, Glass Tiles and Slates; Cucumber, Propagating, and Bee Glasses; Wasp Traps, Glass Shades, and Plate Glass, at 87, Bishopsgate-street Without, same side as Eastern Counties Railway.—Established 100 years.

EWING'S PATENT GLASS WALLS.

—The following are the Agents, and on application to whom drawings may be seen, and all other information obtained:—Messrs. Knight and Perry, Nurserymen, &c., Chelsea; Messrs. Henderson and Co., Nurserymen, Pine-apple-place, London; Messrs. Whitley and Osborn, Nurserymen, &c., Fulham, London; Mr. Glendinning, Nurseryman, &c., Chiswick, London; Messrs. Veitch and Son, Nurserymen, Exeter; Messrs. Dickson, Nurserymen, Chester; Messrs. Lawson and Sons, Nurserymen, Edinburgh; Messrs. Dickson and Turnbull, Nurserymen, Perth; Mr. M'Intosh, F.R.S., Gardener to the Duke of Buccleuch, Dalkeith; Mr. Fleming, F.H.S., Gardener to the Duke of Sutherland, Trentham, Staffordshire; Mr. Ewing, Gardener, Bodorgan, Anglesea; Messrs. Pilkington and Co., Plate, Crown, and Sheet Glass Works, St. Helen's, Lancashire.

These Walls can, when desired, be made wide enough for a person to enter, by which they become elegant hothouses on the best principle. Existing Walls covered with Glass and Iron.

GLASS ENAMEL, OR IRON COATED WITH GLASS.

TO GOVERNORS OF HOSPITALS, WORKHOUSES, ARCHITECTS, BUILDERS, AGRICULTURISTS, HORTICULTURISTS, and the FARMING INTEREST generally.—It has long been a great desideratum to obtain an article that would resist the action of acids, the changes of temperature, and the destructive effects of rust. This at length (after repeated attempts) has been effected in an extraordinary degree, by that beautiful and newly-invented process of COATING OR ENAMELLING WROUGHT-IRON WITH GLASS, combining at one and the same time STRENGTH AND PURITY.

Among the articles which may be enumerated as having been already prepared by this useful invention are the following:—Wrought-iron Tubes, from ⅜ inch to 7 inches diameter, superseding copper, lead, and earthenware; Culinary and other Domestic Utensils in great variety, Dairy Pans and Ladles, Scoops, Cisterns, Baths, Water Closets, Pumps, Hot and Cold Water Circulating Pipes, Ornamental Gas Piping in Colours, Plain and Corrugated Roofing and other articles, too numerous to mention. The Colours which the Patentees have already been able to attain are white, iron grey, French grey, Royal purple, green, and their various shades, but they are in hopes, by the researches of chemistry and the experiments which are continually being made, of shortly adding to the number.

Further information may be obtained, by applying to the undersigned, who will be glad to execute all orders that may be intrusted to them with the utmost despatch.

LEONARD COOPER &Co.,
Agents to the Patentees, 11½ Cooper-street, and 1, Bond-street, Manchester.

PERMANENT PASTURE.

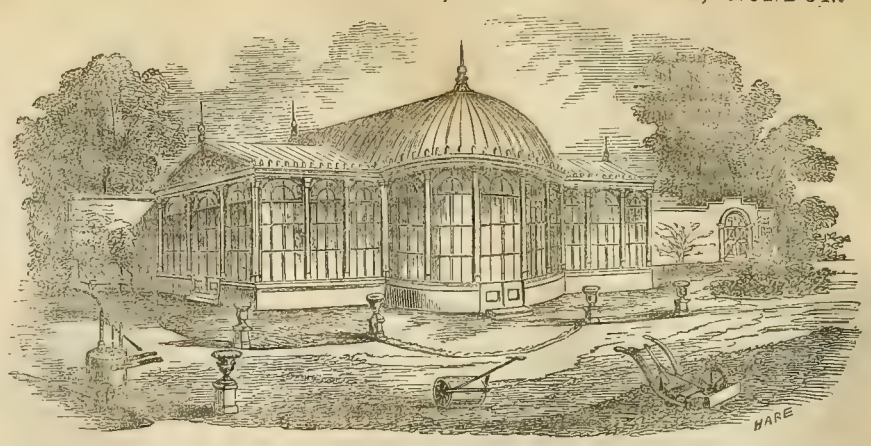
HENRY ROGER SMITHE, of Eastling, Faversham, Kent, informs the public, that his mixtures of the NATURAL GRASSES AND SMALL CLOVERS, gathered principally under his superintendence, including every sort necessary to form a Permanent Pasture, accordant with the soil, &c. (which should be particularly stated), are now ready to be delivered by Railway to any Station in England, Carriage Free, at 20s. per acre, allowing 9 bushels per acre.

MIXTURES FOR LAWNS, &c. THE TRADE SUPPLIED.

Any information on the nature and properties of the Grasses, the Advertiser would be pleased to give.

COTTAM AND HALLEN,

2, WINSLEY STREET, AND 76, OXFORD STREET, LONDON.



APPLICATION is requested for their NEW HORTICULTURAL LIST, containing Illustrations Descriptions, and Prices of

Conservatories	Mowing Machines	Hand-glass Frames	Garden Engines	Flower Sticks
Greenhouses	Fountains	Game Netting	Dor Syringes	Garden Bordering
Hot Water Apparatus	Ornamental Wire Work	Hurdles	Do. Rollers	Watering Pots
Garden Vases	Flower Stands	Garden Chairs	Flower Labels	Garden Arches, &c.

IRON HURDLES, STRAINED WIRE FENCING, GAME NETTING, &c.

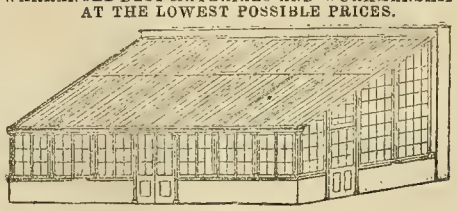
AGRICULTURAL LIST UPON APPLICATION.

EVERY DESCRIPTION OF PLAIN, ORNAMENTAL, CAST AND WROUGHT IRON, AND WIRE WORK.

EXHIBITION PRIZE MEDAL GATES AND ENAMELLED MANGERS.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER.

WARRANTED BEST MATERIALS AND WORKMANSHIP, AT THE LOWEST POSSIBLE PRICES.



J. WEEKS AND CO., King's-road, Chelsea, Horticultural Architects, Hothouse Builders, and Hot-water Apparatus Manufacturers. The Nobility and Gentry about to erect Horticultural buildings, or fix Hot-water Apparatus, will find at our Hothouse Works, King's-road, Chelsea, an extensive variety of Hothouses, Greenhouses, Conservatories, Pits, &c., erected, and in full operation, combining all modern improvements, so that a lady or gentleman can select the description of House best adapted for every required purpose.

THE HOT-WATER APPARATUSES (which are efficient and economical), are particularly worthy of attention, and are erected in all the Houses, Pits, &c., for both Top and Bottom Heat, and in constant operation in the Stoves.

The splendid collection of Stove and Greenhouse Plants are in the highest state of cultivation, and for sale at very low prices. Also a fine collection of strong Grape Vines in pots from eyes, all the best sorts.

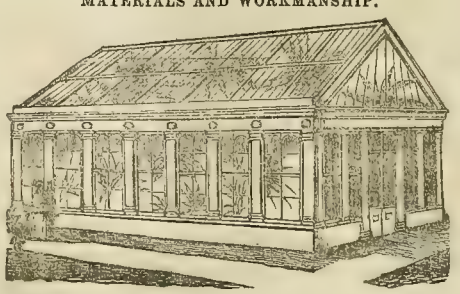
Plans, Models, and Estimates of Horticultural Buildings; also Catalogues of Plants, Vines, Seeds, &c., forwarded on application.—J. WEEKS and Co., King's-road, Chelsea, London.

GREEN AND HOTHOUSES, made by Machinery, at J. LEWIS' Horticultural Works, Stamford Hill, Middlesex, warranted best materials, and the cheapest in England.—A List of Prices sent by enclosing 2 postage stamps.

GREENHOUSES GLAZED WITHOUT PUTTY, no Leakage, simple and easy of repair, cheaper than any other system, and much more durable. Lists of prices of different-sized houses forwarded, on application to the inventor and manufacturer, ALFRED KENT, Chichester. A Greenhouse glazed upon this system can be seen at the grounds of the Royal Botanical Society, Regent's-park, London.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER,

AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.



GRAY AND ORMSON, Danvers-street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

G. & O. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders, they can with the greatest confidence give the most satisfactory references.

Their Hot-Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating by Hot Water can be made available.

HOTHOUSES, GREENHOUSES, ETC.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

E. DENCH, PATENT HOTHOUSE WORKS, KING'S-ROAD, CHELSEA.—The superior qualities in every respect of these Structures having been proved in all parts of the United Kingdom, has caused a greater demand for them than E. D. could execute; he has been obliged to have perfect and powerful machinery made to meet the numerous orders, and can now execute any amount of work to great perfection, with dispatch, and for quality and price to defy all competition. Patent Hothouses, with excellent glass 3 feet long by 1 foot wide, every front sash to open, and every top one to slide down, with pulley made of the same materials as the electric telegraph wires, which require no painting; delivered free to Wharf or Railway Station, at 1s. 2d. per foot super., complete, having been fitted, and every portion marked previously, making a Greenhouse 16 ft. 6 ins. long, 12 ft. rafter, 400 ft., 28l. 6s. 8d.; 24 ft. 6 ins. long., do. do., 526 ft., 30l. 13s. 8d.; 28 ft. 6 ins. long, 15 ft. rafter, 712 ft., 41l. 10s. 8d. Heating by Hot-water on the most approved and economical principles.

Patent Sashes for Pits and Peach Walls, &c., 7d. and 8d. per foot super.

TRUE LARGE RED ALTRINGHAM CATTLE CARROT SEED, home grown, 1s. per lb. See Advertisement in *Agricultural Gazette* of March 13, page 169.

WM JACKSON and Co., Seed Merchants, Hedale, Yorkshire.

BEE HIVES.—A NEW AND EXTENSIVE SELECTION OF THE MOST APPROVED KINDS.—A detailed Catalogue, with Drawings and Prices, sent on receipt of Two Stamps. GEORGE NEIGHBOUR and SON, 127, High Holborn, London.

"In noticing the hives exhibited in the Crystal Palace, first and foremost, in my opinion, stands Mr. Taylor's Eight-Bar Hive, and Messrs. Neighbour and Sons Improved Cottage Hive, both exhibited by Messrs. Neighbour."—*J. H. Payne.* (See the "Cottage Gardener," Nos. 169 170).

AGENTS.—Liverpool: Wm. Drury, Castle-street. Manchester: Hall and WILSON, 50, King-street. Glasgow: Austin and McAslan, 168, Trongate. Dublin: J. Edmondson and Co., 61, Dame-street.

RATING NURSERYMEN'S GREENHOUSES.

THE NURSERYMEN AND MARKET GARDENERS are respectfully solicited to respond to the APPEAL very generally addressed to the Trade some weeks since, as without liberal funds the committee will be unable to resist the cases that may arise.

All Post-office orders made payable to the Secretary, Mr. JOSEPH FAIRBAIRN, Nurseries, Clapham.

FREEDOM FROM COUGH IN TEN MINUTES is insured by DR. LOCOCK'S PULMONIC WAFERS. From Mr. J. W. BOWDEN, Bookseller, Market-place, Gainsborough—"Several persons in this neighbourhood, who have been afflicted with apparently incurable Asthmas and Coughs for a series of years, have found relief only in the use of Dr. Locock's Wafers." These Wafers give instant relief and a rapid cure of Asthma, Coughs, and all disorders of the Breath and Lungs. To Singers and Public Speakers they are invaluable for clearing and strengthening the voice. They have a pleasant taste. Price 1s. 1½d., 2s. 9d., and 11s. per box. Sold by all medicine venders.

Also, DR. LOCOCK'S FEMALE WAFERS, the best Medicine for Females. They have a pleasant taste.

METCALFE AND Co.'s NEW PATTERN TOOTH-BRUSH and SMYRNA SPONGES.—The Tooth-Brush has the important advantage of searching thoroughly into the divisions of the teeth, and cleaning them in the most extraordinary manner, and is famous for the hairs not coming loose.—1s. An Improved Clothes-Brush, that cleans in a third part of the usual time, and incapable of injuring the finest nap. Penetrating Hair-Brushes, with the durable unbleached Russian bristles, which do not soften like common hair. Flesh-Brushes of improved, graduated, and powerful friction. Velvet-Brushes, which act in the most surprising and successful manner. The genuine Smyrna Sponge, with its preserved valuable properties of absorption, vitality, and durability, by means of direct importations, dispensing with all intermediate parties' profits and destructive bleaching, and securing the luxury of a genuine Smyrna Sponge. Only at METCALFE, BINGLEY, and Co.'s Sole Establishment, 130B, Oxford-street, one door from Holles-street.

METCALFE'S ALKALINE TOOTH POWDER, 2s. per box.

CAUTION.—Beware of the words "From METCALFE'S," adopted by some houses.

WILLIAM HUSSEY begs to inform his Friends and the Public that his DESCRIPTIVE CATALOGUE of Dahlias, Cinerarias, Geraniums, Hollyhocks, Verbenas, Fuchsias, Chrysanthemums, Carnations, Picotees, Pinks, Pansies, Bedding Plants, &c., &c., is now ready, and may be had in exchange for one postage stamp.
Horticultural Gardens, Norwich, March 27.

NEW AND CHEAP PLANTS.

HENRY WALTON, FLORIST, &c., Edge End, Marsden, near Burnley, Lancashire, begs to offer the following Plants, at the very reduced prices attached:—
GERANIUMS—Belle of the Village, Constance, Field Marshal, Prince of Orange, Crispina, Purity, Josephus, Elegans, Plutarch, King of Purples, Prometheus, Abd-el-Kader, Sparkler, Terpsichore, Mont Blanc No. 2, Pre-ident, Lamartine, Ondine, Meleager, Junii, Nandez, Lord Stanley, Rebecca, Virgin Queen, Forget-me-Not. The above in extra strong plants, 15s. per dozen, or 2d for 1l. Geranium Raphael, Crusader, Vulgus, Norah, Cavalier, Honora, Guelima, Lady Ebrington, Rosamunda, and several others, in strong blooming plants, from 7s. 6d. to 9s. per dozen, or 20 for 15s.
CHOICE CINERARIAS.—Lady Gertrude, Wellington, Angelique, Carlotta Grisi, Nymph, Wedding Ring, Delight, Emperor, Pauline, Othello, Sanspareil, Margaretta, Lady Araminta, Amy Robsart, Fairy Queen, Madame Miellez, Electra, Blue Perfection, Lady Hume Campbell, Resplendens, Clemeutine, Handel, Lady Vernon, and Diocletian. The above in nice strong plants, from 12s. to 15s. per dozen, or the lot for 1l. Cineraria Eleanor, Gem of the Isle, Matilda, Madame Parodi, Coronet, Calypso, Nesington Beauty, Satellite, Fairy Ring Sapphire, Prime Minister, Jenny Lind, and Masterpiece. The above 13 at 9d. each, or the lot for 9s.
FUCHSIAS.—Alpha, Bride, Bridesmaid, Brilliant, Clapton Hero, Conspicua, Defiance, Diadem of Flora, Elect, Globosa, Alba grandiflora, Hebe, Koh-i-noor, Loveliness, Lord of the Isles, Lady of the Lake, Madame Soutag, Prince Arthur, Psyche, Resplendens, Roscola, and Voltigeur. The above Fuchsias in strong, autumn-struck plants, 15s. per dozen, or 20 for 1l. Spring-struck plants, including all the leading varieties of last spring, free by post, 10s. 6d per dozen.
DAHLIAS (strong plants first week in May), all the new varieties of last spring, 9s. to 12s. per doz; older varieties, 4s 6d. to 6s. per dozen.
PANSIES.—A plant of the yet unrivalled Pansy, "Jenning's King," with 24 others selected from the Autumn Catalogue, for 1l.
Verbenas, Petunias, Antirrhinums, Chrysanthemums, scarlet Geraniums, &c. Also a choice selection of Bedding Plants, at equally reduced prices, catalogues of which may be had for one stamp.
It is respectfully requested that all orders be accompanied by a post-office order, made payable at Marsden, Lancashire. All orders of 2l. and upwards carriage free to Liverpool, Manchester, and Leeds; for more distant carriage, plants will be be added, to compensate.
N.B.—A choice Collection of Carnations and Picotees, 9s. per dozen pair, catalogues of which may be had for one stamp.

DAHLIA—"WHITE PERFECTION."

GEORGE BRITTLE, FLORIST, &c., Camp Hill, has much pleasure in offering the above-named Seedling DAHLIA, feeling confident it will give entire satisfaction, being the best WHITE DAHLIA in cultivation. "White Perfection" obtained the First Prize as the best seedling of 1851, at the Handsworth and Lozell's Horticultural Society, Aug. 26; First Prize as the best seedling of 1851 at Wolverhampton, Sept. 4; First Class Certificate at the Midland Floral Society's Meeting, Sept. 8, 1851. Plants early in May, 10s. 6d. each.
The usual discount to the Trade when three are ordered.
Birmingham, March 27.

BALSAM SEED, the finest in the world, in five classes of colours, sealed Packets, with directions for culture, 2s. 6d. the five, or 9d. singly. Mimulus Giganteus, the largest in cultivation, 1s. to 5s. per plant. DAHLIAS: the Scarlet King, the finest of its class ever raised, 10s. 6d.; Sir F. Thesiger, Dr. Frampton, Sir Richard Whittington, Rob, and all the best new ones at catalogue prices; Ditto old favourites, 3s. to 9s. per dozen. Fuchsias, Geraniums, Cytisus Racemosus, Stove and Greenhouse Plants generally, bedding out Scarlet Geraniums, 2s. 6d. to 5s. per dozen.—Post-office orders to CHARLES R. SMALLBONE, Dungannon Nursery, Fulham, payable at Putney, promptly attended to.

ALL POST FREE.

CHOICE SEEDS.—Packets of fine Mammoth Brocoli Asiatic Cauliflower, Giant Curled Parsley, gigantic Cos Lettuce, Mitchell's Enfield, Cormack's, and Barnes' superior early Cabbages, Coles and Seymour's fine Celery, the best kinds of Cucumber, Melon, and Vegetable Marrow, at 6d. each packet: Fine mixed German Asters, Stocks, Calceolaria, Cineraria, Portulacca, Giant Victoria Stock, Canary Creeper, Zinnias, Balsams, Cobæa scandens, Coxcomb, Ice Plant Sensitive, Auricula, Dahlia, Pinks, Polyanthuses, Geranium, Pansy, Sweet Violet, and dbl Sweetwilliam, 6d. each pkt. 100 pkts. of Annuals, Biennials, and other Seeds, fit for present sowing, warranted new, for 5s.; 50 for 3s; 33, for 2s. 6d.; 12, for 1s. Superior Mignonette, own saving warranted to grow well, at 6d. per oz. A few packets of extra fine Balsam, at 1s. per packet. With each order a Catalogue will be sent, containing Hints on Sowing, &c., or it may be had for Two Stamps, on application to JOSEPH GOLDING Seedsman, Hastings.

FRUIT TREES, FLOWER AND SEED BEDS, ETC.

NEW TWINE NETTING, to protect the bloom of Peach, Nectarine, Apricot, and other trees; Flower and Seedbeds from frost, blight, and afterwards the Ripe Fruit from birds; or as a fence against fowls, pigeons, cats, &c. New Twine Netting 1 yard wide, 1½d. per yard; 2 yards wide, 3d. per yard; half inch mesh ditto, 2 yards wide, 5d. per yard. Worsted Netting, 2 yards wide, 4d per yard. Sheep-folding Net, of superior quality, 4 feet high, 4d per yard. The Repaired Tanned Fishing Netting, 2 or 3 yards wide, 1½d. per yard; 4 or 5 yards wide, 3d. per yard; exactly the same as advertised by others at double the above prices. Casting Nets, 1s per yard round, complete. Drag Nets for ponds, lakes, and rivers, with purse complete, 12 yards long, 1l 5s.; 20 yards long, 2l. Flue nets, complete, 1s. per square yard. Rabbit Nets, on cord, 12 inches wide, 2d per yard, or 8s per 50 yards. Nets made to order, and the trade supplied, at WILLIAM CULLINGFORD'S, 1, Strand to Return-ce, Shadwell, London. Orders by post punctually attended to. Orders above 2l will be forwarded, carriage paid, to any Railway Station in the Kingdom.
Caution.—Parties are advertising Tanned Net, 2 yards wide, 3d. per yard, without stating it is Old Net.

TANNED NETTING, for the Protection of Fruit Trees from frost, blight, and birds, and for the security of fresh sown seeds, either in gardens or fields, at 1d. per square yard, 200 yards for 14s., 500 yards for 30s, 1,000 yards for 50s. Scrim canvas for wall trees, netting for sheep folds; a considerable saving of labour, and less expense than bundles. Tan blinds in great varieties rick cloths, &c. &c. Marquees, tents, awnings, and temporary rooms, with boarded floors, elegantly lined and lighted for fêtes, &c., on sale or hire. Carriage, cart, and truck covers impervious to rain; clothes for the covering of furniture in change of residence, &c. Tarpaulings on hire for houses under repair, at THOMAS EDGINGTON & Co.'s, 17, Smithfield-bars, and Old Kent-road.
N.B. Orders and inquiries per post punctually attended to.

Sales by Auction.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will sell by Auction, at the Mart, Bartholomew-lane, on TUESDAY, March 30, at 12 o'clock, a first-rate collection of Carnations and Picotees, Standard and Dwarf Roses, Lancashire Gooseberries and Dahlias, in dry roots, &c., the property of Mr. Willmer, of Sunbury. May be viewed the morning of sale.—Catalogues had at the Mart., and of the Auctioneers, American Nursery, Leytonstone, Essex.

TO GENTLEMEN, FflorISTS, AND OTHERS.

Another portion of Mr. NORMAN'S celebrated collection of Carnations and Picotees; about 400 selected Standard and Dwarf Roses, from a first-rate grower.

MESSRS. PROTHEROE AND MORRIS will Sell by Auction, at the Mart, Bartholomew-lane, on THURSDAY, April 1st, 1852, at 12 o'clock, the above collection of Carnations and Picotees, comprising all the leading varieties in cultivation; also choice American Plants, Dahlias, Fuchsias, Verbenas, with a quantity of Plants in bloom May be viewed the morning of Sale. Catalogues to be had at the Mart, and at the Auctioneer's American Nursery, Leytonstone.

TO GENTLEMEN, EXHIBITORS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS are instructed by Mr. Ayres, who is declining the cultivation of hard-wooded Plants, to offer for sale at the Auction Mart, on TUESDAY, 6th, and WEDNESDAY, 7th April, at 12 for 1 o'clock precisely, a choice assortment of STOVE and GREENHOUSE PLANTS, comprising specimens, many of them fit for exhibition, of Azaleas, Camellias, Ericas, Eriostemons, Pimeleas, Dellwynais, Genistas, Aphelexis, Stephanotis, Stenocarpus, Escallonias, Epacris, Zichyas, Cordas, Dielytra spectabilis, Agathosma Bossias, &c., &c., with a choice assortment of the same kinds in smaller plants. Also a choice assortment of Show and Fancy Pelargoniums, comprising the following kinds:—FANCIES: Alboni, Admirable, Bouquet tout Fait, Fairy Queen, Formosa, Hero of Surrey, Itolinskii, Jenny Lind, Magnifica, &c.—SHOW: Ajax, Alderman, Alonzo, Beauty of Montpelier, Brilliant, Cardinal, Centurion, Conspicuum, Constance, Cracker, Crusader, Elegans, Field Marshal, Flavia, Generalissimo, Isis, Lord Stanley, Magnificent, May Queen, Nectar Cup, Nonsuch, Ocellarum, Oadine, Prince Arthur, Prince of Orange, Salamander, Satisfaction, Star, Virgin Queen, &c., with a choice collection of Cineraries, Verbenas, many of them blooming and named sorts, and fit for immediate effect.
Messrs. P. and M. beg to direct special attention to these plants as being such as are rarely offered at the Mart, and will be sold without any reserve. The specimen plants will be sold singly, and the others arranged in lots suitable to both large and small purchasers. On view the morning of Sale. Catalogues will be ready in a few days.

TO ORNITHOLOGISTS.

MR. MILTON'S WELL-KNOWN COLLECTION OF BRITISH BIRDS.

MR. J. C. STEVENS will sell by Auction, at his Great Room, 38, King-street, Covent-garden, London, on TUESDAY, 6th April, at 12 for 1 o'clock, a very valuable and nearly complete Collection of BRITISH BIRDS, set up in the best manner by the most eminent Naturalists of the present day, all in fine preservation, and arranged according to Yarrell; also a Collection of BRITISH BIRDS' EGGS, including many rare species. May be viewed on the day prior to sale, and Catalogues had of Mr. MILTON, No. 10, Great Marylebone-street; and of Mr. J. C. STEVENS, 38, King-street, Covent Garden, London.

TO GENTLEMEN, FLORISTS, AND OTHERS.
A FIRST-RATE COLLECTION OF CARNATIONS AND PICOTEES.

MR. J. C. STEVENS will sell by Auction, at his Great Room 38, King-street, Covent-garden, on THURSDAY, April 8, at 12 for 1 o'clock, without reserve, the surplus stock of CARNATIONS and PICOTEES of the well known growers Messrs. Youell and Co., including, Carnations: Flora's Garland, Puxley's Prince Albert, Countess Paulina, Knusthorp Pet, Lord of the Manor, Baudin's Louis Napoleon, &c. Picotees: Gem, Juliet, Wildman's Isabella, Lady Smith, Heroine, &c. Yellow Picotees: Malvolio, Malay Chief, Eclipse, &c.—May be viewed the day before the sale, and Catalogues forwarded on prepaid application to Mr. J. C. STEVENS, 38, King-street, Covent-garden, London.

HIGH ELMS, FARNBOROUGH, KENT.
IMPORTANT SALE OF SHORT-HORNED CATTLE AND SOUTHDOWN SHEEP.

MR. H. STRAFFORD has received instructions from Sir JOHN W. LUBBOCK, Bart., High Elms, Farnborough, Bromley, to announce for sale by Auction, without reserve, at the North-end Farm, on WEDNESDAY, the 7th of April next, about THIRTY HEAD of SHORT-HORNED BULLS, COWS, and HEIFERS, which have been chiefly bred from cows purchased of Mr Cartwright of Tathwell, and since crossed by first-class bulls from the far-famed herds of the late Earl Spencer, Sir C. Knightley, Bart., Messrs. Booth, Coombe, &c. Also, 220 pure Southdown sheep, consisting of 30 ewes and couples, 110 ewe tegs, 80 wether tegs, bred from the celebrated flocks of Messrs. Ellman, Moore, of Pewsey, Northeast, and Williams, of Buckland.
Catalogues, with the pedigrees, &c., are now ready, and may be had upon application to Mr. Strafford, 3, Camden-villas, Camden-town; and of Mr. Stow, Farnborough-hall, near Bromley, Kent.
London March 27.

BULLS FOR SALE.

MESSRS. LAMBERT AND HARKER have received instructions to sell by Auction, on THURSDAY, the 8th day of April, Five superior BULLS, belonging to Mr. J. W. Sewart, of Bank Cottage, near Sedbergh, Yorkshire, viz., one Bull, red and white, 2 years and 7 months old, by Magician, got by Morpeth (7255), dam Fairy Tale, by Sir Thos. Fairfax 5193), g d Thomasine, by Stillington (5927), g g d by Young Rockingham (2547), g g g d by Driver (1928), g g g g d by Richard (1370); for pedigree of Morpeth, see "Herd Book;" dam Victoria, got by Rockingham (1980), bred by Sir Charles Tempest, Bart., Brough on Hull, got by Nimrod (2371). One red do., 1 year and 5 months old, by Magician, by Morpeth, dam Matilda by the Hero Don John (6585), g d Herome, by Dan O'Connell (3557), g g d Helena, by Rowland (2571), son of Miracle (2320). One roaned do., 10 months old, by Magician, by Morpeth, dam Tulip by Rubini (9586), bred by the Earl of Lonsdale, dam by Young Gaunford, by Old Gaunford (2041). One do., red, 1 year old, by the Clifton Hero, by Election (9078), dam Young Strawberry. One roaned do., 7 months old, by Glaridding, by Jemmy Lad (5611), by Westmorland. The dams may be seen at the time of sale, and further particulars may be had by applying to the owner. At the same time will be sold 36 head of cattle (without pedigrees). The sale will commence at 12 o'clock precisely.
N.B. Sedbergh is five miles distant from the Lowgill Station on the Lancaster and Carlisle Railway.—Sedbergh, March 27.

Important Sale of well selected and valuable Live Stock, Stagenhoe Bottom, about five miles from the Welwyn and Hitchin Stations on the Great Northern Railway.

MESSRS. PAGE and CAMERON will SELL by AUCTION, on the Premises, Stagenhoe Bottom, on WEDNESDAY, March 31, by direction of Mr. WILLIAM BATES, who is quitting the farm, TEN powerful CART HORSES, five, three, and two-year old cart colts and fillies, a promising three-year old nag colt, 74 head of short-horn cow stock, comprising 21 fine fresh two-years old steers, a handsome two-years old bull, 15 very superior heifers in calf, 3 barren heifers, 34 yearling steers, 270 prime fat half-bred tegs, 6 sows in pig, a boar, and 40 strong Berkshire store hogs, &c.; also about 1000 faggots in 10 stacks. Refreshments will be provided at 11 o'clock, and the Sale commence at half-past 12 punctually. May be viewed on the morning of Sale, and Catalogues had at the Inns in the neighbourhood; at the Cross Keys, St. John-street, Smithfield; the Old Bell, Holborn; and of Messrs. PAGE and CAMERON, Land Agents and Surveyors, 30, Bucklersbury, London, and St. Alban's and Barnet, Herts.

FREE TRADE IN GENUINE SEEDS AND GOOD PLANTS.

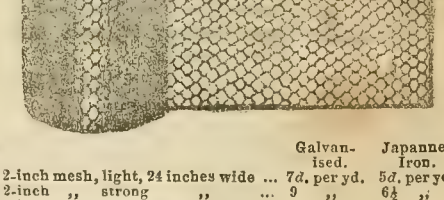
MESSRS. RAWLINGS AND GIBSON will sell by Auction, at the Mart, Bartholomew-lane, on THURSDAY, April 1st, and following day, at 12 o'clock, about 200 COLLECTIONS OF VEGETABLE AND FLOWER SEEDS, all the genuine growth of 1851, and lotted to suit Amateurs and the Trade. At the same time will be sold a valuable assortment of Carnations, Picotees, and Pinks, fine named Hollyhocks, choice Herbaceous Plants, the newest varieties of Dahlias, Fuchsias, Verbenas, Geraniums, &c &c.—May be viewed the morning of sale, and Catalogues had at the Mart, and of the Auctioneers, 50, Hoxton-square, and Ebenezer Nursery, Shacklewell.

FARM TO LET, on very advantageous terms—on lease or yearly tenancy. About 300 acres of Clay Land, thoroughly drained, in a midland county, near a good market, and a good railway. The Roads, House, and Offices are all in excellent condition. Rates very low; no pressure of the poor; Tithe free; Rent low; no Rabbits; very favourable entry as to tenant right; Game not strictly preserved. About 60 acres more of Grass Land might be added if required.
Persons desirous of treating for this very eligible occupancy are requested to apply by letter to the editor of the *Gardeners Chronicle*, at the Office, 5, Upper Wellington-street, Strand London.

TO MARKET-GARDENERS, HOTEL-KEEPERS, AND OTHERS.

TO BE LET, at Twickenham, near the Railway Station, the large, well-stocked, and productive GARDEN of the late Sir JONATHAN WATHEN WALLER. It embraces upwards of 3 acres; has four Graperies, and a range of Pine Pits, all in perfect order, and the walls extend upwards of 1500 feet. There is on the ground a commodious COTTAGE, containing 10 rooms in excellent repair, and fitted up with Water-closets, and other comfortable conveniences, having been occupied as summer lodgings for the family of the late proprietor. At present the whole ground is under crop. Rent, including Cottage and Out-buildings, 75l. per annum.—Apply to JAMES CLARK, 24, Billiter-street, London.

GALVANISED WIRE GAME NETTING.—7d. per yard, 2 feet wide.



		Galvanised.	Japanned Iron.
2-inch mesh, light, 24 inches wide	...	7d. per yd.	5d. per yd.
2-inch ,, strong ,,	...	9 ,,	6½ ,,
2-inch ,, extra strong ,,	...	12 ,,	9 ,,
1⅝-inch ,, light ,,	...	8 ,,	6 ,,
1⅝-inch ,, strong ,,	...	10 ,,	8 ,,
1⅝-inch ,, extra strong ,,	...	14 ,,	11 ,,

All the above can be made any width at proportionate prices. If the upper half is a coarse mesh, it will reduce the prices one-fourth. Galvanised sparrow-proof netting for Pheasantries, 3d. per square foot. Patterns forwarded post free.
Manufactured by BARNARD and BISHOP, Market-place, Norwich, and delivered free of expense in London, Peterborough, Hull, or Newcastle.

FRUIT TREES, POULTRY, ETC.

TANNED GARDEN NETTING for protecting Fruit Trees from Frost, Blight, and Birds or as a Fence for Fowls, Pigeons, Tulip and Seed beds, can be had in any quantity or length, from JOHN KING FARLOW'S Fishing Tackle and Net Manufactory, 5, Crooked-lane, London Bridge, at 1½d. yard wide, 3d. two yards, or 6d. four yards wide. All orders above 20s. accompanied with Post-office order, stamps, or London reference, carriage free.

EGGS OF THE GOLD AND SILVER PENCILLED HAMBURGHS, at 3s. 6d. a set of 13, including package.—Apply to T. WALKER jun., Beeston near Nottingham.

BUDDING'S IMPROVED LAWN MOWERS AND GARDEN ROLLERS.

MR. SAMUELSON, BRITANNIA IRON WORKS, BANBURY, Oxon (Successor to the late James Gardner), to avoid the disappointment experienced last season as regards their delivery, will feel obliged by orders for the above machines—in the cutting action of which he has made great improvements—and for GARDEN ROLLERS, being given as early as possible.
Delivery free to all places on the London and North Western and Great Western and Midland Railways.
Drawings and Price Lists of the above, as well as his General Implement List, forwarded on application,

ALLSOPP'S EAST INDIA PALE AND OTHER BURTON ALES.—The public is respectfully informed the ALES of this season's Brewings are now ready for delivery, and may be obtained Genuine in Casks of 18 Gallons and upwards, either singly or in any quantity, at their respective Stores, as under, where also a list of the Bottlers may be had:—The Brewery, Burton-on-Trent; 61, King William-street, City, London; Cook-street, Liverpool; High-street, Birmingham; The Exchange, Manchester; Royal Brewery, Dudley; and 33, Virginia-street, Glasgow.

ESTABLISHED] [1786.

WEST OF ENGLAND
AGRICULTURAL & HORTICULTURAL ESTABLISHMENT,

FOR THE SUPPLY OF EVERY REQUISITE FOR THE FARM AND GARDEN,

UNION ROAD, PLYMOUTH,

(ADJOINING THE STATION AND TERMINUS OF THE SOUTH DEVON RAILWAY).

CASH PRICE-CURRENT OF AGRICULTURAL SEEDS,
SOLD BY W. E. RENDLE AND CO.,

SEED AND MANURE MERCHANTS, PLYMOUTH,

By Special Appointment to the South Devon Agricultural Association; the Royal Agricultural Society, Prince Edward's Island; and under the patronage of several of the Council, and other Members of the Royal Agricultural Society of England.

All Orders for Seeds above £2. (excepting heavy articles, as Grain, Tares, Clover, &c.), will be delivered FREE OF CARRIAGE to any Station on the following Railways:—Great Western, Bristol and Birmingham, Southampton and Dorchester, Bristol and Exeter, South Western, South Devon, or to any Market Town in Devon and Cornwall; or to Cork, Dublin, and Liverpool, by Steamers.

THE Terminus and principal Station of the South Devon Railway is close to our Union-road Establishment, so that we now enjoy direct railway communication to all the principal towns in England, Scotland, and Wales. Our premises are also within five minutes' walk of the Great Western Docks, from whence steamers are continually running to Cork, Dublin, Belfast, Glasgow, London, Falmouth, and most of the principal ports in the kingdom.

Seeds for Exportation can be obtained properly packed to arrive in good condition.

Noblemen, Clergymen, or Gentlemen requiring Seeds for gratuitous distribution to their Tenantry, or to Cottagers, will be supplied on the most liberal terms.

Mixture of Select Grasses for laying down Land to Permanent Pasture.

The kinds are most carefully saved, all noxious weeds being excluded. The selections will contain several species of Festucas, Loliums, Poas, and Trifoliums in such quantities as will best suit the soil for which the selection is intended. We usually send 2 bushels of light seed and 12 lbs. of heavy seed per acre, which will be sufficient for most soils. The large increasing demand for Grasses for permanent pasture, enables us to reduce the price to 25*s.* or 30*s.* per acre, according to the sorts required to suit the soil. (Gentlemen giving their orders are requested to state the quality of the soil, situation, &c.)

For Permanent Lawn Pastures.

In Lawns, or Ornamental Parks, it is generally desirable to have a predominance of fine evergreen Grasses. The price of the best Lawn Grass is 20*s.* per bshl., 3*s.* per gal., or 1*s.* 3*d.* p. lb.

For Permanent Pasture and Hay in Orchards and other Grounds much overshaded with Trees.

We can supply a very excellent mixture of Grasses suitable for the above purposes at 30*s.* per acre, comprising 2 bushels of light seed and 12 lbs. of heavy.

For Heathy or Moory Lands which have been improved, with a view to their producing better Pasture.

We can offer an excellent mixture for Heathy or Moory Lands, at 22*s.* p. acre, with varieties which will thrive best on such soils.

For laying down Shallow Uplands and Sheep Walks.

For this purpose we can offer a very excellent assortment suitable for elevated situations, which we can render at 28*s.* per acre, to produce excellent pasture for sheep.

For Lands in preparation for Irrigation.

In this mixture we place those varieties that, from their natural habits, will stand an excessive moisture. 30*s.* per acre.

Mixture for renovating Old Pastures, Park Lands, &c.

We can supply an excellent selection for renovating old pastures, deficient of Clovers and the finer Grasses, at 8*s.* per acre, comprising about 10 lbs. of seed, at 10*d.* per lb.

Fine Grass Seed for Pleasure Grounds, &c., kept constantly under the Scythe.

Our Selection of fine Lawn Grass Seeds has always given the greatest satisfaction.

The best and most select kinds are only supplied in this mixture, perfectly clean and free from all imperfection, 20*s.* per bushel, 3*s.* per gallon, or 1*s.* 3*d.* per lb.

MIXTURES

Can also be supplied for "Pasturage and Cover in rich shady Woods," for "Improved Deep Mossy Ground," for "Marshy Grounds," for "Warrens and Light Sandy Soils," for "Dry Gravelly Situations," and for "Drifting or Blowing Sands."

In giving orders for the above selections, we beg respectfully to request that the quality of the soil be given for which the Seed is required, whether it be moist, or dry, of a peaty or calcareous nature; and it will be also very material to state the altitude, exposure, or other peculiarities.

LIST OF GRASSES.

	Per bushel.—*s.*	*d.*
COMMON RYE-GRASS (Lolium perenne)	5	0
SCOTCH PERENNIAL RYE-GRASS	5	0
EVERGREEN RYE-GRASS, OR DEVON EVER ...	5	0
PACEY'S PERENNIAL RYE-GRASS ... ... (This variety is most strongly recommended.)	6	0
STICKNEY'S PERENNIAL RYE-GRASS	7	0
ITALIAN RYE-GRASS (Lolium italicum) ... ... (*We have procured a large stock of this valuable variety, imported direct from Italy, by Messrs. Lawson and Son.*)	7	0
DICKINSON'S ITALIAN RYE-GRASS (Lolium italicum var.)	8	0
TIMOTHY, OR CAT'S-TAIL GRASS (Phleum pratense) ... ... 10*d.* per lb.		
MEADOW FOX-TAIL GRASS (Alopecurus pratensis)	10	0
TALL OAT-LIKE GRASS (Arrhenatherum avenaceum)	16	0
ROUGH COCK'S-FOOT GRASS (Dactylis glomerata) ...	5	0
HARD FESCUE GRASS (Festuca duriuscula)	8	0
SHEEP'S FESCUE GRASS (Festuca ovina)	8	0
FINE-LEAVED FESCUE (Festuca tenuifolia)	16	0

LIST OF GRASSES.—*Continued.*

	Per bshl.—*s.*	*d.*
CREEPING FESCUE GRASS (Festuca rubra)	16	0
MEADOW FESCUE GRASS (Bucetum pratense) ...	10	0
RYE GRASS-LIKE FESCUE (Bucetum loliaceum) ...	12	0
WOOD MEADOW GRASS (Poa nemoralis)	20	0
FERTILE MEADOW GRASS (Poa fertilis)	20	0
SMOOTH-STALKED MEADOW GRASS (Poa pratensis)	20	0
ROUGH-STALKED MEADOW GRASS (Poa trivialis)	14	0
OAT GRASS (Trisetum pratense)	12	0
SWEET VERNAL GRASS (Anthoxanthum odoratum)	20	0
CRESTED DOG'S-TAIL GRASS (Cynosurus cristatus)	18	0

CLOVERS.

COMMON OR ENGLISH RED CLOVER (Trifolium pratense).—Price 6*d.*, 7*d.*, and 8*d.* per lb.

FOREIGN RED CLOVER.—Price 8*d.* per lb.

PERENNIAL RED CLOVER, OR COW GRASS (Trifolium pratense perenne).—The West of England is famous for this variety of Red Clover, which is of very permanent duration. The leaves are more woolly than the common red. We have some very superior samples this season, saved expressly for us. Price 8*d.* to 9*d.* per lb.

WHITE OR DUTCH CLOVER (Trifolium repens).—8*d.* p. lb.

ALSIKE CLOVER (Trifolium hybridum).—Price 2*s.* per lb.

CRIMSON ITALIAN CLOVER (Trifolium incarnatum).—Price 6*d.* per lb.

YELLOW SUCKLING CLOVER (Trifolium filiforme).—Price 1*s.* per lb.

BOKHARA CLOVER (Melilotus leucantha major).—2*s.* p. lb

TURNIPS (Brassica rapa).

Swede Turnips.

COMMON PURPLE-TOP SWEDE.—Price 9*d.* per lb., or 5*s.* per gallon.

SKIRVING'S PURPLE-TOP.—Price 9*d.* per lb., or 5*s.* per gallon.

LAING'S IMPROVED PURPLE-TOP SWEDE.—Price 9*d.* per lb., or 5*s.* per gallon.

RENDLE'S IMPERIAL PURPLE-TOP SWEDE.—This variety was introduced by ourselves, a few years ago, and has given great satisfaction to all who have grown it. It is very handsome, having a short neck, small tap roots, and is remarkably solid and heavy; but its most valuable property is in being a very long keeper, and will store longer than any other sort. It is remarkably hardy, and produces a great crop. *This variety is grown exclusively for us by careful growers.* Price 1*s.* per lb., or 6*s.* per gallon.

RENDLE'S HARDY BRONZE-TOP SWEDE.—This variety is extremely hardy, and handsome in shape, being of a globular form, without much neck; the top has a singular bronzy appearance. It has given the greatest satisfaction to all who have grown it. Price 1*s.* per lb., or 6*s.* per gallon.

MATSON'S PURPLE-TOP SWEDE.—Price 1*s.* per lb., or 6*s.* per gallon.

ASHCROFT SWEDE.—Price 1*s.* per lb., or 6*s.* per gallon.

GREEN-TOP SWEDE.—Price 8*d.* per lb., or 4*s.* per gallon.

SCOTCH TURNIPS.

PURPLE-TOP ABERDEEN.—Price 4*s.* per gallon, 8*d.* per lb.

SKIRVING'S IMPROVED PURPLE-TOP YELLOW.—Price 1*s.* per lb., 6*s.* per gallon.

RENDLE'S PURPLE-TOP SCOTCH YELLOW.—*This sort has been lately brought into notice by ourselves, and has given much satisfaction. It is very superior to the old Scotch yellow, being firmer in texture, and much more hardy. We can without hesitation say that it has given* universal *satisfaction.* Price 1*s.* per lb., 6*s.* per gallon.

GREEN-TOP YELLOW BULLOCK.—Price 1*s.* per lb., 6*s.* per gallon.

HOOD'S IMPERIAL LARGE YELLOW GREEN-TOP.—6*s.* per gallon, 1*s.* per lb.

EARLY FIELD GREEN-TOP YELLOW.—6*s.* per gallon, 1*s.* per lb. GORDON'S YELLOW.—6*s.* per gal.; 1*s.* per lb.

Common Turnips—White.

WHITE GLOBE.—6*d.* per lb., 3*s.* per gallon.

POMERANIAN.—Price 4*s.* per gallon, 8*d.* per lb.

WHITE NORFOLK OR WHITE ROUND.—3*s.* per gallon, 6*d.* per lb.

AUTUMN STUBBLE OR SIX WEEKS.—Price 10*d.* per lb., 5*s.* per gallon.

Turnips—White, with Red Tops.

RED GLOBE.—6*d.* per lb., 3*s.* per gallon.

RED NORFOLK.—6*d.* per lb., 3*s.* per gallon.

LINCOLNSHIRE RED GLOBE.—We have had a capital stock of this excellent kind grown expressly for us. It is very superior to the other reds, and has been specially recommended by Philip Pusey, Esq., M.P. Price 5*s.* per gallon, 10*d.* per lb.

SCOTCH TURNIPS.—*Continued.*

Turnips—White, with Green Tops.

GREEN GLOBE.—Price 8*d.* per lb., or 4*s.* per gallon.

GREEN NORFOLK OR GREEN ROUND.—Price 6*d.* per lb., or 3*s.* per gallon.

Tankard Turnips.

These are of an oblong shape, and grow much above the surface of the soil; they are sometimes termed the Decanter shaped Turnips.

YELLOW TANKARD, or called by some the TANKARD SWEDE.—Price 10*d.* per lb., or 5*s.* per gallon.

WHITE TANKARD.—Price 8*d.* per lb., or 4*s.* per gallon.

RED TANKARD.—Price 8*d.* per lb., or 4*s.* per gallon.

GREEN TANKARD.—Price 8*d.* per lb., or 4*s.* per gallon.

Hybrid Turnips.

DALE'S HYBRID.—Price 8*d.* per lb. or 4*s.* per gallon.

THE WOOLTON HYBRID.—We have obtained this new variety from Messrs. Lawson and Son, who recommend it as a very valuable kind, being globe-shaped, and keeps well till March. Price 10*d.* per lb. or 5*s.* per gallon.

BEET (Beta vulgaris hortensis).

SILESIAN BEET.—Price 1*s.* 6*d.* per lb.

LARGE RED BEET.—Price 2*s.* 6*d.* per lb.

CARROTS (Daucus carota).

LARGE WHITE BELGIAN.—Price 8*d.* per lb.

LARGE RED ALTRINGHAM.—Price 10*d.* per lb.

LONG ORANGE.—Price 10*d.* per lb.

SHORT ORANGE.—Price 1*s.* per lb.

LARGE YELLOW BELGIAN.—Price 1*s.* per lb.

Mangold Wurzel (Beta vulgaris campestris).

LONG RED.—Price 6*d.* per lb.

LONG YELLOW.—Price 8*d.* per lb.

LONG WHITE.—Price 1*s.* per lb.

RED GLOBE.—Price 6*d.* per lb.

IMPERIAL, OR OX HORN.—Price 6*d.* per lb.

YELLOW, OR ORANGE GLOBE.—Price 6*d.* per lb.

MORTON'S YELLOW GLOBE.—We have this season procured a most excellent stock from J. C. Morton, Esq., the Editor of the *Agricultural Gazette*; the bulbs have been selected with care, and can be highly recommended. 10*d.* per lb.

PARSNIP (Pastinaca sativa).

COMMON CATTLE.—Price 10*d.* per lb.

LARGE GUERNSEY.—Price 1*s.* 6*d.* per lb.

CABBAGE (Brassica).

LARGE SCOTCH DRUMHEAD.—Price 3*s.* per lb.

DWARF FLATPOLE.—Price 3*s.* per lb.

THOUSAND-HEADED CABBAGE.—Price 2*s.* per lb

LARGE DRUMHEAD SAVOY.—Price 3*s.* per lb.

KOHL RABI, GREEN AND PURPLE TOP, 2*s.* 6 r lb.

EARLY CATTLE CABBAGE.—Price 4*s.* per lb.

RAPE (Brassica rapa).

TRUE DWARF ESSEX.—Price 2*s.* per gallon.

FOREIGN RAPE.—Price 1*s.* 6*d.* per gallon.

LUCERNE (Medicago sativa).—10*d.* per lb.

TREFOIL (Medicago lupulina).

TREFOIL, OR YELLOW CLOVER.—Price 4*d.* per lb.

Bird's-foot Trefoil (Lotus corniculatus).

COMMON BIRD'S-FOOT TREFOIL.—Price 4*s.* 6*d.* per lb.

GREATER BIRD'S-FOOT TREFOIL.—Price 4*s.* 6*d.*, per lb.

SAINFOIN (Onobtrychis).

COMMON SAINFOIN.—Price 1*s.* 6*d.* per gallon.

GIANT SAINFOIN.—Price 2*s.* 6*d.* per gallon.

Yarrow or Common Milfoil (Achillea millefolia).

Price 3*s.* 6*d.* per lb.

Rib or Plantain Grass (Plantago lanceolata).

Price 5*d.* per lb.

Field Peas (Pisum sativum arvense).

BISHOP'S LAST AND BEST—NEW EARLY AGRICULTURAL PEA.—Price 3*s.* per gallon.

Common Furze—Whin or Gorse (Ulex Europæus).

Price 10*d.* per lb.

Common Parsley (Petroselinum sativum).

Price 4*s.* per gallon.

Flax or Linseed (Linum usitatissimum).—8*s.* p. bshl.

White Mustard (Sinapis).—2*s.* per gallon.

Gold of Pleasure (Camelina sativa).—1*s.* per lb.

Full descriptions of all the above will be found in our **NEW AGRICULTURAL SEED CATALOGUE**, which can be had in exchange for **One Penny Stamp.** We have no hesitation in saying that it will be found serviceable to every one engaged in the cultivation of the soil.

Printed by WILLIAM BRADBURY, of No 13, Upper Woburn-place, in the parish of St. Pancras, and FREDERICK MULLETT EVANS, of No. 7, Church-row, Stoke Newington, both in the County of Middlesex Printers, at their Office in Lombard-street, in the Precinct of Whitefriars, in the City of London; and published by them at the office, No. 5, Charles-street, in the parish of St. Paul's, Covent-garden, in the said County, where all Advertisements and Communications are to be ADDRESSED TO THE EDITOR.—SATURDAY, March 27, 1852.

THE GARDENERS' CHRONICLE

AND

AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 14 —1852.] SATURDAY, APRIL 3. [PRICE 6d.

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21, REGENT STREET.

HORTICULTURAL SOCIETY OF LONDON.
PRIVILEGED TICKETS.

The Exhibitions will take place on the Second Saturdays in May, June, and July, namely,

MAY 8, JUNE 12, JULY 10.

All Fellows who shall apply, on or before Tuesday, the 20th of April, may obtain, at the PRIVILEGED RATE of Three Shillings and Sixpence each, any number of tickets NOT EXCEEDING FORTY-EIGHT; but no application for such tickets will be received after that day. *Fellows of the Society subscribing for tickets at this price will be allowed a clear week from the 20th of April during which they may claim them.* AFTER THAT PERIOD ALL THE 3s 6d. TICKETS SUBSCRIBED FOR, BUT NOT ISSUED, MAY BE CANCELLED.

After the 20th of April, any further number of tickets will be delivered to Fellows on their personal application or written order, at the price of *Five Shillings* each ticket.

ROYAL BOTANIC SOCIETY,
REGENT'S PARK.

EXHIBITIONS OF PLANTS, FLOWERS, AND FRUIT: WEDNESDAYS, May 19th, June 9th, and 30th.

AMERICAN PLANTS, SATURDAYS, May 29th and June 5th. ROSES, SATURDAY, June 26th.

Tickets of admission are now ready for delivery, and may be obtained at the Gardens by orders from Fellows of the Society. Price, on or before Saturday, May 8th, 4s.; after that day, 5s.; or on the days of the Exhibitions, 7s. 6d. each. Fellows of the Society may obtain, on or before May 8th, packets of 30 tickets for five guineas.

ALL POST FREE.

CHOICE SEEDS.—Packets of fine Mammoth Brocoli Asiatic Cauliflower, Giant Curled Parsley, gigantic Cos Lettuce, Mitchell's Enfield, Cormack's, and Barnes' superior early Cabbages, Coles and Seymour's fine Celery, the best kinds of Cucumber, Melon, and Vegetable Marrow, at 6d. each packet: Fine mixed German Asters, Stocks, Calceolaria, Cineraria, Portulacca, Giant Victoria Stock, Canary Creeper, Zinnias, Balsams, Cobea scandens, Coxcomb, Ice Plant Sensitive, Auricula, Dahlia, Pinks, Polyanthuses, Geranium, Pansy, Sweet Violet, and dbl. Sweetwilliam, 6d. each pkt. 100 pkts. of Annuals, Biennials, and other Seeds, fit for present sowing, warranted new, for 5s.; 50, for 3s.; 26, for 2s. 6d.; 12, for 1s. Superior Mignonette, own saving, warranted to grow well, at 6d. per oz. A few packets of extra fine Balsam, at 1s. per packet. With each order a Catalogue will be sent, containing Hints on Sowing, &c., or it may be had for Two Stamps, on application to JOSEPH GOLDING, Seedsman, Hastings.

J. AND J. FRASER, NURSERYMEN, &c., Lea Bridge Road, Essex, beg leave respectfully to invite attention to their superior Stock of Specimens of STOVE and GREENHOUSE PLANTS, CHINESE AZALEAS, and CAPE HEATHS, which were never in finer condition than at this time. The plants are of all sizes, varying from one foot to five feet high. The prices, which are moderate, can be had on application.

CHEAP BEDDING PLANTS FOR THE MILLION.

JOHN HAYES, FLORIST, Farnham, Surrey, begs to say that he is prepared to send out Bedding Plants at from 1s. to 2s. 6d. per dozen. The Verbenas, in pots, are unusually good, having been kept in the cold frames all the winter, and may be put out with safety at the latter end of April. Descriptive Catalogues sent on the receipt of one postage stamp.

Tiny seeds, of a good CUCUMBER, from 12 to 14 inches long, will be sent for 12 postage stamps.

AMERICAN NURSERY, BAGSHOT, SURREY.

JOHN WATERER begs to announce that he has published a new CATALOGUE of Hardy Rhododendrons, Azaleas, Roses, Conifers, &c., and which may be obtained by enclosing two postage stamps.

The names of all the Rhododendrons worthy of cultivation are described; thus purchasers are afforded every facility in making selections.

CARNATIONS, PICOTEES, PINKS, PANSIES, ETC.

JOHN HOLLAND, Bradshaw Gardens, Middleton, Lancashire, having a very large collection of the above beautiful Flowers, offers them at the following low prices, hamper, &c., included:—

	£	s.	d.
25 Pairs of show CARNATIONS, in 25 different vars.	1	0	0
25 Pairs of show PICOTEES, in 25 different varieties	1	0	0
25 Pairs of show PINKS	0	8	0
25 Plants of show PANSIES, in 25 different varieties	0	10	0

AURICULAS, ALPINES, POLYANTHUS, &c.

Catalogues on application, enclosing a postage stamp. Post-office orders to be made payable at Middleton, Lancashire.

PRIZE MANGOLD WURZEL.—The quality of a crop of Mangold Wurzel depends very materially upon the size and the shape of the bulbs from which the seed is saved; and we have, after several years' selection, obtained a very superior stock of the YELLOW GLOBE-SHAPED MANGOLD.

We are daily receiving orders from customers, desiring us to send the same sort as last year; and a Clergyman writing from Ripon, Yorkshire, says—"*I enclose you a list of the Prizes which I obtained, mostly from your seeds. The Mangold was the best I ever saw.*" And a gentleman writes from Torquay—"*I had a splendid crop of each sort of Mangold, but the Yellow Globe are the best. My neighbours all ask me where I procured my seed, so you may expect many orders from this part.*"

We have also good stocks of Long Red, Red Globe, and Long Yellow. Price of either sort, 8d. per lb.: or, 56s. PER CWT, IN QUANTITIES OF NOT LESS THAN 28 LBS.

Also, TRUE LARGE WHITE BELGIAN CARROT, 9d. per lb., or 60s. PER CWT. IN QUANTITIES OF NOT LESS THAN 28 LBS.

Carriage free as see our Advertisement in the GARDENERS' CHRONICLE *of 20th May.*

*** *Instructions on the Cultivation of Root Crops will be enclosed in each parcel.*

JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

HOSEA WATERER'S Descriptive Catalogue of AMERICAN PLANTS, CONIFERS, ROSES, &c., is just published, and may be had on application, enclosing two postage stamps, to Mr. HOSEA WATERER, Knap Hill Nursery, Woking, Surrey.

HENRY GROOM, CLAPHAM RISE, near London, FLORIST BY APPOINTMENT TO HER MAJESTY THE QUEEN, and to HIS MAJESTY THE KING OF SAXONY, begs to say that his Spring Catalogue of PELARGONIUMS and NEW PLANTS is ready, and will be forwarded by post on application.

SEED AND HORTICULTURAL ESTABLISHMENT, SUDBURY, SUFFOLK.

PRIZE GERANIUMS.

The following are the 14 which stand first as the most successful Prize varieties at the London Exhibitions of 1851, as described by scale given in "The Florist" of December. We beg to offer the 14 for 18s, or any 6 for 9s., viz., Star, Forget-me-not, Gulielma, Rosamond, Conspicuum, Pearl, Centurion, Salamander, Rowena, Constance, Negress, Norah, Ariel, and Alonzo.

25 superb varieties, including the above. These contain, also, many newer varieties which have not yet been so freely exhibited. The 25 for 35 0

25 fine show varieties 22 0

We have also a large stock of the following very fine and strong:—

BEST NEW VARIETIES OF LAST SEASON.

The following 12 for 50s., or any 6 for 27s.

Hoyle's Ajax.	Beck's Major Domo.
,, Ocellatum.	,, Silk Mercer.
,, May Queen.	,, Tyrian Queen.
,, Generalissimo.	Rundle's Beauty of Montpelier.
,, Cardinal.	Walton's Village Maid.
Bragg's Exquisite.	Foster's Knight of Avenal.

FANCY GERANIUMS.

Any 12 of the following for 12s.:—Alboni, Beauty, Bouquet Tout Fait, Hero of Surrey, Jehu, Jehu improved, La Belle d'Africana, Lady F. Hastings, Maid of Adjou, Magnifica, Modesta, Queen Victoria, Statiuskii, Village Maid, Wintonia, Yeatmanianum, and Zelia.

BEST NEW FANCY OF LAST SEASON.

The following 9 varieties for 28s.

Ambrose's Belle Marie.	Sheppard's Little Wonder.
,, Gaiety.	Henderson's Marion.
,, Delicata.	,, Reine de Fleurs.
Sheppard's Miss Sheppard.	,, Prince Albert.
Henderson's Exquisite.	

ACHIMENES.

The following 12 beautiful varieties for 10s.

Beaumanii.	Longiflora alba.
Bodnerii.	Magnifica purpurea.
Coccinea grandiflora.	Multiflora.
Escheriana.	Patens major.
Fimbriata.	Tugwelliana.
Kleii.	Venusta.

12 fine varieties ... ... 6s.

GLOXINIAS.

Alba grandiflora	2s. 6d.	Maria Van Houtte	2s. 6d.
Argyrostigma	2 6	Marginata	2 6
Exquisite	2 6	Petolana	3 6
Frederick Lenning	2 6	Pulcherrima	2 6
General Bandraud	2 6	Spectabilis	2 6
Godfroid de Bouillon	2 6	Victoria Regina	2 0

The above 12 for 20s., or any 6 for 12s.

NEW AND SELECT PLANTS.

Strong and fine.

Capanea grandiflora, 1s. 6d., 3s. 6d., 5s.	Hoya bella, fine plants, 1s. 6d., 2s. 6d.
Allamanda nerifolia, 2s. 6d.	Medinilla magnifica, 10s. 6d., 15s.
Ageimyla staminea, 3s. 6d., 5s.	Dielytra spectabilis, 1s. 6d.
Cuntua dependens, 1s. 6d., 2s. 6d.	Deutzia gracilis, 2s. 6d., 3s. 6d.
Hoya bella, with flower buds, 3s. 6d.	Escallonia macrantha, 3s. 6d., 5s.

SPRING CATALOGUES sent, prepaid, for four postage stamps; and AUTUMN CATALOGUES, containing most of the Hardy Plants, for two postage stamps, which may be deducted from orders.

GOODS, CARRIAGE FREE, to London, Ipswich, Norwich or any station on the same line; and with orders of 2l. and upwards extra plants added gratis.

Remittances requested from unknown correspondents.

Post-office orders to be made payable to STEPHEN BROWN, or to

BASS AND BROWN SUDBURY SUFFOLK.

SUPERIOR GLOBE GERMAN ASTER,
(SAVED BY AN AMATEUR.)

WILLIAM E. RENDLE AND Co. have much confidence in offering a very superior sort of GLOBE ASTER SEED, saved by an Amateur in the neighbourhood of Bath, who says:—"The sort was given to me by a friend in the neighbourhood, who has taken first prizes for several years following; and I have been equally successful. I have shown them at Bath and other places, and have always been first; indeed, no other sort has any chance with them, and I am perfectly satisfied that when you see a good bed of them in your gardens you will throw away all others."—1s. per packet.

All other Flower Seeds can be obtained at a moderate scale of charge.

Every one who has a Garden should have a packet of this Seed.

PARSLEY, RENDLE'S TREBLE GARNISHING, proved by the London Horticultural Society, and described in their Journal as being "*beautifully curled, and an excellent variety.*"—6d. per packet. This should be grown in every garden.

Apply to WILLIAM E. RENDLE and Co., Seed Merchants, Plymouth.

NOTICE.—The following New and Superb Varieties of SEEDS can be warranted to give satisfaction to all purchasers, viz.:—

HOLLYHOCK SEED.

This beautiful flower, from which a quantity of good sound seed has been procured from a gentleman amateur grower, who has one of the most superb and choice collections in cultivation; the Seed having been selected with every care and attention, it can be confidently recommended. Sold at 2s. 6d. per packet.

GERMAN ASTER SEED.

This variety has, within the last few years, been awarded upwards of 60 different prizes, and it stands unrivalled for its superiority of flower, the shape of which forms half a globe, and has been the admiration of numberless spectators. There are from 20 to 30 varieties. 1s. per packet.

SWEET WILLIAM SEED.

Saved from 36 superb varieties. The flowers are very large, splendid colours, and of dwarf habit. They were much admired when in bloom by countless spectators, and the seed numerously ordered by them. 1s. per packet.

ANTIRRHINUM SEED.

This has been selected with the greatest care from some of the finest and most superb varieties ever grown, both as to shape, colour, and habit of plant. There are more than 50 distinct and different varieties. 1s. per packet.

EXTRA FINE GIANT SCARLET BROMPTON STOCK SEED.

Unrivalled for its superior size and bright scarlet colour, also beautifully double; length of the spike of flower from 15 to 20 inches. Large packets 1s. each; or, if preferred, a packet of each of the above will be sent, postage and package free, for 5s.

Walcheren Cauliflower	Broccoli (as imported), 1s. per packet.
Tamworth Broccoli	1s. ,,
Wilcove Broccoli	1s. ,,
Cole's superb solid Celery	6d. ,,
Bath Cos Lettuce Seed, true; the best and finest flavoured Lettuce in cultivation	1s. ,,
Vegetable Marrow Seed, of very superb variety and delicious flavour	6d. ,,

A remittance must accompany the order from all unknown correspondents, either by Post-office order or penny postage stamps, on receipt of which the Seeds shall be immediately sent.

Sold by EDWARD TILEY, Nurseryman, Seedsman, and Florist, 41, Abbey Churchyard, Bath.

IMPROVEMENT OF PARKS, MEADOWS, AND PASTURES.

SUTTON'S RENOVATING MIXTURE consists of true Perennial Grasses and Clovers of the most nutritious kinds, viz.:—

Poa pratensis	Phleum pratense
,, trivialis	Avena flavescens
Festuca pratense	Trifolium repens
,, ovina	,, minus
Lolium perenne	,, pratense perenne
Anthoxanthum odoratum	

Great improvement is invariably effected by sowing 6, 10, or 12 lbs. to the acre, according to condition of pasture, over the old turf during the month of April.

Price 10d. per lb., carriage free, as see our Advertisement in the last page of the *Chronicle* of March 20

JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

EDWARD GEORGE HENDERSON AND SON, Wellington-road, St. John's-wood, London, beg to remind those who intend to purchase any of the following New Plants, to be sent out after the 1st of May, that all orders will be booked as received and executed in rotation.

Fuchsia	Commodore (show flowers)	Antirrhinum	Hendersonii
,,	Splendidissima, do	Calceolaria	Wellington Hero
,,	Gem of the Season, do.	,,	Tom Thumb
,,	Pendula, do.	Chrysanthemum	Hendersonii
,,	Exquisite	Delphinium	Hendersonii
,,	Hendersonii (double flower)	Erica	Elegantissima
,,	Darling (bedding variety)	,,	Nobilis
,,	Globosa perfecta, do.	Geranium	Hendersonii
,,	Pet, do.	,,	Extravaganzum
		,,	Odoratissimum grandiflorum
		Heliotropium	Voltaireanum

For Description and Prices of the above, see back numbers of this Paper—Feb. 28, March 6 and 13. The Trade supplied, with our usual discount.

EXHIBITIONS IN THE GARDEN

OF THE

HORTICULTURAL SOCIETY OF LONDON,

(21, REGENT-STREET),

FOR THE YEAR 1852.

THE EXHIBITIONS WILL TAKE PLACE ON THE SECOND SATURDAYS IN MAY, JUNE, AND JULY.

SCHEDULE OF THE PRIZES.

FLOWERS.

(Pots are to be measured inside, one inch below the rim.)

Division I.—IN WHICH NURSERYMEN AND PRIVATE GROWERS EXHIBIT INDEPENDENTLY OF EACH OTHER.

1. Pelargoniums; in collections of 12 new and first-rate varieties, with perfectly distinct colours, cultivated with superior skill, in 8-inch pots. GB—SG—CE.

   N.B. The collections in which the varieties are most distinct *will have the preference.*

2. Pelargoniums; in collections of six varieties, in 11-inch pots. SG—CE—LS.

   N.B. Any plant that shall not have been actually grown in 11-inch pots will be disqualified.

3. Fancy Pelargoniums; in sixes, in 8-inch pots. SG—CE—LS.
4. Scarlet Pelargoniums; in sixes, in 8-inch pots. (*In July only.*) CE—LS—SK.
5. Roses, in pots; in collections of 12 distinct varieties, in 13-inch pots. GB—SG—CE. (*In May and June only.*)

   N.B The Judges will disqualify any collection that shall be found to contain a plant which has been recently placed in the pot from the open ground, or that is shown in a pot of any other size than 13 inches.

6. Cape Heaths; in collections of 10 entirely distinct varieties. GB—SG—CE.

   N.B. It is expected that the same plant shall not be exhibited on more than one occasion. The Judges, in making their award, will give, both in this and the two next numbers, a marked preference to plants grown in their natural forms, without stakes or stays; and will also take distinctness of species into favourable consideration. No duplicate will be allowable. No one can take more than one prize in the three classes of Heaths.

7. Cape Heaths; in collection of 10 entirely distinct varieties, in 11-inch pots. SG—CE—LS.
8. Cape Heaths; in sixes; grown in 8-inch pots. CE—LS—SK.
9. Carnations; in collections of 12 distinct varieties, in 11-inch pots. CE—LS—SK. (*In July only*).
10. Carnations; in collections of 24 distinct varieties (*in July only*), in growers' boxes. LS—SK—SB.
11. Picotees; in collections of 12 distinct varieties. CE—LS—SK. (*In July only.*)
12. Picotees; in collections of 24 distinct varieties (*in July only*), in growers' boxes. LS—SK—SB.
13. Yellow Picotees; in collections of 6 distinct varieties, in 11-inch pots (*in July only*). LS—SK—SB.
14. Yellow Picotees; in collections of 12 varieties (*in July only*), in growers' boxes. SK—SB—C.
15. Pinks; in collections of 12 distinct varieties. SK—SB—C. (*In June only.*)
16. Pinks; in collections of 24 distinct varieties, in growers' boxes. (*In June only*). SK—SB—C.
17. Calceolarias, in sixes; in 8-inch pots. CE—LS—SK.

    N.B. No medals are to be awarded unless the plants are in very high health and extremely well grown. (*In May and June only.*)

Division II.—IN WHICH NURSERYMEN ALONE CAN SHOW.

18. Exotic Orchids; in collections of 15 species of superior cultivation. GB—SG—CE.

Division III.—IN WHICH ALL PERSONS ARE ADMITTED TO EQUAL COMPETITION.

19. Single specimens of very superior cultivation, excluding everything which can be shown singly in other numbers, and plants not in flower. CE—LS—SK.

    N.B. No one can take more than one prize in this number.

20. Stove or Greenhouse plants; in collections of 20 plants. LG—GK—GB.

    N.B. Calceolarias, Fuchsias, Orchids, and Pelargoniums are excluded from all the four classes of Stove or Greenhouse plants. Only three species or varieties of the same genus can be allowed in this and the following number, and no two specimens of the same kind.

21. Stove or Greenhouse plants; in collections of 15 plants. GK—GB—SG.
22. Stove or Greenhouse plants; in collections of 6 plants, in pots or tubs not less than 20 inches in diameter. GK—GB—SG.

    N.B. Only two species or varieties of the same genus can be allowed in this number.

23. Stove or Greenhouse plants; in collections of 6 plants, in pots not exceeding 13 inches in diameter. SG—CE—LS.

    N.B. Not more than one species or variety of the same genus can be allowed in this number. No one can show in more than one of the classes of Stove or Greenhouse plants except No. 22.

24. Greenhouse Azaleas; in 12 distinct varieties. GB—SG—CE.
25. Greenhouse Azaleas; in 6 of the newer kinds, in 8-inch pots. SG—CE—LS.
26. Greenhouse Azaleas; in 6 distinct varieties. SG—CE—LS.

    N.B. No one can show in 24 and 26 at the same time.

27. Indian Rhododendrons, and their hybrids; in 6 distinct varieties, SG—CE—LS. (*In May only.*)
28. Exotic Orchids; in collections of 20 species of superior cultivation. LG—GK—GB—SG—CE—LS—SK—SB—C.
29. Exotic Orchids; in collections of 10 species of superior cultivation. GB—SG—CE—LS—SK—SB—C.
30. Exotic Orchids; in collections of six species. SG—CE—LS—SK—SB—C.

    N.B. Nurserymen cannot show in either of these three classes of Orchids. No exhibitor can show in more than one of them.

31. Exotic Orchids; single specimens displaying *very* superior cultivation. SG—CE—LS.

    N.B. No duplicate Medals can be here awarded. No person exhibiting Orchids elsewhere can take more than one prize in this number. The medals will be awarded by the Society's officers, and not by the usual judges.

32. Fuchsias; in sixes, of distinct colours. CE—LS—SK. (*In July only.*)
33. Pelargoniums; in six DISTINCT SPECIES, exhibiting superior cultivation. LS—SK—SB.

    N.B. By the word species is meant the wild kinds imported from the Cape of Good Hope, or New Holland, tuberous species inclusive, and not garden cross-breds.

34. Achimenes; in collections of six distinct varieties, exhibiting superior cultivation. CE—LS—SK. (*In July only.*)
35. Tall Cacti; six distinct varieties in flower. SG.—CE—LS.
36. Roses of 50 varieties in loose bundles, each consisting of three trusses as they are gathered, so as to exhibit, as far as possible, the habit of the variety. CE—LS—SK. (*In July only.*)

    N.B. No one who exhibits in this number can also compete in the following.

37. Roses, exhibited as in No. 31, and in 25 varieties. LS—SK—SB. (*In June and July only.*)

    N.B. Private growers only can exhibit here. If Roses are brought for exhibition without attention to the regulations here explained, they will not be allowed to compete.

38. Helichrysums. CE—LS—SK.
39. Calosanthes; in sixes. LS—SK—SB. (*In July only.*)
40. Ferns; very distinct hothouse kinds, not fewer than 10, to be shown intermixed with Orchids. CE—LS—SK.
41. New Hybrid Plants, exclusive of Roses, Rhododendrons, Azaleas, and garden cross-breds, such as Gloxinias and the like. SG—CE—LS.

    N.B. It is certain that much may be effected by hybridising plants in common cultivation, such as Lilacs, Honeysuckles, &c. &c. This class will be judged by the Society's officers.

42. Newly introduced or extremely rare ornamental plants in flower, not introduced by the Society. SG—CE—LS.

    N.B. These Medals will be awarded by the Society's officers, and not by the usual Judges. Exhibitors will particularly observe that none but new or rare plants can be exhibited under this number. *Nothing will be regarded as new which has been exhibited in the Garden or Regent-street in a previous season*, nor garden seedlings, hybrids, nor domesticated varieties of any kind. No prizes will be given to New Plants which have been introduced through the Society.

43. Miscellaneous single plants. SK—SB—C.

    N.B. Exhibitors in this class will not be thereby *entitled* to a pass ticket. Cockscombs, Heartsease, Hydrangeas, and bouquets, together with all plants for which separate prizes are offered as single specimens, are altogether excluded from this and the following Number.

44. Miscellaneous collections of plants, exclusive of Ferns. SG—CE—LS.
45. Seedling Hybrid Pelargoniums, of entirely new crosses. SB—C.

    N.B. Every seedling must be shown singly, and marked with the name it is to bear. The same seedling cannot gain a prize more than once in the season. The plants must be shown in pots, and not in a cut state.

46. Pansies; in twelves, in 8-inch pots. SK—SB—C.
47. Alpines; in twelves. SK—SB—C.
48. Cinerarias; in sixes, in 8-inch pots. SK—SB—C. (*In May only.*)

    N.B. Prizes will only be given to extremely fine specimens.

49. Seedling Florists' Flowers.

The mode of dealing with these is still under consideration.

FRUIT.

For the month of May no Schedule is proposed; but Fruit will be rewarded by the Judges according to its merits, and with reference to the following Schedule of Prizes for June and July.

Market Gardeners, or Growers (not Fruiterers), in the habit of supplying the Market, and Private Gardeners, exhibit independently of each other. Fruiterers are not allowed to exhibit at all. No duplicate awards can be made in any case whatever. No person can take more than one award in each Letter, except in **B, D, H, K, L, M, N.**

N.B. All Fruit must be sufficiently ripe for Market, WELL COLOURED, and PROPERLY NAMED by the Exhibitor, as far as practicable; if the contrary, it will be disqualified.

A Collections of six Pine Apples, not including more than two of a sort. SG—CE—LS.

B Pine Apples, in single specimens:—
1. Queens. CE—LS—SK.
2. Enville, Cayennes, Sugarloafs, Black Jamaicas, Otaheites, &c. CE—LS—SK.
3. Providences. CE—LS—SK.

C Grapes in pots; three specimens to be shown. CE—LS—SK.

D Grapes; in three bunches for private growers, and six bunches for Market Gardeners:
1. Black Hamburgh. CE—LS—SK.
2. Black Prince, or West's St. Peters. CE—LS—SK—SB.
3. White Muscadines, or Sweetwaters. CE—LS—SK—SB.
4. Muscats. CE—LS—SK—SB.
5. Frontignans, or other sorts, distinct from the foregoing. CE—LS—SK—SB.

E Peaches, in sixes. LS—SK—SB.

F Nectarines, in sixes. LS—SK—SB.

G Figs, in sixes. SB—C.

H Cherries, in dishes of 1 lb. each:
1. Black. SK—SB—C. 2. White. SK—SB—C.

I Strawberries, in pots; six pots to be shown. SK—SB—C.

N.B. They must have grown in the pots in which they are shown.

K Strawberries, one dish each:
1. British Queen, and similar kinds. SK—SB—C.
2. Keens' Seedling, and similar kinds. SK—SB—C.
3. Other kinds. SK—SB—C.

L Melons, one specimen each, for the best flavoured.
1. Green-fleshed. SK—SB. 2. Scarlet-fleshed. SK—SB.

M New varieties of any of the preceding kinds of fruit.

N Other kinds of fruit of peculiar excellence and value.

N.B. The medals under this and the preceding letter will be given at the discretion of the Society's officers.

FRUIT TREES, ETC.

H. BIGLAND AND Co., NURSERYMEN and SEEDSMEN, Manchester, beg to offer APPLE and PEAR TREES, &c., at the following very low prices:—

Standard Apple Trees ... ... 9*s.* per dozen.
Do. Pear Trees ... ... 12*s.* ,,
Trained do. for walls ... 30*s.* ,,

H. B. and Co. beg also to call attention to their complete Collections of VEGETABLE and FLOWER SEEDS, to suit any sized Gardens, which they keep ready put up, for particulars of which see their printed Catalogue, which may be had on application.

N.B. Carriage paid on all orders of 2*l.* and upwards.

WOODLANDS NURSERY, MARESFIELD, NEAR UCKFIELD, SUSSEX.

WM. WOOD AND SON have to offer the following:—

	Per dozen—*s.*	*d.*
CHRYSANTHEMUMS, Continental varieties	...6*s.*, 9*s.* 12	0
DAPHNES, very fine	...18*s.* to 24	0
EPACRIS	... 12	0
HERBACEOUS PLANTS, fine collection, 42*s.* p. 100	...6*s.* to 12	0
PENTSTEMONS	... 6*s.* to 9	0
PHLOXES	... 6*s.* to 9	0
Do. new Continental varieties	... 12	0
CAULIFLOWER PLANTS, very strong, per 100	... 4	6

Plants presented for distant carriage.

GEORGE BAKER'S DESCRIPTIVE CATALOGUE OF AMERICAN PLANTS, CONIFERÆ, ROSES, ORNAMENTAL SHRUBS, FRUIT AND FOREST TREES, &c., may be had on application, by enclosing two postage stamps.—Windlesham Nursery, Bagshot, Surrey.

DOUBLE ITALIAN TUBEROSE ROOTS, 4*s.* per dozen.—The annual importation of the above-named beautiful and fragrant Flower has just been received, and large and well selected Bulbs may be obtained, without disappointment, at A. CORBETT'S Foreign Warehouse, 18, Pall-mall.

N.B. Printed regulations for treatment sent; also, just arrived, very moist and open Parmasan Cheeses.

BASS AND BROWN'S SEED AND PLANT LIST for 1852 (containing 36 pages) now sent prepaid for four postage stamps, as the newspaper-stamped copies are disposed of. Also, for two postage stamps, their Autumn Catalogue, containing the Hardy Herbaceous Plants, Roses, and various select and new Hardy Plants, Climbers, &c., kept for sale in pots.—Seed and Horticultural Establishment, Sudbury, Suffolk.

HEPATICAS.

WILLIAM FIELD, FLORIST, Flookersbrook, Chester, can still supply strong three and four-year-old plants of the above, in equal quantities of White, Blue, and Red, at 2*s.* per 100, or 10*l.* 10*s.* per 1000. The above are good, and can be confidently recommended. Remittance or reference from unknown correspondents. Catalogues of Herbaceous Plants on application.

NEW AND BEAUTIFUL PLANTS, to be sent out the FIRST WEEK IN APRIL, 1852, from the PINE-APPLE NURSERY, by A. HENDERSON AND CO., Pine-apple Place, Edgeware Road, London.

ANTIRRHINUM PRIMROSE PERFECTION (EDWARDS'S).—Clear primrose yellow, of a fine upright growth, combined with an excellent dwarf close and bushy habit; flowers individually large. As a showy hardy herbaceous bedding plant, few can equal this for its brilliant and chaste colour. 5*s.*

BALSAMIA LATIFOLIA ALBA (from Ceylon).—This very beautiful plant has an elegant light green foliage, and a dwarf branching habit. Its manner of flowering and form of bloom are like the well-known Balsamia latifolia, except in colour. Flowers snowy white, large, and of a waxy texture. This fine plant was received from the Superintendent of the Ceylon Botanic Garden, as Impatiens latifolia alba.—N.B. This will prove a valuable exhibition plant, flowering as it does so abundantly; and during the months when exhibitions generally take place. 10*s.* 6*d.*

DILLWYNIA SCABRA.—This very beautiful and rare evergreen shrub has been long known to botanists; but has only recently been introduced by A. HENDERSON and Co. In habit it is dwarf and branching, producing very copiously innumerable clusters of bright rich scarlet pea-shaped flowers with a brilliant yellow edge. It possesses the peculiar merit of throwing out its clusters of flowers all up the stem, each cluster having 9 to 10 flowers. As an exhibition plant it will stand pre-eminently forward. 21*s.*

PULTENÆA ERICOIDES.—A very distinct and pretty flowering evergreen greenhouse shrub, having small leaves similar to an Erica, and flowers of a yellow brown and rosy purple hue, produced in heads on the spex of the branches. It is a profuse bloomer, and can easily be trained to form a compact bush, as it never attains a large size. 10*s.* 6*d.*

DILLWYNIA DRUMMONDII.—This very fine plant, with vivid green foliage, is an evergreen shrub of slender habit, producing most freely its pea-shaped blossoms; flowers, buff and red, with a yellow centre. This is, without exception, one of the most beautiful amongst the many fine plants from Australia. 21*s.*

GLOXINIA TRICOLOR.—Colours clear waxy rose, edges lighter, approaching to white, with a beautiful and peculiar purplish tinge in the throat. Shape fine, expanding after the manner of the well-known G. grandis, which, for form and unique shape, stands conspicuous at the head of this lovely tribe of flowers. 7*s* 6*d.*

GREVILLEA LAVENDULACEA (of Henfrey), SYN. ROSEA (of Lindley).—This has been most justly described by Dr. Lindley as "the very handsomest of all the Grevilleas." A very beautiful unique shrub, of a slender growth, producing its rich rosy red flowers very copiously. In style of growth and bloom it is like G. rosmarinifolia, but is much more elegant in appearance, and a freer bloomer. 21*s.*

DILLWYNIA CINNABARINA.—A lovely and neat evergreen shrub from New Holland. Flowers profusely; colour a rich cinnabar or orange-scarlet, foliage dark green, and thickly set on robust stems. An extra desirable plant for the exhibition tent, and for decorative purpose, either as a pot plant or to be planted in the border of a conservatory. 21*s.*

THE GIANT SCARLET GERANIUM "DEFIANCE."—This very remarkable Geranium is a cross; or seedling, between Rigby's Queen and the true Shrubland; it is far superior to either, inasmuch as it partakes of the free flowering habit of the one, with the large trusses of flowers and foliage of the other. Its fine habit, wondrous truss (producing generally 100 flowers on every head of bloom), its brilliant colour, and magnificent foliage, render this a truly superb plant. It is very suitable for large beds, for training against walls at the back of conservatories, and as a single plant trained bush fashion—or as a pyramid placed on a lawn, and for such like decorative purposes. 10*s.* 6*d.*

GLORIOSA PLANTII (Mr. Plant's Gloriosa).—This will be found a great acquisition to that fine but small tribe of plants, the Gloriosa. A considerable number of its roots were sent over to this country from Natal, in southern Africa, by Mr. Plant, an English collector settled in that place, who discovered it there, and it is named after him. The following is a copy of the letter he sent with them:— "* * * "I believe it to be undescribed; the plant does not rise more than 3 feet; the first whorl of flowers is produced about 1 foot from the ground; a second and a third are afterwards produced, at about equal distances. The flowers have much more scarlet in them than is common in G. superba. It will be a great acquisition in England, from its brilliant colour, and its not growing taller than Van Houtte's Alstromerias. Quite upright, and of a very distinct habit." 21*s*

PHLOX DRUMMONDII MAYII VARIEGATA.—A beautiful purplish crimson and white flowered Phlox; one of the prettiest varieties, according to Dr. Lindley, that has ever been raised for bedding purposes; it will also be very valuable for pot culture. The plant is of a free branching habit, and an abundant bloomer, suitable for pegging down in beds, or for training against low walls; flowering season from May to November. Among bedding plants this is, no doubt, the most lovely gem of the season, and, as such, far superior to the "Mountain of Light." 10*s.* 6*d.*

PHLOX DRUMMONDII THOMPSONII.—A variety of a most brilliant scarlet maroon colour, with a purplish eye. It has a remarkably bushy and free branching habit of growth, and is easily propagated by cuttings of the young branches. An entire bed of this Phlox would be very effective, and a great addition to the flower garden. 5*s.*

THE GERANIUM "WHITE UNIQUE."—Foliage and habit superior to the old purple Unique, with leaves highly scented. It produces abundantly its trusses of white flowers, in which, being of a globular form, every bunch of flower is a bouquet of itself. It partakes of the character of Tom Thumb in its low branching habit; very effective for vases, bedding, edgings, or for mixing with the old Unique. 15*s.*

FANCY GERANIUM "UNIQUE."—Top petals rich crimson, with clear white margin; under petals white, with a belt of light crimson; centre, clear white, and of excellent form. 10*s.* 6*d.*

FANCY GERANIUM "JEWESS."—Top petals deep velvety crimson, with white margin; under petals white, spotted with violet; flowers large, and of fine form; habit dwarf and compact. 10*s.* 6*d*

IPOMŒA PALMATA, figured in the "Magazine of Botany," February, 1852.

This very beautiful climber is suitable for a greenhouse or warm border out of doors during the summer and autumn months; flowers most profusely; colour rose, suffused with purple; foliage ever elegant and beautiful.

STANDISH AND NOBLE, NURSERYMEN,
BAGSHOT, SURREY,

Solicit attention to the following List of ORNAMENTAL PLANTS, selected from their general Nursery Stock. The greater portion are growing in the open quarters; and, from being periodically transplanted, their safe removal may be relied on. Every Plant sent out will be a healthy, robust specimen; the heights given afford but a slight criterion of their general character. To those having a star prefixed they invite special attention, as being remarkably fine, and fit for producing immediate effect. Gentlemen about to plant extensively would be repaid by making a visit to the Nursery.

All kinds of Ornamental Trees and Shrubs supplied. A fine Collection of Roses selected with reference to late autumnal blooming. Also of the best kinds of late-flowering hardy hybrid Rhododendrons, to the cultivation of which especial attention is given.

* * *Gentlemen requiring assistance in laying out or improving their grounds may procure the services of a competent person by applying to the Advertisers.*

With the exception of such names as are printed in italics, the whole of the plants in this list are perfectly hardy.

The number of inches named refer to the heights, unless otherwise stated.

ABIES BRUNONIANA, 12 ins., 2*s.* 6*d.*; 24 ins., 5*s.*, each.
" JEZOENSIS, one year's seedlings, 21*s.* each.
This is one of the last novelties in Conifers. It forms a noble tree of 120 feet in height, and of very distinct character.
" DOUGLASII, 20 to 36 ins., 5*s.* to 10*s.* 6*d.* each.
ARAUCARIA IMBRICATA, 6 to 9 ins., 1*s.*; 12 ins., 2*s.* 6*d.*; 18 ins., 3*s* 6*d.*; 24 ins., 5*s.*, each.
AZALEA, "Glory of Sunning Hill," 2*s.* 6*d* to 5*s.* each.
The best double variety in cultivation.
" OVATA, a hardy evergreen, 6 to 9 ins., 2*s.* 6*d.* each.
" *VITTATA*, a specimen of this unique variety was awarded a Knightian medal, when exhibited last April at the rooms of the Horticultural Society. The ground colour of the flowers is white, which is beautifully striped with purple, after the manner of a Carnation. It is a very free bloomer. 9 ins., 21*s.* each.
ABELIA UNIFLORA, new and distinct. A very free bloomer, 10*s.* 6*d.* each.
BUXUS sp., from north of China, round leaved, 10*s.* 6*d.* each.
" " " long leaved, 15*s.* each.
BERBERIS FORTUNII, 9 ins., 1*s.* 6*d.*; 12 ins., 2*s.*; 18 ins., 3*s.*; 24 ins., 5*s.* each.
" DARWINII, 7*s.* 6*d.* to 21*s.* each.
* CEDRUS AFRICANA, 18 ins., 2*s.* 6*d.*; 24 ins., 3*s.* 6*d.*; 30 ins., 5*s.*; 36 ins., 7*s* 6*d.*; 48 ins., 10*s.* 6*d.* each.
* " DEODARA, 2 to 5 ft., 2*s.* 6*d.* to 10*s.* 6*d.* each.
* CRYPTOMERIA JAPONICA, seedlings, very robust plants, will require no support from stakes. Plants 4 to 5 ft. high have stems as many inches in circumference. 6 ins., 63*s.* per 100. 24 ins., 2*s.* 6*d.*; 36 ins., 3*s.* 6*d.*; 48 ins., 5*s.*; 60 ins., 7*s.* 6*d.* each.
" JAPONICA NANA, seedlings 9 to 12 inches through, 10*s.* 6*d.* to 21*s.* each.
*CUPRESSUS FUNEBRIS, seedlings, very robust plants, from the open border, nearly as wide as high, very handsome plants, 12 ins., 5*s.*; 18 ins., 7*s.* 6*d.*; 24 ins., 15*s.*; 30 ins., 21*s.*; 36 ins., 31*s.* 6*d.* each. Cuttings, 6 to 8 ins., 2*s.* 6*d.* each.
* " ELEGANS, a rapid grower, and a most graceful tree, 12 ins., 2*s.* 6*d.*; 24 ins., 3*s.* 6*d.*; 36 ins., 5*s.*; 48 ins., 7*s.* 6*d.* each.
* " GOVENIANA.—This is one of the most beautiful plants of its class. It has the merit of preserving its beautiful green colour during the most severe weather, 9 ins., 2*s.* 6*d.*; 12 ins., 3*s.* 6*d.*; 18 ins., 5*s.*; 24 ins., 7*s.* 6*d.*; 30 ins., 10*s.* 6*d.*; 36 ins., 15*s.*; 48 ins., 21*s.* each.
* " LAMBERTIANA, forms a noble tree, rivalling even the Cedar of Lebanon, and succeeds well in very exposed situations. 9 to 12 ins., 1*s.* 6*d.*; 18 ins., 2*s.* 6*d.*; 24 ins., 3*s.* 6*d.* each.
Grafted beneath the surface of the soil, 30 ins, 2*s.*; 36 ins., 2*s.* 6*d.*; 42 ins., 3*s.* 6*d.*; 48 ins., 5*s.* each.
CEPHALOTAXUS FORTUNII, male var., long leaves, seedlings, 21*s.* each.
" " female var., short leaves, seedlings, 21*s.* each.
CHAMÆROPS, sp., a hardy Palm from the north of China, a decided acquisition to our hardy ornamental evergreens, 21*s.* to 31*s.* 6*d.* each.
CLERODENDRON FŒTIDUM.—The only species of this beautiful genus which can be successfully cultivated in a cool greenhouse, a situation in which this succeeds admirably. It forms its large heads of rosy lilac flowers in great profusion. Strong plants, 21*s.* each.
CERASUS ILLICIFOLIA, 7*s.* 6*d.* each.
DAPHNE JAPONICA, 12 ins., 2*s.* 6*d.* each.
" HYBRIDA, 12 ins., 1*s.* 6*d.* each.
FORSYTHIA VIRIDISSIMA.—This plant is not sufficiently known. It is an early spring-flowering plant, producing its yellow blossoms in great profusion. But it rarely flowers, or but scantily when young. The plants offered are well set with flower-buds. It forces well. Bushy plants, 24 ins., 1*s* 6*d.*; 36 ins., 2*s.* 6*d.*; 48 ins., 3*s.* 6*d.*; Standards, 10*s* 6*d.* each.
ILEX DIPYRENA, 9 to 12 inches, 3*s.* 6*d.* each.
" MICROCARPA, 21*s.* each.
" LATIFOLIA, 12 ins., 2*s.* 6*d.*; 18 ins., 3*s.* 6*d.*; 24 ins. 5*s.* each.
" FURCATA, 21*s.* each.
JUNIPERUS ARGENTEA, new and very beautiful, 12 inches, 5*s.* each.
" PHŒNICEA, 12 ins., 1*s.* 6*d.* each.
" CHINENSIS, 12 ins., 1*s.*; 18 ins., 1*s.* 6*d.*; 24 ins., 2*s.* 30 ins., 2*s.* 6*d.* each.
" TAMARISCIFOLIA, 12 ins., 1*s.* each.
" FLACCIDA, 12 ins., 1*s* 6*d.*; 24 ins., 3*s.* 6*d.* each.
" EXCELSA, 12 ins., 2*s.* 6*d.*; 18 ins., 3*s.* 6*d.* each.
" SQUAMATA, 12 ins., 1*s.*; 24 ins., 2*s.* 6*d.* each.
" CRACOVIA, 12 ins., 1*s.* each.
" MACROCARPA, 12 ins., 2*s.* 6*d.* each.
" REPANDENS, 12 ins., 9*d.*; 24 ins., 1*s.* 6*d.* each.
" OBLONGA PENDULA, 6 to 8 ins., 2*s.* 6*d.* each.
" BEDFORDIANA, 12 ins., 1*s.*; 18 ins., 1*s.* 6*d.*; 24 ins., 2*s.* each.
JASMINUM NUDIFLORUM, strong blooming plants, 2*s.* 6*d.* each.
LIGUSTRUM JAPONICUM. 9 ins., 1*s.*; 24 ins., 2*s* each.
LYCOPODIUM WILDENOVII, 5*s.* each.
LIBOCEDRUS CHILENSIS, 7*s.* 6*d.* each.
MITRARIA COCCINEA, 2*s.* 6*d.* each.
*PICEA PINSAPO, very handsome specimens, 30 ins., 21*s.* each.
" NORDMANNIANA, 10*s.* to 15*s.* each.
" OVATA, 10*s.* 6*d.* each.
*PINUS INSIGNIS, 12 ins., 2*s.* 6*d.*; 24 ins., 5*s.*; 30 ins., 7*s.* 6*d.* 36 to 42 ins., 10*s.* 6*d.* each.
" MURICATA, 9 ins., 10*s.* 6*d.*; 18 ins., 21*s.*; 24 ins., 31*s.* 6*d.* each.
" MONTEZUMÆ, 12 to 15 ins., 10*s.* 6*d.* each.
QUERCUS SCLEROPHYLLA, 21*s.* to 42*s.* each.
" INVERSA. 21*s.* to 42*s.* each.
ROSE, "FORTUNE'S YELLOW," dwarfs, 2*s.* 6*d.* to 5*s.* each.
" " " standards, 5*s.* to 7*s.* 6*d.* each.
RHODODENDRONS.—Hardy late flowering Hybrids, varying in colour from white to deep crimson. Dwarfs, 31*s.* 6*d.* to 6 guineas per dozen; standards, 21*s.* to 5 guineas each.
" COMMON PONTICUM, for covers, thrice transplanted, 12 to 18 ins. high, very bushy, 15*s.* to 21*s.* per 100.
SIKKIM RHODODENDRONS.—We believe we may state, without fear of contradiction, that we possess the largest plants of these beautiful Rhododendrons in the trade. The heights of those we are offering vary from 2 to 9 ins. From the altitude from whence many of them were obtained, there is great probability of their proving hardy in this country. Collections of 24 distinct kinds at 3, 5, or 9 guineas.
SPIRÆA CALLOSA.—An abundant and continued bloomer. It has large corymbs of rosy purple blossoms, and is a handsome addition to our shrubbery plants; 10*s.* 6*d.* each.
SALISBURIA ADIANTIFOLIA (seedlings), 12 ins., 2*s.* 6*d.* each.
*TAXODIUM SEMPERVIRENS. This and Cryptomeria japonica are amongst the most rapid-growing Conifers. In situations where such are required they cannot be surpassed. 18 ins. to 5 feet, 1*s.* 6*d.* to 10*s.* 6*d.* each.
TAXUS DOVASTONII, standards, 3 to 4 ft., 7*s.* 6*d.* to 10*s.* 6*d.* each.
" ADPRESSA, 12 ins., 2*s.*; 24 ins., 5*s.*; 36 ins., 10*s.* 6*d.* each.
" BACCATA (yellow-berried var.), 12 ins., 2*s.* 6*d.*; 24 ins., 5*s.*; 36 ins., 7*s.* 6*d.* each.
" (golden-leaved var.) 12 ins., 1*s.* 6*d*; 18 ins., 2*s.* 6*d.* each.
VIBURNUM PLICATUM, 10*s.* 6*d.* to 21*s.* each.
*WEIGELA ROSEA.—This beautiful flowering shrub should be grown by every one. It forms a handsome object in the open borders in May. It also forces well. The plants here offered are as wide as high, and will flower abundantly in the spring. 18 ins., 2*s.*; 24 ins., 2*s.* 6*d.*; 30 ins., 3*s.* 6*d.*; 36 ins., 5*s.* each.

A Descriptive Catalogue of Hardy Ornamental Trees and Shrubs; to which is prefixed a Treatise on the Cultivation of American Plants, may be had free, by enclosing six stamps for postage.

JOHN HENCHMAN begs to inform the public that he is still sending out stout healthy Seedling CALCEOLARIAS, in 60 pots, at 6*s.* per dozen; extra fine breed, at 12*s.* per dozen; ditto, in 48 pots, fine, for early blooming or specimen plants, at 12*s.* and 18*s.* per dozen respectively. Choice named PANSIES, 6*s.* per dozen.—Edmonton, London, April 3.

IMPORTANT TO POTATO PLANTERS.—Procuring sound Seed is the surest means to have a good crop. We have now left only a few Tons of YORK REGENTS, CAMBRIDGE RADICAL, AMERICAN, NATIVE, AND WHITE-BLOSSOMED KIDNEY POTATOES, the produce of our last year's prepared cuttings, at prices formerly advertised. Prepared cuttings of the following sorts will be ready about the second week in May:—

	s.	d.
York Regents ... ... per 1000	10	6
American Native ... ... "	10	6
Cambridge Radical ... ... "	10	6
Early Oxford ... ... "	15	0

Packages, for 1000, 1*s.*; 2000, 1*s.* 6*d.*; 5000, 2*s.* 6*d.*

No orders will be provided for which are not to hand in the first week in April. Post-office orders to be made payable at the Borough Office to HAY, SANGSTER and Co., Newington Butts.

London, 6th March, 1852.—Subjoined is the analysis of two highly respectable Chemists, of our stock in hand:—

"London, March 12, 1852.

"We have now completed our examination of a sample of Potatoes grown from your prepared cuttings in comparison with another sample of the same denomination, obtained by ourselves from a highly respectable Potato salesman, with a view to ascertain the relative proportion of starch contained in each, with the following highly satisfactory result in your favour, viz.:—

Starch.

"Those grown from your prepared cuttings ... 17 per cent.
"Potatoes from Salesman ... ... 12½ per cent.

"MAURICE SCANLAN, F.C.S.
"ALFRED ANDERSON, F.C.S.

"Messrs. Hay, Sangster, and Co., Seed Merchants, 18, Cumberland-place, Newington Butts."

FINE PASTURE GRASS SEEDS for laying down Land.—Hand-picked Seed at 24*s.* per acre, allowing 3 bushels of the mixed Grass Seed and 6 lbs. of Dutch Clover to each acre. HENRY CLARKE, Seed Merchant, 39, King-street, Covent-garden, London.

The Gardeners' Chronicle.
SATURDAY, APRIL 3, 1852.

MEETINGS FOR THE ENSUING WEEK.

MONDAY,	April	5	Entomological	8 P.M.
			Chemical	8 P.M.
			British Architects	8 P.M.
TUESDAY	—	6	Horticultural	3 P.M.
			Linnean	8 P.M.
			Civil Engineers	8 P.M.
			Pathological	8 P.M.
WEDNESDAY,	—	7	Geological	8 P.M.
THURSDAY,	—	8	National Floricultural	3 P.M.
			Royal Soc. of Literature	4 P.M.
SATURDAY	—	10	Medical	8 P.M.
			Royal Botanic	3½ P.M.

SOME observations on the CLIMATE of the south and west part of England appeared in two or three consecutive Numbers of our Volume for 1851, to which it was hoped that some further additions would be made by the experience of horticulturists situated in those districts and in Wales and Ireland. While further communications on so interesting a subject are desired from such persons as can furnish them, it may not be amiss to draw, in addition and at some length, attention to the peculiarities of the climate of Europe in connection with our own—a subject of very great horticultural and agricultural

interest, but, we suspect, by no means understood by many of our readers.

The continent of Europe, or, rather, the north-western portion of the old world, is so deeply indented by branches of the ocean forming inland seas of most irregular outline, as to present nothing but a group of peninsulas of various form to any one considering it on a large and general scale, and comparing it with the vast extent of unbroken land which constitutes the masses of Asia on the one side, and of Africa on the other. A range of colossal Alps runs through the middle of this broken continent from east to west, in many parts at no great distance from the sea. A similar alpine range occupies great part of the north, while the central regions are filled with scattered groups of considerable elevation, which divide countries of extensive plains on the east and west one from the other. Such is the configuration of the continent of Europe viewed in a geographical light, and as it must lie exposed to meteoric action. The great islands which are situated within view of its shores, or of each other, must of course partake of, while they modify, its physical peculiarities.

The climate of the middle region of the Continent, with which that of the British isles may most naturally be compared, namely, the region south of the Baltic, north of the Alps, and stretching from the Bay of Biscay to the Oural Mountains, experiences even in a more marked degree than England and Ireland the remarkable modification of both summer and winter temperatures (in opposite directions) which we find to exist between the western and eastern districts of our own country. The same rule holds good, in a general sense, both in the northern and southern regions of the Continent. Thus Norway enjoys a milder winter, but a cooler summer, than Russian Lapland; the mouth of the Loire is open, while that of the Volga is frozen thick every winter; and the winters of Portugal, Spain, Italy, Turkey, and the Black Sea, increase in intensity the further you travel to the eastward.

Such is the case with the winters of these three principal regions. With the summers the case is slightly different, though not in opposition to the principle which rules the others. For in the southern region the latitude is sufficiently warm to bring the temperature of all the countries, from the coast of Portugal to the Caucasus, and from the foot of the Alps to the shores of Barbary, to nearly one uniform level in the summer months; subject, however, to great variety in duration. Thus at Lisbon, Barcelona, Nice, Genoa, Naples, it is still summer in October or the beginning of November, while at Constantinople the heat is over by the end of September. In like manner there is a spring from October to May in Portugal, Sicily, the west coast of Italy and the islands; while on the east coast, and all round the Adriatic, at Constantinople, and the Black Sea, spring is little, if at all, earlier than in England. On the Bosphorus snow may fall, though it may not lie long, during at least five winter months.

The common Olive is not secure against the winters of Constantinople, and the Orange, if grown there, must be protected, while both are in general cultivation in a more northern latitude in France and the north of Italy. The Crimean Olive is a different and hardier variety.

Having in mind, then, this threefold division of Europe into the northern, middle, and southern or Mediterranean Flora, each of these regions increasing both in winter-cold and summer-heat in proportion to their distance eastward from the Atlantic Ocean, it remains to consider the relation of the general European climate to that of the British islands.

The Alpine districts of the middle region must be left out of the question as far as their Flora is concerned; because the Alpine Flora is an exceptional one, accompanying and dependent on very peculiar topographical situations as well as meteoric conditions. Rising, as they do, from the centre of a moderately temperate region into an atmosphere of great cold and light, those districts differ from the alpine ranges of Scandinavia, which rise from a region not much less cold than the mountains themselves; the consequence of which is that in the chain of the Pyrenees, Alps, and Carpathians, the mountain Flora differs greatly from that of the plains, north as well as south of it, while in the north the Flora both of plain and mountain is much more nearly identical. That the Alps of Europe generally exercise an influence on its climate is not to be denied; but its bearing on that of Britain must be very remote and indirect, and the Flora of those Alps, for the reasons above stated, will not be fairly characteristic of the regions into which the whole of Europe (comprehending the basin of the Mediterranean), is here supposed to be divided. For this reason the Alpine Flora must be considered as excluded from the present observations.

The region the most important for our purpose, is that of the Mediterranean, both as to temperature and extent, as well as the copiousness and variety of its botanical productions. A general similarity of families, genera, and even species range along its whole length and breadth; its Flora may be said to begin with, or to blend with that of the Atlantic islands in the west, and of Persia in the east, at least, so far as the confines of the middle Asiatic, or North Indian group. Its meridional range may be taken from the south flank of the Alps to the shores of North Africa, perhaps to the foot of Mount Atlas. We find in this extensive range of longitude, an exceedingly numerous assemblage of plants, all exposed to an uniform summer temperature, according to the latitude; but, as has been previously shown, to very different degrees of winter cold, and early or late springs and autumns, according to the longitude, east or west. Three groups of plants (groups as considered with regard to climate), may be distinguished among this various assemblage, whose constitution would not be suspected to differ in the slightest degree from each other when only viewed in the mass of species which grow intermingled in the countries of the Mediterranean, but whose varying degree of hardiness is tested either by their great natural range to the mouth of the Mediterranean basin, or by their capability of adaptation in a cultivated state to more northern climates. The peculiar conditions of this extension of the range of two distinct groups of the Mediterranean Flora to tracts far to the north-west and north-east, respectively, of the Mediterranean basin, will be found to have an interesting relation to the Flora and climate of Britain, as we shall explain hereafter. *S.*

It seems to have escaped the notice of persons whose attention has been drawn to the GRAPE MILDEW, that SCHWEINITZ has described, though briefly, a species of *Erisyphe*, under the name of *E. necator*, which attacks the berries of *Vitis Labrusca*, in the United States. This, like the *Oidium*, consists, in an early stage of growth, of very delicate white orbicular patches, and when old, produces a few extremely minute sporangia. Now, it is very possible that this may be the same thing with our *Oidium*, for several instances occur in which species, which in the one country generate perfect fruit, are never found in the other except in a depauperated condition; an example of which is presented by *Polystigma rubrum* of Greville. American Vines, indeed, have not at present, as far as observed in Europe, exhibited any tendency to disease; but this is not decisive as to the point. The matter of import now is, to direct attention to the simple statement of the fact of the existence of a similar fungus in America, producing similar effects. Unfortunately, though our collection from the Southern districts far exceeds three thousand numbers, nothing of the kind has yet been transmitted; but the earnest attention of more than one American botanist, competent to give the required information, has been called to the subject.

A nearly allied fungus is most destructive in Pennsylvania to Gooseberries, insomuch, that in some districts, except in very propitious years, no fruit comes to perfection. The berries before they arrive at maturity are completely invested with the sterile flocci, and in consequence become perfectly dry and juiceless, so as to be quite uneatable. SCHWEINITZ, indeed, informs us that at Bethlehem he had for many years found scarcely a single berry uninjured. *M. J. B.*

ERINUS LYCHNIDEA.

FEW plants are better calculated to delight a certain class of cultivators than this simple and somewhat rare Figwort. It is true that many admirers of gaudy flowers might only give it a contemptuous glance in passing, never for a moment imagining that a plant so unassuming in appearance could possess any property or peculiarity by which to recommend itself to individuals of cultivated taste. The best way of settling this point with such persons is to take a walk with them to the greenhouse when the shades of evening begin to gather over us, and when such plants as emit their fragrance and display their beauty in the day-time are incapable of imparting pleasure: if Erinus Lychnidea is in flower, it will speak for itself; and, instead of having to explain your motives for allowing such a simple-looking and apparently uninteresting plant to occupy a place in your collection, you will probably be asked for a small plant or cutting. It may be considered the type of that class of plants which has been kindly supplied to us for our gratification and delight at the period when the mantle of night has rendered the great mass of cultivated exotics uninteresting. This Erinus seems to have an inherent dread of the sun; for the approach of his morning rays causes it to wrap up its fragrance and beauty in closely-folded petals; and while Sol remains above the horizon, it continues to hide its face and withhold its perfume. It remains in this condition until some time after the sun has descended below the horizon; then it gradually unfolds its petals, and emits its sweetness, until the atmosphere of the house becomes redolent, with its peculiar, and, to me, delicious fragrance. During the chilly and sunless period which we frequently experience in November, it hardly cares to fold its petals, and will remain open for days together; but under such conditions its fragrance is not near so powerful as during the summer evenings.

I by no means affirm that this is a showy plant; its colour is little better than a dingy white, and, except the peculiar cup-like form of its petals, there is nothing in the shape of its flower to attract particular notice. If it is to be appreciated as its merits deserve, it must be visited between sunset and sunrise, and I recommend it simply on account of the peculiarity noticed above. I manage to obtain well-grown plants of it in the following manner.

I winter my young stock in 4½-inch pots in the greenhouse, close to the glass, sparingly supplying it with water, but abundantly with air. This I find to be necessary, for it dislikes damp during the dull months. About the beginning of March, I select a few of the best plants, and place them close to the glass in a pit, which is kept a little closer and warmer than the ordinary greenhouse. If they are healthy and well-rooted, they are shifted into 7-inch pots, otherwise this is deferred until they show symptoms of activity. If the temperature averages 60° by day and 45° by night, they will soon start into vigorous growth; but this degree of warmth must not be maintained by excluding fresh air, or by much artificial help; for if it is, your plants will become weakly and drawn, and disease will take place. Have patience until Nature assists you, and allow a sufficiency of fresh air, to prevent damp and etiolation. I generally find my plants ready for a second and final shift towards the latter end of April or early in May. I use 10-inch pots for this shift, and replace the plants in the situation they occupied before shifting. I carefully supply them with water according to their wants, and after bright days I slightly sprinkle them overhead. They will now require to be pinched and pegged down, so as to cause them to form dwarf, bushy, well-shaped plants; and when satisfied as to size, they ought to be afforded the support of stakes, otherwise the weight of the flowers will destroy their form. As soon as the plants show signs of vigorous health, I give them weak guano-water—the same as I give to most greenhouse plants.

When the plants commence flowering, they should be removed to an airy place, near the glass, either in the conservatory or greenhouse; here they will continue to produce an abundant supply of blossoms from June to December. The only care which they will require will be the removal of decayed flowers, &c., and red spider; they are not liable to be injured by the latter, but it will sometimes attack them, particularly if they are allowed to get rather dry at the roots, and not abundantly supplied with air. When I find a plant infested with this pest, I remove it to a convenient place where I can freely use the syringe, and shorten it back. After I am satisfied that every insect is removed, I place it in the pit formerly mentioned, where it soon produces a fresh supply of flowers. The soil which I find to answer best is a mixture of about equal portions of peat and loam, rendered sufficiently porous by adding silver sand.

It is readily propagated by cuttings, made of moderately well-ripened wood, placed in a cool situation under a bell-glass, and shaded; but they must not be placed in heat, or they will damp off. They should be rooted and potted off in time to get established in their pots before winter; the end of June or beginning of July will be found a proper time for inserting the cuttings. The old plants may, if desired, be kept over winter, but I prefer young plants—the latter occupy less space. *Alpha.*

BRITISH SONG BIRDS.

No. LXXI.—The long-looked-for, and most delightful change in the weather was heralded in on Monday evening last, by a succession of warm, genial showers. These not only produced in one short night a magical effect on vegetation, but on the voices of the birds in particular. Early on Tuesday morning we were awakened ere it was yet light by the joyous note of the blackbird; followed by that of the thrush, and other sweet voices innumerable, all giving utterance (as the rain distilled upon them) in song to the gratitude of their over-flowing hearts. If there be a treat in Nature worth rising betimes to listen to, it is that of which we are now speaking. It will not be long before our own PHILOMEL joins the choir; and then—but we will not anticipate.

We mentioned in a former article, that the weather, however severe, rarely interfered with the early nidification of the blackbirds and thrushes. We observe in the "Naturalist" for April, that at Southend, a blackbird's nest with eggs was found in the middle of January last, in an open hedge! Several other corroborations of our remark have been brought under notice. In a few days young birds will be abundant. But now for directions in the matter of food, cages, &c.

Thrushes, like blackbirds, require a variety in their diet. Their general food may consist of German paste, stale bun, and hard-boiled egg. But they will anxiously look out for a snail, some bread and butter, a morsel of cheese, and a few meal-worms. If these be given them

at intervals, they will never ail anything ; and with care you may keep them 15 years.

Thrushes are liable to CRAMP, particularly when young. Be careful, therefore, never to place the vessel holding water inside their cages ; and let the gravel at the bottom of their cages be always kept clean and dry. It should be changed *every day*. You cannot do better than select your cages on the model proposed for those of the blackbird. They like plenty of room, both in width and height, and they should be suspended moderately high. In summer they may be left out all night ; but as we have before remarked, *one* side of the cage must be boarded, to exclude all draughts.

Thrushes are very fond of bathing. You must therefore provide a square earthenware pan (sold by the bird-dealers), let into a wire frame. Suspend this every morning on the cage door (first opening it). The bird will soon jump into his bath ; and when he retires you had better remove it immediately ; then close the door.

To cause your birds to be tame and familiar, it is only needful to talk to them as you pass, or to whistle to them. They quickly get used to you, and recognise your step. Hang them by themselves, as the loudness of their song would materially interfere with the harmony of your smaller birds. There is a great art in arranging your vocalists. If you study this, you may turn your garden into an aviary, and melody will be heard to pour from every tree.

We have now said all that is needful for the proper management of this noble bird when in confinement. We must however repeat, that he is *not* adapted for a cage bird, though he is numbered among them. No one can doubt the truth of this who listens to his wild song, especially at this season :—

> " See! the Spring
> Is the earth enamelling ;
> And the birds on every tree
> Greet the morn with melody.
> Hark ! how yonder THROSTLE chants it,
> Whilst his mate as proudly vaunts it ! "

It will be said, that it is not all our readers who can enjoy these wild melodies in the country ; and that they have as much right to listen to the music of a thrush as we have, although they *do* live in cities. It is true ; and we have done our part towards facilitating their object. We have done it however " under protest." *William Kidd.*

FOREIGN GARDEN GLEANINGS.

BOHEMIA.—The magnificent establishment belonging to Count de Thun is situate on the Elbe, at a place called Tetschen, about 35 miles south of Dresden ; it covers nearly 30 acres of land, and is divided into three divisions, viz., the hothouse division, the flower-garden, and arboretum, which last is so beautiful by Nature that but little had to be added by art. The gardens, which reach to the water's edge, are crossed by gradually sloping walks, reaching from the Elbe to the foot of the castle, built on the top of a granite rock 150 feet in height. The grounds are very beautiful ; enormous masses of foliage of trees brought from abroad are seen contrasted with smaller groups, which are themselves set off by the cultivated land above and below them ; then there are shrubs, well chosen flowers, and from amongst the whole, large masses of barren rock which occasionally project and prevent a monotony of colour. In the highest part of the garden, and facing the south, the rock has been cut into shelves, upon which stand, one over the other, three immense hothouses several hundred yards in length ; each house is connected with the other by a gently inclining tunnel cut in the solid rock. In these houses, which are thus admirably sheltered from wind, 30,000 or 40,000 Camellias, Azaleas, and Rhododendrons, are obtained every year by grafting or budding ; altogether there are some 1000 species or varieties. Those which attain a large size are put together into a larger house ; and it is by no means rare to see pyramidal trees some 8 or 9 yards in height covered yearly with innumerable flowers. The espaliers, which cover the walls of the foundation, are not unlike those in the kitchen garden at Versailles. Of Rhododendrons alone there are at least 300 varieties ; of these the specimens of the old arboreum are remarkable for their strength and vigour ; of the new ones the most worthy of note are the Laureum, Smithii, flavescens, barbatum, chryselectum, yellow, &c. From this garden come those large specimens which are in the imperial apothecary's botanic garden in St. Petersburgh ; here, too, I saw the strongest stems, the best crowns, and the finest bushes. The collection of Indian Azaleas is composed of nearly 300 species or varieties ; there are thousands of them of every age, size, and price ; they vary from about half a yard to 3 yards in height ; specimens of phœnicea, 2½ or 3 yards in height, are common; There are 100 species or varieties of the tribe ponticum. An immense house is set apart for the cultivation of Pine-apples, which are of great merit ; 1000 or 1200 are ripened annually, and supply the tables of the great personages in the neighbourhood, and even of the court of Vienna. The Pines are renewed by numerous sowings, and the collection numbers 55 varieties, the fruit of some of which is truly monstrous ; the following are the most cultivated— the Ordinaire, Duchesse d'Orleans, Prince Albert, Enville, Otaheite, Ne Plus Ultra, smooth-leaved Cayenne, spiny-leaved Cayenne, and a Nervosa maxima, of which I saw fruit weighing 7 Bohemian pounds.

The Orchid-house is on the same level, and heated to about the same degree, as the Pine-apple-house; the collection is very complete, and is composed of 100 genera and more than 600 varieties. There are more than 30 varieties of Cattleya, 40 of Dendrobium, 45 of Maxillaria, 60 of Oncidium, 25 of Stanhopea, 30 of Epidendrum, 12 of Lælia, and as many of Brassia, including the variety Wrayæ in a remarkably fine state. Each plant is labelled with—1, its botanic name; 2, the name of the person who introduced or named it ; 3, the place from which it came ; and 4, the date of its introduction into Europe.

On the same terrace is the house for exotic plants. Amongst the most beautiful I may mention the genera Achimenes, Gesnera, Tillandsia, and Gloxinia ; of the latter there are 15 first-rate varieties, including Bichterii, Rosea alba, Youngi, Cartonii, Crussii, and a dozen other varieties, grown from the seeds of the preceding year, and which would be ready for sale the year I saw them. The flowers were over, but quite enough was left to convince me that they were far superior to anything I had as yet seen. Messrs. Van Houtte had already applied for the whole of their seeds.

Close to this house is the small one containing Nymphæa cærulea, gracilis, Lotus, rubra vera, and thermalis, with the finest collection of Nelumbium in Europe ; there were N. caspicum, Count de Thun, luteum, Pekingense, speciosum, flavescens, and roseum, in full flower, from which the reader may judge of the beauty of the effect produced. The plan pursued by M. Ioscht, and by which such great results are obtained, is as follows :—The plants are first put in tubs ; then in May, when they begin to grow, these tubs are put into four large tanks, which fill a house ; the quantity of water is increased as the leaves expand, and the plants are put as near the glass as possible, in order that the action of the light might be assisted. The soil is a mixture of common mould and peat and loam, to which is added a little finely-divided charcoal. This charcoal, covered with an incrustation of gravelly matter, is, I think, for the purpose of clarifying the water in the neighbourhood of the roots, and, by absorbing the gases produced by an inevitable fermentation, to prevent them from being taken up by the spongioles of the plants. If attention be paid to these points, the plants require no further care, and flower abundantly from June to September ; the flowers are white, red, or yellow, all beautiful and deliciously scented. I saw some flowerstalks 1½ yard, and some petioles a yard and more long. I was told that all shade should be carefully avoided during the period of vegetation, otherwise the leaves would be long, slender, and short-lived. After flowering, when vegetation has ceased, the water is drawn off, and, as winter approaches, the tubs are placed at the back of a very dark house, where air is renewed with difficulty, and where there is always a little damp heat ; an essential condition, which should by no means be neglected.

Such is the superb establishment belonging to Count de Thun ; nowhere else in Prussia or Austria is there any thing to be compared to it. *Masson's Report.*

ANNUALS ADAPTED FOR BEDDING, &c.

THE following list of hardy summer and autumn-flowering annuals is offered for the convenience of those whose time and limited means prevent their attention to the general class of half-hardy and tender plants for effect, *en masse*, in flower gardens. The descriptions are intended to convey an idea of their average height, colour, and habit. A simple mode of managing these seeds is either to sow in drills, or otherwise broadcast over the entire bed, or border, and cover the seeds slightly with finely-sifted old tan, or friable loamy soil.

CLADANTHUS ARABICUS.—A neat compact plant, from 9 into 12 in. high, of a divaricately-branching habit, with dark green, narrow lobed leaves, richly contrasted with bright golden-yellow, close-petalled, Chrysanthemum-like flowers, about 1½ inch wide.

ŒNOTHERA TENELLA TENUIFOLIA.—One of the neatest species of a favourite tribe. It grows from 9 to 12 inches high, with small narrow leaves, and numerous large conspicuous purple salver-shaped flowers, varying in seminal varieties to rosy purple.

CAPE MARYGOLD.—A dwarf compact annual, from 9 to 12 inches high, bearing a profusion of snow-white single Chrysanthemum-like close-lobed blossoms 1½ to 2 inches in diameter.

NEMOPHILA INSIGNIS GRANDIFLORA.—A very beautiful trailing variety with comparatively light foliage, and studded over with thousands of bright azure-blue salver-shaped flowers three-quarters of an inch broad.

NEW GOLDEN CHRYSANTHEMUM.—An erect compact branching annual, from 12 to 16 inches high, with deeply-divided dark green leaves, and numerous clear golden-yellow Marygold-like flowers, each 1½ to 2 inches wide, beautifully contrasted in colour by a rich olive-brown circle towards the centre.

CHRYSANTHEMUM TRICOLOR. — A neat, branching, fleshy-stemmed plant, from 12 to 16 inches high, with narrowly-divided leaves, and a profusion of large, beautiful, clear white blossoms (2 inches wide), ornamented with a yellow band towards the base, and picturesquely diversified by a rich olive-brown centre.

CLARKIA ELEGANS ALBA.—An erect and compact branching annual, from 12 to 16 inches high, with comparatively small foliage, and dense masses of elegantly lobed snow-white flowers, 1½ inch wide.

KADLFUSSIA AMELLOIDES —A dwarf species of neat habit, growing from 6 to 9 inches high, with narrow, strap-shaped leaves, and numerous bright, blue-petalled, daisy-like flowers.

LASTHENIA CALIFORNICA.—A compact plant, rising about 12 inches high, with narrow, bright green leaves, and a profusion of conspicuous golden-yellow, Chrysanthemum-like flowers, three-quarters of an inch wide.

GILIA NIVALIS.—A neat dwarf, slender annual, of branching habit, attaining from 12 to 16 inches high ; with light foliage, and numerous branching clusters of clear, creamy-white blossoms.

SILENE PENDULA. — An erect low-growing species, with a profusion of rosy-red or pink lobed, salver-shaped flowers.

ERYSIMUM PEROFFSKIANUM.—A neat erect plant, reaching from 12 to 16 inches high, with small, Wallflower-like leaves, and numerous terminal open racemes of brilliant orange-coloured blossoms.

COLLINSIA HETEROPHYLLA.—An elegant dwarf, compact species, of neat habit, with massive clustered racemes of white and purple flowers.

EUCHARIDIUM GRANDIFLORUM.—A very neat, compact, branching plant, 12 inches high, with small ovate leaves, and numerous rose-coloured, Clarkia-like blossoms, 1 inch in diameter.

CALLICHROA PLATYGLOSSA.—A slender-stemmed annual, 12 inches high, with neat linear leaves, and conspicuously bright yellow, close-petalled, Chrysanthemum-like flowers, 1½ inch wide.

NOLANA ATRIPLICIFOLIA.—A neat dwarf trailing plant, with fleshy, bluntly-ovate, dark green leaves, and comparatively large azure-blue Convolvulus-like flowers, 1½ inch wide.

SPHENOGYNE SPECIOSA.—An elegant habited plant, of dwarf and compact growth, with narrowly divided deep green foliage, and a profusion of conspicuously clear, buff-yellow single Marygold-like flowers, beautifully contrasted with a radiate circle of reddish-brown towards the centre.

EUTOCA VISCIDA.—A compact growing annual, of branching habit, rising from 12 to 16 inches high, with notched heart-shaped leaves, and numerous close-lobed salver-shaped blossoms, of a rich ultra-marine blue tint.

ESCHSCHOLTZIA CROCEA.—A highly ornamental annual (or biennial) plant, from 12 to 16 inches high, with narrow lobed glaucous leaves, and a profusion of large and brilliant orange-yellow Poppy-like flowers, 3½ inches in diameter.

CONVOLVULUS MINOR ATROPURPUREUS.—A decumbent spreading plant, attaining from 9 to 12 inches high, and ornamented with a profusion of large and conspicuously rich, purplish-blue expanded funnel-shaped blossoms, 2 inches wide.

LEPTOSIPHON DENSIFLORUS AND L. ANDROSACEUS. — Both remarkably neat dwarf species, with narrow, dark green, needle or Larch-like leaves, and furnished with numerous terminal clusters of variously shaded pale rose, pink, and white lobed, salver-shaped flowers, in July and August. — *Observer.*

RATEABILITY OF A NURSERYMAN'S STOCK IN TRADE.

MR. EDITOR,—The account in your Paper at p. 165, signed by T. Finch, churchwarden, Berkhampstead, in reference to the appeal of Messrs. Lane, has certainly the authority of the churchwarden without the veracity which one would expect from so important a functionary. For the information of your readers, I distinctly repeat that the condition upon which the appeal was decided is, that I should meet the surveyor of the parish, and who then was in court, to re-survey and assess Messrs. Lane's premises after the 50*l.* "tenants' lights or rights" had been disallowed, and that the expense should be borne, like the costs of the appeal, by those who had attempted the impost. With a view to save the costs of a second journey from London, I stated to Mr. Day, the solicitor, that it would be better at once to proceed to the duty. Mr. Day re-entered court, and, probably under Mr. Finch's instructions, brought back word that the parish surveyor "had declined to meet me, and that application must be made to the board of guardians at their next meeting, to appoint a substitute."

The motive was obvious, whereon I requested Mr. Lane not to pay his rate until the condition was complied with, or rather allow himself to be summoned before the same bench, and plead this breach of faith in extenuation.

I fear there is too much pique and personal feeling in the charge made upon Mr. Lane for the matter to be settled in any other way ; therefore the mortification which the decision has occasioned had better be endured in silence. *John D. Paine.*

[We cannot admit further statements respecting this case, all the material facts of which appear to be now before the public.]

Home Correspondence.

Sikkim Rhododendrons.—Whoever reads the glowing description of the effect produced by miles of Rhododendrons in the Sikkim Himalaya by an eye-witness, the enterprising Dr. Hooker, will feel a wish that portions of our own scenery may be enriched by some, at least, of the Asiatic natives, in like manner as the Rhododendrons of Turkey and of America have become subservient to that purpose. It is certainly early to predicate, but I am of opinion that certain of the species and varieties will make themselves at home on this our English soil. Through the liberality of Sir Wm. J. Hooker, of the Royal Botanic Gardens at Kew, I was favoured with seeds of many of the kinds figured in the splendid work devoted to their illustration. Like other cultivators, my success has been but partial ; some kinds not germinating at all, some freely, and some but partially. In a few instances the young plants were scarcely developed, and the signs of death became painfully obvious ; some remained in the seed pans, and some were pricked out ; some were kept warm and shaded ; others warm, and a degree of light admitted ; whilst others were exposed to the open air ; and lastly, some were placed in a cold frame with a northern aspect. Some of the kinds, of which R. setosum may serve as an example, seemed to pine for their mountain air and pressure of snow ; and so with all the variations of culture, death speedily ensued. This class of them, I fear, will resist all culture ; and we must be content to know of them only by dried specimens or coloured engravings. Fortunately the most showy, if not the most curious, affect no such conditions, but appear to accommodate themselves to our frame culture—to our damp stove growing, and to the open air, and seem vigorous and healthy alike in each. The greater number of my plants have been kept during winter in cold frames—some planted out in the prepared earth, and some in pots ; they are equally healthy and promising in each manner ; but another portion having been planted in the open air, between rows of R. ponticum of the same age, afford the greatest interest. The sorts that have survived uninjured, and are even more robust, carrying darker leaves than ponticum, are—R. niveum, campyiocarpum, fulgens, æruginosum, alpine variety, and ciliatum. This latter plant has shown the tendency to sport which many plants do under culture, for amongst them are two plants with well defined gold margins as bright as those of Hollies. Another species, the glaucum, and its dwarf variety, have both stood and braved the 12 degrees of frost equal to any of those before enumerated, but their foliage is thinner in texture, and the colour of their green less intense than any of their associates. This glaucum is so like Kalmia angustifolia, in a young state, in its foliage, that it might well have joyed in the name of Kalmioides, and as a consequence, if the plate

s examined, the manner of inflorescence, as well as a modified form and colour will be apparent to that of Kalmia latifolia. But let me not be supposed to cavil at the nomenclature of the species; on the contrary, the union of the most remarkable persons connected with India, politically and scientifically, seems most fitting; uniting as it does the Aucklands, Dalhousies, the Campbells, the Wallichs, the Royles, the Hodgsons, &c., as it were into one bond, and whose united efforts were directed to the advancement of civilisation and the extension of science, both in Asia and the rest of the world. *William Masters, Exotic Nursery, Canterbury, March* 31.

Natural Inarching.—A year or two ago, I sent you some particulars and a sketch of a seemingly natural inarching of 2 Elms. I have lately found in my own shrubberies a Holly inarched into its neighbour. The branch quits its parent, a tree of 2 ft. 4 in. round, at about 18 in. from the ground; it is 5 ft. 4 in. to the junction, about 3 in. round in the middle, and 4 in. at both upper and lower end. At about 4 ft. 6 in. from the ground, it unites with the other tree, and a branch, which from its position and direction, I judge to be in fact originally the same, leaves the second tree with a thickness of 8 in. round. But the bark is as perfect and clear as at any other forking, and the distance from junction to what I consider separation, about 9 inches. *H. P. Wolferstan, Statfold, Tamworth.*

Sieve Fumigating.—I perceive that my neighbour, Mr. Fry, has cautioned your readers about this system of fumigating in pits and frames. I am sorry that he has been so unfortunate in its application, for I can safely say that during the last ten years I have frequently used the sieve to from 50 to 100 lights a night, without injuring a single plant, though we have sometimes cracked the glass from an excess of heat, and I once set fire to the stage of a plant-pit. This, however, was the penalty of carelessness, and if Mr. Fry has failed, it has been from the same cause; the fault has been his own, and not that of the system. But if Mr. Fry has not faith in the sieve for pit work, he has only to fold the tobacco and Cayenne in nitre paper; in fact, convert them into cigarettes, as recommended in the last number of the "Garden Companion," to remove all cause for apprehension, and to effect all that the sieve would accomplish; and even if he is so disposed there is no reason why, with the aid of the florumbra, or para-petticoat, if he likes to treat his Rose trees to a "weed", why he should not do so. I have not the least objection to Mr. Fry using fumigators, but in my own estimation they are as useless as they are expensive; and I think that a gardener may find some more profitable employment than that of grinding smoke out of a box. In using the sieve, the only thing to guard against is, excessive heat; for we all know, or ought to know, that smoke is consumed by a bright fire, and that consequently the lower the temperature at which the tobacco is consumed, the greater will be the quantity of smoke generated. *W. P. Ayres, Brookland's Nursery, Blackheath.*

Bignonia Cherere.—Observing it stated, at page 152, that to make this plant flower, "it must be grown with plenty of bottom heat," I beg to say that for some years it has flourished in great luxuriance, and blossomed finely, planted in a narrow side border of my conservatory. The roots have plenty of "space to run in," but there is no bottom-heat, and the plant is on the coolest side of the house. I have no doubt it would do well in a moderately warm greenhouse, if planted so that the roots could run in a border, or in well-drained soil under the floor. And whether for a greenhouse or a conservatory, or in whatever situation it will flourish, I do not know a climbing plant more worthy of cultivation, combining as it does a remarkably fine, deep-green foliage, with beautiful flower-buds and rich glowing flowers. *Halesleigh.*

Greenhouse Plants Hardy in Devonshire.—I consider your remarks at p. 180 worthy of especial attention, as being strikingly illustrative of "how much hardier than is generally supposed are many plants commonly in cultivation." Having served in gardens where several of the shrubs I now see around me in great beauty were nursed and grown with the tenderest care, aye, and not even considered capable of enduring a degree of frost, I cannot refrain from giving a brief account of a few of them. Foremost, then, must be mentioned Acacia longifolia; here it is a fine pyramidal tree, from 20 to 25 feet in height, and just now (March 26) it is quite a garland of flowers. We have also Acacia verticillata growing remarkably free and full of bloom, not yet expanded. Acacia dealbata is likewise very elegant and graceful when well managed, and it grows with great rapidity. Fine plants of Clianthus puniceus cover a large space of wall here, with hundreds of beautiful racemes of orange-scarlet flowers in different stages of development, and Edwardsia grandiflora, and E. microphylla, together with the Bottle brush, Metrosideros floribunda, all thrive well in the open air; the latter is a bush 12 or more feet in height. There are, moreover, huge bushes of Myrtles here, which in several instances appear to have been pruned or hacked similar to what is done in planting Thorn hedges. It is but right to state, however, that some allowance must be made for our mildness of climate and the peculiarly appropriate soil with which this place abounds, but if the plants I have just enumerated with many others will not bear exposure in all places, nevertheless there are still many localities in which their intrinsic excellence would add charms to the parterre as yet undreamt of. *J. Couldrey, gardener to R. Harvey, Esq., Greenway, Torquay.*

The Seed Trade.—I am of opinion that Mr. Ayres' strictures, at p. 189, upon the low prices at which vegetable seeds are sold by druggists in South Wales, go far to prove the correctness of my assertions, instead of "showing," as he proposed to do, "their absurdity;" for Mr. Ayres admits that Peas, Beans, Onion, Lettuce, and Cabbage seeds may be bought at those prices. His remarks are somewhat lengthy, but he has chosen, as if from necessity, to expatiate upon a variety of points in the seed trade, rather than come to the question at issue, and answer my query. As I have other facts, however, which are to me more surprising than my former statement, I will give them, for the benefit of Mr. Ayres's consideration. A very respectable retail vendor of seeds at Carmarthen, whose list of prices now lies before me, quotes "Curled Parsley" at the rate of 10*d.* per lb., while the London wholesale price is 1*s.* per lb.; "Leek" seed at the rate of 13*d.* per lb., the London wholesale price being 1*s.* 9*d.* per lb.; "Strasburg" Onion seed at the rate of 11*d.* per lb., which is 1*s.* per lb. in the London wholesale houses. How are these things to be accounted for at a distance of 220 miles from London, and in a part of the country where, from the humidity of the atmosphere, I have never been able to ripen Onion seed that would germinate the following season, even in the most favourable summers? I think that low prices therefore cannot be influenced by local circumstances. *Henry Bundy, Dynevor Castle.*

Perpetual Table of Increase and Decrease of Days throughout the Year.

Days Increase on	Hours.	Minutes.	Days Decrease on	Increase or Decrease from one Week to another.
				Minutes.
December ... 20	...	...	June ... 21	..
,, ... 27	...	4	,, ... 28	4
January ... 4	...	12	July ... 5	18
,, ... 11	...	28	,, ... 12	16
,, ... 18	...	44	,, ... 19	16
,, ... 25	1	...	,, ... 26	16
February ... 1	1	20	August ... 2	20
,, ... 8	1	30	,, ... 9	10
,, ... 15	2	6	,, ... 16	36
,, ... 22	2	36	,, ... 23	30
March ... 1	2	48	,, ... 30	12
,, ... 8	3	40	September 6	52
,, ... 15	4	6	,, ... 13	26
,, ... 22	4	30	,, ... 20	24
,, ... 29	4	54	,, ... 27	24
April ... 5	5	22	October ... 4	28
,, ... 12	5	26	,, ... 11	34
,, ... 19	6	16	,, ... 18	20
,, ... 26	6	44	,, ... 25	28
May ... 3	7	12	November 1	28
,, ... 10	7	36	,, ... 8	24
,, ... 17	7	56	,, ... 15	20
,, ... 24	8	16	,, ... 22	20
,, ... 31	8	30	,, ... 29	14
June ... 7	8	42	December... 6	12
,, ... 14	8	48	,, ... 13	6
,, ... 21	8	50	,, ... 20	2

Perhaps the above may be interesting to your readers. *William Blood, Wicklow.*

Nonesuch Kidney Bean.—After trying about two dozen sorts of Beans for early forcing, I find this to be by far the best. It is of a fine dwarf habit, and is very productive. I have 12 dozen 8-inch pots of it in various stages of growth, three dozen being in full bearing at the present time; several of the plants average 60 Beans on each, of various sizes. I had my first seeds from Mr. Henderson, Pine Apple-place, who described it as an excellent forcer; a fact which I have proved, having sent it to table in regular succession since the first day of the new year. *J. Rust, Enfield.*

A British Fern's Appeal to certain British Botanists.—

Ye British Pteridologists,
Hair-splittingly potential,
I leave to the Phrenologists
Your character essential.

But let *our* characters alone,
And spare us such revision
As only can expose your own
To merited derision.

Is it because we are so few
That ye presume to touch us?
Because we are some forty-two
Your grasp of mind can clutch us?

We hardly know our names—ye powers
Have given us so many:
And names so long and tough as ours
Were never borne by any.

O, let our species alone
Sow no dissent between us,
For, thanks to you, there's hardly one
Is sure about his genus.

Would that some zealot of your band,
Some stern eradicator,
Would quit the field and try his hand
Upon our nomenclature.

To make ye learned ones agree
There's but one way, depend on't,
That is, to name us 1, 2, 3,
And then there'll be an end on't.—*Filix.*

Effluvia from Burning Ironstone.—For some time past a large heap of ironstone has been burning near a road which I have to pass frequently, and when the wind is from the south a very disagreeable smell comes from the burning heap, and part of a young plantation has often the appearance of being on fire from the quantity of smoke rolling in clouds among the trees; all that, however, may occur daily in many parts of the country, and is not worthy of remark. But there is one thing connected with the burning which I do not quite understand, and I should like to be informed as to the cause of it. One day the wind was blowing what might be called a stiff gale from the south-west, accompanied at times with showers of rain. There was not much smoke coming from the ironstone at the time I was passing, but when I came among the gases that were carried with the wind, the moisture from my breathing was rapidly condensed, and when I got beyond them the condensation was scarcely visible; I then went back again, thinking I might be deceived, but the same thing occurred again. The experiment was repeated frequently, and the same effect was produced. Would the gases produce cold to cause the condensing of the vapour? Or would it be from the immediate contact with them? *Peter Mackenzie.*

Rain at Cobham, Surrey, in 1851.

	Inches.		Inches.
January	2.93	August	1.35
February	0.73	September	0.20
March	3.36	October	2.20
April	1.53	November	0.74
May	0.75	December	0.52
June	0.98		
July	2.09	Total	17.38

—*H. H. Treby.*

Vegetation in Dorsetshire.—I see controversies about Forsythia and Spiræa prunifolia; they both flower well here as standards, and not in warm situations either. Our vegetation goes on in spite of drought, though slowly—three Yuccas, a Furcræa, Agave saponaria, Acacia linearis and armata, Aster argophyllus, and Arbutus tomentosa and mollis, are in flower, or going to flower already. I never saw a more lovely thing than our Rhod. cinnamomeum, with a dozen heads of its rosy glass-like flowers and rich leaves. *S., March* 28.

Books, &c., Received.

Lecture, and Addresses in aid of Popular Education. By the Earl of Carlisle. No. 18 of Messrs. Longmans' Traveller's Library.—Excellent matter, most welcome to all classes of those who read for the sake of sound information.

To *Murray's Reading for the Rail* have been added, *the Honey Bee, the Flower Garden*, and a *Sketch of Theodore Hook*, all reprints of well-known articles in the "Quarterly Review."

Rise, Progress, and Present State of Agriculture in Jersey. By Col. Lecouteur.—A lecture delivered before the Working Men's Association, and containing useful information concerning the Channel Islands.

Household Chemistry; or, Rudiments of the Science applied to every day life. By A. J. Bernays. 12mo. Low; pp. 188.—A small volume, containing much accurate scientific gossip upon various domestic subjects.

How to see the British Museum in Four Visits. By W. Blanchard Jerrold. 12mo. Bradbury; pp. 231.—We doubt whether it is possible to see the British Museum at all. To look at it ought to be the height of any reasonable man's ambition. Mr. Jerrold has however shown how to do the most that circumstances permit, and we recommend sight-seers to become acquainted with his useful little guide.

On the Management of Ships' Boats, &c. By W. S. Lacon, H.C.S. Parker.—A pamphlet, illustrating, by means of examples and wood engravings, the defects of the present methods employed at sea, and suggesting practical and practicable improvements.

Garden Memoranda.

Horticultural Society's Garden, Turnham-Green.—The large Phalænopsis amabilis in the Orchid-house, whose flower spikes a short time ago were very much shortened, has again broken out into fresh beauty. Of all Orchids with which we are acquainted, this is certainly the most desirable, not less on account of its ever flowering habit, than for its charming blossoms. The latter are produced in close succession, and in sufficient quantity to render it a striking object the whole year round. The Orange-flowered Epidendrum, and a few Oncids, &c. were in bloom; but the present display of all other Orchids is insignificant, compared with that of the fine Manilla Butterfly plant just mentioned. The Australian Calanth (C. Australis), will soon be in blossom, when an opportunity will be afforded of proving whether or not it is identical with C. veratrifolia, which in its present state it much resembles. It was sent from Sidney by Mr. Moore along with Cook's Araucaria, and one or two other plants. The greenhouse was gay with Epacrises, spring Heaths, Acacias, Hyacinths, the interesting little shrub Bryanthus erectus, and Forsythia viridissima, &c. The latter has remained in bloom for weeks past, and very handsome it has been; but it is for planting against a wall that this shrub is most valuable; since what have we in its way, at this season of the year, so ornamental? Its short lateral branches protruding from the wall and thickly set with blossoms of as bright a yellow as those of the common Buttercup, have a charming effect even in the case of small specimens; but the appearance of a large plant must indeed be fine. While speaking of wall plants, we may just remind our readers of the brilliancy of Cydonia japonica at this season, and we may also, perhaps, be permitted to direct attention to its white or rather pink variety, which is also now finely in flower. Though less striking than the scarlet kind, it blooms quite as freely, and it serves to furnish variety, which, in early spring when flowers are scarce, is an object of considerable importance. In the large stove, the magnificent plant of Lælia superbiens which has lately been so finely in bloom, is now all but past. It has lasted in flower a long time, during which it has been deservedly very greatly admired. Several examples of Porphyrocoma lanceolata, a plant not yet so

well known as it should be, were in blossom in this house, in which they have been found to be very useful for winter decoration. Thyrsacanthus lilacinus proves to be more ornamental than was at first expected it would be; it has large branching spikes of pinkish lilac, Justicia-like flowers which are far from being unattractive. It blossoms freely under ordinary stove treatment.

We cannot leave this part of the garden without noticing the fine bushes of Camellias, which for years have adorned the north side of the wall that divides the compartment we are now in from the experimental ground. They grow luxuriantly and form flower buds in abundance, but this year the latter have not expanded kindly, a circumstance that may be owing to the cold north-easterly winds, which for some time past have been so prevalent. That the blossoms require some slight protection to make certain of having them fine, is proved by an example of C. reticulata planted near here in a two-light wooden box, on which hundreds of the most beautiful flowers are annually produced. So treated, a plant will serve to cut from, when it may not be desirable to impair the beauty of more conspicuous specimens.

In the small conservatory put up by Messrs. Hartley, the red and white double-flowering Chinese Peaches were in bloom. The white kind is very showy, and is certainly a great acquisition to hardy gardening, as is also the red sort, which is extremely brilliant when the buds are about three quarters blown; but when fully expanded the flowers part with much of their brightness. Nevertheless it is highly ornamental, and contrasts well with the white variety. The large stove near this conservatory was gay with Begonias, which are most useful plants for such structures in winter. Some of the Orchids were also in bloom, and among them Mr. Blandy's variety of Dendrobium nobile was fine. This has deeper coloured and richer flowers than nobile. Baron Hugel's variety of Clerodendron splendens was in flower; but its blossoms want purity. They are too green a white; the foliage is, however, good, and contrasted with higher-coloured plants it will serve to create variety. Associated with other things in this stove was the brilliant Inga pulcherrima, whose clusters of scarlet tassel-like blossoms render it a favourite with all who see it. It is not difficult to manage, but in order to flower it well care must be taken to have the wood thoroughly ripened before winter.

The Rose-house, named in our last report as being on the plan of the "orchard houses," is finished, and has been planted at their own cost by Messrs. Rivers, Lane, and Paul. The plants are small and consist, for the most part, of Teas and Chinas, with a few Bourbons and Hybrid Perpetuals to give brilliancy of colour. Of the four rows in the raised beds in the centre, two are worked on the Manettii stock, so that the public will now have an opportunity of forming its own judgment respecting the merits of this kind of Rose for that purpose. Some of the plants are already throwing up flowers; and when they shall have become established and acquired size, this house cannot fail to be a favourite resort, especially with ladies.

In the large conservatory, which is becoming every day gayer, chiefly by means of the fine leguminous plants it contains, Rhododendrons and Camellias are finely in bloom. Among the latter, C. elegans is literally a mass of flowers of huge dimensions. Ceanothus rigidus, the hardiest and best of the Californian Ceanothes, and the white and tender C. cuneatus were in bloom. The former has flowers of a good dark blue. A fine plant of the old-fashioned Beaufortia decussata was producing its scarlet, bottle brush-like flowers in profusion on a shelf. When well managed, this is one of the best winter plants our cool-houses possess.

The alterations in the borders of the walk leading from the conservatory to the new flower-garden have been completed, and when the Grass seeds which have been sown shall have vegetated, this part of the garden will be much improved. The flower-garden also continues to be embellished with such plants as can be procured of a suitable character for it. It already contains a nice collection of hardy Heaths, some of which are in bloom, while Crocuses and Alpines are beginning to adorn the banks; but few things have as yet been able to advance much in consequence of the long drought and cold winds we have had. Once genial weather has set in, and things begun to flower, this garden will be found to be exceedingly interesting.

In the orchard there is every promise of a good fruit season. With the exception of Peaches on walls, the flower-buds have not hitherto been much tempted to part with their winter coverings. They may, therefore, be expected to be later than usual in blossoming, and, consequently, safer from the effects of frost. In addition to coping boards, the Peaches on the wall have had the protection of netting as far as it would go; the rest have been covered at night with light straw screens. The walks in this department have been all gravelled, and are in excellent order. The cart road through the kitchen-garden has also been similarly improved.

We had nearly forgotten to mention that, although all things have been for a long time in readiness for the reception of the new glass walls, they are not yet forthcoming, and they will now arrive too late for their merits to be tested this season. A new kind of glass facing to walls is about to be constructed by Messrs. Cottam and Hallam.

In the reading-room, lectures and other instruction have been afforded the young men, who prove that they appreciate the Society's kindness by their constant and regular attendance.

FLORICULTURE.

The Chrysanthemum.—The competition and encouragement held out by our great metropolitan societies has had the effect of raising cultivation generally in the neighbourhood of London to a point of excellence which it will be difficult to surpass. First to one flower especial attention has been paid, and then to another, till now nearly all plants to be found in ordinary gardens have been brought prominently before the public, whose taste, although capricious, is seldom for any length of time wrongly directed. True it may be occasionally imposed upon by some politic cultivator who, anxious to put a good face on a bad subject, draws all the branches of his plants to the front, while behind there is nothing but bare wood; but the artifice, though unnoticed or winked at for a while, is sure to be eventually exposed, and then plants alike bushy and well flowered on all sides take the place of unnatural one-sided productions. To the Horticultural Society of London we are certainly greatly indebted for the good it has effected, and is still effecting, in plant culture. It has also already done much, for the advancement of floriculture. Instead of Roses in the shape of cut blooms, arranged in bunches in boxes of moss, it has shown that its exhibitions can be adorned with plants beautifully grown and charmingly bloomed. For Carnations, Picotees, and Pansies, set up in the usual way in stands, despite of considerable opposition it has caused plants to be furnished; and now that the experiment has been made, and they have been seen, who shall question the propriety of this mode of showing them? We only wish that the Stoke Newington, and other Chrysanthemum Societies, may follow out the principle more extensively, in regard to our autumn flower. Cut blooms have been invited and encouraged by the former Society, until, through the skill of persevering cultivators, they have attained a size and magnificence which is quite astonishing; but although the flowers themselves are fine, the plants which produce them are unfit for inspection. We think this will be pretty obvious from the following description of them by Mr. Taylor, who stands at the very head of exhibitors of cut blooms. He says: "My object being to obtain large flowers, they (the plants) are not checked in their growth by stopping, or by the encouragement of under branches; they are therefore, tall, and to some appear unsightly; to remedy this defect, I intermix them with Camellias, the beauty of whose leaves afford an agreeable screen to their tall stems; by having the flowers on a level with the tops of the Camellias, a pleasing contrast is created, which is very effective." In order, therefore, that the appearance of the plants may be tolerated at all, the most out-of-the-way expedients are resorted to—in fact, they are buried among Camellias. Let us hope that a Society which so eminently encourages Floriculture, may still further promote plant cultivation. Fine blooms are all very well; but produced as stated they are bought too dear. Perfection in Chrysanthemum cultivation cannot be said to have been reached until blossoms of the size, form, and beauty of those we have seen at Stoke Newington are attached, and plentifully, to handsomely-grown plants, clothed with foliage to the very pot. Then, and not till then, will the means at command for improving this useful flower have been rightly appropriated. While cut blooms of the finest description must be had, however, we cannot do better than introduce to the notice of our readers the little book* on their production, from which we have quoted. It contains all that it is necessary to know on the subject of treatment, and it is enriched by carefully arranged lists of select varieties, both of large and small flowered kinds. We may hereafter return to this subject. *J. E.*

Camellias: *T.* This is considered by some to be a good time for re-potting such plants as have finished flowering; do not disturb the roots further than by just rubbing off a little of the surface soil. Keep somewhat close for a time, until the plants have become re-established; and when placed out of doors, let it be in a somewhat sheltered situation. Most sorts will now have commenced their new growths, and will demand earnest attention, or a "falling off" will be the result at next season's blooming time. Tall unsightly plants may be boldly decapitated, but the bloom will be lost for next season. We purchased the variety you mention at one of Mr. Stevens' sales; it is somewhat high priced, but it may be had in the trade. It is a large red. Gloire de Paris is a remarkably bold, deep, rosy carmine, with handsome broad stout petals, and freer from indenture than most sorts; it is a real gem. Comte de Paris is a neat imbricated flower, pale pink edge, white, or rather shading off to white, with here and there a few narrow stripes of the deepest rose. Front's White is a well-formed sort, with a few faint stripes of pale rose. *J. E.*

Catalogues received from Mr. Handasyde, Glen Nurseries, Musselburgh, and from Mr. Spary, of Brighton.

* A Treatise, &c. on the Chrysanthemum, by G. Taylor, Park-street, Stoke Newington, Middlesex.

Class Showing: *Z.* We would refer you to the "Midland Florist," where you will find elaborate arguments on the subject; we will return to this matter next week. *J. E.*

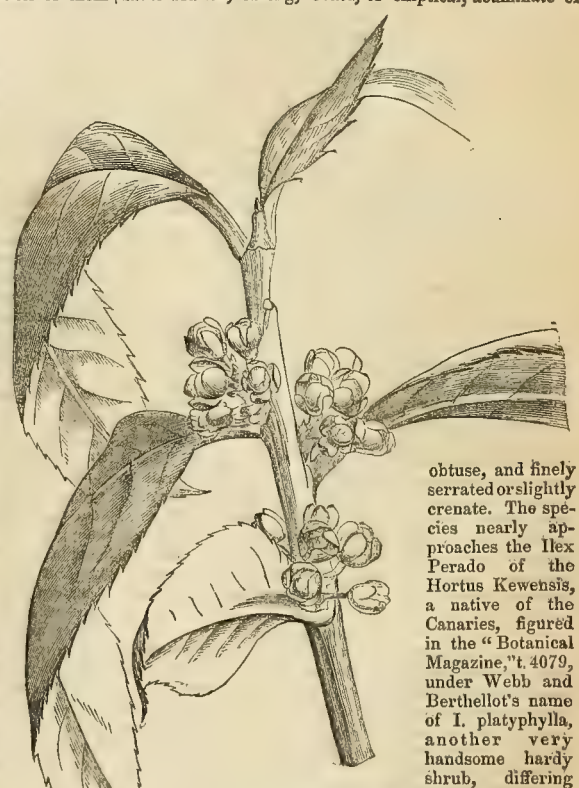
Cinerarias: *J Cook.* Send them again; too much shrivelled in the present instance for us to pass an opinion on them.—*W. T.* 1, Seedling of Lady Hume Campbell, sadly indented at the tip of each petal; 2, from Lettice Arnold, apparently better than 1, but so withered that its merits could not be determined. *J. E.*

Pansy: *L G.* For description of Sir J. Cathcart, see notice to "J. G." in our Number for March 20th.

Rhododendrons: *J R A P.* Your seedling named "Elizabeth" has flowers suffused with pink, and spotted on the upper petals with dark crimson. The truss is good, but individually the blossoms are too crumply and open; foliage large and handsome.*

Miscellaneous.

Ilex latifolia.—This is a stout, stiff, evergreen, hardy tree, of great beauty. Every part is entirely free from hair. The shoots, which are deep green or tinged with violet, are somewhat angular near the ends. The leaves, which are from 6 to 8 inches long, are deep green, not coloured at the edge, flat, oblong, acuminate, sharply and pretty regularly serrated, except at the base, which is entire, and gradually narrows into a petiole about three-quarters of an inch long. The flowers are small, hermaphrodite, pale green, in very close axillary racemes, about as long as the leafstalks, and supported by short, ovate, acute, shining, cartilaginous bracts. The berries, which ripen in February, are in short compact clusters, of a dull red colour, and nearly spherical; each contains from four to five stones, in which we have never succeeded in finding a kernel. This valuable plant passes under the name of Ilex latifolia, by which Thunberg designated a small tree called, in Japan, No-Ko-Giri; but, if the statement of that botanist can be trusted, his plant must be different, for he says the leaves are egg-shaped, and three inches long by two broad, which gives them an entirely different outline from the species before us, the proportion of whose leaves is not three by two, but six or seven by two, a very material difference. Nevertheless, in the absence of any authentic evidence, we leave the garden name as we find it, especially since it is probably the I. latifolia of Zuccarini and Siebold ("Floræ Japonicæ familiæ naturales," sect. i., p. 40), or I. macrophylla of Blume. According to the first of these authors, the leaves in the wild plant vary in form, being, on the same branch, oblong, ovate, or elliptical, acuminate or



obtuse, and finely serrated or slightly crenate. The species nearly approaches the Ilex Perado of the Hortus Kewensis, a native of the Canaries, figured in the "Botanical Magazine," t. 4079, under Webb and Berthellot's name of I. platyphylla, another very handsome hardy shrub, differing from this in bearing clusters of large white flowers, and fruit more than twice the size of that of the present plant. There is no doubt that this I. latifolia, of which we believe two varieties are in cultivation, and which is plentiful in the nurseries, is as hardy as the common Holly itself.—*Paxton's Flower Garden.*

Hardy Cochineal.—"This new Coccus (C. Fabræ)" says M. Guérin Méneville in "Comptes Rendus," "when crushed in linen or paper furnishes a red colour, sufficiently intense to raise hopes that it may perhaps contain as much colouring matter as the Mexican cochineal. What renders this indigenous cochineal very interesting is, that it would be possible to cultivate it and raise regular crops of it. It lives on the common Bean, on which it is so abundant, that I have been able, in a few hours, to collect a considerable quantity of these cochineals, by brushing the plants covered with them over with a cloth. I treated them in the same manner as that by which the Coccus Cacti is prepared—killing them in boiling water and afterwards drying them in the sun. By these means I have obtained an article

which offers a considerable resemblance to the cochineal of commerce, and may, even now, be the subject of some experiments in dyeing, should the Academy think fit to ask M. Chevreul to undertake them in his laboratories. As I brought with me a considerable number of living cochineals, I have been enabled to continue the study of their habits in Paris, and have seen that the myriads of eggs which they laid last autumn were hatched during the winter, and that young ones proceeding from them are able to live without nourishment until they meet with the plants on which they feed. I have instituted an experiment on rather a large scale at Sainte Tulle, and I hope this year to raise a sufficient crop of this cochineal to enable experiments to be made on larger quantities, should the results of those which I have ventured to ask of M. Chevreul give any encouragement to follow out this new application of entomology. Some very curious parasites on this cochineal have been discovered this winter, and will probably give occasion for some interesting scientific observations." *Annals of Natural History.*

Calendar of Operations.

(For the ensuing week.)

PLANT-HOUSES.

Although previous directions have been given on the importance of obtaining a short-jointed, sturdy habit of growth in ligneous plants, as a foundation for healthy specimens, we again advert to the subject, as this is the season, above all others, when attention should be directed to the point. It will be obvious that free admission of air, and in most cases, of light as well, are essential. In connection with this, allow space sufficient between each plant for the light to penetrate, and air to pass freely. The great object with cultivators of specimens is to get plants to open their blooms at one particular time ; considerable tact, and a knowledge of the habit of each plant is requisite for this. As a general rule, it should be observed, that no second growths should be permitted, and that the shoots for blooming, the ensuing year, should be selected of equal strength, at once, and sufficient in number for the desired purpose. A uniformity of growth will thus be formed, which should on no account be disturbed. When the growth is complete, the plants should be placed in a state of rest, and should not be excited into further growth. With those plants blooming on the current year's wood, the same principles, in regulating the preceding year's shoots, must be acted on. The floral display in the conservatory will now be at its height : those Chinese Azaleas which have been slightly forced will take the place of Camellias now on the wane ; in addition, the different species of Cytissus and Acacias will be in perfection, as will the Indian Daphnes, and the beautiful pea-blossomed plants from New Holland. If to these are added forced hybrid Rhododendrons and hardy Azaleas, the Chinese Weigela, Roses, including a good supply of the Teas, Cinerarias, bulbs, Mignonette, &c., a mass of bloom will be brought together which it will be difficult to match at any other season. Let every care be taken to water plants coming in bloom; more particularly to those which have been forced, as they are generally in small pots. The inside borders will now require liberal supplies ; keep the edgings and borders in the neatest order, as well as every part of the house, and preserve a uniform, enjoyable temperature. Shadings will be necessary during bright weather. Orchids will now be pushing into growth. The remarks we made on the desirableness of obtaining a simultaneous show of bloom in woody plants, apply to various kinds of Orchids. Keep up the requisite humidity, and though nothing like stagnation should occur in the material in which the plants grow, yet the syringe must be used pretty freely, especially in bright weather, to plants in active growth ; shading must be continued. Plants suspended in baskets or placed on blocks, should be frequently taken down and soaked in tepid water; as the syringe alone often fails in keeping such sufficiently damp.

FORCING DEPARTMENT.

Vinery.—Directly the berries in the early house show indications of colouring, gradually reduce the moisture, that by the time the Grapes are fully coloured, the air may be brought to a comparatively dry state. We do not advise the sudden withdrawal of this necessary element during the colouring process, having found a certain amount of moisture essential to the final swelling of the crop and healthy action of the leaves, in addition to the check this treatment gives to the progress of red spider ; of course an additional amount of ventilation by night, as well as by day, must be added. Pay attention to the succeeding houses by regulating the shoots as they advance, and keeping a progressive temperature in conformity with the daily increase of light and heat. Peach-house.—Tie in the present year's shoots when they get of sufficient length, and keep down spider and green-fly, which rarely do much mischief where good culture is maintained. The second house will require thinning ; the syringe or engine may now be plied freely, and the house closed somewhat earlier in the day ; give air early in the morning, or rather allow a slight circulation during the night : this precaution is become the more necessary, since large squares and close laps have made the greater part of modern forcing-houses more like a Ward's case, than the houses with open laps, and small squares of former times ; and yet, we are not quite sure if the latter (putting the deficiency of light out of the question), were not more in accordance with natural principles.

FLOWER GARDEN AND SHRUBBERY.

Among Calceolarias for grouping purposes, we have found Frost's Superb and Caiéana for dwarf yellow beds the best; Vicosissima is a good orange-coloured variety ; and Amplexicaulis, a pale yellow, for taller beds. Floribunda and Sulphurea splendens will be improvements, but at present are rather scarce. For dark coloured selfs and blotched varieties, Kentish Hero, Shankleyana, Sultan, and Gem, are the most useful. Both the tall and dwarf kinds of Lobelias are valuable for garden decoration. The latter, either as an edging to taller things, or alone for dwarf beds, are invaluable. Of L. Erinus compacta there are several varieties, varying somewhat in size and intensity of colour—deep blue. Australis and Coronopifolia are both nice things with lighter coloured flowers. Unidentata, deep purple, is useful to run over baskets, &c., or to cover the ground under taller plants. Lutea makes a neat dwarf yellow bed or edging. Some of the tall growing kinds, as Salteri, Magniflora, Ignea, &c., as scarlets ; Compacta, blue ; and others of intermediate colours, form splendid beds through the autumn : these latter require to be brought on in a slight heat, to get them some size before planting ; but they amply repay this extra trouble by their beauty. Petunias are so numerous that a selection is almost useless—for growing in beds select those of a decided colour that will not fade in bright weather, and of a dwarf sturdy habit. One-half of the kinds sent out will not live through two or three weeks rainy weather. Now rain has fallen, bring to a close alterations requiring the relaying of turf, and forward the preparation of ground intended for planting with evergreens this present spring, which may now be put in hand. In many places mowing will be necessary, and to insure a green close bottom through the season, be particular in cutting as close to the ground as possible the first two or three times.

FLORIST'S FLOWERS.

Carnations and Picotees must be potted forthwith, every day delayed will make against the bloom ; plant the layers firmly, and place oyster shells over the surface of the soil ; these will act beneficially in several ways, but particularly in preventing the soil being washed from the roots of the plants when watered, and at the same time excessive evaporation is avoided during the summer months. Some layers will possibly be rather long ; a severe wind might snap these over at the surface ; to prevent this mishap, small twigs about 6 inches in length placed by the side of the layers will prove an effectual safeguard. Plant out last year's seedlings in beds of well prepared compost for blooming : 6 inches each way will be found room enough to give them. Pot off rooted Dahlia cuttings, and put in others which are sufficiently long. Be more liberal in the supply of soft water to both Auriculas and Polyanthuses.

HARDY FRUIT GARDEN.

Now the weather has changed, some portion of the protective material placed over the wall trees may be removed, doing this by degrees ; this will admit more light and air to the blooms. Have the materials, however, ready to be placed on again, should frosty weather occur. Where the trees are covered with canvas on rollers, or netting, such should be drawn up in the morning and let down again each evening. Follow this practice till towards the middle of May, if you have the means of doing so ; gradually removing them a little earlier each morning, and putting them on later each night, that no check may arise by the entire removal.

KITCHEN GARDEN.

After a long period of drought, attended with the dryest atmosphere we remember, rain has fallen ; and advantage should be taken of this to complete the planting out of all crops required, or which the dry weather had prevented being earlier done. Vegetation, which has been nearly at a stand-still for some weeks, may now be expected to advance rapidly ; notwithstanding, we fear the early spring vegetables will be late. Hoe frequently between crops above ground, but do not care to draw a heap of earth round the stem of every Cauliflower and Cabbage you have got (will any one explain its utility ?) unless you wish to throw the rain from the roots of the plant. Sow Peas, Beans, and various other crops, as required. Attend to the French Beans in pits, and as they advance spread a little fresh earth between the rows. Pot and harden off Tomatoes, Chillies, and Sweet Basil. This latter and Sweet Marjoram should be sown at two or three times, to ensure a supply of the plant in a green state at all times. The herb compartment should now be regulated ; many of the kinds will require to be taken up and divided ; others cut back, and the whole should have a good dressing of fresh earth. If possible keep these useful things together, as it will save much time daily in collecting them for the kitchen. Divide and plant out in rows Chamomile, Peppermint, and similar things required either for distilling or drying.

State of the Weather near London, for the week ending April 1, 1852, as observed at the Horticultural Gardens, Chiswick.

March and April.	Moon's Age.	Barometer.		Temperature.					Wind.	Rain.
				Of the Air.			Of the Earth			
		Max.	Min.	Max.	Min.	Mean	1 foot deep.	2 feet deep.		
Friday.. 26	6	29.867	29.766	48	21	34.5	41	40	N.E.	.00
Satur.. 27	7	29.663	29.616	46	23	34.0	39½	39½	W.	.00
Sunday . 28	8	29.632	29.615	50	38	44.0	39½	40	N.E.	.00
Monday 29	9	29.533	29.271	58	45	51.5	40½	40	E.	.16
Tues. .. 30	10	29.378	29.200	56	45	50.5	43	42	S W.	.02
Wed. .. 31	11	29.852	29.500	48	39	43.5	44½	42	N.E.	.00
Thurs... 1	12	30.203	30.015	51	24	37.5	43	42	N.E.	.00
Average ..		29.732	29.569	51.0	33.4	42.2	41.5	40.8		.18

March 26—Clear; cloudy ; overcast.
— 27—Frosty ; cloudy, with cold dry air ; clear and frosty.
— 28—Frosty ; overcast ; slightly overcast at night.
— 29—Hazy ; fine ; slight dry haze; rain at night.
— 30—Rain ; cloudy and mild ; overcast.
— 31—Uniform haze ; overcast and cold ; cloudy.
April 1—Overcast and cold ; fine ; clear ; sharp frost at night.
Mean temperature of the week, 2 deg. below the average.

State of the Weather at Chiswick, during the last 25 years, for the ensuing week, ending April 10, 1852.

April.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds.							
						N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 4	56.0	36.8	46.4	11	0.46 in.	4	5	2	1	6	3	2	3
Mon 5	56.2	36.2	46.2	13	0.63	—	4	3	1	2	5	9	1
Tues. 6	56.6	36.3	46.4	10	0.30	3	2	2	1	4	8	1	—
Wed. 7	56.8	37.1	46.9	12	0.40	2	6	2	2	1	9	4	1
Thurs. 8	56.0	36.2	46.0	11	0.30	1	6	4	—	4	5	5	1
Friday 9	54.7	35.8	45.2	12	1.26	4	4	5	—	3	5	4	1
Satur. 10	54.9	34.1	44.5	11	0.26	2	6	4	2	4	3	4	1

The highest temperature during the above period occurred on the 9th, 1844—therm. 73 deg.; and the lowest on the 5th, 1812—therm. 23 deg.

Notices to Correspondents.

Birch Wine : *Const. Sub.* Wine made solely from the sap of the Birch, is a perfectly wholesome liquor, and may be drank in any moderate quantity ; but it is intoxicating, like other wine.‡

Books : *W J S.* London's edition of Repton, or Downing's "Landscape Gardening" may possibly suit you.

Bulbs : *L L.* Any kinds of hardy Gladiolus, Belladonna Lilies, Pancratium maritimum, Lilium candidum. The first in threes, the others singly.

Dead Limbs on Timber Trees : *E O J P.* You had better saw them off close to the trunk. Do it in the autumn, and fill the holes with Forsyth's composition, having first scraped out every bit of dead wood down to the quick. ‡

Drying Plants : *Enquirer.* Bentall's paper for this purpose is advertised in our volume for 1848, p. 362. We cannot recommend dealers. ‡

Gold Fish in Glasses : *Well Wisher.* We have inquired of Mr. Hooper, an extensive dealer in gold fish in Covent-garden Market, and he gives it as his opinion that bread is decidedly injurious to them; he finds nothing to answer better than biscuit (either Abernethy or captain's), put into the water, which should be changed two or three times a week. ‡

Impostors : *W W and others.* Many thanks. We were aware of some of the facts; and shall use discreetly the others. You are perfectly correct in your conjecture.

Insects : *P S T.* The Beech trees in your park are attacked by a species of Coccus, which may be destroyed by washing the trunks either with water heated to 145°, or with any common oily fluid, or weak turpentine. *W.*

Lawns : *A W.* Top-dress the ground with the burned soil, and just prick it in. You could not have done anything better.

Liquid Guano : *A B.* It is a suitable manure for Pine-apples Put the guano into a tub, pouring water over it ; stir it well up, and then use the water left in a perfectly clear state, after the guano has sunk to the bottom.‡

Names of Plants : *A S B.* Lastrea decomposita. *S.—L A L A.* Abutilon striatum.—*Iota.* The "Moss" taken out of a parcel brought from a tree growing at the edge of the great extinct crater in Hawaii consists of the hairs of a tree Fern. —*A Lover of Flowers.* The fragments appear to belong to Gentiana amarella. You will have the best chance of raising them, by sowing them in damp peat, under a handglass, in a shady part of your garden. We cannot presume to advise you as to the alternative you mention. It is doubtful whether you will be successful in any case ; as Gentians are not very easy plants to rear.—*G H B.* Dendrobium macrophyllum.

Matico : *C Kay.* This is a Peruvian plant, called Artanthe elongata. It is figured and described in Dr. Lindley's "Medical and Œconomical Botany," p. 133. It is related to the genus Cubeba.

Orange Trees : *T S, Clapham.* Wash their roots clean ; put them back into their tubs, with well-drained loam, rough, and mixed with plenty of rotten manure : plunge them in bottom heat, and when they have made their growth, put them in a sunny place. You will do no good with them in small pots, if they are large plants.

Roses : *Clericus.* They may be pruned in closely now. You may commence watering with liquid manure whenever the plants have begun to grow. ‡

Seed Trade : We continue to receive communications upon this subject ; but unless they reveal new facts, or throw fresh light upon the subject, we cannot give them insertion. Speculation and conjecture are inadmissible.

Stephanotis floribunda : *E C.* The fruit of this plant is not eatable ; it is acrid and poisonous.‡

The Crystal Palace : *X Y Z.* You will find a condensed account of the proceedings respecting this building in the news part of our Journal.

Tobacco : *R W.* Raise it in heat, and plant out singly about 2 feet apart, in rows 3 feet asunder, after all danger from frost is over. In preparing the leaves hang them up in an airy shed for a time to dry ; then throw them into a heap to ferment, then dry again, and the work is finished. ‡

Vinery : *G O L.* Your Peach and Apricot trees are too much shaded by the Vines, and too far from the light. Neither will fruit under the circumstances described.

Vines : *Woolton.* There can be no harm in covering your Vinery roof from this time, and for the summer, with Nottingham net of fine texture ; it will not be excessive shade, and will prevent scorching, &c. The border may be uncovered and carefully forked up as soon as the weather has become a little warmer. ‡

Misc. : *Constant Reader, Epsilon.* The paper you mention is published on Friday, the *Gardeners' Chronicle* on Saturday morning. If you have any difficulty in getting the latter, our London agent will supply you.—*Amateur.* Not knowing all the facts, we are afraid to mislead you by advice. If your gardener understands his business, you had better be guided by him ; if he does not, you had better change him. In matters relating to forcing, circumstances may render expedient a method which, under other circumstances, would be objectionable. No doubt the air of a Vinery should be warm, dry, and in rapid motion, when the Grapes are in flower : but this may not be incompatible with syringing. As to the Pines, any little check will throw them into fruit, if they are old enough, such as withholding water, &c. With regard to Roses, you will find Hybrid Perpetuals most useful, and you had better place yourself, for sorts, in the hands of some nurseryman of undoubted respectability. He will make for you a better choice than you could make for yourself. Pyrus japonica will combine well with Roses, &c., but you had better take the scarlet, not the white, sort.—*T W.* We cannot disclose the names of anonymous correspondents, who may have very good reasons for not desiring to be known. In fact the correspondence and interruptions to which they are subjected, sufficiently explain the reason of our concealment. We know them, whenever facts are mentioned, and have a conviction of their veracity and honesty. "Alpha" is one of the best practical gardeners in England.

Errata.—In last week's "Calendar," Art. "Flower Garden and Shrubbery," 8 lines from bottom, for "novel coloured *hue*," read "novel coloured *bed* ;" and 13 lines from bottom, for "light blue *red*" read "light blue *bed*."

PERUVIAN GUANO.

CAUTION TO AGRICULTURISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

ANTONY GIBBS AND SONS, AS THE ONLY IMPORTERS OF PERUVIAN GUANO,

Consider it to be their duty to the Peruvian Government and to the Public again to recommend Farmers and all others who buy to be carefully on their guard.

The character of the parties from whom they purchase will of course be the best security, and in addition to particular attention to that point, ANTONY GIBBS AND SONS think it well to remind buyers that—

The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 9l. 5s. per ton, less 2½ per cent.

Any resales made by dealers at a lower price must therefore either leave a loss to them, or the article must be adulterated.

HOSE FOR LIQUID MANURE, FIRE ENGINES, or GARDEN PURPOSES, made of Canvas, lined and coated with Gutta Percha. It is exclusively used by agriculturists, and at the Government Public Works, giving great satisfaction. Also, KASE'S FORCE and SUCTION PUMP, which is the most simple and complete; it will throw 40 gallons per minute, 40 feet high, and it is not at all liable to get out of order. Price 5l. 10s.; on wheels and stand, 7l. 7s.

BURGESS and KEY, 103, Newgate-street, London.

THE LONDON MANURE COMPANY offer the following Manures on the best terms, warranting every article strictly genuine:—Peruvian Guano, Superphosphate of Lime, Nitrate of Soda, Concentrated Urate, Peat Charcoal, Gypsum, Fishery Salt from Cornwall, also a constant supply of Salt for agricultural purposes; Linseed and Rape Cake. Peruvian Guano, warranted the genuine importation of Messrs. A. Gibbs and Sons, at 9l. 10s. per ton, or for 5 tons and upwards, 9l. 5s. in Dock.

EDWARD PURSER, Sec.
40, New Bridge-street, Blackfriars.

MANURES.—The following Manures are manufactured at Mr. LAWES'S Factory, Deptford Creek:

Turnip Manure, per ton	...	...	£7 0 0
Superphosphate of Lime	...	...	7 0 0
Sulphuric Acid and Coprolites	...	...	5 0 0

Office, 69, King William-street, City, London.

N.B. Peruvian Guano, guaranteed to contain 16 per cent. of Ammonia, 9l. 10s. per ton; and for 5 tons or more, 9l. 5s. per ton, in dock. Sulphate of ammonia, &c.

MANURE DEPOT.—PEAT CHARCOAL.

TO FARMERS, AGRICULTURISTS, AND OTHERS.

G. H. FOLEY, Essex Coal Wharf, Lea-bridge, Middlesex, Agent to the Irish Amelioration Society for the sale of the above. All needful particulars will be given on application at the above address.

Price of the unmixed Charcoal, 55s. per ton, sacks included. Mixed with Nightsoil, 50s. per ton, sacks included. Mixed with Urine, 70s. per ton, sacks included. Carriage to any of the Wharfs or Railway Stations, from 3s. 6d. to 5s. per ton extra, according to distance.

FOR PUBLIC SALE.

GUANO.—On MONDAY 19th April, 1852, at 2 o'clock precisely, at the London Corn Exchange Tavern, Mark-lane. By order of Messrs. ANTONY GIBBS AND SONS, the Importers, about 3000 Tons damaged PERUVIAN GUANO. —Catalogues and further particulars in due time from J. A. BUCKER and BENCRAFT, Brokers, 26, Commercial Sale Rooms, Mincing-lane.

TO AGRICULTURISTS.

OWEN'S ANIMALISED CARBON is now for Sale, at 2l. 5s. per ton in bulk.—This Manure has been introduced, with the most beneficial results, at St. Croix and the Mauritius, in the growth of the Sugar Cane, as proved by testimonials from the planters. The powerful fertilising properties of the Carbon have long since been acknowledged in Denmark, where it has been extensively used for agricultural purposes, as no less than 26,000 tons have already been sold. It is ready for immediate use, having no occasion to be ground, is equally as portable and diffusible as bones, and the low price at which it can be sold in this country must always be a paramount recommendation. *A liberal Commission allowed to Dealers or Agents.* For copies of the testimonials of its utility in this country, also for samples, apply to J. OWEN and Co., 3, Rood-lane.

Messrs. J. OWEN and Co. are now importing from their Copenhagen Manufactory SUPERPHOSPHATE OF LIME, of the very best description, containing at least 18 per cent. of Neutral Soluble Phosphate of Lime, and capable of furnishing at least 3 per cent. of Ammonia to the Soil. The "Analysis" is made by Professor J. THOMAS WAY, Consulting Chemist to the Royal Agricultural Society. The price, in London, of this powerful Manure, is 7l. per ton, cash, or Banker's Bill on London.

CHARCOAL AND SEWAGE MANURE.—Promote the Health and Wealth of Town and Country by increasing the use of that valuable Manure PEAT CHARCOAL, impregnated with the fertilising matter of LONDON SEWAGE. The ammonia, phosphates, and fæces are absorbed, and the water pressed out bright, palatable, and soft.

Sold at the Charcoal and Sewage Works, Stanley Bridge, Fulham, Middlesex, at 60s. per ton, 4s. per cwt., 2s. 6d. per half cwt.

FOSSIL BONES AND PSEUDO-COPROLITES.

(FROM THE SUFFOLK CRAG).

EDWARD PACKARD AND CO., of Ipswich, having erected very powerful Machinery for the purpose of reducing these Phosphatic Nodules to a fine Powder, and being in the immediate locality of where they are found, are now prepared to supply them on the most economical terms, in any quantity, either Ground, Whole, or Dissolved in Acid. They form the cheapest source of Phosphate of Lime in the market, and are peculiarly eligible for manufacturing Superphosphate of Lime in conjunction with Bone.

Prices and every information connected with their use forwarded on application to EDWARD PACKARD and Co., Artificial Manure Manufacturers, Ipswich, Suffolk.

FINE LONG RED SURREY CARROT.—A limited quantity, at 1s. 6d. per lb.
HART and NICKLIN, Seed-men, Guildford, Surrey.

ALSIKE CLOVER.—This is a hybrid between the White Clover and the Red Perennial, being intermediate with them both as to size and colour of the blossom. Having had a plot of it in our sample ground for three years, we are satisfied of its being a perennial Clover. Price 2s. per lb.

Also, TRUE PERENNIAL RED CLOVER, 9d. per lb., or 75s. per cwt., carriage free.

JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

SKINLESS CHEVALIER BARLEY.—This is as superior to Peruvian as Wheat is to Rye. It was exhibited by Messrs. SUTTON at the GREAT EXHIBITION, weighing 65 lbs. per bushel, and "honourable mention" of it was made in the report of the Royal Commission. It should be sown in April, 3 bushels to the acre; price 16s. per bushel. The stock being limited, early orders will be necessary to prevent the disappointment experienced by many who applied for it last year after we had sold out.—Address, JOHN SUTTON and SONS, Seed-growers, Reading, Berks.

SUTTON'S PERMANENT GRASSES.—THE SUPERIOR QUALITY OF SUTTON'S GRASS SEEDS is plainly indicated by the numerous Orders they are daily receiving, through the recommendation of former customers. The prices are as under:—

For best permanent Meadow and Pasture, mixed expressly to suit the soil	Per acre. 24s. to 28s.
For best Clovers and Grasses (for one, two, or three years' lay)	14s. to 20s.

The sorts consist of true Perennial Grasses and Clovers, as named particularly in our Advertisement on the last page of the *Gardeners' Chronicle* of 20th March.

JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

WINTON'S PARKES' NEW STEEL DIGGING FORKS never bend, strain, or break, but retain their sharp points to the last, requiring no repair. Mr. Mechi says, "They answer admirably in breaking our heavy clays, and mixing the soil in an extraordinary manner, and facilitate labour quite 20 per cent."

Early orders are requested, as the demand is very great. They are executed in the rotation in which they are given.

BURGESS and KEY, Agents, 103, Newgate-street, London.
Priced Lists sent on application.

IMPROVED GRASS CUTTING & ROLLING MACHINE.

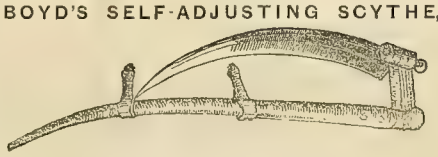


UNDER ROYAL PATRONAGE.

ALEXANDER SHANKS AND SON, MACHINE MAKERS, Arbroath, Forfarshire, respectfully solicit notice to their Improved GRASS CUTTING AND ROLLING MACHINE for LAWNS, the complete success of which, and its acknowledged excellence and superiority over all other Machines of the kind, has now been fully confirmed. Testimonials and further particulars will be immediately franked on application.

AGENTS, for London: Messrs. J. and C. Lee, Nurserymen and Seedsmen, Hammersmith; Hertford: Mr. George Folkard, Ironmonger; Liverpool: Messrs. Charles D. Young and Co., Castle Buildings, Derby-square; Sheffield: Mr. J. Law, Curator of the Botanic Gardens; Chester: Messrs. F. and J. Dickson, Nurserymen and Seedsmen; Glasgow: Messrs. Chas. D. Young and Co., 32, St. Enoch-square; Edinburgh: Messrs. Chas. D. Young and Co., 48, North Bridge; Perth: Messrs. Dickson and Turnbull, Nurserymen and Seedsmen.

BOYD'S SELF-ADJUSTING SCYTHE,



APPROVED BY PRINCE ALBERT, AND UNIVERSALLY RECOMMENDED BY PRACTICAL AND SCIENTIFIC MEN.

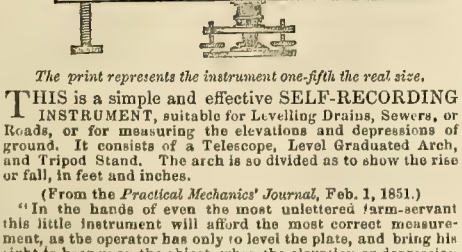
THIS SCYTHE, when out of use, shuts up like a knife. It can be adjusted to any angle in one minute (even by persons quite unused to the implement), without the assistance of blacksmith or forge. It may be used by amateurs as well as regular labourers, without fear of accident or injury, thus rendering Mowing an easy, safe, and economical operation.

To be had of all Ironmongers, Nurserymen, &c., in the Kingdom; and Wholesale and Retail at WM. DRAY and Co.'s Agricultural Implement and Machinery Warehouses, Swan-lane, London Bridge.—A liberal discount allowed to the Trade.

DRAINAGE—ROAD MAKING.

NEW LEVELLING INSTRUMENT.

(REGISTERED No. 2602.)



The print represents the instrument one-fifth the real size.

THIS is a simple and effective SELF-RECORDING INSTRUMENT, suitable for Levelling Drains, Sewers, or Roads, or for measuring the elevations and depressions of ground. It consists of a Telescope, Level Graduated Arch, and Tripod Stand. The arch is so divided as to show the rise or fall, in feet and inches.

(From the *Practical Mechanics' Journal*, Feb. 1, 1851.)

"In the hands of even the most unlettered farm-servant this little instrument will afford the most correct measurement, as the operator has only to level the plate, and bring his sight to bear upon the object, when the elevation or depression is given at once. It will be a most useful contrivance for Draining or Road Making."

Price, with parallel plate screws, 4l.; convenient levelling pole, 4s.—Made only by GARDNER and Co., 21, Buchanan-street, Glasgow.

DRAINING TILE MACHINES & CLAY GRINDING MILLS.

MR. SAMUELSON, BRITANNIA IRON WORKS, Banbury, Oxon (Successor to the late James Gardner), to avoid the disappointment experienced last year as regards the delivery of his IMPROVED DOUBLE SPEEDED TILE MACHINES, will feel obliged by orders for this season being given as early as possible.

Price of the small Machine, to deliver 4000 1½-inch or 3000 2-inch pipes in 10 hours, 14l.

Delivery free to all places on the London and North Western and Great Western Railways.

Drawings of the above, and his General Implement List may be obtained on application.

M'CORMICK'S AMERICAN REAPER.

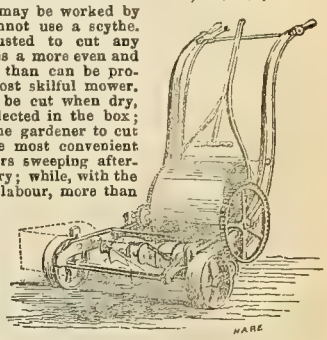
BURGESS AND KEY, Agents, 103, Newgate-street, London.—Extract from Mr. Pusey's Report on the Agricultural Implement Department, Great Exhibition.—"Mr. M'CORMICK'S Reaper, in this trial, worked as it has since worked at Cirencester College, and elsewhere, to the admiration of practical farmers, and therefore received a Council Medal. Mr. Hussey's sometimes became clogged, as in the former trial at Tiptree, and therefore could not possibly obtain that distinction."—Price of Reaper, 25l.

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JOHN FERRABEE AND SONS,

PHŒNIX IRON WORKS, NEAR STROUD,
GLOUCESTERSHIRE.

BUDDING'S LAWN MOWING MACHINE,
WITH REGISTERED IMPROVEMENTS, No. 3074.



This Machine may be worked by persons who cannot use a scythe. It can be adjusted to cut any length, and leaves a more even and uniform surface than can be produced by the most skilful mower. The Grass may be cut when dry, and may be collected in the box; which enables the gardener to cut his lawns at the most convenient time, and renders sweeping afterwards unnecessary; while, with the same amount of labour, more than double the quantity of work can be done than with a scythe. It is very durable, easily sharpened and kept in order, and its management is extremely simple.

J. F. and SONS, who were the sole Manufacturers of BUDDING'S MACHINES under the Patent, and who have produced and sold nearly 4000 of them, have this year increased their efficiency and perfected their operations, by improvements which are protected by Registration. The Improved Machines, in addition to the Registration Number—3074, have the name, "J. FERRABEE & SON," cast on the frame; and none should be purchased without this guarantee.

Hand Machines are made of three sizes—cutting the several widths of 16, 19, and 22 inches. The smallest may be worked by one man; the others require the assistance of a strong boy.

Horse Machines are made of two sizes; one cutting 30 inches and the other 36 inches wide.

PRICES:—

16-inch Machine ...	£5 10 0	22-inch Machine ...	£6 0 0
19-inch ,, ...	6 0 0	30-inch ,, ...	13 0 0
36-inch Machine		£15 10 0	

HUSSEY'S AMERICAN REAPER.

Price 18l. complete, with Delivery Board, &c.



HUSSEY'S "CHAMPION" REAPER IN YORKSHIRE.

From Sir Tatton Sykes, Bart., to Mr. Crosskill.

Sledmere Castle, Driffield, Sept. 9th, 1851.

Sir,—I have just been seeing your Machine for reaping, and am very much pleased with it. It does its work beautifully, and I have no doubt they will soon be in general use.

I am, sir, your obedient servant,
(Signed) TATTON SYKES.

HUSSEY'S "CHAMPION" REAPER IN LINCOLNSHIRE.

Fairford House, Louth, March 13, 1852.

Sir,—I enclose a Cheque for 18l., the cash price of Hussey's Reaping Machine. I should have done this earlier, but have been much engaged, and waited to try it. I have done so on Wheat Stubble, and find it answer beyond my most sanguine expectations. I am, yours, &c., (Signed) WM. J. OSLEAR.

To Mr. Croskill, Beverley.

W. CROSSKILL will warrant Hussey's Reaper to cut "standing" or "laid" Corn, across "ridge and furrow." W. C. is making three Reapers a day for purchasers who have already given orders for delivery in May, but cannot guarantee to deliver future orders in time for Harvest unless given immediately. Full particulars and Report of the Cleveland Challenge and Trial, &c., will be forwarded, gratis, on application per post.

CROSSKILL'S "COUNCIL" GREAT MEDAL

PATENT CLOD CRUSHERS AND WHEAT ROLLERS,

For Rolling young Wheat in the spring, &c.

At the Great Exhibition the highest award of the Council Prize Great Medal was awarded to CROSSKILL'S Patent Serrated Roller and Clod Crusher, with this commendation—"It repays its Cost the First Season of its use, &c." Reduced Prices, 18l. size, now 15l. cash.

CROSSKILL'S "COUNCIL" GREAT MEDAL

ONE-HORSE CARTS,

Mounted upon Patent Wheels and Axles, manufactured almost entirely by machinery. REDUCED PRICES—TEN PER CENT. DISCOUNT off Orders for Three Sets of Patent Wheels and Axles.

CROSSKILL'S "COUNCIL" GREAT MEDAL MILLS,

The most powerful and economical Mills, of Two, Four, and Six-horse Power, for grinding all kinds of Farm produce, including Bones for Manure; and particularly recommended where Steam Power is used.

Lists of Prices may be had gratis, on application per post.
Please Address—MR. CROSSKILL, BEVERLEY.

The Agricultural Gazette.

SATURDAY, APRIL 3, 1852.

MEETINGS FOR THE FOLLOWING WEEK.

WEDNESDAY, April 7—Agricultural Society of England.
THURSDAY, — 8—Agricultural Imp. Soc. of Ireland.

SOME 50 years ago, a farmer, on entering upon possession of a farm at a considerable rise of rent, was told by the outgoing tenant in a very friendly manner, "That all had been done in the way of improve-

ment that could be done, and that the rent promised was altogether incompatible with the prices of produce." Nevertheless, the farmer occupied the farm for 38 years, at the rent promised, but declined to give an advance, for the same reason as his predecessor, we believe, and, consequently, left it for America. When he took possession of the farm the price of Wheat was from 70*s.* to 80*s.* per quarter; when he left it, from 45*s.* to 55*s.* During his occupancy, he drained extensively on the old system, spared no expense in cultivation and manure, cropped judiciously, did something more than double the produce of the farm, and, in short, was what was termed the crack-farmer of the district, so that at the expiry of his lease the lands fell into the hands of the landlord because no one would give the advance of rent. By the judicious investment of a little more capital in draining, and similar improvements, however, the landlord got his advance of rent, and the farm is now a better bargain, with Wheat at 45*s.* per quarter, to the present tenant than it was to either of his predecessors, more especially the former of the two. In 1852, for instance, with Wheat at 45*s.*, the farm is a better bargain than it was in 1805, with Wheat at about 87*s.* In the former case the tenant, after balancing his books, will have more credit with his banker than the tenant had in the latter case.

Such is a brief history of the progress of improvement on one farm for a very short period. What do we learn from it in these pressing times? Of the many valuable lessons which it contains (valuable because practical) we can only glance at a very few.

In the first place we learn from this example:—That two agencies are brought to bear upon the resources of the farm, the one chemical, and the other mechanical; and that each of these is of a two-fold character—the food of plants and animals being the two chemical agents—and machines brought to bear upon the soil, such as ploughs, and upon its produce, such as reaping, thrashing-machines, &c., being the mechanical agents. The object of the first of these classes is to increase the quantity of the produce, and the object of the second is to reduce expenses; consequently, the joint co-operation of both agencies is to reduce the cost of agricultural produce, in other words, "improvements in agriculture cheapen produce."

The second lesson which we learn from this example is equally simple, and is as follows:—Any attempt to maintain the price of agricultural produce at a constant pitch is evidence of a stationary position in the march of agricultural improvement.

This proposition may be said to be a mean between the last and its converse, and hence demonstrable accordingly; for, since improvements reduce the price, and *vice versa*—it follows that, supposing we are left to ourselves to stand still or remain stationary in improvements, were this possible, growing the same unvaried quantity of produce would be to remain at one level of price, and *vice versa*.

Although the truth of the above proposition cannot be questioned in practice, yet, at many a fireside a uniform level of price is a favourite theory; while the descending scale of our first proposition is generally kicked to the back of the door.

We cannot leave this proposition without noticing a fact corroborative of its truth. We allude to the comparative stand-still practice of agriculture over the continents of Europe and Asia, and the consequently more uniform level of price and condition of farmers than has been experienced in Britain. No doubt the price of produce in those two departments of the globe has been influenced by an increase or decrease of the precious metals; but, making the necessary allowance for circumstances of this kind, it will be found that the position of their agriculture and farmers—a position by no means to be coveted by us, very forcibly exemplifies the truth of our proposition. There are no doubt some small exceptional spots which stand forth very prominently on the continent of Europe. We have but to take a retrospective view of the agricultural implements of the Great Exhibition of the bye-gone year to perceive this; and no doubt the living realities of daily practice tell a more lively tale to this effect than did the Crystal Palace itself; but, generally speaking, an overwhelming mass of facts will be found ready to bear out the truth of our proposition.

The next inference which we deduce from the above example is the following—"An increase of produce is more beneficial to the farmer than an increase of price, the increases being of equal value." The truth of our proposition depends upon the difference in the amounts of capital invested under the two systems. Farmers are familiar with the fact that it is much easier to stock a farm in a plentiful and cheap year, than in one of scarcity and high prices. The difference between the two is by no means a trifle; for when seed, bread, and horse corn are high, up also gets every other item of the farmer's expenditure, and the whole of this increase is a dead outlay of stock or working capital during the remainder of the lease.

The main point, as related above, is a true history of actual fact—and apart from any particular lessons it may teach, it is surely instructive enough on the wonderful elasticity and wealth of resource which British agriculture can boast, whatever the hardship to which its practitioners have been often subjected.

ROTHAMSTED AND THE CRITIC "R."

We will now adduce, by direct quotation, some instances of classification surely regardless enough of all botanical distinctions, when the nature of the particular point under consideration at the time seemed to require it. In the Royal Agricultural Journal, Vol. viii., Part II., page 496, we say:—"The *cultivation*, *habits*, and *uses* of the *Turnip* are well suited to form a contrast to those of our *grain crops;* and the plant itself may, *to some extent*, be taken as the type of the green or fallow crops, a main effect of which is the preparation of the soil for the after growth of corn. The essentially *artificial* condition which is induced in the cultivation of the Turnip plant for *feeding and manuring purposes*, is most strikingly illustrated by the effect of climate and manures on the quantity and composition of the produce."

Again, at page 530, "The contrast observed in the effects of ammoniacal salts upon *Wheat* and upon *Turnips* is very remarkable, and affords a striking illustration of the widely differing requirements and sources of growth of the corn-exporting 'white crops,' and the home-consumed 'green or fallow crops,' of which classes respectively the two plants may be considered as the types." And after detailing the effect of cultivation upon the quantity and quality of the Turnip, we say (page 553), "We think that in these facts we have a beautiful illustration of some of the *physical* and *physiological* characters upon which depend, materially at least, the economic value of the Turnip in rotation with corn. The true *economy* of alternate cropping, whilst, however, it is intimately associated with functional differences, such as we have shown to exist in the selected plants, yet depends much also on the distinction and uses of the produce, independently of which the peculiar accumulative tendencies of the different crops could not be rendered profitably subservient."

Surely in these sentences *botanical* classes are sufficiently subordinate to the position and character of the crops *as elements of rotation;* the whole contrast being here drawn, not between class and class, but in these instances the one broad distinction only is made between the *grain* crops on the one hand and *all* the green or fallow crops on the other, when considered in their *agricultural function* alone—that is, as opposing or complementary elements in our rotations.

Nay, further than this, speaking of the Turnip plant, "*grown for feeding and manuring purposes*," we have designated it, as far as regards its cultivation and the effect of climate and manures upon it, as being of essentially *artificial* character; and of course, therefore, in the degree in which it is so, in no way strictly comparable with its congeners grown under favourable circumstances for the perfection of their natural seed. And here, again, we may illustrate the curious coincidence between our own views and those of our critic—*our very ideas*, in a slightly varied form, but with identity unimpaired, being brought by him as corrections of those which he has chosen to attribute to our papers. Thus, after quoting the following passage from Dr. Daubeny's lecture at Oxford, "Turnips, which contain more nitrogen in proportion than the Grasses, can dispense with ammoniacal manures, provided only sufficient superphosphate be administered to them in an early stage of their growth," he says:—"He thus so far coincides with Mr. Lawes, *and refers the supposed property in the Turnip to a difference in their organisation from the Grasses.* But we maintain that it arises chiefly from the totally opposite conditions in which they are grown. For if Dr. Daubeny would only view the atmospheric conditions under which Wheat and Turnips are grown in our agricultural rotations, and compare the 'vivifying influences' of early spring, when the Wheat developes its primary organs, with those which exist when the Turnip unfolds and expands its leaves, he would at once perceive that this is the principal cause of difference."

Now, in the first place, we *never did say any such thing* as that Turnips could *dispense with ammoniacal manures, provided only sufficient superphosphate be administered to them in an early stage of their growth;* and in the second place, it will be seen, by the quotations from our papers given below, how far we attribute the different position of Wheat and Turnips in our agricultural rotations thus exclusively to a difference in the organisation of the latter as compared with the Grasses, as the writer, "R." here alleges.

But further he says, "Many of the fanciful distinctions which are often drawn and made in regard to the fictitious value and effects of different specific substances on certain classes of vegetables, are, in a greater measure, due to the state in which we have placed the plants, than to the fact that the food or requirements of our crops are different.

And again, speaking of the different powers of reliance upon the atmosphere for nitrogen of different plants, he says:—"In this respect the Wheat-plant will no more admit of being taken as a type of the Graminaceous order, or even of the Cereals, than the wild Mustard can be taken as a type of the nitrogen collecting powers of the Turnip." And in another place, he says:—"But on soils where Wheat is not increased by phosphates, the vigour of wild Mustard will not be increased by the same means. When growing in a dry atmosphere, this weed must have nitrogen, and thus it is a most exhausting plant among corn."

And again, "If the Turnips at Rothamsted had been allowed to remain on the same ground till July, five months of extra growth would have been gained, and very probably a considerable quantity of nitrogen would have disappeared in the flowering and seeding. There is, no doubt, a large quantity of nitrogen given off in the aromatic principle of the flower, as well as in the transformation of the succulent matters of the leaves and bulbs to seed."

He thus claims then for the wild Mustard, the Turnip, and the Rape, when growing to flower or seed, qualities opposite to those which characterise the Turnip when grown in our rotations as a *root crop*, and such as are closely allied to the conditions required by our cultivated Wheat crop. Now, we have already stated that throughout the whole series of our papers, the class to which the wild Mustard and the Turnip belong, viz., the Cruciferous, was only once mentioned, and then *only to repudiate* the division in *agriculture* into botanical classes in respect to those of our crops which are, in a sense, *artificial products*, such as the *roots*, &c. But not only have we done this, but we have particularly drawn attention to the contrast between the circumstances which would be suited to the growth of the Turnip when cultivated for its natural seed, and when therefore it would compare better with the wild Mustard, flowering and often seeding as it does in our corn fields, and those which are favourable to its growth as a *root crop*. And we have shown that under such circumstances, viz., those consistent with its natural and individual tendencies, the very opposite characters of soil, climate, and manuring are required to those which we claim for it *when grown as a root crop in our rotations;* indeed, so clearly are these distinctions insisted upon by us in our papers, and so emphatically have we repudiated any arbitrary and "*inflexible*" adherence to "classes," that we could not wish to have been more guarded on the subject, had we even foreseen all these created objections of our critic. In illustration, we quote the following sentences from our papers:—

After having described the conditions of Turnip-bulb formation, we say (page 533 of Vol. viii. Part II. of the Royal Agricultural Journal), "These conditions, compared with those which are required in the culture of Wheat, are opposed to one another in almost every particular; but as we proceed we shall see, that of the observed differences much is doubtless due to the essential distinctions between the tendencies of the natural families to which the plants belong; *yet much of it is also attributable to the fact that in the case of the Turnip it is not the seed that is the object of our culture, but a monstrous accumulation that could only take place under a somewhat unnatural or artificial balance of the constituents of supplied food, and under such a condition of climate as should be adverse to seed forming.*"

And again (p. 557), "We have supposed that *bulb* formation, in the degree in which it is developed for feeding purposes, is a disposition of matter existing in quantity beyond what is *essential* to the health of the natural plant." * * * And at page 552, "From which, again, we may perhaps gather that the *cultivated bulb* is the result of a continued accumulation of secreted matters formed in quantity *beyond* the essential requirements of the plant *as such*."

But we will bring yet another passage (page 533): "It is known that where the Turnip is grown for its natural seed product, oil,* a heavier soil, richer manuring, and, during a considerable period of the growth of the plant, a much higher temperature, are required than when the bulb is to be produced. Under these circumstances there will be much less fibrous root thrown up to the surface; the root is scarcely bulbous, but fusiform, tapering rather than spreading laterally; the leaves and stem are much larger, both actually and proportionately to the root; and the organic manures should contain *more nitrogen and less carbon. Were we, then, to cultivate the Turnip for its most natural products, the treatment it would require would much more nearly approach that adapted for Wheat than at present; the deviations now observed, and which have been referred too exclusively to the natural specialities of the plants, would be greatly lessened, and the character of the plant as a* FALLOW CROP *would be lost.*"

Again, we say (Vol. viii., Part I. of the Royal Agricultural Journal, p. 238)—"In the seeds of Cruciferous plants, Turnips and Rape for *example, a non-nitrogenous product, oil, seems to abound*, [and we might expect that ammoniacal manures would tend to enhance its production in such plants, in like manner as that of starch is increased in the seeds of the Gramineous family."

So much, then, for our "*inflexible and unnatural*" division into "*classes*" of plants as grown in our agricultural rotations; and so much as to the probable source of the opinions of the writer "R.," which he

* Several of the important oils of commerce are, indeed, obtained from species of the same *genus* as that to which the Turnip itself belongs, viz., Brassica.

brings in argument against those which he has first created and then attributed to us. A more apt scholar, indeed, than this critic has proved himself to be, is seldom met with, for so perfectly does he seem to have made our views his own, as to be able to put them forth again in his own and different words; and yet, as we have already said, with precision really curious. But surely there is some ingratitude in then turning round and saying, that it was not these truths in which we thus agree, but their very opposing errors, that we did our best to teach him.

The last series of quotations brings us naturally to the representations that have been made of our views on the culture of the Turnip in our rotations, and we propose, therefore, to select this point as the next in order for our remarks. *J. B. Lawes.*

Home Correspondence.

The Metropolitan Commissioners of Sewers having some time back extended their powers to the parish of Lewisham, operations have been going on rather extensively for the complete sewerage of the district, including Sydenham, Lee, Blackheath, &c. As the rate for sewerage, however, has been levied on all descriptions of property, including land used for agricultural purposes, the farmers have felt its operation rather heavily (some rates being as much as 6*d.* in the pound); and they, contending that they derive no benefit whatever by the introduction, have lately held several meetings to consult how they can best rid themselves of the burden. Meetings have also been held in the parishes of Carshalton, Ealing, East Ham, Eltham, Highgate, Isleworth, Mortlake, Totteridge, and other parishes within the 12 mile circle of St. Paul's, to devise means to get land used for agricultural purposes exempted from the operation of the new bill about to be brought before Parliament; and Mr. Downes, solicitor of Bromley, Kent, has been for some time engaged in organising a central committee of delegates from all the parishes within the operation of the present commission, which extends 12 miles round the metropolis, and which will meet at the Mark-lane Tavern on Monday next, at 3 o'clock, to forward the objects in view. The Market Gardeners' Society are also bestirring themselves to get their land relieved from the rate in the forthcoming bill, and have joined the central committee of the farmers to try to effect their object. *From a Correspondent.*

Wheat Hoeing.—I think I never troubled you in this way before, and perhaps you think it a simple, if not a silly, question; but I think it of importance: "Is it any good (in Essex) to hoe Wheat in the spring, if the land is clean, and there are no weeds to kill?" Some of my neighbours would not have their Wheat hoed, if you would do it for them without charge. I think it does good, especially if it is done early. *J. F. Piper.* [So do we.]

Transfer of Land.—I do not believe there is a single landowner in England who will not most readily, and many of them painfully, bear witness to the ruinous effects of the law as it is at present carried out in the transfer of landed property;—and I think, with your able correspondent "Scotus," that no subject of greater importance can occupy the attention of the landed interest at the present time. I have had some experience myself, partly in a private and partly in a professional capacity, and can by no means bear testimony to the average of the expense attending transfers being anything like so moderate as that lately given in your columns by a "Country Attorney;" but I know that in many cases, where the title was clear enough, had it not been the office of some artful special pleader to cast a slur upon it for his own purpose (which slurs or objections are always waived after the fees are paid), about four transfers swallow up the whole of the purchase or mortgage money. It has for a long time occurred to me that this might be remedied by registering, as pointed out by "Scotus," although I was not at all aware of the law in Scotland. "C. W. H." touched ably on this subject in your Paper, and I was in hopes that his rich vein would have supplied a more copious stream hereafter, and I hope so still. And if Mr. C. Dickens could find half an hour's leisure to expose the enormous and unnecessary expenses to which the land is liable under the present system, in the same manner as he has the patent laws, I doubt not that it would be equally successful in calling the attention of our legislature to a subject of such vast importance. It ought to be enough, surely, after encountering the expense of abstracts of title—answering objections thereto—verifying same—drawing deed of conveyance—making fair copy—copy to keep—drawing case for counsel's opinion—fee therewith, &c, &c.—without, in the event of another transfer being necessary, as frequently occurs in mortgages, having to go through all this expensive and vexatious course a second, a third, or a fourth time, as is the case at present; as great a disgrace as it is a curse to this lawyer-ridden country. *A Country Gentleman.*—There can be no doubt that, whatever drawbacks there may be to the ready convertibility of any description of property, the removal of these must to a certain extent increase the value of such property. How far it would do so with regard to land is another question, and one which, I submit, time and practice alone would solve. It should be remembered that, with an increased facility in the transfer of land, a large quantity probably would be thrown into the market, which in some measure would, undoubtedly, for a time keep down the price—not below its present value, but below what otherwise might be supposed to be its increased value, owing to the restrictions on its sale being removed. Without doubt, however, after a short period, if not immediately, the value of land would be considerably improved. *Britannicus.* [Our correspondent forgets that if much more land came into the market, ten times more purchasers would compete for it. The remainder of his letter touches upon matters respecting which we are not disposed to open a discussion. General taxation is far too wide a subject for our limited space.]

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

A Weekly Council was held at the Society's House in Hanover-square, on Wednesday last, the 24th of March: present, Colonel Challoner, Trustee, in the Chair; Lord Berners, Mr. B. Almack, Mr. Raymond Barker, Mr. Hodgson Barrow, M.P., Mr. Brandreth, Dr. Calvert, Captain Stanley Carr, Mr. John Church, Mr. Capel Cure, Mr. Fuller, M.P., Mr. Gadesden, Mr. A. Goddard, Mr. Fisher Hobbs, Mr. Law Hodges, M.P., Mr. Love, Mr. Maddison, Mr. Majendie, Mr. Mainwaring Paine, Mr. Rowlandson, Prof. Sewell, Prof. Simonds, Mr. Slaney, M.P., Mr. Reynolds Solly, Mr. Trench, and Prof. Way.

Dairy Management and Milk Pans.—Capt. Stanley Carr in the year 1839 favoured the Society with a series of valuable and interesting observations, on the Rural Economy of North Germany, and especially on that of the Duchies of Schleswig, Holstein, and Lauenburg, in the latter of which his own estate lay. These observations, founded on his own extended personal experience, were printed in the first volume of the Society's Journal (pp. 124—134, and 371—387), the first series of them being honoured by the award of the Gold Medal of the Society. In those communications, Captain Carr makes the following remarks on the milk-cellars, dairy-maids, and milk-pans, which we select on this occasion, as having immediate reference to the statement made by Captain Carr to the Council at this Meeting, and to the discussion by which that statement was followed.

Milk Cellars.—The size and site of the milk cellar are esteemed by the Holsteiner as matters of first-rate importance. It ought to front the north, be shaded from the southern sun by rows of trees—Elder being especially selected for this purpose—and, indeed, placed if possible near the windows, on account of their influence in keeping off the insect tribes; and a thatched projecting roof is preferred, affording greater protection from the heat; while, in choosing the site, peculiar care is taken to place the dairy beyond the reach of everything calculated to generate bad odours, or in any way taint the atmosphere. The size of the milk cellar must necessarily be regulated by the number of cows, but it should always be calculated to contain the produce of four milkings; and as the milk dishes usually occupy a space of 2 feet square, the produce of 100 cows, giving on an average 8 quarts per day (a large average for the cows of this country throughout the year), would fill 50 milk dishes at each milking, and would require a ground surface of 500 square feet, as the milk dishes are invariably placed on the floor, the amount of each milking a little apart; and there must unavoidably be spaces left to enable the dairy maids to go through their various operations of skimming, sieving, and removing cream, &c. The floor, though sometimes flagged, is more generally of brick, neatly fitted, so that no water may lodge in the joints, and always gently inclined, with a grated opening at the lower end, to facilitate the mopping and washing of the floor, which is never omitted to be done twice a day, notwithstanding that every avoidable impurity is carefully guarded against, and every drop which may fall at the time of the milk being strained is instantly wiped up. A great improvement has been recently made in some newly-arranged dairies, by dividing the floor into compartments with brick ledges, from 3 to 4 inches high, between which the milk dishes stand, and the compartments (the lower extremity of which is fitted with a small sluice), being filled, by means of a pump, with cold water twice a day, the milk is preserved so cool as to prevent all approach to acidity for several hours longer than when placed on a dry floor; thus affording, even during the summer solstice, sufficient time for a complete separation of the milk and cream, without which the full proportion of butter cannot be obtained. For effectuating the same desirable result, ice is frequently resorted to in sultry weather, either by dropping a piece of pure ice in each milk-pan, or by placing a pailful in the dairy, which, by giving off its cold, sensibly lowers the atmospheric temperature. It is considered necessary that the milk cellar should be sunk from 3 to four feet in the ground, be from 16 to 18 feet high (the best have an arched roof as being more conducive to coolness than boards), and be furnished with two rows of windows (and, if possible, on three sides, north, east, and west), to secure a thorough air. The lower range consists of wooden trellis-work, provided inside with gauze frames to exclude insects, and outside with hanging shutters, which can be lowered and elevated at pleasure. The upper range is furnished with glass sashes when light only is requisite, which are exchanged for gauze frames when more coolness is desirable.

Dairy-maids.—The dairy-maids, besides milking, cleaning the vessels, &c., work in the garden in summer, spin in winter, and wash, bake, brew, and cook for their own establishment, under the superintendence of the upper dairy-woman, who is by far the most important personage in it, as on her skill, attention, and diligence depend, in great measure, both the quantity and quality, and, by consequence, the profit of the produce. She must not only thoroughly understand, but accurately observe, the moment when the milk should be creamed; the degree of acidity it must attain in the cream barrels; its temperature, whether requiring the addition of warm or cold water to the churn, as well as the all-important operations of kneading, beating, salting, and packing the butter. She must not only be punctiliously clean herself in person and work, but keep a strict eye over the cleanliness and order of her subordinate maidens. In very large dairies the upper woman has full employment without milking, and needs the assistance always of one, and sometimes of two, of the more experienced dairy-maids, in butter and cheese-making; but in smaller establishments she milks a certain number, generally 10 cows, while each of her subordinates have 18; her wages are usually 55 to 60, that of her chief assistants 22, and that of the others 18 dollars per annum.—During summer the dairy people must rise at three, and even two in the morning, if the weather be very hot; for which they are indemnified by two hours' sleep, from one to three in the afternoon. At four they commence milking, which takes place in the field, and generally occupies two hours. At the beginning of the season each girl marks her own cows, by tying a part coular coloured ribbon round their tails; and in some places they adopt the precaution of the milkers carrying a string, on which they cast a knot as each cow is successively milked, thus securing against one being forgotten. As the fields are large, and often at a great distance, the transport of the milk is facilitated by the very simple contrivance of a long, low, four-wheeled, one-horse waggon, in the side bars of which strong iron hooks are inserted, at such distances that the milk-pails, containing from 30 to 40 quarts each, may swing free of each other; and these, though filled nearly to the brim, are prevented spilling, notwithstanding many a rude jolt over the rough and often deeply rutted road, by merely having thin pieces of wood, about the size of a dinner plate, floating on the surface; a practice, indeed, universal in these countries, when pails with any liquid are carried even in the hand.

Milk-pans.—The milk when brought to the dairy is immediately strained through a hair-sieve into the vessels, whether of wood, earthenware, copper tinned, zinc, cast-iron (lined with a china-like composition), or glass, placed in rows on the floor. All these different kinds of utensils have been tried with various success, in the hope of discovering how, in hot weather, more especially when a thunder-storm is gathering, the milk can be guarded against a too early acidity; for, as it is a fixed and invariable rule that the cream must be removed from the milk before the latter gets at all sour, and an equally established fact that all the oily particles cannot be obtained in a shorter period than 36 hours, vessels in which, during sultry and especially damp weather, the milk could be kept the due time, are a great desideratum. As yet, however, there reigns much diversity of opinion on the subject; and shallow wooden vessels, as nearly as possible equally wide at top and bottom, containing when full about eight quarts, but in which during summer seldom more than six quarts are poured, are in most general use. They have, however, some disadvantages, of which the chief is the great difficulty and the consequent labour and close attention requisite to remove all acidity (which in some states of the atmosphere is almost unavoidable), and which, penetrating the pores of the wood, sometimes resists all the patient scrubbing—first with hot water and small birch scrubbers, and secondly with boiling water and a hard round brush made of pigs' bristles (with which every hair's-breadth is carefully polished over), so that the despairing dairymaid is compelled to resort to washing in a ley of wood ashes, or boiling, or even scorching over lighted chips, followed by countless rinsings in pure spring water. To diminish in some measure this labour, the plan of painting the milking pails and dishes with a preparation of cinnabar, linseed oil, and litharge, has been adopted by the milk-venders in towns, and in some country dairies. Not only, however, is the expense considerable, as the vessels must be finished off with peculiar care, and require to get three coats of the composition at first, and one yearly afterwards, but the milk for some days after they are brought into use has a perceptible taste of paint. The tinned copper milk-pans are very costly, and must be carefully watched, lest they should require retinning. The zinc are as yet little known, and the assertion of their effect in better severing the cream from the milk not sufficiently proved. The cast-iron, lined with enamel, though assuredly durable and very clean, seem too expensive; and the glass have many opponents on account of their brittleness, and the vague notions respecting glass and electricity inducing the idea that if the electric fluid get into the milk it cannot get out again! Whereas, as it is ascertained that it always attaches itself to a conductor, and, in the absence of anything more attractive, runs along the surface, it is more likely that the milk should be protected in glass, which is a non-conductor, than in any other substance. In my dairy, which contains upwards of 180 cows, the glass vessels have been used for four years; and I give them a decided preference over all others. Their form is good, being 16 inches broad at the top and 12 at the bottom; the glass is dark bottle-green, transparent, and perfectly smooth, about one-eighth of an inch thick, and provided with a rounded rim at the upper edge, which makes it easy to retain a safe hold of them even when full. They contain eight quarts, but never receive more than six. They cost 8*d.* a piece; and their durability may be estimated by the fact that, to encourage carefulness, each dairymaid is allowed one dollar per annum extra, as *pan money*, being bound at the same time to pay 10*d.* for each one she breaks; yet hitherto no girl has broken to the extent of her dollar. It is self-evident that acidity cannot be communicated to glass; and the ease and rapidity with which they are cleaned, requiring merely to be first washed with lukewarm water, then rinsed in cold water and placed in a rack to dry, effect such a saving in fuel and labour (diminishing the number of our dairymaids by at least two), that the less quantity of butter obtained, supposing (which I by no means concede) that the milk, during a few weeks in summer, does sour sooner, and consequently throws up less cream in glass than in wood, is more than compensated by the lessened expense of the establishment; not to mention the great advantage of attaining the indispensable cleanliness and purity of the vessels with more certainty, because at a less expenditure of time and trouble. Although it is an ascertained and undeniable fact that the quality of butter depends much on the nature of the pasture, the locality of the dairy, the universally prevailing cleanliness of the whole management, and very essentially on the purity of the water employed, still I ascribe much of the reputation which our butter has of late years enjoyed (and which is verified by our obtaining at all seasons one penny per pound above the market price in our neighbourhood) to the beneficial introduction of glass milk dishes.

Captain Stanley Carr commenced his statement to the Council, by expressing his regret at finding, that although the glass milk-pans (similar to those referred to in his communications to the *Journal*, and which had been sent by him to the Society from Germany some years ago, at the suggestion of Sir John William Lubbock) could be obtained on the continent at 8*d.* each, they had not been made in England in the first instance at less than *ten* times that price, nor, even after the duty on glass had been removed, could be obtained by the English farmer at less than *seven* times the charge made for them by the original foreign manufacturers to the native cultivators of the soil in Germany. It was true, that in the first instance only the finest flint-glass was used in England for the purpose; while, afterwards, light green bottle-glass had been employed; and he believed that superior quality in the glass was the plea urged by the manufacturers as a justification for the enormous disproportion between the English and the German charges for these respective milk-pans. But, without waiting to inquire whether the difference in the glass would make the difference in the prices demanded, he would say that the dark-green bottle-glass of Germany was quite sufficient for the purpose required, having a vitreous hardness and strength quite equal to the softer flint glass, into the composition of which a larger proportion of lead entered. The object to be attained was to get the manufacturers of England to make for the English farmer as cheap and good an article as the poorer, but not less patriotic, manufacturers in the Pine forests of Germany were so ready and reasonable as to

make for the farmers of that country. The glass-pans, too, made in England, were cast in a different shape from the German ones Capt. Carr had sent over; he regretted this also, as the dimensions adopted in Germany were the result of much trial and combined experience, and would be found to be those best suited for dairy purposes. The German pans were of a regular shape and of uniform thickness; the English ones were of the same depth and capacity, but narrower at the bottom, wider and shallower over the sides, and irregular in the thickness of the glass in different parts; these circumstances in the English pans considerably affecting their strength, convenience, manipulation, and economical arrangement in the space of the dairy, as well as the equable rising of the cream from the body of the milk, and its clear detachment from the shallow sides of the pan. He had considered that this country stood the first and foremost, not only in its public spirit, but in the unrivalled skill of its manufacturers; and that he had only to send over from Germany a few specimens of the glass dairy-pans, found there to be so economical and effective, to have them at once manufactured in England at an equal, if not a lower, rate for the use of the English purchaser. He did not, he must confess, expect disappointment in this object, in which he felt a warm desire to testify his regard to the agriculture of his native country; much less to be told, as he had been, that the English manufacturers did not think it worth their attention to make a cheap article of commoner but sufficiently good glass, while they could be justified in demanding seven times the price for a similar article in glass of a nominally higher value, though for the purpose in question not of superior quality. Captain Carr then stated to the Council the origin of his adoption of the glass milk-pans. He paid a visit, about the year 1835, to a dairy situate on the borders of Mecklenburgh-Strelitz and Pomerania, and was particularly struck with the sweetness of the dairy in that bad butter-making district, so near the low sandy swamps of the Oder and the Baltic. On examination and inquiry, he found that the most scrupulous cleanliness reigned in every department of the dairy, and he there saw for the first time the milk placed in glass pans. The dairy-woman informed him that they were made at a cheap rate at the glass-houses in the Pine-forests of the district, and that while wooden vessels had to be boiled to thoroughly cleanse them and remove acidulated matter from every crevice, these glass pans were at once rendered sweet and clean by simple washing with a sponge. Captain Carr found that these glass pans, such as the one then placed on the Council table, being one of those originally sent by him to the Society, could be purchased at 6*d.* sterling each, at the glass-house, and conveyed to his own dairy 180 miles distant for 2*d.* more, making the total price only 3*d.* He ordered in the first instance 20 of these pans for trial, and found them answer so well that he soon ordered 300 more. The usual objection to their use was their apprehended brittleness; but glass pans of the thickness those were made of were not found to break so easily as had been supposed. At first he allowed a sum of money to his dairy-woman to cover this breakage; but it was found by experience, that in a dairy of 180 cows, the actual loss by breakage never exceeded 3*s.* 6*d.* annually. He had the satisfaction to find that his neighbours gradually adopted these glass pans in their respective dairies. Being anxious not to be foiled in his attempt to place the same advantage within the reach of the humblest cottage farmer in England, he had determined, after finding that the English manufacturers would not think it worth their while to produce the cheap article required, to ascertain at what price the original German milk-pans could be imported into this country; and the result of his inquiry was, that they could be supplied in any quantity, and, including all changes of every kind, could be sold in London at a price between 1*s.* and 2*s.* Until the arrangements and calculations were completed the exact price could not be fixed; but it was hoped that it might be reduced to 1*s.* 6*d.* or even 1*s.* 4*d.*, for each glass pan. Captain Carr stated that the great objects of the German dairy management was to prevent the milk turning sour, to maintain throughout the milk cellar an equable temperature of 60° Fahrenheit, to place the milk-pans on the floor, to allow the continuous ascent of the air from the floor to the ceiling and out of the upper windows, and keep the milk as long as possible in the pans before skimming. It was found that the last object was more effectually attained in the glass milk-pans than in any other; and it was supposed that the perfect state of insulation in which the milk was placed by so perfect a non-conductor as glass, prevented the passage of atmospheric electricity through it, and the production of that acid matter which so constantly resulted under ordinary circumstances on changes of temperature and during thunder-storms. So rapidly indeed did milk turn sour under such circumstances, that the dairy-maids had often been obliged to get up in the middle of the night to prevent it by churning.—Colonel Challoner had been informed that the depth of the milk in the pan ought to be less in proportion to its richness in cream.—Captain Carr had found as the result of 13 years' experience that not more than four or five quarts of ordinary milk ought to be put in a glass circular pan, such as the one then before the Council, 16 inches in diameter at the top, and 12 at the bottom.—Mr. Raymond Barker remarked that different cows, according to the locality, were applied by the farmer to different purposes.—Lord Berners inquired how often the milk was skimmed in Germany, and how long it remained before skimming.—Captain Carr replied, that they never skimmed the same milk but once, and then not until it had stood at least 36 hours; but the longer it could be kept before skimming, at 60° F., without becoming sour, the greater in proportion, to a certain extent, was the amount of cream obtained.—Mr. Law Hodges wished to know whether glazed earthenware pans would not equally answer the purpose as glass ones.—Capt. Carr remarked that in Germany they also employed glazed vessels and iron. The earthenware, however, being often badly baked, was on that account more fragile than glass, besides being more easily soiled and less easily cleaned; it was also at the same time a less perfect non-conductor of electricity.—Mr. Slaney, M.P., wished to say a word in favour of the manufactures of our midland counties, and to beg leave for specimens of them to be placed in competition with wares of glass. He alluded to the Staffordshire Potteries; and thought they would be able to furnish for half the price—at least for one shilling each—a milk pan of earthenware glazed on both sides, which would have all the advantages of the glass ones, as well as being cheaper and obtained in a more accessible manner than from Germany.—Col. Challoner wished to know whether Mr. Slaney meant the yellow Staffordshire ware, or the old red and black milk pans or "pancheons."—Mr. Slaney referred to the improved coarse Staffordshire ware; and from the conversation he had had with Ald. Copeland on the subject, he thought that an article could be cheaply produced that would meet all the requirements proposed.—Captain Carr remarked that all his desire was to excite that competition which would best tend to the promotion of the object in view, and he should rejoice, however the selection of party or country might eventually be made, if a great boon was through his means thus conferred on the English cottage farmer. He had himself, however, had a long experience in the use of dairy utensils, and he had reason to believe that earthenware vessels would not be found to possess the advantages of glass ones, which were cool in summer, resisted the inroads of electricity, and produced a finer cream and butter. The real net profit of the two would be found, he thought, in favour of the glass.—Prof. Way quite agreed with Capt. Carr's ingenious theory of the electrical insulation of milk in the glass pans. The milk in them would not turn sour so soon as it would do in metal vessels. We did not, he thought, well understand the mode of action of electricity on liquids. When electricity passed through the air to the earth, the freer the passage, the more harmless it was. He was disposed to attribute the influence of electricity on liquids to chemical changes occasioned by electricity in the air itself, as in the well-known case of nitric acid in small quantities being produced in the atmosphere during thunderstorms, when such acidulation would at once act determinately on delicately poised constituents like those of milk, especially after that increased sultry temperature which usually precedes such a disturbance of the electrical equilibrium of the air. He quite agreed, too, with Capt. Carr, that milk should be kept cool and its temperature equable. Metallic vessels would in this point of view be far more liable than glass ones to communicate to milk those changes of temperature which take place in the surrounding atmosphere. He would venture to suggest whether the insulation of the milk from the influence of heat or electricity would not be more complete if a cheap glass cover was also provided for the glass pans. Glass, under all circumstances, would have advantages that earthenware had not, unless when very well glazed; for it was very often found in the laboratory that liquids would percolate unglazed, or but imperfectly glazed, earthen vessels; and if the milk penetrated at all into the substance of the earthenware pan, it would leave there its animal matter, which would rapidly decompose and create a taint and an acidity most injurious to the succeeding operations of the dairy.—Col. Challoner inquired the nature of the glaze on earthenware.—Capt. Carr believed the principal glaze contained lead.—Prof. Way stated that there were two glazes in ordinary use: first, the common-salt glaze, of which the basis was the metallic sodium of the salt; this glaze was imperfect, but harmless; secondly, the white glaze of lead, which was liable to be dissolved by acid matter, and would prove deleterious. There was also, he believed, a white glaze made without lead.—Capt. Carr thought that a cover to the pan would not be found to answer, as it would prevent that spontaneous evaporation in a continuously ascending current from the floor of the milk-cellar to a height of 14 feet above it, and then out at the windows, which was found to have so beneficial an effect in preserving the dairy cool and fresh. When the floors were lower the milk did not keep so long, and, as he had before said, the longer they could keep it the better.—Mr. Fisher Hobbs had been very much interested in all that he had then heard on this important subject, connected with our dairy management. Prof. Way had stated that lead was a bad material. Mr. Hobbs had known slate used with great success, and he was not aware of there being any objections to its employment; it was a cheap material, and he had seen shallow trays that were constructed of it, and fixed in the dairies in Buckinghamshire, from which the London market derived some of its best butter.—Mr. Fuller, M.P., had for a long time used nothing but slate in his own dairies. He had a son residing in Anglesey who had a herd of 15 Alderneys; and slate in that part of Wales being very plentiful, cheap, and of large size, he had fixed milk-coolers constructed, of three or four square yards' extent, which kept the milk both clean and cool.—Mr. Raymond Barker believed that farmers generally were discontinuing the use of lead. He agreed with Captain Carr, that it was desirable to place the milk-pans low down on the floor.—Mr. Slaney, M.P., thought it would be desirable to ascertain, by reference to meteorological registers, the difference between the prevalent temperature and electrical condition of the atmosphere in Holstein, and those in the West of England.—Captain Carr remarked, that the dairy was half underground, being required to be dry, but not damp; that it was always kept at 60° of temperature, and its floor supplied with little channels of water.—Mr. Rowlandson agreed with every observation that had fallen from Captain Carr, particularly in reference to the form adopted for the glass milk-pans he had sent to the Society. The shape of the English glass pan then on the table before them was most ridiculous: from its shallow, shelving sides, it could not be moved by the dairy-maid without great inconvenience to herself, much disturbance of the milk, and liability, without great care, to a portion of it washing over the rim: from its irregular shape, too, one portion of the milk would have parted with its cream before the other. Where fixed pans were adopted in a dairy, he thought that slate would be the best material if adjusted in exact mechanical order; but when moveable dishes were used, he thought glass ones of the German shape were superior to any other. The colour of the glass was of no consequence, provided they would stand hard usage, and were liable to no chemical action. He thought it one of the wasteful facts in this country, that our manufacturers would not attend to economy in the articles they produce. There was no doubt that they could, if they felt disposed, make glass milk-pans as cheaply as the manufacturers of any other country; but unless the article they manufacture yields a certain price and profit, they were, he feared, but too indifferent to its production on other and more liberal grounds. Mr. Rowlandson took that opportunity of submitting to the inspection of the Council an Italian siphon, which was regularly in use in large acid manufactories, and which he thought might conveniently be employed as a dairy siphon to draw off the milk from below the cream. It would indeed be necessary in this instrument, as Colonel Challoner remarked, to first use the mouth to draw out the air and promote the flow of the current of milk. When that objection was obviated, by some additional contrivance, he would again bring the siphon under their notice.—Col. Challoner remarked, that in Lord Camoy's siphon, submitted by his lordship to the notice of the Council a few years ago, that point, agreeably with communications which had passed between Lord Camoys and himself, had been particularly attended to, and the air being removed by means of a piston-rod formed of a piece of wire with a roll of tow at its end, drawn completely out of the siphon, the milk immediately began to flow.—Prof. Way thought that the Italian Siphon would, on account of its double-curved shape, require a flexible wire to form the piston-rod in this case. In speaking of lead being decidedly objectionable in the glaze of milk-vessels, he had spoken of its oxide in mixture or chemical combination, and ready for entering into new compounds on there being an acid present: he did not speak of the sheet or metallic lead to which Mr. Fisher Hobbs had referred, on which a weak acid had no action. Slate, he thought, quite unobjectionable in a chemical sense; but unless the joints were most accurately fitted, the milk would penetrate between them, and become the source of contamination.—Capt. Carr stated, as an instance of the great advantage arising from improved methods of dairy management, the case of the Baron Biel, a gentleman connected by marriage with some of the first families in this country. He had a farm in Mecklenburg, on which was a dairy of 150 cows, badly managed, and yielding a miserable return to its owner. At Capt. Carr's suggestion, he had expended 1300*l.* on the requisite improvements of his dairy, in the erection of suitable buildings, and a mill for churning. The Baron had previously spent no less than 3000*l.* in purchase of horses in England; but Capt. Carr was quite sure that he would not have expended 1300*l.* on his cows unless he had been thoroughly convinced of the judiciousness of the outlay. The result had proved the correctness of his conviction; for the Baron now sent his butter to the London market, where it fetched him one shilling a pound. The dairy, said Capt. Carr, ought to be free from the very semblance of dirt; the brick floor should be cemented, and hard; the walls smooth, and whitewashed, and both wood and stone free from hanging dust of any kind; the air should circulate freely, and there should be no dampness in the rooms; the pans should be placed low down on the floor, otherwise the milk would not yield the full quantity of cream, and the vapour rising from the milk should have an opportunity of passing off unobstructedly from the upper part of the dairy; there should be no taint or bad smells; the aspect should be to the north; and the roof should be pent-house. Along the floor should be passages, on which the dairy woman could walk in wooden slippers. In Holland, no milk was placed in pans on shelves, but always on the floor, as in Holstein. He could assure the Council that in those parts of the Continent where the dairies were managed in the scrupulous manner he had described, the object was simply *profit*; and the means thus taken to secure that end were those best adapted for the purpose, however they might have the appearance in detail of being employed on grounds only of elegance, taste, or even cleanliness.—Mr. Love informed the Council that his father had lived in the neighbourhood of Glasgow, where he employed slate as

the material for receiving the milk in his dairy, and had found it superior to every other he had tried. He had himself never heard of any objection to its use, and it had been adopted by others. The milk receptacles were from 3 to 4 inches deep, 2½ feet wide, and 3 feet long, and were excavated out of the solid blocks of the slate. They were placed on shelves in the dairy, and were considered as fixtures, the milk being drawn off at the bottom, while the cream was left behind in the cavity of the slab. He had seen them after being in use for 14 years, when he perceived no other change in the material than that which consisted in a little better polish being given to it by wear. Mr. Love considered such masses of slate as equivalent to non-conductors of sudden changes of temperature, and as preserving the milk, in consequence, in a state of equable coolness. His brother, who succeeded to the management of the dairy, had tried zinc, tin, and earthenware, but found the slate far superior to any other material, being as clean in its use as it was possible for anything to be.—Captain Carr enquired whether all the milk was churned?—Mr. Love replied that near Glasgow it was so, but at a greater distance from the city it was converted into cheese, or cream and skimmed milk.—Captain Carr was well acquainted with the dairy management in the neighbourhood of Glasgow, having 30 years ago paid a visit to Sir John Maxwell of Netherpollock in Renfrewshire, when he had an opportunity of inspecting the celebrated dairies of the parish of Mearns, in that county. He considered one of the great advantages of these discussions to consist in the communication of personal experience, and interchange of sentiments on topics of practical interest, such as had taken place at that meeting.—Colonel Challoner was glad to hear the statement Mr. Love had just made. The excavation of the slabs, he confessed, was new to him, and did away with those objections against the use of slate that were founded on the difficulty of effecting a perfect accuracy in the fitting in the joints of several separate pieces as employed by other parties who had used slate. The Council were much indebted to Mr. Love for the very practical and useful experience he had given them on that point.

Colonel Challoner then expressed to Captain Carr his own thanks and those of the Council for the great interest he had at all times evinced in promoting the objects of the Society, and in bringing before them on this occasion the interesting details he had done, with the same view. It was then arranged that on Wednesday, the 21st of April, at noon, the subject of German glass Milk-pans would again be brought forward by Captain Carr, that of Dairy Siphons by Mr. Rowlandson, and that of Churns by Mr. Capel Cure.

(To be continued.)

Miscellaneous.

Guano.—The discovery of a guano deposit upon an island in the South Pacific Ocean is causing many inquiries. It appears that several months since the fact of the existence of guano was communicated by a whaling captain to his owner, who determined that the knowledge should be kept secret until more fully substantiated. With this view he gave instructions to the captain of a vessel he was despatching upon a voyage round the Horn, to search for the island in the latitude and longitude furnished him, and to report all particulars. By the last mail from Panama, we are told that the owner had the original statement confirmed, and received samples of guano taken from the spot. These samples have since been analysed, and give the following result:—

7½	parts	salts of ammonia.
8½	,,	animal organic matter.
2½	,,	sulphate of muriate of potash and soda.
52	,,	phosphate of lime and phosphate of magnesia.
18	,,	sand.
11½	,,	moisture.
100		

By comparison of this analysis with that of the best Peruvian guano, now selling at 9*l.* 5*s.* per ton, we understand the value of the new article will be found to be about 5*l.* 10*s.* to 6*l.* per ton. *Abridged from the Shipping Gazette.*

Notices to Correspondents.

American Cheese, &c.: *A Constant Reader.* The whiteness of the butter is, in all probability, owing to the Mangold Wurzel.

Charcoal: *J. W. W.* The small wood must be charred in pits or clamps, as wood charcoal is ordinarily made. It will cost you from 1*d.* to 1½*d.* per bushel for burning. Or, if by the "cord," which is a pile 10½ feet × 2 feet 2 in. × 2 feet 2 in., 6*s.* per cord. The burners are generally allowed 14*s.* or 15*s.* for a hut to live in while the process is in operation.

Clay-Farm: *W. E.* This is now let.

Field Cabbage: *X.* They should be planted on the flat, or the ridge should be as slightly raised as possible, and the plants set on the top.

Guano: *Suffolk Farmer.* Sow broadcast in wet weather, in April, a mixture of equal parts of fine soil and guano (3 cwt. per acre of the latter, over the Oats and Vetches. The best manure for Carrots, as for any other crop, is good farm-yard dung, ploughed in in autumn and well incorporated with the soil before seed time. Failing that, sow 3 or 4 cwt. of guano broadcast, on the land, a week before seed time, and harrow or cultivate it in. Sow Carrots, 7 lbs. per acre, in rows 15 inches apart, on the flat, towards the end of April.

Horses: *Tyro.* 80 acres of Grass and 140 of light arable land may be managed with two pairs of horses, or three pairs, according to the rotation you adopt. It makes a great difference of course if two-fifths or only one-eighth of your land be in Clover. You can see 2-horse ploughing near Wingham.

Land Overflowed: *B. R.* We fear you must incur the expense of embanking against the salt water in the first place. Perhaps some of our correspondents may help you. The land is overflowed every spring tide; and the question is, how to make it useful without incurring the expense of embanking, as it is only three acres in extent. We do not think Osiers will thrive upon it.

Mangold Wurzel: *B B B.* "The general opinion among farmers" is, that it produces a larger quantity of inferior milk. If given early in the season, it will tend to "scour" the cattle, but given *now* it will not do so any more than Swedes in November or December.

Manure Heaps: *Y.* Many thanks for your communication. We shall be glad to assist in procuring information about leases.

Mr. Smith's Culture: *H* says that in the detailed account of Mr. Smith, in the *Gazette* of the 28th Feb., the ploughing is charged on 2 acres, which is correct, but that the other charges are all on the 4 acres. We imagine that the sums stated are correct nevertheless, and that it would cost, for instance, 1*l.* to drop the seed over that extent of land, whether it be stated as costing 5*s.* per acre for 4, or 10*s.* per acre for 2 acres.

Newly Broken-up Land: *W W V V.* To take Oats as the first crop is perhaps as good a plan as you can adopt. Either that or Potatoes will answer very well. The question about disease in sheep will be answered next week.

Permanent Roof for Hay, instead of Thatch: *M A.* Can any of our readers give a description of the above, with specification and prices? We refer to a moveable roof, suspended, between four uprights, by blocks and tackle; and lowered or raised as required.

Potter's Guano: *Thos R.* We are not acquainted with its present standing with the public. Perhaps some of our correspondents may have had recent experience of it, and may be disposed to communicate it.

Reaping Machine: We beg to inform you, that in America, the Reaping Machine is used for the purpose of cutting hay Grass; but for this country many farmers think it will not cut quite low enough. It will cut well within two inches of the ground. The question must therefore be answered by those who intend to use the machine. Its capabilities for cutting Grass are beyond question. *From Messrs. Dean and Dray.*

Rye, &c.: *Sigma.* Rye should be sown in September or October, 4 bushels per acre broadcast. Italian Rye-grass should be sown in April, 3 bushels or ½ cwt. per acre. It will give a tolerable cutting with the corn stubble in October. You will find the information about Italian Rye-grass in the "Cyclopedia," Art. Lolium. Italian Rye-grass is sometimes sown by itself on a corn stubble for use the following spring and summer.

Sheep: *P S.* A dwarf Merino sheep would be shown as extra stock.

Skinless Barley: *J Bates.* Mr. Whittem's advertisement is perfectly trustworthy.

Swedes and Kohl Rabi: *Thos. Davidson.* We have not had personal experience of the latter, and have never met with anything to excel a good Swede for feeding purposes; but the character of Kohl Rabi as food for sheep is abundantly attested.

Winter Vetches: *P C.* Use them green. Commence cutting when the Vetches begin to flower, so as to finish before the seed is fully formed; cut 24 hours before use.

Markets.

COVENT GARDEN, April 3.

The weather continues cold, but the market is still well supplied with vegetables and fruit. English Pine-apples are tolerably plentiful. Hothouse Grapes have made their appearance; foreign ones are rather dearer. The best English Pears fetch good prices. Oranges are plentiful and good. Nuts are nearly the same as last quoted. Strawberries are still supplied in small quantities. Carrots, Turnips, Cabbages, &c., are sufficient for the demand, and there is some fine Cornwall Broccoli in the market. Potatoes are generally good in quality. Lettuces and other salading are sufficient for the demand. Mushrooms are cheaper. Cut flowers consist of Heaths, Epacrises, Mignonette, Camellias, Roses, Acacias, Azaleas, Primulas, Hyacinths, Tulips, Lily of the Valley, and other forced bulbs.

FRUIT.

Pine-apples, per lb., 4*s* to 8*s*	Pears, dessert, p. doz., 2*s* to 6*s*
Grapes, hothouse, p. lb., 15*s* to 20*s*	Oranges, per doz., 1*s* to 1*s* 6*d*
Grapes, Lisbon, per lb., 2*s* to 2*s* 6*d*	— per 100, 3*s* 6*d* to 10*s*
Strawberries, per oz., 1*s* to 2*s*	— Seville, per doz., 1*s* to 3*s*
Apples, kitchen, per bushel, 2*s* to 3*s* 6*d*	Lemons, per doz., 1*s* to 2*s*
Almonds, per peck, 5*s*	Nuts, Barcelona, p. bsh, 20*s* to 22*s*
— sweet, per lb., 2*s* to 3*s*	— Brazil, p. bsh., 12*s* to 14*s*
	Cobs, per 100 lbs., 100*s*

VEGETABLES.

Savoys, per doz., 10*d* to 2*s*	Beet, per doz., 1*s* to 2*s*
French Beans, p. 100, 2*s* to 3*s*	Parsnips, per doz., 4*d* to 1*s*
Broccoli, p. bunch, 5*d* to 1*s* 3*d*	Leeks, per bunch, 1*d* to 2*d*
— heads, each, 2*d* to 4*d*	Shallots, per lb., 8*d* to 10*d*
Asparagus, p. bundle, 3*s* to 7*s*	Garlic, per lb., 6*d* to 8*d*
Seakale, p. basket, 1*s* 3*d* to 2*s* 6*d*	Lettuce, Cab., p. score, 4*d* to 1*s*
Greens, per doz., 2*s* 6*d* to 4*s*	Radishes, per doz., 1*s* 6*d* to 2*s*
Rhubarb, p. bundle, 6*d* to 1*s* 6*d*	Small Salads, p. punn., 2*d* to 3*d*
Potatoes, per ton, 45*s* to 80*s*.	Horse Radish, p. bundle, 1*s* to 4
— per cwt., 2*s* to 5*s*	Mushrooms, p. pot., 1*s* to 1*s* 3*d*
— per bush., 1*s* 6*d* to 2*s* 6*d*	— per punnet, 9*d* to 1*s*
Turnips, p. doz., 1*s* 6*d* to 2*s* 6*d*	Sorrel, p. hf. sieve, 1*s* 3*d* to 1*s* 6*d*
Cucumbers, each, 1*s* to 3*s*	Artichokes, Jerus., do., 9*d* to 1*s*
Celery, p. bundle, 6*d* to 1*s* 6*d*	Fennel, per bunch, 2*d* to 3*d*
Carrots, per bunch, 4*d* to 7*d*	Savory, per bunch, 2*d* to 3*d*
Brussels Sprouts, p. half sieve, 1*s* to 1*s* 6*d*	Thyme, per bunch, 2*d* to 3*d*
Spinach, per sieve, 1*s* to 1*s* 6*d*	Parsley, per doz. bun., 2*s* to 3*s*
Onions, p. bunch, 2*d* to 4*d*	Mint, per bunch, 4*d* to 6*d*
— Spanish, p. doz., 1*s* 6*d* to 3*s*	Basil, p. bunch, 3*d* to 4*d*
Endive, per score, 1*s* to 2*s* 6*d*	Marjoram, do., 3*d* to 4*d*
	Watercress, p. 12 bunches, 6*d* to 1*s*

HAY.—Per Load of 36 Trusses.

Smithfield, April 1.

Prime Meadow Hay	72*s* to 76*s*		Clover		75*s* to 85
Inferior ditto ...	63	68	2d cut	70	75
Rowen	60	62	Straw	24	28
New Hay	—	—		J. Cooper.	

Cumberland Market, April 1.

Prime Meadow Hay	76*s* to 80*s*		Inferior		65*s* to 75*s*
Inferior ditto ...	60	70	New Clover	—	—
New Hay	—	—	Straw	28	30
Old Clover	78	84		Joshua Baker.	

Whitechapel, April 1.

Fine Old Hay ...	70*s* to 75*s*		Old Clover		80*s* to 86*s*
New Hay	—	—	Inferior ditto ...	63	75
Inferior ditto ...	50	63	New Clover	—	—
Straw	23	27	Inferior ditto ...	—	—

COAL MARKET.—Friday, April 2.

Hollywell, 14*s.*; Eden Main, 14*s.* 3*d.*; Tanfield Moor, 12*s.* 3*d.*; Wallsend Riddell, 13*s.*; Wallsend Hetton, 15*s.* 3*d.*; Wallsend Lambton, 15*s.*; Wallsend Stewarts, 15*s.* 3*d.*—Ships at market, 65.

HOPS.—Friday, April 2.

Messrs. Pattenden and Smith report that the market for Hops continues the same as for some time past, with a very limited supply on offer.

WOOL.

Bradford, Thursday, April 1.—We have no change to report in the state of our wool market. Purchases on the part of consumers are still confined to the supplying of immediate wants, and they evince no inclination to extend them beyond what they deem absolutely necessary. Prices may be quoted as stationary, and with every prospect of remaining so for the present. The arrivals from the country are much below the average, the utter impossibility of purchasing wool from the growers to meet the rates current here being an ample reason for this manifest diminution, without taking into consideration the fact that the stocks held by them are lighter than for years past. Short wool and noils are a fair sale at late prices well supported.

POTATOES.—Southwark, Monday, March 29.

The committee report that during the past week the market has been well supplied both coastwise and by rail; the trade still continues very dull, and prices of inferior sorts are lower. The following are this day's quotations:—York Regents, 60*s.* to 80*s.*; Scotch do., 60*s* to 70*s.*; Perth and Forfarshire Cups, 60*s.* to 65*s.*; Fifeshire do., 55*s.* to 60*s.*; Wisbeach and Cambridge, 50*s.* to 65*s.*; Kent and Essex, 60*s.* to 75*s.*

SMITHFIELD, Monday, March 29.

We have a very large supply of Beasts at market, but the trade for them by no means brisk. There are buyers for the choicest kinds, but we cannot quote higher than 3*s.* 4*d.*, as it is very rarely exceeded. Sheep are also more plentiful; trade is worse; a few good Downs still make 4*s.* 4*d.*, but this is an extreme price. Good Calves are more in request. A few choice Lambs are also in demand. From Germany and Holland there are 401 Beasts, 520 Sheep, and 108 Calves; from Spain, 120 Sheep; from Scotland, 550 Beasts; from Norfolk and Suffolk, 3000; and 200 from the northern and midland counties.

Per st. of 8 lbs.—	s	d	s	d	Per st. of 8 lbs.—	s	d	s	d
Best Scots, Herefords, &c. ...	3	2 to 3		4	Best Long-wools .	3	8 to 4		0
Best Short-horns	2	10 — 3		2	Ditto Shorn ...	3	0 ... 3		4
2d quality Beasts	2	2 — 2		8	Ewes & 2d quality	2	10 — 3		2
Best Downs and Half-breds ...	4	0 — 4		4	Ditto Shorn ...		...		
Ditto Shorn ...	3	6 ... 3		8	Lambs	0	0 — 0		0
					Calves	3	0 — 4		6
					Pigs	2	8 — 3		8

Beasts, 4479; Sheep and Lambs, 23,750; Calves, 143; Pigs, 395.

Friday, April 2.

The number of Beasts is smaller than could have been anticipated considering the supply of Monday last; however, large enough, the demand being limited. We cannot fairly quote higher than 3*s.* 4*d.* for best kinds, although a choice Scot may make rather over. The supply of Sheep and Lambs is a fair average; trade for the former is about the same, and for the latter scarcely as good as on Monday. Trade is dull for Calves, and our top quotation is only reached in very few instances. From Germany and Holland we have 48 Beasts, 90 Sheep, and 162 Calves; from Spain, 90 Sheep; from Scotland, 100 Beasts; from Norfolk and Suffolk, 300; and 140 Milch Cows from home counties.

MARK LANE.

Monday, March 29.—The supply of Wheat from Essex this morning was small, and but moderate from Kent; the former was taken off at about the terms of this day se'nnight, but the red Wheats from the latter county must be noted the turn cheaper. The inquiry for foreign continues limited, and we are unable to quote any alteration in value. The Flour trade remains heavy.—Picked samples of malting and good dry distilling Barley bring last week's prices; other descriptions are a slow sale.—Peas meet a fair inquiry at late rates.—Beans are the turn cheaper.—There is no alteration in the value of Oats, but the trade is dull.

Per Imperial Quarter.	s.	s.		s.	s.
Wheat, Essex, Kent, & Suffolk ... White	43	—45	Red	39	—42
— — fine selected runs ... ditto	45	—47	Red	41	—43
— — Talavera	45	—51			
— Norfolk, Lincoln, & York ... White	38	—43	Red		—
— Foreign	37	—53			
Barley, grind. & distil., 26*s* to 29*s* ... Chev.	30	—35	Malting .	29	—32
— Foreign ... grinding and distilling	22	—29	Malting .		—
Oats, Essex and Suffolk	19	—21			
— Scotch and Lincolnshire ... Potato	21	—24	Feed	20	—22
— Irish ..... Potato	20	—23	Feed	19	—22
— Foreign ..... Poland and Brew	19	—22	Feed	18	—21
Rye		—	Foreign .		—
Rye-meal, foreign ..... per ton		—			
Beans, Mazagan ... ..24*s* to 27*s* ..... Tick	25	—30	Harrow .	25	—30
— Pigeon ..... 27 — 32 ... Winds	20	—26	Longpod	24	—30
— Foreign ..... Small	22	—30	Egyptian	23	—25
Peas, white, Essex and Kent ..... Boiler-	32	—34	Suffolk ...	33	—35
— Maple ..... 27*s* to 30*s* ..... Grey	26	—28	Foreign .	27	—34
Maize ..... White		—	Yellow ...		—
Flour, best marks delivered ... per sack	35	—40			
— Suffolk ..... ditto	27	—32	Norfolk .	27	—32
— Foreign ..... per barrel	18	—24	Per sack	32	—36

Friday, April 2.—The arrivals of grain, either English or foreign, have been small this week. To-day's market was but thinly attended, and in the almost total absence of business, prices for all articles must be considered nominal.—In floating cargoes, some sales were made on Wednesday in Egyptian Wheat, at 28*s.* 6*d.*; Beans 21*s.* to 21*s.* 3*d.*, C. F. and I. To-day there is nothing doing in them.

Imperial Averages.	Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.
Feb. 21.....	42*s* 9*d*	31*s* 0*d*	19*s* 4*d*	30*s* 5*d*	30*s* 2*d*	30*s* 5*d*
— 28	42 3	30 7	19 6	30 7	29 10	29 5
March 6.....	42 7	30 1	19 4	32 5	30 2	29 6
— 13.....	42 10	30 5	19 9	30 5	30 1	29 7
— 20.....	42 8	30 3	19 9	31 11	29 4	29 10
— 27.....	42 2	30 2	19 6	30 5	30 3	29 8
Aggreg. Aver.	42 6	30 5	19 6	31 0	30 2	29 9

Duties on Foreign Grain, 1*s.* per quarter.

Arrivals this Week.

	Wheat.	Barley.	Oats.	Flour.
	Qrs.	Qrs.	Qrs.	
English ...	2880	3220	2060	3780 sacks
Irish	—	1000	1650	
Foreign ...	3280	4640	3890	— brls

Fluctuations in the last six weeks' Averages.

Prices.	Feb. 21.	Feb. 28.	Mar. 6.	Mar. 13.	Mar. 20.	Mar. 27.
42*s* 10*d*	...	...	...	...	...	...
42 9	...	...	...	...	...	...
42 8	...	...	...	...	...	...
42 7	...	...	...	...	...	...
42 3	...	...	...	...	...	...
42 2	...	...	...	...	...	...

Liverpool, Tuesday, March 30.—There is no increase this week in the arrivals of grain and Flour, either from our own coast or from abroad. The trade throughout the week continued dull, and prices of Wheat and Flour have further declined, but there was more disposition to go into barrel Flour, at reduced rates. The tone of the grain trade improved to-day, and prices of Wheat and Flour were more settled. We had several buyers from a distance, and the town dealers were operators in barrel Flour to a fair extent. Friday's decline of 1*d.* to 2*d.* per bushel on Wheat was not recovered, only there was a better demand. There was no particular change as regards demand and price of any other article of the corn market.—Friday, March 26.—The depression of the grain trade continues, in the face of very moderate imports. The Corn Exchange this morning was again marked by dullness in the general demand, and Wheat was considered to be 1*d.* to 2*d.* per bushel, and Flour 6*d.* per barrel worse in price than on Tuesday last. Indian Corn was also 3*d.*, and Egyptian Beans 6*d.* per qr. lower. In Oats, Oatmeal, and Barley there was no change of value.

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From 6	by 4	„	7	„ 5	„	2d.	„ 0 16 8
7	„ 5	„	8	„ 6	„	2½d.	„ 0 18 9
8	„ 6	„	10	„ 8	„	2½d.	„ 1 0 10
10	„ 8	„	12	„ 9	„	2¾d.	„ 1 2 11

Larger sizes, not exceeding 40 inches long.

16 oz. from 3d. to 3½d. per square foot, according to size.
21 oz. „ 3½d. to 5d. „ „ „
26 oz. „ 3½d. to 7½d „ „ „

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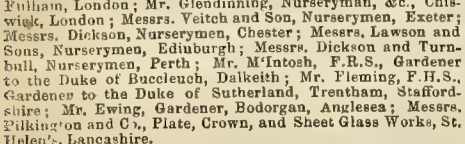
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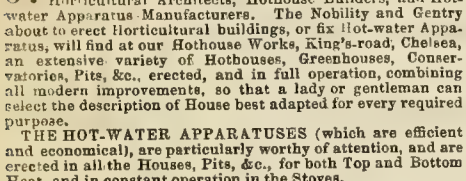
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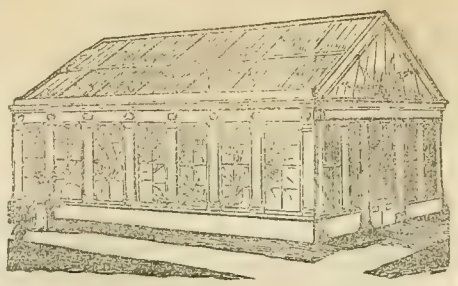


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BEE HIVES.—A NEW AND EXTENSIVE SELECTION OF THE MOST APPROVED KINDS.—

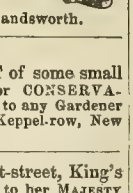
A detailed Catalogue, with Drawings and Prices, sent on receipt of Two Stamps. GEORGE NEIGHBOUR and SON, 127, High Holborn, London.

"In noticing the hives exhibited in the Crystal Palace, first and foremost, in my opinion, stands Mr. Taylor's Eight-Bar Hive, and Messrs. Neighbour and Sons Improved Cottage Hive, both exhibited by Messrs. Neighbour."—*J. H. Payne.* (See the "Cottage Gardener," Nos. 169 170).

AGENTS.—Liverpool: Wm. Drury, Castle-street. Manchester: Hall and WILSON, 50, King-street. Glasgow: Austin and McAslan, 168, Trongate. Dublin: J. Edmondson and Co., 61, Dame-street.

FOUNTAINS FOR PLAYING SCENTED WATERS.

PURE WATER raised to any height from a small stream, where a fall can be obtained, by



FREEMAN ROE'S
IMPROVED RAM;

Deep-well Pumps, Water-wheels, Baths, Hot-water Apparatus, Fountains, and Fire Pumps. Towns supplied with Gas or Water. Drawings and Estimates made.

FREEMAN ROE, Hydraulic and Gas Engineer, 70, Strand, London; and Bridgefield, Wandsworth.

FOUNTAINS.

MR. SEELEY having printed a LIST of some small designs of FOUNTAINS suitable for CONSERVATORIES, will be happy to forward a Copy to any Gardener requiring such an ornament.—Nos. 1 to 4, Keppel-row, New Road, London.

BAKER'S PHEASANTRY,

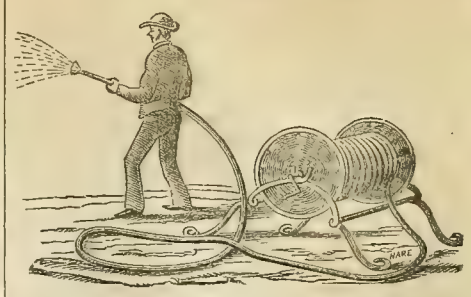
Beaufort-street, King's Road, Chelsea, by special appointment to her MAJESTY and H. R. H. PRINCE ALBERT.—ORNAMENTAL WATER FOWL, consisting of black and white Swans, Egyptian, Canada, China, barnacle, brent, and laughing Geese, Shieldrakes, Pintail, Widgeon, summer and winter Teal, Gadwall, Labrador, Shovellers, gold-eyed and duo Divers, Carolina Ducks, &c., domesticated and pinioned; also Spanish, Cochin China, Malay, Poland, Surrey, and Dorking Fowls; white, Japan, pied, and common Pea-fowl, and pure China Pigs; and at 3, Half-moon Passage, Gracechurch-street, London.

EGGS OF THE GOLD PENCILLED HAMBURGH,

Silver-pencilled ditto, Black-necked Gold-spangled Hamburgh (commonly called Capt. Crammer's Pheasant Fowls) 2s. 6d. a set of 13, package included. Spotted Dorkings, 5s. a set.—Apply to J. WALKER, jun., Beeston, near Nottingham.

FOR WATERING GARDENS, DISTRIBUTING LIQUID MANURE, BREWERS' USE, ETC.

PATENT VULCANISED INDIA-RUBBER HOSE-PIPES.



JAMES LYNE HANCOCK (SOLE LICENSEE AND) MANUFACTURER, GOSWELL ROAD, LONDON.

These Pipes are well adapted for Watering Gardens, conveying Liquid Manure, racking Beer and Cider, for portable Gas Lamps, and all purposes where a perfectly sound Water-proof and Flexible Pipe is required. They are particularly suitable for Fire Engines, and are found exceedingly useful in Dwelling-houses for conveying Hot or Cold Water to Baths, &c.

Hose Reels for winding-up and wheeling away long lengths of the Vulcanised Rubber Garden Hose, are now manufactured by J. L. HANCOCK, of light and cheap wicker work.

N.B.—Vulcanised India Rubber Garden Hose, fitted up with Roses, Jets, and Branches complete, with union joints ready to attach to pumps or water cisterns.

All Letters or Orders addressed to J. L. HANCOCK, Goswell Mews, Goswell Road, London, will meet with immediate attention.

EGGS OF THE PURE AYLESBURY DUCKS, &c.

—The Advertiser has for sale a few Settings of Eggs of the following, which he can warrant of the purest breed:—Aylesbury Ducks, 6s. per dozen; Dorking Fowls, pure, 4s. per dozen.

A few fine Aylesbury Drakes, 3s. 6d. each; Dorking Fowls, pure, 10s. per couple; two pure bred Shanghai Cochin China Cocks, 10 months old, at 15s. each. Package included.

Orders accompanied by Post-office orders or reference, addressed to ISAAC BRUNNING, North-end, Great Yarmouth, will receive prompt attention.

CHOICE POULTRY EGGS FOR HATCHING.

GOLD and SILVER PHEASANTS (six pair), for Sale; also, Shanghai Fowl Eggs, from the parent stock, which obtained a prize at Birmingham; also, Cochin China Eggs, 8s. for 14; white-faced Spanish, Polish, and Sebright Bantams, 6s.; and China Silk Fowl Eggs, 2os. per dozen. A remittance to accompany all orders, and letters to enclose stamp.—W. TURNER, Tufnell Park, Holloway, London. No charge for package.

FRUIT TREES, POULTRY, ETC.

TANNED GARDEN NETTING, for protecting Fruit Trees from Frost, Blight, and Birds, or as a Fence for Fowls, Pigeons, Tulip and Seed beds, can be had in any quantity or length, from JOHN KING FARLOW'S Fishing Tackle and Net Manufactory, 5, Crooked-lane, London-bridge, at 1½d. yard wide, 3d. two yards wide, or 6d. four yards wide. All orders above 20s. accompanied with Post-office order, stamps, or London reference, carriage free.

BENJAMIN EDGINGTON respectfully informs the public he has at length been successful in obtaining a Warehouse sufficiently lofty and extensive to show at one view Tents of different character and description, and invites all who are in want of Tents, for Emigration, FLORAL AND HORTICULTURAL SOCIETIES, or for Garden Lawns, to a private view at No. 2, Duke-street, Southwark, where every information and explanation will be given.

NETTING and BUNTING for Fruit Trees, &c.

GIDNEY'S IMPROVED PRUSSIAN HOE.—

This exceedingly useful garden implement—so much in demand, and which has obtained the first prize at several of the first horticultural meetings, as the best and most useful garden tool *extant*; also testimonials from the principal horticultural journals and leading practical gardeners—is now ready for delivery, and may be obtained of any principal ironmonger, and Seedsman, or of the manufacturer, J. W. GIDNEY, Ironmonger, East Dereham, Norfolk. Price (ready for use), neatly handled, 1s. 6d.; of whom may be had the new drill hoe, and the Norfolk Blomfield hoe. Copies of testimonials sent on application to the manufacturer.

DEANE'S WARRANTED GARDEN TOOLS.—

Horticulturists, and all interested in Gardening Pursuits, are invited to examine DEANE, DRAY, AND CO.'S extensive Stock of GARDENING and PRUNING IMPLEMENTS, best London-made Garden Engines and Syringes, Colebrook-dale Garden Seats and Chairs.

Averuncators	Garden Scrapers	Mowing Machines
Axes	Gidney's Prussian Hoe	Pickaxes
Bagging Hooks	Grape Gatherers & Scissors	Potato Forks
Bills	Gravel Rakes and Sieves	Pruning Bills
Borders, various patterns	Greenhouse Doors and Frames	„ Knives, various
Botanical Boxes	Hammers	„ Saws
Brown's Patent Fumigator	Hand-glass Frames	„ Scissors
Cases of Pruning Instruments	Hay Knives	„ Shears
Daisy Rakes	Horticultural Hammers & Hatchets	Rakes in great variety
Dibbles	Hoes of every pattern	Reaping Hooks
Dock Spuds	Hotbed Handles	Scythes
Draining Tools	Ladies' Set of Tools	Scythe Stones
Edging Irons and Shears	Labels, various patterns, in Zinc, Porcelain, &c.	Shears, various
Flower Scissors	Lines and Reels	Sickles
„ Stands in Wires & Iron	Marking Ink	Sickle Saws
Fumigators	Mattocks	Spades and Shovels
Galvanic Borders and Plant Protectors	Menographs	Spuds
Garden Chairs and Seats	Metallic Wire	Switch Hooks
„ Loops	Milton Hatchets	Thistle Hooks
„ Rollers	Mole Traps	Transplanting Tools
		Trowels
		Turfing Irons
		Wall Nails
		Watering pots
		Weed Hooks
		Wheelbarrows
		Youths' Set of Tools

DEANE, DRAY, AND CO. are sole Agents for LINGHAM'S PERMANENT LABELS, samples of which, with their Illustrated List of Horticultural Tools, can be sent, post paid, to any part of the United Kingdom. Also, wholesale and Retail Agents for SAYNOR'S celebrated PRUNING KNIVES, used exclusively by the first Gardeners in the United Kingdom.

DEANE, DRAY, AND CO. (Opening to the Monument), London Bridge.

Sales by Auction.

TO GENTLEMEN, EXHIBITORS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS are instructed by Mr. Ayres, who is declining the cultivation of hard-wooded Plants, to offer for sale at the Auction Mart, on TUESDAY, 6th, and WEDNESDAY, 7th April, at 12 for 1 o'clock precisely, a choice assortment of STOVE and GREENHOUSE PLANTS, comprising specimens many of them fit for exhibition, of Azaleas, Camellias, Ericas, Eriostemons, Pimeleas, Dellwynais, Genistas, Aphelexis, Stephanotis, Stenocarpus, Escallonias, Epacris, Zichyas, Cordas, Dielytra spectabilis, Agathosma Bossias, &c, &c, with a choice assortment of the same kinds in smaller plants. Also a choice assortment of Show and Fancy Pelargoniums, comprising the following kinds:—FANCIES: Alboni, Admirable, Bouquet tout Fait, Fairy Queen, Formosa, Hero of Surrey, Itolinskii, Jenny Lind, Magnifica, &c.—SHOW: Ajax, Alderman, Alonzo, Beauty of Montpelier, Brilliant, Cardinal, Centurion, Conspicuum, Constance, Cracker, Crusader, Elegans, Field Marshal, Flavia, Generalissimo, Isis, Lord Stanley, Magnificent, May Queen, Nectar Cup, Nonsuch, Ocellatum, Oadine, Prince Arthur, Prince of Orange, Salamander, Satisfaction, Star, Virgin Queen, &c., with a choice collection of Cineraries, Verbenas, many of them blooming and named sorts, and fit for immediate effect.

Messrs. P. and M. beg to direct special attention to these plants as being such as are rarely offered at the Mart, and will be sold without any reserve. The specimen plants will be sold singly, and the others arranged in lots suitable to both large and small purchasers. May be viewed the morning of Sale. Catalogues may be had of Mr. AYRES, Brooklands Nursery, Blackheath; at the Mart; and of the Auctioneers.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will Sell by Auction, at the Mart, Bartholomew-lane, on THURSDAY, April 8, at 12 o'clock, a first-rate collection of Carnations and Picotees, also Standard and Dwarf Roses, Dahlias in dry roots, Verbenas, Fuchsias, American Plants, with a variety of Plants in bloom. May be viewed the morning of sale.—Catalogues had at the Mart, and of the Auctioneers, American Nursery, Leytonstone, Essex.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will submit to public competition, at the Mart, Bartholomew-lane, on MONDAY, April 5th, at 12 o'clock, a first-class Collection of Carnations and Picotees, standard and dwarf Roses, Lancashire Gooseberries, and Dahlias in dry roots, the property of Mr. Willmer.—May be viewed, and Catalogues had at the Mart, and of the Auctioneers, American Nursery, Leytonstone, Essex.

TO GENTLEMEN, FLORISTS, AND OTHERS.
A FIRST-RATE COLLECTION OF CARNATIONS AND PICOTEES.

MR. J. C. STEVENS will sell by Auction, at his Great Room 38, King-street, Covent-garden, on THURSDAY, April 8, at 12 for 1 o'clock, without reserve, the surplus stock of CARNATIONS and PICOTEES of the well known growers Messrs. Youell and Co., including, Carnations: Flora's Garland, Puxley's Prince Albert, Count Paulina, Knosthorp Pet, Lord of the Manor, Baudin's Louis Napoleon, &c. Picotees: Gem, Juliet, Wildman's Isabella, Lady Smith, Heroine, &c. Yellow Picotees: Malvolio, Malay Chief, Eclipse, &c.—May be viewed the day before the sale, and Catalogues forwarded on prepaid application to Mr. J. C. STEVENS, 38, King-street, Covent-garden, London.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. RAWLINGS AND GIBSON will Sell by Auction, at the Mart, Bartholomew-lane, on WEDNESDAY, April 7th, 1852, and following day, at 12 o'clock, a first-rate Collection of CARNATIONS and PICOTEES (the property of a celebrated grower), comprising all the leading varieties; also a splendid assortment of Dahlias, Fuchsias, Verbenas, Geraniums, &c., a valuable assortment of Herbaceous Plants, and collections of Vegetable and Flower Seeds. May be viewed the morning of sale; and Catalogues had at the Mart, and of the Auctioneers, Ebenezer Nursery, Shacklewell, London.

BISHOP MIDDLEHAM, NEAR FERRY HILL STATION, IN THE COUNTY OF DURHAM.
VERY IMPORTANT SALE OF PURE BRED SHORT HORNS.

MR. WETHERELL has received instructions from G. D. TROTTER, Esq., of Bishop Middleham, to Sell by Auction, on TUESDAY, the 11th day of May next, without reserve, his entire HERD OF SHORT HORNS, consisting of 70 lots. In offering this Herd for unreserved public competition, Mr. WETHERELL begs to remark that Mr. Trotter has been a very success-ful competitor at the meetings of the Royal Agricultural Society of England and other Agricultural Societies, and amongst them many first-class prize animals are to be found. From a recent inspection, he can with confidence say, they are an extraordinarily good herd, of first-rate quality, and is certain the most fastidious connoisseur cannot fail to be gratified, Mr. T. having had, for the last 15 years, the unrestricted privilege of using all the Bulls of the late Mr. Bates. The young stock are by the third Duke of York (10166); and most of the Cows and Heifers are in calf to the same Bull, and are sold in consequence of Mr. Trotter having entered into engagements which entirely preclude his giving that attention to the herd which he finds requisite. N.B. The Herd may be seen at any time. Catalogues are ready, and may be had of G. D. TROTTER, Esq., and of Mr. WETHERELL.—Durham, April 3.

TO MARKET-GARDENERS, HOTEL-KEEPERS, AND OTHERS.

TO BE LET, at Twickenham, near the Railway Station, the large, well-stocked, and productive GARDEN of the late Sir JONATHAN WATHEN WALLER. It embraces upwards of 3 acres, has four Graperies, and a range of Pine Pits, all in perfect order, and the walls extend upwards of 1,000 feet. There is on the ground a commodious COTTAGE, containing 10 rooms in excellent repair, and fitted up with water closets, and other comfortable conveniences, having been occupied as summer lodgings for the family of the late proprietor. At present the whole ground is under crop. Rent, including Cottage and Out-buildings, 75*l.* per annum.—Apply to JAMES CLARK 24, Billiter-street, London.

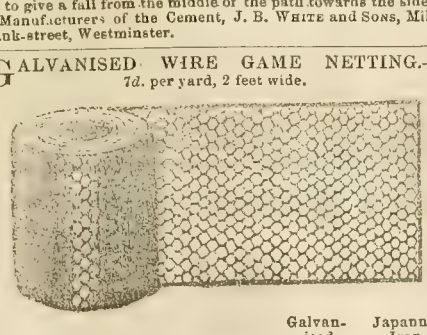
ADULTERATION OF FOOD.

HENRY BAKER, OPTICIAN, 90, Hatton-garden, London, begs to call attention to his ACHROMATIC MICROSCOPES (warranted good), which will be exchanged if not approved of. These Instruments will define the circulation of the Blood in the Frog's Foot, the Saw in the Sting of the Wasp, the Comb in the Spider's Foot, the beautiful forms and varieties of Pollen in Flowers and their Structure, the Scales of the Butterfly's Wing, and also, in many instances, adulterated food. It is a very interesting companion, and will pass away many a leisure hour, the food for observation being inexhaustible. Price for No. 1, 3*l.* 12*s*; No. 2, 6*l.* 15*s.*; No. 3, 12*l.* A descriptive Book sent post free, on receipt of two postage stamps. Prepared objects, 12*s.*; injected do., 2*s.* per dozen.

WATERPROOF PATHS.—Those who would enjoy their Gardens during the winter months should construct their Walks of PORTLAND CEMENT CONCRETE, which are formed thus:—Screen the gravel of which the path is at present made from the loam which is mixed with it, and to every part of clean gravel add one of Portland Cement, five parts of such equal mixture add one of Portland Cement, and incorporate the whole well in the dry state before applying the water. It may then be laid on 2 inches thick. Any labourer can mix and spread it. No tool is required beyond the spade, and in 48 hours it becomes as hard as a rock. Vegetation cannot grow through or upon it, and it resists the action of the severest frost. It is necessary, as water does not soak through it, to give a fall from the middle of the path towards the sides.

Manufacturers of the Cement, J. B. WHITE and SONS, Millbank-street, Westminster.

GALVANISED WIRE GAME NETTING.—
7d. per yard, 2 feet wide.

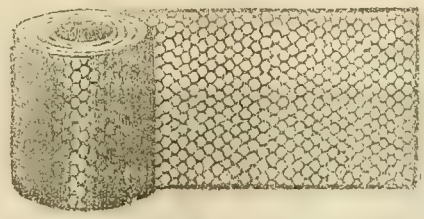


		Galvanised.	Japanned Iron.
2-inch mesh, light, 24 inches wide	...	7*d.* per yd.	5*d.* per yd.
2-inch ,, strong ,,	...	9 ,,	6½ ,,
2-inch ,, extra strong ,,	...	12 ,,	9 ,,
1½-inch ,, light ,,	...	8 ,,	6 ,,
1½-inch ,, strong ,,	...	10 ,,	8 ,,
1½-inch ,, extra strong ,,	...	14 ,,	11 ,,

All the above can be made any width at proportionate prices. If the upper half is a coarse mesh, it will reduce the prices one-fourth. Galvanised sparrow-proof netting for Pheasantries, 3*d.* per square foot. Patterns forwarded post free.

Manufactured by BARNARD and BISHOP, Market-place, Norwich, and delivered free of expense in London, Peterborough, Hull, or Newcastle.

CHEAP WIRE GAME AND POULTRY NETTING, *5d.* per running yard;



GALVANISED ditto, *7d.* per running yard, 2 feet wide.

	Galvanised.	Not Galvanised.
24 in. wide, 2 in. mesh, 7*d.* per yard.	...	5*d.* per yard.
30 in. ,, 2 in. ,, 9*d.* ,,	...	6½*d.* ,,
36 in. ,, 2 in. ,, 10½*d.* ,,	...	7½*d.* ,,
48 in. ,, 2 in. ,, 1*s.* 2*d.* ,,	...	10*d.* ,,

Sparrow Proof Netting, Galvanised, 3*d.* per square foot, made to any size for the same proportionate price. This article was shown at the "Great Exhibition," where it was so much admired for its light and durable appearance, and acknowledged to be the cheapest and best article of the kind ever offered. Extra strong Wire Sheep Netting, 3 feet high, 1*s.* 6*d.* and 2*s* 3*d.* per yard. Also every description of Flower Trainers, Dahlia Rods, Garden Arches, Bordering, Flower Stands, Tying Wire, Trellis Work, Invisible Wire Fencing, Hurdles, and every description of Wire Work for Horticultural purposes.—Illustrated Catalogues of Patterns forwarded, post-free, on application to T. H. FOX, City of London Wire Work and Iron Fence Manufactory, 44, Skinner-street, and 6 and 8, Snow-hill, London.

TANNED NETTING, for the Protection of Fruit

Trees from frost, blight, and birds, and for the security of fresh-sown seeds, either in gardens or fields, at 1*d.* per square yard, 200 yards for 14*s.*, 500 yards for 30*s.*, 1000 yards for 50*s.*; waxed Netting for Aviaries, &c., at 3*d.* per square yard. Scrim canvass for wall fruit, netting for sheep-folds; a considerable saving of labour, and less expense than hurdles. Sun blinds in great varieties, rick cloths, with poles, &c. Marquees, tents, awnings, and temporary rooms, with boarded floors, elegantly lined and lighted for fêtes, &c., on sale or hire. Carriage, cart, and truck covers impervious to rain; cloths for the covering of furniture in change of residence, &c. Tarpaulings on hire for houses under repair, at THOMAS EDGINGTON & Co.'s, 17, Smithfield-bars, and Old Kent-road.

N.B. Orders and inquiries per post punctually attended to.

HALL'S GARDEN NETS, LIGHT AND DURABLE.—

Best Protection against Frost, Hail, and Wind; also from Wasps and Insects; and good for outside shades of Greenhouse, &c.

ALL 55 INCHES WIDE.

No. 1, per yard	... ... 6½*d.*	No. 3, per yard	... ... 7*d.*
,, 2, ,,	... ... 6*d.*	,, 4, ,,	... ... 7*d.*

To be had in London of Mr. BENJAMIN EDGINGTON, 2, Duke-street, Southwark; Messrs. CHABLWOOD and CUMMINS, 14, Tavistock-row, Covent-garden; Messrs. MINIER, NASH and NASH, 60, Strand; Messrs. NUTTING and SONS, Cheapside; also of the principal Nurserymen and Seedsmen in Edinburgh, Dublin, Manchester, Liverpool, Chester, Norwich, &c., &c.

Manchester, April 3.

CRESTS AND OTHER ORNAMENTS for the PIERS of PARK ENTRANCES, are executed in Artificial Stone, by



J. SEELEY,
NEW ROAD, REGENT'S PARK,
LONDON.

COTTAGE STOVE.

GRIFFIN'S ECONOMIC COTTAGE STOVE comprises an open fire place, oven, boiler, ironing stove, and an aperture for the emission of warm air. Price 1*l.* 18*s.* 6*d.* for 3 heat openings, and other sizes in proportion, delivered at Banbury. All orders and applications are requested to be addressed to WILLIAM GRIFFIN, Eydon, Daventry.

IRON HURDLES, FENCING, ETC.

STEPHENSON AND PEILL, 61, Gracechurch-street, London, and 17, New Park-street, Southwark, beg to inform their friends and the public generally they are now manufacturing Iron Hurdles, at the following low prices:—For sheep, 6 ft. long 3 ft. high, 5 bars, 3*s.* 2*d.* each; and for cattle, 6 ft. long, 3 ft. 3 in. high, 5 bars, 3*s.* 6*d.* each.

THE ROYAL EXHIBITION.—A valuable, newly

invented, very small, powerful, waistcoat pocket Glass the size of a Walnut, to discern minute objects at a distance of 4 to 5 miles, which is found to be invaluable for YACHTING, and to SPORTSMEN, GENTLEMEN, and GAMEKEEPERS.

TELESCOPES.—A new and most important INVENTION in TELESCOPES, possessing such extraordinary powers that some, 3½ inches, with an extra eye-piece, will show distinctly Jupiter's moons, Saturn's ring, and the double stars. They supersede every other kind, and are of all sizes—for the Waistcoat-pocket, Shooting, Military purposes, &c. Opera and Race-course Glasses with wonderful powers; a minute object can be clearly seen from 10 to 12 miles distant.—Invaluable Acoustic Instruments, for relief of extreme Deafness.—Messrs. S. and B. SOLOMONS, Opticians and Aurists, 39, Albemarl street, opposite the York Hotel, London.

NEW SHORT PARSNIP FOR SHALLOW OR POOR SOILS.

This will be found a valuable root for the above-named soils, and requires very little labour either in cultivation or in pulling.

Being quite new, the seed is scarce; price 10*s.* per lb. Should be drilled 6 lbs. to the acre.

SUTTON and SONS, Seed Growers, Reading, Berks.

NEW FARM SEEDS.—*The attention of all engaged in Farming Operations is respectfully directed to the Advertisement of Messrs.* WM. E. RENDLE *and Co., Plymouth, which appeared on the back page of this Newspaper* ON SATURDAY, MARCH 27, *page* 208.

Our General Descriptive Price Catalogue of Farm Seeds

Is now ready, and can be had in exchange for one penny stamp.

Apply to WILLIAM E. RENDLE and Co.,
Seed Merchants Plymouth.
ESTABLISHED MORE THAN HALF A CENTURY.

EPPS'S NEW SEEDLING FUCHSIAS

"STANDARD OF PERFECTION," and "NOVELTY," the most distinct and beautiful varieties that have ever been offered; they are highly spoken of, and described in the *Gardeners' Chronicle*, Oct. 25, 1851; in the "Cottage Gardener," Oct. 25, 1851; and in Glenny's "Garden Almanack" for 1852. Strong plants will be forwarded on the 30th April. A list of the trade that have ordered and can supply plants will be advertised next week. Agents, Hurst and M'Mullen, Leadenhall-street London.—Bower Nurseries, Maidstone, April 3.

NEW AND CHOICE FLOWER SEEDS, FREE BY POST.

MESSRS. WHEELER AND SON have selected out of their large collection of Flower Seeds the most beautiful and showy varieties, each sort distinct in colour, and calculated to produce a fine effect when planted out in beds or groups in the flower-garden. They have marked each variety with its Botanical and English Name—Height—Time of Flowering—Colour of the Flower—Manner of Growing—Whether Erect or Trailing, &c.—the Time it should be sown, and with other valuable Hints as to its cultivation.

In selecting these varieties care has been taken to exclude all shy-bloomers, or such which have an insignificant appearance, so that the collections will comprise only those which are really showy and handsome, and which prove to the entire satisfaction of any lady or gentleman who might be disposed to order them. The GERMAN STOCKS, ASTERS, ZINNIAS, LARKSPURS, &c., are most superb. The collections will be sent free by post to any part of the Kingdom at the following prices:—20 Extra Fine Varieties, all distinct, 5*s*; 50 ditto ditto, 10*s.* 6*d.*; 100 ditto ditto, 20*s.*

J. C. WHEELER and SON, 99, Northgate-street, Gloucester. Nurserymen and Seedsmen to the Gloucestershire Agricultural Society.

PINES.—A Gentleman who is discontinuing the

growth of Pines, is desirous of disposing of his Stock, consisting of about Three dozen fine Plants, part in fruit. Apply to O. W. Post-office, Bexley Heath, Kent.

THE MAGNIFICENT DAHLIA GREEN "SCARLET KING" is placed first in the "Garden Almanac,"

which rarely errs. The *Gardeners' Chronicle* says "It has the form of the Duke of Wellington, and the colour of John Edward." Mr. Glenny, *Lloyd's Weekly Newspaper* (which circulates 70,000), quotes and confirms the *Chronicle*. Plants in May, 10*s.* 6*d.*; dry roots in October, 21*s.*—Order of any Nurseryman, or of the Agent, 84, Fleet-street, London.

IRELAND.

JOHN EDMONDSON, AND Co., SEEDSMEN, 61, Dame-street, Dublin, beg to call attention to their Stock of VEGETABLE and FLOWER SEEDS, which have been carefully selected from growers of acknowledged merit, and they respectfully solicit the favour of a trial. Catalogues post-free, on application.

Corner of Half-Moon-street, Piccadilly.

PERMANENT GRASS SEED.

THOMAS GIBBS AND CO., SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND," &c., having for upwards of 50 years paid particular attention to Laying down Land to PERMANENT MEADOW AND PASTURE, beg to call the attention of Agriculturists to the following Mixtures, which will be apportioned to suit the nature of the soil:—

Mixtures for PERMANENT MEADOW AND PASTURE, including Perennial Clover.

Mixtures for PARKS, FIELD LAWNS, or Portions of Grass Land NEAR TO MANSIONS.

Mixtures for UPLAND SHEEP WALKS AND DOWNS.

Mixtures for FINE GARDEN LAWNS AND GRASS-PLOTS.

Also to their White Belgian and other Carrots; Yellow or Orange Globe Mangold Wurzel, Long Red ditto, and other kinds; Swedes, Hybrids, and other Turnips; Italian and other Rye-grasses, Clovers, &c.; and their general collection of Agricultural and other Seeds.

THOMAS GIBBS and Co., Seedsmen to the R.A.S.E., corner of **Half-Moon-street** Piccadilly, London.

PERMANENT PASTURE.

HENRY ROGER SMITHE, of Eastling, Faversham Kent, informs the public, that his mixtures of the NATURAL GRASSES and SMALL CLOVERS, gathered principally under his superintendence, including every sort necessary to form a Permanent Pasture, accordant with the soil, &c. (which should be particularly stated), are now ready to be delivered by Railway to any Station in England, Carriage Free, at 20*s.* per acre, allowing 3 bushels per acre.

MIXTURES FOR LAWNS, &c. THE TRADE SUPPLIED.

Any information on the nature and properties of the Grasses, the Advertiser would be pleased to give.

PERMANENT PASTURE AND OTHER GRASSES,

SUITED TO THE SOILS REQUIRED.

BASS AND BROWN

BEG TO OFFER THEIR VERY SUPERIOR MIXTURES, as under, for laying down Permanent Pastures, &c. Their Agricultural Seed List, which contains the sorts separately priced, may be had prepaid.

	Per acre.—s.	d.
MIXTURES FOR PERMANENT PASTURE ON LIGHT LANDS, allowing 3 bushels and 9 lbs. to each acre	24	0
MIXTURES FOR DITTO, ON HEAVY LANDS	27	0
MIXTURES FOR PARKS OR PERMANENT LAWN PASTURES	28s. to 32	0
MIXTURES FOR FINE LAWNS, BOWLING GREENS, &c.	34s. to 38	0
MIXTURES FOR MARSHY GROUNDS, or Meadows subject to flood	24s. to 28	0
MIXTURES FOR ORCHARDS, &c., much overshaded by trees	24s. to 30	0
MIXTURES FOR SOILS OF ALL DESCRIPTIONS, to be laid down with the proper kinds and proportions requisite.		
MIXTURE FOR RENOVATING OLD PASTURES, per lb.	0	10
MIXTURE FOR FINE LAWNS IN FLOWER GARDENS, per lb.	1	0

Our locality, and our long experience and practice in collecting several species and kinds of the Grasses natural to our own neighbourhood, for a considerable distance round, enables us to supply them either separately or in mixtures as low as any house in the trade. We also import many of the most useful sorts from the Continent, and some we receive from other localities.

Our Collection consists of all the most useful and best kinds for the purposes required. The mixtures will be found excellent, and have given the highest satisfaction.

	Per bushel.—s.	d.
TRUE ITALIAN RYE GRASS, English and imported	5s. 6d. to 7	0
FINE SCOTCH PACEY AND COMMON RYE-GRASSES	4s. to 6	0
STICKNEY'S IMPROVED RYE-GRASS	6	6

LUCERNE, ALSIKE, SUCKLING, AND OTHER CLOVERS.

DRUMHEAD CABBAGE; also True Stocks of all the best varities of TURNIPS, MANGOLD WURZEL, &c., at the lowest prices

EVERY DESCRIPTION OF AGRICULTURAL AND GARDEN SEEDS.

OUR GENERAL DESCRIPTIVE SEED AND PLANT LIST FOR 1852,

CONTAINING 36 PAGES, SUPPLIED FREE BY POST FOR FOUR PENNY STAMPS.

Goods delivered Free to London, Colchester, Ipswich, Norwich, or any Station on the same Line of Railway.

SEED AND HORTICULTURAL ESTABLISHMENT, SUDBURY, SUFFOLK.

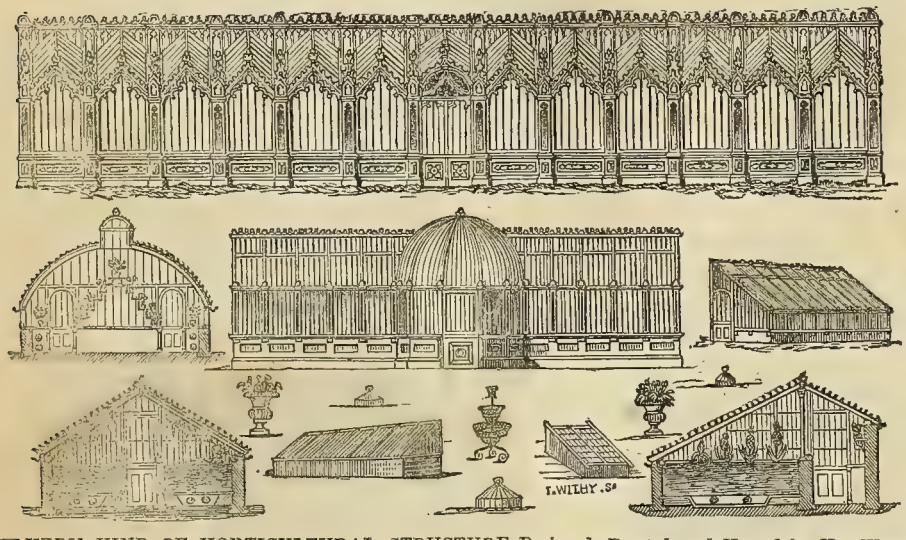
ESTABLISHED ABOUT HALF A CENTURY.

GOTHIC RIDGE AND FURROW CONSERVATORY,

BY J. W. THOMSON,

LANDSCAPE GARDENER, HOTHOUSE DESIGNER AND BUILDER,

HAMMERSMITH.



EVERY KIND OF HORTICULTURAL STRUCTURE Designed, Erected, and Heated by Hot Water, common Flues, and other modes, on the most economical and improved modern principles. Testimonials and references from noblemen and gentlemen who have kindly patronised, for more than 15 years past, J. W. THOMSON'S modern and simple mode of Constructing, Building, Warming, and Ventilating Garden Structures. He begs to draw particular attention to his newly-invented plan for moving all Lights, front and top, admitting air by one action or simultaneously, at very little more expense than by the old and inconvenient mode of cords and pulleys. This simple plan can be applied at a moderate cost to houses already ventilated by the old and troublesome cord and pulley system.

J. W. THOMSON having had full 25 years' experience as a practical Horticulturist, Landscape Gardener, and Garden Architect in her MAJESTY'S Royal Gardens at Windsor, Kew, and other places, most respectfully solicits the favours and patronage of noblemen and gentlemen about to form new, or to alter and embellish their present, Park, Gardens, &c.

Plans and Estimates for remodelling Parks and Gardens, or for Building and Heating Hothouses, and other Garden improvements, furnished on application. Melon and Cucumber Boxes and Lights.

SCARCE AND BEAUTIFUL FLOWER SEEDS.

EMPEROR STOCK, a perennial species, and hardy, 1400 seeds, 1s.

CINERARIA and CALCEOLARIA, selected from collections of Plants, that were admitted by all persons who saw them to be the finest they had ever seen; 250 seeds of the former, and 500 of the latter, 1s. each paper.

MYOSOTIS AZORICUS, a bed of this on an eastern or northern aspect is very beautiful; 200 seeds, 1s.

CALENDRINIA UMBELLATA, one of the neatest growing and most brilliant flowering of all bedding plants; 1500 seeds, 1s.

SWEET WILLIAM, in 100 varieties; 10,000 seeds, 1s.

Payment may be made in postage stamps.

JEYES and Co., Nurseries, Northampton.

FIRST CLASS VERBENAS, FUCHSIAS, GERANIUMS, DAHLIAS, CHRYSANTHEMUMS, CINERARIAS, PETUNIAS, PICOTEES, AND CARNATIONS.

GEORGE SMITH'S SELECT CATALOGUE is now ready, containing Priced Lists of all the leading kinds of both Show and Fancy varieties, in their various classes.

G. S.'s Seedling Verbenas, Fuchsias, &c., are of great merit, having taken numerous First-class Certificates, and having been highly recommended by the Press. For description see Catalogues, which will be forwarded on the receipt of one postage stamp.

N.B. Taylor's excellent "Treatise on the Chrysanthemum," 1s.; free by post, 1s. 2d.

Tollington Nursery, Guernsey-road Islington, London.

NOTICE IS HEREBY GIVEN, that the Partnership heretofore subsisting between us, the undersigned SAMUEL PAGE WIDNALL, and THOMAS DAVIS, as Nurserymen, Florists, Seedsmen, and Gardeners, carrying on business at Grantchester, in the County of Cambridge, and at the Borough of Cambridge, in the same County, was this day DISSOLVED by mutual consent; and that all Debts due and owing by and to the said Firm, will be paid and received by the said SAMUEL PAGE WIDNALL.

As Witness our hands, the 31st day of March, 1852.

SAMUEL PAGE WIDNALL.
THOMAS DAVIS.

NEW CALCEOLARIAS.

MR. HENRY MAJOR, Knosthorpe, near Leeds, begs to announce that his set of 12 beautiful new shrubby CALCEOLARIAS will be ready to send out the middle of April. Price of the set, 3l.; or half the set, 30s., providing the selection be left to H. M. Very favourable opinions have been obtained upon them, for which see Descriptive List, which may be had on prepaid application as above.

Twelve of H. M.'s best Calceolarias (sent out last year), including two or three Seedlings not yet out, price 25s.

Choice Calceolaria Seed, 2s. 6d. per packet.

Unbloomed Seedling Calceolarias, saved from fine varieties in parcels of 20, at 7s. 6d. per parcel; or three parcels, 1l., post free. They will bloom this year, and will be ready to send out the middle of April.

First-rate show Pansies, from 1s. to 2s. 6d. each.

Select Pansy Seed, 2s. 6d. per packet.

From unknown correspondents a remittance is respectfully requested with the order.

DWARF PEAS.

HAIRS'S DWARF MAMMOTH KNIGHT'S, acknowledged the best out, 2s. 6d. per quart.

BISHOP'S LONG-PODDED, 1s. per quart.

BURBIDGE'S ECLIPSE, 1s. per quart.

The above Peas have been most extensively grown in the principal horticultural establishments in the kingdom, and pronounced superior in every respect to the tall growing varieties.

FLOWER SEEDS.

ESCHSCHOLTZIA CALIFORNICA ALBA, a pure white, very good, 6d. per packet.

IPOMŒA BURRIDGII, splendid hardy creeper, 6d. per packet.

SAPONARIA CALABRICA, var. MULTIFLORA, one of the best bedding plants out, 6d. per packet.

TROPÆOLUM COCCINEUM, handsome, 6d. per packet.

EUCHNIDEA BARTONIOIDES, splendid yellow, half-hardy, 6d. per packet.

GAURA LINDHEIMANII, fine herbaceous plant, 6d. per packet.

DUNCAN HAIRS offers to the gardening world the above small selection, as being deservedly worthy of universal attention. Catalogues of Garden, Agricultural, and Flower Seeds forwarded on application.

Seedsman and Florist, Wholesale and Retail, 109, St. Martin's-lane, London.

SEED AND HORTICULTURAL ESTABLISHMENT, SUDBURY, SUFFOLK.

BASS AND BROWN'S ANNUAL SEED AND PLANT LIST FOR 1852, containing 36 pages, now supplied, prepaid, for four postage stamps, as the newspaper-stamped copies are distributed. A few more stamped copies of the Autumn Catalogue, which contains the Roses, Hardy Plants, Climbers, Prize Gooseberries, &c.

VEGETABLE SEEDS,

OF THE VERY BEST SORTS IN CULTIVATION.

ASSORTED COLLECTIONS, 50s., 30s., 20s., and 10s. 6d., or any sorts supplied separate, at the lowest prices, for first-rate quality. See Catalogue.

FLOWER SEEDS,

FREE BY POST.

Useful printed instructions for sowing and raising seeds sent with each order.

BEST ASSORTMENTS.

100 varieties best and newest Annuals	£0	15	0
50 varieties, 8s. 6d.; 30 varieties, 6s. 6d.; 20 varieties	0	4	0
20 varieties of best Dwarf Annuals, large packets, for filling out lawn beds, &c.	0	7	6
12 varieties, do.	0	5	0
20 varieties choice and new Greenhouse Annuals ...	0	7	6
12 varieties, do.	0	5	0
20 varieties choice and new Greenhouse Perennials	0	10	6
12 varieties, do.	0	7	6
20 varieties choice and new Biennials and Perennials	0	7	6
12 varieties, do.	0	5	0

CHOICE IMPORTED GERMAN SEEDS.

A superb collection of Stocks, Asters, Wallflower, Larkspur, Balsams, Senecio, Zinnia, Cockscomb, Indian Pink, &c. See Catalogue, page 4.

GRASS SEEDS,

Assorted and mixed, of the very best sorts, for the purposes required.

Mixtures for Permanent Pastures, Park Mixtures, and Mixtures for fine Lawns, Bowling-greens, &c.; also Mixtures to suit all soils and situations.

For priced List of Grasses, see our Seed and Plant List, page 14, by which each sort may be had separately.

TRUE ITALIAN RYE GRASS, ENGLISH AND IMPORTED.

☞ Our Mixtures of Grasses have given the highest satisfaction.

Remittances required from unknown correspondents. Post-office orders to be made payable to BASS and BROWN, or to STEPHEN BROWN. Goods sent carriage free to London, Ipswich, Norwich, or any station on the same line.

ESTABLISHED ABOUT HALF A CENTURY.

CHEAP DAHLIAS.

THE LARGEST STOCK IN THE KINGDOM, AND BEST PLANTS.

HENRY LEGGE will send out, the last week in April, all the best sorts of last season, at from 9s. to 12s. per dozen—all the good older varieties from 3s. to 4s. per dozen; also his new Dahlia, Lady Russell, white, shaded rose, splendid form; 10s. 6d. per plant.—A catalogue can be had by application, enclosing one stamp, to H. LEGGE, Marsh Side, Lower Edmonton.

Good named Pansies, 4s. per dozen; all the best Chrysanthemums, &c.

GENUINE CATTLE CABBAGE, EARLY BATTERSEA, EARLY VANACK, LARGE IMPERIAL, &c., by THOMAS WELLAND, Surrey Gardens, Godalming, Surrey, packed and delivered at the Godalming Station, 3s. 9d. per 1000. The large Asiatic Cauliflower, 2s. 6d. per 100. Money orders payable at Godalming.

NEW DAHLIAS.

E. SPARY, NURSERYMAN, FLORIST, and SEEDSMAN, begs to announce to his Floricultural Friends, both English and Foreign, that he intends sending out in May, 1852, the below-named DAHLIAS, which E. S. can confidently recommend as constant and desirable show flowers.

ABSOLOM (Spary's).—Clear amber, first-rate form, fine petal (an acquisition in its colour). Height, 4 feet. Plants 10s. 6d.

VICTORIA (Cook's).—Pale primrose, tipped with lilac, exquisite form, and good centre. To exhibitors a desirable light flower. Height, 4 feet. 10s. 6d.

JOHN DAVIS (Cook's).—Crimson, occasionally shaded with puce, symmetrical fine form, high centre. Always to be depended on. Height, 4 feet. 7s. 6d.

[E. S. intends offering Prizes for the above, at the Surrey Gardens September Show, 1852.]

ADMIRATION (Brimmer's).—A very dark maroon, tipped with white; petal and form good. A desirable fancy show flower. Height, 3 to 4 feet. 7s. 6d.

Descriptive Catalogues of select new and old varieties may be had on application.

A large assortment of plants, Hambro' Vines and other sorts (in pots), from E. S.'s celebrated Graperies—Judson's Richmond Villa, Hambro'. Hot-house Grapes. Bouquets, Cut Flowers, Seeds, &c.

Queen's Graperies and Nursery Ground, Park-street, Brighton.—April 3.

TRUE EARLY BATTERSEA, EARLY LARGE IMPERIAL, EARLY YORK, &c., by THOMAS WELLAND, Surrey Gardens, near Godalming, Surrey, packed and delivered to the Godalming Station, 3s. 9d. per 1000; the large Asiatic Cauliflowers, 2s. 6d. per 100.

Printed by WILLIAM BRADBURY, of No. 13, Upper Woburn-place, in the parish of St. Pancras, and FREDERICK MULLETT EVANS, of No. 7, Churchrow, Stoke Newington, both in the County of Middlesex Printers, at their Office in Lombard-street, in the Precinct of Whitefriars, in the City of London; and published by them at the office, No 5, Charles-street, in the parish of St Paul's, Covent-garden, in the said County, where all Advertisements and Communications are to be ADDRESSED TO THE EDITOR.—SATURDAY, April 3, 1852.

THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 15—1852.] SATURDAY, APRIL 10. [PRICE 6*d.*

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21, REGENT STREET.

HORTICULTURAL SOCIETY OF LONDON.
PRIVILEGED TICKETS.

The Exhibitions will take place on the Second Saturdays in May, June, and July, namely,

MAY 8, JUNE 12, JULY 10.

All Fellows who shall apply, on or before Tuesday, the 20th of April, may obtain, at the PRIVILEGED RATE of Three Shillings and Sixpence each, any number of tickets NOT EXCEEDING FORTY-EIGHT; but no application for such tickets will be received after that day. *Fellows of the Society subscribing for tickets at this price will be allowed a clear week from the 20th of April during which they may claim them.* AFTER THAT PERIOD ALL THE 3*s.* 6*d.* TICKETS SUBSCRIBED FOR, BUT NOT ISSUED, MAY BE CANCELLED.

After the 20th of April, any further number of tickets will be delivered to Fellows on their personal application or written order, at the price of *Five Shillings* each ticket.

THE NATIONAL TULIP SOCIETY.—The next ANNUAL EXHIBITION of this SOCIETY will be held at the TOWN HALL, BIRMINGHAM, on THURSDAY, May 27. Schedules may be had on application at the Office, 29, Bennett's Hill.

THE ENTRIES CLOSE ON THE 17TH INSTANT.

C. J. PERRY } Hon. Secs.
J. Cole }

Birmingham, April 10.

THE CHELTENHAM AND COUNTY OF GLOUCESTER MONSTER EXHIBITION OF USEFUL AND ORNAMENTAL POULTRY, at the ROYAL OLD ASSEMBLIES, CHELTENHAM (Open to the United Kingdom), will take place on THURSDAY, the 3D of JUNE, 1852, at which Exhibition will be given, in Cups, Medals, and Specie, 100 Sovereigns as Prizes. Schedules to be obtained on application to the Secretaries, Messrs. JESSOP, BROTHERS, Cheltenham, on and after the 1st of May, 1852, and by whom any further information will be given.

WOODLANDS NURSERY, MARESFIELD,
NEAR UCKFIELD, SUSSEX.

WM. WOOD AND SON have to offer the following:—

	Per dozen—*s. d.*
CHRYSANTHEMUMS, Continental varieties	...6*s.*, 9*s.* 12 0
JAPANES, very fine	...18*s.* to 24 0
CACRIS	... 12 0
HERBACEOUS PLANTS, fine collection, 42*s.* p. 100	...6*s.* to 12 0
PENTSTEMONS	... 6*s.* to 9 0
PHLOXES	... 6*s.* to 9 0
Do. new Continental varieties	... 12 0
CAULIFLOWER PLANTS, very strong, per 100	... 4 6

Plants presented for distant carriage.

HOSEA WATERER'S Descriptive Catalogue of AMERICAN PLANTS, CONIFERS, ROSES, &c., is just published, and may be had on application, enclosing two postage stamps, to Mr. HOSEA WATERER, Knap Hill Nursery, Woking, Surrey.

GEORGE BAKER'S DESCRIPTIVE CATALOGUE OF AMERICAN PLANTS, CONIFERÆ, ROSES, ORNAMENTAL SHRUBS, FRUIT AND FOREST TREES, &c., may be had on application, by enclosing two postage stamps.—Windlesham Nursery, Bagshot, Surrey.

DOUBLE ITALIAN TUBEROSE ROOTS, 4*s.* per dozen.—The annual importation of the above-named beautiful and fragrant Flower has just been received, and large and well selected Bulbs may be obtained, without disappointment, at A. CORBETT'S Foreign Warehouse, 19, Pall-mall. N.B. Printed regulations for treatment sent; also, just arrived, very moist and open Parmasan Cheeses.

WILLIAM HUSSEY begs to inform his Friends and the Public that his DESCRIPTIVE CATALOGUE of Dahlias, Cinerarias, Geraniums, Hollyhocks, Verbenas, Pinks, Chrysanthemums, Carnations, Picotees, Pinks, Pansies, Bedding Plants, &c. &c. is now ready, and may be had in exchange for one postage stamp.

Horticultural Gardens, Norwich, April 10.

BASS AND BROWN'S SEED AND PLANT LIST for 1852 (containing 36 pages) now sent prepaid for four postage stamps, as the newspaper-stamped copies are disposed of. Also, for two postage stamps, their Autumn Catalogue, containing the Hardy Herbaceous Plants, Roses, and various sorts of new Hardy Plants, Climbers, &c., kept for sale in the Seed and Horticultural Establishment, Sudbury, Suffolk.

MOULD, GRAVEL, TURF.—A large quantity to dispose of. Apply to W. TOWNSEND, Nurseryman, Notting-hill, Middlesex.

FINE GRASS LAWNS.

THE importance of securing pure and fine SHORT GRASSES FOR GARDEN LAWNS has for many years engaged our special attention, and we believe that SUTTON'S FINE MIXED LAWN SEEDS are unrivalled.

The following testimony received is only similar to very many others:—

From Arlington Court, near Barnstaple, Devon.

"I shall always in future send to you, as the Grass Seeds proved entirely to my satisfaction."

From Eding, Thorpe Rectory, North Walsham.

"The Grass Seed you sent me was most excellent. Three months ago I had no lawn at all; I have now a close, short, verdant lawn, the wonder of my neighbours."

These Grass Seeds will be sent Carriage Free, according to our Advertisement of March 20.

Price 1*s.* 3*d.* per lb.; 3*s.* per gallon; 21*s.* per bushel.

Address, JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

RENDLE'S NEW PLANT CATALOGUE *is just published, and can be had in exchange for one penny stamp.*

It contains PRICES of all the newest and best Geraniums, Dahlias, Azaleas, Antirrhinums, Camellias, Chrysanthemums, Cinerarias, Fuchsias, Petunias, Calceolarias, Ferns, Lycopodiums, Greenhouse, Stove, and Herbaceous Plants.

*** Carriage paid to all the stations on the SOUTHERN RAILWAYS. See Catalogue.

WILLIAM E. RENDLE and Co., Florists to her Majesty, Plymouth.

STANDISH AND NOBLE'S detailed Advertisement will appear in this Paper on the first Saturday in every Month, to which they invite the attention of all interested in HARDY ORNAMENTAL PLANTS. Their Descriptive Catalogue, with the Treatise on the "Cultivation of American Plants," can still be had, by enclosing six stamps for postage.

Gentlemen requiring the services of a Landscape Gardener, can procure such by applying to the Advertisers.

Bagshot, Surrey, April 10.

NEW BEDDING GERANIUM,
"THE SHRUBLAND PET."

E. G. HENDERSON AND SON, Wellington-road, St. John's-wood, London, having purchased the above novel and splendid variety, beg to say that they will be able to supply plants on and after the first week in May, price 10*s.* 6*d.* each.

This very beautiful variety will prove one of the greatest acquisitions to the flower garden, and as such will be found indispensable to every collection. It was raised by Mr. Beaton, late gardener to Sir William Middleton, and in this Nobleman's parterre Mr. Beaton has described it as being one of the principal attractions, and the admiration of many hundred visitors. Mr. Davidson, the present gardener to Sir William, also describes this Geranium as a great treasure, and, in speaking of it, says—"it is one of our best bedding varieties, and also quite distinct in habit, like 'Curata,' but belonging to the unique section, being a hybrid between that and Moor's 'Victory.'" In colour a good crimson scarlet, with sweet-scented foliage. It is also a compact and most abundant bloomer.

NEW AND CHEAP PLANTS.

HENRY WALTON, FLORIST, &c., Edge End, Marsden, near Burnley, Lancashire, begs to offer the following Plants, at the very reduced prices attached:—GERANIUMS—Belle of the Village, Constance, Field Marshal, Prince of Orange, Crispina, Purity, Josephus, Elegans, Plutarch, King of Purples, Prometheus, Abd-el-Kader, Sparkler, Terpsichore, Mont Blanc No. 2, President, Lamartine, Ondine, Meleager, Junii, Nandee, Lord Stanley, Rebecca, Virgin Queen, Forget-me-Not. The above in extra strong plants, 15*s.* per dozen, or 20 for 1*l.* Geranium Raphael, Crusader, Volgus, Norah, Cavalier, Honora, Guielma, Lady Ebrington, Rosamunda, and several others, in strong blooming plants, from 7*s.* 6*d.* to 9*s.* per dozen, or 20 for 15*s.*

CHOICE CINERARIAS.—Lady Gertrude, Wellington, Angelique, Carlotta Grisi, Nymph, Wedding Ring, Delight, Emperor, Pauline, Othello, Sanspareil, Margaretta, Lady Araminta, Amy Robsart, Fairy Queen, Madame Miellez, Electra, Blue Perfection, Lady Hume Campbell, Resplendens, Clementine, Handel, Lady Vernon, and Diocletian. The above in nice strong plants, from 12*s.* to 15*s.* per dozen, or the lot for 1*l.* Cineraria Eleanor, Gem of the Isle, Matilda, Madame Parodi, Coronet, Calypso, Newington Beauty, Satellite, Fairy Ring Sapphire, Prime Minister, Jenny Lind, and Masterpiece. The above 13 at 9*d.* each, or the lot for 9*s.*

FUCHSIAS.—Alpha, Bride, Bridesmaid, Brilliant, Clapton Hero, Conspicua, Defiance, Diadem of Flora, Elect, Globosa, Alba grandiflora, Hebe, Koh-i-noor, Loveliness, Lord of the Isles, Lady of the Lake, Madame Sontag, Prince Arthur, Psyche, Resplendens, Roscola, and Voltigeur. The above Fuchsias in strong, autumn-struck plants, 15*s.* per dozen, or 20 for 1*l.* Spring-struck plants, including all the leading varieties of last spring, free by post, 10*s.* 6*d.* per dozen.

DAHLIAS (strong plants first week in May), all the new varieties of last spring, 9*s.* to 12*s.* per doz; older varieties, 4*s.* 6*d.* to 6*s.* per dozen.

PANSIES.—A plant of the yet unrivalled Pansy, "Jonning's King," with 24 others selected from the Autumn Catalogue, for 1*l.*

Verbenas, Petunias, Antirrhinums, Chrysanthemums, scarlet Geraniums, &c. Also a choice selection of Bedding Plants, at equally reduced prices, catalogues of which may be had for one stamp.

It is respectfully requested that all orders be accompanied by a post-office order, made payable at Marsden, Lancashire. All orders of 2*l.* and upwards carriage free to Liverpool, Manchester, and Leeds; for more distant carriage, plants will be added to compensate.

N.B.—A choice Collection of Carnations and Picotees, 9*s.* per dozen pair, catalogues of which may be had for one stamp.

AMERICAN NURSERY, BAGSHOT, SURREY.

JOHN WATERER begs to announce that he has published a new CATALOGUE of Hardy Rhododendrons, Azaleas, Roses, Conifers, &c., and which may be obtained by enclosing two postage stamps.

The colours of all the Rhododendrons worthy of cultivation are described; thus purchasers are afforded every facility in making selections.

THE MAGNIFICENT DAHLIA GREEN "SCARLET KING" is placed first in the "Garden Almanac," which rarely errs. The *Gardeners' Chronicle* says "It has the form of the Duke of Wellington, and the colour of John Edward." Mr. Glenny, *Lloyd's Weekly Newspaper* (which circulates 70,000), quotes and confirms the *Chronicle*. Plants in May, 10*s.* 6*d.*; dry roots in October, 21*s.*—Order of any Nurseryman, or of the Agent, 84, Fleet-street, London.

NEW AND CHOICE PLANTS.—
CINERARIAS.

Beauty Supreme, Beauty of Comb Bank, and Forget-me-Not, 10*s.* 6*d.* the set.

PANSIES.

Eustace (Turner)	Sylvia (Thompson)
Mr. Beck (do.)	Caroline (do)
Mrs. Beck (do.)	Polyphemus (do.)
Plantagenet (do.)	Lucy Neal (do.)
Example (do.)	Jenny Lind (do.)
Addison (do.)	Zabdi (do.)
Viceroy (do.)	Mrs. Anderson (Hart)
Queen of England (do.)	Ophir (Widnal)
Juventa (Hooper)	Post Captain
Masterpiece (do.)	Gem (Turner)
Gulnare (do.)	Duke of Norfolk (Bell)
Supreme (Youell)	Duchess of Norfolk (do.)
Androcles (do.)	Malvern (Weakes)

Any 12 selected from the above, 6*s.*; the Collection, all of which are fine show flowers, 12*s.*, hamper included.

GERANIUMS, of fine named fancy and other kinds, 10*s* per dozen.

PICOTEES, of good sorts, 6*s* per dozen pairs.

PANSIES, named sorts, 4*s.* per dozen.

Superior Sweet William and Antirrhinum Seed, 6*d.* per packet.

20 packets of fine Annuals, free by post, for 3*s.*

HART and NICKLIN, Florists and Seedsmen, 182, High-street, Guildford.

DELPHINIUM SPECIOSUM (?) VAR. WHEELERI.

Plants to bloom this Summer, 5*s.* each, for cash, post free to any part of the kingdom.

GEORGE WHEELER, NURSERYMAN, &c., Warminster, Wilts, respectfully announces he is now sending out the above magnificent variety of fine bright blue Bee Larkspur, which was figured, and its history given, in the "Gardeners' Magazine of Botany" for October, 1851. In one of the specimens sent to the artist of that work, the principal spike, which was densely studded with blossoms, measured 14 inches long by 8½ inches diameter at its broadest part, and contained 244 blosaoms and buds, the greater part being in perfection at the time; below this, several smaller and more loosely arranged flowering branches were produced. The stems grow from 3 to 4 feet in height, and are of so sturdy a habit as scarcely ever to need any support; it carries a good foliage, is of very easy culture, thriving in any good garden soil, and an extremely hardy perennial plant. The usual allowance to the Trade by the dozen.

Fine Bulbs now ready of Tigridia conchiiflora, yellow, 3*s.* per dozen; ditto ditto conchiiflora Wheeleri, colour orange-scarlet, on yellow ground, beautifully spotted, 4*s.* per dozen.—A large quantity of strong transplanted Thorn and bedded Rhododendrons, at very low prices, which may be obtained on application.—The King of Cucumbers, the handsomest black spine in cultivation, four seeds for 1*s.*

Warminster, April 10.

NOTICE.—HOLLYHOCK SEED, 2*s.* 6*d.*; GERMAN ASTER SEED, 1*s*; SWEET WILLIAM SEED, 1*s.*; ANTIRRHINUM SEED, 1*s.*; and GIANT SCARLET BROMPTON STOCK SEED, 1*s.* per packet. CAPTIVATION CUCUMBER, 5*s*; PHENOMENA CUCUMBER, 2*s.* 6*d.*; GOLDEN BALL MELON SEED, 2*s* 6*d.*; and BROMHAM HALL MELON SEED, 1*s.* per packet; as see *Gardeners' Chronicle* of last week for the former, and of Feb. 21, 1852, for the latter.

Good sound seeds of the above varieties can still be obtained, post free, on enclosing the requisite amount in penny postage stamps.

A packet of each of the above five varieties of Flower Seeds will be sent on receipt of the amount of 5*s*, postage free.

EDWARD TILLY, Nurseryman, Seedsman, and Florist, 14, Abbey Churchyard, Bath, Somersetshire.

FUCHSIAS.—The following distinct fine NEW VARIETIES, raised by E. BANKS, Esq, and warranted to give satisfaction to the purchaser:—

DIADEM.—Rich crimson tube and sepals, fine shaped dark purple corolla; sepals reflex, beautifully resembling the Turk's Cap Lily. 7*s.* 6*d.*

BEAUTY OF DEAL.—White tube, with bright vermillion corolla; opens well, of good substance, and free bloomer. 7*s.* 6*d*

CORTONA.—Crimson tube and sepals, corolla almost black; a distinct good variety, sepals reflex well. 7*s.* 6*d*

GAIETY.—Blush tube and sepals, lilac purple corolla; very dissimilar and novel. 7*s.* 6*d.*

DONEY BELL.—White tube and sepals, lilac corolla; reflexes well, good stout flower. 7*s.* 6*d.*

NONSUCH.—Crimson, dark purple corolla; good shape, small free bloomer. 5*s.*

L'ELEGANTE (Turner).—White, vermillion corolla; reflexed sepals, and good habit. 5*s.*

VERRIO (Turner).—Dark crimson, dark purple corolla; reflexed lilac flower. 5*s.*

Strong plants are now ready.

C. TURNER, Royal Nursery, Slough.

NEW FARM SEEDS.—*The attention of all engaged in Farming Operations is respectfully directed to the Advertisement of Messrs.* WM. E. RENDLE *and Co., Plymouth, which appeared on the back page of this Newspaper* ON SATURDAY, MARCH 27, *page* 208.

Our General Descriptive Price Catalogue of Farm Seeds

Is now ready, and can be had in exchange for one penny stamp.
Apply to WILLIAM E. RENDLE and Co.,
Seed Merchants Plymouth.
ESTABLISHED MORE THAN HALF A CENTURY.

ALL POST FREE.

CHOICE SEEDS.—Packets of fine Mammoth Brocoli Asiatic Cauliflower, Giant Curled Parsley, gigantic Cos Lettuce, Mitchell's Enfield, Cormack's, and Barnes' superior early Cabbages, Coles and Seymour's fine Celery, the best kinds of Cucumber, Melon, and Vegetable Marrow, at 6*d.* each packet: Fine mixed German Asters, Stocks, Calceolaria, Cineraria, Portulacca, Giant Victoria Stock, Canary Creeper, Zinnias, Balsams, Cobæa scandens, Coxcomb, Ice Plant Sensitive, Auricula, Dahlia, Pinks, Polyanthuses, Geranium, Pansy, Sweet Violet, and dbl. Sweetwilliam, 6*d.* each pkt. 100 pkts. of Annuals, Biennials, and other Seeds, fit for present sowing, warranted new, for 5*s.*; 50, for 3*s.*; 26, for 2*s.* 6*d.*; 12, for 1*s.* Superior Mignonette, own saving, warranted to grow well, at 6*d.* per oz. A few packets of extra fine Balsam, at 1*s.* per packet. With each order a Catalogue will be sent, containing Hints on Sowing, &c., or it may be had for Two Stamps, on application to JOSEPH GOLDING, Seedsman, Hastings.

1000 EVERGREEN OAKS, two-year plants, 4*s.* per 100. Also 2000 one-year plants, 3*s.* per 100; either fit for potting or planting, or for making evergreen hedge. —Direct, post paid, to W. C. PUTTOCK, 13, Pond-street, Hampstead, Middlesex.

BAINBRIDGE AND HEWISON beg to state that their CATALOGUE OF PLANTS is now ready, and may be had (free by post) on application. Their Stock will be found to consist of many of the newest and choicest plants of the present day.
Hope Nursery, York, April 10.

SUPERB HOLLYHOCK SEED.—Warranted to produce 75 in 100 double; in packets of 250 seeds, 1*s.* 6*d.*, double quantity for 2*s.* 6*d.* The universal satisfaction the seeds from our unrivalled collection have given, prompts the strongest recommendation. Our descriptive Catalogue contains 64 pages of useful and interesting matter, and the finest selection of Tender and Hardy Plants, Flowers, and Trees, at prices that defy competition; the whole gratis, for four penny stamps for postage; or Part 1, Stove, Greenhouse, and Bedding Plants, 1*d.*; Part 2, Hardy Herbaceous Plants, Roses, Shrubs, and Coniferæ, 2*d.*; Part 3, Fruit Trees, 1*d.* each, separate—the most complete Catalogue ever published.—Apply to JOHN MAY, Hope Nurseries, near Bedale, Yorkshire.

SEED AND HORTICULTURAL ESTABLISHMENT, SUDBURY, SUFFOLK.

PRIZE GERANIUMS.

The following are the 14 which stand first as the most successful Prize varieties at the London Exhibitions of 1851, as described by scale given in "The Florist" of December. We beg to offer the 14 for 18*s.*, or any 6 for 9*s.*, viz., Star, Forget-me-not, Gulielma, Rosamond, Conspicuum, Pearl, Centurion, Salamander, Rowena, Constance, Negress, Norah, Ariel, and Alonzo.

25 superb varieties, including the above. These contain, also, many newer varieties which have not yet been so freely exhibited. The 25 for 35 0
25 fine show varieties 22 0

We have also a large stock of the following very fine and strong:—

BEST NEW VARIETIES OF LAST SEASON.

The following 12 for 50*s.*, or any 6 for 27*s.*

Hoyle's Ajax.	Beck's Major Domo.
,, Ocellatum.	,, Silk Mercer.
,, May Queen.	,, Tyrian Queen.
,, Generalissimo.	Rundle's Beauty of Montpelier.
,, Cardinal.	Walton's Village Maid.
Bragg's Exquisite.	Foster's Knight of Avenal.

FANCY GERANIUMS.

Any 12 of the following for 12*s.*:—Alboni, Beauty, Bouquet Tout Fait, Hero of Surrey, Jehu, Jehu improved, La Belle d'Africana, Lady F. Hastings, Maid of Anjou, Magnifica, Modesta, Queen Victoria, Statiuskii, Village Maid, Wintonia, Yeatmaniauum, and Zelia.

BEST NEW FANCY OF LAST SEASON.

The following 9 varieties for 28*s.*

Ambrose's Belle Marie.	Sheppard's Little Wonder.
,, Gaiety.	Henderson's Marion.
,, Delicata.	,, Reine de Fleurs.
Sheppard's Miss Sheppard.	,, Prince Albert.
Henderson's Exquisite.	

ACHIMENES.

The following 12 beautiful varieties for 10*s.*

Beaumanii.	Longiflora alba.
Bodnerii.	Magnifica purpurea.
Coccinea grandiflora.	Multiflora.
Escheriana.	Patens major.
Fimbriata.	Tugwelliana.
Klein.	Venusta.

12 fine varieties ... ... 6*s.*

GLOXINIAS.

Alba grandiflora	2*s.* 6*d.*	Maria Van Houtte	2*s.* 6*d.*
Argyrostigma ...	2 6	Marginata ...	2 6
Exquisite ...	2 6	Petoiana ...	3 6
Frederick Lenning	2 6	Pulcherrima ...	2 6
General Bandraud	2 6	Spectabilis ...	2 6
Godfroid de Bouillon	2 6	Victoria Regina	2 0

The above 12 for 20*s.*, or any 6 for 12*s.*

NEW AND SELECT PLANTS.

Strong and fine.

Capanea grandiflora, 1*s.* 6*d.*, 3*s.* 6*d.*, 5*s.*	Hoya bella, fine plants, 1*s.* 6*d.*, 2*s.* 6*d.*
Allamanda nerifolia, 2*s.* 6*d.*	Medinilla magnifica, 10*s.* 6*d.*, 15*s.*
Agelmyla staminea, 3*s.* 6*d.*, 5*s.*	Dielytra spectabilis, 1*s.* 6*d.*
Cantua dependens, 1*s.* 6*d.*, 2*s.* 6*d.*	Deutzia gracilis, 2*s.* 6*d.*, 3*s.* 6*d.*
Hoya bella, with flower-buds, 3*s.* 6*d.*	Escallonia macrantha, 3*s.* 6*d.*, 5*s.*

SPRING CATALOGUES sent, prepaid, for four postage stamps; and AUTUMN CATALOGUES, containing most of the Hardy Plants, for two postage stamps, which may be deducted from orders.

GOODS, CARRIAGE FREE, to London, Ipswich, Norwich, or any station on the same line; and with orders of 2*l.* and upwards extra plants added gratis.

Remittances requested from unknown correspondents.

Post-office orders to be made payable to STEPHEN BROWN, or to

BASS AND BROWN SUDBURY SUFFOLK.

CHOICE PLANTS.

YOUELL AND CO.,

BEG TO CALL ATTENTION TO THE FOLLOWING:—

CAMELLIAS, of the choicest varieties, 21*s.* per dozen. We possess a large stock of these in good healthy plants, averaging 1 foot to 15 inches in height, comprising most of the old and many fine new varieties, which will bloom well next season; as they are now about to break, we invite our friends to procure them as soon as possible; and when the selection is left to us, we assure them they shall have no reason to complain.

EPACRIS, fine bushy plants, in large 48's, of the handsomest varieties, full of flower, 9*s.* per dozen.

ERICAS, fine bushy blooming plants, of choice varieties, principally in large 48's, 9*s.* per dozen.

ERICAS, in large 60's, nice bushy plants, many showing flower, 6*s.* per dozen.

APHELEXIS HUMILIS, bushy plants, in large 48's, covered with flower-buds, 12*s.* per dozen.

ERYTHRINA LAURIFOLIA.—This fine old favourite in strong two-year plants, 12*s.* per dozen.

E. VERSICOLOR, new, 2*s.* 6*d.* each.

CINERARIAS, new and extra fine sorts, flowering plants, in large 48's, 9*s.* per dozen; in 60's, 6*s.* per dozen. Great improvement has been effected of late years in this family, and they are now among the most ornamental winter and spring flowering plants that we possess, excellent for bouquets.

CALCEOLARIA SULTAN, this finest dark variety (in fact none of the others will bear any comparison with it), nice plants, 9*s.* per dozen.

CALCEOLARIA "Kentish Hero," this fine orange variety, 9*s.* per dozen.

CALCEOLARIA VISCOSISSIMA, light orange, splendid trusser, excellent for pot culture or bedding, a first-rate variety, 9*s.* per dozen.

CALCEOLARIA VULCAN, superb dark velvetty crimson, good habit, and very free bloomer, 9*s.* per dozen.

CALCEOLARIA CAIEANA, canary, good habit and excellent trusser, 6*s.* per dozen.

CALCEOLARIA (ROLF'S SUPERB), light bronze, excellent for bedding, and very distinct, 6*s.* per dozen.

CALCEOLARIA SALVIÆFOLIA, bright yellow, 6*s.* per doz.

CALCEOLARIA GRANDIS, this very distinct and strong species produces very large flowers, of a pale yellow, and with a little care may be induced to bloom throughout the winter, 1*s.* 6*d.* each.

VERONICA ANDERSONII, this choice variety is of the easiest culture, a good specimen plant producing its pretty spikes of lilac flowers, from early spring till late in autumn, 1*s.* 6*d.* each.

NERIUM, six fine new varieties, extra strong, 6*s.*, admirably adapted for a conservatory.

COLEONEMA PULCHRUM, usually found among the winning collections at the great exhibitions, producing in abundance pretty pink flowers among its slender foliage, 1*s.* each.

LESCHENAULTIA FORMOSA and BAXTERI MAJOR, strong, 9*s.* per doz.

SOLLYA DRUMMONDI, from 3 to 4 inches in height, 18*s.* per doz. This is a new and pretty blue-flowering greenhouse climber; a very quick grower.

ACACIA ARMATA and LINEARIS, strong bushy plants mostly showing flower, 9*s.* per doz.

PITTOSPORUM GLABRATUM, new, 1*s.* 6*d.* each.

METROSIDEROS SPLENDENS, scarlet, bottle-brush plant, 1*s.* 6*d.* each.

METROSIDEROS DIFFUSA—its beautiful foliage and neat habit render it worthy of a place in Conservatories. Strong plants 1*s.* 6*d.* each.

CRASSULA NITIDA ODORATA. This makes a splendid specimen plant, is very fragrant, and should be in every collection. Large plants in 48's, 1*s.* 6*d.* each; smaller ditto, 9*s.* per doz.

CRASSULA "NAPOLEON BUONAPARTE," a fine new variety; brilliant scarlet, far superior to C. Coccinea, 2*s.* each.

FANCY GERANIUMS, choice sorts, 9*s.* per dozen.

GERANIUM ARDENS MAJOR, strong plants 9*s.* per doz. This fine Cape species stands unrivalled for brilliancy of colour, being a rich ruby.

FUCHSIAS. Our collection of this lovely flower comprises all the newest and best; strong plants, of last season, 6*s.* per doz.

F. MACRANTHA, a fine species with long purple flowers; the habit of Humboldt's Splendens, 1*s.* 6*d.* each.

VERBENAS.—We are well known as possessing a large and select variety of this charming flower. Our stock is very large this season, and when the selection is left to us we shall supply good plants at 4*s.* per dozen, in any quantity.

CHRYSANTHEMUMS. Much improvement has been made in these of late years, and, being particular favourites of ours, we have spared neither pains nor expense in our pursuit of new and fine varieties. Our specimen plants are every year the admiration of all who see them. The collection at present comprises nearly 200 varieties, which we shall be happy to supply in strong plants, of last season's growth, the large and dwarf varieties, 5*s.* per doz.

GREEN-HOUSE CREEPERS.—Passiflora Bellottii (new and fine), P. Edulis, P. Buonapartii, Tecoma jasminoides, Kennedya Nigricans, Ipomœa Learii, &c., 1*s.* each.

FAIRY ROSES, strong and bushy, 9*s.* per doz.

GLOXINIAS—many fine new varieties, 9*s.* per doz.

GLOXINIA PETOIANA. This superb light variety, sent out by us last season, coloured all round with crimson lake, in the way of Fyfiana; the finest of its class, strong bulbs, 3*s* 6*d.* each.

HOYA BELLA. This plant has proved itself well worthy the high character given it when first circulated; it is one of the most lovely plants we know. Plants extra strong, showing bloom, 3*s.* 6*d.*; smaller, 2*s.* 6*d.*

ÆSCHYNANTHUS LOBBII, and BOSCHIANUS. These beautiful species grow and flower profusely, either in pots or baskets, suspended from the roof of a stove or warm greenhouse, and in such a situation have a very beautiful appearance. Strong flowering plants, 1*s.* 6*d.* each.

PASSIFLORA ALATA, the winged Passion flower, 1*s.* 6*d.*

Many other fine Stove Creepers, including:—

IPOMŒA Leis Hybrid, Mutabilis, &c., 1*s.* 6*d.* each.

JUSTICIA pumila, new, scarlet species, 1*s.* each.

ESCALLONIA MACRANTHA, the finest, perhaps, of our new hardy shrubs; strong plants, 9*s.* per dozen.

ESCALLONIA RUBRA, excellent evergreen flowering shrub for walls, 9*s.* per dozen.

MITRARIA COCCINEA; this fine hardy shrub produces numerous scarlet flowers, very similar in form and colour to Erica splendens, strong plants, 9*s.* per dozen; a few specimen plants 3*s.* 6*d.* each.

ILEX LATIFOLIA; a fine hardy shrub of Laurel-like foliage; strong, 1 to 1½ foot, 12*s.* per doz., 3 to 4 feet, 5*s.* each.

QUERCUS FORDII, splendid distinct evergreen tree, 1 foot, 9*s.*; 1½ to 2 feet, 18*s.* per dozen.

QUERCUS ILEX VAR. HUMEI, from the estate of J. Hume Esq., M.P.; this is a fine variety, with very broad and hand some foliage; strong plants, 2 feet, 3*s.* 6*d.* each, 30*s.* per dozen

WEIGELA ROSEA, a first-rate hardy shrub, 2 to 3 fee bushy flowering plants, 9*s.* per dozen.

FORSYTHIA VIRIDISSIMA, excellent for walls, a ver choice hardy shrub, 1 to 2 feet, very strong, 9*s.* per dozen.

JASMINUM REVOLUTUM; this fine evergreen wall plant extra strong, 9*s.* per dozen.

HEDERA REGNERIANA, the new giant Ivy, of very broa foliage, quite distinct and very robust, strong plants, 9*s.* p. doz

CLEMATIS MONTANA, excellent for walls or arbours very strong grower, producing its white flowers in great pro fusion, 9*s.* per dozen.

CLEMATIS, sweet-scented, extra strong, will furnish imme diately, 6*s.* per dozen.

EUONYMUS JAPONICUS, silver-striped, one of our pretties variegated shrubs, 4*s.* per dozen.

ROSES, climbers, in pots, best sorts, 6*s.* per dozen, ver strong.

COTONEASTER MICROPHYLLA, strong plants in pots 12*s.* per dozen.

CEANOTHUS AMERICANUS, quite hardy, 9*s.* per dozen.
,, RIGIDUS, new and very pretty, 1*s.* each.

IRISH YEWS, 2 to 3 feet, in pots, 24*s.* per dozen.

LUCOMBE OAKS, 6 to 8 feet, fine specimens, 5*s.* each.

BERBERIS FORTUNII, a most distinct evergreen, strong 1½ foot, 1*s.* 6*d.* each.

HERBACEOUS PLANTS in great variety, not mere bota nical curiosities, but showy and ornamental species, 25*s.* pe 100 species and varieties, 4*s.* per dozen in pots.

OXALIS FLORIBUNDA, one of our handsomest hardy her baceous plants, excellent for bedding, abundantly flowering during summer and autumn, 6*s.* per dozen.

STATICE PSEUDO-ARMERIA. This also is a first-rate her baceous plant, throwing up numerous heads of rose-coloured flowers all through the season, very strong, 6*s.* per dozen.

S. MARITIMA ROSEA, a pretty species, 9*s.* per dozen.

S. LATIFOLIA, throws up numerous spikes of feather blue flowers through summer and autumn, extra strong, 6*s* per dozen.

PHLOXES, in many fine new varieties, strong plants, i pots, 6*s* per dozen.

ROCKETS, double white, strong flowering plants, 3*s.* per do

PRIMROSES, double, in variety, 4*s.* per dozen.

HEPATICUS, of sorts, 4*s.* per dozen.

LILIUM LANCIFOLIUM ALBUM, 6*s.* to 9*s.* per dozen and L. EXIMIUM LONGIFLORUM, 6*s.*

New French and Belgian Daisies, in 50 best sorts, 9*s.* per doz

Lily of the Valley, strong, 5*s.* per 100.

CONIFERS.

ARAUCARIA IMBRICATA, 1 foot, 18*s.*; 1½ to 2 feet, 42*s.* pe dozen. Large size in proportion, up to 3 guineas each. This i perfectly hardy; the distinctness of its character entitles it to place in even the smallest collection.

CEDRUS DEODARA.—The Sacred Cedar of the Himalayas in its native regions, the grandeur and sublimity of its appear ance inspire the natives with awe and reverence, and its timbe they consider desecrated, if used for any other purpose than th building of temples. With us it flourishes out of doors in native luxuriance. This and the former are justly esteemed two o our finest Evergreen trees. Plants 1 foot, very bushy, 9*s.* pe dozen; 1½ to 2 feet, 18*s.* per doz. Larger plants proportionately cheap.

JUNIPERUS BEDFORDIANA, 1 to 1½ foot, 6*s.* per dozen.

PINUS EXCELSA, of fine silvery foliage, 1 to 1½ foot, 9*s.* pe dozen; 3 to 4 feet, 30*s.* per dozen.

PINUS EUGARIANA, 9 inches to 1 foot, 12*s.* 6*d.* each.

PINUS FREMONTIANA, 6 inches, 10*s.* 6*d.* each.

PINUS CEMBROIDES, 9 inches to 1 foot, 5*s.* each.

PINUS CEMBRA, 2 to 2½ feet, 30*s.* per dozen.

PICEA PINSAPO, 2½ feet and 3 feet across, 15*s.* each.
,, ,, 2 feet and 2½ feet across, 10*s.* 6*d.* each.

CEDRUS LIBANUS, 4 to 6 feet, 2*s.* 6*d* each.

PICEA CEPHALONICA, 15 inches, 2*s* 6*d.* each.
,, PINDROW, 6 inches, 9*s.* per dozen.

PINUS GERARDIANA, 6 to 9 inches, stout and bushy, 6*s* per dozen.

ABIES MORINDA, this fine distinct species of spruce ha a weeping habit, and is very robust, making shoots nearly feet in one season; 1½ to 2 feet, 20*s.* per dozen; 1 foot, 6*s* per dozen.

ABIES PUMILA, dwarf and bushy, 12*s.* per dozen.
,, ORIENTALIS, true, do. do., 12*s.* per dozen.

The admirers of dwarf Pines will be well pleased with thos

ABIES MENZIESII, one of the most distinct of Conifer its silvery foliage forming a striking contrast to the deep gree of other species, 9 to 12 inches, 9*s.*; 12 to 18 inches, 12*s.* per d

CRYPTOMERIA JAPONICA, seedlings, in fine healt 2 to 3 feet, 42*s.* per dozen.

CUPRESSUS TORRULOSA, a fine evergreen, of the mo *symmetrical shape*, from 1 to 1½ foot, 9*s.* per dozen.

DACRYDIUM FRANKLINII, 3 to 4 inches, 18*s.* per dozen

PODOCARPUS TOTARÆ, 1 to 1½ foot, strong, 12*s.* per do

CARNATIONS, PICOTEES, PINKS.

Being the largest growers of these in England, perhaps i Europe, we offer many advantages to purchasers, and at eve price quoted below. We pride ourselves on giving satisfactio to our customers by furnishing good plants of good varieties and we beg to say that the present is an excellent season fo their removal, either for pot or open ground culture.

25 pairs superb varieties of Carnations and Picotees				3*l.*
12 pairs	,,	,,	,,	1*l.* 10*s.*
25 pairs very fine	,,	,,	,,	1*l.* 10*s.*
12 pairs	,,	,,	,,	18*s.*
12 pairs fine mixed border			,,	9*s.*

12 pairs true old Clove Carnation, 12*s.*
12 pairs of finest named Pinks, 12*s.*

Pansies, nice plants in pots, of the newest and best sho flowers, 12*s.* per doz.
Pansies, fine border varieties, good sorts, 6*s.* per doz.
Asparagus, Giant (strong), 2 and 3 years, 2*s.* 6*d.* and 3*s.* 6 per 100.
Seakale, 1*s.* per dozen.
Roses, Standards and Half-standards, of the very best so in cultivation, 12*s.* to 15*s.* per dozen.
Evergreen Privet, in large quantities, 2½ to 4 feet, strong, 3 per 1000, or 4*s.* per 100.
30 packets of Choicest Flower Seeds, free by post, for 5*s.*

All orders of 2l. and upwards delivered free to any Railway Station within 150 *miles of the Nursery.*

ROYAL NURSERY, GREAT YARMOUTH.

PERMANENT PASTURE AND OTHER GRASSES,

SUITED TO THE SOILS REQUIRED.

BASS AND BROWN

BEG TO OFFER THEIR VERY SUPERIOR MIXTURES, as under, for laying down Permanent Pastures, &c. Their Agricultural Seed List, which contains the sorts separately priced, may be had prepaid.

	Per acre.—s.	d.
MIXTURES FOR PERMANENT PASTURE ON LIGHT LANDS, allowing 3 bushels and 9 lbs. to each acre	24	0
MIXTURES FOR DITTO, ON HEAVY LANDS	27	0
MIXTURES FOR PARKS OR PERMANENT LAWN PASTURES ... ... 28s. to	32	0
MIXTURES FOR FINE LAWNS, BOWLING GREENS, &c. ... ... 34s. to	38	0
MIXTURES FOR MARSHY GROUNDS, or Meadows subject to flood ... ... 24s. to	28	0
MIXTURES FOR ORCHARDS, &c., much overshaded by trees ... ... 24s. to	30	0
MIXTURES FOR SOILS OF ALL DESCRIPTIONS, to be laid down with the proper kinds and proportions requisite.		
MIXTURE FOR RENOVATING OLD PASTURES, per lb.	0	10
MIXTURE FOR FINE LAWNS IN FLOWER GARDENS, per lb.	1	0

Our locality, and our long experience and practice in collecting several species and kinds of the Grasses natural to our own neighbourhood, for a considerable distance round, enables us to supply them either separately or in mixtures as low as any house in the trade. We also import many of the most useful sorts from the Continent, and some we receive from other localities.

Our Collection consists of all the most useful and best kinds for the purposes required. The mixtures will be found excellent, and have given the highest satisfaction.

	Per bushel.—s.	d.
TRUE ITALIAN RYE GRASS, English and imported ... ... 5s. 6d. to	7	0
FINE SCOTCH PACEY AND COMMON RYE-GRASSES ... ... 4s. to	6	0
STICKNEY'S IMPROVED RYE-GRASS	6	6

LUCERNE, ALSIKE, SUCKLING, AND OTHER CLOVERS.

DRUMHEAD CABBAGE; also True Stocks of all the best varities of TURNIPS, MANGOLD WURZEL, &c., at the lowest prices.

EVERY DESCRIPTION OF AGRICULTURAL AND GARDEN SEEDS.

OUR GENERAL DESCRIPTIVE SEED AND PLANT LIST FOR 1852,

CONTAINING 36 PAGES, SUPPLIED FREE BY POST FOR FOUR PENNY STAMPS.

Goods delivered Free to London, Colchester, Ipswich, Norwich, or any Station on the same Line of Railway.

SEED AND HORTICULTURAL ESTABLISHMENT, SUDBURY, SUFFOLK.
ESTABLISHED ABOUT HALF A CENTURY.

SUPERIOR GLOBE GERMAN ASTER,
(SAVED BY AN AMATEUR.)

WILLIAM E. RENDLE AND Co. have much confidence in offering a very superior sort of GLOBE ASTER SEED, saved by an Amateur in the neighbourhood of Bath, who says:—"The sort was given to me by a friend in the neighbourhood, who has taken first prizes for several years following; and I have been equally successful. I have shown them at Bath and other places, and have always been first; indeed, no other sort has any chance with them, and I am perfectly satisfied that when you see a good bed of them in your gardens you will throw away all others."—1s. per packet.

All other Flower Seeds can be obtained at a moderate scale of charge.

Every one who has a Garden should have a packet of this Seed.

PARSLEY, RENDLE'S TREBLE GARNISHING, proved by the London Horticultural Society, and described in their Journal as being "*beautifully curled, and an excellent variety.*"—6d. per packet. This should be grown in every garden.

Apply to WILLIAM E. RENDLE and Co., Seed Merchants, Plymouth.

FINE PASTURE GRASS SEEDS for laying down Land.—Hand-picked Seed at 24s. per acre, allowing 3 bushels of the mixed Grass Seed and 6 lbs. of Dutch Clover to each acre. HENRY CLARKE, Seed Merchant, 39, King-street, Covent-garden, London.

NEW AND CHOICE FLOWER SEEDS,
FREE BY POST.

MESSRS. WHEELER AND SON have selected out of their large collection of Flower Seeds the most beautiful and showy varieties, each sort distinct in colour, and calculated to produce a fine effect when planted out in beds or groups in the flower-garden. They have marked each variety with its Botanical and English Name—Height—Time of Flowering—Colour of the Flower—Manner of Growing—Whether Erect or Trailing, &c.—the Time it should be sown, and with other valuable Hints as to its cultivation.

In selecting these varieties care has been taken to exclude all shy-bloomers, or such which have an insignificant appearance, so that the collections will comprise only those which are really showy and handsome, and which prove to the entire satisfaction of any lady or gentleman who might be disposed to order them. The GERMAN STOCKS, ASTERS, ZINNIAS, LARKSPURS, &c., are most superb. The collections will be sent free by post to any part of the Kingdom at the following prices:—20 Extra Fine Varieties, all distinct, 5s.; 50 ditto ditto, 10s. 6d.; 100 ditto ditto, 20s.

J. C. WHEELER and SON, 99, Northgate-street, Gloucester. Nurserymen and Seedsmen to the Gloucestershire Agricultural Society.

EDWARD GEORGE HENDERSON AND SON, Wellington-road, St. John's-wood, London, beg to remind those who intend to purchase any of the following New Plants, to be sent out after the 1st of May, that all orders will be booked as received and executed in rotation.

Fuchsia Commodore (show flowers)	Antirrhinum Hendersonii
,, Splendidissima, do.	Calceolaria Wellington Hero
,, Gem of the Season, do.	,, Tom Thumb
,, Pendula, do.	Chrysanthemum Hendersonii
,, Exquisite	Delphinium Hendersonii
,, Hendersonii (double flower)	Erica Elegantissima
,, Darling (bedding variety)	,, Nobilis
,, Globosa perfecta, do.	Geranium Hendersonii
,, Pet, do.	,, Extravaganzum
	,, Odoratissimum grandiflorum
	Heliotropium Voltaireanum nanum

For Description and Prices of the above, see back numbers of this Paper—Feb. 28, March 6 and 13. The Trade supplied, with our usual discount.

SCARCE AND BEAUTIFUL FLOWER SEEDS.
EMPEROR STOCK, a perennial species, and hardy, 1400 seeds, 1s.

CINERARIA and CALCEOLARIA, selected from collections of Plants, that were admitted by all persons who saw them to be the finest they had ever seen; 250 seeds of the former, and 500 of the latter, 1s. each paper.

MYOSOTIS AZORICUS, a bed of this on an eastern or northern aspect is very beautiful; 200 seeds, 1s.

CALENDULA EMBELLATA, one of the neatest growing and most continuous flowering of all bedding plants; 1500 seeds, 1s.

SWEET WILLIAM, in 100 varieties; 10,000 seeds, 1s.

Payment may be made in postage stamps.

JEYES and Co., Nurseries, Northampton.

PELARGONIUMS.

CHARLES TURNER has a few strong plants left of the following new varieties, to dispose of:—Foster's Ariadne, Enchantress, Pulcha, Purple Standard, Rubens, and Shylock; Hoyle's Chieftain, Colonel of the Buffs, Elise, Ganymede, Magnet, and Mochanna.

Also selections of approved older varieties, at 30s. and 42s. per doz.—Royal Nursery, Slough

EPPS'S NEW SEEDLING FUCHSIAS "STANDARD OF PERFECTION," and "NOVELTY," the most distinct and beautiful varieties that have ever been offered; they are highly spoken of, and described in the *Gardeners' Chronicle*, Oct. 25, 1851; in the "Cottage Gardener," Oct. 25, 1851; and in Glenny's "Garden Almanack" for 1852. Strong plants will be forwarded on the 30th April. A list of the trade that have ordered and can supply plants will be advertised next week. Agents, Hurst and M'Mullen, Leadenhall-street, London.—Bower Nurseries, Maidstone, April 10.

THE BLACK BARBAROSSA GRAPE.

JOHN BUTCHER begs to state that he has still on Sale good fruiting plants, and one year old, of the above splendid Late Grape, introduced from the Continent by C. T. Ward, Esq., Clopton House, Stratford-on-Avon, was exhibited in January, 1849, at the Horticultural Rooms, Regent-street, London, for which a Certificate was granted; and in 1850, on the 19th of January, a Banksian medal was awarded it. Families requiring late Grapes will find the Barbarossa a splendid late Grape, and will be in fine condition in March, when Grapes are selling in Covent Garden market from 15s. to 20s. per lb. Fine Fruiting Plants, 10s. 6d. each; one year do., 5s 6d. each. London Agent, Mr. F. WARNER, Seed Merchant, 28, Cornhill.—Stratford-on-Avon, April 10.

SELECT SEEDS FOR APRIL SOWING,
FROM

ABRAHAM HARDY AND SON, SEED GROWERS and SEEDSMEN, Maldon, Essex.

	Per packet—s.	d.
Bokhara Clover (Melilotus leucantha), for beds ...	0	6
Tree Mignonette (Reseda grandiflora), do.	0	6
Sweet Mignonette (Reseda odorata), do., large packets	0	6
Convolvulus Burridgii, splendid	0	6
,, fine striped	0	6
,, dark violet	0	6
,, bright scarlet...	0	6
Hibiscus calisureus, extra fine	0	6
100 varieties of showy Annuals	10	0
50 do. do.	6	0
12 do. do.	1	0
Vegetable Seeds, best kinds, large packets	0	6
Transmuted Onions, from Shallot, possessing the properties of both	0	6

Remittances requested in cash or postage stamps.
ALL SENT FREE BY POST.

CARNATIONS, PICOTEES, PINKS, PANSIES, ETC.

JOHN HOLLAND, Bradshaw Gardens, Middleton, Lancashire, respectfully informs Gentlemen, &c. &c., that he grows a large collection of CARNATIONS and PICOTEES in mixture, yet each class is kept separate, and consists of Scarlet, Pink, and Purple Bizarres; Scarlet, Rose, and Purple Flakes; Purple, Red, and Rose-edged Picotees, and offers them at 6d. per pair. If 25 or more pairs are taken, hamper and packing free.

25 Pairs of PINKS	8s.	0d.
25 best show PANSIES	10	0

Post-office orders to be made payable at Middleton, Lancashire.
AURICULAS, ALPINES, POLYANTHUS, &c. &c.

A NEW SEEDLING POTATO.

MESSRS. WHEELER AND SON have much pleasure in offering a New Seedling Potato, called "THE PRINCE OF WALES."

It is an excellent Early Potato, in fact one of the earliest in cultivation; so early that it escapes the disease more than any other variety. It is a great bearer, of excellent quality, and, as we have a good stock, we can offer it at a low price. We have much pleasure in adding the following extract from the *Gardeners' Chronicle and Agricultural Gazette* of the 12th of April last:—

"PRINCE OF WALES POTATO: MESSRS. WHEELER, *of Gloucester*. We can speak, from personal experience, to the excellent quality, productiveness, and *earliness* of this variety."

We can offer it at 2s. 6d. per peck, or 9s. per bushel, bag and package included. All quantities of a bushel and upwards would be delivered carriage free to any Railway Station in England or Wales.

J. C. WHEELER and SON, 99, Northgate-street, Gloucester, Nurserymen and Seedsmen to the Gloucester Agricultural Society.

FLOWER SEEDS, POST FREE.

THE SHOWY AND HARDY SORTS *described and recommended by the* EDITOR *of the* GARDENERS' CHRONICLE, *on Saturday last, page* 213, may be had, post free, at 3d. each; also—

		s.	d.
50 Sorts, the most showy kinds known ...		10	6
36	Ditto Ditto	7	6
24	Ditto Ditto	5	0

Postage Stamps received in payment.—Address, JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

FINE SPECIMEN PLANTS FOR EXHIBITION.

J. AND J. FRASER, NURSERYMEN, &c., Lea-bridge-road, Essex, beg leave respectfully to invite attention to their superior Stock of Specimens of STOVE and GREENHOUSE PLANTS, CHINESE AZALEAS, and CAPE HEATHS, which were never in finer condition than at this time. The plants are of all sizes, varying from 1 foot to 5 feet high. The prices, which are moderate, can be had on application.

SUTTON'S PERMANENT GRASSES.—THE SUPERIOR QUALITY OF SUTTON'S GRASS SEEDS is plainly indicated by the numerous Orders they are daily receiving, through the recommendation of former customers.

Some interesting particulars of Land laid down with these Seeds is published in the GARDENERS' CHRONICLE *of March 27th, page* 195.

The prices for the best quality are as under, but for poor reclaimed Lands or other cases where the cost is the principal consideration, mixtures at about half the price may be had.

	Per acre.
For best permanent Meadow and Pasture, mixed expressly to suit the soil	24s. to 28s.
For best Clovers and Grasses (for one, two, or three years' lay)	14s. to 20s.

The sorts consist of true Perennial Grasses and Clovers, as named particularly in our Advertisement on the last page of the *Gardeners' Chronicle* of 20th March.

JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

IMPORTANT TO POTATO PLANTERS.—Procuring sound Seed is the surest means to have a good crop. We have now left only a few Tons of YORK REGENTS, CAMBRIDGE RADICAL, AMERICAN, NATIVE, AND WHITE BLOSSOMED KIDNEY POTATOES, the produce of our last year's prepared cuttings, at prices formerly advertised. Prepared cuttings of the following sorts will be ready about the second week in May:—

		s.	d.
York Regents	per 1000	10	6
American Native	,,	10	6
Cambridge Radical	,,	10	6
Early Oxford	,,	15	0

Packages, for 1000, 1s.; 2000, 1s. 6d.; 5000, 2s. 6d.

No orders will be provided for which are not to hand early in April. Post-office orders to be made payable at the Borough Office to HAY, SANGSTER and Co., Newington Butts.

London, 6th March, 1852.—Subjoined is the analysis of two highly respectable Chemists, of our stock in hand:—

"London, March 12, 1852.

"We have now completed our examination of a sample of Potatoes grown from your prepared cuttings in comparison with another sample of the same denomination, obtained by ourselves from a highly respectable Potato salesman, with a view to ascertain the relative proportion of starch contained in each, with the following highly satisfactory result in your favour, viz.:—

Starch.

"Those grown from your prepared cuttings ... 17 per cent.
"Potatoes from Salesman ... ... 12½ per cent.

"MAURICE SCANLAN, F.C.S.
"ALFRED ANDERSON, F.C.S.

"Messrs. Hay, Sangster, and Co., Seed Merchants, 18, Cumberland-place, Newington Butts."

The Gardeners' Chronicle.

SATURDAY, APRIL 10, 1852.

MEETINGS FOR THE ENSUING WEEK.

MONDAY,	April	12	Geographical ..... 8½ P.M.
TUESDAY	—	13	Syro Egyptian ..... 7½ P.M. Civil Engineers ..... 8 P.M. Medical and Chirurgical ..... 8½ P.M. Literary Fund ..... 9 P.M.
WEDNESDAY,	—	14	London Institution ..... 7 P.M. Society of Arts ..... 8 P.M. Graphic ..... 8 P.M. Pharmaceutical ..... 8½ P.M. Ethnological ..... 8½ P.M.
SATURDAY	—	17	Medical ..... 8 P.M.

THE POTATO DISEASE has ceased to be a question of much importance in this country. The cheapness of other food, the substitution of other crops, the discontinuance among our peasantry of entire reliance upon Potatoes, and, we may add, the utter exhaustion of the argument, so far as practice is concerned, sufficiently account for the present neglect of a subject which six years ago was of all absorbing interest. Across the channel it is otherwise; discussion goes on at fever heat, and although we cannot say that much that is new is to be learnt from it, yet we here and there find a spark elicited, which seems worth fanning into a light.

Among the pamphlets that are newest is one by M. LE ROY-MABILLE, of Boulogne, who has produced 91 pages to show the advantages of autumn planting.* The author tells us that the present is the fifth work that he has published on the Potato disease, and that he has been studying the subject for four years. The result of which is a conviction that nothing more is needed in order to restore the Potato to its ancient health than to persevere in autumn planting.

We cannot pay M. LE ROY-MABILLE the compliment of saying that he shows much acquaintance with what others have been doing, or with the scientific part of the subject. He believes that

* La Pomme de terre régénérée par la maturité; ouvrage appuyé de sept années d'observation. Par LE ROY-MABILLE. Paris: BOUCHARD-HUZARD. Price 1 franc.

some English Commission has spent 300,000fr. (!) the issue of which was a recommendation to this effect. "Since the disease destroys a quarter, a third, half, or even more of a crop, therefore twice, three times, or four times as many should be grown as were ever grown before, so that after giving the monster all he wants, you may still have enough for yourselves." His notion of the Botrytis or Potato mildew is rather misty; and while he patriotically gives his countrymen credit for some things wholly English, he pockets for himself in particular, such credit as belongs to the recommendation of autumn planting, and especially of that admirable cultivation in the Isle of Man, of which we happen to have given full particulars about two years before M. Le Roy commenced the four years' profound study which has ended in the present pamphlet.

We can smile at these little weaknesses without undervaluing what there is of solid and useful in the treatise itself; and must not be deterred by them from saying that the advantage of autumn planting receives valuable illustration in it. A good deal of apparently trustworthy evidence is collected in addition to that which is personal to the writer, in which we find so much truth and fairness as ought to disarm the most fastidious critic. "I must own," says M. Le Roy, "that my first experiment was a complete failure. I buried the tubers so deep that only a part came up. This, however, was a useful lesson to me, and I may also add, that such Potatoes as I did obtain were wholly sound. On the second occasion the result was entirely different. To my great surprise all my Potatoes proved sound, whether planted in April or November. But this seemingly exceptional result seems to be, after all, the natural result, and such as should have been expected. In the first place, my land had received no manure for two years; then it consisted of nothing but sand and chalk; thirdly, it received very little water; and finally, which was the important point, the seed had been regenerated by three successive autumn plantings. These four circumstances, especially the last, had restored its original vigour to the plant, and neutralised the evil consequences of late planting." And he goes on to quote numerous instances in which, without exception, autumn planting, *if persevered in*, has effected a great and most favourable influence upon the constitution of the Potato. He even finds, what was found here six years ago, that diseased Potatoes may give as good a crop as sound ones, and as healthy—or even better. In short, the health of a Potato is in direct proportion to the length of time it passes under-ground, and *vice versâ*.

With the most sensible growers of Potatoes in this country autumn planting has been for years a settled question; and M. Le Roy teaches us nothing new. But he confirms by irrefragable testimony the soundness of the practice, and he shows how groundless is the fear which many entertain, that autumn planted sets will rot in the ground. Upon this point his remarks are striking, and with the substance of them we conclude. "I have practised autumn planting," he says, "for four years, and I have mentioned results even obtained in the three previous years, so that the experience is in fact that of seven seasons. No one will suppose that we had no frost during all that time. On the contrary; the winter of 1846-7 was long and severe. In 1847-8, it is true that frost did not last long; but the thermometer fell to —13° Cent. (8°.6 Fahr.), an unusual circumstance in the locality. Much light is thrown upon the action of frost by the following case: — M. Brunet-Sire planted his Potatoes, Nov. 1, at the depth of from 16 to 35 centimetres (6 to 14 inches). The soil was sandy loam; a little long stable litter was placed in contact with the sets, but the earth was not covered. Dec. 1 following, he planted in the same field other Potatoes, at the depth of 8, 11, and 14 centimetres, that is to say, much shallower; and he covered them with dry stable dung, with the exception of three tubers, of which one was buried 8 centimetres deep, another 11, and a third 14. On the 12th of February he examined his Potatoes, and he found that they had all withstood the frost. Of the three not covered with litter, the first was frozen; the second in good condition, with sprouts three centimetres long, and small roots; the third was frozen on one side, but was safe and sound with a few rootlets, on the other. M. Bonnet the elder, in the same year, planted late Potatoes 27 centimetres deep, in well tilled soil, in the first part of December, In consequence of rolling down this depth was reduced to 19 centimetres. On the 12th February they were all good and beginning to push. In other cases the Potatoes were destroyed, or when they had sprouted lost their ends without further damage." Upon the whole M. Le Roy arrives at the conclusion that the Potato cannot resist frost if too near the surface of the ground; but that it can do so if planted deep enough, "no doubt because the frost is less severe there, and perhaps because it acts slowly both in coming and going;" which is precisely what we have so often asserted without being able to convince everybody that it is true.

We should like to know how our readers find their autumn planted Potatoes after this long and very cold, though not severe winter. Now is the time to examine them.

Many of our readers must have observed in summer minute chalky-white spangles sprinkled over pieces of wood, stone, gravel, or other substances more or less shaded from the sun. These bodies consist of a cup-shaped sac whose borders are slightly spread out, a round slightly conical fluted lid which exactly fits it, and, on removing the lid, of an oblong bag filled with red granules and a little fluid. Tode described them as a new genus of fungi, which was taken up by Fries, though with some suspicion as to their real nature, and published under the name which Tode had assigned, *Atractobolus ubiquitarius*. These bodies are, however, figured by Hammer as the eggs of his *Trombidium lapidum* (Rhaphignathus lapidum, Duges), and a very good account of the eggs of another species by Duges will be found in the first volume of the second series of "Annales des Sciences Naturelles." He there describes the manner in which the little mite (*Rhaphignathus ruberrimus*) comes out backward from the egg, lifting up the lid, which falls down again, so as to leave the egg apparently in the same condition in which it was before it was hatched.

A paper has, however, been lately read before the Bristol Microscopical Society, with a view to restore these bodies to the place originally assigned them by Tode, on the ground that the red bodies which they contain are connected by threads, very much after the manner which Mr. Thwaites has described and figured in certain *Palmellæ*. Mucedinous threads are, however, so common in the cells or cavities of organised productions, that we should not feel inclined to lay much stress upon them, but a far more important element soon appeared in the question. It was suggested by Dr. W. B. Herapath that it should be submitted to chemical investigation; under this the lid gave off what appeared to be bubbles of carbonic acid, on the application of iodine and sulphuric acid lowered one-fourth with water, indicating its composition to be carbonate of lime, while the inner sac assumed the most beautiful blue under the same treatment, which seemed to point out that there was really some ground for the opinion that had been brought forward as to its vegetable nature. In this state of the question, some of the specimens were submitted to us by Mr. H. O. Stephens, and as we happened fortunately to possess in our herbarium samples on wood and non-calcareous stone, we were enabled to ascertain that the carbonic acid was due, not to the lid and the egg-case connected with it, but to the calcareous stone to which the Bristol specimens were attached. Further examination, which failed at first from not using sulphuric acid of sufficient strength, established the fact, that the inner egg-sac assumed, under the above-mentioned chemical test, colours generally supposed to be indicative of vegetable structures, though not, as before, of a clear celestial blue, but of a bright lilac, the sac at the same time becoming diffluent, and leaving a lilac glutinous track wherever it was moved on the field of the microscope. Further examination of specimens on wood which had been preserved many years, exhibited the same lilac tint and diffluent substance; while in other individuals, the whole egg-sac broke at once into a cloud of minute violet bodies, having all the appearance of starch; while, again, in some instances, these granules were brownish. Specimens afterwards communicated to Mr. Stephens, enabled him to confirm our observations; and, in addition, gave a greenish blue tint, such as frequently occurs in cellulose, when it has imbibed foreign matter, giving a yellow tint under the same tests. All this indicates a very different chemical condition of the sac, varying between dextrine, cellulose, and amylum; but in every instance, certainly, presenting something which is not usual in animal productions. The only instance with which we are acquainted of such a re-action in animal cells, though others may exist of which we are ignorant, is in Cohn's Memoir on "Protococcus Pluvialis," where the animalcules furnished with flagelliform appendages, and endowed with active motion, assume a deep blue, when treated with iodine and sulphuric acid. It must be remembered, however, that these productions resemble the zoospores of certain Algæ, and we had supposed this fact decisive as to their vegetable nature, till the very curious matter just recorded came before us. Thuret, indeed, considers the *Protococcus pluvialis* as certainly animal; we do not, however, find in such abstracts of his prize essay as have hitherto been published any observations similar to those of Cohn, whose paper was not published when the essay was sent in to the academy. He simply states that the zoospores are brown when treated with iodine, but he does not seem to have used sulphuric acid. The whole matter is one of the greatest interest, and calls for further investigation. The change of tint, it should be observed, was confined to the investing membrane of the egg, the bright red granules contained in it retaining in every observation alike their primitive colour. *M. J. B.*

THE ACHIMENES.

Nearly all the varieties of this lovely genus deserve to be ranked with the most beautiful and useful ornamental plants which our glass houses possess. Their flowers, of many delicate and pleasing shades of colour, are produced in great abundance for months in succession, and the plants themselves are mostly of compact growth and easy culture. While in a growing state all the varieties require the assistance of a rather warm and moist atmosphere, but during their flowering season they may be removed to a cooler and drier situation, such as a close greenhouse or conservatory, where they may be said to be indispensable during the summer and autumn months.

As all the Achimenes increase rapidly by means of their scaly tubers, artificial propagation is almost unnecessary, except in nurseries, where it is perfectly understood. I shall, therefore, merely state that cuttings of the young wood, treated in the ordinary way, and placed in a brisk bottom-heat, will root freely. Taking it for granted that there is a supply of tubers at hand in early spring, they should be separated from the soil in which they have been wintered, and planted in shallow pots or pans (the latter are preferable) well drained, and filled with light sandy soil to within 2 inches of the top. The tubers should be laid rather thickly and regularly upon the surface, and covered with mould to the depth of an inch, or as much more as the pan will hold.

Water should be sparingly applied, only just sufficient should be given to keep the soil in a moist state. If active growth is desired, without loss of time, plunge the pots or pans in a gentle bottom heat. When the plants are about 3 inches high they should be carefully lifted from the soil and potted in 7-inch pots, placing 12 or more plants in a pot, according to the sized specimens that may be wanted. After potting, place them in a close and rather warm atmosphere till they have become fairly established; a temperature of about 60° at night, allowing it to rise 10° or 15° with sun heat in the day time, will be found the most congenial to the plants at this stage of their growth. As soon as they are established in their pots, air should be freely admitted on all favourable occasions, and the plants kept near the glass. If all goes on well they will soon fill the pots with roots, when a final shift will be necessary. The size of the pots for this shift should be regulated by the size which it is desirable the plants should attain; 10-inch pots will be sufficiently large where moderate-sized specimens only are required; but for very large masses, 12 or 13-inch pots may be used. Some first-rate cultivators prefer deep pans for Achimenes, but these are better suited for plants to be flowered in a moist, warm house, than for those intended to be removed to the greenhouse or conservatory during the flowering season. About 12 plants may be placed in a 10-inch pot. It will be necessary to maintain a moist atmosphere, and keep the house rather close till the plants can lay hold of the soil; and water must be carefully supplied during this time, but the syringe may be used freely, if the weather happens to be bright. As soon as the plants start into free growth, after potting, air may be more freely admitted, and a slight shade during the forenoon of sunny days will be found beneficial. Varieties of the habit of pedunculata should be stopped as soon as they are established in their flowering pots; and if it is intended to train them in a formal manner all the kinds should be staked before the shoots have become entangled. The stakes should be cut off at the height to which the variety is likely to attain. They should be so arranged as to form the frame-work of a handsome specimen, and the shoots should be kept carefully tied as they advance in growth. When it is supposed that the pots are filled with roots, an occasional watering with clear manure water may be given. Indeed I regularly water my Achimenes with weak manure-water from the time they are well established in their flowering pots till the blooming season is over, and I think that the plants are greatly benefited by this treatment. If it is intended to remove the plants to cooler quarters while they are in flower, they should be judiciously and carefully prepared for the change by giving more air, and gradually lowering the night temperature as much as circumstances will allow. When removed they should be placed in the warmest part of the house to which they have been transferred, and guarded from currents of cold air; but if they can be kept in an intermediate house the flowers will be larger, and the blooming season will be prolonged; still, a close kept conservatory will supply a suitable temperature, at least during summer and early autumn.

When they have done flowering they may be thrown to the rubbish-heap, merely preserving about two pots of each variety for stock; these should be kept sparingly supplied with water, and if they can be removed to a warm dry house, the ripening of the tubers will be better secured than under other circumstances. Water must be altogether withheld as soon as the leaves assume a sickly appearance, and when the tops die down the pots may be removed to any dry situation, where they will be free from frost, and where they may remain till the tubers are wanted for starting next spring.

For soil, take light sandy turfy loam, peat, leaf-soil, and thoroughly decomposed cow-dung, in about equal proportions, to which add as much sharp sand as will ensure a free percolation of water through the whole materials. The loam and peat should be used in a rather rough state; the dung should be broken up and intimately mixed with the sand before it is added to the compost. All the Achimenes are very impatient of stagnant moisture at their root; therefore secure perfect drainage by using plenty of potsherds or lumps of charcoal; indeed, when pots are used, they may be one-third filled with draining materials. *Alpha.*

THE AERIAL ROOTS OF ORCHIDS OF THE TROPICS.

(From a Paper by Dr. W. H. de Vriese, Reg. Bot. Prof., Leyden.)

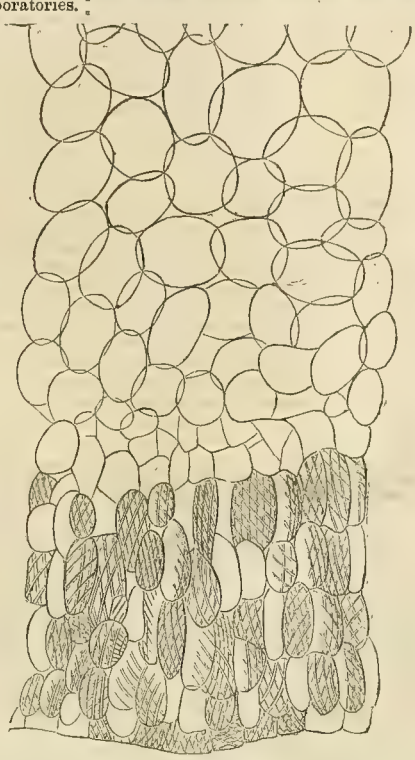
The so-called Orchids do not, like true parasitic plants (as Viscum, Loranthus, Rafflesia, Balanophora, Rhopalocnemis), subsist on the sap of the plants to which they are attached, and in which they take root; but on the nourishment they gather from the atmosphere in which they extend, or spread out their generally silver white roots. Hence botanists have given them the name of air-roots, in opposition to others which grow in the ground. Such are to be found among the genera Aërides, Vanda, Saccolabium, of the damp and hot parts of India; Schomburgkia, of the woods of Honduras and Guiana; the superb Lælias of South America; the many-formed Epidendrum of the South American islands; the beautiful and sweet smelling Stanhopeas, &c.

In the cultivation of these plants, the natural means of growth must be imitated as near as possible. If they be treated as terrestrial Orchids, a failure will be the result. These grow under quite different circumstances. It is worthy of remark, that a peculiar apparatus is required to promote the growth of each of these sorts of plants.

The air-roots of the parasitic Orchids of the tropics have a formation quite peculiar to them. We shall endeavour to point out its chief characteristics. It may serve, if need be, to show the intimate connection between theory and practice. The roots which penetrate the ground, and thence derive their necessary sustenance, are composed of cells. The cells of those air-roots possess a thin transparent membrane, and contain mucilage with all those particles, the presence of which in the cavities has been ascertained by microscopic and chemical observation. They are nitrogenous particles, dextrine, sugar, all dissolved with mucilage in water. The absorbent organs are chiefly the outermost and tenderest cells. They are of great consequence to the plant. By the action of endosmose they absorb from the ground water and divers earthy particles, so far as they are soluble in water, and the nature of those particles and of the membrane of the cells permits their admission into the cavity of the cell. Besides, they take up particles which are produced by the decomposition of animal substances, and the remains of vegetables in the ground. The latest researches prove most satisfactorily, that with the water which is in the ground, several salts, of lime, potash, soda, and even salts of metals, as well as gases, carbonic acid, ammonia, are taken up into the plant, by means of the peculiarly formed extremities of the roots, which are called spongioles, in the cells of which are never found either incrustation or openings; and which, notwithstanding the absence of the latter, are, however, perfectly pervious. The surface of the root branches does not absorb any liquid, nor does the surface of the trunk root itself.

Quite otherwise is the case with the alimentary parts of the so-called air-Orchids. Their exterior is white as snow, dry, the surface smooth, and for the most part not divided or branched; transparent, and more or less sappy only near the point. They grow to a remarkably great length, and rarely attain the thickness of a quill.

If these roots be cut in a cross direction, and the slice carefully examined by the aid of a microscope, a very singular state of the web of the cells will be perceived. What should be called the bark of the root is in this, one would say, a kind of papery tissue, which covers the air-root externally; each cell is literally filled with spiral threads or fibres of an extraordinary fineness. Whereas in the usual web of cells the greatest diameter is in the length of the cell; in this the breadth much exceeds the length. Now, in all other cells of plants, which are exposed to the light and air, we meet with many particles which are to be considered as the produce of the growth of the plant, united with those of the atmosphere and the light (among which, *e. g.*, the globules of a green colour have a principal place); but in these we find the cells quite empty, except of the fibres, which run in all directions, and frequently cross each other. More inwards follows the simple web of the cells, and lastly, the fibrous part of the roots, in the middle of which, again, cells are found. The subjoined figure will exemplify this formation. These roots must be, naturally, well calculated to imbibe moisture, which they require in great measure; and, in case they are not continually exposed to it, the membranes quickly lose the power of absorption. The circumstances in which these plants are found in their natural state are particularly favourable, not only for the growth and development of their roots, but also for their power of absorption. We meet with them chiefly in the so-called aboriginal woods of Brazil, the northern parts of South America, India, &c. A high temperature, a great degree of moisture, a damp bottom of mould, continually becoming thicker by the falling of leaves, and always in a state of decomposition, by which many gases, carbonic acid, and ammonia are communicated to the almost undisturbed atmosphere of those woods, constitute the condition that most conduces to the growth of the air-roots, which are thus exposed to all the circumstances that are most favourable to the absorption and changing of substances, which is the only object for the forming of new organs. If we can closely imitate this combination of circumstances in our hothouses, we are certain of success in the cultivation of these beautiful plants. Experience teaches us that low houses are the best. The presence of substances in a state of decomposition and emitting ammonia is also required; this last is necessary in every collection of plants. Moisture, with a temperature of 66° to 75° Fahr., must be artificially procured, to produce a feeble imitation of what Nature exhibits to us in her great laboratories.



A highly-magnified view of a thin slice of an epiphyte root, showing the outer (lower) layer of cells and the inner (upper).

This formation of air-roots is not confined to the group of Orchids; it is also observed in several other groups of plants, as Arads and Pandaneæ, which, however, in this respect demand a careful investigation. *T. P.*

ANNUALS ADAPTED FOR BEDDING, &c.

(*Continued from page* 213.)

Sanvitalia procumbens.—A neat compact growing plant, rising from 4 to 6 inches high, with small, oval, dark-green leaves, and numerous orange-rayed Rudbeckia-like flowers (three-fourths of an inch wide), richly diversified with a black centre.

Eucharidium concinnum.—An erect Œnothera-like plant, 9 to 12 inches high, of neat habit, with small, dark-green leaves, and laden with deeply-lobed, bright rosy coloured Clarkia-like flowers.

Cynoglossum linifolium.—A remarkably compact plant, of erect dense growth, with grey or glaucous-white leaves, and studded towards the upper part with a profusion of snow-white circular, ribbed, salver-shaped blossoms.

Iberis umbellata rubra (crimson Candytuft).—An erect growing variety, 12 inches high, with narrow lance-shaped leaves, and numerous terminal flattish umbels of rich, reddish purple and crimson flowers.

Iberis coronaria and I. umbellata alba (white Candytuft).—Rising 12 inches high, equally neat and compact in habit, with similar foliage, and profuse terminal branching stems, forming a dense mass of snow-white flower heads.

Lupinus nanus.—An extremely pretty species, with small hand-shaped leaves, and numerous long terminal erect spikes of elegant blue and white pea-shaped flowers.

Silene rubella.—A neat plant, 12 inches high, with broadly ovate glossy leaves, and numerous terminal clusters of loose purplish rose-coloured blossoms.

Eutoca Wrangeliana.—A low-growing species with decumbent stems, rising *en masse*, 6 to 9 inches high, and crowned with a profusion of blueish salver-shaped flowers in clusters.

Hibiscus africanus.—An upright, branching plant, growing from 9 to 18 inches high, with deeply-lobed or divided leaves, and remarkably large, close-petalled, bright, sulphur-coloured Hollyhock-like flowers (4 to 6 inches wide), beautifully ornamented with a rich and conspicuous dark velvet band towards the centre.

Yellow Hawkweed.—A somewhat loose growing and slender branched plant, 12 to 16 inches high, ornamented with a profusion of very neat pale yellow, or brimstone-coloured Marigold-like blossoms, about 1½ inch wide, which are singularly diversified with a double interior row of smaller orange-yellow petals, the whole being relieved by the contrasted effect of a large and remarkably beautiful rich dark-brown centre.

Heliophila arabioides.—A prostrate spreading plant, with diverging shoots or stems, which are elegantly studded over with numerous close-petalled rich blue, compact salver-shaped blossoms, half an inch wide.

Godetia biflora.—An ornamental, erect-growing plant, of neat habit, 18 inches to 2 feet high, with medium-sized leaves, and terminal racemes of large conspicuous rosy lilac, cup or salver-shaped flowers (2 inches wide), picturesquely marked with bright rosy crimson cloud-like spots in the centre of the flower-lobes or petals.

Sweet Sultan.—An upright growing plant, 18 inches to 2 feet high, producing many conspicuously-ornamental, large, clear white, Thistle-like flowers.

Godetia rubicunda.—An ornamental species, 18 inches to 2 feet high, of neat, erect, branching habit, with medium sized leaves, and long terminal spikes of numerous, large, close-petalled, light pink, cup-shaped or salver-like blossoms, deepening into a conspicuous light crimson centre.

Malope grandiflora.—A highly ornamental annual, 2 to 3 feet high, with obtusely-lobed mallow-like leaves, and numerous, remarkably large, and beautiful rich crimson salver-shaped flowers, 4 to 6 inches wide.

Godetia Lindleyana.—A late summer-flowering annual, 18 inches to 2 feet high, of neat habit, upright growth, medium-sized foliage, and highly picturesque and beautiful pale rosy-lilac, open cup-shaped blossoms, blending into a crimson centre.

Branching Larkspur.—An ornamental late summer-flowering annual, 2 to 3 feet high, of erect branching habit, with numerous racemes of variously shaded brilliant blue-coloured blossoms. Admirably adapted for grouping in shrubberies and plantations.

Lupinus Cruickshankii. — An extremely beautiful late summer and autumn-flowering species, 2 to 3 feet high, of neat erect branching growth, with smooth finger-lobed leaves and terminal spikes or racemes of richly blended blue, white and yellow, Pea-shaped flowers.

Tangier Pea (Lathyrus tingitanus). — A very elegant twining annual plant, 3 to 4 feet high, with medium-sized foliage, and numerous clusters of remarkably rich violet-crimson blossoms.

Chrysanthemum centrospermum. — A late summer and autumn-flowering species, 2½ to 3½ feet high, of erect, branching habit, deeply toothed or lobed leaves, and numerous golden-yellow Marigold-like blossoms, well adapted for effect in large borders.

Helichrysum bracteatum.—A neat, erect, branching, late flowering plant, 2 to 3 feet high, with dark green willow-shaped leaves, and numerous terminal, conspicuous clusters of golden yellow "everlasting flowers."

Helichrysum macranthum.—Similar in habit to the preceding species, with green willow-shaped leaves, and terminal upper clusters of clear white "everlasting flowers," elegantly suffused with rose or pink. This interesting plant, as well as the preceding, withstands the influence of autumnal frosts. *William Wood.*

RATEABILITY OF A NURSERYMAN'S STOCK IN TRADE.

Mr. Editor,—In page 213 of your Paper, Mr. Paine denies the correctness of my statement (p. 165). I now repeat that the report affirmed to have been read (p. 148) was not read before the magistrates, and that the magistrates gave no decision on the merits of the case. Mr. Paine now states that "the condition upon which the appeal was decided is, that I should meet the surveyor of the parish," &c. I now assert that the magistrates, in granting permission to remove the contested points from the rate-book, *made no condition whatever.*

The re-valuation was part of the agreement between the parties out of court; Mr. Paine gives one, and surely sufficient, reason why it could not be effected immediately. I. Finch, *Churchwarden, Berkhamstead, April* 7.

Haresfoot, Great Berkhamstead, April 7.

I was present in the court, and can affirm that all the assertions of our churchwarden (the Hon. General I. Finch) are strictly correct on the subject in question.

Algernon Smith Dobbien.

Home Correspondence.

Hardiness of Greenhouse Plants.—As the question of the hardiness of many plants usually treated as greenhouse ones appears to be exciting some attention, and as several plants of that description have been for some years planted out here with a view of testing their hardiness, the following account of the result may be interesting. It should be observed that this place, lying on the shores of Morecombe Bay, shares in the mild climate of the west of England; but being considerably to the north (in latitude 54° 11′), and only a few miles distant from the lake mountains, which rise to the height of 3000 feet, it is liable to greater cold than usually occurs further to the south. *Australian and New Zealand Plants.*—Leptospermum grandiflorum has been planted out many years, and always flowers abundantly. It appears as hardy as any of the common evergreens. Leptospermum ambiguum and L. lanigerum have also been out two winters against a wall, and are quite safe. The latter especially is very vigorous, and seems as hardy as L. grandiflorum. L. scoparium, tried a few years ago, was killed; Grevillea rosmarinifolia is perfectly hardy, and is now in flower. Callistemon lanceolatus, Plagianthus divaricatus, Tasmannia aromatica, Veronica speciosa, have also been tried successfully against a wall. The Tasmannia usually flowers abundantly. Clianthus puniceus against a wall is now coming plentifully into flower. Acacia affinis, with a stem 1 foot in circumference, is now covered with blossom; it is planted out in a sheltered situation. *Other Plants of doubtful hardiness.*—Habrothamnus elegans, corymbosus, and fascicularis, against a wall, are uninjured. Iochroma tubulosum, under precisely the same circumstances, was killed. The following plants appear also to be quite hardy. Quercus glabra (very handsome); Tetranthera *Sieboldi?* (do.); Limonia laureola; Illicium floridanum; Ill. religiosum (both of these flower); Garrya Macfadgeana (against a wall); Myrsine africana, M. *Urvillii?* Euonymus fimbriatus (against a wall); Eriobotrya japonica (do.) *B., Holker Hall, Milnthorpe, April* 7.

Brown's Fumigator v. *other Modes of Fumigating.*—I am obliged to Mr. Ayres for his suggestion with reference to the "cigarette" mode of fumigating; but having adopted that plan occasionally for the last nine years, I had anticipated him with regard to his advice,

and had not lost sight of the same when I was induced to recommend the "fumigator" for all minor purposes; and I flatter myself that I can very satisfactorily show its decided advantages over the "cigarette," or any other plan yet known; for example, I propagate the greater portion of my bedding stuff on my first Vinery border, which is inside the house. The cuttings are inserted in a bed of prepared soil, and covered with the portable tops of hand-glasses. In this way I strike from 200 to 400 under each glass, consequently it will be observed that they are inserted pretty thickly. Now it sometimes happens that before they are removed from the cutting-bed they are attacked by green-fly, although apparently free when first inserted. Such being the case, I should be at a loss to know how to fumigate them without fumigating the whole house (which may not be necessary), were it not for the facilities afforded by the "fumigator." By lifting the glasses a little on one side, eight or ten of them can be filled with smoke in two or three minutes with the greatest ease and safety imaginable; hence the value of the "fumigator" in this case. I have at the present time about 500 shrubby Calceolarias, and a quantity of other bedding stuff, bedded out in pits and frames, in sods of turf, instead of using pots. These are arranged within two or three inches of the glass; and whilst in this transition state, it is probable that, long before their final removal, they will grow sufficiently, so as to cover the whole surface of the bed in which they are planted. Such has generally been the case, leaving no space for the introduction of anything inside should fumigation be necessary here; then (and I think Mr. Ayres will admit it), is the "fumigator" of essential worth, as the fumes can be driven through an aperture from the outside. For fumigating on a large scale, I would recommend (instead of the sieve), a contrivance similar to that exhibited by me at the Horticultural Society's Rooms in Regent-street, in March, 1850, which can be made by any country smith. It is made of sheet-iron; in form like a very shallow stew-pan, thickly perforated, having feet to raise it sufficiently high to allow a current of air to pass through. This is far preferable to the sieve, for if combustion does not go on well, a little shaking by the handle greatly accelerates it; and besides, where a sieve is used much, the action of the heat on the wire continually, soon destroys it, and it becomes far more expensive in the end than having an apparatus made upon the sieve principle in the first instance. *George Fry, Manor-house, Lee, Kent.*

Notes and Queries.—Acacia dealbata, with me, is now loaded with its delicate yellow flowers; the tree is between 30 and 40 feet high, and has only once been injured by frost since it was planted out many years ago. It is a strikingly elegant tree, independent of its masses of blossoms. The early flowers of Rhododendron arboreum and nobile were injured by the bitter east wind of March; but some fine and perfect heads are now open, with the Rose-coloured variety of the former. The groups of hybrids will soon be hillocks of crimson. Many exotics have lived through this winter, yet, strangely enough, a plant of Eucalyptus robusta, about 4 feet high, is dead. A species of Bamboo, from the Himalayas, the seed of which was advertised in the *Chronicle* three or four years since, proves quite hardy, and a really interesting and good thing. Some of my plants are 12 or 14 feet high. How can I propagate it? [By division when old enough.] The curious new Californian Cherry (Cerasus ilicifolia) does not thrive with me in the open ground. Does it require any particular soil? [It is perfectly hardy in stiff clay.] Does the old, but rare, Sambucus racemosus require any peculiar treatment? [No.] It is seldom seen in shrubberies, yet I am told that it fruited abundantly last autumn, in a vicarage garden in the north of Devon. My informant said that it bore clusters of fruit of pounds weight, the berries being similar in size to the roe of a salmon, with the colour of that of the lobster. The vicarage being on the sea shore, accounts, I presume, for so piscatorial a simile, which, however, is a descriptive one. In the answers to correspondents, you recently recommended Bignonia Chirere to be grown in tan, and treated as a stove plant. My experience induces me to offer a different opinion, as in my conservatory, where a low temperature is kept, it grows with wondrous strength and flowers magnificently; indeed, it is difficult to keep it within bounds, and it is to be regretted that so beautiful a climber is not more generally grown. What a boon would a free-flowering yellow species be, for though Bignonia Tweediana produces flowers of the most brilliant golden hue, it is far too much of a niggard to be as valuable as it otherwise would be. My plant of Beaumontia grandiflora produced last summer, with others, one bunch of sixteen flowers, which, though they did not open simultaneously, were indiscribably beautiful. This fine plant, which does not require stove heat, is not so much grown as it deserves. *A Devonian.*

Climate of Hampshire.—Though we had some sharp weather in November, and have since had many frosty nights, I do not find that I have lost a single plant. Bignonia capreolata (against a wall), Edwardsia (standard), Jasminum revolutum, parviflorum (standard), Dielytra spectabilis, Escallonias, Ceanothus varieties, all out of doors, without any covering but a few Fir boughs, are in the best health. The Dielytra is so far an exception that I have lately put a hand-glass over it. It is about 2 feet high, and full of bloom and leaf. *B.*

Fruit Trees for Australia.—I often see questions in your columns from people going to Australia, relative to what fruit trees they shall take. It is almost useless to take any. All the best European fruit trees may be purchased in New South Wales as cheap as in England. The Stanwick Nectarine, and Veitch's new Apricot would be desirable, and so would any of the Figs recommended by the Horticultural Society (a complete collection of which was kindly given to me in 1842 by the secretary, but I was not fortunate with them), except four, which I suppose to be Brown Turkey, White Marseilles, Green Ischia (which never bears), and Verte de très bonne qualité, which are already here, and the two first common. There is also another kind bearing a very large nearly undivided leaf, and a very large blue Fig, but it is utterly worthless as a fruit; it grows, however, very rapidly into a large handsome shady tree. It is said to have come from China.—*J. C. Bidwill.*

Polmaised Grapes.—As the subject of Grapes grown in Polmaised houses has been brought into notice, allow me to state, for the benefit of those about to erect garden structures for the cultivation of plants or fruits, and who are wishful to heat them on the Polmaise principle, that Mr. Deans, gardener to W. W. Pettinson, Esq., Felling, Gateshead, at the June exhibition last year, held at Newcastle-on-Tyne, was awarded a first prize for the best bunch of Grizzly Frontignan, and was also placed first for the best bunch of Black Hamburgh. His Grapes in the same house this year are all thinned, and a splendid crop he has. One of your correspondents some time back thought it next to impossible that early forcing could be carried out on the Polmaise system. Here is one instance in which Polmaise has succeeded; and if one, why not another. *G. B.*

Rain at Ham, near Plymouth, in 1851.

	Inches.		Inches.
January	9 54	September	1.20
February	2.59	October	5 20
March	8.68	November	2.22
April	2.53	December	3.24
May	1.92		
June	2.43	Total	47.96
July	3 95	On 160 days.	
August	4.49		

At Radstret, near Bath, it was 27.61 inches on 125 days. *H. H. Treby.*

Welsh Seed Trade.—With all due deference to Mr. Bundy, I think that if he had had the buying of his seeds from the different druggists, as I have had for many years, he would have found out his mistake before this time; and I hope that before Mr. Bundy again attempts to publish anything to the world, he will make himself thoroughly acquainted with his subject. The following are the prices I have paid to the different chemists of Llandilo for the last three years:—Onion seed, 2*d.* to 3*d.* per ounce; Carrot seed, ditto; Pea, 6*d.* to 1*s.* per quart; Cauliflower, 1*s.* per ounce; Savoy, ditto; Leek seed, 3*d.* per ounce; Parsnip, 2*d.* per ounce; Radish, 6*d.* per half-pint; Broccoli of sorts, 1*s.* per ounce; Turnips, 1*d.* per ounce; and other kinds of seeds in proportion; but many of better sorts of vegetables are not to be had at those shops. Seed Potatoes are very dear; Ash-leaf Kidneys are 2*d.* per lb.; Cockneys, 2*d.* per lb.; Forty-folds, 1½*d.* per lb. *Lewise.*—— I think the subject of the seed trade in Wales worthy of consideration, not as an individual loss or gain, but as involving to a great extent the principle of British commercial transactions in a more general point of view. I shall, however, confine myself for the present to the bearings of the question as affecting the principality. Wales, as being called the land of the Leek, merits that cognomen so far that, in the growth of vegetables, Leek and Onion form a prominent demand on the land market. This twin pair is the key whereby other vegetables can best be reached; they form the leader under which all other individual vegetables must seek to follow. This being the case, I think it a piece of bad judgment, to say nothing of honour, on the part of London houses, to sacrifice old customers of 15 or 16 years' standing to the fancy or caprice of any monopolising "cutters" who may care little for the general question, provided a bare per centage is to be got by such transactions. Mr. Bundy's exposure will doubtlessly startle some of your readers, and excite a more healthy enquiry as to the cause of such movements. If this is continued, I hope the respectable wholesale houses will be prepared to find themselves passed by, in a little time, by men of our own locality, who may by chance find out, likewise, the source of seed supplies. With what attention and success this discovery can be prosecuted remains yet for future years to determine; but as long as London will be content to charge 1*s.* 9*d.* upon a constant customer, whilst the same article can be got in Wales for 1*s.* 3*d.* per lb., I hope they will excuse us for once if we choose to discontinue to do further trade. *A Welsh Seedsman.*—— Mr. Bundy has certainly gone a little too far in asserting that vegetable seeds generally can be bought in South Wales at the prices stated by him at p. 182. At Swansea (which may fairly be called the metropolis of South Wales) I cannot buy seeds for anything like the prices in question. Before me are seven catalogues from as many respectable vendors of seeds in the town of Swansea, and I gather the following facts from them:—The commoner kinds of Peas, not the "different varieties," can be bought at 6*d.* per quart; Knight's Marrow, &c., 9*d.*, and upwards. Beans, 4*d.* to 6*d.* ditto; French Beans, 1*s.* 6*d.* ditto; Broccoli, 10*d.* to 1*s.* per oz.; Cabbage, 6*d.* ditto, except Drumhead, which is 4*d.* ditto; Lettuce, 8*d.* to 1*s.* ditto; Onions, 4*d.* ditto; Parsley, 2*d.* ditto; Radish, 2*d.* ditto; Carrots, 2*d.* ditto; Cauliflower, 1*s.* to 1*s.* 6*d.* per oz. Now, from the above quotations it will, I think, be clear that Mr. Ayres has conclusively shown the "absurdity" of Mr. Bundy's low prices, notwithstanding the desire of the latter to turn the strictures of the former to his own credit. Speaking for myself, however, and for a portion of South Wales, I must deny Mr. Bundy the right of including the whole Principality. That seeds may be bought at the prices stated by him, about Llandilo or Carmarthen, I have no right whatever to doubt; not so, however, at Swansea, which, I must say, appears singular, Swansea being only some 20 or 30 miles distant, and more than twice as large as the two places just mentioned put together. I infer, therefore, that local circumstances must have much to do with the seed trade; at least it is certain that the prices, as given by Mr. Bundy, merely point to some localities, and do not represent the general state of the seed trade in South Wales. *W. Barron, gr. to J. H. Vivian, Esq., M.P., Singleton Abbey, near Swansea.*

Vine Culture.—I shall feel obliged by your giving publicity to the following statement, as it may be the means of terminating a highly pernicious and unnatural system of treating the Grape Vine, which is practised here:—My employer is never his own gardener, except in the present instance, in which, despite of all remonstrances, he has been arbitrary. We commenced forcing in the beginning of February. We laid eight or nine inches in thickness of raw pig's dung on the border, previous to increasing the temperature of the house. The result has been, that by carefully and assiduously applying the syringe, the Vines have broken remarkably well and regularly; but there is only the appearance of a very moderate (or rather scanty) crop. The bunches are about a foot, and, in most instances, 16 inches from the base of the shoots, and those puny specimens approaching the condition of tendrils. Now, I am of opinion, in fact convinced, that the cause of the evil is the cold filthy muck on the border. There are slabs laid on it, which, when trodden upon, for various purposes, sink into it, when it emits a pestilential effluvium that is intolerable. It has been alleged by my employer, that Mr. Mitchel, of Brighton, grows his Grapes precisely on the same principles, and that no person can produce finer crops, nay, two crops in one year. Now, I doubt whether it is possible that Mr. Mitchel should grow his Grapes on the same principle; and I contend that the second crop must be a poor one, and detrimental to the Vines. I must not omit to mention that our Vines, through previous as well as present, mismanagement, are in a very unhealthy state. It has been strongly urged by my employer, that Vines require some such stimulant as that to which I have alluded, when treated artificially. Now, I contend, that in this country we can accommodate Vines, in all their requirements, with more congenial temperatures, both terrestrial and atmospheric, than they experience under natural conditions; the former by applying fermenting material, and keeping thermometers, or trial-sticks, in the border; the latter by fire-heat, a judicious application of the syringe, steaming, &c. I shall not lengthen this communication at present, but on a future occasion I shall send you the results of this injudicious system of forcing, or rather killing, the Vine. *J. A. H. W. L., Surrey.*

Societies.

Horticultural, *April* 6.—W. W. Salmon, Esq., in the chair. It was announced that the Council had recommended that H.R.H. Prince Albert and his Imperial Majesty the Emperor of Russia, now Fellows of the Society, should be nominated honorary members in two vacancies now existing; whereupon H.R.H. Prince Albert and his Imperial Majesty the Emperor of Russia were balloted for, and duly elected as honorary members. As regards subjects of exhibition, the greatest novelty was certainly Phalænopsis Lobbii, from Messrs. Veitch—a highly promising species, uniting the colour of P. rosea with the large blossoms of the white butterfly plant (P. amabilis). The example exhibited was small, having been only recently imported, and now flowering for the first time: but it served to show what may be expected from larger and better established plants; a Large Silver Medal was awarded it. The same eminent nurserymen also produced a Posoqueria (?) from the Organ mountains, possessing an elegant habit, and bearing quantities of long creamy white, peculiarly scented flowers; a Certificate of Merit was awarded it.—Mr. Franklin, gr. to Mrs. Lawrence, contributed a collection of Orchids, containing well cultivated examples of Dendrobium nobile, and the rhubarb-scented D. macrophyllum; a charming Maxillaria, labelled a variety of M. Harrisoniæ, but, in reality, quite a different thing, and much handsomer; the beautiful and somewhat scarce Brazilian Oncidium sarcodes, the sweet Trichopil (T. suavis), and Lycaste gigantea; a Knighian Medal was awarded.—Messrs. Henderson, of Pine Apple-place, sent a little tree of the Oleander-leaved Eriostemon, and a nice pyramidal plant of E. intermedia; also the pretty Boronia triphylla; a variegated-leaved Coronilla glauca; Elæocarpus dentatus; a species of Aotus; two dwarf, compact, free-flowering Rhododendrons, and a highly interesting collection of Hyacinths, for which a Banksian Medal was awarded.—Mr. Turner, of the Royal Nursery, Slough, communicated a stand of Pansy blooms, and six charmingly blossomed examples of the same plant in pots, in order to further prove that such things may be successfully grown in that way, and likewise to show that few plants make a better display, and at less expense, than the Pansy during the early spring months. A Certificate of Merit was awarded for the plants in pots.—An interesting collection of Roses was shown by Messrs. Lane, from a Rose house heated on the Polmaise principle. They consisted of some of the best of the Hybrid Perpetual, Bourbon, and Tea-

scented kinds, as Apollon, Baronne Prevost, Chateaubriand, Cornet, Duchesse de Praslin, Duc d'Alençon, Duchess of Sutherland, William Jesse, Géant des Batailles, General Negrier, Madame Trudeaux, Soleil d'Austerlitz, Standard of Marengo, Armosa, Madame Angelina, Paul Joseph, Queen, Souvenir de la Malmaison, Mrs. Bosanquet, Belle Allemande, Comte de Paris, Moiré, Smith's Yellow, Vicomtesse de Cazes, Fortune's Double Yellow, and others. A Banksian Medal was awarded.—Mr. Chapman, gr. to J. B. Glegg, Esq., received a Certificate of Merit for a good example of Cayenne Pine Apple, weighing 5¾ lbs.—Mr. Jones, gr. to Sir J. Guest, Bart., sent three Ripley Queen Pine Apples, weighing respectively 4 lbs. 2 oz., 3 lbs. 13 oz., and 3 lbs. 10 oz.—From Mr. Law, gr. to E. J. Shirley, Esq., of Eatington Park, Stratford-on-Avon, came a dish of forced Peaches from trees growing in pots. They were quite ripe, but not very large or well coloured, which, however, could hardly be expected at this season. A Certificate of Merit was awarded them.—Mr. McEwen, gr. to the Duke of Norfolk at Arundel, exhibited five pots of Keens' Seedling Strawberries and one of Alice Maude. They were loaded with large and well ripened fruit, and were in every way very fine examples of this kind of gardening. It was stated that the best sort for forcing, according to Mr. McEwen's experience, was Keens' Seedling; the next Alice Maude. A Certificate of Merit was awarded.—Hamburgh Grapes, ripe and black, but entirely destitute of bloom, were produced by Mr. Allport, gardener at Doddington Park, Nantwich, Cheshire, to whom a Certificate of Merit was awarded.—A plan for labelling Roses, the invention of Mr. Bohn, of York-street, Covent-Garden, was brought under the notice of the meeting by the Rev. W. B. Hawkins. Mr. Bohn uses a paper label, at one end of which is printed the name of the Rose in bold black-faced type, and at the other end the colour and general description of the plant. This label is then folded and pasted back to back; it is then placed in a small flat tube of glass closed at both ends, with a ring (in glass) at one end to hold some soft wire, by which it is to be suspended from the plant. The cost of such labels was stated to be about five farthings each, everything included. They are extremely neat, and no doubt will be found to answer for most purposes where hanging labels are required, provided they prove to be sufficiently durable.—The Garden of the Society furnished the vivid crimson or rather scarlet Azalea obtusa; the Jasmine-like Rhynchospermum, a sweet-scented cold greenhouse plant; the double white and red flowering Chinese Peaches mentioned last week at p. 215; two of the smaller growing Acacias that are suitable for pot-culture; Beaufortia decussata; the white Ceanothus cuneatus, and dark blue C. rigidus; Æschynanthus speciosus, one of the handsomest of the genus; two Epacrises; the large variety of Justicia carnea, and one or two other plants.

Linnean, *April* 6.—R. Brown, Esq., in the chair. A paper was read by Mr. Adam White, on the influence of cold on the vegetation of plants. The author had his attention drawn to this subject by some remarks made at a previous meeting by Mr. Curtis on this subject. He read several extracts from the journals of Captain Beechey, to show that a very abundant vegetation frequently existed under the snow in arctic regions. He quoted also passages from Haller and other writers on the subject of plants flowering in snow, and drew particular attention to a passage in Linnæus's description of Saxifraga nivalis, which he states to flower under the snow. The reading these remarks was followed by a discussion. Dr. Hooker stated that the only instance he had seen of a plant flowering under snow, was that of the Pernettya mucronata, which he had observed in flower under the snow, at Terra del Fuego. He said it was frequent to find plants vegetating under the snow, which arose from the soil being warm enough below to carry on the functions of the plant.—Mr. Pratt stated that he had in vain sought for plants flowering under snow at Chamouni, and should regard the phenomenon as exceptional.—A letter was read from Mr. James Mottley, addressed to L. Dillwyn, Esq., accompanying specimens of the substance known as Borneo camphor, and a portion of the trunk of the tree — the Dryobalanops camphora — producing it. The Borneo camphor is principally consumed in China, where good specimens realise as much as 5*l.* per lb. An oil also exudes from the tree, which is used as a varnish, and is also employed as a medicine. The Borneo camphor is constantly mixed with the red seeds of a plant, which are superstitiously added by the natives, for the purpose of amusing the spirit of the camphor, and inducing it to remain, otherwise it might fly off and leave the camphor of no value.

Entomological, *April* 5.—J. O. Westwood, Esq., President, in the chair. Among the donations were an extensive series of Brazilian insects, presented by Lord Goderich, and a box of British Microlepidoptera, by Mr. Bedell. The President announced that the new part of the Transactions, completing the first volume of the new series, would be published on the 12th inst. Mr. A. White exhibited specimens of Derepteryx Hardwickii and Crophora Hardwickii (both male and female), brought home by Dr. Hooker; and also a small box of Coleoptera, brought from Little Thibet by Dr. Thompson, remarkable for containing several species identical with British insects. He also read an extract from a letter from Dr. Bowring, at Hong-Kong, announcing the capture of about 50 different species of Brachelytra in the neighbourhood of that settlement, many of which have a very European appearance, but one was remarkable for having the antennæ strongly feathered.—Mr. W. W. Saunders read an extract from a letter from Mr. S. S. Saunders, in Albania, giving an account of the habits of Hylæus rubecula, which is now ascertained to store up honey, in cells lined with a thin membrane, for the support of its young.—Mr. F. Smith read a note from Dr. Filkin, giving an account of the damage committed in wine-cellars by the larva of Gracillaria V-flava, which gnaws the corks of wine-bottles, causing the wine to leak. It was suggested that, by dipping the top of the corked bottles in melted resin, mixed with wax, the moths would be prevented from laying their eggs in the corks.—Mr. Edwin Sheppard exhibited some caterpillars of Botys urticalis in their winter quarters beneath the bark of wood-fences.—The secretary read notes from Messrs. Gould and H. Doubleday, on insects found impaled upon thorns, which had been ascribed to the shrike or butcher-bird; but in cases observed by the writers such a cause was impossible, and it was, on the contrary, believed that the force of the wing was the true cause.—Mr. Douglas exhibited illustrations of the natural habits of several species of Microlepidoptera, including Gelechia contigua and fraternella, and a species of Nepticula, the larva of which mines the leaves of the Bramble. He also read extracts from Zeller's revision of the Pterophoridæ just published, giving an account of the habits of the different British species of that family.—Captain Wroughton, of the Bengal army, sent for exhibition a book filled with beautifully-executed drawings of Indian insects of different orders.—The President exhibited specimens of M. Guérin-Meneville's new species of Cochineal found in the south of France, described in the *Gardeners' Chronicle* (ante, p. 215), also specimens of Blatta germanica, from Kildare in Ireland, where it has proved extremely troublesome in kitchens in the same manner as the common cockroach. He also read a note from a correspondent asking information as to the destruction of the last-named insect, in reply to which various simple but effective plans were suggested by different members present. He also announced the return of Dr. Burmeister from a natural history tour of 18 months in Brazil; and mentioned that, amongst many other interesting discoveries, he had found a species of Strepsiptera infesting the body of a wasp, as many as seven individuals being observed in one specimen.

Garden Memoranda.

Mr. Cuthill's, Denmark-hill, Camberwell.—As this is about the time when seeds of the beautiful Lisianthus Russellianus should be sown, we may mention that Mr. Cuthill, who is unusually successful in its cultivation, raises it in pans a foot wide and 3 inches deep; crocks are put in the bottom, then a compost consisting of one-half loam, and the other half is made up of leaf, peat, or bog mould. On the top is placed half an inch of sand; the latter is damped, the seed is then sown, and a little sand is sprinkled over it. The pans are then placed in a heat of about 70°, with a propagating glass over them. The seed-pan is placed in a larger pan, which is continually kept full of water, the former never being watered overhead. The Lisianthus, when somewhat advanced, is a gross feeder, and has been found to be very fond of rich manure water. Few varieties of Cucumber have given greater satisfaction than Cuthill's Black Spine, which is exclusively grown here for the market. It is a certain cropper, and has been found to force well. Plants put out on the 1st of March are now fast covering the trellis, and showing fruit in great abundance. The latter is, however, all picked off until such time as the plants have acquired sufficient strength to keep on bearing throughout the season. The soil this year, by way of experiment, is what they were grown in last season; but, on this occasion, it has been mixed with a ton of peat charcoal, of which the Cucumber has been found to be exceedingly fond. The great decrease of wood-lice, which are kept down by bantams, has enabled Mr. Cuthill, for the first time, to use the same mould over again; but, before putting the plants into the pits, the surface of the bed, as well as the walls, were scalded all over with boiling water, with a view to kill any stragglers of this troublesome family that might have been missed, and afterwards pots turned upside down are placed among the plants, in order, if possible, to effect their entire extirpation. This succeeds better than setting the pots in an upright position, and putting hay or dry moss in them. The Black Prince and other Strawberries, which are cultivated extensively here, both in pots and in the open ground, promise abundant crops. Indeed, that this will be a good fruit year is at present the opinion of everybody. Lapstone Kidney Potatoes treated according to Mr. Cuthill's plan, as laid down in his pamphlet, were planted on the 1st of March. None of the shoots are rubbed off before planting; and by wintering the sets as Mr. Cuthill does, he finds they can support all that are formed with impunity, and that a greater crop of tubers is the result. In former years he used no solid manure, but last autumn he dug some stable-dung into the ground when it was ridged, with a view of trying its effect: and this spring, when the Potatoes were planted, peat charcoal was sprinkled over the sets.

FLORICULTURE.

Class Showing.—We resume this subject with much interest, because it intimately affects the welfare of floriculture. As a body, our Northern florists feel that by this kind of showing alone our favourite pursuit can be advanced; and they generally hold the opinion that but one variety should be allowed to win in each division or subdivision to which caprice or fashion has placed our gems. In the North, stand showing, by which we mean collections of dissimilar varieties, is but of secondary consideration, and in many places scarcely recognised; all the interest is concentrated in the single blooms. In our last we only expressed our views generally, but the present prevailing feeling, as regards class-showing, deserves more than a passing notice; for it must not be set down that because a variety obtains even a 10th, 11th, or 12th prize, it is absolutely inferior to that holding a higher, aye, even a first place; many circumstances have to be taken into consideration before such a conclusion can be arrived at, and the utmost caution should be exercised before we think disparagingly of a variety that may have failed to secure the censors' favour; we should enquire into the circumstances attending its production, discover whether there were many or few from which the selection was made, and above all we should be satisfied that the subject in question is of a fair average growth, otherwise the competition would be unequal. Some sorts abound in most collections, and are sure to be well represented, owing to the choice at command; others, although perhaps of higher intrinsic merit, are always scarce; seasons, again, which operate beneficially as regards some, act prejudicially as to others; for not only do we possess "flowers of the day," but we have also flowers of the season; cold, dripping springs—hot summers—protracted autumns—have all their influences on plants, all of which cannot endure them equally well. We could instance plenty of cases, which should induce censors to exercise watchfulness ere they pronounce an unfavourable verdict; by which, perhaps, they debar themselves from the possession of a gem which the following season brings out in all its glory. Let us give an illustration. At the Derby National, last May, we received a tenth prize for feathered byblœmen Byzantium, catalogued at 10 guineas by Mr. Lawrence of Hampton; the bulb was given by that grower at planting time, in 1850, in lieu of a prize awarded to ourselves that year; now it is notorious that a better flower can scarcely exist, but it rarely throws an offset, and enlarges season by season but imperceptibly; hence it is seldom seen on the exhibition table. So well known is this circumstance to Mr. Lawrence, that on presenting the small bulb he said, "I hope you may make it grow and increase, for I can scarcely say that I do." With such a character, we were the more anxious to have it fine, and although but the bloom of a bulb no larger than a common Filbert, it was cut, forwarded, and exhibited with great success. This surely shows that although a variety may be low in awards one season, it may not be destitute of real merit; we are, however, still of opinion that where a long series of prizes is to be awarded, every variety should hold its place so long as the specimens at command will maintain its supremacy. It should be clearly understood that this kind of competition is instituted less for NEW subjects than for FINE specimens, the primary object in view being to reward the skilful grower and not the raiser of novelties, for whom special provision is always made by the formation of seedling classes. *J. E.*

Books Received: "The Greenhouse and Garden" (Birmingham) for March and April. *J E.*

Catalogue Received: From Messrs. W. E. Rendle and Co., Plymouth. *J E.*

Cinerabia: *J P T.* Tavistock, a bold, coarse-looking flower, with palpable indenture in the tip of every petal; the latter is also ill-formed, being oval, a shape that cannot give good outline: it arrived in good condition. It will prove attractive as a stage-flower. Cinerarias produce more "fair" and less "fine" seedlings than any other flower.—*H. Edmonton.* I, royal purple self; surpassing in colour all we have hitherto seen. The flower-stalks are so short, that unless the blooms were well thinned, a crowded and confused truss must be inevitable. 2 is much better in this respect, and is altogether a neat looking flower; but the petals somewhat reflex, which is the only drawback it has. The ray of crimson immediately round the disk is novel; a decided improvement on Lady Araminta received this season. 3 and 4 notched, thin, and small, consequently of very little value.—*J D.* A cheerful greyish blue; the two trusses being admirably formed and compact; but, as "a flower," it will not do, being narrow and indented.—*J S and Sons.* Quite shrivelled up when received. *J E.*

Pansies: *Disappointed.* But few of the first or early blossoms will come "well laced;" many will not show their margin colours at all until the plants are in good growth and well established, the white selfs mostly at this early date come splashed; as do also the yellow selfs, but with a little sun and warmer weather you will doubtless soon see them in their "true colours." Do not "stop" the main branches, remove only the weakly laterals, and, for a time, at least all the flower buds before they expand; do not keep them close, on the contrary, constantly give them air. *J E.*

Polyanthus: *R E.* Gainsbro', stout, smooth, and of rich crimson, with regular and well defined lacing; the yellow, however, wants purity and brightness; truss of seven pips below average size. *J E.*

Roses: *J C.* We are glad you have been induced to follow our recommendation so far. Of the hundred planted you may expect one or two to die, but your nurseryman may possibly be willing to replace them in the autumn. *J E.*

Miscellaneous.

Preservation of Fruits by Steam.—The heat of steam destroys the ferment in fruits, so that they may be preserved for a long time. To learn when this point has been reached, it is necessary to know how high the temperature rises in the fluid enclosed in the bottles, when they stand shut up in a room the atmosphere of

which has been heated to 184° Fahr., and to learn the time requisite as well as the degree of heat which is necessary for the destruction of the ferment. In no instance the fluid contents of the bottles which were placed in the steam-room reached the temperature of their surrounding atmosphere, until they had stood, at the very least, an hour in it. In glass bottles, the influence of the heat was quicker than in stone-ware. From the commencement of the operation, that is, when the fire is first applied to the steam apparatus, nearly half an hour is required before the temperature of the steam-room is reached by the contents of the bottles, when they hold about two pints, and are made of glass. When made of stone, double that time is necessary. These results arise from each kind of vessel requiring a different quantity of heat to raise it to the temperature of the steam-room; consequently, the steam-room does not arrive at a temperature of 184° with the same quantity of fire with each kind of vessel. When this temperature has been reached in the steam-room, the contents of the glass bottles will be at 164°, and those of the stone-ware ones at 86°. Mayet's researches show that fruits and their juices do not require a temperature of 212° Fahr. to preserve them, and that 184° is sufficient to destroy their ferment, but that care must be taken to ascertain that the contents of the vessels have really reached this temperature. *Annals of Pharmacy and Practical Chemistry.*

Grapes.—There is a new sort of Grape from Texas, called the Mustang, which is said to be very valuable for grafting others upon. One Captain Hutch engrafted an English variety on the Mustang, and so great was the life and vigour infused into the young graft by the parent stem, that, in the course of one season, it entirely covered a large Oak tree. The young Vine bore the first season at least 500 bunches of Grapes.—*Report of Commissions of Patents in United States for* 1848.

Calendar of Operations.

(For the ensuing week.)

PLANT-HOUSES.

Proceed with the staking and tying out of plants requiring such assistance; but if our former directions are carried out relative to growing plants with short-jointed wood, a good deal in the way of stakes may be dispensed with, although *some* will be necessary to give the plant its desired shape; but on no account use more than will effect that purpose. Turn each plant frequently round, that it may not become one-sided. The greatest care will be requisite to prevent soft-wooded stove plants from drawing; as these will now be making rapid progress, they should have a large share of light, using shade only during the middle of the day. Some of those potted early may now require a second shift; in this, however, the cultivator must be guided by the requirements for which the plant is grown. Take every opportunity of keeping down insects, by fumigation and the active use of the syringe; but in this avoid injuring the foliage of newly-formed large-leaved plants, which is sometimes done by a careless workman in syringing them. Hard-wooded plants should be frequently examined in respect to their drainage. At this season many of them are either in bloom (as most of the New Holland plants), or approaching that state, and will consequently require a larger quantity of water, more especially large specimens not shifted since last season. It will hence be obvious that if the drainage is imperfect, or, on the other hand, the entire mass of roots does not get equally moistened, the death of the plant must soon occur from one or other of the above causes; and hence the necessity of paying attention to this important point—the more valuable, because the most delicate plants are the first to suffer. The cuttings we advised to be struck, for a stock of winter-flowering plants, will now require potting off. As it is not desirable these should be grown to a large size, keep them rather short of pot room; a hot-water pit will answer best for growing these and similar things. The plants can then be brought close up to the glass, and, by a little attention, will form stout bushy plants, with well-ripened wood, by the autumn, and which may then be brought into bloom at pleasure.

FORCING DEPARTMENT.

Vinery.—As the cold weather has returned to us again, the border of the early house should be examined; for at this critical time any check to the roots would prove injurious to the crop. If the heat has sensibly declined, add sufficient new material to cause a gentle renewal; at this season a small addition will suffice for this. These remarks will apply equally to the second house, as, when once excited, the roots must be kept in progressive action. Proceed with thinning out the crop in the succession houses; this should at all times be done with especial reference to the age and constitution of the Vines; and therefore, though no certain rule can be safely laid down to regulate the weight of fruit each Vine should carry, it will be wise at all times to leave too few, rather than too many. We have seen one heavy crop ruin young Vines for several years; and much caution should be used for the first two or three years of their bearing. With Muscats, in particular, this should be observed, as they show profusely, and their foliage being smaller than some kinds of Grapes, they are less able to carry a heavy crop till they get well established.

Strawberries.—As the first crop is removed, bring on the next in rotation, and place an equal number in a dung frame or pit, to forward them on. A good quantity of the British Queen should now be brought into work; for, although it is not so valuable for the first crop as Keens' Seedling, and takes longer time to ripen, yet, when well done, there is nothing so fine; and it will be found as good a setter at this time, and onwards through the season, as any of the other kinds. Melons have evidently felt the cold weather, particularly those in common frames; in pits they are better, but not what they should be; do not allow them to set any fruit, till the plants have grown to a good size, and have formed a good stock of healthy leaves, as neither the fruit nor plants will thrive at this season, if allowed to bear with a scanty crop of foliage. In whichever way they are grown the heat must be kept to the proper standard—70°, or thereabouts by night, increasing 10° or 15° by day, and ventilation should be kept up night and day, particularly in dung frames; light, at this season, to Melons, is essential, and should be made the most of; prepare beds for future crops. Cucumbers, which are in good bearing, will be benefited by watering with weak manure water; keep the Vines in a regular state, by frequently looking them over; both the latter and Melons will require daily attention, that no large quantity of shoots need require to be removed at once—an injurious practice.

FLOWER GARDEN AND SHRUBBERY.

In the following remarks on the most select plants for grouping, we shall only notice a few, leaving those more commonly grown for the purpose out of the question. Taking the Phlox, which we should like to see more frequently, Omniflora magna makes a fine white bed, blooming through the season; and from the many varieties raised from Drummondi and the late blooming herbaceous sorts, a selection may be made of some beautiful things for our purpose. Among Salvias, patens will always be in request, for its decided colour; and cærulea compacta, though less showy, is perhaps as useful. Most of the varieties of Pentstemon gentianoides are handsome, Buckii, Clowesii, and Formosus especially so, while P. speciosus is a good pale blue variety; azureus is too scarce at present for bedding. Cuphea platycentra and strigulosa splendens are neat compact plants, more adapted for baskets, &c., than beds; some of the new French seedlings are pretty, and will prove useful—Heliotropium Gem, Corymbosum (new), and Souvenir de Liége, will supersede the older kinds. Kalosanthes coccineus, &c., are unequalled for brilliancy of colour, and are equally adapted for beds or vases, where they are very striking. Euthales microphylla is a useful plant for vases or large baskets, from its diffuse habit. Linum flavum, when properly managed and covered with its golden yellow blossoms, is a fine object. Oxalis floribunda makes a pretty edging or small bed; and Bowieana is very showy through the autumn, and easily managed. Snapdragons are now so numerous that names are out of the question—many of them form showy beds; the same may be stated of Alstrœmerias, of which the Ghent seedlings are easily managed, and are distinct and showy. Dianthus fulgens, a rich crimson, is fine, and there are others equally good, not forgetting superbus, which should always be grown for its fragrance. Delphinium Barlowii and grandiflorum, when pegged down close, make good plants for deep blue beds. We must not forget the rather new Dielytra spectabilis, which, when planted out, is one of the gayest things grown, blooming freely through the season. Cuttings struck now will make nice blooming plants for autumn flowering, and a stock of this useful plant for all purposes should be obtained without delay.

FLORISTS FLOWERS.

Hollyhocks which have been recently planted, will require a fair supply of water, should the dry weather continue. Cuttings may be taken from old plants; these strike root readily now, if inserted firmly in river sand, and planted on a shady border. We should allow three shoots to remain for blooming when the plant is strong.—Hailstorms may be expected, therefore all Tulip beds worth the trouble should be covered with net. Auriculas require just now very great attention; if for exhibition, carefully inspect the growing truss. Some little judgment will be requisite in thinning out the pips, so as to retain those which will expand together. Avoid by every means possible the chance of having the stems drawn; abundant air will be necessary, and an occasional watering of very weak liquid manure, made with sheep's dung, will be found beneficial. Carnations and Picotees being all potted, insert the sticks to which they are to be attached forthwith.

KITCHEN GARDEN.

As soon as the principal crops are in the ground, and the main quarters have got their supply of dung wheeled in, to serve for the season, as we formerly directed, proceed to make good any part of the edgings not in order; either (supposing they are Box) by taking the whole up and re-planting it, or filling up such blanks as may have occurred in it during the last season. Thrift and other similar things require taking up and re-planting every two or three years. Although Box edgings look neat, and help to set off a kitchen garden, yet, as forming a harbour for slugs, &c. (always an objection), and the annual repair which, even with the best care, Box always requires, we decidedly prefer stone or earthenware for bordering; which, though more expensive in the first place, will in a few years repay for the additional outlay, besides the appearance of stability which stone edgings give to the walks. After the edgings (whatever they may be) are put in order, turn over or re-gravel the walks; and after rain let them be well rolled till they again become firm; the garden will then present through the season a clean, well-regulated appearance—premising the quarters as well as the minor paths and alleys are kept in an equally tidy state—for which purpose place scrapers at each intersection of the paths or walks; or in fact, wherever necessity points out their use.

State of the Weather near London, for the week ending April 8, 1852, as observed at the Horticultural Gardens, Chiswick.

April.	Moon's Age.	Barometer.		Temperature.					Wind.	Rain.
				Of the Air.			Of the Earth.			
		Max.	Min.	Max.	Min.	Mean	1 foot deep.	2 feet deep.		
Friday.. 2	13	30.303	30.270	52	25	38.5	42	41½	N.E.	00
Satur.. 3	14	30.326	30.246	51	29	40.0	42	42	E.	00
Sunday.. 4	15	30.156	30.147	50	30	40.0	41	41½	S.E.	04
Monday 5	16	30.146	30.099	58	28	43.0	41½	41½	N.E.	00
Tues.. 6	17	30.146	30.111	57	39	48.0	42	42	N.E.	00
Wed.. 7	18	30.218	30.150	50	41	45.0	42½	44	N.E.	00
Thurs.. 8	19	30.270	30.232	54	28	41.0	43	42	E.	00
Average	.	30.223	30.179	53.1	31.3	42.2	42.0	42.1		04

April 2—Fine; dry haze; clear; frosty.
— 3—Slight fog; dry haze; fine; clear.
— 4—Slight haze; uniformly overcast; clear at night.
— 5—Overcast, fine; hazy at night; frosty.
— 6—Hazy; fine; cloudy at night.
— 7—Cloudy; densely clouded; overcast.
— 8—Cold and dry; clear; frosty at night.
Mean temperature of the week, 4 deg. below the average.

State of the Weather at Chiswick, during the last 26 years, for the ensuing week, ending April 17, 1852.

April.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds.							
						N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 11	54.8	35.6	45.2	14	0.51 in.	2	6	2	1	4	7	3	3
Mon 12	55.4	37.9	46.7	18	0.56	1	6	3	—	2	8	1	4
Tues. 13	55.6	35.6	45.6	11	0.45	2	5	—	3	2	6	1	7
Wed. 14	56.5	38.0	47.3	11	0.21	2	4	4	1	4	6	1	4
Thurs. 15	57.5	39.4	48.4	16	0.47	6	6	3	1	2	4	2	2
Friday 16	56.3	37.2	46.7	12	0.46	6	5	4	2	2	4	1	5
Satur. 17	57.0	34.2	46.6	13	0.32	3	5	2	1	3	4	5	3

The highest temperature during the above period occurred on the 17th 1844—therm. 71 deg.; and the lowest on the 16th, 1847—therm. 20 deg.

Notices to Correspondents.

Asparagus: *D.* The proper way is to salt in March, making the beds quite white; and again in July. ‡

Books: *J E.* We have no means of assisting you. Since Messrs. Lawson cannot supply you with their catalogue, we have no idea who else can. ‡—*P.* "The Tree Rose," or Rivers' "Rose Amateur's Guide." ‡—*S M E.* Gardiner's "Lessons on British Mosses," and the same author's "Dried Cryptogamic Plants."

Cacti: *L A L A.* About the beginning of August is as good a time as any for grafting them. Cut the lower part of the grafts wedge-shaped, and insert them in the angles or top of the stock. Fix them in their places, tie a little moss round them, and keep them in a shady damp house, for ten days or so, till they have taken. ‡

Fences: *J W R.* They must be made to keep out sheep as well as cattle. The former are as apt to injure the stems of trees as the latter. ‡

Greenhouse: *Grateful.* In the case of a lean-to house you cannot have a better stage than one the entire length of the house, and made so as to range from front to back. Since you want a border in front for climbers, the flue had better be placed under the stage; but it should be as near the front as is convenient ‡

Heating: *C S.* Some of the recently constructed gas stoves seem likely to answer for heating small places. But it will be necessary to adapt to them an evaporating vessel, such as a pan filled constantly with water, or they will render the air too dry. We never recommend tradesmen; it would be unjust to do so.

Hygrometer: *E M.* In order to render Mason's hygrometer useful in testing the moisture of the air in a house, you should procure the Hygrometrical Tables calculated by Mr. Glaisher, of the Royal Observatory, Greenwich. In these, look for the temperature of the air of the house as indicated by the dry-bulb thermometer; and in the same table, opposite the temperature, as indicated by the wet bulb, you will find the degree of humidity. If this is below 0.500, the air of your house is then parching for vegetation. ‖

Liquid Manure. We have received from a Scotch correspondent a singular communication, alluding to something that appears to have been said in our columns. But he has omitted to say what that is, and we have no inclination to search for it. If he means to assert that liquid manure has a better effect if applied when plants are at rest than when they are growing—why all we can say is that we entirely differ from him.

Names of Plants: *S M E.* Chrysosplenium oppositifolium.—*H L.* Double Jonquil.—*B J.* 1. Adiantum Capillus-Veneris, L. 2. A. assimile, Sw. 3. A. æthiopicum, L. 4. Nephrodium molle, Schott. 5. Selaginella, most probably denticulata, but specimen too small and imperfect to decide upon. *S*—*Gallicus.* The seed-vessel of some Martynia, probably M. diandra.—*J P.* 2. Polygala Dalmaisiana. 6. Some Eucalyptus, not in a state for exact determination; perhaps E. pilularis. 5. Goldfussia anisophylla. 4. Myrsine africana. 3. Polygala grandiflora. 1. Hermannia alnifolia.—*H.* Not determinable It looks like C. torulosa. Is the other by the side of it named rightly?

Pine Apples: *Inquirer.* Over watering, either with common water or liquid manure, would cause the evil of which you complain. Too low a temperature would also accelerate the mischief. ‡

Rock Plants: *L R.* Aubrietia deltoidea, Arabis alpina, Erinus alpinus, Alyssum saxatile, Draba aizoides, Sempervivum arachnoideum, Sedum anglicum, and others.

Smilax aspera: *P.* It never fruits in England. It wants a higher summer temperature than our climate affords. ‡

Vines: *J W R.*—We regret to say that your inquiry is unintelligible. What is an "elkey slate?" You do not say one word concerning the nature of the ailment which disturbs you. For anything in your letter the Vines may be healthy and you ask us how to cure them. To cure them of what?

Misc.: *Const. Reader.* We have no idea what can cause the blooms to drop off the plants you mention, unless the house or soil are too dry. ‡—*Sheffield.* Wire fencing, which you may make yourself, will be found the best and cheapest for your purpose. ‡—*P P.* Bamboos such as you inquire about can sometimes be purchased at the East India and London docks. Any shipping agent, we should think, could put you in the way of obtaining it. ‡—*Clericus.* Yes.

Erratum: In Mr. Walker's Advertisement of Eggs, inserted last week, the price for the first-mentioned fowls' eggs should have been 3*s.* 6*d.* a set of 13, instead of 2*s.* 6*d.*

*** As usual, many communications have been received too late, and others are unavoidably detained till the necessary inquiries can be made. We must also beg for the indulgence of those numerous correspondents, the insertion of whose interesting contributions is still delayed.

PERUVIAN GUANO.

CAUTION TO AGRICULTURISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

ANTONY GIBBS AND SONS, AS THE ONLY IMPORTERS OF PERUVIAN GUANO,

Consider it to be their duty to the Peruvian Government and to the Public again to recommend Farmers and all others who buy to be carefully on their guard.

The character of the parties from whom they purchase will of course be the best security, and in addition to particular attention to that point, ANTONY GIBBS AND SONS think it well to remind buyers that—

The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 9l. 5s. per ton, less 2½ per cent.

Any resales made by dealers at a lower price must therefore either leave a loss to them, or the article must be adulterated.

THE LONDON MANURE COMPANY offer the following Manures on the best terms, warranting every article strictly genuine:—Peruvian Guano, Superphosphate of Lime, Nitrate of Soda, Concentrated Urate, Peat Charcoal, Gypsum, Fishery Salt from Cornwall, also a constant supply of Salt for agricultural purposes; Linseed and Rape Cake. Peruvian Guano, warranted the genuine importation of Messrs. A. Gibbs and Sons, at 9l. 10s. per ton, or for 5 tons and upwards, 9l. 5s. in Dock. EDWARD PURSER, Sec.
40, New Bridge-street, Blackfriars.

MANURES.—The following Manures are manufactured at Mr. LAWES's Factory, Deptford Creek:

Turnip Manure, per ton	...	...	£7 0 0
Superphosphate of Lime	...	...	7 0 0
Sulphuric Acid and Coprolites	...	...	5 0 0

Office, 69, King William-street, City, London.

N.B. Peruvian Guano, guaranteed to contain 16 per cent. of Ammonia, 9l. 10s. per ton; and for 5 tons or more, 9l. 5s. per ton, in dock. Sulphate of ammonia, &c.

TO AGRICULTURISTS.

OWEN'S ANIMALISED CARBON is now for Sale, at 2l. 5s. per ton in bulk.—This Manure has been introduced, with the most beneficial results, at St. Croix and the Mauritius, in the growth of the Sugar Cane, as proved by testimonials from the planters. The powerful fertilising properties of the Carbon have long since been acknowledged in Denmark, where it has been extensively used for agricultural purposes, as no less than 26,000 tons have already been sold. It is ready for immediate use, having no occasion to be ground, is equally as portable and diffusible as bones, and the low price at which it can be sold in this country must always be a paramount recommendation. *A liberal Commission allowed to Dealers or Agents.* For copies of the testimonials of its utility in this country, also for samples, apply to J. OWEN and Co., 3, Rood-lane.

Messrs. J. OWEN and Co. are now importing from their Copenhagen Manufactory SUPERPHOSPHATE OF LIME, of the very best description, containing at least 18 per cent. of Neutral Soluble Phosphate of Lime, and capable of furnishing at least 3 per cent. of Ammonia to the Soil. The "Analysis" is made by Professor J. THOMAS WAY, Consulting Chemist to the Royal Agricultural Society. The price, in London, of this powerful Manure, is 7l. per ton, cash, or Banker's Bill on London.

FOSSIL BONES AND PSEUDO-COPROLITES.

(FROM THE SUFFOLK CRAG).

EDWARD PACKARD AND CO., of Ipswich, having erected very powerful Machinery for the purpose of reducing these Phosphatic Nodules to a fine Powder, and being in the immediate locality of where they are found, are now prepared to supply them on the most economical terms, in any quantity, either Ground, Whole, or Dissolved in Acid. They form the cheapest source of Phosphate of Lime in the market, and are peculiarly eligible for manufacturing Superphosphate of Lime in conjunction with Bone.

Prices and every information connected with their use forwarded on application to EDWARD PACKARD and Co., Artificial Manure Manufacturers, Ipswich, Suffolk.

MANURE DEPOT.—PEAT CHARCOAL.

TO FARMERS, AGRICULTURISTS, AND OTHERS.

G. H. FOLEY, Essex Coal Wharf, Lea-bridge, Middlesex, Agent to the Irish Amelioration Society for the sale of the above. All needful particulars will be given on application at the above address.

Price of the unmixed Charcoal, 55s. per ton, sacks included. Mixed with Nightsoil, 50s. per ton, sacks included. Mixed with Urine, 70s. per ton, sacks included. Carriage to any of the Wharfs or Railway Stations, from 3s. 6d. to 5s. per ton extra, according to distance.

FOR PUBLIC SALE.

GUANO.—On MONDAY 19th April, 1852, at 2 o'clock precisely, at the London Corn Exchange Tavern, Mark-lane. By order of Messrs. ANTONY GIBBS AND SONS, the Importers, about 3000 Tons damaged PERUVIAN GUANO. —Catalogues and further particulars in due time from J. A. RUCKER and BENCRAFT, Brokers, 26, Commercial Sale Rooms, Mincing-lane.

CHARCOAL AND SEWAGE MANURE.—Promote the Health and Wealth of Town and Country by increasing the use of that valuable Manure PEAT CHARCOAL, impregnated with the fertilising matter of LONDON SEWAGE. The ammonia, phosphates, and fæces are absorbed, and the water pressed out bright, palatable, and soft.

Sold at the Charcoal and Sewage Works, Stanley Bridge, Fulham, Middlesex, at 60s. per ton, 4s. per cwt., 2s. 6d. per half cwt.

WATERPROOF PATHS.—Those who would enjoy their Gardens during the winter months should construct their Walks of PORTLAND CEMENT CONCRETE, which are formed thus:—Screen the gravel of which the path is at present made from the loam which is mixed with it, and to every part of clean gravel add one of sharp river sand. To five parts of such equal mixture add one of Portland Cement, and incorporate the whole well in the dry state before applying the water. It may then be laid on 2 inches thick. Any labourer can mix and spread it. No tool is required beyond the spade, and in 48 hours it becomes as hard as a rock. Vegetation cannot grow through or upon it, and it resists the action of the severest frost. It is necessary, as water does not soak through it, to give a fall from the middle of the path towards the sides.

Manufacturers of the Cement, J. B. WHITE and SONS, Millbank-street, Westminster.

WINTON'S PARKES' NEW STEEL DIGGING FORKS never bend, strain, or break, but retain their sharp points to the last, requiring no repair. Mr. Mechi says, "They answer admirably in breaking our heavy clays, and mixing the soil in an extraordinary manner, and facilitate labour quite 20 per cent."

Early orders are requested, as the demand is very great. They are executed in the rotation in which they are given.

BURGESS and KEY, Agents, 103, Newgate-street, London.
Priced Lists sent on application.

PRIZE MANGOLD WURZEL.—The quality of a crop of Mangold Wurzel depends very materially upon the size and the shape of the bulbs from which the seed is saved; and we have, after several years' selection, obtained a very superior stock of the YELLOW GLOBE-SHAPED MANGOLD.

We are daily receiving orders from customers, desiring us to send the same sort as last year; and a Clergyman writing from Ripon, Yorkshire, says—"*I enclose you a list of the Prizes which I obtained, mostly from your seeds. The Mangold was the best I ever saw.*" And a gentleman writes from Torquay—"*I had a splendid crop of each sort of Mangold, but the Yellow Globe are the best. My neighbours all ask me where I procured my seed, so you may expect many orders from this part.*"

We have also good stocks o Long Red, Red Globe, and Long Yellow. Price of either sort, **8d.** or **6d.** per lb., IN SMALL QUANTITIES OF NOT LESS THAN 28 LBS.

Also, TRUE LARGE WHITE BELGIAN CARROT, **9d.** per lb., or **60s.** PER CWT. IN QUANTITIES OF NOT LESS THAN 28 LBS.

Carriage free as see our Advertisement in the GARDENERS' CHRONICLE *of 20th March.*

*** *Instructions on the Cultivation of Root Crops will be enclosed in each parcel.*

JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

IMPROVEMENT OF PARKS, MEADOWS, AND PASTURES.

SUTTON'S RENOVATING MIXTURE consists of true Perennial Grasses and Clovers of the most nutritious kinds, viz.:—

Poa pratensis	Phleum pratense
,, trivialis	Avena flavescens
Festuca pratense	Trifolium repens
,, ovina	,, minus
Lolium perenne	,, pratense perenne
Anthoxanthum odoratum	

Great improvement is invariably effected by sowing 6, 10, or 12 lbs. to the acre, according to condition of pasture, over the old turf during the month of April.

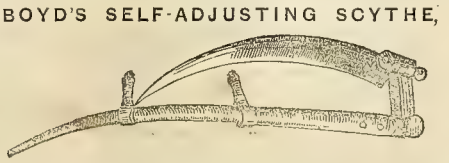
Price 10d. per lb., carriage free, as see our Advertisement in the last page of the *Chronicle* of March 20.

JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

M'CORMICK'S AMERICAN REAPER.

BURGESS AND KEY, Agents, 103, Newgate-street, London.—Extract from Mr. Pusey's Report on the Agricultural Implement Department, Great Exhibition.—"Mr. M'CORMICK'S Reaper, in this trial, worked as it has since worked at Cirencester College, and elsewhere, to the admiration of practical farmers, and therefore received a Council Medal. Mr. Hussey's sometimes became clogged, as in the former trial at Tiptree, and therefore could not possibly obtain that distinction."—Price of Reaper, 25l.

BOYD'S SELF-ADJUSTING SCYTHE,



APPROVED BY PRINCE ALBERT, AND UNIVERSALLY RECOMMENDED BY PRACTICAL AND SCIENTIFIC MEN.

THIS SCYTHE, when out of use, shuts up like a knife. It can be adjusted to any angle in one minute (even by persons quite unused to the implement), without the assistance of blacksmith or forge. It may be used by amateurs as well as regular labourers, without fear of accident or injury, thus rendering Mowing an easy, safe, and economical operation.

To be had of all Ironmongers, Nurserymen, &c., in the Kingdom; and Wholesale and Retail at WM. DRAY and Co.'s Agricultural Implement and Machinery Warehouses, Swan-lane, London Bridge.—A liberal discount allowed to the Trade.

IMPROVED GRASS CUTTING & ROLLING MACHINE.

UNDER ROYAL PATRONAGE.

ALEXANDER SHANKS AND SON, MACHINE MAKERS, Arbroath, Forfarshire, respectfully solicit notice to their Improved GRASS CUTTING AND ROLLING MACHINE for LAWNS, the complete success of which, and its acknowledged excellence and superiority over all other Machines of the kind, has now been fully confirmed. Testimonials and further particulars will be immediately franked on application.

AGENTS, for London: Messrs. J. and C. Lee, Nurserymen and Seedsmen, Hammersmith; Hertford: Mr. George Folkard, Ironmonger; Liverpool: Messrs. Charles D. Young and Co., Castle Buildings, Derby-square; Sheffield: Mr. J. Law, Curator of the Botanic Gardens; Chester: Messrs. F. and J. Dickson, Nurserymen and Seedsmen; Glasgow: Messrs. Chas. D. Young and Co., 32, St. Enoch-square; Edinburgh: Messrs. Chas. D. Young and Co., 48, North Bridge; Perth: Messrs. Dickson and Turnbull, Nurserymen and Seedsmen.

BUDDING'S LAWN MOWERS.

MR. SAMUELSON, Britannia Iron Works, Banbury, Oxon (successor to the late James Gardner), to avoid the disappointment experienced last season, as regards their delivery, will feel obliged by orders for the above machines, and for GARDEN ROLLERS, being given as early as possible.

Delivery free to all places on the London and North-Western, and Great Western and Midland Railways.

Drawings and price lists forwarded on application.

MILK, CHEESE, AND BUTTER.

HENRY BAKER, OPTICIAN, 90, Hatton Garden, London, advises any one who keeps Cows to send two postage stamps, and obtain a description of his LACTOMETER, with its uses, and the results of experiments with it upon different Milks. Lactometers, complete, in a mahogany box, 10s. 6d.; Do., with cheaper fittings, 7s. 6d. and 5s.; Hydrometers for testing sulphuric acid, 5s., 7s., and 10s. No consumer of acid should be without one, as it is often sold highly diluted. Saccharometers for Brewing, with tables, 5s., 7s., and 10s. Pediment Barometers, from 1l. each. Wheel Barometers, from 1l. 1s. each. Packed carefully for the country, there being nothing to fear of them getting out of order, as they are warranted to be properly made and good instruments.

TURNIP SEED FOR SALE.—Thirty bushels of Skirving's Purple-top Swede, at 15s. per bushel; 30 ditto of old Purple-top ditto, at 14s.; 15 ditto of Green-top Yellow Bullock, at 16s. The whole is of the growth of 1851.—Address Mr. BRYAN CLARK, Farmer, Tuxford, Notts.

MORTON'S YELLOW GLOBE MANGOLD.

WILLIAM E. RENDLE AND CO. *have purchased a very superior Stock of Seed, saved by J. C. Morton, Esq., of Whitfield, Gloucestershire, which is now offered by retail, at 10d. per lb.*

All other kinds of Agricultural Seeds can be obtained, of the best and most genuine quality, at the lowest market prices.

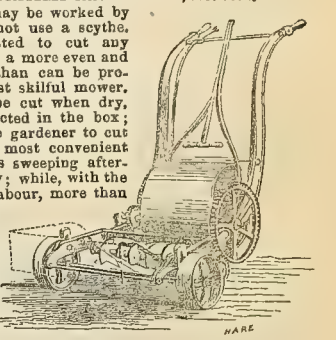
WILLIAM E. RENDLE and Co., Seed Merchants, BY SPECIAL APPOINTMENT, to the South Devon Agricultural Association, and the Royal Agricultural Society, Prince Edward's Island.

MANUFACTURED SOLELY BY

JOHN FERRABEE AND SONS,

PHŒNIX IRON WORKS, NEAR STROUD, GLOUCESTERSHIRE.

BUDDING'S LAWN MOWING MACHINE,
WITH REGISTERED IMPROVEMENTS, No. 3074.



This Machine may be worked by persons who cannot use a scythe. It can be adjusted to cut any length, and leaves a more even and uniform surface than can be produced by the most skilful mower. The Grass may be cut when dry, and may be collected in the box; which enables the gardener to cut his lawns at the most convenient time, and renders sweeping afterwards unnecessary; while, with the same amount of labour, more than double the quantity of work can be done than with a scythe. It is very durable, easily sharpened and kept in order, and its management is extremely simple.

J. F. and SONS, who were the sole Manufacturers of BUDDING'S MACHINES under the Patent, and who have produced and sold nearly 4000 of them, have this year increased their efficiency and perfected their operations, by improvements which are protected by Registration. The Improved Machines, in addition to the Registration Number—3074, have the name, "J. FERRABEE & SON," cast on the frame; and none should be purchased without this guarantee.

Hand Machines are made of three sizes—cutting the several widths of 16, 19, and 22 inches. The smallest may be worked by one man; the others require the assistance of a strong boy.

Horse Machines are made of two sizes; one cutting 30 inches and the other 36 inches wide.

PRICES:—

16-inch Machine ...	£5 10 0	22-inch Machine ...	£6 0 0
19-inch ,, ...	6 0 0	30-inch ,, ...	13 0 0
36-inch Machine ...	...	£15 10 0	

THE PRIZE MEDAL OF THE GREAT EXHIBITION was awarded to Mr. MILTON, for his Improved COTTAGE BEEHIVE (straw), the only British Beehive for which a Prize Medal was awarded. It is of simple construction, ornamental, and so easily managed that the most unskilful can with safety obtain a large quantity of pure honey without killing the bees; price complete, 10s. 6d. They are made with extra fittings and boards, 18s. 6d. the set.

Also may be had "MILTON'S Practical Bee-keeper," new edition, price 2s.

Ditto, with Illustrations, 2s. 6d.

Ditto, Sheet of ditto, free by post, 8d.

At MILTON'S Beehive and Honey Warehouse, 10, Great Marylebone-street, Wimpole-street, London.

BEE HIVES.—A NEW AND EXTENSIVE SELECTION OF THE MOST APPROVED KINDS.—A detailed Catalogue, with Drawings and Prices, sent on receipt of Two Stamps. GEORGE NEIGHBOUR and SON, 127, High Holborn, London.

"In noticing the hives exhibited in the Crystal Palace, first and foremost, in my opinion, stands Mr. Taylor's Eight-Bar Hive, and Messrs. Neighbour and Sons Improved Cottage Hive, both exhibited by Messrs. Neighbour."—*J. H. Payne.* (See the "Cottage Gardener," Nos. 169, 170).

AGENTS.—Liverpool: Wm. Drury, Castle-street. Manchester: Hall and WILSON, 50, King-street. Glasgow: Austin and McAslan, 168, Trongate. Dublin: J. Edmondson and Co., 61, Dame-street.

PETTIT'S ROYAL EXHIBITION TEMPLE BEE-HIVES, as exhibited in Class IX., No. 92, are constructed on a new principle, the result of long practical experience, and may be worked with safety, humanity, and profit by the most timid and unaccustomed to Bee-manipulation. The necessity of Swarming is obviated, and the drones are effectually excluded from the glass hives.

A Descriptive circular forwarded on application to W. J. PETTIT, sole inventor and manufacturer, Marine-terrace, Dover, and 24, Church-street, Shoreditch, London.

The Agricultural Gazette.

SATURDAY, APRIL 10, 1852.

MEETINGS FOR THE FOLLOWING WEEK.

WEDNESDAY, April 21—Agricultural Society of England.
THURSDAY, — 22—Agricultural Imp. Soc. of Ireland.

IN resuming the subject to which we referred in a late Number, we think it may be useful to consider whether those rules which govern the value of all other exchangeable commodities do not equally apply to LAND. Thus, if we were speaking of anything else, we should have no difficulty in laying down certain principles as sure guides to arrive at conclusions, the truth of which all would admit. Take, for instance, the produce of land, as corn. We know that the value of this article depends mainly on its supply and the demand for it. If there are a great many purchasers and but a small quantity to sell, corn rises; if there is abundance of corn to be had, and but few wish to buy it, the price falls.

Now apply these familiar rules to land, and observe their effect on its value. The number of persons owning land in England is notoriously exceedingly small. Their exact number cannot be told, but stop the first ten men in the street and ask them whether they are landowners, and they would probably tell you they were not and never expected to be. Ask them whether they are owners of stock in the funds, and they would say they were, or hoped to be. The state of the law has placed land out of the reach of the ordinary dealings of mankind. It is not a marketable commodity. It is, except under peculiar circumstances, a luxury. This is not because persons do not wish to possess it, but because it can only be obtained with such difficulty and with so much cost that few people take any trouble about acquiring it. The expense is not only great, but it is *uncertain*. The bill connected with it is not only a long one, but it is attended with so much mystery that, except under pressing and unusual circumstances, we decline to incur it. It is thus that land has ceased to be usually dealt in, and thus it is that the price is so low. It has been proved, by Parliamentary returns, that the great bulk of the funds is held by small owners: it is thus that the value is kept up. The state of the law on the other hand places land out of the reach of the great body of people who deal in other matters.

The effect of the present system, and here we again refer to Mr. Stewart, is to drive out of the market the greater part of the middle classes. So far as conveyancing is concerned (except, perhaps, in the ordinary transactions of a lease or a will), the solicitor gets nothing from the great bulk of the middle classes, who are in all other trades and professions the best class of customers. No man having 200*l.* or 300*l.* which he wishes to invest, unless he have land already, thinks of investing it in land. He is deterred mainly from this by the expense which attends the transfer to him. He can purchase 100*l.* worth of stock, and pay only half-a-crown; but if he buys land he does not know how much he shall have to pay. If it was only a little more, if the expense were defined, he would prefer land. It is more secure than stock, and it is more grateful to the ordinary feelings of human nature to possess land than funded property. The present expense attending the transfer of land, and that alone, prevents the gratification of those natural wishes; but it also excludes from the office of the solicitor his most valuable class of clients; the man of thousands can now afford to buy and sell land, the man of hundreds cannot; but for one man of the former class there are at least 20 of the latter.*

These considerations are practically set at nought in our dealings with land; and, however trite these remarks may appear, it is only necessary to recall them to our memory, to account for the difference between the value of land and of stock in the funds in this country. If the one could be transferred as easily, as safely, as cheaply as the other, it would soon be seen which was most esteemed—which was the most valuable. Can, then, land be made transferable as easily as stock, and how can this be done? To this part of the subject we shall return very speedily.

The object of Dairy farmers generally is to obtain both quantity and quality of milk, and to do so requires good cows and good keeping. To give plenty of good milk, the cow must have a good constitution, and to have this, a deep and broad chest is essential. Too many, in choosing a cow, only look at the hind quarters; but the food is not digested in the udder, nor the wants of the system supplied from that quarter. A cow should have plenty of lungs and room for them to play, with a sufficient supply of pure air, the latter being an essential ingredient; for the quantity of carbonic acid exhaled is large, consequently a large area of space is required before pure air can be had for the oxidation of the blood, so essential to the vitality of the system and the secretion of good milk. And the air must not only be pure, but of a proper temperature. Cows give richer milk in warm weather than in cold, and the reason is obvious; for, if all the fatty matter of the food is consumed in supplying the animal system with heat, it cannot be secreted in the udder. For the same reason, cows deficient of lungs generally either give thin milk or a very small quantity of it, and that too rather under ordinary quality. It will readily be perceived therefore that a large cow-house, properly heated and ventilated, is the next thing to a good cow to get plenty of good milk.

Milk is composed of five constituents—butter, casein, sugar of milk, various salts, and water; and the effect which different kinds of food have on these is to change their relative proportions. They have been stated thus—

	Butter.	Casein.	Sugar of Milk.	Salts.	Water.
In a normal state...	3.13	4.48	4.77	0.60	87.02
When fed on Beet...	2.75	3.75	5.95	0.68	86.87
When fed on Carrots	3.08	4.20	5.30	0.75	86.67

We thus see that food has a considerable influence on the quality of milk, in the same manner as it has on the quality of butcher-meat; and that much here will depend upon the constitutional character of the cow. But although this is the case, *yet such differences are much less appreciable by the taste than is generally imagined.*

Our next proposition involves the duties of the dairy, where cleanliness, as it is said, is everything; cleanliness, however, is in this instance unfortunately one of those cuckoo songs but little understood—one of those simple theories not so easily reduced to practice as many imagine, for it involves not merely clean utensils, and a clean dairy, but also a pure atmosphere; and not merely a pure atmosphere, but one of a proper temperature. The presence of caloric is just as necessary as the absence of dirt, and it is just as impossible for the farmer to procure a sufficiency of the former in a natural state or from the rays of the sun, as it is for town dairymen to present their customers with clean milk; for from the impurity of the atmosphere of all our large towns, it is of necessity always less or more contaminated with dirt, and dirt, too, of the dirtiest description. A dairy in the centre of a large town, is practically an anomaly not very easily reconciled with the theory of cleanliness.

Milk, although a very plain and nourishing article of food, is yet perhaps more easily contaminated by an impure atmosphere than any other. Unless to those who have tried experiments, it is scarcely credible how easily it is affected. It is not only so, but it is also peculiarly dependent on temperature, especially where butter has to be obtained from it. The cream suffers more than the other elements below it; the reason of which is no doubt accounted for from its greater exposure.

In order to prevent milk from being impregnated with noxious gases, saltpetre, sugar, and even common salt, are dissolved in it, the object of which is to close its pores, and thus exclude the atmosphere; as in the salting of butcher-meat. Other expedients are adopted by the application of heat in various ways. If, for instance, the vessel in which the cream is held is placed in hot water over night, a large amount of the noxious gases, from becoming rarified, are disengaged. In such cases a strong smell will be felt arising from the cream. This, however, is not the only advantage arising from the application of heat under this process—a process in operation from time immemorial—for it also predisposes, so to speak, a more perfect separation of the butter from the other elements, so that the balance of the injurious gases, not given off prior to and during churning, are now contained in the buttermilk so neutralised as scarcely to be detected. If the process has been successfully performed the buttermilk often partakes of the character of the summer season though in the depth of winter; the cows being fed on Turnips, as they are pulled from the field; and the mode of applying heat, as exemplified in the Devonshire plan of making butter.

That peculiar taste termed "Turnip taste" arises, we suspect, very often from cream being raised in an impure atmosphere, at too low a temperature, and is consequently a peculiar acidity of milk not yet satisfactorily investigated by chemistry. We arrive at this conclusion from a number of facts, a few of which we can only mention.

First, in certain dairies milk has this Turnip taste, whether the cows get Turnips or not. It matters not what they eat, whether Turnips, Swedes, Mangold Wurzel, Carrots, Potatoes, Furze, grains, or hay, the milk and butter are Turnip tasted, and were it possible to get the richest Clover of summer in a green state at Christmas, results would be the same.

Secondly, about 20 years ago, an experiment came under our notice somewhat novel in character. The dairy was a bad one, having a damp floor, and on the entry of a new dairymaid, the butter and cream became unfit almost to be presented at table, arising from the air in the dairy having become foul, and at too low a temperature. To convince the dairymaid of this, as well as to effect an immediate cure, the carpet was removed from a room, and the milk placed there for a time, when the Turnip taste disappeared at the very first churning. "Who would have thought that," said the dairymaid, as the surprise expressed told that one practical lesson had been worth a thousand homilies on the subject.

The last example which we shall quote is an excellent little dairy, with a still better dairymaid; but both were unfortunately located in a cloud of filth, arising from some dirty ponds with a long list of decomposing matters almost under the windows of the dairy; consequently, during close weather, the butter and cream were always bad. But no sooner were the ponds cleared, and the decomposing matter effectually removed, than a cure was effected.

Facts such as these are sufficient to warrant our conclusion, and instigate chemical inquiry.

Not only must the air in the dairy be kept pure and of a proper temperature for the preservation of the milk, but that of the cow-house also; for, as we have already seen while cows are feeding on Turnips, and for a short time after, they are literally surrounded by a cloud of pungent gas, arising from their breath and insensible perspiration, so that the milking of them should not take place until after they have done ruminating: in other words, they should be milked before being fed with Turnips, otherwise their milk must become inoculated with this pungent gas. The soundness of this conclusion has often been supported by experiments, conveyed to our columns by different practical parties; and now that we have got Turnip-cutters and bruisers, with steaming apparatus, &c.; the grand question which here presents itself for solution is this,—can those pungent and offensive elements of Turnips be neutralised, prior to their being given to cows? This is another chemical question, deserving of consideration; much has been done in the way of cooking food, but the practice is yet, after all, only in its infancy, and as varied as if cows were as peculiar in their dietetics as their owners.

Having run to greater length in our two first propositions than anticipated, space demands expedition on the last. Dairy produce maintains, we believe, a higher price than any other article the farmer sends to market. There is an important question here unnoticed, which we must postpone for future consideration. Meantime, railways have done much to enable inland farmers to send such produce to market on more advantageous terms than formerly, but still there is something wanting; quality is greatly injured, and complaints loudly raised, that with all his purer air and finer keep for cows, the inland farmer cannot enter into competition with the smoky, filthy dairies of our large towns. Why? This is just the simple question for solution: London dairymen tell us that they have taken farms a short distance out of town, in the hopes of getting a better article for their customers, but have failed!

* Suggestions as to Reform in the Law, p. 21, 2d edition.

ON STRAW AS A COMPONENT OF THE MANURE HEAP.

Being an occupier of land in a populous district where the greater proportion is in permanent Grass, meadows, and pasture, my attention has been given to the various modes now in use for economising and applying farm-yard manure. One conclusion I have formed is, that too much value is attached to the addition of straw to the manure heap, and that the prevailing notion that to buy on straw to be used solely as bedding for cattle—thereby becoming a component part of the manure heap—is adding to its value when intended for application as a top-dressing to permanent Grass land, is an erroneous one.

Without inquiring into the chemical properties of straw, or its value as manure, free from admixture of the solid or liquid excrements of cattle, we are not altogether without experience of its estimated worth. In the neighbourhood in which I reside, straw for bedding cattle fetches 2*l.* to 2*l.* 10*s.* per ton; yet old straw thatch, taken from houses or other buildings, is not thought worth the trouble of carting away, except by some farmer who having no tank for his liquid manure, and little straw of his own produce, carries it free of charge to his yard to form an absorbent for his liquid, which would otherwise run to waste; besides, it is no uncommon thing to see a great proportion of the straw left in the fields of our tenant farmers who are bound by their leases not to sell off any portion of their straw, in the shape of stubble a foot to 18 inches in length, yet the farmers do not urge as a plea for their slovenliness that by ploughing in their stubble they expect to enrich the land; indeed it is not uncommon to see them get as much of it together in a heap as they can conveniently, and set fire to it, thereby consuming a very, if not the most, appreciable portion of it—the carbon.

I proceed now to explain the grounds of the conclusion to which I have come. They are derived chiefly from the conviction that the solid and liquid excrements of cattle are applied with the greatest economy and effect in a fresh and green state, but that straw requires to be rotted by fermentation to render it applicable as a top-dressing to Grass land. Now it will be conceded that the process of fermentation evolves or throws off a considerable portion of the ammonia, a most valuable property of the manure heap; and though several appliances, the admixture of gypsum, sulphuric acid, &c., have been tried for the purpose of fixing this valuable property whilst acted upon by fermentation, yet, owing to their inefficiency or expense, these appliances are (as far as I can learn), not extending themselves. In addition to the waste of ammonia caused by fermentation, there is another serious objection to the

use of straw as a top-dressing to Grass land, in its being the means of detaining the manure with which it is mixed too long on the surface, thereby exposing it to drought and frost, which every one knows tend to weaken its properties. I have never known manure, with the usual admixture of straw, even when well managed and rotted, applied to Grass land, when it did not remain more or less visible for weeks, I may say months, and it would be singular if in this length of time dry or frosty weather did not intervene to damage and weaken it.

The most approved systems of economising manure appear to be by box feeding, and by using the straw for bedding chopped or cut into short lengths ; the object or tendency of both systems (if I apprehend them rightly), is to render the manure more solid, less pervious to the atmosphere, and obviating fermentation. If I am right in this, they strengthen and confirm my impression in favour of fresh or unfermented dung ; still inasmuch as the straw, though it may become thoroughly saturated with the excrements, will remain tough and sound, and on that account quite unfit for a top-dressing to Grass land ; if applied in this state, it would remain on the surface till it was washed by the rains and dried by the winds, a considerable portion of its valuable properties escaping, and if not cleared off by the rake—an operation by no means novel—it would mix with the Grass, and be found an impediment to the mower. Having explained the grounds on which I am opposed to the admixture of straw as a component part of the manure heap intended for Grass land, I propose (if my communications are deemed worthy of admission into your columns), to describe the mode I am now adopting to carry into operation the views to which I have arrived and endeavoured to explain, and I hope to show that the result has been successful. *T., March* 23.

BREEDING TROUT.

From facts which have come under my own observation, as well as from what I can gather from experienced fishermen, I have reason to think that the destruction of the ova of trout just when deposited by the parents, is very great, particularly in small brooks, which the trout are exceedingly fond of ascending previous to their spawning. No doubt a great many trout spawn in suitable places in the rivers in which they have lived during the summer, and of these, when spawning, I am not able to speak so decisively, but a large proportion ascend the small brooks and deposit their spawn in them, and of these I fear comparatively few are hatched, and as I think a little care and foresight would marvellously help them (I mean in brooks where they are protected from poachers), I make no apology for calling attention to the subject.

It is well known that all the Salmonidæ bury (or attempt to bury) their ova in the loose gravel of the streams in which they spawn, whilst grayling and other scale fish are content to deposit theirs upon the gravel without attempting to cover it up ; consequently, the first thing a pair of trout does when beginning to spawn, is to root up the gravel in the stream. This serves two good purposes ; one is, that all the mud and sand which was previously mixed with the gravel is carried away by the stream, and the gravel remains clean ; and the second is, that the loose gravel which remains serves, when properly prepared, as a safe hybernaculum, in which the spawn is secure from the depredations of small trout, loaches, bullheads, &c., which all prey upon it with the greatest avidity, and at such times if you catch them you will frequently find they are gorged to the throat with roe. After this gravel is loosened the female deposits her spawn in the loose gravel, and as the ova are very slightly heavier than the water, they roll down until they come to the interstices of the gravel, into which they penetrate as if they were alive, dropping down until they come to something like a solid bottom, where they are effectually secured from the small trouts and other fish which prey upon them, yet there are other enemies in the shape of water-lice and the larvæ of aquatic insects which can and do find them even there.

But now for the evil and its remedy, which we seem at present to have lost sight of. The small brooks, in which trouts spawn, are frequently so deficient in gravel that the trouts have great difficulty in finding spots where they can stir up as much gravel as will cover the ova when deposited, and when they have succeeded in doing this, and retire, there will come frequently another pair of trouts immediately after, and as they for want of conveniences of this kind are limited to few spots, they probably begin to stir up the gravel which had been used by the first pair of fish, and the consequence is that the spawn which lay there is disturbed ; it rolls away with the stream until it is carried below the loosened gravel, and lies on the surface of the hard bed of the brook below, a prey to anything that will eat it. The enemy is ever on the alert ; no sooner does a grain or two of this come within the scent of another trout than he rouses up like a wild beast at feeding time, and he will gorge himself (if he has the chance of doing so) up to the very throat, and in such situations a careful observer may generally find the small trouts which don't spawn (like waiters on providence) waiting just below the spawning beds, ready for every egg which rolls below the loosened gravel.

The remedy is very easy in such brooks. In each of the streams or in as many as it can be conveniently done, let a cartload of sharp pebbly gravel (varying in the size of the pebbles from a hazel nut to a pheasant's egg) be deposited, level it down with a spade so that the water will flow equably over it to the depth of 3 or 4 inches ; you will then have a spawning bed of the best kind, and you will find that the fish are not slow to avail themselves of the conveniences with which you have provided them. This ought to be done not later than the first week in October in most brooks, as trout in many districts are spawning very soon after this time.

Two or three years ago a gentleman of fortune in Yorkshire, who wished to stock a small lake he has with improved varieties of trout, wrote to me to request I would send an experienced and trustworthy person to him, as he wished to send him into various parts of the kingdom where the trout were celebrated for their size and flavour, that he might there obtain fertilised roe, for the purpose of replenishing his spawning boxes, and thus storing his lake with good trout. I accordingly sent him a man, every way qualified for such a mission, and furnished with credentials ; he obtained roe in various parts of the northern counties, which were duly hatched, when the proper precautions were taken, and from his mouth I gathered the following particulars :—

He said, "When I came near a spawning bed, I sometimes examined it to see how the eggs were going on. If I disturbed it too much, and the roe floated down the stream below the loose gravel, it was not two minutes before the little trouts began to come up to the tail of the spawning-bed, evidently on the look-out for spawn. In wading up the brooks with a light at night in search of spawning fish, wherever we found them we found the little trouts waiting below, some of which we caught, and found them in all cases with roe in them, in many instances full of it up to the throat. When I got back to Mr. —'s, I examined the feeder of his lake, and found trout spawning in no more gravel than I could hold in my two hands ; how could the spawn get covered in this little morsel, which, when one pair had spawned in it, was taken possession of by another pair? Indeed, in all the brooks I visited, I found a sad deficiency in this respect, and I am as certain as I am of my existence, that thousands upon thousands of the eggs which would otherwise hatch, are destroyed for want of gravel at the time of spawning. When I had seen how deficient Mr. —'s feeder was in gravel, I immediately directed two or three cart-loads to be put in the stream, and levelled down, and next morning I found 15 pairs of fish spawning in the new gravel."

These are facts which I submit to the consideration of gentlemen having trout streams, and I think the due observance of the few recommendations here made, and a strict look-out for poachers at the same time, will enable them to store their rivers and lakes with an abundance of these fine fish. No doubt some of your piscatorial readers will be able to offer additional suggestions which will be advantageous.

Sir George Mackenzie, and after him "Ephemera" (in his book of the salmon), says that the water-ouzel is very destructive to salmon and trout roe. If he has actually detected this in their crops, after shooting them, I can say nothing more ; but if it is supposed that this is the case because they are frequently seen on the spawning beds, I submit that the probability is that they are doing great good there instead of much harm, and that in all likelihood they were feeding on the water-lice and aquatic larva which generally swarm there, and which feed on spawn, whatever water-ouzels may do. I know that at other seasons water-ouzels feed on these aquatic larvæ, as I have had many opportunities of observing from a building overhanging a stream where they used to feed when they had young, and, notwithstanding Mr. Waterton has said that it is impossible for birds to walk at the bottom of the water because their bodies are of less specific gravity, yet I have seen them do so many a time. Mr. Waterton probably forgot that there is a great probability that birds can at pleasure exhaust the supply of air which pervades their bones, and other parts of the body. If they do this, may not the body be then heavier than the water ?

Salmon and trout can exhaust their air-bladders, in a great measure, as every one who has caught many very well knows. Their place in a pool is frequently betrayed by the air-bubbles which rise from them to the surface of the water, particularly after they have been chased for some time ; then, if they cannot get under a stone or root, they will lie as close to the bottom as they can ; and, as I suppose, to do this the more readily and effectually, they keep emitting bubbles of air from the mouth (belling, as the fishermen call it—the otter also, when hard hunted, frequently betrays his whereabouts in the same manner).

I have said that water-lice and aquatic larvæ prey upon the ova of fish, but it is not so easy to prevent their depredations as those of the small fish which also feed on the roe, because the lice and larvæ burrow in the gravel and penetrate wherever the roe is to be found. In very small brooks, where the trouts do not remain long after being hatched, these pests might be destroyed by quick-lime ; but the remedy is almost as bad as the disease, because every small trout remaining in the brook would be destroyed also. The best plan, no doubt, is to give the fish plenty of gravel to spawn in, and the ravages of one tribe of depredators (the fish) would be checked ; at all events, it is better that the game should be left to the weasels and polecats alone, rather than that in addition to these enemies, they should be preyed upon by foxes, cats, hawks, and carrion-crows.

I have called these little things water-lice ; but this is for want of a better name (not having a work on Natural History to refer to which enables me to give the proper one), but they are in appearance, or reality, fresh-water shrimps, and scud about in the water when disturbed pretty much in the same manner. The aquatic larvæ, which are most destructive, are what are known by anglers as creepers, and are the larvæ of the May fly (stone fly of the south of England), and those of the upright-winged flies, known as drakes, which in their turn serve as food for fish, are first-rate flies in the angler's estimation. The March brown, which is one of them, rises from the bottom of the water by myriads in sunny days in March and April, and is caught by the trouts as they rise. I have sometimes, when taking my hook out of the mouth of a large trout which had been feeding on these flies, seen him disgorge a mass of them almost as large as my thumb. It is a curious transformation which these creepers undergo, as without any chrysalis or dormant state they change almost in a moment from creeping at the bottom of the water to flying about in the air.

"Ephemera" says that salmon will not spawn in fresh gravel. I have never tried them by putting gravel in to tempt them, but I have already shown that trouts will do so, and salmon will certainly spawn in places where other salmon have done so previously, and in all such cases the gravel is as fresh as that would be which was poured into the stream from a cart ; for the salmon effectually stirs it up from the bottom, and generally the stream is so rapid that the sand and mud have no chance of subsiding, so that an experienced eye will detect where fish have been spawning by the freshness and brightness of the gravel.

I may take this opportunity of stating that I have now great hopes of breeding hybrids between the salmon and the trout. Some salmon roe fertilised with the milt of the trout in an artificial spawning bed I have had constructed, looks as fresh and promising as any roe I ever saw, and as it has been there six weeks, if it had not been fertilised it would have shown symptoms of decay. Besides this, the embryo is beginning to show itself in the shape of a bright red speck at one side of the ovum. If these ova hatch, I shall consider I have accomplished a great feat in fish breeding. *T. G.*

Home Correspondence.

The Weedon System of Husbandry.—The author of the "Word in Season" begs permission to reply, by request, through the pages of the *Agricultural Gazette*, to three questions proposed to him by a writer from Bruges, Belgium. 1st. "Can the Weedon system of husbandry be carried out on a field of 5 or 6 acres, without any horse service whatever ?" Undoubtedly. For five years it was so carried out by the author, as described in the early editions of the "Word in Season," and as repeated at the opening of the 8th. By means of a presser-drill, however, which sows an acre in 25 minutes, and of a roller and horse-hoe implement to follow, each implement taking two lands at once, there is an economy of labour to the extent of 20*s.* per acre. 2d. "The price and the particulars of these implements ?" Application, with reference to these points to be made, for the present, to W. Gascoigne, Weston-by-Weedon, Towcester. 3d. "In your opinion, supposing strong land well drained, should furrows be utterly done away ?" Certainly. For, though in Belgium, even when there is nothing but sand, they are maintained at intervals of 4 feet, on deeply-drained, double-dug land of any description furrows are useless, and even injurious.

Diggings by a Fen Farmer.—"I. A. C." appears to have overlooked or to be unacquainted with the large tracts of fen land around Boston, in Lincolnshire, called the East, West, Wildmore, and Holland Fens, as he speaks of Peat farms only in the fens. The fens alluded to were for the most part covered with water, and extensive decoys were made, the decoy-men realising a considerable revenue from the sale of the wild fowl taken therein. Large flocks of geese were also bred there, amongst the tufted Hassocks, rank Sedge, and tall withering Reeds. Miserable hovels here and there dotted this miserable and desolate landscape. What a change came o'er the scene on the enclosure of these fens : the lands were well drained, and divided into townships or annexed to the old parishes having rights of common therein, and are now subdivided by thriving quick hedges. The soil consists principally of stiff clay, and in favourable seasons produces heavy crops of Wheat, Oats, Beans, and seeds. In some seasons large fissures occur, occasioned by the saturation of the land for months together, followed by very dry weather, but generally those seasons are the most productive. Great improvements have been made within the last few years by the improvement of the black sluice drainage, and the underdraining with pipes of a considerable portion of the district. Perhaps "I. A. C." will include this district in his diggings. *C. P., Boston.*

The Floors of Piggeries.—I hear frequent complaints of the bad effects of wet in piggeries, and particularly to the young stock, and I have experienced the same inconvenience myself. When the floors are laid with bricks, the absorption and retention of moisture are so great as to be constantly injurious ; and the boarded floors, as recommended by Mr. Mechi and others, do not remove the evil. Have any of your correspondents succeeded in discovering the best flooring for this purpose ? Your readers would, I am sure, be glad to be furnished with the particulars of any experiments which have been made with cement, concrete, or other

materials. In piggeries of ordinary construction, is the frequent addition of straw cut short, after the manner of box-feeding cattle, or a constant change of bedding, found to be the best in practice? *W.*

Memoranda.—It would be a common advantage if all "Constant Readers" were to follow the example of "Delta, Hants," and contribute such memoranda as may be advantageous to their brethren. I cannot boast of a large stock, but on the principle of the smallest donation being thankfully received, I present such as occur to me. *Crib-biting.*—Having observed that horses always kept their necks straight when sucking the wind, I had the manger lowered so that the top should not be more than 1 foot 6 inches from the ground. I then placed the ring through which the rope runs so far from the partition, that the animal could not reach it, and thus effectually prevented a most disgusting habit in the stable; and, as far as I have observed, effected a perfect cure. *Liquid Manure Pipe.*—I have been using a gutta percha tube, for emptying an impervious dung pit of any excess of liquid; I use it as a syphon, discharging the contents on a water meadow below. It answers very well, but I have observed a very minute hole in the tube, to which an intelligent plumber told me gutta percha tubing was liable. In my case it is no harm, and is easily stopped, but for pump work it would be a serious objection. I have used plain 5-inch draining tiles for conveying the sewage from the water-closet, &c., and were it not for a considerable power of water which can be turned through the drain, it would not answer. The fall is 1 in 24 inches; set in cement. *Sawyers.*—In measuring sawing here, the breadth of all four slabs or outer pieces is measured, and the breadth and one edge of each plank (a most uncertain and unsatisfactory method); a Fir pole sawn in two, and a piece of Oak cut into ½-inch plank being the extremes—the sawyers say that it is quite fair, as they have the trouble of dressing and pitting the timber; but they themselves acknowledge that their wages are very variable. Any good plan from a brother "Constant" would be acceptable. "*Constant*" *Reader, Epsilon, Devon.* [In this neighbourhood any number of cuts through a round piece of timber is multiplied by the surface of the deepest among them, the labour of dressing being thus paid for.]

Liquid Manure.—I have read with much interest your recent articles on the application of liquid manure, and beg to suggest the following points to which I hope your attention will be directed in the forthcoming papers on the same subject. 1. The comparative expense of distributing liquid manure from the farm-yard, by a water-cart, and by pipes. 2. When pipes are used, what fall is necessary from the reservoir per 100 yards? 3. Ought the pipes to terminate in a rose, like that of a watering-pot, or how are they made to distribute the liquid? Farmers, like myself, who have no engine, use in this part of the country a water-cart, which is filled by means of a pump fixed in the tank; but by this means we can only apply the liquid to Grass, as the horse and cart would destroy either white or green crops. Peruvian Barley, which is noticed in your last, has been tried here, and yields from 20 to 30 returns; the drawback is that the maltsters are shy of it. Is this owing to mere prejudice, or to any fault in the grain. *A Scot.* [A reason about the Barley is given in our Notices to Correspondents, and the points on the liquid manure question, to which you refer, will, we hope, be taken up by our correspondents, as well as ourselves.]

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

(*Continued from page* 221.)

Clover Insect.—Mr. Murcott, of Leamington, transmitted to the Council the following communication, dated the 20th of March:—

> I hasten to inform you that a sample of Red Clover seed, examined by me this morning, yields me the Clover vibrio in the interior of the seed, as I had expected. There is now no doubt that limed land becomes again subject to Clover sickness by re-sowing of the vibrio in the Clover seed itself. I was told, on receiving the sample of seed, that it was about to be sown this spring. This will render supply of sample unnecessary to determine the point, but leaves open to inquiry what sort of pickle will best kill them in the seed.

Professor Simonds remarked, that having a few days since received a communication of this statement, he had examined some red Clover seed under high magnifying powers in the microscope, but had hitherto failed to detect any vibrio, or worm in it; he would, however, continue his research with different seed, and report the result to the Council. But Prof. Simonds thought that even the existence of an insect of this kind in the seed would not explain the anomalies of Clover failure. If the cause of Clover sickness originated in the seed, it ought to fail every year; whereas certain soil would grow a good crop of Clover one year, and would not bear a similar crop until a certain interval of time, different according to circumstances, had elapsed. Mr. Murcott had sent to Prof. Simonds a bag of soil from land notorious for its failure of Clover. Prof. Simonds had potted this earth, and sown Clover seeds in it, which in due course produced plants, some of which certainly did go off; but on examination, he found the vibriones, or insects, alike infesting the plants which stood and those that went off. Again, white Dutch Clover, it was known, would grow on soil where the red Clover would not; but they both grew alike, and with the same effects, in this infested soil. In fact, the insect to which Mr. Murcott's attention had been so strongly drawn, was, in Prof. Simonds's opinion, only one instance of the peculiar forms of animal life which were widely diffused throughout nature wherever there existed the slow process of animal or vegetable decay. Diseased Wheat was well known to swarm with peculiar insects; and this Clover insect, whether found in the seed or the stem, was, he believed, only of a parasitical character, and the natural effect of vegetable decay.—Col. Challoner and Mr. Raymond Barker then favoured the Council with their own experience of circumstances connected with the general question of Clover-sickness.

Management of Pigs.— Mr. Fuller, M.P., stated that he had suffered a serious loss among his pigs by some distemper or disease, of which he was at present ignorant. He had lost six of his finest porkers before Christmas; afterwards a fine sow in pig, containing a large litter; last week, nine other pigs; and he feared, unless some remedy was found that would effectually arrest the disorder, that he should lose his whole stock. From the examination that had been made, the lungs of these animals appeared to be much affected with acute inflammation or disease of some kind.—Prof. Simonds informed Mr. Fuller that, as a member of the Society, he would be privileged to send to the Royal Veterinary College for the best information and assistance that institution could give him, on the same terms of charge as if he were a subscriber to the college. If he would therefore send up the discased carcasses of the next pigs that died, with a history of the mode and symptoms of attack from their being first taken, the subject should have every attention paid to it.—Mr. Fisher Hobbs, about this time last year, had lost several of his most valuable breeding sows from ulceration of the throat. Without staying to inquire what privileges he might avail himself of at the Veterinary College, he lost no time in requesting, on his own account, that Prof. Simonds would at once repair to the spot, and favour him with his professional aid and advice. He did so, and having investigated the whole circumstances of the food and general management of these pigs, he gave those instructions which, being followed, entirely saved the remainder of Mr. Hobbs's stock. Pork and Cabbage it appeared did not always agree. The animals had been fed too low. Too great a quantity of vegetables had been given to them in a raw state, as well as trimmings of Mangold Wurzel and Turnips which, it appeared, had become partially decayed. His breeding sows had, in consequence, been frequently subject to abortion, and been injured in their milking properties. Mr. Fisher Hobbs particularly recommended the food of pigs to be boiled before being given to them; and he had himself begun with great advantage to cut their straw into lengths of from 4 to 6 inches. He also strongly impressed upon all breeders of these most useful animals, the greatest attention to be paid to the mode in which they were lodged and treated, and a most scrupulous regard to cleanliness in every arrangement connected with them. No kind of live stock either suffered so sensibly from a want of cleanliness, or so well repaid attention to this essential particular. He would also include due ventilation of the houses in which they were kept, and a careful selection and assortment of their food, as among the most desirable essentials for the successful management of pigs. He had himself bred every kind of farmers' live stock; but pigs, he found from experience, required more attention to their management than any other kind of agricultural stock. On these points, he would only add that with better management pigs would generally be more profitable. He had never known pigs do well either in houses with a northern or eastern aspect, or on a coarse red brick flooring, which absorbed and retained a large amount of moisture. A friend of his had expended a considerable outlay on his piggeries in Kent, but he was at a loss to discover how it was that his pigs did not do well, until it was pointed out to him by Mr. Hobbs that the buildings had an eastern aspect, and the floors were laid down with red brick. Mr. Hobbs had ascertained the same result connected with piggeries so constructed in different parts of the country. In his own case, he found that during the progress of his farm buildings, his manager had removed his pigs to other piggeries, having damp floors; the consequence of which was that the animals were at once injured by the change; but, on removal to boarded floors, they soon recovered, and did well afterwards. In Sussex he had seen the piggeries floored with flagstones and bricks; and he feared that until their old buildings were all knocked down, the pigs would not do well. Mr. Fisher Hobbs, in conclusion, remarked, that, although in his own case he had by great care been enabled to maintain his breed pure and in full vigour, in no animal, generally speaking, did a judicious cross exercise a more important influence in the improvement of a breed than in the case of the pig: the system of in-and-in breeding with a few animals nearly allied to each other, could not be carried beyond its natural limits without a visible deterioration in the breed and produce.—Col. Chalioner could most fully confirm what Mr. Fisher Hobbs had stated. He had imported his pigs from Naples, and they were fine specimens of the celebrated breed of that country; but, in endeavouring to keep the race pure by breeding in and from the same stock, he found that he was only thwarting nature in her established laws instead of improving or even maintaining the value of his choice Neapolitans, which became in consequence most degenerate, small in the litter, full of rheumatism; in short, all that was bad. Thanks, however, to the cross obtained with Mr. Fisher Hobbs's breed, he could not possibly have better pigs than he had now. Retaining much of the Neapolitan blood, he now continued his stock by alternation of the Essex with the Berkshire breed; and he obtained his best breeding sow by putting to Mr. Hobbs's boar the female offspring of the same boar with a Berkshire sow. His litters now consisted of never less than 12 sucking pigs of the first-rate quality, still showing the predominant influence of the Neapolitan blood, sustained by the combined admirable qualities of the Essex and the Berkshire. The floors of his pig-houses were formed of bricks set on end; but over these floors he put an oaken frame-work, so open in its divisions as to keep the pigs dry and warm, without allowing their feet to get through the separate boards of which it was composed. Having witnessed during his residence in Italy the folding of pigs in the Chestnut groves of Sorrento, on the green and rocky promontory of that peninsular branch of the Apennines which separates the Bay of Naples from that of Salerno, he was led to adopt the same plan of management for his pigs in England, instead of leaving them injuriously to bake in the heat of the sun, as in the summer months was so often seen to be the case in different parts of the country. Accordingly he went into his woods, and selected the most convenient damp spots, where he formed a double-hurdle fold, into which the pigs in hot weather were driven after their morning meal, and supplied with Cabbages and a few Mangold-Wurzel roots. The purifying effect of this cool and refreshing folding on the pigs was most striking. He began with porkers, which soon acquired a pure, soft, fat condition; and the subsequent progress they made when put on Barley-meal was astonishing, the animals becoming fat in half the time they used to do. He had again to thank Mr. Fisher Hobbs for the great service he had derived from the adoption of his invaluable and well-known breed of pigs.

The Council then adjourned to their weekly meeting on Wednesday, the 31st of March.

A Weekly Council was held at the Society's House in Hanover-square, on Wednesday last, the 31st of March: present, Mr. Raymond Barker, Vice-President, in the Chair, Hon. R. H. Clive, M.P., Sir Charles Lemon, Bart., M.P., Mr. T. B. Browne, Mr. Burke, Dr. Calvert, Mr. Evelyn Denison, M.P., Mr. Dyer, Mr. Foley, M.P., Mr. Fuller, M.P., Mr. Gadesden, Mr. Fisher Hobbs, Mr. Kinder, Mr. Love, Mr. Maddison, Mr. Majendie, Mr. Overman, Mr. J. M. Paine, Professor Sewell, Mr. Stansfield, M.P., Mr. Trench, and Professor Way.

Potatoes.—Mr. Trench, of Treehill, near Southampton, favoured the Council with a supply of two varieties of Potatoes, cultivated by himself with great success, and the following statement in reference to them:—

> I have cultivated the Forty-fold Potatoes for many years; and hitherto they have been all but free from taint of disease, even when planted close to others of which one-half have suffered from it. As an early as well as a late Potato, I find this variety the best for the table of any I am acquainted with; and if planted in rich land, the most productive variety also: on account, however, of the number of the tubers (whence its name), it requires corresponding support from the soil in which it is grown. Besides being an early kind, the Forty-fold Potato is very mealy and keeps well. I also send a sample of another kind, called the Early Lemons, much in request in that part of Hampshire where I reside, chiefly on account of their being equally free from disease. I had last year and the preceding one five acres of these Early Lemon Potatoes planted on a light sandy soil, and of the produce not five bushels were bad. The Early Lemon is a good marketable Potato, but inferior to the Forty-fold for table use. The retail price of the latter in the Southampton market was, last autumn, one-third higher than that of other market Potatoes. I have this year planted nine or ten acres of the Early Lemons, not having had enough of the Forty-folds to plant more than five acres.

—Mr. Love remarked that the different names now given in different districts to the same Potatoes rendered it difficult from the name alone to identify any particular variety. The Forty-folds then on the table had a great resemblance to the old Rough Reds; but these did not yield so many tubers to each individual plant, although a greater produce per acre. He had often remarked, that the produce per acre was not to be inferred from the simple fact that a great number of tubers were yielded by each plant. In many instances the converse was found to hold good. He had himself grown on one occasion a crop that yielded no less than 24 tons per acre, from plants individually furnished with but few tubers. These were the Manton Potatoes of Northamptonshire, a variety very similar to Phillips's Seedlings. He had been in the habit for twelve years of growing 25 acres of Potatoes, and he might state his average produce at about 12½ tons per acre. This was the produce, he understood, of Mr. French's Forty-folds; and it might at the present time, when the Potato crop yielded so much smaller a return of sound tubers than formerly, be regarded as a very good produce.

Silesian Beet.—Mr. Reeve, of Randall's Park Farm, near Leatherhead, transmitted to the Council a sample of the sugar obtained at the Mount-Millick Factory in Ireland, from the white Silesian Beet-root. The proportion in which this sugar was found to exist in this variety of Beet, was a circumstance which, in Mr. Randall's opinion, would tend to bring these roots into great repute for the purpose of feeding cattle, as well as for that of the extraction of saccharine matter for the sugar market; and he found his stock prefer the white Silesian Beet-roots to any other kind.

English Flax.—The Hon. R. H. Clive, M.P., presented a fine sample of Flax grown on his property in Worcestershire. The Flax-straw had been prepared by Mr. Ludolph, and after retting yielded nearly one-

fourth of its weight of Flax, which in the Leeds market had been valued at 45*l.* per ton. He also laid before the Council the following statement of the produce and cost of this Flax, in comparison with Sir James Graham's statement on the same subject :—

Statement of Flax produced by the Hon. R. H. Clive, grown upon his farm, "The Poles," 1851, from 2 A. 3 R. 23 P.

PRODUCE.				
58½ bushels seed, at 8*s.* per bushel.	...	£23	8	0
5 tons 1 cwt. of straw, say 40*s.* per ton	...	10	2	0
			£33	10 0
EXPENSE.				
Ploughing, harrowing, and sowing	...	1	15	0
Rent of land, rent-charge, and rates	...	3	3	0
5½ bushels seed, at 9*s.*	...	2	9	6
Pulling and setting up	...	3	18	2
Tying up, lugging, and thatching ...	...	0	10	6
Thrashing, winnowing, &c.... ...	...	4	10	11
			16	7 1
			£17	2 11

Profit per acre, 5*l.* 18*s.* 6*d.*

Sir James Graham's Statement.

Produce from 2 A. 0 R. 20 P. of Flax, grown 1851.

38 bushels of seed, at 6*s.* per bushel	...	£11	8	0
3 tons 18 cwt. of straw, at 60*s.* per ton	...	11	14	0
			£23	2 0
COST.				
Two ploughings, harrowing, sowing, &c., 16*s.* per acre	...	1	14	0
6 bushels of seed, at 10*s.* per bushel	...	3	0	0
Weeding cost 9*s.* 8*d.* per acre ...	...	1	0	6
Pulling, harvesting, thatching, &c., cost 21*s.* per acre	...	2	4	6
Rent of land, rates, &c., 26*s.* per acre	...	2	16	0
Housing and thrashing seed, at 12*s.*	...	1	5	6
Carriage of straw to Carlisle, at 6*s.*	..	1	3	6
			13	4 0
			£9	18 0

Profit per acre 4*l.* 13*s.*

The Council then adjourned to the 7th of April.

Miscellaneous.

Abundant Root Crops being considered the test of good farming, the importance of not missing them induces me to remark upon the propriety of a thorough intermixture of the farm-yard manure with the soil, in preference to its being placed in a mass immediately under the young plant. I have closely observed the practice of the most successful and prize-taking root-growers. They plough in their manure early, and then make their subsequent cultivation by scarifying, &c. The philosophy of this practice is demonstrated by Professor Way, in his admirable paper (Society's Journal, Vol. XII., p. 233) on Super-phosphate of Lime. Of course this latter substance should come into almost close contact with the seed. *Mr. Mechi's Second Paper.*

Calendar of Operations.

APRIL.

Lammermuir Sheep Farm, *April* 2.—If February was characterised by constant wet, March has been equally distinguished by a continued absence of rain. Seldom have the moors been so firm and dry at this season, which, with cold parching winds, has been highly suitable for "moor burning." If this necessary and most beneficial process was in any degree curtailed by the unfavourable weather of previous years, we can only say that the shepherds have fully made up their lee way this season, to the great advantage both of sheep and grouse. The Cheviot gimmers (or shearling ewes) were put upon Turnips on the 24th of February, and the ewes of that breed, together with a few old black-faced ewes intended for sale, on the 10th of March. Having abundance of Turnips, the sheep are permitted to remain on the field from 8 to 10 hours during the day, from which they are removed to some piece of rough ground for the night. We expect to be able to continue this treatment until the lambing is fairly commenced, which will be about the 17th. Though there has been an unusual absence of frost and snow during the past winter on the Border hills, yet the continued wet and high winds combined, told rather unfavourably on the condition of the sheep, which, though far from being in a "poverty" state, caused them to lose flesh considerably, and gave them a somewhat bleached appearance. From this they are now beginning to recover. Since the Cheviot ewes were put upon better fare, their improvement has been very marked, affording encouraging prospects for the coming lambing season. As yet there is certainly little appearance of Grass, the lengthening of the days being almost the only evidence of spring we have. For some time past the temperature has been very low, the thermometer at night being generally below the freezing point, and on that of the 27th ult. down at 25°. Should we have fresh growing weather now, however, there will soon be sufficient Grass for the lambs. Considering the great scarcity of Turnips in the feeding districts, markets for grazing stock are very good, being fully equal to those of last spring. We have disposed of a lot of black-faced ewes in lamb to a Leicester ram. We have also sold our spare rams to the butcher; these having been on Turnips since January, receiving ½ lb. of Oats daily. We began sowing Oats on the 10th of March, and expect to complete this work in three or four days. We have also sown about four acres of early Peas, and the same quantity of Tares, upon part of a field intended for cutting; but the take of seeds being very indifferent, we considered it more profitable to plough it up. Our intention is to eat off the Tares with sheep in autumn, and that the crop may come in succession, the remainder of the break will be sown at intervals of ten days. *A Lammermuir Farmer.*

Notices to Correspondents.

Charcoal : *W Lodes.* Mr. Yarrow, the engineer to the Irish Amelioration Company to which you refer, has written a pamphlet on the manufacture of peat charcoal, published by John Kennedy, Portman-place, Maida-hill, London.

Disease in Lambs : *W W.* Active bleeding from the neck when the symptoms are first observed. Salt in moderation will not injure.—*W. C. S.*

Grass : *J T.* It is a sedge—Carex—evidence of poor and, either now or formerly, wet land. It is innutritious but not injurious that we know. You may in the long run get rid of it by drainage and rich treatment as regards manure—or at once by breaking up the land, and in the course of a year or two laying it down again.

Italian Rye Grass. Sow 2 bushels of good seed per acre in the end of April or beginning of May over the young Barley, and hoe it in. We have generally sown 3 bushels, but it was probably too thick. One bushel is sown when along with Clover seeds

Lime : *Inglenook* Yes; you might apply a light dressing of lime before covering up with the earth, with probability of advantage.

Poultry : *W H Wheeler.* Swans lay from four to seven eggs, generally the former, and sit about six weeks. Where there is plenty of scope for them the old swans will tend the young ones very well; but in a small space they want feeding plentifully with corn and vegetables, such as Lettuce, Cresses, &c. Meal is also very good food.—*P C.* There is nothing in the colour of your hens to interfere with the purity of their breed. They may be any colour but black, or white, and must have five claws on each foot. The white is a distinct breed.—*C W.* The Rev. E. S. Dixon's "Domestic and Ornamental Poultry," 2d edition.—*F D.* I do not consider the cuckoo fowls as a distinct species, because they may be met with in almost all breeds, and are only remarkable for colour. The best we ever have are bred from the Dorking. They are the best because they are the largest, which is the most important point where no others are defined and admitted. The fowls for the London market are killed by dislocation of the neck, but as this is a cruel death if not properly done, I should recommend to cut their throats. To do this properly, the body of the fowl should be held breast uppermost under the arm, and the skin of the neck, just below the head, held tight round the bone with the thumb and first finger. If a sharp knife be drawn across, the fowl is dead in an instant. The more certain and perhaps most merciful when performed by an inexperienced person, is to chop off the head; it does not in any way interfere with the bird for purposes of the table. —*D T N.* I should recommend you to change the food of your dove, and give tares, also give a teaspoonfull of castor oil. I cannot hold out much hope of a cure, as the bird is probably injured by having been fed too much on stimulating food, as hempseed, &c. If you can induce it to eat it, bread and milk would be good or anything of a cooling nature, but begin with castor oil.—*A Keeper of Poultry.* Not knowing the person you mention, I cannot say whether his fowls are thoroughbred. Eggs of the Hambro' fowls are to be obtained at any respectable poultry dealer's.—*Geo. G.* The best remedy for diarrhœa in fowls is cayenne pepper and chalk, mixed in equal quantities into pills, and given in small doses. —*An Old Subscriber, Torquay.* If fed on Barley alone a cock and two hens would require about a pint daily; but where they have other food less will do. Oats ground but not dressed, or cleaned mixed with water, are very good. It is an excellent plan to throw bones and scraps from the dinner table to fowls, as the little pieces they pick do them much more good than meat given in any quantity. Your house and yard are large enough for the fowls you mention, but for no more, and if you can increase the space, so much the better. *J Bailly,* 113 *Mount-street.*

Poultry Manure : *New Subscriber* Mix it with soil, and use it in the garden. It is hardly likely to be so abundant as to be of much agricultural importance. Mr. Bailly will answer you about eggs next week.

Sainfoin : *Agricola.* Sow four bushels per acre of the unshelled seed in April. Drill it across Barley in a piece of clean land in rows 10 inches apart. The soil best suited is gravelly, with calcareous—chalky, or limestone—subsoil. Gas-lime, if exposed to the air for some months and turned over several times before use, will be mild enough to apply by itself, but it is perhaps safer to use it in compost with earth. Gas-water varies exceedingly in composition. It may generally be applied safely enough in wet weather (April), undiluted, at the rate of 300 gallons per acre. The right way is to apply these active manures during the season of rapid growth.

Turnip Seed : *J S.* You should write direct to Mr. Rivers.

Markets.

COVENT GARDEN, April 10.

The market is well supplied with vegetables and fruit. English Pine-apples realise good prices. Hothouse Grapes are becoming more plentiful. The best English Pears fetch good prices. Oranges are plentiful and good. Nuts are nearly the same as last quoted. Strawberries are still supplied. Carrots, Turnips, Cabbages, &c., are sufficient for the demand, and there is some fine Cornwall Broccoli in the market. Potatoes are generally good in quality. Lettuces and other salading are sufficient for the demand. Mushrooms are cheaper. Cut flowers consist of Heaths, Epacrises, Mignonette, Camellias, Roses, Acacias, Azaleas, Primulas, Hyacinths, Tulips, Lily of the Valley, and other forced bulbs.

FRUIT.

Pine-apples, per lb., 4*s* to 8*s*	Pears, dessert, p. doz., 2*s* to 6*s*
Grapes, hothouse, p. lb., 15*s* to 20*s*	Oranges, per doz., 1*s* to 1*s* 6*d*
Grapes, Lisbon, per lb., 2*s* to 2*s* 6*d*	— per 100, 3*s* 6*d* to 10*s*
Strawberries, per oz., 1*s* to 2*s*	— Seville, per doz., 1*s* to 3*s*
Apples, kitchen, per bushel, 2*s* to 3*s* 6*d*	Lemons, per doz., 1*s* to 2*s*
Almonds, per peck, 5*s*	Nuts, Barcelona, p. bsh, 20*s* to 22*s*
— sweet, per lb., 2*s* to 3*s*	— Brazil, p. bsh., 12*s* to 14*s*
	Cobs, per 100 lbs., 100*s*

VEGETABLES.

Savoys, per doz., 10*d* to 2*s*	Beet, per doz., 1*s* to 2*s*
French Beans, p. 100, 2*s* to 3*s*	Parsnips, per doz., 4*d* to 1*s*
Broccoli, p. bunch, 5*d* to 1*s* 3*d*	Leeks, per bunch, 1*d* to 2*d*
— heads, each, 2*d* to 4*d*	Shallots, per lb., 8*d* to 10*d*
Asparagus, p. bundle, 3*s* to 7*s*	Garlic, per lb., 6*d* to 8*d*
Seakale, p. basket, 1*s* 3*d* to 2*s* 6*d*	Lettuce, Cab., p. score, 4*d* to 1*s*
Greens, per doz., 2*s* 6*d* to 4*s*	Radishes, per doz., 1*s* 6*d* to 2*s*
Rhubarb, p. bundle, 6*d* to 1*s* 6*d*	Small Salads, p. punn., 2*d* to 3*d*
Potatoes, per ton, 45*s* to 80*s*	Horse Radish, p. bundle, 1*s* to 4
— per cwt., 2*s* to 5*s*	Mushrooms, p. pot., 1*s* to 1*s* 3*d*
— per bush., 1*s* 6*d* to 2*s* 6*d*	— per punnet, 9*d* to 1*s*
Turnips, p. doz., 1*s* 6*d* to 2*s* 6*d*	Sorrel, p. hf. sieve, 1*s* 3*d* to 1*s* 6*d*
Cucumbers, each, 1*s* to 3*s*	Artichokes, Jerus., do., 9*d* to 1*s*
Celery, p. bundle, 6*d* to 1*s* 6*d*	Fennel, per bunch, 2*d* to 3*d*
Carrots, per bunch, 4*d* to 7*d*	Savory, per bunch, 2*d* to 3*d*
Brussels Sprouts, p. half sieve, 1*s* to 1*s* 6*d*	Thyme, per bunch, 2*d* to 3*d*
Spinach, per sieve, 1*s* to 1*s* 6*d*	Parsley, per doz. bun., 2*s* to 3*s*
Onions, p. bunch, 2*d* to 4*d*	Mint, per bunch, 4*d* to 6*d*
— Spanish, p. doz., 1*s* 6*d* to 3*s*	Basil, p. bunch, 3*d* to 4*d*
Endive, per score, 1*s* to 2*s* 6*d*	Watercress, p. 12 bunches, 6*d* to 1*s*

HAY.—Per Load of 36 Trusses.

SMITHFIELD, April 8.

Prime Meadow Hay	74*s* to 80*s*	Clover	80*s* to 87*s*
Inferior ditto... ...	65 70	2d cut	70 77
Rowen	60 —	Straw	24 28
New Hay	— —		J. Cooper.

The supply short and trade brisk.

CUMBERLAND MARKET, April 8.

Prime Meadow Hay	75*s* to 80*s*	Interior	65*s* to 72*s*
Inferior ditto... ...	60 70	New Clover	— —
New Hay	— —	Straw	28 30
Old Clover	78 84		Joshua Baker.

WHITECHAPEL, April 8.

Fine Old Hay ...	72*s* to 76*s*	Old Clover	80*s* to 88*s*
New Hay	— —	Inferior ditto ...	60 75
Inferior ditto... ...	50 63	New Clover	— —
Straw	22 25	Inferior ditto... ...	— —

HOPS.—Friday, April 9.

Messrs. Pattenden and Smith report that the demand continues steady for all descriptions of Hops at firm prices; the quantity of last year's growth remaining unsold is very limited, and should any increased trade spring up prices must advance.

Mid & East Kents	120*s* to 180*s*	Sussex	115*s* to 126*s*
Weald Kents ...	120*s* to 147*s*	Yearlings	90*s* to 110*s*

WOOL.

Bradford, Thursday, April 8.—We are not able to report any improved feature in the general position of the Wool trade. Although the transactions during the current week may have been somewhat in excess of the average of a few weeks previous, yet they are only the necessary result of stocks being brought down to a low point in the hands of spinners, requiring a partial renewal, and are not occasioned by any actual improvement in the demand for manufactured articles. Prices cannot be quoted as improved, and where sales are effected to any extent an inducement is generally offered to the purchaser by a slight concession. Short wool and noils being only made to a limited extent are a good sale, at previous rates.

POTATOES.—Southwark, Monday, April 5.

The committee report that during the past week the supply has been moderate, both coastwise and by rail; the trade still remains very heavy, with no improvement in prices. The following are this day's quotations :—York Regents, 60*s.* to 80*s.*; Scotch do, 60*s* to 70*s.*; Perth and Forfarshire Cups, 60*s.* to 65*s.*; Fifeshire do., 55*s.* to 60*s.*; Wisbeach and Cambridge, 50*s.* to 65*s.*; Kent and Essex 60*s.* to 75*s.*

SMITHFIELD, Monday, April 5.

The number of Beasts is much smaller than last Monday, but the trade has not proportionably improved; it is difficult to advance prices generally, but 3*s.* 6*d.* is pretty freely given for a choice Scot. We have rather fewer Sheep, and those out of the wool are more in request; still trade cannot be stated much better than on Monday last. There is rather a brisk sale for small choice Lambs, and good Calves are readily disposed of, but middling ones are unsaleable. From Germany and Holland there are 371 Beasts, 580 Sheep, and 140 Calves, and 14 Pigs; from Spain, 160 Sheep; from Scotland, 530 Beasts; from Norfolk and Suffolk, 200; and 150 from the northern and midland counties.

Per st. of 8 lbs.—	s	d	s	d	Per st. of 8 lbs.—	s	d	s	d
Best Scots, Hereford, &c.	3	2	to 3	6	Best Long-wools	3	8	to 4	0
Best Short-horns	3	0	— 3	4	Ditto Shorn	3	2	... 3	6
2d quality Beasts	2	4	— 2	10	Ewes & 2d quality	2	8	— 3	0
Best Downs and Half-breds	4	0	— 4	2	Ditto Shorn	2	4	— 2	8
Ditto Shorn	3	6	... 3	8	Lambs ...	5	0	— 5	8
					Calves ...	3	0	— 4	4
					Pigs ...	2	8	— 3	8

Beasts, 3668; Sheep and Lambs, 22,680; Calves, 178; Pigs, 410.

Friday, April 9.

Although the number of Beasts is not very large, it is considerable for the day. Trade is very dull, but the favourable weather causes good qualities to be sold at fully Monday's rates. This being Good Friday, Lamb is the article principally in request. The supply of them is shorter than on former occasions, consequently salesmen make an effort to obtain higher prices than the butchers will submit to; this causes a slow trade. The weather being cold, the demand also is limited, and 6*s.* must be considered an extreme quotation. Those from the Isle of Wight, which number about 400, do not make much over 5*s.* per 8 lbs. There are but few Sheep on offer; they are disposed of at Monday's quotations. The Calf trade continues steady. Our foreign supply consists of 46 Beasts, 360 Sheep, and 185 Calves. The number of Milch Cows is 128.

Best Scots, Hereford, &c.	3	2	to 3	6	Best Long-wools	3	8	— 4	0
Best Short-horns	3	0	— 3	4	Ditto Shorn	3	2	... 3	6
2d quality Beasts	2	4	— 2	10	Ewes & 2d quality			...	
Best Downs and Half-breds	4	0	— 4	2	Ditto Shorn	2	6	— 2	10
Ditto Shorn	3	6	— 3	8	Lambs ...	5	0	— 6	0
					Calves ...	3	0	— 4	4
					Pigs ...	2	8	— 3	8

Beasts, 637; Sheep and Lambs, 6720; Calves, 310; Pigs, 314.

MARK LANE.

Monday, April 5.—There was rather an increased supply of English Wheat at market this morning, and although the condition was all that could be desired, the demand was so inactive that a decline of 1*s.* to 2*s.* per qr. had to be submitted to before any progress could be made in sales. Foreign Wheat was very unsaleable, at a reduction of 1*s.* per qr. The arrivals of Flour have been large this week, and foreign in sacks and barrels were respectively 1*s.* and 6*d.* cheaper.—Barley was in moderate supply, and realised much the same prices as last week.—Although the receipts of Oats have not been large, they proved equal to the demand, but did not realise quite such good prices as on this day week. Beans and Peas were in limited request, at late rates.

Per Imperial Quarter.	s.	s.		s.	s.
Wheat, Essex, Kent, & Suffolk... White	42—44	Red		37—40	
— — fine selected runs...ditto	43—46	Red		40—41	
— — Talavera	43—50				
— Norfolk, Lincoln, & York... White	36—41	Red		—	
— Foreign	36—52				
Barley, grind. & distil., 26*s* to 29*s*... Chev.	31—35	Malting .		29—32	
— Foreign... grinding and distilling	22—29	Malting .		—	
Oats, Essex and Suffolk	19—21				
— Scotch and Lincolnshire... Potato	21—24	Feed		20—22	
— Irish ..... Potato	20—23	Feed		19—22	
— Foreign .....Poland and Brew	19—22	Feed		18—21	
Rye	—	Foreign .		—	
Rye-meal, foreign.....per ton	—				
Beans, Mazagan ... ..24*s* to 27*s*.....Tick	25—30	Harrow .		25—30	
— Pigeon.....27 — 32... Winds	20—26	Longpod		24—30	
— Foreign .....Small	22—30	Egyptian		23—25	
Peas, white, Essex and Kent.....Boiler	32—34	Suffolk...		33—35	
— Maple.....27*s* to 30*s* .....Grey	26—28	Foreign .		27—34	
Maize .....White	—	Yellow ...		—	
Flour, best marks delivered ...per sack	35—40				
— Suffolk .....ditto	27—32	Norfolk .		27—32	
— Foreign .....per barrel	17—23	Per sack		32—36	

Wednesday, April 7.—The few samples of English Wheat on sale this morning were disposed of at about Monday's rates; the demand for foreign was of too limited a character to warrant any alteration in quotations.—Flour was very little inquired for.—Barley, Oats, Beans, and Peas underwent no change.

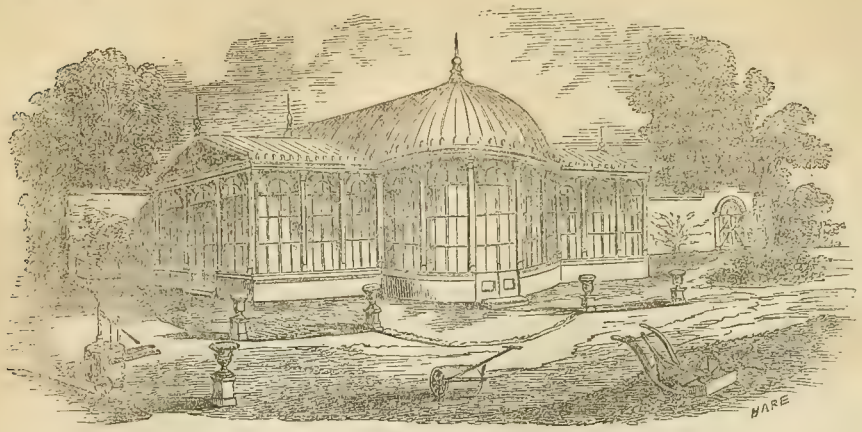
Imperial Averages.	Wheat.	Barley.	Oats.	Rye.	Beans.	Peas
Feb. 21.....	42*s* 9*d*	31*s* 0*d*	19*s* 4*d*	30*s* 5*d*	30*s* 2*d*	30*s* 5*d*
— 28	42 3	30 7	19 6	30 7	29 10	29 5
March 6.....	42 7	30 1	19 4	32 5	30 2	29 6
— 13.....	42 10	30 5	19 9	30 5	30 1	29 7
— 20.....	42 8	30 3	19 9	31 11	30 4	29 10
— 27.....	42 2	30 2	19 6	30 5	30 3	29 8
Aggreg. Aver.	42 6	30 5	19 6	31 0	30 2	29 9

Duties on Foreign Grain, 1*s.* per quarter.

Liverpool, Tuesday, April 6—The week's exports to Ireland and coastwise are upon much the same scale as for some time. The trade throughout the week has ruled dull, and Wheat has given way in price 1*d.* per bushel; but American Flour, coming in at a very serious loss to the importer, has not been pressed for sale, and the value has been better supported than for Wheat. At this morning's market a fair business was transacted in Wheat and Flour, and the trade closed firmer than on Friday last, but the decline of 1*d.* per bushel on Wheat could not be recovered. American Flour supported the price of last Tuesday, and was in good demand. Beans declined 6*d.*, and white Indian Corn 6*d.* to 1*s.* per qr.—Friday, April 2.—The principal point worthy of notice in the corn trade is the falling off in the delivery of English Wheat, as published in the *Gazette*. This week's return is 72,981 qrs., against 85,125 qrs. last week, and 107,374 qrs. the preceding week. There was a fair business doing at this morning's market. Wheat was considered to be 1*d.* per bushel lower than on Tuesday, but American Flour was not so easy to buy at late rates. No change whatever in the value of other articles.

COTTAM AND HALLEN,

2, WINSLEY STREET, AND 76, OXFORD STREET, LONDON.



APPLICATION is requested for their NEW HORTICULTURAL LIST, containing Illustrations Descriptions, and Prices of

Conservatories	Mowing Machines	Hand-glass Frames	Garden Engines	Flower Sticks
Greenhouses	Fountains	Game Netting	Do. Syringes	Garden Bordering
Hot Water Apparatus	Ornamental Wire Work	Hurdles	Do. Rollers	Watering Pots
Garden Vases	Flower Stands	Garden Chairs	Flower Labels	Garden Arches, &c.

IRON HURDLES, STRAINED WIRE FENCING, GAME NETTING, &c.

AGRICULTURAL LIST UPON APPLICATION.

EVERY DESCRIPTION OF PLAIN, ORNAMENTAL, CAST AND WROUGHT IRON, AND WIRE WORK.

EXHIBITION PRIZE MEDAL GATES AND ENAMELLED MANGERS.

HARTLEY'S PATENT ROUGH PLATE GLASS,

FOR RIDGE AND FURROW ROOFS, GREENHOUSES, RAILWAY STATIONS, ENGINE SHEDS, MILLS, MARKET-HALLS, AND PUBLIC BUILDINGS GENERALLY.

For Conservatories, Public Buildings, Manufactories, Skylights, &c., &c.	¼ h inch thick.	3-16th inch thick.	¼ inch thick.
Packed in Crates, for cutting up of the sizes as Manufactured:—			
30 inches wide and from 40 to 50 long	s. d.	s. d.	s. d.
Or 20 ,, ,, 50 to 70 ,, ...	0 6	0 8	0 10
In Squares, cut to the sizes ordered:—			
Under 8 by 6	0 4	0 6	0 7
8 by 6 and under 10 by 8	0 4½	0 7	0 8
10 by 8 ,, 14 by 10	0 5	0 7	0 9
14 by 10 ,, 1½ feet super., if the length does not exceed 20 inches ...	0 5½	0 7	0 9
1½ feet sup. ,, 3 ,, or if above 20, and not above 30 inches long... ...	0 6	0 8	0 10
3 ,, ,, 4 ,, ,, 20 ,, 30 ,, ...	0 6½	0 8	0 10
4 ,, ,, 5 ,, ,, 30 ,, 35 ,, ...	0 7	0 8½	0 10
5 ,, ,, 6 ,, ,, 35 ,, 40 ,, ...	0 7½	0 9	0 10½
6 ,, ,, 8 ,, ,, 40 ,, 45 ,, ...	0 8	0 9½	0 11
8 ,, ,, 10 ,, ,, 45 ,, 55 ,, ...	0 8½	0 10	1 0
10 ,, ,, 12 ,, ,, 55 ,, 70 ,, ...	0 9	0 11	1 1
12 ,, ,, 15 ,, ,, 70 ,, 85 ,, ...	.....	1 0	1 2

Packed in Boxes of 50 Feet Each:

Ins. Ins. Ins.	s. d.
6 by 4 and 6½ by 4½	10 6
7 by 5 ,, 7½ by 5½	12 0
8 by 6 ,, 8½ by 6½	13 0
9 by 7 ,, 9½ by 7½ and 10 by 8	15 0

Note.—Squares are charged according to the superficial contents, except where the length exceeds the restriction above, in which case the higher price is charged irrespective of the contents.

Bending.—1-8*th*, 6*d.*; 3-16*ths*, 9*d.*; ¼ *inch*, 1*s. per foot, net.*

*** *Irregular shapes are charged as squares.*

When Crates are ordered, the 30-inch widths will be sent, unless otherwise specified.

THE PATENT ROUGH PLATE, one-eighth of an inch thick, and weighing 2 lbs. to the foot, has now become an article of very extensive and increasing consumption.

It is universally admitted to be the best and most suitable Glass for Ridge and Furrow Roofs, Greenhouses, Factories, Workshops,

And all such like purposes, and is a cheap and efficient substitute for Fluted or Obscured Glass, where the object is to intercept the vision without diminishing the light. Its non-transparency, strength, and cost (being no more weight for weight than Common Sheet Glass), render it eminently suitable for the Glazing of Conservatories and Roofs of all kinds; Blinds are unnecessary, and when used in Greenhouses *no scorching occurs.*

Where still greater strength is required the 3-16ths and ¼ inch thick will be found much cheaper than the Common Rough Plate. Samples will be forwarded on application, by applying to

JAMES PHILLIPS AND CO.,

HORTICULTURAL GLASS MERCHANTS, 116, BISHOPSGATE-STREET WITHOUT, LONDON.

GLASS.

THOMAS MILLINGTON'S FOREIGN SHEET GLASS is far superior to any other manufacture, as well as cheaper. In 100 feet boxes packed for immediate delivery.

6 inches by 4 and 6½ by 4½	13s. 0d.
7 ,, 5 and 7½ by 5½	15 0
8 ,, 5 and 8 by 5½	15 0
8 ,, 6 and 8½ by 6½	17 6
9 ,, 7 and 10 by 8	20 0
12 ,, 10 and 13 by 9	20 0

And many other sizes, or cut to order in various thicknesses.

Cases containing large Sheets, in 100, 200, and 300 feet, at 21*s.* per 100 feet.

ROUGH PLATE, perfectly flat, ⅛ in. thick, best manufactured.

In sizes under 15 inches	6*d.* per foot.
,, ,, 35 ,, ...	8*d.* ,,
,, ,, 50 ,, ...	9½*d.* ,,
,, ,, 75 ,, ...	12*d.* ,,

Milk Pans, 2*s.* to 6*s.* each; Metal Hand Frames, Glass Tiles and Slates; Cucumber, Propagating, and Bee Glasses; Wasp Traps, Glass Shades, and Plate Glass, at 87, Bishopsgate-street Without, same side as Eastern Counties Railway.—Established 100 years.

EWING'S PATENT GLASS WALLS.—The following are the Agents, and on application to whom drawings may be seen, and all other information obtained:—Messrs. Knight and Perry, Nurserymen, &c., Chelsea; Messrs. Henderson and Co., Nurserymen, Pine-apple-place, London; Messrs. Whitley and Osborn, Nurserymen, &c., Fulham, London; Mr. Glendinning, Nurseryman, &c., Chiswick, London; Messrs. Veitch and Son, Nurserymen, Exeter; Messrs. Dickson, Nurserymen, Chester; Messrs. Lawson and Sons, Nurserymen, Edinburgh; Messrs. Dickson and Turnbull, Nurserymen, Perth; Mr. M'Intosh, F.R.S., Gardener to the Duke of Buccleuch, Dalkeith; Mr. Fleming, F.H.S., Gardener to the Duke of Sutherland, Trentham, Staffordshire; Mr. Ewing, Gardener, Bodorgan, Anglesea; Messrs. Pilkington and Co., Plate, Crown, and Sheet Glass Works, St. Helen's, Lancashire.

These Walls can, when desired, be made wide enough for a person to enter, by which they become elegant hothouses on the best principle. Existing Walls covered with Glass and Iron.

GLASS FOR CONSERVATORIES, ETC.

HETLEY AND Co. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2*d.* to 3*d.* per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices and Estimates forwarded on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLALES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to James Hetley and Co., 35, Soho-square, London.

See *Gardeners' Chronicle* first Saturday in each month.

GLASS ENAMEL, OR IRON COATED WITH GLASS.

TO GOVERNORS OF HOSPITALS, WORKHOUSES, ARCHITECTS, BUILDERS, AGRICULTURISTS, HORTICULTURISTS, and the FARMING INTEREST generally.—It has long been a great desideratum to obtain an article that would resist the action of acids, the changes of temperature, and the destructive effects of rust. This at length (after repeated attempts) has been effected in an extraordinary degree, by that beautiful and newly-invented process of COATING OR ENAMELLING WROUGHT-IRON WITH GLASS, combining at one and the same time STRENGTH AND PURITY.

Among the articles which may be enumerated as having been already prepared by this useful invention are the following:—Wrought-iron Tubes, from ⅜ inch to 7 inches diameter, superseding copper, lead, and earthenware; Culinary and other Domestic Utensils in great variety, Dairy Pans and Ladles, Scoops, Cisterns, Baths, Water Closets, Pumps, Hot and Cold Water Circulating Pipes, Ornamental Gas Piping in Colours, Plain and Corrugated Roofing and other articles, too numerous to mention. The Colours which the Patentees have already been able to attain are white, iron grey, French grey, Royal purple, green, and their various shades, but they are in hopes, by the researches of chemistry and the experiments which are continually being made, of shortly adding to the number.

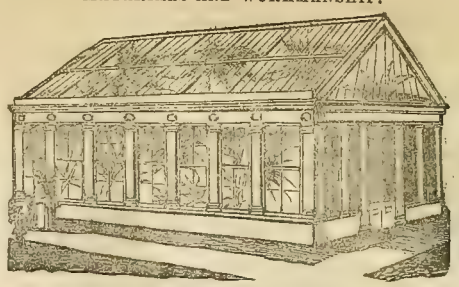
Further information may be obtained, by applying to the undersigned, who will be glad to execute all orders that may be intrusted to them with the utmost despatch.

Leonard Cooper &Co.,

Agents to the Patentees, 11½ Cooper-street, and 1, Bond-street, Manchester.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER,

AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.



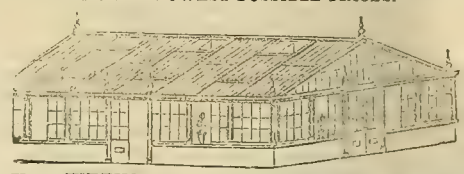
GRAY AND ORMSON, Danvers-street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

G. & O. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders, they can with the greatest confidence give the most satisfactory references.

Their Hot-Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating by Hot Water can be made available.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER.

WARRANTED BEST MATERIALS AND WORKMANSHIP, AT THE LOWEST POSSIBLE PRICES.



J. WEEKS AND CO., King's-road, Chelsea, Horticultural Architects, Hothouse Builders, and Hot-water Apparatus Manufacturers. The Nobility and Gentry about to erect Horticultural buildings, or fix Hot-water Apparatus, will find at our Hothouse Works, King's-road, Chelsea, an extensive variety of Hothouses, Greenhouses, Conservatories, Pits, &c., erected, and in full operation, combining all modern improvements, so that a lady or gentleman can select the description of House best adapted for every required purpose.

THE HOT-WATER APPARATUSES (which are efficient and economical), are particularly worthy of attention, and are erected in all the Houses, Pits, &c., for both Top and Bottom Heat, and in constant operation in the Stoves.

The splendid collection of Stove and Greenhouse Plants are in the highest state of cultivation, and for sale at very low prices. Also a fine collection of strong Grape Vines in pots from eyes, all the best sorts.

Plans, Models, and Estimates of Horticultural Buildings; also Catalogues of Plants, Vines, Seeds, &c., forwarded on application.—J. Weeks and Co., King's-road, Chelsea, London.

HOTHOUSES, GREENHOUSES, ETC.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

E. DENCH, PATENT HOTHOUSE WORKS, King's-road, Chelsea.—The superior qualities in every respect of these Structures having been proved in all parts of the United Kingdom, has caused a greater demand for them than E. D. could execute; he has been obliged to have perfect and powerful machinery made to meet the numerous orders, and can now execute any amount of work to great perfection, with dispatch, and for quality and price to defy all competition. Patent Hothouses, with excellent glass 3 feet long by 1 foot wide, every front sash to open, and every top one to slide down, with pulley made of the same materials as the electric telegraph wires, which require no painting; delivered free to Wharf or Railway Station, at 1*s.* 2*d.* per foot super., complete, having been fitted, and every portion marked previously, making a Greenhouse 16 ft. 6 ins. long, 12 ft. rafter, 400 ft., 23*l.* 6*s.* 8*d.*; 24 ft. 6 ins. long., do. do., 526 ft., 30*l.* 13*s.* 8*d.*; 28 ft. 6 ins. long, 15 ft. rafter, 712 ft., 41*l.* 10*s.* 8*d.* Heating by Hot-water on the most approved and economical principles.

Patent Sashes for Pits and Peach Walls, &c., 7*d.* and 8*d.* per foot, super.

GREEN AND HOTHOUSES, made by Machinery, at J. Lewis' Horticultural Works, Stamford Hill, Middlesex, warranted best materials, and the cheapest in England.—A List of Prices sent by enclosing 2 postage stamps.

GREENHOUSES GLAZED WITHOUT PUTTY, no Leakage, simple and easy of repair, cheaper than any other system, and much more durable. Lists of prices of different-sized houses forwarded, on application to the inventor and manufacturer, Alfred Kent, Chichester. A Greenhouse glazed upon this system can be seen at the grounds of the Royal Botanical Society, Regent's-park, London.

FRUIT TREES, POULTRY, ETC.

TANNED GARDEN NETTING, for protecting Fruit Trees from Frost, Blight, and Birds, or as a Fence for Fowls, Pigeons, Tulip and Seed beds, can be had in any quantity or length, from John King Farlow's Fishing Tackle and Net Manufactory, 5, Crooked-lane, London-bridge, at 1½*d.* yard wide, 3*d.* two yards wide, or 6*d.* four yards wide. All orders above 20*s.* accompanied with Post-office order, stamps, or London reference, carriage free.

TANNED NETTING, for the Protection of Fruit Trees from frost, blight, and birds, and for the security of fresh-sown seeds, either in gardens or fields, at 1*d.* per square yard, 200 yards for 14*s.*, 500 yards for 30*s.*, 1000 yards for 50*s.*; waxed Netting for Aviaries, &c., at 3*d.* per square yard. Scrim canvass for wall fruit, netting for sheep-folds; a considerable saving of labour, and less expense than hurdles. Sun blinds in great varieties, rick cloths, with poles, &c. Marquees, tents, awnings, and temporary rooms, with boarded floors, elegantly lined and lighted for fêtes, &c., on sale or hire. Carriage, cart, and truck covers impervious to rain; cloths for the covering of furniture in change of residence, &c. Tarpaulings on hire for houses under repair, at THOMAS EDGINGTON & Co.'s, 17, Smithfield-bars, and Old Kent-road.

N.B. Orders and inquiries per post punctually attended to.

NEW VERBENAS.—Ormsby Beauty, rich rosy purple, distinct in colour to any we have before; large distinct white centre; pip large, and of fine form; scarcely any indentation, and smooth on the edges, with full-sized truss. It was exhibited, and awarded a Certificate, at the Norwich September show. This fine variety was raised by Mr. Edmonds, gardener to the Dowager Lady Lucon. Price 5s.

Duchess of Kent (Banks), white, with rose centre, very delicate and showy; good shape and truss. Price 3s. 6d.

Strong plants are now ready, on application to C. Turner, Royal Nursery, Slough.

ROBERT M. STARK begs to intimate that his Descriptive List of Florists' Flowers, Bedding Plants, &c., for the season is now ready, and may be had on application.

Among other NEW or RARE PLANTS offered, he would particularly notice the beautiful purple and lilac Linaria reticulata, figured in the "Garden Companion" for April, and described as a "very pretty plant, flowering freely in summer." It is admirably suited for beds on rockwork.

R. S., who has the entire stock, will be able to supply plants the first week in May, at 5s. each.

Edinburgh, Eglehill Nursery, Dean, April 10.

GEORGE CRAGG begs to inform the public that he is now prepared to send out his dark WALLFLOWER named "Negro Boy." G. C. begs to state that he was awarded a First Class Certificate at the North London Floricultural Society, for its being the darkest and best in cultivation. Price 5s.

Also a fine orange-coloured one, named "Orange Defiance," both very large trussers, quite hardy, and beautifully fragrant, and well worthy a place in every garden. Price for the two, 7s. 6d. Small plants can be sent free by post for the sum named above, either in postage stamps or by a money order, made payable at the Highgate Post-office.

Crouchend Nursery, Hornsey, near London.

PERMANENT PASTURE.

HENRY ROGER SMITHE, of Eastling, Faversham, Kent, informs the public, that his mixtures of NATURAL GRASSES and SMALL CLOVERS, gathered principally under his superintendence, including every sort necessary to form a Permanent Pasture, accordant with the soil, &c. (which should be particularly stated), are now ready to be delivered by Railway to any Station in England, Carriage Free, at 20s. per acre, allowing 3 bushels per acre.

MIXTURES FOR LAWNS, &c. THE TRADE SUPPLIED.

Any information on the nature and properties of the Grasses, the Advertiser would be pleased to give.

Corner of Half-Moon street, Piccadilly.

PERMANENT GRASS SEED.

THOMAS GIBBS and CO., Seedsmen to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND," &c., having for upwards of 50 years paid particular attention to Laying down Land to PERMANENT MEADOW and PASTURE, beg to call the attention of Agriculturists to the following Mixtures, which will be apportioned to suit the nature of the soil:—

Mixtures for PERMANENT MEADOW and PASTURE, including Perennial Clover.

Mixtures for PARKS, FIELD LAWNS, or Portions of Grass Land near to Mansions.

Mixtures for UPLAND SHEEP WALKS and DOWNS.

Mixtures for FINE GARDEN LAWNS and GRASS-PLOTS.

Also to their White Belgian and other Carrots; Yellow or Orange Globe Mangold Wurzel, Long Red ditto, and other kinds; Swedes, Hybrids, and other Turnips; Italian and other Rye-grasses, Clovers, &c.; and their general collection of Agricultural and other Seeds.

Thomas Gibbs and Co., Seedsmen to the R.A.S.E., corner of **Half-Moon-street**, Piccadilly, London.

AGRICULTURAL SEEDS.

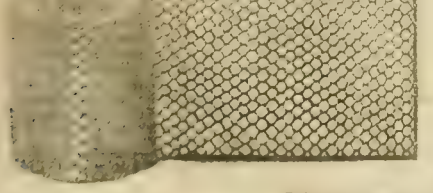
W. DRUMMOND and SON, Seedsmen, Stirling, Scotland, are now prepared to execute orders for the above, from a stock that has been selected with every possible care. They beg to call special attention to their various sorts of TURNIP, ITALIAN, and PERENNIAL RYE-GRASS and NATURAL GRASSES for Permanent Pasture, the prices for which are as low as really genuine Seeds can be reared for. Catalogues, with prices and other details, may be had free on application.

N.B.—The Carriage of Seeds will be prepaid to many of the principal Railway Stations and Shipping Ports throughout the Kingdom.—Agricultural Museum, Stirling, N.B.

EGGS OF THE GOLD PENCILLED HAMBURGH, Silver-pencilled ditto, Black-necked Gold-spangled Hamburgh (commonly called Capt. Crammer's Pheasant Fowls), 7s. 6d. a set of 13, package included. Spotted Dorkings, 5s. a set.—Apply to T. Walker, jun., Beeston, near Nottingham.

STEPHENSON and PEILL, 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Manufacturers of Copper Cylindrical and Improved Conical Iron BOILERS, and Conservatory and Hothouse Builders, either in wood or iron, respectfully call the attention of the Nobility, Gentry, and Nurserymen to their simple but efficacious method of warming Horticultural and other Buildings by hot water. From the extensive works they have executed, references of the highest respectability can be given, and full particulars furnished on application.

GALVANISED WIRE GAME NETTING.—7*d.* per yard, 2 feet wide.



	Galvanised.	Japanned Iron.
2-inch mesh, light, 24 inches wide	7*d.* per yd.	5*d.* per yd.
2-inch ,, strong ,,	9 ,,	6½ ,,
1½-inch ,, extra strong ,,	12 ,,	9 ,,
1-inch ,, light ,,	8 ,,	6 ,,
1-inch ,, strong ,,	10 ,,	8 ,,
1-inch ,, extra strong ,,	14 ,,	11 ,,

Any size can be made to any width at proportionate prices. Five yards in a coil or reach, it will reduce the prices [illegible] Galvanised Netting for Poultries, [illegible] Fire-proof Safes, [illegible] Chests, &c., and delivered free of expense in London, Peterborough, Hull, or Newcastle.

BENJAMIN EDGINGTON respectfully informs the public he has at length been successful in obtaining a warehouse sufficiently lofty and extensive to show at one view Tents of different character and description, and invites all who are in want of Tents, for Emigration, Floral and Horticultural Societies, or for Garden Lawns, to a private view at No. 2, Duke-street, Southwark, where every information and explanation will be given

NETTING and BUNTING for Fruit Trees, &c.

HALL'S GARDEN NETS, Light and Durable.—Best Protection against Frost, Hail, and Wind; also from Wasps and Insects; and good for outside shades of Greenhouses, &c.

All 55 Inches Wide.

No. 1, per yard ...	... 5½*d*	No. 3, per yard ...	... 7*d.*
,, 2, ,, ...	... 6*d.*	,, 4, ,, ...	... 7*d.*

To be had in London of Mr. Benjamin Edgington, 2, Duke-street, Southwark; Messrs. Charlwood and Cummins, 14, Tavistock-row, Covent-garden; Messrs. Minier, Nash and Nash, 69, Strand; Messrs. Nutting and Sons, Cheapside; also of the principal Nurserymen and Seedsmen in Edinburgh, Dublin, Manchester, Liverpool, Chester, Norwich, &c., &c.

Manchester, April 3.

CHEAP AND DURABLE ROOFING.

BY HER MAJESTY'S



ROYAL LETTERS PATENT.

F. M'NEILL and Co., of Lamb's-buildings, Bunhill-row, London, the Manufacturers and only Patentees of THE ASPHALTED FELT FOR ROOFING

Houses, Farm Buildings, Sheddings, Workshops, and for Garden purposes, to protect Plants from Frost.

At the Great National Agricultural Shows, it is this Felt which has been exhibited and obtained Two Silver Medal Prizes, and is the Felt solely patronised and adopted by

Her Majesty's Woods and Forests,
Honourable Board of Ordnance,
Honourable East India Company,
Honourable Commissioners of Customs,
Her Majesty's Estate Isle of Wight,
Royal Botanic Gardens, Regent's Park,

And on the Estates of the Dukes of Sutherland, Norfolk, Rutland, Newcastle, Northumberland, Buccleuch (at Richmond), and late Earl Spencer, and most of the Nobility and Gentry, and at the Royal Agricultural Society's House, Hanover-square.

It is half the price of any other description of roofing, and effects a great saving of Timber in the construction of Roofs. Made to any length by 32 inches wide.

Price One Penny per Square Foot.

*** Samples, with Directions for its Use, and Testimonials of seven years' experience, with references to Noblemen, Gentlemen, Architects, and Builders, sent free to any part of the town or country, and orders by post executed.

☞ The Public is cautioned that the only Works in London or Great Britain where the above Roofing is made, are

F. M'NEILL and CO.'S

Patent Felt Manufactory, Lamb's-buildings, Bunhill-row, London, where Roofs covered with the Felt may be seen.

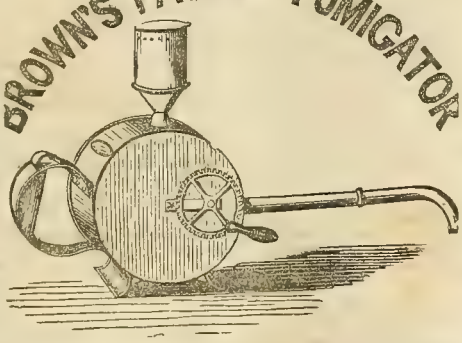
The new Vice-Chancellor's Courts, at the entrance of Westminster Hall, were roofed with F. M'Neill and Co.'s Felt about two years since, under the Surveyorship of Chas. Barry, Esq., R.A. Her Majesty's Commissioners of Woods and Forests are so satisfied with the result that they have ordered the Committee Rooms at the Houses of Parliament to be roofed with their Felt. Quantity altogether used, 24,000 feet.

Note.—Consumers sending direct to the Factory can be supplied in lengths best suited to their Roofs, so that they pay for no more than they require.

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LIGHT.

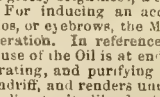
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SALE OF NURSERY STOCK,
BUILDING MATERIALS, &c.

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N.B. A Sale of the remaining Glass, Greenhouse Plants, &c., will take place in the course of the ensuing month.—May be viewed prior to sale, and Catalogues had on the premises, and of the Auctioneer, Brompton Nursery, Fulham-road, London.

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MESSRS. PROTHEROE AND MORRIS will submit to public competition by Auction, at the Mart, Bartholomew-lane, on THURSDAY, April 15, at 12 o'clock, a very first-rate collection of CARNATIONS and PICOTEES (being the surplus stock of C. W Lochner, Esq.), comprising all the rare and most approved varieties A choice assortment of Dahlias, Verbenas, Fuchsias, Roses, Geraniums, Cinerarias, and other plants in bloom.—May be viewed the morning of sale. Catalogues had at the Mart; and of the Auctioneers, American Nursery, Leytonstone, Essex.

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III. DIARY OF GENERAL PATRICK GORDON.
IV. RECENT EPICS.
V. COMPARATIVE ANATOMY—PROFESSOR OWEN.
VI. BOHEMIAN EMBASSY TO ENGLAND, &c., 1466.
VII. CANNON, MUSKET, AND RIFLE.
VIII. CALIFORNIA *versus* FREE TRADE.
IX. GEORGE III.—GRENVILLE AND ROCKINGHAM PAPERS: LORD MAHON'S HISTORY, VOLUMES V. AND VI.
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Printed by WILLIAM BRADBURY, of No. 13, Upper Woburn-place, in the parish of St Pancras, and FREDERICK MULLETT EVANS, of No. 7, Church-row Stoke Newington, both in the County of Middlesex Printers, at their Office in Lombard-street, in the Precinct of Whitefriars, in the City of London; and published by them at the office, No. 5, Charles-street, in the parish of St Paul's, Covent-garden, in the said County, where all Advertisements and Communications are to be ADDRESSED TO THE EDITOR.—SATURDAY, April 10, 1852.

THE GARDENERS' CHRONICLE

AND

AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 16—1852.] SATURDAY, APRIL 17. [PRICE 6*d.*

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ERRATUM.—In Mr. Hardy's Advertisement, at page 227, col. *b*, last week's Number, for "Bokhara Clover, &c., for *beds*," read *bees*.

21, REGENT STREET.

HORTICULTURAL SOCIETY OF LONDON.

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The Exhibitions will take place on the Second Saturdays in May, June, and July, namely,

MAY 8, JUNE 12, JULY 10.

All Fellows who shall apply, on or before Tuesday, the 20th of April, may obtain, at the PRIVILEGED RATE of Three Shillings and Sixpence each, any number of tickets NOT EXCEEDING FORTY-EIGHT; but no application for such tickets will be received after that day. *Fellows of the Society subscribing for tickets at this price will be allowed a clear week from the 20th of April during which they may claim them.* AFTER THAT PERIOD ALL THE 3*s* 6*d.* TICKETS SUBSCRIBED FOR, BUT NOT ISSUED, MAY BE CANCELLED.

After the 20th of April, any further number of tickets will be delivered to Fellows on their personal application or written order, at the price of *Five Shillings* each ticket.

ROYAL SOUTH LONDON FLORICULTURAL SOCIETY.

—Under the Patronage of her Most Gracious Majesty the QUEEN.—The FIRST EXHIBITION of the season will take place on THURSDAY, the 22d APRIL, in the Assembly Rooms, at the Horns Tavern, Kennington (open to all Exhibitors), when prizes will be awarded for the following productions, viz.: Miscellaneous and Specimen Plants, Auriculas, Heartsease grown in pots and cut blooms, Polyanthuses, Cinerarias, and Seedlings. Mr. Oakey's Band is engaged for the occasion. Admission to Members and their Friends at 12 o'clock, and to the public from 1 to 6 o'clock, at One Shilling each. The following Exhibitions will also take place at the Surrey Zoological Gardens, on Thursday, the 20th May; Wednesday, 23d June; Wednesday, 21st July; and Wednesday, 8th September. The Committee beg to inform the Members, Florists, and others, that it is their Intention to receive Seedling Flowers and Plants, for opinion, from non-members as well as members, without entrance fee, and granting first class Certificates to such as are deserving, at their Monthly Meetings, to be held at the Horns Tavern, Kennington, on the following days, viz.: Thursday, 15th April, 13th May, 17th June, 15th July, 19th August, 2d September, 14th October, 11th November, and 9th December; in addition to the regular exhibitions as above. The Rules, List of Prizes, &c., may be obtained from the Secretary, Mr. J. T. NEVILLE, Ebenezer House, Peckham, Surrey.

SCOTTISH GARDENERS' AND LAND STEWARDS' ASSOCIATION.

ELECTION OF ANNUITANTS.

NOTICE is hereby given, that all persons intending to become Candidates at the ensuing Election of Pensioners on the Funds of this Institution, must send in their applications on or before the 1st of May. Printed Forms may be obtained of the Secretary. By order,

CHARLES LAWSON, Jun., Hon. Sec.

2, George IV. Bridge, Edinburgh, April 5.

*** Receipts for Subscriptions for 1851-52, due on 1st June last, lie at the office.

AZALEA INDICA.—Selections from the following varieties, 9*s.* to 21*s.* per doz., very strong plants:—Alba magna, ignescens, Edmondsii, Glory of Sunning Hill, Holdenii, optima, carminata, alba lutescens, splendens, delecta, Prince Albert, præstaria, triumphans, Hebe, obtusa, punciflora, coronata, Minerva, Perryana, Cupid, vivicans, Conqueror, coccinea superb, lateritia grandiflora, magnifica plena rosea superba, Incomparable, Fulgens, modesta, variegata, blanda, rosea punctata, semi-duplex maculata, Lawrenceana, Broughtonii, Duke of Devonshire.

Stove and Greenhouse Plants in great variety, 12*s.* to 24*s.* per dozen.

Strong well-established plants of the newest and best kinds of Fuchsias, 9*s.* to 15*s.* per dozen.

Fine new and show varieties of Pelargoniums, in 48-sized pots, very strong, bushy plants, 9*s.* to 21*s.* per dozen.

Dahlias, all the leading kinds of former years, together with the novelties of the present season, from 6*s.* per dozen.

A descriptive Spring Catalogue will be sent on application.

Bower Nurseries, Maidstone, April 17.

FRESH IMPORTED GERMAN ASTERS STOCKS, ZINNIAS, BALSAMS, HOLLYHOCKS, &c.—A consignment of a superior stock of the above has recently been made by one of the principal Continental Florists to Messrs. SUTTON and SONS, *Reading, Berks, who will send, post free, to any part of the Kingdom*, a choice assortment of Stocks, Asters, Hollyhocks, or Balsams for 5*s.* or 10*s.* Also a choice assortment, including all the above-named and other choice German Seeds, for 20*s.*

April is the best month to sow German Flower Seeds.

Address, JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

SUTTON'S PERMANENT GRASSES.—THE SUPERIOR QUALITY OF SUTTON'S GRASS SEEDS is plainly indicated by the numerous Orders they are daily receiving, through the recommendation of former customers.

Some interesting particulars of Land laid down with these Seeds is published in the GARDENERS' CHRONICLE *of March 27th, page* 195.

The prices for the best quality are as under, but for poor reclaimed Lands or other cases where the cost is the principal consideration, mixtures at about half the price may be had.

For best permanent Meadow and Pasture, mixed expressly to suit the soil	Per acre. 24*s.* to 28*s.*
For best Clovers and Grasses (for one, two, or three years' lay)	14*s.* to 20*s.*

The sorts consist of true Perennial Grasses and Clovers, as named particularly in our Advertisement on the last page of the *Gardeners' Chronicle* of 20th March.

JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

ABUTILON INSIGNE.

MR. J. LINDEN, of Brussels, is now sending out strong plants of the above splendid Abutilon, at 10*s.* each, delivered free in London. A drawing of it may be seen at Mr. J. C. Stevens's Auction Room, 38, King-street, Covent-garden, who, with Messrs. Betham and Blackwith, Cox and Hammond's Quay, Thames-street, will undertake to forward orders to Mr. Linden.

PICEA PINSAPO.—A few stout 2-year-old plants, *from Seed*, of the above scarce and handsome CONIFER, may now be had of YOUELL and Co., Royal Nursery, Great Yarmouth, at 12*s.* per dozen.

They respectfully refer the readers of the *Gardeners' Chronicle* to their Advertisement of last week.

MORTON'S YELLOW GLOBE MANGOLD.

WILLIAM E. RENDLE AND CO. *have purchased a very superior Stock of Seed, saved by J. C. Morton, Esq., of Whitfield, Gloucestershire, which is now offered by retail, at* 10*d. per lb.*

All other kinds of Agricultural Seeds can be obtained, of the best and most genuine quality, at the lowest market prices.

WILLIAM E. RENDLE and Co., Seed Merchants, BY SPECIAL APPOINTMENT, to the South Devon Agricultural Association, and the Royal Agricultural Society, Prince Edward's Island.

PRIZE MANGOLD WURZEL.—The quality of a crop of Mangold Wurzel depends very materially upon the size and the shape of the bulbs from which the seed is saved; and we have, after several years' selection, obtained a very superior stock of the YELLOW GLOBE-SHAPED MANGOLD.

We are daily receiving orders from customers, desiring us to send the same sort as last year; and a Clergyman writing from Ripon, Yorkshire, says—"*I enclose you a list of the Prizes which I obtained, mostly from your seeds. The Mangold was the best I ever saw.*" And a gentleman writes from Torquay—"*I had a splendid crop of each sort of Mangold, but the Yellow Globe are the best. My neighbours all ask me where I procured my seed, so you may expect many orders from this part.*"

We have also good stocks of Long Red, Red Globe, and Long Yellow. Price of either sort, **8d.** per lb., IN SMALL QUANTITIES, or **6d.** per lb. in quantities OF NOT LESS THAN 28 LBS.

Also, TRUE LARGE WHITE BELGIAN CARROT, **9d.** per lb., or **60s.** PER CWT. IN QUANTITIES OF NOT LESS THAN 28 LBS.

Carriage free as see our Advertisement in the GARDENERS' CHRONICLE *of 20th March.*

*** *Instructions on the Cultivation of Root Crops will be enclosed in each parcel.*

JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

JOHN AND CHARLES LEE beg to offer the undernamed novelties, which they recommend with confidence. Plants of each 5*s.*, in May. Discount to the Trade, when three are ordered.

HELIOTROPIUM ALBICANS.—This is the best light Heliotrope for bedding yet offered. The general effect is a good WHITE, with dark green foliage, rendering it very conspicuous.

FUCHSIA, "THE FAIRY."—Tube, waxy pale flesh, sepals delicately tipped with bright pink; corolla edged with carmine. Altogether the most pleasing and novel Fuchsia yet sent out.

Nursery, Hammersmith, near London.

DILLISTONE AND CO., of the Nurseries, Sturmer, beg to offer—

Fine varieties of Geraniums, 6*s.*, 9*s.*, and 12*s.* per dozen.
" Fuchsias, 4*s.*, 6*s.*, and 9*s.* per dozen.
Bedding Plants of all the popular kinds, 2*s.* 6*d.* to 6*s.* p. doz.
Herbaceous Plants, showy good kinds, 4*s.* p. doz., 30*s.* p. 100.
Double Major White Rocket, 2*s.* 6*d.* per doz., 15*s.* per 100.
Hollyhock, strong blooming seedlings, from the best, 2*s.* 6*d.* per doz., 15*s.* per 100. Seed from named flowers, 1*s.* per 100 seeds.

A few dozens of the most popular Hybrid Perpetual Roses to spare, on the Manetti stock; price upon application.

Post-office orders payable at Halstead or Haverhill. All orders above 1*l.* paid to London.

THE BLACK BARBAROSSA GRAPE.

JOHN BUTCHER begs to state that he has still on Sale good fruiting plants, and one year old, of the above splendid Late Grape, introduced from the Continent by C. T. Ward, Esq., Clopton House, Stratford-on-Avon; was exhibited in January, 1849, at the Horticultural Rooms, Regent-street, London, for which a Certificate was granted; and in 1850, on the 10th of January, a Banksian medal was awarded it. Families requiring late Grapes will find the Barbarossa a splendid late Grape, and will be in fine condition in March, when Grapes are selling in Covent Garden market from 15*s.* to 20*s.* per lb. Fine Fruiting Plants, 10*s.* 6*d.* each; one year do., 5*s.* 6*d.* each. London Agent, Mr. F. WARNER, Seed Merchant, 26, Cornhill.—Stratford-on-Avon, April 17.

IMPORTANT SALE OF PINE PLANTS, the property of a Lady declining the cultivation of Pines, consisting of about Fifty extra fine strong Fruiting Plants, and about Two Hundred Succession Plants, all perfectly clean and vigorous.—For particulars apply to Mr. JOSH. FAIRBAIRN, Nurseries, Clapham, near London.—April 17.

FIRST CLASS VERBENAS, FUCHSIAS, CINERARIAS, PETUNIAS, ETC., ETC., ALSO STRONG PLANTS, NOW SENDING OUT.

G. SMITH'S SEEDLING VERBENAS surpass any of the English or Continental varieties; and are quite equal and distinct from those superb Verbenas sent out by G. S. last spring, viz.:—Smith's British Queen, Euchantress, Exquisite, Grandis, Voltigeur, Shylock, &c., &c. The following set of 12 for 21*s.*, 6 for 25*s.*, or 5*s.* per plant:—

ALBA MAGNA, very large, of fine form; greatly admired at the Royal Botanic Gardens. Awarded a first-class certificate at the North London Society.

DELIGHT (YOUNG), bright rosy crimson, lemon eye, surrounded with a deeper shade, which gives the flower an exquisite appearance, pips and truss large and smooth on the edge.

ARIEL, white eye, pink, surrounded with rosy purple, pip very large, smooth on the edge, truss large. Awarded a premier prize at the London Floricultural Society as the best seedling fancy Verbena, and likewise at the North London as the best Verbena.

ELIZA COOK, purple, crimson eye, truss large, of exquisite form; a beautiful variety, highly recommended by the National Floricultural Society.

KOH-I-NOOR, colour dark rose, with a darker centre, pips extra large, very flat and even on the edge, truss large; recommended by the National Society. First class at the Royal South London, with extra money prize, and first class at the North London.

NATIONAL, shaded red, white eye, of exquisite form, large. Certificate at the National Royal South London and North London, with money prizes.

ORLANDO, lilac blue, very large, in the way of Mrs. Mills, but larger, and a little darker. Certificate at the National and Royal Surrey Gardens; also a money prize.

PURPLE RIVAL, light purple eye, white pip, large, truss very large, of fine form. Certificate at the National Society.

STANDARD, rosy salmon, eye white, surrounded with rosy scarlet, very large and fine; first class at the London Floricultural Society.

MISS JANE, white eye, yellow, surrounded with bright rose pip, and truss very large and compact.

VIRGINIUS, rich purplish blue, pip and truss very large, of extra fine form. First class at the Royal South London, and a money prize at the London Floricultural Society.

MONSIEUR JULLIEN (YOUNG), dazzling crimson scarlet, truss of fine form. This will be a fine bedding or show variety.

FUCHSIAS.

G. S. begs to offer the four following Fuchsias, raised by E. Banks, Esq., as he feels assured they will give as much satisfaction as those sent out by him in former seasons, such as Alpha, Kossuth, Dr. Smith, Orion, Ne Plus Ultra, and Sedonia, which have all proved themselves to be first-rate varieties for exhibition.

NIL DESPERANDUM, tube waxy, bright scarlet, sepals broad, well reflexed, corolla deep violet, of great substance, finely formed, a free bloomer and of free growth, the finest dark yet offered. Was awarded a certificate at the National Floricultural Society, the Royal South London first class, and a premium as the best dark, and first-class at the North London Society. 7*s.* 6*d.*

LEADER, tube and sepals crimson, corolla violet purple, of good form, a free grower and bloomer. Awarded a first class certificate at the Royal South London. 5*s.*

ARIEL, tube white, very stout, sepals broad reflexed, corolla vermilion scarlet, of great substance, a splendid contrast, a good grower and a free bloomer, a noble variety. 7*s.* 6*d.*

JOAN OF ARC, shown as "Beauty of Deal" (the name is altered in consequence of one being previously called so), colour waxy white, tube stout and well formed, corolla rosy scarlet, of exquisite form, free growth and good habit. 7*s.* 6*d.*

SEEDLING CINERARIAS.

ALBA MAGNA (SMITH), white, purple disc, fine form; a certificate awarded at the National Floricultural Society. 10*s.* 6*d.*

QUEEN OF BEAUTIES (SMITH), pure white, of good habit, very superior outline and general symmetry; awarded four first class certificates and money prizes at the Royal South London Floricultural Society, as the best seedling exhibited. 10*s.* 6*d.*

SURPRISE (LOCHNER), rosy purple, disc light, good, general habit; recommended at the National for its desirable form, three other certificates. 7*s.* 6*d.*

NEW AND DISTINCT PETUNIAS

(OFFERED FOR THE FIRST TIME).

AJAX (YOUNG), rosy purple, flower large, flat and smooth on the edge, throat light, veined with puce, extra fine, and well adapted for bedding, 3*s.* 6*d.*

JOAN OF ARC (YOUNG), bright rose, flower large, flat and round, throat white, very attractive. 3*s.* 6*d.*

UNIQUE (SMITH), rosy pink, beautifully striped with rich purple lake, throat dark, the corolla round, flat, and of great substance. 3*s.* 6*d.*

WHITE GIANT (PARSONS), this splendid flower will be found to be a great acquisition to the flower garden, it is of great substance, and extra large. 3*s.* 6*d.*

MARY ANN (PARSONS), rose, veined with rich purple, good form and substance, free bloomer. 3*s.* 6*d.*

CRISTABEL (PARSONS), rosy pink, evenly veined with rosy purple, throat dark, corolla of great substance, flat and smooth on the edge, extra, 3*s.* 6*d.*; the set of six, 15*s.*

All Orders carefully packed, with plants to compensate for carriage. Small Plants can be forwarded safely to any part of the Kingdom post free. Unknown correspondents forwarding a remittance with their orders will be liberally dealt with. Post-office orders payable at Islington.

Tollington Nursery, Hornsey Road, Islington, London.

PERMANENT PASTURE AND OTHER GRASSES,

SUITED TO THE SOILS REQUIRED.

BASS AND BROWN

BEG TO OFFER THEIR VERY SUPERIOR MIXTURES, as under, for laying down Permanent Pastures, &c. Their Agricultural Seed List, which contains the sorts separately priced, may be had prepaid.

	Per acre.—s. d.
MIXTURES FOR PERMANENT PASTURE ON LIGHT LANDS, allowing 3 bushels and 9 lbs. to each acre	24 0
MIXTURES FOR DITTO, ON HEAVY LANDS	27 0
MIXTURES FOR PARKS OR PERMANENT LAWN PASTURES	28s. to 32 0
MIXTURES FOR FINE LAWNS, BOWLING GREENS, &c.	34s. to 38 0
MIXTURES FOR MARSHY GROUNDS, or Meadows subject to flood	24s. to 28 0
MIXTURES FOR ORCHARDS, &c., much overshaded by trees	24s. to 30 0
MIXTURES FOR SOILS OF ALL DESCRIPTIONS, to be laid down with the proper kinds and proportions requisite.	
MIXTURE FOR RENOVATING OLD PASTURES, per lb.	0 10
MIXTURE FOR FINE LAWNS IN FLOWER GARDENS, per lb.	1 0

Our locality, and our long experience and practice in collecting several species and kinds of the Grasses natural to our own neighbourhood, for a considerable distance round, enables us to supply them either separately or in mixtures as low as any house in the trade. We also import many of the most useful sorts from the Continent, and some we receive from other localities.

Our Collection consists of all the most useful and best kinds for the purposes required. The mixtures will be found excellent, and have given the highest satisfaction.

	Per bushel.—s. d.
TRUE ITALIAN RYE GRASS, English and imported	5s. 6d. to 7 0
FINE SCOTCH PACEY AND COMMON RYE-GRASSES	4s. to 6 0
STICKNEY'S IMPROVED RYE-GRASS	6 6

LUCERNE, ALSIKE, SUCKLING, AND OTHER CLOVERS.

DRUMHEAD CABBAGE; also True Stocks of all the best varities of TURNIPS, MANGOLD WURZEL, &c., at the lowest prices.

EVERY DESCRIPTION OF AGRICULTURAL AND GARDEN SEEDS.

OUR GENERAL DESCRIPTIVE SEED AND PLANT LIST FOR 1852,

CONTAINING 36 PAGES, SUPPLIED FREE BY POST FOR FOUR PENNY STAMPS.

Goods delivered Free to London, Colchester, Ipswich, Norwich, or any Station on the same Line of Railway.

SEED AND HORTICULTURAL ESTABLISHMENT, SUDBURY, SUFFOLK.
ESTABLISHED ABOUT HALF A CENTURY.

FUCHSIAS.— The following distinct fine NEW VARIETIES, raised by E. BANKS, Esq., and warranted give satisfaction to the purchaser:—

DIADEM.—Rich crimson tube and sepals, fine shaped dark purple corolla; sepals reflex, beautifully resembling the Turk's Cap Lily. *7s. 6d.*

BEAUTY OF DEAL.—White tube, with bright vermillion corolla; opens well, of good substance, and free bloomer. *7s. 6d.*

CORTONA.—Crimson tube and sepals, corolla almost black; a distinct good variety, sepals reflex well. *7s. 6d.*

GAIETY.—Blush tube and sepals, lilac purple corolla; very dissimilar and novel. *7s. 6d.*

HONEY BELL.—White tube and sepals, lilac corolla; reflexes well, good stout flower. *7s. 6d.*

NONSUCH.—Crimson, dark purple corolla; good shape, small free bloomer. *5s.*

L'ELEGANTE (Turner).—White, vermillion corolla; reflexed sepals, and good habit. *5s.*

VERRIO (Turner).—Dark crimson, dark purple corolla; reflexed fine flower. *5s.*

Strong plants are now ready.

C. TURNER, Royal Nursery, Slough.

IMPORTANT TO POTATO PLANTERS.—Procuring sound Seed is the surest means to have a good crop. We have now left only a few Tons of YORK REGENTS, CAMBRIDGE RADICAL, AMERICAN, NATIVE, AND WHITE-BLOSSOMED KIDNEY POTATOES, the produce of our last year's prepared cuttings, at prices formerly advertised. Prepared cuttings of the following sorts will be ready about the second week in May:—

	s. d.
York Regents ... ... per 1000	10 6
American Native ... ... ,,	10 6
Cambridge Radical ... ... ,,	10 6
Early Oxford ... ... ,,	15 0

Packages, for 1000, *1s.*; 2000, 1*s. 6d.*; 5000, 2*s. 6d.*

No orders will be provided for which are not to hand early in April. Post-office orders to be made payable at the Borough Office to HAY, SANGSTER and Co., Newington Butts.

London, 6th March, 1852.—Subjoined is the analysis of two highly respectable Chemists, of our stock in hand:—

"London, March 12, 1852.

"We have now completed our examination of a sample of Potatoes grown from your prepared cuttings in comparison with another sample of the same denomination, obtained by ourselves from a highly respectable Potato salesman, with a view to ascertain the relative proportion of starch contained in each, with the following highly satisfactory result in your favour, viz.:—

Starch.

"Those grown from your prepared cuttings ... 17 per cent.
"Potatoes from Salesman ... ... 12½ per cent.

"MAURICE SCANLAN, F.C.S.
"ALFRED ANDERSON, F.C.S.

"Messrs. Hay, Sangster, and Co., Seed Merchants, 18, Cumberland-place, Newington Butts."

A NEW SEEDLING POTATO.

MESSRS. WHEELER AND SON have much pleasure in offering a New Seedling Potato, called "THE PRINCE OF WALES."

It is an excellent Early Potato, in fact one of the earliest in cultivation; so early that it escapes the disease more than any other variety. It is a great bearer, of excellent quality, and, as we have a good stock, we can offer it at a low price. We have much pleasure in adding the following extract from the *Gardeners' Chronicle and Agricultural Gazette* of the 12th of April, 1851:—

"PRINCE OF WALES POTATO: MESSRS. WHEELER, *of Gloucester*. We can speak, from personal experience, to the excellent quality, productiveness, and *earliness* of this variety."

We can offer it at 2*s. 6d.* per peck, or 9*s.* per bushel, bag and package included. All quantities of a bushel and upwards would be delivered carriage free to any Railway Station in England or Wales.

J. C. WHEELER and SON, 99, Northgate-street, Gloucester, Nurserymen and Seedsmen to the Gloucester Agricultural Society.

WICKS' AFRICAN SELECTION FOR 1852.

JUST ARRIVED PER SHIP "PERSIA."

A SELECTION OF NEW AND RARE PLANTS, among which are YELLOW, PAPILIONACEOUS, BLACK, and other coloured PELARGONIUMS, which will be found extremely valuable for Hybridising; also five species and colours of double OXALIS, two new species of LACHENALIA, yellow GLADIOLUSES, and 100 species of Plants, Bulbs, Seeds, &c., too numerous to mention here. Dry specimens of the Flowers to be seen by applying to P. WICKS, 10, Boswell-court, Devonshire-street, Queen's-square, London.

DOUBLE ITALIAN TUBEROSE ROOTS, *4s.* per dozen.—The annual importation of the above-named beautiful and fragrant Flower has just been received, and large and well-selected Bulbs may be obtained, without disappointment, at A. COBBETT'S Foreign Warehouse, 18, Pall-mall.

N.B. Printed regulations for treatment sent; also, just arrived, very moist and open Parmasan Cheeses.

FINE PASTURE GRASS SEEDS for laying down Land.—Hand-picked Seed at 24*s.* per acre, allowing 3 bushels of the mixed Grass Seed and 6 lbs. of Dutch Clover to each acre. HENRY CLARKE, Seed Merchant, 39, King-street, Covent-garden, London.

SCARCE AND BEAUTIFUL FLOWER SEEDS
EMPEROR STOCK, a perennial species, and hardy 1400 seeds, 1*s.*

CINERARIA and CALCEOLARIA, selected from collections of Plants, that were admitted by all persons who saw them to be the finest they had ever seen; 250 seeds of the former, and 500 of the latter, 1*s.* each paper.

MYOSOTIS AZORICUS, a bed of this on an eastern or northern aspect is very beautiful; 200 seeds, 1*s.*

CALENDRINIA UMBELLATA, one of the neatest growing and most brilliant flowering of all bedding plants; 1500 seeds, 1*s.*

SWEET WILLIAM, in 100 varieties; 10,000 seeds, 1*s.*

Payment may be made in postage stamps.

JEYES and Co., Nurseries, Northampton.

NEW FARM SEEDS.—*The attention of all engaged in Farming Operations is respectfully directed to the Advertisement of Messrs.* WM. E. RENDLE *and Co., Plymouth, which appeared on the back page of this Newspaper* ON SATURDAY, MARCH 27, *page* 208.

Our General Descriptive Price Catalogue of Farm Seeds

Is now ready, and can be had in exchange for one penny stamp.

Apply to WILLIAM E. RENDLE and Co.,
Seed Merchants, Plymouth,
ESTABLISHED MORE THAN HALF A CENTURY.

SEED AND HORTICULTURAL ESTABLISHMENT,
SUDBURY, SUFFOLK.

BASS AND BROWN'S ANNUAL SEED AND PLANT LIST FOR 1852, containing 36 pages, now supplied, prepaid, for four postage stamps, as the newspaper-stamped copies are distributed. A few more stamped copies of the Autumn Catalogue, which contains the Roses, Hardy Plants, Climbers, Prize Gooseberries, &c.

VEGETABLE SEEDS,
OF THE VERY BEST SORTS IN CULTIVATION.

ASSORTED COLLECTIONS, 50*s.*, 30*s.*, 20*s.*, and 10*s. 6d.*, or any sorts supplied separate, at the lowest prices, for first-rate quality. See Catalogue.

FLOWER SEEDS,
FREE BY POST.

Useful printed instructions for sowing and raising seeds sent with each order.

BEST ASSORTMENTS.

100 varieties best and newest Annuals	£0 15 0
50 varieties, 8*s. 6d.*; 30 varieties, 6*s. 6d.*; 20 varieties	0 4 0
20 varieties of best Dwarf Annuals, large packets, for filling out lawn beds, &c.	0 7 6
12 varieties, do.	0 5 0
20 varieties choice and new Greenhouse Annuals	0 7 6
12 varieties, do.	0 5 0
20 varieties choice and new Greenhouse Perennials	0 10 6
12 varieties, do.	0 7 6
20 varieties choice and new Biennials and Perennials	0 7 6
12 varieties, do.	0 5 0

CHOICE IMPORTED GERMAN SEEDS.

A superb collection of Stocks, Asters, Wallflower, Larkspur, Balsams, Senecio, Zinnia, Cockscomb, Indian Pink, &c. See Catalogue, page 4.

GRASS SEEDS,

Assorted and mixed, of the very best sorts, for the purposes required.

Mixtures for Permanent Pastures, Park Mixtures, and Mixtures for fine Lawns, Bowling-greens, &c.; also Mixtures to suit all soils and situations.

For priced List of Grasses, see our Seed and Plant List, page 14, by which each sort may be had separately.

TRUE ITALIAN RYE GRASS, ENGLISH AND IMPORTED.

☞ Our Mixtures of Grasses have given the highest satisfaction.

Remittances required from unknown correspondents. Post-office orders to be made payable to BASS and BROWN, or to STEPHEN BROWN. Goods sent carriage free to London, Ipswich, Norwich, or any station on the same line.

ESTABLISHED ABOUT HALF A CENTURY.

CARNATIONS, PICOTEES, PINKS, PANSIES, ETC.

JOHN HOLLAND, Bradshaw Gardens, Middleton, Lancashire, respectfully informs Gentlemen, &c. &c., that he grows a large collection of CARNATIONS and PICOTEES in mixture, yet each class is kept separate, and consists of Scarlet, Pink, and Purple Bizarres; Scarlet, Rose, and Purple Flakes; Purple, Red, and Rose-edged Picotees, and offers them at 6*d.* per pair. If 25 or more pairs are taken, hamper and packing free.

25 Pairs of PINKS	8*s.* 0*d.*
25 best show PANSIES	10 0

Post-office orders to be made payable at Middleton, Lancashire.

AURICULAS, ALPINES, POLYANTHUS, &c. &c.

NEW AND BEAUTIFUL PLANTS, now ready to be sent out from the PINE-APPLE NURSERY, by A. HENDERSON AND CO., Pine-apple Place, Edgeware Road, London.

ANTIRRHINUM PRIMROSE PERFECTION (EDWARDS'S).—Clear primrose yellow, of a fine upright growth, combined with an excellent dwarf close and bushy habit; flowers individually large. As a showy hardy herbaceous bedding plant, few can equal this for its brilliant and chaste colour. 5*s.*

BALSAMIA LATIFOLIA ALBA (from Ceylon).—This very beautiful plant has an elegant light green foliage, and a dwarf branching habit. Its manner of flowering and form of bloom are like the well-known Balsamia latifolia, except in colour. Flowers snowy white, large, and of a waxy texture. This fine plant was received from the Superintendent of the Ceylon Botanic Garden, as Impatiens latifolia alba.—N.B. This will prove a valuable exhibition plant, flowering as it does so abundantly, and during the months when exhibitions generally take place. 10*s. 6d.*

DILLWYNIA SCABRA.—This very beautiful and rare evergreen shrub has been long known to botanists, but has only recently been introduced by A. HENDERSON and Co. In habit it is dwarf and branching, producing very copiously innumerable clusters of bright rich scarlet pea-shaped flowers with a brilliant yellow edge. It possesses the peculiar merit of throwing out its clusters of flowers all up the stem, each cluster having 9 to 10 flowers. As an exhibition plant it will stand pre-eminently forward. 21*s.*

PULTENÆA ERICOIDES.—A very distinct and pretty flowering evergreen greenhouse shrub, having small leaves similar to an Erica, and flowers of a yellow brown and rosy purple hue, produced in heads on the spex of the branches. It is a profuse bloomer, and can easily be trained to form a compact bush, as it never attains a large size. 10*s. 6d.*

DILLWYNIA DRUMMONDII.—This very fine plant, with vivid green foliage, is an evergreen shrub of slender habit, producing most freely its pea-shaped blossoms; flowers, buff and red, with a yellow centre. This is, without exception, one of the most beautiful amongst the many fine plants from Australia. 21*s.*

GLOXINIA TRICOLOR.—Colours clear waxy rose, edges lighter, approaching to white, with a beautiful and peculiar purplish tinge in the throat. Shape fine, expanding after the manner of the well-known G. grandis, which, for form and unique shape, stands conspicuous at the head of this lovely tribe of flowers. 7*s. 6d.*

GREVILLEA LAVENDULACEA (of Henfrey), SYN. ROSEA (of Lindley).—This has been most justly described by Dr. Lindley as "the very handsomest of all the Grevilleas." A very beautiful unique shrub, of a slender growth, producing its rich rosy red flowers very copiously. In style of growth and bloom it is like G. rosmarinifolia, but is much more elegant in appearance, and a freer bloomer. 21*s.*

DILLWYNIA CINNABARINA.—A lovely and neat evergreen shrub from New Holland. Flowers profusely; colour a rich cinnabar or orange-scarlet, foliage dark green, and thickly set on robust stems. An extra desirable plant for the exhibition tent, and for decorative purpose, either as a pot plant or to be planted in the border of a conservatory. 21*s.*

THE GIANT SCARLET GERANIUM "DEFIANCE."—This very remarkable Geranium is a cross, or seedling, between Rigby's Queen and the true Shrubland; it is far superior to either, inasmuch as it partakes of the free flowering habit of the one, with the large trusses of flowers and foliage of the other. Its fine habit, wondrous truss (producing generally 100 flowers on every head of bloom), its brilliant colour, and magnificent foliage, render this a truly superb plant. It is very suitable for large beds, for training against walls at the back of conservatories, and as a single plant trained bush fashion—or as a pyramid placed on a lawn, and for such like decorative purposes. 10*s. 6d.*

GLORIOSA PLANTII (Mr. Plant's Gloriosa).—This will be found a great acquisition to that fine but small tribe of plants, the Gloriosa. A considerable number of its roots were sent over to this country from Natal, in southern Africa, by Mr. Plant, an English collector settled in that place, who discovered it there, and it is named after him. The following is a copy of the letter he sent with them:— * * * "I believe it to be undescribed; the plant does not rise more than 3 feet; the first whorl of flowers is produced about 1 foot from the ground; a second and a third are afterwards produced, at about equal distances. The flowers have much more scarlet in them than is common in G. superba. It will be a great acquisition in England, from its brilliant colour, and its not growing taller than Van Houtte's Alstromerias. Quite upright, and of a very distinct habit." 21*s*

PHLOX DRUMMONDII MAYII VARIEGATA.—A beautiful purplish crimson and white flowered Phlox; one of the prettiest varieties, according to Dr. Lindley, that has ever been raised for bedding purposes; it will also be very valuable for pot culture. The plant is of a free branching habit, and an abundant bloomer, suitable for pegging down in beds, or for training against low walls; flowering season from May to November. Among bedding plants this is, no doubt, the most lovely gem of the season, and, as such, far superior to the "Mountain of Light." 10*s. 6d.*

PHLOX DRUMMONDII THOMPSONII.—A variety of a most brilliant scarlet maroon colour, with a purplish eye. It has a remarkably bushy and free branching habit of growth, and is easily propagated by cuttings of the young branches. An entire bed of this Phlox would be very effective, and a great addition to the flower garden. 5*s.*

THE GERANIUM "WHITE UNIQUE."—Foliage and habit superior to the old purple Unique, with leaves highly scented. It produces abundantly its trusses of white flowers, in which, being of a globular form, every bunch of flower is a bouquet of itself. It partakes of the character of Tom Thumb in its low branching habit; very effective for vases, bedding, edgings, or for mixing with the old Unique. 15*s.*

FANCY GERANIUM "UNIQUE."— Top petals rich crimson, with clear white margin; under petals white, with a belt of light crimson; centre, clear white, and of excellent form. 10*s. 6d.*

FANCY GERANIUM "JEWESS."—Top petals deep velvety crimson, with white margin; under petals white, spotted with violet; flowers large, and of fine form; habit dwarf and compact. 10*s. 6d*

IPOMŒA PALMATA, figured in the "Magazine of Botany," February, 1852.

This very beautiful climber is suitable for a greenhouse or warm border out of doors during the summer and autumn months; flowers most profusely; colour rose, suffused with purple; foliage ever elegant and beautiful.

BASS AND BROWN'S SEED AND PLANT LIST for 1852 (containing 36 pages) now sent prepaid for four postage stamps, as the newspaper-stamped copies are disposed of. Also, for two postage stamps, their Autumn Catalogue, containing the Hardy Herbaceous Plants, Roses, and various select and new Hardy Plants, Climbers, &c., kept for sale in pots.—Seed and Horticultural Establishment, Sudbury, Suffolk.

AMERICAN NURSERY, BAGSHOT, SURREY.

JOHN WATERER begs to announce that he has published a new CATALOGUE of Hardy Rhododendrons, Azaleas, Roses, Conifers, &c., and which may be obtained by enclosing two postage stamps.

The colours of all the Rhododendrons worthy of cultivation are described; thus purchasers are afforded every facility in making selections.

HOSEA WATERER'S Descriptive Catalogue of AMERICAN PLANTS, CONIFERS, ROSES, &c., is just published, and may be had on application, enclosing two postage stamps, to Mr. HOSEA WATERER, Knap Hill Nursery, Woking, Surrey.

GEORGE BAKER'S DESCRIPTIVE CATALOGUE OF AMERICAN PLANTS, CONIFERÆ, ROSES, ORNAMENTAL SHRUBS, FRUIT AND FOREST TREES, &c., may be had on application, by enclosing two postage stamps.—Windlesham Nursery, Bagshot, Surrey.

NOTICE.—HOLLYHOCK SEED, 2*s.* 6*d.*; GERMAN ASTER SEED, 1*s.*; SWEET WILLIAM SEED, 1*s.*; ANTIRRHINUM SEED, 1*s.*; and GIANT SCARLET BROMPTON STOCK SEED, 1*s.* per packet. CAPTIVATION CUCUMBER, 5*s*; PHENOMENA CUCUMBER, 2*s.* 6*d.*; GOLDEN BALL MELON SEED, 2*s.* 6d.; and BROMHAM HALL MELON SEED, 1*s.* per packet; as see *Gardeners' Chronicle*, of last week for the former, and of Feb. 21, 1852, for the latter.

Good sound seeds of the above varieties can still be obtained, post free, on enclosing the requisite amount in penny postage stamps.

A packet of each of the above five varieties of Flower Seeds will be sent on receipt of the amount of 5*s.*, postage free.

EDWARD TILEY, Nurseryman, Seedsman, and Florist, 14, Abbey Churchyard, Bath, Somersetshire.

PELARGONIUMS.

CHARLES TURNER has a few strong plants left of the following new varieties, to dispose of:—Foster's Ariadne, Enchantress, Pulcha, Purple Standard, Rubens, and Shylock; Hoyle's Chieftain, Colonel of the Buffs, Elise, Ganymede, Magnet, and Mochanna.

Also selections of approved older varieties, at 30*s.* and 42*s.* per doz.—Royal Nursery, Slough.

NEW VERBENAS.—ORMSBY BEAUTY, rich rosy purple, distinct in colour to any we have before; large distinct white centre; pip large, and of fine form; scarcely any indentation, and smooth on the edges, with full-sized truss. It was exhibited, and awarded a Certificate, at the Norwich September show. This fine variety was raised by Mr. Edmonds, gardener to the Dowager Lady Lacon. Price 5*s.*

DUCHESS OF KENT (Banks), white, with rose centre, very delicate and showy; good shape and truss. Price 3*s.* 6*d.*

Strong plants are now ready, on application to C. TURNER, Royal Nursery, Slough.

EDWARD GEORGE HENDERSON AND SON, Wellington-road, St. John's-wood, London, beg to remind those who intend to purchase any of the following New Plants, to be sent out after the 1st of May, that all orders will be booked as received and executed in rotation.

Fuchsia	Commodore (show flowers)	Antirrhinum	Hendersonii
,,	Splendidissima, do.	Calceolaria	Wellington Hero
,,	Gem of the Season, do.	,,	Tom Thumb
,,	Peneula, do.	Chrysanthemum	Hendersonii
,,	Exquisite	Delphinium	Hendersonii
,,	Hendersonii (double flower)	Erica	Elegantissima
,,	Darling (bedding variety)	,,	Nobilis
,,	Globosa perfecta, do.	Geranium	Hendersonii
,,	Pet, do.	,,	Extravaganzum
		,,	Odoratissimum grandiflorum
		Heliotropium	Voltaireanum
		nanum	

For Description and Prices of the above, see back numbers of this Paper—Feb. 28, March 6 and 13. The Trade supplied, with our usual discount.

ALL POST FREE.

CHOICE SEEDS.—Packets of fine Mammoth Broccoli, Asiatic Cauliflower, Giant Curled Parsley, gigantic Cos Lettuce, Mitchell's Enfield, Cormack's, and Barnes' superior early Cabbages, Coles and Seymour's fine Celery, the best kinds of Cucumber, Melon, and Vegetable Marrow, at 6*d.* each packet: Fine mixed German Asters, Stocks, Calceolaria, Cineraria, Portulacca, Giant Victoria Stock, Canary Creeper, Zinnias, Balsams, Cobea scandens, Cockscomb, Ice Plant, Sensitive, Auricula, Dahlia, Pinks, Polyanthuses, Geranium, Pansy, Sweet Violet, and dbl. Sweetwilliam, 6*d.* each pkt. 100 pkts. of Annuals, Biennials, and other Seeds, fit for present sowing, warranted new, for 5*s.*; 50, for 3*s.*; 36, for 2*s.* 6*d.*; 12, for 1*s.* Superior Mignonette, own saving, warranted to grow well, at 6*d.* per oz. A few packets of extra fine Balsam, at 1*s.* per packet. With each order a Catalogue will be sent, containing Hints on Sowing, &c., or it may be had for Two Stamps, on application to JOSEPH GOLDING, Seedsman, Hastings.

ROBERT M. STARK begs to intimate that his SPRING CATALOGUE of FLORISTS' FLOWERS, BEDDING PLANTS, &c., is now ready, and may be had on application. Among other new and rare plants it contains he could particularly notice the beautiful purple LINARIA ELATINOIDES, figured in the "Garden Companion" for April, and described as a "very pretty plant, flowering freely all summer." It is well suited for rockwork or bedding purposes. R. S. has the entire stock, and will be ready to supply plants the first week in May at 5*s.* each.

Edgehill Nursery, Dean, Edinburgh, April 17.

MITCHELL'S UNRIVALLED SEEDLING DAHLIAS.

JAMES MITCHELL begs to inform his Friends that the purposes sending out, early in May, the following superb DAHLIAS, which he can recommend to the most critical grower.

MRS. HEPBURN.—Crimson, shaded with dark maroon, superior and constant show flower; 4 feet, 10*s.* 6*d.*

MR. BLENCOWE.—A noble crimson, quite distinct, beautifully cupped, petals rising well in the centre, and constant show flower; 4 feet, 10*s.* 6*d.*

QUEEN OF BEAUTIES.—This extraordinary flower was first sent out last season, and is unquestionably the most beautiful Dahlia in the world; but owing to the numerous orders and shortness of stock, not one-half were supplied. It is of the purest white, tipped with rich rose; strong plants; 4 feet, 2*s.* 6*d.*

LA GRANDISSIMA.—A fancy variety, rose and pink, one of the most distinct in this class; constant and beautiful show flower, 4 feet, 2*s.* 6*d.*

Uddown Nurseries, Maresfield, Sussex, April 17.

RENDLE'S NEW PLANT CATALOGUE *is just published, and can be had in exchange for one penny stamp.*

It contains PRICES of all the newest and best Geraniums, Dahlias, Azaleas, Antirrhinums, Camellias, Chrysanthemums, Cinerarias, Fuchsias, Petunias, Calceolarias, Ferns, Lycopodiums, Greenhouse, Stove, and Herbaceous Plants.

*** Carriage paid to all the stations on the SOUTHERN RAILWAYS. See Catalogue.

WILLIAM E. RENDLE and Co., Florists to her Majesty, Plymouth.

STANDISH AND NOBLE'S detailed Advertisement will appear in this Paper on the first Saturday in every Month, to which they invite the attention of all interested in HARDY ORNAMENTAL PLANTS. Their Descriptive Catalogue, with the Treatise on the "Cultivation of American Plants," can still be had, by enclosing six stamps for postage.

Gentlemen requiring the services of a Landscape Gardener, can procure such by applying to the Advertisers.

Bagshot, Surrey, April 17.

VICTORIA REGIA.

J. WEEKS AND CO., King's-road, Chelsea, have a few fine strong Plants for Sale of VICTORIA REGIA, Nymphæa Cærulea, Nymphæa Dentata, Nymphæa Stellata, &c. As also a splendid Collection of Stove and Greenhouse Plants, all in the highest state of cultivation.—PLANS and ESTIMATES for building Aquariums and all other Horticultural erections. J. WEEKS & Co's HOT-WATER APPARATUS is well adapted for Warming large Ponds, for Stove Aquatics, and for Heating extensive ranges of Forcing-house.

HORTICULTURE IN ALL ITS BRANCHES.

SUPERIOR GLOBE GERMAN ASTER,

(SAVED BY AN AMATEUR.)

WILLIAM E. RENDLE AND Co. have much confidence in offering a very superior sort of GLOBE ASTER SEED, saved by an Amateur in the neighbourhood of Bath, who says:—"The sort was given to me by a friend in the neighbourhood, who has taken first prizes for several years following; and I have been equally successful. I have shown them at Bath and other places, and have always been first; indeed, no other sort has any chance with them, and I am perfectly satisfied that when you see a good bed of them in your gardens you will throw away all others."—1*s.* per packet.

All other Flower Seeds can be obtained at a moderate scale of charge.

Every one who has a Garden should have a packet of this Seed.

PARSLEY, RENDLE'S TREBLE GARNISHING, proved by the London Horticultural Society, and described in their Journal as being "*beautifully curled, and an excellent variety.*"—6*d.* per packet. This should be grown in every garden.

Apply to WILLIAM E. RENDLE and Co., Seed Merchants, Plymouth.

THE MAGNIFICENT DAHLIA GREEN "SCARLET KING" is placed first in the "Garden Almanac," which rarely errs. The *Gardeners' Chronicle* says, "It has the form of the Duke of Wellington, and the colour of John Edward." Mr. Glenny, *Lloyd's Weekly Newspaper* (which circulates 70,000), quotes and confirms the *Chronicle*. Plants in May, 10*s.* 6*d.*; dry roots in October, 21*s.*—Order of any Nurseryman, or of the Agent, 84, Fleet-street, London.

JOHN SCOTT, FLORIST, Bathford, near Bath, can supply good Plants of the following selected ENGLISH AND FOREIGN VERBENAS:—Admirable, Albonii, Andrew, Auricula, British Queen, Coquelicot, Cybele, Enchantress, Eryphille, Eucelode, Exquisite, Fanny, Chauviers, General Brea, General Courtegis, Hippodamie, Iris, Jules, King, Lady of the Lake, La Nymphe, Marchioness of Cornwallis, Mazarine, Othello, Shylock, Surprise, Voltigeur. The above 26 Verbenas, 15*s*; any 12 selected, 8*s.*, hamper included.

HELIOTROPES: Salter's Gem, 6*s.* per dozen; Reptans, 6*s.*, Corymbosum, 5*s.* per dozen.

CALCEOLARIAS; Sultan, strong, 6*s.* per dozen; Conway's Floribunda, fine new yellow, each 1*s.*; Sulphurea Elegans, each 1*s.*; Grandis, each 1*s.* 9*d.* per dozen.

CANTUA DEPENDENS, each 1*s.*

FUCHSIAS.—Strong plants of the following:—Alpha, Diadem of Flora, Nichols's Prince Arthur, Psyche, Resplendent, Banks's Voltigeur, each 1*s.*

FANCY GERANIUMS.—Strong plants of the following, 15*s.* each: Henderson's, Albonii, Marion, Prince Albert, Prima Donna, Belle de Epinay, Bouquet Tout Fait, Exquisite, Hero of Surrey, Jenny Lind, Magnifica, Reine des Français, Reine des Fleurs. The Geraniums can be sent in a matted basket for 1*s.* 6*d.* extra.

The above are all good plants, and could not fail to give satisfaction.

*** A remittance expected from unknown correspondents.

4, Great Russell-street, Covent-garden.

JOHN KERNAN begs to offer the following AGRICULTURAL SEEDS to the notice of Gentlemen Farmers as genuine and true to their kinds:—

		s.	*d.*
BEET, White Silesian or Sugar, per lb.		1	6
BUCKWHEAT, per bush.		5	0
BARLEY, Chevalier, per bush.		5	0
,, true Skinless Peruvian, per bush.		5	0
BEANS, per bush.		5	0
CABBAGE, Drumhead, per lb.		1	0
,, Thousand-headed, per lb.		1	0
CARROT, Altringham, per lb.		1	0
,, White Belgian, per lb.		1	0
CLOVER, Red, per cwt.	50*s.* to 60	0	
,, White, per cwt.	50*s.* to 60	0	
COW-GRASS, per cwt.		68	0
FLAX, from Riga Seed, one year grown in this country, per bush.		10	0
FURZE, per lb.		0	6
GRASSES, fine mixed for permanent pasture, per bush.		8	0
,, Italian Rye, per bush.		6	0
,, Pacey's Perennial, per bush.		6	0
KOHL RABI, per lb.		2	0
LUCERNE, per lb.		1	0
MANGOLD WURZEL, Long Red, per lb.		0	6
,, ,, Red Globe, per lb.		0	6
,, ,, Yellow Globe, per lb.		0	6
MUSTARD, per bush.		9	0
OATS, Hopetown, Poland, and Tartarian.			
PARSLEY, plain, for sheep, per bush.		21	0
PARSNIP, Hollow-crowned, per lb.		1	0
RAPE, Broad-leaved Dutch, per bush.		10	0
SAINTFOIN.			
TRIFOLIUM INCARNATUM		0	8
TURNIPS, Skirving's Swedish, per lb.		0	6
,, Laing's do. per lb.		0	6
,, Ashcroft do. per lb.		0	6
,, Purple topped do. per lb.		0	6
,, Purple-topped Bullock, per lb.		0	6
,, Green-topped do. per lb.		0	6

Catalogues of Kitchen Garden and Flower Seeds may be had on application.

Seeds for distribution by Gentlemen to their Tenants and Cottagers on the most liberal terms.

Seeds selected suitable for all climates, and carefully packed for Emigrants.

A well educated Youth wanted as an APPRENTICE.

EPPS'S SUPERB SEEDLING FUCHSIAS are ordered by and may be had of the following Nurserymen and Seedsmen, the first week in May:—Messrs. Henderson and Co., Pine-apple-place; E. G. Henderson, Wellington-road; J. Lee, Hammersmith; J. Charteris, King William-street; Low and Co., Clapton; Protheroe and Morris, Leyton-stone; W. P. Ayres, Blackheath; W. Bragg, Slough; Courcha, Bethnal-green; J. Ivery, Peckham; W. Barnes, Camden Nursery, Peckham; Osborne and Co., Fulham; C. Turner, Slough; Bass and Brown, Sudbury; J. Salter, Hammersmith; J. Stewart, Salt-hill; S. Barnes, Stowmarket; J. Jefferies, Cirencester; E. Fuller, Worthing; W. Tiley, Bath; J. M'Intyre, Taunton; J. Keynes, Salisbury; Saunders and Co., Abergavenny; Wheeler and Son, Gloucester; H. Walton, Burnley; J. W. Sweet, Cirencester; Fisher and Holmes, Sheffield; J. Griffin, Bath.

Bower Nurseries, Maidstone, April 17.

MESSRS. J. AND H. BROWN offer the following selected plants, which they will forward to any part of the kingdom.

	s.	*d.*
25 Azaleas, new hardy Belgian varieties, on their own roots, with flower-buds, one of a sort, by name...	20	0
25 American Azaleas, do. do.	15	0
25 Hardy American Plants, one of a sort, by name	10	6
12 Hardy Heaths and Kalmias, one of a sort	6	0
12 Rhododendrons, including scarlet, white, and rose, hardy varieties	12	0
New hardy yellow Rhododendrons, each, 5*s.* 6*d.* to	7	6
Fine hardy scarlet Rhododendrons, 2 feet, per doz.	10	0
Cedar of Lebanon, 3 feet, well grown, in pots, per doz	10	0
All the choice Pinus, Araucarias, Cryptomerias, and Taxodiums, of various sizes, in pots; list of prices sent by post.		
Climbing Roses, choice sorts, in pots, per doz.	6	0
Standard and half standard Roses, per doz. 12*s.* and	15	0
Yellow Roses, new double Persian and Cloth of Gold, per dozen	12	0
12 Tea-scented Roses, one of a sort, by name, in pots	9	0
Fairy Roses, crimson, white, and pink, for edgings, per doz.	6	0
12 Bourbon Roses, best sorts for beds, in pots	10	0
Passifloras, Clematis, Jasmines, and other hardy and tender climbers, each	1	0
Wistaria sinensis, extra fine, in pots, 15 to 30 feet, each	3	6
12 Greenhouse Azaleas, one of a sort, blooming plants	25	0
12 choice Camellias, by name, do. do.	30	0
50 choice Greenhouse plants, one of a sort, by name	45	0
Daphne odora rubra, and others, per doz.	30	0
24 choice Ericas, one of a sort, by name	16	0
12 Orchidaceous plants, choice species, and good plants	30	0
Cinerarias and Calceolarias, blooming plants, show varieties, per doz. 9*s.* to	12	0
Fancy Geraniums, new sorts 9*s.* to	12	0
Verbenas and Petunias, newest varieties, per doz.	6	0
6 Bulbs of Lilium lancifolium, one of a sort, for	12	0
12 Gloxinias and Achimenes, one of a sort, new	10	0
First-rate Show Pinks and Pansies, per doz. 6*s.* to	9	0
First-rate Carnations and yellow Picotees 9*s.* to	12	0
12 Pæonies, new white, pink, and blush, of sorts	8	0
25 Hardy herbaceous plants	7	6
Hardy Ferns and other plants, for rockwork, per doz.	8	0

Garden Seeds of all kinds.

A selection of the most approved Flower Seeds—20 papers, 5*s.*; 45 papers, 10*s.*—sent free by post. Also Catalogues of plants, &c., for the season.

Albion Nursery, Stoke Newington, London, April 17.

FINE SPECIMEN PLANTS FOR EXHIBITION.

J. AND J. FRASER, NURSERYMEN, &c., Lea-bridge-road, Essex, beg leave respectfully to invite attention to their superior Stock of Specimens of STOVE and GREENHOUSE PLANTS, CHINESE AZALEAS, and CAPE HEATHS, which were never in finer condition than at this time. The plants are of all sizes, varying from 1 foot to 5 feet high. The prices, which are moderate, can be had on application.

The Gardeners' Chronicle.

SATURDAY, APRIL 17, 1852.

MEETINGS FOR THE ENSUING WEEK.

MONDAY,	April	19	Chemical	8 P.M.
			Statistical	8 P.M.
TUESDAY,	—	20	Horticultural	3 P.M.
			Syro Egyptian (Anniversary)	7½ P.M.
			Linnean	8 P.M.
			Civil Engineers	8 P.M.
WEDNESDAY,	—	21	Society of Arts	8 P.M.
			Geological	8½ P.M.
THURSDAY,	—	22	Royal South London	1 P.M.
			National Floricultural	3 P.M.
			Numismatic	7 P.M.
			Royal	8½ P.M.
FRIDAY,	—	23	Antiquarian (Anniversary)	2 P.M.
			Philological	8 P.M.
			Royal Institution	8½ P.M.
SATURDAY	—	24	Royal Botanic	3½ P.M.
			Medical	8 P.M.

FROM time to time the ANTIQUITY OF FORCING HOUSES has been the subject of learned discussion. While some writers have assigned their invention to the days of Assyrian glory, others have contended that structures in which plants are subjected to artificial temperature are altogether of modern origin. A passage in HUMBOLDT'S "Cosmos" having again raised the question, our readers may be pleased to know how the argument at present stands, after having been subjected to the criticism of the great Prussian philosopher on the one hand, and of so distinguished a scholar as Mons. DUREAU DE LA MALLE on the other.

The views of HUMBOLDT are thus given by him in his "Cosmos" (SABINE'S translation, vol. 2, Notes, p. xxii).

"In the 13th century, Albertus Magnus, who was equally active and influential in promoting natural knowledge and the study of the Aristotelian philosophy, possessed a hothouse in the convent of the Dominicans at Cologne. This celebrated man, who had already fallen under the suspicion of sorcery on account of his speaking machine, entertained the King of the Romans, Wilhelm of Holland, on the 6th of January, 1249, in a large space in the convent-garden, where he kept up an agreeable warmth, and preserved fruit trees and plants in flower throughout the winter. We find the account

of this banquet exaggerated in a tale of wonder in the 'Chronica Joannis de Beka,' written in the middle of the 14th century (Beka et Heda de Episcopis Ultrajectenis, recogn. ab Arn. Buchelio, 1643, p. 79; Jourdain, Recherches critiques sur l'Age des Traductions d'Aristote, 1819, p. 331; Buhle, Gesch. der Philosophie, Th. v. S. 296). Although some remains discovered in the excavations at Pompeii show that the ancients made use of panes of glass, yet nothing has yet been found to indicate the use of glass or forcing houses in ancient horticulture. The conduction of heat by the caldaria in baths might have led to an arrangement of artificially warmed places for growing or forcing plants; but the shortness of the Greek and Italian winters no doubt rendered such arrangements less necessary. The Adonis gardens (κῆποι Ἀδώνιδος), so indicative of the *meaning* of the festival of Adonis, consisted, according to Böckh, of plants in small pots, which were no doubt intended to represent the garden where Aphrodite and Adonis met. Adonis was the symbol of the quickly fading flower of youth—of all that flourishes luxuriantly and perishes rapidly; and the festivals which bore his name, the celebration of which was accompanied by the lamentations of women, were amongst those in which the ancients had reference to the decay of nature. I have spoken in the text of hothouse plants as contrasted with those which grow naturally; the ancients used the term "Adonis gardens" proverbially, to express something which had sprung up rapidly, but gave no promise of full maturity or substantial duration. The plants, which were not many-coloured flowers, but Lettuce, Fennel, Barley, and Wheat, were not forced in winter, but in summer, being made to grow by artificial means in an unusually short space of time, viz. in eight days. Creuzer (Symbolik und Mythologie, 1841, Th. ii. S. 427, 430, 479, and 481) supposes that the growth of the plants of the Adonis garden was accelerated by the application both of strong natural and artificial heat in the room in which they were placed. The garden of the Dominican convent at Cologne recals the Greenland (?) convent of St. Thomas, where the garden was kept free from snow during the winter, being constantly warmed by natural hot springs, as is told by the brothers Zeni, in the account of their travels (1388-1404), the geographical locality of which is, however, very problematical. (Compare Zurla Viaggiatori Veneziani, T. ii. p. 63—69; and Humboldt, Examen critique de l'Hist. de la Géographie, T. ii. p. 127.) Regular hothouses seem to have been of very late introduction in our botanic gardens. Ripe Pineapples were first obtained at the end of the 17th century (Beckmann, Geschichte der Erfindungen, Bd. iv. S. 287); and Linnæus even asserts, in the 'Musa Cliffortiana florens Hartecampi,' that the first Banana which flowered in Europe was at Vienna, in the garden of Prince Eugene, in 1731."

On the other hand M. Dureau de la Malle relies upon the following passages for proof that forcing-houses were in reality well known to the ancients, quite independently of the Adonis gardens of Rome, which he however believes to have been also buildings of the same nature. In the Assyrian Adonis Gardens, we find from Philostratus that plants in pots were kept for the purpose of being produced at the solemn festivals of the Demi God, and so managed that they could all be kept under the same roof. This must have been something different from those exhausting houses of the same name in use among the Romans, the nature of which is described by Humboldt. Again, Theophrastus, an eminent botanist and gardener, says, in speaking of the Abrotanum (*Artemisia œthiopica*, Linn.): "It is propagated from seed rather than from offsets, or division of the root. But it is difficult to obtain its seed if it is kept in pots, as is the case in the Adonis Gardens. It should be sown there in the summer, for it is extremely tender, and impatient of exposure to the air, even when the sun shines the hottest. There it renews its life, strikes root, grows, becomes large and strong, and acquires the stature and bigness of a bush." This seems decisive; but the learned Frenchman proceeds to add, that he believes Domitian to have had a similar hothouse in an alley of his palace on Mount Palatine. Belloni found there, amidst the ruins, an inscription bearing the name of Adonea, which to this day is seen engraved on the marble plan of ancient Rome; and it appears probable that this was the station of the hothouse in which the emperor caused exotic plants to be cultivated. Another, and a still more conclusive passage is to be found in Columella, who, after saying that Judea, and especially Arabia, are renowned for the excellence of their perfumes, adds that Rome possesses within the circle of her walls, those odoriferous trees with precious perfume which grow in the open air in Judea and Arabia. He cites, among others, the Balm plant of Judea, trees producing incense and myrrh; and he affirms that he has himself seen the gardens of the metropolis of the world adorned with Myrrh and with Crocus in flower, and that in several places in Rome he had noticed Cassia or Cinnamon covered with leaves, while at the same time the incense tree (*Thurea planta*) and the Myrrh flourished in the gardens. "Such examples teach us," concludes Columella, "that the skill of our gardeners has taught them how to bring together the vegetation of almost all the world."

M. De la Malle seems to regard the "Crocus" as an oriental tree, contrary to the generally received opinion that it was the plant which now bears that name, and he concludes his argument thus: "Is it possible to indicate more distinctly, after mentioning by name the Balm tree, the Cinnamon tree, the Crocus, the trees bearing myrrh and incense, all productions of the burning regions of Arabia—is it possible to describe in better terms the skill of the gardeners who cultivated in Italy such exotics in hothouses. It is impossible but that they should have been thus sheltered for at least half the year; they must have been brought during winter into glass houses near the *caldaria*; such tender plants could not have been exposed in Rome to the open air for more than the three summer months, when the mean temperature is between 25° and 35° above zero; otherwise they could not have survived a single year. As to the countries inhabited by the trees bearing incense, Myrrh, Cassia, and Cinnamon, Theophrastus leaves no room to doubt where they came from; for he places them around Saba, Adramytta, Citibana, and Mali, celebrated towns still bearing their ancient names, and situated in that hot country of Arabia, called felix, because of the abundance and sweetness of its perfumes." —"Thus I believe that I have proved—1, that the Greeks and Romans employed artificial heat to excite the germination of seeds and plants in their Adonis Gardens; and 2, I think it very probable, since the use of glass panes and glass bottles was known in the East from the most remote antiquity, and would find its way by means of commerce to Athens and Rome, that the ancients must have had forcing houses adjoining their baths, and that such pits or houses were heated by introducing steam from their stoves."

Several other passages in support of this opinion might be quoted; but we own that for ourselves we have always regarded the two well known allusions in Martial as conclusive upon the point. In the one* the poet could only mean to speak of a greenhouse, wherein his fruit trees were kept in winter, and of which the *sashes*, turned to the winds of winter, allow the pure sunbeams to pass, and daylight without detriment. In the second† the nature of the *sashes* seems sufficiently explained, by comparing their effect to that of gauze drawn over the female figure, or of pellucid water through which pebbles may be counted.

Should these explanations be regarded by critics as unsatisfactory, we shall then be driven to suppose that Italy possessed a tropical climate in the first century of our era; in support of which opinion we believe that no evidence whatever can be produced.

The beginners in Orchid-growing have now an opportunity of buying cheap the materials of their apprenticeship. The million, as our friend "Dodman" calls them, have a great chance; for shillings they may procure what, under other circumstances, might cost them pounds. Seven or eight-and-twenty chests of Lælias, Chysids, Lycastes, Barkerias, Cattleyas, Arpophylls; Epidendrum Skinneri, Stamfordianum and bicornutum; Oncidium leucochilum, Odontoglossum pulchellum, and all the *élite* of Guatemalian epiphytes come to the hammer at Stevens's, on Tuesday next. The lots consist of huge masses of rarities, or of what is better, first-class ornamental species, any one of which would stock a house for ever. Some are from the forests and jungles of Guatemala, others from the cold table land of Rachiquel, where they were actually gathered in a snow storm; twelve hundred square miles of country are said to have been ransacked by Indians in search of materials for this Orchid sale.

In all respects the lots are of a very interesting description; and even if a man is not a buyer, still we would have him visit the collection, so that he may see how Orchids grow at home; what masses of entangled roots, dead sticks and leaves afford them sustenance; what swarms of ferns and other plants crawl among them, what layers upon layers of the most humid but not wet, most rich but not stimulating, most cool but not cold, most rottable but not rotten, matters they delight in; and how, as they themselves decay, they furnish pabulum, on which they also feed and flourish by devouring their own substance. All these things the Orchid-grower may see and largely profit by, has he but skill to interpret the universal language in which nature speaks to those who can decypher the living characters in which her operations are emblazoned in woods and fields and on rocks and mountain tops.

* Hibernis objecta notis specularia puros
Admittunt soles, et sine fœce diem.—Epig. viii. 14.

† Fœmineum lucet sic per bombycina corpus;
Calculus in nitidâ sic numeratur aqua.—Epig. viii. 68.

FOREIGN GARDEN GLEANINGS.

Denmark.—The superb establishments of Messrs. Booth, in Flottbeck (Holstein) next deserve attention. That belonging to Mr. James Booth and Son I shall describe under four heads—1. Trees, shrubs, bushes, Rose trees, &c.; 2. Herbaceous or perennial plants; 3. Plants in pots; and 4. The collection of Dahlias.

The soil of the nursery is heavy, clayey, and rich in detritus of all sorts; it is 100 acres in extent, and 120 or 130 gardeners are employed upon it; 300,000 or 400,000 fruit trees, besides forest and ornamental trees of all kinds, are annually reared here. The greater part of the ground is occupied by fruit trees, properly so called, which are divided into two classes, those with pips and those with stones; the rest is divided amongst trees and shrubs with edible fruit, ornamental trees, weeping trees, shrubs, evergreen trees and shrubs, resinous or other; the whole is enclosed by squares of forest trees, shrubs and underwood, climbing woody plants; and lastly, evergreen trees, such as Firs, Pines, Cedars, &c.

The two great modes of propagation are employed separately; the one by seeds is conducted in a large square appropriated for this special purpose; the other is carried on in two large squares, of which one, divided into long and broad beds, receives all the parent trees and shrubs, propagated by layers, whilst the other is kept for cuttings. I was much struck with the collection of trees, which contains a labelled specimen of every genus of fruit tree and shrub; this collection, judging from the size of the trees, must be at least 20 years old; and the gentleman who established it took the precaution of leaving room for the introduction of new species as they might appear. Such is a very short account of this remarkable nursery, from which have been sent to every quarter of the globe numerous pupils, who by their exertions render the interesting science of horticulture more and more popular.

2. *Herbaceous or Perennial Plants.*—The collection of herbaceous plants is rich; and of all I ever saw, the best selected and cultivated. They cover nearly 2 acres, and amount to 2000 ticketed plants, representing more than 300 genera. The ground allotted to them is divided into a multitude of beds raised 8 inches above the ground; each genus or variety occupies a separate quarter, and each quarter is separated from its neighbour by a narrow path. The plants are propagated in the same compartments, and are grouped according to their importance. The richest genera are Aconitum, Antirrhinum, Aquilegia, Aster, Campanula, Centaurea, Delphinium, Fritillaria, Geum, Lobelia, Lilium, Mimulus, Lychnis, Pæonia—of which there are 50; Pentstemon, Potentilla, Saxifraga, Salvia, Scabiosa, Statice, Spiræa, Tradescantia, Veronica; 140 Phlox, a splendid collection of plants for borders, Alpine plants for rockwork skilfully grouped on an immense artificial mound, where each is placed in a suitable situation; great attention is paid to them, and their vegetation is proportionately luxuriant.

3. *Plants in Pots* are very numerous, as are also the houses for them; the latter, if placed end to end, would be 1500 yards and more in length. The largest is the Orchid house, and the collection within it is very complete, and admirably cultivated; it includes 120 genera and 800 species or varieties. I saw there 50 species of Epidendrum (of which 12 are unnamed), 50 of Dendrobium, 60 of Oncidium (10 unnamed), 30 of Cattleya (10 unnamed), 18 of Gongora, 20 of Lælia, 18 of Odontoglossum, 30 of Stanhopæa (8 unnamed), 8 of Miltonia, 14 of Brassia, 6 of Monachanthus, 14 of Pleurothallis, and many other curious and large genera. They are grown on wood, cork, turf, and wool. The last of those just named were grown in large wooden tubs. When I was here, in the middle of May, many plants were in flower; Oncidium sanguineum and O. papilio presented such an enormous mass of flowers, that the platform in the middle of the building reminded me of the flowery woods of Brazil. There were also a splendid Epidendrum Harrissonii, macrochyllum roseum, a Coryanthes maculata, Saccolabium guttatum and a beautiful Aerides Procli, all very strong and in flower; in the same house I saw a Nepenthes distillatoria, with branches 20 feet in length. The plants in this magnificent house are constantly refreshed with blasts of heat and moisture, which tend powerfully to keep them in luxuriant vegetation. A long flat gutter full of water, 10 inches broad, lies over the steam pipe and distributes heat and moisture; the house is under the management of an Englishman.

The Ericas also deserve notice; there are 300 species or varieties of them, amongst which 20 specimens of ventricosa, almost as many of vestita, and seven or eight of tricolor. This collection, too, is superintended by an Englishman, who performs marvels in his way. He showed me 30 specimens, including E. vestita rosea alba, elegans, aristata major, ventricosa, coccinea minor, a yellow-flowered Cavendishii, mundula, odora, rosea Massoni, gemmifera, Willmoreana nova, ovata, grandiflora, and sulphurea, all in full flower, although no more than 15 or 18 months had elapsed since they were struck. They grew sheltered by numerous straw mats

and shaded by roofs of the same material, so as to keep off the fierce rays of the sun. I had often been told of the advantages of growing Cape Heaths in large pots; and here the Ericas, Pimelea spectabilis, linifolia, Epacris grandiflora and pulchella, were in tubs nearly a yard in diameter; and though the plants were only 12 or 15 months old, they formed bushes 4½ feet in height, and as many in breadth. The soil in which they grew was a mixture of fine heath with sandy alluvial matter; the roots were all at the surface, whilst the ball was a circle of coarsely-broken charcoal; above were brilliant branches of flowers, sometimes half a yard in length. The hothouses are numerous, and are full of Achimenes, Æschynanthus, Begonia, Cereus, Echinocactus, Clerodendron splendens and paniculatum of remarkable strength and health; there are, too, Coccoloba, Crinum, Ficus, Dracæna, Gesneria, Gloxinia, Hibiscus, Justicia, Passiflora, Ixora, Strelitzia, Thunbergia, Zamia, Gardenia Stanleyana, a large Brownea grandiceps, &c., all in a most perfect condition. One house is full of fine Ferns, another, or several, of Indian Azalea, Amaryllis, Calceolaria, Fuchsia, Camellia (of which there are 300 or 400 species or varieties, Cineraria (more than 100), Epacris, Pelargonium, Petunia, the 60 varieties of Rhododendron, and thousands of Verbenas. In the greenhouse I noticed Acacia, Araucaria, especially the rare Bidwillii, Banksia, Boronia pinnata and serrulata, Chorozema, Corræa, Diosma, Dryandra, Astrolobium, Jasminum, Kennedya, Grevillea, Gompholobium, Pimelea, Lilium lancifolium, pinnatum, rubrum, immense specimens of Magnolia, Salvia, Siphocampylus, and a good collection of Tropæolum, &c.

4. *Dahlias.*—The collection of Dahlias is known for its richness and variety through the whole of the north of Europe, but it does not require any special description.

I should also mention the pretty English garden which adjoins Mr. Booth's residence; it contains some rare trees, which are hardly yet acclimatised. I may observe, too, that seven or eight packers are kept in almost constant employment throughout the year. If I might offer an opinion upon this gigantic establishment, I should place it next after M. Van Houtte's, which differs from it in superior cultivation, in possessing more new plants, and especially by its admirable neatness. *Masson's Report.*

CROWEA SALIGNA.

The Willow-leaved Crowea is one of the most beautiful and useful of ornamental plants. Its cheerful looking, pink, star-shaped blossoms are produced in great abundance; indeed, under proper treatment, the axil of almost every leaf on the current year's wood becomes the seat of a flower whose beauty is of longer duration than that of most of our decorative plants. Well-managed specimens will continue in bloom from the beginning of June to the end of September.

In selecting young plants from the nursery garden to commence with, choose dwarf vigorous ones; pot-bound leggy examples are of no use. When plant-growers fully understand their work, such plants will cease to be sent to the order of a customer. However procured, good healthy young plants should be at hand ready to be placed in a mild growing temperature, of about from 50° to 60° in February, or early in March. A close bushy habit of growth will be promoted by cutting back any straggling shoots, and pegging or tying the principal branches so as to give them an outward direction. Shortly after placing the plants in growing quarters ascertain whether they require more pot room, and if so, shift into pots about two sizes larger. Apply water to the roots rather sparingly for a week or a fortnight after potting, but keep the atmosphere moist and close, and sprinkle the plants with the syringe, morning and evening, if bright weather ensues. If all goes on well the plants will progress very rapidly. The night temperature may be allowed to range from 50° to 60°, and it may rise with sun heat to 75°. The plants should occupy a position near the glass, and a slight shade during the forenoon of bright days may be necessary; but dispense with this as much as possible. Admit air freely on all favourable occasions, avoiding cold cutting currents. Keep the atmosphere as moist as circumstances will permit; and if the ordinary routine of syringing should not prove sufficient to prevent the attacks of red spider, lay the plants down and give the under sides of the leaves a good washing with the syringe, which must be repeated as often as may be necessary in order to thoroughly eradicate these pests.

Towards the end of May the plants may be removed with advantage to a cold frame, which, at that season, can be kept sufficiently warm, and where a moist growing atmosphere is more easily maintained during summer than in the usual description of plant houses. If cold dull weather occurs immediately after transferring the plants to the frame, keep close, and endeavour to prevent a check to the growth, but if the removal is deferred till the end of May, when the weather generally proves clear and warm, this is hardly likely to happen. Water carefully until the plants become habituated to their new quarters. Maintain a moist atmosphere by sprinkling over-head, morning and evening, every clear day, shading during the forenoon, and shutting up early in the evening. If any of the plants require a second shift this should be attended to as early in the season as it may be wanted, so that the roots may have time to lay hold of the fresh soil before winter arrives. The Crowea will, however, be found to do better during winter when the pot is well filled with roots, therefore do not over-pot at that season. The growing period should be considered to end with August, when the plants should be gradually prepared for winter by a free circulation of air, and full exposure to the sun's rays. If damp weather sets in, remove them to the greenhouse, and keep them rather warm and dry till the wood becomes firm. During their season of rest very little water will be necessary, but enough must be given to keep the soil in a healthy state. A situation in the greenhouse where they will not be exposed to currents of cold air will be most suitable during winter.

As early in spring as a temperature of from 50° to 55° can be commanded in which to place the plants, cut them back rather freely, cutting out altogether any weakly shoots from the centres of the specimens. The treatment during this season need not be different from that recommended for last, except that, instead of removing to a cold frame in May or June, they will, if they have been well managed, be covered with their pretty blossoms by that time, and will well deserve a place in the conservatory or show-house. During their flowering period select a position for them where they will be free from drying currents of air, but expose them rather freely to light, as if kept in a shady place the flowers will not be so highly coloured. Old plants that are rather pot-bound will be greatly benefited by frequent waterings with clear weak manure water. The soil best adapted to the growth of the Crowea is rich fibry peat; this should be carefully broken up by the hand and mixed with a portion of silver sand, sufficient to ensure porosity. In potting be careful to have the ball of the plant and the soil to be used in a properly moist state, and secure perfect drainage by placing plenty of clean potsherds over the bottom of the pot, and over them some of the rough pieces of soil.

Cuttings of the young wood, if selected in a rather firm state, will root freely in gentle bottom heat.

I have as yet said nothing about training. I prefer the pyramidal form, and with close cutting every season and the support of a stake to the leading shoot very little else is necessary. If any other form is desired, the plants should be trained accordingly from the commencement. *Alpha.*

BRITISH SONG BIRDS.

No. LXXII.—We have now arrived at a season when every ear must hear, and every eye must see, the hero of this day's discourse—the Robin (*Sylvia rubecula*).

The well-known partiality of this bird for the society of man, renders him a subject of universal interest; and with some few exceptions all who know him love him. Hence, the liberties he takes are regarded as innocent freedoms, and his little tempers are set down to his innate peculiarities.

> Of all the tuneful tribes, the Redbreast sole
> Confides himself to man. Others sometimes
> Are driven within our lintel posts by storms,
> And *fearfully* the sprinkled crumbs partake:—
> "Bob" feels himself at Home.

The number of these sweet choristers round London can hardly be guessed at. They are legion!

If we wanted any particular bird to confirm what we have already advanced on the subject of instinct, as contra-distinguished from reason, it would be the Robin. They are born uniformly of *one* temper—are all equally pugnacious with their own tribes; all fond of the society of man; and all invariably of one and the same habit. No person can prove this better than ourselves, for we have made the race our "study" for a great number of years. We really imagine that we can read their thoughts as they follow our footsteps; and that they, too, readily understand what we say to them. We have asserted this before, and we have been called upon to prove it. We have had visitors from all parts to see our experiments, and they have departed in ecstacies. Of this, we shall take occasion to speak hereafter.

It is a curious fact, that if any person were to enter a wood, forest, or glen, and there were a robin in the neighbourhood, in less than two minutes that same robin would associate himself with the visitor. This is invariably the case. Nor does he come as an intruder. No. He introduces himself with a song of welcome, and bows gracefully from his lofty seat. Then will he approach with all pleasant familiarity, and *make* you his friend.

This is the precise season of the year in which to enjoy the society of our little friends in russet coats. What a splendid colour is their vernal vest! and how trim and smart they look in their Easter suit! Right sensible are they of their commanding presence, as may be seen by their graceful carriage and attitude of repose. They are now actively preparing for the extension of their race, and we shall soon see them exercising the authority of papas and mammas. A sweetly pretty sight is it to watch the exodus of a newly-fledged family of robins. What a fuss with the governor! What anxiety with his lady to divert her children, whilst cautiously enticing them away from the reach of a prowling cat concealed beneath the brushwood!

In our next, we will gossip about the nest of the robin, and give some interesting particulars of the situations they select for building in. We are so identified with this bird, who seems to claim us as his own wherever we go, that we feel our testimony will find ready credence. It would indeed be difficult to "invent" anything half so remarkable as what we have *seen*. *William Kidd.*

TRADE MEMORANDUM.

Who is Mr. William H. Newman, of Chilham, near Canterbury, who directs goods to be sent by the South-Eastern Railway, to the *Chilham Station?*

Home Correspondence.

Mishaps amongst the Brassicas.—"My Cabbages is all 'run,' half the Colliflowers 'buttoned,' and the Brocalies gone blind; sure never was such a season; nothing never goes right this here very year," exclaimed an old neighbour of mine whose garden I was visiting one morning during the past year. Nor were his lamentations uttered without cause. His Cabbages were indeed run, and the other disasters of which he complained were equally evident. I ventured to offer some probable causes for the mishaps, but all I could say had no weight with him. It was all owing to the season, he insisted; but in what particular way the season had produced such results did not transpire. Yet to that alone were the disasters attributable, at least he believed so, and thus our discussion ended. My friend Digby does not stand alone as a victim to such horticultural disasters, nor in attributing their cause to the season. But it has often occurred to me that, in this as in many other instances, the season is made responsible for what does not really belong to it. If there is a class of culinary plants more persecuted than another, it is the very numerous and useful family the Brassicas, and admitting that many of the mishaps to which they are liable do arise from circumstances beyond the immediate control of the cultivators, it must, I think, be acknowledged that the kind of treatment they ordinarily receive is of a nature to produce in their worst aspects the inconveniences so feelingly expressed by my old neighbour. It is well known to all who watch the phenomena attendant on and resulting from the development of vegetable life, that circumstances may conspire to retard or accelerate the ultimate aim of all plants, in common with every other organic structure—the reproduction of the individual. The due amount of the necessary materials which go to build up a complete and healthy vegetable will accelerate or rather will induce a precocious maturity; and a superabundance will, on the contrary, protract the various stages of development, through which a plant must pass from the seed to the assumption of the character of parent; and the usual system of treatment to which the plants alluded to are for the most part subject, is exactly of a nature to induce that species of morbid and precocious maturity. Allowed to remain in the seed-bed *en masse*, crowding each other on all sides, deprived of light and deficient in nourishment, and often suffering materially from drought, till of sufficient size to be removed to the permanent situations in the open gardens—then dragged from their nursery with a great deficiency of root, immoderately long in the stem, and thoroughly enervated in constitutional vigour, no wonder they quail before every gleam of sun, and require days to enable them to regain sufficient strength to sustain themselves erect, and that their subsequent progress should be unsatisfactory. Our best cultivators adopt a widely different course of treatment with the class of plants under discussion; and the results reaped are of a character speaking highly of the benefit of the care bestowed. When the plants are sufficiently large to be removed from the seed-bed, they are carefully pricked out, and again transplanted when some progress has been made, and every possible care taken to induce a healthy and robust condition preparatory to their final removal. And when they are removed little or no check is attendant on the operation. Most gardeners have experienced the annoying results of having allowed their Cauliflower plants, kept through the winter in pots, to become pot-bound. They are identical in principle, both as to cause and effect, with those above alluded to. The discussion of points relating to the more humble departments of horticulture is too little attended to, while others are worn threadbare. *G. L.*

Bignonia radicans grandiflora.—This fine wall-plant does not appear to be so generally cultivated as it should be; for I am sure that any one who may assign a portion of wall or trellising to it will be pleased with its beauty. When in Hastings, in Sussex, I had a very excellent plant of this Bignonia, which reached the top of a wall of considerable height, and threw its branches over it for at least 3 feet, the extremities of which bore annually a great number of lovely flowers. This wall being near a main walk leading from the town, so unusual an ornament did not fail to excite the admiration of all who passed that way. *J. B.*

Gardenias.—I send you cuttings of Gardenia radicans and Stanleyana, in order to exhibit the result of keeping these species of Gardenia in a cold frame or house during the winter. The cuttings in question have been standing in a cold Vinery, *i. e.*, a late Vinery kept as a greenhouse. As spring approached, they were placed in a temperature of about 58°, in order to force them into bloom for the conservatory. They however failed, and their failure has taught me a lesson which I shall not soon forget, and perhaps it may serve as such to those who may be induced to attempt to place plants in cold houses which require intermediate ones, whose temperature is not allowed to fall lower than 55° at night. My plants appeared to have suffered extremely from cold, and when placed in heat they turned yellow. Nevertheless, in course of time they will outgrow the evil, and will most probably reassume their original character. *Robert Cox, Gordon, Down Hall, Harlowe, Essex.* [The specimens look as if they had suffered from cold and *damp* rather than from mere cold.]

Fumigating Plant Houses.—I have long been in the habit of using Chillies, mixed with common tobacco, for fumigating, and have considered that the Chillies gave a pungency to the smoke which I supposed materially

assisted in the destruction of insect life. After reading Mr. Ayres' account, however, about what he had accomplished with so small a quantity of tobacco and cayenne (6 oz. of tobacco and 2 oz. of cayenne), I resolved to give his plan a trial, and also to test the destructive power of Chillies unconnected with tobacco. For this purpose I selected two houses, each 30 feet by 12 feet, the inmates of which were considerably infested with aphides. I placed a sieve, with fire, &c., in the passage of each house, precisely as described by Mr. Ayres. Over the fire, in one of the houses, I put 5 oz. of tobacco, mixed with 3 oz. of chopped Chillies. In the other I burned half a pound of Chillies, without any tobacco. The tobacco and the Chillies were duly consumed, and both houses were tolerably well filled with smoke, in which state they were left for the night. On examining them next morning, I found that the experiment with the tobacco and Chillies, used conjointly, had been only partially successful; and, to complete the destruction of the insects, a similar operation had to be performed the following evening; but in the house in which the Chillies had been used alone, I could not perceive that a single insect had been injured in the least degree. Resolved, however, to give the Chillies a still more decisive trial, I placed several infested plants in a small one-light frame, in which I placed the head of an old spade, heated intensely hot. On its red, glowing surface I placed a good handful of Chillies; the frame was instantly filled with a dense white smoke, and in this state it was left for the night. On a careful examination the following morning, I found the insects all in the enjoyment of excellent health, not apparently the least disturbed by the dense fumigation to which they had been subjected. Now, how to reconcile Mr. Ayres' successful operations with my failures, I am at a loss to guess. Can a principle be engendered by the combination of tobacco and adulterated cayenne, which is not to be produced by tobacco and Chillies? Perhaps others of your readers may be induced to try similar experiments, and report the results. *A Reader.*

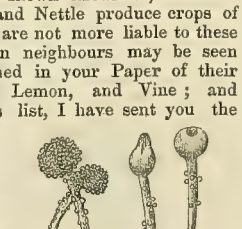
Labels.—The thousand and one kinds of labels one meets with, wood, iron, tin, lead, porcelain, &c., &c., shew that it is quite an open question what description is the best. I have found oblong slips of deal, covered with white paint, cheaper than and in other respects as good as any others; and whatever the label used may be, I think zinc wire the best and most convenient mode of attaching it to the plant. But can any of your correspondents suggest anything better for writing the names on these labels than a lead pencil: it is very convenient, which is a great point, but the names will hardly last more than two years. I am afraid black paint would be troublesome. *L. L.*

Climate of Gloucestershire.—In your report of the Horticultural Society's Garden, at p. 214, you name (among other things in flower in the conservatory), Ceanothus rigidus and C. cuneatus. Now, it may be interesting to know that both these plants have been standing here (through the past winter) on an exposed east border quite unprotected, and the former of the two is as green as the Garrya; the latter, however, has its shoots nipped a little, but it is now making a fresh start. Associated with them are the following, which are a little brown on the south side; viz., Abelia floribunda, Cupressus Goveniana, C. macrocarpa, and C. Uhdeana. *Wm. Cox, The Gardens, Strensham Court, Tewkesbury, April 8.*

The Canna, or Indian Shot is a plant not generally sufficiently appreciated, for the assistance it is capable of rendering those who have scattered beds to furnish, situated near or surrounded by shrubs or trees. The large and noble leaves of this plant serve to break the monotony induced by a repetition of the plants used in the "parterre;" and in secluded spots, such as exist in many large gardens, it is a real acquisition. It affords a more distinct and strikingly exotic character, than is furnished by any other plant equally well adapted for the purpose; its culture is simple. I have now my stock of plants in preparation for planting out; they have been recently removed from under a greenhouse stage, where the tubers were wintered in pots and tubs, in which they were potted from beds in autumn after the frosts had destroyed their foliage. They are now in a Vinery, where they will make an early growth of from one to two feet in height, after which they must be gradually hardened, so as to endure the external temperature, and be ready for planting out towards the middle of May; beds of this plant have hitherto never failed to excite the admiration of visitors by their foliage and flowers. The species I cultivate are Indica, Patens, and Gigantea, all of which blossom freely. Iridiflora, with its larger foliage, grows rapidly, but it has never flowered with me in the open air. *W. C. E., Gloucester.*

Orchard-houses.—Some time ago one of your correspondents inserted an article in commendation of Mr. Rivers' orchard-houses, stating at the same time that the principle might be carried further with advantage, and that he purposed to build one with certain contemplated improvements, which he should give in detail to the gardening public. My employer was about building a garden-house and waited for the promised explanation, but not meeting with it, we set to work to make the best-constructed and most generally useful house we could devise; and, being now finished, it pleases exceedingly, and is likely to lead to several similar ones being erected in this neighbourhood. To those who have read Mr. Rivers' book I need only say, that for a 30-feet house we have followed his general instructions and irections except as to the height of the roof, which is of the same pitch but about 15 inches loftier than he recommends. This would have kept the plants too far from the glass, and made them liable to draw, in addition to obstructing much of the afternoon sun, the whole front being usually boarded and no light admitted except through the roof. The disadvantage has been obviated by glazing a row of 30 by 14-inch squares, between the studs or posts the whole length of the front, immediately under the spouting and above the moveable ventilating boards, which has a very pretty effect. The intention being to do the work, not cheaply but substantially and well, our first operation was to dig out the whole area of the floor to a depth of 2 feet 6 inches—a suitable depth for a Vine border—to concrete the bottom, form a drain, and set all the posts (Oak at the corner points, the remainder Larch) in solid concrete. The pathway walls were then built of brick to the height of the surface of the soil, and a face was given of Portland cement; the two bottom courses of the wall being loopholed, after which the borders were filled in with a proper compost; so that now by means of the loopholes through which the Vine roots will find their way we have at command one border the whole width of the house. The boarding is of 1-inch and ¾-inch foreign timber; the upper half of the door is glazed with sheet glass, admitting both light and sight; the roof and front with Hartley's patent rough plate, (than which I have found no glass more excellent, as it is glazing and shading in one, whilst it thoroughly admits and disseminates the rays of light) and arrangements are made for the conveyance of water to a tank near the door. May I digress so far as to recommend my brother gardeners to grow their Melons and Cucumbers under Hartley's glass, allowing a little extra strength to the framework, for I have proved it, and they need not fear of a crop, all other conditions being duly fulfilled. It is very likely a house of the kind I have been describing, simple as it is, will be found useful both in summer and winter. At present the surface of the border of mine to the front is occupied by a few rows of Strawberries in pots; the back border has some dwarf bushes of stone fruits from Sawbridgeworth and elsewhere, also in pots; and I think that the additional height of the house already alluded to will enable me conveniently to train three or four hardy Vines, which are put in, over the back boarding, and perhaps down each alternate rafter. *Martin Huggins, Gateforth-house, Yorkshire.*

Mucor Curtisiæ.—Until the publication of the Rev. M. J. Berkeley's treatise on the "Cause of the Potato Disease," in the "Journal of the Horticultural Society" for 1846, few general readers had any notion of the existence of parasitic plants on those of a higher order; and even then, many remained incredulous that an invisible fungus could produce such extensive mischief—yet it only requires close observation to be convinced that nearly every common plant is infested by one or more of these noxious adherents. That seasons have much influence in propagating parasitic cryptogams to an unusual extent, there is no doubt; yet it appears equally certain that countries possessing the finest climates are not exempt from these destructive agents. On the contrary, in all parts of the world, they serve to complete a wonderful system, of infinite variety, of created life; for as I have shown elsewhere, even the small hairs on the Potato and Nettle produce crops of articulate fungi. That we are not more liable to these parasites than our foreign neighbours may be seen from the accounts published in your Paper of their attacks on the Orange, Lemon, and Vine; and in order to add to this list, I have sent you the accompanying drawing of a distinct species recently found in the interior of a Fig, by Miss Lydia Curtis, who kindly preserved it for me. In outward appearance, it is a dense black stratum, with an olivaceous velvety bloom; but under a strong penetrating power, the whole plant is nearly transparent, with a smoky tinge, and consists of simple stems issuing from an entangled mycelium, surmounted by summits varying from ovate to globular, at first inclosed in a glossy glutinous membrane, which is at length apparently ruptured, and the sporidia are seen in a compact mass; and, owing to the sticky coating of the plant, as they fall, they adhere in clusters to all parts of it. As it is, I believe, new, I have named it Mucor Curtisiæ, in compliment to the nice observation of the young lady who discovered it. To what extent Figs are damaged by this fungus, I have no means of ascertaining but by inviting attention to the subjects; probably at a future time our knowledge may be increased. *F. J. Graham.*



Rain at Landue, near Launceston, Cornwall, during 1851.

January	10.57	August	2.50
February	1.75	September	1.65
March	6.81	October	4.54
April	2.15	November	3.01
May	1.94	December	2.94
June	2.61		
July	3.51		43.98

On 192 days.

—B. T. Phillipps.

Figs.—What is the cause of the casting of the unripe fruit of the Fig-tree! This Spring only one sort of my Figs showed any sign of a first crop, and as the crop on this kind was abundant and it had never fruited before, I was almost willing to forgive the other sorts for their remissness. All of a sudden, however, when the fruit was as large as the second crop of the common brown Fig, the whole turned yellow and fell off, four trees serving me the same trick. The trees were healthy, the weather was admirable, and I could discover no insects, therefore I am obliged to suppose that it is something constitutional in that sort of Fig, which was introduced into the colony (New South Wales) by me in 1842, and, as I believe, has not yet borne fruit. It was given to me by the name of "Verte très bonne qualité," along with 15 other sorts, by the secretary of the Horticultural Society, but they unfortunately all died on the passage but this one. Will somebody be so kind as to tell me if "Figue verte très bonne qualité" of the Horticultural Society's list ever does bear in England, and if it is really a good sort? It is a most rampant grower, and I should like to know if it is worth keeping any longer in our gardens? Figs thrive well here, frequently bearing fruit the same season in which they are planted. *J. C. Bidwill, Tinana, south lat. 25°, East coast, New South Wales.* [Where the Fig-tree is not injured by cold, the casting of its unripe fruit is occasioned either by a deficiency of moisture for the roots, or by too much of it without drainage. The Figue verte très bonne qualité grows vigorously in the garden of the Horticultural Society; but it has not fruited in the open ground, for which it appears not at all adapted, except in such climates as that of Italy, whence it was obtained with a good character. As it was only the first year of its fruiting with you, it will certainly be advisable to give it a chance in another season.]

Societies.

Botanical, of Edinburgh, *March* 11.—Professor Balfour in the chair. Mr. Bryson sent for exhibition under the microscope a section of the stem of Phytocrene gigantea, a gigantic climbing shrub belonging to the natural order Urticaceæ, found in India, and figured in Wallich's "Plantæ Asiaticæ Rariores," vol. iii. tab. 216. The section showed a large cellular central pith surrounded by a vascular layer, proceeding from which were seen eight wedges composed chiefly of porous vessels, alternating with eight narrow bundles of pleurenchymatous vessels and cellular tissue. The wood is soft and porous; and Dr. Wallich states that in dividing the stem, which sometimes measures 18 inches in diameter, a large quantity of a pure and tasteless fluid flows out, which is quite wholesome and is drunk by the natives. Hence it has been called vegetable fountain.—The following papers were read:—1. *Remarks on the Growth of the Jalap Plant (Exogonium purga) and of the Scammony Plant (Convolvulus scammonia), in the open ground of the Botanic Garden,* by Professor Balfour. 2. *On the rate of Growth of the Bamboo (Bambusa arundinacea) in the Botanic Garden,* by Mr. M'Nab. The following was the growth of a Bamboo stem in the Palm-house of the Royal Botanic Garden, from the time it first showed itself above the soil (15th July, 1851) until the 31st of August, being a period of the year when artificial heat was almost entirely withheld. Each day's observation was made at 6 A.M.:—

Increase in 24 Hours.		Increase in 24 Hours.	
July 19	2¼ inches.	Aug. 10	3¼ inches.
,, 20	2⅝ ,,	,, 11	3⅝ ,,
,, 21	2⅝ ,,	,, 12	4⅛ ,,
,, 22	2⅞ ,,	,, 13	5⅛ ,,
,, 23	3⅛ ,,	,, 14	4¼ ,,
,, 24	3¼ ,,	,, 15	4¼ ,,
,, 25	3⅜ ,,	,, 16	2⅞ ,,
,, 26	3⅜ ,,	,, 17	2⅝ ,,
,, 27	3¼ ,,	,, 18	3⅝ ,,
,, 28	3⅜ ,,	,, 19	4⅛ ,,
,, 29	2⅞ ,,	,, 20	4¼ ,,
,, 30	2⅝ ,,	,, 21	5⅜ ,,
,, 31	3⅜ ,,	,, 22	4⅝ ,,
Aug. 1	3¼ ,,	,, 23	4⅜ ,,
,, 2	4 ,,	,, 24	4⅝ ,,
,, 3	4¼ ,,	,, 25	4¼ ,,
,, 4	4⅜ ,,	,, 26	4⅜ ,,
,, 5	4⅓ ,,	,, 27	4⅝ ,,
,, 6	5⅜ ,,	,, 28	4⅜ ,,
,, 7	4⅜ ,,	,, 29	4⅜ ,,
,, 8	3⅜ ,,	,, 30	4⅜ ,,
,, 9	3¼ ,,	,, 31	3⅜ ,,

3. *Notice of a case of poisoning by one of the Cape Iridaceæ.* By A. Dalyell, F.R.S.E., late Lieut. 27th Regt. Communicated by Dr. Maclagan. The author observes:—During 1841, I write from memory—when Lieutenant of the light company of the 27th, ordered to the Orange River—on one occasion, after a fatiguing march, a halt was made on the banks of the little Fish River, near the village of Somerset. That evening, 80 of the baggage and artillery oxen were reported dead, and next morning 40 more were found poisoned, having eaten the flowers of a small iris-like plant, which grew in abundance around the encampment. During the following year, whilst in command of the Tarka, I had many opportunities of renewing acquaintance with the same plant, not, however, under similar circumstances; it is only when oxen are so far exhausted by overdriving, as to lose their discriminative instinct in the hurry of impetuous hunger, that poisoning follows its presence in their grazing grounds. The plant was always regarded as an enemy, but I never saw it eaten by cattle except in the instance I have detailed. It is not possible for me to state the precise time in which, in any one individual, death followed from eating it. I think, however, I may venture to offer from three to nine hours as the most probable time. Long before the heat of day had operated on the dead, the dilated eyes and the frothy nostrils and mouths of the poisoned cattle were commented upon, whilst we scrambled over them at morn-

ing parade, as indicative of a more suffering death than such faithful companions of our toils deserved. Symptoms of gastritis were marked by their previous moanings. From the solidity of the ground it is next to impossible that any of the roots could have been got up; poisoning was, therefore, due to the flowers, stem and leaves. I have also every reason to believe that every one of the oxen which eat the plant died. Dr. Balfour considered it to be Vieusseuxia tripetaloides, D.C. He also stated that several of the Cape Iridaceæ seemed to be poisonous, and referred especially to Homeria collina as noticed in Dr. Pappe's Prodromus of the Cape Medical Flora. "I introduce this plant," says Dr. Pappe, "(which is known to almost every child in the colony as the Cape Tulip), not for its therapeutical use, but for its noxious properties. The poisonous quality of its rhizomes appears to have been known to some extent years ago, but, judging from the rapidity with which death ensued in a recent case when they had been eaten by mistake, it must be of a very poisonous kind. To Dr. Laing, Police Surgeon of Cape Town, I am indebted for the particulars of a most melancholy case of poisoning caused by this plant. A Malay woman, somewhat advanced in years, with her three grandchildren, respectively of the ages of 12, 8, and 6, partook, on the 18th of September 1850, of a supper consisting of Coffee, fish, and Rice, and along with this a small basin-full of the bulbs of Homeria collina. The exact quantity which each ate is not well known. They appear to have supped between 7 and 8, and retired to bed at 9 o'clock, apparently in good health. About 1 in the morning the old woman awoke with severe nausea followed by vomiting, and found the children similarly affected. She endeavoured to call for assistance, but found herself too weak to leave her bed; and when at 5 o'clock assistance arrived, the eldest girl was found moribund, and expired almost immediately. The little boy of 8 years died in an hour afterwards, and the youngest child was found in a state of collapse: almost insensible, with cold extremities, pulse scarcely 50 and irregular, pupils much dilated. The symptoms of the grandmother were nearly similar, but in a lesser degree, accompanied by constant efforts at vomiting. By using diffusible stimulants, she and this child eventually recovered." 4. *Notice of the number of known fossil plants at different epochs, and of the natural orders to which they are referred.*. By Professor Balfour.—Mr. M'Nab read the following report on the state of vegetation in the Edinburgh Botanic Garden, from the 11th of February till the 11th of March, 1852:—

Names.	Date of Flowering.		
	1852.	1851.	1850.
Helleborus orientalis	Feb. 14		
Arabis albida	,, 15	Feb. 7	Feb. 21
Symphytum tauricum... ...	,, 16	,, 6	
Crocus vernus and varieties...	,, 18	,, 3	,, 26
Primula denticulata	,, 19	,, 15	,, 23
,, rivalis...	,, 20	March 16	March 1
Symplocarpus fœtidus ...	,, 20	Feb. 4	Feb. 18
Leucojum vernum	,, 21	Jan. 20	,, 18
Arabis procurrens	,, 21	Feb. 1	,, 24
Anchusa sempervirens ...	,, 21	,, 14	,, 26
Tussilago alba	,, 27	Jan. 26	March 12
,, nivea...	,, 27	,, 28	,, 2
Pulmonaria angustifolia ...	March 1		
,, mollis	,, 2	Feb. 7	,, 11
Adonis vernalis...	,, 6	,, 18	,, 16
Dondia Epipactis	,, 8	Jan. 4	

Mr. Evans stated that the Apricot began to flower in the Experimental Garden on the 1st March.—G. Sharp, Esq., was elected a Fellow.

Reviews.

Einiges über Lichenen und deren Befruchtung. Von T. D. W. Bayrhoffer. (Observations on Lichens and their Organs of Fructification.) Bern, 1851. 4to, pp. 48, tab. lith. iv.

Much interest has been excited by the observations of Itzigsohn on the supposed spermatozoids of Lichens, and others have followed in his steps to the greater or less corroboration of what he has advanced on the subject. More especially M. Tulasne has turned his attention to the point, and has laid some of the results of his investigations before the French Academy, and we are happy to hear that so far from having abandoned the matter, he is now following it up with more close attention than ever. Meanwhile the present tract is calculated to keep up the interest, as it professes something like general views, though the author labours under the disadvantage, for the most part very prejudicial to scientific reputation, of seeing at the same time much more, and much less than others. His figures, too, are much confused and often badly executed, so as to make it very difficult to understand exactly what he means. We have had no time to follow up his investigations, and know not, therefore, what degree of credit they deserve, though the results are at first sight somewhat startling. We shall therefore content ourselves with simply giving an outline of the positions he advances, which may possibly be of service to those who are interested generally in the physiology of plants. Lichens, according to our author, are either hermaphrodite, monœcious, or dioecious. In the two former cases there is a prothallus and thallus, in the latter an hypothallus. The prothallus is the first stage of development arising from the germination of perfect or imperfect spores. Upon this is seated either a male or female stratum. In dioecious Lichens, such as *Cliostomum, Pyrenothea, Spilome*, &c., antheridia, with imperfect spores (androspores) are produced, or barren structures resembling apothecia. When, however, both sexes are united in the prothallus, the thallus arises, which consists of two principal strata: the male, which is composed of the radical stratum and the filamentous one above it, the tips of whose threads produce the male gonidia; and the female composed of the gonimic, which gives off the female gonidia, and the cortical. All these are present only in the most perfect Lichens. The gonimic stratum is never absent; any of the others may occasionally be deficient. In the hermaphrodite Lichens, the male gonidia are much larger than the female, and greenish yellow; whereas in the monœcious species, they are of the same size and colour. Threads from the two strata, proceeding in opposite directions penetrate each other. The apothecia consist of two principal parts, the one seated above the other; the lower wall gives off threads which our author calls prosphyses, the tips of which bear cylindrical cells, endowed with spontaneous motion, sometimes growing singly, sometimes forming short chains which are either terminal or lateral. The upper surface or hymenium, produces the female prosphyses directed downwards, while an intermediate stratum, seated just above the point of production of the androspores, consists of a quantity of female gonidia, from whence proceed the asci and paraphyses. In the dioecious species the male apothecia are distinct, and the individuals which produce them are described under the names of *Pyrenothea, Cliostomum, &c.* Such may suffice to give a slight sketch of the author's views, which are totally different from those of his predecessors, and at least deserve the merit of originality. How far they may be correct is another question.

We have received another treatise on Lichens, entitled *Zur Entwicklungsgeschichte von Borrera ciliaris.* (Inaugural Dissertation.) Von G. von Holle, Göttingen, 1849. 4to, pp. 43, tab. lith. ii.—This may be consulted with advantage by those who wish to find a good account of the evolution of the apothecia and their reproductive organs, but there is nothing relative to the more pressing point of interest, which regards the second form of fructification contained in the little black specks that are scattered over the crust, nor is there anything to confirm the peculiar views as to the structure of the apothecia put forth by Bayrhoffer.

FLORICULTURE.

The Pansy.—We stated on a recent occasion, that in addition to the improvements effected in general gardening through the agency of the Horticultural Society, much had also been done by it for the advancement of floriculture. This is, perhaps, best exemplified by the magnificent collections of Roses in pots which annually grace its May and June exhibitions. In common with most new projects, when this was first announced it was met at the very threshold with much determined opposition. Some even went so far as to say that the thing could not possibly succeed; nevertheless, the result has been all that could be desired. The same institution required Pansies, Pinks, Carnations, and Picotees in pots, and this innovation again called forth similar predictions of failure. Those, however, who preferred deeds to empty speculation, set heartily about trying the experiment, and with what success last season's exhibitions at Chiswick bore favourable witness. But it is our wish on the present occasion to direct attention exclusively to the Pansy, and more particularly to its cultivation in pots; not more with a view to the purposes of exhibition than for early spring decoration. This was suggested by the charmingly bloomed examples in pots of this flower exhibited by Mr. Turner at the last meeting of the Horticultural Society in Regent-street. They consisted of Duke of Norfolk, Sir Philip Sidney, Disraeli, Ophir (very fine), Robert Burns, and Euphemia. This exhibition proved a source of much interest to all who were present, whether florists or not; while a pan of cut blooms, although of equally fine varieties, arrested but limited attention. Those who have never cultivated the Pansy in this way have little idea what a profusion of really gay flowers is produced by this plant during the whole of the early spring months, and that within the narrow limits of a common three-light wooden frame. A box of the size just mentioned will hold about 70 plants in 6-inch pots, which size is large enough when not required for the purposes of exhibition; and they may nearly all consist of different varieties, or two plants of some kinds that are especial favourites may be allowed, according to the taste of the cultivator, and which we should recommend; for there is much in the choice of a plant, as we shall hereafter show. Proper plants for the purpose will often have a considerable number of blooms open by the middle of February, and even Iron Duke, Supreme, Duke of Norfolk, Elegant, Euphemia, Sir J. Franklin, Leader, Constantine, and Caroline, will have fair blooms in the middle of January. With proper attention, these same plants will flower in good character till the latter part of May; but we will date the commencement of a good head of bloom, as a general rule, from the 1st of March to the 1st of June; thus, for very little attention, giving a succession of good flowers for three months, without the expense of heat, linings, or coverings. We may, then, well ask what other plant will make the same display and the same return for so little trouble. Mr. Turner, who is perhaps the most successful grower of the Pansy we have, says: "Plants for early flowering should be potted up from the open ground in October. Although a hardy plant that will grow and bloom almost anywhere, yet, like every thing else, to produce fine flowers they must not be permitted to take care of themselves. If the weather is open the last week in January, or the first week in February, begin to repot the plants generally, using soil similar to that in which they have been wintered, *i. e.* good decomposed turfy loam, rotten manure, a little leaf-mould, and coarse sand, the latter in proportion to the nature of the loam. When potting, loosen the outside of the old ball, and remove a portion of the top soil; drain as you would for Carnations; after covering the bottom of the pot with crocks, place some of the coarsest soil mixed with a little manure over the drainage, and shake all down by striking the pot on the bench. The soil should not be pressed hard with the hand; no water should be given for a day or two after potting. Before as well as after this operation, the plants must be kept well up to the glass. The plants we have been describing should have from two to six shoots, or strong leaders; and to keep them to these chosen shoots, a number of small ones must from time to time be removed. These cuttings answer the double purpose of strengthening the main shoots, and producing a stock of young plants, which will supply the place of the old ones when worn out. Plant out any increase as soon as it is rooted, and from these again continue to propagate by putting in any side-shoots as cuttings, when they are sufficiently long for that purpose. Propagating the Pansy is a simple and inexpensive operation; almost any beds or borders will answer for planting out the young stock. We recommend that, from first to last, a considerable number should be raised from cuttings, or small pieces taken from the parent plant, with roots attached, in order that there may be a good selection for the purpose of pot-culture. In this lies the secret of successful cultivation; without a choice of plants no good will be effected." Having pointed out what should be aimed at to ensure success, it will not be out of place to allude to what, in many instances, causes failure. The time for taking cuttings is, in many cases, too long delayed; if the old plant does not go off altogether, the cuttings become sickly and pippy; therefore never be without a young stock. Strong growers, with large flowers, are best adapted for pots. The following are recommended for that purpose:—*Selfs of various shades:* Blanche, Constantine, Duke of Perth, Ibrahim Pasha, Lucy Neal, Ophir, Polyphemus, Pompey, Rainbow, and Sambo. *Varieties with white grounds:* Aurora, Almanzor, Caroline, Climax, Madame Sontag, Miss Thomson, Mrs. Beck, Mrs. Hamilton, Penelope, Sir R. Peel, and Royal Visit. *Varieties with different shades of yellow ground:* Addison, Constellation, Duke of Norfolk, Diadem, Elegant, Euphemia, France Cycole, Iron Duke, Juventa, Mr. Beck, Masterpiece, Ophelia, Robert Burns, Sir Philip Sydney, Supreme, and Zabdi. Keep the frames open whenever the weather is favourable, pulling the lights back, or tilting them up; maintain the plants in a growing state by watering them as often as they require it, going over them for this purpose every day. Plants that have several shoots should be tied into shape, placing the centre-branch upright in the middle, and the remainder at equal distances all round; but the plant must be shaped according to the number of shoots: three leading branches are sufficient if cut blooms only are required. Another advantage is, that the same plants, from the succession of bloom they produce, will answer the double purpose of exhibiting in pots or stands of cut flowers. After the potting as above recommended has taken place, take the earliest opportunity at which the ground is in a fit state, to plant out any stock not required to bloom under glass, or plants that have been wintered in stores, &c., which will bloom through May or June, and produce a stock of good healthy cuttings. By following the simple and inexpensive treatment which we have just recommended, we are sure that those who take the little trouble that it entails will not fail to be gratified by a fine display of bloom, which, from its long continuance, will most certainly afford much gratification. *J. E.*

National Floricultural Society, *April* 8.—Mr. Thomas Moore in the chair. The most interesting object contributed on this occasion was Countess of Ellesmere Camellia, from Messrs. Jackson, of Kingston. It has a fine globular form, with broad gracefully cupped stout petals. It is of average size, and thoroughly double: its colour is a blush or pinkish white, faintly striped with pale Rose: a first-class Certificate was awarded it. Cinerarias were contributed by Mr. Ivery, and Messrs. E. G. Henderson; in Mr. Ivery's group it was remarked that Star of Peckham was a larger flower and deeper in colour than Hammersmith Beauty: a Certificate of Merit was awarded to Rosalind, for its fine habit, breadth of petal, and good general shape—colour, white, narrowly margined with bluish purple, disk grey, much in the way of Lady Hume Campbell; of named sorts Messrs. Henderson sent Carminata, Cerito, David Copperfield, Formosa, Mrs. Charles Kean, Pauline, Prince Arthur, Major Domo, and others; two dwarf Rhododendrons, shown on a former occasion, were furnished by Mr. Arthur Henderson, of Pine-apple Place, as was also the fine collection of Hyacinths in pots, alluded to at p. 231. One new Member was elected. *J. E.*

Royal South London Floricultural Society, *April* 15.—We learn that this society intends having exhibitions of seedling florist flowers in connection with its committee meetings. The days and hour of meeting have already been announced in our advertising pages. At this, the first gathering, Cinerarias were the principal subjects produced, but none of them were of superior merit. The only certificate (first-class) awarded was to Mr. Turner, of Slough, for his seedling Pansy, "Sir J. Cathcart," a deep yellow ground variety, with rich bronze red top petals and margin. It is a flower of fine general form and substance. It has been favourably noticed by us on two previous occasions; and fine as it appeared at first, it improves as the season advances. *J. E.*

Auriculas: *K.* 1, 2, and 3 of no value. Auriculas cannot be termed shy seeders; but, as with all well-established florists' flowers, it is difficult to beat existing varieties. *J. E.*

Carnations and Picotees: *H. H.* They may still be potted

with success, both for bloom and for increase; no other stipulation is needed than that healthy plants be employed, and those without having as yet "spindled;" do not disturb the roots, pot firmly, shade from hot sun for a few days, and then place them on strips of deal; the situation should be free from draughts, shade, or drip. We do not water at the time of potting, and as a rule prefer to let them go without it until some progress has been made in the new soil. *J. E.*

CINERARIA: *J S and Son.* The indenture at the end of each petal is a drawback; the named variety referred to has also a similar fault; yours is equal to many with fine names and high prices. *J. E.*

LIQUID MANURE: As we stated before, it should not be applied unless the plants are in good growth; it is worse than useless to give it to half dormant or sickly subjects. *J. E.*

PANSY: *J S and Son.* Very fine yellow ground, with broad margin and upper petals of rich maroon; stout and flat, with solid eye, which in the lower and side petals is well displayed; the edges are scarcely smooth enough, which may be attributed to the late cold nights; even with a somewhat contracted lower petal, its outline is good. We shall be pleased to see it again. *J. E.*

Calendar of Operations.

(For the ensuing week.)

PLANT HOUSES.

BRING forward the stock of plants recommended for blooming in July and August, by shifting such as require it, and allowing them more room. Kalosanths will require neatly tying out, as these plants form beautiful globular-shaped plants, by a little management. Fuchsias will require a second shift, which should now be into their blooming pots, using a rich light soil for the purpose. The same will suit scarlet Geraniums, growing for specimens. These three plants can be well managed together. Erythrina Crista-galli is another free-flowering plant, well adapted for the purpose, and not forgetting the different varieties of Nerium, so seldom seen, and yet we scarcely know more beautiful things, or any that repay cultivation better. To grow these in perfection, stout bushy plants should be selected, which, after being potted in peat and loam, should be placed in a pit, close to the glass; let them have a good heat through the summer, and keep them moist at the roots while growing. About August they should be kept dryer, and have the glass taken off them every fine day, or placed at the foot of a south wall; by these means the shoots will get well ripened by the winter. Any dry airy house will suit them, and the following spring they may be forced into bloom with a little extra heat. If left in a house of moderate greenhouse temperature, they will not bloom before July and August, when they will surpass many new things grown in preference to this charming old plant. Some fine varieties may now be procured in the nurseries. Keep the conservatory as cool by day as is consistent with the health of the inmates; this will keep the plants longer in bloom, and be more enjoyable for parties inspecting them. Shading must be resorted to this bright weather, and some pains must be taken to supply the waste of moisture by the dry external air. Any delicate plants full of roots, which it is not desirable to shift at present, should have their pots inserted in one a size larger; filling the interstice between them with moss, or saw-dust. This, if more generally practised, would save many a valuable plant; the action of dry absorbing air, on so porous a substance as a common garden-pot, soon extracts the moisture from the mass of earth inside, and however carefully attended to, many plants die from this alone in hot weather.

FORCING DEPARTMENT.

PINERY.—The greater part of the summer fruit will now be swelling fast, and as the amount of light and solar heat has largely increased, a proportionate quantity of moisture must be applied, both to the plants and the air of the house: to obtain the latter, the paths, floors, &c., should be flooded with water several times a day, and at closing time let the plants and surface of the bed be well damped, to preserve the desired humidity. A slight shade of open thin canvas or netting (of which Haythorn's is the best), should be placed over the glass for a few hours during the middle of each bright day: this will keep the internal air more humid, but too much shading for such a plant as the Pine is more injurious than useful; towards evening a small portion of air may again be admitted; this will give strength and vigour to the plants and produce higher flavoured fruit, remove as they appear useless suckers and gills, and keep the fruit in an upright position by proper staking. The increased solar heat will produce a corresponding increase to the bottom heat; this should be watched, for, although a somewhat high bottom heat will not produce the mischief it would with a low house temperature, yet it should not exceed 90° or 92°, even at this time. Continue to shade newly potted plants, until free growth commences: reduce it, however, gradually, to inure the plants by degrees to the whole influence of light, keeping down the temperature by large admissions of air. Plants may appear to grow faster when shaded, and may be larger in size,—but the cultivator will find those plants grown under a full exposure to solar light and a proportionate quantity of air, will produce much the largest and best flavoured fruit, other conditions being equal.

PEACH HOUSE.—When the fruit in the early house has gone through the critical period of stoning, the final thinning should take place. If, however, our directions respecting the previous thinning of the crop have been followed, at this stage but very few will require removing; in carrying this out, the size of the fruit and capability of the tree to perfect its crop should not be lost sight of. The borders inside and out may now have their maximum waterings, using liquid manure wherever a weak habit from poor soil or over exhaustion shows it to be necessary. In addition, a copious washing by the engine should be applied twice daily, early in the morning and at shutting up time; and if advantage is taken of closing with a little sun-heat a few additional degrees of heat may be given them. The house, however, should not stand higher than 50° at 6 a.m., while during the day it may range to 85° if accompanied with air in liberal quantities. Keep a strict watch on the red spider, which the present dry weather will encourage. French Beans and Strawberries are great helps in introducing this pest to forcing houses, hence after this time they should if possible be accommodated by a house or pit to themselves. French Beans are subject to a still worse plague to gardeners—the thrips, the latter being very difficult to destroy. In Vineries, Peach-houses, and Melon pits, where the red spider shows itself, wash the back walls and other parts of the interior with the wash we recommended at page 200. Peach trees may be syringed with a mixture made by well stirring a small quantity of sulphur (in powder) in water; if the syringe or engine has done its duty, this will not be necessary.

FLOWER GARDEN AND SHRUBBERY.

The present Spring has proved hitherto most unfavourable for planting. Those whom circumstances have compelled to plant evergreens find them dying fast, even under conditions of soil favourable to the formation of roots. We have found sticking brushwood, or large branches of evergreens round the plants, to be the most successful way of arresting the great evaporation caused by the extreme dryness of the atmosphere; where choice things have been planted, a light canvas frame may be substituted. It will be found much more beneficial to shade in some way or other, than to water so frequently. This season will prove beyond doubt how much preferable the early autumn months are for planting evergreens, to the spring ones. Dress and finish off the beds and borders of spring-flowering herbaceous plants and bulbs; fill up vacant places, either from the reserve ground or the frame. It is not generally advisable to sow many annuals among herbaceous plants, as the latter are best managed by themselves; yet a few such things as Stocks, Wallflowers, and other biennials, and some of the more showy dwarf-growing annuals may be mixed with them; these latter should be sown as the borders are now cleaned, marking each spot where seed is deposited with a small label, that in future cleanings they may not be mistaken for weeds. Annuals, intended either for blooming where sown, or for removal to the regular flower garden, may now be sown; the more hardy of these in the open ground; and those requiring a slight heat, in a cold frame. In either case the plants must be kept thin; and, if intended for filling up vacant beds, they should be frequently transplanted and stopped; treated in this way, we have seen common annuals (as Candytufts, Coreopsis, and similar things) transplanted safely during the hottest weather. Premising the borders for the summer flowers have been duly prepared, they may now be brought to their proper form for planting, that everything may be in readiness when the time arrives. See that everything intended for planting out is getting its proper share of attention, by being gradually hardened off. The spring-struck cuttings, if not potted off, should be immediately proceeded with; some of the more hardy stuff may remain in their cutting forms, but these, like the former, should be exposed each fine day, to enable them to bear the open air without a check next month. An additional stock of some things may now be put in to make late beds, or to replace some of the more early flowering ones.

HARDY FRUIT GARDEN.

The protective materials on the more forward Peaches and Apricots should be removed forthwith by day, that the shoots may not become drawn. On south walls a partial disbudding of the above will be requisite; doing a little at a time, that no great check may occur, which would be the case by removing a large quantity of the young growth at a time. There is every promise of a large crop.

KITCHEN GARDEN.

The continuance of frosts will still render necessary the night covering of spring-raised vegetables, recently pricked out. In this neighbourhood the present spring has certainly been the dryest for a long period. Although watering to newly-planted things is requisite, if the earth is at all dry, yet some caution should be used in its application; when necessary, apply it early in the morning, that the plants may get dry before evening. In preference to further waterings, we advise giving the plants a slight shade, by sticking light spray, or small branches round them to break off cold winds, and prevent excessive evaporation. A crop of Scarlet Runner Beans may now be planted, and on a warm border a few of the dwarf French; at the same time, plant a portion of each under glass for transplanting, should the former fail. The space between the early rows of Peas, if not occupied already, will prove a good place for planting successional crops of Cauliflowers and Lettuce. Thin out the spring-sown Spinach, and sow a row or two every fortnight for succession. Sow a crop of Cardoons in small pots, for transplanting into trenches in June; two or three seeds may be planted, and the plants afterwards thinned to one. This is a good time to make a fresh plantation of Artichokes; our practice is to plant each season a row or two, and dig up the same quantity of the oldest roots. The ground should have been deeply trenched and well manured; throw out a shallow trench, into which fork some rotten manure. Select the strongest suckers from the old roots (the green variety is the best), and plant them 18 inches apart in the trench; we find this crop valuable in producing a late succession of heads, which are easily kept in a fresh state through January, by cutting them with the stalk attached when frost sets in, laying them in, in any odd corner and covering them with mats or straw. Make up a slight hot-bed for the first crop of Celery, and prick out the young seedlings; keep them shaded for a few days, and after they make a start give them more air and plenty of water; a few may be left for pricking out on a south border. Advantage should be taken of this dry weather to eradicate every kind of weed, and the hoeing to effect this will be of service to the crops as well. Stick Peas as they advance, and sow a main crop of the tall-growing marrows, allowing a corresponding width between the rows.

State of the Weather near London, for the week ending April 15, 1852, as observed at the Horticultural Gardens, Chiswick.

April	Month's Age.	Barometer.		Temperature. Of the Air			Of the Earth		Wind.	Rain.
		Max.	Min.	Max.	Min.	Mean	1 foot deep.	2 feet deep.		
Friday.. 9	20	30.312	30.307	53	24	38.5	43	42	S.E	.00
Satur. .. 10	21	30.293	30.189	60	26	43.0	42½	42½	E.	.00
Sunday . 11	22	30.177	30.144	55	38	46.5	43	42	E.	.00
Monday 12	23	30.278	30.236	57	27	42.0	44	43½	E	.00
Tues. .. 13	24	30.343	30.274	68	26	47.5	44½	44	S.E.	.00
Wed. .. 14	25	30.262	30.171	73	29	51.0	45	45	E.	.00
Thurs.. 15	26	30.174	30.076	60	41	50.5	46½	44½	E.	.00
Average .		30.258	30.199	60.8	30.1	45.5	44.0	43.3		.00

April 9—Light clouds; very fine; clear and frosty at night.
— 10—Sharp frost; clear; slight dry haze; frosty.
— 11—Foggy; very fine; clear.
— 12—Hazy; slight dry haze; clear.
— 13—Hazy; very fine; frosty at night.
— 14—Dry haze; fine, with hot sun; air excessively dry; clear; slight frost.
— 15—Foggy; slight dry haze; uniformly overcast at night.
Mean temperature of the week, ½ deg. below the average.

State of the Weather at Chiswick, during the last 26 years, for the ensuing week, ending April 24, 1852.

April.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 18	57.3	37.1	47.2	12	0.49 in.	3	5	2	1	3	3	6	3
Mon 19	58.2	36.1	47.1	6	0.45	6	6	2	1	1	5	5	—
Tues. 20	59.1	36.8	48.0	13	0.39	2	6	3	1	—	7	5	2
Wed. 21	58.0	39.2	48.6	11	0.26	2	5	4	1	1	4	8	1
Thurs. 22	58.7	39.0	48.9	14	0.32	3	7	3	1	1	4	5	2
Friday 23	58.7	38.8	48.7	14	0.52	1	4	3	—	4	4	4	6
Satur. 24	58.9	38.4	47.6	10	0.55	4	2	4	1	1	6	3	2

The highest temperature during the above period occurred on the 24th, 1840, and 22d and 23d, 1842—therm. 75 deg.; and the lowest on the 19th, 1838, and 1842 and 22d, 1843—therm 26 deg.

Notices to Correspondents.

BIRDS: *M H.* Your parrot has some very bad habits, arising from severe indisposition, you must immediately give him a change of air and scene. Place his cage in the garden where he can see the sun, and all that is passing to and fro, but be careful to cover over warm at night. Discontinue the Hemp seed, and let his diet be the best Wheaten bread, moistened with boiled milk, until it assume the consistence of pap. Give him no meat whatever, nor any trash; and occasionally let him have part of a Chillie, which will correct the want of action in his stomach. Nothing but the change of scene we speak of, will divert him from his bad habits. If he moults this year kindly, he will live; his not having moulted last year is at present against him. *W. K.*

CAMELLIAS: *Harold.* Without actual inspection of the conditions under which your Camellias are placed it would be difficult to say with certainty what ails them. We, however, suspect that the mischief is caused by damp and cold, with insufficient ventilation.‡

CHERRY TREE: *Enquirer.* There is no reason why you should not shorten your Cherry tree: but you had better wait now till it is in full leaf, or it will bleed.

CUCUMBERS: *Sub.* You must apply to the nurserymen. We never recommend dealers ‡—*P M.* They are attacked by Thrips.

INSECTS: *Diamond.* The objects found on your Vine are the dried shrivelled-up bodies of females of the common Vine fretter Coccus Vitis, and the white cottony matter is a secretion emitted by the females in which to envelope their eggs, which are to be seen in myriads under each body. You must therefore carefully hand-pick the stems immediately, and then wash them with hot water, or better with diluted spirits of turpentine, or the eggs will hatch and your tree be greatly injured. *W.*

NAMES OF PLANTS: *Erzeroum.* 887, Salvia ceratophylla; just arrived, the box of dried plants and the packet of seeds. It is feared that the bulbs will hardly recover. A thousand thanks.—*W F S.* Azalea obtusa, and Leucopogon lanceolatus. —*J Weeks and Co.* All Bletias, probably varieties of B. verecunda, but not determinable from single flowers.—*R D.* Illicium floridanum.

POTATOES: *G W.* We remember nothing of the sort. Perhaps you will point out the place in which we objected to a practice which we have spent seven years in recommending.

RHODODENDRONS: *J Young.* It is impossible for us to say with any degree of confidence, what is the matter with your leaves. Their dying half way back may happen from many causes. It *may* be attributable to over doses of liquid manure; but we should think that damp and insufficient ventilation are more likely to be the root of the evil.‡

STRAWBERRIES: *H Z.* Liquid manure made solely from guano is suitable for Strawberries when just beginning to fruit. It should be made as described at p. 168, and applied weak and often rather than seldom and strong.‡

TREE FERNS: *Sub.* We are not surprised at your being unable to raise them from seed; it is a difficult task, which can seldom be accomplished even under the most favourable conditions. Those you have employed appear to have been proper.‡

VINES: *J W R.* We did not mean to vex you; as we are still puzzled to make out your meaning we will put your letter into other hands, in the hope that we may get an answer.

WATER PLANTS: *Floaters.* All Nymphæas, Nuphars, Villarsia, and Aponogeton. *Marsh Plants:* Menyanthes, Butomus, Sagittaria, Irises, Acorus, Cyperus, Alismas, Calla, Nelumbium, and Colocasia, &c.

WEEPING ASH: *G B.* There is no difficulty in successfully grafting the Weeping Ash, provided the operation is skilfully done, and at the proper time; but we should think that it is rather too late in the season to do it now. You will be more likely to succeed with budding the nearly ripe one-year old wood in autumn, taking care that the buds you employ are quite ripe.‡

MISC: *W B.* Yes; the proper place for your Medinilla is in Division III., No. 43.‡—*Tirydail.* Sericographis Ghiesbreghtiana is a stove plant; Adamia sylvatica, greenhouse; Centradenia floribunda, stove; Hubshee Grape, ditto. No particular care is needed; they will all succeed perfectly in a mixture of peat, loam, sand, and leaf soil. They are noveltie, and can only be found in the periodicals which admit such things.‡

PERUVIAN GUANO.

CAUTION TO AGRICULTUISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

ANTONY GIBBS AND SONS, AS THE ONLY IMPORTERS OF PERUVIAN GUANO,

Consider it to be their duty to the Peruvian Government and to the Public again to recommend Farmers and all others who buy to be carefully on their guard.

The character of the parties from whom they purchase will of course be the best security, and, in addition to particular attention to that point, ANTONY GIBBS AND SONS think it well to remind buyers that—

The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 9l. 5s. per ton, less 2½ per cent.

Any resales made by dealers at a lower price must therefore either leave a loss to them, or the article must be adulterated.

THE LONDON MANURE COMPANY offer the following Manures on the best terms, warranting every article strictly genuine:—Peruvian Guano, Superphosphate of Lime, Nitrate of Soda, Concentrated Urate, Peat Charcoal, Gypsum, Fishery Salt from Cornwall, also a constant supply of Salt for agricultural purposes; Linseed and Rape Cake. Peruvian Guano, warranted the genuine importation of Messrs. A. Gibbs and Sons, at 9l. 10s. per ton, or for 5 tons and upwards, 9l. 5s. in Dock. EDWARD PURSER, Sec.

40, New Bridge-street, Blackfriars.

MANURES.—The following Manures are manufactured at Mr. LAWES's Factory, Deptford Creek:

Turnip Manure, per ton	...	...	£7 0 0
Superphosphate of Lime	...	...	7 0 0
Sulphuric Acid and Coprolites	...	...	5 0 0

Office, 69, King William-street, City, London.

N.B. Peruvian Guano, guaranteed to contain 16 per cent. of Ammonia, 9l. 10s. per ton; and for 5 tons or more, 9l. 5s. per ton, in dock. Sulphate of ammonia, &c.

TO AGRICULTURISTS.

OWEN'S ANIMALISED CARBON is now for Sale, at 2l. 5s. per ton in bulk.—This Manure has been introduced, with the most beneficial results, at St. Croix and the Mauritius, in the growth of the Sugar Cane, as proved by testimonials from the planters. The powerful fertilising properties of the Carbon have long since been acknowledged in Denmark, where it has been extensively used for agricultural purposes, as no less than 26,000 tons have already been sold. It is ready for immediate use, having no occasion to be ground, is equally as portable and diffusible as bones, and the low price at which it can be sold in this country must always be a paramount recommendation. *A liberal Commission allowed to Dealers or Agents.* For copies of the testimonials of its utility in this country, also for samples, apply to J. OWEN and Co., 3, Rood-lane.

Messrs. J. OWEN and Co. are now importing from their Copenhagen Manufactory SUPERPHOSPHATE OF LIME, of the very best description, containing at least 18 per cent. of Neutral Soluble Phosphate of Lime, and capable of furnishing at least 3 per cent. of Ammonia to the Soil. The "Analysis" is made by Professor J. THOMAS WAY, Consulting Chemist to the Royal Agricultural Society. The price, in London, of this powerful Manure, is 7l. per ton, cash, or Banker's Bill on London.

MANURE DEPOT.—PEAT CHARCOAL.

TO FARMERS, AGRICULTURISTS, AND OTHERS.

G. H. FOLEY, Essex Coal Wharf, Lea-bridge, Middlesex, Agent to the Irish Amelioration Society for the sale of the above. All needful particulars will be given on application at the above address.

Price of the unmixed Charcoal, 55s. per ton, sacks included. Mixed with Nightsoil, 50s. per ton, sacks included. Mixed with Urine, 70s. per ton, sacks included. Carriage to any of the Wharfs or Railway Stations, from 3s. 6d. to 5s. per ton extra, according to distance.

GUANO.—Our Sale of DAMAGED PERUVIAN GUANO, advertised for MONDAY next, 19th inst., will not take place till further notice.—J. A. RUCKER and BENCRAFT, Brokers.

TURNIP SOWING.

SUPERPHOSPHATE OF LIME, made from bone only, equal in quality, but in superior condition to that manufactured by the under-signed, as reported in the Royal Agricultural Society's Journal, Vol. vi. Part 2. It is also suitable for use with Chandler's Liquid Drill; also Peruvian Guano, Nitrate of Soda, Gypsum, Bone-dust, Sulphuric Acid, and all other Manures of known value.—Apply to MARK FOTHERGILL, 204, Upper Thames-street, London.

FOSSIL BONES AND PSEUDO-COPROLITES.

(FROM THE SUFFOLK CRAG.)

EDWARD PACKARD AND CO., of Ipswich, having erected very powerful Machinery for the purpose of reducing these Phosphatic Nodules to a fine Powder, and being in the immediate l cality of where they are found, are now prepared to supply them on the most economical terms, in any quantity, either Ground, Whole, or Dissolved in Acid. They form the cheapest source of Phosphate of Lime in the market, and are peculiarly eligible for manufacturing Superphosphate of Lime in conjunction with Bone.

Prices and every information connected with their use forwarded on application to EDWARD PACKARD and Co., Artificial Manure Manufacturers, Ipswich, Suffolk.

CHARCOAL AND SEWAGE MANURE.—Promote the Health and Wealth of Town and Country by increasing the use of that valuable Manure, PEAT CHARCOAL, impregnated with the fertilising matter of LONDON SEWAGE. The ammonia, phosphates, and fæces are absorbed, and the water pressed out bright, palatable, and soft.

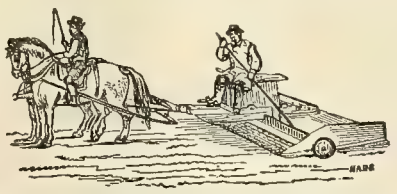
Sold at the Charcoal and Sewage Works, Stanley Bridge, Fulham, Middlesex, at 60s. per ton, 4s per cwt., 2s. 6d. per half cwt.

THERMOMETERS.

HENRY BAKER'S (90, Hatton Garden, London) List of Prices. Every instrument made by him warranted accurate.—Vertical self-registering THERMOMETER, for heat and cold, of the best construction, and not liable to get out of order, 14 inches high, in copper case, 1l. 5s.; in japan case, 1l. 1s., and 1l.; 10 inches high, in copper case, 1l. 2s.; in japan case, 18s. Horizontal Thermometers for registering the extreme of cold only, 4s. 6d.; Hot-bed Thermometers, in oak frames, 1l. 1s.; copper frames, 1l. 5s. Thermometers for Brewing, Baths, &c., in copper cases, 14 inches, 7s. 6d.; 10 inches, 5s. 6d.; 8 inches, 4s. 6d.; in japan cases, 14 inches, 5s.; 10 inches, 3s. 6d.; 8 inches, 2s. 6d. Dr. Mason's Hygrometer, or wet bulb Thermometer, for showing the humidity of the air, with tables, ivory scale, 1l.; wood, 15s. An invaluable instrument in Hothouses, Sick Chambers, &c. Wheel Barometers from 1l. 1s. each, sent, securely packed, without fear of getting out of order.

HUSSEY'S AMERICAN REAPER,

Price 18l. complete, with Delivery Board, &c.



HUSSEY'S "CHAMPION" REAPER IN YORKSHIRE.

From Sir Tatton Sykes, Bart., to Mr. Crosskill.

Sledmere Castle, Driffield, Sept. 9th, 1851.

Sir,—I have just been seeing your Machine for reaping, and am very much pleased with it. It does its work beautifully, and I have no doubt they will soon be in general use.

I am, sir, your obedient servant,

(Signed) TATTON SYKES.

HUSSEY'S "CHAMPION" REAPER IN LINCOLNSHIRE.

Fairford House, Louth, March 13, 1852.

Sir,—I enclose a Cheque for 18l., the cash price of Hussey's Reaping Machine. I should have done this earlier, but have been much engaged, and waited to try it. I have done so on Wheat Stubble, and find it answer beyond my most sanguine expectations. I am, yours, &c., (Signed) WM. J. OSLEAR.

To Mr. Crosskill, Beverley.

W. CROSSKILL will warrant Hussey's Reaper to cut "standing" or "laid" Corn, across "ridge and furrow." W. C. is making three Reapers a day for purchasers who have already given orders for delivery in May, but cannot guarantee to deliver future orders in time for Harvest unless given immediately. Full particulars and Report of the Cleveland Challenge and Trial, &c., will be forwarded, gratis, on application per post.

CROSSKILL'S "COUNCIL" GREAT MEDAL PATENT CLOD CRUSHERS AND WHEAT ROLLERS,

For Rolling young Wheat in the spring, &c.

At the Great Exhibition the highest award of the Council Prize Great Medal was awarded to CROSSKILL'S Patent Serrated Roller and Clod Crusher, with this commendation—"It repays its Cost the First Season of its use, &c." Reduced Prices, 18l. size, now 15l. cash.

CROSSKILL'S "COUNCIL" GREAT MEDAL ONE-HORSE CARTS,

Mounted upon Patent Wheels and Axles, manufactured almost entirely by machinery. REDUCED PRICES—TEN PER CENT. DISCOUNT off Orders for Three Sets of Patent Wheels and Axles.

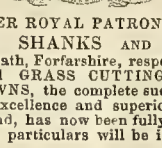
CROSSKILL'S "COUNCIL" GREAT MEDAL MILLS,

The most powerful and economical Mills, of Two, Four, and Six-horse Power, for grinding all kinds of Farm produce, including Bones for Manure; and particularly recommended where Steam Power is used.

Lists of Prices may be had gratis, on application per post.

Please Address—MR. CROSSKILL, BEVERLEY.

IMPROVED GRASS CUTTING & ROLLING MACHINE.



UNDER ROYAL PATRONAGE.

ALEXANDER SHANKS AND SON, MACHINE MAKERS, Arbroath, Forfarshire, respectfully solicit notice to their Improved GRASS CUTTING AND ROLLING MACHINE for LAWNS, the complete success of which, and its acknowledged excellence and superiority over all other Machines of the kind, has now been fully confirmed. Testimonials and further particulars will be immediately franked on application.

AGENTS, for London: Messrs. J. and C. Lee, Nurserymen and Seedsmen, Hammersmith; Hertford: Mr. George Folkard, Ironmonger; Liverpool: Messrs. Charles D. Young and Co., Castle Buildings, Derby-square; Sheffield: Mr. J. Law, Curator of the Botanic Gardens; Chester: Messrs. F. and J. Dickson, Nurserymen and Seedsmen; Glasgow: Messrs. Chas. D. Young and Co., 32, St. Enoch-square; Edinburgh: Messrs. Chas. D. Young and Co., 48, North Bridge; Perth: Messrs. Dickson and Turnbull, Nurserymen and Seedsmen.

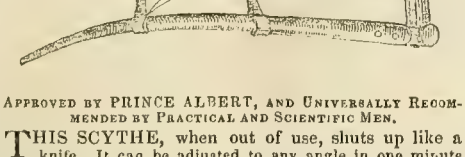
WINTON'S PARKES' NEW STEEL DIGGING FORKS never bend, strain, or break, but retain their sharp points to the last, requiring no repair. Mr. Mechi says, "They answer admirably in breaking our heavy clays, and mixing the soil in an extraordinary manner, and facilitate labour quite 20 per cent."

Early orders are requested, as the demand is very great. They are executed in the rotation in which they are given.

BURGESS and KEY, Agents, 103, Newgate-street, London.

Priced Lists sent on application.

BOYD'S SELF-ADJUSTING SCYTHE.



APPROVED BY PRINCE ALBERT, AND UNIVERSALLY RECOMMENDED BY PRACTICAL AND SCIENTIFIC MEN.

THIS SCYTHE, when out of use, shuts up like a knife. It can be adjusted to any angle in one minute (even by persons quite unused to the implement), without the assistance of blacksmith or forge. It may be used by amateurs as well as regular labourers, without fear of accident or injury, thus rendering Mowing an easy, safe, and economical operation.

To be had of all Ironmongers, Nurserymen, &c., in the Kingdom; and Wholesale and Retail at WM. DRAY and Co.'s Agricultural Implement and Machinery Warehouses, Swan-lane, London Bridge.—A liberal discount allowed to the Trade.

DRAINING TILE MACHINES & CLAY GRINDING MILLS.

MR. SAMUELSON, BRITANNIA IRON WORKS, BANBURY, Oxon (Successor to the late James Gardner), to avoid the disappointment experienced last year as regards the delivery of his IMPROVED DOUBLE SPEEDED TILE MACHINES, will feel obliged by orders for this season being given as early as possible.

Price of the small Machine, to deliver 4000 1½-inch or 3000 2-inch pipes in 10 hours, 14l.

Delivery free to all places on the London and North Western and Great Western Railways.

Drawings of the above, and his General Implement List may be obtained on application.

IRON HURDLES, FENCING, ETC.

STEPHENSON AND PEILL, 61, Gracechurch-street London, and 17, New Park-street, Southwark, beg to inform their friends and the public generally, they are now manufacturing Iron Hurdles, at the following low prices:—For sheep, 6 ft. long 3 ft. high, 5 bars, 3s. 2d. each; and for cattle, 6 ft. long, 3 ft. 3 in. high, 5 bars, 3s. 6d. each.

GUTTA PERCHA TUBING FOR WATERING GARDENS, ETC.



TESTIMONIAL.

From Mr. J. Farrah, Gardener to Boswell Middleton Jalland, Esq., of Holderness House, near Hull.

"I have had 400 feet of your Gutta Percha Tubing (in lengths of 100 feet each, with union joint) *in use for the last twelve months for watering these gardens, and I find it to answer better than anything I have ever yet tried.* The pressure of the water is very considerable, but this has not the slightest effect on the Tubing. I consider this Tubing to be a *most valuable invention for Gardeners*, inasmuch as it enables us to water our gardens in about one-half the time, and with one-half the labour formerly required."

FOR SUCTIONS OF PUMPS AND CONVEYANCE OF WATER.

The value of Gutta Percha Tubing for the conveyance of water is no longer a matter of doubt. Experience has proved its adaptation and superiority to metal pipes, and the important consideration that it is entirely free from those corrosive properties which have proved so highly injurious in the use of lead pipes. The Gutta Percha Company have received the following—

TESTIMONIALS.

From C. Hacker, Esq., Surveyor to his Grace the Duke of Bedford, Woburn Park.

"Office of Works, Woburn Park, Jan. 10th, 1852.

"Gentlemen,—In answer to your inquiries respecting the Gutta Percha Tubing for pump suctions (after two years' trial) I find that the water has not affected it in the least, although it will eat lead through in two years; we have adopted it largely, both on account of being cheaper than lead, much easier fixed, and a more perfect job."

From Sir Raymond Jarvis, Bart., of Ventnor, Isle of Wight.

"Ventnor, March 10, 1852.

"Gentlemen,—In reply to your letter, received this morning respecting the Gutta Percha Tubing for Pump Service, I can state, with much satisfaction, it answers perfectly. Many builders, and other persons, have lately examined it, and there is not the least apparent difference since the first laying down, now several years; and I am informed that it is to be adopted generally in the houses that are being erected here—building going on to a considerable extent.

"I am, Gentlemen, your obedient servant,

"R. JARVIS.

"P.S. The only difficulty experienced was in fixing the tube to the pump barrel. The plumber employed being averse to the job, did not properly secure it, and air got into the tube; otherwise, carefully arranged, there is no question it supersedes lead or any kind of metal pipes. R. J."

From William Bird Herapath, Esq., M.R.C.S., Surgeon to St. Peter's and Queen Elizabeth's Hospitals, Bristol.

"September, 1850.

"I have used Gutta Percha as a lining to a cistern, with tubing of the same material, to conduct the water into my dispensary; they answer admirably. At first some disagreeable flavour was communicated to the water, but it soon disappeared.

"My plumber readily learnt the mode of managing it from your printed directions."

Every variety of Gutta Percha Goods may be had. Manufactured by the Gutta Percha Company, Patentees, London; and sold at the Wholesale City Depot of Messrs. BURGESS and KEY, 103, Newgate-street, who will forward Lists of Prices on application.

The Agricultural Gazette.

SATURDAY, APRIL 17, 1852.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY,	April 21	Agricultural Society of England.
THURSDAY,	— 22	Agricultural Imp. Soc. of Ireland.
WEDNESDAY,	— 28	Agricultural Society of England.
THURSDAY,	— 29	Agricultural Imp. Soc. of Ireland.

IT will bring consolation to not a few minds when the present cycle of agricultural discussion in this country has passed away, yielding in its turn under that gentle-handed despotism which insensibly melts the strong lines and features of one period and opens up another: like those 'dissolving views' we have all seen or heard of, that by some mysterious process translate the spectator from the cold hues of winter into full-blown summer, and surprise the eye with changes rather more sudden, but not really a whit greater or more startling than those which Time and Life present. Never will this alterative law of Nature have been more welcome in its operation, than when it has fairly completed the moulting process for us, in this case, and once again allowed agriculture to be Agriculture and not Poli-

tics. It may be all very well, and very necessary for a few years of one's life to draw breath over a hotbed of Corn-law discussion, but it becomes inexpressibly irksome at last, to find every topic of husbandry warped away from its simple bearings by the bias of conflicting opinions on a question not necessarily connected with the art or business; and which meanwhile robs discussion of much of its usefulness and all its amenity.

There was a time when it was said that he who grew two blades of grass where but one grew before was a public benefactor. Of late years the discoverer of any such magic secret had best have kept it to himself if he valued his peace of mind or comfort. Instance the feeling exhibited towards Mr. Huxtable, Mr. Mechi, Mr. Caird, and more lately towards Mr. Smith, for adventuring their different improvements or suggestions before the farming world, and striving to direct and cheer on the struggling van of British Agriculture against a trial and a competition undoubtedly severe, but which they were able to foresee was as undoubtedly destined to be faced, and eventually overcome.

A century ago there was a corresponding cycle of infuriate controversy in this country, then an *Exporter* of Corn, on the question of the discontinuance of the *Bounty* (a bonus of 5*s*. a quarter to the exporter upon every quarter shipped from our ports). The fact was that population and trade had increased at home; and the price in the English market made it no longer profitable to send the corn elsewhere, without the 'encouragement' as it was called, of a bounty of the above amount to the exporter. We smile, perhaps now at the quaint statesmanship which having found a certain export-trade advantageous to the country during its earlier 'days of nature,' set about trying to galvanise it into posthumous vitality at the expense of the taxpayers, (the farmer and landlord of course included,) upon the enlightened policy of the Irishman who cut off the top of his blanket to sew it on to the bottom, as a remedy against sleeping with his feet uncovered.

But we are scarcely free to smile at anything yet in the list of agriculturo-legislative absurdities. We have everything to learn, in regard to Land, advanced as we may think ourselves. It is a fact worth notice, and suggestive of some curious reflections, that never in the history of this country, from the days of the earlier Plantagenets until the present time, has agriculture been *let alone*, from legislative tinkering, to display its own natural development and proportions. It has been its fate from time immemorial to be dry-nursed and wet-nursed, stuffed and stifled, cockered and checked, over-fed and over-*laid*, alternately; with duties *out* and duties *in*, bounties here, prohibitions there, now to protect the consumer, now the producer; till the history of the enactments regarding it defies comparison as the most eccentric string of curiosities on the Statute-book.

In the meantime, pending a few and subsequent to most of these precious balms by which the head agricultural has been kept perpetually broken and the trunk dwarfed and dwindled, other great departments of trade and commerce have been born, have thriven, and grown up in this country into a stature of such proportions that they have overshadowed the whole globe, and carried the name and fame of British skill, wealth, and enterprise, to the utmost realms of sea and land where man has wants to supply, and products of art or nature to offer in return. There are who say that had British Agriculture *thus* grown, without the leading-strings and the go-cart, we should not have now to hear that the agriculturist is, as a class, in arrear of the general intelligence of the community, and unwilling, or unable, even to recognise the sciences that underlie the whole economy of his art, or to appreciate the gifts which the tide of modern discovery, flooding in this direction, has incidentally thrown at his feet.

There are, we repeat, who say this; and more: that but for the blinding and stupifying drugs of the legislative nurse, we should have learnt, before this time, how to pass land from the hand of the Seller to that of the Buyer, without *one tenth* of it (on an average) crumbling off during the conveyance into the hand of the *conveyancer*, and without its undergoing a series of summers' and winters' fallow, under goose-quill harrows and scarifiers, in his office. Unquestionably, it would be better even for *him* if it were otherwise; for modern experience has done little indeed, if it have not proved and exemplified in a thousand directions the fact that impediments and restrictions which make business expensive and slow, operate to reduce its actual amount in a ratio still greater. The lawyer would be the first to gain; but it does not follow that he is the first to see it. A poor man might then by possibility become the actual owner of his own garden, without paying twice its value for the expensive and irrelevant honour of tracing the seller's family biography and pedigree for 60 or 70 years back; and might find, to his new amazement and admiration, that Nature had thought of savings' banks for industry, before there was ever a Parliament, a national debt commissioner, or a charity trustee, in existence.

Again, there are who are audacious enough to say, that had farming had fewer relations with Parliament, it might possibly have had the independence to strike out for itself, before this time, a more intelligible code of relations between the occupiers of landed capital and the sleeping partners who own it; and that farming practice and science would have thriven better and faster under the universal and well-understood system of security for investments, and compensation for permanent improvements which would have grown up; and the subject of Farm-buildings have been less like a Chinese puzzle to this day, had the law relating to agricultural fixtures, whether on the land, in the land, or under the land, had a chance of revisal apart from the tender mercies of the territorial benefactors who owned the Freehold they made the laws for.

And, lastly, there are some who even venture to surmise that a whole flight of ponderous and antiquated fictions in Real-property law, with its nice distinctions between Realty and Personalty, and its infinitude of litigation between heirs-at-law and personal representatives, would, under a *freer interchange of the commodity itself*, have long ago evaporated in the same direction which those blessed pseudo-entities, 'John Doe and Richard Roe' have lately taken.

All this people are beginning to think, or, rather, to think about thinking, pretty much in proportion as they cease to believe in the restoration of extraneous help. Let agriculture once believe that it can stand upon its own feet, once feel that it actually *is standing*, without help from anybody, that it occupies an honest, independent, self-relying position of its own—and it will begin to look about it in earnest. Without favour is without fear.

To the men of this generation it will be a new thing, by degrees suggestive of new thoughts, to find the land, and all subjects connected with the land, emancipated from an old political connexion that, with whatever supposed advantages, stifled free development and free utterance. 'Defend us from our friends' is often one of the safest maxims, and the most auspicious of individual advancement. It is not in the power of any one to tell what the agriculture of this great and commercial country *would have been* had it been let alone. What it has been till within the last few years, and what the progress of the last few years has been, is already a subject of very striking comment to many who are content to notice a fact, and to make an involuntary comparison, without the knowledge or the disposition to trace either one or the other home to its originating cause.

To the question "What can Alexander do for Diogenes?" "Only get out of my sunshine," was the philosopher's laconic answer. The blindness to its true wants and interests, the benumbed or misdirected energies, the practical mischief and disappointment resulting from erroneous beliefs and expectations, and, worst of all, the *poverty of invention*, that universally paralyse a business fostered by extrinsic aid, and habituated to such reliances, are things not recovered from in a day. But to those who, potently believing that 'necessity is the mother of invention,' watch the progress of an art with the most confident interest, when it bids officious patronage 'get out of the sunshine,' and sets to work for itself, the future is full of new hope for agriculture. Take for instance the present movement in the direction of simplifying the Transfer of Land, one that has long been foreseen, by observers of this class, as the first that would arise. It will be irresistible because it is natural and spontaneous. It is no mere landlords' question; it affects the whole fabric of cultivation, regarded either as a home industry, or as a competition between nation and nation. It would be strange indeed if any cause that blocks up capital from investment in the soil, and arrests the free circulation of the raw material that supplies every article the farmer deals in, should not be found pregnant with relations to his interest as important as those it bears on the surface, to the landowner and the labourer. *C. W. H.*

EMIGRATION TO CANADA.

I gladly avail myself of your kind permission to address you a letter on the subject of emigration, to put you in possession of the circumstances under which I have set on foot a subscription for the purpose of Irish Female Emigration. I will first mention that I quitted her Majesty's diplomatic profession a little more than two years ago, in order to reside in Ireland and take a part, however small, in the amelioration of the condition of that unfortunate country, the mass of whose inhabitants bore the unenviable reputation, which they still retain, of being the worst fed, worst clad, and worst housed population in the whole world; and whose monied gentry bore the character of being, in general, absentees, indifferent to the interests of their country, and drainers, without return, of its resources; and where therefore residence, expenditure of money, and exertion, however humble, were more desirable, and were calculated to produce a greater proportionate amount of benefit than elsewhere.

While attending, during the year 1850, by permission of the Commissioners of National Education in Ireland, the agricultural lectures and the practical operations carried on at their educational model farm at Glasnevin, near Dublin, under the admirable superintendence of Mr. John Donaghy and his able assistant Mr. Francis McMahon, I turned my attention to the subject of emigration, as a means of relieving the general distress in Ireland, and of raising the wages and increasing the comforts of the industrious poor; and it soon became my conviction that, unless extensive emigration were had recourse to, it was perfectly hopeless to expect that by any other means, or by all other means combined, any amelioration of the condition of the mass of the people could take place, but that, on the contrary, that condition would become worse and worse. I was aware that extensive spontaneous emigration was taking place, mainly by means of funds remitted by previous emigrants, and was delighted at the report of every successive ship-load departing from unhappy Ireland to the land of promise, while pained to think how many of each such ship-load would certainly endure much mental and bodily suffering and privation from neglect or from wilful ill treatment at different points of their journey, on the part of runners, the officers of passenger ships, boarding-house keepers, and forwarding agents. But I was also aware that a considerable proportion of the emigrants consisted of tenant farmers possessed of some capital, and that their departure decreased the demand for labourers, and increased the proportion of poor-rates to be paid by the tenant farmers who remained and by the landlords, and therefore increased the inability of the employing class to give employment, and was calculated to continue at least, if not to increase, the general distress, which was also likely to continue from another cause, namely, the increasing conversion of arable lands out of tillage into Grass, and I was therefore convinced that it would still be advisable for some years to come to promote by every possible legitimate means the emigration of poor persons from the country, as the best mode of bettering the condition both of themselves and of those who should remain in the country. I considered that, as regarded the apprehension that emigration might be carried too far for the interests of the country, it would be time enough to cry out when the wages of young women at service in farmers' houses in county Clare, which now vary from 8*s*. to 24*s*. a year and their food, should have been raised to 8*l*. a year, and of day labourers from 6*d*. to 2*s*. per day.

I did not look to emigration as the panacea for the disproportion of population and employment in Ireland; but I considered that, while on the one hand emigration would be decreasing the competition of labourers for employment, on the other hand, the operation of the radically beneficial act for the sale of encumbered estates would be increasing the number of resident employing landlords, and that, through the simultaneous operation of these two measures at either extreme, the level of remunerative employment for the whole able-bodied population would ultimately be brought about.

With these views I occupied part of my time while residing at Glasnevin in assisting the emigration to North America of poor persons in that neighbourhood and others, including six young women from the North Dublin poor-house, previously ascertaining by careful inquiry that their general good conduct, industrious habits, and insufficient opportunities for obtaining a decent independent livelihood, rendered them well deserving of such assistance. Including the allotment of a certain sum to my brother, Sir F. F., for the purpose of emigration from his property, I was enabled to emigrate 47 persons, all of whom, I am happy to say, are doing well in America. I sent these persons by many different vessels, and requested them to write me word on their arrival in America, or soon afterwards, how they had been treated on board ship, and what success they had met with in the other world; but, having waited five months without receiving any letter, I determined on ascertaining for myself by personal experience and observation what were the requirements of the poorest class of emigrants on board ship, and what were the prospects of bettering their condition by removal from the United Kingdom to America, contradictory reports having reached me—some to the effect that a comfortable independence was to be obtained there with barely any exertion, and others that, whereas up to a short time back remunerative employment was easily to be had, yet now, in consequence of the monster immigration into the country, the labour market was about as much overcrowded, and a living as difficult to be obtained by a poor man there as here. I accordingly engaged my passage from Liverpool to New York in the largest emigrant vessel afloat, the Washington, Commander A. Page, which carried out a larger number of emigrant passengers on that voyage, sailing on the 26th October, 1850, than had ever before been carried by that or any other ship, namely 934, I occupying part of a berth in what is called the second cabin, which is the more roomy part of the steerage, taking

with me exactly the same quality and quantity of provisions and other articles as I had been in the habit of supplying to the persons whom I had previously emigrated, cooking daily my own provisions, and being otherwise exactly on the same terms as the remainder of my fellow-passengers, as detailed in the extracts of my journal, which were printed last session by order of the House of Commons. I afterwards travelled 10,500 miles, throughout the United States and Canada, being much fettered in my movements by illness contracted from exposure during the voyage, and returned to this country on the 1st of November last. *Vere Foster.*

[The remainder of this communication shall appear next week.]

AGRICULTURAL EDUCATION.

[The following letter was submitted to the Council of the West of England Agricultural Society, at their meeting on Saturday, the 26th of March, 1852. The subject is to receive consideration by the Council, and will form the matter of future discussion at another meeting of the Council.]

My Lords and Gentlemen,—At the request of a member of your Society, I submit to your thoughtful and deliberate consideration the results of extended inquiry—of anxious and matured thought, on a momentous subject, clearly within the scope of that great object for which your Society is organised: the subject of an improved system of agricultural instruction and training for the sons of the yeomanry of the west of England.

Whatever, ultimately, may be the result of that experiment which is being made in reference to the agricultural interest; whatever may be the issue of the expected appeal to the deliberate voice of judgment of the nation on that subject; no man of wisdom and foresight can doubt, that an improved system of agricultural education is called for, and cannot, with safety be withheld or delayed. The race of competition is begun, and will not cease, whatever may be the character of future Legislation in dealing with the agricultural interest. It is an obvious dictate of reason and duty, that all the land capable of cultivation in the British islands should be cultivated; that the fittest means and appliances be adopted to secure the largest amount of produce it will yield, according to the best methods which science and improved practice, by the blessing of God, can secure; that those who will have to carry into effect improved systems of management, should be educated so as to be able to comprehend the force and bearing of them, estimate their value, and rightly apply them; and that, for their own sakes, and for the sake of this country and of the world, the cultivators of the soil, the future farmers of England should receive an education suited to their pursuits and station—based on scriptural truth, and administered in a wise course of mental and moral training.

It may serve to remove groundless alarm, and prepare for judging of this question on its merits, to consider that long before the results of an improved system of agricultural education can possibly appear, the matter of protection and free-trade will have been settled, probably for ever. No right-judging man of whatever party, can hesitate to determine whether it be right or not to obtain from the land the largest amount of produce, of the very best kind it can be made to bear, with the least injury to the soil, with the greatest economy of time, labour, and capital; whether, in fact, it be right to satisfy the wants of a teeming and increasing population; and whether by all just and lawful means the owners and occupiers of the land have not a fair claim for full compensation in return for their outlay, whether in money, labour, and skill.

Nor does it admit of a doubt whether it be not the solemn duty of those who are gifted with understanding to contrive, or wealth and influence to carry into effect fitting plans, to see that the tenantry of this country may receive the benefits of a sound, practical, and scriptural education.

It cannot have escaped the notice of the thoughtful and philosophical mind, that while the education of the operative artisan and the agricultural labourer has been advancing (although so much still remains to be done in that field), the tenant farmers, as a class, in the west of England (though it is gladly admitted, there are striking and pleasing exceptions), from the isolation of their position—from the want of suitable education within their means—and in some instances, it is to be regretted, from long-standing prejudice—have been far less educated than the pauper children in our union-houses, whose style of education is far in advance of the general education of the working classes, and to provide for the expense attendant on which the farmer is periodically made the subject of a compulsory rate. A fearful struggle may be coming on, which cannot be contemplated without anxiety and alarm. Knowledge is pregnant with life and vigour—it mounts upward, and pushes forward. Who can foresee what the issue of an upward heave from beneath may be, unless the farmers be admitted to such a share of knowledge as shall enable them to keep their rank in the onward march of improvement!

My Lords and Gentlemen, I entreat you to ponder this well. The decision of the London Farmers' Club, "That a more extended and improved system of intellectual, industrial, and moral education is highly expedient, and would contribute not only to the advantage of the agricultural classes, but to that of the public at large," will be re-echoed throughout the kingdom; and action suited to the principle involved will follow that resolution.

What shall be the basis of that education? And according to what plan shall it be carried into effect?

Shall the minds of the farmers' sons of England be cast into the cold, death-giving iron mould of the system of Manchester manufacture, which has been styled with scornful emphasis a godless education, for the enthronization of intellect and the deification of science, in the impious attempt to trample under foot the wisdom and the power of the Most High? A system which stimulates to rank and unhealthy growth the prurient tendencies of unsanctified intellect, leaving the soil of the heart undisciplined, and unfruitful of all that is fair, or great, or good? A system whose steps, as traced in a neighbouring country, are known by moral desolation and revolutionary convulsion, whose character is written in its deeds of rapine and lust and blood and blasphemy, branded with the scathing curse of the outraged majesty of the God of heaven and earth?

Shall the sons of the farmers of England become, through stealthy art, the slaves and tools of a proud and selfish spiritual tyranny, which would roll back the dark night of ignorance and superstition wherein the beasts of prey shall roam abroad at will to enslave, and corrupt, and destroy? The voice of England, as it has rolled along like thunder from shore to shore, has spoken out:—"We are free, and spurn the Italian tyrant's chain. The liberty and the religion secured by the best heart's blood of our fathers we grasp, and will hold unto death for ourselves and our children."

The education which the yeomanry of England require for their sons, and which they will adopt, is one which will fit them to fulfil their stations on earth and lead to heaven; a sound scriptural education which, while based on the wisdom of ages, will receive and engraft thereon all that modern science discovers, helpful for the purposes of their practical art. Such a system wisely laid, and vigorously worked, will tend to bind together severed classes, and promote the interests and welfare of this great and understanding nation.

Why is an improved system of education required for the farmers' sons of the West of England? Because, although there are other establishments of merit and value, those establishments are out of the reach of the means of our farmers, and beyond their present requirements. We require an economic, simple, and peculiarly adapted system, to meet the pecuniary resources—the infancy of agricultural knowledge among us; a system suited to train farmers for the soil, the climate, the method of culture, and the generally small farm-holdings in the West of England. We commence no race of rivalry: there is room for us all, and the efforts of all are required. May I be allowed to remark, as the result of extensive intercourse and large experience among the yeomanry, that the natural intelligence and capacities of the farmers of the West of England open a most promising field for cultivation. A plan and system are being matured, by the most efficient professional aid, which will, we trust, be in a sufficient stage of forwardness to be presented to the agricultural world by the time fixed for your exhibition meeting in May. I cannot, in justice, refrain from the mention of the name of the author of the "Prize Essay on the Farming of Devon," Mr. Henry Turner, of Exeter, as deeply interested in the measure, and efficiently engaged as my fellow-labourer in its preparation. The great political questions touching the farming interest will be decided in their own arena; nor need the farmers entertain any doubt that English justice will equitably deal in their decision. These questions need not disturb the peaceful occupations of an agricultural school, its laboratory, or its model farm, should it be deemed expedient to attach a small farm to the establishment.

The cultivation of the soil, hitherto an empiric art, will take its rank among the most exalted and most useful of the sciences, resting on sure principles and ascertained results, and the title of agriculturist be reckoned one of honour. The blessing of heaven will attend honest and faithful efforts to do our best with that which God bestows. The Star of Hope will enlighten the gloom, and conduct us, we trust, to a brighter and happier day. I have the honour to be,

My Lords and Gentlemen,
Your willing fellow-labourer, and faithful servant,
James Miles, L.L.B.

Hemington Rectory, March 24.

Home Correspondence.

Straw as Manure.—Amongst the numerous letters which appeared in the public papers, commenting on Mr. Mechi's balance-sheet, I noticed one, which attributed the unfavourable result to Mr. Mechi's introducing, amongst other novel practices, open boards in his cattle stalls. If the writer of this letter should deter his fellow cultivators of the soil from attempting improved modes of husbandry, by telling them that Mr. Mechi had tried the same and that Mr. Mechi's balance-sheet was unfavourable, he will render them no good service. In my former communication, I stated that the greater proportion of the land in this vicinity was in permanent Grass. In my own holding there is little more than nine acres in tillage, which I apply, as much as practicable, to the culture of the root crop, and Beans; it leaves me little for growing corn and straw. What little I do produce is inadequate to supply my cattle with straw for provender, which will be easily understood when I state that I keep 30 to 40 head of cattle which are housed wholly during the winter, and during 15 out of the 24 hours during summer (to these I add 20 to 30 which graze out wholly in the pastures during summer). Not being indifferent to the comfort and cleanliness of my cattle, I formerly bought on sufficient straw for bedding, for which I paid 2*l.* to 2*l.* 10*s.* per ton. Could I have persuaded myself, that by so doing I was enriching my Grass land, I might have continued satisfied with this mode, but entertaining a different opinion (which has ripened into conviction, and since been confirmed by experiment and practice), I [illegible] prepared to consider and try any feasible improvement which might offer itself, and I have now to state that it is to the use of open boards I am in a great measure indebted for being enabled to carry into effect a more economical and satisfactory system. At the time I commenced, not having had the opportunity of ascertaining precisely the plan on which they were formed, I had recourse to my own contrivance, and, as far as I can learn, this differs from the plans elsewhere in use. I think it proper to give some description of what I am now using. My cattle, which are all cows and heifers kept for dairy produce and for fattening, are tied up by pairs in booths or compartments of 7 feet in width by 8 feet 6 inches in length, from the feeding trough to the channel or gutter, which is sunk 4 to 5 inches below the boarded platform on which the cattle stand and lie down. This platform is formed of close boards to the distance of 6 feet from the feeding trough, leaving 2 feet 6 inches in width only for the open boards or grating, under which is a water-tight tank, 2 feet 6 inches wide by 2 feet 6 inches deep. It extends the whole length of the stall, in a line parallel with the feeding trough, and with the gutter or channel; the grate is formed of wooden bars, 3 inches square, with openings of three quarters of an inch between each, the surface of the bars being even with or on a level with the close boards. The cattle, when standing, place their fore-feet upon the close board and their hind-feet upon the open grating. In a cowhouse of four double stands, for eight cattle, the tank will be 28 feet in length, and will be found to contain rather more than 6 yards, cube measure. My cattle vary in size and length, ranging from 36 to 48 stone each; yet I have found that the open boards, placed in the situation described, answer the purpose of admitting the liquid and solid excrements into the tank; some little falls over the outer edge of the grate into the gutter or channel, but none whatever inwards on to the close boards, which always remain dry and clean. I have now to state, that after having had sufficient time to test this mode, I find it to answer my purpose in every respect. My dairy cows and feeding stock appear as comfortable, yield as much milk, and fatten as well, as when bedded on straw. Without, as far as I can observe, any attendant disadvantage, I am now freed from the expense of buying on straw for bedding, and have effected a considerable saving in labour; my cattle require less attention both in cleaning down and clearing away their manure than formerly. In my next I purpose to explain the mode in which I treat the manure and the effects which have come under my own personal observation, from its application to Grass land, and also to the root crop. *Y., March 30.*

The Average Produce of Wheat in Northumberland.—I guess your correspondent "Draining Tile," is a gentleman of Essex who, on a "simmer's afternoon—a wee before the sun gae'd doon," might have been seen strolling through fields of luxuriant white Wheat, bearing a load to the acre at the least; and every now and then, between the whiffs of his Havannah, turning complacently to "Mrs. Draining Tile" to remark that, "but for those villainous birds there would have been a quarter more." "Draining Tile" is evidently unacquainted with the north, and can scarcely restrain an expression of disgust or contempt (perhaps gave it vent), when he read a statement in a London paper "that the average produce of the Wheat-growing land in Northumberland did not exceed 19 or 20 bushels per acre." I am well acquainted with that county, and I know that the expression "did not exceed" ought to have been "does not reach," and then the statement would have been nearer the truth. Some favoured spots doubtless produce much more; but, like the visits of the angels, they are few and far between. In one district, not the worst, when the tithe was taken in kind, the average never exceeded 7 bolls or 14 bushels. The fact is, the land in Northumberland is not well farmed. After the great struggle with Napoleon and the fall of prices that ensued, the old race of farmers, whose ancestors had held their farms in some cases for centuries, began to disappear and is now all but extinct. Few can now say—

> "The land I now hold on your honour's estate
> Is the same that my grandfather tilled."

The reasons for this state of the tenantry are manifold. One reason may be found in the custom which allows the tenant a running half-year. A tenant, entering upon a farm at May-day, is not required to pay any rent until the May-day following, and then he pays for half a year—the first half-year hanging over his head like the sword of Damocles, and by as frail a bearing; for the landlord may at any time distrain for the whole amount due. One result of this custom is, that men with small capital, who have little to lose, offer rents that a man of larger capital and common sense will not offer. To pay this rent, the tenant sells his hay crop, and consequently would be unable to feed stock if he had the means of purchasing any. To such an extent

has this been carried that the Grass land for many miles round Newcastle has been ruined, and so has the arable land. I have seen men entering Newcastle with a cart, drawn by a couple of miserable horses, carrying a ton of hay, with which they had travelled 20 miles and been out all night. Another reason is comprised in the baleful word protection. Assuredly the tenant farmers have not been protected from a life of labour unrequited, which too frequently ended in beggary and despair—the workhouse or the jail. Some wisely escaped by emigration. If this statement be impugned, let any one acquainted with the country detail the history of a few was of the families of the better class of farmers as they existed 50 years ago. Where are they? Northumberland is not blessed with too many good landlords. The *Newcastle Courant* bears testimony to this fact by publishing more advertisements of farms to be let than any other provincial newspaper in the kingdom. Had some of the landlords been wiser the improved husbandry of Scotland would have extended itself into Northumberland. I remember one instance of a Scotchman looking at a farm and offering for it; term and rent were fixed; "But," said the landlord, "one essential question remains; I must make inquiries regarding your character." Donald was rather taken aback, but, with his national caution, made no remark, and agreed to return in a fortnight. He was a man of high character in his district—the father of a large family, a deacon of his church, and a bonnet laird. He returned at the expiration of the fortnight, and was desired to walk in—all was right; his character was most satisfactory, and nothing remained to prevent the execution of the agreement, which was ready. "Wait a wee," said Donald, "I have been spiering [asking about] your character too, and I can get no satisfaction ava, and I wad not agree with you on ony terms; so, I wish you good day." The Duke of Northumberland is a good landlord, and may be named without invidiousness, his estates being so very much larger than any other. It is among the smaller landowners that such characters are to be found as the man who refused to a tenant of 40 years' standing an abatement of 10 per cent. which was made to all his other tenants, because the old tenant was leaving his farm. This paper is growing too long, or I could show "Draining Tile" many other proofs that the condition of the land and of the tenants in the North is such that 20 bushels an acre seem to be more than could be expected. I read Mr. Caird's report and statement of the yield in Northumberland, and was sorry to see that, by a hasty visit to a few of the best farms and districts, he had been led to publish an inaccuracy of which I felt the Protectionists would take advantage. *W. R. Carter, Eel Moor Farm, Cove Bagshot, March* 29.

Kohl Rabi for Dairy Cows.—Having noticed several communications in your columns on the method of using Turnips so as to avoid the unpleasant flavour in milk and butter, I venture to recommend the culture of the Kohl rabi (Cabbage Turnip) as a substitute for the common or Swede Turnip. I am using a crop of Kohl rabi which in yield is equal, if not superior, to that of the Swede on the same ground, and under similar treatment. The bulbs range from 4 lbs. to 6 lbs. each, some of them 8 lbs. to 9 lbs.; besides they have a luxuriant top, which preserves its freshness and greenness through winter, being comparatively little affected by frost. I am of opinion that it yields more, if not richer milk, than any description of Turnip. It is preferred by cattle and sheep when they have the choice, and is in such favour with hares and rabbits that, on estates where these are preserved, it is useless attempting the cultivation of the Kohl rabi. The produce of my dairy, milk, cream, and butter is at present (March) as sweet as during Grass time; and some idea may be formed of its quality, when I state that from 16 quarts of milk I obtain 24 oz. of butter; a quart of cream will yield about 14 oz., or 8 quarts about 7 lbs. I give my milk cows, besides, a fair allowance of rich meadow Hay, and Bean-meal with chopped straw. *Y.*

Adulteration of Soot.—Having had something to do with the suppression of mixing loam with guano, I feel that I would not be doing farmers justice if I did not tell them to look after the adulteration of soot with Spanish Mahogany, and other dark-coloured sawdust. This is largely carried on near Dulwich, where as much as 200 sacks of sawdust are mixed in this way weekly. It pays better than loam, as the party gets the sawdust for carting away. *Dulwich, April* 1.

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

A Monthly Council was held at the Society's-house, in Hanover-square, on Wednesday, the 7th of April. The following members of Council and governors of the Society were present:—The Earl of Ducie, President, in the chair; Earl of Chichester, Lord Bridport, Lord Ashburton, Sir John V. B. Johnstone, Bart., M.P., Sir Robert Price, Bart., M.P., Mr. Raymond Barker, Mr. S. Bennett, Mr. Brandreth, Mr. Burke, Colonel Challoner, Mr. Druce, Mr. Foley, M.P., Mr. Gadesden, Mr. Garrett, Mr. Brandreth Gibbs, Mr. Grantham, Mr. Fisher Hobbs, Mr. Hornsby, Mr. Hudson (Castleacre), Mr. Jonas, Mr. Kinder, Mr. Lawes, Mr. Pusey, M.P., Prof. Sewell, Mr. Shaw (London), Mr. Sillifant, Prof. Simonds, Mr. Simpson, Mr. C. Hampden Turner, and Prof. Way.

The Earl of Cottenham, of Tandridge Court, Surrey, and James Gadesden, Esq., of Ewell Castle, in the same county, were elected governors of the Society.

The following new members were elected:—

Chadwick, David, Treasurer of the borough of Salford, Lanc.
Wood, George, Rochford, Essex
Meeson, William Taylor, Great Doggetts, Rochford
Hainworth, William, Hitchin, Hertfordshire
Fishwick, Henry, V.S., Burnley, Lancashire
Holyoake, George, Neachley, Shiffnal, Salop
Ruston, Alfred, Chatteris, Cambridgeshire
Hodges, Basil, Vincent, Margate, Kent
Bearn, William, Handley Farm, Towcester, Northamptonsh.
Sharp, Isaac, Dairyknoll, Middlesborough-on-Tees
Anderson, Alexander, Horsmonden, Kent
Elliott, Thomas, Scotsfloat, Blaydon, Rye, Sussex
Fernandez, Albert H., 99, Chancery-lane, London
Ashby, Alexander, Staines, Middlesex
Sickney, William, Ridgmont, Hulf
Marychurch, William, Haverfordwest, Pembrokeshire
Bagot, Richard W., Kildare, Ireland
Jones, Fred. Robt., jun., Lane-End, Huddersfield
Allardice, Robt. Barclay, Ury, Stonehaven, Kincardineshire
Bowyer, Captain, Steeple-Aston, Woodstock, Oxon
Catt, Henry, Westfirle, Lewes, Sussex
Woodhams, W. R., The Hammonds, Rye, Sussex
Johnson, E. H., Gravelye House, Lindfield, Sussex

Finances.—Mr. Raymond Barker, Chairman of the Finance Committee, laid before the Council the report on the accounts of the Society to the end of the previous month; from which it appeared that the current cash-balance in the hands of the bankers on the 31st of March was 2661*l.* The Chairman explained to the Council the manner in which this total balance was made up from the different balances of special accounts. At the suggestion of the Finance Committee, Messrs. Molineux, Whitfield, Dicker, and Co., of Lewes, were appointed by the Council to act as the Local Bankers of the Society during the period of the ensuing Country Meeting at that place in July next.

Agricultural Chemistry.—Mr. Pusey, M.P., Chairman of the Chemical Committee, laid before the Council the following Report agreed to by that Committee on the preceding day.

The Chemical Committee have received a very satisfactory statement from Mr. Way respecting the progress in the laboratory. As this statement is now presented to the Council it is unnecessary for them to enter into its details. They cannot, however, forbear from adverting to Mr. Way's paper on superphosphate of lime, published this year, which has been highly useful to the manufacturers and to the public. The increase of private analyses of guano has nearly doubled, but they strongly recommend to members of the Society to avail themselves more widely of this cheap security for that and other manures. Even though the analysis be made after the purchase, there can be no doubt that if it should show adulteration to have taken place, security would at least be obtained against the repetition of such practices in future. Where large purchases have been contemplated, previous analysis has often prevented serious loss. The subjects recommended for investigation in the present year are—1, The absorptive power of soils; 2, The action of lime; 3, The action of burnt clay. The Committee recommend that Mr. Way's offer to deliver three lectures before the Society be accepted.

Mr. Pusey also submitted to the Council the following Report made to the Chemical Committee by Professor Way, the Consulting Chemist to the Society.

I beg to make a report to you of the operations which have been carried on in the laboratory during the last twelve months. The number of analyses made for members of the Society at the reduced fees, from the 1st of April, 1851, to the same date in the present year, is 141; which may be thus classified—Limestones and marls 14, soils 14, guanos 36, superphosphate of lime 24, waste manures 9, various artificial manures 10, coprolite and other phosphoric substances 15, oilcakes 12, waters 1, animal and vegetable products 2, other miscellaneous substances 4.—Total 141. It will be observed that the analyses of guano amount to 36, a number which, although small when the importance of the manure and the facilities and economy of its examination are considered, is yet a considerable increase over that of the previous year. The analyses of samples of superphosphate of lime, and of phosphoric substances employed in their manufacture, have also formed an important item in the work of the laboratory. Since the last annual report two papers have been published in the *Journal* of the Society. The 1st, in the Midsummer number for 1851, 'On the Composition of Superphosphate of Lime—the modes of making and using it;' and the 2nd, in the last Christmas number, 'On the Chemical and Agricultural Characters of the Chalk Strata.' A short paper 'On Dried Blood as Manure' was also published at the same time. The inquiry with regard to superphosphate of lime was not strictly amongst the investigations recommended by the committee; but the increasing importance of the manure, and the want of any definite standard of comparison, seemed to point it out as a subject well worthy of attention. I may be allowed to say that the paper in question has, in the sphere of my own observation, had a most beneficial effect, not only in serving as a guide to what should be the composition of good samples of this valuable manure, but in the assistance which it has afforded to those embarking in the manufacture of superphosphate, and in stirring up the existing makers to the production of an article which should bear the test of chemical examination. During the last year a few more analyses of Grasses have been made, and this investigation is in a forward state for publication whenever it may be considered desirable. With the sanction of the committee, I would propose not to carry this inquiry any further at the present time.

Believing the subject of the absorptive properties of soils for manure to be one deserving the most careful attention, and promising results of the very highest importance to the theory and practice of agriculture, I have steadily pursued the investigation into these properties during the last year, and I am glad to be able to report to the committee that I have succeeded in forming artificially substances possessing the properties which had been previously discovered to reside in soils, and I am now in a position to explain satisfactorily some of the mutual actions of the soil and manure which were before surrounded with so much obscurity. I propose very soon to give a statement of the progress of the investigation, in a lecture before the members of the Society, and, if the committee approve, to prepare a further account of the experiments, for publication in the next *Journal* of the Society. The prosecution of this inquiry entails a large amount of investigation of a purely chemical character; it is therefore necessarily tedious, and the details are unsuitable for publication in an agricultural journal, but the results are so interesting and important, that I hope the committee will sanction the continuation of the inquiry so long as any part of it remains incomplete. At the same time it would seem desirable to pursue such other subjects as may seem to possess an independent interest of their own, and be at the same time more or less connected with the absorptive properties of soils. The subjects which occur to me as of this nature are, the influence of liming on soils, and the burning of clays. All of these subjects have been at one time or another recommended by the committee, and have been more or less entered upon by me. I would suggest that the committee should still leave them open for prosecution, as the progress of the main inquiry may render expedient.

In addition to the enquiries already mentioned, I have, at the request of the Council, made during the last year analyses and reports to the Society on the subject of Australian guano and American phosphate of lime, and also a report to be transmitted to the Admiralty in aid of the search after guano by officers of her Majesty's navy. In the last spring and summer three lectures were delivered before the members of the Society at their weekly meetings. The subjects selected were respectively the use, in agriculture, of salt, gypsum, and lime. I propose to give also three lectures in the present season. The 1st on the Causes of the Absorptive Properties of soils for Manure. 2d, an Examination of the Agricultural principles of Jethro Tull. 3d, Practical bearing of recent investigations on Tull's views.

These reports having been received and adopted, the Council agreed to the following arrangement for the delivery of Lectures, as proposed to them by the Chemical Committee:

Lectures.

April 28.—Prof. Way: On the Absorptive Power of Soils.
May 12.—Mr. Trimmer: On Agricultural Geology.
May 26.—Prof. Way: On Jethro Tull's Principles of Agriculture.
June 9.—Prof. Way: On the Practical Bearing of Recent Investigations on Tull's views.

Veterinary Inspection.—The following report was received and adopted by the Council:—

The Veterinary Inspection Committee beg to recommend to the Council, that the duties of the Veterinary Inspector of the Society at its Country Meetings be two-fold, namely:—

1. To report to the Stewards of the Yard on the presence of any contagious or infectious disease in any of the animals brought to the yard.

2. To be in attendance in the Show-Yard, in order that whenever any doubt should arise in the minds of any of the Judges as to the existence of disease or imperfection in those animals which they may consider worthy of a prize or commendation, the Veterinary-Inspector may be called in to give his opinion thereon.

Veterinary Grant.—The Council postponed the consideration of this subject until their next monthly meeting, appointing in the mean time a special committee for its consideration, and their report to the Council on that occasion.

Lewes Meeting.—The following arrangements were reported from the General Lewes Committee, and agreed to by the Council:—

Tuesday, July 13.—Implement-Yard open in the evening to Members of Council and Governors of the Society, at Half-a-crown.

Wednesday.—Implement-Yard open to the public from 8 in the morning till 6 in the evening, at Half-a-crown.—Cattle-Yard open in the afternoon to Members of Council and Governors of the Society at Half-a-crown, and to the public at Five Shillings.

Thursday.—The Cattle and Implement-Yards (thrown together into one general show) open to the public from 6 in the morning till 6 in the evening, at Half-a-crown.

Friday.—The General Show open to the public from 6 in the morning till 6 in the evening, at One Shilling.

Fines for non-exhibition.—The Council decided unanimously, that in order to maintain a consistent and impartial enforcement of the established regulations of the Society, all those parties who had failed to conform with the rule of entry to which they themselves had subscribed, and of their non-compliance with which they had already been twice informed, and a claim made upon them for the amount of fines incurred, should, without any personal distinction or exception, in each case where the fine remained unpaid after the 5th of May next, be at once summoned to the Westminster County Court, to answer in person the just claims thus made upon them by the Society.

Country Meeting of 1853.—Memorials were received for the holding of the Country Meeting of the Society of 1853 in the South Wales District, comprising the whole of South Wales, with the addition of the Counties of Gloucester, Hereford, Monmouth, and Worcester. These memorials and the documents with which they were accompanied were referred to a committee of Personal Inspection, consisting of Mr. Raymond Barker, Mr. Brandreth, Mr. Druce, Mr. Brandreth Gibbs, Mr. Fisher Hobbs, and Mr. Shaw (of London), with a request that they would visit the proposed localities, and report on the subject to the Council at their next Monthly Meeting, previously to their consideration and decision of the particular place for the holding of that Country Meeting.

The Council adjourned over Easter to the 21st inst.

Reviews.

Tables on Drainage. By J. Bailey Denton, Assoc. Inst. C. E., 52, Parliament-street, London.

A useful sheet, folding into a case, showing the cost of digging and tiles in draining an acre at various intervals; and containing a variety of other tables for facilitating calculations connected with land drainage.

The Drainage of Coventry, considered in a Supplement to Mr. Ranger's Report to the General Board of Health. By T. A. Yarrow, C.E., Engineer to the Irish Amelioration Society. John Kennedy, Portman-place, Maida Hill. Pp. 16.

Report of the Health Committee of the Borough of Liverpool, on the Sewerage and other works under the Sanitary Act. By the Borough Engineer. Harris and Co., Moorfields, Liverpool.

Minutes of Information collected in respect to the Drainage of the Land forming the sites of Towns, to Road Drainage, and the facilitation of the Draining of Suburban Lands. General Board of Health. George E. Eyre and W. Spottiswoode. London. Pp. 125.

We shall at present merely notice these works as containing amongst them a full statement on the important subject of town drainage. The first is a

recommendation of peat charcoal, in the manufacture of which its author is interested as engineer for the Irish Amelioration Society. It is recommended by him as the cheapest instrument for taking all that is valuable or mischievous out of sewage water, and preserving it from waste or escape, while allowing the worthless and harmless remainder to flow away. The second work on the list has been some time published, and is one of the most valuable contributions to the important series of works on the Health of Towns which have of late years appeared. Excepting the remarks by Mr. Newlands, on the application of the sewage manure, it is, however, more a detailed and practical statement of what is proposed to be done in a particular instance, than a treatise bearing on the whole subject, claiming general interest.

The third work named above is not, as its title would suggest, confined to the consideration of town and suburban drainage; it contains a great deal of most valuable information on land-drainage generally, and is, in importance, a companion volume to the one lately issued from the same source, on the "Application of Liquid Manure." We shall in another number give a detailed statement of its contents, and of its instructions on the important subject of which it treats. On all questions connected with the explanation and the cost of the results of land drainage, and with the methods by which they have been attained—it is an important work of reference.

Calendar of Operations.

APRIL.

Boulogne, *April* 2.—Since last report from West Somerset, I have been at Boulogne; on which, though not presenting much attraction to offer in an agricultural point of view, and my opportunities of seeing and judging what there was being limited, it still may not be wholly uninteresting to subjoin a few remarks. Boulogne is a place so well known to us, and, to use a familiar phrase, "hackneied," that any description of it would be useless, and indeed irrevelant to the particular department of this Paper. It seems a curious coincidence that on the spot where Napoleon 50 years ago organised and displayed his grand army for the invasion of our island, so many English should now be residing in security—more than in any other part of France. The soil around Boulogne is mostly very sandy and light, in some places poorer than others; the low cliffs, it they can so be called, form a great contrast to the opposite chalky hills of Sussex, consisting of loose crumbling sand with a mixed substratum of grey mud, gradually hardening into rock with the action of water, every now and then large masses falling down on the sands beneath, so that the aspect of the coast must be, of course, much changed in the course of centuries; since the time, for instance, when Caligula led his army on the sands to gather shells down to the time when another Emperor also conducted an army thither, with the same original intention, viz., the invasion of Britain. On some parts of the soil iron exists, and some of the hardest description of rock stretches across the sands like low walls, though formed by Nature. There are also traces of the lower Oolite formation, with some of the petrefactions met with in Dorsetshire. At the neighbouring small town of Marquise, a coarse description of grey marble is found—coal is also met with. The light sands would, I should think, be improved by the Norfolk system of folding with sheep and claying, neither of which are apparently pursued. One farm in the neighbourhood is kept by an Englishman who breeds and keeps horses for letting out for hire in the town. The farms are not very large; though the fields are, as is the case in France, extensive and not much enclosed, something similar to the Wiltshire and Yorkshire hills and wolds. A breeding flock is kept on the above farm, the lambs being fattened and sold to the butcher. Turnips are grown for the ewes, and drawn for them; but the general district system is corn and artificials all manured thickly, in which last particular the French, in common with the Belgians, are worthy of imitation—the manure heaps being laid nearly close together, so that when spread they completely cover the land without an interval to be seen, so that on returning to England one is struck with the average smallness of the dressings used, seeming unfinished; in fact, if farm-yard manure is used, the quantity should be large, and of course the quality good. The French, keeping all their stock under cover all the year round, necessarily make a large amount of manure, and are thus able to thrown on large dressings, whereas with us, in the ordinary run of farms, a few beasts are kept during winter to make manure. The work in that district lately, from Boulogne to Calais, has been sowing Oats and Barley, manured and ploughed in previously; and dressing Clover and other artificials for hay, for which large quantities of night-soil are used. With regard to implements, much cannot be held up for imitation—what I saw being heavy and old-fashioned, though apparently not working badly. The ploughs are heavy, wooden, and, I conclude, the same as in use 50 years ago; having two large wheels of equal size, the plough resting up hill, as it were, on a common cross beam, and a long waggon whip stuck for the man's use on the plough side. The horses are worked two or sometimes three abreast; they unyoke at mid-day, working on afterwards till 5 and 6 o'clock. The old flail is still used in the barns. English ploughs have been introduced on the former-mentioned farm, but a prejudice exists against any innovation; in one case I saw a kind of compromise made between the two kinds of plough—a very good English iron plough doing its work pretty well, still mounted on the old-fashioned two wheels. The dress of the ploughman is a blue smock and white cap, something like our night-caps; they get 9 and 10 francs [a week], and their victuals in the house. Many of the chateaux belonging to the proprietors are old and picturesque. The farms have not, however, the same neatness as ours, being shut in with high walls and gates. The absence of stock in the fields, too, is a blank in the landscape, however much the system of close feeding may be advocated. The sheep are, to our ideas, ugly; generally having rather long legs, and long flapping ears. *H. E.*

Yorkshire, &c., *April* 12.—I have recently inspected large tracts of land in the North Riding of Yorkshire, Staffordshire, Leicestershire, and Warwickshire, and I have everywhere found Wheat looking well. The dry weather has apparently suited this crop, and it is not only a good colour but the plant is spreading out and keeping close to the ground. Beans, where early sown, have come up well, but their growth has been somewhat checked by the frosty nights we have had of late. Oats in many places are up, and look very promising. The land intended for Turnips is in better condition than it has been known for many years, the dry season having allowed full opportunity for the use of the grubber, and on several farms over which I have been, the land could be ready for the seed with another stirring. Clover and Grass land want rain much, and should it not come soon, we may look for short crops of hay and moderate pastures. *Rosalus.*

Notices to Correspondents.

Agricultural Patent: *A H.* We must confess our ignorance. We presume that the Wheat is to be sown so late as not to ripen till the following year. The paragraph is very obscure.

Dry Bog or Turf Mould: *Hollymount.* Dr. Anderson, the chemist to the Highland Society, assures us that this is as efficacious in retaining ammonia as though it were charred. The spongy surface of a flow bog, when dried and afterwards incorporated with liquid manure, will be a powerful fertiliser, as would any other worthless substance under such circumstances. The cheapest sponge for liquid manure differs in different districts: in some dry peat dust—in others, the old spent bark of the tan-yard.

Hay, &c.: *P A D.* We know of no reason, except cost, to hinder the employment of a frame for a hay-rick as well as for corn. It would save much hay now spoiled or wasted. 4*s.* and 4*s. 6d.* are common prices for good hay forks. About the ewes, W. C. S. will answer you soon.

Lead: *J W G S.* If the water be "hard," a lead cistern is perfectly safe, but not otherwise. As regards churns, we think you may safely choose the American, and one will do, although you vary between 3 and 12 lbs. as the quantity of butter to be made.

Lucerne: *A Constant Reader.* If you sow it broadcast, you must sow 20 lbs. per acre. It should be sown now. We would prefer drilling it in rows, even with the Oat crop, under which you intend for the first few months it shall linger, and then you may subject it to a thorough hoeing in the autumn: 12 or 14 lbs. per acre in rows 12 inches apart; but to sow with an Oat crop is not the best plan.

Peat Charcoal: *G A.* It may be applied to annuals, Rose trees, and other flowers with advantage. If it can be saturated with some liquid manure, so much the better; and what is true of Rose trees in this matter, is also true of Mangold Wurzel, to which it may be applied in compost with guano, or any other ammoniacal manure, over which it exercises a conservative influence.

Poultry Manure: *J R C.* The answer last week was given to a correspondent who merely asked what he should do with it.

Star: *F D.* It is the planet Mars. Your other question next week.

Wireworm: *J T.* We would trust to guano rather than Rape-cake. Mr. Charnock's experiment with the latter might be recopied—without, however, we suspect, much chance of recopying his experience—which was probably due to other causes. Apply 3 or 4 cwt. of guano per acre, and harrow and cultivate it in. Sow Lolium perenne, 12 lbs.; Festuca rubra, 4 lbs.; Agrostis vulgaris, 2 lbs.; Alopecurus, 1 lb.; Poa pratense, 2 lbs.; Poterium Sanguisorba, 2 lbs.; Onobrychis sativa, 3 lbs.; Achillea millefolium, ½ lb.; Trifolium repens, 3 lbs.; Medicago lupulina, 3 lbs.; with a thin seeding of corn. This is a mixture adapted for very light sandy soil.

Markets.

COVENT GARDEN, April 17.

The market is well supplied with vegetables and fruit. English Pine-apples realise good prices, as do also hothouse Grapes. Dessert Pears are now confined to Beurré Rance. A few Court of Wick and Ribston Pippin Apples may still be obtained. Oranges are plentiful and good. Nuts are nearly the same as last quoted. Strawberries are still supplied. Carrots, Turnips, Cabbages, &c., are sufficient for the demand, and there is some fine Cornwall Broccoli in the market. Potatoes are generally good in quality. Lettuces and other saladings are sufficient for the demand. Mushrooms are cheaper. Cut flowers consist of Heaths, Epacrises, Cinerarias, Mignonette, Camellias, Roses, Acacias, Azaleas, Primulas, Hyacinths, Tulips, Lily of the Valley, and other forced bulbs.

FRUIT.

Pine-apples, per lb., 4*s* to 8*s*	Pears, dessert, per doz., 2*s* to 6*s*
Grapes, hothouse, p.lb., 15*s* to 20*s*	Oranges, per doz., 1*s* to 1*s* 6*d*
— Lisbon, per lb., 2*s* to 2*s* 6*d*	— per 100, 3*s* 6*d* to 10*s*
Strawberries, per oz., 1*s* to 2*s*	— Seville, per doz., 1*s* to 3*s*
Apples, kitchen, per bushel, 2*s* to 3*s* 6*d*	Lemons, per doz., 1*s* to 2*s*
	Nuts, Barcelona, p.bsh., 20*s* to 22*s*
Almonds, per peck, 5*s*	— Brazil, p. bsh., 12*s* to 14*s*
— sweet, per lb., 2*s* to 3*s*	Cobs, per 100 lbs., 100*s*

VEGETABLES.

Cabbages, per doz., 9*d* to 1*s* 6*d*	Parsnips, per doz., 4*d* to 1*s*
French Beans, p.100, 1*s* 6*d* to 2*s*	Leeks, per bunch, 2*d* to 4*d*
Broccoli, p. bunch, 5*d* to 1*s*	Shallots, per lb., 8*d* to 10*d*
— heads, each, 2*d* to 4*d*	Garlic, per lb., 6*d* to 8*d*
Asparagus, per bundle, 3*s* to 7*s*	Lettuce, Cab., per score 4*d* to 1*s*
Seakale, p. basket, 1*s* 3*d* to 2*s* 6*d*	— Cos, per score, 1*s* to 2*s*
Greens, per doz., 2*s* 6*d* to 4*s*	Radishes, per doz., 1*s* to 1*s* 6*d*
Rhubarb, p. bundle, 5*d* to 10*d*	— Turnip, 1*s* 6*d* to 2*s*
Potatoes, per ton, 45*s* to 80*s*	Small Salads, p. pun., 2*d* to 3*d*
— per cwt., 2*s* to 5*s*	Horse Radish, p. bundle, 1*s* to 4*s*
— per bush., 1*s* 6*d* to 2*s* 6*d*	Mushrooms, p. pott., 1*s* to 1*s* 3*d*
Turnips, p. doz., 2*s* 6*d* to 3*s* 6*d*	— per punnet, 9*d* to 1*s*
Cucumbers, each, 6*d* to 3*s*	Sorrel, p. hf. sieve, 1*s* 3*d* to 1*s* 8*d*
Celery, per bundle, 6*d* to 1*s* 6*d*	Artichokes, Jerus., do., 9*d* to 1*s*
Carrots, per bunch, 4*d* to 7*d*	Fennel, per bunch, 2*d* to 3*d*
Brussels Sprouts, p. half sieve, 1*s* to 1*s* 6*d*	Savory, per bunch, 2*d* to 3*d*
	Thyme, per bunch, 2*d* to 3*d*
Spinach, per sieve, 1*s* to 1*s* 6*d*	Parsley, p. doz. buchs., 2*s* to 3*s*
Onions, per bunch, 2*d* to 4*d*	Mint, per bunch, 4*d* to 6*d*
— Spanish, p.doz., 1*s* 3*d* to 3*s*	Basil, green, p.bunch, 1*s* to 1*s* 6*d*
Endive, per score, 9*d* to 1*s* 6*d*	Marjoram, do., 3*d* to 4*d*
Beet, per doz., 1*s* to 2*s*	Watercresses, p.12 bun., 9*d* to 1*s*

HAY.—Per Load of 36 Trusses.

Smithfield, April 15.

Prime Meadow Hay	75*s* to 80*s*		Clover	...	80*s* to 88*s*
Inferior do.	... 65	70	2d cut	...	... 70 77
Rowen	 60	63	Straw	...	... 24 28
New Hay	... ... —	—			J. Cooper.

The supply short and trade brisk.

Cumberland Market, April 15.

Prime Meadow Hay	75*s* to 80*s*		Inferior Clover	...	65*s* to 75*s*
Inferior do.	... 60	70	New do.	...	... — —
New Hay	... ... —	—	Straw	...	... 28 30
Old Clover	 78	86			Joshua Baker.

HOPS.—Borough Market, April 16.

Messrs. Pattenden and Smith report that the Hop market is without alteration, both as to demand and price.

COAL MARKET.—Friday, April 16.

Eden Main, 15*s.*; Wallsend Russell's Hetton, 15*s.* 6*d.*; Wallsend Hetton, 16*s.*; Wallsend Lambton, 15*s.* 6*d.*; Wallsend Stewarts, 16*s.*—Ships at market, 129.

WOOL.

Bradford, Thursday, April 15.—We cannot report any improvement in the state of our English Wool market, either in regard to demand or prices. The sales are almost invariably to a limited extent, and confined to the supply of pressing requirements, spinners evincing no disposition to make speculative purchases. The stocks held by staplers are by no means heavy, and the arrivals from the country being also much below the average, even for the season, a strong probability exists that prices must rule firm even with a continuance of limited purchases by consumers. Should, on the other hand, an improvement take place in the general trade of the district, there is but little doubt that one inevitable consequence would be an immediate advance in the price of the raw material.

POTATOES.—Southwark, April 12.

The committee report that during the past week the supply both coastwise and by rail has been considerable, and the trade continues very dull, particularly for second-rate samples. The following are this day's quotations:—York Regents, 60*s.* to 80*s.*; Scotch do, 60*s.* to 70*s.*; Perth and Forfarshire Cups, 60*s.* to 65*s.*; Fifeshire do., 55*s.* to 60*s.*; Wisbeach and Cambridge, 50*s.* to 65*s.*; Kent and Essex, 60*s.* to 75*s.*

SMITHFIELD.—Monday, April 12.

We have, for Easter Monday, a good supply of Beasts; trade is dull; a few choice Scots, however, are making 3*s.* 6*d.*, but many good ones only make 3*s.* 4*d.* The number of Sheep is small, yet fully adequate to the demand. Being holiday week butchers buy very sparingly, and prices on the average cannot be quoted higher. There is a ready sale for Lambs at Friday's quotations. There is no alteration in the Calf trade. From Germany and Holland there are 433 Beasts, 350 Sheep, 145 Calves, and 60 Pigs; from Spain, 70 Sheep; from Scotland, 600 Beasts; and 1800 from Norfolk and Suffolk.

Per st. of 8lbs.—	s	d	s	d	Per st. of 8lbs.—	s	d	s	d
Best Scots, Here-fordes, &c.	... 2	4 to 3		6	Best Long-wools	3	8 to 4		0
Best Short-horns	3	2 — 3		4	Do. Shorn	... 3	2 — 3		6
2d quality Beasts	2	4 — 2		10	Ewes & 2d quality	2	6 — 2		10
Best Downs and Half-breds	... 4	0 — 4		2	Do. Shorn	 0	0 — 0		0
Do. Shorn	 3	6 — 3		8	Lambs	 5	0 — 6		0
					Calves	 3	0 — 4		4
					Pigs	 2	8 — 3		8

Beasts, 3419; Sheep and Lambs, 17,920; Calves, 182; Pigs, 380.

Friday, April 16.

We have a large supply of Beasts and a very limited demand; in consequence, although the weather is favourable, late quotations cannot on the average be supported. The number of Sheep and Lambs is large; there is a considerable proportion of the latter, for which trade is very heavy, at lower rates. Sheep are making about the same as on Monday last. Calves are plentiful; trade is very dull, at a reduction of fully 2*d.* per 8lbs.; indeed, our top quotation is realised only in a few instances. Our foreign supply consists of 182 Beasts, 200 Sheep, and 161 Calves. The number of Milch Cows is 125.

Per st. of 8lbs.—	s	d	s	d	Per st. of 8lbs.—	s	d	s	d
Best Scots, Here-fordes, &c.	... 3	2 to 3		4	Best Long-wools	3	8 to 4		0
Best Short-horns	3	0 — 3		2	Do. Shorn	... 3	2 — 3		6
2d quality Beasts	2	2 — 2		8	Ewes & 2d quality	2	6 — 2		10
Best Downs and Half-breds	... 4	0 — 4		2	Do. Shorn	... ...	...		
					Lambs	 4	8 — 5		8
Do. Shorn	... 3	6 — 3		8	Calves	 2	10 — 4		2
					Pigs	 2	8 — 3		8

Beasts, 1035; Sheep and Lambs, 7420; Calves, 274; Pigs, 350.

MARK LANE.

Monday, April 12.—The supply of English Wheat by land carriage samples to this morning's market was small; the white was disposed of on about the terms of this day se'nnight, but the red met an improved demand at those rates, being in request for Ireland. Foreign and Flour were a slow sale; prices are unaltered from last week.—Barley is a dull sale, and rather cheaper.—In the value of Beans and Peas there is no alteration from this day se'nnight.—For Oats we experienced rather more inquiry, at late rates.

Per Imperial Quarter.	s.	s.		s.	s.
Wheat, Essex, Kent, & Suffolk... White	42—44		Red	39—40	
— — fine selected runs.. ditto	44—46		Red	40—42	
— — Talavera	45—51				
— Norfolk	38—43		Red	—	
— Foreign	36—52				
Barley, grind. & distil., 26*s* to 29*s*... Chev.	30—35		Malting	29—31	
— Foreign ...grinding and distilling	22—29		Malting	—	
Oats, Essex, and Suffolk	19—21				
— Scotch and Lincolnshire... Potato	21—24		Feed	20—22	
— Irish	20—23		Feed	19—22	
— Foreign .....Poland and Brew	19—21		Feed	17—20	
Rye	—		Foreign	—	
Rye-meal, foreign	—				
Beans, Mazagan.....24*s* to 27*s*..... Tick	25—30		Harrow	25—30	
— Pigeon .....27 — 32*s*... Winds.	20—26		Longpod	24—30	
— Foreign	Small	22—30	Egyptian	23—25	
Peas, white, Essex and Kent.....Boilers	32—34		Suffolk	33—35	
— Maple.....27*s* to 30*s*..... Grey	26—28		Foreign	27—34	
Maize	White	—		—	
Flour, best marks delivered ...per sack	35—40		Yellow		
— Suffolk ditto	27—32		Norfolk	27—32	
— Foreign per barrel	18—24		Per sack	32—36	

Friday, April 16.—The arrivals of all grain, particularly foreign, have been unusually small this week; to-day's market was thinly attended, and business very restricted; the value of Wheat may be considered nominally the same as on Monday. In Flour there is little doing, excepting in barrels, which have been sold at 1*s.* decline.—Barley is a slow sale at rather less money.—Beans and Peas remain as last quoted.—The Oat trade is very firm, and in some instances rather higher prices are paid.

Imperial Averages.

	Wheat.		Barley.		Oats		Rye.		Beans.		Peas.	
	s.	*d*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d*	*s.*	*d.*
Feb. 28	42	3	30	7	19	6	30	7	29	10	29	5
March 6	42	7	30	1	19	4	32	5	30	2	29	6
— 13	42	10	30	5	19	9	30	5	30	1	29	7
— 20	42	8	30	3	19	0	31	11	30	4	29	10
— 27	42	2	30	5	19	6	30	5	30	3	29	8
April 10	41	4	29	4	19	7	32	8	29	1	29	2
Aggreg. Aver.	42	2	30	0	19	7	31	8	30	1	29	7

Duties on Foreign Grain, 1*s.* per qr.

Arrivals this Week.

	Wheat.	Barley.	Oats.	Flour.
	Qrs.	Qrs.	Qrs.	
English	2870	2350	1310	660 sacks
Irish	—	680	2060	
Foreign	240	600	740	— brls

Fluctuations in the last Six Week's Averages.

Prices.	Feb. 28.	Mar. 6	Mar. 13.	Mar. 20.	Mar. 27.	Apr. 10.
42*s*10*d*	...	...	...	...	...	...
42 8	...	...	...	...	...	...
42 7	...		...	...	...	...
42 3	—	...	...	...	...	...
42 2	...	...	...	...	...	...
41 4	...	...	...	...	...	

Liverpool, Tuesday, April 13.—The weather continues dry, with light easterly winds, and the want of rain is beginning to be felt on pasture lands, winter fodder being nearly exhausted. The arrivals of grain and Flour are this week upon a moderate scale, whilst the exports are liberal. Ireland continues to take the most from us, and the trade here during the week has been strengthened by further purchases of red Wheat for the sister country, at prices rather over the quotations of last Tuesday. The Easter holidays have rather interfered with the local trade. Though the business transacted in Wheat and Flour at this morning's market was not large, the general demand was certainly better than on this day se'nnight, and at extreme prices for both articles, holders exhibiting much firmness with their samples. Several thousand quarters of Egyptian Beans changed hands, and fully recovered a decline of 6*d.* per qr. which had been submitted to during the week. Indian Corn was also in fair request, at extreme rates, and it is not plentiful. Oats, Oatmeal, and Barley were not much noticed. Scarcely any Peas at present here.

GLASS FOR CONSERVATORIES,
GREENHOUSES, PIT FRAMES, &c.

JAMES PHILLIPS AND CO. beg to hand their prices of SHEET GLASS for cash:

Cut to order in Panes not above 40 inches long.	Packed in Boxes of 100 feet each.	£. s. d.
16 ozs. ... ... 3d. to 3½d.	6 by 4, 6½ by 4½ ...	0 13 0
21 do. ... ... 3½d. to 5d.	7 by 5, 7½ by 5½ ...	0 15 0
26 do. ... ... 5d. to 7½d.	8 by 5, 8 by 5½ ...	0 15 0
In Crates of 300 ft., 16 ozs. 2½d. per foot.	8 by 6, 8½ by 6 ...	0 17 6
	9 by 7, 10 by 8 ...	1 0 0

ANY OF THE FOLLOWING SIZES at 18s. 9d. per 100 feet. Boxes, 2s. each; returnable at full price.

22 by 16	22 by 15	22 by 13	20 by 15	20 by 14
20 by 13	18 by 14	18 by 13	18 by 12	20 by 12
15 by 12	16 by 12	17 by 12	14 by 12	18 by 11
17 by 11	16 by 11	15 by 11	16 by 10	15 by 10
14 by 10	14 by 11	18 by 10	13 by 9	12 by 10
12 by 9	11 by 9	...	...	...

ALL SIXTEEN OUNCES TO THE FOOT.

HARTLEY'S PATENT ROUGH PLATE GLASS for Conservatories, Public Buildings, Manufactories, Skylights, &c., ⅛ inch thick. Packed in boxes of 50 feet each.

6 by 4 and 6½ by 4½ ..10s. 6d. | 7 by 5 and 7½ by 5½ ...12s. 0d.
8 by 6 and 8½ by 6½...13s. 6d. | 9 by 7 and 10 by 8 ...15s. 0d.

FOREIGN SHEET GLASS, of very superior quality, packed in cases of 200 feet, and in sizes varying from 36 by 26 to 44 by 30 inches, at 38s., 40s, to 42s. per case.

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Milk Pans, from 2s. to 6s. each, Propagating and Bee Glasses, Cucumber Tubes, Lactometers, Lord Camoys' Milk Syphons, Tiles and Slates, Wasp Traps, Plate, Crown, and Ornamental Glass, Shades for Ornaments, Fern Shades, and every article in the Trade.

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GLASS.

THOMAS MILLINGTON'S FOREIGN SHEET GLASS is far superior to any other manufacture, as well as cheaper. In 100 feet boxes packed for immediate delivery.

6 inches by 4 and	6½ by 4½	...	...	...	13s. 0d.
7 ,,	5 and 7½ by 5½	...	...	...	15 0
8 ,,	5 and 8 by 5½	...	...	...	15 0
8 ,,	6 and 8½ by 6½	...	...	...	17 6
9 ,,	7 and 10 by 8	...	...	...	20 0
12 ,,	10 and 13 by 9	...	...	...	20 0

And many other sizes, or cut to order in various thicknesses.

Cases containing large Sheets, in 100, 200, and 300 feet, at 21s. per 100 feet.

ROUGH PLATE, perfectly flat, ⅛ in. thick, best manufactured.

In sizes under 15 inches	.....		6d.	per foot.
,, ,,	35 ,,	.....	8d.	,,
,, ,,	50 ,,	.....	9½d.	,,
,, ,,	75 ,,	.....	12d.	,,

Milk Pans, 2s. to 6s. each; Metal Hand Frames, Glass Tiles and Slates; Cucumber, Propagating, and Bee Glasses; Wasp Traps, Glass Shades, and Plate Glass, at 87, Bishopsgate-street Without, same side as Eastern Counties Railway.—Established 100 years.

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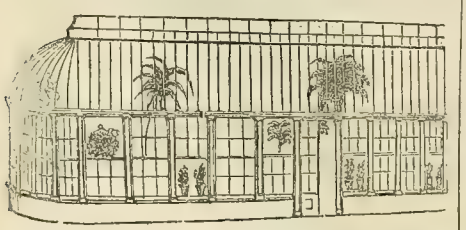
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See *Gardeners' Chronicle* first Saturday in each month.

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These Walls can, when desired, be made wide enough for a person to enter, by which they become elegant hothouses on the best principle. Existing Walls covered with Glass and Iron.

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WARRANTED BEST MATERIALS AND WORKMANSHIP, AT THE LOWEST POSSIBLE PRICES.



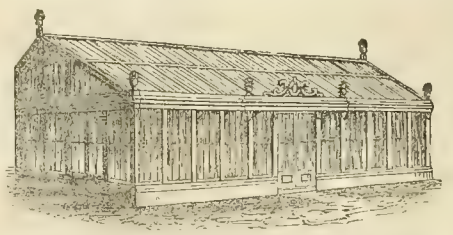
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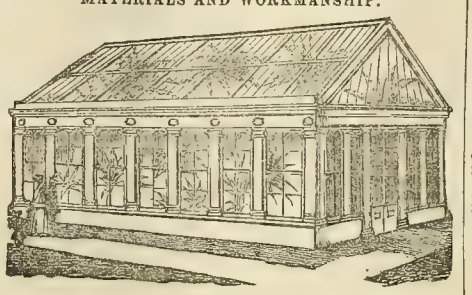
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AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.



GRAY AND ORMSON, Danvers-street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

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J. W. THOMSON, LANDSCAPE GARDENER, HOT-HOUSE DESIGNER, and BUILDER, Hammersmith.



Every kind of Horticultural Structure designed, erected, and heated by Hot-water Common Flues, and other modes, on the most economical and improved modern principles. Testimonials and references from Noblemen and Gentlemen who have kindly patronised, for more than 15 years past, J. W. THOMSON'S modern and simple mode of Constructing, Building, Warming, and Ventilating Garden Structures. He begs to draw particular attention to his newly-invented plan for moving all Lights, front and top, for admitting air, by one action or simultaneously, at very little more expense than by the old and inconvenient mode of cords and pulleys. This simple plan can be applied, at a moderate cost, to houses already ventilated by the old and troublesome cord and pulley system.

J. W. THOMSON having had full 25 years experience as a practical Horticulturist, Landscape Gardener, and Garden Architect, in her Majesty's Royal Gardens at Windsor, Kew, and other places, most respectfully solicits the favours and patronage of Noblemen and Gentlemen about to form new, or to alter and embellish their present Park, Gardens, &c.

Plans and Estimates for re-modelling Parks and Gardens, or for Building and Heating Hothouses, and other Garden improvements, furnished on application. Melon and Cucumber Boxes and Lights.

GREEN AND HOTHOUSES, made by Machinery, at J. LEWIS' Horticultural Works, Stamford Hill, Middlesex, warranted best materials, and the cheapest in England.—A List of Prices sent by enclosing 2 postage stamps.

HOTHOUSES, GREENHOUSES, ETC.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

E. DENCH, PATENT HOTHOUSE WORKS, KING'S-ROAD, CHELSEA.—The superior qualities in every respect of these Structures having been proved in all parts of the United Kingdom, has caused a greater demand for them than E. D. could execute; he has been obliged to have perfect and powerful machinery made to meet the numerous orders, and can now execute any amount of work to great perfection, with dispatch, and for quality and price to defy all competition. Patent Hothouses, with excellent glass 3 feet long by 1 foot wide, every front sash to open, and every top one to slide down, with pulley made of the same materials as the electric telegraph wires, which require no painting; delivered free to Wharf or Railway Station, at 1s. 2d. per foot super., complete, having been fitted, and every portion marked previously, making a Greenhouse 16 ft. 6 ins. long, 12 ft. rafter, 400 ft., 28l. 6s. 8d.; 24 ft. 6 ins. long., do. do., 526 ft., 30l. 13s. 8d.; 28 ft. 6 ins. long, 15 ft. rafter, 712 ft., 41l. 10s. 8d. Heating by Hot-water on the most approved and economical principles.

Patent Sashes for its and Peach Walls, &c., 7d. and 8d. per foot, super.

HALL'S GARDEN NETS, LIGHT AND DURABLE,—Best Protection against Frost, Hail, and Wind; also from Wasps and Insects; and good for outside shades of Greenhouses, &c.

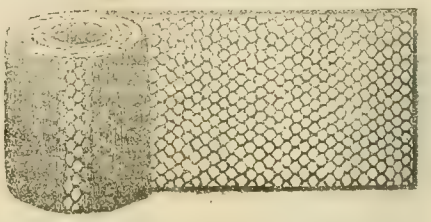
ALL 55 INCHES WIDE.

No. 1, per yard	... ...	5½d.	No. 3, per yard ... ... 7d.
,, 2, ,,	... ...	6d.	,, 4, ,, ... 7d.

To be had in London of Mr. BENJAMIN EDGINGTON, 2, Duke-street, Southwark; Messrs. CHARLWOOD and CUMMINS, 14, Tavistock-row, Covent-garden; Messrs. MINIER, NASH and NASH, 60, Strand; Messrs. NUTTING and SONS, Cheapside; also of the principal Nurserymen and Seedsmen in Edinburgh, Dublin, Manchester, Liverpool, Chester, Norwich, &c., &c.

Manchester, April 17.

GALVANISED WIRE GAME NETTING.—
7d. per yard, 2 feet wide.

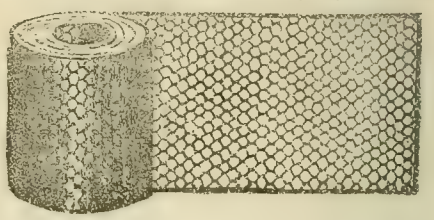


		Galvanised.	Japanned Iron.
2-inch mesh, light, 24 inches wide	...	7d. per yd.	5d. per yd.
2-inch ,, strong ,,	...	9 ,,	6½ ,,
2-inch ,, extra strong ,,	...	12 ,,	9 ,,
1⅝-inch ,, light ,,	...	8 ,,	6 ,,
1⅝-inch ,, strong ,,	...	10 ,,	8 ,,
1⅝-inch ,, extra strong ,,	...	14 ,,	11 ,,

All the above can be made any width at proportionate prices. If the upper half is a coarse mesh, it will reduce the prices one-fourth. Galvanised sparrow-proof netting for Pheasantries, 3d. per square foot. Patterns forwarded post free.

Manufactured by BARNARD and BISHOP, Market-place, Norwich, and delivered free of expense in London, Peterborough, Hull, or Newcastle.

CHEAP WIRE GAME AND POULTRY NETTING, 5d. per running yard;



GALVANISED ditto, 7d. per running yard, 2 feet wide.

	Galvanised.	Not Galvanised.
24 in. wide, 2 in. mesh, 7d. per yard.	...	5d. per yard.
30 in. ,, 2 in. ,, 9d. ,,	...	6½d. ,,
36 in. ,, 2 in. ,, 10½d. ,,	...	7½d. ,,
48 in. ,, 2 in. ,, 1s. 2d. ,,	...	10d. ,,

Sparrow Proof Netting, Galvanised, 3d. per square foot, made to any size for the same proportionate price. This article was shown at the "Great Exhibition," where it was so much admired for its light and durable appearance, and acknowledged to be the cheapest and best article of the kind ever offered. Extra strong Wire Sheep Netting, 3 feet high, 1s. 6d. and 2s 3d. per yard. Also every description of Flower Trainers, Dahlia Rods, Garden Arches, Bordering, Flower Stands, Tying Wire, Trellis Work, Invisible Wire Fencing, Hurdles, and every description of Wire Work for Horticultural purposes.—Illustrated Catalogues of Patterns forwarded, post-free, on application to T. H. FOX, City of London Wire Work and Iron Fence Manufactory, 44, Skinner-street, and 6 and 8, Snow-hill, London.

WIRE AND IRON WORKS.

H. WEST, 17, New-road, Fitzroy-square, Original Inventor of ORNAMENTAL WIRE FLOWER-STANDS, &c., and Manufacturer of every description of useful and fancy Wire and Iron Work, respectfully invites the inspection by the Nobility and Gentry of an extensive assortment of superior Wire Flower-stands and Flower-trainers, Roseries and Flower-bed Bordering, Trellis and Garden Arches, Porticoes and Verandahs, Aviaries and Pheasantries, all kinds of Game Wire-netting and Invisible Fencing, Wove Wire and Venetian Window-blinds; and also a great variety of Iron Bedsteads, Childrens' Cribs, Spring Mattresses, Bedding, &c. &c. Novel designs in Wire-work, to screen unsightly objects or for ornamental purposes, made to fit any locality, executed by experienced workmen, at the lowest practical charges.

LINGHAM BROTHERS, 170, Hampton-street Birmingham, sole Manufacturers of the Improved WOOD and ZINC MENOGRAPH, or Label for Garden Borders, Flower-pots, &c., in boxes of 100, &c. The Zinc Labels are highly approved of for their lasting durability; can be written upon with the greatest ease, and, when dry, a permanent inscription is secured. Directions for use sent with each box, including bottle of Metallic Ink.

Sole Agents in London, G. and J. DEANE, Horticultural Implement Warehouse, 46, King William-street, London-bridge

BENJAMIN EDGINGTON respectfully informs the public he has at length been successful in obtaining a warehouse sufficiently lofty and extensive to show at one view Tents of different character and description, and invites all who are in want of Tents, for Emigration, FLORAL AND HORTICULTURAL SOCIETIES, or for Garden Lawns, to a private view at No. 2, Duke-street, Southwark, where every information and explanation will be given.

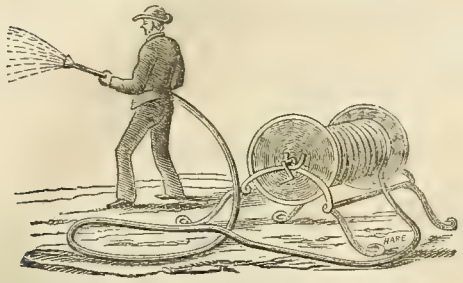
NETTING and BUNTING for Fruit Trees, &c.

WATERPROOF PATHS.—Those who would enjoy their Gardens during the winter months should construct their Walks of PORTLAND CEMENT CONCRETE, which are formed thus:—Screen the gravel of which the path is at present made from the loam which is mixed with it, and to every part of clean gravel add one of sharp river sand. To five parts of such equal mixture add one of Portland Cement, and incorporate the whole well in the dry state before applying the water. It may then be laid on 2 inches thick. Any labourer can mix and spread it. No tool is required beyond the spade, and in 48 hours it becomes as hard as a rock. Vegetation cannot grow through or upon it, and it resists the action of the severest frost. It is necessary, as water does not soak through it, to give a fall from the middle of the path towards the sides.

Manufacturers of the Cement, J. B. WHITE and SONS, Millbank-street, Westminster.

FOR WATERING GARDENS, DISTRIBUTING LIQUID MANURE, BREWERS' USE, ETC.

PATENT VULCANISED INDIA-RUBBER HOSE-PIPES.



JAMES LYNE HANCOCK (Sole Licensee and) Manufacturer, Goswell Road, London.

These Pipes are well adapted for Watering Gardens, conveying Liquid Manure, racking Beer and Cider, for portable Gas Lamps, and all purposes where a perfectly sound Waterproof and Flexible Pipe is required. They are particularly suitable for Fire Engines, and are found exceedingly useful in Dwelling-houses for conveying Hot or Cold Water to Baths, &c.

Hose Reels for winding-up and wheeling away long lengths of the Vulcanised Rubber Garden Hose, are now manufactured by J. L. Hancock, of light and cheap wicker work.

N.B.—Vulcanised India Rubber Garden Hose, fitted up with Roses, Jets, and Branches complete, with union joints ready to attach to pumps or water cisterns.

All Letters or Orders addressed to J. L. Hancock, Goswell Mews, Goswell Road, London, will meet with immediate attention.

BAKER'S PHEASANTRY, Beaufort-street, King's Road, Chelsea, by special appointment to her Majesty and H. R. H. Prince Albert.—ORNAMENTAL WATER FOWL, consisting of black and white Swans, Egyptian, Canada, China, barnacle, brent, and laughing Geese, Shieldrakes, Pintail, Widgeon, summer and winter Teal, Gadwall, Labrador, Shovellers, gold-eyed and dun Divers, Carolina Ducks, &c., domesticated and pinioned; also Spanish, Cochin China, Malay, Poland, Surrey, and Dorking Fowls; white, Japan, pied, and common Pea-fowl, and pure China Pigs; and at 3, Half-moon Passage, Gracechurch-street, London.

THE PRIZE MEDAL OF THE GREAT EXHIBITION was awarded to Mr. Milton, for his Improved COTTAGE BEEHIVE (straw), the only British Beehive for which a Prize Medal was awarded. It is of simple construction, ornamental, and so easily managed that the most unskilful can with safety obtain a large quantity of pure honey without killing the bees; price complete, 10s. 6d. They are made with extra fittings and boards, 18s. 6d. the set.

Also may be had "Milton's Practical Bee-keeper," new edition, price 2s.

Ditto, with Illustrations, 2s. 6d.

Ditto, Sheet of ditto, free by post, 8d.

At Milton's Beehive and Honey Warehouse, 10, Great Marylebone-street, Wimpole-street, London.

BEE HIVES.—A NEW AND EXTENSIVE SELECTION OF THE MOST APPROVED KINDS.—A detailed Catalogue, with Drawings and Prices, sent on receipt of Two Stamps. GEORGE NEIGHBOUR and SON, 127, High Holborn, London.

"In noticing the hives exhibited in the Crystal Palace, first and foremost, in my opinion, stands Mr. Taylor's Eight-Bar Hive, and Messrs. Neighbour and Son's Improved Cottage Hive, both exhibited by Messrs. Neighbour."—*J. H. Payne.* (See the "Cottage Gardener," Nos. 169, 170).

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FOUNTAINS FOR PLAYING SCENTED WATERS.

PURE WATER raised to any height from a small stream, where a fall can be obtained, by



FREEMAN ROE'S

IMPROVED RAM,

Prices from 5l. 5s.;

Deep-well Pumps, Water-wheels, Baths, Hot-water Apparatus, Fountains, and Fire Pumps. Towns supplied with Gas or Water.

Gas Cooking Stoves of all sizes.

Freeman Roe, Hydraulic and Gas Engineer, 70, Strand, London; and Bridgefield, Wandsworth.

Drawings and Estimates made.

DEANE'S WARRANTED GARDEN TOOLS.—Horticulturists, and all interested in Gardening Pursuits, are invited to examine DEANE, DRAY, AND CO.'S extensive Stock of GARDENING and PRUNING IMPLEMENTS, best London-made Garden Engines and Syringes, Colebrook-dale Garden Seats and Chairs.

Averruncators	Garden Scrapers	Mowing Machines
Axes	Gidney's Prussian Hoe	Pickaxes
Bagging Hooks	Grape Gatherers & Scissors	Potato Forks
Bills	Gravel Rakes and Sieves	Pruning Bills
Borders, various patterns	Greenhouse Doors and Frames	,, Knives, various
Botanical Boxes	Hammers	,, Saws
Brown's Patent Fumigator	Hand-glass Frames	,, Scissors
Cases of Pruning Instruments	Hay Knives	,, Shears
Daisy Rakes	Horticultural Hammers & Hatchets	Rakes in great variety
Dibbers	Hoes of every pattern	Reaping Hooks
Dock Spuds	Hotbed Handles	Scythes
Draining Tools	Ladies' Set of Tools	Scythe Stones
Edging Irons and Shears	Labels, various patterns, in Zinc, Porcelain, &c.	Shears, various
Flower Scissors	Lines and Reels	Sickles
,, Stands in Wires & Iron	Marking Ink	Sickle Saws
Fumigators	Matlocks	Spades and Shovels
Galvanic Borders and Plant Protectors	Monographs	Spuds
Garden Chairs and Seats	Metallic Wire	Switch Hooks
,, Loops	Milton Hatchets	Thistle Hooks
,, Rollers	Mole Traps	Transplanting Tools
		Trowels
		Trifling Irons
		Wall Nails
		Watering pots
		Weed Hooks
		Wheelbarrows
		Youths' Set of Tools

DEANE, DRAY, AND CO. are sole Agents for LINGHAM'S Patent LABELS, samples of which, with their Illustrated List of Horticultural Tools, can be sent, post paid, to any part of the United Kingdom. Also, Wholesale and Retail Agents for SAYNOR'S celebrated PRUNING KNIVES, used exclusively by the first Gardeners in the United Kingdom.—DEANE, DRAY, & CO. (Opening to the Monument), London-bridge.

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MR. HENRY WEBBER begs to inform Landowners and the public, that having had considerable practical experience, he is prepared to undertake the Drainage of Estates to any extent, upon the most improved principles, either by contract or on commission. Orders executed with a due regard to economy and efficiency. Reference given.—Address, Halberton Court, near Tiverton, Devon.

FRUIT TREES, POULTRY, ETC.

TANNED GARDEN NETTING, for protecting Fruit Trees from Frost, Blight, and Birds, or as a Fence for Fowls, Pigeons, Tulip and Seed beds, can be had in any quantity or length, from John King Farlow's Fishing Tackle and Net Manufactory, 5, Crooked-lane, London-bridge, at 1½*d.* yard wide, 3*d.* two yards wide, or 6*d.* four yards wide. All orders above 20*s.* accompanied with Post-office order, stamps, or London reference, carriage free.

TANNED NETTING, for the Protection of Fruit Trees from frost, blight, and birds, and for the security of fresh-sown seeds, either in gardens or fields, at 1*d.* per square yard, 200 yards for 14*s.*, 500 yards for 30*s.*, 1000 yards for 50*s.*; waxed Netting for Aviaries, &c., at 3*d.* per square yard. Scrim canvass for wall fruit, netting for sheep-folds; a considerable saving of labour, and less expense than hurdles. Sun blinds in great varieties, rick cloths, with poles, &c. Marquees, tents, awnings, and temporary rooms, with boarded floors, elegantly lined and lighted for fêtes, &c., on sale or hire. Carriage, cart, and truck covers impervious to rain; cloths for the covering of furniture in change of residence, &c. Tarpaulings on hire for houses under repair, at THOMAS EDGINGTON & Co.'s, 17, Smithfield-bars, and Old Kent-road.

N.B. Orders and inquiries per post punctually attended to.

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WANTED IMMEDIATELY, the Address of every Gardener or his Employer in the Kingdom, to whom will be sent (free by post), Patterns, with prices and particulars, of

HAYTHORN'S HEXAGON GARDEN NET,

Patronised by the Nobility, Clergy, Gentry, and all the principal Gardeners. The best and cheapest article for the protection of bloom, fruit, and flowers from frosts, birds, wasps, flies, children, and servants; and also for placing on Hothouses, effectually keeping out birds and insects, without preventing the admission of light and air.—Letters and orders to be directed to J. W. Haythorn, Nottingham. Parcels—carriage paid to London, Liverpool, Leeds, Bristol, Hull, &c.

COCHIN CHINA EGGS FOR HATCHING.

A Gentleman having selected his birds from the best Prize Stocks in the country, has a few sittings of EGGS to dispose of, at 15*s.* per dozen. Warranted genuine.—Direct A. Z, Post-office, Hornsey, London.

THE ZOOLOGICAL GARDENS, REGENT'S PARK, are open to Visitors daily. The Collection now contains upwards of 1500 specimens; a fine Series of ANTELOPES having been added to the HIPPOPOTAMUS, ELEPHANT CALF, and other rare animals, during the winter. Admission, 1*s.*; on MONDAYS, 6*d.*

THE ROYAL EXHIBITION.—A valuable newly-invented, very small, powerful, waistcoat-pocket Glass the size of a Walnut, to discern minute objects at a distance of 4 to 5 miles, which is found to be invaluable for YACHTING, and to SPORTSMEN, GENTLEMEN, and GAMEKEEPERS.

TELESCOPES.—A new and most important INVENTION in TELESCOPES, possessing such extraordinary powers that some, 3½ inches, with an extra eye-piece, will show distinctly Jupiter's moons, Saturn's ring, and the double stars. They supersede every other kind, and are of all sizes—for the Waistcoat-pocket, Shooting, Military purposes, &c. Opera and Race-course Glasses with wonderful powers; a minute object can be clearly seen from 10 to 12 miles distant.—Invaluable Acoustic Instruments, for relief of extreme Deafness.—Messrs. S. and B. Solomons, Opticians and Aurists, 39, Albemarle-street, opposite the York Hotel, London.

COTTAGE STOVE.

GRIFFIN'S ECONOMIC COTTAGE STOVE comprises an open fire-place, oven, boiler, ironing stove, and an aperture for the emission of warm air. Price 1*l.* 18*s.* 6*d.* for 3 feet openings, and other sizes in proportion, delivered at Banbury. All orders and applications are requested to be addressed to William Griffin, Eydon, Daventry.

RESPECTABLE EMPLOYMENT.

MR. ALLEN WOOD, of 160, High-street, Rochester, continues to send free, and with the greatest satisfaction to all parts of the kingdom, his Sixteen easy and valuable Methods of respectable Employment, by any of which either sex, with ordinary industry, may realise 1*l.* to 5*l.* per week. Upwards of 12 months has A. W. advertised those methods, and has positively benefited hundreds—a pile of thankful letters prove that fact. Send a directed stamped envelope and 12 postage stamps, and the fullest instructions will be forwarded by return of post. Emigrants ought to possess them. N.B. Depend this is entirely free from deception or falsehood.

AUSTRALIAN GOLD DISTRICT.

FROM BRISTOL TO PORT PHILIP AND SYDNEY DIRECT.—To sail about the middle of May, the fine A 1 fast sailing, coppered, and copper-fastened British built ship, DEBORAH, 1000 tons burthen. She will be fitted up and provisioned with every regard to the Passengers' health and comfort, and commanded by a Captain of great experience in Australian passenger ships.—For particulars of Freight, and to secure Berths, apply to Wm. Dobbin, Ship Broker and Passenger Agent, 31, Prince-street, Bristol.

N.B.—Third Class fare by Rail, or Deck Passage by Steamer, included in Passage Money.

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MR. MECHI, 4, Leadenhall-street, invites public attention to his display of Elegancies suitable for use or for presentation. Those who inspected Mr. Mechi's display of manufactures at the Great Exhibition, will be able to form a proper estimate of the general style and quality of his productions. He has endeavoured to combine, for those who study economy, the cheapness with elegance, and, in fact, to give to the cheapest article he manufactures a pleasing form and style. For instance, the Shilling Penknives and Sixpenny Toothbrushes are as useful in their class as the 50-guinea Dressing-case. The external and internal fittings of his Premises have been much improved, so as to harmonise more completely with the progressive elegance of his stock, and have been designed and carried out under his immediate plan and direction.

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Ladies and Gentlemens Dressing-cases from 17*s.* 6*d.* to 200*l.*; Work-boxes from 10*s.* to 40*l.*; Envelope-cases from 6*s.* to 7*l.*; Writing-desks from 10*s.* to 55*l.*, and an infinite variety of articles in Papier Mâché.

LEADING ARTICLES FOR EVERY-DAY USE.

Table Cutlery of every description; Razors, Scissors, Penknives, Hair, Nail, and Tooth Brushes, Combs, Electro-plated Forks and Spoons of very superior character and finish. Illustrated Catalogues gratis.—N.B. All articles of Cutlery, &c., ground and repaired on the premises daily.

SOUND AND WHITE TEETH are not only indispensably requisite to a pleasing exterior in male and female, but they are peculiarly appreciated through life as a blessing highly conducive to the purposes of health and longevity. The great esteem in which the public have long held

ROWLANDS' ODONTO, or Pearl Dentifrice,

precludes the necessity here of entering into a minute detail of its merits, and the singular advantages it so eminently possesses over the usual powders sold for the teeth. It is sufficient to observe that Rowlands' Odonto is a pure preparation of the most efficient Eastern Herbs, which not only has the property of rendering the above beautiful organs of the mouth dazzlingly white, but it strengthens their organic structure, and fulfils the pleasing task of rendering the breath sweet and pure. It should never (in particular) be forgotten, that when used in early life, it effectually prevents all aches in the Teeth and Gums—effaces all spots and discolourations whatsoever—eradicates scurvy—and, in a word, soon realises the chief attribute of Health and Beauty—A FINE SET OF PEARLY TEETH!

Price 2*s.* 9*d.* per box.

*** Beware of Spurious Imitations. The genuine article has the words "Rowlands' Odonto" on the Label, and "A. Rowland and Sons, 20, Hatton Garden," engraved on the Government Stamp affixed on each box. Sold by them, and by Chemists and Perfumers.

HOLLOWAY'S PILLS AN EFFECTUAL REMEDY FOR GOUT AND RHEUMATISM.—Extract of a letter from Mr. Wm. Moon, at Messrs. Godwin's, Auctioneer, Winchester, dated April 8, 1852. "To Professor Holloway. Sir,—I beg to inform you that for years I was a sufferer from Chronic Rheumatism, and often laid up for weeks together, unable to move. I was attended by the most eminent surgeons here, but obtaining no relief, was induced to go into our County Hospital. The medical treatment there, however, being of no avail, I left, and commenced using your Pills, which I am happy to say in a very short time effected a perfect cure, and enabled me to resume my employment."—Sold by all Druggists, and at Professor Holloway's Establishment, 244, Strand, London.

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FORD'S EUREKA SHIRTS are, beyond doubt, the most scientific and really useful improvement in the art of Shirt-making. Their superiority does not rest solely upon their being entirely different from all others, but upon the combination of perfect novelty of design with sound practical use, resulting from a study of scientific principles, making them, in fact, the only solid and thoroughly sensible alteration from the old shapes worthy of notice. There are two qualities, in both of which the principle is strictly carried out, viz., Six for 40*s.*; Second quality, Six for 30*s.*

List of Prices, and mode of self-measurement sent per post free. Richard Ford, 38, Poultry, late of 185, Strand, London.

NEW AND CHEERFUL REGISTER STOVE.—The BURTON REGISTER STOVE, invented and registered by WILLIAM S. BURTON, combines in its use cheerfulness, cleanliness and economy to a degree hitherto deemed unattainable, while its simple beauty (obtained partly by the employment of a graceful shell in lieu of the cumbersome and ungainly bars) is the subject of general commendation. Price from 6*os.* to 10*l.* To be seen in use daily at his show-rooms, where also are to be seen

250 STOVES AND 325 FENDERS, all differing in pattern, forming the largest assortment ever collected together. They are marked in plain figures, and at prices proportionate with those that that have tended to make his establishment the most distinguished in this country. Bright Stoves, with bronzed ornaments and two sets of bars, 2*l.* 14*s.* to 5*l.* 10*s.*; ditto with ormolu ornaments and two sets of bars, 5*l.* 10*s.* to 12*l.* 12*s.*; bronzed Fenders complete, with standards, 7*s.* to 3*l.*; steel Fenders, from 2*l.* 15*s.* to 6*l.*; ditto, with rich ormolu ornaments, from 2*l.* 15*s.* to 7*l.* 7*s.*; fire-irons, from 1*s.* 9*d.* the set to 4*l.* 4*s.* Sylvester and all other patent Stoves, with radiating hearth-plates; and Kitchen Ranges, which he is enabled to sell at these very reduced charges.

First—From the frequency and extent of his purchases; and

Secondly—From those purchases being made exclusively for cash.

THE BEST SHOW of IRON BEDSTEADS in the KINGDOM is WILLIAM S. BURTON'S.—He has added to his Show-rooms two very large ones, which are devoted to the exclusive Show of Iron and Brass Bedsteads and Children's Cots, with appropriate Bedding and Mattresses. Many of these are quite new, and all are marked in plain figures, at prices proportionate to those that have tended to make his establishment the most distinguished in this country. Common Iron Bedsteads from 12*s.* 6*d.*; Portable Folding Bedsteads from 12*s.* 6*d.*; Patent Iron Bedsteads, fitted with dovetail joints and patent sacking, from 16*s.* 6*d.*; and Cots from 20*s.* each; handsome ornamental Iron and Brass Bedsteads in great variety, from 3*l.* 5*s.* to 31*l.*

THE PERFECT SUBSTITUTE FOR SILVER.—The REAL NICKEL SILVER, introduced 15 years ago by WILLIAM S. BURTON, when plated by the patent process of Messrs. Elkington and Co., is beyond all comparison the very best article next to sterling silver that can be employed as such, either usefully or ornamentally, as by no possible test can it be distinguished from real silver.

	Fiddle Pattern.	Thread Pattern.	King's Pattern.
Tea-spoons, per dozen	18*s.* ...	32*s.* ...	36*s.*
Dessert Forks ,, ...	30*s.* ...	54*s.* ...	58*s.*
Dessert Spoons ,, ...	30*s.* ...	54*s.* ...	62*s.*
Table Forks ,, ...	40*s.* ...	66*s.* ...	70*s.*
Table Spoons ,, ...	40*s.* ...	70*s.* ...	75*s.*

Tea and Coffee Sets, Waiters, Candlesticks, &c., at proportionate prices. All kinds of replating done by the patent process.

CHEMICALLY PURE NICKEL, NOT PLATED.

	Fiddle.	Thread.	King's.
Table Spoons & Forks, full size, p. doz.	12*s.* ...	28*s.* ...	30*s.*
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Price 3*d.*, or 5*s.* for 25 copies for distribution among Cottage Tenantry, delivered anywhere in London, on a Post-office order being sent to the Publisher, JAMES MATTHEWS, at the Office of the *Gardeners' Chronicle*. In consequence of the new postal arrangements, parties in the country who desire it can have copies sent by post; six stamps, in addition to the cost of the numbers, will pass 10 copies free by post. The cost of a single copy, free by post, is 7*d.*

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MR. J. C. STEVENS will sell by Auction, at his Great Room, 38, King-street, Covent-garden, on TUESDAY, April 20, at 12 o'clock precisely, a Collection of ORCHIDS, All the old established varieties from Guatemala, viz., Lælia superbiens and acuminata, Barkeria spectabilis and Skinnerii, Epidendrum Stamfordianum and Skinnerii, Lycaste Skinnerii, cruentum, and aromaticum; Cattleya Skinnerii and Odontoglossum grande, Cycnoches ventricosum and Egertonianum; three species of Arpophyllum, three species of Chysis, Oncidiums, &c.—May be viewed on Monday and morning of sale, and Catalogues had on prepaid application.

NOTE.—The Sale will commence at TWELVE O'CLOCK VERY PRECISELY, it being the day of the Meeting in Regent-street.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS are instructed by Mr. Willmer to sell by Auction, at the Mart, Bartholomew-lane, on TUESDAY, April 20, at 12 o'clock, a first-rate collection of CARNATIONS and PICOTEES, Dahlias in dry roots, Fuchsias, Verbenas, Geraniums, with a quantity of plants in bloom.—May be viewed the morning of sale; and Catalogues had at the Mart, and of the Auctioneers, American Nursery, Leytonstone, Essex.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will submit to public competition by Auction, at the Mart, Bartholomew-lane, on THURSDAY, April 22, at 12 o'clock, a first-class collection of CARNATIONS and PICOTEES, the surplus stock of an Amateur; also Dahlias in dry roots, Fuchsias, Verbenas, American Plants, Geraniums, and a variety of plants in bloom.—May be viewed the morning of sale. Catalogues had at the Mart, and of the Auctioneers, American Nursery, Leytonstone, Essex.

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TO BE SOLD BY PROPOSAL, either altogether or in Lots (with the option of taking the existing Lease or Term in the Grounds), the extensive NURSERY PLANTATIONS late belonging to Mr. Webster, deceased, growing on lands of Miss Dalton and Mr. Thos. Taylor, situate on the Greaves, and in Ashton-lane, near Lancaster, and covering eight statute acres or thereabouts; consisting of two, three, and four years' transplanted Larches, Highland Pine, Scotch Fir, Oak, Ash, Sycamore, Thorns, Evergreens in great variety, &c. &c.—The Plantations may be viewed on application to Mr. WILLIAM MARSDEN, at the Office of the late Mr. Webster, Market-street, Lancaster, and Proposals may be left with him, or at the Office of Mr. THOMAS SWAINSON, Solicitor, Lancaster.

Lancaster, April 17.

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MR. TOD, SURGEON, the inventor of a new Truss, and Author of an Essay on Hernia, may be consulted every day, from 9 till 12 A.M., and from 6 till 9 P.M., at his residence, 5, Upper Fitzroy-street, Fitzroy-square. The above Essay should be read by all persons afflicted with Hernia. Sold by the Author, and by Mr. Renshaw, 356, Strand, London. Price 2*d.* "We have seen this truss in use. It is an exceedingly simple, clever instrument, and may be worn with extreme ease and the best possible effect."—*Lancet*, July 4, 1846.

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CAUTION.—Beware of the words "From METCALFE'S," adopted by some houses.

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THE GARDENERS' CHRONICLE

AND

AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 17—1852.] SATURDAY, APRIL 24. [PRICE 6*d*.

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21, REGENT STREET, April 20, 1852.

HORTICULTURAL SOCIETY.—NOTICE IS HEREBY GIVEN, that the ANNIVERSARY MEETING of this SOCIETY will be held on SATURDAY, MAY 1ST, for the Election of Council and Officers for the ensuing year, and for receiving the Report of the Council for the past year.

The Chair will be taken at One o'Clock P.M.

HORTICULTURAL SOCIETY OF LONDON.—NOTICE is hereby given that the First EXHIBITION of FLOWERS and FRUIT, in the SOCIETY'S GARDEN, will take place on SATURDAY, May 8, at 2 P.M.

Tickets, price 5*s*. each, can be procured at this Office, upon presenting the order of a Fellow; or, on the day of the meeting, at Turnham-green, price 7*s*. 6*d*. each.

PRIVILEGE OF FELLOWS.—Each Fellow of the Society has free personal admission to these Exhibitions without a Ticket. A Fellow may also personally introduce a friend with an Admission Ticket at half-past Twelve, at Gate No. 4 in the Duke of Devonshire's road; or if unable to attend personally, the privilege may be transferred to a brother, sister, son, daughter, father, mother, or wife, residing in the Fellow's house, provided the person to whom the transfer is made be furnished with a Ticket signed by that Fellow.

21, Regent-street, London.

ROYAL BOTANIC SOCIETY, REGENT'S PARK.—EXHIBITIONS of PLANTS, FLOWERS, and FRUIT, Wednesdays, May 19, June 9 and 30.

AMERICAN PLANTS, Saturdays, May 29 and June 5.

ROSES, Saturday, June 26.

Tickets of Admission are now ready for delivery, and may be obtained at the Gardens by orders from Fellows of the Society, price, on or before Saturday, May 8, 4*s*.; after that day, 5*s*.; or on the days of the Exhibitions, 7*s*. 6*d*. each. Fellows of the Society may obtain, on or before May 8, packets of 30 tickets for five guineas.

THE LONDON FLORICULTURAL SOCIETY.—The next MEETING of this SOCIETY will be held at EXETER HALL, Strand, on TUESDAY, the 27th instant, at Twelve o'Clock, for the Exhibition of AURICULAS and POLYANTHUS, when, in addition to the ordinary Prizes, the following EXTRA PRIZES will be awarded:—

By MR. JAMES DICKSON (to Amateurs), a Silver Cup, value Five Guineas, for the best four plants of Auriculas, viz, Green, Grey, and White edges and selfs. 10*s*. entrance, to be awarded to the second best.

By W. H. GINGER, Esq. (to Amateurs), 20*s*. for the best pair of Auriculas, dissimilar, and 20*s*. for the best six Auriculas, dissimilar, in each case, 2*s*. 6*d*. entrance, to be awarded to the second best.

By R. MOSELEY, Esq. (to Amateurs), 10*s*. 6*d*. for the best plant of Lightbody's Star of Bethelem, 10*s*. 6*d*. for Dickson's Apollo, 10*s*. 6*d*. for Dickson's Matilda, and 10*s*. 6*d*. for Page's Champion.

By JOHN CHAPMAN, Esq. (open to all growers), 10*s*. 6*d*. for the best plant of Chapman's Sarah, and 10*s*. 6*d*. for the best plant of Chapman's Sophia.

By the HONORARY SECRETARY (open to all growers), 20*s*. for the best collection of Auriculas, and 10*s*. for the best collection of Polyanthus.

All Flowers to be ready for the Censors by One o'Clock; none admitted after for competition.

Seedling Florists' Flowers will be admitted as usual for the Judgment of the Censors.

45, Lime-street, April 20. J. W. JEWITT, Hon. Sec.

SUTTON'S PERMANENT GRASSES. — THE SUPERIOR QUALITY OF SUTTON'S GRASS SEEDS is plainly indicated by the numerous orders they are daily receiving through the recommendation of former customers.

The sorts consist of true Perennial Grasses and Clovers, as named particularly in their Advertisement on the last page of the *Gardeners' Chronicle* of March 20.

JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

J. FOWLE AND SON'S CATALOGUE of the best Geraniums, Fuchsias, Verbenas, Antirrhinums, Petunias, Phloxes, Herbaceous Plants, &c., are now ready, and may be had on application. They beg to offer six Seedling Antirrhinums, raised by H. Wooler, Esq., and which were greatly admired during the past season.—Holland Nursery, Holland-street, Brixton-road, Kennington, Surrey.

THE MAGNIFICENT DAHLIA GREEN "SCARLET KING" is placed first in the "Garden Almanac," which rarely errs. The *Gardeners' Chronicle* says "It has the form of the 'Duke of Wellington,' and the colour of 'John Edward.'" Mr. Glenny in *Lloyd's Weekly Newspaper* (which circulates 70,000), quotes and confirms the *Chronicle*. Plants in May, 10*s*. 6*d*.; dry roots, in October, 2*s*.—Order of any Nurseryman, or of the Agent, 84, Fleet-street, London.

STANDISH AND NOBLE, NURSERYMEN, Bagshot, Surrey, have to offer the following new and select Plants, all of which are hardy, except Azalea vittata:

ABIES JEZOENSIS, seedling plants, 21*s* each; this is one of the last novelties in Conifera; forms a noble tree of 120 feet in height, and of very distinct character (very hardy).

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CUPRESSUS FUNEBRIS.—Seedlings, 5*s*. to 21*s*. each.

CEPHALOTAXUS FORTUNII, male, long leaves, seedlings, 21*s*. each.

CEPHALOTAXUS FORTUNII, female, short leaves, seedlings, 21*s*. each. These have withstood the late frost and drying winds without losing any of their verdure (very hardy).

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" MACROCARPA, 21*s* each.

QUERCUS SCLEROPHYLLA, 21*s*. to 42*s*. each.

" INVERSA, 21*s* to 42*s*. each.

SPIRÆA CELLOSA, an abundant and continued bloomer. It has large corymbs of rosy purple blossoms, and is a handsome addition to our shrubbery plants. 10*s*. 6*d*. each.

IMPORTED GERMAN SEEDS,
IN THE ORIGINAL SEALED PACKETS.

WILLIAM E. RENDLE AND CO., PLYMOUTH, *have still on hand a fine collection of the following, warranted genuine, and of the best quality, from one of the first houses on the Continent.*

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An assortment of 100 varieties (one-eighth of an ounce in each packet) ... ... 4*s*. 0*d*.

HOLLYHOCKS.

An assortment of 24 varieties ... ... 5*s*. 0*d*.

SCABIOUS.

An assortment of 8 varieties ... ... 3*s*. 0*d*.

ZINNIA ELEGANS.

An assortment of 5 varieties ... ... 1*s*. 8*d*.

☞ ALL THE ABOVE POSTAGE FREE.

Early Orders are requested, as some of the Collections are getting short.

WILLIAM E. RENDLE and Co., Seed Merchants, Plymouth.

Established 1786.

JOHN SCOTT, FLORIST, Bathford, near Bath, can supply good Plants of the following selected ENGLISH AND FOREIGN VERBENAS:—Admirable, Albonii, Andrew, Auricula, British Queen, Coquelicot, Cybele, Enchantress, Eryphille, Eucelode, Exquisite, Fanny, Chauviers, General Brea, General Courtegis, Hippodamie, Iris, Jules, King, Lady of the Lake, La Nymphe, Marchioness of Cornwallis, Mazarine, Othello, Shylock, Surprise, Voltigeur. The above 26 Verbenas, 15*s*; any 12 selected, 8*s*., hamper included.

HELIOTROPES: Salter's Gem, 6*s*. per dozen; Reptans, 6*s*., Corymbosum, 5*s*. per dozen.

CALCEOLARIAS: Sultan, strong, 6*s*. per dozen; Conway's Floribunda, fine new yellow, each 1*s*.; Sulphurea Elegans, each 1*s*.; Grandis, each 1*s*., or 2*s*. per dozen.

CANTUA DEPENDENS, each 1*s*.

FUCHSIAS.—Strong plants of the following:—Alpha, Diadem of Flora, Nichols's Prince Arthur, Psyche, Resplendent, Banks's Voltigeur, each 1*s*.

FANCY GERANIUMS.—Strong plants of the following Twelve, 15*s*.: Henderson's, Albonii, Marion, Prince Albert, Prima Donna, Belle de Epinay, Bouquet Tout Fait, Exquisite, Hero of Surrey, Jenny Lind, Magnifica, Reine des Francais, Reine des Fleurs. The Geraniums can be sent in a matted basket for 1*s*. 6*d*. extra.

The above are all good plants, and could not fail to give satisfaction.

A remittance expected from unknown correspondents.

CHOICE BEDDING PLANTS.

LUCOMBE, PRINCE AND CO., have an extensive stock of fine strong well-established Plants now fit for bedding out, which they can offer on very reasonable terms, a priced list of which may be had on application.

Exeter Nursery, April 24.

TO CULTIVATORS OF EXOTIC FERNS.

AN AMATEUR FERN GROWER possessing a large collection of Ferns, is desirous of disposing of his duplicates at moderate prices, or by exchange for those not in his collection.—Address, ADIANTUM, Post-office, Box 15, Hull.

CHEAP DAHLIAS.
THE LARGEST STOCK IN THE KINGDOM, AND BEST PLANTS.

HENRY LEGGE is just ready to send out all the best sorts of last season, at from 9*s*. to 12*s*. per doz.—all the good older varieties from 3*s*. to 4*s*. per doz.; also his new Dahlia, Lady Russell, white, shaded rose, splendid form; 10*s*. 6*d*. per plant. A Catalogue can be had by application, enclosing one stamp, to H. LEGGE, Marsh Side, Lower Edmonton.

Good named Pansies, 4*s*. per doz.; all the best Chrysanthemums, &c.

PICEA PINSAPO.—A few stout 2-year-old plants, *from Seed*, of the above scarce and handsome CONIFER, may now be had of YOUELL and Co., Royal Nursery, Great Yarmouth, at 12*s*. per dozen.

CARNATIONS, PICOTEES, PINKS.

Being the largest growers of these in England, perhaps in Europe, we offer many advantages to purchasers, and at every price quoted below. We pride ourselves on giving satisfaction to our customers by furnishing good plants of good varieties, and we beg to say that the present is an excellent season for their removal, either for pot or open ground culture.

25 pairs superb varieties of Carnations and Picotees				3*l*.
12 pairs	"	"	"	1*l*. 10*s*.
25 pairs very fine	"	"	"	1*l*. 10*s*.
12 pairs	"	"	"	18*s*.
12 pairs fine mixed border			"	9*s*.

12 pairs true old Clove Carnation, 12*s*.

12 pairs of finest named Pinks, 12*s*.

Pansies, strong plants in pots, of the newest and best show flowers, 12*s* per doz.

YOUELL and Co. beg respectfully to refer the readers of the *Gardeners' Chronicle* to their Advertisement of April 16th.

Royal Nursery, Great Yarmouth.

ROBERT M. STARK begs to intimate that his SPRING CATALOGUE of FLORISTS' FLOWERS, BEDDING PLANTS, &c., is now ready, and may be had on application. Among other new and rare plants it contains he would particularly notice the beautiful purple LINARIA RETICULATA, figured in the "Garden Companion" for April, and described as a "very pretty plant, flowering freely in summer." It is well suited for rockwork or bedding purposes. R. S. has the entire stock, and will be ready to supply plants the first week in May at 5*s*. each.

Edgehill Nursery, Dean, Edinburgh, April 24.

JOHN AND CHARLES LEE beg to offer the undernamed novelties, which they recommend with confidence. Plants of each 5*s*., in May. Discount to the Trade, when three are ordered.

HELIOTROPIUM ALBICANS.—This is the best light Heliotrope for bedding yet offered. The general effect is a good WHITE, with dark green foliage, rendering it very conspicuous.

FUCHSIA, "THE FAIRY."—Tube, waxy pale flesh, sepals delicately tipped with bright pink: corolla edged with carmine. Altogether the most pleasing and novel Fuchsia yet sent out.

Nursery, Hammersmith, near London.

MITCHELL'S UNRIVALLED SEEDLING DAHLIAS.

JAMES MITCHELL begs to inform his Friends that he purposes sending out, early in May, the following superb DAHLIAS, which he can recommend to the most limited grower.

MRS. HEPBURN.—Crimson, shaded with dark maroon, superior and constant show flower; 4 feet, 10*s*. 6*d*.

MR. BLENCOWE.—A noble crimson, quite distinct, beautifully cupped, petals rising well in the centre, and constant show flower; 4 feet, 10*s*. 6*d*.

QUEEN OF BEAUTIES.—This extraordinary flower was partially sent out last season, and is unquestionably the most beautiful Dahlia in the world; but owing to the numerous orders and shortness of stock, not one-half were supplied. It is of the purest white, tipped with rich rose; strong plants; 4 feet, 2*s*. 6*d*.

ELEGANTISSIMA.—A fancy variety, rose and pink, one of the most distinct in this class; constant and beautiful show flower; 4 feet, 2*s*. 6*d*.

Piltdown Nurseries, Maresfield, Sussex, April 24.

EDWARD GEORGE HENDERSON AND SON, Wellington-road, St. John's-wood, London, beg to remind those who intend to purchase any of the following New Plants, to be sent out after the 1st of May, that all orders will be booked as received and executed in rotation.

Fuchsia	Commodore (show flowers)	Antirrhinum	Hendersonii
"	Splendidissima, do.	Calceolaria	Wellington Hero
"	Gem of the Season, do.	"	" Tom Thumb
"	Pendula, do.	Chrysanthemum	Hendersonii
"	Exquisite	Delphinium	Hendersonii
"	Hendersonii (double flower)	Erica	Elegantissima
"	Darling (bedding variety)	"	Nobilis
"	Globosa perfecta, do.	Geranium	Hendersonii
"	Pet, do.	"	Extravaganzum
		"	Odoratissimum grandiflorum
		Heliotropium	Voltaireanum nanum

For Description and Prices of the above, see back numbers of this Paper—Feb. 28, March 6 and 13. The Trade supplied, with our usual discount.

CHOICE NEW PLANTS FOR CHEAPNESS & QUALITY, WARRANTED UNEQUALLED.

WM. RUMLEY AND SONS, having a splendid stock of the undermentioned, can supply them at the very low prices affixed; fine strong Plants, hamper included, or free by post. Fuchsias, the following first-rate new varieties, 20 for 12s., 12 for 7s. 6d., or 6 for 4s.:—Alpha, Brilliant, Conspicua, Clapton Hero, Consolation, Duchess of Kent, (Duchess of Northumberland, extra fine,) Expansion, Gem of the Whites, Koh-i-Noor, Louisa, Mazeppa, Madame Sontag, Madame Lebois, Northern Beauty, Princess, Psyche, Pagoda, Prince Arthur, Queen, Queen of England, Resplendent, Salamander, Voltigeur, Banks's Voltigeur, Rumley's Viscountess Maynard, Wonder, &c. Good show varieties, 4s. to 6s. per dozen.

50 choice FUCHSIAS, including the above for 25s.

VERBENAS, the following extra-fine varieties, 5s. per doz.:—Admirable, Auricula, Beauty, British Queen, Captain Brooks, Conspicua, Exquisite, Forget-me-not, Fearless, Fanny, Gulleyaz, Haidee, Jessica, Jean Bart, King, Marchioness of Cornwallis, Madame Taft, Mount Hecla, Miss Whibley, Prince of Wales, Philomel, Purple Prince, Voltigeur, Viscata, and Wonder, &c.; good straw varieties, 3s. to 4s. per dozen.

40 choice VERBENAS, including the above, for 15s.

DAHLIAS, 50 splendid show and fancy varieties for 12., or 6s. to 9s. per dozen. Good varieties 3s. to 6s. per dozen.

CINERARIAS, splendid varieties, extra strong plants, coming into bloom, 6s. per dozen; smaller plants, 4s. per doz.

PETUNIAS, first-rate new varieties, 3s. to 6s. per dozen.

CHRYSANTHEMUMS, 50 splendid, large-flowered, and Lilliputian varieties for 12s., or 3s. to 6s. per dozen.

GERANIUMS, extra fine varieties, 9s. to 12s. per dozen.

Scarlet and Rose-coloured Geraniums, extra fine, 4s. to 6s. per dozen.

PANSIES, first-rate show varieties, 3s. to 6s. per dozen.

Choice Bourbon and Tea-scented Roses, in pots, 9s. to 12s. per dozen.

SHRUBBY CALCEOLARIAS, 12 best varieties for bedding, 4s. to 6s. per dozen.

SALVIAS, 6 choice varieties for 3s.

MIMULUS RUBINUS, ditto Elegance, Gaillardia splendidissima, Balsamina repens, Mitraria coccinea, Viola compacta, or double Pansey, and Viola arborea, or tree Violet, 6d. each.

HOLLYHOCKS, seedlings, from a splendid collection, fine strong plants, 2s. to 3s. per dozen; 10s. to 15s. per 100; according to strength.

ANTIRRHINUMS, seedlings, from the choicest varieties, 2s. to 3s. per dozen.

BEDDING PLANTS, 50 choice varieties for 10s, or 3s. per dozen.

CUPHEA PLATYCENTRA, 3s. per dozen.

The above will be forwarded immediately on receipt of a Post-office order payable at Richmond. Our General Descriptive Catalogue of Soft-wooded Plants can be had on application.—Gilling, Richmond, Yorkshire.

STUBBLE SWEDE TURNIP SEED.

JOHN RIVERS solicits the attention of the Agriculturist to his quick growing STUBBLE SWEDE TURNIP; though this variety originated from a cross between a large white Stone Turnip and the old Green-top Swede, by careful selection, it has the colour, solidity, and the hardiness of the true Swede. As it was extensively distributed last year, experience has proved it superior for sowing in May, for early feed; its growth being matured before the mildew attacks it in the autumn, being better adapted for giving more time in the preparation of the Land than any other kind from its quickness of growth, and it is a heavy cropper. It may be sown for a full crop throughout the month of June. Price 1s. 6d. per lb.

Orders to the amount of 10s. carriage paid to London. Post-office orders are requested of unknown correspondents.

Sawbridgeworth, Herts.

Corner of Half-Moon-street, Piccadilly.

PERMANENT GRASS SEED.

THOMAS GIBBS AND CO., SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND," &c., having for upwards of 50 years paid particular attention to Laying down Land to PERMANENT MEADOW AND PASTURE, beg to call the attention of Agriculturists to the following Mixtures, which will be apportioned to suit the nature of the soil:—

Mixtures for PERMANENT MEADOW AND PASTURE, including Perennial Clover.

Mixtures for PARKS, FIELD LAWNS, or Portions of Grass Land NEAR TO MANSIONS.

Mixtures for UPLAND SHEEP WALKS AND DOWNS.

Mixtures for FINE GARDEN LAWNS AND GRASS-PLOTS.

Also to their White Belgian and other Carrots; Yellow or Orange Globe Mangold Wurzel, Long Red ditto, and other kinds; Swedes, Hybrids, and other Turnips; Italian and other Rye-grasses, Clovers, &c.; and their general collection of Agricultural and other Seeds.

THOMAS GIBBS and Co., Seedsmen to the R.A.S.E., corner of **Half-Moon-street**, Piccadilly, London.

IMPORTANT TO POTATO PLANTERS.—Prepared cuttings of the following sorts will be ready about the second week in May:—

	s.	d.
York Regents ... ... per 1000	10	6
American Native ... ... ,,	10	6
Cambridge Radical ... ... ,,	10	6
Early Oxford ... ... ,,	15	0

Packages, for 1000, 1s.; 2000, 1s. 6d.; 5000, 2s. 6d.

Post-office orders to be made payable at the Borough Office to HAY, SANGSTER and Co., Newington Butts.

London, 6th March, 1852.—Subjoined is the analysis of two highly respectable Chemists:—

"London, March 12, 1852.

"We have now completed our examination of a sample of Potatoes grown from your prepared cuttings in comparison with another sample of the same denomination, obtained by ourselves from a highly respectable Potato salesman, with a view to ascertain the relative proportion of starch contained in each, with the following highly satisfactory result in your favour, viz.:— Starch.

"Those grown from your prepared cuttings ... 17 per cent.
"Potatoes from Salesman ... ... 12½ per cent.

"MAURICE SCANLAN, F.C.S.
"ALFRED ANDERSON, F.C.S.

"Messrs. Hay, Sangster, and Co., Seed Merchants, 18, Cumberland-place, Newington Butts."

TO SEED IMPORTERS, NURSERYMEN, ETC.

BETHAM AND BLACKITH, CUSTOM HOUSE, SHIPPING, and GENERAL TRANSIT AGENTS, have again the pleasure of offering their services to the above; and whilst thanking them for past extensive favours, beg to inform them that they continue to receive and forward Seeds, Plants, and General Merchandise, from and to all parts of the world, at charges as low as possible, consistently with responsibility and correctness. Information afforded as to the arrival and departure of all steam and sailing vessels.

Agents to Messrs Ernst and Von Spreckelsen, of Hamburgh; Messrs. S. and J. Rinz, Frankfort; Mr. J. Linden, Brussels; Mr. L. Van Houtte, Ghent. Importers are respectfully requested to order their consignments to be addressed to the care of Messrs. BETHAM and BLACKITH, by which greater dispatch will be obtained.

Cox and Hammond's Quays, Lower Thames-street, London.

EPPS'S SUPERB SEEDLING FUCHSIAS are ordered by and may be had of the following Nurserymen and Seedsmen, the first week in May:—Messrs. Henderson and Co., Pine-apple-place; E. G. Henderson, Wellington-road; J. Lee, Hammersmith; J. Charteris, King William-street; Low and Co., Clapton; Protheroe and Morris, Leyton-stone; W. P. Ayres, Blackheath; W. Bragg, Slough; Courcha, Bethnal-green; J. Ivery, Peckham; W. Barnes, Camden Nursery, Peckham; Osborne and Co., Fulham; C. Turner, Slough; Bass and Brown, Sudbury; J. Salter, Hammersmith; J. Stewart, Salt-hill; S. Barnes, Stowmarket; J. Jefferies, Cirencester; E. Fuller, Worthing; W. Tiley, Bath; J. M'Intyre, Taunton; J. Keynes, Salisbury; Saunders and Co., Abergavenny; Wheeler and Son, Gloucester; H. Walton, Burnley; J. W. Sweet, Cirencester; Fisher and Holmes, Sheffield; J. Griffin, Bath.

Bower Nurseries, Maidstone, April 24.

VILLA NURSERY,
ROCHESTER SQUARE, CAMDEN TOWN, LONDON.
IMPORTANT TO ALL.

JOHN SLIPPER is prepared to supply strong Plants of VERBENAS, FUCHSIAS, SALVIAS, HELIOTROPES, CALCEOLARIAS, CHRYSANTHEMUMS, &c. &c., of the best varieties, at 2s. 6d. per dozen.

A selection from upwards of 100 of the finest sorts of DAHLIAS in cultivation at the above price. The usual allowance to the Trade.

GORSE.

WANTED, about TWO THOUSAND PLANTS, in the Autumn.—Apply to HOOPER and Co., Covent Garden Market, London, stating price.

TURNIP SEED FOR SALE.—Thirty bushels of Skirving's Purple-top Swede, at 15s. per bushel; 30 ditto of old Purple-top ditto, at 14s.; 15 ditto of Green-top Yellow Bullock at 16s. The whole is of the growth of 1851.—Address Mr. BRYAN CLARK Farmer, Tuxford, Notts.

FRUIT TREES, POULTRY, ETC.

TANNED GARDEN NETTING, for protecting Fruit Trees from Frost, Blight, and Birds, or as a Fence for Fowls, Pigeons, Tulip and Seed beds, can be had in any quantity or length, from JOHN KING FABLOW'S Fishing Tackle and Net Manufactory, 5, Crooked-lane, London-bridge, at 1½d. yard wide, 3d. two yards wide, or 6d. four yards wide. All orders above 20s. accompanied with Post-office order, stamps, or London reference, carriage free.

GARDEN AND LAWN FENCING.

FOR SALE, by TENDER, a large quantity of NEW OAK PARK PALING.—Apply, with price per 1000, if delivered free, to Mr. R. FIELD, Surveyor, Coleman-street, City.

N.B. The Paling cut any required length.

GARDEN NETS, FISHING NETS, SHEEP NETS made by machinery. New twine Nets, 1-inch mesh 1½d. per yard; half-inch 2½d., any required width. Worsted and thread Nets to protect blossom of trees, 6d. and 7d. per yard, approved by the Horticultural Society. All kinds of Fishing Nets, from 4 to 400 yards long. Sheep Nets of New Zealand cord or Cocoa-nut fibre, 4½d. per yard, 4ft. high. Samples of various kinds. Garden Nets sent free, on application to R. RICHARDSON, 21, Tonbridge-place, corner of Judd-street, New-road, London. N.B. Old Tanned Fishing Nets properly mended, ½d. per yard, or 6s. 3d. per 100 yards.

TANNED NETTING for the Protection of Fruit Trees from frost, blight, and birds, and for the security of fresh-grown seeds, either in gardens or fields, at 1d. per square yard, 200 yards for 14s., 500 yards for 30s., 1000 yards for 50s.; waxed Netting for Aviaries, &c., at 3d. per square yard. Scrim canvass for wall fruit, netting for sheep folds; a considerable saving of labour, and less expense than hurdles. Sun blinds in great varieties, rick cloths, with poles, &c. Marquees, tents, awnings, and temporary rooms, with boarded floors, elegantly lined and lighted for fêtes, &c., on sale or hire. Carriage, cart, and truck covers impervious to rain; cloths for the covering of furniture in change of residence, &c. Tarpaulings on hire for houses under repair, at THOMAS EDGINGTON & Co.'s, 17, Smithfield-bars, and Old Kent-road.

N.B. Orders and inquiries per post punctually attended to.

WARRANTED GARDEN TOOLS.

DEANE, DRAY, AND CO.'S STOCK OF GARDEN TOOLS for the season is now complete, and includes every recent approved invention in addition to their usual large assortment, selected from all the best makers.

DEANE, DRAY, and Co. are London Agents for GIDNEY'S PRUSSIAN HOE, which obtained the First Prize Silver Medal at the Tarvin Grand National Exhibition; also Sole Agents for Lingham's Menographs and Metallic Labels, samples of which may be had on application, post free. They have always on hand a stock of BROWN'S PATENT FUMIGATORS, which have stood the test of three seasons, and continue to give general satisfaction; also Epps' Registered Sulphurator for destroying Mildew upon Grapes, Hops, Roses, Fruit Trees, &c. An Illustrated Priced Catalogue sent per post, free.

DEANE, DRAY, and Co. (opening to the Monument), London-bridge.

COCHIN CHINA FOWLS.

A LADY has some magnificent Birds from the stock that gained the first prize at Birmingham in 1851; can part with some Eggs, at 1s. 6d. each, or 15s. the 12. Also some Spanish Eggs, from pure bred Birds, at 6d. each.—Apply H. C., Post-office, Kingston, Surrey.

COCHIN CHINA EGGS FOR HATCHING.

W. TURNER begs to inform the Public that he continues to supply his PRIZE SHANGHAI FOWLS' EGGS, 18s. per dozen. Also Cochin China, Polish, and White-faced Spanish, 6s. per dozen. China White Silk Fowls' Eggs, 20s. per dozen. Also a few Gold Pheasants' for sale.—W. TURNER, Tuffnell-park, Holloway, London.—P. S. All sorts of young, fancy birds in due season.

SUBSTANTIAL POULTRY-HOUSE, 50s. The uprights and frame of wood, 3 inches by 2, the roof of tarpauling and patent felt, the sides of wire panels, the size 9 feet by 4 feet 6 inches, to fix against a wall. Other sizes equally cheap, as well as pheasantries, large cages and enclosures. Drawings and details free on application. The above are made portable, and can be put up or taken down in an hour by an ordinary labourer. Wire netting 6½d. per square yard.—R. RICHARDSON, 21, Tonbridge-place, corner of Judd-street, New-road. N.B. Maker of iron and wood houses, and tents for emigrants. Full details and drawings free on application.

DRAINAGE OF LAND.

MR. HENRY WEBBER begs to inform Landowners and the public, that having had considerable practical experience, he is prepared to undertake the Drainage of Estates to any extent, upon the most improved principles, either by contract or on commission. Orders executed with a due regard to economy and efficiency. Reference given.—Address, Halberton Court, near Tiverton, Devon.

GUTTA PERCHA TUBING FOR WATERING GARDENS, ETC.



TESTIMONIAL.

From Mr. J. Farrah, Gardener to Boswell Middleton Jalland, Esq., of Holderness House, near Hull.

"I have had 400 feet of your Gutta Percha Tubing (in lengths of 100 feet each, with union joint) *in use for the last twelve months for watering these gardens, and I find it to answer better than anything I have ever yet tried.* The pressure of the water is very considerable, but this has not the slightest effect on the Tubing. I consider this Tubing to be a *most valuable invention for Gardeners*, inasmuch as it enables us to water our gardens in about one-half the time, and with one-half the labour formerly required."

FOR SUCTIONS OF PUMPS AND CONVEYANCE OF WATER.

The value of Gutta Percha Tubing for the conveyance of water is no longer a matter of doubt. Experience has proved its adaptation and superiority to metal pipes, and the important consideration that it is entirely free from those corrosive properties which have proved so highly injurious in the use of lead pipes. The Gutta Percha Company have received the following—

TESTIMONIALS.

From C. Hacker, Esq., Surveyor to his Grace the Duke of Bedford, Woburn Park.

"Office of Works, Woburn Park, Jan. 10th, 1852.

"Gentlemen,—In answer to your inquiries respecting the Gutta Percha Tubing for pump suctions (after two years' trial), I find that the water has not affected it in the least, although it will eat lead through in two years; we have adopted it largely, both on account of being cheaper than lead, much easier fixed, and a more perfect job."

From Sir Raymond Jarvis, Bart., of Ventnor, Isle of Wight.

"Ventnor, March 10, 1852.

"Gentlemen,—In reply to your letter, received this morning respecting the Gutta Percha Tubing for Pump Service, I can state, with much satisfaction, it answers perfectly. Many builders, and other persons, have lately examined it, and there is not the least apparent difference since the first laying down, now several years; and I am informed that it is to be adopted generally in the houses that are being erected here—building going on to a considerable extent.

"I am, Gentlemen, your obedient servant,
"R. JARVIS.

"P.S. The only difficulty experienced was in fixing the tube to the pump barrel. The plumber employed being averse to the job, did not properly secure it, and air got into the tube; otherwise, carefully arranged, there is no question it supersedes lead or any kind of metal pipes. B. J."

From William Bird Herapath, Esq., M.R.C.S., Surgeon to St. Peter's and Queen Elizabeth's Hospitals, Bristol.

"September, 1850.

"I have used Gutta Percha as a lining to a cistern, with tubing of the same material, to conduct the water into my dispensary; they answer admirably. At first some disagreeable flavour was communicated to the water, but it soon disappeared.

"My plumber readily learnt the mode of managing it from your printed directions."

Every variety of Gutta Percha Goods may be had. Manufactured by the Gutta Percha Company, Patentees, London; and sold at the Wholesale City Depot of Messrs. BURGESS and KEY, 103, Newgate-street, who will forward Lists of Prices on application.

TO NURSERYMEN AND OTHERS.

TO be SOLD, or LET on LEASE, or otherwise, with immediate possession, a very desirable and convenient small NURSERY GROUND, situate in the best part of Saint John's-wood, comprising a neat Cottage, two Greenhouses, Forcing Pits, and other conveniences, all in excellent condition: together with the good-will of the business and stock therein.—The premises may be viewed, and full particulars obtained of Mr. ARTHUR T. HEWITT, Solicitor, 6, Nicholas-lane, City and Clapham; or Messrs PROTHEROE and MORRIS, American Nursery, Leyton-stone, Essex.

WIRE AND IRON WORKS.

H. WEST, 17, New-road, Fitzroy-square, Original Inventor of ORNAMENTAL WIRE FLOWER-STANDS, &c., and Manufacturer of every description of useful and fancy Wire and Iron Work, respectfully invites the inspection by the Nobility and Gentry of an extensive assortment of superior Wire Flower-stands and Flower-trainers, Roseries and Flower-bed Bordering, Trellis and Garden Arches, Porticoes and Verandahs, Aviaries and Pheasantries, all kinds of Game Wire-netting and Invisible Fencing, Wove Wire and Venetian Window-blinds; and also a great variety of Iron Bedsteads, Childrens' Cribs, Spring Mattresses, Bedding, &c. &c. Novel designs in Wire-work, to screen unsightly objects or for ornamental purposes, made to fit any locality, executed by experienced workmen, at the lowest practical charges.

BENJAMIN EDGINGTON respectfully informs the public he has at length been successful in obtaining a warehouse sufficiently lofty and extensive to show at one view Tents of different character and description, and invites all who are in want of Tents, for Emigration, FLORAL AND HORTICULTURAL SOCIETIES, or for Garden Lawns, to a private view at No. 2, Duke-street, Southwark, where every information and explanation will be given.

NETTING and BUNTING for Fruit Trees, &c.

FOR SALE.—Six Superior HEREFORD HEIFERS, with their Calves, purely descended from some of Mr. PRICE'S best animals, and which will be sold a bargain in consequence of the Proprietor not having Land to keep them on. Also, TWO BULLS of the same blood, to be sold separately or together.

Application to be made to Mr. DRAKE, East Tytherly, Stockbridge, Hants.

RENDLE'S NEW PLANT CATALOGUE *is just published, and can be had in exchange for one penny stamp.*

It contains PRICES of all the newest and best Geraniums, Dahlias, Azaleas, Antirrhinums, Camellias, Chrysanthemums, Cinerarias, Fuchsias, Petunias, Calceolarias, Ferns, Lycopodiums, Greenhouse, Stove, and Herbaceous Plants.

*** Carriage paid to all the stations on the SOUTHERN RAILWAYS. See Catalogue.

WILLIAM E. RENDLE and Co., Florists to her Majesty, Plymouth.

DILLISTONE AND CO., of the Nurseries, Sturmer, beg to offer—

Fine varieties of Geraniums, 6*s*, 9*s*., and 12*s*. per dozen.
" Fuchsias, 4*s*., 6*s*., and 9*s*. per dozen.
Bedding Plants of all the popular kinds, 2*s*. 6*d*. to 6*s*. p. doz.
Herbaceous Plants, showy good kinds, 4*s*. p. doz., 30*s*. p. 100.
Double Major White Rocket, 2*s*. 6*d*. per doz., 15*s*. per 100.
Hollyhock, strong blooming seedlings, from the best, 2*s*. 6*d*. per doz., 15*s*. per 100. Seed from named flowers, 1*s*. per 100 seeds.
A few dozens of the most popular Hybrid Perpetual Roses to spare, on the Manettii stock; price upon application.
Post-office orders payable at Halstead or Haverhill. All orders above 1*l*. paid to London.

FINE SPECIMEN PLANTS FOR EXHIBITION.

J. AND J. FRASER, NURSERYMEN, &c., Lea-bridge-road, Essex, beg leave respectfully to invite attention to their superior Stock of Specimens of STOVE and GREENHOUSE PLANTS, CHINESE AZALEAS, and CAPE HEATHS, which were never in finer condition than at this time. The plants are of all sizes, varying from 1 foot to 5 feet high. The prices, which are moderate, can be had on application.

FINE PASTURE GRASS SEEDS for laying down Land.—Hand-picked Seed at 24*s*. per acre, allowing 3 bushels of the mixed Grass Seed and 6 lbs. of Dutch Clover to each acre. HENRY CLARKE, Seed Merchant, 39, King-street, Covent-garden, London.

SUPERB HOLLYHOCK SEED.—Warranted to produce 75 in 100 double; in packets of 250 seeds, 1*s*. 6*d*., double quantity for 2*s*. 6*d*. The universal satisfaction the seeds from our unrivalled collection have given, prompts the strongest recommendation. Our descriptive Catalogue contains 64 pages of useful and interesting matter, and the finest selection of Tender and Hardy Plants, Flowers, and Trees, at prices that defy competition; the whole gratis, for four penny stamps for postage; or Part 1, Stove, Greenhouse, and Bedding Plants, 1*d*.; Part 2, Hardy Herbaceous Plants, Roses, Shrubs, and Coniferæ, 2*d*.; Part 3, Fruit Trees, 1*d*. each, separate—the most complete Catalogue ever published.—Apply to JOHN MAY, Hope Nurseries, near Bedale, Yorkshire.

CAPE HEATHS, ETC.

W. J. EPPS, in offering the following varieties of CAPE HEATHS, AZALEAS, &c., begs to remark that they are splendid, busny, vigorous, plants, not to be equalled in the trade:—

Erica tricolor		Erica jasminiflora	
" "	Wilsonii	"	Shannonii
" "	rubra	"	Bandonii
" "	Dunbarii	"	ampullacea
" "	Lesana	"	" vittata
" "	speciosa, (McNab)	"	Macnabiana
" "	Jacksonii	"	Easoniana
" "	dumosa	"	" purpurea
"	Hartnelli	"	princeps
"	retorta major	"	" carnea
"	Vernoni superb	"	vestita fulgida
"	Irbyana	"	" rosea
"	aristata major	"	" grandiflora
		"	Cavendishii

Strong plants of the above, in 48-sized pots, from 18*s* to 24*s*. per dozen.

Selections from the following 12*s*. to 15*s*. per dozen:—Rollissonii, aristata vittata, baccans, propendens, Sindryana, Bowieana, depressa, depressa multiflora, Juliana, commosa alba, cerinthoides, Savilei major, rubella, splendens, intermedia, physoides, verticillata, perspicua nana, ventricosa globosa, sanguinea, mammosa pallida, andromedæflora, elata, and Banksia. Fine healthy plants in 48-sized pots.

AZALEA INDICA.—Selection from the following varieties, 9*s*. to 21*s*. per dozen, very strong plants:—Alba magna, ignescens, Edmondsii, Glory of Sunning Hill, Holdenii, optima, carminata, alba lutescens, splendens, delecta, Prince Albert, præcteria, triumphans, Hebe, obtusa, punicifiora, coronata, Minerva, Perryana, Cupid, vivicans, Conqueror, coccinea superb, laterifia grandiflora, magnifica plena rosea superba, Incomparable, Fulgens, modesta, variegata, blanda, rosea punctata, semi-duplex maculata, Lawrenceana, Broughtonii, Duke of Devonshire.

Stove and Greenhouse Plants in great variety, 12*s*. to 24*s*. per dozen.

Strong well-established plants of the newest and best kinds of Fuchsias, 9*s*. to 15*s*. per dozen.

Fine new and show varieties of Pelargoniums, in 48-sized pots, very strong, bushy plants, 9*s*. to 21*s*. per dozen.

Dahlias, all the leading kinds of former years, together with the novelties of the present season, from 6*s*. per dozen.

A descriptive Spring Catalogue will be sent on application.
Bower Nurseries, Maidstone, April 24.

THE BEST RIDGE CUCUMBER.

J. CHAMBERLAIN can with confidence say, that this excellent CUCUMBER, which is an Hybrid between the Great Britain and the Common Long Prickly, is equally hardy and prolific as the latter, yet possessing the qualities of the former, will be found of unequalled value to market gardeners. It is first-rate for hand-glasses, but when sown in the middle of May, requires no better treatment than Kidney Beans. It grows from 12 to 18 inches long, and is worth three times as much at market as the Long Prickly.

See the account of the produce of a few plants last season, in the *Gardeners' Chronicle* of November 22 1851.

Amateurs who give the above superb Hardy Cucumber a trial, will find themselves well repaid. Sold in packages of 12 Seeds for 1*s*., or 48 Seeds for 2*s*. 6*d*. Remittances are requested with orders from unknown correspondents.

JOHN CHAMBERLAIN, Great Horkesley, Colchester, Essex.

SCARCE AND BEAUTIFUL FLOWER SEEDS

EMPEROR STOCK, a perennial species, and hardy 1000 seeds, 1*s*.

CINERARIA and CALCEOLARIA, selected from collections of Plants, that were admitted by all persons who saw them to be the finest they had ever seen; 250 seeds of the former, and 500 of the latter, 1*s*. each paper.

MYOSOTIS AZORICUS, a bed of this on an eastern or northern aspect is very beautiful; 200 seeds, 1*s*.

CALCEOLARIA UMBELLATA, one of the neatest growing and most prolific flowering of all bedding plants; 1500 seeds, 1*s*.

SWEET WILLIAM, in 100 varieties; 10,000 seeds, 1*s*.

Payment may be made in postage stamps.

JEZES and Co., Nurseries, Northampton.

WILLIAM HUSSEY begs to inform his Friends and the Public that his DESCRIPTIVE CATALOGUE of Dahlias, Cinerarias, Geraniums, Hollyhocks, Verbenas, Fuchsias, Chrysanthemums, Carnations, Picotees, Pinks, Pansies, Bedding Plants, &c. &c., is now ready, and may be had in exchange for one postage stamp.
Horticultural Gardens, Norwich, April 24.

SEED AND HORTICULTURAL ESTABLISHMENT, SUDBURY, SUFFOLK.

PRIZE GERANIUMS.

The following are the 14 which stand first as the most successful Prize varieties at the London Exhibitions of 1851, as described by scale given in "The Florist" of December. We beg to offer the 14 for 18*s*, or any 6 for 9*s*., viz., Star, Forget-me-not, Gulielma, Rosamond, Conspicuum, Pearl, Centurion, Salamander, Rowena, Constance, Negress, Norah, Ariel, and Alonzo.

	s.	*d.*
25 superb varieties, including the above. These contain, also, many newer varieties which have not yet been so freely exhibited. The 25 for	35	0
25 fine show varieties	22	0

We have also a large stock of the following very fine and strong:—

BEST NEW VARIETIES OF LAST SEASON.

The following 12 for 50*s*., or any 6 for 27*s*.

Hoyle's Ajax.	Beck's Major Domo.
" Ocellatum.	" Silk Mercer.
" May Queen.	" Tyrian Queen.
" Generalissimo.	Rundle's Beauty of Montpelier.
" Cardinal.	Walton's Village Maid.
Bragg's Exquisite.	Foster's Knight of Avenel.

FANCY GERANIUMS.

Any 12 of the following for 12*s*.:—Alboni, Beauty, Bouquet Tout Fait, Hero of Surrey, Jehu, Jehu improved, La Belle d'Africana, Lady F. Hastings, Maid of Anjou, Magnifica, Modesta, Queen Victoria, Stattuskii, Village Maid, Wintonia, Yeatmanianum, and Zelia.

BEST NEW FANCY OF LAST SEASON.

The following 9 varieties for 28*s*.

Ambrose's Belle Marie.	Sheppard's Little Wonder.
" Gaiety.	Henderson's Marion.
" Delicata.	" Reine de Fleurs.
Sheppard's Miss Sheppard.	" Prince Albert.
Henderson's Exquisite.	

ACHIMENES.

The following 12 beautiful varieties for 10*s*.

Beaumanii.	Longiflora alba.
Bodnerii.	Magnifica purpurea.
Coccinea grandiflora.	Multiflora.
Escheriana.	Patens major.
Fimbriata.	Tugwelliana.
Kleii.	Venusta.

12 fine varieties ... ... 6*s*.

CLOXINIAS.

Alba grandiflora	2*s*. 6*d*.	Maria Van Houtte	2*s*. 6*d*.
Argyrostigma	2 6	Marginata	2 6
Exquisite	2 6	Petoiana	3 6
Frederick Lenning	2 6	Pulcherrima	2 6
General Bandraud	2 6	Spectabilis	2 6
Godfroid de Bouillon	2 6	Victoria Regina	2 0

The above 12 for 20*s*., or any 6 for 12*s*.

NEW AND SELECT PLANTS.

Strong and fine.

Capanea grandiflora, 1*s*. 6*d*., 3*s*. 6*d*., 5*s*.	Hoya bella, fine plants, 1*s*. 6*d*., 2*s*. 6*d*.
Allamanda nerifolia, 2*s*. 6*d*.	Medinilla magnifica, 10*s*. 6*d*., 15*s*.
Agelmyla staminea, 3*s*. 6*d*., 5*s*.	Dielytra spectabilis, 1*s*. 6*d*.
Cantua dependens, 1*s*. 6*d*., 2*s*. 6*d*.	Deutzia gracilis, 2*s*. 6*d*., 3*s*. 6*d*.
Hoya bella, with flower-buds, 3*s*. 6*d*.	Escallonia macrantha, 3*s*. 6*d*., 5*s*.

SPRING CATALOGUES sent, prepaid, for four postage stamps; and AUTUMN CATALOGUES, containing most of the Hardy Plants, for two postage stamps, which may be deducted from orders.

GOODS, CARRIAGE FREE, to London, Ipswich, Norwich, or any station on the same line; and with orders of 2*l*. and upwards extra plants added gratis.

Remittances requested from unknown correspondents.

Post-office orders to be made payable to STEPHEN BROWN, or to

BASS AND BROWN, SUDBURY, SUFFOLK.

STORY'S NEW SEEDLING FUCHSIAS.

JOHN DOBSON will send out on and after the 20th of April, the four SUPERB NEW SEEDLING FUCHSIAS raised by U. H. STORY, Esq.—a remittance to accompany the order. The plants are well established.

AGNES.—Fine dark purple, corolla almost black, gradually changing to deep brown, well-formed and double corolla, sepals deep crimson, slightly reflexed, medium-sized flower; this variety will be found perfectly distinct, good habit, 10*s*. 6*d*.

AURORA.—This variety will be found first-rate in every respect, flower very large, in the style of Corallina, but quite distinct from that variety, corolla deep purple, fine form tube, and sepals long, good shape, fine habit, and free bloomer; this variety is strongly recommended, 10*s*. 6*d*.

FANTOME.—This is one of the finest-qualitied flowers yet sent out; tube and sepals waxy bright crimson, sepals reflexed, corolla fine, double violet purple; splendid habit, 7*s*. 6*d*.

PECULIARITY.—This variety, as its name implies, is very peculiar, having deep rose stripes or a dark double purple, corolla short tube, and sepals, 7*s*. 6*d*.

These have been greatly admired and pronounced by several excellent judges who saw them in bloom at Woodlands Nursery, late last season, to be first-rate in every respect. The sets of four to the trade, 27*s*. Package and carriage free to London. Early orders are solicited, as but few sets remain unordered.

J. D. has all the leading sorts of other raisers in strong plants and at moderate prices.

JOHN DOBSON begs also to say that but few sets remain of the Pelargoniums, sending out at 42*s*. and 21*s*. per dozen, carriage and package free to London.

The few plants that remain of Mr. Beck's new Seedlings of 1850, are many of them showing color. The plants are strong and healthy; purchasers should lose no time in making their selections.

A Descriptive Catalogue of all the leading varieties of Beck's, Foster's, Hoyle's, and other raisers' Pelargoniums. Story's new Fuchsias; all the leading varieties of Verbenas, &c., which are now sending out in strong plants, may be had in exchange for one postage-stamp.

HOLLYHOCK Seed in packets of 100 seeds, saved from the choicest varieties, post-free for 18 penny stamps.

ANTIRRHINUM Seed, saved from the best varieties, in packets, post-free, for 8 penny stamps.

A large stock of bedding-out plants in May, from 2*s*. to 9*s*. per dozen

JOHN DOBSON'S "Practical Observations on the cultivation of the Pelargonium," which has been so favourably noticed in the *Gardeners' Chronicle*

The "Florist and the Gardeners' Record" is now ready, and will be forwarded, post-free, upon receipt of 8 penny stamps.
Woodlands Nursery, Isleworth.

NEW AND BEAUTIFUL DAHLIA "LIZZY," FIGURED IN THE "GREENHOUSE AND GARDEN" FOR APRIL.

MESSRS. COLE AND SHARP beg to inform their Friends and the Public, that they have purchased the entire Stock, from Mr. C. J Perry, of the above most exquisite Flower. In addition to the raiser's guarantee of its desirability, they are justified in saying that it will be found a great acquisition in its class, and will prove the most attractive Flower in any stand. The ground-colour is a pure pearly white, strongly tipped with deep cherry. The petals are perfect in form, the centre is beautifully arranged, and the eye well up: habit good, and blooms very constant. Unlike most light varieties, the flowers come perfectly clean and pure in colour, without being shaded. The following awards and commendations, which it has received during the past season, will be a further proof of its value as a show variety. First-class Certificate at the Shacklewell Grand Dahlia Show, for six blooms; first-class Certificate at Walsall, for six blooms. A Silver Medal, for six blooms, at the Handsworth and Lozells Society's autumn exhibition.

The *Gardeners' Chronicle* says, "'Lizzy' is the very *acme* of form, and highly attractive." Beck's "Florist" says, "'Lizzy' is the exact counterpart of Keyne's 'Queen of England,' but more certain."

Mr. Glenny, in the "Garden Almanack," says it is a small but perfect Dahlia.

Plants early in May, 10*s*. 6*d*. each. The usual discount to the Trade when three are ordered. A remittance required from unknown correspondents. Post-office orders payable at Birmingham.
Aston Lane Nursery, near Birmingham.

NOTICE.—HOLLYHOCK SEED, 2*s*. 6*d*.; GERMAN ASTER SEED, 1*s*.; SWEET WILLIAM SEED, 1*s*.; ANTIRRHINUM SEED, 1*s*.; and GIANT SCARLET BROMPTON STOCK SEED, 1*s*. per packet. CAPTIVATION CUCUMBER, 5*s*; PHENOMENA CUCUMBER, 2*s*. 6*d*.; GOLDEN BALL MELON SEED, 2*s*. 6*d*.; and BROMHAM HALL MELON SEED, 1*s*. per packet, as see *Gardeners' Chronicle* of last week for the former, and of Feb. 21, 1852, for the latter.

Good sound seeds of the above varieties can still be obtained, post free, on enclosing the requisite amount in penny postage stamps.

A packet of each of the above fine varieties of Flower Seeds will be sent on receipt of the amount of 5*s*., postage free.

EDWARD TILEY, Nurseryman, Seedsman, and Florist, 14, Abbey Churchyard, Bath, Somersetshire.

CHOICE AND RARE SEEDS, selected from General List, sold by WILLIAM DENYER, Seedsman and Florist, 82, Gracechurch-street, near the Spread Eagle, London, at the following price per paper:—

ABRONIA UMBELLATA, orange and yellow, 1*s*. A new and very beautiful trailing plant; highly fragrant.

ANTIRRHINUM, or SNAPDRAGON, 6*d*. Saved by an amateur from a most splendid collection.

BELLIS PERENNIS, or DAISY, very double, 6*d*. Saved from the new German varieties; brilliant colours, varying from the deepest crimson to white, through all the different shades.

CALLISTEPHUS CHINENSIS, 6*d*. A new globular variety of China Aster; very double, and brilliant colours.

CENTRANTHUS MACROSIPHON CARNEUS, 6*d*. A beautiful free-flowering annual.

ESCHSCHOLTZIA GRANDIFLORA ALBA, 6 A new and beautiful hardy variety.

FUCHSIA CORYMBIFLORA ALBA, 6*d*. Producing long white tubular flowers, with crimson centre, splendid.

GRAMMANTHES GENTIANOIDES, 6*d*. A beautiful annual for growing in pots.

HIBISCUS CALISUREUS, 6*d*. Colour, bright yellow, with crimson centre.

LOBELIA RAMOSA RUBRA, splendid, quite new, 6*d*.

LUPINUS AFFINIS, new, pure white with deep blue, 6*d*.

PANSY, from the best named flowers, 1*s*. Saved by Thomson and other eminent growers.

SAPONARIA CALABRICA, bright pink, 6*d*. Beautiful for growing in clumps or for rockwork.

SCHIZANTHUS RETUSUS ALBUS, 6*d*. Pure white, with orange centre. One of the most beautiful annuals grown, either for pot culture or the open ground.

TRITOMA UVARIA, 1*s*. A hardy perennial, growing from 4 to 5 feet high, producing long spikes of crimson and orange-coloured flowers.

SCANDIX BULBOSA, or Turnip-rooted Chervil, a delicious vegetable, 6*d*.

The Gardeners' Chronicle.

SATURDAY, APRIL 24, 1852.

MEETINGS FOR THE ENSUING WEEK.

MONDAY,	April	26	British Architects	8 P.M.
			Geographical	8½ P.M.
TUESDAY,	—	27	Civil Engineers	8 P.M.
			Medical and Chirurgical	8½ P.M.
WEDNESDAY,	—	28	Zoological	9 P.M.
			Society of Arts	8 P.M.
			Microscopical	8 P.M.
THURSDAY,	—	29	London Institution (Anniversary)	12 A.M.
			Zoological (do.)	1 P.M.
			Royal Soc. of Literature (do.)	3 P.M.
			Antiquarian	8 P.M.
			Royal	8½ P.M.
FRIDAY	—	30	Royal Institution	8½ P.M.
SATURDAY	May	1	Horticultural (Anniversary)	1 P.M.
			Royal Botanic	3½ P.M.
			Medical	8 P.M.

COUNTRY SHOWS.—Tuesday, April 27: Meath.—Wednesday, April 28: Handsworth and Lozells.—Thursday, April 29: Oxfordshire.

AT last the mystery of the YELLOW CAMELLIA is solved, and we may finally make up our minds that DE CANDOLLE'S theory of colours is valueless. It was an ingenious idea to divide all plants between one or the other of two series; the xanthic, or yellow species, never passing into blues; and the cyanic, or blue species never passing into yellow. But the exceptions prove too many for the rule; and we must not be startled at a blue Dahlia, although the Dahlia is xanthic, since we have a yellow Camellia, although the Camellia is cyanic. Mr. FORTUNE, in his very instructive work on the Tea Countries of China,* just published, saw this remarkable variety, of which he gives the following account:—

"Those who have read my 'Wanderings in China' may remember a story I told of my endeavours to find a yellow Camellia,—how I offered five dollars for

* A Journey to the Tea Countries of China; including Sungloo and the Bohea Hills, &c.; by Robert Fortune, with map and illustrations; 8vo. Murray.

one—how a Chinaman soon found two instead of one—and how he got the money and I got taken in.

"In one of these nurseries, however, I found a yellow Camellia, and it was in bloom when I bought it. It is certainly a most curious plant, although not very handsome. The flowers belong to the Anemone or Warratah class; the outer petals are of a French white, and the inner ones are of a Primrose yellow. It appears to be a very distinct species in foliage, and may probably turn out more hardy than any of its race."

To all lovers of horticulture, the work from which this is an extract, is indispensable, for it abounds in interesting details respecting, not merely the novelties met with by the enterprising traveller, but many of the now common favourites in our gardens. The passages which relate to some of them cannot be brought too soon under the notice of our readers.

Of the *Funereal Cypress* he gives the following account:—

"The most beautiful tree found in this district is a species of weeping Cypress, which I had never met with in any other part of China, and which was quite new to me. It was during one of my daily rambles that I saw the first specimen. About half a mile distant from where I was I observed a noble-looking Fir tree, about 60 feet in height, having a stem as straight as the Norfolk Island Pine, and weeping branches like the Willow of St. Helena. Its branches grew at first at right angles to the main stem, then described a graceful curve upwards, and bent again at their points. From these main branches others long and slender hung down perpendicularly, and gave the whole tree a weeping and graceful form. It reminded me of some of those large and gorgeous chandeliers, sometimes seen in theatres and public halls in Europe."

The gardeners at Shanghae seem to set an example of skill which some of our own people would do well to imitate. In the midst of winter, in as bad a climate as that of London, the flower shops were gaily filled:—

"I was not previously aware that the practice of forcing flowers was common in China. Many plants of Magnolia purpurea were in full flower; as were also many kinds of double-blossomed Peaches, the pretty little Prunus sinensis alba, and a variety of Camellias. But what struck me as most remarkable was the facility with which the Moutan Pæony had been brought into full bloom. Several varieties of this plant were in full flower; and at this season of the year, when everything out of doors was cold and dreary, they had a most lively effect. Their blooms were tied up, to keep them from expanding too rapidly. All these things had been brought from the celebrated city of Soo-chow-foo, the great emporium of Chinese fashion and luxury.

"*It may be thought that the Chinese have glass houses, hot-water pipes, and all those fine things which assist gardeners and amateurs in Europe. Nothing of the kind; they do all these things in their houses and sheds, with common charcoal fires, and a quantity of straw to stop up the crevices in the doors and windows.*

"At this season of the year the 'Kum-quat' (Citrus japonica), which is extensively grown in pots, is literally covered with its small, oval, orange-coloured fruit. This as well as various other species of the Orange is mixed with the forced flowers, and together produce an excellent effect. I think if the 'Kum-quat' was better known at home it would be highly prized for decorative purposes during the winter months. It is much more hardy than any other of its tribe; it produces its flowers and fruit in great abundance, and it would doubtless prove a plant of easy cultivation. In order, however, to succeed with it as well as the Chinese do, one little fact should be kept in view, namely, that all the plants of the Orange tribe which bear fruit in a small state are grafted."

Of the management of the *Chrysanthemum* we have excellent practical details:—

"The method of cultivating the Chrysanthemum in China is as follows:—Cuttings are struck every year from the young shoots, in the same manner as we do in England. When they are rooted they are potted off at once into the pots in which they are to grow and bloom; that is, they are grown upon what would be called by our gardeners 'the one-shift system.'

"The soil used in potting is of a very rich description. About Canton it is generally obtained, in the first instance, from the bottom of lakes or ponds, where the Nelumbium or Water-lily grows. It is then laid up to dry and pulverise for some months, when it is mixed with old night-soil taken from the manure-tanks found in every garden. A heap of this kind, after being laid up for some time and frequently turned over, is in a fit state for potting the Chrysanthemum. Manure-water, taken also from the tanks, is liberally supplied during the growing season, and its effects are visible in the luxuriant dark-green leaves which cover the plants.

"In forming the plants into nice compact bushes, which, with due deference to Chinese taste, I think much prettier than animals and 'seven-storied pagodas,' their system is as follows:—The plants are trained each with a single stem; this is forced to send out numerous laterals near its base, and these are tied down in a neat and regular manner with strings of silk-thread. By having the plants clothed with branches in this way, and by keeping the leaves in a green and healthy state, the specimens never have that bare and broom-headed appearance which they often present in England when they are taken into the greenhouse in winter.

"About Shanghae and Ning-po the Chrysanthemum is still better managed than it is near Canton; but the success which attends it may be attributed, partly at least, to the more favourable nature of the climate, the plant being indigenous to the central or more northern parts of the empire. The system of cultivation is nearly the same—the main points attended to being those which have been noticed, namely, choosing a rich soil, planting at once into large pots, training to a single stem, and inducing it to send out numerous laterals, and giving liberal supplies of manure-water during the growing season. The Chinese are fond of having very large blooms, and, in order to obtain these, they generally pick off all the small flower-buds."

Here is a graphic description of a *Cryptomeria*, from which we may judge what it ought to become among ourselves:—

"Never in my life had I seen such a view as this, so grand, so sublime. High ranges of mountains were towering on my right and on my left, while before me, as far as the eye could reach, the whole country seemed broken up into mountains and hills of all heights, with peaks of every form.

"While gazing with wonder and admiration on the scene, my attention was arrested by a solitary Pine-tree of great size, standing about a hundred yards from the gateway. No other trees of any size were near it. Its solitary position near the pass, and its great height and beautiful symmetry, made it appear a most striking object. 'What could it be? was it new, or did we already possess it in England?' I must confess that for a few seconds I had eyes for nothing else. Chairs, coolies, and mountains were all forgotten, and I believe, had the guard of Celestials attempted to prevent me from going into Fokien, the only boon I should have asked at their hands would have been to be allowed to go and inspect this noble Pine.

"The Chinese guard, however, had not the slightest intention of interfering with my movements, and, as the tree was on the roadside, I soon came up to it, and found it to be the Japan Cedar (Cryptomeria japonica), a tree which I had already introduced into England, and which, even in a young state, had been greatly admired there. I had never before seen such a noble specimen, and, although I would rather it had been something new, I yet felt proud of having been the means of introducing into Europe a tree of such size, symmetry, and beauty. It was at least 120 feet in height,—it might be much more,—as straight as a larch, and had its lower branches drooping to the ground. It had not been 'lopped,' like other Chinese trees, and was evidently preserved with great care. My Chinamen looked upon it with great admiration, and informed me it was the only specimen of the kind in this part of the country, and that it had been planted by some former emperor when he crossed the mountains."

Cunninghamia lanceolata would seem to be a much finer thing than in this country it is believed to be:—

"The sides of the mountains here were clothed with dense woods of the lance-leaved Pine (Cunninghamia lanceolata). This was the first time I had seen this Fir tree of sufficient size to render it of value for its timber. Many of the specimens were at least 80 feet in height, and perfectly straight. There was a richness too in the appearance of its foliage which I had never seen before; sometimes it was of a deep green colour, while at others it was of a bluish tint. There are, doubtless, many varieties of this tree amongst these hills."

But we must close our extracts from Mr. Fortune's book. Upon the main object of it, namely, the character of the Tea countries of China, and the Tea plantations of India, and upon the able manner in which the author executed a delicate and somewhat dangerous task, we shall have something to say next week.

BEDDING PLANTS IN TURF.

In establishments of ordinary magnitude thousands of plants are generally required for embellishing the flower garden during the summer months, and the manipulator is not unfrequently at a loss to know what scheme to contrive to get pots equal to the demand. Such has been my experience, and it has led me to employ turf as a substitute, which (when it can be obtained) is an excellent material for the purpose; in fact, in point of economy it is very far preferable to pots. I do not pretend to infer that pots can be entirely dispensed with, my object is to show to a certain extent what may be done without their aid. Pots for the purpose of which I treat, are only required for about two months out of 12, and if we can lessen the number required, and that too advantageously as regards cultivation, so much the better.

I find that plants in turf do not involve so much labour as they do in pots, for if in the latter, in very dry weather they require watering every day, and sometimes twice, whereas, if they are in turf, they only need it once a week, the roots have more food at at command, the temperature and humidity of the bed being more uniform, and evaporation not so excessive as when the roots are confined within the narrow limits of small pots; besides, when plants that are in turf do require water, the watering can be effected expeditiously with the rose of the watering-pot, but in the other case it cannot, for some may and some may not require water at the same time.

I have stated on a previous occasion that I propagate the greater portion of my bedding stuff on my vinery border, covering the cuttings with the portable tops of hand-glasses; they are thoroughly watered when put in, and the glasses are never moved (except to dry up superfluous moisture), until the cuttings are well rooted; directly the plants begin to grow, their tops are pinched off to ensure a sturdy growth; when in a moveable condition, I prepare pits and frames for their reception. In these I dispense with artificial heat, by merely keeping the lights on and fully exposing the surface to the warming influence of the sun's rays. Shallow turf-pits are excellent for this purpose; but if not naturally shallow, they are filled to within 8 or 10 inches of the top with half decayed leaves used for winter-forcing; these are made as solid as possible, and on them is laid an inch or more of coal-ashes. These are indispensable, as they prevent the turf from adhering to the subsoil, and render it capable of being taken out as entire and cleanly as when first put in. The turf is cut into slips from 2½ to 3 inches in width, and laid on an even surface, with the grassy side downwards. The whole surface being thus closely covered, small holes are cut about 1 inch deep, and 1½ inch in diameter, with an instrument I had made for the purpose, and with which a thousand holes can be cut in a very short time.

The turf being thus perforated, the plants are carefully lifted and placed in the holes, using leaf-mould and light loam, equal parts (sifted), with a portion of sharp sand; this compost is firmly pressed about the roots as the process of planting proceeds; when completed, a copious watering is given through a fine rose with tepid water. The lights are then put on and kept quite close, and shading is applied during the hottest part of the day. When the plants have emitted fresh roots and commenced growing, the shoots are constantly stopped, and plenty of air is given to keep them dwarf and bushy. To encourage rapid growth the lights are closed early in the afternoon, with a slight sprinkling over head in warm weather; but as the season for turning out approaches protection is dispensed with altogether. When that period arrives the sods are cut through between each plant and planted entire, giving a liberal watering, and choosing, if possible, dull cloudy weather for the operation.

Plants may be successfully and advantageously treated in this way by growing them in boxes 2 or 3 inches deep. In these variety and colour can be arranged in each box respectively, and being portable they can be shifted from one place to another with every facility. In labelling one only is required for two or three score of plants, or 200 or 300 when bedded in pits, precluding the necessity of individual labelling, which is generally essential when pots are employed, to prevent confusion. *George Fry, Gardener to Mrs. Dent, Manor House, Lee.*

RONDELETIA SPECIOSA MAJOR.

The brilliant orange-scarlet blossoms of this plant render it exceedingly attractive; and the petals are of a somewhat thick leathery nature, which enables them to withstand the action of sun and damp longer than most flowers. The natural habit of growth is rather thin and straggling, but with a little timely care it is easily induced to form a compact specimen. In cultivation it likes a rather high temperature and moist atmosphere, during the growing season, but if managed so as to have it in flower early in summer it may be removed to a close part of the conservatory or greenhouse with advantage, where the flowers will remain longer in perfection, and to most persons will be more enjoyable than if retained in a higher temperature.

In choosing your plants for specimens select such as are clean, healthy, dwarf, and well-rooted, carefully avoiding any that are infested with thrips. These should be at hand ready to be placed in a warm growing temperature early in spring, and if it can be conveniently done, plunge the pots in a bottom heat of from 80° to 90°; this is not absolutely necessary, but it will greatly assist in promoting a healthy root action, and consequently a vigorous growth. When the plants show symptoms of pushing, ascertain whether they require more pot room, and regulate the size of the shift by the state of the roots and general health of the plants—maintain a moist atmosphere for a fortnight after potting, and syringe over head frequently, but apply water to the roots very carefully, until it is evident that they have taken to the fresh soil; indeed beginners cannot at any time be too cautious in watering plants in bottom heat—they should carefully ascertain whether the soil is dry below the surface before applying water. A tank or dung pit, where the plants can be placed near the glass, and where a moist atmosphere and temperature of about 70° can be maintained, will be the most suitable situation for the plants during this season's growth; a slight shade may be afforded them for a few hours in the middle of the day during bright weather. If a second shift is required this should be attended to as soon as it appears necessary, and the plants should be carefully watered

at the roots after this shift, as already recommended. If compact bushy specimens are desired, it will be necesary to persevere in stopping any over-luxuriant shoots, and if the plants are excited by a high atmospheric temperature without corresponding care to keep up a healthy and vigorous root action, it may be necessary to give a general stopping at least twice during the season. Perhaps the best advice, however, is to stop as frequently during the growing season as may be necessary to secure handsomely-formed specimens. Shading should be discontinued as early in autumn as the state of the plants and weather will admit, and air should be freely supplied in order that the young wood may be properly ripened previous to winter. A temperature of about 45° or 50° will be sufficiently high during the winter months; and while in this low temperature very little water will be required, and care must be observed to give merely enough to keep the soil in a healthy moist state. On the return of spring, and as early as convenient, place the plants again in a moist growing heat, shift, stop, &c., as recommended for last season's growth, only the stopping should be confined to what may be necessary in order to curb any over active shoots, allowing the plants to produce blossoms as early in the season as they may incline to do so. If a portion of the plants is required for late blooming, this may be secured by giving such an extra shift, and pinching out the flowers as they appear; but this must not be continued after the middle of June if the plants are intended to be placed in a cool-house while in flower. If the cultivator's object is to secure large specimens, it will be advisable to keep them growing as actively as possible during this season also; and if kept in an ordinary stove they will flower during the early months of winter, and will be valuable for affording gay-coloured blossoms for bouquets. Plants intended to be removed to the conservatory or greenhouse while in bloom should be gradually prepared for the change, and should be placed in the closest corner of the house to which they are removed. When their beauty is over for the season, remove them to a rather dry warm atmosphere, and freely expose them to light and air.

It will be necessary after the plants have attained the desired size to cut them back rather freely annually before placing them in heat in spring—and no fears need be entertained about using the knife over freely; weakly, ill-placed shoots should be cut out altogether, and strong growing ones cut back sufficiently to maintain the desired form the specimens should possess.

Rich, fibry peat will be found the most suitable soil for the growth of the Rondeletia; those who can obtain light turfy loam may add one-fourth of this. The peat should be broken up into small pieces, carefully rejecting all inert bottom soil, and mixed with a sufficient quantity of sharp silver sand to insure a free percolation of water through the mass after the decay of the fibre. Efficient drainage should also be insured by a free use of potsherds in the bottoms of the pots, and also by mixing them in the soil.

Cuttings of the short-jointed pieces of the young wood, if selected in the proper stage of maturity, and placed in a brisk bottom heat will root freely, but if left to become hard they will require time; and the judgment necessary to select the cutting in the proper stage can hardly be learnt except by experience. *Alpha.*

ENTOMOLOGY.

The Long-horned Tortrix.

A small moth, the history of which I was enabled to trace during the past summer, is sufficiently interesting in several respects to merit a place in our Entomological Gallery of Portraits; in the first place because it is a species now for the first time ascertained to be injurious to the Pears; in the second, on account of the curious retreat formed by its caterpillar during the early period of its active state; thirdly, because the caterpillar changes its mode of life after it has attained half its size; and fourthly, because the moth itself is one of the prettiest and, at the same time, most remarkable in the family to which it belongs—the Tortricidæ.

Whilst engaged in examining the Pear trees growing against one of the walls in the Horticultural Society's Garden at the end of last May, in order to observe the history of the several species of case-bearing larvæ which infest the leaves of that tree, I noticed that many of the leaves exhibited on the upper side a small, discoloured patch, as if dead; and, on turning them up, I found that the under surface had, in fact, been eaten away in those parts. But these diseased parts of the leaves exhibited a further and far more interesting appearance; one, indeed, quite new to myself and all my entomological friends to whom I have shown them. Reaumur, however, observed a very similar circumstance on the leaves of the Apple (Mémoires vol. 2, pl. 16, f. 11 and 17, f. 1—3), but as he does not give any description of the perfect insect, and as his account of the caterpillar does not agree with that which I have observed, it is not possible to determine whether the insects are identical or not. This appearance consisted of a slender flattened layer of transverse delicate white and shining silky threads placed close together, side by side, resembling fine threads of spun glass more than anything else. This layer of threads occupied a space of about half an inch long by a quarter of an inch wide, and beneath these threads, or rather between them and the under surface of the leaf, resided a small slender whitish-green caterpillar, with an opake yellowish green streak along the back, bearing a very narrow longitudinal paler central line; the tips of the mandibles alone are of a blackish-brown colour. It is furnished with three pairs of jointed pectoral feet, and four pairs of ventral and one pair of anal pro-legs. At the slightest alarm the caterpillar slips from beneath his retreat and hurries along the leaf with the greatest rapidity to the edge, from which it lets itself fall by a thread. Now, it will be at once observed, that to enable the insect to move about beneath its retreat a sufficient space must exist, which must be either produced by the covering being convex, or the portion of the leaf concave. As, however, the threads lie flat, the latter is the case; and we thence arrive at the conclusion (which, indeed, Reaumur's account of the proceedings, not only of his Apple caterpillar, but also of all the larvæ which more completely roll up the leaves of plants, had led us to expect), that this little caterpillar has the ingenuity, after it has spun a few transverse threads, to press down the leaf by little and little degrees, confining it when thus pressed down by attaching a thread tightly from side to side, and thus keeping it in its place. The mode also in which the threads are so closely and regularly laid side by side merits attention: the insect, having fixed itself by its hind legs to a spot on the leaf and bent its body to the right side, attaches a thread at that side, and then bending it in the opposite direction, fixes the thread at the left side; it must then make the slightest possible advance in the forward direction, so that the thread shall now be fixed just beyond the point on the right side, where the preceding point of attachment occurred. In this manner it progresses till its thread is completed. As the larva increases in size, of course its former retreat is not of sufficient size, and, according to Reaumur, it spins longer threads in a different direction over the former, which it destroys; but at a later period, when it is still further increased in size, it has obtained strength sufficient to enable it to roll up the leaf, when it of course



The long-horned Tortrix.

becomes more injurious to the trees by consuming a greater portion of the leaves. A somewhat similar change of habit has been observed in one or two cases: the caterpillars of a moth, which feed on the Lilac, in their young state, burrow into the leaves, but subsequently they become leaf-rollers; and the olive moth in the south of France and Italy differs so much in the habits of its caterpillars in their early and full-grown state, as to have been described as two distinct species, and it is only within the past year that my friends Guérin-Meneville and Boyer de Fonscolombe have simultaneously published observations on their identity.

When full-grown, the caterpillar spins a slight white silken cocoon on one of the rolled-up leaves, and becomes a red brown pupa of a very simple form, the dorsal portion of the segments of the abdomen not furnished with recurved points, and the body terminating in a minute point.

The perfect insect appears about the middle of July, and is easily detected on disturbing the leaves of the trees, from which it flies off in alarm, on account of its very pale general colour. It is the Tortrix quercana, of Fabricius (fagana of Schiffermüller, Wien. Verz., p. 287, pl. 1. a. 6, 1. b. 6), and forms of itself a distinct genus, Phibalocera *Steph.*, differing from all the other Tortricidæ in the great length of the antennæ, being nearly twice that of the entire body in the males. The fore wings are of a bright yellowish red colour, varied with purplish brown, and with a bright yellow patch in the middle of the fore margin, which, as well as the fringe, is also yellow. It varies considerably in the intensity of its markings. Our figure is taken from a very richly coloured individual.

The different specific names which have been given to this insect, indicate the diversity of the food of its caterpillar. The authors of the famous Vienna catalogue have given a detailed account of it, but they were unacquainted with the curious peculiarities of its early history detailed above, representing the caterpillar as residing in a rolled up leaf of Fagus sylvatica, as copied above. Fabricius, finding it in the Oak woods of Saxony, altered the specific name to quercana, which has been generally adopted. The late Mr. Haworth says, that it is common in woods, "*et etiam in hortulo meo, fortè in Pruno,*"—"and also in my little garden, probably feeding upon the Plum." The perfect insect measures two-thirds of an inch in the expanse of the fore wings. The eggs are probably deposited on the stems and young shoots, on which they remain unhatched till the following spring; hence the careful washing of the bark with hot water would be of service in destroying not only the eggs of this, but also of other injurious species, as well as the chrysalids of such as pass the winter in that state. *J. O. W.*

Home Correspondence.

Sikkim Rhododendrons.—We regret that Mr. Masters should have published his unsuccessful attempt at cultivating these beautiful plants. His statement, by investing their treatment with imaginary difficulties, is calculated to deter many from persevering in their culture, as well as to prevent others from attempting it altogether. The mishaps of which he complains, and which he would have your readers believe are inseparable from any attempt to grow them, have arisen, not from any insurmountable difficulties, naturally arising therefrom, but from some injudicious mode of treatment, of the nature of which we cannot, of course, venture to speak. When the seeds were distributed, we, too, were favoured with a full collection of the kinds, and we have not experienced more difficulty in raising, or in cultivating them, than is usually met with in the common kinds under artificial treatment: in fact, we have been highly successful with the whole of the species. Many of our plants are from 9 to 12 inches high, with leaves from 6 to 10 inches long by 3 or 4 inches broad; Setosum and the other small mountain species, which Mr. Masters believed to "pine for their mountain air and pressure of snow," are growing luxuriantly with us in a damp close frame; many of the plants are from 6 to 11 inches high. Every person who has had much experience in raising Rhododendrons and allied plants from seed, must know that very great attention is required, when in their young state; a large amount of moisture, a cool temperature, with shelter from the sun and wind are indispensable; and that if these conditions are not artificially supplied, total failure will often result; and as before observed, we have not, in our experience with the Sikkim Rhododendrons, found the attendant difficulties greater than with the most ordinary kinds. If a variation of treatment is required it is in the form of a richer soil, and a greater amount of moisture during their growing period. The following hints will perhaps be found useful to those who possess plants, and who may be desirous of succeeding in their cultivation. Procure some very rich peat; it will be necessary that it should contain a large amount of vegetable matter, and mix with it about one-fifth sand. Place a layer of the compost in a frame, about 6 inches deep, for the reception of the young plants. They should be planted from 3 to 6 inches apart, according to the size they have already attained. Here, during their growing season, they must be kept very damp, saturated in fact, and well shaded from the direct action of the sun. Many failures have occurred from exposing them to a hot dry atmosphere. When they are of sufficient size to place in the open air (which should not be done till they are at least a foot high), August will be the best month to choose for the operation. Of course they will have been gradually inured to the change before their final removal. Advantage should be taken of a rainy time for planting, and if the weather is afterwards hot and dry, a few boughs should be stuck around them to afford a partial shade. They will require a very rich soil, with a moist subsoil, but not such as arise from stagnant water. Where situations are prepared for them, they should be drained from 2 to 2½ feet deep. It will be of no use placing them in dry borders. Old ponds drained and filled up, or bogs surface-drained, will be the most suitable place for them. Judging from our own experience, we believe that the greater part of them will be quite hardy. But should some of them not prove so in the midland counties, there are many places in Cornwall, on the western coast of England and Scotland, and in Ireland, enjoying a very humid atmosphere, with very little frost, where they will succeed well. *Standish and Noble, Bagshot.*

Dielytra spectabilis.—I should be glad to hear somewhat more of the hardiness of this plant. Some of your correspondents have been giving it a good character for this lately, and it is recommended in your weekly Calendar as a bedding plant. How did their plants look after Friday night's frost? I live south of London, and I know mine were completely spoilt, though not killed, and they were covered with a handglass. Surely its very succulent stems can stand no amount of cold. How do they grow it? What soil, and what aspect? No plant can be more beautiful for a pot, it lasts so long in bloom, and a cold frame is sufficient for it. It can never do for a bedding plant, unless every shoot is tied up as they tie up Geraniums for exhibition; I know, from sad experience, that very little wind will break off every branch which is not so tied up. I may mention that Veronica Lindleyana has stood out these two last winters in the open ground without any protection. *A. R.*

Labels.—I have seen several remarks in your pages lately respecting the advantages and disadvantages of different labels for plants. I enclose two, which I always use, and which have been in pots 12 months. The wood is first painted with genuine white lead ground stiff in linseed oil, which must be thinned with spirits of turpentine, and laid on in the usual manner. When dry, it is easy to write upon it with ordinary ink. The effect of a house thus labelled is neat and light. After the labels are written upon I varnish them twice with a quick drying varnish, to prevent them from absorbing moisture. Of the specimens sent, the one

with two wires is placed upwards on the stand beyond my easy reach, and cannot turn round when watering; the other I use for those plants close at hand, and which are easily examined. It is needless to say that they are of my own make. *H. S. Blundell, Hull.* [These labels consisted of thin square wooden heads, with the corners cut off. One of them was supported by two small copper wires; the other by one only. They are exceedingly legible and neat, and looked as if they would last good for years.]

Gardenias (*see p.* 245).—I can confirm your correspondent's statement respecting the ill effects of cold upon this class of plants where no damp ever reached them. I keep mine, during winter, in a late Vinery, which is stuffed, indeed, with plants of every description; but where I manage to keep Grapes hanging on the Vines till the end of March. I always light a fire in the mornings, and frequently during the night if there is the least sign of frost. I generally put the Gardenias into a Cucumber frame in February or March—rather a quick transition—and they begin early to shed their old leaves; but their unsightly appearance is soon hid by a fresh supply. Two years ago I had some large plants of Gardenia florida given me by a late gardener to Sir H. Hollyhock, whose maxim is to grow nothing that he has not convenience to grow well. They had good roots, but the leaves were quite white and decayed at the tips. I plunged them in a bed of leaves in an early Vinery. Towards the end of summer they began to look a little green; but in winter they assumed their old appearance. I tried them another year and another winter, and then I consigned them to the rubbish heap. I struck some young ones last year, which I kept in the cutting pot all the winter, and they were affected in the same way. I have lately parted them, and placed them in leaves under a hand-light in a Vinery, and they begin to show that they like their situation. *J. Murdoch.*

Forcing Strawberries.—I perceive by your report of the Horticultural Society's meeting, at p. 230, that Mr. M'Ewen exhibited some Strawberries in pots, and that, "according to his experience, the best sort for forcing is Keens' Seedling, and the next, Alice Maude." It strikes me that Myatt's Surprise will turn out to be an excellent Strawberry for the purpose. I have not tried it as yet, but I intend doing so next year; and, in the meantime, I would be thankful to have some one's experience with it in this respect. I had a few plants of it last year in the open ground, and it proved to be the first ripe by more than a week. Now, I think, if this variety will bear forcing, it will be valuable, as it is a free bloomer and produces large fruit; but I am afraid, like the British Queen, it will not stand much heat. *Arbitrator.*

Fig-fungus (*Mucor Curtisiæ*).—A mould very similar to, if not identical with, that described by Mr. Graham occurs now and then in imported Figs which look perfectly sound externally, but when eaten, like the Apples of Sodom, fill the mouth with loathsome dust. My specimens seem to be decidedly the same with Periconia thebaica, Corda, which he has figured as growing on Opium. The spores in this case are external to the clavate or globose tips of the threads. *M. J. B.*

How to Dislodge wild Bees.—How am I to get rid of wild bees, of which large swarms have taken entire possession of a turf bank in a small garden, on which they have quite undermined and destroyed the turf? They are now extending their destructive subterranean work to the adjacent lawn. Any advice will greatly oblige. *W.* [Drive them out by stuffing into their holes rags dipped in spirits of turpentine.]

The Weather.—Permit me to call attention to a somewhat strange phenomenon that occurred last week. On Wednesday the maximum temperature was 69°, and on Friday night the minimum temperature was 24°, a difference of 45° from Wednesday noon to Friday night; and it is remarkable that the same easterly wind prevailed on both occasions. This apparently inexplicable occurrence must, I should suppose, be accounted for by the effects of "hot sunshine breaking in upon previous cloudy weather," as Mr. Howard observes; and that the heat we experienced on Tuesday and Wednesday was solely the effect of the radiation of the sun's rays from the heated earth, buildings, &c., and not that of the introduction of a warm current of air. On Friday the sun was obscured till 4 P.M. by dense clouds; consequently the earth was not heated, and therefore when at night the sky became cloudless, cold was radiated from the surface without any previous introduction of warmth by day. Hence this very low temperature which, by the way, was repeated last night (Monday), after a similar state of the atmosphere. I would also remark, to show the extraordinary effects of radiation on still calm nights, that while the thermometer here, on the nights of Tuesday and Wednesday, did not indicate a lower temperature than 41° and 40°, at Chiswick the temperature was 26° and 29°; while, on Thursday night, when the sky was overcast, the temperature of both places was alike, viz., 41°. *C. B. N. P., Stevenage, Herts, April* 20.——Betwixt Winchester and Basingstoke this morning, April 20, the frost was very severe at 4 o'clock in the morning. The thermometer was 15° below the freezing point. Apricots as large as good sized Gooseberries, have been all destroyed, and Plums, Cherries, and Pears have shared the same fate. The Apricots had a single mat over them. *Constant Reader.*

Double Neapolitan Violet.—Can any one tell me what the origin of this Violet is? Is it a natural species, or only a variety improved by culture? I am induced to make the inquiry from having my Violet beds when they come into flower, repeatedly and on successive seasons, mixed with single whites; and although these have been carefully eradicated time after time, still they keep coming. For a long while I was of opinion that they must have been mixed accidentally, but now I can hardly avoid the conclusion that the Neapolitan reverts to the original form from which it sprung—am I right, or wrong? Does any one's experience verify such a result? I ought perhaps to mention that those plants that show the white flowers seem to have assumed more hardihood than those that maintain their character. *Quercus.*

Capsicum Fumigation.—I am prepared (so far as my experience goes), to corroborate "A Reader's" statement, at p. 245, with regard to the effect of Capsicum fumes on Aphides. For although I had occasionally used them with tobacco, I had never tried them separately until a fortnight since, when, having some unique Geraniums very much infested, I placed several in a hand-glass, and filled it with the smoke. I examined the plants the following morning, when, to my surprise, the enemy was not annihilated. On the succeeding evening I collected my forces, with a determination to sweep the field; the smoke was poured in amongst them continuously for some time, until I flattered myself that to a certainty every green-coated rascal must have been destroyed; but, alas! I was doomed to disappointment, for on the next morning, "behold, they lived." Previous to my giving publicity to these results, I had intended to have had a third trial; but after perusing "A Reader's" letter, I think it is pretty evident that little can be done in destroying insect life, in the absence of the "Weed" tobacco. *G. Fry.* [We must add, that other experiments give exactly the same results as have been obtained by Mr. Fry.]

Welsh Seed Trade.—Having frequently to buy seed at Swansea, I beg to correct a statement by "Mr. Barron, of Singleton," as to the price of seed in that town. That prices of seed, at certain respectable amounts, should be furnished to "Mr. Vivian's" gardener, is to me a subject of no wonder, but that they are frequently sold much lower to other people is a fact. Mr. Barron has not thought proper to test "Mr. Bundy's" veracity, as to the Carmarthen or Llandilo prices, and relinquishes that proper course by preferring instead to claim for Swansea a metropolitan authority over Wales. As for "Mr Lewes," many of his figures are too true for denial, and are more consistent than your Swansea correspondent. The first fact is still with the wholesale dealers. *A Welsh Seedsman.* [We have a few more communications on this subject; but it is now time for the discussion to terminate.]

The Compass Flower.—In Longfellow's beautiful poem of "Evangeline" are the following lines:

"Patience, the priest would say; have faith, and thy prayer will be answered!
Look at this delicate flower that lifts its head from the meadow;
See how its leaves all point to the north, as true as the magnet.
It is the *Compass* flower that the finger of God has suspended
Here on its fragile stalk, to direct the traveller's journey
Over the sea-like, pathless, limitless waste of the desert."

A friend having applied to me for information as to what plant the poet alludes to by the name of "Compass flower," I would feel greatly obliged if you or any of your correspondents would kindly afford the desired information. When my attention was called to the above passage, it occurred to me that Cotoneaster microphylla might be the plant intended: but besides, being, I believe, a native of Nepal, and not likely to be met with where the scene of this passage of the poem is laid, viz., the foot of the Ozack Mountains, the terms "delicate flower," "suspended," "fragile stalk," &c., &c., bespeak a plant of an entirely different character. *A. B.*

Hardiness of Greenhouse Plants.—The following is an interesting addition to the list of tender plants proving hardy in the South and West of England. At Carelew, the seat of Sir Charles Lemon, Bart., M.P., is a plant of Bletia Hyacinthina, growing as a hardy terrestrial orchid in the open ground, and has been there for some years without any protection; also a fine shrub of the Leptospermum ambiguum, Rhododendrons arboreum and Zeylanicum, and Fagus fusca, and Pittosporum Bidwillianum. At Trelissic, the seat of Davies Gilbert, Esq., there is a fine plant of Cineraria discolor in the open ground. At Heligan, the seat of John Tremayne, Esq., are some large specimens of Cunninghamia sinensis, and magnificent Rhododendrons, including arboreum and its hybrids of various colours. At Trewarthenick, belonging to G. D. Gregor, Esq., are fine specimens of Edwardsia grandiflora (standard plants), Acacia dealbata, and quite a little thicket of Melianthus major, making a very pretty contrast to the other hardy shrubs from its grey, large foliage. At Killiow, the seat of W. Daubney, Esq., is a nice plant of Aralia trifoliata, and another of Aralia stricta and Illicium religiosum. At Port Eliot (St. Germans) is a plant of Habrothamnus elegans growing against a wall. I forgot to mention that at Killiow is a fine plant of Phyllocladus trichomanoides growing fast into a tree. I hear that at the gardens at Anthony-house there are many very interesting plants, but that is as yet a *terra incognita* to me. *John Behenna, East Looe, April* 12.

Societies.

Horticultural, *April* 20.—Colonel Challoner in the chair. In regard to subjects of exhibition, perhaps that which excited the most interest was furnished by Messrs. Standish and Noble, in the shape of small bits of a new Azalea, collected in the north of China by Mr. Fortune, and expected to prove perfectly hardy in this country. It has small, rather blunt leaves, and very small rosy-purple flowers, looking like so many half-inverted bells, so that, independent of its beauty, which is great, it will be exceedingly interesting on account of the form of its blossoms, which are quite distinct in that respect from any Azalea yet introduced. It is expected that a plant of it will be shown at Chiswick, on the 8th of May, when a better opportunity will be afforded of judging of its merits. A Knightian Medal was awarded it.—Messrs. Veitch received a similar award for an example of their charming Dendrobium albo-sanguineum. It proves to be a free bloomer, and a distinct and fine species. Other novelties among Orchids consisted of a small piece of a flower-spike of the lovely Odontoglossum Pescatorei, and a bloom of an exceedingly handsome new Huntleya from Mr. Mylam, gr. to S. Rucker, Esq. The latter was marked with dark brown in the centre, which was surrounded by a field of pale Primrose. A Banksian medal was awarded it.—Messrs. Henderson sent a new yellow-flowered Indian Dendrobe; and a plant of the same genus from Sylhet, apparently Dendrobium heterocarpum in a diminutive state, was furnished by Messrs. Jackson, of Kingston.—Mr. Bunney, of Stratford, contributed imported plants, which were flowering for the first time, of Dendrobium nobile, or some closely allied kind, and the charming D. Farmerii with a fine raceme of white and yellow flowers. A Certificate of Merit was awarded for the latter.—From Messrs. Backhouse, of York, came a Cattleya, named amethystina, but which appeared to be nothing but a variety of C. intermedia. A Thysanotus, from New South Wales, accompanied it, but in the absence of bright light its flowers did not open. Mr. Blake, gr. to J. H. Schröder, Esq., received a Certificate of Merit for a flowering plant of Dendrobium albo-sanguineum.—Messrs. Loddiges, of Hackney, communicated a collection of Orchids, consisting of a finely blossomed plant of the Sweet Vanda (V. suavis), the deep purple-flowered Saccolabium ampullaceum, Lycaste Skinneri, the charming Dendrobium anosmum, a species in the way of, but handsomer than D. macrophyllum, and wanting the strong Rhubarb smell which belongs to the latter; also the lovely Oncidium bifolium and two other species; the Fragrant Burlingtonia; the somewhat scarce Dendrobium chrysotoxum; a specimen of Aerides affine, with two charming spikes of blossoms; A. virens; the cinnabar-coloured Lælia (L. cinnabarina), and an interesting white Angrec from Algoa Bay. A Knightian Medal was awarded.—Messrs. E. G. Henderson, of the Wellington Road Nursery, St. John's Wood, sent a continental Camellia named Rizzio, with two blooms on it, exhibiting the familiar sport of one flower being red while the other was white, faintly striped with red. Along with it came a fancy Pelargonium named Annette; two small Orange trees, in order to show how freely they bloom in pots in a small state; three Amaryllids, a collection of Cinerarias, four Cyclamens, and six hybrid Rhododendrons. A Certificate of Merit was awarded for the Camellia.—A finely flowered specimen of Azalea Iveryana, for which a Banksian Medal was awarded, was contributed by Mr. Green, gr. to Sir E. Antrobus, Bart.—Some seedling Auriculas were shown by Mr. Coldham of Southgate.—Mr. Sommersby, gr. to Major Martyn, sent two dwarf Hydrangeas, and a white seedling Petunia.—From Messrs. Henderson, of Pine-apple Place, came a new and very handsome Oxylobium, for which a Banksian Medal was awarded; also a new Gastrolobium, the pretty Boronia tetrandra, the small-growing free-flowering Eriostemon scabrum, and a species of Acacia.—Mr. Wood, of Norwood, sent a collection of variegated hardy plants, a seedling Rhododendron with bright crimson flowers, and a fine specimen of the variety of Cape Heath, called Hartnelli virens, for which a Certificate of Merit was awarded.—Messrs. Jackson, of Kingston, received a Banksian Medal for an interesting group of tender variegated plants, consisting of Vriesia speciosa (with two flower spikes), Dieffenbachia costata, Dracæna terminalis, the variegated Croton, Achimenes picta, and a few smaller plants.—Mr. Ayres, of Blackheath, sent cut blooms of 24 varieties of fancy Pelargoniums, and R. T. Clarke, Esq., of Wilton-place, Daventry, exhibited cut specimens of a white Chrysanthemum in bloom, which proves that this useful autumn flower may be had in blossom at this season, if such should be desired. It had, of course, been forced.—Four nice bunches of Black Hamburgh Grapes, for which a certificate was awarded, were produced by Mr. Forbes, gr. to the Duke of Bedford, at Woburn.—Mr. Meredith, gr. to the Duke of Sutherland, at Cliefden, sent eight pots of Keens' Seedling Strawberry, in fruit, and a similar number of Cuthill's Black Prince. The latter were in 3-inch pots, and well fruited. From the same establishment also came dishes of Kitley's Goliath and Keens' Seedling. A certificate was awarded for the plants in pots.—A similar award was also made to Mr. Solomon, of Covent-Garden Market, for fine examples of Paris Cos and Grand admirable Lettuces, imported from France. The attention of the meeting was drawn to the fact, that the only persons who in this country succeeded in producing fine summer Lettuces at this season in England were two Dutch gardeners, one of whom was imported by the late Mr. Labouchere.—A design for laying out ornamental grounds was shown by Messrs. Wood and Lake, land-surveyors, Lincoln's-inn-fields.—The Garden of the Society furnished the sweet-scented Rhododendron

formosum, which is also sometimes called Gibsoni; Rhynchospermum jasminoides, whose white flowers are as fragrant as those of a Jasmine; the Californian Ceanothus rigidus, most gay with numberless clusters of blue flowers; the scarlet-blossomed Sage (Salvia gesneriflora), a brilliant plant at this season; Trymalium odoratissimum, and another small white-flowered shrub called Discaria crenata, which, though scarcely better than a bright-green bush in general appearance, emits a delightful perfume when the sun shines on it. Associated with these were also the pretty little shrub Bryanthus erectus, the Broad-leaved Daviesia, Diosma ambigua, Acacia celastrifolia, an Epacris, and a Cape Heath. It was announced that printed copies of the audited accounts of the Society were ready for distribution, and that they may be had on application to the Librarian.

Books, &c., Received.

The Orchid Growers' Manual. By B. S. Williams. 8vo. Chapman and Hall; pp. 108.—A reprint of the "Orchids for the Million," recently published in our columns, with some additions.

Twentieth Annual Report of the Royal Horticultural Society of Cornwall. Truro: Heard and Sons.—The Society gave away last year 73*l.* 17*s.* 6*d.* in prizes, and has a balance in its favour of 51*l.* 17*s.* 5*d.* It is not much to the credit of Falmouth and Truro that so well managed an institution should not be more liberally supported.

Walpers, Annales Botanices Systematicæ. Vol. II., Fasc. 4. Melastomaceæ to Rubiaceæ.

Deeds of Naval Daring, or Anecdotes of the British Navy. By E. Giffard, Esq. 12mo. Murray; pp. 207.—A capital selection of short authentic anecdotes of those marvellous exploits which have made the British Navy the glory of its own country and the terror of all others. Every sailor-boy should learn it by heart, and every ships' company should have it in their library.

Proposal for the Defence of the Country, by means of a Volunteer Force in place of a Regular or Local Militia. By J. Kinloch, Esq. 8vo. Blackwood (a pamphlet of 78 pages). Well timed, well written, well reasoned. Capt. Kinloch is not merely a gallant soldier, but a man of good sense. As an officer of the Household Brigade, he acquired the professional views of the highest ranks of our military service; as a Captain of the line, he learned what soldiering is divested of its luxuries; as a Brigadier General in Spain, with Sir de Lacy Evans, his home ideas were very considerably modified by the rough service that he saw in Biscay, and prejudices, if such they were, became softened into sound military opinions. He advocates the creation of a volunteer force in preference to a militia; but he would not attempt to make farmers and gamekeepers into regular troops, an experiment that cannot possibly succeed. As to what they should do, what they should not do, and what they can do well, he entertains views very similar to those of General Sir Charles Napier, except that he throws over the ordnance musket in favour of the Minié rifle. It is to be hoped that some honourable gentleman will support such views in Parliament. They are far more likely to find favour with the country than a local militia bill, of which nobody approves except its framers. Are we indeed so poor, or so niggardly, that we cannot afford a few hundred thousands a year for the protection of our wives and children? or so ignorant as not to see the difference between effective volunteers and non-effective bounty-made militia-men? or so stupid as to object to what is needed to *insure* our property, for fear of incurring "the odium of tearing 'innocent and uncorrupted' youths from the apron-strings of their terrified and distracted mothers, and the responsibility of their being initiated into the 'awful indiscretions' inseparable from a military life, for which the immaculate old women of Manchester entertain so much virtuous indignation and disgust."

Garden Memoranda.

Worton Cottage, Isleworth.—We looked in here the other day in order to discover what Mr. Beck was doing, after having parted with his nice collections of Orchids and Pelargoniums. With the exception of the Orchids, of which there were none, we found everything nearly in its usual condition. The stage of the specimen Pelargonium house was covered with the most promising two year old plants that could possibly be desired. They were in the very best of health with no "spot" or discoloured leaves, and some of the earliest varieties were coming fast into bloom. The gardener was just preparing to put up Haythorn's Hexagon Netting, a neat looking material, to exclude bees, which when allowed admission fertilise and spoil the flowers. Most of the other houses were filled with seedling Pelargoniums, in the raising of good varieties of which we need hardly say Mr. Beck is so successful. According to his invariable practice, all plants of an unpromising character are immediately broken up and thrown away as soon as the evils that belong to them are discovered. This operation occurred in our presence in the case of two varieties with cankered stems. The stove where the Orchids used to be was occupied with Gesneras and Achimenes, of which there is a nice collection. Having passed through the potting shed, in which the strictest order and neatness is maintained, and round the end of the principal Pelargonium house we found ourselves among flower-beds in gravel, with a broad walk before us leading to the little lawn near the dwelling-house. This walk is broadly margined with turf, and lined on either side with standard Roses, which rise out of small circles in the grass. To improve the health and flowering of the plants, these circles receive a little dung in November, covering it slightly with soil, and in Spring it is pointed in about the roots. The beds are edged with slate of an ornamental description, which besides being impenetrable and offering no harbour for insects, contrasts admirably with the warm colour of the gravel. Enquiry was made in our columns a short time ago, respecting the value or otherwise of slate for Orange tubs. Perhaps the most satisfactory answer to the question is contained in the fact that the demand for such things has very greatly increased during the last year or two. They are now made by Mr. Beck on the most approved principles, with roll at top, and they can be taken to pieces (for they are merely kept together by nuts and screws) in a few minutes. One in which was growing the new Evergreen Plum of California was unscrewed in our presence with the greatest facility, although it had not been touched for the last 12 months; the roots were found in close contiguity with the slate, and in the best possible condition. In justice to the gardener we must mention that the garden altogether exhibited the best of keeping; not a weed was to be seen, and all the walks were neatly sweeped and rolled.

Mr. Dobson's, Woodlands Nursery, Isleworth.—Everything here was neat and clean, and there was a considerable amount of gaiety in the open borders. This was kept up by some of our old fashioned flowers which are now-a-days too much neglected, as for instance, double Daisies, Oxlips, Polyanthuses, common Primroses, White Allysum, and things of that kind. They are highly ornamental in spring, and they can be removed in time to make room for the usual bedding plants. During the hot summer weather they like a shady situation, from which they should be transferred in October to where they are intended to flower. Among the Daisies we remarked some German ones of novel character and very pretty. If it is wished to increase any of the above plants, it should be done just after they go out of flower, and are removed to their cool summer quarters. The seed-shop and end of one of the glasshouses, next the entrance, were gay with Cinerarias in flower than which we have few more ornamental or useful in-door plants at this season. The Pelargoniums were all in a thriving condition; those intended for Chiswick, on the 8th of May, were beginning to shew their flowers; but it was doubtful whether they would be finely in bloom by that date, the season having been very much against their favourable development.

FLORICULTURE.

The Hyacinth.—This is everybody's flower from the cottage to the palace, in the smoky city and in the pure air of the country. Its accommodating habits are not among the least of its good qualities; for it will grow and flower in a glass in water, in a pot in soil, or in the open border. It is, however, to its cultivation in pots that we wish on this occasion to direct attention. Those who have been in the habit of attending the Horticultural Society's rooms in Regent-street, for the last two or three years, cannot have failed to have remarked the charming collections of this favourite flower which have been annually exhibited there from the nursery of Messrs. Henderson, of Pine-apple-place. The last of these interesting displays was produced on the 6th inst., when we had an opportunity of inspecting the different varieties, and adding a few to the list which we made last year. The names of some of the best are; *Light blue:* Orondates, Robinson, Pasquin, Prince Frederick, Nimrod, Grand Vidette, Grand Lilac, Morello, and Passe tout (double). *Dark blue:* Laurens Koster (double), Prince Van Saxe Weimar, Emicus, Richard Cœur de Lion (very fine), Baron Van Thuyll, Charles Dickens, Prince Oscar, and Mignonaude Drythout (double). *Violet:* Tubal Cain, William I., and Prince Albert. *White:* Helen, Grand Vainqueur, Le Tour d'Auvergne, La Vestal, Grand Vidette, Prima Donna, La Candeur, and A la Mode Epuisée (double, with a pink centre). *Blush:* Grandeur de Meneilles, Anna Maria (double), Triumph Blandina (ditto), and Tubiflora. *Plum:* L'Unique. *Yellow or buff:* Miss Kitty (double, very fine), Anna Paulowna, Heroine (double). *Deep rose:* Amphion. *Red:* Fireball, Mars, Herstelde Vreede, Appelius, Le Franeq Van Berkhey, and Waterloo (double). *Light red:* La Dame du Laak, and Lord Wellington. Of these perhaps the most remarkable for general good properties was Richard Cœur de Lion, single blue, very similar in colour to Charles Dickens, Bleumorant, Prince Oscar, and Baron Van Thuyll, but infinitely surpassing them in quality; tube smooth as are the several divisions of it, glossy, broad, and of good size; in truth the best of all the single varieties displayed on the occasion. Appelius and Fireball, single reds, are brighter in colour and better in form than Waterloo. Prince Frederick and Pasquin are the best of the double blues, and distinct; Miss Kitty is conspicuous for its large bells, but they are rather thinly arranged on the spike. Prince Albert must still be considered one of the darkest Hyacinths in cultivation. These were all in ordinary shaped, rather small-sized pots, in each of which were two plants and sometimes three, which made a very effective display. As regards the cultivation of the Hyacinth in pots little need be said. We have grown them after Messrs. Henderson's plan of placing two and three bulbs in a pot. After planting, they were put in a frame properly drained at the bottom and slightly protected at the sides, plunging them in rotten tan, and covering the tan over them at least 4 inches. In very hard weather they had a mat thrown over them: otherwise no covering at all. In this state they remained till the flower stems heaved up the tan, and first began to make their appearance; every pot, as this occurred, was taken to the greenhouse, put at the back of the stage, and shaded by a mat until the stem and leaves became greenish, when it was gradually brought to more light and air. While in this state each spike of flowers should be examined, and any decaying blossoms removed. Water freely, give as much air as possible during the day, and never omit turning the pot daily, so as to ensure that regular pyramidal shape, which is so essential to the beauty and symmetry of a fine Hyacinth. The value of covering with old tan or some such material is to induce plenty of strong roots to form before the stem has started upwards, which is of the greatest importance to successful growth. *J. E.*

Horticultural Society. — We understand that it is determined not to alter the last year's regulations respecting seedling florists' flowers at Chiswick. A tent, as usual, will be furnished for their reception; but the Society does not propose to judge or award prizes for them.

Royal South London Floricultural Society, *April* 22.—At this, the first Exhibition for this year, there was an average number of miscellaneous plants, and perhaps more florist's flowers than could have been expected, considering the lateness of the season. The awards were as follows:—Auriculas, four plants: 1st, Mr. Miller with Maclean's Unique, Duke of Wellington, Matilda, and Champion; 2nd, W. S. Ginger, Esq. Nurserymen, six plants; 1st, Mr. Turner, of Slough, with Ne plus ultra, Prince of Wales, Lovely Ann, Ringleader, Sir John Moore, and Cheetham's Lancashire Hero; 2d, Mr. James Dickson, Brixton; 3rd, Mr. Wilmer, of Sunbury. Pansies: 1st, Mr. Lane, of Wycombe; 2d, J. H. Brown, Esq., Tulse Hill. Nurserymen: 1st, Mr. Turner; 2d, Mr. Bragg. The leading varieties were Duke of Perth, Pompey, Mrs. Hamilton, Ophir, Sambo, Keepsake, Euphemia, Juventa, Duke of Norfolk, Elegant, France Cycole, Mr. Beck, Caroline, Rainbow, Thisbe, Pandora, Maid of Athens, Sir J. Franklin, and Queen of England. Polyanthuses were present, but in bad condition. Prizes were awarded for 15 Stove and Greenhouse plants to Mr. Rosier, 1st; Mr. Over, 2d; and Mr. Hamp, 3d. Nurserymen: 1st, Messrs. Frazer; and 2d, Messrs. Fairbairn. *J. E.*

National Floricultural Society, *April* 22.—Mr. George Smith in the chair. Cinerarias formed the principal subjects of exhibition, being contributed by Messrs. A. Henderson, E. G. Henderson, Salter, Ambrose, and Edwards. Rhododendron varium was again produced, in the shape of three pretty dwarf specimens. A mottled Daisy came from Mr. Salter. Pelargoniums, in the form of plants and cut flowers, were staged by Mr. Dobson, Mr. Ambrose, and Mr. Ayres. Pansies in pots were sent by Mr. Edwards, and Auriculas by Mr. Coldham. *J. E.*

North London Floricultural Society.—By a recent resolution, the committee meeting nights have been altered from the third Wednesday in every month to the third Thursday. *J. E.*

Carnations and Picotees: *E.* A general surface stirring and cleaning should now be undertaken; remove the old decayed foliage with caution, or injury may be committed to the coming increase; it has been necessary to water the stock, and in so doing we strive to operate according to the constitution of the subject; vigorous growers with much increase require more food than varieties of weak habit or of deficient increase. *J. E.*

Catalogues received from Messrs. A. Paul and Son, Cheshunt, Herts; from Messrs. J. Fowle and Son, Holland-street, Brixton-road, Kennington; from Messrs. Arthur Henderson and Co., Pine-apple-place. *J. E.*

Cinerarias: *J Bean.* They should have been sent direct to our office. They were completely withered up when they reached us.—*H D.* We regret that your flowers should not have been forwarded to our Office (5, Upper Wellington-street, Covent Garden) at once, as, owing to the delay, they had begun to shrivel before they reached us. The best of the batch are the three blooms stuck into the piece of wood, but they are not faultless. The border colour runs too much into the white, and the flowers altogether want smoothness. The rest are small, and otherwise inferior to kinds possessing the same colours now in cultivation. *J. E.*

Hollyhocks: *A B.* The modern varieties of first-rate excellence are, as a rule, of moderately dwarf habit; if planted now success may be expected to attend good cultivation; they will flower by the middle of August, and continue in succession until late in autumn; earlier blooms can only be obtained by an earlier start. *J. E.*

Seedling Pansies: *Z.* The first crop from last years' seed will now be in full flower. We have already inspected thousands—a task of the greatest interest, and one in which we have long delighted. We shall report progress in due time. *J. E.*

Misc: *K.* See report in this day's Paper.—*W.* We have no knowledge of the variety referred to. *J. E.*

Miscellaneous.

Absorption of the Soluble Salts of Ulmic Acid by plants. By J. Malaguti. — Soubeiran concluded, from two experiments which he had made on the absorption of the ulmate of ammonia, that this salt was taken up by plants. In one experiment, a plant was placed with its roots in a solution of ulmate of ammonia; it continued to grow in it, and the solution became partially decolorised. In the second experiment, Beans and Oats were found to succeed perfectly well in a soil which had been deprived of organic matter, but which contained some sulphate and phosphate of lime, and was watered with a solution of ulmate of ammonia. The author's object was to check Soubeiran's experiments by the balance. He filled two large funnels half full with gravel and the other half with pounded brick, which contained one-hundredth of calcined bone and the same amount of chalk. The same quantity of Cress seed was sown in each. As soon as they began to germinate, a perfectly neutral solution of ulmate of ammonia was prepared from peat; the solution (2 litres) was divided into two equal parts; one was kept, the other used to water the soil in one of the funnels. Four days after

the seeds were sown, they were watered daily with 100 cub. centims. of water, the others with the solution of ulmate of ammonia. Already on the fifth day there was a perceptible difference in the appearance of the plants; those moistened with water only were light green, the others dark green. Eighteen days after the watering, or on the 22d day of the experiment, the plants were collected entire with the roots. Those which had been watered with the solution of ulmate of ammonia weighed 15·150 grms., the others 12·550 grms. The author now exhausted the soil which had been watered with ulmate of ammonia, alternately with hydrochloric acid and ammonia, made the extract neutral, precipitated with chloride of calcium, and weighed the precipitate. The 1 litre of ulmate of ammonia, which had been preserved for comparison, was precipitated with chloride of calcium; it gave 5.7 grms. precipitate, whilst the first, which must have originally contained the same quantity, furnished only 3.1 grms. The difference of 2·6 grms. has therefore been absorbed by the plants. The ulmate of lime furnished, on the analysis of 0·590 substance, 0·053 lime, according to which the ulmate of ammonia used to water the plants must have lost 2·367 ulmic acid. Hence the author concludes with Soubeiran, that the soluble ulmates are absorbed, and applied in the vegetation of plants. *Comptes Rendus*, xxxiv. p. 112. *Chemical Gazette.*

Sale of Orchids.—The interesting collection to which attention was directed at p. 244, was sold by Mr. Stevens on Tuesday last. The following shows the kind of prices they fetched:—Barkeria spectabilis (five plants), from 2*l.* 15*s.* to 3*l.* 15*s.*; Epidendrum Skinneri (10 plants), from 3*l.* 5*s.* to 5*l.*; E. Stamfordianum (two plants), from 1*l.* to 1*l.* 15*s.*; E. bicornutum, 1*l.* to 1*l.* 8*s.*; Lycaste Skinneri (five plants), from 3*l.* 5*s.* to 3*l.* 17*s.*; Cattleya Skinneri (five plants), from 3*l.* to 3*l.* 10*s.*; Lælia superbiens (three plants), 3*l.*; L. peduncularis (five plants), from 2*l.* to 3*l.* 3*s.*; Arpophyllum giganteum, from 1*l.* to 2*l.* 15*s.*; a Chysis (two plants), from 1*l.* to 2*l.* 2*s.*; Odontoglossum pulchellum (five plants), from 3*l.* 5*s.* to 3*l.* 10*s.*; O. Rossii and others (10 plants), from 1*l.* 12*s.* to 3*l.* 3*s.*; Cycnoches ventricosum and Egertonianum (five plants), 3*l.*; Oncidium Cavendishii and others (four plants), 3*l.* 3*s.*; Lacæna bicolor, 1*l.* 2*s.*; Brassavola Digbyana (five plants), from 1*l.* to 1*l.* 13*s.* The above are some of the highest prices realised. Other lots, of which there were 185, sold much cheaper.

Calendar of Operations.

(For the ensuing week.)

PLANT HOUSES.

WHENEVER the opportunity of a spare pit occurs, remove another part of the young stock from the plant houses to allow that remaining more room. In the Geranium house the stock for late blooming may now be safely transferred to a pit, where by placing them near the glass, and giving abundant ventilation, the plants will preserve their compact dwarf habit. Those showing flower-buds should have another look-over, and be finally staked to their proper form; small doses of weak manure-water may be given occasionally, and keep them sufficiently thin on the stage, to preserve the lower leaves from turning yellow.—Fuchsias potted in their blooming pots should be neatly staked; this plant naturally forms a conical-shaped bush, and this form should be encouraged as the plant progresses, by frequent stoppings; allow no blooms to appear till the plants have attained the desired size. Chinese Azaleas as they come into bloom should be removed to the conservatory, or a well-shaded house, to preserve their flowers in perfection; they will, at this stage, require very liberal waterings. Camellias now growing should have a humid atmosphere, and be well shaded; a very thin coat of white lead, mixed with spirits of turpentine, forms a most effectual shade, without obstructing too much light, and may be advantageously used in houses devoted to plants in bloom through the summer. Any Amaryllis showing bloom in the forcing pit may be removed to the stove; when the blooms open remove them to the conservatory or flower house, where they will make an addition to the display.

FORCING DEPARTMENT.

VINERY.—Gradually reduce the heat in the early house after the crop is ripe, as no heat will then be necessary further than keeping the house dry and airy, to preserve the Grapes from damping in wet weather; while the moderate temperature will help to keep the fruit in a fresh state for the table for some time. MELONS.—When a sufficient number of fruit is set, the plants, especially if grown in a house, should be gently syringed over head each fine afternoon; this will help to keep down spiders and preserve a humid atmosphere through the night. Great care on this, and all other occasions, should, however, be taken to prevent any injury to the leaves, which would prove a great drawback to the swelling of the fruit. The great art in growing high-flavoured Melons consists in keeping the leaves in a green healthy state till the crop is ripe; therefore every means should be used to carry out so desirable a result. In regulating the number of fruit to remain on each, the space which the plant occupies and size of the fruit should be considered. Weak manure water may be given three or four times during the swelling of the fruit. Keep up the bottom-heat, and let the thermometer range from 70° by night to 85° by day.

FLOWER GARDEN AND SHRUBBERY.

Plants intended for filling vases, baskets, &c., will require more attention to make them suitable for the purpose than the ordinary bedding stuff; select the desired number of the plants you require, those requiring more pot room may have a small shift; they should be kept in a pit or frame by themselves, where they can more easily be managed, so as to become bushy, well-shaped plants, furnished with flower buds by the time they are wanted. The most graceful plants for vases are certainly those with sword-like leaves and rather spreading habit, among which Agapanthus umbellatus, several of the Gladiolus, Phormium tenax, dwarf Aloes and Yuccas, Tritomas, &c., will be found the most useful for centres, surrounding them with plants of a trailing, or creeping habit, to grow over the side of the vases. In addition to the above, most of the dwarf growing scarlet and pink flowered varieties of the horseshoe Geranium are well adapted, as are the variegated leaved kinds, and some of other varieties. Kalosanthes coccinea major and miniata are among the most showy things for vases we have; Fuchsia fulgens and globosa are likewise valuable, the latter when grown into low standards makes a pretty object; for particular situations to assist in filling up, the blue and white Maurandya, two or three kinds of Lophospermum, the tall and dwarf Convolvulus, Saponaria ocymoides, dwarf Nasturtiums, Campanula fragilis, and with the dwarf blue Lobelias, &c., will show the class of plants to be employed in connection with the former. In making the vases complete, these latter should contrast with the centres, as regards colour; during the summer they should be allowed to grow into a certain degree of wildness, and made to grow freely over the edges of the vases, &c.; in this state they will be more admired, than when arranged in a stiff formal manner.

FLORISTS' FLOWERS.

Tulips are rapidly progressing, the very warm weather of late bringing them forward amazingly. Some of our floral acquaintances have lately been watering their Tulips, we only notice it to disapprove of the course adopted; we have seen in our time serious injury accrue to the bulbs by so doing. The rootlets of the Tulip bulb draw their nutriment far away from the surface, and a well-made bed will always be sufficiently moist. Take care that all plants in pots do not suffer for lack of moisture. This caution applies particularly to Pinks, Pansies, Carnations, and Picotees. Strike the side shoots of Pansies, and particularly attend to propagating good seedlings in this manner; by no means attempt to transplant them before you have got cuttings rooted. Seedling Ranunculuses in pans or boxes will require considerable care; they must not have too much sun, as it would probably destroy many of them.

HARDY FRUIT GARDEN.

Strawberries are acceptable at all seasons; provide, therefore, for an autumnal supply by planting out in an open situation the early forced crops of Keens' Seedling, &c., now removed from the forcing houses. If you can harden them off so much the better; if not, place a few evergreen branches over them for two or three weeks; in June these will start into fresh growth, and produce a second crop in September. The best kind, however, for furnishing the autumn supply is the Alpine, of which there are several kinds. On the Continent these are extensively grown, and raised principally from seeds each year. We prefer last autumn's runners, as they with us come into bearing quicker, and run less to leaf. Plantations of these should now be made on a light rich soil. For the late summer's supply a north border is very suitable; but to ripen late choose a sunny exposure. Plant the runners a foot apart, in beds 3 or 4 feet wide, that the fruit may be picked without treading on them. Pick off all blooms and runners that appear before the middle or end of June, and supply them liberally with water in dry weather; this will prolong their bearing till November. The green-fly very frequently appears at this time on the Peach and Nectarines. Take the opportunity of a sunny morning first to well wash the trees with the engine to dislodge them from the leaves; then mix 1 quart of tobacco water in a large watering-pot of soap-suds, and syringe the trees carefully over. The suds will cause the mixture to adhere to the leaves, and one or two applications will generally be found sufficient at a time. Proceed cautiously with disbudding.

KITCHEN GARDEN.

Directly a change in the weather takes place, the spring-raised Cauliflowers, Lettuce, &c., should be planted out on well pulverised rich land, as the earlier they are planted the less will be the check by removal. If circumstances permit, a soil of rather heavy nature should be preferred for growing the above, and other of the Brassica tribe during the summer. Prepare a ridge for growing the hand-glass Cucumbers, by throwing out a trench 3 or 4 feet wide, 2 feet deep, and of sufficient length to furnish the required supply; this may be filled with stable dung, or any fermenting material, sufficient to warm the earth thrown over it, which should be 1 foot in thickness, light but not over rich; on this place the glasses 3 or 4 feet apart, and sow a few seeds under each; these should subsequently be thinned to two or three, which cover the ground.

State of the Weather near London, for the week ending April 22, 1852, as observed at the Horticultural Gardens, Chiswick.

April.	Month's Age.	Barometer.		Temperature. Of the Air.			Of the Earth.		Wind.	Rain.
		Max.	Min.	Max.	Min.	Mean	1 foot deep.	2 feet deep.		
Friday.. 16	27	30.037	29.987	52	25	38.5	47	44	E.	.00
Satur. .. 17	28	29.957	29.837	56	31	43.5	44	44½	N.	.01
Sunday . 18	29	30.010	29.763	50	34	42.0	45	44	E.	.01
Monday 19	30	30.096	30.069	48	20	34.0	43½	43½	N.E.	.00
Tues. .. 20	1	30.118	30.043	59	21	40.0	42½	42½	S.W	.00
Wed. .. 21	2	30.074	29.957	61	37	49.0	44	42	S.E	.00
Thurs... 22	3	29.883	29.821	70	43	56.5	45	45	S.E.	.00
Average .		30.025	29.925	56.6	30.1	42.3	44.4	43.6		0.2

April 16—Dry cold haze; cloudy and cold; clear; frosty.
" 17—Clear and frosty; fine; clear
" 18—Densely clouded; cloudy and cold; overcast.
" 19—Clear and cold; cloudy; clear; frosty.
" 20—Frost more severe than has been experienced so late in the season for the last 26 years at least; fine; clear.
" 21—Clear and frosty; air excessively dry; clear.
" 22—Foggy; fine; slightly overcast; clear at night.
Mean temperature of the week, 3½ deg. below the average.

State of the Weather at Chiswick, during the last 26 years, for the ensuing week, ending May 1, 1852.

April and May	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 25	59.5	38.9	49.2	11	0.40 in.	2	7	3	—	1	7	5	2
Mon. 26	59.4	37.0	48.2	13	0.12	2	5	4	1	1	5	9	1
Tues. 27	59.9	37.0	48.4	13	0.12	1	1	4	2	5	4	3	—
Wed. 28	61.2	36.8	49.0	11	0.28	1	4	5	4	4	4	2	2
Thurs. 29	61.6	38.8	50.2	8	0.75	2	3	5	2	4	4	3	4
Friday 30	62.7	41.5	52.1	10	0.31	3	3	6	1	3	4	2	4
Satur. 1	62.4	41.2	51.8	9	0.51	1	4	5	2	5	5	4	—

The highest temperature during the above period occurred on the 28th 1840—therm. 81 deg.; and the lowest on the 25th 1827—therm. 25 deg.

Notices to Correspondents.

BOOKS: *J F S.* Perhaps Mrs. Loudon's "Every Lady her own Gardener," may suit you.—*W W.* The "Vegetable Kingdom" is out of print. It contains nothing about the obsolete and useless Linnean system.—*Manchester Amateur.* The "Treatise on the Chrysanthemum," by Taylor, we believe can only be had of the author.

BIGNONIAS: *Inquisitor.* Do you not see that you answer your own question. Tecoma is one of the names of Bignonia, and some think the grandiflora a variety of radicans, others a distinct species. That is all.

BIRDS: *A Constant Reader.* You cannot hear the nightingale in Wales; but you might accomplish what you wish by a visit to Bath or Bristol, in whose vicinity these birds may be heard just now in perfection. *W. K.—Shem.* This is as good a time as any for purchasing a canary. We never recommend dealers.—*B A.* Parrots should have water to drink like other birds, more especially if they are kept on dry food; they enjoy a bath now and then in warm weather.

EDWARDSIA: *Clericus.* None of them like stiff clay. *It is too cold.* They want a nice light warm alluvial soil. The same is true of Arbutus procera.

FUCHSIA SPECTABILIS: *H F.* We are unable to account for the buds dropping off in the manner you describe. Perhaps as the season advances you may be more fortunate. ‡

INSECTS: *P F.* We have not succeeded in finding any insects on your Cucumber leaves. We fear your plan of fumigation is not sufficiently careful. The frames ought to be made as air tight as possible.—*S. and N.* The insect which is doing so much mischief amongst the shoots of seedling Rhododendrons is the larva of some two-winged fly, belonging to the family Muscidæ. It is a new fact to us, and we shall be obliged for more specimens, sent in damp mould. If forwarded to Mr. Westwood, St. Peter's, Hammersmith, they shall be examined with proper care. *W.*

LAURELS: *A Constant Sub.* You may cut them back now as well or better than at any time. We should prune the tree Pæony severely, just before it begins to move next spring. At all events do not touch it while it has leaves on.

NAMES OF FRUITS: *Z.* Your Apple is the Lamb Abbey Pearmain. ‖

NAMES OF PLANTS: *J W.* Epidendrum elongatum.—*W C Y.* Trichonema ramiflorum.—There are a few difficult questions that stand over, but which shall be answered anotherweek.

MUSHROOMS: *A Constant Sub.* We have ourselves tried the experiment of inoculating a pasture, but with little success. Probably the best way would be to get the spawn well started by the month of September, and then to place lumps of it beneath the turf lifted up for the purpose. Possibly some correspondent would favour us with his experience on this point.

RHODODENDRONS: *C F J.* After they have done flowering under glass, you had better plunge them for the summer in some shady place in the open garden. They can be removed to the greenhouse in winter. ‡

ROSES: *W M.* We cannot commit so great an injustice to well-known Rose dealers, as to express any opinion as to who is allowed to be the best grower of Roses in pots. There is a good treatise on the cultivation of Roses in pots by Mr. Paul, of Cheshunt.—*Scrutator.* The Roses exhibited by Mr. Lane, at the meeting of the Horticultural Society, held in Regent-street, on the 6th of April, were in a cut state, and packed in boxes of damp moss. ‡

SEAKALE: *J.* We have no idea what makes your Seakale rot every spring, where the soil is dry and gravelly. If you will send us a specimen, perhaps we may then be able to discover the cause of the evil, and suggest a remedy. ‡

SHRUBS: *P B.* The Cerasus-ilicifolia is an evergreen shrub; as is also Berberis nepalensis, which does not seem inclined to grow much higher than B. Fortuni.

THE HORTICULTURAL SOCIETY: *G.* If you desire to take advantage of the new scale of compositions you should do so before Saturday next; because the year's subscription then due is cancelled by the payment of the composition, and thus you save four guineas. After Saturday it will be too late.

THE NURSERY TRADE: *J W. A Subscriber* wishes to have recommended to him some publication in the shape of a manual for nurserymen. He has lately taken to the business, and, being a stranger to it, wishes to procure some work which will instruct him as to the times for performing its operations, so that he may be as little at the mercy of his foreman as possible, and able to judge of the correctness of his acts. He may study "Loudon's Encyclopædia of Gardening," or "Brown's Forester," or Mackintosh's new work; but we fear that the only study that will really profit him is dearly bought experience. Trades cannot be taught by books alone.

VINES: *J W K.* You state that your question was, "What is the cause of Vines *wiring*, after showing their fruit?" And you wish it to be understood that your Vines are *healthy*. By the term *wiring*, we apprehend you mean that form of growth which takes place when the flowers do not come forward, but in their stead wire-like claspers or tendrils are produced. It may be observed, that the leaves on the shoots of a Vine break out alternately, never opposite to each other from the same joint. But at some of the joints, and exactly opposite to the base of a leaf, a peculiar kind of shoot originates. At some distance from the shoot it subdivides, and becomes tendrils; or, on its leading portion, the rudiment of a bunch of Grapes is shown, under which a tendril to support the same branches off. Sometimes, however, and probably in the case to which you allude, the rudiments of fructification are so imperfect, that their development cannot proceed, and they give place to small tendrils. Badly-ripened wood is, doubtless, a cause of this; and it may be occasioned by a check of the fructification, sufficient to arrest the further progress of the latter. Too great vicissitudes of heat and cold are apt to cause the whole flowering stalk to coil up like a tendril. ‖

VINE BORDERS: *R J.* We think the bottom you propose to make will answer. Mind that the border itself slopes well to the sun, and is made and kept as loose as you can.

*** As usual, many communications have been received too late, and others are unavoidably detained till the necessary inquiries can be made. We must also beg for the indulgence of those numerous correspondents, the insertion of whose interesting contributions is still delayed.

PERUVIAN GUANO.

CAUTION TO AGRICULTUISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

ANTONY GIBBS AND SONS, AS THE ONLY IMPORTERS OF PERUVIAN GUANO,

Consider it to be their duty to the Peruvian Government and to the Public again to recommend Farmers and all others who buy to be carefully on their guard.

The character of the parties from whom they purchase will of course be the best security, and, in addition to particular attention to that point, ANTONY GIBBS AND SONS think it well to remind buyers that—

The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 9l. 5s. per ton, less 2½ per cent.

Any resales made by dealers at a lower price must therefore either leave a loss to them, or the article must be adulterated.

THE LONDON MANURE COMPANY offer the following Manures on the best terms, warranting every article strictly genuine:—Peruvian Guano, Superphosphate of Lime, Nitrate of Soda, Concentrated Urate, Peat Charcoal, Gypsum, Fishery Salt from Cornwall, also a constant supply of Salt for agricultural purposes; Linseed and Rape Cake. Peruvian Guano, warranted the genuine importation of Messrs. A. Gibbs and Sons, at 9l. 10s. per ton, or for 5 tons and upwards, 9l. 5s. in Dock. EDWARD PURSER, Sec.

40, New Bridge-street, Blackfriars.

MANURES.—The following Manures are manufactured at Mr. LAWES'S Factory, Deptford Creek:

Turnip Manure, per ton	...	...	£7 0 0
Superphosphate of Lime	...	...	7 0 0
Sulphuric Acid and Coprolites	...	...	5 0 0

Office, 69, King William-street, City, London.

N.B. Peruvian Guano, guaranteed to contain 16 per cent. of Ammonia, 9l. 10s. per ton; and for 5 tons or more, 9l. 5s. per ton, in dock. Sulphate of ammonia, &c.

TURNIP SOWING.

SUPERPHOSPHATE OF LIME, made from bone only, equal in quality, but in superior condition to that manufactured by the under-signed, as reported in the Royal Agricultural Society's Journal, Vol. vi. Part 2. It is also suitable for use with Chandler's Liquid Drill; also Peruvian Guano, Nitrate of Soda, Gypsum, Bone-dust, Sulphuric Acid, and all other Manures of known value.—Apply to MARK FOTHERGILL, 404, Upper Thames-street, London.

TO AGRICULTURISTS.

OWEN'S ANIMALISED CARBON is now for Sale, at 2l. 5s. per ton in bulk.—This Manure has been introduced, with the most beneficial results, at St. Croix and the Mauritius, in the growth of the Sugar Cane, as proved by testimonials from the planters. The powerful fertilising properties of the Carbon have long since been acknowledged in Denmark, where it has been extensively used for agricultural purposes, as no less than 26,000 tons have already been sold. It is ready for immediate use, having no occasion to be ground, is equally as portable and diffusible as bones, and the low price at which it can be sold in this country must always be a paramount recommendation. *A liberal Commission allowed to Dealers or Agents.* For copies of the testimonials of its utility in this country, also for samples, apply to J. OWEN and Co., 3, Rood-lane.

Messrs. J. OWEN and Co. are now importing from their Copenhagen Manufactory SUPERPHOSPHATE OF LIME, of the very best description, containing at least 18 per cent. of Neutral Soluble Phosphate of Lime, and capable of furnishing at least 3 per cent. of Ammonia to the Soil. The "Analysis" is made by Professor J. THOMAS WAY, Consulting Chemist to the Royal Agricultural Society. The price, in London, of this powerful Manure, is 7l. per ton, cash, or Banker's Bill on London.

FOSSIL BONES AND PSEUDO-COPROLITES.

(FROM THE SUFFOLK CRAG.)

EDWARD PACKARD AND CO., of Ipswich, having erected very powerful Machinery for the purpose of reducing these Phosphatic Nodules to a fine Powder, and being in the immediate locality of where they are found, are now prepared to supply them on the most economical terms, in any quantity, either Ground, Whole, or Dissolved in Acid. They form the cheapest source of Phosphate of Lime in the market, and are peculiarly eligible for manufacturing Superphosphate of Lime in conjunction with Bone.

Prices and every information connected with their use forwarded on application to EDWARD PACKARD and Co., Artificial Manure Manufacturers, Ipswich, Suffolk.

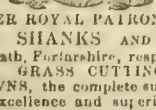
CHARCOAL AND SEWAGE MANURE.—Promote the Health and Wealth of Town and Country by increasing the use of that valuable manure PEAT CHARCOAL, impregnated with the fertilising matter of LONDON SEWAGE. The ammonia, phosphates, and fæces are absorbed, and the water pressed out bright, palatable, and soft.

Sold at the Charcoal and Sewage Works, Stanley-bridge, Fulham, Middlesex, at 60s. per ton, 4s. per cwt., 2s. 6d. per half cwt.

HOSE FOR LIQUID MANURE, FIRE ENGINES, or GARDEN PURPOSES, made of Canvas, lined and coated with Gutta Percha. It is exclusively used by agriculturists, and at the Government Public Works, giving great satisfaction. Also, KASE'S FORCE and SUCTION PUMP, which is the most simple and complete; it will throw 40 gallons per minute, 40 feet high, and it is not at all liable to get out of order. Price 5l. 10s.; on wheels and stand, 7l. 7s.

BURGESS and KEY, 103, Newgate-street, London.

IMPROVED GRASS CUTTING & ROLLING MACHINE.

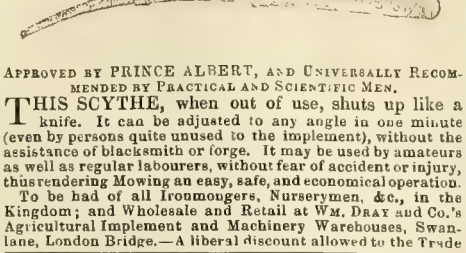


UNDER ROYAL PATRONAGE.

ALEXANDER SHANKS AND SON, MACHINE MAKERS, Arbroath, Forfarshire, respectfully solicit notice to their Improved GRASS CUTTING AND ROLLING MACHINE for LAWNS, the complete success of which, and its acknowledged excellence and superiority over all other Machines of the kind, has now been fully confirmed. Testimonials and further particulars will be immediately franked on application.

AGENTS, for London: Messrs. J. and C. Lee, Nurserymen and Seedsmen, Hammersmith; Hertford: Mr. George Folkard, Ironmonger; Liverpool: Messrs. Charles D. Young and Co., Castle Buildings, Derby-square; Sheffield: Mr. J. Law, Curator of the Botanic Gardens; Chester: Messrs. F. and J. Dickson, Nurserymen and Seedsmen; Glasgow: Messrs. Chas. D. Young and Co., 37, St. Enoch-square; Edinburgh: Messrs. Chas. D. Young and Co., 48, North Bridge; Perth: Messrs. Dickson and Turnbull, Nurserymen and Seedsmen.

BOYD'S SELF-ADJUSTING SCYTHE.



APPROVED BY PRINCE ALBERT, AND UNIVERSALLY RECOMMENDED BY PRACTICAL AND SCIENTIFIC MEN.

THIS SCYTHE, when out of use, shuts up like a knife. It can be adjusted to any angle in one minute (even by persons quite unused to the implement), without the assistance of blacksmith or forge. It may be used by amateurs as well as regular labourers, without fear of accident or injury, thus rendering Mowing an easy, safe, and economical operation.

To be had of all Ironmongers, Nurserymen, &c., in the Kingdom; and Wholesale and Retail at WM. DRAY and Co.'s Agricultural Implement and Machinery Warehouses, Swan-lane, London Bridge.—A liberal discount allowed to the Trade

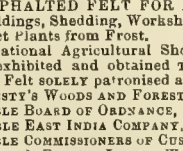
BUDDING'S LAWN MOWERS.

MR. SAMUELSON, Britannia Iron Works, Banbury, Oxon (successor to the late James Gardner), to avoid the disappointment experienced last season, as regards their delivery, will feel obliged by orders for the above machines, and for GARDEN ROLLERS, being given as early as possible.

Delivery free to all places on the London and North-Western, and Great Western and Midland Railways.

Drawings and price lists forwarded on application.

CHEAP AND DURABLE ROOFING.

BY HER MAJESTY'S  ROYAL LETTERS PATENT.

F. M'NEILL AND Co., of Lamb's-buildings, Bunhill-row, London, the Manufacturers and only Patentees of THE ASPHALTED FELT FOR ROOFING

Houses, Farm Buildings, Shedding, Workshops, and for Garden purposes, to protect Plants from Frost.

At the Great National Agricultural Shows, it is this Felt which has been exhibited and obtained TWO SILVER MEDAL PRIZES, and is the Felt SOLELY patronised and adopted by

HER MAJESTY'S WOODS AND FORESTS,
HONOURABLE BOARD OF ORDNANCE,
HONOURABLE EAST INDIA COMPANY,
HONOURABLE COMMISSIONERS OF CUSTOMS,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANIC GARDENS, REGENT'S PARK,

And on the Estates of the Dukes of Sutherland, Norfolk, Rutland, Newcastle, Northumberland, Buccleuch (at Richmond), and late Earl Spencer, and most of the Nobility and Gentry, and at the ROYAL AGRICULTURAL SOCIETY'S HOUSE, Hanover-sq.

It is half the price of any other description of roofing, and effects a great saving of Timber in the construction of Roofs. Made to any length by 32 inches wide.

PRICE ONE PENNY PER SQUARE FOOT.

*** Samples, with Directions for its Use, and Testimonials of seven years' experience, with references to Noblemen, Gentlemen, Architects, and Builders, sent free to any part of the town or country, and orders by post executed.

☞ The Public is cautioned that the only Works in London or Great Britain where the above Roofing is made, are

F. M'NEILL AND CO.'S

Patent Felt Manufactory, Lamb's-buildings, Bunhill-row, London, where Roofs covered with the Felt may be seen.

The new Vice-Chancellor's Courts, at the entrance of Westminster Hall, were roofed with F. M'NEILL and Co.'s Felt about two years since, under the Surveyorship of Chas. Barry, Esq., R.A. Her Majesty's Commissioners of Woods and Forests are so satisfied with the result that they have ordered the Committee Rooms at the Houses of Parliament to be roofed with their Felt. Quantity altogether used, 24,000 feet.

NOTE.—Consumers sending direct to the Factory can be supplied in lengths best suited to their Roofs, so that they pay for no more than they require.

Every information afforded on the construction of Roofs, or any proposed particular application of the Felt.

M'CORMICK'S AMERICAN REAPER.

BURGESS AND KEY, Agents, 103, Newgate-street, London.—Extract from Mr. Pusey's Report on the Agricultural Implement Department, Great Exhibition.—"MR. M'CORMICK'S Reaper, in this trial, worked as it has since worked at Cirencester College, and elsewhere, to the admiration of practical farmers, and therefore received a Council Medal. Mr. Hussey's sometimes became clogged, as in the former trial at Tiptree, and therefore could not possibly obtain that distinction."—Price of Reaper, 25l.

STEPHENSON AND PEILL, 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Manufacturers of Copper Cylindrical and Improved Conical Iron BOILERS, and Conservatory and Hothouse Builders, either in wood or iron, respectfully call the attention of the Nobility, Gentry, and Nurserymen to their simple but efficacious method of warming Horticultural and other Buildings by hot water. From the extensive works they have executed, references of the highest respectability can be given, and full particulars furnished on application.

BEE HIVES.—A NEW AND EXTENSIVE SELECTION OF THE MOST APPROVED KINDS.—A detailed Catalogue, with Drawings and Prices, sent on receipt of Two Stamps. GEORGE NEIGHBOUR and SON, 127, High Holborn, London.

"In noticing the hives exhibited in the Crystal Palace, first and foremost, in my opinion, stands Mr. Taylor's Eight-Bar Hive, and Messrs. Neighbour and Son's Improved Cottage Hive, both exhibited by Messrs. Neighbour."—*J. H. Payne.* (See the "Cottage Gardener," Nos. 169, 170).

AGENTS.—Liverpool: Wm. Drury, Castle-street. Manchester: Hall and WILSON, 50, King-street. Glasgow: Austin and McAslan, 168, Trongate. Dublin: J. Edmondson and Co., 61, Dame-street.

PETTITT'S ROYAL EXHIBITION TEMPLE BEE-HIVES, as exhibited in Class IX., No. 92, are constructed on a new principle, the result of long practical experience, and may be worked with safety, humanity, and profit by the most timid and unaccustomed to Bee-manipulation. The necessity of Swarming is obviated, and the drones are effectually excluded from the glass hives.

A Descriptive circular forwarded on application to W. J. PETTITT, Sole Inventor and Manufacturer, Marine-terrace, Dover; and 24, Church-street, Shoreditch, London.

HUMANITY *versus* MURDER.—Best BEE-HIVE for obtaining the largest quantity of pure virgin Honey, in glasses, without destroying the Bees, is MARRIOTT'S "NEW BEE-HIVE." Its real practical utility, durability, and finished workmanship will speak for itself (which was highly commended at the Crystal Palace by her most gracious Majesty, and tested by Apiarian Judges). Descriptive engravings and prices of Humane Bee-Hives forwarded on receipt of two penny stamps.—MARRIOTT'S Bee-Hive Manufactory, 72, Gracechurch-street, London.

PRIZE MANGOLD WURZEL.—The quality of a crop of MANGOLD WURZEL depends very materially upon the *size and the shape* of the bulbs from which the seed is saved; and we have, after several years' selection, obtained a very superior stock of the YELLOW GLOBE-SHAPED MANGOLD.

We have also good stocks of LONG RED, RED GLOBE, and LONG YELLOW. Price of either sort, 8d. per lb., in small quantities, or 6d. per lb. in quantities of not less than 28 lbs. Also, TRUE LARGE WHITE BELGIAN CARROT, 9d. per lb.

CARRIAGE FREE, as see our Advertisement in the *Gardeners' Chronicle* of 20th March.

Instructions on the Cultivation of Root Crops will be enclosed in each parcel.

JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

NEW FARM SEEDS.—*The attention of all engaged in Farming Operations is respectfully directed to the Advertisement of Messrs.* WM. E. RENDLE *and Co., Plymouth, which appeared on the back page of this Newspaper* ON SATURDAY, MARCH 27, *page* 208.

Our General Descriptive Price Catalogue of Farm Seeds

Is now ready, and can be had in exchange for one penny stamp.

Apply to WILLIAM E. RENDLE and Co.,
Seed Merchants, Plymouth,
ESTABLISHED MORE THAN HALF A CENTURY.

MORTON'S YELLOW GLOBE MANGOLD.

WILLIAM E. RENDLE AND CO. *have purchased a very superior Stock of Seed, saved by J. C. Morton, Esq., of Whitfield, Gloucestershire, which is now offered by retail, at 10d. per lb.*

All other kinds of Agricultural Seeds can be obtained, of the best and most genuine quality, at the lowest market prices.

WILLIAM E. RENDLE and Co., Seed Merchants, BY SPECIAL APPOINTMENT, to the South Devon Agricultural Association, and the Royal Agricultural Society, Prince Edward's Island.

SKIRVING'S IMPROVED TURNIP SEEDS.

WILLIAM SKIRVING begs to announce to his friends and the public, that he has fixed the price, for this season, of his IMPROVED SWEDE, and also the PURPLE-TOP YELLOW BULLOCK, at 9d. per lb.

W. S. can, with perfect confidence, recommend these Turnips as being the best now in cultivation, in every respect, whether for the greatest crop, the best quality, or for keeping, according to the time of sowing. At the same time he begs to state that he has no agent in town or country, and of course is not accountable for the low-priced spurious Turnip Seeds offering under his name.

All other kinds of Turnips and Agricultural Seeds in general, of the best quality, at very moderate prices.

A remittance or reference is requested from unknown correspondents.—Queen-square, Liverpool, April 24.

AGRICULTURAL SEEDS.

W. DRUMMOND AND SON, SEEDSMEN, Stirling, Scotland, are now prepared to execute orders for the above, from a stock that has been selected with every possible care. They beg to call special attention to their various sorts of TURNIP, ITALIAN, and PERENNIAL RYE-GRASS and NATURAL GRASSES for Permanent Pasture, the prices for which are as low as really genuine Seeds can be reared for. Catalogues, with prices and other details, may be had free on application.

N.B.—The Carriage of Seeds will be prepaid to many of the principal Railway Stations and Shipping Ports throughout the Kingdom.—Agricultural Museum, Stirling, N.B.

The Agricultural Gazette.

SATURDAY, APRIL 24, 1852.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY,	April 28	Agricultural Society of England.
THURSDAY,	— 29	Agricultural Imp. Soc. of Ireland.
WEDNESDAY,	May 5	Agricultural Society of England.
THURSDAY,	— 6	Agricultural Imp. Soc. of Ireland.

WE are now about to bring before our readers some hints as to the measures necessary for facilitating the transfer of land, the advantages of which we have already explained, and are, indeed, universally admitted. We wish then to see a REGISTER of all TITLES to land established; and we think that there should be a district as well as a metropolitan register. We are not for a registry of *deeds* only, similar to that which was proposed in the last session of Parliament, but we are desirous of assimilating the transfer of land to that of stock—and we believe this to be practicable. We have been recently referred by a correspondent, "SCOTUS," to the registry system in Scotland; but although this system is better than any established in England, and as a consequence we see that land is more valuable in Scotland than in England, and that money can be there borrowed at a less rate of interest, yet we are not altogether satisfied with the Scotch registry, and think that we can get a better. Scotch conveyancing, although better than English, is still more expensive and more tardy than it need be; and we hope to see a better system established in England from which even our Scotch friends may get a lesson. We prefer taking as our model the English funds, because we have here a cheap, easy, and perfectly accessible system known to all, and capable, as we shall show, of being applied to the transfer of land as well as to the transfer of stock. All that is necessary is for the persons interested in land, to show the same confidence with respect to land that they now show as to stock, and we are persuaded that a scheme may be devised by which land may be transferred, if not quite so easily as stock, at all events with much greater ease than at present. Stock is now placed in the names of trustees, who are for the purpose of transfer the absolute owners, as the Bank will not recognise trusts; the interest in the stock is the subject of settlement as the parties interested in it choose, but

this does not interfere with the transfer. This is a system which has long been pursued with respect to stock in the funds, and the continuance of the practice shows that it is on the whole safe and satisfactory to all parties, or it would not be adopted. Now and then a Fauntleroy is heard of, and parties may be defrauded, but millions of stock stand in the names of trustees, who never betray their trust. Now, once agree to vest the fee simple of land in trustees who shall have power to sell to any purchaser, and one great difficulty in the transfer of land is over. Inquiry as to title, so far *as regards the persons who have created the trust*, may be dispensed with. A purchaser for a valuable consideration without notice would hold as against all persons so interested, and in ninety-nine cases in one hundred a perfect title would be created against all the world. If trustees now please to sell stock, they can make a perfect title by the sole act of transfer; it is only necessary to enable trustees to do the like with land, and you may have a similar plan applicable to the transfer of land. But if this is startling to any of our readers, they have only to look to their own settlements and mortgage deeds already existing, to find that a great deal of land already stands in this condition, the trustees of which might, if they chose, abuse their trust, but which is found in practice to be perfectly safe. In most settlements the land settled is vested in trustees with power to sell and exchange, the *receipts of the trustees being sufficient discharges*, and in most mortgages power is given to the mortgagee to sell, even without the consent of the mortgagor. But we know that fraudulent sales do not in practice take place.

This then is a hint of the plan that we propose for giving freedom to the transfer of land. In the cases we have referred to a 60 years' title is still demanded, the practice of the profession requiring it, and no one will purchase without it. But this practice must be altered or dispensed with when land is thus vested in trustees and placed on the register: and how this may be safely done we shall show in a separate article. We have now said enough, we trust, to put our readers on inquiring, and we may add that many eminent professional men, as well barristers as solicitors, agree with us in thinking a scheme such as we propose is practicable, and would be attended with the effect we suggest—that of rendering the transfer of land easy. It must be accompanied by other measures to which we shall hereafter advert.

One word in conclusion. We have now a Government, as we believe, really anxious to assist the landed interest in every practicable way. Whenever this question has hitherto arrived at a certain point of interest with the public, and those interested in land, it has been staved off by a sham inquiry. Let us have no such evasion now. The landed interest has a right at all events to the fullest help that the law can afford, and to be relieved from all those difficulties that the law and the practice of conveyancing have created. Many professional men are now wise enough to see that a new system as to the transfer of land must be adopted. Let the Government give encouragement to the development of these plans; let them be encouraged, not thwarted, at all events fairly inquired into, and not handed over to Commissioners whose members are interested in preventing large changes. Let Lord Derby remember that the committee of the Lords on the Burdens of Land (1846), of which he was a member, were unanimous only in one point—"the necessity of a thorough revision of the whole subject of conveyancing, and the disuse of the present prolix, expensive, and vexatious system."* We shall shortly inquire how far an examination into existing titles, and a general quieting act, is advisable and practicable.

We have lately endeavoured to show that in a well constituted soil we have no reason to apprehend that a system of fallow cropping without manure can exhaust it of its inorganic vegetable constituents. Let us now proceed to inquire whether, under the same economy, there is any cause to fear the diminishing of the organic constituents of plants, either in their combinations in the earth with inorganic matters, or in their gaseous sources. We must keep in mind that, however we have been led to view these organic matters as the products of vegetable and animal decay, they have no more title to be called organic than the earthy components of plants; that the terms are merely conventional (a more strict use of words would define them as aerial and earthy components), for in their origin no vegetable constituents were organic, as they were created before the organisms had existence from which the term is derived. A certain quantity of oxygen, nitrogen, hydrogen, and carbon, was created, and we must suppose that this quantity has never since increased, for there has been no new creation; and, although for a time locked up, neither can we imagine that there has been any decrease. These elements must have been first created, and those various combinations which constitute the aerial food of animals and plants (*viz.*, the atmospheric air, water, carbonic acid gas, and ammonia) must have been formed from them, before an animal, a plant, the meanest reptile, or the lowest vegetable could have breathed or germinated. In the waste and the decay of their ultimate combinations in flesh and vegetables they are returned to the air undiminished, unincreased—bury them deep as you will in the bosom of the earth, or by the art of man, or by the revolutions of nature, and they will return to the first heaven of their existence. They rise in exhalations, they issue from springs, they are thrown up by volcanoes. Thus is maintained a plenary abundance in the atmosphere of the aerial (organic) food of plants. Is it possible then, by a system of perpetual fallow to exhaust the air of its organic constituents of plants, let the earth drink in as much as it may? Will there not always be found in the circumambient atmosphere a sufficient supply of these matters for the vegetation of the earth?

By the continuous fallowing of the land, the surface is never allowed to form a crust to exclude the influx of air, dew, and rain, with what they bring with them; the willing earth receives them all, and in various combinations retains them till laws more powerful compel her to give them up to the use of the vegetable organism. Large and continuous as may be the vegetation on a soil so constantly receiving accessions of organic matter from the air, is it possible to conceive this vegetation capable of withdrawing them from the soil to an equal extent, in combination with the very small amount of inorganic matters that enter into the composition of plants?

Under this system, Tull, Smith, and others, have found sufficient organic matter supplied to the soil to give large and successive remunerative crops of Wheat without any apparent deterioration, but rather with evident improvement of it. If such a system is applicable to a most exhausting crop, is it not strange it should not be to a nitrogen collecting, to an ameliorating crop. Mr. Lawes finds Turnips no crop on unmanured land that gives 17 bushels of Wheat. Whether is defective tillage or the absence of vegetable matter in the soil the cause, or are green crops sown too close together to obtain sufficient nitrogen from the air, or are their seeds too small to contain sufficient nutriment for the young plant, or are they not sufficiently indigenous to the soil to succeed without assistance? We should like to see the Rev. Mr. Smith try Turnips without manure on some of his Wheat ground which has been worked for seven years. We are not, however, without evidences of successful cultivation of green crops without manure. A crop of Carrots has been grown for, seven years in succession, on exhausted land without manure, and the last crop has been far better than the first, and the fertility of the soil restored. At Aghada, in the county of Cork, on worn-out land, a dressing of salt and lime, mixed with the headlands of the fields in which it was used, was found to produce heavier crops of Potatoes, Wheat, and Clover, than the town dung of Cork, or the farm-yard manure. There are weak lands in Ireland which are repeatedly burned, and never get any manure, and these yield fair crops of Potatoes and Oats. Rich old grazing lands in Ireland are occasionally broken, and, without manure, yield two heavy crops of Potatoes in succession and three of Oats, when they are again laid out in Grass.

In all these cases these lands must obtain the organic matters, which enable them to bear these crops, exclusively from atmospheric sources. The fertility used up by these crops has been slowly accumulated, during the time they have been in pasture, from these sources. The animals fed on them have added nothing to them which they did not take from them, and which they did not therefore possess before; and as Liebig says of the country around Naples: "The weeds upon which they (the cattle) live spring from the soil, and that which they return to it as excrement must always be less than that which they extract. The fields therefore can have gained nothing from the mere feeding of cattle upon them; on the contrary, the soil must have lost some of its constituents." This same argument stands good when we treat of the fertility of lands that have never been watered with the sweat of man's brow: the hand of man has added nothing to them, the vegetation they have produced has returned nothing to them which it did not derive from the soil and from the atmosphere; yet from these sources alone they have accumulated a surplus of fertility that will enable them to bear the most scourging crops for many years without manure.

In soils naturally constituted so as to yield to certain plants the inorganic elements they require, we cannot for a moment doubt that the atmosphere will supply a sufficiency of organic elements to act upon them, provided that we use a manipulation of the soil that shall keep it constantly accessible to atmospheric influences. But as few soils are so constituted as to yield only the inorganic elements of any peculiar crop, we would deprecate the limiting our culture to any individual of the crops that the soil is calculated to produce, as we can entertain no doubt that a rotation course of these crops would be found more profitable; and in the existing state of our philosophical knowledge, whether we believe in root exudation, or root elective attraction, it will be safer. Of this our practice assures us, that a change of cropping is necessary to the fuller development of vegetable production, from whatever causes it may arise. The above statement refers to what we believe possible rather than to what we believe expedient. The value of manure is an agricultural fact that cannot be denied, and ought not to be ignored; and we do not in anything that has been said desire to dispute the old proverb, that "Muck is the mother of gold," or to discourage that carefulness of all fertilisers, which is one of the main distinctions of an improved husbandry.

Admitting, however, as we do, the sufficiency of natural causes, aided by mechanical laboration, to the production of remunerating crops of grain, we cannot but believe, that by increasing a little the intervals between Mr. Smith's bearing lines, by manuring these intervals and growing green crops in them, the profits of his farming would be increased, and we have also reason to believe an advantage would be gained, in this case, by substituting two rows of grain for his three, as the grain would then lean less over the intervals, and we have also reasons for thinking that the two rows would be as productive as the three now are. *G.*

THE RIDGE AND FURROW FORM OF OLD GRASS LAND.

Mr. Hewitt Davis, in ascribing to the Romans the introduction into England of the ridge and furrow form of land, has opened an interesting subject for consideration; and as I differ from him upon the point, I will state my reasons for doing so, in the hope that those who are better acquainted with the early history of Britain will favour us with their opinions also.

There can be no doubt that all the old pastures which retain the ridge and furrow form were in arable culture at a period more or less remote from the present; and moreover, it is equally certain that they were portions of the open fields which were founded in feudal times, have prevailed throughout England, and in some few districts still exist; though, if the 65th Psalm of David has been literally translated, there is every reason to believe that such shaped ground existed before the Romans were a nation. David wrote, in the 10th verse, "Thou waterest the ridges thereof abundantly; thou settlest the furrows thereof; thou makest it soft with showers, and blessest the springing thereof."

But speaking from my own acquaintance with old Terriers, and the language therein adopted, I am of opinion that it was under the Saxon rule that the open field system of cultivation (of which the pastures in question retain the form) was established in England. The terms used in ancient Terriers are nearly all Saxon, and go far to illustrate the mode by which England passed from its aboriginal into an agricultural state.

The whole country was at the time of the Conquest either woodland or waste, and it was not until or after the Heptarchy when the country was divided into principalities, manors, or districts, that the chiefs and thanes suffered their vassals or dependents (villains, cottars, and bordars) to clear and cultivate systematically slips of ground of different widths in prescribed furlongs or farlangs (Saxon), for certain services or rents, of which minute particulars still remain on the court rolls of numerous manors. Each slip of ground was termed a "land" (Saxon), and this term signifies strictly arable ground. According to the character of the soil and its width, the "land" assumed a higher or lower ridge. In dry ground, the boundary land-mark of each "land" (which was a separate estate) was a balk (Saxon), and the form of the "land" was comparatively flat; in heavy soil it was a furrow (Saxon), and the form of the "land" was a "high back," in order to secure surface drainage.

It was not until within a comparatively recent date that inclosures were legalised, prior to which the barbarous rules which governed the cultivation of open fields prevented the use of the ground in severalty as pasture, although it was as manifest then as it is now that under certain circumstances such an application is more securely profitable than under any other mode of appropriation. Would Mr. Davis favour us with his reasons for ascribing to the Romans the introduction into England of the "land" system of husbandry. *J. Bailey Denton, 52, Parliament-street, London.*

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* Lords' Report, p. xiii.

[Among the causes of the ridge and furrow form of old Grass lands, we give one, for the assertion of which certainly no antiquarian research is needed, as it is in every-day operation in Gloucestershire. It is the practice with dairy farmers to "grip" their pasture lands—cut out narrow strips of a triangular section at intervals of 20 feet or so—to act as surface drains. The cattle tread these in, and they become nearly obliterated in three or four years; and as the operation is periodically repeated in the same places at these intervals of time, and the whole of the sods thus procured are spread in compost over the whole surface of the land; this constant treading of the cattle, and robbery of the land along these particular lines, have resulted in the formation of open furrows between rounded ridges, just as if the land had not very long ago been in arable culture.]

IRRIGATION BY SUBTERRANEAN IRON PIPES, WITH HOSE AND JET.

It may be interesting to some of your readers to know that I am progressing with this undertaking. I have already 100 acres completed, and shall finish the 170 acres in about a fortnight. There will be about 1100 iron 3-inch pipes, 3 yards long, making a total length of nearly 2 miles. Each pipe weighs 119 lbs., so that 55 tons of iron piping will be about the quantity.

The pair of pumps are of 20-inch stroke, and 5½ inches diameter, capable of raising and discharging at their ordinary speed of 23 strokes per minute, about 80 gallons per minute. They are nearly finished, and I hope to see them at work in about a fortnight. Those who have seen a fire-engine in use, can at once picture to themselves the operation of this mode of irrigating, the quantity of fluid passing through the tube depending upon the motive power of the pumps, estimated by engine power at 3-horse. My great tank is about the size of a small chapel, 30 feet deep, and 30 feet diameter at the widest part. All the other tanks have a communication with it, and already it contains an imposing supply of X X X.

My bog spring, of 30,000 gallons per diem, will fall into the tank to the depth of 12 feet, which is a considerable advantage, and saves pumping; in fact, without an abundant supply of water, this operation cannot be carried out. Mr. Kennedy, of Myre Mill, Ayrshire (who has most kindly given me the benefit of his experience), says, "I hope you have plenty of water, for I use 20,000 gallons daily for five months in the year." He also insists upon the necessity for fermenting the manure previous to its application; no doubt the water itself, as well as the other matters, becomes thus decomposed and ready for new affinities; besides, by fermentation the liquid becomes heated.

I have derived much assistance and valuable advice from Mr. William Lee, superintending-inspector to the General Board of Health, whose great experience and sagacity qualify him pre-eminently as engineer for large undertakings of this description.

Judging from present appearances, I shall expend 600*l.* for the 170 acres, or about 3*l.* 12*s.* per acre to cover the expense of tank, pumps, pipeage, gutta percha hose, and every expense except the steam-engine, which I have already. Possibly it would be safer to calculate generally on 4*l.* to 4*l.* 5*s.* per acre, but much depends on the neighbourhood of iron, price of labour, bricks, &c.

The pipes are jointed with tarred rope and boiling lead, like the common street water-pipes, and placed in the ground about 18 inches deep. There will be 1 hydrant or iron supply post for every 11 acres; 200 yards of gutta percha pipe (half 2-inch, half 1½-inch), will reach any part of the farm. The pumps will be enabled, by means of various taps, to distribute either liquid manure, or plain water, as may be found desirable.

A man and stout lad to assist him will, I expect, dispose of 600 hogsheads per diem, say enough for 10 acres. A branch pipe of two inches will intersect the farm-yard, from which a powerful jet will wash the solid manure from under the boards and cause it to flow into the great tank. This operation requires much water to render fluid the jelly-like manure of the ruminating animals; as the water will be propelled by a greater force than from an ordinary fire-engine, it is easy to imagine what a cleansing every corner will receive about twice a week. The flies in hot weather will be in considerable danger, and the heated roofs and buildings may be speedily cooled. The animals will, no doubt, get a shower-bath when deemed advisable. The whole affair is amazingly simple; in fact, is represented by the action of a fire-engine. The details are worth looking for in the "Minutes of Information on Sewer Water," published by the General Board of Health.

Mr. Kennedy, in writing to me, says—"I keep five bullocks to the acre during summer, where I only used to keep one, and I fattened 20 sheep to the acre (Scotch) where former y I only kept five." If I only double the summer feed I shall be satisfied, although I expect greater things, seeing that my spring water will grow Watercresses a yard long. In due time I hope to report proceedings for the information of my agricultural friends, being very sanguine (based on facts and figures) as to its genial effects on the annual balance sheet. My practice gives me daily an increasing faith in Baron Liebig's mineral theory. That great man was born 100 years in advance of his time. His gigantic mind appears to have forestalled and engrossed the great bases and principles of vegetable and animal physiology, and has left us comparatively little to acquire.

Those inorganic disintegrations so essential to our crops will be greatly promoted and facilitated by irrigation; artificial showers charged with heat, carbonic acid, and ammonia, will stimulate mother earth to yield up her treasures more freely to vegetation. The teeming results of a shower are no matters of wonder to the chemist and physiologist. Liebig says, at page 124 of his "Chemistry, in its application to Agriculture and Physiology," "The introduction of water to a soil is, properly speaking, an introduction of alkalies and of certain salts, which, by means of rain water, become fit to be absorbed by plants." And again, page 126, "The simple fact that a plant is restrained in growth by the want of rain to convey to it alkalies, proves completely that these alkalies play a most important part in vegetation." And further, at page 200, "By proper irrigation, and by treatment with ashes and gypsum, the crop (hay) can be increased to double the amount." At page 19, "The roots and other parts of it (the plant) constantly absorb water and carbonic acid." At page 26, "Rain and well water, and also that from other sources, invariably contains carbonic acid." "Plants, during their life, constantly possess the power of absorbing by their roots moisture, and along with it air or carbonic acid."

I make these quotations to show the reasonable expectations we should have of deriving a profit from irrigation. In our dry eastern counties we can grow Wheat to perfection. That plant has already sent its roots nearly a foot deep, and before another month will have secured to itself sufficient moisture, by still deeper research and by shading the ground. But how stands the case with our early Turnips, our second crops of Grass and Clover? The parched and heated ground awaits in vain the much desired moisture. Well may the western and northern coasts boast of their humid atmosphere and luxuriant green and root crops.

By these subterranean pipes I expect to render more certain and abundant all green, root, and leguminous crops. In fact, I expect to maintain a large number of live stock without much purchased food, and still grow Wheat on half my land. Within my brief experience of seven years the effects of drought have been costly and severe.

The great cost by labour, wear and tear of carts, roads, &c., in carting manure will also be avoided, as well as the treading and compression of soil and waste of ammonia. Assuming that three-horse power of my engine will be required, the cost of a day's application on 10 acres will be—

	s.	*d.*
Interest on capital, at 7½ per cent.	6	0
My engineer's pay for one day (a youth from the farm)	1	6
One man in the field	1	6
One youth in ditto	1	0
Coals for engine	3	0
(This is, in fact, 1*s.* more than the cost, as we use screenings at 9*s.* per ton.)		
	13	0

So that, in fact, 1*s.* 6*d.* per acre will more than cover the whole cost of applying 150 tons of manure, or water, on 10 acres of land; but if even it cost more, under less favourable circumstances than mine, the expense is ridiculously small in comparison with the ordinary cost and waste.

I was very much interested to hear from Mr. Kennedy that he never has any "remanet" or solid matter to remove from his four great tanks. The agitators cause such a commotion and disturbance that everything is carried away (but not politically). The dung heap is washed and rewashed until completely dissolved. Every agriculturist who finds water to his hands from the kitchen to the attic must admire the facility and economy of its transit by pipes and pressure, and may apply such reflections to the transmission of liquid manure on the farm.

In conclusion, I shall be happy, as is my custom on public grounds, to afford facilities of inspection; to support and confirm the wavering, to interest the inquiring, and, it may be, to contort the risible muscularity, or disturb the spleen of the disbelievers in agricultural science and progression. If, as I have reason to believe, this operation will give us southerners a control over green and root crops, our cannie friends over the border may find us inconveniently near to the "great wen," as Cobbett used to call the metropolis; but, after all, our farm labour will never be so cheaply done as when we add beef to the bread of our labourers.

P.S. Perhaps I ought to mention that the manure in my tank is agitated or commixed by a hundred jets of water forced through a star or radius of pipes placed in the bottom of the tank by Mr. Lee's suggestion. A portion of my waste steam will enter the tank when required to hasten fermentation. *J. J. Mechi, Tiptree Hall, Kelvedon, Essex, April 5.*

EMIGRATION TO CANADA.

(*Concluded from page 251.*)

In order to make practical use of the information which I had obtained, I have since my return had printed a broad-sheet for the use of emigrants and of friends to emigration as a means of bettering the condition of the poor, containing information on the advantages of emigration to the United States and Canada, the best parts of those countries to go to, the usual wages, the ship allowance of provisions, the extra provisions and other articles which it is advisable for emigrants to take with them on account of the little reliance which can be placed on the receipt of the provisions which are their due, in quantity, quality, and regularity of issue, and regarding the persons to whom they may with confidence apply at the ports of departure from the United Kingdom, and the ports of arrival in America, for information, advice, or protection. I forward you a copy of this paper in case that which I sent some weeks ago has been mislaid. I have had but a few printed as yet, some of which I have sent to different persons in Canada and the United States, inviting comments and further information, on the receipt of which I shall have a second edition, to be gratuitously circulated as extensively as possible.

I am also endeavouring to raise funds by subscription in aid of my own limited means, as you will see by the accompanying prospectus, "for the purpose of raising the condition of destitute families in Ireland, from extreme poverty to comfort and independence, by assisting the emigration to North America of one able-bodied member of each family, in most cases a woman, selected on account of good character and industrious habits, and therefore with the natural expectation that she will afterwards, from her earnings in America, extend that assistance to the remaining members of her family," and shall be very thankful to any of your readers who will send to me at 5, Whitehall-yard, London—or to my bankers, Messrs. Coutts—any contributions, large or small, for the purpose. I intend to apply this fund to the relief of cases of actual destitution, chiefly in the west of Ireland, ascertained by my own personal observation. I have collected up to this date 100*l.* from 1180 subscribers, among whom are the Earl and Countess of Shaftesbury, Hon. Mr. and Mrs. Sidney Herbert, Earl and Countess of Ripon, Earl Granville, Marquis of Bristol, &c. This sum will be applied to the emigration of about 20 persons, members of 20 different families. One of the men whom I sent to America in 1850 has sent, some months ago, for two of his daughters, who were in the workhouse of Tulla, in county Clare; another, who sailed with me, has sent for his mother and one of his brothers, and others have sent home various sums of money, and have stated that they shall very soon be able to send for some members of their families.

My reason for assisting female emigration is chiefly because of there being, according to the last report of the Irish Poor-law commissioners, over 61,000 able-bodied women in the Irish poor-houses, while there were only about 22,000 able-bodied men, so that it is evident that there are more women out of employment than men; while the wages of women in employment being less than those of men, women are least able to help themselves to emigrate.

As regards the notorious abuses connected with the conveyance of emigrant passengers from the United Kingdom to the United States and Canada, it is satisfactory to know that as a result of the labours of the special committee of the House of Commons of last session, of which Mr. Sidney Herbert was chairman, a bill has been brought into Parliament this session, of which the most important improvements are,—the required issue of cooked provisions daily—the power given to the emigration officers at the different ports of refusing to allow passenger ships to proceed to sea with bad provisions on board—and the separation of single men, by a bulkhead, from the rest of the passengers.

It is to be hoped that an act will also be passed to prevent the continuance of the present brutal and disgraceful mode of carrying deck passengers from Irish to English ports, shelterless, in all weather. I invariably cross the Channel as a deck passenger, and therefore have had good opportunities of observation on this point. Having plenty of money at my command, I am able to obtain shelter; but the passengers generally, men, women, and children, may be seen strewn all over the open deck, lying amongst the filth of the cattle and the vomitings of the passengers, exposed to wet and to cold, and often contracting diseases to last them for life.

It is to be hoped also that every facility will be given by Government and by the legislature to the establishment of emigrants' homes, by private enterprise, at Liverpool principally, and at other ports; that the staff of emigration officers at Liverpool will be increased, for it is impossible that Captain Patey and his two assistants—zealous, active, and energetic as he is—can do all that is required of him; that successful efforts will be made to bring about an assimilation of the passenger laws of the United Kingdom and the United States, so as to facilitate the obtaining of redress by passengers on arrival in America; and that the commissioners of emigration will make it their duty to collect and to disseminate as widely as possible reliable information on the subject of emigration to the British Colonies and to the United States.

Surely an enlightened Parliament would sanction the appropriation of a few hundred or even a few thousand pounds to such a purpose, on which they would be much better spent than the millions now being expended on the Kaffir war, on jobbing inefficient dockyards, and on the superfluous civil and military government of such of our colonies as have passed their infancy. *Vere Foster.*

Home Correspondence.

A Rural Sketch: No. 1.—Feb., 1852. To J. J. Mechi, Esq. Dear Sir, I am glad to hear that you can still laugh, notwithstanding the unmerciful badgering you have had about that awful balance-sheet. Laugh at me as long as you please, if it will do you any good. Yes; for myself, I am much indebted to you for so fearlessly going a-head, laying down buoys and beacons on the rocks and shoals in the agricultural channel, and trust that you will long continue to do so, without sinking

under the task, and not require a green buoy to be moored over your sunken hull with the ominous word "wreck." Before I attempt to describe my farming, I ought to sketch the country and people amongst whom I have fixed my residence; then, indeed, you will have cause to laugh—not at them, but at me, who ought to have known better. The *locus in quo* is within the much talked of circle "30 miles round the General Post-office." The parish is about seven miles from north to south, and about one mile and a half from east to west; 885 in population by the census of 1851; about 4500 acres; the income-tax assessment in 1842, 2543*l*. The benefice is a rectory, gross value 610*l*., a house, and 57 acres of glebe land, all of which the late Lord Chancellor Cottenham had some trouble to give away, in consequence of the execrable state of the roads. What would the Abbé Reynault say to this, who, speaking of roads, says, "Let us travel over all the countries of the earth, and whenever we shall find no facility of travelling from a city to a town, or from a village to a hamlet, we may pronounce the people to be barbarians." To this the good people here call out, "Avast heaving, Mr. Abbé, we know more of this country and our own interest than you do; if we had good roads we should be overrun with foreigners, and have to pay more than 3*s*. the acre for our land. You just talk as that sailor 'Cappen' does about the benefit of good roads; we know better." There is what an engineer friend of mine calls a "farmer's road," from north to south, and from the centre of the parish to the east, a new road recently made; but from the centre of the parish to the west, to a railway station, only distant two miles, they will have no road, for the reason before alleged, although I have offered them a right of way through my lands without purchase, and 50*l*. towards making it; so much for roads. The parish is little known, except to prize-fighters, gipsies, and such *canaille* as wish to evade the law; it is either not known or overlooked by the Post-office authorities; the post town is eight miles from the south end of the parish; the delivery of letters depends on the number of persons the postman meets on his way, with every one of whom he will have a long gossip, if their time will admit of it. This man, with his battered French horn, is a character worthy the pencil of Hogarth or Cruikshank. The male part of the community are all Toms, Dicks, Harrys, &c.; master and man, man and boy, are pretty nearly equal—if any difference, the boys have the mastery. They appear to be particularly friendly when brought together, and all united against the foreigner, as they call every stranger and new comer; but how far the line of demarcation extends that divides the real native from the foreigner, I know not, but suppose it to be the boundary of the parish, which, by the way, all the perambulations hitherto made have not yet defined. There are three manors in the parish, one at the north end, one at the south, and one in the centre. The lord of the north manor resides on his own estate, and is called "lord paramount," to distinguish him, because he is a genuine native; the lord of the south is non-resident, his land let to tenants; the lord of the centre also resides, and is called "Cappen." The "lord paramount" is paramount in many things, such as opposing inclosures, making roads, and improvement of every kind, although his own estate would benefit thereby. Many of the tenant farmers can neither read nor write; and about 1 in 15 of the labourers can do so imperfectly; in general, they do not think it necessary to encumber their children with a knowledge they never possessed themselves, and have done, as they say, quite as well without. There are many that would send their children to school, if there was an efficient man to teach them; such a man the parish does not furnish; to call in a foreigner is quite out of the question. *Sinbad.*

Steam-driven Machinery applied to Agriculture.—We have arrived, through all the terrible errors of railway finance, at least at this fact, that the locomotive will take a ton of freight a mile for three-fourths of a penny: and as the pull on the traces on an average turnpike-road is twelve times that on the rail, the work of the steam-locomotive will draw the ton on the road at three-fourths of a shilling and at railway speed, that is, 30 miles an hour. I do not know whether any of your readers can inform us whether this rate of work, and of the saving implied is realised by any agricultural machinery of all that is steam-driven. I believe that the era of steam applied to agricultural operations is about commencing, and I claim your attention to the objects steam may here realise:—

	Freight per ton per mile.
Take the working expense of railway ex-permanent way at 50 per cent., reduce the speed to one-sixth, or 5 miles an hour: total reduction leaves for steam traction on the road, without railway level	$\frac{1}{12}$ of 0*s*. $\frac{3}{4}$*d*.
But the pull on traces on the road is 12 that on rail	0*s*. $\frac{3}{4}$*d*.

This statement is not quite book-shape, but there it stands, three farthings per ton per mile for steam draught on the common road, at five miles an hour. Say that ploughing pulls five times as much on the traces as draught on the common road, and you will plough a mile furrow, driving at the rate of one mile an hour, for three farthings. I shall only spoil the reckoning by going deeper into it. You might perhaps allow five furrows to the breath of the acre of a mile length, and so would plough your acre for five times three farthings, say for fourpence. But your steam-engine will not be so large as the railway locomotive, and will require its engineer or driver, and (perhaps?) stoker, I do not think the latter would be indispensable, but say it would; one engine of full size would require the expense of manning three, this would add 5*s*. to 6*s*. per day to our working expenses. The engine of 15-horse power would nett 7-horse power, and drive seven ploughs (besides its own weight), say it seven-ploughed the mile-long acre throughout its breadth, or that this required seven furrows. We suppose it driving at one mile an hour; it might be at work 12 hours in the day, the extra manning the engine will add 5*d*. per acre—making total 9*d*. You will see I have told the speed for heavy land; adjust accordingly, and I think you will find 6*d*. to 7*d*. the cost per acre. Now for work on the road; nett freight per ton at five miles per hour will be $\frac{3}{4}$ of 1*d*., or 50 miles for 4*s*. Can a locomotive engine work on the road? I have worked one five years, using hand-power up inclines, one in ten. I have since tried it with a locomotive steam-engine. We are going on. *Slow and Sure.*

Pauperism in Italy.—The following extract from W. Stuart Rose's "Letters from the North of Italy," published in 1819, may be interesting to some of your readers in the present state of affairs. I make no apology therefore for requesting its insertion in your valuable pages. After stating that all permanent revenues and public establishments, for the maintenance of the poor, are generally speaking unknown in Lombardy, and that the poor, in spite of a year of unexampled plenty, swarm in these provinces beyond what he ever witnessed in any country under the sun, he goes on to say, "I am inclined to attribute the misery of Italy rather to the effect of the late dreadful war and long system of oppression under different masters—to the present heavy and ill-devised system of taxes—to their monstrous and expensive mode of collection—but, above all, to the partial imposition of these burdens; for, the taxes falling exclusively on the landed proprietor, the tenant is wounded through him, and through the tenant the labouring poor. The farmer is too happy if he can live, as it is termed, from hand to mouth; and the rich man if he can yet preserve to himself those luxuries which are, from habit, become articles of necessity. For works of ornament or improvement he has nothing left, and thus the truest source of relief is cut off from the indigent." *A Constant Reader.*

Charcoal.—We live in a woodland country adjoining chalk downs, with beds of clay on the tops of some of the hills—stiff clay, undrained—being at many miles distance from a canal, a railway, or a town, there is little demand for our firewood, underwood, and timber; and we shall be thankful to any one who will give us sound practical advice and information on the following points: 1st. Would it be easy and inexpensive to put up kilns to char the Beech timber; and 2d, would it be a cheap and suitable ingredient to use on our poor chalky soils? and on our stiff clayey ones? with or without liquid manure? With all its attendant expenses, would it pay better to char the Beech and use it thus than to sell it as timber at 7*d*. per foot, or as firewood at 10*s*. a cord? And if it is advisable to char the Beech for mixing with the soil largely, in what manner should the kilns be constructed and managed? *In esperienza.* [It is useful as a manure, if used as a sponge to hold liquid manure. But you had better sell at 7*d*. a foot than char.] —— I have several acres of wood, and am planting more, but find it very difficult to sell the small wood at anything like a remunerating price; *e. g.*, best Ash (large), 9*d*. per cubic foot, and 10*s*. per ton weight for small Sycamore and Beech. I have been thinking that it would pay me the best to convert all the small wood into charcoal, to be used as manure, but I can nowhere find any satisfactory account of its value per ton, cost of making, &c. I have ransacked all your volumes from the commencement, but I cannot get from them anything like an ascertained value for the substance; and in a little book on "Soils and Manures," by John Donaldson, and which forms one of Richardson's Rural Handbooks, I find at p. 138 the following:—"But much time and caution are yet required to sanction the use of charcoal as a manure." Now, is not leaf-mould a charcoal, the produce of slow combustion? And is it quite certain that farm-yard manure, that mysterious substance, does not owe some portion at least of its good qualities to the great bulk in it of straw, become charcoal also by a process of slow combustion? My notion is, that wood charcoal, mixed with fresh bones ground fine, or guano, would make the finest manure known. What I want to know is, how is charcoal best made for manuring purposes, and what price may I expect to get for a ton of my wood when made into charcoal? *J. W. H.* [You will not find a market readily for your charcoal as manure, and had better sell it as timber or cord-wood. It is not the charcoal in the dung-heap that is the main source of its value.]

Clover Failure.—It is now about one year and nine months since you attracted the attention of your correspondents to this important subject, still I see no approach to the solution of the mystery. In an article written by me in August of the same year, and in an article written a little later, will be found all that I had then gleaned on the subject. I have ever since been a close observer and experimenter on the subject, but am still at a loss to account for this mysterious effect. What follows is merely a statement of what has come under my observation in a field of mine. I lay this statement before the public that scientific men may examine it and report as to its possibility. As I was passing over the field I was struck with the withered appearance of two-thirds of the Clover plants on about two square rods of ground; on examination I found them to be eaten off (by some insect, apparently), close to the ground; after examining a few of the plants I found a small Weevil, Curculio (or Sitona) lineatus, which nibbles the edges of the leaves of Peas and Beans in the summer time (*Gardeners' Chronicle*, in answer to a Farmer, March 20th) under the plant, which, to all appearance, was carrying out its work of destruction. *Geo. Summers, Houghton Farm, Dorset.*

Trout Spawn.—I regret to hear from your correspondent, "T. G.," that fertilised trout spawn is nowhere to be procured at present. Allow me to suggest that the sale of such an article might become profitable, where facilities exist for carrying out the processes recommended for its production. These require some care and attention, not always procurable, and in places at a distance from streams stocked with trout, though streams exist capable of being so stocked. There is a considerable difficulty in procuring stock, the live fish not being easily removed, even a distance of 10 or 20 miles, whereas I should imagine that the fertilised spawn might be removed almost any distance. I have lost several seasons, owing to ignorance or mistakes; but trout are not common in my neighbourhood, and my keepers do not know a male trout from a female. I should be a ready customer. *U. H.*

Feeding Lambs.—In the "Farmers' Magazine" for the month of February the proceedings of the Winchester Farmers' Club are reported on "Stock Breeding and Fattening." As the practice is so different to that which prevails in my neighbourhood, I submit the views of the Club to your readers, for the purpose of eliciting experience. One of the speakers affirms that he brings his lambs to be fat in 10 or 12 weeks by this process. When the ewes have dropped they are brought into the yard with their lambs, and both are then fed with oil-cake, Clover chaff, and cut Mangold Wurzel or Swedes. The lambs have a private establishment to take as much as they wish. Now what I desire to know is, whether Mangold Wurzel and Swedes may be regarded for fattening lambs as equal to white Turnips, on which we fold them with their mothers. I speak of Lambs for Christmas and Easter. The sort we breed is the Dorset. *A. B., Essex.* [We consider Mangold Wurzel in April to be the most fattening "green" food we know.]

Drainage.—I hope the prejudice against deep drainage in strong clays is gradually giving way. Whilst cutting my great circular liquid manure tank, to hold 40,000 gallons, I observed the surface-water weeping through the tenacious clay like perspiration from one's skin on a warm day, the globular tears, or drops, uniting and descending the sides of the tank. When we had carried a band of brick-work, 4 feet deep, round the upper portion of the excavation, the water, thus obstructed in its horizontal filtration, escaped in accumulated quantities, just below the circular band. I quite agree with Mr. Mitchell's remarks as to the combined horizontal and vertical motion of water. Watch, for instance, the drop of water that falls on blotting-paper or any porous substance; it at once spreads and becomes infinitely divided; of course the same operation takes place on the soil. I have no doubt, after all, that my once ridiculed theory of a large area of porosity in the drain (that is, cutting the earth vertically and filling with stones) facilitates the escape of water, provided the drains are placed deep enough to overcome the strong capillary surface attraction. Of course every one uses pipes now, because they are found, if placed deep and near enough, to carry the water off in a reasonable time, and they are much less costly. A deep open ditch will not drain the adjoining soil, because when the sides are dry the water rises up towards the surface by capillary attraction, and thus heads back the water behind it. Put pipes in the bottom of this ditch, fill it up, and it will then drain the adjoining soil. I know a case of this kind. The facility with which liquids ascend loaf-sugar, or any dry capillary substance, must show the inefficiency of shallow drains. When well wrapped up, and facing a driving rain, I have been practically convinced of the universal motion of water, which manages to find its way to your skin by tortuous and eccentric conduits. Horticulturists will tell you if you wish to make a shrub shoot from a particular portion of its stem, you have only to wrap worsted round it, inserting the other end into water below it. I hope our Scotch friends will not deny that our open furrows, for winter Wheat, do act occasionally as auxiliary drains. If they adopted the system for winter crops, they would not continue to sow their bushels of Wheat, because it would not, as at present, be diminished by lifting, bursting, &c. Depend upon it, for winter corn, on strong clays, your furrows economise your seed, and aid your under-drainage in wet seasons. Where your land is deeply cultivated with a loose, open, uncropped, unharrowed, and unrolled surface, you will have no surface discharge. I could illustrate this practically on my farm, this winter. For spring crops, furrows are unnecessary. *J. J. Mechi, Tiptree-hall.*

Reviews.

Practical experience in Breeding, Rearing, and Fattening the common kinds of Domestic Poultry, with an interesting account of Experiments in Artificial Incubation. By Joseph Newton. E. Reynolds, High-street, Bloomsbury.

A very interesting and instructive account of the author's experience; and certain, in the state of excitement which prevails on the subject of poultry breeding and management, to have a large sale. It includes

short accounts of the common fowl, the turkey, the Guinea fowl, and the wild duck, with instructions for their management; but the principal merit of the work lies in the annual abstract of accounts furnished by the author during the five years of his experience as a poultry-keeper. The following is one of his statements on this head:—

ABSTRACT OF ACCOUNTS, FROM JANUARY 1ST TO DECEMBER 31ST, 1851.

		£	s.	d.	£	s.	d.
Jan. 1st, 1851.							
	Value of Stock	...		...	23	6	0
Dec. 31st, 1851.							
14	Turkeys	4	13	9			
16	Chickens	0	16	0			
100	Fowls	10	0	0			
65	Guinea Fowls	8	2	6			
195		£23	12	3			
	Increase in value of Stock ...	...		...	0	6	3
4500	Eggs sold, &c.	...		...	12	10	0
44	Turkeys	...					
136	Fowls	...			38	7	9
58	Wild Ducks	...					
56	Guinea Fowls	...					
294	Produce	...		...	51	4	0
	EXPENSES.						
87	Bushels of Barley						
52	Bushels of Barley-meal ...						
13	Bushels of Pollard						
5	Bushels of Tail Wheat ...	42	18	3½			
5	Bushels of Beans						
	Rice, Groats, and sundries ...						
	Wages, Boy, &c.						
	Gain in 1851	8	5	8½			
		£51	4	0	£51	4	0

The second part of the work—altogether it is but a pamphlet of 40 small pages—relates to Mr. Newton's successful attempts at artificial incubation.

Miscellaneous.

New Guano.—[*From a correspondent of the Times*].—Sir,—There have been various vague accounts lately in the public papers relative to the discovery of guano upon some islands in the Pacific. Allow me, through the medium of your columns, to put the public in possession of the facts relative to this discovery. The islands in question are Lobos Afuera, lat. 6 deg. 59 min. S., long. 80 deg. 42 min. W., and Lobos de Tierra, lat. 6 deg. 34 min. S., long. 80 deg. 45 min. W.; the first about 50 miles, and the second about 20 miles, from the coast of Peru. In Morrell's "Four Voyages," a book published at New York in 1832, is a minute account of these islands, and among other particulars the following remarkable passage—"The Indians sometimes visit these islands in large parties on fishing excursions or frolics; and frequently stay three or four weeks. I have always found them to be very civil and accommodating, having frequently received kind offices at their hands, such as presents of fruit, vegetables, &c., from the main. They always bring their fresh water with them in their catamarans, as there is none to be found in the islands, which are covered with sand, rocks, and the dung of aquatic birds, the latter sufficient to load thousands of ships, having been accumulating for untold ages. It is called 'guannar' by the Spaniards, and is probably the richest in the world." Captain Morrell visited these islands in September, 1823, long before guano was known as an article of commerce, and long before a single ton had been imported into Europe. It appeared to me, therefore, that this passage bore upon the face of it the character of truth, and, knowing the value of such a discovery to the shipowners and agriculturists of this country, I at once applied to the Government to take possession of the islands, and, under the protection of the British flag, make the export of guano free to the ships of all nations. By inquiry at the Foreign-office, I ascertained that these islands were not enumerated among the dependencies of Peru at the time when Peru declared its independence and defined the extent of its territories. They are desert islands, without wood, water, or habitation. No sovereign State has ever exercised dominion over them. During the whole of the war between Spain and England they had been freely visited by whalers and sealers, and ships of all nations, as well as by Indians in their catamarans. I found it distinctly stated in "Vattel," b. 1, chap. 8, that "all mankind have an equal right to things which have not yet fallen into the possession of any one; and those things belong to the person who first takes possession of them. When, therefore, a nation finds a country uninhabited and without an owner, it may lawfully take possession of it, and after it has sufficiently made known its will in this respect, it cannot be deprived of it by another nation. Thus navigators, going on voyages of discovery, furnished with a commission from their sovereign, and meeting with islands or other lands in a desert state, have taken possession of them in the name of their nation; and this title has been usually respected, provided it was soon after followed by a real possession." All the best writers on international law supported the same doctrine. I took the opinion of a barrister, in whose judgment I placed the highest confidence, and was assured that the Peruvian Government, not having occupied those islands, could have had no legal claim to them. Under these circumstances I urged upon the Government the immense importance of guano as a manure, the injury sustained by the monopoly of the Peruvian Government, and the claims of the British agriculturists and shipowners to some of the advantages of free-trade. But whatever advantage new possessions may bring to agriculturists or shipowners, it seems to have been discovered that they bring nothing but trouble to the Foreign-office, and, when the present extent of our empire in different parts of the world is considered, perhaps the disinclination to make even the smallest addition can scarcely be condemned. Suffice it to say that I did not succeed. Finding it impossible to prevail upon the Government at once to take possession of the islands, I determined to try what private enterprise might effect. By inquiry in the city I discovered a shipowner who had for many years commanded a trading vessel in the Pacific. Captain E. Lawson had himself frequently visited the islands, and, although he had taken no notice of the nature or extent of the guano deposit, he could speak confidently of the goodness of the harbour, the multitudes of seafowl, and the rainless character of the climate. In every respect except the extent of the guano deposit, he confirmed the account given by Morrell. Captain Lawson had a vessel on the point of sailing for San Francisco, and promised that she should touch at Lobos on her way. On the 14th December, 1851, Captain Dixon, of the ship Bombay, wrote from San Francisco in the following terms:—"Went to Lobos. The very thing that I have said to you years before this. I think I could load a thousand ships as well as one. Good anchorage. I think at one place I could load with a spout into the ship." At the same time he forwarded a sample of the guano taken from the island. With this additional evidence I again appealed to the Government and succeeding in obtaining an assurance that a ship of war should visit the islands. On the change of ministry I had an interview with Lord Malmesbury, from which I hoped a favourable result, the matter being still under his lordship's consideration. In the meantime it appears that, at the instance of Captain Lawson, several ships have already sailed for these islands, and also that the Peruvian Minister is acquainted with the fact. The matter, therefore, can no longer remain a secret, and I take this opportunity of laying the whole question before the public, in the full confidence that the agriculturists and shipowners of this country will not suffer such an opportunity to be lost. I fearlessly assert, that according to the law of nations the Peruvian Government can have no claim to these islands. On the other hand, the monopoly of guano now maintained by the Peruvian Government is injurious to the whole civilised world, but especially to the British farmer and British shipowner. They must see that all idea of protection is abandoned. They must feel, that whoever may be minister, they are equally doomed to suffer all the disadvantages of free-trade. It will be their own fault if they do not obtain some of the advantages. It is commonly supposed that the deposit of guano on the Chinca Islands is sufficient to keep up the supply at the present rate for 100 years, and, as the whole cost of guano is the expense and freight of loading, there can be no question that but for the monopoly of the Peruvian Government it would now be sold in this country at less than 5*l.* a ton, whereas the present price is 10*l.* Now, I have myself used about 400 tons of guano as manure, and I speak from experience when I say that such are its extraordinary powers, and such the advantages of its light carriage, that with guano at 5*l.* per ton, there is scarcely any land in England so barren that it might not be cultivated with advantage. As a practical farmer, I say that if I had the option between a 5*s.* duty on corn and free-trade in guano, I would not hesitate a moment in preferring the free-trade in guano. I believe the deposit upon the Lobos Islands to be even larger than the deposit on the Chinca. The islands themselves are many times more extensive, and from the description of the deposit and the swarms of birds, they would also appear to be more extensive. The price of freight from Chinca to this country has lately been quoted as low as 30*s.* per ton. The multitudes of ships from San Francisco can literally get no freights. Guano is an article (perhaps the only one which can be mentioned) in which the whole cost is the freight and loading—an article of almost boundless consumption—an article in which free-trade will be of more importance to ship-owners than any other that can be named. The question is, whether they and the agriculturists are content to suffer all the disadvantages of free-trade without partaking in its advantages. If not, let them bestir themselves, and who can refuse such a boon? What is it that is required? Not a costly possession; not an expensive colony? No; all that can be needed is a single sloop of war which shall hoist the British flag, and under the protection of that flag permit the ships of every nation to load guano without disturbance. I repeat, this is a desert island—not a tree, not a house, not a drop of water upon it; a harbour in which hundreds of vessels may ride in perfect safety, but hitherto useless, or visited only by sealers for its seals, or whalers for the eggs of aquatic birds. No nation has ever hoisted its flag upon it, and it remains unappropriated, the common property of all mankind. If the claim of the Peruvian Government to these islands be admitted, it will be solely attributable to the apathy of the agriculturists and ship-owners of this country. I cannot close this letter without expressing the admiration which I feel for that intelligent American seaman to whom we are indebted not only for the discovery of the guano on these islands, but for the discovery of the deposit on the island of Ichaboe. Benjamin Morrell was the captain of an American sealer, in which character he made four voyages, exploring all the desert coasts and islands in different quarters of the globe. To undaunted energy in his profession he added a spirit of inquiry which is but rarely seen. In the countries which he visited he seems to have considered nothing which could be useful to mankind unworthy of his attention. That he was no common observer is sufficiently attested by the fact, that, although from time immemorial whalers and sealers of different nations have visited these islands, and though a British surveying ship, regularly equipped for the service, has examined them, yet it is to Captain Benjamin Morrell that the world is indebted for the information that these islands possess one of the finest harbours in the world, and thousands of vessels may load with guano from its shores. Morrell's "Four Voyages" may be found on the shelves of the Royal Geographical Society, to which useful institution I am indebted for my acquaintance with the work. At page 119 will be seen a description of Lobos, and at page 294 an accurate description of Ichaboe, with a statement that "the surface of this island is covered with birds' manure to the depth of 25 feet." Upon the information given in this book the first ships sailed from England to load at Ichaboe. The discovery of Ichaboe lowered the price of Peruvian guano from 20*l.* to 10*l.* per ton, and, by bringing this valuable manure into general use, conferred a lasting benefit on the civilised world. I am, Sir, your obedient servant, *T. Wentworth Buller, Whimple, Exeter, April* 14. [The opinion alluded to by Captain Buller will appear in our next.]

Notices to Correspondents.

EMIGRATION TO NORTH AMERICA: We have received from Mr. Vere Foster copies of a small Tract on this subject, containing much very useful information on localities and their respective merits—on wages, cost of travelling, &c., with a great deal of detailed instruction, almost indispensable, we should think, to the humbler class of emigrants. These tracts or sheets are to be had gratis, on personal application to the author, at 5, Whitehall-yard, London, or by sending their address and a stamp.

EWES: *P A W.* Your question has unfortunately been mislaid.

FLAX: *X.* You should sow immediately, or as soon as there is prospect of rain, 10 pecks of clean seed per acre, broadcast, over any well and cleanly tilled loamy soil. The soil preferred by the plant is a somewhat adhesive loam.

GUTTA PERCHA TUBING: *Messrs. Burgess and Key* have supplied us with testimonials on the efficiency of gutta percha tubing for pump service, which seems perfectly conclusive on this subject.

HOSE: *Tycho* asks for information on hose for conveying liquid manure. The "patent canvas hose coated with gutta percha" is highly spoken of in the minutes published by the Board of Health. On Mr. Littledale's farm, at Birkenhead, the hose is of gutta percha, 2 in. diameter, 2*s.* 6*d.* per yard; or, 1½ in. diameter, 2*s.* per yard. The prepared canvas hose is 1*s.* 4*d.* per yard.

LETTUCES: *Yorkshire Reader.* We are asked if Cos Lettuces are proper green food for breeding sows soon after farrowing. We never knew any given, and would not like to give them in any quantity, except mixed with other food. Perhaps some one can speak from experience of them.

MANURE: *G A B.* You cannot dissolve the bones except by an acid; but you may, after partially grinding or breaking the bones, reduce them to powder by putting them (if there be a large enough quantity to heat when put together) in a heap with some damp sand. As regards the night-soil, you had better mix it with ashes enough to make it dry, and then place it in the drill, under the Turnip seed, as farm manure is ordinarily put. Probably 15 or 20 cwt. per acre, with 2 cwt. of the dissolved bones will be a sufficient dressing.

POTATOES: *Gamekiller.* There is no such implement as a Potato drill to sow the pieces the same as any other drill.

POULTRY: *Ignoramus.* You have too many hens for one cock. You require two. The space is large enough for all purposes, but fowls, like human beings, are impatient of restraint. At this time of year they like to wander, and had they a good run, say in a meadow, they would soon look much better than they do now. In your provision for them you have overlooked one essential, viz. lime or chalk. Fowls like growing herbage; it resists a pull, and enables them to tear it off for food. The works of 20 fowls on 60 feet of growing Grass would be hardly perceptible; but they would destroy the same space of fresh laid turf in a few days. Do not confine them to Barley, but every third or fourth day give them Wheat, and then change again for slaked oatmeal. The bad plumage is probably the result of heat; if you will give them liberty they will find at this season of the year cooling food in the vegetation springing up; and if you cannot see them so easily as when in confinement, they will at least be more pleasing objects when found.—*J G H.* Watch your hen more closely, and I think you will find she does not go to the nest for nothing. I never knew but one such instance. Are you sure she does not eat the egg directly she has laid it?—*A New Subscriber.* Do you mean eggs for the table or for sitting? I never before heard of a hen hatching 26 chickens at this season of the year, and the owner should, for the public good, give a detailed account of the process by which such results are attainable.—*F S.* I think I have heard more complaints of bad eggs this year than I ever did. I hardly know what to assign as the cause, but I am sure a long continuance of dry weather and easterly winds are very bad things for poultry.—*F B.* I do not consider cuckoo fowls as a distinct species; I gave reasons in the *Chronicle* three weeks since for my opinion.—*J H.* The summer is a very bad time for poultry exhibitions, chickens are hardly forward enough, and adults are in bad plumage and condition. *John Bailey, 113, Mount-street.*

POULTRY MANURE: We have a letter from *J R C.*, for the correspondent who inquired on this subject last week.

ERRATUM: Our Correspondent who wrote last week about Agricultural Education, is the Rev. James Mules.

Markets.

COVENT GARDEN, APRIL 24.

Notwithstanding the continued coldness of the weather, the market is pretty well supplied with vegetables and fruit. English Pine-apples realise good prices, as do also hothouse Grapes. Dessert Pears are now confined to Beurré Rance. A few Court of Wick and Ribston Pippin Apples may still be obtained. Oranges are plentiful and good. Nuts are nearly the same as last quoted. Strawberries are becoming plentiful. Young Carrots, Beans (both French and Mazagan), Peas, Lettuces, and Artichokes are supplied from France. Potatoes are generally good in quality. Mushrooms are cheaper. Cut flowers consist of Heaths, Epacrises, Cinerarias, Mignonette, Camellias, Roses, Acacias, Azaleas, Primulas, Hyacinths, Tulips, Lily of the Valley, and other forced bulbs.

FRUIT.

Pine-apples, per lb., 4s to 8s	Pears, dessert, per doz., 2s to 6s
Grapes, hothouse, p. lb., 12s to 18s	Oranges, per doz., 1s to 1s 6d
— Lisbon, per lb., 2s to 2s 6d	— per 100, 3s 6d to 10s
Strawberries, p. oz., 6d to 1s 6d	— Seville, per doz., 1s to 3s
Apples, kitchen, per bushel, 2s to 3s 6d	Lemons, per doz., 1s to 2s
Almonds, per peck, 5s	Nuts, Barcelona, p. bsh., 20s to 22s
— sweet, per lb., 2s to 3s	— Brazil, p. bsh., 12s to 14s
	Cobs, per 100 lbs., 100s

VEGETABLES.

Cabbages, per doz., 9d to 1s 6d	Shallots, per lb., 8d to 10d
French Beans, p. 100, 1s 6d to 2s	Garlic, per lb., 8d to 1s
Broccoli, p. bunch, 5d to 1s	Lettuce, Cab., per score 4d to 6d
— heads, each, 2d to 4d	— Cos, per score, 1s to 2s
Asparagus, p. bundle, 3s to 10s	Radishes, per doz., 8d to 1s
Seakale, per basket, 9d to 2s	— Turnip, 1s to 1s 6d
Greens, per doz., 2s 6d to 4s	Small Salads, p. pun., 2d to 3d
Rhubarb, p. bundle, 3d to 10d	Horse Radish, p. bundle, 1s to 4s
Potatoes, per ton, 45s to 80s	Mushrooms, p. pott., 8d to 1s
— per cwt., 2s to 5s	— per punnet, 9d to 1s
— per bush., 1s 6d to 2s 6d	Sorrel, p. hf. sieve, 1s 3d to 1s 8d
Turnips, p. doz., 2s 6d to 3s 6d	Artichokes, Jerus., do., 9d to 1s
Cucumbers, each, 6d to 2s 6d	Fennel, per bunch, 2d to 3d
Celery, per bundle, 6d to 1s 6d	Savory, per bunch, 2d to 3d
Carrots, per bunch, 4d to 7d	Thyme, per bunch, 2d to 3d
Spinach, per sieve, 1s to 1s 6d	Parsley, p. doz. bnchs., 2s to 3s
Onions, per bunch, 2d to 4d	Mint, per bunch, 4d to 6d
— Spanish, p. doz., 1s 3d to 3s	Basil, green, p. bunch, 1s to 1s 6d
Endive, per score, 9d to 1s 6d	Marjoram, do., 3d to 4d
Beet, per doz., 1s to 2s	Watercresses, p. doz. bunches, 9d to 1s
Parsnips, per doz., 4d to 1s	
Leeks, per bunch, 2d to 4d	

HAY.—Per Load of 36 Trusses.

SMITHFIELD, April 22.

Prime Meadow Hay	75s to 80s	Clover ...	... 80s to 90s
Inferior do.	... 66 72	2d cut ...	... 75 80
Rowen ...	... 60 65	Straw ...	... 23 28
New Hay ...	... — —		J. COOPER.

CUMBERLAND MARKET, April 22.

Prime Meadow Hay	78s to 82s	Inferior Clover	... 72s to 76s
Inferior do. ...	... 65 72	New do. ...	... — —
New Hay ...	... — —	Straw ...	... 28 30
Old Clover ...	... 78 86		JOSHUA BAKER.

COAL MARKET.—FRIDAY, April 23.

Hollywell, 13s. 6d.; Eden Main, 15s.; Wallsend Haswell, 16s. 6d.; Wallsend Hetton, 16s.; Wallsend Lambton, 15s. 6d.; Wallsend Stewarts, 16s.; Wallsend Tees, 16s.—Ships at market, 126.

ENGLISH TIMBER AND BARK.—APRIL 24.

	Round Timber. Per Load.	Plank. Per Foot Cube.	Inch Board. Per Foot Super.
Oak	£5 0 0 to £6 10 0	3*s.* 0*d.* to 5*s.* 0*d.*	0*s.* 4½*d.* to 0*s.* 6*d.*
Ash	3 10 0 — 4 10 0	2 3 — 3 0	0 3 — 0 4
Elm	3 0 0 — 4 0 0	1 3 — 2 0	0 2 — 0 3
Beech	2 10 0 — 3 10 0	1 3 — 1 9	0 2 — 0 3
Lime	3 0 0 — 4 0 0	1 6 — 2 0	0 3½ — 0 4½

ENGLISH AND FOREIGN BARK.

From the information we have been enabled to obtain, the fall of English this season will be unprecedentedly large; it is generally anticipated that prices will range from 3*l.* to 3*l.* 10*s.* per ton in the rinds, according to quality. Old Bark is more plentiful than usual at this season of the year.

English timber, p. ld. of 45 cwt.	£ *s.* £ *s.* 13 0 to 13 10	Antwerp timber, per ton	£ *s.* £ *s.* 4 15 — 5 0
Do. Coppice, do.	12 0 — 13 10	Do. Coppice ...	4 15 — 5 0

WOOL.

BRADFORD, THURSDAY, April 22.—A rather more cheerful tone has prevailed in the English Wool market during the preceding week, and an increased amount of sales to the general trade has been the evidence of this partial improvement. There cannot, however, be any advance of price noticed, as in the course of the transactions referred to, it has been found that any attempt to advance upon the rates current during the past week or two has been firmly resisted by consumers. The impression that business generally in this district has now passed through the worst part of the crisis, for some time experienced, gains ground, and its effect now seems to point to a gradual but sudden restoration of that confidence which has so long been wanting.

POTATOES.—Southwark, April 19.

The committee report that during the past week the supply has been quite equal to the demand, except for good samples of Regents, which have made more money; but second-rate or inferior stuff was almost unsaleable, particularly Scotch Cups. The following are this day's quotations:—York Regents, 70s. to 90s.; Scotch do, 65s. to 70s.; Perth and Forfarshire Cups, 60s. to 65s.; Fifeshire do., 50s. to 55s.; Wisbeach and Cambridge, 60s. to 70s.; Kent and Essex, 65s. to 80s.

SMITHFIELD.—Monday, April 19.

The number of Beasts is exceedingly large for the time of year, and the quality very good. The weather being still favourable, there is considerable activity in the trade; a large number, however, remain unsold. A few choice Scots make 3s. 4d. pretty readily, but many big Short-horns with difficulty make 3s. Sheep and Lambs are also plentiful, and trade for them is exceedingly heavy. Prices on the average are lower. A choice Calf makes about the same as on Friday, but trade is generally worse. From Germany and Holland there are 250 Beasts, 530 Sheep, and 158 Calves; from Scotland, 600 Beasts; 2100 from Norfolk and Suffolk, and 250 from the northern and midland counties.

Per st. of 8lbs.—s	d	s	d
Best Scots, Herefords, &c. ...	3	2 to 3	4
Best Short-horns	3	0 — 3	2
2d quality Beasts	2	4 — 2	8
Best Downs and Half-breds ...	4	0 — 4	2
Do. Shorn	3	6 — 3	8

Per st. of 8lbs.—s	d	s	d
Best Long-wools.	3	8 to 4	0
Do. Shorn ...	3	2 — 3	6
Ewes & 2d quality	0	0 — 0	0
Do. Shorn	2	6 — 2	10
Lambs	4	8 — 5	6
Calves	2	8 — 4	4
Pigs	2	8 — 3	8

Beasts, 4886; Sheep and Lambs, 23,420; Calves, 221; Pigs, 380.

Friday, April 23.

We have not a very large supply of Beasts; trade is dull, and it is difficult to obtain higher prices. A few choice things are rather dearer, but we cannot quote higher. The supply of Sheep and Lambs is moderate; trade is rather more cheerful, but there is not much difference in price. Good Calves being scarce are fully as dear as of late, but middling ones are very unsaleable. Our foreign supply consists of 100 Beasts, 270 Sheep, and 268 Calves; from Scotland there are 60 Beasts, 400 from Norfolk and Suffolk, and 135 Milch Cows from home counties.

MARK LANE.

Monday, April 19.—There was a tolerably fair supply of Wheat from Essex and Kent this morning, which was ultimately disposed of on the terms of this day se'nnight, factors being unable to establish any advance in price. Foreign was in improved retail demand, but unaltered in value.—French Flour is offered at a decline of 1s. per sack; and barrels must also be written 1s. lower.—Barley barely maintains last week's prices.—Beans and Peas sell readily at late rates.—The Oat trade is firm, and in some instances rather more money is obtained.

Per Imperial Quarter.	s.	s.		s.	s.
Wheat, Essex, Kent, & Suffolk...White	42—44		Red	39—40	
— — fine selected runs...ditto	44—46		Red	40—42	
— — Talavera	45—51				
— Norfolk	38—43		Red	—	
— Foreign.....	36—52				
Barley, grind. & distil., 26s to 29s...Chev.	30—35		Malting .	29—31	
— Foreign ...grinding and distilling	22—29		Malting .	—	
Oats, Essex, and Suffolk.....	19—21				
— Scotch and Lincolnshire...Potato	21—24		Feed	20—22	
— Irish .....Potato	20—23		Feed	19—22	
— Foreign .....Poland and Brew	19—21		Feed	17—20	
Rye	—		Foreign .	—	
Rye-meal, foreign	—				
Beans, Mazagan.....24s to 27s.....Tick	25—30		Harrow .	25—30	
— Pigeon .....27 — 32s...Winds.	20—26		Longpod	24—30	
— Foreign .....Small	22—30		Egyptian	23—25	
Peas, white, Essex and Kent.....Boilers	32—34		Suffolk...	33—35	
— Maple.....27s to 30s.....Grey	26—28		Foreign .	27—34	
Maize .....White	—			—	
Flour, best marks delivered ...per sack	35—40		Yellow...		
— Suffolk .....ditto	27—32		Norfolk .	27—32	
— Foreign..... per barrel	18—22		Per sack	28—34	

Arrivals in the Port of London last Week.

	Wheat.	Barley.	Malt.	Oats.	Beans.	Peas.
Flour, 9400 sks — 18 brls	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.
English	4870	2366	4612	1730	522	47
Irish	—	1669	35	5270	—	—
Foreign	2762	2300	—	2678	5000	8

Friday, April 23.—The arrivals of grain, both English and foreign, have been moderate this week. To-day's market was badly attended, and the inquiry for Wheat very inanimate. Prices must be considered the same as on Monday. Business in floating cargoes has been to a moderate extent only.—Flour meets more inquiry, at rather better prices.—The value of Barley remains as on Monday.—Beans and Peas are very firm. —There is a fair demand for Oats at an advance of 6d. per qr.

Imperial Averages.

	Wheat.	Barley.	Oats	Rye.	Beans.	Peas.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Mar. 13.....	42 10	30 5	19 9	30 5	30 1	29 7
— 20.....	42 8	30 3	19 0	31 11	30 4	29 10
— 27.....	42 2	30 5	19 6	30 5	30 3	29 8
April 3.....	41 7	29 9	19 4	32 3	30 0	29 7
— 10.....	41 4	29 4	19 7	32 8	29 1	29 2
— 17.....	40 10	29 1	19 4	33 6	29 10	29 11
Aggreg. Aver.	41 11	29 10	19 7	31 10	30 1	29 8

Duties on Foreign Grain, 1s. per qr.

Arrivals this Week.

	Wheat.	Barley.	Oats.	Flour.
	Qrs.	Qrs.	Qrs.	
English ...	3350	1710	420	— sacks
Irish	—	—	3850	
Foreign ...	4250	3540	10930	— brls

Fluctuations in the last Six Week's Averages.

Prices.	Mar. 13.	Mar. 20.	Mar. 27.	Apr. 3	Apr. 10.	Apr. 17.
42s10d		...	...	...	...	...
42 8	...		...	...	...	...
42 2	...	...		...	...	...
41 7	...	...	...		...	...
41 4	...	...	...	...		...
40 10	...	...	...	...	...	

Liverpool, Tuesday, April 20.—The week's imports of grain and Flour are again moderate, and the trade has had a steady aspect, prices generally being fully supported. The exports coastwise are less than of late, and merely comprise 1161 qrs. of Wheat, 1831 barrels and 379 sacks of Flour, 716 qrs. of Beans, and small quantities of Barley, Indian Corn, and Oatmeal. Our Corn Exchange this morning was scarcely so well attended as on Friday, but a fair amount of business was transacted in Wheat and Flour, at an advance in price of 1d. to 2d. per bushel on the former, and 6d. to 1s. per barrel and 1s. per sack on Flour, on last Tuesday's rates. Indian Corn is scarce; yellow improved in price, and white receded. Good American yellow corn is the favourite article, and commands 30s. per 480 lbs. Oats, Barley, Beans, and Peas were very little dealt in, and no alteration of value.

JAS. PHILLIPS and Co., 116, Bishopsgate-street Without, London, beg to submit the following:—

GLASS MILK PANS.

12 Inch Diameter, each	2s. 0d.
14 ,, ,,	2 6
16 ,, ,,	3 0
18 ,, ,,	3 6
20 ,, ,,	4 0
22 ,, ,,	4 6
24 ,, ,,	5 0
26 ,, ,,	6 0

PROPAGATING GLASSES. BEE CLASSES.

	s. d.	s. d.
2 Inch Diameter	0 2 ... 0 3	
3 ,, ,,	0 3 ... 0 4	
4 ,, ,,	0 4 ... 0 5	
5 ,, ,,	0 6 ... 0 7	
6 ,, ,,	0 8 ... 0 10	
7 ,, ,,	0 10 .. 1 1	
8 ,, ,,	1 0 ... 1 4	
9 ,, ,,	1 2 ... 1 8	
10 ,, ,,	1 4 ... 2 0	
11 ,, ,,	1 6 ... 2 8	
12 ,, ,,	2 0 ... 3 6	
13 ,, ,,	2 6	
14 ,, ,,	3 6	
15 ,, ,,	4 0	

PRESERVE JARS.

3 Inch Diameter ...	0s. 3d.
4 ,, ,, ...	0 5
5 ,, ,, ...	0 7
6 ,, ,, ...	0 9
7 ,, ,, ...	1 0
8 ,, ,, ...	1 3
9 ,, ,, ...	1 6
10 ,, ,, ...	2 0

HAND GLASSES.

	Glazed.	
12 Inch ...	3s. 0d. ...	6s. 0d.
14 ,, ...	3 6 ...	7 0
16 ,, ...	4 0 ...	8 0
18 ,, ...	4 6 ...	9 0
20 ,, ...	5 0 ...	10 0
24 ,, ...	6 0 ...	12 0

Painted, and Glazed with 16 oz. Sheet Glass. If open tops, 1s. extra.

GLASS CREAM POTS.

6 Inch Diameter, each	2s. 0d.
8 ,, ,,	2 6
10 ,, ,,	3 0
12 ,, ,,	4 0
14 ,, ,,	5 0
16 ,, ,,	6 0
18 ,, ,,	7 6

LACTOMETERS.

For testing the quality of Milk. 4s. 6d. each.

CUCUMBER GLASSES.

24 Inches long ...	2s. 0d.
22 ,, ,, ...	1 10
20 ,, ,, ...	1 8
18 ,, ,, ...	1 6
16 ,, ,, ...	1 4
14 ,, ,, ...	1 2
12 ,, ,, ...	1 0

Made to any length.

PASTRY SLABS.

Of strong Plate Glass, fitted in Wood Frames.

20+14	13s 0d. each.
22+16	16 0 ,,
24+18	19 6 ,,
26+20	23 6 ,,
28+24	30 0 ,,
30+24	32 6 ,,

Intermediate sizes charged proportionately.

GLASSES FOR WALL FRUIT.

HALLIMAN'S FRUIT PROTECTOR, Registered March 22, 1850.

FERN SHADES.

WASP TRAPS, 3s. 6d. per dozen.

LORD CAMOYS' MILK SYPHON.

GLASS CHURNS.

HYACINTH AND FLOWER DISHES.

Glass Shades for Ornaments, Fish Globes, Lamp Glasses, Self-registering Thermometers for Greenhouses, Pianoforte Insulators, &c. &c.

GLASS.

THOMAS MILLINGTON'S FOREIGN SHEET GLASS is far superior to any other manufacture, as well as cheaper. In 100-feet boxes packed for immediate delivery.

6 inches by 4 and 6½ by 4½	...	...	...	13s. 0d.
7 ,, 5 and 7½ by 5½	...	...	...	15 0
8 ,, 5 and 8 by 5½	...	...	...	15 0
8 ,, 6 and 8¼ by 6½	...	...	...	17 6
9 ,, 7 and 10 by 8	...	...	...	20 0
12 ,, 10 and 13 by 9	...	...	...	20 0

And many other sizes, or cut to order in various thicknesses. Cases containing large Sheets, in 100, 200, and 300 feet, at 21s. per 100 feet.

ROUGH PLATE, perfectly flat, ⅛ in. thick, best manufactured.

In sizes under 15 inches	6d.	per foot.
,, ,, 35 ,, ...	8d.	,,
,, ,, 50 ,, ...	9½d.	,,
,, ,, 75 ,, ...	12d.	,,

Milk Pans, 2s. to 6s. each; Metal Hand Frames, Glass Tiles and Slates; Cucumber, Propagating, and Bee Glasses; Wasp Traps, Glass Shades, and Plate Glass, at 87, Bishopsgate-street Without, same side as Eastern Counties Railway.—Established 100 years.

GLASS FOR CONSERVATORIES, ETC.

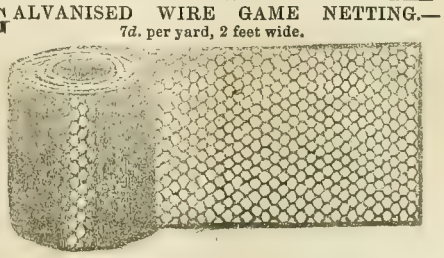
HETLEY and Co. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2d. to 3d. per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices and Estimates forwarded on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLATES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to James Hetley and Co., 35, Soho-square, London.

See *Gardeners' Chronicle* first Saturday in each month.

ADULTERATION OF FOOD.

HENRY BAKER, Optician, 90, Hatton-garden, London, begs to call attention to his ACHROMATIC MICROSCOPES (warranted good), which will be exchanged if not approved of. These Instruments will define the circulation of the Blood in the Frog's Foot, the Saw in the Sting of the Wasp, the Comb in the Spider's Foot, the beautiful form and varieties of Pollen in Flowers and their Structure, the Scales of the Butterfly's Wing, and also, in many instances, adulteration of Food. It is a very interesting companion, and will pass away usefully many a leisure hour, the fund for observation being inexhaustible. Price for No. 1, 3l. 12s.; No. 2, 5l. 15s.; No. 3, 9l. 10s. A descriptive Book sent post free, on receipt of three postage stamps. Prepared objects, 12s.; injected do., 30s. per doz.

GALVANISED WIRE GAME NETTING.—7d. per yard, 2 feet wide.



	Galvanised.	Japanned Iron.
2-inch mesh, light, 24 inches wide ...	7d. per yd.	5d. per yd.
2-inch ,, strong ,, ...	9 ,,	6½ ,,
2-inch ,, extra strong ,, ...	12 ,,	9 ,,
1½-inch ,, light ,, ...	8 ,,	6 ,,
1½-inch ,, strong ,, ...	10 ,,	8 ,,
1½-inch ,, extra strong ,, ...	14 ,,	11 ,,

All the above can be made any width at proportionate prices. If the upper half is a coarse mesh, it will reduce the prices one-fourth. Galvanised sparrow-proof netting for Pheasantries, 3d. per square foot. Patterns forwarded post free.

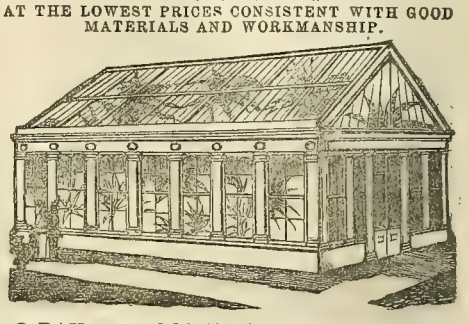
Manufactured by BARNARD and BISHOP, Market-place, Norwich, and delivered free of expense in London, Peterborough, Hull, or Newcastle.

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These Walls can, when desired, be made wide enough for a person to enter, by which they become elegant hothouses on the best principle. Existing Walls covered with Glass and Iron.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER.

AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.



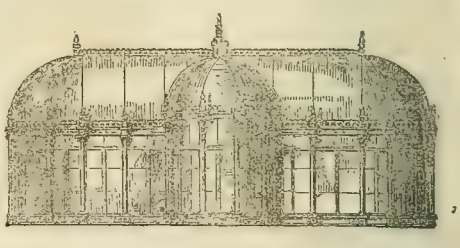
GRAY and ORMSON, Danvers Street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

G. and O. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders, they can with the greatest confidence give the most satisfactory references.

Their Hot-Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating by Hot Water can be made available.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER.

WARRANTED BEST MATERIALS AND WORKMANSHIP AT THE LOWEST POSSIBLE PRICES.



J. WEEKS and CO., King's Road, Chelsea Horticultural Architects, Hothouse Builders, and Hot-water Apparatus Manufacturers. The Nobility and Gentry about to erect Horticultural buildings, or fix Hot-Water Apparatus, will find, at our Hothouse Works, King's Road, Chelsea, an extensive variety of Hothouses, Greenhouses, Conservatories, Pits, &c., erected, and in full operation, combining all modern improvements, so that a lady or gentleman can select the description of House best adapted for every required purpose.

THE HOT-WATER APPARATUSES (which are efficient and economical), are particularly worthy of attention, and are erected in all the Houses, Pits, &c., for both Top and Bottom Heat, and in constant operation in the Stoves.

The splendid collection of Stove and Greenhouse Plants are in the highest state of cultivation, and for sale at very low prices. Also a fine collection of strong Grape Vines in pots from eyes, all the best sorts.

Plans, Models, and Estimates of Horticultural Buildings; also Catalogues of Plants, Vines, Seeds, &c., forwarded on application.

J. WEEKS and CO., King's Road, Chelsea, London.

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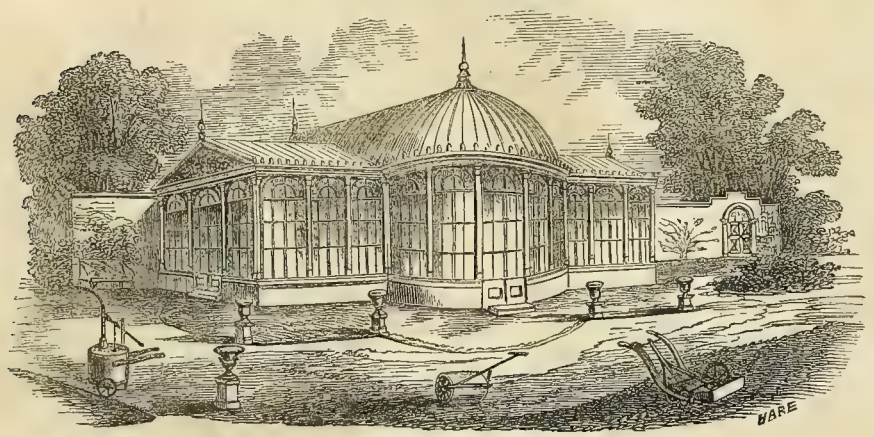
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THE EDINBURGH REVIEW, N°. CXCIV. will be published on MONDAY NEXT.

CONTENTS:

I. TRONSON DU COUDRAY: NOUVELLES CAUSES CELEBRES.
II. NATIONAL EDUCATION.
III. THE TEMPORAL POWER OF THE POPE: FARINI.
IV. ATHENIAN ARCHITECTURE: PENROSE.
V. INDUSTRIAL INVESTMENTS.
VI. JOHN KNOX'S LITURGY.
VII. MALLET DU PAN.
VIII. ROEBUCK'S HISTORY OF THE WHIGS.
IX. SQUIER'S NICARAGUA.
X. LORD DERBY'S MINISTRY AND PROTECTION.

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THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 18—1852.] SATURDAY, MAY 1. [PRICE 6*d*.

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COUNTY OF GLOUCESTER AND CHELTENHAM HORTICULTURAL SOCIETY.—The First Show of the above Society will be held at the Royal Old Wells Cheltenham, on THURSDAY, the 13th May next. All parties intending to exhibit are particularly requested to observe the regulations (as laid down in the Schedule), and give the three days notice required, in order that sufficient space may be reserved.

As the Prizes for the three Shows during the season amount to upwards of 370*l*., it is confidently expected that a large number of Plants, &c., will be exhibited, rendering it highly necessary that the Rules be strictly adhered to.

J. H. WILLIAMS, Hon. Sec.

Committee Room, 382, High-street.

JOHN AND CHARLES LEE beg to offer the undernamed novelties, which they recommend with confidence. Plants of each 5*s*., in May. Discount to the Trade, when three are ordered.

HELIOTROPIUM ALBICANS.—This is the best light Heliotrope for bedding yet offered. The general effect is a good WHITE, with dark green foliage, rendering it very conspicuous.

FUCHSIA, "THE FAIRY."—Tube, white flesh, sepals delicately tipped with bright pink; corolla edged with carmine. Altogether the most pleasing and novel Fuchsia yet sent out.

Nursery, Hammersmith, near London.

SUTTON'S PERMANENT GRASSES. — THE SUPERIOR QUALITY OF SUTTON'S GRASS SEEDS is plainly indicated by the numerous orders they are daily receiving through the recommendation of former customers.

The sorts consist of true Perennial Grasses and Clovers, as named particularly in their Advertisement on the last page of the *Gardeners' Chronicle* of March 20.

JOHN SUTTON AND SONS, Seed Growers, Reading, Berks.

RENDLE'S NEW PLANT CATALOGUE *is just published, and can be had in exchange for one penny stamp.*

It contains PRICES of all the newest and best Geraniums, Dahlias, Azaleas, Antirrhinums, Camellias, Chrysanthemums, Cinerarias, Fuchsias, Petunias, Calceolarias, Ferns, Lycopodiums, Greenhouse, Stove, and Herbaceous Plants.

*** Carriage paid to all the stations on the SOUTHERN RAILWAYS. See Catalogue.

WILLIAM E. RENDLE and Co., Florists to her Majesty, Plymouth.

MITCHELL'S UNRIVALLED SEEDLING DAHLIAS.

JAMES MITCHELL begs to inform his Friends that he purposes sending out, early this month, the following superb DAHLIAS, which he can recommend to the most limited grower.

MRS. HEPBURN.—Crimson, shaded with dark maroon, superior and constant show flower; 4 feet, 10*s*. 6*d*.

MR. BLENCOWE.—A noble crimson, quite distinct, beautifully cupped, petals rising well in the centre, and constant show flower; 4 feet, 10*s*. 6*d*.

QUEEN OF BEAUTIES.—This extraordinary flower was partially sent out last season, and is unquestionably the most beautiful Dahlia in the world; but owing to the numerous orders and shortness of stock, not one-half were supplied. It is of the purest white, tipped with rich rose; strong plants; 4 feet, 2*s*. 6*d*.

ELEGANTISSIMA.—A fancy variety, rose and pink, one of the most distinct in this class; constant and beautiful show flower; 4 feet, 2*s*. 6*d*.

Pilndown Nurseries, Maresfield, Sussex, May 1.

EDWARD GEORGE HENDERSON AND SON, Wellington-road, St. John's-wood, London, beg to remind those who intend to purchase any of the following New Plants, to be sent out after the 1st of May, that all orders will be booked as received and executed in rotation.

Fuchsia	Commodore (show flowers)	Antirrhinum	Hendersonii
,,	Splendidissima, do.	Calceolaria	Wellington Hero
,,	Gem of the Season, do.	,,	Tom Thumb
,,	Pendula, do.	Chrysanthemum	Hendersonii
,,	Exquisite	Delphinium	Hendersonii
,,	Hendersonii (double flower)	Erica	Elegantissima
,,	Darling (bedding variety)	,,	Nobilis
,,	Globosa perfecta, do.	Geranium	Hendersonii
,,	Pat, do.	,,	Extravaganzum
		,,	Odoratissimum grandiflorum
		Heliotropium	Voltaireanum
		,,	nanum

For Description and Prices of the above, see back numbers of this Paper—Feb. 28, March 6 and 13. The Trade supplied, with our usual discount.

VICTORIA REGIA.

J. WEEKS AND CO., King's-road, Chelsea, have a few fine strong Plants for Sale of VICTORIA REGIA, Nymphæa Cærulea, Nymphæa Dentata, Nymphæa Stellata, &c. As also a splendid Collection of Stove and Greenhouse Plants, all in the highest state of cultivation.—PLANS AND ESTIMATES for building Aquariums and all other Horticultural erections. J. WEEKS & Co's HOT-WATER APPARATUS is well adapted for Warming large Ponds, for Stove Aquatics, and for Heating extensive ranges of Forcing-house.

HORTICULTURE IN ALL ITS BRANCHES.

DAHLIAS.—If Certificates are any criterion of merit, the under-mentioned received Thirty-three out of Fifty-five given to all England, at the Great National, Surrey Gardens, Trowbridge, Newbury, Walsall, Shacklewell, Taunton, Notting-hill, London, and Slough. They stand on this recommendation. Fine plants are now ready, with all the leading varieties, on application to JOHN KEYNES, Nurseryman, Salisbury.

Triumphant (Keynes), crimson	Aurora (Keynes), buff
Una (do.), white	Cricket (Dodd's), fancy, peach and white
Douglas Jerrold (do.), buff-edged scarlet	Miss Bathurst (do.), fancy, lilac and white
Laura Lavington (do.), fancy, fawn and white	Cloth of Gold (Hooper's) fine yellow
Nancy (do.), fancy, scarlet and white	

Catalogues, showing the three best varieties of each colour, may be had on application.—Salisbury, May 1.

CAPE HEATHS, ETC.

W. J. EPPS, in offering the following varieties of CAPE HEATHS, AZALEAS, &c., begs to remark that they are splendid, bushy, vigorous, plants, not to be equalled in the trade:—

Erica tricolor	Erica jasminiflora
,, ,, Wilsonii	,, Shannonii
,, ,, rubra	,, Bandonii
,, ,, Dunbarii	,, ampullacea
,, ,, Leeana	,, ,, vittata
,, ,, speciosa, (McNab)	,, Macnabiana
,, ,, Jacksonii	,, Eaconiana
,, ,, dumosa	,, ,, purpurea
,, Hartnelli	,, princeps
,, retorta major	,, ,, carnea
,, Vernoni superb	,, vestita fulgida
,, Irbyana	,, ,, rosea
,, aristata major	,, ,, grandiflora
	,, Cavendishii

Strong plants of the above, in 48-sized pots, from 18*s* to 24*s*. per dozen.

Selections from the following 17*s*. to 15*s*. per dozen:—Rollissonii, aristata vittata, baccans, propendens, Sindryana, Bowieana, depressa, depressa multiflora, Juliana, commosa alba, cerinthoides, Savillei major, rubella, splendens, intermedia, physoides, verticillata, perspicua nana, ventricosa globosa, sanguinea, mammosa pallida, andromedæflora, elata, and Banksia. Fine healthy plants in 48-sized pots.

AZALEA INDICA.—Selection from the following varieties, 9*s*. to 21*s*. per dozen, very strong plants:—Alba magna, ignescens, Edmondsii, Glory of Sunning Hill, Holdenii, optima, carminata, alba lutescens, splendens, delecta, Prince Albert, præctaria, triumphans, Hebe, obtusa, punciflora, coronata, Minerva, Perryana, Cupid, vivicans, Conqueror, coccinea superb, lateritia grandiflora, magnifica plena rosea superba, Incomparable, Fulgens, modesta, variegata, blanda, rosea punctata, semi-duplex maculata, Lawrenceana, Broughtonii, Duke of Devonshire.

Stove and Greenhouse Plants in great variety, 12*s*. to 24*s*. per dozen.

Strong well-established plants of the newest and best kinds of Fuchsias, 9*s*. to 15*s*. per dozen.

Fine new and show varieties of Pelargoniums, in 48-sized pots, very strong, bushy plants, 9*s*. to 21*s*. per dozen.

Dahlias, all the leading kinds of former years, together with the novelties of the present season, from 6*s*. per dozen.

A descriptive Spring Catalogue will be sent on application.

Bower Nurseries, Maidstone, May 1.

CHOICE AND RARE SEEDS, selected from General List, sold by WILLIAM DENYER, Seedsman and Florist, 82, Gracechurch-street, near the Spread Eagle, London, at the following price per paper:—

ABRONIA UMBELLATA, orange and yellow, 1*s*. A new and very beautiful trailing plant; highly fragrant.

ANTIRRHINUM, or SNAPDRAGON, 6*d*. Saved by an amateur from a most splendid collection.

BELLIS FERENNIS, or DAISY, very double, 6*d*. Saved from the new German varieties; brilliant colours, varying from the deepest crimson to white, through all the different shades.

CALLISTEPHUS CHINENSIS, 6*d*. A new globular variety of China Aster; very double, and brilliant colours.

CENTRANTHUS MACROSIPHON CARNEUS, 6*d*. A beautiful free-flowering annual.

ESCHSCHOLTZIA GRANDIFLORA ALBA, 6*d*. A new and beautiful hardy variety.

FUCHSIA CORYMBIFLORA ALBA, 6*d*. Producing long white tubular flowers, with crimson centre, splendid.

GRAMMANTHES GENTIANOIDES, 6*d*. A beautiful annual for growing in pots.

HIBISCUS CALISUREUS, 6*d*. Colour, bright yellow, with crimson centre.

LOBELIA RAMOSA RUBRA, splendid, quite new, 6*d*.

LUPINUS AFFINIS, new, pure white and deep blue, 6*d*.

PANSY, from the best named flowers, 1*s*. Saved by Thomson and other eminent growers.

SAPONARIA CALABRICA, bright pink, 6*d*. Beautiful for growing in clumps or for rockwork.

SCHIZANTHUS RETUSUS ALBUS, 6*d*. Pure white, with orange centre. One of the most beautiful annuals grown, either for pot culture or the open ground.

TRITOMA UVARIA, 1*s*. A hardy perennial, growing from 4 to 5 feet high, producing long spikes of crimson and orange-coloured flowers.

SCANDIX BULBOSA, or Turnip-rooted Chervil, a delicious vegetable, 6*d*.

SEAKALE FOR THE MILLION.

SEAKALE POTS AND FORCING *superseded by "The Early Yellow Crown Seakale."*

This valuable new vegetable (exhibited at the Horticultural Society Rooms, Regent-street), is perfectly distinct from all other varieties of Seakale, *being free from any purple or green tint, very large, of a peculiarly rich flavour, and delicate straw colour, which it retains if kept for* 10 *or* 12 *days after cutting.*

It is so early and hardy that it may be easily grown in the open ground, fit for use early in February. It has been so grown in the Kempshot Gardens several winters, and is now first offered to the public by JOHN SUTTON and SONS, Reading, Berks.

As the Stock is very limited, early orders are requested *and recommended*, which orders will be faithfully executed in rotation, so far as the stock will suffice, with good plants, about the first week in June, which will be fit for cutting from next February. Price 10*s*. 6*d*. per dozen. Trade discount allowed where not less than three dozen are taken. Orders for less than one dozen will not be executed. Remittances or references required from unknown correspondents.

READING NURSERIES, READING, BERKS.

STANDISH AND NOBLE, NURSERYMEN, Bagshot, Surrey, have to offer the following new and select Plants, all of which are hardy, except Azalea vittata:

ABIES JEZOENSIS, seedling plants, 21*s*. each; this is one of the last novelties in Conifera; forms a noble tree of 120 feet in height, and of very distinct character (very hardy).

AZALEA VITTATA.—A specimen of this unique variety was awarded a Knightian Medal when exhibited at the Horticultural Society's Room last April; the ground colour of the flower is white, beautifully striped with purple, after the manner of a Carnation. It is a very free bloomer, 9 inches to 1 foot, 21*s*. each.

CUPRESSUS FUNEBRIS.—Seedlings, 5*s*. to 21*s*. each.

CEPHALOTAXUS FORTUNII, male, long leaves, seedlings, 21*s*. each.

CEPHALOTAXUS FORTUNII, female, short leaves, seedlings, 21*s*. each. These have withstood the late frost and drying winds without losing any of their verdure (very hardy).

ILEX FURCATA, 21*s*. each.

,, MACROCARPA, 21*s*. each.

QUERCUS SCLEROPHYLLA, 21*s*. to 42*s*. each.

,, INVERSA, 21*s*. to 42*s*. each.

SPIRÆA CELLOSA, an abundant and continued bloomer. It has large corymbs of rosy purple blossoms, and is a handsome addition to our shrubbery plants. 10*s*. 6*d*. each.

THE BEST RIDGE CUCUMBER.

J. CHAMBERLAIN can with confidence say, that this excellent CUCUMBER, which is a Hybrid between the Great Britain and the Common Long Prickly, is equally hardy and prolific as the latter, yet possessing the qualities of the former, will be found of unequalled value to market gardeners. It is first-rate for hand-glasses, but when sown in the middle of May, requires no better treatment than Kidney Beans. It grows from 12 to 18 inches long, and is worth three times as much at market as the Long Prickly.

See the account of the produce of a few plants last season, in the *Gardeners' Chronicle* of November 22, 1851.

Amateurs who give the above superb Hardy Cucumber a trial, will find themselves well repaid. Sold in packages of 12 Seeds for 1*s*., or 48 Seeds for 2*s*. 6*d*. Remittances are requested with orders from unknown correspondents.

JOHN CHAMBERLAIN, Great Horkesley, Colchester, Essex.

SCARCE AND BEAUTIFUL FLOWER SEEDS

EMPEROR STOCK, a perennial species, and hardy 1400 seeds, 1*s*.

CINERARIA and CALCEOLARIA, selected from collections of Plants, that were admitted by all persons who saw them to be the finest they had ever seen; 250 seeds of the former, and 500 of the latter, 1*s*. each paper.

MYOSOTIS AZORICUS, a bed of this on an eastern or northern aspect is very beautiful; 200 seeds, 1*s*.

CALENDRINIA UMBELLATA, one of the neatest growing and most brilliant flowering of all bedding plants; 1500 seeds, 1*s*.

SWEET WILLIAM, in 100 varieties; 10,000 seeds, 1*s*.

Payment may be made in postage stamps.

JEYES and Co., Nurseries, Northampton.

DAHLIAS.

THOMAS BARNES is now sending out his superb DAHLIAS, viz.:—

SPARKLER.—Bright orange scarlet; constant and first-rate show flower. 10*s*. 6*d*.

ALERT.—Yellow-edged red. 7*s*. 6*d*.

DAPHNE.—Rose tipped with white and sulphur; distinct fancy. 7*s* 6*d*.

With all the leading Flowers of last and former years, at moderate prices and true to name. Descriptive Catalogues on application.—Dane Croft Nurseries, Stowmarket, Suffolk.

NEW AND RARE PLANTS.

BRUNSFELSIA NITIDA VAR. JAMAICENSIS, OR SHINING-LEAVED BRUNSFELSIA.

EDWARD MITCHELL begs most respectfully to offer the above beautiful Stove Plant to the Floricultural Public, as being the greatest novelty of the present season, and a very great acquisition to all growers of plants for exhibition, for which it is most admirably adapted, as it is by far the freest bloomer of that interesting class of plants, E. M. having plants not more than 15 inches high with upwards of 20 of its magnificent blooms open at one time; it has also the great advantage of being very sweet-scented. E. M. was awarded for the above a bronze medal, at the last June Botanic Exhibition, for new and rare plants; it is described by Sir Wm. Hooker in the "Botanic Magazine" in June 1847, as follows: "An erect, shrubby-growing plant, attaining 4 to 5 feet in height; the leaves are of a bright, glossy green, the flowers grow from the axils of the upper leaves, and are of a very rich sulphur colour, upwards of 5 inches in length, and more than 4 inches in diameter; altogether this may be considered one of the most beautiful plants ever offered to the public." Strong plants will be sent out the first week in June, price 21*s* each, with the usual discount to the Trade when three or more are ordered. Post-office order requested from unknown correspondents.

Bristol Gardens, Kemp-town, Brighton, May 1.

CHEAP BEDDING PLANTS FOR THE MILLION.

JOHN HAYES, FLORIST, Farnham, Surrey, begs to say he is prepared to send out BEDDING PLANTS from 1*s.* to 3*6s.* per doz n. Verbenas are now in the open air, and may be put out at once. The plants are remarkably good. Any person wanting a complement, may treat with J. H on liberal terms. Catalogues sent on the receipt of one postage stamp.

CHOICE CHRYSANTHEMUMS.—Young Plants of the above, for flowering this autumn, are now ready for sending out. Best sorts, 12*s.* per dozen; good sorts for planting out, 6*s.* and 9*s.* per dozen. A Catalogue may be had; also an extensive stock of bedding-out Plants, 3*s* and 4*s.* per dozen.

CHANDLER and SONS' Nursery, Wandsworth Road, Surrey.

NEW AND BEAUTIFUL PLANTS, now ready to be sent out from the PINE-APPLE NURSERY, by A. HENDERSON AND CO., Pine-apple Place, Edgeware Road, London.

ANTIRRHINUM PRIMROSE PERFECTION (EDWARDS's). —Clear primrose yellow, of a fine upright growth, combined with an excellent dwarf close and bushy habit; flowers individually large. As a showy hardy herbaceous bedding plant, few can equal this for its brilliant and chaste colour. 5*s.*

BALSAMIA LATIFOLIA ALBA (from Ceylon).—This very beautiful plant has an elegant light green foliage, and a dwarf branching habit. Its manner of flowering and form of bloom are like the well-known Balsamia latifolia, except in colour. Flowers snowy white, large, and of a waxy texture. This fine plant was received from the Superintendent of the Ceylon Botanic Garden, as Impatiens latifolia alba.—N.B. This will prove a valuable exhibition plant, flowering as it does so abundantly, and during the months when exhibitions generally take place. 10*s.* 6*d.*

DILLWYNIA SCABRA.—This very beautiful and rare evergreen shrub has been long known to botanists, but has only recently been introduced by A. HENDERSON and Co. In habit it is dwarf and branching, producing very copiously innumerable clusters of bright rich scarlet pea-shaped flowers with a brilliant yellow edge. It possesses the peculiar merit of throwing out its clusters of flowers all up the stem, each cluster having 9 to 10 flowers. As an exhibition plant it will stand pre-eminently forward. 21*s.*

PULTENÆA ERICOIDES.—A very distinct and pretty flowering evergreen greenhouse shrub, having small leaves similar to an Erica, and flowers of a yellow brown and rosy purple hue, produced in heads on the spex of the branches. It is a profuse bloomer, and can easily be trained to form a compact bush, as it never attains a large size. 10*s.* 6*d.*

DILLWYNIA DRUMMONDII.—This very fine plant, with vivid green foliage, is an evergreen shrub of slender habit, producing most freely its pea-shaped blossoms; flowers, buff and red, with a yellow centre. This is, without exception, one of the most beautiful amongst the many fine plants from Australia 21*s.*

GLOXINIA TRICOLOR.—Colours clear waxy rose, edges lighter, approaching to white, with a beautiful and peculiar purplish tinge in the throat. Shape fine, expanding after the manner of the well-known G. grandis, which, for form and unique shape, stands conspicuous at the head of this lovely tribe of flowers. 7*s.* 6*d.*

GREVILLEA LAVENDULACEA (of Henfrey), SYN. ROSEA (of Liadley).—This has been most justly described by Dr. Lindley as "the very handsomest of all the Grevilleas." A very beautiful unique shrub, of a slender growth, producing its rich rosy red flowers very copiously. In style of growth and bloom it is like G. rosmarinifolia, but is much more elegant in appearance, and a freer bloomer. 21*s.*

DILLWYNIA CINNABARINA.—A lovely and neat evergreen shrub from New Holland. Flowers profusely; colour a rich cinnabar or orange-scarlet, foliage dark green, and thickly set on robust stems. An extra desirable plant for the exhibition tent, and for decorative purpose, either as a pot plant or to be planted in the border of a conservatory. 21*s.*

THE GIANT SCARLET GERANIUM "DEFIANCE."—This very remarkable Geranium is a cross, or seedling, between Rigby's Queen and the true Shrubland; it is far superior to either, inasmuch as it partakes of the free flowering habit of the one, with the large trusses of flowers and foliage of the other. Its fine habit, wondrous truss (producing generally 100 flowers on every head of bloom), its brilliant colour, and magnificent foliage, render this a truly superb plant. It is very suitable for large beds, for training against walls at the back of conservatories, and as a single plant trained bush fashion—or as a pyramid placed on a lawn, and for such like decorative purposes. 10*s.* 6*d.*

GLORIOSA PLANTII (Mr. Plant's Gloriosa).—This will be found a great acquisition to that fine but small tribe of plants, the Gloriosa. A considerable number of its roots were sent over to this country from Natal, in southern Africa, by Mr. Plant, an English collector settled in that place, who discovered it there, and it is named after him. The following is a copy of the letter he sent with them:— " " " "I believe it to be undescribed; the plant does not rise more than 3 feet; the first whorl of flowers is produced about 1 foot from the ground; a second and a third are afterwards produced, at about equal distances. The flowers have much more scarlet in them than is common in G. superba. It will be a great acquisition in England, from its brilliant colour, and its not growing taller than Van Houtte's Alstromerias. Quite upright, and of a very distinct habit." 21*s.*

PHLOX DRUMMONDII MAYII VARIEGATA.—A beautiful purplish crimson and white-flowered Phlox; one of the prettiest varieties, according to Dr. Lindley, that has ever been raised for bedding purposes; it will also be very valuable for pot culture. The plant is of a free branching habit, and an abundant bloomer, suitable for pegging down in beds, or for training against low walls; flowering season from May to November. Among bedding plants this is, no doubt, the most lovely gem of the season, and, as such, far superior to the "Mountain of Light." 10*s.* 6*d.*

PHLOX DRUMMONDII THOMPSONII.—A variety of a most brilliant scarlet maroon colour, with a purplish eye. It has a remarkably bushy and free branching habit of growth, and is easily propagated by cuttings of the young branches. An entire bed of this Phlox would be very effective, and a great addition to the flower garden. 5*s.*

THE GERANIUM "WHITE UNIQUE."—Foliage and habit superior to the old purple Unique, with leaves highly scented. It produces abundantly its trusses of white flowers, in which, being of a globular form, every bunch of flower is a bouquet of itself. It partakes of the character of Tom Thumb in its low branching habit; very effective for vases, bedding, edgings, or for mixing with the old Unique. 15*s.*

FANCY GERANIUM "UNIQUE."—Top petals rich crimson, with clear white margin; under petals white, with a belt of light crimson; centre, clear white, and of excellent form. 10*s.* 6*d*

FANCY GERANIUM "JEWESS."—Top petals deep velvety crimson, with white margin; under petals white, spotted with violet; flowers large, and of fine form; habit dwarf and compact. 10*s.* 6*d*

IPOMŒA PALMATA, figured in the "Magazine of Botany," February, 1852.

This very beautiful climber is suitable for a greenhouse or warm border out of doors during the summer and autumn months; flowers most profusely; colour rose, suffused with purple; foliage ever elegant and beautiful.

VIOLA PEUCEANA.—A beautiful puce-coloured Tree Violet, a very free bloomer in spring and autumn, and is much admired, being a Seedling. Plants 3*s.* 6*d.* each on the whole stock; 20 plants 3*l.* Post-office Orders payable at Edmonton.—GEORGE TURNER, Florist, Southgate, Middlesex.

UNBLOOMED SEEDLING CALCEOLARIAS.

MR. HENRY MAJOR, Knosthorpe, near Leeds, begs to announce that his unbloomed Seedling Calceolarias are now being sent out, in parcels of 20, at 7*s.* 6*d.* per parcel; or three parcels for 1*l.*, post free. They have been produced from rich and beautiful varieties, and therefore good and beautiful colours and shapes may reasonably be expected. The plants are very healthy, and will all bloom this year.

A few sets of H. M.'s beautiful new Shrubby Calceolarias still remain, price 3*l.*, the set, or half the set, 30*s*, provided the selection be left to H. M.

Twelve best Calceolarias of last year, 25*s.*

A remittance from unknown correspondents is respectfully requested with the order.

P. WICKS'S AFRICAN SELECT COLLECTION FOR 1852. Just arrived, consisting of nearly 100 NEW and RARE PLANTS, SEEDS, and BULBS; various YELLOW Papillionaceous and other yellow Pelargoniums; two splendid species of new Lachenalias and Double Oxalis, five distinct species, and others too numerous to mention here. Ten Genera or Species for 1*l.*, cash, and so in any proportion. See, or please to apply for a Catalogue at 10, Boswell-court, Devonshire-street, Queen-square; or at R. Kennedy's, Bedford Conservatory, Covent-Garden, London.

COCKBURN AND BROWN, Côte des Neiges Nurseries, near Montreal, Canada, beg to intimate to British Florists that they have just purchased from Mr. James Lancashire, Montreal, the whole of his extensive stock of TULIPS, which he has so long grown in the grounds of Mr. Henry Corse. Mr. L is well known to be one of the most successful cultivators of this flower in America, having devoted to it between 30 and 40 years. It is almost needless to state that this fine collection contains a numerous assortment of strong roots of the leading varieties, nothing inferior having been admitted. Parties favouring us with their orders can have the roots sent during the autumn, either by steamer or sailing vessel.

Catalogues will be prepared and may be had from our agent, Mr. Brown, 44, Norfolk-street, Glasgow.

N.B. For Sale, the American and Canadian Seedling Apples, Plums, &c.

NURSERY, NORTH WARNBOROUGH, NEAR ODIHAM, HANTS.

STEPHEN SHILLING begs to inform his Customers and Friends that he has a large stock of Plants suitable for Bedding-out in Flower-Gardens, Borders, &c., this season, such as Dahlias, Geraniums, Fuchsias, Verbenas, &c. Annual Flower Plants in collections, and good Roses in pots, all at the lowest current prices. Plans of Parterres and Flower-Gardens given if required. Beds filled, by contract or otherwise, with plants that will produce masses of bloom throughout the summer and autumn months, in which he will endeavour to give entire satisfaction.

S. S. begs to thank his customers and friends for their very liberal support, and to solicit their further commands. S. S. beg also to say that since the dissolution of the partnership between himself and brother, many persons do not know whom to pay their accounts to; he therefore gives notice that they must be paid to STEPHEN SHILLING. All orders carefully attended to, and packages delivered free of carriage to the principal market towns. Descriptive Lists of Flowering Plants and Catalogues of Nursery Stock, Seeds, &c., forwarded on application.—May 1.

CRYSTAL FOUNTAIN.

E. PERKINS begs to inform his friends that he purposes sending out, the first week in May, the above splendid white FUCHSIA, which he can with confidence recommend as the largest and best ever offered to the public, and ordered by all the principal Nurserymen that saw it in bloom last season, 10*s.* 6*d.* each, with the usual allowance to the Trade. Tube and sepals waxy white, corolla approaching scarlet.—HURST and M'MULLEN, Agents in London.

Victoria Nursery, Leamington, May 1.

WOODLANDS NURSERY, MARESFIELD, NEAR UCKFIELD, SUSSEX.

DWARF ROSES FOR BEDDING.—The present month is considered the most eligible for planting out ROSES (from pots), for grouping in the Flower Garden. W. WOOD and SON beg to offer their Friends and the Public a large stock of well-grown plants, at the following prices, selection being left to themselves:—

	Per dozen—*s.*	*d.*	*s.*	*d.*
Hybrid Perpetual Roses, on the Manettii stock, also on own roots	12	0	18	0
Isle de Bourbon (own roots)	12	0	18	0
Tea-scented (own roots)	12	0	18	0
China, Noisette, and Climbing	9	0	12	0

The following Tea-scented Roses are highly recommended either for bedding or for pot culture:—

	Each.—*s.*	*d.*		Each.—*s.*	*d.*
Abricote	1	6	Marechal Bugeaud	1	6
Duchess of Mecklenburg (yellow)	5	0	Moyré	1	6
Elize Sauvage	1	6	Niphetos	1	6
Eugène Desgaches	1	6	Princesse Adelaide (yellow)	1	6
La Sylphide	1	6	Safrano	1	6
Madame Bravay	1	6	Souvenir du 30 Mai	1	6

PLANTS FOR BEDDING.	Per doz.
Pentstemons	6*s.* to 9*s.* 0*d.*
Phloxes	6*s.* to 9 0
Phloxes, new Continental varieties	12 0
Herbaceous Plants, fine collection, 42*s.* per 100, or 6*s.* to 12 0	

Plants presented for distant carriage.—May 1.

SUTTON'S SELECTED YELLOW GLOBE MANGOLD.—The demand being great for Seed of this valuable root, we beg to intimate that *at present* we have some genuine seeds for sale, but to prevent disappointment early orders will be necessary.

Also true Red Globe, Long Red, and Long Yellow. Retail price, **8d.** per lb., CARRIAGE FREE.

Address, JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

EPPS'S SUPERB SEEDLING FUCHSIAS are ordered by and may be had of the following Nurserymen and Seedsmen, the first week in May:—Messrs. Henderson and Co., Pine-apple-place; E. G. Henderson, Wellington-road; J. Lee, Hammersmith; J. Charteris, King William-street; Low and Co., Clapton; Protheroe and Morris, Leytonstone; W. P. Ayres, Blackheath; W. Bragg, Slough; Courcha, Bethnal-green; J. Ivery, Peckham; W. Barnes, Camden Nursery, Peckham; Osborne and Co., Fulham; C. Turner, Slough; Bass and Brown, Sudbury; J. Salter, Hammersmith; J. Stewart, Salt-hill; S. Barnes, Stowmarket; J. Jefferies, Cirencester; E Fuller, Worthing; W. Tiley, Bath; J. M'Intyre, Taunton; J. Keynes, Salisbury; Saunders and Co., Abergavenny; Wheeler and Son, Gloucester; H. Walton, Burnley; J. W. Sweet, Cirencester; Fisher and Holmes, Sheffield; J. Griffin, Bath.—Bower Nurseries, Maidstone, May 1.

PLANTS FOR BEDDING, ETC.

SAMUEL FINNEY AND Co. having on hand a large and healthy stock of the under-mentioned plants, well established in 4-inch pots, inured to the climate of the north, and ready for immediate planting, are induced to offer them at the following low prices:—

CALCEOLARIAS, of sorts	...	...	6*s.* 0*d.* per doz.	
CINERARIAS,	do.	...	...	4 0 ,,
DAHLIAS,	do.	...	...	4 0 ,,
FUCHSIAS,	do.	...	...	5 0 ,,
GERANIUMS,	do.	...	...	6 0 ,,
,,	Scarlet, do.	...	...	4 0 ,,
,,	Fancy, do.	...	...	4 0 ,,
VERBENAS,	do.	...	...	4 0 ,,

Collections of the above with many other sorts suitable for bedding out, if left to S. F. and Co.'s selection, 25*s.* per 100.

Their Spring Catalogue, containing lists of all the new and most select Plants, is now ready, and may be had, gratis, on application.—Gateshead Nursery, near Newcastle-upon-Tyne.

TO CULTIVATORS OF EXOTIC FERNS.

AN AMATEUR FERN GROWER possessing a large collection of Ferns, is desirous of disposing of his duplicates at moderate prices, or by exchange for those not in his collection.—Address, ADIANTUM, Post-office, Box 15, Hull.

LANDSCAPE GARDENING.

MR. THOROLD, of Thorpe-Bower, near Norwich, offers his services as a LANDSCAPE and ORNAMENTAL GARDENER, in the highest style of the art, including Decorations round the House, Forming Water, Approaches, Picturesque and Distant Scenery, Vistas, &c.; correcting the efforts of amateurs, and directing the practical execution of works.—Mr. T. has no connection with Nurserymen or any trade whatever.

TO NURSERYMEN willing to Contract for the supply of FLOWERS for TWO SMALL CONSERVATORIES, one in Cambridge-square, the other in Cavendish-square; the Flowers required to be of a showy character, but not otherwise expensive, and to be replaced from time to time as they finish blooming. Price, with number of plants proposed in the first instance, how often they would be changed, and general character.—Address to Mr. D. SAPSFORD, Baker, Queen Anne-street, Cavendish-square, London,

"'LIZZY' is the very acme of form, and highly attractive on account of its cheerful colour."—*Gardeners' Chronicle.*

COLE AND SHARP are now sending out good plants of the above BEAUTIFUL DAHLIA at 10*s.* 6*d.* each.

For description and awards, see Advertisement in this Paper, April 23. Drawings may be seen at Messrs. CLARKE and SON'S, King-street, Covent Garden.

Aston Lane Nursery, near Birmingham.

IMPORTANT TO POTATO PLANTERS.—Prepared cuttings of the following sorts will be ready about the second week in May:—

	s.	*d.*
York Regents ... ... per 1000	10	6
American Native ... ... ,,	10	6
Cambridge Radical ... ... ,,	10	6
Early Oxford	15	0

Packages, for 1000, 1*s.*; 2000, 1*s.* 6*d.*; 5000, 2*s.* 6*d.*

Post-office orders to be made payable at the Borough Office to HAY, SANGSTER and Co., Newington Butts.

London, 6th March, 1852.—Subjoined is the analysis of two highly respectable Chemists:—

"London, March 12, 1852.

"We have now completed our examination of a sample of Potatoes grown from your prepared cuttings in comparison with another sample of the same denomination, obtained by ourselves from a highly respectable Potato salesman, with a view to ascertain the relative proportion of starch contained in each, with the following highly satisfactory result in your favour, viz.:—

	Starch.
"Those grown from your prepared cuttings ...	17 per cent.
"Potatoes from Salesman	12½ per cent.

"MAURICE SCANLAN, F.C.S.

"ALFRED ANDERSON, F.C.S.

"Messrs. Hay, Sangster, and Co., Seed Merchants, 18, Cumberland-place, Newington Butts."

FINE PASTURE GRASS SEEDS for laying down Land.—Hand-picked Seed at 24*s.* per acre, allowing 3 bushels of the mixed Grass Seed and 6 lbs. of Dutch Clover to each acre. HENRY CLARKE, Seed Merchant, 39, King-street, Covent-garden, London.

Corner of Half-Moon-street, Piccadilly.

PERMANENT GRASS SEED.

THOMAS GIBBS AND CO., SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND," &c., having for upwards of 50 years paid particular attention to Laying down Land to PERMANENT MEADOW AND PASTURE, beg to call the attention of Agriculturists to the following Mixtures, which will be apportioned to suit the nature of the soil:—

Mixtures for PERMANENT MEADOW AND PASTURE, including Perennial Clover.

Mixtures for PARKS, FIELD LAWNS, or Portions of Grass Land NEAR TO MANSIONS.

Mixtures for UPLAND SHEEP WALKS AND DOWNS.

Mixtures for FINE GARDEN LAWNS AND GRASS-PLOTS.

Also to their White Belgian and other Carrots; Yellow or Orange Globe Mangold Wurzel, Long Red ditto, and other kinds; Swedes, Hybrids, and other Turnips; Italian and other Rye-grasses, Clovers, &c.; and their general collection of Agricultural and other Seeds.

THOMAS GIBBS and Co., Seedsmen to the R.A.S.E., corner of **Half-Moon-street**, Piccadilly, London.

BAKER'S PHEASANTRY, Beaufort-to her, King's Road, Chelsea, by special appointment to her MAJESTY and H. R. H. PRINCE ALBERT.—ORNAMENTAL WATER FOWL, consisting of black and white Swans, Egyptian, Canada, China, barnacle, brent, and laughing Geese, Shieldrakes, Pintail, Widgeon, summer and winter Teal, Gadwall, Labrador, Shovellers, gold-eyed and dun Divers, Carolina Ducks, &c., domesticated and pinioned; also Spanish, Cochin China, Malay, Poland, Surrey, and Dorking Fowls; white, Japan, pied, and common Pea-fowl, and pure China Pigs; and at 3, Half-moon Passage, Gracechurch-street, London.

PRIZE SHANGHAI FOWLS EGGS FOR HATCHING.

W. TURNER reminds the Public that he is the only breeder of those magnificent birds, which were exhibited at Birmingham in 1851, and received a Prize. Shanghai Eggs, 18*s.* per dozen; superior Cochin China Eggs, 9*s.* per dozen; Spanish and Polish Eggs, 6*s.* per dozen; White China Silk Fowls Eggs, 20*s.* per dozen. GOLD PHEASANTS for sale; young fancy birds in due season. Letters to inclose stamps.—W. TURNER, Tuffnell-park, Holloway, London.

FOUNTAINS, VASES, FIGURES, &c.—The new Spring Stock of the BOROUGH ARTIFICIAL STONE WORKS of these elegant articles, adapted for public and private Grounds, Gardens, Lawns, &c. (and also balustrading), is now on Show, for Sale, at the Premises, Stones End, Borough; and Borough-road, Southwark.

CHOICE BEDDING PLANTS, ETC.

YOUELL AND CO. beg to call attention to the following:—

CALCEOLARIA SULTAN, this finest dark variety (in fact none of the others will bear any comparison with it), strong plants, 9s per dozen.

CALCEOLARIA KENTISH HERO, this fine, dark, orange variety, 9s. per dozen.

CALCEOLARIA VISCOSISSIMA, light orange, splendid trusser, excellent for pot culture or bedding, a first-rate variety, 9s. per dozen.

CALCEOLARIA VULCAN, superb, dark, velvety crimson, good habit, and very free bloomer, 6s. per dozen.

CALCEOLARIA CAIEANA, canary, good habit and excellent trusser, 6s. per dozen.

CALCEOLARIA (ROLF'S SUPERB), light bronze, excellent for bedding, and very distinct, 6s. per dozen.

CALCEOLARIA SALVIÆFOLIA, bright yellow, 6s. per doz.

CALCEOLARIA GRANDIS, this very distinct and strong species produces very large flowers, of a pale yellow, and with a little care may be induced to bloom throughout the winter, 1s. 6d. each.

VERBENAS.—We are well known as possessing a large and very select collection of this charming flower, including the best of the Continental varieties of last year, as well as of those raised at home. Our stock is very large this season, and when the selection is left to us, we shall be happy to supply good bushy plants from cold pits at 4s. per dozen.

CHEIRANTHUS MARSHALLII.—This is a fine thing, flowering when not more than 3 inches high, in spikes of rich orange. It is very fragrant. 12s. per dozen.

LOBELIA ERINUS LUCIDA and COMPACTA, two of the best blues, 4s. per dozen.

ANAGALLIS ANDOMARIENSIS, purplish crimson, of a compact and bushy habit, an abundant bloomer, quite a little gem, 6s. per dozen.

ANAGALLIS BREWERII, fine blue, 4s. per dozen.

PETUNIAS in fine variety, including Crimson King, Rosy Circle, &c., 6s. per dozen.

HELIOTROPES.—Triomphe de Liège, Voltairianum, &c, (strong), 6s. per dozen.

ŒNOTHERA RIPARIA, the prettiest, perhaps, of the genus, of trailing habit, and small lanceolate foliage; it is literally a mass of canary coloured bloom through the summer and autumn. 6s. per dozen.

PENTSTEMON VARIABILIS, "Salter's" new variety, 1s. 6d. each.

CAMPANULA CORALLINA, strongly recommended for bedding where neat dwarf plants are desirable, of trailing habit, bearing pretty blue star-shaped flowers so abundantly as almost to conceal the foliage. 6s. per dozen.

OXALIS FLORIBUNDA, one of our handsomest hardy plants, excellent for bedding; universally admired for its pretty rose-coloured flowers, which it yields in profusion all through the summer and autumn. 6s. per dozen.

ANTIRRHINUMS in great variety. 6s. per doz.

SAPONARIA OCYMOIDES.—This fine old favourite 4s. per dozen.

CHOICE AND NEW PLANTS.

EPACRIS, fine bushy plants, in large 48's, full of flower, 9s. per dozen.

ERICAS, fine bushy blooming plants, of choice varieties, principally in large 48's, 9s. per dozen.

ERICAS, in large 60's, nice bushy plants, many showing flower, 6s. per dozen.

APHELEXIS HUMILIS, bushy plants, in large 48's, with flowers, 12s. per dozen.

VERONICA ANDERSONII.—This choice variety is of the easiest culture, a good specimen plant producing its pretty spikes of lilac flowers, from early spring till late autumn. 1s. 6d. each.

CRASSULA NITIDA ODORATA.—This makes a splendid specimen plant, is very fragrant, and should be in every collection. Large plants in 48's, 1s. 6d. each; smaller ditto, 9s. per dozen.

CRASSULA "NAPOLEON BUONAPARTE;" a fine new variety; brilliant scarlet, far superior to C. coccinea, 2s. each.

FANCY GERANIUMS, choice sorts, 9s. per dozen.

GERANIUM ARDENS MAJOR, strong plants, 9s. per doz. This fine Cape species stands unrivalled for brilliancy of colour, being a rich ruby.

FUCHSIAS.—Our collection of this lovely flower comprises all the novelties of merit as well as the old standard varieties. Where the selection is left to us we shall supply strong plants of last season's growth or of this at 6s. per dozen.

FUCHSIA MACRANTHA, a fine species, with long purple flowers, habit of Humboldt's Splendens, 1s. 6d. each.

CHRYSANTHEMUMS.—Much improvement has been made in these of late years, and, being particular favourites of ours, we have spared neither pains nor expense in our pursuit of new and fine varieties. Our specimen plants are every year the admiration of all who see them. The collection at present comprises nearly 200 varieties, which we shall be happy to supply in strong plants, of last season's growth, the large and dwarf varieties 5s. per dozen.

GLOXINIAS.—Many fine new varieties, 9s. per dozen.

GLOXINIA PETOIANA.—This superb light variety, sent out by us last season, coloured all round with crimson lake, in the way of Fyfiana; the finest of its class, strong bulbs, 3s. 6d. each.

HOYA BELLA.—This plant has proved itself well worthy the high character given it when first circulated; it is one of the most lovely plants we know. Plants extra strong, showing bloom, 3s. 6d.; smaller, 2s. 6d.

ESCALLONIA MACRANTHA, the finest, perhaps, of our new hardy shrubs; strong plants, 9s. per dozen.

MITRARIA COCCINEA.—This fine hardy shrub produces numerous scarlet flowers, very similar in form and colour to Erica splendens; strong plants, 9s. per doz.; a few specimen plants, 3s 6d. each.

DIELYTRA SPECTABILIS, 1s. each.

CEANOTHUS RIGIDUS.—This, so strongly recommended in the *Gardeners' Chronicle* as decidedly the hardiest and best of the new Californian species, produces numerous spikes of light blue feathery flowers; strong bushy plants, 1s. 6d. each; smaller, 12s. per dozen.

CEANOTHUS DENTATUS, 1s. 6d. each. These are remarkably free bloomers.

MIMULUS.—Leo, Prince of Wales, Duke of Wellington, and Sagi Hurst, 1s. each.

FORTUNE'S YELLOW ROSE, 2s. 6d. each.

LESCHENAULTIA FORMOSA, strong plants, in flower, 3s. per dozen.

OXALIS ELEGANS and ELEGANS MAJOR, 1s. 6d. each. These are purple with a dark eye.

EUONYMUS PIMBRIATUS, 1s. 6d. each.

SOLLYA DRUMMONDII, fine new species, light blue greenhouse climber, colour of Lobelia compacta; strong plants, 1 to 1½ foot, 18s. per dozen. This is of very robust habit and quick growth—excellent for trellis work.

PHLOXES, in many fine new varieties, strong plants, in pots, 6s. per dozen.

For other choice and new plants we beg to refer to our Advertisement of April 10th. The Conifers, and nearly all the others, being in pots may still be removed with perfect safety.

PICEA PINSAPO, 4 inches, from seed, very robust, in pots, 12s. per dozen.

All orders of 2l. and upwards delivered free to any Railway Station within 150 miles of the Nursery.

ROYAL NURSERY, GREAT YARMOUTH.

NEW AND CHOICE PLANTS OF SPRING 1851.

HENRY WALTON, FLORIST, &c., Edge-end, Marsden, near Burnley, Lancashire, begs to offer strong plants of the following new VERBENAS, PETUNIAS, FUCHSIAS, PANSIES, &c., at the following very low prices:—

FUCHSIAS.—Admiration, Alpha, Bridesmaid, Brilliant, Clapton Hero, Conspicua, Defiance, Elect, Globosa alba grandiflora, Gameboy, Globosa magnifica, Loveliness, Lord of the Isles, Lady of the Lake, Louis Mielez, Madame Sontag (Henderson's), Madame Sontag (Banks'), Mazeppa, Princess, Prince Arthur, Pagoda, Psyche, Resplendens, Rosamunda, and Voltigeur. Any 6 of the above for 6s, 12 for 10s. 6d., or the set of 25 for 17s. 6d.

VERBENAS.—Albonii, Auricula, Adonis, Andrew, Belle de Malaine, Coresus, Cornelia, Changarnier, Cybele, Etoile de Venus, Erigone, General Courtigies, General Taylor, Jules, Judith, Olga, Parfum Madeline, Surprise, Virginie (the above 20 are the best foreign varieties ever offered), Exquisite, Enchantress, Gulleyaz, Grandis, Miss Whibley, Montana, Marianne, Othello, Prince of Wales, and Viscata. Any 12 of the above for 7s. 6d., 24 for 12s., or the set for 14s.

PETUNIAS.—Attraction, Alba purpurea, Crimson King (Young's), Crimson King (Whibley's), Cœlestis, Dudu, Exquisite, Grandis, Lolab, Model of Perfection, Pet, Painter, Pride, Purple Royal, Striata, Rosy Circle, and Translucens. Any 12 of the above for 7s. 6d., or the set for 10s. 6d.

PANSIES.—Magnifica, Duke of Norfolk, Francis Cycle, Helen, Mrs. Beck, Curion, Elegant, Juvenata, Bubona, Jenny Lind, Carolina, Ela, Mr. Beck, Jerome, Nonpareil, Blue-eyed Maid, Flying Dutchman, Cærulea, Androcles, Prince Arthur, Priam, Novelty, Sir J. Franklin, Queen of England, Masterpiece, and Staffordshire Hero. Any 12 of the above, with a plant of the yet unequalled Dark Paney, "Jenning's King," 12s. 6d; or the set, with a plant of "King," 1l.

Any of the above may be had, free by post, or hamper and package included. Strong well-rooted plants may be depended on, securely packed, so as to insure safe delivery.

H. W.'s Dahlias are very strong and healthy, and very cheap; new varieties of Spring 1851, 9s. to 12s. per dozen; all the older sorts, 4s. 6d. to 6s. per dozen. Geraniums.—All the leading kinds at extremely low prices; older varieties suitable either for bedding or the greenhouse, 4s. 6d., 6s., 9s., and 12s. per dozen. Scarlet Geraniums, Antirrhinums, and other choice bedding plants, equally cheap. Catalogues containing any of the above plants may be had for one stamp.

It is respectfully requested that all orders be accompanied with a Post-office order, payable at Marsden, Lancashire.

OF GREAT IMPORTANCE

TO THOSE WHO CULTIVATE SMALL GARDENS, AND NOT HAVING THE CONVENIENCE OF GLASS, HOTBEDS, &c.

EDWARD TILEY begs to inform the above they may now sow the following splendid varieties of seeds, and may depend upon their growing in the open ground. E. T., wishing to accommodate them, is selling small packets at reduced rates, so as to suit the smallest cultivators.

Unrivalled and Superb HOLLYHOCK SEED, 1s. per packet; GERMAN ASTER ditto, the finest in cultivation, 6d. per packet; SWEET WILLIAM, very dwarf and superior varieties, 6d. per packet; ANTIRRHINUM, saved from all the best striped and spotted varieties known, 6d. per packet; GIANT SCARLET BROMPTON STOCK, unequalled for its splendid colour, fragrance, and size of flower, 6d. per packet. Extra large packets, as before advertised: Hollyhock, 2s. 6d.; German Aster, 1s.; Sweet William, 1s.; Antirrhinum, 1s.; Giant Scarlet Brompton Stock, 1s.; or if preferred, one packet of each for 5s.

Twenty-four splendid varieties of Hardy Annuals, such as will suit every garden, sent postage and package free for 3s.

Walcheren Cauliflower Broccoli (true), 1s. per packet; Tamworth Broccoli (true), 1s. per packet; Bath Cos Lettuce (true), 1s. per packet; Wilcove Broccoli (true), very superior, 1s. per packet; a very superior and beautiful flavoured and dwarf-growing Cabbage, 1s. per packet.

The whole or any quantity of the above will be sent postage and package free on receipt of a Post-office order or penny postage stamps to the amount.

EDWARD TILEY, Nurseryman, Seedsman, and Florist, 14, Abbey Churchyard, Bath, Somerset.

CHOICE SEEDLING PETUNIAS.—We have selected the following three beautiful and distinct varieties from a very fine and brilliant batch of Seedlings. The three varieties we can recommend as superior, and the colours will be found rich and attractive.

BRAGANZA, very rich dark purple crimson, and fine shape.

RICARTONII, bright crimson purple, with very dark throat and veins.

MAZEPPA, large pinky blush, very dark throat.

Strong plants are now ready, at 3s. 6d. each, and may be had Free by Post. The usual allowance to the Trade, by taking three plants of a sort.

BASS AND BROWN, SUDBURY, SUFFOLK.

The Gardeners' Chronicle.

SATURDAY, MAY 1, 1852.

MEETINGS FOR THE ENSUING WEEK.

MONDAY,	May	3	Entomological	8 P.M.
			Chemical	8 P.M.
			British Architects (Anniversary)	8 P.M.
			Linnean	8 P.M.
TUESDAY,	—	4	Pathological	8 P.M.
			Civil Engineers	8 P.M.
WEDNESDAY,	—	5	Society of Arts	8 P.M.
			Geological	8½ P.M.
THURSDAY,	—	6	Zoological	3 P.M.
			Antiquarian	8 P.M.
			Royal	8½ P.M.
			Botanical	8 P.M.
FRIDAY	—	7	Philological	8 P.M.
			Royal Institution	8½ P.M.
			Horticultural Gardens	2 P.M.
SATURDAY,	—	8	Royal Botanic	3½ P.M.
			Medical	8 P.M.

THE immediate object of Mr. FORTUNE's last mission to China was to obtain from the most celebrated districts a large supply of TEA PLANTS for the East India Company's plantations in the Himalayas, where there had been previously cultivated only the inferior varieties procurable near Canton. That object was accomplished most satisfactorily, the last delivery of Tea plants from the north of China, at the Botanical Garden of Saharunpore, having consisted of 12,838 healthy plants, with many germinating seeds in addition.

The success of the Himalayan cultivation is so complete and has so entirely justified the scientific conclusions arrived at by Dr. ROYLE, at whose suggestion the Company's plantations were first established, that we need not do more than refer to them. But they also give rise to a question of home interest, on which Mr. FORTUNE has just touched. When speaking of the Chinese Tea districts, he says, "If some of the warm spots of this kind in the south of England or Ireland were selected, who knows but our cottagers might be able to grow their own tea? At all events they might have the fragrant herb to look upon." And he refers to the little known fact that the Tea plant has been growing out of doors for some years in the Royal Botanic Garden at Kew.

In an economical point of view we are not inclined to dwell upon the suggestion, for we want not only climate, but labour at 2*d*. a day, and valueless land, in which Ireland will, it is to be hoped, be unable to oppose the Chinese. It is as a horticultural question that the subject possesses some interest. The Tea shrub is a pretty evergreen bush, and produces in profusion its single white flowers in the winter and spring, at the time when the Camellias are in bloom. Why should it not be employed as a hardy evergreen, where the Arbutus thrives? Why not be planted in the Isle of Wight, Dorsetshire, Hampshire, Devonshire, and Cornwall, and all the west of Ireland, as an aid to the Phillyrea, the Myrtle, and the Bay tree. There is nothing in the nature of the plant, or in the climate of such districts unfavourable to the supposition. It would merely be requisite to avoid low wet land, in which it will not grow, even in China. Its favourite haunts are hill sides.

Whenever it becomes a question whether a given plant can be grown advantageously, the most satisfactory answer is obtained by comparing the plant, not with isothermal and isocheimal and isotherial lines, or with any of the regions which philosophers put on paper, but with the other plants naturally associated with it, if we happen to know the habits and constitution of the latter. Reasoning thus, it may be said, that the Tea plants cannot but be hardy wherever Cryptomerias, and Spiræas, and Abelias, and Hydrangeas, and Cunninghamias will succeed, because all these plants are found naturally in the places which the Tea plant inhabits. Hence there is no apparent reason why curious persons should not even make their own Tea.

If, however, that is done, we shall be conferring on them a service by explaining that it will be useless to grow Tea like the Chinese, unless we also make it like that celestial race. Let us therefore add to this brief memorandum the advice given to his readers by a Chinese sage, as to the important subject of Tea making. Of course we quote Mr. FORTUNE:—

"'Whenever the Tea is to be infused for use,'" says TÜNG-PO, 'take water from a running stream, and boil it over a lively fire. It is an old custom to use running water boiled over a lively fire; that from springs in the hills is said to be the best, and river-water the next, while well-water is the worst. A lively fire is a clear and bright charcoal fire. When making an infusion, do not boil the water too hastily, as first it begins to sparkle like crabs' eyes, then somewhat like fish's eyes, and lastly it boils up like pearls innumerable, springing and waving about. This is the way to boil the water.' The same author gives the names of six different kinds of Tea, all of which are in high repute. As their names are rather flowery, I quote them for the reader's amusement. They are these: the 'first spring tea,' the 'white dew,' the 'coral dew,' the 'dewy shoots,' the 'money shoots,' and the 'rivulet garden tea.' 'Tea,' says he, 'is of a cooling nature, and, if drunk too freely, will produce exhaustion and lassitude; country people before drinking it add ginger and salt to counteract this cooling property.'"

Doubtless, it may be urged, that before advising the extensive introduction of the Tea plant as a hardy evergreen, we ought to point out how a supply of it is to be procured. It so happens that we are in a position to do so. Our letters tell us that a large quantity of seed, procured with considerable difficulty from the Tea districts, is on its way from Hong-Kong. A gentleman residing there has, in conjunction with an American merchant, defrayed the cost of a man going into the Tea districts to collect it. Many chests of this seed are expected at Liverpool in a month or two; and, if alive, will, we have reason to believe, be sold by auction, so that nurserymen, at least, will find no difficulty in obtaining a supply. Should this prove a failure, we may expect a more successful issue to the next attempt, when Mr. FORTUNE's book shall have reached China. He thus describes the result of his own experience in the matter. We quote the passage at length, because it has so much practical value, quite irrespective of the Tea plant:—

"Tea seeds retain their vitality for a very short period if they are out of the ground. It is the same with Oaks and Chestnuts, and hence the great difficulty of introducing these valuable trees into

distant countries by seeds. In 1849, however, I succeeded in finding a sure and certain method of transporting Tea seeds to foreign countries in full life; and as this method will apply to all short-lived seeds as well as to those of the Tea plant, it is important that it should be generally known. It is simply to sow the seeds in Ward's cases soon after they are gathered. My first experiment was tried in the following manner. Having procured some fine Mulberry plants from the district where the best Chinese silk is produced, I planted them in a Ward's case in the usual way, and watered them well. In two or three days, when the soil was sufficiently dry, a large quantity of Tea seeds were scattered over its surface, and covered with earth about half an inch deep. The whole was now sprinkled with water, and fastened down with a few crossbars to keep the earth in its place. The case was then screwed down in the usual way, and made as tight as possible. When the case reached Calcutta the Mulberry-plants were found to be in good condition, and the Tea seeds had germinated during the voyage, and were now covering the surface of the soil. Dr. Falconer, writing to me upon the receipt of this case, says, 'The young Tea plants were sprouting around the Mulberries as thick as they could come up.' During this year (1849) large quantities of seeds were sown in other cases between the rows of young Tea plants. These also germinated on their way to India, and reached their destination in the Himalayas in good condition. When the news of the success of these experiments reached me from India, I determined to adopt the same plan when I packed the cases which I was now taking round under my own care. Tea seeds were therefore sown in all the cases between the rows of young plants."

"When the cases were opened in Calcutta the young Tea plants were found to be in good condition. The seeds which had been sown between the rows were also just beginning to germinate. These, of course, were left undisturbed, as there was room enough for them to grow; but it was necessary to take other measures with those in the Camellia cases. On opening the latter, the whole mass of seeds, from the bottom to the top, was swelling, and germination had just commenced. The Camellias, which had now arrived at their destination, were lifted gently out and potted, and appeared as if they had never left their native country. Fourteen new cases were got ready, filled with earth, and these germinating seeds were sown thickly over the surface, and covered with soil in the usual way. In a few days the young plants came sprouting through the soil; every seed seemed to have grown; and by this simple plan about 12,000 plants were added to the Himalayan plantations. Many attempts are yearly made by persons in Europe to send out seeds of our Oaks and Chestnuts to distant parts of the world, and these attempts generally end in disappointment. Let them sow the seeds in Ward's cases as I have described, and they are almost sure of success. If they are to be sent to a great distance, they should be sown thinly, not in masses."

Let us resume the remarks on the Mediterranean Climate broken off at p. 212.

The three great groups into which the Flora of the Mediterranean may be classed, are the following:—First, such as are really tender plants, requiring both a hot summer and a very mild winter. Some of these would seem to be stray or outlying species of the tropics, such as find the summer sufficiently hot to perfect their vegetation, being at the same time less delicate than their congeners as to winter temperature. They seem to bear much the same relation to real or stove-tropical species, as the hardier groups about to be described bear to the mass of the tender Mediterranean species we are describing; and their relation to true tropical species and their dispersion, might repay separate investigation.

The plants that may be taken as characteristic of the Mediterranean Flora, requiring both a warm summer and a warm winter, will be such as the Oleander, Aloe vera, Chamærops humilis, Phœnix dactylifera, Capparis, Ceratonia siliqua, Cyclamen hederæfolium and Clusii, Ornithogalum arabicum, the arborescent species of Dianthus, several Ferns, all indigenous species: and of cultivated plants, the Palma Christi, the Egg plant, Hibiscus esculentus, Capsicums, Acacia Farnesiana, Phaseolus Caracalla, Sterculia platanifolia, Schinus Molle, and Pistacia vera. It would be idle to expect to find any of the above growing out of doors in the regions to the north of the Mediterranean, either in a north-eastern or north-western direction.

Secondly: there is a considerable group of plants belonging to the Mediterranean Flora which, though they require a very warm summer to bring to perfection their seed, their flower, or even to vegetate vigorously, are nevertheless capable of bearing very severe cold in winter. In this respect they bear great analogy to North American species growing in the same latitudes, where, however, the alternate rigour of the two seasons is the rule, and not, as in Europe, the exception. In North America the plants, in order to exist in such a climate of extremes, must have the constitution suited to bear heat and cold, both of which they seem to require for coming to perfection; while in southern Europe it is a remarkable fact, that a vast number of the indigenous plants, not mountain or northern plants, properly so called, are capable of resisting a far more rigorous cold than they are ever exposed to. In this quality they also resemble the plants of China, and indeed may not incorrectly be said to show the commencement of that vast tract of the temperate zone in which the seasons are regularly hot and dry in summer, cold and dry in winter, and in which spring and autumn alone supply the necessary rains. This zone, stretching from the extremity of the Mediterranean and Black Sea across Central Asia to China and Japan, represents in the old world the climate of the United States in the new: and it may be presumed that a well-defined change of seasons, a strongly marked winter and summer, is the normal character of these latitudes. It will follow then that our European climate, comparatively so mild throughout, is but an exception to the general rule of the climate of the northern hemisphere; whether a similar exception exists or not in the climate of Western North America does not seem to have been remarked, as our acquaintance with those countries has not been long enough, perhaps, to allow of accurate observations either of its temperature or botanical productions, with reference to it. It is to be hoped, however, that we shall soon know more.

This digression, though not irrelevant, will trust for its excuse to the desire of making these few notes more practically useful for horticultural purposes, as nothing is more serviceable to that end than a correct knowledge of the climates which furnish our gardens, a knowledge which can only be gained by repeated comparisons.

CHICORY AS A WINTER SALAD.

The leaves of this plant make a famous salad, and their value for this purpose cannot be too often brought before the public. They have everything in their favour to recommend them as a substitute for Endive, which, at best, is inferior as a bitter, and it is far more troublesome to grow and keep. First of all, however, a demand must be created for such things. They must be asked for by the public. Growers will not speculate in the production of what they cannot sell, and, owing to our late mild winters, Curled Endive has become so cheap and so good, arising from the superior manner of treating it to what used to be practised, that it is the only favourite as yet. As I intend, however, to treat of Endive in my next article, I will confine my remarks, for the present, to the following account of Chicory, which is extracted from one of my pamphlets.

"Wild or uncultivated Chicory is to be seen all over Britain during the months of July and August. The stems rise 2 or 3 feet in height, and the branches are furnished with long dandelion-like leaves—the blossoms being blue; planted in rich earth, however, the stems often grow 6 feet high, and form a large bushy flowering plant, which would form no mean ornament to a border or shrubbery.

"The heaviest root I ever grew was three-quarters of a pound, and its length 15 inches—in fact, it was as large as a fine stick of Horse-radish. The seed of Chicory ought to be sown about the 1st of June, if the soil is light and the situation warm; but should the soil be strong and retentive, it ought to be sown in the middle of May. I have found by experience, that if too soon sown, it will run to seed. The ground having been well dug, drills should be drawn 1 foot apart, the seed sown as Parsley is, and about the same depth. When the plants are up, thin them out to 1 foot apart in the rows, leaving if possible the broadest pointed leaved ones. Nothing more is necessary than to keep them clear of weeds. Should any run to seed, pull them up, when they have done growing; in November the roots should be dug up and stored like Beet-root. In cutting off the leaves care must be taken not to injure the centre, from which comes all the salad.

"In 1836, I had a quantity of mould put into a cellar, in the shape of a bed, and planted with Chicory roots as soon as they were taken from where they had grown during the summer. I planted 300 roots in the bed, keeping them four inches apart, light and air being entirely excluded. They soon began to grow, producing long, fine cream-coloured leaves, and when about six inches long, I sent them to table as salad, cutting off the leaves carefully; for if you cut into the quick, it would stop a second, third, and fourth crop of leaves which a root produces, until its cells are as empty as a honeycomb, or until entirely exhausted. From the number of plants in my cellar, I could have supplied ten families such as mine; but it was not until the occurrence of the severe winter of 1838, that I sufficiently appreciated the use of Chicory as a salad. The frost and snow were severe; all Endive, Lettuce, Celery, &c., became rotten. Nevertheless, our salads were the very best in London. Every one who dined with my employers enquired what it was they so much liked, and every one ordered it to be grown afterwards.

"Twelve years ago, when I came to Camberwell, I grew the roots with the view of introducing it as a salad into Covent Garden market. I had it planted in a pit where there was a flue, and I covered the glass with mats to exclude light. I also had five or six roots put into a large-sized pot, and inverted another pot over the heads, stopping the hole in the bottom of the top pot. This is an easy plan, and it answers well for a small family, just introducing a few pots into heat anywhere. In the winter of 1839, or early in 1840, I carried to market a basket of this fine salad, tied up in sixpenny bundles, a price which I thought would pay well. No one had ever seen it—no one had heard of it—and no one would buy it; an old herbalist (Mr. Steptoe) examined it; he was a buyer of Dandelion leaves and all sorts of things for foreigners. He bought all my Chicory leaves, and paid 9s. for them, but he could not sell them. Next morning he said, "'Tis of no use bringing these things, I have only sold a few bunches to foreigners." Then I said, "Take the lot this time for nothing." He did so a third time with no better success; then I gave up its culture, pitying poor John Bull for despising the finest of all salads, the best of all tonic bitters, and that too at a fair price. I am in hopes even now to see it yet, however, largely brought into public markets. It often takes many years hard fighting to persuade people for their own benefit. In the various places in which I had lived previous to my paying attention to Chicory, I had been continually annoyed by ladies and gentlemen who had travelled abroad telling me how much superior foreign salads were to English ones. The broad-leaved Belgian Chicory is best for salad." *James Cuthill, Camberwell.*

FOREIGN GARDEN GLEANINGS.

Holstein: Flottbeck.—*J. C. Booth and Co.*—Not far from the magnificent establishment of Messrs. James Booth and Son is that of Mr. Booth, jun. It is quite peculiar in its way, and is principally for economical and annual and herbaceous plants. More than 30 acres are filled with green crops, vegetables, root crops, cereal plants, bulbs, dyeing, textile, and oleaginous plants. The space occupied by each is of course proportionate to its commercial importance. New plants are abundant, and experiments of all sorts are made. When I was there on the 12th of May, I was surprised to find amongst the early green crops, a square of Heracleum sibiricum ready to be cut; and when the others had just begun to cover the ground, this was 4 or 5 feet in height. Mr. Booth sows a large quantity of annual and perennial plants; two acres are covered with Auriculas and Primroses. From the state which these plants were in, I was able to admire their beautiful colours, varying in the former from green, and in the latter from the purest white to the deepest black. There were thousands of Calceolarias in the open air and in full flower; also a good collection of Amaryllids. The Cacti were in pots and under sheds, as were also the Primroses and Auriculas. All these plants are of the best description. Mr. Booth, jun., has also a good collection of seeds of Grasses fit for northern countries. He trades largely with Russia in them. In addition to this, the same gentleman has quite a museum in Hamburgh, remarkable for its beautiful collection of seeds cleaned by his care, and for the quantity of English and German agricultural implements.

A third gentleman of the same name, and younger brother of the two first, is passionately fond of exotic plants of all countries, has travelled a great deal, and enriched his brother's collections with some very fine specimens. In his private garden, I was much struck with an enormous pit, 4 or 5 feet deep, full of some hundreds of pyramids of Camellia. They had passed the winter without artificial heat and without light. Thrown the one upon the top of the other, they had only been protected by a thick layer of leaves placed on the sash which covered them; and yet when I saw them (on the 12th of May) they were in an extremely healthy state, and covered with magnificent flowers.

Amongst the causes which are favourable to market gardening in the neighbourhood of Hamburgh, ought to be reckoned the Elbe and the Alster, the muddy soft waters of which contribute a great deal to the fertility of the marshes near the town, giving their soil that tenacity which is so desirable in all sandy land more or less rich in vegetable detritus.

The finest of the public gardens is that to the right of the Flottbeck-gate. Not far from it is the public botanic garden, in every respect worthy of the town to which it belongs. Every branch of horticulture is represented here; plants employed in the arts, those which are most common and are used for the purposes of instruction, are in separate beds. The botanic school is large and complete. I was sorry, however, not to see the system of labelling, so common in similar places in the north of Europe, carried out to a greater extent. A profusion of labels, coloured differently, indicating the properties and uses of the plants, converts confusion into order, and gives great satisfaction to an intelligent observer, and is proved to be highly useful by the example of the Garden of Plants in Paris.

The houses are spacious, numerous, different in size and shape, full of healthy plants, some of them rare, and all of an average size, which, as I have before said, is

the inevitable consequence of low foundation walls. Each garden has some peculiarity. One contains the finest Zamias in Europe. These tropical monsters are eight in number, of the same size, measuring two yards and more in height, and one in diameter. The lower parts, for about 1½ yard from the ground, are quite naked; but the tops are covered with magnificent crowns of beautiful leaves. Another monstrous specimen is a Tamus elephantipes, 1 yard high, and 4½ in circumference. These curiosities are in the same house.

Of the commercial gardens, I shall first mention that of M. Henry Boeckmann, close to the botanic garden. This gentleman grows all sorts of plants for sale; his Camellias are complete and very healthy; his Dahlias are well selected, and are sold in quantities; his Pelargoniums are remarkable, though not perfect. *Mason's Report.*

WHAT LESCHENAULTIA FORMOSA FIRST WAS.

SHORTLY after the establishment of the Chiswick Exhibitions, this fine Leschenaultia became a general favourite, and it still maintains a prominent place in the most select collections. When first introduced it might occasionally have been seen in the front row on the greenhouse stage, in very small pots, the plants being sickly and mouldy at the points of the shoots, with dull dingy flowers, anything but attractive. Such were the examples of this plant that first came under our notice; it was soon observed, however, that when placed on a shelf at the back of the greenhouse, where the plants could have plenty of light and air, they became covered with an abundance of bloom, and so brilliant in colour that it was not easy to convince the sceptical it was merely the difference of situation that produced the effect. Profiting by this hint the plants were shifted into pots much larger than was the usual practice, and with much advantage; for they grew very freely, indicating vigorous health, which resulted in abundance of bloom. This was a step in the right direction, for it was usual at that time to let the plants remain in their pots until they were entirely filled with roots; to give a small shift once a year, or perhaps simply to remove some of the surface soil, to be replaced with fresh compo t, merely to give the whole a tidy appearance. That a plant of the species was in the collection, and that it flowered occasionally, was all that was required. The excellent paper published in your columns by Mr. Wood, on the one shift system, had a powerful effect, and stimulated the growers of plants to test their value by using pots of a large size. But although no experienced plant grower will at once place a hard-wooded plant into a pot so large as that in which it is to produce its ultimate growth and development, yet unquestionably the large or liberal shift is the true method of culture as regards pot plants, to produce and maintain fine specimens in health.

To those who have only a greenhouse, Leschenaultia formosa will make a fine display in the spring months; it should be grown in a moderately sized pot and kept within 2 or 3 feet of the glass, for it is very important that it be fully exposed to light, shading only at midday from the direct rays of the sun. It delights in heath soil, with a good portion of silver sand; and due attention should be paid to watering with water of the same temperature as that of the house in which the plant is grown.

Leschenaultia biloba and its varieties are really fine things; their graceful waving feathery blue flowers make a fine display when the plant is left to grow freely and to develope its natural form. Much care is, however, required to produce a specimen fit for exhibition. By frequently pinching off the tips of the shoots it is made to assume a more bushy and formal appearance, but such treatment deprives it of much of its elegant and graceful habit. It will, nevertheless, always rank high in the estimation of exhibitors for that purpose, and it cannot fail to occupy a first place in any collection. *Tassel.*

Home Correspondence.

Bedding Plants in Turf.—I beg to add my testimony in favour of Mr. Fry's remarks on turf pots for bedding plants. I have seen them successfully used for several years by Mr. Bowie, the gardener at Felix Hall, Kilvedon, who employs many thousands of them annually, and nothing can answer better, as his flower garden amply proves. He also fills a great quantity of boxes and pots with miscellaneous bedding plants, and with these he can make beds at any time by merely placing or arranging them, and carefully massing over the surface and between and around the sides of the pots. The turf pot also has advantages where old plants of Geraniums, &c., are taken up and preserved through the winter, as they can be moved with the turf pots entire, and stored in a pit or in any situation secure from damp and frost. *R. G.*

Sikkim Rhododendrons.—R. lepidotum, Wall., has flowered at the Royal Gardens, Kew: that purple-flowered form of it called R. cheagnoides in the Sikkim Rhododendrons, plate 23. The specimen in every respect resembles the figure quoted, except that the darker blotches on the upper lobes of the corolla are rather longer, and dispersed more along the veins of the segments. It has been grown in a cool greenhouse, along with common Azaleas. *J. D. H., Kew.*

Raising Seeds.—Seed growers should remember that great allowance must be made for seeds not germinating in a time of extreme drought and cold, like the present spring. The plan we adopt with best success, is to draw a shallow drill, where the seeds are intended to be sown, and to drench it well with water. On this we sow the seeds, covering them lightly with fine mould, and patting all gently with a spade. This is preferable to surface watering after the seeds are sown, as it is from beneath that they require most moisture. *Hardy and Son, Maldon.*

Horticultural Society's Fêtes.—There is nothing which has tended more to improve floriculture than these fêtes, nor perhaps are there any sources of public amusement which give more general and universal satisfaction. If they could be extended so as to enable the public to judge of the best mode of laying out and managing gardens it would, I think, be highly beneficial. Allow an amateur to suggest a means by which this might be practically carried out. That the Horticultural Society should offer prizes for the best of the following, within a certain distance from London, say a circle of 10 miles from the Post-office:—1. The best American evergreen and Spring garden; 2. The best managed collection of orchideous, stove, and greenhouse plants; 3. The best Rose garden; 4. The best flower garden for colour, grouping, and general effect of herbaceous, annual, and bedded-out plants. This would give one prize to be decided in each month:—1. In May; 2. In June; 3. In July; 4. In August. The winner of the prize to allow the Society to have one fête in his grounds, and they devoting one-half of the profits to some charitable purposes or purpose, to be named by the proprietor. Could only one of these fêtes be managed it would be affording a great floral treat. If the Horticultural Society will arrange this, and issue a prospectus, I shall be happy to put my name down as a candidate in one of the classes. *Hortensis, Middlesex, April* 19.

Pruning Forest Trees.—There is much truth in the article on this subject by a "Country Gardener" at p. 198, and I beg to suggest that you should give a decision, *ex cathedrâ*, on the growth of trees, for, although all who have practical experience know, that a branch growing 6 feet from the ground will never move higher up on the stem, yet this is generally denied in books; and,



1. 2. 3. 4.

1. Tree unpruned. 2. Fishing-rod style. 3. Sweeping-brush style. 4. Reasonable style.

being a question of the greatest importance, your opinion might be of service. I do not agree with the "Country Gardener," that the shortening of branches is always a mistake, but as much may be said on the subject, which may not clearly be understood, I beg to send a sketch of an Oak tree, 6 feet high, for your readers to operate upon. One says "Let it alone." If I do, in 50 years it will be a very picturesque tree, but of little comparative value, as the branches, A, B, C, will all be enormous boughs, or rather so many stems, at the same distance from the ground as at present, that is, if the tree has room to expand, but if it is to be confined by other trees, these same branches, A, B, C, will rot off after they have attained a size sufficient to make their rotting off of serious injury. We must therefore "prune it." There are three methods of doing so; we may call them the fishing-rod style, the sweeping-brush style, and the reasonable style. The first is easily understood; it is to take off every branch from the leading stem, which is very absurd, as the tree must have branches to bear leaves or it will cease to exist; it therefore makes an effort by throwing out a new crop of branches, thereby adding to the number of its knots, besides having its growth retarded. The next style is very common, but wrong, for this reason; branch A is too near the ground to be allowed to remain permanently, and is too strong to be allowed to grow any more, as at a future period its removal may be attended with injury. That marked No. 4, is, in my opinion, the reasonable style. We have cut off A and C close to the stem, as they are forks rivalling the main stem and interfering with the intended straight bole of the tree. We have shortened B because it is too strong; we have not cut it off close as it is not a fork, and we want it as a small branch; we have left all the small branches for the present, but in time they must go when we can spare them. By acting upon these principles, we may in time expect a clean bole of 8 or 10 yards in height. *J. T.*

Dielytra spectabilis.—Seeing some queries respecting the Dielytra in your Paper of the 24th inst., I beg to say that it has been growing out of doors at my place at Binstead, in the Isle of Wight, for three winters, and has proved itself perfectly hardy. It is planted in a border facing the south-west; the soil is composed of loam mixed with equal parts of leaf and peat mould, and nothing can answer better than it does. When I procured the plant it was very small, but it is now between 3 and 4 feet high, and as much in circumference; it has never had any protection whatever. *C. D., Bert House, Athy, Ireland, April* 26.——I may add that Dielytra spectabilis has stood the winter here without any protection, and in spite of the bitter cold east winds which have prevailed for more than a fortnight in Edinburgh, it is looking strong and fresh, and is as far advanced in growth as the other herbaceous plants. The border has a south exposure, and the garden is close to the sea. *H., Wardie Lodge, Edinburgh, April* 26.——I saw the Dielytra last summer for the first time, and was very much pleased with its graceful appearance. I procured a small plant, and kept it in a cold pit during the winter; early in spring it threw up three suckers, which I divided, potted separately, and a few days before the late severe frosts, I planted one out under a hand-glass, that shared the fate of "A. R's.," viz., cut down, but not killed; another is in bloom in a greenhouse. I called to-day (April 28), at the house of the gentleman where I first saw it; unfortunately, he was out, and I could not obtain that amount of information I otherwise should have done, but a servant assured me it had had no protection during the winter, except being covered with ashes; it now presents a sturdy appearance, and has from 20 to 30 strong stems, as thick as my thumb (not a very small one). The only support it receives is a slight trellis, formed of three rings of wire on iron supports, which props up the main stems; it is quite uninjured by the frost; it is placed in a raised bed in soil, apparently loam, made light with manure or leaf-mould. Another plant, placed in a more sheltered spot, is more forward, but the leaves and blossoms are injured considerably by the frost; from this I should assume the plant requires a sheltered garden, but placed in an open space. The garden itself is surrounded with a Laurel hedge, but the large plant is placed in the centre of it; in this garden everything seems to thrive alike — from splendid Broccoli to the Dielytra itself—plainly showing what good gardening can succeed in a poor and gravelly soil. *T. T., Colchester.*

The Compass Flower (*see p.* 262) of North America is the Silphium laciniatum, which is said to present the faces of its lower leaves "uniformly to the east and west, the plane of the leaf being north and south, or coinciding with the meridian plane." A discussion of this popular belief, universally current in the Western States, occurred at the meeting of the "American Association for the Promotion of Science," in 1849, a short abstract of which will be found in the American "Annual of Scientific Discovery for 1850," (Boston: Gould, Kendall and Lincoln)—page 291. *W. H. H.*

Labels.—As this subject is being discussed in your pages I cannot resist sending you some of a kind I have had made in Gloucester by Messrs. Williams, tobacco-pipe makers. They are of pipeclay, burnt, like a pipe, and are attached to a branch of a tree by a piece of zinc wire passed through two holes in the middle of the label and round the branch. This holds them tight, and prevents their being blown about by the wind, while the zinc wire being simply twisted at the back of the branch yields as the branch grows. They are written on with a soft lead pencil, and not being rubbed will remain distinct for many years. If they are used for flowers they must be fastened to a stick. The price is 6*s.* a gross. I saw yesterday, in a friend's grounds, a mass of large Firs which appeared to me unusually dark in colour. I enclose a spray of two of them. Can you inform me if they are the Black Spruce or the common. *F. B. and S. B., H. Court, Gloucester.* [They seem to be the common Spruce—but nothing positive can be said without cones. The labels were broken to pieces, and we fear are very brittle.]

The effects of Painting the Stems of Fruit Trees with Gas-tar.—I find gas-tar very pernicious when applied to the stems of young standard Pears and Apples, to ward off the attacks of hares and rabbits; no less than 20 out of 150 have perished, evidently owing to this application. They were mostly the tenderer kinds of Pears —French and Flemish. *Clericus.*

Rats.—A rat lately committed an extraordinary piece of devastation in my garden. He gnawed clean through the stem of a beautiful Moor-park Apricot; the tree was

at least ten years old, and very strong and flourishing; he also gnawed off the stems, close to the ground, of a whole bed of spring Cabbages. We at last turned him out with a ferret, and shot him; he was a big fellow, of the old black species. Did you ever hear of rats destroying fruit trees in a similar way before? *Clericus*, April 20. [No; but we have known water-rats commit great havoc among other trees, by devouring their roots during a hard winter.]

How to Test the Purity of Sulphate of Ammonia.—At this season when that valuable manure, sulphate of ammonia, is in demand, you will, perhaps, deem the following simple rule for testing its purity not unworthy of insertion in your periodical. I may mention, as a proof of its importance, that on examining a sample of that which was advertised as pure sulphate of ammonia, I discovered that it was adulterated to the extent of 80 per cent. with common salt, not more than 20 per cent. or one-fifth of the whole being pure sulphate. The sulphate of ammonia, as manufactured by Messrs. George Brown and Co., and Messrs. Miles, both of Bow Common, can I believe, be depended upon: but in every case let the test be applied, and the adulteration, if any, will be detected. *Rule.*—Expose an ounce or so of the sulphate to a red heat, upon a shovel or other plate of iron; if the salt be pure, the whole will shortly volatilize, if impure, the impurities will remain behind. *A. Angus Croll, F.C.S., &c.*

The Coffee Plant.—I have now in my possession a remarkably fine specimen of the Coffee-plant, concerning which I send you a few particulars. Ten berries were brought me from Ceylon, and all planted at the same time in 1847; it was not till nearly a year had elapsed that one tender shoot appeared, all the other berries having died away. My Coffee-tree has now reached the height of 5½ feet, and the top has twice been taken off, as it grew too tall; the branches extend about 2½ feet from each side of the stem. Last autumn there was one single berry, which I planted, and it is now a thriving plant; this year my original Coffee-tree is covered with fruit and flowers at the same time. *P. M. G., April 26.*

Metallic Thread for Tying Plants.—I have sent for your inspection four samples of metallic thread for this purpose. Having been on a visit in Chester, a lady who takes much interest in her garden first directed my attention to it. I have since tried it, and I find it answers every expectation. It is so flexible that a lady may be able to work it as she would wool work. I am told that it is made by a party in Chester, and I understand that the price is remarkably cheap. If you approve of it, I will make every inquiry, and certainly advise the manufacturer to make it public through your advertising columns. It is much more pleasant than the old system of tying. I have received from Sicily several plants, and, among others, some Vines bearing a Grape like a horn, and vulgarly called "Corniola." It is a most exquisite Grape, as I have eaten it many times when I was in that country. Have you any like it in England? I have also received several trees of Pyrus edulis and Crataegus azarolus. Will they bear fruit, without protection in winter, in this country? The azarolus is a most delicious fruit. Can I propagate them from kernels? *J. W. Hopkins, Woodfield, Ashton-on-Mersey, April 27.* [The wire is very good. The Grape is the Cornichon, well-known but not esteemed in this country. We may say the same of the other fruits, which are perfectly hardy, and ripen fruit and seeds with us without difficulty.]

Irish Horticultural Shows.—I find the following advertisement in *Saunders' News Letter* of the 26th:—

"ROYAL HORTICULTURAL SOCIETY.—NOTICE TO THE PUBLIC.—In consequence of the disappointment which must have taken place to many by reason of the *notified postponement* of their Exhibition of Friday, arising from the *very forbidding* state of the weather on the morning of that day, the Council beg to inform any such holders of their tickets, that same will be available at their next Show, which takes place on the 20th of May next. By Order, N. NIVEN, Assistant Secretary."

And so, because the Committee *thought* it would rain, the show was put off, after all necessary arrangements had been made, and to the infinite inconvenience of the exhibitors. But what the Committee *thought* would happen did not happen; for by the time hand-bills, notifying the postponement of the meeting, had been posted over Dublin, the day became fine and they had to be pulled down again. *Oh! Oh!*

Formation of Dew-drops on Vines.—On entering a late Vinery this morning (April 17), in which are kept a number of plants for bedding, such as Calceolarias, Geraniums, &c., my attention was directed to a Vine, of which there are 10 or 12 from two to three years old trained up under the rafters at about 18 inches from the glass. The young wood is from 9 to 12 inches in length, and on the point of every serrature of the leaf, and on every leaf of this Vine was suspended a crystalline globule of water, which on careful inspection was not observed on any leaf of the other Vines, or on any other plant in the house. Now cases similar to this have frequently arrested my attention in other plants, without being able satisfactorily to account for it. I know a little of the theory of the formation of dew, and likewise of the union of gases to form water; but the right use of the little knowledge I have clearly points out the need I have of further information: will you therefore assist me in this matter? *Ye ken wha.* ["The "crystalline globule" is a natural secretion of limpid matter, and occurs in plants in various degrees, according to the peculiar state of their health.]

Potato Disease.—I am sorry to inform you that the real Potato disease has made its appearance some time ago among the early forced Potatoes in this garden (Castle Semple); I send you a small affected specimen of this year's tubers, to enable you to see the kind of aspect the disease is assuming. Those affected are Ash-leaved Kidneys, which I began to force about the latter end of January; each tuber was cut in two with a knife, and appeared quite free from disease at setting-time. They were placed for three weeks in a Pine-stove, in order to make them push previous to planting them on a slight hotbed. They got no manure of any kind except leaf-mould; the temperature they have been growing in has never been above 68°, nor below 45°, and I was rather sparing in watering them. *J. M'Pherson, Castle Semple, Renfrewshire, April 28.* [There are cases in England also; as about Ware; but we cannot expect to be rid of it so long as late spring planting is persevered in.]

Societies.

LINNEAN, *April* 20.—R. BROWN, Esq., in the chair. A collection of dried specimens of plants made by Mr. T. Drummond, in Australia, was presented to the museum by W. W. Saunders, Esq.—J. D. Salmon, Esq., exhibited a specimen of the fruit of a species of Attalea (coquilla nut) which contained in one of the cells a full-grown larva of a species of coleopterous insect, which was pronounced by Mr. Westwood to be a species of Calandra, a genus found on Palm-trees. There was no external perforation, and the ovum from which the larva had been hatched must have been deposited very early in the growth of the fruit. Mr. Adam White exhibited a collection of insects made on the banks of the river Amazons by Mr. Bates, and read an extract of a letter from that gentleman.—The President exhibited polished specimens of fossil Palms from the Island of Antigua, and compared them with sections of recent Palms belonging to the Corypha umbraculifera from Calcutta, and Copernicia cerifera from the Brazils. —A continuation of Dr. Hamilton Buchanan's commentary on the ninth part of the Hortus Malabaricus of Rheede was read.

BOTANICAL OF EDINBURGH, *April* 8.—The President in the chair. Mr. Anderson exhibited a plant of Rhododendron elæagnoides, in flower, a Sikkim-Himalayan species raised from seeds sent home by Dr. Hooker. A specimen of vegetable matter, from a water-pipe passing through mossy ground, was exhibited from Dr. Maclagan. Dr. Murchison produced some curious specimens of Extract of Tea, prepared in the form of lozenges by the Chinese. Though it was 40 years since they had been brought from China, they still retained a very perceptible flavour of tea. Among other donations to the museum, Mr. Owen, of 28, Howard-place, sent a bottle of acid from the *Gram* of India (Cicer arietinum) collected by putting a cloth over the plants, and then squeezing out the acid fluid absorbed by it. Dr. Balfour announced that Mrs. Haig had presented to the Royal Botanic Garden the magnificent collection of Orchids which she has cultivated at View park, for the last 15 years. The collection contains:—

Named specimen plants	206
Duplicate specimens	40
Species without names...	83
	329

The following papers were read:—1. *On the Economic Uses of Chicory* (Cichorium Intybus, L.). By Mr Fulton. The author, after giving a general account of the history of the Chicory plant, and alluding to the antiquity of its cultivation, proceeded to point out the wide range of Economic Uses to which it might be made applicable, and urged the importance of extending its cultivation. Its extensive use as an ingredient in Coffee over the whole of continental Europe is well known. As a forage plant, it is known to form some of the best meadows in the south of France and Lombardy, succeeding in all seasons; while its use, as a salad, is likewise extensive. Since 1835, large quantities of the root have been imported to Britain from the continent; it is now cultivated in several parts of England for the purpose of supplementing Coffee, and as the plant is capable of bearing all the varieties of climate in Europe, being successfully cultivated from Italy to St. Petersburg, Mr. Fulton could see no reasonable objection to the extension of its cultivation throughout Britain, in order to supply our own markets. He stated that the popular idea of Chicory giving an unpleasant flavour to Coffee is erroneous, and entered into a detail of facts to show that an admixture of Chicory was a great improvement to the flavour of Coffee, adducing the experience of extensive dealers to prove the accuracy of this statement. He also considered the mixture an improvement in a physiological point of view. It had occurred to Mr. Fulton that the bitter of the Chicory root might be employed as a substitute for Hops, and he had accordingly got manufactured a small brewing, which had been successful, showing that the root not only communicates a pleasant bitter, but that it likewise in some measure substitutes the malt by a large amount of saccharine matter. Mr. Fulton had found the cultivation of Chicory to be very easy, and had already published his views on this part of the subject in the Transactions of the Highland and Agricultural Society. His crops had given a much larger money return than either Potatoes or Turnips on the same soil. It appeared to him that it was in remote districts of the country where the culture of Chicory could be extensively pursued with the greatest advantage, the article being so light and convenient of transit, and free from the casualties, in all its processes of growth and preparation, which other crops are liable to, and where the risk and cost of transportation reduce so much the net value of our bulky green crops. The paper was illustrated by a series of specimens, showing the Chicory in its various stages of preparation, as a substitute for Coffee; also, ale brewed from Chicory. 2. *Analysis of the Sabal umbraculifera, as grown in the Botanic Garden.* By Mr. Dick. 3. *On Plants found in the neighbourhood of Ripon, Yorkshire, in March*, 1852. By Mr. Davies. 4. *Report on the state of vegetation in the Edinburgh Botanic Garden, from 10th March till 8th April*, 1852, *as compared with the years* 1850-51. By Mr. M'Nab.

Names of Plants.	Date of Flowering.		
	1852.	1851.	1850.
Nordmannia cordifolia ...	March 10	Feb. 20	Feb. 28
Narcissus pumilus	,, 11	March 5	March 4
Erythronium Dens Canis ...	,, 12	,, 1	,, 11
Aubrietia grandiflora	,, 18	,, 1	,, 24
Acacia affinis (open wall) ..	,, 20	,, 16	,, 22
Hyacinthus botryoides ...	,, 20	,, 11	,, 18
Scilla bifolia cærulea	,, 20	,, 6	,, 13
,, ,, alba	,, 21	,, 4	,, 14
Ribes sanguineum (first flower opened)	,, 21	,, 5	,, 11
Hyoscyamus Scopolia... ...	,, 25	Feb. 24	,, 1
Draba aizoides	,, 26	March 14	,, 15
Anemone hortensis	,, 27	,, 28	April 6
Saxifraga crassifolia	,, 27	,, 4	March 20
Scilla bifolia rubra	,, 28	,, 17	,, 25
Narcissus Pseudo-Narcissus...	,, 28	,, 27	,, 24
Puschkinia scilloides	,, 38	,, 1	,, 25
Corydalis solida	,, 28	,, 19	,, 16
Iberis sempervirens	,, 28	Feb. 10	,, 9
Asarum Europæum	,, 29	,, 10	,, 7
Anemone nemorosa	,, 30	March 9	,, 24
Corydalis nobilis	,, 31	,, 16	,, 22
Orobus vernus	,, 31	Feb. 17	Feb. 23
Scilla sibirica	April 1	March 26	April 6
Narcissus moschatus	,, 1	,, 26	March 24
Dalibarda Geoides	,, 2	April 3	,, 30
Hyoscyamus physaloides ...	,, 2	March 28	,, 30
Omphalodes verna	,, 2	,, 10	,, 22
Fritillaria imperialis	,, 3	,, 13	,, 20
Hyoscyamus orientalis	,, 5	,, 28	April 1

Three gentlemen were elected Fellows.

Books, &c., Received.

Icones Plantarum; or, Figures &c. of Plants in the Author's Herbarium. By Sir W. Jackson Hooker. 8vo. Reeve and Benham.—We are glad to state that this important work, unrivalled in Great Britain for the uniform excellence of its figures, has reached t. 883 of the ninth volume. It is the more necessary to make this announcement, since the publisher does not think it worth his while to do so; and many may, like ourselves, be entirely ignorant that it has been carried beyond the eighth volume.

Loss of the Amazon; an Appeal to the Proprietors touching the First Cause. By a Clergyman. Letts and Co.—A religious pamphlet.

Ten Years in Australia. By the Rev. D. Mackenzie. 12mo. pp. 158: Orr.—A collection of facts gathered by a resident. When the gold fever shall have subsided it may be found useful to emigrants.

The Botany of the Voyage of H. M. S. Herald. By Berthold Seemann. Part I: 4to. Reeve and Co.—This work, published under the authority of the Admiralty, promises to be of importance. The first part contains an account of Western Eskemauland, with some cleverly written graphic descriptions of the country and its botany, and ten lithographic plates from the skilful pencil of Dr. Hooker. We believe we are also right in adding that the determination of the species has been greatly assisted by that excellent botanist and his father, although we do not find it so stated by Mr. Seemann.

The Travellers' Library. African Wanderings, by F. Werne. 12mo. Longmans.—A curious book, vilely translated from the German, by J. R. Johnston.

Garden Memoranda.

HORTICULTURAL SOCIETY'S GARDEN, TURNHAM-GREEN. —Owing to the long-continued drought, cold nights, and north-easterly winds, which have prevailed so much of late, out-door vegetation has made little progress during the last month; but rain having at last occurred, it is now hoped it will advance more favourably. Magnolia Soulangeana, the sweet Berberis, and the white Mountain Clematis, are in flower on the conservative wall, while on the open lawn the different kinds of Amelanchier and Pyrus are in full blossom. The red and white Hawthorns will also soon be gay. A bush of the common Pyrus (Cydonia) japonica in the open border is loaded with scarlet flowers. It is, perhaps, not generally known that this fine wall plant succeeds admirably, both in the form of a spreading shrub, and that of a standard. The large Wistaria and the different masses of Rhododendrons which are usually so gay during the first and second exhibitions will scarcely be in flower this year by the 8th of May; but should the weather continue favourable, in addition to a glorious exhibition which may be expected under the tents, there will be abundant open air attraction in the shape of newly developed foliage, soft green well-kept turf and borders gay with early flowers. It is worthy of remark, that although so many shrubs have been recently transplanted in the garden, not one has been lost even under the unfavourable weather that has been experienced. The Grass sown among the Conifers on the border between the large conservatory and the new flower garden is already

green, and the improvement effected by the change is now apparent. Some experiments in regard to killing insects have lately been made, in the plant department. A mixture of Cayenne pepper and Tobacco has been tried for the destruction of green fly, in the various pits and houses, and although the fumes were so powerful when the structures were filled with them as not to be endured by the operator for more than one or two minutes, and although the fumigating was performed in the evening, and the house shut up close until the following day, yet, on examination after fresh air had been admitted for a few hours, only a few of the insects appeared to have been destroyed. The greater portion of them were in a state of stupor, and after fresh air had been admitted for some time they perfectly recovered. The application did no injury to the foliage or flowers of the plants submitted to it, and its smell is less offensive than that of tobacco. If Cayenne and Tobacco, however, have failed in destroying green flies, Clarke's preparation for killing mealy bug has succeeded perfectly. It has been tried on various plants at different times, and has invariably answered. It must, however, be applied on three or four different occasions, before the plants are entirely freed from insects. None of the plants operated on were in the least injured in the foliage. In the kitchen garden superphosphate of lime, guano, and guano with sulphuric acid, have been tried as manure for Early York Cabbages; but with what result yet remains to be proved. A simple, but in all probability a very important invention for ventilating glasshouses in cold weather, by Mr. Sibthorpe, is in operation in the early Vinery in the experimental ground. It consists of a wooden box about 4 inches deep, inverted on about half the length of a hot-water tank with which the house is heated. Both ends of this box are open; the external air enters one end through a ventilator, is warmed in its passage along the box on the tank, and is permitted to escape at the other end of this drain into the interior of the house, by which means fresh air is furnished in a warm state, and it will be seen that, if it is desired, it may be easily moistened by having evaporating pans in its course along the tank. Its circulation is so rapid that in a manner it Polmaises the house; therefore, although it has not yet been sufficiently long in operation to test its real value, it is not difficult to foresee the beneficial effects which must result from it. We stated last month that, owing to the unusual severity of the weather, in addition to coping boards for the protection of the blossom on the Peach wall, light straw screens had been employed on one half of the wall which was not covered with netting. The result is that wherever the straw screens have been placed the crop is further advanced and better protected than where netting has been used. In the case of 3° or 4° of frost, coping boards alone have hitherto been found sufficient protection; but when we have as many as 10° and 12°, which we have had during this month and last, neither those nor netting are very effectual in saving the crop. Straw screens have therefore been wholly used for the Peaches, and the netting has been taken for the Pear wall, which has also been furnished on one side with coping boards, and straw screens have been secured on the top, so as to project on the other side about 18 inches as a coping. These precautions having been taken, a fair crop of Peaches, Nectarines, and Pears, it is believed will be saved. Forward standard Pears, Plums, and Cherries have sustained much injury from the late frosts; but, possibly, sufficient may yet have been left for a crop. A Peach-protecting frame is being erected against the Orchard-wall by Messrs. Cottam and Hallen. It consists of a cast-iron bracket fixed at the top of the wall, so as to support short sloping sashes about 2 feet in length. From the end of these sashes spring the rafters, which are formed of malleable iron, drawn ⊥ form, and are made to fit into cast iron sockets at bottom. The distance between the bottom of the frame and the wall is only 4 feet, but the glass covering being shouldered near the top, comfortable room is afforded for a person to walk along inside in front of the wall. Ventilation is effected by sheet-iron flaps at the bottom, and by the opening upwards (by means of a quadrant and pulley), of the short top sashes. As for Ewing's glass walls, there is no hope of seeing them at present, it having been found impracticable to obtain them from the patentees. Some Maize received from Titicaca, an island in the great Peruvian lake of that name, situated at an elevation of 13,000 feet above the level of the sea, and where frosts are experienced during the time when this Maize is sown and also when it is ripening, is being tried in the garden. Owing to the circumstances just stated it is presumed that it will be much hardier than any other sort yet introduced. It is being raised in pots, and also in the open ground. That sown in pots is already up. Within the last 12 months some experiments have been made with peat charcoal, with a view to test its deodorising qualities. It has been employed with perfect success in disinfecting privy manure. It was occasionally scattered in those places, and when emptied, a moderate quantity was thrown over the contents, which were thus completely deprived of all offensive smell. Indeed, peat charcoal has been found more effective in this respect than any other deodoriser, such as sulphate of iron or chloride of lime—substances which have been found injurious to many kinds of plants, while the peat charcoal, thus mixed, forms an excellent compost, alike suitable for gardening and farming purposes.

FLORICULTURE.

The Auricula.—As Auriculas are still in flower, and as we have been asked "What constitutes a perfect Auricula in the estimation of a florist?" we gladly respond to the question by laying down the principal rules by which we are guided when examining this favourite florist-flower. In its general appearance the foliage should be well grown and healthy, covering a space about equal to double the width of the head of bloom. The stem should be firm, erect, and sufficiently strong to support the truss without assistance, and to carry it well above the foliage. The footstalks of the pips should be strong, and of such a length as will allow the flowers to open without one overlaying another, the whole forming a compact and globular head of well-expanded flowers, equal in size and similar in properties. The addition of one or two guard leaves, standing up at the back of the truss, gives a finish to the whole and adds considerably to its beauty, by the contrast they make with the vivid and lively appearance of the flowers. The qualities which the individual pip should possess, consist in its being perfectly round, flat, and smooth on the edge; the divisions which form the segments of the corolla should be but very slightly indented, thereby rendering the circle as perfect as possible. The tube, or centre, must be round, of a yellow colour, filled with the anthers or "thrum." The eye or "paste" round the tube should form a perfect circle of a dense pure white, clean on its edges, even, and free from blemishes. The band of colour surrounding the eye should be dark, rich, or bright, equally distributed all round; but never encroaching so much upon the edge as to pass through to the rim. The margin, or outer edge, must be of a permanent green, white, or grey colour. The circles which compose the face of the pip are considered of the finest proportion when they are of a uniform width; that of each circle being half the diameter of the tube. These properties are considered by florists to form the standard of perfection in the Auricula. The number of pips necessary to form a head for competition varies in different localities. In the north they are exhibited with from three to nine; about London seven are considered requisite. Not less than five, however, ought to be allowed (except, perhaps, in seedlings of the first season), and as many more as can be symmetrically arranged, that have the required properties. Selfs or Auriculas with only one colour, besides the eye, are judged on the same principle, as regards form, colour, uniformity, and size; with this exception, that as in some sorts the eye is small, in comparison with the blue, purple, or dark, a slight variation is required in regard to the proper distribution of colours, and the paste, or eye, ought to be one-half the width of the tube—larger in self-coloured Auriculas than in those which are edged. Alpines, or Auriculas with yellow centres, and shaded margins, are judged by the same standard as above. They are not, however, often grown. Next week we hope to be able to give a list of a few of the most favourite varieties now grown for exhibition. *J. E.*

How to Turn a White Dahlia Blue.—I have been told, but have never tried the experiment, by a celebrated cultivator of Dahlias in Belgium, that he will be able, in the course of a year or two, to produce a blue one by keeping constantly watered the root of a white one with a solution of sulphate of iron. The sulphate of iron turns Hydrangeas blue, and why not other white flowers as well? Of course the solution must be very weak when used. *Inquirer.*

Oxfordshire Horticultural Society, *April* 29.—This, the first show of the season, was thinly supplied with plants, owing to the backwardness of the spring—Auriculas: 1st, R. H. Betteridge, Esq., Milton-hill, with Lovely Ann Ne plus ultra, Conspicua, Othello, and Page's Champion; Class showing: Green-edge, 1st, Lovely Ann; Grey-edge, 1st, Ne plus ultra; White-edge, 1st, Glory; Self, a fine dark seedling, raised by Mr. Mattley; Shaded self: 1st, Conspicua. Pansies: 1st, Mr. A. Lane; 2d, R. H. Betteridge, Esq.; 3d, Messrs. Soden and Son; 4th, Mr. J. Walker. The old favourites were generally exhibited, the best of which were Duke of Perth, Diadem, Duke of Norfolk, Ophir, Chieftain, Euphemia, Robert Burns, France Cycole, Sambo, Pompey, Almanzor, Mr. Beck, Addison, and Commander-in-Chief. Pelargoniums:—1st, Mr. Bates; 2d, Mr. Day. These were in a bad condition from having been pushed to get them into bloom. Specimen Plants:—1st, Mr. Day, with Pimelea spectabilis; 2d, Mr. Robinson, with Epacris grandiflora; 3d, Mr. Day, with Dielytra spectabilis, a fine specimen. Auriculas in fine health, and a stand of 36 Pansey blooms were exhibited by Mr. Turner, of Slough, not for competition. Among the Auriculas we remarked conspicuously fine examples of Cheetham's Lancashire Hero, Conqueror of Europe, Lovely Ann, Ringleader, Page's Champion, Prince of Wales, Lord Lyndock, Jubilee, Bolerer, Ne plus ultra, True Briton, Privateer, Britannia, Smiling Beauty, and Squire Cullman. In the Pansy stand we noticed as new and fine: Alfred the Great, Royal Visit, Cliffe, Lady Emily, Adela, National, Sir J. Cathcart, Pandora, Pompey, Sir J. Paxton, Euphemia, Chieftain, Monarch, and Maid of Athens. One good lot of Cinerarias was contributed by Messrs. Soden and Son, consisting of Bessy, Edmondiana, Alboni, Beauty of Hammersmith, Beauty of Barton, and Climax.

North London Society.—At a meeting on Tuesday last, two new members were elected. A seedling Scarlet Geranium was produced by Mr. Stein, and Cinerarias by Mr. G. Smith: Queen of Beauties (Smith) fully maintains the character generally given it last season. *J. E.*

South London.—We inadvertently omitted to state in our notice of the Horns Exhibition, that Cineraria Lady Flora received a Certificate. It is a flower somewhat above the average size, and was from Mr. W. Ivery, of Peckham. *J. E.*

London Floricultural Society, April 27th.—Mr. Chapman beat Mr. Miller, and won the cup. *J. E.*

Auricula. It would be seen by our report of the South London, last week, that Lancashire Hero was one of the six plants in the first collection, by Mr. Turner, of Slough. We can also report that at Middleton, both on Saturday and Monday last, it proved and was acknowledged to be one of the very best Auriculas present. It was in the first collection of four, first in class showing, and placed best for the greatest number of pips; these are results which we report with satisfaction, as we were among the first to bring this fine variety southward. Five of the six sorts shown by Mr. Turner were of Lancashire origin, the sixth (Sir J. Moore) being a seedling of Mr. Lightbody's, of Falkirk. We would wish our readers to know that it is only by common consent that this variety is known as Lancashire Hero; it was raised by an old florist named Lancashire, and at once called Hero; it was sold by him to Mr. Cheetham, of Rochdale, who, to perpetuate both raiser and flower, sent it forth as Cheetham's Lancashire Hero. It is a sort that may be depended on. *J. E.*

Cinerarias: *W H G.* 1, white self, ribby and thin; 2, blue self, narrow; 3, blue and white, small; 4, light blue self, worthless; 5, lilac and white; 6, deep blue self, small; 7, puce, reflexes; 8, white, faintly tipped with lilac, ribby and thin, petals broadish; 9, white tipped blue, small; 10, light purple, with narrow circle of white round the disk, reflexes; 11, very similar to 5; 12, light blue, disposed to sit well, but narrow; 13, narrow; 14, another blue self, small; 15, rosy puce, petals long and narrow; 16, pretty; 17, bad; 18, delicate; 19, good in colour; 20, petals long and narrow; 21, large and loose; 22, narrow; 23, a flower of very good character, the sight of which fully compensates for the work of railing against the previous 22 sorts. It is identical in colour and marking with Effie Deans, with the advantage of broader petals; 24, good in colour; 25, bad. *J. E.—J O.* Of your large batch, 7 is the only one possessing any claim to merit. *J. E.—Paddington.* A has quality of petal, with purity of colours, both in the ground and in the tips; we wish the disk were other than light, and more elevated. B is good in breadth of petal, and, moreover, they sit well, disk durable. C deep puce, with ray of crimson, encircling the disk. We are disposed to award the palm to B, which, if we recollect rightly, resembles Surprise. *J. E.—H H.* All shrivelled and dry; you should have wrapped them in damped brown paper. *J. E.*

Cacti: *J F.* Nearly related to Cereus speciosissimus, and almost as handsome, except that it wants the charming violet tinge which that fine species possesses. *J. E.*

Fuchsia: *W H G.* A flower possessing many good properties, tube smooth, chaste, and transparent, of yellowish white, somewhat long for its circumference, sepals narrow, pointed, and disposed to be tipped with a greenish tinge, moderately reflexed. Corolla brilliant carmine, smooth, of good proportion, and sufficiently expanded; the colours contrast admirably, size about the average. *J. E.*

New Dahlias. Among the many disappointments to which florists are liable, few disturb them more than the withdrawal of a flower after it has been once announced for "letting out;" and, except under peculiar circumstances, such a step should be avoided. We regret to state that Mrs. Wentworth (Whale) and Bob (Drummond) are both to remain in the nurseries this season, from causes beyond the control of their respective owners. *J. E.*

Polyanthus: *A C.* 1 is of no value as a florist's variety; 2 only second-rate; 3 similar, if not identical, with George IV. (Buck). *J. E.*

Miscellaneous.

The India Rubber Tree.—The Seringue tree has long been known to exist abundantly on the Rio Madeira, but it is only during the present year that it has been found to grow on the Ramos in considerable quantity. About two months before our visit three small seringals had been opened a little higher up than the mouth of the Maué, and late on the evening of the 17th of November we reached one of these, belonging to Capitaõ Pedro de Macedo of Saracà (or Silves, as it is called on the maps). A considerable opening had been made in the forest to erect the necessary huts, and to plant a few Cabbages, and Water-Melons. Amongst the trees was an enormous Samaüma (Eriodendron Samaü, Mart.), divided from near the base into two trunks, of which the stoutest had been cut off at a height of about 15 feet. In the morning I took a sketch of it, and measured its circumference, which was 85 feet at the lowest part, where the tape would ply of itself, that is, from one to three feet from the ground; but had the tape been applied to the recesses of the sapopemas (as the buttresses are called) the circumference would have been much increased. We found the Capitaõ a very hospitable and intelligent man, and were glad to accept his invitation to join him at supper and breakfast on game caught near his seringal, including Porco do mato, Macaco barrigudo, and Mutún—the last a bird much resembling a turkey, good eating but rather dry; the monkey is rather insipid, and the pig very savoury, though with a thick tough skin. After breakfast he accompanied us into the forest, and showed us the Seringue trees, and the mode of collecting the milk. A track had been cut to each tree, as also to adjacent flats of Urucurí Palm (Cocos coronata, Mart.), which, curiously enough, is almost invariably found along with the Seringue, and whose fruit is considered essential to the proper preparation of India rubber. A stout sipó is wound round the trunk of the Seringue, beginning at the base and extending upwards about as high as a man can reach, and making in this space two or three turns. This sipó supports a narrow channel made of clay, down which the milk flows as it issues from the wounded trunk, and is received into a small cuya deposited at the base. Early in the morning a man goes into the forest and visits in succession every tree, and taking with him a tercado and a large cuya (called cuyamboca) suspended by a handle so as to form a sort of pail. With this tercado he makes sundry slight gashes in the bark of each tree, and returning to the same in about the space of an hour he finds a quantity of milk in the cuya at the base, which he transfers to his cuyamboca. The milk being collected and placed in a large shallow earthenware pan, several large caraipé pots with narrow mouths are nearly filled with the fruit of the Urucurí and placed on brisk fires. The smoke arising from the Urucurí is very dense, and as each successive coat is applied to the mould (which is done by pouring the milk over it, and not by dipping it into the milk), the operator holds it in the smoke, which hardens the milk in a few moments. The moulds now used are all of wood, and not of clay as formerly, and the one generally preferred is in the form of the battledores which English housewives use for folding them, only thinner and flat on both sides, and the milk

is applied only as far as to the insertion of the handle, the latter being held by the operator. When the requisite number of coatings has been applied, and time allowed for the whole to stiffen, the Seringue is withdrawn from the mould by slitting it along one side and end. In this state it is known in the Pará market as "Seringue em couro," or hides of India rubber, and it is preferred to the bottle rubber by purchasers. I send you one such "hide," from which you will see that Capitaô Pedro's manufacture is not despicable. If the bottle moulds are used, or if a shoe is to be moulded on a last, a stick of two feet long is always inserted into the mould to guarantee the operator's hand from the milk and smoke. Some shoes we saw here had 30 coatings apiece of Seringue. The Capitaô was getting about six milreis an arroba (32 lbs.) for his Seringue, but in Pará it sells for as much as 10 milreis. November is the season of ripe fruit of the Seringue, but the trees on the Ramos had been completely stripped by the Aráras, a sort of long-tailed rat. *Hooker's Journal of Botany.*

Nightingales in Moscow.—In this city the nightingales sing in every respect as beautifully in cages as in their native woods. In the bird shops they are heard warbling with all the fulness and variety of tone which characterises the nightingale in its natural state. By rattling beads upon their tables of tangible arithmetic, the Russians can make these birds sing at pleasure during the day; but in the night they make the streets of the city resound with the melodies of the forest. *Morning Chronicle.*

Calendar of Operations.

(For the ensuing week.)

PLANT HOUSES.

As the conservatory plants are now making active progress, the whole will require liberal waterings; such as are growing in the open borders should be frequently examined to see they get their proper share. Take the opportunity of an early hour in the morning to give a good washing with the engine, or syringe, to everything except the plants in bloom; the house will then become airy, and enjoyable by the forenoon; frequently clean over the borders and remove decayed blooms and leaves, as they occur, that the house may present at all times a clean and fresh appearance. More air must now be given, and directly the nights get warmer allow a little to remain; this low night temperature will do much to favour the growth of short-jointed wood, which, in houses of this description, requiring to be frequently shaded, is often difficult to obtain. Orchids are mostly in full growth, and at this stage of their culture the greatest care in preserving the proper degree of moisture to the roots and air to the house should be taken; those kinds suspended in baskets or growing on blocks should be taken down and examined every two or three days, and, if dry, well soaked in a tub or cistern of water; this will be more necessary with large specimens. Divide the collection into sections requiring nearly similar management and heat; if you have not separate houses, when the principal house is crowded, many species, as Cattleyas, Lælias, Dendrobiums, &c., will do quite as well in an ordinary stove, or even a Vinery at work, provided a little shade can be afforded them. This will give more room for Vandas, Saccolabiums, &c., and others requiring a great heat.

FORCING DEPARTMENT.

The principal work in this department will consist in carrying out our previous directions; as everything will now be at work, the requisite attention should be paid to each advancing crop, according as the state of its growth demands. We have adverted to the strict watch which should be kept on the red spider, for if allowed to get established on the foliage of Vines beginning to ripen, the consequence is that the injury it will commit to the foliage, before the Grapes are cut, will seriously compromise the chances of next year's crop; it is, therefore, of the utmost importance to attack the pest vigorously, whenever detected, that its ravages may be stopped before the period of ripening, when the means to eradicate it cannot be so well applied. The thrips is a still worse enemy to gardeners, as to effect its destruction is both difficult and expensive. On large-leaved plants as the Vine, if not very numerous, it may be kept down by carefully washing the infected leaves with weak tobacco-water, using a soft sponge for the purpose, that the leaves may not be injured; but on Peaches, Strawberries, and even when numerous on the Vine, nothing will serve to destroy them but repeated fumigations with Tobacco; in most cases, three or four fumigations, with intervals of three or four days between each, will be sufficient. This is expensive work; but after various trials, we know of nothing cheaper, and the injury they inflict on the crops of forcing houses, Grapes more particularly, renders the expense a matter of necessity. The brown scale sometimes is troublesome on Peaches. This should be brushed off the shoots with a small painter's brush, dipped in strong soap-suds; but this pest seldom appears if the proper dressing was applied to the trees, previous to forcing them. We must again notice the strict necessity there is to remove such things as French Beans, Strawberries, and the like, from houses occupied with other crops (Pines excepted), at as early a period as possible, as they are generally the means of introducing the above into houses, where they are grown together; and the growth of stove and other plants, liable to be infested with insects, should always be avoided in such houses, for similar reasons.

FLOWER GARDEN AND SHRUBBERY.

There is nothing which sets off the grounds of a residence so much as good gravel walks. To keep them, however, in proper order, they generally require to be freshened up annually; opportunity should be taken to do this when the family is absent, or whenever their disarrangement will be least felt. Dry weather in the spring is the proper season, as various small weeds which establish themselves through the winter can then be destroyed; unless the gravel requires entirely renewing, a shallow loosening of the surface, to be raked over every other day for a week, will suffice—after which, a thin coat of new gravel should be laid on, and the whole well consolidated by rolling. Whatever kind of material the walks are made with, it is essential for their dryness that there is a sufficient number of drains to carry off the surface water; in finishing them off no more rise should be allowed from the sides to the centre than will carry the water to the edges freely, as nothing is more disagreeable to walk on, or for appearance, than walks raised much higher than the margin of turf on their sides. The gravel walks connected with the flower garden may remain till the beds are furnished with their summer plants; the whole can then be finished off without entailing any disturbance, which planting the beds might cause, and thus will afterwards keep in good order through the season.

FLORISTS' FLOWERS.

As soon as the weather is favourable Dahlias should be planted out on very rich and well-prepared soil. It will be advisable to cover them with an inverted flower-pot if the nights appear at all likely to be frosty; the main supports should also now be placed to them; if deferred till a later period, the young fibres are apt to be injured. Take care and extract decaying petals from Auriculas; and though going out of flower, see that they do not want for the requisite attention, particularly be mindful of regular watering. Pinks.—If not already done, these should have neat sticks put to them, and the shoots thinned according to the strength of the plant. We would advise a few oyster shells to be placed round the roots; these will be equally beneficial as to Carnations and Picotees, preventing a too rapid evaporation of the moisture, as well as keeping the roots covered when water is applied. Weed Ranunculuses, but do not stir the soil between the rows. Attend to Tulips as directed last week, &c.

HARDY FRUIT GARDEN.

Apricots should be frequently gone over, to destroy a small grub which coils itself among the leaves. Disbud carefully, first taking off all the foreright shoots, and the next time thinning out what is not wanted for wood. A slight thinning of the young fruit should be made.

KITCHEN GARDEN.

As the principal summer crops are now planted, attention will be requisite to keep up a proper succession of vegetables. To do this requires some forethought, and it is scarcely possible to lay down rules for guidance, considering so many circumstances are involved—the wetness or reverse of particular localities, and the texture and capacity of soils for resisting drought, are, however, the principal causes which require consideration in keeping up a continuous supply; such information, we need not say, is only to be obtained on the spot by actual experience. Lettuce, Spinach, and Radishes should be sown frequently, while Peas and Broad Beans must be put in to meet the demand; frequently hoe between these crops and stick Peas before they get too tall, another crop of Scarlet Runner Beans may be planted, and successional crops of Cauliflowers, Walcheren Broccoli and Cabbage. See the young Celery gets a good supply of water and plenty of air, checks are extremely hurtful to vegetables requiring to be quickly grown; hoe between the crops of Onions, Parsley, Carrots, and Parnips, and this is the best season for sowing the principal crops of red and silver Beet, Salsafy and Scorzonera; as they frequently run to seed when sown earlier. Assist by waterings the newly planted crops. See the Tomatoes are getting properly hardened off to be transferred to spare palings, or open parts of the garden walls, next month. A few in some places may be tried on a warm, sloping bank. Sow Sweet and Bush Basil, with Sweet Marjoram in gentle heat for transplanting; and make a sowing of those kinds of herbs required to keep up the regular supply. The first rain there is, let the herb compartment be put in order.

STATE OF THE WEATHER NEAR LONDON,

For the week ending April 29, 1852, as observed at the Horticultural Gardens, Chiswick.

April.	Moon's Age.	Barometer. Max.	Barometer. Min.	Temperature. Of the Air. Max.	Min.	Mean	Of the Earth. 1 foot deep.	2 feet deep.	Wind.	Rain.
Friday.. 23	4	29.961	29.842	68	42	55.0	47	45	E.	.00
Satur.. 24	5	29.901	29.896	53	33	43.0	48	46	E.	.00
Sunday . 25	6	29.922	29.960	54	30	42.0	47	45	E.	.00
Monday 26	7	30.071	29.953	63	27	45.0	47	45	N.E.	.00
Tues. .. 27	8	30.168	30.141	55	2-	40.0	46½	45	N.	.00
Wed. .. 28	9	30.136	29.964	64	44	54 0	45	45	S.W.	.32
Thurs... 29	10	29.820	29.748	61	50	55.5	48	45	S.W.	.18
Average ...		30.000	29.920	59.7	3- 8	47.8	46 9	45.1		.50

April 23—Dry haze; fine with hot sun; cloudy and boisterous.
— 24—Boisterous with dry dusky haze; clear at night.
— 25—White clouds; very cold dry east wind; bright sun; clear.
— 26—Clear; fine, with bright sun; clear; frosty.
— 27—Overcast; cloudy; densely overcast; hazy; frosty.
— 28—Dry slight haze; cloudy and fine; rain at night.
— 29—Rain; densely clouded; heavy showers; overcast.

Mean temperature of the week, 1 deg. below the average.

STATE OF THE WEATHER TA CHISWICK,

During the last 26 years, for the ensuing week, ending May 8, 1852.

May	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 2	63.9	41.7	52.8	8	0.72 in.	2	5	6	—	5	5	2	1
Mon 3	62.6	42.1	52.3	13	0.30	1	4	6	1	4	5	1	4
Tues. 4	63.5	41.7	52.6	11	0.70	4	4	7	—	5	3	2	1
Wed. 5	62.9	41.8	52.4	17	1.26	5	4	2	3	7	3	1	1
Thurs. 6	61.5	40.6	51 1	12	0.68	—	7	3	2	3	6	3	2
Friday 7	63 0	41.7	52.3	8	0.22	2	6	3	2	4	5	2	2
Satur. 8	62 4	41 7	52 0	10	0.57	—	5	5	—	5	4	5	2

The highest temperature during the above period occurred on the 6th, 1830—therm. 81 deg.; and the lowest on the 5th 1845—therm. 27 deg.

Notices to Correspondents.

Amateurs: *A Subscriber.* An amateur gardener is one who grows plants but does not deal in them.

Apple Trees: *L L.* Wash the branches with spirits of tar, applied with a painter's brush. ‡

Botanical Language: *Balrath.* The signs in question are intended to represent an ideal transverse section of the carpels, as seen when they are placed between the eye and the axis of inflorescence. They are not very happy: it would have been better to say "anterior and posterior" in the one case, and "right and left" in the other.

Cabbages: *Lawson.* We consider Wheeler's Imperial to be the earliest Spring Cabbage. Sow the seed between the 20th and 30th of July; the earlier date will suit your locality. If the seeds are true, they will rarely run. We have been cutting since the middle of April from the former; and in ordinary seasons, you should have good-hearted Cabbage from a sheltered garden by the 1st of May, at latest. *S.*

Cucumbers: *Clericus.* Mr. Cuthill recommends dusting carefully with flour of sulphur for the destruction of both red spider and thrips. ‡

Figs: *J D.* The Black Marseilles is known at the Horticultural Gardens. It is a small black sort, very prolific; but altogether it is not equal to the Brown Turkey. ‖

Henfreya scandens: *R A H.* It is a native of Sierra Leone; its seed may be sown with best effect in the spring, in a hot-bed.

Horticultural Society's Garden Exhibitions: *J C.* If you, and other strangers, will apply early in writing to the Vice-Secretary, there will be no difficulty about getting tickets for these fêtes. ‡

Insects: *Paddington.* Your insect is a wire-worm, being the larva of the larger species of Elater (El. fulvipes or niger), and having the same habits as the real wire-worm or larva of E. lineatus. *W.*

Liquid Guano: *C F.* It may be applied with advantage to Rose trees now, and at intervals as long as they are in a growing state. Put the guano into a tub, pouring water over it, stir it well up, and then use the water left in a perfectly clear state, after the guano has sunk to the bottom. ‡

Mowing Machines: *H J S.* Shanks' is reported to be the best of the large ones that are drawn by a horse. For hand-working, Budding's is perhaps the best. It is really effective, used when the Grass is perfectly dry. ‡

Names of Plants: *W C.* A variety of Maxillaria Harrisoniæ.—*P B.* Odontoglossum pulchellum.—*Sub.* 1, Alliaria officinalis; 2, Genista anglica; 3, some Corydalis? 4, some Fumariaceous plant; 5, some Alysaum; 6, Spergula arvensis. Very bad specimens, wholly unfit for determination.—*J G.* Vanda tricolor.—*L L L.* Amelanchier Botryapium.—*Jean.* 1, Asplenium viride; 2 we believe to be an Asplenium, but why send such a morsel? it is impossible to say what species it is. Wait till it grows full size, and then send it. *S.*—*A.* 3, Euphorbia splendens; 6, Hibiscus Rosa-sinensis; 8, Euphorbia neriifolia; 2, Euphorbia Bronnii. The rest are quite indeterminable. Pray, if you apply again for such information, lay your specimens flat between pieces of paper, and do not tie them up, with the numbers rolled round them, so that the one is crushed and the other not to be got at without great trouble. In London time is precious.—*T M'M* The Campanulas are only procurable in Botanic Gardens, if there. One of your plants is probably Cochlearia officinalis; the other seems to be a Silene of some sort, without flowers.—*J F C.* Although we are obliged to decline naming Cryptogamic plants, on account of the length of time which they consume, we cannot refuse on this occasion to say that 1 is Funaria hygrometrica; 2, Polytrichum commune; 3, Sphagnum acutifolium.—*A J M.* We regard it as a mere variety of Dendrobium nobile.—*O P.* It does not seem different from Acacia Riceana. The price was a misprint.—*H G.* We cannot ascertain the names from the materials sent us. They are not sufficient for the purpose.—*J L R B.* Pray read what we say to "A." 5 is Goodyera procera; 1, Collinsia bicolor; 2, Epidendrum aciculare. The rest are in such a state that we can say nothing about them.—*A H.* Iris Pavonia is now called Vieusseuxia Pavonia, or Moræa Pavonia. We have not seen the plant for a long time, and are unable to say what may be sold under the name. Nothing is known of the Plum you name beyond what is stated at p. 557, 1847.—*Rudolph.* 1, Pittosporum revolutum; 2, apparently Olea fragrans; 3, Cytisus biflorus; 4, perhaps Myrica laciniata.—*J. W.* 1, Erica sebana lutea; 2, E. persoluta alba. ‡—*J L R.* 17, Sitolobium cicutaria, J. Sm.; Dickeonia cicutaria, Sw. *S.*

Peas: *C K.* Your Peas are cankered below ground, like those of many others in the late cold dry season, which is probably the cause of the evil, rendering the plants liable to an attack of mildew. On opening the box, mildew was observed thriving abundantly on the specimens you sent. ‖

Rhododendrons: *J Y.* We can throw no light upon your case. The disease is one that is best discovered by watching the plants, and having ALL the circumstances connected with its appearance.

The Brinjal: *Viridail.* This is the Aubergine of the French. The fruit, when ripe, is cooked in various ways; and if quite ripe, and well cooked (a nice operation), is an excellent dish. As soon as the frosts are gone, plant it at the foot of a south wall, and give it all the summer heat you can.

The Vinegar Plant: *J C L.* It is the spawn, or mycelium of some kind of mould fungus, developed in water. A piece of it placed in any sweet fluid presently turns it sour. Possibly any kind of "mothery" matter would act in the same way.

Thermometers: *J D.* One of those at Chiswick for registering the maximum temperature in the shade is on a post about 3 feet from the ground, exposed to a free circulation of air, but protected from the sun's rays. The others are about a foot above the surface of the lawn. One is placed in the focus of a metallic basin, by which arrangement the radiation of heat from the earth is cut off from that thermometer. ‖

Transplanting: *L L.* You had better perhaps wait till September, which has been found to be the best month in the year for moving all kinds of shrubs. ‡

Vines: *Y Z.* We cannot at present determine the nature of the white specks. If they increase and alter their appearance, perhaps you will send further specimens.—*Yorkshire.* We see no apparent explanation of the bleeding you mention, unless you raised artificially and considerably the temperature of your border before the leaves were fully formed.

Misc.: *J S W.* We presume the preparation you inquire about is a saturated solution of chloride of zinc; but Sir W. Burnett has a patent for it. We have no experience of "Frigi Domo." For late Grapes you had best plant West's St. Peter's. Much obliged; but we will not deprive you of the plants you mention. ‡

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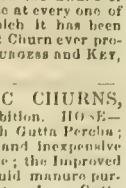
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TO AGRICULTURISTS.

OWEN'S ANIMALISED CARBON is now for Sale, at 2l. 5s. per ton in bulk.—This Manure has been introduced, with the most beneficial results, at St. Croix and the Mauritius, in the growth of the Sugar Cane, as proved by testimonials from the planters. The powerful fertilising properties of the Carbon have long since been acknowledged in Denmark, where it has been extensively used for agricultural purposes, as no less than 26,000 tons have already been sold. It is ready for immediate use, having no occasion to be ground, is equally as portable and diffusible as bones, and the low price at which it can be sold in this country must always be a paramount recommendation. *A liberal Commission allowed to Dealers or Agents.* For copies of the testimonials of its utility in this country, also for samples, apply to J. OWEN and Co., 3, Rood-lane.

Messrs. J OWEN and Co. are now importing from their Copenhagen Manufactory SUPERPHOSPHATE OF LIME, of the very best description, containing at least 18 per cent. of Neutral Soluble Phospha'e of Lime, and capable of furnishing at least 3 per cent. of Ammonia to the Soil. The "Analysis" is made by Professor J. THOMAS WAY, Consulting Chemist to the Royal Agricultural Society. The price, in London, of this powerful Manure, is 7l. per ton, cash, or Banker's Bill on London.

FOUNTAINS FOR PLAYING SCENTED WATERS.



PURE WATER raised to any height from a small stream, where a fall can be obtained, by

FREEMAN ROE'S

IMPROVED RAM,

Prices from 5l. 5s.;

Deep-well Pumps, Water-wheels, Baths, Hot-water Apparatus, Fountains, and Fire Pumps. Towns supplied with Gas or Water. *Gas Cooking Stoves of all sizes.*

FREEMAN ROE, Hydraulic and Gas Engineer, 70, Strand London; and Bridgefield, Wandsworth.

Drawings and Estimates made.

ANTHONY'S PATENT AMERICAN CHURN makes Butter in 10 minutes. It obtained the award of the Great Exhibition Medal, and also a prize at every one of the numerous Agricultural meetings at which it has been shown. It is now acknowledged to be the best Churn ever produced. 200 have been sold in one year.—BURGESS and KEY, 10½, Newgate-street, London.

DRUMMOND'S ANTI-METALLIC CHURNS, six sections, 1000 sold at the Great Exhibition. HOSE—Improved Canvas Hose, lined and coated with Gutta Percha; Naismyth's Steam Engines, the most compact and inexpensive yet produced, as shown at the Crystal Palace; the Improved American Force and Suction Pump, for liquid manure purposes. Valuations of Machinery attended to, &c. Gutta Percha Tubing in all its branches.—Apply to MITCHELL and Co., 93, High Holborn, London.

DRAINING TILE MACHINES & CLAY GRINDING MILLS,

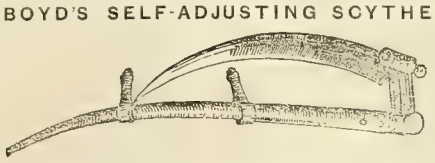
MR. SAMUELSON, BRITANNIA IRON WORKS, Banbury, Oxon (Successor to the late James Gardner), to avoid the disappointment experienced last year as regards the delivery of his IMPROVED DOUBLE SPEEDED TILE MACHINES, will feel obliged by orders for this season being given as early as possible.

Price of the small Machine, to deliver 4000 1½ inch or 3000 2-inch pipes in 10 hours, 14l.

Delivery free to all places on the London and North Western and Great Western Railways.

Drawings of the above, and his General Implement List may be obtained on application.

BOYD'S SELF-ADJUSTING SCYTHE.



APPROVED BY PRINCE ALBERT, AND UNIVERSALLY RECOMMENDED BY PRACTICAL AND SCIENTIFIC MEN.

THIS SCYTHE, when out of use, shuts up like a knife. It can be adjusted to any angle in one minute (even by persons quite unused to the implement), without the assistance of blacksmith or forge. It may be used by amateurs as well as regular labourers, without fear of accident or injury, thus rendering Mowing an easy, safe, and economical operation.

To be had of all Ironmongers, Nurserymen, &c., in the Kingdom; and Wholesale and Retail at WM. DRAY and Co.'s Agricultural Implement and Machinery Warehouses, Swan-lane, London Bridge.—A liberal discount allowed to the Trade.

IMPROVED GRASS CUTTING & ROLLING MACHINE.



UNDER ROYAL PATRONAGE.

ALEXANDER SHANKS AND SON, MACHINE MAKERS, Arbroath, Forfarshire, respectfully solicit notice to their Improved GRASS CUTTING AND ROLLING MACHINE for LAWNS, the complete success of which, and its acknowledged excellence and superiority over all other Machines of the kind, has now been fully confirmed. Testimonials and further particulars will be immediately franked on application.

AGENTS, for London: Messrs. J. and C. Lee, Nurserymen and Seedsmen, Hammersmith; Hertford: Mr. George Folkard, Ironmonger; Liverpool: Messrs. Charles D. Young and Co., Castle Buildings, Derby-square; Sheffield: Mr. J. Law, Curator of the Botanic Gardens; Chester: Messrs. F. and J. Dickson, Nurserymen and Seedsmen; Glasgow: Messrs. Chas. D. Young and Co., 32, St. Enoch-square; Edinburgh: Messrs. Chas. D. Young and Co., 48, North Bridge; Perth: Messrs. Dickson and Turnbull, Nurserymen and Seedsmen.

M'CORMICK'S AMERICAN REAPER.

BURGESS AND KEY, Agents, 103, Newgate-street, London.—Extract from Mr. Pusey's Report on the Agricultural Implement Department, Great Exhibition.—"Mr. M'CORMICK'S Reaper, in this trial, worked as it has since worked at Cirencester College, and elsewhere, to the admiration of practical farmers, and therefore received a Council Medal. Mr. Hussey's some imes became clogged, as in the former trial at Tiptree, and therefore could not possibly obtain that distinction."—Price of Reaper, 25l.

HUSSEY'S AMERICAN REAPER,

Price 18l. complete, with Delivery Board, &c.



HUSSEY'S "CHAMPION" REAPER IN YORKSHIRE.

From Sir Tatton Sykes, Bart., to Mr. Crosskill.

Sledmere Castle, Driffield, Sept. 9th, 1851.

Sir,—I have just been seeing your Machine for reaping, and am very much pleased with it. It does its work beautifully, and I have no doubt they will soon be in general use.

I am, sir, your obedient servant,

(Signed) TATTON SYKES.

HUSSEY'S "CHAMPION" REAPER IN LINCOLNSHIRE.

Fairford House, Louth, March 13, 1852.

Sir,—I enclose a Cheque for 18l., the cash price of Hussey's Reaping Machine. I should have done this earlier, but have been much engaged, and waited to try it. I have done so on Wheat Stubble, and find it answer beyond my most sanguine expectations. I am, yours, &c., (Signed) WM. J. OSLEAR.

To Mr. Crosskill, Beverley.

W. CROSSKILL will warrant Hussey's Reaper to cut "standing" or "laid" Corn, across "ridge and furrow." W. C. is making three Reapers a day for purchasers who have already given orders for delivery in May, but cannot guarantee to deliver future orders in time for Harvest unless given immediately. Full particulars and Report of the Cleveland Challenge and Trial, &c., will be forwarded, gratis, on application per post.

CROSSKILL'S "COUNCIL" GREAT MEDAL

PATENT CLOD CRUSHERS AND WHEAT ROLLERS,

For Rolling young Wheat in the spring, &c.

At the Great Exhibition the highest award of the Council Prize Great Medal was awarded to CROSSKILL'S Patent Serrated Roller and Clod Crusher, with this commendation—"It repays its Cost the First Season of its use, &c." Reduced Prices, 18l. size, now 15l. cash.

CROSSKILL'S "COUNCIL" GREAT MEDAL

ONE-HORSE CARTS,

Mounted upon Patent Wheels and Axles, manufactured almost entirely by machinery. REDUCED PRICES—TEN PER CENT. DISCOUNT off Orders for Three Sets of Patent Wheels and Axles.

CROSSKILL'S "COUNCIL" GREAT MEDAL MILLS,

The most powerful and economical Mills, of Two, Four, and Six-horse Power, for grinding all kinds of Farm produce, including Bones for Manure; and particularly recommended where Steam Power is used.

Lists of Prices may be had gratis, on application per post.

Please Address—MR. CROSSKILL, BEVERLEY.

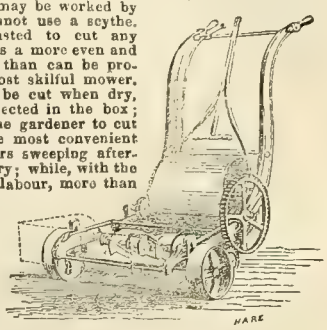
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JOHN FERRABEE AND SONS,

PHŒNIX IRON WORKS, NEAR STROUD, GLOUCESTERSHIRE.

BUDDING'S LAWN MOWING MACHINE,

WITH REGISTERED IMPROVEMENTS, No. 3074.



This Machine may be worked by persons who cannot use a scythe. It can be adjusted to cut any length, and leaves a more even and uniform surface than can be produced by the most skilful mower. The Grass may be cut when dry, and may be collected in the box; which enables the gardener to cut his lawns at the most convenient time, and renders sweeping afterwards unnecessary; while, with the same amount of labour, more than double the quantity of work can be done than with a scythe. It is very durable, easily sharpened and kept in order, and its management is extremely simple.

J. F. and SONS, who were the sole Manufacturers of BUDDING'S MACHINES under the Patent, and who have produced and sold nearly 4000 of them, have this year increased their efficiency and perfected their operations, by improvements which are protected by Registration. The Improved Machines, in addition to the Registration Number—3074, have the name, "J. FERRABEE & SON," cast on the frame; and none should be purchased without this guarantee.

Hand Machines are made of three sizes—cutting the several widths of 16, 19, and 22 inches. The smallest may be worked by one man; the others require the assistance of a strong boy.

Horse Machines are made of two sizes; one cutting 30 inches and the other 36 inches wide.

PRICES:—

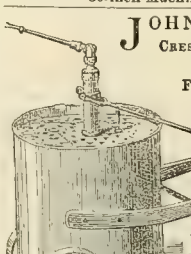
16-inch Machine ...	£5 10 0	22-inch Machine ...	£6 0 0
19-inch ,, ...	6 0 0	30-inch ,, ...	13 0 0
36-inch Machine ...	...	£15 10 0	

JOHN WARNER AND SONS,

CRESCENT, JEWIN STREET, LONDON,

MANUFACTURERS OF

FIRE ENGINES, GARDEN ENGINES, AND SYRINGES.



No. 12 GALVANISED IRON TUB GARDEN ENGINE,

With WARNER'S Registered Spreader, is strongly recommended for durability and low price, viz.:—

£2 19 0

Spreader 0 5 0 extra.

May be obtained of any Ironmonger in Town or Country.

CARSON'S ORIGINAL ANTI-CORROSION PAINT, specially patronised by the British and other Governments, the Hon. East India Company, the principal Dock Companies, most public bodies, and by the Nobility, Gentry, and Clergy, for out-door work at their country seats. The Anti-Corrosion is particularly recommended as the most durable out-door Paint ever invented, for the preservation of every description of Iron, Wood, Stone, Brick, Compo, Cement, &c., work, as has been proved by the practical test of upwards of 60 years, and by the numerous (between 500 and 600) testimonials in its favour, and which, from the rank and station in society of those who have given them, have never yet been equalled by anything as the kind hitherto brought before the public notice.

Lists of Colours, Prices, together with a Copy of the Testimonials, will be sent on application to WALTER CARSON and SON, No. 9, Great Winchester-street, Old Broad-street, Royal Exchange, London.—No Agents. All orders are particularly requested to be sent direct.

COTTAGE STOVE.

GRIFFIN'S ECONOMIC COTTAGE STOVE comprises an open fire-place, oven, boiler, ironing stove, and an aperture for the emission of warm air. Price 1l. 18s. 6d. for 3 feet openings, and other sizes in proportion, delivered at Banbury. All orders and applications are requested to be addressed to WILLIAM GRIFFIN, Eydon, Daventry.

The Agricultural Gazette.

SATURDAY, MAY 1, 1852.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY,	May 5	—Agricultural Society of England.
THURSDAY,	— 6	—Agricultural Imp. Soc. of Ireland.
WEDNESDAY,	— 12	—Agricultural Society of England.
THURSDAY,	— 13	—Agricultural Imp. Soc. of Ireland.

OUR readers have, doubtless, read with interest the reply of Mr. LAWES to the criticisms of our correspondent "R." A further instalment of that reply is, we are given to understand, still due; but Mr. RUSSELL, of Kilwhiss, whose criticisms are thus being criticised, being anxious, of course, to deny and disprove the charge of anything like intentional unfairness which has been preferred against him, has, without waiting for the full publication of the papers on "Rothamsted and the critic 'R.,'" sent us the first portion of his rejoinder, and we have this day published it in another page.

No one, surely, can charge upon us disrespect of Mr. LAWES' labours as an agricultural chemist; the *Agricultural Gazette* has been forward both to make known his undoubted merits in this respect, and to defend him when unjustly attacked. And it was with nothing but a sincere desire for the furtherance of truth that we admitted Mr. RUSSELL's criticisms, honest and substantial as they appeared to us, into

our columns. While, therefore, we shall certainly regret if this publication should result in any unsatisfied difference between those who are, we are persuaded, equally anxious for the establishment and progress of truth, we shall as certainly feel glad that our readers will thus have had an opportunity of listening to a discussion of the principal topics in the chemistry of agriculture between two such competent men as Mr. Lawes and Mr. Russell.

A scheme for reducing, by nearly one-half, the cost of Agricultural Implements would, if feasible, certainly command the favourable regards of agriculturists. Such a scheme has within the last year or two been actually announced, and, to some extent, carried into successful operation.

It is, in fact, feasible enough. Corn rick stands 10 feet in diameter, with seven pillars, may be sold for 2*l.* 10*s.* each; and if 20 feet in diameter, with 23 pillars, for 10*l.* 5*s.* each. Hussey's reaping-machine may be sold for 14*l.* Clod-crushers, 6 feet 6 inches long, patented in England, can be delivered in Scotland and Ireland for 11*l.* 10*s.* each; cast-iron field-rollers may be made from 8*l.* to 12*l.* apiece. Land pressers, with two presser wheels, for 5*l.* 5*s.*, and extra pressers provided for 10*s.* each. Kirkwood's Grubber, with seven teeth, can be made for 7*l.* 10*s.*; Norwegian Harrows can be supplied at from 5*l.* 18*s.* to 6*l.* 6*s.* The Patent Diagonal Harrows, patent in England, can be delivered in Scotland and Ireland for 3*l.* 3*s.* each set for the light harrows, and 3*l.* 10*s.* each set for the heavy harrows. Skim ploughs, with two wide paring tines in front and two coulters behind, can be supplied for 4*l.* apiece. The improved double action Gardner's Turnip-cutter, patent in England, can be delivered in Scotland and Ireland for 4*l.* 4*s.*, and the original Gardner's Turnip-cutter can be delivered anywhere in the United Kingdom for 3*l.* 10*s.* Of course, when we say "anywhere," we mean at any principal town or other depôt. And if we were to go through other implements in detail, we could speak of Archimedian root-washers at 3*l.* 10*s.*, cheese presses at 1*l.* 18*s.*, churns of different sizes—for instance, for 2 gallons, 4 gallons, 16 gallons, 40 gallons—at 2*l.*, 2*l.* 10*s.*, 5*l.*, and 10*l.* 10*s.* respectively, &c. And these, certainly, are very large reductions indeed upon existing prices. And that they are possible we can no longer avoid believing, in the face of one of the most efficient advertisements of the fact that we have ever seen.

We are not going to publish the merits of any particular firm, or canvass our readers for the benefit of any one. It is the doctrine of the present day, and we believe it to be a sound one, that the interests of the community are best served when those of consumers are cared for by those of producers being left to the tender mercies of the freest and fullest mutual competition. And all we have to do is to acquaint our readers who are the consumers of agricultural implements with the fact that there are means in existence which the producers of these commodities have not as yet fully availed themselves of, by which a very great reduction in the prices of these commodities may, and undoubtedly very soon will be effected.

Does any one doubt this? There are both principles of unquestionable soundness, and instances of unquestionable occurrence in proof of them, to corroborate our assertion. Among the former, consider the economy of the time required for any performance, and the higher quality of the performance itself produced by the full adoption of the division of labour principle. Consider the saving and cheapening of raw material, effected by large purchasers of that material, the saving owing to the article being orderable of given required shapes and sizes, if ordered in large quantities; the cheapening owing to the profit of one transaction being thus spread over a large number of individual pieces. Consider too, how castings, like books, become reduced in cost, with the number made from a given mould; and consider how, with the extent of a manufacturer's transactions, the profit with which he may be satisfied becomes reduced upon each. As instances, on the other hand, of the power of these principles to effect a saving in the cost of manufactured articles, while we have to select from a myriad which are known to every one, we might choose them in the case of every manufacturer which has a standing in this or any other country. Let any one compare the shilling colour-box, for which we have to thank the energy and activity of the Society of Arts, with anything of the kind previously known, though of double or triple its price: we know not a better instance than this. Or, in these days of poultry keeping, let any one of our readers who may have ordered a hundred yards of netting from some country maker for keeping his fowls out of the garden, compare his bill with the charges advertised in our columns as proper for that quantity in London. But agricultural machinery itself furnishes illustrations of the power which the well regulated manufacture of articles in large quantities has in diminishing their cost. We referred to an advertisement of this fact; and of course of the firm also which proposes to prove it. The former portion of the advertisement we are glad to enlarge upon here, the latter is of course out of our province; but do not let it be thought that we are founding all these remarks upon the mere proposal of any one. That on which we have been insisting has been already successfully done in one notable instance, of which there is abundant and satisfactory evidence, and the "proposal" relates to an extension of the principle thus already proved to be trustworty. The plan of the firm in question includes the issue of these proposals—and any firm might well adopt the same method, while those already in extensive business would not need it. The proposals announce a given implement at a certain price, and state that a subscription list for it is opened, and that when that list contains orders for 500, or 1000, or 2000—as the case may be—of the implement in question, their manufacture will be immediately proceeded with. And this certainly appears to us a very sensible plan of proceeding, deserving of general adoption and general patronage. And as ultimate instances of its soundness we have no doubt that some years hence we shall have to congratulate our readers on the publication of "A List of Agricultural Implements, &c., to be supplied to subscribers at about half price by Messrs. —— and Co.;" the blank to be filled up with the names of many of the best firms in the country.

The present remarkably dry spring, with the many undoubted agricultural advantages which accompany such a season, has delayed the seed time of several of our early sown crops. It will, no doubt, have enabled the thorough fallowing of lands in course for Turnip and other green crops, and farmers will find the benefit of this in the corn crops of another year; for the old proverb is true enough, and there has certainly this year been a very California of March dust, but it takes more than twelve months for the conversion of this dust into gold. While some of the green crops of the present year may be the better for this dry weather, and the Wheat crop certainly has not yet been injured, we may expect that in other cases (in the important one of Grass, for instance) seeds, which have been already sown, will not braird so well, and that none of the crops, indeed, whose seeds have now been for some weeks in the ground, will benefit by so long and tedious a germination. While the ground is so dry, the seed is at least as well in the granary as in the soil.

Among other crops, Flax, owing to the drought, may still be sown on the first intimation of a change in the weather with as great probability of success as attends what was sown a fortnight ago. And we accordingly venture to repeat our recommendation of the more general cultivation of this crop. We have had two instances, during the past season, of landlords assembling and advising their tenants. The Duke of Newcastle did not take it upon him to counsel any particular step for them in order to meet the difficulties of their position; he did little more than give them the constant, and, however nauseous, the only really trustworthy advice of self-reliance and greater energy in the prosecution of their business. Sir James Graham, whose tenantry appear in the more favourable position of independent intelligent men willing enough to meet their landowner for a friendly conference on matters of mutual interest, but competent nevertheless to manage their own business without the advice of any one, had the more specific object in view of urging upon them the cultivation of a particular crop; and a great deal of satisfactory evidence was brought forward to prove the profitableness of Flax in the hands of skilful cultivators. And the result of this and other efforts to extend its cultivation will, no doubt, be seen in the larger supplies of home-grown Flax next winter. The difference between profit and loss in this as in every other instance out of the ordinary agricultural routine, depends wholly on the possession of sufficient skill in the handling of the crop after it has been harvested. Of course the ordinary precautions relating to the tillage of the land, the selection of the seed, and so on, will be taken by every one; and the instructions given on these points in the many pamphlets on Flax culture, which have been noticed in this journal,* are easily followed by those at all acquainted with ordinary agricultural management; but the after-management of the crop is not to be done by a mere book knowledge of the subject, and we, therefore, strongly recommend, either that the cultivators of the crop in any neighbourhood to which it has just been introduced should unite to procure the services of a party of men from Somersetshire, or perhaps from the Belfast Society, who would take on contract the handling of the crops after harvest and their conversion into a saleable article, or that the Flax should be sold in the straw to the millowners, who have in many districts of the country already established themselves for the purchase and conversion of the crop. No doubt the profit attending the cultivation of a crop is in proportion to the intelligence needed and the intelligence possessed by its cultivators, and when the easily managed department of its cultivation alone is in his hands he need not expect large returns—and Flax in the straw generally sells at a discouragingly low price compared with that of the manufactured article; but farmers must be content to be at some expense in learning the whole management of any newly introduced plant, and though many may be discouraged by the failure of their first attempt, it seems clear enough from the evidence which has been published on the subject that perseverance in the cultivation of this crop does, with the increasing knowledge of the management thus acquired, prove profitable in the long run.

* That published by Messrs. Blackie, of Glasgow, for instance, or Mr. Deman's pamphlet, published by Ridgway, of which a second edition has just appeared.

KILWHISS *v.* ROTHAMSTED.—No. I.

The readers of the *Agricultural Gazette* who take any interest in the chemistry of vegetation, must have been highly gratified with the recent communications of Mr. Lawes, of Rothamsted, directed against the critic "R." For some time back it appeared as if we had come to a sort of "finality" in agricultural theory, which idea had to be dissipated before there was room left for further progress. At all events, whoever may be right or wrong in this case, truth will not suffer by the discussion.

Before beginning any reply, we beg to make a few remarks personal to ourselves. As the criticisms we made under the signature "R." have not been received in so friendly a spirit as we expected, we can no longer consent to appear as an anonymous writer; if there has been occasion for so vehement a reply, we have no wish to compromise any journal by affording us shelter; whatever censure may have been deserved, let it fall on the head of the guilty contributor. Nay, if it should be shown that we have been awanting either in candour or honesty of purpose, it will ease our conscience to make a public confession.

We would here repeat what we have often before now expressed, that we highly respect and esteem the labours and writings of Mr. Lawes—he deserves the gratitude of all who heartily desire the advancement of agriculture. For this reason we shall on no account retaliate in any manifestation of bitterness, for we neither feel nor have any in this matter. We shall defend ourselves when we think we are right, and we shall be willing to retract or apologise if we can be shown to be in error; at the same time we shall fearlessly state and expose what we deem to be weak points in Mr. Lawes' philosophy—the too indiscriminate adoption and application of which, we consider, have obstructed the progress of agricultural science.

Since the publication of Liebig's "Chemistry of Agriculture," there has been a general agreement amongst scientific men in regard to the theory of manuring, but there has been as much disagreement in the practical application of the principles. This has arisen from overlooking the opposite conditions and circumstances. We never could gather from Liebig's writings that he imagined that ammonia could be entirely dispensed with in agriculture. Mr. Lawes has just been like the rest of us, and has made a few mistakes in the practical department, which it would be no discredit for him to avow. When so many were relying with the most implicit confidence on Mr. Lawes' opinions, we thought there would be no great harm in our stating our objections to some of his propositions, and it would appear we have done so not without effect; but in reply, Mr. Lawes says:—"Surely it is expected of no one writing for intelligent readers on scientific subjects, that in every sentence every possible limitation to his meaning should be reiterated, as in a legal document, &c. The writer 'R.,' however, carefully selects one or two such passages as are, when isolated, and used apart from their context, and from more direct and emphatic declarations, calculated to support his charge against us; but we would ask him, why it is, if it were really his wish to give a correct view of our opinions, that he says nothing to his readers of those passages already quoted from our papers, and those which will shortly follow?" If Mr. Lawes had singled out the isolated passages to which he refers, and admits that they are calculated to support our charges against him, we should have been enabled to judge if there was anything more emphatic and direct, but we are sure that the passages which he had *then* quoted contained nothing of the sort, when confronted with the points which we touched and commented on. In our next we will, with all plainness, state our reasons why we said nothing about those passages which he afterwards quoted in the *Gazette* of 3d April.

We were quite aware that Mr. Lawes' interpretation admitted of a little double meaning. Hitherto the slight inconsistencies had always been used to the detriment of any one who had attempted to controvert any of his statements. We had seen the fate of others who

had broken a lance with Rothamsted. We therefore rather allowed Mr. Lawes' friends and admirers to interpret the dubious passages, and we carefully selected those opinions which were used as "legal" or scientific doctrine over the length and breadth of the land. Nothing has been more common of late than to settle by mere authoritative statement every question in vegetable physiology or agricultural practice by an appeal to Rothamsted or Bechelbronn—high authorities, no doubt, but our faith in either is not so implicit as to shut up their dicta from discussion. It was for the purpose of throwing open special points for discussion which concerned the right understanding of the practices of British agriculture that we brought our simple illustrations to bear on what we considered to be erroneous doctrine; and certainly we are well pleased that we have driven our friends to claim us as their own. In fact, passage after passage has been quoted to show their right to do so; but we will only say that they will find us a very rebellious captive. We are afraid we must snap the fragile cords with which they imagined they have bound us, when we come to point out the wide differences which are yet betwixt us.

We must tell the readers of the *Gazette* that we have had quite as interesting an experimental field to work upon as Mr. Lawes has had at Rothamsted. A greater contrast between the chemical and physical constitution of soils at Rothamsted and at Kilwhiss could scarcely be found in the wide space which separates the two. In one particular only do they agree—the value (market value *we* speak of) is in both cases from 20*s.* to 26*s.* per acre as rental. In the one the annual yield of Wheat is 17 bushels per acre, having no fertilising application but what nature supplies, in the other the seed would scarcely be returned, under the same circumstances. At Rothamsted this large natural produce can be readily doubled by the application of ammoniacal salts, while at Kilwhiss these salts would be without effect; even in our ordinary farm rotation, were we to apply ammoniacal salts as freely to our Wheat crop as is done by Mr. Lawes, we should blight every straw of it. At Rothamsted good crops of Turnips can be grown with superphosphate of lime alone, while we have considerable tracts which would not yield two tons of roots with a liberal application of phosphates or ammonia. Yet this soil is rich in carbon. It has often afforded us matter for reflection to compare the widely different results of our experience from that at Rothamsted; and we may tell Mr. Lawes, without offence we hope, that we have almost learned as much from his local errors as from the many truths which he has given forth. Had we generalised as freely on our own local and individual results as he has done, we should long ago have been laughed at; but, situated as we are, within sight of totally different soils, deriving their marked and peculiar composition from the varying geology of the district, we have always had presented to us, as in a mirror, the impression that there are few practices universally applicable in the economy of agriculture.

Throughout this discussion we have entirely kept our own opinions in regard to the mineral constituents of soils in the background. In tracing out the conditions which favoured the absorption of nitrogen by plants, we always assumed that the soils on which they grew, contained these substances in necessary abundance for all the requirements of plants. If we can once agree a little more closely on the sources of ammonia and carbon in plants, and the relation which the one bears to the other in manures, we shall then be better prepared to appreciate and examine the mineral question. Although we agree with Mr. Lawes and others in most of the practical conclusions they have arrived at in regard to the mineral condition of soils as applied to general agriculture, yet the absolute manner in which they have often dealt with this subject, has led to much misunderstanding and confusion in others, and requires considerable modification. We consider that at the present moment our mineral theory would be much the better of a little overhauling, as well as the ammonia question. The mineral condition of soils, as manifested in Clover sickness, Turnip sickness (finger and toe), night-ripening of Wheat, &c., are all, in our opinion, much more closely connected than many imagine, or at least they mutually help to illustrate each other; and while it is confessed that chemical analysis cannot reach the difficulty, still we think there is a numerous array of facts scattered over the field of agricultural experience, and which only requires to be collected and arranged to throw much light on these important subjects.

We trust that there is no use of making an apology for the freedom with which we introduced the names of individuals, so eminent in their respective spheres, in this discussion; as for our own defence and justification we shall be again compelled to do so. No one has a greater respect and admiration for their abilities and labours, but we conceive there is too much tendency in the present day to bring all our principles to a focus. It is surely proper that we should become acquainted with the aberrations due to diversity of circumstances, and to know the limits to which the truth of a proposition extends. We have been rather amused with the character of our position, at which we will request our readers to take a glance, as we point out what were the subjects of dispute, and what are the differences between Mr. Lawes' opinions and our own; and then we shall proceed to the discussion of those differences, which are much wider and more important than one would be led to believe by the rejoinder from "Rothamsted." *R. Russell, Kilwhiss, Fife.*

Home Correspondence.

A Rural Sketch: No. 2.—It is written, "Train up a child in the way he shall go, and when he is old he will not depart from it." Thus thoroughly persuaded that I shall never, never be able to convince the men, more especially the great man, of this parish, that Thistle seeds really do grow, I give them over entirely to the man of their own heart, the agricultural lecturer. In the meantime I intend to take a class of little boys; little girls may be admitted, as they may grow up to women and become mothers, that they by early instruction may be able to teach their little boys more mother-wit than the aged men of this generation possess. Now, my little boys and girls, pay particular attention to what I say. I shall tell you nothing but what has passed before my own eyes—much more truthful than the stories of "Peter Parley." When I was a little boy, between four and six years of age, I thought, as other little boys thought, that the seeds of the Dandelion, the Thistle, and all those of the winged sort, blew away far and near, and grew up on whatever ground they alighted; our amusements tended to prove that we did think so, for we used to arrange ourselves in rows, each with the seed head of the Dandelion in hand, run along against the wind, and all call out, "Fly away, fly away, and plant me a garden." While I was running in this way my foot tripped against a stone, and I fell with great force on the ground, and cut my cheek, which mark is still visible under my left eye; so that you see that that sport has left a lasting impression on my face, as well as on my memory. At six years of age I was taken away from planting Thistle gardens, and sent to school; and from that time until about four years ago I never thought more about planting any of the winged seeds. When I came into this parish four years ago, I saw all the double hedgerows filled with large Thistles; and when they began to blossom I sent a man to cut them all down, when the great farmers here began to laugh at me, and told me it was no use to spend my money in that way, for the seeds of Thistles never grew in this country. Now, if the great man himself, with all his fox-hunting companions, had come amongst us little boys, while we were playing at planting our garden, we should have left off playing, and laughed at them; aye, little girls and all would have laughed at them—laughed at them till they were right out of the boundary of the parish; every boy of 12 years of age knows the boundary of the parish he lives in, in that country. Then, as I said, about four years ago, when the great farmers here laughed at me for believing that the seeds of the Thistle did grow, I really planted some in pots, and in two months, in the open air, had some fine plants to show these ignorant men; how very sheepish they did look then! Now I advise you all, my little friends, to get some good seed, at the proper season, and plant it; take care that you look to the bottom of the seed-cup, and see that no maggot is there. These maggots destroy many seeds; they eat that part from which the seed grows, and this bad seed is what the farmers took to plant, I suppose, many years ago; and because that bad seed did not grow, it has been handed down from father to son, that the seed of Thistles would not grow in this country. You may recollect how the farmers laughed at me when I told them that slugs laid eggs, and sat upon them, like a hen on her eggs. You all know, also, what an immense number you all found when we were burning the sods that had been dug up in the spring in the orchard. You who work on the farm have seen how the young slugs devoured 12 acres of Wheat in two nights, in the Stone-field. However, as I shall have to tell you more about the slugs in another lecture, I will leave them for the present. At the age of 13 years I went to sea, and during 40 years I have been to most parts of Europe, to the East and West Indies, to America, Brazil, Chili, Peru, and Mexico, round the Gulf of California, to many islands in the Pacific Ocean and China Seas, round the Cape of Good Hope; so that that made a complete circuit of the world. I have been amongst all sorts and conditions of men, from the polished gentleman to the cannibal; and, although, my little friends, I never believed in cannibalism, I have seen many strange things—have been told many strange stories—but never was I told before I came to this parish that Thistle seeds would not grow. Among other places I have been to Buenos Ayres several times; there I heard almost incredible stories about the bakers heating their ovens with sheep. I never saw it—it was before my time—but I saw the royal order to prevent the cruelty, with the pompous manner in which the king of Spain sign themselves, Yo, el Rey—that is, I, the king. I went to see what the bakers substituted for the sheep, and found them heating their ovens with Thistle-stalks. I tried the strength of the fire, it gave out a great heat. I then went into the country, saw very large plantations of Thistles, and was told the farmers made a good profit by growing them. To tell you little boys and girls how large they are would exceed your belief. You believe in the slugs' eggs, but incline to doubt the Thistles. One fine clear morning, while I was shaving—for I then began to have a beard—a dark midnight-like cloud came over the city; I called for a light, and asked the cause of the darkness, when the servant told me quickly, "Un pampero furioso," that is, a furious hurricane called a "Pampero," or high wind from off the plains. The servant went away quickly, to see that nothing was left on the top of the house—the houses have flat roofs in that city. I went out into the street, and was told that the darkness was caused by "dust, Thistle seed, and locusts." It is incredible, my little friends, that there should be so many hundreds of cart-loads of these dead locusts thrown up on the banks of the other side of the river in only a few hours; the farmers here would take them as manure to dress their land, and make the incoming tenant pay as dear, according to their means, as London aldermen do for white-bait at the Trafalgar, at Greenwich. The river opposite Buenos Ayres is more like a sea than a river. Although I saw the dead locusts, I never knew what became of the Thistle seed; it might have blown much the farthest, being lighter, and stocked the farmers of the "Banda Oriental," or east side, as the farmers of this parish stock my grounds. The farmers about Buenos Ayres went on lamenting the loss of their Thistle seeds, and said it was tantamount to the loss of the next year's crop; and said, also, under such a calamity, they ought to be protected; the bakers, being short of fuel, raised the price of bread; the people then called out for free-trade; and I afterwards took them a cargo of bread from Chili, already baked into biscuit. In my next lecture I will introduce you to the good people of Chili, where they eat the stalk of the Thistle instead of Cucumber, and as commonly as the people eat Cucumber here. So come next week, at the same hour; and in the meantime, I hope you will consider how very important it is to learn to read, that you may instruct yourselves. *Sinbad.*

Poultry.—I take the opportunity of mentioning a brood of chickens which I saw last week, and which I think is worthy of being recorded as unusually numerous. The brood numbered six-and-twenty, all hatched by one hen, and at the time I saw them were all healthy and thriving, being also a fortnight old. What makes this circumstance the more noticeable is, that the hen was of the black Polish breed, usually considered bad sitters. The same hen reared a numerous brood last year—how many I could not ascertain with exactitude, but, as the owner expressed it, "it was well up in the teens." It may be mentioned, that the eggs to be set on were placed in a mound, so that they were pressed against the hen's side, which enabled her to cover so many. Besides the eggs which produced chickens there were two or three addled ones—the exact number the owner did not recollect. *A New Subscriber.*

Societies.

ROYAL AGRICULTURAL OF ENGLAND.

A Weekly meeting was held at the Society's House in Hanover-square, on Wednesday, the 21st of April: present—the Marquis of Downshire, Vice-President, in the chair; Lord Camoys, Lord Berners, Lord Bridport, Lord Ashburton, Sir Matthew White Ridley, Bart., Mr. B. Almack, Mr. T. Raymond Barker, Mr. H. Raymond Barker, Mr. Hodgson Barrow, M.P., Major-General Buckley, Mr. Burke, Captain Stanley Carr, Colonel Challoner, Mr. I. Church, Mr. Foley, M.P., Mr. Fuller, M.P., Mr. Gadesden, Mr. R. Norman Gates, Mr. Gaskell, Mr. Fisher Hobbs, Rev. C. E. Keene, Mr. Maddison, Mr. Majendie, Mr. Love, Mr. Rowlandson, Prof. Sewell, Prof. Simonds, Prof. Way, and Mr. G. Wood.

Silesian Beet-root.

Mr. Reeve transmitted to the Council six roots of white Silesian Beet, grown by him last year at Randall's Park Farm, near Leatherhead, in Surrey. These roots were of an elongated bulbous shape, the outer skin being light green from the neck to the middle, and yellowish white on the lower half. Their average weight was 7½ lbs. each. On being cut into halves, the fleshy part was found to be sound, sweet, and solid, very juicy, and of a yellowish white colour.—Mr. Raymond Barker stated, that he had that morning been in conversation with Mr. Ewings, a member of the Society connected with the south of England, who was well acquainted with the circumstances under which these roots had been grown; and who had furnished him with the following information: The land was flat, and situated near the river Mole; it consisted of a stiff clay maiden soil, which had for many years remained uncultivated, until the year 1849, when it was once very deeply ploughed, and immediately drill-sown with the best picked white Silesian Sugar-Beet seed, at the latter end of April. The plants were hoed out about 12 inches apart, and the crop treated in every respect like that of the Swede Turnip, excepting that no manure whatever was employed. The bulbs were taken up in the autumn and stacked. A portion of the last year's crop was presented to the Council at their December Meeting, in a perfectly solid state, and without having grown out or sprouted to any extent. The produce in favourable seasons has been from 28 to 30 tons per acre. It might be said, that, although these bulbs were so much larger in size than the smaller foreign varieties, they did not contain so large a proportion of saccharine matter; but whatever might be the value of those small rich Beets to the sugar manufacturer, bulky roots of sound, sweet, juicy vegetable matter, such as those at that time submitted to the Council, were of essential importance and consideration to the tenant-farmer and rearer of young stock, in seasons like the present, when there was so great a scarcity of Grass: and Mr. Reeve had himself found them, under these circumstances, an indispensable aid in maintaining his stock in healthy vigour.—Captain Stanley Carr remarked that "Zucker-Boden" (or sugar soils) was a designation given to certain soils in the Prussian province of Saxony, on account of their having been found to possess peculiar properties for promoting the production of saccharine matter in the Beet. It had been

thought that the phosphate of lime contained in those soils was one of the substances which tended to this result; but the exact cause of the properties in question had not, he believed, been yet fully ascertained: they were, however, connected with the particular variety of Beet cultivated, and the size of its root. Three years ago, when Captain Carr was in the vicinity of Magdeburg, the sugar manufacturers were in the habit of purchasing their Beet from the growers in that neighbourhood by weight; he found that they refused the large cattle-feeding varieties, but purchased at a high price those roots that were fine in the neck, yellowish-white in colour, and about 3 lbs. in weight.—Mr. Gadesden stated that, in consequence of Mr. Reeve's former communication to the Council on his culture of the white Silesian Beet, he had paid a visit to the Randall's Park Farm, for the twofold purpose of inspecting his store of roots and becoming acquainted with his mode of management. He found the roots in fine condition, and was informed that the produce per acre obtained last year was 38 tons 16 cwt.; his crop of Mangolds having been 39 tons 13 cwt. The land on which the Beet was grown appeared to be of a good useful character, bearing at the time of Mr. Gadesden's visit a very promising plant of Wheat, and was stated to have had no manure upon it for four years. Mr. Reeve attributed his success in growing the white Silesian Beet to his thus not applying manure directly to the crop; and stated that when he had dunged for the Beet, the bulbs proved small, had a large mass of "fuzzy" fibres, and gave but a small weight per acre, namely, from 15 to 18 tons; but that since he had put his manuring matter further off the Beet crop, he had raised large fine roots of a great weight per acre. He regarded this circumstance as a discovery in the culture of this plant; and Mr. Gadesden considered that if Mr. Reeve's calculations were realised, it would be so, and a very important one. Mr. Gadesden was also shown the field which Mr. Reeve intended to sow with Silesian Beet in that week: the soil was a heavy clay, and certainly from its aspect not very promising. The rotation on this field had been Clover-ley dunged, then Oats, and last year Beans; and the Beet would now be put in without any manure. Mr. Reeve expected from that field, thus cultivated, a crop as large as he had derived last year; and should that be obtained, it would, in Mr. Gadesden's opinion, be evident that no root deserved the attention of agriculturists more than the Beet. The amount of saccharine matter in this variety was stated to be nearly seven per cent.; and since Mr. Reeve had raised the root in sufficient supply for his cattle, he had no need of using oil-cake. Mr. Gadesden found the live stock at Randall's Park Farm in fine condition. The Beet was drilled in rows from 24 to 27 inches apart, and left 12 inches apart in the rows; and he thought the superiority in value per ton of the white Silesian Beet over the Mangold-Wurzel must be manifest to every one who, like himself, had personally inspected these results.—Mr. Fisher Hobbs wished the Council to understand that there was no novelty in this variety of Beet. It had been common in the Eastern counties some few years ago, when experiments were in progress for the establishment of a Beet-sugar manufactory until the Government put in its interdiction; and it bore a higher price at that time than other varieties. The orange globe Beet, however, being introduced from France, was found to yield a greater quantity per acre than the Silesian. He had himself tried various experiments on the subject, and derived one quarter more in weight from the orange globe than from the Silesian; and having had a visit from some distinguished French cultivators of Beet, they confirmed the superiority of the orange globe, which they stated yielded a larger bulk of root, and in hot summers a greater proportion of sugar. On examining the bulbs then placed before the Council, it might easily be inferred that they had been grown in land containing much vegetable matter, from the great number of tap-roots formed at their base, a circumstance which it was well known led to great exhaustion of the land. No rule could be laid down for the exact manuring required by sugar Beet or Mangold under different circumstances. — The noble Chairman stated that at Mount Millick, in Ireland, a small red Beet was preferred, of a more lusciously sweet nature than he had ever tasted in any other vegetable production. The ground for Mangold or Carrots was prepared in November, the long or short manure laid on it in winter, and the whole ploughed in or dug in the spring. —Captain Stanley Carr remarked that it would give him pleasure to procure supplies of the small Beet seed from Magdeburg for any of the members of the Society residing in Ireland.— Colonel Challoner could grow on poor land, that would bear nothing else, as good Carrots as anybody could; but if the Silesian Beet, which had been grown by Mr. Reeve without manure, could be raised on such poor soils, it would be a great assistance to all sandy lands. He asked Mr. Hobbs his opinion on this point, being so well acquainted as he was with the different characters of the Beet and Carrot roots, and the conditions required for their successful cultivation.—Mr. Fisher Hobbs replied, that the Silesian Beet was liable to form tap-roots that would run into the earth like Carrots; but the great object in the cultivation of the Beet was to keep them from forming those tap-roots, which abstracted the chief amount of nourishment from the soil. Formerly he had to take up his Beet with forks, on account of the attachment to the land which the penetration of these roots occasioned. His Beets had now only one bulb, with a single tap-root to each—a circumstance which enabled the plant to gain little support from the soil, but obliged it, on the contrary, to derive its chief nourishment from the atmosphere, and at the same time to yield a more valuable produce in the crop.

CONTINENTAL STATEMENTS ON BEET CULTIVATION.—At the present moment, when Beet culture is engaging so much attention, it may be interesting to know the opinions of distinguished French and German writers, on those points connected with this crop to which reference has been made in this discussion. With this view, the following passages have been selected and translated into English from the original languages of their respective authors:—

DOMBASLE.—Among those plants which are cultivated under the name of forage roots, or root plants, the Beet is undeniably the most valuable; and it may be said with truth, that it holds among these plants the same position that Lucerne does among forage plants. Generally speaking, it produces on an equal space of land double the weight of crop that can be obtained from Potatoes, to which it is little inferior in amount of nutritive matter. Beet has, however, over Potatoes the very important advantage of being able to be given in considerable quantities to live stock in its raw state without producing any injurious effects or satiating the animals. It succeeds in every kind of soil, even in those of very moderate fertility, provided they have but sufficient depth of culture. The frequent return of the crop over the same ground does not diminish the amount of its produce; and it adapts itself with admirable facility to the efficiency and economy that attend on the employment of improved implements. Finally, the facility with which the roots are stored and preserved for future use, enables the rearer of stock to depend upon it, as upon a well-assured basis, for the nourishment of his animals during eight months of the year. The introduction of Beet culture into farm husbandry will accordingly soon produce that twofold result towards which every well-directed effort of cultivation ought to tend, namely, to the increase of the live stock themselves, as well as to that of their manure.

THAER (1810).—Mangold Wurzel, Burgundy Beet, Thick Beet, &c., of the Germans; Racine de disette, or root of scarcity or dearth (by a misconception of the word Mangold for Mangel) of the French; and Mangel Wurzel, or root of want (through a similar misapprehension) by the English; is derived, with all its varieties, either from the Beta vulgaris (red field Beet) alone, or from admixture with the Beta cicla (white sugar Beet). For I regard the difference made by botanists between the two species, as too unimportant, and in my opinion too indefinite, to lead to the establishment of a specific distinction between them. I believe all the varieties to have arisen by admixture of the pollen or seed-dust from the dark red garden Beet and the white Mangold, and individual varieties so established to have themselves again varied according to the predominating influence of the one or other of the original species. These different kinds of Beet, therefore, as is the case with so many other cultivated plants, are not to be determinately characterised, but they pass over one into the other with an almost imperceptible gradation. The two varieties that stand at each end of the scale, are the dark red Beet-root so much earlier cultivated in our kitchen gardens, and the entirely white sugar Beet. Between these extremes, we have already the great long red Beet, the flesh-coloured, or marked with concentric flesh-coloured rings, the externally red and internally wholly white, the yellow, and the yellow and red mixed. The colour of the root often corresponds with that of the plant, or more frequently with that of the nerves of the leaves, which are more or less red or wholly green. From the seeds of any one single plant, varieties will result in the plants produced; but the wholly red, or the wholly white or yellow, are the most constant. The pale red Beet, under the same circumstances, grows to the largest size and gives the greatest amount of produce; on which account it is the one most frequently cultivated for cattle feeding. This variety, however, is divided into two sub-varieties: 1. That which grows with its bulb entirely in the ground; and 2. That which has a tendency in the course of its growth to draw its bulb out of the ground. I have reason, indeed, to believe, from my own experiments, that this tendency rests partly with the kind of Beet grown; but I have also found that the soil itself has certainly a considerable influence in producing the effect; for, on one occasion, I divided with a friend a portion of seed which I considered to be that of Beet growing above ground, but which in my case gave plants whose bulbs remained entirely in the ground, while my friend's, on the contrary, all grew out of the ground. My own land, however, was ploughed 10 inches deep, while my friend's was only ploughed shallow. The Beet that grows out of the ground will undoubtedly be better adapted for shallow soil, and be grown more profitably under such circumstances than the one that remains in the ground; but I prefer cultivating the latter kind in deep soil, chiefly for the reason that in such a position it will be less injured by autumnal frosts. The yellow and white sugar Beets have the advantage of being more solid, and in some degree more hardy in resisting frost; but especially, however, on account of the greater proportion of sugar which they contain, as we are assured by all those who have been engaged in experiments on the subject is found to be the case. They are, accordingly, now universally preferred for the manufacture of sugar and syrup, and perhaps also for the distillation of brandy; but for economical purposes they are not, on account of those qualities, to be placed in competition with those red varieties which yield so much greater a bulk of root. The Beet may be grown in every moderately moist soil which is strongly seasoned with manuring matter; but in sandy soils, when much rain has not fallen during the period of vegetation, the bulbs will remain small; and in light humus soils, lying low and moist, they will be watery and bulky, but inwardly hollow, and scarcely capable of being rescued from rapid decomposition. The soil, therefore, most generally adapted for the cultivation of Beet is a tolerably compact loam, in which, almost without exception, it thrives and attains much solidity. Accordingly, I make it a rule, that when I practise hoe husbandry on the heavier soils, I grow more Beet, and on the more sandy soils more Swedes. The Beet, to attain any considerable strength, requires a strongly manured soil, whether the manure be specially applied for the purpose, or left sufficiently rich in the soil, after taking off a previous crop. Fresh manure must be well incorporated with the soil by at least a double ploughing. The deeper the soil the better; and on shallow soil, if planted or sown on ridges, it will yield a great produce.

SPRENGEL (1832).—The component parts of the Beet-root vary very much according to the mixture of soil in which it is grown; those bulbs, for instance, that are raised with street manure, often contain twenty times as much nitre as those cultivated under ordinary circumstances. The bulbs grown in loamy soils which have not been freshly manured, are generally found to yield the greatest proportion of saccharine matter.

DE CANDOLLE (1832).—With the exception of some fruits in which sugar efflouresces in a crystallised state, this substance is present in the cells of plants in a liquid form; and it is even worthy of remark, that in them it developes or destroys itself with singular facility. Thus many seeds, such, for instance, as the Pea, include within them before maturity a saccharine matter, which, on their becoming ripe, is transformed into starch, and this starch again becomes saccharine matter on the germination of the seeds. Many other kinds of germinating grain are subject to similar transformations, and chemists themselves have at length succeeded in changing starch into sugar; but have not yet been able from sugar to re-produce starch: a circumstance which furnishes an argument in favour of those who think that the covering of the fecula is an organic membrane. The ripening of fruits offers analogous transformations. The stalks of the sugar-cane, which contain so large an amount of sugar before the flowering of the plant, contain much less as soon as that process has commenced; and in the cultivation of the Beet, we know that the quantity of saccharine matter varies much according to the particular time when it is drawn out of the ground in which it had been grown. We know that when removed too late it gives scarcely any sugar at all, and it is on this account that when we only draw the Beet bulbs in the south of France at the same date as in the north, we obtain from them scarcely any profit; but that when drawn two months earlier, we obtain from 3½ to 4 per cent. of their weight.

SCHEDLER (1838).—It is remarkable that the amount of sugar in the Beet-root indicates, according to the composition of the soil and the nature of the manure applied, great variations, to which in Beet culture particular regard should be had. Very rich clay soils are not adapted for the cultivation of the Beet, when the object is to obtain the largest amount of saccharine matter; the bulbs in such soil become watery and yield but little sugar. Moderate clay soils, containing 50 per cent. of sand, were found by Hermbstaedt the best suited for this crop. Richly manured soils give a great produce per acre, but the roots in this case contain but little sugar. Beet strongly manured with horse or sheep dung often yields bulbs which do not contain a trace of sugar; but whose juice, on the contrary, is strongly impregnated with nitre. Moderate manuring with vegetable compost, and particularly with cow-dung, produces Beet-roots containing the largest amount of saccharine matter; these yield, under favourable circumstances, from 5 to 6 per cent. of crystallised sugar, besides syrup; at the sugar manufactory at Althaltensleben, the general average produce of sugar was found to be 5.58 per cent. Not less remarkable is it, that the saccharine properties of the Beet-root become considerably diminished when it is kept too long in store. The same bulbs which in October, November, and December gave a rich yield of crystallised sugar, when worked up in January were found to contain 30 per cent. less of sugar, in February 50 per cent. less, and in March scarcely a single remaining trace of that substance; an obvious proof that during the period of development in advancing spring a change goes on in their elementary constitution. The rapidity, too, with which the juice is worked up has likewise an influence on the amount of sugar it will furnish; for if the Beet pulp remain only two hours without being put into the press, though it may produce much syrup, it will yield very little crystallisable sugar.

DUMAS (1843).—There exists a great number of varieties of the Beet; but it is only from a few of those that sugar can be economically obtained. The following are the principal varieties cultivated in France, and they are here placed in the order of their richness in saccharine matter. 1. The white Beet of Silesia. Pear-shaped, elongated. It is the best of all. It generally gives a juice, which is at the same time the purest and the densest, and consequently the easiest to work. There is a sub-variety of this Beet, of a rose-colour; this is very much appreciated in Prussia. 2. The yellow Beet of Castelnaudary. This variety can only be cultivated in deep soils; but when raised under favourable circumstances, it gives quite as much sugar as the preceding. 3. The red juiced Beet. This variety ought to be discarded. It gives less sugar than the former; and its colouring matter both depreciates the character of the juice, and, towards the end of the season especially, can only with difficulty be removed from it. 4. Mangold Wurzel. These roots, which become enormous in size, and which give produce that weigh double and triple that of the preceding varieties, ought to be rejected; the great quantity of water they contain in proportion to the sugar would render the extraction of the latter too costly. The culture of the Beet is the object of the most minute attention of the growers, who, in Flanders, give the land from three to five ploughings, between each of which they pass the roller and the harrow, until the soil has become perfectly broken. Care also is taken that the manuring shall not immediately precede the sowing; for it has been ascertained that if land is to be well manured, the manure itself must at least have been fully prepared and well worked. We have equally acquired the assurance that Beet roots forced on folded land or soil too highly manured, are very ill adapted for the purposes of sugar manufacture. At a manufactory near Douai, more nitre than sugar was on one occasion obtained from the Beet roots, in consequence of their having been stored in a room containing much old plaster on the walls and ceiling. The seed germinates in eight days or three weeks, according to the moisture of the land or season. The young plant is attacked by an insect, which devours the young leaves, and is very destructive in the middle of the day; the root also suffers from the ravages of white worms. Many farmers have grown Beet on the same land for five years successively, without any apparent injury; it would nevertheless be better to alternate its cultivation with that of Barley, for the purpose of avoiding the inconvenience of too recent manurings, which force the size of the bulbs and cause them to become watery and soon liable to spoil in keeping. The preservation of the bulbs ought to constitute a part of the operations employed for the manufacture of sugar from this vegetable. In spite, however, of the minutest precautions which may be taken with this view, the Beet root is always found to be subject to alterations more or less considerable, and to lose its saccharine matter, both in quantity and quality, in proportion as the season advances. One process only can prevent these serious inconveniences; and it is that of immediately drying the bulbs as soon as the crop is taken up. Many experiments already made on this point by MM. Schutzenbach, de Lirac, Pelouze, and Peligot, lead to the hope that agriculture will some day enjoy immense advantages that have hitherto only been realised in part; and that Beet-root dried at little expense to the grower, and delivered into the markets like corn, may become the subject of an extended branch of industrial commerce at convenient times and places, and thus lead to the production of sugars at very low prices. If the age of the roots exercises a sensible influence over the proportion of saccharine matter which they contain, the circumstances of dryness or moisture in the land occasion on their part very considerable differences in this proportion. It results, indeed, from the observations of M. Mathieu de Dombasle, that the density of the juice of the Beet from the same piece of land increases sensibly up to the periods of dryness, and on the other hand decreases in a few days when the soil has become sodden by heavy rains. The difference is less considerable in fresh clay soils, than in light gravelly ones, which easily lose their humidity; but the differences are constant for all particular soils at corresponding periods. These facts ought not to surprise us; for it is evident that the evaporation taking place at the surface of the leaves under the influence of the sun's rays, must necessarily produce an actual concentration of the liquids contained in the whole plant, when its radicles do not find in the soil sufficient moisture to repair the loss occasioned by the evaporation proceeding from the leaves. When therefore the soil is moistened by a heavy fall of rain, the plant absorbs in a short time a great amount of water, and the size of the bulb increases considerably in a few days; but the bulb in this state is more watery than it was when under the influence of extreme dryness.

KOPPE (1845).—There are many varieties of the Beta cicla altissima, distinguished by their colour, the shape of their root, and their size. For cattle feeding, we choose the clear red, the yellow, or the white Beet; which grow high out of the ground and attain a considerable weight when grown on a soil adapted for them. For sugar extraction, we cultivate only the white Beet, or that with a reddish external skin, which grows

only a little out of the ground, and in recent times is known as the sugar Beet. This Beet, as far as my experience has gone, is attacked by no insect. It is, therefore, advisable, to grow Cabbages, and Kohl-Rabi (Turnip-Cabbages), at the same time along with it, in order that when these suffer from insects, and in consequence yield but an inferior produce, the Beet may compensate for the loss sustained. The Beet requires a deep, rich, clay soil. It may, too, be grown on middle class soils when deeply and well cultivated. Inferior soils, however, should not be appropriated to Beet, as other kinds of hoed crops are better suited to them. If the double mould-board plough is well adapted for other crops requiring the hoe, when the land has a good subsoil, it is especially to be recommended for preparatory tillage in the case of the cultivation of Beet; and it is indispensable that the earth should be removed to the depth of from 8 to 10 inches in order to produce a full crop. On my own farm, the land is ploughed before winter from 10 to 12 inches deep, experience having proved to me that this deep loosening of the soil is one of the first conditions in the cultivation of the Beet-root. My adjoining neighbours on small holdings, with only a few exceptions, have not at present decided to adopt this plan; I have, however, not yet seen any good Beet-roots on their land. The Beets that sometimes stand from 12 to 18 inches out of the ground are easily injured by the frost. They do not, however, on that account become, like Potatoes, wholly useless, but only lose their keeping properties. The crop of this kind of Beet should therefore be taken up immediately after the Potato crop. The White Beete, which are cultivated for sugar manufacture, have not the same tendency as some of the red varieties grown for cattle feeding, to grow out of the soil. The upper portions even of the sugar Beet, which have been exposed above ground during the period of their growth, are scarcely of any value for sugar extraction. Such plants, therefore, are only retained to yield seed for future crops, as have shown little or no disposition to grow with their bulbs exposed. As the bulb of the white Beet is decidedly richer in sugar, and has a firmer fleshy substance, it accordingly suffers less from frost than the watery tall-topped kinds, especially while it retains its full foliage. The same plants that had stood a severe frost in my fields without being affected, while their leaves were on them, were at once injured by a frost of only half the intensity after they had been deprived of their leaves. The leaves of the Beet are indeed but a poor watery fodder for stock, and by no means so nourishing as green Clover. Beet-roots are best stored in heaps or stacks from 4 to 6 feet wide, in which they are so piled in pent-house arrangement that their heads are placed outwards. According to the given width of these stacks, the Beet-roots in the middle do not ascend higher than from 4 to 6 feet. To pile them higher is not advisable, in order that they may keep well. They easily heat when stacked, and in that case undergo a decomposition of their component parts, which is very prejudicial to their yield of sugar. The stacks may be kept from frost by a tolerable thatching of straw firmly pressed down by a subsequent covering of earth. To prevent the straw becoming wet by rain, it may be covered with earth until required for thatching. The middle of the Beet heap should, however, be left as long uncovered as the frost will allow, in order that the roots may remain in contact with the air while at higher temperatures. If this circumstance is neglected, the Beet soon runs into decomposition, and this decay is far more to be feared than the frost. It being understood that the heaps are to be properly covered with straw, care must be taken before they are formed that no roots already frost-bitten be introduced into them.

(To be continued.)

Reviews.

Mechanics' Magazine, Nos. 1495 *and* 1497; *April* 3*d and* 17*th*, 1852. J. C. Robertson, 166, Fleet-street.

Another competitor has appeared for the prize, for so it will undoubtedly be, which is to be the lot of him who shall first succeed in the cheap and efficient application of steam-power to cultivation. We shall at present merely refer to the fact that a patent has been taken out, and shortly describe the invention which is thus secured to Mr. D. S. Brown, whose ingenuity has designed it. A framework, carrying a 3-horse power steam-engine is drawn by horses over the surface of the land to be tilled; it is about 10 feet wide, and perhaps 20 feet long: the weight of the whole will not exceed 2 tons, to draw which four horses will be amply sufficient, especially as the steam power cuts its own way, and the horses have only to draw the weight of the machine and engine, and not to force the cutters through the earth as they do the coulter of the plough. These cutters appear to be more like large boring or drilling tools than anything else. In the drawings given with the description in the Magazine, there are two sets represented as placed across the length of the framework—across the direction of motion: one set in the front part of the machine, the other across the hinder part of the framework. They are placed equidistantly, and the tools of the hinder set work in the intervals of the front row. These tools are spindles, inclined downwards, but pointing in the direction of the machine's motion and being armed with "bits," of any desired form, which, revolving, and at the same time, we imagine, screwing themselves forward, effectually overturn the soil and comminute it to any degree of fineness that may be deemed desirable. The correspondent of the "Mechanics' Magazine" says, "The width of soil which the revolving cutters can work, with 3-horse power engine, will be 10 feet at a time; for 15 cutters of 3 inches in diameter and 15 cutters of 5 inches in diameter equal 10 feet. The reason why the forward cutters are made smaller than the hinder cutters is that the forward ones enter and cut the earth with solid earth on each side of their passage, but the hinder ones cut the solid earth with loose earth on each side of their path, and consequently they can work easier. Cutters of all varieties, in point of shape and size, can be fitted into the sockets of the revolving spindles. The work done will necessarily vary with the sort of power and the nature of the soil, but it is important to observe that whatever is done is done at once—no second ploughing or any harrowing is needed, for the earth is completely cut up and pulverised by the cutters, so as to admit at once of the free passage of air and rain, there being no hardened sub-stratum left at the bottom of the furrow, as in ordinary ploughing, to hold the water." It appears to us that this machine will not leave the land in so perfectly fit a state for the seed as this extract asserts. The first row of cutters would drill out circular grooves or furrows in the hard land, throwing the comminuted soil on the intervals of hard land; the second row would undermine these; but even supposing that its tools so overlapped the former row as to entirely disintegrate the whole soil to the desired depth, it would, we conceive, leave the now thoroughly comminuted soil in ridge and furrow corresponding in width to the intervals between the tools—a very desirable state no doubt for some crops, but undesirable for others.

Miscellaneous.

Case as to the Guano Islands. (*Opinion.*)—The Foreign Office is, I believe, in possession of all the learning relative to the occupation of new or unappropriated islands. Some time since much negociation occurred upon the subject of a volcanic island which arose in the Mediterranean, and during that negociation all the points involved in the present case must have been considered. I have been unable to find these papers, and as the island subsided while the negociations pended, they would perhaps contain no more than a reference to the authorities. I have, therefore, looked into the books and brought together such texts as appear to me to bear upon the case. These two islands are in the great ocean; they are distant 20 miles and upwards from the territory of any sovereign state; no public act of dominion has ever been done upon them—they are without any permanent inhabitants—and they are visited indiscriminately by the ships of all nations. The question is—do they *primâ facie* belong to any sovereign state, or can they be made the property of a first occupier, or can they be retained, as *juris gentium*, against any particular occupancy? For the principles of international law we must always ascend to the books of the civil law. It is laid down in the Institutes (*de rerum divisione. § insula* 22), that an island thrown up in the sea is the property of the first occupant, *Insula quæ in mari nata est occupantis sit*; *nullius enim creditur*. It may be gathered, however, from the principles laid down in the Pandects as to the property of islands made by rivers in their course, that if the sea wherein the island arises should be the property of any sovereign state, the island would become the property of the state which owns the sea. But can the sea become the property of any state? I believe all writers are agreed that it cannot. Puffendorf, liv. 4, c. 5, in discussing "*choses qui peuvent entrer en propriété*," while he allows that nations have a right to gulfs and straits upon which their territories lie, denies that the ocean is susceptible of becoming proper to any people, and Vattel (de la Mer, liv. 1, c. 23, § 291), in illustration of his position that dominion and property are not inseparable in their nature, remarks that the English have never claimed the *property* of the seas, although they have claimed the *empire*. These islands, therefore, are not within the property of any sovereign state. Are they within the dominion or jurisdiction of any sovereign state? If this question were answered in the affirmative, it would not, I conceive, determine that the property of the islands must follow the dominion of the sea in which they are found—but the authorities answer it in the negative. Upon the subject of maritime jurisdiction, the civil law is almost silent, and the writers upon international law are, therefore, without their usual source of inspiration. Some of the elder of these had rather wild notions of the distance of maritime jurisdiction. Baldus speaks of it as extending to 60 miles distance from the coast, citing, however, a passage in the code which by no means bears him out in his position. Bodin (de Repub., l. 1, ch. 10), extends the distance to 30 leagues, and cites a decision of a Parliament of France in the case of a Duke of Brittany, wherein it was so held. Solorzan (Tr., liv. 2, ch. 6, n. 22), extends it to 100 miles. Loccenius thinks that two days' voyage should be the measure. These writers, being without any authority to follow, seem to have followed their own fancies, and, agreeing upon no principle, mutually destroy each other's credit. All the great expositors of international law are now, however, agreed that the principle which governs maritime dominion is that each sovereign state has dominion on the seas that wash its coasts, so far as that state can make its power felt from the land. It is in Bynkershoek (de dominio maris, chap. 2, § 5), that we first find laid down the position erroneously attributed by Azuni (in his Droit maritime de l'Europe), to Vattel that dominion extends to a cannon shot from the shore, Bynkershoek says: "Quare omnino videtur, rectius eo potestatem terræ extendi, quousque tormenta exploduntur; eatenus quippe cum imperare tum possidere videmur." Valin, in his commentary Sur, l'ordinance de la Marine de France de 1681 (liv. 5, tit. 1), cites the Journal of Commerce of May, 1759, for the same doctrine, and states it to be now generally established by the general consent of all nations; and Vattel, although he does not state the same proposition in terms, implies it when he expressly excludes all large bays and straits, such as Hudson's Bay, or the Straits of Magellan, from the rule that sovereign states have dominion over the bays and straits within their own territory, and confines the rule to those which are capable of having their entrances defended from the coast—"une baye dont on peut defendre l'entrée."—Vattel (de la Mer, liv. 1, c. 23, § 91). These authorities seem conclusive to show that by the common law of nations these guano islands are not either the property or within the dominion of any neighbouring state. If there should be any treaty bearing upon this subject, I have not been able to find it, and presume, therefore, the common law of nations is alone applicable. These islands are, therefore, now juris gentium, unless they have become property by occupancy. Grotius, liv. 2, ch. 8, § 92, says: "Il a toujours passé pour constant, que les isles, veritablement telles, sont du domaine public;" and the same doctrine has been already quoted from the Institutes of Justinian. Upon acquiring property in such things, Voet, in his commentary on the Pandects, says, (liv. 1, § 1, ff. de acquir. possess.): "unde et res tales in acquisitione dominii junguntur rebus illis quæ terrâ, mari, cœloque capiuntur, ac circa quas per naturalem possessionem dominium iis acquiritur qui primi possessionem apprehenderint, sic ut non intelligantur hactenus a quoquam fuisse possessæ;" and Voet describes occupation to be "justa apprehensio rerum corporalium, jure gentium communium, animo domini facta; per quam id quod nullius est, naturali ratione primo occupanti conceditur." Thus it appears that an intention of appropriation, as well as an actual taking possession, is necessary to render the occupancy valid; and it is well known law that in the case of territory, the occupancy can only be by or on behalf of some sovereign state. Now it cannot be contended that the mere visit of passing ships, or the landing of sealers in search of seals, can be such an occupation as is above described. I am of opinion, therefore, upon the facts stated, that these islands are still juris gentium, and that they may by occupancy become the property of any sovereign state. —*Geo. Wingrove Cooke, 2, Brick-court, Temple, 8th July*, 1845.

Notices to Correspondents.

Advertisement: *Caroline.* It is impossible that we can vouch for the trustworthiness of all that is advertised, and of the instance referred to we are entirely ignorant. You will find who gained the prizes at page 828 of last year's volume.

Black Mustard: *B F.* Sow it now or with the first rain. It must be sown broadcast, 8 lbs per acre, or about that, on the finely pulverised surface of a rich soil. It is harvested as a corn crop—cut when the pods begin to ripen, tied in sheaves, and threshed on cloths in the field.

Books: *W H.* "Low's Practical Agriculture," a guinea book, we believe, is one of the best works at its price. But it does not go with any detail into the chemistry of the subject.

Distillation: *J G C L R.* We are not aware that any condensable gases come off during the destructive distillation of bones. Certain inflammable gases, chiefly carburetted hydrogen we imagine, will escape, and charcoal, with the earthy part of bones, will remain. Possibly some little ammonia may be formed and escape, and of course some watery vapour will also be driven off.

Mazagan Beans: *B F.* We have had winter sown Beans flower in April when 6 inches high, and produce a miserable crop, but the leaf indicated a stunted growth. If your plants otherwise still exhibit vigorous growth, probably rain will cause them to shoot out and flower again.

Mr. Vere Foster's Journal: *F.* It may be procured of any bookseller for 1½*d.*, under the title "Emigrant Ship, Washington. Paper No. 198, 1851."

On Shoeing Horses: A leather sole will be advisable by all means, and the composition between it and the sole should consist of Stockholm tar 2 parts, grease 1 part, on pledgets of tow. There is no objection to a bar shoe but its weight. The above composition will keep the sole moist, and it may be occasionally rubbed round the external part of the foot. *W C S.*

Peat Charcoal and Sewage: *A Member of a Local Board of Health* asks for the experience of any of our correspondents who may have actually used Peat Charcoal and Sewage Manure upon his land. He will find important statements respecting it by Mr. Cuthill, in the *Gardeners' Chronicle* of 1851, p. 132.

Poultry: *T M* will find a good account of the produce and cost of keeping poultry, in our last number: and we recommend him to purchase the little volume there referred to. To make liquid manure, he needs a tank for collecting it from his cattle, and from which he may take it for use in wet weather, or in which he may dilute it for use in dry weather.—*J Mc N.* Spanish fowls are always longer in moult than any other, and are very naked when in that state. To remain so long is, however, an indication that something is wrong. Have they a good Grass run? if not, provide them with it; but if this is not possible, and if they are in confinement, have some sods cut every day, with plenty of Grass on them, and throw into their pens. If they have a good run, then their continued nakedness must arise from fever; if so, change their food for something more cooling than they have hitherto had. Give ground food, and see that they are supplied with good fresh water.—*A B C.* You may begin to fly your pigeons at eight weeks old. Start them hungry, and begin on the highest spot you can find, not more than a quarter of a mile from home. Increase the distance gradually, but do not tax their powers too much at first. Well-bred birds will not settle in trees; the "toys" will. There is a great deal of useful information in the Rev. E. S. Dixon's "Dovecote and Aviary."—*G B.* I am sorry I can give no solution of the vagary complained of. *J. Baily*, 113, *Mount-street.*

Markets.

COVENT GARDEN, May 1.

The market is well supplied with vegetables and fruit. English Pine-apples realise good prices, as do also hothouse Grapes. Dessert Pears are now confined to Beurré Rance. A few Court of Wick, Newtown Pippin, and Reinette Gris Apples may still be obtained. Oranges are plentiful and good. Nuts are nearly the same as last quoted. Strawberries are very plentiful, but many of the samples are very inferior. Young Carrots, Beans (both French and Mazagan), Peas, Lettuces, and Artichokes are supplied from France. Potatoes are generally good in quality. Mushrooms are cheaper. Cut flowers consist of Heaths, Epacrises, Cinerarias, Mignonette, Camellias, Roses, Acacias, Azaleas, Primulas, Lily of the Valley, and other forced bulbs.

FRUIT.

Pine-apples, per lb., 6s to 10s	Pears, dessert, per doz., 2s to 6s
Grapes, hothouse, p. lb., 10s to 15s	Oranges, per doz., 1s to 1s 6d
— Lisbon, per lb., 2s to 4s	— per 100, 3s 6d to 10s
Strawberries, p. oz., 6d to 1s	— Seville, per doz., 1s to 3s
Apples, kitchen, per bushel, 2s to 3s 6d	Lemons, per doz., 1s to 2s
	Nuts, Barcelona, p. bsh. 20s to 22s
Almonds, per peck, 5s	— Brazil, p. bsh., 12s to 14s
— sweet, per lb., 2s to 3s	Cobs, per 100 lbs., 100s

VEGETABLES.

Cabbages, per doz., 9d to 1s 3d	Leeks, per bunch, 2d to 4d
French Beans, per 100, 1s to 2s	Shallots, per lb., 8d to 10d
Broccoli, p. bunch, 5d to 1s	Garlic, per lb., 8d to 1s
— heads, each, 2d to 4d	Lettuce, Cab., per score 4d to 6d
Asparagus, p. bundle, 3s to 7s	— Cos, p. score, 9d to 1s 6d
Seakale, per basket, 9d to 2s	Radishes, per doz., 8d to 1s
Greens, per doz., 2s 6d to 4s	— Turnip, 1s to 1s 6d
Rhubarb, p. bundle, 3d to 10d	Small Salads, p. pun., 2d to 3d
Potatoes, per ton, 45s to 80s	Horse Radish, p. bundle, 1s to 1s
— per cwt., 2s to 5s	Mushrooms, p. pott., 8d to 1s
— per bush., 1s 6d to 2s 6d	— per punnet, 9d to 1s
— New, per lb., 1s to 2s 6d	Sorrel, p. hf. sieve, 1s 3d to 1s 8d
Turnips, p. doz., 2s 6d to 3s 6d	Artichokes, Jerus., do., 9d to 1s
Cucumbers, each, 6d to 1s 6d	Fennel, per bunch, 2d to 3d
Celery, per bundle, 6d to 1s 6d	Savory, per bunch, 2d to 3d
Carrots, per bunch, 4d to 7d	Thyme, per bunch, 2d to 3d
Spinach, per sieve, 1s to 1s 6d	Parsley, p. doz. buchs., 2s to 3s
Onions, per bunch, 2d to 4d	Mint, per bunch, 4d to 6d
— Spanish, p. doz. 1s 3d to 3s	Basil, green, p. bunch, 1s to 1s 6d
Endive, per score, 9d to 1s	Marjoram, do., 3d to 4d
Beet, per doz., 1s to 2s	Watercresses, p. doz. bunches, 9d to 1s
Parsnips, per doz., 4d to 1s	

HAY.—Per Load of 36 Trusses.

Smithfield, April 29.

Prime Meadow Hay	75s to 84s		Clover ...	...	85s to 95s
Inferior do.	... 65	70	2d cut ...	...	78 84
Rowen ...	... 63	—	Straw ...	...	23 27
New Hay ...	... —	—			J. Cooper.

Cumberland Market, April 29.

Prime Meadow Hay	78s to 86s		Inferior Clover	...	70s to 80s
Inferior do. ...	... 65	75	New do. ...	...	— —
New Hay ...	... —	—	Straw	...	28 30
Old Clover ...	...84	90			Joshua Baker.

Whitechapel, April 29.

Fine old Hay	... 75s to 80s		Old Clover ...	...	84s to 94s
New Hay ...	... —	—	Inferior do....	...	63 75
Inferior do....	... 55	65	New Clover ...	...	— —
Straw ...	... 24	27	Inferior do....	...	— —

COAL MARKET.—Friday, April 30.

Eden Main, 15s.; Bate's West Hartley, 13s. 6d.; Wallsend Haswell, 16s. 3d.; Wallsend Hetton, 16s.; Wallsend Lambton, 15s. 6d.; Wallsend Stewarts, 16s.; Wallsend Tees, 16s.—Ships at market, 84.

HOPS.—Borough Market, April 30.

Messrs. Pattenden and Smith report that the demand for Hops continues steady, at late prices, and the supply very limited. The change in weather, it is thought, will prove very beneficial to the coming crop, which at present is in a very backward state.

WOOL.

Bradford, Thursday, April 29.—The transactions in the English Wool market since our last report have been considerably above the average of the few preceding weeks, and stocks in the hands of staplers are becoming reduced. Prices cannot be

quoted as generally improved, and although in some instances a small advance has been obtained, the extent of improvement can only be considered as the turn of price slightly in favour of the seller. The arrivals from the country have been very limited, and it seems to be a well ascertained fact now that the wants of consumers, until clip day, will have to be supplied in the greatest measure from the stocks at present held by the trade here. There is a fair demand for goods for the home trade, but the buyers for foreign markets are doing comparatively little. It becomes more and more evident that the productive power is in excess, and that to put a check upon it is the only effectual way of bringing about a more satisfactory state of affairs.

POTATOES.—SOUTHWARK, April 26.

The committee report that during the past week the supply both coastwise and by rail has been moderate, and our trade continues languid, except for the best samples of Regents. The following are this day's quotations:—York Regents, 80s. to 90s.; Scotch do., 70s. to 80s.; Fifeshire Cups, 50s. to 55s.; Wisbeach and Cambridge, 65s. to 70s.; Kent and Essex, 70s. to 80s.

SMITHFIELD.—MONDAY, April 26.

We have again a large supply of Beasts, and the quality of it is exceedingly good. Although the prices are lower, a clearance cannot be effected. The number of Sheep and Lambs is considerably larger than the demand. There are very few in the wool, except a lot or two of Downs, which make from 4s. to 4s. 2d. Sheep on the average, are lower, and Lambs with difficulty retain Friday's quotations. There is no alteration in the Calf trade. From Germany and Holland there are 336 Beasts, 370 Sheep, and 154 Calves; from Spain, 21 Beasts; from Scotland, 620; 2800 from Norfolk and Suffolk, and 150 from the northern and midland counties.

Per st. of 8lbs.—s d	s d	Per st. of 8lbs.—s d	s d
Best Scots, Herefords, &c. ... 3 0	to 3 2	Best Long-wools . 0 0	to 0 0
Best Short-horns 2 10	— 3 0	Do. Shorn ... 3 0	— 3 2
2d quality Beasts 2 0	— 2 8	Ewes & 2d quality 0 0	— 0 0
Best Downs and Half-breds ... 0 0	— 0 0	Do. Shorn 2 4	— 2 8
Do. Shorn 3 4	— 3 6	Lambs 4 8	— 5 6
		Calves 2 8	— 4 4
		Pigs 2 6	— 3 4

Beasts, 4841; Sheep and Lambs, 25,950; Calves, 218; Pigs, 390.

FRIDAY, April 30.

We have a considerable supply of Beasts, and a very limited demand for them; consequently we cannot quote higher prices than on Monday last. Several inferior qualities remain unsold. The number of Sheep and Lambs is also large; trade for the former is fully as good as of late, with an improved tendency; but for the latter it is worse, and prices are decidedly lower. There is a large supply of foreign and inferior Calves, which are sold very low, and, although we quote as high as 4s., it is not often realised, because choice ones are scarce. From Germany and Holland we have 295 Beasts, 330 Sheep, and 327 Calves; from Norfolk and Suffolk 400 Beasts, and 140 Milch Cows from the home counties.

MARK LANE.

MONDAY, April 26.—The supply of English Wheat to this morning's market was small, which enabled factors to realise it at an advance of 1s. per qr. Dantzic also commanded an enhancement of 1s. per qr.; other qualities met a somewhat improved inquiry, but we cannot write them dearer.—Flour meets a better sale at late rates.—There is an improved demand for Barley, at fully last week's prices.—Beans and Peas are each 1s. per qr. dearer.—The Oat trade is firm, at an advance of 6d. to 1s per qr. from this day week.

PER IMPERIAL QUARTER.	s. s.		s. s.
Wheat, Essex, Kent, & Suffolk...White	44—46	Red	39—42
— — fine selected runs...ditto	45—48	Red	41—44
— — Talavera	45—51		
— Norfolk	38—43	Red	—
— Foreign	36—52		
Barley, grind. & distil., 26s to 29s...Chev	30—35	Malting .	29—31
— Foreign ...grinding and distilling	22—29	Malting .	—
Oats, Essex, and Suffolk	20—22		
— Scotch and Lincolnshire...Potato	22—25	Feed	21—23
— Irish ..... Potato	21—24	Feed	20—23
— Foreign .....Poland and Brew	20—22	Feed	18—21
Rye	—	Foreign .	—
Rye-meal, foreign	—		
Beans, Mazagan.....25s to 28s.....Tick	26—31	Harrow .	26—31
— Pigeon .....27 — 33s...Winds.	—	Longpod	—
— Foreign ..... Small	28—31	Egyptian	24—25
Peas, white, Essex and Kent.....Boilers	33—35	Suffolk...	34—36
— Maple.....28s to 31s.....Grey	27—29	Foreign .	28—35
Maize .....White	—		—
Flour, best marks delivered ...per sack	35—40	Yellow...	
— Suffolk .....ditto	27—32	Norfolk .	27—32
— Foreign..... per barrel	17—22	Per sack	28—34

FRIDAY, April 30.—There has been a fair arrival of Wheat from abroad this week, but moderate of other descriptions of grain. To-day's market was thinly attended. We notice no alteration in the value of Wheat, and the inquiry (excepting for fine Dantzic, which is scarce), was dull.—Barley, Beans, and Peas are without alteration in value.—In the Oat trade there is less animation than there has been during the week.—We have not heard of anything doing in floating cargoes this day.—Flour is unaltered in value; good barrels, 21s.

IMPERIAL AVERAGES.

	WHEAT.	BARLEY.	OATS	RYE.	BEANS.	PEAS.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Mar. 20.....	42 8	30 3	19 0	31 11	30 4	29 10
— 27.....	42 2	30 5	19 6	30 5	30 3	29 8
April 3.....	41 7	29 9	19 4	32 8	30 0	29 7
— 10.....	41 4	29 4	19 7	32 8	29 1	29 2
— 17.....	40 10	29 1	19 4	33 6	29 10	29 11
— 24.....	40 4	27 8	19 3	31 7	30 3	30 2
Aggreg. Aver.	41 6	29 4	19 6	32 1	30 1	29 9

Duties on Foreign Grain, 1s. per qr.

FLUCTUATIONS IN THE LAST SIX WEEK'S AVERAGES.

PRICES.	MAR. 20.	MAR. 27.	APR. 3	APR. 10.	APR. 17.	APR. 24.
42s 8d	—	...	...	...	...	...
42 2	...	—	...	...	...	...
41 7	...	...	—	...	...	...
41 4	...	...	...	—	...	...
40 10	...	...	...	...	—	...
40 4	...	...	...	...	...	—

LIVERPOOL, TUESDAY, April 27.—The week's imports of grain and Flour are moderate, whilst there are good exports to Ireland and coastwise. There has been an upward tendency in the price of Oats, Oatmeal, Beans, Peas, Barley, and Indian Corn during the week. Wheat and Flour at full prices. At this morning's market we had a healthy demand for both local and distant consumption, and some purchases of American Flour were made on speculation. The advance on last Tuesday's quotations was general, viz., 1d. per bushel on Wheat, 6d. per sack and barrel on Flour, 1d. per bushel on Oats, 9d. to 1s. per load on Oatmeal, 1d. per bushel on Barley, 1s. per qr. each on Beans and Peas, and 1s. to 1s. 6d. per qr. on Indian Corn.—FRIDAY, April 23.—In the interval from Tuesday a few parcels of Wheat have changed hands on speculation, at full prices, but at this morning's market the business in this article and of Flour was not large, and the rates of Tuesday were merely well supported. Indian Corn was also without change in value. Oats, Oatmeal, and Egyptian Beans each brought a small advance in price.

HARTLEY'S PATENT ROUGH PLATE GLASS,

FOR RIDGE AND FURROW ROOFS, GREENHOUSES, RAILWAY STATIONS, ENGINE SHEDS, MILLS, MARKET-HALLS, AND PUBLIC BUILDINGS GENERALLY.

FOR CONSERVATORIES, PUBLIC BUILDINGS, MANUFACTORIES, SKYLIGHTS, &c., &c.	1/8th inch thick.	3-16th inch thick.	¼ inch thick.
PACKED IN CRATES, for cutting up of the sizes as Manufactured:—	s. d.	s. d.	s. d.
30 inches wide and from 40 to 50 long	0 6	0 8	0 10
Or 20 ,, ,, 50 to 70 ,, ...			
IN SQUARES, cut to the sizes ordered:—			
Under 8 by 6	0 4	0 6	0 7
8 by 6 and under 10 by 8	0 4½	0 7	0 8
10 by 8 ,, 14 by 10	0 5	0 7	0 9
14 by 10 ,, 1½ feet super., if the length does not exceed 20 inches	0 5½	0 7	0 9
1½ feet sup. ,, 3 ,, or if above 20, and not above 30 inches long... ...	0 6	0 8	0 10
3 ,, ,, 4 ,, ,, 20 ,, 30 ,, ...	0 6¼	0 8	0 10
4 ,, ,, 5 ,, ,, 30 ,, 35 ,, ...	0 7	0 8½	0 10
5 ,, ,, 6 ,, ,, 35 ,, 40 ,, ...	0 7½	0 9	0 10½
6 ,, ,, 8 ,, ,, 40 ,, 45 ,, ...	0 8	0 9½	0 11
8 ,, ,, 10 ,, ,, 45 ,, 55 ,, ...	0 8½	0 10	1 0
10 ,, ,, 12 ,, ,, 55 ,, 70 ,, ...	0 9	0 11	1 1
12 ,, ,, 15 ,, ,, 70 ,, 85 ,, ...		1 0	1 2

PACKED IN BOXES OF 50 FEET EACH:

Ins. Ins.	Ins. Ins.	s. d.
6 by 4 and 6½ by 4½	... ...	10 6
7 by 5 ,, 7½ by 5½	... ...	12 0
8 by 6 ,, 8½ by 6½	... ...	13 0
9 by 7 ,, 9½ by 7½ and 10 by 8	... ...	15 0

NOTE.—Squares are charged according to the superficial contents, except where the length exceeds the restriction above, in which case the higher price is charged irrespective of the contents.

Bending.—1-8th, 6d.; 3-16ths, 9d.; ¼ inch, 1s. per foot, net.

*** *Irregular shapes are charged as squares.*

When Crates are ordered, the 30-inch widths will be sent, unless otherwise specified.

THE PATENT ROUGH PLATE, one-eighth of an inch thick, and weighing 2 lbs. to the foot, has now become an article of very extensive and increasing consumption.

It is universally admitted to be the best and most suitable Glass for Ridge and Furrow Roofs, Greenhouses, Factories, Workshops,

And all such like purposes, and is a cheap and efficient substitute for Fluted or Obscured Glass, where the object is to intercept the vision without diminishing the light. Its non-transparency, strength, and cost (being no more weight for weight than Common Sheet Glass), render it eminently suitable for the Glazing of Conservatories and Roofs of all kinds; Blinds are unnecessary, and when used in Greenhouses *no scorching occurs.*

Where still greater strength is required the 3-16ths and ¼ inch thick will be found much cheaper than the Common Rough Plate. Samples will be forwarded on application, by applying to

JAMES PHILLIPS AND CO.,

HORTICULTURAL GLASS MERCHANTS, 116, BISHOPSGATE-STREET WITHOUT, LONDON.

GLASS.

THOMAS MILLINGTON'S FOREIGN SHEET GLASS is far superior to any other manufacture, as well as cheaper. In 100-feet boxes packed for immediate delivery.

6 inches	by 4 and 6½	by 4½	... ... 13s. 0d.
7 ,,	5 and 7½	by 5½	... ... 15 0
8 ,,	5 and 8	by 5½	... ... 15 0
8 ,,	6 and 8½	by 6½	... ... 17 6
9 ,,	7 and 10	by 8	... ... 20 0
12 ,,	10 and 13	by 9	... ... 20 0

And many other sizes, or cut to order in various thicknesses. Cases containing large Sheets, in 100, 200, and 300 feet, at 21s. per 100 feet.

ROUGH PLATE, perfectly flat, ⅛ in. thick, best manufactured.

In sizes under 15 inches	6d.	per foot.
,, ,, 35 ,, ...	8d.	,,
,, ,, 50 ,, ...	9½d.	,,
,, ,, 75 ,, ...	12d.	,,

Milk Pans, 2s. to 6s. each; Metal Hand Frames, Glass Tiles and Slates; Cucumber, Propagating, and Bee Glasses; Wasp Traps, Glass Shades, and Plate Glass, at 87, Bishopsgate-street Without, same side as Eastern Counties Railway.—Established 100 years.

GLASS FOR CONSERVATORIES, GREENHOUSES, PIT FRAMES, ETC.

HETLEY AND CO. are supplying 16-oz. Sheet Glass, of British Manufacture, packed in boxes, containing 100 square feet each, at the following REDUCED PRICES for cash. A reduction made on 1000 feet.

Sizes.—Inches.						Inches.		Per foot.	Per 100 feet.
			Under	6	by	4	at	1½d.	is £0 12 6
From	6	by 4	,,	7	,,	5	,,	2d.	,, 0 16 8
	7	,, 5	,,	8	,,	6	,,	2¾d.	,, 0 18 9
	8	,, 6	,,	10	,,	8	,,	2½d.	,, 1 0 10
	10	,, 8	,,	12	,,	9	,,	2¾d.	,, 1 2 11

Larger sizes, not exceeding 40 inches long.

16 oz. from 3d. to 3½d. per square foot, according to size.
21 oz. ,, 3½d. to 5d. ,, ,, ,,
26 oz. ,, 3½d. to 7½d. ,, ,, ,,

PATENT ROUGH PLATE, THICK CROWN GLASS, and PATENT PLATE GLASS for Horticultural purposes, at reduced prices, by the 100 square feet.

GLASS TILES AND SLATES made to any size or pattern, either in Sheet or Rough Plate Glass.

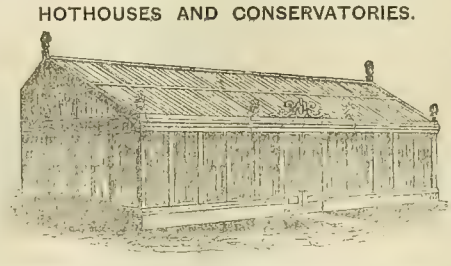
Propagating Glasses, Bee-hive Glasses, Cucumber Tubes, Glass Milk Pans, Glass Water Pipes, and various other articles not hitherto manufactured in glass.

PATENT PLATE GLASS.—The present extremely moderate price of this superior article should cause it to supersede all other inferior window glass in a gentleman's residence. No alteration connected with the sash is required.

GLASS SHADES, as ornamental to, and for the preservation of every description of goods susceptible of injury by exposure. Prices, since the removal of the excise duty, reduced one-half. List of Prices and Estimates forwarded on application to JAMES HETLEY and Co., 35, Soho-square, London.

GREEN AND HOTHOUSES, made by Machinery, at J. LEWIS' Horticultural Works, Stamford Hill, Middlesex, warranted best materials, and the cheapest in England.—A List of Prices sent by enclosing 2 postage stamps.

HOTHOUSES AND CONSERVATORIES.

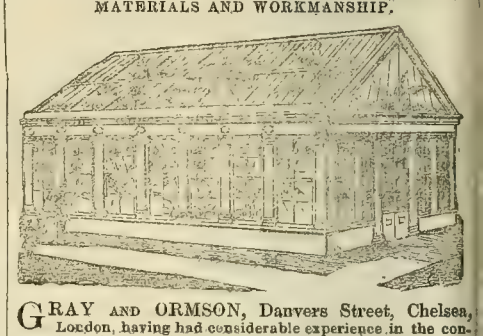


JAMES WATTS, HOTHOUSE BUILDER, CLAREMONT-PLACE, OLD KENT-ROAD, has 200 CUCUMBER and MELON BOXES and LIGHTS of all sizes, ready for immediate use, made of well-seasoned materials, packed and sent to all parts of the Kingdom.

HOTHOUSES, CONSERVATORIES, &c., made and fixed complete at a considerable reduction, and Garden Lights of every description. References may be had to the Nobility, Gentry, and the Trade, in most of the counties of England.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER.

AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.



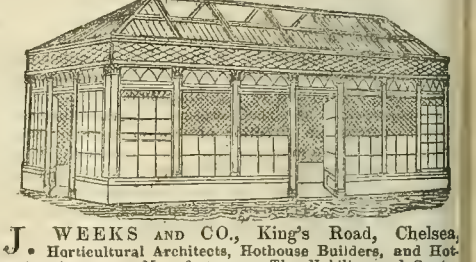
GRAY AND ORMSON, Danvers Street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

G. and O. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders, they can with the greatest confidence give the most satisfactory references.

Their Hot-Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating by Hot Water can be made available.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER.

WARRANTED BEST MATERIALS AND WORKMANSHIP AT THE LOWEST POSSIBLE PRICES.



J. WEEKS AND CO., King's Road, Chelsea, Horticultural Architects, Hothouse Builders, and Hot-water Apparatus Manufacturers. The Nobility and Gentry about to erect Horticultural buildings, or fix Hot-Water Apparatus, will find, at our Hothouse Works, King's Road, Chelsea, an extensive variety of Hothouses, Greenhouses, Conservatories, Pits, &c., erected, and in full operation, combining all modern improvements, so that a lady or gentleman can select the description of House best adapted for every required purpose.

THE HOT-WATER APPARATUSES (which are efficient and economical), are particularly worthy of attention, and are erected in all the Houses, Pits, &c., for both Top and Bottom Heat, and in constant operation in the Stoves.

The splendid collection of Stove and Greenhouse Plants are in the highest state of cultivation, and for sale at very low prices. Also a fine collection of strong Grape Vines in pots from eyes, all the best sorts.

Plans, Models, and Estimates of Horticultural Buildings; also Catalogues of Plants, Vines, Seeds, &c., forwarded on application

J. WEEKS AND CO., KING'S ROAD, CHELSEA, LONDON.

GREENHOUSE & CONSERVATORY BUILDING ESTABLISHMENT,

HOT-WATER APPARATUS MANUFACTORY,

KENSALL-GREEN, HARROW-ROAD, LONDON.

JOHN TAYLOR begs most respectfully to call the attention of the Nobility, Gentry, and Gardeners, to the very superior manner in which he erects all kinds of Greenhouses, Conservatories, Forcing Pits, &c., and all other buildings for Horticultural purposes, combining all the most modern improvements with elegance and utility. His manner of heating Horticultural Buildings, Churches, Chapels, Public Buildings, Entrance Halls, &c., has received the greatest approbation from the Nobility and Gentry by whom he has been extensively engaged.

HOTHOUSES, GREENHOUSES, ETC.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

E. DENCH, PATENT HOTHOUSE WORKS, King's Road, Chelsea.—The superior qualities in every respect of these Structures having been proved in all parts of the United Kingdom, has caused a greater demand for them than E. D. could execute; he has been obliged to have perfect and powerful machinery made to meet the numerous orders, and can now execute any amount of work to great perfection, with dispatch, and for quality and price to defy all competition. Patent Hothouses, with excellent glass, 3 feet long by 1 foot wide, every front sash to open, and every top one to slide down, with pulley made of the same materials as the electric telegraph wires, which require no painting; delivered free to Wharf or Railway Station, at 1s. 2d. per foot super., complete, having been fitted, and every portion marked previously, making a Greenhouse 16 ft. 6 inches long, 12 ft. rafter, 400 ft., 23l 6s 8d.; 24 ft. 6 ins. long, do. do., 52s ft., 30l. 13s. 8d.; 25 ft. 6 ins. long, 15 ft. rafter, 712 ft., 41l. 10s. 8d. Heating by Hot-water on the most approved and economical principles.

Patent Sashes for Pits and Peach Walls, &c., 7d. and 8d. per foot, super.

ROSES.—The attention of Rose Gardeners and Amateurs is called to the "FLORUMBRA" or Rose-preserver, by which Brown's Fumigator is rendered applicable to Rose trees, for the purpose of freeing them from the Aphis.

The "Florumbra," which was introduced with success last season, will at the same time protect choice Roses intended for exhibition from sun or rain. They may be had wholesale from Messrs. Barber and Groom, London; and retail of most ironmongers and Seedsmen, and of W. J. Sangster, 75, Cheapside. Further particulars on application.

TURNIP SEED FOR SALE.—Thirty bushels of Skirving's Purple-top Swede, at 15s. per bushel; 30 ditto of old Purple-top ditto, at 14s.; 15 ditto of Green-top Yellow Bullock, at 16s. The whole is of the growth of 1851.—Address Mr. Bryan Clabe, Farmer, Tuxford, Notts.

TURNIP SEEDS DIRECT FROM THE GROWERS.

JOHN SUTTON and SONS respectfully recommend Turnip Growers to favour them with their orders early, while they have a good Stock of New genuine Turnip Seeds, of their own growth, which they can warrant new and true to their kinds, and which are the best varieties of Swedish, Hybrid, and other Turnips in cultivation. Priced Lists may be had gratis, and post free.

Address, John Sutton and Sons, Seed Growers, Reading, Berks.

SUTTON'S PURPLE-TOPPED YELLOW HYBRID, equal to any Swede, and much quicker in growth, and SUTTON'S IMPROVED EARLY SIX-WEEKS' TURNIP, for early sowing, which gained Mr. Pusey's 20l prize at the Faringdon Agricultural Show, are two of the very best Turnips in cultivation, and, from their free growth, will thrive well in poor soil. Price of the Hybrid, 1s. per lb., and the Improved Six Weeks, 10d.; also, the True Lincolnshire Red Globe, 10d per lb., and other choice sorts, as see Messrs. Sutton's Priced Catalogue, which may be had gratis, and post free.—Address, John Sutton and Sons, Seed Growers, Reading, Berks.

SKIRVING'S IMPROVED TURNIP SEEDS.

WILLIAM SKIRVING begs to announce to his friends and the public, that he has fixed the price, for this season, of his IMPROVED SWEDE, and also the PURPLE-TOP YELLOW BULLOCK, at 9d. per lb.

W. S. can, with perfect confidence, recommend these Turnips as being the best now in cultivation, in every respect, whether for the greatest crop, the best quality, or for keeping, according to the time of sowing. At the same time he begs to state that he has no agent in town or country, and of course is not accountable for the low-priced spurious Turnip Seeds offering under his name.

All other kinds of Turnips and Agricultural Seeds in general, of the best quality, at very moderate prices.

A remittance or reference is requested from unknown correspondents.—Queen-squafe, Liverpool, May 1.

STUBBLE SWEDE TURNIP SEED.

JOHN RIVERS solicits the attention of the Agriculturist to his quick growing STUBBLE SWEDE TURNIP; though this variety originated from a cross between a large white Stone Turnip and the old Green-top Swede, by careful selection, it has the colour, solidity, and the hardiness of the true Swede. As it was extensively distributed last year, experience has proved it superior for sowing in May, for early feed; its growth being matured before the mildew attacks it in the autumn, being better adapted for giving more time in the preparation of the Land than any other kind from its quickness of growth, and it is a heavy cropper. It may be sown for a full crop throughout the month of June. Price 1s. 6d. per lb.

Orders to the amount of 10s. carriage paid to London. Post-office orders are requested of unknown correspondents.

Sawbridgeworth, Herts.

TO LET ON LEASE OR OTHERWISE.—A SMALL NURSERY, principally Glass; the Stock, with Greenhouses, Pits, &c., to be taken at valuation, or the Greenhouses and Pits to be let with the Ground. At the option of the Purchaser the Stock may be taken too, or will be disposed of.—Apply to Mr. Prothero, Nurseryman, Leytonstone, Essex; or to the Proprietor (on the premises), Mr. Lynn, Park-street, Camberwell.

BEE HIVES.—A NEW AND EXTENSIVE SELECTION OF THE MOST APPROVED KINDS.—A detailed Catalogue, with Drawings and Prices, sent on receipt of Two Stamps. George Neighbour and Son, 127, High Holborn, London.

"In noticing the hives exhibited in the Crystal Palace, first and foremost, in my opinion, stands Mr. Taylor's Eight-Bar Hive, and Messrs. Neighbour and Son's Improved Cottage Hive, both exhibited by Messrs. Neighbour."—*J. H. Payne.* (See the "Cottage Gardener," Nos. 169, 170).

Agents.—Liverpool: Wm. Drury, Castle-street. Manchester: Hall and Watson, 59, King-street. Glasgow: Austin and M'Aslan, 168, Trongate. Dublin: J. Edmondson and Co., 61, Dame-street.

MILK, CHEESE, AND BUTTER.

HENRY BAKER, Optician, 90, Hatton Garden, London, advises any one who keeps Cows to send two postage stamps, and obtain a description of his LACTOMETER, with its uses, and the results of experiments with it upon different Milks. Lactometers, complete, in a mahogany box, 10s. 6d.; Do., with cheaper fittings, 7s. 6d. and 5s.; Hydrometers for testing sulphuric acid, 5s., 7s., and 10s. No consumer of acid should be without one, as it is often sold highly diluted. Saccharometers for Brewing, with tables, 5s., 7s., and 10s. Pediment Barometers, from 1l. each. Wheel Barometers, from 1l. 1s. each. Packed carefully for the country, there being nothing to fear of them getting out of order, as they are warranted to be properly made and good instruments.

DEANE'S WARRANTED GARDEN TOOLS.—Horticulturists, and all interested in Gardening Pursuits, are invited to examine DEANE, DRAY, and CO.'s extensive Stock of GARDENING and PRUNING IMPLEMENTS, best London-made Garden Engines and Syringes, Colebrook-dale Garden Seats and Chairs.

Averuncators	Garden Scrapers	Mowing Machines
Axes	Gidney's Prussian Hoe	Pickaxes
Bagging Hooks	Grape Gatherers & Scissors	Potato Forks
Bills	Gravel Rakes and Sieves	Pruning Bills
Borders, various patterns	Greenhouse Doors and Frames	,, Knives, various
Botanical Boxes	Hammers	,, Saws
Brown's Patent Fumigator	Hand-glass Frames	,, Scissors
Cases of Pruning Instruments	Hay Knives	,, Shears
Daisy Rakes	Horticultural Hammers & Hatchets	Rakes in great variety
Dibbles	Hoes of every pattern	Reaping Hooks
Dock Spuds	Hotbed Handles	Scythes
Draining Tools	Ladies' Set of Tools	Scythe Stones
Edging Irons and Shears	Labels, various patterns, in Zinc, Porcelain, &c.	Shears, various
Flower Scissors	Lines and Reels	Sickles
,, Sands in Wires & Iron	Marking Ink	Sickle Saws
Fumigators	Mattocks	Spades and Shovels
Galvanic Borders and Plant Protectors	Monographs	Spuds
Garden Chairs and Seats	Metallic Wire	Switch Hooks
,, Loops	Milton Hatchets	Thistle Hooks
,, Rollers	Mole Traps	Transplanting Tools
		Trowels
		Turfing Irons
		Wall Nails
		Watering pots
		Weed Hooks
		Wheelbarrows
		Youths' Set of Tools

DEANE, DRAY, and CO. are sole Agents for LINGHAM'S PERMANENT LABELS, samples of which, with their Illustrated List of Horticultural Tools, can be sent, post paid, to any part of the United Kingdom. Also, Wholesale and Retail Agents for SAYNOR'S celebrated PRUNING KNIVES, used exclusively by the first Gardeners in the United Kingdom.—DEANE, DRAY, & CO. (Opening to the Monument), London-bridge.

GUTTA PERCHA TUBING FOR WATERING GARDENS, ETC.



Testimonial.

From Mr. J. Farrah, Gardener to Boswell Middleton Jalland, Esq., of Holderness House, near Hull.

"I have had 400 feet of your Gutta Percha Tubing (in lengths of 100 feet each, with union joint) *in use for the last twelve months for watering these gardens, and I find it to answer better than anything I have ever yet tried.* The pressure of the water is very considerable, but this has not the slightest effect on the Tubing. I consider this Tubing to be a *most valuable invention for Gardeners*, inasmuch as it enables us to water our gardens in about one-half the time, and with one-half the labour formerly required."

FOR SUCTIONS OF PUMPS AND CONVEYANCE OF WATER.

The value of Gutta Percha Tubing for the conveyance of water is no longer a matter of doubt. Experience has proved its adaptation and superiority to metal pipes, and the important consideration that it is entirely free from those corrosive properties which have proved so highly injurious in the use of lead pipes. The Gutta Percha Company have received the following—

Testimonials.

From C. Hacker, Esq., Surveyor to his Grace the Duke of Bedford, Woburn Park.

"Office of Works, Woburn Park, Jan. 10th, 1852.

"Gentlemen,—In answer to your inquiries respecting the Gutta Percha Tubing for pump suctions (after two years' trial), I find that the water has not affected it in the least, although it will eat lead through in two years; we have adopted it largely, both on account of being cheaper than lead, much easier fixed, and a more perfect job."

From Sir Raymond Jarvis, Bart., of Ventnor, Isle of Wight.

"Ventnor, March 10, 1852.

"Gentlemep,—In reply to your letter, received this morning respecting the Gutta Percha Tubing for Pump Service, I can state, with much satisfaction, it answers perfectly. Many builders, and other persons, have lately examined it, and there is not the least apparent difference since the first laying down, now several years; and I am informed that it is to be adopted generally in the houses that are being erected here—building going on to a considerable extent.

"I am, Gentlemen, your obedient servant,

"R. Jarvis.

"P.S. The only difficulty experienced was in fixing the tube to the pump barrel. The plumber employed being averse to the job, did not properly secure it, and air got into the tube; otherwise, carefully arranged, there is no question it supersedes lead or any kind of metal pipes. R. J."

From William Bird Herapath, Esq., M.R.C.S., Surgeon to St. Peter's and Queen Elizabeth's Hospitals, Bristol.

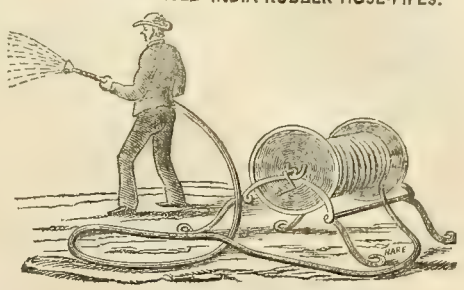
"September, 1850.

"I have used Gutta Percha as a lining to a cistern, with tubing of the same material, to conduct the water into my dispensary; they answer admirably. At first some disagreeable flavour was communicated to the water, but it soon disappeared.

"My plumber readily learnt the mode of managing it from your printed directions."

Every variety of Gutta Percha Goods may be had. Manufactured by the Gutta Percha Company, Patentees, London; and sold at the Wholesale City Depot of Messrs. Burgess and Key, 103, Newgate-street, who will forward Lists of Prices on application.

FOR WATERING GARDENS, DISTRIBUTING LIQUID MANURE, BREWERS' USE, ETC. PATENT VULCANISED INDIA-RUBBER HOSE-PIPES.



JAMES LYNE HANCOCK (Sole Licensee and) Manufacturer, Goswell Road, London.

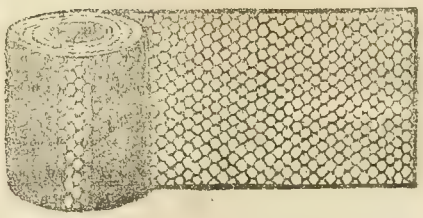
These Pipes are well adapted for Watering Gardens, conveying Liquid Manure, racking Beer and Cider, for portable Gas Lamps, and all purposes where a perfectly sound Waterproof and Flexible Pipe is required. They are particularly suitable for Fire Engines, and are found exceedingly useful in Dwelling-houses for conveying Hot or Cold Water to Baths, &c.

Hose Reels for winding-up and wheeling away long lengths of the Vulcanised Rubber Garden Hose, are now manufactured by J. L. Hancock, of light and cheap wicker work.

N.B.—Vulcanised India Rubber Garden Hose, fitted up with Roses, Jets, and Branches complete, with union joints ready to attach to pumps or water cisterns.

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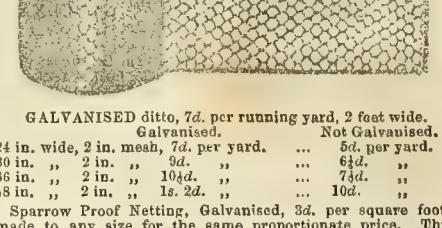


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THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 19—1852.] SATURDAY, MAY 8. [Price 6*d.*

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SYDENHAM FLORICULTURAL SOCIETY.—The first Fête of the Season will take place on TUESDAY next. Within ten minutes' walk of the Sydenham Railway-station. The attendance of the band of the Coldstream Guards has been secured; the first overture will be commenced at Three o'clock precisely.—Admittance by TICKETS ONLY, to be obtained of Mr. Chartres, Florist, 7*a*, King William-street, City, price 2*s.* 6*d.* each.

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At which Exhibition will be given 100 Sovereigns as Prizes.
Schedules to be obtained on application to the Secretaries, Messrs. Jessop, Brothers Cheltenham.—Tickets of Admission, if taken on or before the 29 h of May, 3*s.* 6*d.*; after that day, 5*s.* Subscriptions of 10*s.* 6*d.* will entitle Subscriber to Four Tickets of Admission. The Subscription Book to be closed on Saturday, the 15th May, 1852. Children, under 12 years of age, admitted at half-price.
Gardens open at 12 o'clock. Music commence at 2.

ORCHIDS AND FERNS FOR THE MILLION.—Dodman.
WILLIAM MASTERS, the Exotic Nursery, Canterbury, being over-stocked with ORCHIDS and FERNS, is enabled to offer them from 18*s.* to 30*s.* per dozen sorts. Also 12 species of the new Sikkim Rhododendron, from 42*s.* per dozen. Early orders are particularly requested.—May 8.

CHOICE SEEDLING PETUNIAS.—We have selected the following three beautiful and distinct varieties from a very fine and brilliant batch of Seedlings. The three varieties we can recommend as superior, and the colours will be found rich and attractive.
BRAGANZA, very rich dark purple crimson, and fine shape.
RICARTONII, bright crimson purple, with very dark throat and veins.
MAZEPPA, large pinky blush, very dark throat.
Strong plants are now ready, at 3*s.* 6*d.* each, and may be had Free by Post. The usual allowance to the Trade, by taking three plants of a sort.
Bass and Brown, Sudbury, Suffolk.

NEW BEDDING GERANIUM.
"PYMMES SEEDLING."
JOSEPH SPEED having a larger stock of this beautiful variety (raised by himself) than he requires, is permitted to dispose of a few plants. It is a seedling from Lucia Rosea, several shades brighter, with a horse-shoe leaf, of a dwarf shrubby habit, a very free bloomer, and is admitted by all who have seen it to be decidedly the best of its class. Single plants, 7*s.* 6*d* each, with the usual discount.
As the stock is very limited, an early application is requested. Applications with remittances or Post-office orders can only be attended to.—Pymmes, Edmonton, May 8.

NEW CAMELLIA.
JACKSON'S "COUNTESS OF ELLESMERE."—To be sent out in the first week of June, price 42*s.* each; and for every three ordered one added gratis. On the 8th of April last it was awarded by the National Floricultural Society of London a first-class Certificate, and received the highest commendation; it is described as being of first-rate form, with broad cupped petals, of a blush white, faintly striped with rose (see *Gardeners' Chronicle* and *Gardeners' Journal*, for report of meeting, April 17). It is figured in the "Florist" for May, 1851, and is again mentioned in the "Florist" for this month, as having been exhibited, and deserving to be placed in every collection. It has the beautiful form of the Coup d'Hebe Rose.—Thomas Jackson and Son, Nurserymen, Kingston, near London (on the South Western Railway.)

JOHN PERKINS begs to offer the undermentioned plants, which cannot fail to give satisfaction:—

	Per doz.—*s. d.*		Per doz —*s. d.*
VERBENAS, of the best varieties	2 0	CALCEOLARIAS, do. ...	3 0
PETUNIAS, do.	2 0	SALVIAS, do	3 0
SCARLET GERANIUMS, do.	2 6	HELIOTROPES, do. ...	2 6
DAHLIAS, do. ...	4*s.* to 6 0	PELARGONIUMS, good named varieties, including Fancies, 6*s.* to 12	0

A remittance expected from unknown correspondents.
Bedford-road Nurseries, Northampton.

GERMAN AND OTHER FLOWER SEEDS.
J. CARTER, Seedsman and Florist, 238, High Holborn, London, submits the following list of CHOICE SEEDS to the notice of his customers, the present season being extremely favourable for general sowing. 12, 6, or 3 packets may be had at half the price of 24, 12, or 6, but the smaller assortments cannot be divided. The Seeds will be sent prepaid by post.

I. *The following Annuals, &c., may be sown on a hot-bed or warm border till the end of May. The Stocks also in August, under glass, for next season. Mixed Packets, 6d. each.*

24 Aster, fine German...	3*s.* 0*d*	3 Mesembryanthemum	1*s.* 6*d.*
12 ,, fine dwarf ...	1 6	6 Mimulus	1 0
12 Balsam, double ...	2 0	6 Petunia	1 6
12 ,, Camellia ...	2 6	12 Phlox Drummondii...	5 0
10 ,, rose-fl wered	2 6	6 Portulaca	2 0
12 ,, new dwarf ...	2 6	12 Salpiglossis	3 6
12 Convolvulus major ...	2 6	4 Salvia	1 6
4 Gaillardia	1 6	24 Stock, German ...	3 0
6 Jacobæa	1 3	12 ,, Prussian ...	1 6
6 Gourds, extra ...	2 0	6 ,, new large ...	2 0
4 Lobelia	1 6	6 ,, very dwarf ...	2 0
6 Marigold	1 6	12 ,, intermediate ...	2 0
5 Martynia	2 0	12 Zinnia elegans ...	3 6

II. *To be sown in the open borders during May or June, or for early flowers next year, in September. Mixed packets 3d. each.*

6 Calliopsis	1*s.* 6*d.*	12 Larkspur, tall ...	2*s.* 6*d.*
6 Candytuft	1 0	12 ,, Stock-flowered	3 0
6 Clarkia	1 0	6 ,, new Hyacinth	1 6
5 Collinsia	1 0	6 Lupinus	1 3
6 Convolvulus minor	1 3	6 Nasturtium ...	1 3
4 Gilia...	0 9	6 Nemophila ...	1 3
6 Godetia	1 3	6 Poppy, extra ...	1 6
4 Leptosiphon ...	0 9	12 Scabious, fine ...	2 6
12 Larkspur, dwf. ...	2 6	5 Venus' Looking-glass	1 0

III. *Biennials and Perennials. May be sown from May to September. Many of them flower the first year. Mixed Packets, 6d. each.*

12 Antirrhinum ...	2*s.* 6*d.*	4 Geum	1*s.* 3*d.*
6 Aquilegia	1 6	24 Hollyhock	4 0
6 Anemone	2 0	5 Indian Pink ...	1 6
6 Campanula	1 6	3 Liatris	1 0
4 Canterbury Bell ...	1 0	6 Œnothera	1 6
4 Carnation and Picotee	10 0	6 Papaver	1 6
,, mixed ...	2 6	6 Pentstemon ...	1 6
6 Delphinium ...	1 6	6 Potentilla	1 6
6 Dianthus	1 6	3 Stock, Brompton...	0 9
6 Digitalis	1 3	6 ,, new Imperial	2 0
4 Eechscholtzia ...	0 9	12 ,, Winter ...	1 6
6 Gentiana	1 6	12 Wallflower, extra	2 6

IV. *Greenhouse Seeds, &c. May be sown from May till August. Mixed packets of those not priced may be had at 6d. each.*

6 Acacia	2*s.* 0*d.*	Gesnera, mixed ...	1*s.* 0*d.*
Achimenes, mixed .	1 0	Gladiolus, 20 var....	1 0
4 Alstrœmeria ...	1 6	4 Globe Amaranth ...	1 0
4 Anagallis	1 6	Gloxinia, mixed ...	1 0
Calceolaria, mixed .	1 0	3 Helichrysum ...	1 0
Cineraria, mixed ...	1 0	5 Kennedya	1 6
6 Erica...	2 6	4 Lophospermum ...	1 6
,, fine mixed ...	2 6	5 Maurandya... ...	1 6
Fuchsia, mixed ...	1 0	4 Passiflora	1 6
6 Geranium	2 6	6 Thunbergia ...	2 0

And a large collection of other Flower Seeds, &c., of which a Catalogue may be had gratis.

EDWARD GEORGE HENDERSON and SON, Wellington-road, St. John's-wood, London, are now sending out their New Plants, as advertised for this month. See back Numbers of this Paper. Also good Plants of the following:—
Select Show Verbenas (of 1851), at 12*s.* and 18*s.* per dozen.
,, ,, Geraniums, at 18*s.*, 30*s.*, and 42*s.* ,,
,, Fancy ditto, ... 18*s*, 30*s.*, and 42*s.* ,,
,, Show Fuchsias, ... 12*s.* and 18*s.* ,,
,, ,, Calceolarias, ... 18*s.* and 30*s.* ,,
,, ,, Cinerarias ... ... 12*s.* and 18*s.* ,,
,, Large Flowering Chrysanthemums ... ... 12*s.* and 18*s.* ,,
,, Lilliputian ditto ... ... 12*s.* and 18*s.* ,,
,, Phloxes, strong plants, 9*s.*, 12*s*, and 18*s.* ,,
,, Tree Carnations ... 21*s.*, 30*s.*, and 42*s.* ,,

PELARGONIUMS.
The following at 1*s.* 6*d.* each:

Beck's Hebe's Lip	Beck's Mount Blanc No. 2
,, Symmetry	,, Bacchus
,, Emelia	,, Gulielma
,, Cassandra	,, Centurion
,, Princess	,, Mount Etna
,, Rosy Circle	Foquett's Lalla Rookh

The following at 2*s.* 6*d* each:

Beck's Constance	Foquett's Magnificent
,, Ruby	Hoyle's Crusader
,, Cuyp	Beck's Dorcas
,, Painter [peller	Hoyle's Virgin Queen
Rundle's Beauty of Montpelier	Foquett's Gipsy Bride
Hoyle's Prince of Orange	Beck's Sarah

Beck's Major Domo, 5*s.*; Silk Mercer, 5*s.*
Fancy sorts, 9*s* per dozen, in twelve varieties.
The above are fine blooming plants, in 4-inch pots. Carriage paid to London.
Thomas Rivers, Sawbridgeworth, Herts.

SUTTON'S PERMANENT GRASSES.—The superior quality of Sutton's Grass Seeds is plainly indicated by the numerous orders they are daily receiving, through the recommendation of former customers.
Some interesting particulars of Land laid down with these Seeds is published in the Gardeners' Chronicle *of March 27th, page* 195.
The prices for the best quality are as under, but for poor reclaimed Lands or other cases where the cost is the principal consideration, mixtures at about half the price may be had.
For best permanent Meadow and Pasture, mixed Per acre. expressly to suit the soil ... ... 24*s.* to 28*s.*
For best Clovers and Grasses (for one, two, or three years' lay) ... ... 14*s.* to 20*s.*
The sorts consist of true Perennial Grasses and Clovers, as named particularly in our Advertisement on the last page of the *Gardeners' Chronicle* of March 20.
John Sutton and Sons, Seed Growers, Reading, Berks.

NEW CALCEOLARIAS, SCARLET PELARGONIUMS, &c.
CALCEOLARIAS.—Conway's Ruby Bicolor and Crimson King, choice varieties for bedding, 2*s.* 6*d.* each. Other good sorts 6*s.* per dozen.
SCARLET GERANIUMS.—Conway's King of Nepaul and Pet Superb, 2*s.* 6*d.* each. All the best varieties at moderate prices. Good plants for bedding, 6*s.* to 9*s.* per dozen.
VERBENAS.—A good selection, 6*s.* to 9*s.* per dozen.
Geraniums, Fancy Geraniums, Heliotropes, Antirrhinums, Phloxes, Petunias, &c. &c., at reasonable prices.
A Catalogue may be had on application.
Mary Conway, Earl's-court Nursery, Old Brompton, London.

PLANTS FOR BEDDING OUT.
BASS and BROWN have a large stock of the following, well established, strong, and in good condition:
VERBENAS.—New varieties of last year, comprising the best raised by Turner, Smith, Barker, Chauviere, Dufoy, &c. (See Catalogue.) We have still a good stock of last year's struck plants, fine and bushy plants, for early flowering. 12 varieties for 12*s.*, or 20 for 18*s.*
Best of previous introduction, 3*s.* 6*d.* to 7*s.* 6*d.* per doz.
50 well assorted and fine varieties, 18*s.*

	s. d.
PETUNIAS, strong plants, choice, per doz. ... 4*s.* to	9 0
Best do., all of last year's, new, per doz.	12 0
25 well assorted and choice varieties for	15 0
FUCHSIAS, fine plants, choice, per doz. ... ... 4*s.* to	9 0
Best, all of last year's, per doz.	15 0
50 well assorted and choice varieties for	20 0
SCARLET GERANIUMS, best sorts, per doz. ... 5*s.* to	9 0
FANCY GERANIUMS, extra strong, choice, p. doz , 9*s.* to	15 0
DAHLIAS, choice, per doz. ... ... 5*s.* to	9 0
Best Fancy do , per doz	9 0
CHRYSANTHEMUMS, large Flowering Varieties, last year's struck, choice, per doz. ... ... 5*s.* to	9 0
Do., Lilliputian Varieties, do., per doz....	7 6
Anagallis, in three best varieties, per doz.	4 0
Bouvardia splendens, per doz	6 0
Campanula vidilla, per doz.	6 0
Calceolaria, shrubby varieties, per doz.	6 0
Cantua dependens, per doz. ... ...15*s.* to	24 0
Cuphea platycentra, per doz.	6 0
Gaillardia, in three fine varieties, per doz.... ...	6 0
Heliotrope, in seven fine varieties, including Reptans, Gem, Lilacea, &c., per doz.	6 0
Lantana crocea and delicatissima, per doz.	6 0
Lobelia erinus, in two vars., white and blue, per doz. ...	4 0
Mimulus, four best vars., including Prince of Wales, Criterion, &c., per doz.	9 0
Myosotis azorica and alpestris, per doz.	6 0
Plumbago Larpentæ, per doz.	9 0
,, capensis, per doz	9 0

HARDY PLANTS FOR BEDDING.

Anemone japonica and hybrida, extra strong, per doz. ...	6 0
Antirrhinum, best varieties, per doz.	6 0
,, best of new varieties, per doz.	10 0
,, Primrose Perfection, each	2 6
Campanula carpatica, blue, per doz.	5 0
Erinus alpinus, per doz.	5 0
Dielytra spectabilis, each ... ... 1*s.* to	1 6
Geum grandiflorum splendens, large fine scarlet, p. doz.	5 0
Delphinium Wheelerii, each	2 6
Pentstemon azureum, Buckii, Marshallii, & Clusii, p. doz.	9 0
Other fine varieties, per doz.	6 0
Phlox, best varieties, per doz.... ... ... 6*s.* to	9 0
Saponaria ocymoides, per doz.	6 0
Saxifraga, six fine varieties, per doz.	4 0
Silene Schafta, per doz....	5 0
Escholtzia, new white, per doz.	5 0
100 distinct and showy varietics of Herbaceous Plants ...	30 0
50 ditto for	17 6
100 varieties, including superior new	50 0
50 ditto for	30 0
25 fine Rock Plants	12 0
12 ditto, for	7 6

CLIMBERS.
Ipomœa Leilii, 1*s.* 6*d.* to 2*s.* 6*d.* each; Calampelis scaber, 6*s.* to 9*s.* per dozen; Lophospermums, of sorts, 9*d.* to 1*s.* 6*d.* each; Maurandya Barclayana, 3 vars.—white, rose, and blue, 9*d.* each; extra strong, 1*s.*; Solanum jasminoides, 1*s.* 6*d.* each; Tropœolum Wagnerianum, 1*s* 6*d.* each; speciosum, 1*s.* 6*d.* to 2*s.* 6*d.*; Smithii, 1*s.* 6*d.* to 2*s* 6*d.*; Bignonia radicans major, 1*s.* each; Calystegia pubescens, 1*s.* each; Clematis, Honeysuckles, Jasminums, Climbing Roses, &c., in great variety.
The Descriptive Priced Spring Catalogue supplied for four penny stamps. The Autumn Catalogue, which contains chiefly the Hardy Plants, for two penny stamps, which amount may be deducted from orders.
Goods sent, carriage free, to London, or any Station on the Ipswich and Norwich line; and with goods of 2*l.* and upwards, extra plants presented gratis.
Remittances required from unknown correspondents. Post-office orders to be made payable to Bass and Brown, or to Stephen Brown.
Seed and Horticultural Establishment, Sudbury, Suffolk.

OF GREAT IMPORTANCE

TO THOSE WHO CULTIVATE SMALL GARDENS, AND NOT HAVING THE CONVENIENCE OF GLASS, HOTBEDS, &c.

EDWARD TILEY begs to inform the above they may now sow the following splendid varieties of seeds, and may depend upon their growing in the open ground. E. T., wishing to accommodate them, is selling small packets at reduced rates, so as to suit the smallest cultivators.

Unrivalled and superb HOLLYHOCK SEED, 1s. per packet; GERMAN ASTER ditto, the finest in cultivation, 6d. per packet; SWEET WILLIAM, very dwarf and superior varieties, 6d. per packet; ANTIRRHINUM, saved from all the best striped and spotted varieties known, 6d. per packet; GIANT SCARLET BROMPTON STOCK, unequalled for its splendid colour, fragrance, and size of flower, 6d. per packet. Extra large packets, as before advertised: Hollyhock, 2s. 6d.; German Aster, 1s.; Sweet William, 1s.; Antirrhinum, 1s.; Giant Scarlet Brompton Stock, 1s.; or if preferred, one packet of each for 5s.

Twenty-four splendid varieties of Hardy Annuals, such as will suit every garden, sent postage and package free for 3s.

Walcheren Cauliflower Broccoli (true), 1s. per packet; Tamworth Broccoli (true), 1s. per packet; Bath Cos Lettuce (true), 1s. per packet; Wilcove Broccoli (true), very superior, 1s. per packet; a very superior and beautiful flavoured and dwarf-growing Cabbage, 1s. per packet.

The whole or any quantity of the above will be sent postage and package free on receipt of a Post-office order or penny postage stamps to the amount.

EDWARD TILEY, Nurseryman, Seedsman, and Florist, 14, Abbey Churchyard, Bath, Somerset.

NEW ACHIMENES.

H. LANE AND SON, Great Berkhamstead, are now prepared to send out, per post, Achimenes Margaretta, at 5s. each, pure white size, and habit of Longiflora, very distinct from any other, quite a gem.

Presented to us by G. U. Skinner, Esq.

FINEST DOUBLE HOLLYHOCKS.

A. PAUL AND SON, NURSERYMEN, &c., Cheshunt, Herts, beg to inform their friends and the public in general that they have a large stock of all the leading varieties of Hollyhocks exhibited by them at the Crystal Palace last year. The following six others of equal value for 30s.:—Comet, Magnum Bonum, Charles Baron, Sulphurea perfecta, Snowball and Queen. The following and six others of equal value for 12s.:—Napoleon, Formosa, Model of Perfection, Delicata, Queen purpurea elegans. The plants will bloom this autumn.

CAPE HEATHS, ETC.

W. J. EPPS, in offering the following varieties of CAPE HEATHS, AZALEAS, &c., begs to remark that they are splendid, bushy, vigorous, plants, not to be equalled in the trade:—

Erica tricolor	Erica jasminiflora
,, ,, Wilsonii	,, Shannonii
,, ,, rubra	,, Bandonii
,, ,, Dunbarii	,, ampullacea
,, ,, Leeana	,, ,, vittata
,, ,, speciosa, (McNab)	,, Macnabiana
,, ,, Jacksonii	,, Easoniana
,, ,, dumosa	,, ,, purpurea
,, Hartnelli	,, princeps
,, retorta major	,, ,, carnea
,, Veronii superb	,, vestita fulgida
,, Irbyana	,, ,, rosea
,, aristata major	,, ,, grandiflora
	,, Cavendishii

Strong plants of the above, in 48-sized pots, from 18s to 24s. per dozen.

Selections from the following, 12s. to 15s. per dozen:—Rollissonii, aristata vittata, baccans, propendens, Sindryana, Bowieana, depressa, depressa multiflora, Juliana, commosa alba, ceriathoides, Savillei major, rubella, splendens, intermedia, physoides, verticillata, perspicua nana, ventricosa globosa, sanguinea, mammosa pallida, andromedæflora, elata, and Banksia. Fine healthy plants in 48-sized pots.

AZALEA INDICA.—Selection from the following varieties, 9s. to 21s. per dozen, very strong plants:—Alba magna, ignescens, Edmondsii, Glory of Sunning Hill, Holdenii, optima, carminata, alba lutescens, splendens, delecta, Prince Albert, præcteria, triumphans, Hebe, obtusa, punicifiora, coronata, Minerva, Perryana, Cupid, vivicans, Conqueror, coccinea superb, lateritia grandiflora, magnifica plena, rosea superba, Incomparable, Fulgens, modesta, variegata, blanda, rosea punctata, semi-duplex maculata, Lawrenceana, Broughtonii, Duke of Devonshire.

Stove and Greenhouse Plants in great variety, 12s. to 24s. per dozen.

Strong well-established plants of the newest and best kinds of Fuchsias, 9s. to 15s. per dozen.

Fine new and show varieties of Pelargoniums, in 48-sized pots, very strong, bushy plants, 9s. to 21s. per dozen.

Dahlias, all the leading kinds of former years, together with the novelties of the present season, from 6s. per dozen.

A descriptive Spring Catalogue will be sent on application.

Bower Nurseries, Maidstone, May 8.

MESSRS. J. AND H. BROWN'S SPRING LIST of BEDDING-OUT PLANTS, &c., can be had by Post. They also offer the following selected Plants, which they will forward to any part of the Kingdom.

	Per dozen.—s.	d.
Alstrœmerias, new sorts	12	0
Anagallis, fine large blue and red do.	6	0
Bouvardias, of sorts, strong plants	9	0
Calceolarias, shrubby yellow, orange, scarlet, and spotted	6	0
Dahlias, show and fancy varieties ... ... 6s. to	12	0
Cuphæas and Salvias, of sorts ... ... 4s. to	6	0
Verbenas and Petunias, new sorts ... ... 4s. to	6	0
Lobelias, tall and dwarf varieties ... ... 6s. to	8	0
Œnothera, large yellow and white ... ... 6s. to	9	0
Pentstemons and Antirrhinums, in colours	6	0
12 Tea-scented Roses, one of a sort, by name, in pots ...	9	0
12 Fairy Roses, crimson, white, and pink, for edgings ...	6	0
12 Bourbon Roses, best sorts for buds, in pots	10	0
Climbing Roses, choice sorts, in pots, per doz.	6	0
Passifloras, Clematis, Jasmines, Wistaria, Loniceras, and other hardy and tender Climbers, 1s. 6d. each, or, per dozen	12	0
25 Azaleas, new hardy Belgian varieties, on their own roots, with flower-buds, one of a sort, by name ...	20	0
25 American Azaleas, do. do.	15	0
12 Rhododendrons, including scarlet, white and rose ...	12	0
12 Greenhouse Azaleas, one of a sort, blooming plants ...	25	0
50 Choice flowering Greenhouse plants, by name	45	0
24 Choice Ericas, one of a sort, by name	16	0
12 Orchideous plants, choice species, and good plants	30	0
12 Gloxinias, Achimenes, and Gesne as, one of a sort ...	10	0
Fancy show and scarlet Geraniums, best sorts for beds, per dozen ... ... 6s., 9s., and	12	0
25 Choice hardy Herbaceous plants, by name	10	0
Hardy Ferns, and other plants for rockwork, per dozen	8	0

All the choice Coniferæ, Pinus, Araucarias, Cryptomerias, and Taxodiums, of various sizes, in pots. List of prices on application.—Albion Nursery, Stoke-Newington, London, May 8.

NEW ROSE.

PAUL'S "QUEEN VICTORIA" (TRUE).

A. PAUL AND SON, NURSERYMEN, &c., Cheshunt, Herts, beg to inform their friends and the public in general that they have now ready for sale a few plants of this unique ROSE, at 10s. 6d. each. Scarcely half the orders received last autumn could be executed. Should the demand again exceed the supply, the earliest orders will have the preference.

N.B.—This fine variety is quite distinct from Caroline de Sansal.

CHOICE CHRYSANTHEMUMS.—Young Plants of the above, for flowering this autumn, are now ready for sending out. Best sorts, 12s. per dozen; good sorts for planting out, 6s. and 9s. per dozen. A Catalogue may be had; also an extensive stock of bedding-out Plants, 3s. and 4s. per dozen.

CHANDLER and SONS' Nursery, Wandsworth-road, Surrey.

AZALEA INDICA, now in bloom, admittance gratis. The young plants are in a good state to travel. Prices in Catalogue, which may be had by enclosing two penny stamps.

H. LANE AND SON,

THE NURSERIES, GREAT BERKHAMSTEAD, HERTS.

TO CULTIVATORS OF EXOTIC FERNS.

AN AMATEUR FERN GROWER possessing a large collection of Ferns, is desirous of disposing of his duplicates at moderate prices, or by exchange for those not in his collection.—Address, ADIANTUM, Post-office, Box 15, Hull.

DAHLIA—"WHITE STANDARD."

GEORGE BRITTLE, FLORIST, &c., Camp Hill, Birmingham, has much pleasure in offering the above-named Seedling DAHLIA, feeling confident it will give entire satisfaction, being the best WHITE DAHLIA in cultivation. "White Standard" obtained the First Prize as the best seedling of 1851, at the Handsworth and Lozell's Horticultural Society, Aug. 26; First Prize as the best seedling of 1851, at Wolverhampton, Sept. 4; First Class Certificate at the Midland Floral Society's Meeting, Sept. 8, 1851. Plants early this month, 10s. 6d. each. "White Standard" is blush white, very pure when shaded; outline good; shoulder well up; petals well arranged, and high in the centre. It will be the greatest acquisition of the season, and is the best white Dahlia in cultivation. Catalogues sent post free. The usual discount to the trade when three are ordered.—Birmingham, May 8.

HIMALAYA SEEDS.—*The following Seeds from the Himalaya Mountains may be had of* J. CARTER, *Seedsman and Florist, No.* 238, *High Holborn, London, at the following prices, prepaid*:—

Cedrus Deodara, warranted, per 1000 seeds				7s. 6d.
,, ,,			per 100 ,,	1 0
30 Packets	Flower Seeds, undescribed			10 0
25 ,,	,,	,,		8 6
20 ,,	,,	,,		6 6
15 ,,	,,	,,		5 0

SEED AND HORTICULTURAL ESTABLISHMENT, SUDBURY, SUFFOLK.

PRIZE GERANIUMS.

The following are the 14 which stand first as the most successful Prize varieties at the London Exhibitions of 1851, as described by scale given in "The Florist" of December. We beg to offer the 14 for 18s., or any 6 for 9s., viz., Star, Forget-me-not, Gulielma, Rosamond, Conspicuum, Pearl, Centurion, Salamander, Rowena, Constance, Negress, Norah, Ariel, and Alonzo.

	s.	d.
25 superb varieties, including the above. These contain, also, many newer varieties which have not yet been so freely exhibited. The 25 for	35	0
25 fine show varieties	22	0

We have also a large stock of the following very fine and strong:—

BEST NEW VARIETIES OF LAST SEASON.

The following 12 for 50s., or any 6 for 27s.

Hoyle's Ajax.	Beck's Major Domo.
,, Ocellatum.	,, Silk Mercer.
,, May Queen.	,, Tyrian Queen.
,, Generalissimo.	Rundle's Beauty of Montpelier.
,, Cardinal.	Walton's Village Maid.
Bragg's Exquisite.	Foster's Knight of Avenel.

FANCY GERANIUMS.

Any 12 of the following for 12s.:—Alboni, Beauty, Bouquet Tout Fait, Hero of Surrey, Jehu, Jehu improved, La Belle d'Africana, Lady F. Hastings, Maid of Anjou, Magnifica, Modesta, Queen Victoria, Statiuskii, Village Maid, Wintonia, Yeatmanianum, and Zelia.

BEST NEW FANCY OF LAST SEASON.

The following 9 varieties for 28s.

Ambrose's Belle Marie.	Sheppard's Little Wonder.
,, Gaiety.	Henderson's Marion.
,, Delicata.	,, Reine de Fleurs.
Sheppard's Miss Sheppard.	,, Prince Albert.
Henderson's Exquisite.	

ACHIMENES.

The following 12 beautiful varieties for 10s.

Beaumanii.	Longiflora alba.
Bodnerii.	Magnifica purpurea.
Coccinea grandiflora.	Multiflora.
Escheriana.	Patens major.
Fimbriata.	Tugwelliana.
Kleii.	Venusta.

12 fine varieties ... ... 6s.

GLOXINIAS.

Alba grandiflora	2s. 6d.	Maria Van Houtte	2s. 6d.
Argyrostigma	2 6	Marginata	2 6
Exquisite	2 6	Petoiana	3 6
Frederick Leuning	2 6	Pulcherrima	2 6
General Bandraud	2 6	Spectabilis	2 6
Godfroid de Bouillon	2 6	Victoria Regina	2 0

The above 12 for 20s., or any 6 for 12s.

NEW AND SELECT PLANTS.

Strong and fine.

Capanea grandiflora, 1s. 6d., 3s. 6d., 5s.	Hoya bella, fine plants, 1s. 6d., 2s. 6d.
Allamanda nerifolia, 2s. 6d.	Medinilla magnifica, 10s. 6d., 15s.
Agelmyla staminea, 3s. 6d., 5s.	
Cantua dependens, 1s. 6d., 2s. 6d.	Dielytra spectabilis, 1s. 6d.
Hoya bella, with flower-buds, 3s. 6d.	Deutzia gracilis, 2s. 6d., 3s. 6d.
	Eucallonia macrantha, 3s. 6d., 5s.

SPRING CATALOGUES sent, prepaid, for four postage stamps; and AUTUMN CATALOGUES, containing most of the Hardy Plants, for two postage stamps, which may be deducted from orders.

GOODS, CARRIAGE FREE, to London, Ipswich, Norwich, or any station on the same line; and with orders of 2l. and upwards extra plants added gratis.

Remittances requested from unknown correspondents.

Post-office orders to be made payable to STEPHEN BROWN, or to

BASS AND BROWN, SUDBURY, SUFFOLK.

TURNIP SEEDS DIRECT FROM THE GROWERS.

JOHN SUTTON AND SONS respectfully recommend Turnip Growers to favour them with their orders early, while they have a good Stock of New genuine Turnip Seeds, of their own growth, which they can warrant new and true to their kinds, and which are the best varieties of Swedish, Hybrid, and other Turnips in cultivation. Priced Lists may be had gratis, and post free.

Address, JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

STUBBLE SWEDE TURNIP SEED.

JOHN RIVERS solicits the attention of the Agriculturist to his quick growing STUBBLE SWEDE TURNIP; though this variety originated from a cross between a large white Stone Turnip and the old Green-top Swede, by careful selection, it has the colour, solidity, and the hardiness of the true Swede. As it was extensively distributed last year, experience has proved it superior for sowing in May, for early feed; its growth being matured before the mildew attacks it in the autumn, being better adapted for giving more time in the preparation of the Land than any other kind from its quickness of growth, and it is a heavy cropper. It may be sown for a full crop throughout the month of June. Price 1s. 6d. per lb.

Orders to the amount of 10s. carriage paid to London. Post-office orders are requested of unknown correspondents.

Sawbridgeworth, Herts.

SUTTON'S PURPLE-TOPPED YELLOW HYBRID,

equal to any Swede, and much quicker in growth, and SUTTON'S IMPROVED EARLY SIX-WEEKS' TURNIP, for early sowing, which gained Mr. Pusey's 20l. prize at the Farringdon Agricultural Show, are two of the very best Turnips in cultivation, and, from their free growth, will thrive well in poor soil. Price of the Hybrid, 1s. per lb, and the Improved Six Weeks, 10d; also, the True Lincolnshire Red Globe, 10d per lb., and other choice sorts, as see Messrs. SUTTON'S Priced Catalogue, which may be had gratis, and post free.—Address, JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

Corner of Half-Moon-street, Piccadilly.

PERMANENT GRASS SEED.

THOMAS GIBBS AND CO., SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND," &c., having for upwards of 50 years paid particular attention to Laying down Land to PERMANENT MEADOW AND PASTURE, beg to call the attention of Agriculturists to the following Mixtures, which will be apportioned to suit the nature of the soil:—

Mixtures for PERMANENT MEADOW AND PASTURE, including Perennial Clover.

Mixtures for PARKS, FIELD LAWNS, or Portions of Grass Land NEAR TO MANSIONS.

Mixtures for UPLAND SHEEP WALKS AND DOWNS.

Mixtures for FINE GARDEN LAWNS AND GRASS-PLOTS.

Also to their White Belgian and other Carrots; Yellow or Orange Globe Mangold Wurzel, Long Red ditto, and other kinds; Swedes, Hybrids, and other Turnips; Italian and other Rye-grasses, Clovers, &c.; and their general collection of Agricultural and other Seeds.

THOMAS GIBBS and Co., Seedsmen to the R.A.S.E., corner of Half-Moon-street, Piccadilly, London.

FINE PASTURE GRASS SEEDS for laying down Land.—Hand-picked Seed at 24s. per acre, allowing 3 bushels of the mixed Grass Seed and 6 lbs. of Dutch Clover to each acre. HENRY CLARKE, Seed Merchant, 39, King-street, Covent-garden, London.

IMPORTANT TO POTATO PLANTERS.—Prepared cuttings of the following sorts will be ready about the second week in May:—

	s.	d.
York Regents ... ... per 1000	10	6
American Native ... ... ,,	10	6
Cambridge Radical ... ... ,,	10	6
Early Oxford ... ... ,,	15	0

Packages, for 1000, 1s.; 2000, 1s. 6d.; 5000, 2s. 6d.

Post-office orders to be made payable at the Borough Office to HAY, SANGSTER and Co., Newington Butts.

London, 6th March, 1852.—Subjoined is the analysis of two highly respectable Chemists:—

"London, March 12, 1852.

"We have now compleed our examination of a sample of Potatoes grown from your prepared cuttings in comparison with another sample of the same denomination, obtained by ourselves from a highly respectable Potato salesman, with a view to ascertain the relative proportion of starch contained in each, with the following highly satisfactory result in your favour, viz.:—

	Starch.
"Those grown from your prepared cuttings ...	17 per cent.
"Potatoes from Salesman	12½ per cent.

"MAURICE SCANLAN, F.C.S.

"ALFRED ANDERSON, F.C.S.

"Messrs. Hay, Sangster, and Co., Seed Merchants, 18, Cumberland-place, Newington Butts."

LANDSCAPE GARDENING.

MR. THOROLD, of Thorpe-Bower, near Norwich, offers his services as a LANDSCAPE and ORNAMENTAL GARDENER, in the highest style of the art, including Decorations round the House, Forming Water, Approaches, Picturesque and Distant Scenery, Vistas, &c.; correcting the efforts of amateurs, and direcing the practical execution of works.—Mr. T. has no connection with Nurserymen or any trade whatever.

WARRANTED GARDEN TOOLS.

DEANE, DRAY, AND CO.'S STOCK OF GARDEN TOOLS for the season is now complete, and includes every recent approved invention in addition to their usual large assortment, selected from all the best makers.

DEANE, DRAY, and Co. are London Agents for GIDNEY'S PRUSSIAN HOE, which obtained the First Prize Silver Medal at the Tarvin Grand National Exhibition; also Sole Agents for Lingham's Monographs and Metallic Labels, samples of which may be had on application, post free. They have always on hand a stock of BROWN'S PATENT FUMIGATORS, which have stood the test of three seasons, and continue to give general satisfaction; also Epps' Registered Sulphurator for destroying Mildew upon Grapes, Hops, Roses, Fruit Trees, &c. An Illustrated Priced Catalogue sent per post, free.

DEANE, DRAY, and Co. (opening to the Monument), London Bridge.

GARDEN ENGINES, SYRINGES, ETC.,

UPON THE MOST IMPROVED PRINCIPLE, MANUFACTURED ONLY BY

RICHARD READ, INSTRUMENT MAKER (by special appointment) to her Majesty, 35, REGENT CIRCUS, PICCADILLY, LONDON.

CAUTION.—Instruments of the very commonest description being extensively circulated throughout the Kingdom, and sold as "READ'S," please observe the Royal Arms and the Patentee's name, without which none are genuine.

CRYSTAL PALACE.—Owing to the removal of the Crystal Palace, the IRON FOUNTAIN erected by FREEMAN ROE, Hydraulic Engineer, is for Sale. To meet the numerous inquiries respecting the same, tenders will be received for its purchase, until the 15th inst., by him, at 70 Strand London

VICTORIA REGIA.

J. WEEKS AND CO., King's Road, Chelsea, have a few fine strong Plants for Sale of VICTORIA REGIA, Nymphæa cærulea, Nymphæa dentata, Nymphæa stellata, &c. As also a splendid Collection of Stove and Greenhouse Plants, all in the highest state of cultivation —PLANS and ESTIMATES for building Aquariums and all other Horticultural erections. J. WEEKS & Co's HOT-WATER APPARATUS is well adapted for Warming large Ponds, for Stove Aquatics, and for Heating extensive ranges of Forcing-house.

HORTICULTURE IN ALL ITS BRANCHES.

"'LIZZY' is the very acme of form, and highly attractive, on account of its cheerful colour."—*Gardeners' Chronicle.*

COLE AND SHARP are now sending out good plants of the above BEAUTIFUL DAHLIA at 10*s.* 6*d.* each.

For description and awards, see Advertisement in this Paper, April 23. Drawings may be seen at Messrs. CLARKE and SON'S, King-street, Covent Garden.

Aston Lane Nursery, near Birmingham.

CHEAP BEDDING PLANTS FOR THE MILLION.

JOHN HAYES, FLORIST, Farnham, Surrey, begs to say he is prepared to send out BEDDING PLANTS from 1*s.* to 36*s.* per dozen. Verbenas are now in the open air, and may be put out at once. The plants are remarkably good. Any person wanting a complement, may treat with J. H. on liberal terms. Catalogues sent on the receipt of one postage stamp.

SCARCE AND BEAUTIFUL FLOWER SEEDS.

EMPEROR STOCK, a perennial species, and hardy, 1400 seeds, 1*s.*

CINERARIA and CALCEOLARIA, selected from collections of Plants, that were admitted by all persons who saw them to be the finest they had ever seen; 250 seeds of the former, and 500 of the latter, 1*s.* each paper.

MYOSOTIS AZORICUS, a bed of this on an eastern or northern aspect is very beautiful; 200 seeds, 1*s.*

CALENDRINIA UMBELLATA, one of the neatest growing and most brilliant flowering of all bedding plants; 1500 seeds, 1*s.*

SWEET WILLIAM, in 100 varieties; 10,000 seeds, 1*s.*

Payment may be made in postage stamps.

JEYES and Co., Nurseries, Northampton.

COCKBURN AND BROWN, Côte des Neiges Nurseries, near Montreal, Canada, beg to intimate to British Florists that they have just purchased from Mr. James Lancashire, Montreal, the whole of his extensive stock of TULIPS, which he has so long grown in the grounds of Mr. Henry Corse. Mr. L is well known to be one of the most successful cultivators of this flower in America, having devoted to it between 30 and 40 years. It is almost needless to state that this fine collection contains a numerous assortment of strong roots of the leading varieties, nothing inferior having been admitted. Parties favouring us with their orders can have the roots sent during the autumn, either by steamer or sailing vessel.

Catalogues will be prepared and may be had from our agent, Mr. Brown, 44, Norfolk-street, Glasgow.

N.B. For Sale, the American and Canadian Seedling Apples, Plums, &c.

SEAKALE FOR THE MILLION.

SEAKALE POTS AND FORCING *superseded by "The Early Yellow-Crown Seakale."*

This valuable new vegetable (exhibited at the Horticultural Society's Rooms, Regent-street), is perfectly distinct from all other varieties of Seakale, *being free from any purple or green tint, very large, of a peculiarly rich flavour, and delicate straw colour, which it retains if kept for* 10 *or* 12 *days after cutting.*

It is so early and hardy that it may be easily grown in the open ground, fit for use early in February. It has been so grown in the Kempshot Gardens several winters, and is now first offered to the public by JOHN SUTTON and SONS, Reading, Berks.

As the Stock is very limited, early orders are requested *and recommended*, which orders will be faithfully executed in rotation, so far as the stock will suffice, with good plants, about the first week in June, which will be fit for cutting from next February. Price 10*s.* 6*d.* per dozen. Trade discount allowed where not less than three dozen are taken. Orders for less than one dozen will not be executed. Remittances or references required from unknown correspondents.

Instructions for cultivation will be sent with the plants.

READING NURSERIES, READING, BERKS.

STANDISH AND NOBLE, NURSERYMEN, Bagshot, Surrey, have to offer the following new and select Plants, all of which are hardy, except Azalea vittata:

ABIES JŒZOENSIS, seedling plants, 21*s.* each; this is one of the last novelties in Conifera; forms a noble tree of 120 feet in height, and of very distinct character (very hardy).

AZALEA VITTATA.—A specimen of this unique variety was awarded a Knightian Medal when exhibited at the Horticultural Society's Room last April; the ground colour of the flower is white, beautifully striped with purple, after the manner of a Carnation. It is a very free bloomer, 9 inches to 1 foot, 21*s.* each.

CUPRESSUS FUNEBRIS.—Seedlings, 5*s.* to 21*s.* each.

CEPHALOTAXUS FORTUNI, male, long leaves, seedlings, 21*s.* each.

CEPHALOTAXUS FORTUNII, female, short leaves, seedlings, 21*s.* each. These have withstood the late frost and drying winds without losing any of their verdure (very hardy).

ILEX FURCATA, 21*s.* each.

" MACROCARPA, 21*s.* each.

QUERCUS SCLEROPHYLLA, 21*s.* to 42*s.* each.

" INVERSA, 21*s.* to 42*s.* each.

SPIRÆA CALLOSA, an abundant and continued bloomer. It has large corymbs of rosy purple blossoms, and is a handsome addition to our shrubbery plants. 10*s.* 6*d.* each.

NEW AND RARE PLANTS.

BRUNSFELSIA NITIDA VAR. JAMAICENSIS, OR SHINING-LEAVED BRUNSFELSIA.

EDWARD MITCHELL begs most respectfully to offer to the above beautiful Stove Plant to the Floricultural Public, as being the greatest novelty of the present season, and a very great acquisition to all growers of plants for exhibition, for which it is most admirably adapted, as it is by far the freest bloomer of that interesting class of plants, E. M. having plants not more than 15 inches high with upwards of 20 of its magnificent blooms open at one time; it has also the great advantage of being very sweet-scented. E. M. was awarded for the above a bronze medal, at the last June Horticultural Exhibition, for new and rare plants; it is described by Sir Wm. Hooker in the "Botanic Magazine" in June 1847, as follows: 'An erect, shrubby-growing plant, attaining 4 to 5 feet in height; the leaves are a bright, glossy green, the flowers grow from the axils of the upper leaves, and are of a very rich sulphur colour, upwards of 5 inches in length, and more than 4 inches in diameter; altogether this may be considered one of the most beautiful plants ever offered to the public.' Strong plants will be sent out the first week in June, price 21*s.* each, with the usual discount to the Trade when three or more are ordered. Post-office order requested from unknown correspondents.

Bristol Gardens, Kemp-town, Brighton, May 8.

CRYSTAL FOUNTAIN.

E. PERKINS begs to inform his friends that he purposes sending out, the first week in May, the above splendid white FUCHSIA, which he can with confidence recommend as the largest and best ever offered to the public, and ordered by all the principal Nurserymen that saw it in bloom last season, 10*s.* 6*d.* each, with the usual allowance to the Trade. Tube and sepals waxy white, corolla approaching scarlet.—HURST and M'MULLEN, Agents in London.

Victoria Nursery, Leamington, May 8.

JOHN AND CHARLES LEE beg to offer the undernamed novelties, which they recommend with confidence. Plants of each 5*s.*, in May. Discount to the Trade, when three are ordered.

HELIOTROPIUM ALBICANS.—This is the best light Heliotrope for bedding yet offered. The general effect is a good WHITE, with dark green foliage, rendering it very conspicuous.

FUCHSIA, "THE FAIRY."—Tube, waxy pale flesh, sepals delicately tipped with bright pink: corolla edged with carmine. Altogether the most pleasing and novel Fuchsia yet sent out.

Nursery, Hammersmith, near London.

NEW SEEDLING DAHLIAS
NOW READY FOR SENDING OUT.

GAINES' COMPACTA. — Vermilion salmon, the most compact flower ever offered to the public. 3 feet 10*s.* 6*d.*

GAINES' FIREBRAND.— Orange scarlet, large flower, compact, good centre. 4 feet. 10*s.* 6*d.*

GAINES' NE PLUS ULTRA.—Rosy crimson, very constant, perfect centre. 4 feet. 10*s.* 6*d.*

—GAINES' CLAUDE (Fancy variety). — Crimson purple, tipped with white, first-rate variety. 4 feet. 10*s.* 6*d.*

P.S. A large stock of Pot, Root, and Greenhouse Plants, now ready for sale. The Fancy and Show Pelargoniums are now coming into flower, and can be seen, gratis, at the Nursery, Surrey-lane, Battersea, near London.—May 8.

DAHLIAS.—If Certificates are any criterion of merit, the under-mentioned received Thirty-three out of Fifty-five given to all England, at the Great National, Surrey Gardens, Trowbridge, Newbury, Walsall, Shacklewell, Taunton, Notting-hill, London, and Slough. They stand on this recommendation. Fine plants are now ready, with all the leading varieties, on application to JOHN KEYNES, Nurseryman, Salisbury.

Triumphant (Keynes), crimson	Aurora (Keynes), buff
Una (do.), white	Cricket (Dodu's), fancy, peach and white
Douglas Jerrold (do.), buff-edged scarlet	Miss Bathurst (do.), fancy, lilac and white
Laura Lavington (do.), fancy, fawn and white	Cloth of Gold (Hooper's) fine yellow
Nancy (do.), fancy, scarlet and white	

Catalogues, showing the three best varieties of each colour, may be had on application.—Salisbury. May 8.

PLANTS FOR BEDDING, ETC.

SAMUEL FINNEY AND Co. having on hand a large and healthy stock of the under-mentioned plants, well established in 4-inch pots, inured to the climate of the north, and ready for immediate planting, are induced to offer them at the following low prices:—

CALCEOLARIAS, of sorts	...	...	6*s.* 0*d.* per doz.
CINERARIAS,	do.	...	... 4 0 ,,
DAHLIAS,	do.	...	... 4 0 ,,
FUCHSIAS,	do.	...	... 5 0 ,,
GERANIUMS,	do.	...	... 6 0 ,,
,, Scarlet,	do.	...	... 4 0 ,,
,, Fancy,	do.	...	... 4 0 ,,
VERBENAS,	do.	...	... 4 0 ,,

Collections of the above with many other sorts suitable for bedding out, if left to S. F. and Co.'s selection, 25*s.* per 100.

Their Spring Catalogue, containing lists of all the new and most select Plants, is now ready, and may be had, gratis, on application.—Gateshead Nursery, near Newcastle-upon-Tyne.

WOODLANDS NURSERY, MARESFIELD,
NEAR UCKFIELD, SUSSEX.

DWARF ROSES FOR BEDDING.—The present month is considered the most eligible for planting out ROSES (from pots), for grouping in the Flower Garden. W. WOOD and SON beg to offer their Friends and the Public a large stock of well-grown plants, at the following prices, selection being left to themselves:—

	Per dozen—*s.*	*d.*	*s.*	*d.*
Hybrid Perpetual Roses, on the Manettii stock, also on own roots	12	0	to 18	0
Isle de Bourbon (own roots)	12	0	to 18	0
Tea-scented (own roots)	12	0	to 18	0
China, Noisette, and Climbing	9	0	to 12	0

The following Tea-scented Roses are highly recommended either for bedding or for pot culture:—

	Each.—*s.*	*d.*		Each.—*s.*	*d.*
Abricote	1	6	Marechal Bugeaud ...	1	6
Duchess of Mecklenburg (yellow)	5	0	Moyré	1	6
Elize Sauvage	1	6	Niphetos	1	6
Eugène Desgaches ...	1	6	Princesse Adelaide (yellow)	1	6
La Sylphide	1	6	Safrano	1	6
Madame Bravay	1	6	Souvenir du 30 Mai ...	1	6

PLANTS FOR BEDDING.

	Per doz
Pentstemons	6*s.* to 9*s.* 0*d.*
Phloxes	6*s.* to 9 0
Phloxes, new Continental varieties	12 0
Herbaceous Plants, fine collection, 42*s.* per 100, or 6*s.* to 12 0	

Plants presented for distant carriage.—May 8.

The Gardeners' Chronicle.

SATURDAY, MAY 8, 1852.

MEETINGS FOR THE ENSUING WEEK.

MONDAY,	May	10	Geographical	8½ P.M.
TUESDAY,	—	11	Syro Egyptian	7½ P.M.
			Civil Engineers	8 P.M.
			Medical and Chirurgical	8½ P.M.
			Zoological	9 P.M.
WEDNESDAY,	—	12	Society of Arts	8 P.M.
			Graphic	8 P.M.
			Ethnological	8½ P.M.
THURSDAY,	—	13	National Floricultural	3 P.M.
			Royal Soc of Literature	4 P.M.
			Antiquaries	8 P.M.
			Royal	8½ P.M.
FRIDAY	—	14	Astronomical	8 P.M.
			Royal Institution	8½ P.M.

COUNTRY SHOWS.—Wednesday, May 12: Hammersmith Pansy.—Thursday, May 13: Cheltenham Horticultural

IN another column will be found a circular from Messrs. CLARANCE and Co., relating to LOW-PRICED GUANO. They point out the well-known fact that no genuine Peruvian guano can be had for less than 9*l.* 5*s.* a ton; they show that guano is nevertheless sold for 7*l.* 10*s.* a ton, thus realising a loss to the seller of at least 1*l.* 15*s.*; and they prove, by Prof. WAY's evidence, that the low-priced guano is not worth more than 3*l.*, being in fact "made from 1 ton of guano and 2 tons of adulterating substances," namely CLAY, GYPSUM, and COMMON SALT. At one time we had an opinion that the practice of falsifying guano took place to a most extraordinary degree, and we took great pains to show where and how. We even ventured to hint that the buyers of guano were no better than pigeons, ready to be plucked by the first adventurer who laid hands on them. But we have altered our minds upon this subject; we no longer believe in fraud; we have entire confidence in the honesty of the world, and especially of guano dealers; and we shall now proceed to explain why this change has come over us.

It is perfectly true that loam and clay are very largely consumed in the metropolis; that they are dried and beaten and sifted, and put into bags; that the bags are put on board barges which glide down creeks into the Thames, where we all know that ships loaded with guano may be found. But surely no one will pretend that a man is justified, for such a reason, in saying that loam and clay are mixed with guano. We must have legal proof of the mixture, before we believe in the existence of such roguery as is pretended to exist.

We admit that in Wanstead Forest a beautiful yellow loam is largely dug; that the top spit, with its fibres, is cast aside, and the second spit, wherein are no fibres, is sold at 3*s.* 6*d.* a one-horse load, and 7*s.* a two-horse load. RAYNER and HICKS—good honest fellows these—hand the money to RUMBLE, who pays it to Mr. COVERDALE, the steward of the manor, who places it to the credit of my Lord MORNINGTON. But what then? What has that to do with guano? Loam is used in gardening; and besides, nobody can believe that so great a personage as Lord MORNINGTON would permit his steward to encourage public swindling. The idea is preposterous. What if the boy that digs it says that he is digging guano; are the words of an ignorant clown to be taken as proof of loam being guano? We should think not.

It is true that the loam carts belong to NEWTON, of Stratford; and it is said that he takes it to CAREY, of West Ham, and to PALMER, who occupies a part of PLATER'S yard—the Albion Wharf—Stratford. But what then? Let us suppose that CAREY is called a "guano maker." We do not know that he ever sold an ounce of guano in his life—and if he did, may he not also sell loam? Thank God this is the land of freedom, and nobody has a right to dictate to a man by what he shall or shall not get an honest living!

People might as well say that Mr. TONS, quite a remarkable man, residing on Bow Common, mixed loam with guano, just because he carts loam from Wanstead; or they might fasten the charge upon Mr. CALVERT, a manure maker, and, as we believe, another most remarkable gentleman—to say nothing of his being a neighbour of Mr. TONS, —merely because he too has loam carted for him, and because his yard contains blue Billy, lime, and ashes; and because these things are beaten, sifted, and mixed there. But all the world knows that blue Billy, a residuum of the gas works, is a manure, and that lime is a manure, and that ashes, if not a direct manure, are highly useful on heavy land. And is not Mr. CALVERT a manure maker? We have no doubt in our own minds that these ingredients, skilfully put together, would make a manure as good as half what is sold. Perhaps loam may be useful in diminishing the strength of blue Billy. We protest against the doctrine that a man is not to sell artificial manure, because it happens to look like guano. It might as well be argued that the sale of treacle should be complained of, because it is so much like tar.

The truth is, that the public mind is most unaccountably prejudiced against loam and dealers in it. Ever since that unfortunate gentleman, Mr. PICKERING, was transported, owing to the case which GIBBS'S house had the cruelty to get up, it has become unsafe to have a bag of loam on the premises. The prejudice is so strong that we see no hope of overcoming it, except by taking up in a serious spirit the defence of Lord MORNINGTON and his customers; and to show how unreasonable people are, we will just mention a circumstance or two that have come to our knowledge, and how easily wrong inferences may be drawn.

As we have already said, Mr. TONS, of Bow-common, is a very remarkable gentleman—we believe a blood-boiler. It happened that on Monday, April 5, Mr. TONS'S carts were fetching beautiful light-brown loam from Wanstead-common. It also happened that on Wednesday, April 5, his carts were loaded with what seemed to be bags of guano, which were conveyed to Ratcliffe-cross wharf, and put on board the barge John. This barge John met with a small accident on her way down, but finally reached Greenwich, where she is said to have discharged

her cargo into a vessel lying off the Folly-house. But what of that? In the first place there is not a tittle of evidence that the loam carted on the Monday had anything to do with the guano carted on Wednesday. Neither is there anything to show that the guano was not guano. For our own parts we maintain that there is a fair presumption that it was guano. As to putting it on board the ship lying off the Folly-house, that has nothing to do with the question. It might as well be pretended that the guano shipped a short time since on board the Gleaner, of Southampton, Capt. POPE, which sailed for Penzance with 100 tons in bulk, was loam. We ought to know what that was; for we have some of it on our table. Or we shall have some one asserting that the 15 tons of guano which went to Leicester about the 12th of April, in GAMBLE'S boat, was the same valuable article. Indeed we should not be surprised if an unfavourable opinion were entertained of the cargo of the Pandora, Capt. JAY, which loaded at the Mud-hole tier last Saturday fortnight, and sailed for BERWICK with 150 tons on board, in bulk.

It would be a pleasant thing, truly, for the consignees of these cargoes, if their customers were to question their honesty, because the consumption of loam in the metropolis has become enormously greater than it ever was before.

WE greatly regret the necessity of announcing that Mr. WILLIAM GARDINER, the well-known author of a "Flora of Forfarshire," "Lessons on Mosses," "Botanical Rambles in Braemar," and other very useful works, is at present in a most delicate state of health, and in circumstances much requiring pecuniary aid. Several benevolent individuals have come forward with subscriptions; but more is needed, and we hope will be contributed *speedily*. Those desirous of helping the poor naturalist may remit their subscriptions to Mr. GEORGE LAWSON, Botanical-rooms, University, Edinburgh; or to Mr. JAMES SCRYMGEOUR, 11, Reform-street, Dundee.

FOREIGN GARDEN GLEANINGS.

LIEGE.—The soil of Liége is light, black, and absorbs heat easily, which explains why its vegetation is as forward as that of Paris. I shall only mention Mr. Makoy's establishment, and the new botanic garden. The first is situate close to the railway, and on the left incline of Liége, in a good situation; a hollow road separates the two great sorts of cultivation found here. On the right, and facing the south, there are large and numerous hothouses; on the left are trees, Azaleas, Rhododendrons, Roses, tree and herbaceous Pæonies. The collection of the last occupies no less than a quarter of an acre, and includes a host of remarkable plants; each plant has its own label, which is immovable, and consists of an engraved flat stone or brick. In the houses I saw some fine specimens of Camellias and Rhododendrons, some of which were 20 feet in height; they were in full bloom. There was one variety of Rhododendron, the name of which I have forgotten, measuring nearly 5 yards, and loaded with immense bouquets of white flowers marked with greyish spots; one of these trusses which I measured in the presence of Mr. Makoy, was nearly 4 ins. in diameter; the plant was valued at 60*l*. A single stove distributes the heat required by all the houses, which for the most part rise one above the other, are rather deep, and not too moist; plants for commerce are raised in them.

I ought here to mention Mr. Makoy's numerous experiments on our trees and shrubs with different coloured woods, leaves similarly coloured, curled, cut, filiform, and on weeping trees, &c. I saw a large house full of young plants in pots, cleft grafted in all sorts of ways. The smallest lot was symmetrically placed in the midst of the general arrangement; here were some Berberries with curious foliage, Lime trees with broad or otherwise remarkable leaves, Spindle trees with strange foliage, weeping Peach trees, coloured-leaved Elms; Oaks, Maples, Mulberry trees, Broussonetia and Clematis with different leaves, and in short every species of tree fit for an English garden.

The botanic garden is under the management of Mr. Dyrick, late chief gardener at the royal garden at Brussels. Although it is of short standing, it contains many large Palm trees, as well as many of the hothouse plants which formerly belonged to the garden of the University. The conservatory is in form like the one at Brussels; two large double houses which adjoin it are full, the one of hothouse, the other of greenhouse plants. The garden part is somewhat like an English garden; the classification adopted, without being quite natural, is very near it. Each family is separated from its neighbour by turf. The trees are all arranged on a given plan, as are also the common plants, which, though few in number, are sufficient for the purposes of study.

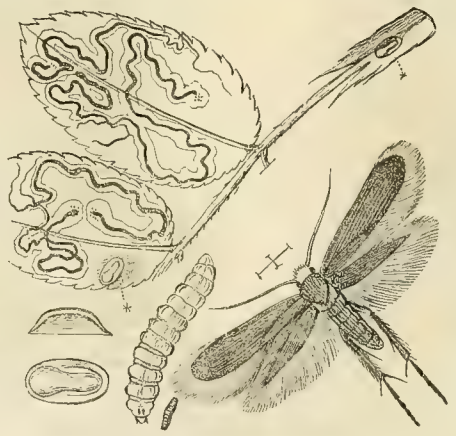
I now bring these gleanings to a close, and, to sum up my general impressions, I may say that in a horticultural point of view, Germany is advancing rapidly towards perfection, although there can be no doubt that France is still in the front rank. *Masson's Report.*

ENTOMOLOGY.

THE ROSE-LEAF MINER.

IN several of our entomological articles we have had occasion to remark, that facts of the most interesting kind (and many of them quite new to science) might be ascertained by observing some of the apparently most common species of insects. The history of the honey bee, green-fly or plant-louse, and even of the blue-bottle fly (three perhaps of the best known species of insects), is connected with some of the most remarkable physiological questions; indeed it may be safely affirmed that scarcely a single insect can be traced through its marvellous series of metamorphoses, without some curious point of inquiry being elicited, or some unlooked-for result obtained. Such results, however, can of course only be produced by an *attentive spirit of observation*, and a desire, not merely to obtain a set of fine specimens for the cabinet, but also a real knowledge of the objects themselves.

I have made these few preliminary remarks, because I ascertained, during my investigation of the transformations of the little mining larvæ of the Rose-leaves, not only that several points of their history had been overlooked, but that our micro-lepidopterists, who have now for several years past exclusively studied the history of our minute moths, were entirely ignorant as to the species by which the leaves of the common Rose were mined. The history of the species has to a great extent been traced by De Geer (Mémoires, vol. i., p. 446—455), but as he only succeeded in obtaining a single specimen of the perfect moth, and as it had died in his breeding-box, he was unable to describe it because it was "*mort et desséché, et toutes ses parties étoient dérangées.*" He was indeed well pleased to be able to assert that it was truly a moth; because, out of 15 caterpillars, only this one moth had been developed, the remainder having produced a small black Ichneumon fly. I have, however, been more fortunate; having not only succeeded in rearing the perfect insect, but having also captured several specimens at large on the Rose-bushes in the middle of the month of August, the leaves of which had previously supplied me with the larvæ for observation.



Our figure represents several leaflets of a Rose leaf, one of which will be observed to be marked with a number of slender black winding lines, closely resembling the tortuous course of a river on a map, beginning like a small brook, and gradually increasing in breadth as it proceeds. This representation of a river exhibits, besides, a narrow white valley on each side of it, increasing as it goes till it terminates in a broad delta. The valley is the inner portion of the leaf, from which the inclosed caterpillar has eaten the pulp or parenchyme, whilst the river itself has been formed by the liquid ejectamenta of the insect, the watery part having evaporated. One of the leaflets in our figure has been mined by three several caterpillars, and it is curious to see that whilst one has gone from nearly the extremity to the base of the leaflet, another has confined itself close to the extremity, where it has consequently been obliged to cross and recross its burrow several times. Another peculiarity consists in the circumstance that the caterpillars do not eat the entire of the pulp in their burrows, for it will be observed on examining one of these mined leaves, that no trace of the burrow is to be seen on the underside of the leaf, proving that it eats as it proceeds only half the thickness of the parenchyme, or that portion of it which belongs to the upper membrane of the leaf. This curious instinct also proves the extreme minuteness of the workmanship of these miners; for though a Rose leaf is as thin as this paper, the insect finds room to form a tunnel, the substance of which serves for its food in the upper half of the parenchyme. Let any one try with the nicest dissecting instruments to separate the two plates of a Rose leaf, and he will find it impossible to proceed far without tearing one or the other. ("Insect Architecture," p. 234, where the species is erroneously assigned to Argyromyges Rayella.) In this work a further circumstance is mentioned which I have not myself observed. "On looking at the back of the leaf where the winding line begins, we uniformly find the shell of the very minute egg from which the caterpillar has been hatched, and hence perceive that it digs into the leaf the moment it escapes from the egg, without wandering a hairs-breadth from the spot, as if afraid lest the air should visit it too roughly. The egg is for the most part placed upon the under-rib of the Rose leaf, but sometimes on one of the larger nervures." There appear to be a succession of generations of these insects in the course of a year. I have in fact found the caterpillars full grown in July; De Geer met with them in September and October; and last year I found the leaves of the common Cabbage Rose greatly infested with them as late as the beginning of November. The caterpillars are of a rich yellow colour, and the structure of their legs is so curious, that it was only by rearing the perfect insect that De Geer could convince himself that they were really the larvæ of Lepidopterous insects. "*Je les crus d'abord être des vers d'un genre particulier.*" They are, indeed, entirely destitute of the short articulated hooked legs attached to the three anterior segments in the majority of caterpillars. Zeller, however, gives as the character of his genus Nepticula (Linnæa Entomol. iii. 301), the larva as furnished with four true legs and twelve pro-legs; but this is, as far as I am able to observe, incorrect in the species before us, however it may agree with other species. De Geer, indeed, states that the rose-miner possesses eighteen pro-legs attached in pairs to the second and eight following segments of the body, the first and two last segments not being provided with any of these membranous or other legs. This remarkable arrangement led the Baron to examine numbers of individuals and to repeat his observations after a long interval, the result of which causes him to affirm that these caterpillars differ so entirely from all other known species that they "*semblent être faites pour confondre les faiseurs de systèmes.*"

When full grown the little caterpillar pierces the thin upper pellicle of the leaf, and crawls to some secure spot where it can undergo its transformations, selecting small crevices in the bark or the angles formed by the branches or by a large spine with the stem. I however regularly observed that they selected the base of the leaf-stem, which is generally supplied with a little leafy appendage on each side, together forming a concavity well fitted for the reception of the cocoon, which is of a white colour and of an oval form, with the upper surface nearly flat and the sides bent upwards, and having a very thin margin extending all round. Within this cocoon the chrysalis may be found of a remarkably short and rather depressed form, with the wing-covers nearly extending to the end of the body. The perfect insect itself is a beautiful little moth, being indeed one of the smallest of its family, measuring about one-fifth of an inch ($2\frac{3}{4}$ lines) in the expansion of its fore wings. It is known in English collections under the name of Argyromyges ruficapitella of Haworth, having the fore wings of a brassy golden colour, the extremity deeply tinged with violet, and the head clothed with red hairs; but, according to Zeller, the red-headed individuals are females, the males having the head clothed with black hairs (Tinea atricapitella, Haworth). Zeller has accordingly changed the name to Nepticula Samiatella. It may, however, perhaps be questioned whether Zeller be correct in his observations, as I reared at the same time, and under precisely similar circumstances, not only the red-headed ruficapitella, but also a red-headed specimen with the fore wings of a metallic brown-violet colour, having a transverse pale golden-coloured fascia near the tips of the wings. This agrees with Zeller's female of N. centifoliella. The specific rank therefore of these little moths has yet to be determined. *J. O. W.*

GESNERA ZEBRINA.

THE rich, green, velvety-like, and elegantly marked foliage of this lovely Gesnera, renders it a pleasing and attractive object during all its stages of growth; and its fine spikes of deep red and orange blossoms are fully worthy of the fine foliage from amid which they issue. It may be had in bloom at almost any period of the year; but it is most valued and useful for autumn and early winter flowering, and for this purpose few plants are more useful.

Like Achimenes, Gesneras increase sufficiently fast, by means of their under-ground tubers, to render artificial propagation unnecessary, at least in the case of ordinary growers. If it is desired to have flowering specimens in autumn and early winter, the tubers should be carefully separated from the soil in which they have been wintered, about the beginning of March, and planted rather thickly on the surface of well drained pots or pans, filled to within about 3 inches of their surface with any light peaty soil, from which it will be easy to separate the roots without injury, and covered 2 inches deep. Give a gentle watering, to settle the soil about the tubers, and place them in a warm growing temperature of about 65° or 70°. Until the plants appear above the soil no more water should be given than may be necessary to preserve the soil in a moist healthy condition. As soon as the plants are from an inch to 2 inches high they should be separated and repotted. I use shallow 8-inch pots, and place five plants in each; but the number of plants to a pot should be regulated by the taste and convenience of the cultivator. With proper management one plant in a pot will form a very fine specimen; but to effect this, more care and time are required than when five plants are put into a pot, and the latter form larger specimens than it is possible to obtain by having only one plant. After potting, keep the atmosphere close and moist, and give very little water at the root until they start into growth. When the pots are moderately well filled with roots, shift into the flowering size. For single specimens, 10-inch pots will be sufficiently large; when three plants are used, 12-inch pots will be necessary, and 13-inch pots in the case of five plants. Keep close and moist, and carefully avoid over-watering till the roots can penetrate the fresh soil. A high temperature during summer is rather injurious

than beneficial in the culture of this plant; 50° or 60° at night, allowing it to range 10° or 15° higher with sun heat, will be most conducive to strong vigorous growth, and the production of handsome specimens. The plants should be placed near the glass, so that they may receive as much light as can be afforded them, but it will be found necessary to slightly shade them during bright sunshine, and the atmosphere should be maintained in a thoroughly moist state; but this must not be effected by excluding air and close shading, otherwise the plants will assume a sickly, drawn appearance, and the foliage will be thin and ill-coloured. The shoots may be neatly staked, as soon as they are high enough to be liable to be broken. The stakes used may be cut off at the height of about 15 inches, which will be sufficient for the support of the plants; the flower-spikes will require no support, and if the plants are kept near the glass, and frequently turned round, they, too, will probably need no staking, to cause them to assume the desired form. This plant has a tendency, under high cultivation, to produce flower-spikes at the axils of the leaves, and it will generally form a more showy specimen in this way than if stopping is resorted to; but when only one plant is used as the foundation of the specimen, it may be advisable to stop once, when about 4 inches high. An occasional watering with clear manure-water will tend to promote vigorous growth; but this will be unnecessary till the plants have pretty well filled their pots with roots.

When the blossoms begin to be developed, the plants may be removed to the conservatory or greenhouse; but they must be gradually prepared for the change. Great care should be used to prevent their sustaining any check, and they should be guarded from currents of cold air after their removal. A temperature of from 45° to 50° at night will be necessary during the blooming season, if the plants are expected to increase in size and beauty for some two months.

When they show symptoms of decline, water should be gradually withheld; and when the foliage and stems die down, the pots should be placed in a situation where they will be free from damp and frost; unless the tubers are well ripened, they should not be placed in a lower temperature than 45°. A rich friable soil is essential to the production of fine specimens of this Gesnera. I find light sandy turfy loam, rich fibry peat, and thoroughly decomposed cow-dung, in about equal portions, adding a sufficient quantity of sharp silver sand, to insure the free percolation of water through the mass, to suit it well. The loam and peat need not be broken up into very small pieces; but the dung should be passed through a fine sieve, to catch the worms, which it almost always contains. I ought to state that there are two varieties of this Gesnera in cultivation, the one having thin ill-coloured leaves, and in every way much inferior to the other; therefore beginners should take care not to purchase the worthless variety, which, however, is not very common. *Alpha.*

LOW-PRICED GUANO.

We have been engaged in the sale of Peruvian guano from its first introduction into Great Britain; of late we have received many complaints from our agricultural friends, that the price we charged them exceeded that made by others, delivered in the country.

Messrs. Antony Gibbs and Sons are the only agents for the Peruvian Government, and their price for the last two years has remained fixed at 9*l.* 5*s.* per ton, in large quantities. As we regulate our price by theirs, we thought it necessary to institute an inquiry, to ascertain how any country dealer in guano could make such advantageous purchases as to enable him to undersell us.

The result of our inquiry warrants our placing the following statement before our friends and the public, to put them on their guard against imposition:—

Having been informed that Messrs. Marsh and Co., 147, Leadenhall-street, were shipping guano extensively to Scotland and other places, we made a purchase from them of 2 tons of guano, ex Arnold, in appearance much resembling the best Peruvian guano, at 7*l.* 10*s.* per ton, with an analysis, which the seller informed us made the guano in value within 20*s.* per ton of Peruvian.

On receipt of the guano, we ordered the wharfinger to draw an average sample from several bags, which we sent to Professor Way for his analysis and report, which are as follows, and require no comment from us, as they plainly show the great imposition to which the agriculturist is exposed, and the irreparable injury done to the importers of, and dealers in, the genuine Peruvian guano. *John Clarance and Co., Lime-street, May* 1, 1852.

Analysis and Report of the Sample of Guano above referred to, purchased at 7*l.* 10*s. per ton, made by Professor Way, 28th April,* 1852.

Analysis.	Per cent.
Moisture	8.18
Animal matter and salts of ammonia	20.25
Sand and clay (principally clay)	14.70
Earthy phosphates	15.15
Sulphate of lime (gypsum)	24.69
Common salt	12 08
Sulphates of potash and soda	4.95
	100.00

	Per cent.
Nitrogen	4 58
Equal to ammonia	5 56 on 100 parts of guano.

(Signed) J. Thomas Way.

Report.

Holles-street, April 28, 1852.

Gentlemen,—My experience leads me to believe that the sample you have sent me is highly adulterated Peruvian guano, the substances used to sophisticate it being clay, gypsum, and common salt, and that 3 tons of the sample have been made from 1 ton of guano and 2 tons of adulterating substances. The value I take to be about 3*l.* per ton. (Signed) J. Thomas Way.

To Messrs. John Clarance and Co.

TRADE MEMORANDA.

Who is Mr. T. M. Gilbert, who orders plants to be sent to the Pheasant Inn, Hurst, near Wokingham?

Home Correspondence.

Dielytra spectabilis.—Although the Dielytra is properly classed as a spring-flowering plant, yet if propagated by cuttings of the young shoots in the spring, and planted out in June in a sheltered situation, it will continue to throw up a succession of blooms till late in the season; it thrives best in a rich light soil, and should be plentifully supplied with water in dry weather. Last season I saw a bed so treated, in the front of a greenhouse, in bloom in September, and it appeared likely to continue in flower much longer, if frosts did not occur. To procure a stock of plants, a few old roots should be placed in heat in February; take off the young shoots as they advance, and strike them in a similar way to Dahlias; they should afterwards have a shift, and be kept in a frame till all danger of frosts is over, when they may be planted out as above. *Writer of the Calendar.*——We have a plant, 2½ feet high, showing 17 spikes of flowers and 70 expanded blooms. It was covered during winter with cinder-ashes, but received no other protection whatever. It is on a south-east border, in very coarse and heavy soil. Every leaf is free from spot or blemish, and it has never had any support in the way of stakes. *James Harris, gardener to T. Ingle, Esq., Wood Hall, Norfolk.*

Large Yews.—A remarkable tree of this kind stands in the churchyard of Loose, a romantic looking village near the centre of Kent. The tree in question is now a mere shell, the central part being totally decayed, leaving the outer portion of irregular thickness of from 6 to 12 inches, and on one side, an opening of about 2 feet wide gives access to the centre, which would hold several people were it not that the upper portion of the tree (which is healthy) has sent down a series of roots, and otherwise converted a portion of the tree into such, which occupying a considerable space in the middle, leave less room than otherwise would be. The general outline of this tree is characteristic of the Yew. It is nearly half a globe, and its boughs extend about equal distances on all sides but one, where it would seem that many years ago the tree had lost an important limb, but that defect, however, is nearly compensated for by the well-clothed appearance it has on the other sides, so that it covers a space of ground of upwards of 70 feet in diameter; nevertheless this is not remarkable, there being plenty larger in that respect; but the main trunk is extraordinary. The height, to where it separates into several large limbs, is about 8 or 9 feet; and the circumference in the smallest part, between the root claws and the breaking out of the boughs, I ascertained, by careful measurement, to be 30 feet 10 inches. Now a tree of 10 feet in diameter is not to be seen every day; and this one does not present any of those features which give a false increase to its measurement. Here were no ugly protuberances, no deep recesses—its outer surface being tolerably smooth and even. One of its principal limbs—which, however, I did not measure—appeared to be 5 or 6 feet in diameter, and, like the trunk, was hollow; but the extreme boughs were all sound and healthy. The situation of this fine old tree is in a valley, but a few yards from where limestone called "Kentish rag" was dug in quantities, and its roots were evidently in immediate contact with that material. I have been told that there are several large Yews in Kent, but no one could inform me of a larger one than this. I saw part of the shell of a similar tree in another churchyard, but it was quite dead; it had evidently been upwards of 20 feet in circumference. *An Old Gardener.*

Water Rats.—I observed an article at p. 278, respecting the water rat destroying trees. I am much pestered with them, and they are very destructive to the banks of our rivers. A few winters ago I found some Laurel bushes destroyed by their having eaten through the stem, just under ground; they were good sized stems. *S. Gurney, jun., Carshalton.*——Although nobody can dislike the Hanoverian rat more than I do, nevertheless, I will not add injustice to antipathy by supposing for one moment that this voracious foreigner ever fills its craving maw with rind from the Moorpark Apricot. That it will devour the fruit of this valuable tree I had yearly experience, ere I adopted vigorous and effective measures against the intruder. At present, were I to offer a reward of 10*l.*, I could not procure an individual of this rat within the park wall. The tree in question has been preyed upon by my favourite water rat, which "Clericus" seems to have mistaken for one of "the old black species." The chief winter support of the water rat is derived from the bark of Osiers, and different shrubs in the vicinity of its watery haunts. It is never molested here; and, if I only make a cautious approach, I can see it sitting upon a stone in the brook, and looking at me whilst I am admiring its beautiful symmetry. I always consider it in the light of a pretty little English beaver, to the habits of which it seems to make a nearer approach than to those of the mischievous rat originally from Hanover. By the way, a concluding word on fruit and forest trees. Let your gardener collect a wheelbarrow full of cows'-dung from the pasture, add a sufficient quantity of soot until it resembles mortar in consistency; let it remain unused for a week, but do not add water to it. Then apply it with your hand or with a mason's trowel to the stems of fruit and forest trees. It will be a repellent to hares and horses for full two years, and it will do no manner of harm to the trees which have received it. *Charles Waterton, Walton-hall.*

Climate of Flintshire.—You must excuse my little weakness in boasting of the mildness of our northern climate. The difference between the temperature at Chiswick and ours here has been very considerable during the last month. We have not had it lower than 33° since April 1 (this temperature has occurred five times on a north wall), nor lower than 27° on the 17th, under an umbrella something similar to yours. I think that the lowest point of the winter has been 24°. The sun has been very hot, although the winds have been cold, dry, and ungenial. A Clianthus puniceus, which has only had the protection of a wall and a rough box full of holes for about 5 feet of its height, the remainder being covered slightly by Fir branches, all of which were removed three weeks since, is now in handsome flower, and not even the latest autumnal shoots, some of which have been fully exposed during the winter, are in the least degree touched by the frost. It is curious that the shoots which have been the most exposed, have flowered the earliest; the plant is only four years old from the pot, and is within a few inches of 15 feet high, having at this moment above 50 bunches of blossoms expanded, and some 20 more a little tinged, besides innumerable buds. The soil is sandy. Will the seeds ripen? Can I assist them in any way? On the same wall I have an Olive, a Camellia, Ceanothus azureus, Myrtle, &c. We have Horse Chestnuts in handsome leaf, and Sycamores almost so. In Mr. Conway's garden, Bodryddann, near St. Asaph, is a Fig-tree in the middle of the garden, 4 feet in circumference, and looking altogether like a considerable Apple-tree. A Phœnix dactylifera also exists, guarded with only Fir branches, in the depth of the winter. It has been there many years. *Gallicus.*

Boyd's Self-adjusting Scythe.—I think it a pity that so ingenious a device as Boyd's self-adjusting scythe should risk its reputation by a defect in workmanship. I bought one of these scythes, and was exceedingly pleased with its performance, which was very satisfactory likewise to the old mower who used it; but after a second trial the screw used to fix the blade at the right angle had entirely lost its power—the fact is, the screw was too fine, too short, did not fit the hole it passed through, and moreover, the nut was too thin. I have had a new screw and nut made by a country smith, by which this evil is remedied, and I can now pronounce the instrument (for mowing lawns) a most excellent one. *S. F.*

Cœlogyne Wallichii and maculata.—Having stated that I conceived the first of these would be grown as freely as Crocuses, and would make beautiful winter and autumn flowering plants, one of your correspondents requires to know how they are grown, as hitherto he has not been successful with them. My gardener plants them in mould rather richer than that usually adopted in the culture of other terrestrial Orchids, grows them fast in the warm house, and when they go to rest they are kept nearly dry but well exposed to the sun; and I believe the two points to be attended to are to obtain a vigorous and quick growth and a long rest. The plants propagate freely. About two years ago I had good well-established, but small, plants from Messrs. Veitch, of Exeter, and I have a good-sized pot of each, besides a few spare bulbs which have been distributed. I should observe that the leaves are very liable to scorch, and that C. maculata hitherto has not flowered freely, but this year the bulbs are much larger than those of last year, the soil having been enriched; the leaves of some of the plants of C. Wallichii are more than 10 inches long and nearly 4 inches broad. *Dodman.*

Weather in the far North of Scotland.—As you solicit the observations and experience of horticulturists upon the climate of Wales and Ireland, I have thought that some memoranda made during the past winter and spring, in this part of the kingdom (Gordon Castle), may be of interest to you. We are situated between 57° and 58° north latitude, and are in a position to prove the truth of your late assertions respecting the variations of climate, and that frost and cold do not follow in a uniform ratio in corresponding latitudinal lines as the sun recedes from our northern shores; but we are influenced by various unknown or unexplained causes, apart from the absence of the sun. Scotland generally has less severity of frost than the south of England, for the breadth of land is less; it is surrounded by a wider expanse of ocean, and is farther from the great continent of Europe, it being well known that the wider the tract of land the more extreme the changes of weather are. The small islands of Shetland and Feroe, although many degrees north of London, have an average temperature of 2° higher. Scotland possessing what may be termed a purely island climate, half-hardy plants endure our winters even better than in the south-east of England. Eleven degrees of frost are the most that have been experienced here during the past winter and spring; and these only three times, viz. January 14, and March 4 and 28; on the other hand, the highest night temperature up to the present date has not exceeded 40°. The past two months have been throughout dry and cold, and frequently 5° or 6° of frost have occurred at night, but still nothing appears to have been injured. Apricots had some of their blossoms open on the 28th February; they have set their fruit well, and

are in size, I should fancy, not much behind what they are in the south. The only covering they have had is old netting. Peaches and Nectarines did not ripen their wood well last summer, through the weather being unusually cold and sunless; consequently, we have very little fruit. Some of the new hybrid Fuchsias left in the open borders all winter, with only a mulching of leaf-mould over their roots, are pushing strong shoots. Salvia fulgens has succeeded perfectly in the same way. I took this hint from a nurseryman here, who showed me a bed of them last spring, which he had preserved for several years in this manner. The following have also stood without any protection:—Primula sinensis, in the open border; Metrosideros splendens; Weigela rosea; Forsythia viridissima; and Hydrangea hortensis; a fine old plant against a south wall of Magnolia grandiflora has now flowers upon it: these were formed in the autumn, and have made some small progress through the winter. Figs upon a south wall are showing fruit well. Standard Plums and Pears are now in blossom; and although the past winter has been much colder than its predecessor, still I think vegetation generally is more forward than last year. *John Webster, Gordon Castle, N. B., April* 22.

Vines.—In May 1849, some Vines were planted in the border of a greenhouse, and brought through holes in front of the house, which made very satisfactory progress the first year. In the winter they were cut down to the holes, and in 1850 made very good shoots, which, in the winter, were again cut down to the top of the front lights; and in 1851 made extraordinary strong shoots, particularly the leading shoot, which had leaves more like Rhubarb than Vine leaves. But what I wish to know is, why there should have been no buds in the middle of these very strong shoots? Where three or four of these very large leaves grew, there were no buds formed; the laterals of some of them were preserved, which does not seem to have in any way helped to the formation of buds. This year, 1852, by bending the shoots, all the buds have broken; but, owing to the absence of buds for three or four joints in the middle, they have a bare and awkward appearance. Can you account for this? *D.* [No.]

Seed Trade.—The question as to the seed trade, which has been of late so much discussed in the *Chronicle*, is, in fact, well discussed by Mr. Babbage in that chapter of his work on the Economy of Machinery, which he entitles "On the Influence of Verification, on Price." The money price of an article at any given period is usually stated to depend upon the proportion between the supply and the demand. The average price of an article during a long period is said to depend ultimately on the power of producing and selling it with the ordinary profit on capital. But these principles, although true in their general sense, are yet so often modified by the influence of others that it becomes necessary to examine a little into the disturbing forces. It may be observed that the cost of any article to the purchaser includes, besides the supply and demand, another element, which, though often of little importance, is in many cases of great consequence. The cost to the purchaser is the price he pays for any article, added to the *cost of verifying the fact of its having that degree of goodness for which he contracts.* In some cases the goodness of the article is evident on mere inspection; and in those cases there is not much difference of price at different shops. The goodness of loaf sugar, for instance, can be discovered almost at a glance; and the consequence is, that the price is so uniform, and the profit upon it so small, that no grocer is at all anxious to sell it; whilst, on the other hand, tea, of which it is exceedingly difficult to judge, and which can be adulterated by mixture so as to deceive the skill even of a practised eye, has a great variety of different prices. Mr. Babbage gives many other illustrations of the same subject, especially as to the doctoring of Clover, Trefoil, and Flax seeds, which excited the attention of the House of Commons; the result is, that those who wish to ensure good quality, either of seeds or other articles easily adulterated, must pay in the price for the verification of the quality, or become their own producers, as in the case of flour; the Government found it necessary to erect mills of their own, to avoid the falsification of an article whose adulteration is always difficult and costly to detect. We must therefore be content to go to Messrs. This or Mr. That, of known character, and pay a good price for a good article; but this may be sometimes overdone, I think. Wanting some Buckwheat for seed, I went to the fountain-head and paid 8*s* a bushel, which I suspect is much above the market price for good seed; the quantity, however, being small, this was unimportant. The great facility in the adulteration of drugs, and the notoriety of the practice, led, I believe, to the establishment of Apothecaries'-hall, where drugs of the first quality are purchased at a fair price, I understand. Perhaps some such institution as regards seeds might be usefully established. *Dodman.*

Fumigators.—As the merits and demerits of various modes of fumigating are now being discussed in your columns, perhaps I may be permitted to describe a very efficient instrument which I use for the purpose. It is by no means new, but it is not so much in use as it should be. Every one, I think, will agree with Mr. Fry, that for certain purposes the "fanner-blast fumigator" is a most useful instrument, but it must also be admitted that fumigating large houses with it is a tedious operation. My instrument is a sheet-iron choffer, or hollow cylinder, 8 inches in depth and 7 inches in diameter, having as a bottom a stout iron grating, with feet 3 inches long, and attached to the feet is an ash-pan a little wider than the grating, so that the contrivance can be lifted about by the handle with the greatest ease. So far it nearly corresponds with Mr. Fry's "sauce-pan;" but our choffer has an iron top riveted on to it, having a hole in the middle about 4 inches in diameter, with a flange, over which is fitted a moveable funnel 2 feet long, just slipping it over the outside of the flange. This instrument is used thus. Light a few pieces of charcoal and place them on the grating, put on the funnel for a minute or so, till the contrivance becomes heated, then take it off and put in the Tobacco, with a little damp moss over it; replace the funnel and the "Queen's own Tobacco-pipe" of the London Docks could scarcely burn it quicker. Should the fire threaten to break through, which, from the strong draught, it is likely to do, a little damp moss put down the funnel prevents it, and keeps the smoke cool. I may add, that this is by far the most efficient contrivance for the purpose I have either seen or heard of. *G. E., Fife.*

Canadian Tulips.—It would be something novel to send Tulips from Canada to gardening England. The bulbs do better here than with you, though perhaps the bloom is not so fine, as we have such a strong sun. The snow is only now leaving us. It has been a tedious and severe winter, as low as 27° below zero, a degree of cold of which English gardeners have no conception; still, scarcely any of our hardy stuff is lost. Forcing is no joke in Canada. It may be interesting to state, that last winter, when the cold was the same, all the fruit-buds of the Plum and Cherry were totally destroyed, only a very few being saved, which were covered with snow. It seems, therefore, these will not endure 27° below zero. *Cockburn and Brown, Cote des Neiges Nurseries, near Montreal, April* 10, 1852.

Rain at Grantham, during 1851.—As the quantity which fell here seems to be smaller than that mentioned in any statement I have seen, some of your readers may like to know the actual amount registered during the year. Generally speaking, Grantham is a damp neighbourhood, though it is by no means a wet one. Our gauge is one of Newman's, and is situated about 15 feet from the ground. It will be seen by the subjoined return that the greatest quantity for any one month was in July; and that the greatest amount for a day was on the 25th of the same month, when there was 1 inch 12-20ths. (The inch is divided into 20th parts.)—

	Days on which it rained.	Inches.	20ths of an inch.
January	7	1	6½
February	4	0	6
March	12	1	16½
April	7	1	0¾
May	4	0	8
June	6	1	19½
July	9	3	4½
August...	7	1	10½
September	4	1	6¾
October	9	1	13½
November	4	0	11
December	2	0	12
Total...	75	15	15

—*John Reed.*

Growth of a Lucombe (Evergreen) Oak, planted by Robert Leighton, in 1776, in the park opposite Lord Ducie's mansion, Woodchester, Gloucestershire; soil, calcareous loam on the lower oolite; measured, 1805, girth at breast-high, 37½ inches; 1820, ditto, 77 inches; 1852, ditto, 108½ inches. *M. S.*

The Tradescants.—The appeal made to the lovers of Natural History by Sir William Hooker, Dr. Young, and yourself, ought to be responded to by the devotees to the natural sciences generally, and by the Dodmans, and all lovers of gardening especially. The Tradescants were no ordinary persons; the fact of their being gardeners, as well as travellers and collectors, should ensure the stray shillings or half-crowns of those who joy in that favourite pursuit; whilst those of a more numerous class—those interested in all other branches of natural history, and who acknowledge the value of museums, and have received instructions from them (and who has not?) should join in perpetuating the names and whereabouts of the first founders of museums in England. I possess a copy of Parkinson's "Garden of Pleasant Flowers," published in 1629, and which at the risk of becoming prolix, I will say a word or two about. In the years 1810 to 1814, I was acquainted with a descendant of one of the Walloons who took refuge in our city, after having been driven from their own country by religious intolerance and persecution. These good men, as is well known, brought their stock-in-trade with them, and were in fact the teachers of our Kentish men in the arts of weaving, both of woollen and silk. My friend's name was Riqueburgh, and as well as being a silk weaver he was also a gardener, as far as the culture of his own garden was concerned. This man died at the age of 90, and he often related to me that his father had told him that Tradescant had gardened in Canterbury for the famous Lord Wootton, in the reign of Queen Elizabeth. He moreover told me that the Tradescant Cherry, which is identical with the Black Bigarroon, was brought by him from Russia, whence it had been obtained from Circassia. Whilst Tradescant was living at Canterbury he planted a Mulberry tree for his lord, upon land immediately contiguous to the gateway to the then St. Augustine's Monastery, but now the entrance to the new Missionary College founded by Mr. Hope. The land in front of this gate is still known as Lady Wootton's Green. This Mulberry tree yet exists; but many years since, the main stem became prostrate and three new stems arose, which have made goodly heads, and are still attached to the prostrate, but decaying parent trunk. This tree being so remarkable, I caused it to be drawn, and an engraving of it is published in Loudon's "Arboretum." My Walloon friend was frequently talking of Tradescant, and pointed out with glee some passages in "Parkinson," where John Tradescant is noticed as the introducer of flowers. When the poor old gentleman died, at the age of 90, he left me as a legacy his copy of the "Paradisus terrestris," and although I have many more costly books, yet I possess few to which a deeper interest attaches. It is difficult to determine motives, but I do believe that one of the reasons for commencing a museum in Canterbury is traceable to the conversations with Riqueburgh about the wondrous Ark of Tradescant. If I am the means of keeping public attention to the objects of preserving the memory of so remarkable a family, and of adding a few trifles to the fund accumulating for that purpose, my end in addressing you will be attained. *William Masters, Exotic Nursery, Canterbury.*

The Robin.—It is no uncommon thing when the small fruits are in use, for a robin to come and perch himself on the handle of the basket into which they are being gathered, and that often not more than a yard from the gatherers. At digging time it is just the same; and in severe weather he is very familiar, coming into houses, and accepting such fare as is put in his way, with evidently more satisfaction and gratitude than is evinced by many of the more legitimate occupants of such dwellings. But it is only in severe weather that his boldness becomes so apparent. It is then that he haunts the thresholds of our homes with an assurance that it would be wickedness to punish. The poor robin will then come and pick up crumbs that are thrown down to him, much the same as an ordinary fowl; and I remember one very severe winter many years ago, when some men were regularly at work in an open shed (a saw-pit) in one of our northern counties, that a robin became so tame as to come daily (or several times a day), and eat crumbs of bread out of the hand of the men; it was certainly a token of great confidence to see the pretty bird fluttering about, as if half afraid of the hazardous enterprise. But he would finally alight on the fingers of the hand held out in friendship to him, and after partaking of a crumb or two, would fly off again, but speedily returned to finish his meal, at the conclusion of which he commonly gave a song for the bounty awarded him. The long continuation of the snow rendered our companion tame indeed; and one of us generally made it a point of duty to attend on a Sunday, and feed our little favourite. If he was not there at the time a little noise soon brought him from some neighbouring place—yet he seemed more cheerful when he was the guest of the whole company, than of one individual; strutting about with a pride that denoted his being conscious of his importance; he never seemed so much himself as when all eyes were turned towards him. I have seen him, when he had missed a day's feeding, flutter about and snatch a crumb from a piece of bread a person held temptingly between his teeth, but usually it was held out on the hand. I must not, however, forget to mention that the return of fine weather made our little favourite less familiar, which might be attributed to his obtaining more suitable food elsewhere; or, perhaps, to his jealousy being aroused by some ruthless hand endeavouring to catch him, as his known boldness had rendered him rather notorious in the neighbourhood. *H. L. T.*

Societies.

Horticultural Anniversary, *May* 1.—Sir Philip de Malpas Grey Egerton, Bart., M.P., in the chair. The annual Report of the Council and Auditors was read and adopted. It stated, among other things, that "at the last anniversary the Council had to report that the debt of the Society had been increased to the extent of 111*l.* 6*s.* 7*d.*, in consequence of improvements in the garden, which had cost 1044*l.* 3*s.* 2*d.* It is now their pleasing duty to announce that the debt has been reduced within the year by the sum of 859*l.* 0*s.* 1*d.*, notwithstanding a further expenditure upon new works to the extent of 360*l.* 2*s.* 3*d.*, and a less favourable exhibition season than was anticipated; and the Council confidently believe that this has been effected without neglecting the progressive improvement of the Society's position, or the public objects for which it was incorporated. The new regulations under which Fellows of the Society and friends are admitted an hour-and-a-half earlier than others, appeared to give much satisfaction, and worked so well that the Council were induced to extend the privilege beyond its original limits; so that now, not only can any Fellow of the Society enter free at half-past 12, and introduce one friend with a ticket, but the privilege may be transferred to a brother, sister, son, daughter, father, mother, or wife, residing in the Fellow's house, provided the person to whom the transfer is made be furnished with a ticket signed by that Fellow. That is to say, the privilege of entering early may be largely transferred, but not the privilege of free admission. During the autumn the site of the American exhibition has been converted into a permanent American garden, thus obviating the necessity of any further outlay upon temporary exhibitions of this description. The committee have continued to carry on other works in the Arboretum and elsewhere. The number of superfluous trees has been still more diminished, masses of useless bushes have been removed, walks have been

widened, exhausted beds of Rhododendrons and other plants have been replanted and renewed, seats have been constructed within the shade of trees, a better approach, in stone, has been provided to the great conservatory, and some winter and spring decoration has been given to most of those beds in the Arboretum, which have hitherto been merely occupied by bedding out plants in summer. The experiment of Mr. Rivers upon the cultivation of plants in what he calls orchard-houses —that is to say, in very cheap glazed wooden sheds— has been attended with so much success, and has excited so much interest among cultivators of limited means, that the committee felt themselves called upon to place in the garden an example of this kind of structure. They have therefore built a house 56 feet long, and 23 feet wide, entirely with wood and glass, upon a plan furnished by Mr. Rivers, for which the garden funds are charged with a sum of 66*l.* 4*s.* 7*d.* This house is to be devoted exclusively to the cultivation of Roses, and has been planted at their own charge by Mr. Rivers, of Sawbridgeworth, Messrs. Paul and Co., of Cheshunt, and Messrs. Lane and Co., of Great Berkhampstead, with the finest varieties which those justly eminent firms could supply. The experiment will show the value of the opinions of those who doubt whether plants can be advantageously grown in such buildings. Should the experiment be unsuccessful, the materials of the house can be applied to some other purpose, the sashes having been prepared with the same care as if they had been intended for a more durable structure. The Committee announce with satisfaction that the value of the articles distributed has very materially improved under the new regulations announced in the last annual report; but they at the same time feel that the period has arrived when it is desirable once more to despatch a collector of plants in search of horticultural novelties. The Council have concurred in this opinion, and it is now seriously under consideration whether an agent muy not be advantageously employed in some of the temperate regions of South America. With regard to the Scotch expedition to Oregon, towards the expense of which the Society subscribed in the year 1850, there is still nothing to report, except that it continues to remain without result. The reading-room continues to be a source of satisfaction to the Committee, the use made of it by the young men in the garden being unremitted; and they trust the advantage of it very considerable. In aid of the studies in it a course of lessons in mensuration and plane drawing has been added to the lectures volunteered by the Vice-Secretary and his friends. The library now consists of about 500 volumes, but it might be increased with advantage if Fellows of the Society, interested in the education of young gardeners, would lay aside for the library any books on horticulture or allied subjects for which they have not themselves any use. In the beginning of the year 1851 it was represented by one of the Fellows that it would be only an equitable arrangement if those who had long been annual subscribers were allowed to compound for all further payments at a lower rate than that of 10 years' purchase. A Fellow, for example, who had paid four guineas annually during 20 years, seemed entitled to compound at a different rate from one newly elected, and from whom no annual payments whatever had been received. After a very careful consideration of this suggestion the Council were of opinion that it would be beneficial alike to individual Fellows and to the funds of the Society if an alteration in the amount of life subscriptions or compositions were made upon the following plan:—To pay when first elected, 42*l.*; at the end of seven years, 31*l.* 10*s.*; at the end of 14 years, 26*l.* 5*s.*; at the end of 20 years, 21*l.* It was therefore resolved to recommend to the Fellows, that the existing by-law relating to compositions should be repealed, and a new by-law passed, giving power to the Council to accept the modified amounts just mentioned. The Council have resolved that the sums thus received should be applied exclusively to the extinction of debt, so long as any liabilities remain, and should afterwards be funded, the interest only to be employed as annual income. On several occasions it has been urged upon the Council, that the Quarterly Journal might be sent by post to distant Fellows at the charge of the Society, but no decision had been arrived at till the present year, the Council being unwilling to add 50*l.* a year to the expenses of the Society for such a purpose. The question having, however, been again taken into consideration, the Council have arrived at the conclusion that the measure may be conducive to the interests of the Society, as well as agreeable to the Fellows, and they have therefore sanctioned the expense. The question of renewing the lease of the garden, according to the provisions of the covenant therein contained, by paying a fine of 450*l.*, has been carefully discussed, and the Council have decided that the rapid advance of the metropolis westward, together with the long unexpired term of years for which the garden is still held, renders it inexpedient to take any steps in the matter. The present garden lease will therefore expire at Michaelmas, 1881. Upon analysing the items in the balance-sheet, and comparing them with the corresponding items in the accounts of last year, it will be found that the receipts have been greater by the sum of 558*l.* 0*s.* 10*d.* Although the admission fees have been reduced from 6*l.* 6*s.* to 2*l.* 2*s.*, the total received for them is 18*l.* 18*s.* more than last year; a very important feature in the account. In fact, while only 22 Fellows paid their admission fees in 1850-1, the number this year has increased to 51."

The ballot for Council and officers then took place, when R. S. Holford, Esq., G. Rushout, Esq., M P., and Sir P. Pole, Bart., were elected new members of Council, in the room of the Duke of Northumberland, the Bishop of Winchester, and J. Barchard, Esq. The Duke of Devonshire was re-elected President; J. R. Gowen, Esq., Treasurer; and Dr. Royle, Secretary. S. F. Gray, Esq., and Mr. Charlwood, were appointed auditors for the ensuing year.

FLORICULTURE.

Tulips and their Exhibition.—We may now begin to look forward for the coming of the choice beauties of our Tulip-beds, and for all those varied qualities for which this flower has so long been esteemed. The National Exhibition of our favourite is to be held this season in the Town-hall, Birmingham, on the 27th inst., a locality eminent alike for men and metal. We are already impatient for the time when this national gathering shall have been formed. Well do we remember the Dahlia show there some few years since, and the display it made; great, however, as that was, we feel confident that the exhibition which is now drawing so near will not suffer by comparison; for, next to the Dahlia, as regards general display, must be ranked the Tulip; and although collections of twelves, twenty-fours, and thirty-sixes, may not be plentiful, numbers of twelves, nines, and sixes will, we doubt not, fully compensate for their absence, making an effect quite as striking as that of our "cut-and-come-again" rival. The schedule of prizes is now before us; if it fails to embody our views entirely, it sets forth much that we must all commend; and, in the words of its secretary, as given in the "Greenhouse and Garden" for March, "the only safe course for the Society to follow is to endeavour to avail itself, in each succeeding year, of the experience which it may have gained at every stage of its progress," and not "by the Tulip growers of each particular locality in which its exhibitions are held, from year to year, indulging their own predilections and peculiarities." Let us waive all selfishness in this matter, and at the forthcoming exhibition ascertain how far this or that advanced scheme would have operated to the prejudice or welfare of what all of us desire, namely, an annual national meeting. We find a premier class, in which a Gold Medal is offered for the best six flowers, one bloom of each class. Now, here in the south, we never have more than *three* classes; viz., rose, byblœmen, and bizarre—tricolors being out of the question; but by our midland and northern growers subdividing the colours into feather, and feather with flame, three extra classes are created, much in the way of Picotees being distinguished by the terms heavy and light-edged—a modern plan, certainly, but nevertheless one that is now pretty generally followed. Class A is similar to the premier, but has a series of four prizes, with the provision that unsuccessful competitors in the premier class have the option of restaging their stands in this class. Class B enlarges on the numbers required, and invites 12 blooms, four of each class. Some mistake has surely been committed here, for if *six* classes are to be made for the premier and A, how are the six classes with four in each to be represented, and yet 12 blooms be only contained in the whole? We should think that instead of four of each class in letter B, it should be four of each colour. Class C invites nine dissimilar blooms, without any other restriction; then follow sundry letters for class showing, the *quæstio vexata* of all floricultural circles, and one on which our opinion has been already expressed; the practice and the principle, as at present constituted, both fail to produce the desired result. We should like to see awards made to two-thirds the number of entries, prizes granted to the extent of the funds available, and every variety to win as long as the specimens staged commanded pre-eminence for quality in all its bearings. Such are the conclusions we have arrived at, after giving the subject our best consideration. We would hint that it should be imperative for all flowers rewarded with places to be sufficiently expanded to permit a sight of their bases to be obtained; for as purity is to be a characteristic of excellence, then half-blown flowers must be at once cast aside; for of all the errors committed on a late occasion, this was the most glaring. The proportions of a fine Tulip are admitted to be pretty generally understood; and in whatever way we southerns may respond to class marking, form at least has strong and determined patrons among us—a combination of the two is all that we desire. *J. E.*

Auriculas.—In fulfilment of our promise last week, we beg to furnish our readers with the following list of Auriculas, which we consider to be the best for the purposes of exhibition at present in cultivation.

Green Edged.	*Grey Edged.*
Apollo (Hudson's)	Lancashire's Hero (Cheetham)
Champion (Page)	Ne plus ultra (Fletcher)
Colonel Tay (Leigh)	Ringleader (Kenyon)
Duke of Wellington (Green)	Unique (Maclean).
Freedom (Booth)	*White Edged.*
Imperator (Lutton)	Countess of Wilton (Cheetham)
Lovely Ann (Oliver)	Crucifix (Clegg)
Matilda (Dickson)	Glory (Taylor)
Sir John Moore (Lightbody).	True Briton (Hepworth).
Grey Edged.	*Selfs.*
Britannia (Hedge)	Apollo (Dickson)
Complete (Sykes)	Lord Prisnate (Bury)
Conqueror of Europe (Waterhouse)	Ned Lud (Scholes)
	Metropolitan (Redman).

Hammersmith Heartsease Society.—We have much pleasure in directing attention to an Advertisement in our front page relative to this long-established Society, and to assure all persons interested in the flower for which the exhibition is annually held that an unusually fine display may be relied on, owing to the fact that Pansies were never so generally in first rate condition as they are this season. *J. E.*

Auriculas: *J C.* The eight pips were too much disfigured for their colours to be determinable; and not being numbered, we cannot well particularise them. The top left-hand corner pip (dark) has the best circular properties; they are all Alpines of no value. Your other queries next week. *J.E.*

Azalea vittata: *J P* Cannot say with certainty. *J. E.*

Calceolarias: *W C.* 1. Dull yellow ground, profusely covered with deep maroon. 2. Similar, but less densely marked. 3. Buff ground, nicely marked with deepish red good outline, smooth, and, when inflated, posseeses fair globular properties. 4. A tricolor, being buff, red, and maroon; but, like Nos. 1 and 2, collapsed, so that, although much pains were taken, we failed to get it into sufficient form to report further. 3 was in famous condition. *J. E.*

Camellia: *A L.* Mathotiana is remarkable for its large size. We cannot recommend dealers. *J. E.*

Cinerarias: *H G.* Dried up, almost past recovery; however we trace remarkably broad petals, both indented and reflexed, with flat disk; colour bluish lilac, boldly marked on a purely white ground.—*J C.* The three pips arrived in admirable condition. It may be worthy of mention that the natural moisture in the foot-stalks of each detached bloom was retained by sealing the end with a small piece of moist clay; and although this was not larger than the quarter of a pea, the flowers journeyed by post from Northumberland in the possession of all their freshness and vigour. The variety is very attractive, the petals being boldly marked half their length with a greyish bright blue, clear and decided, the purely white ground colour forming an unbroken circle at its juncture with the marking; disk large, bold, and of similar colour; substance average, and the flower altogether as flat and as free from indenture as most sorts out; size medium. A little *more* breadth of petal, and a little *less* ribby, would constitute it one of the best of a large number that has reached us this season.—*Pluto.* A great batch of little value: try again.—*T N.* 1, white, with strongly tipped rosy purple petals, too long for their width; 2, withered; 3, deep blue, but too shrunken for critical inspection; 4, very pretty; the petals sit well, but are too narrow: 5, 6, and 7, all faded. *J E.*—*J H.* Blooms too withered for fair censorship; 11 appears to be the best. *J. E.*

Dahlias: *Inquirer.* Next week. *J. E.*

Hebrid Pelargoniums: *J H.* Colours good; 4, the brightest; all much with red. *J. E.*

Japan Lilies: *E G.* The late severe weather has injured these in many localities; our own have suffered sadly. *L. l. punctatum*, being the earliest above ground, has been punished the most. *J E.*

Pansies: *H G.* Two blooms of a deep purple self, much disfigured and spoiled, from being packed in dry moss. It wants decision of outline and smoothness of surface; we do not like the ray of bronze beyond the eye of the lower petal; nevertheless, we have many no better flowers in cultivation.—*Z.* A, rough, ragged, and coarse; B, ditto, ditto, ditto; C, in the way of Comax but no improvement; D, pretty, and somewhat new in character; if it maintains the present style it will prove desirable as a novelty, without quality; E, not good enough, even in white selfs.—*G R.* Mediocre, yet not without some merit; the margin colour will most likely disappear with warm weather: Pansies are for the most part at their best in May. Some of our stoutest petalled sorts retain their colour admirably during summer, and hence the importance of this qualification.—*G M.* A bold dark self, with monster upper petals; were these matched with equality of lower petal, then, indeed, it would justify our highest commendation; the bloom has been passed into other hands. *J. E.*

Pelargoniums: *J K.* Next week. *J. E.*

Polyanthuses: *A B.* We have no interest in that quarter, but will forward your recommendation to the party in question. *J. E.*

Miscellaneous.

Improvement in the Manufacture and Refining of Sugar. Patented by R. and J. Oxland, May 15, 1851.—This invention consists in the use of phosphoric acid in a combined state for defecating saccharine liquids, or solutions of sugar, and removing the colour of the same. On the 26th of April, 1849, the present patentees obtained a patent for defecating and removing the colour from solutions of sugar by the employment of acetate of alumina*. In the specification of such patent, lime was directed to be used for effecting the separation of the alumina; but it has been found, that, even when great care is observed, some alumina is liable to be left in solution. When acetate of alumina and lime have been used, the patentees effect the removal of the remaining alumina by the use of superphosphate of alumina or superphosphate of lime, by simply adding a small quantity of either of these substances to the syrup after the completion of the process with acetate of alumina, as described in the former specification; then boiling for two or three minutes, carefully neutralising the excess of acid by the addition of aluminate of lime, saccharate of lime, lime-water or milk of lime; and when it has been ascertained that the alumina is completely separated, completing the process in the manner described in the former specification. In place of using acetate of alumina, either alone or combined with phosphoric acid, as above explained, phosphates may be employed directly; and they are capable of producing similar effects to those resulting from the use of acetate of alumina, with the advantage that the whole of the agent employed is separated from the saccharine matters. In treating a saccharine liquid, or solution of sugar (say, for example, an ordinary sample of Mauritius sugar), the patentees dissolve it by blowing up with steam in the usual way, but avoiding the use of blood, and adding a soluble phosphate to the water employed. If crystallised phosphate of soda be used, it should be in the proportion of 1½ lb. thereof for each ton of sugar. The saccharine liquid is brought to the boiling point, any acidity being neutralised with aluminate of lime, saccharate of lime, lime water, or milk of lime; and then the syrup thus obtained (which will be of the specific gravity of from 25° to 30° Baumé) is passed through the ordinary bag filters. The sugar is, by this means, thoroughly defecated, the feculant matters being left in the bags, from which the least trace of sugar may be removed by passing clean water through them. The weak solutions obtained in this way may be used for blowing up fresh quantities of raw sugar. As part of

* Chem. Gaz., vol. vii. p. 456.

the colour is removed from the syrup by the above-described operation, it may be considered sufficient treatment previous to boiling in the vacuum pan, or otherwise, for crystallisation; but a further amount of colour may be removed by the use of from 5 to 8 per cent., or more, of hydrate of alumina (which has been dried at a temperature of 212° F.) diffused through the water used in blowing up the sugar; and by this means the use of animal charcoal will be rendered unnecessary. The residuary alumina left in the filter bags, after the whole of the saccharine matter had been washed out, may be dried, and the organic matter removed by ignition; and after further washing, to remove any residuary soluble saline substance, it may be employed for manufacturing hydrate or superphosphate of alumina; or, after the first-mentioned washing, previous to ignition, it may be used over again, with the addition of a further quantity of hydrate of alumina. When superphosphate of alumina is used, it is mixed in solution with the water used in blowing up the raw sugar in the proportion of 6 lbs. of alumina dissolved in phosphoric acid for each ton of sugar; and while the syrup (at from 25° to 30° Baumé) is being brought to the boiling point, any acidity is neutralised by the addition of aluminate of lime, saccharate of lime, lime water, or milk of lime. The syrup is then passed through bag filters, and the clear syrup conducted into the receiver that supplies the vacuum or other boiling pan. The subsequent operations are the same as in the old plan of working. The matters left in the filter bags are treated as above described, to remove any saccharine matter. The patentees prepare the superphosphate of alumina by dissolving alumina in phosphoric acid in the following manner:—They burn bones white, grind them to fine powder, and digest the product in sufficient muriatic acid for the solution of the carbonate of lime only; and then dry the residue, after carefully washing it, to remove every trace of soluble matter. To a given weight of this residue, mixed with enough water to make a thin paste (in a shallow earthenware tank or vessel), they add a quantity of pure sulphuric acid sufficient to combine with nearly all the lime present, *i. e.* all except 2 or 3 per cent., stirring the mixture well and keeping it warm (say above 90° F.) for about 24 hours; and after this they lixiviate the mass with water until all the soluble matters are separated from the sulphate of lime. The strong liquors obtained in this way may be used for combining with alumina, and the weak solutions for lixiviating fresh quantities of phosphoric acid in course of manufacture. When alumina is digested in the phosphoric acid, produced in the manner above described, phosphate of alumina, insoluble in water, is first formed; and by dissolving this in a quantity of phosphoric acid sufficient only for that purpose, superphosphate of alumina is obtained, which should be filtered previous to use. Aluminate of lime is prepared by dissolving alumina in caustic potash or soda, and then, by the addition of lime water or milk of lime, precipitating aluminate of lime, which is to be carefully washed. When required for use, the patentees diffuse the aluminate of lime through water; and they prefer to employ it instead of saccharate of lime, or milk of lime, or lime water. When making sugar from the cane, they defecate the juice with aluminate of lime in the usual way, neutralising any excess of lime with superphosphate of alumina or superphosphate of lime; then, after filtering and concentrating the filtered liquid to from 25° to 30° Baumé, they treat the syrup with phosphate of soda, in the same manner as described with respect to raw sugars, and after a second filtration they boil in the usual way. In the manufacture and refining of beet-root sugar, they proceed as above described for cane sugar, only using a larger quantity of aluminate of lime or of milk of lime in the first defecation. *Chemical Gazette*

Calendar of Operations.

(For the ensuing week.)

PLANT DEPARTMENT.

The conservatory and other climbers should be frequently examined, to prevent a confused growth. Kennedyas, &c., if crowded, should have their shoots thinned after they have done blooming, as the new growth will then commence. Climbers in pots, training on wires and trellis work, will likewise require watching. The different Ipomœas and Thunbergias being subject to red spider, should be well syringed, to prevent the pest gaining ground; another fine trellis plant, Jasminum grandiflorum, is frequently subject to scale, which, if not kept down, soon disfigures the plant; wash them frequently with brown soap lather, or try Clarke's preparation. Where a large quantity of hardy shrubs is annually forced, either to decorate the drawing-room or conservatory, it is not desirable to pot a fresh stock each season, as a number of the deciduous shrubs, as Roses, Lilacs, Thorns, Honeysuckles, &c., may by proper treatment be made to bloom for several successive seasons; select therefore the most suitable plants, when removed from the houses, and give them some kind of temporary shelter, to gradually harden their foliage; those cramped for pot room, shift into a size larger pot, in rich turfy loam; towards the middle of the month plunge them in an open situation, that the wood may get ripe early; these plants, from having been previously forced, will bloom earlier than the new stock, of which a portion should each year be potted, to replace such as become useless for further work. Cut down and place in a cold frame the choicest Cinerarias for suckers, and put in a stock of Chrysanthemum cuttings for autumn display. In giving air to plants of all kinds now making active growth, guard against admitting currents of cold air directly on the foliage, as at this stage it would prove injurious, more particularly with the wintry air we have at present.

FORCING DEPARTMENT.

Vinery.—Although in a former Calendar we recommended, where very late Grapes were required, that the Vines should be retarded from breaking in the spring, yet it must be borne in mind that after they have once started into growth the treatment must vary; for the most important part of the Vine's growth is comprised between that period and the setting of the fruit; and it is important for the formation of sound healthy wood, and perfect bunches, that they be assisted by artificial means during that stage. Hamburghs and the more hardy Grapes will require to be kept near 65° (as a night temperature), as they approach the time of flowering; but the Cannon Hall and common Muscat, with the Damascus and West's St. Peter's, will require an additional 5° as they get into bloom; and this heat should be maintained till the berries are wholly set, when a slight diminution of temperature may take place, and the treatment be regulated by the time when the crop is wanted to ripen. Regulate the growing Vines, so as to keep them as evenly balanced as possible. To effect this it will sometimes be necessary to keep the lower spurs on a par with the uppermost ones, to allow them to grow for some time after the former ones are stopped; this will help to counteract the flow of sap upwards, and balance the growth of the tree.
Pinery.—Attend to keeping a humid atmosphere to the swelling fruit, and the earth about the roots moderately moist, using occasionally weak manure water. Of this, we still think soot-water as good as any, but it may be made of various other fertilisers, equally good; always stipulating, that it is used in a clear state. Where extra heavy fruit is the object, all suckers should be removed as they appear, and some growers take out the centre of the crowns, to check their growth and assist the swelling fruit—a practice we think objectionable, where the beauty of the fruit is a consideration. On warm afternoons, syringe copiously, and close up with a temperature of 90°, giving air again towards evening. Whenever indications of changing colour appear, withhold the syringe, and allow them no further supplies at the root. The succession plants will be growing freely, and our previous directions on the importance of allowing them a free exposure to light, with abundance of air, should be acted upon. As the roots have now made some progress, water may be more liberally given. See that the bottom heat is steady at about 85°.
Peach-house.—The early house may now safely have an advance of temperature, by night as well as by day. At this stage they will bear forcing freely; keep, however, the syringe at work twice or thrice daily; tie in the shoots as they advance, and expose the fruit to the free action of light, if a high colour is wanted. The borders should be kept well watered, but manure water will not be of much service to the early crop after this time. Bring on the succession houses by attending to the requisite culture, in accordance with their stages—for which see our former directions. The season has been one of the best known for Strawberry forcing, and they have been fine and well-coloured. British Queens are liable to red spider; to keep this down, ply the syringe well till they are in bloom, and after they are set; and the inside walls, &c., of the pit-house should be washed with the sulphur mixture. The fruit of the "Queens" will require some kind of support, owing to the length of the footstalk.

FLOWER GARDEN AND SHRUBBERY.

Although every preparation should be made for commencing the turning out of the bedding plants, we strongly advise parties to wait; for the present easterly winds, with frosts each night, present no inducement to begin. When a change occurs, begin with the half-hardy plants first, as Pentstemons, Antirrhinums, &c., and reserve the choicest Geraniums, Heliotropes, &c., and other tender plants, till the last. Plants, however well hardened off, frequently suffer from the sudden exposure, especially in bleak situations. We find it useful to place any odd spray or branches we may have between them for a week or two; they serve to ward off cold cutting winds, and save too much watering, which at this time of the year had better be avoided. Place sticks to tie up Picotees, Carnations, &c., as they advance; and stake Hollyhocks, which, if strong old plants, should be thinned out to three or four shoots to each plant. Harden off Dahlias, and give the final regulation and cleansing to the herbaceous ground, as the plants by this time are all out of the ground.

FLORISTS' FLOWERS.

The care and trouble of the Tulip grower will soon, we trust, be amply repaid. His awning must be put up, though in more northern localities it may be deferred a week longer. The cloths should be rolled up at the sides, except in very windy or sunny weather, when they may be let down on that side where these prevail; should it be very warm at the period of flowering, the paths round the bed may be watered; this will prove highly beneficial, and tend to prolong the bloom. Carefully shade Polyanthuses from excessive sun; they very speedily contract red spider, if neglected in this respect; a cool, shady situation, will be found most suitable for them.
Dahlias.—These should be encouraged in their growth previous to planting out; the ground should also be well prepared for their reception.

HARDY FRUIT GARDEN.

We fear the severe frosts of the 2d, 3d, and 4th, will prove most destructive to Pears, Plums, and Cherries. Up to the above dates we held great hopes of an abundant crop. It will be advisable to withhold disbudding for a few days, if the present cold winds continue, as danger from curl may be expected, and a somewhat abundant foliage may assist in keeping it off.

KITCHEN GARDEN.

Prepare an open piece of ground, on which to sow the principal crop of autumn and spring Broccoli; sow thin, and choose a rather poor soil for the purpose. If their future growth is attended to, the present sowing will produce plants quite strong enough by the time the ground is ready for their final planting out. If you value good Broccoli in December and January, do not forget to put in for a good supply of "Snow's Superb;" an additional sowing of Brussels Sprouts, the different kinds of Kale, &c., may be made at the same time. The ground should now be forwarded for the first crop of Celery, premising it has been trenched and cleared of vermin. Trenches should be thrown out, 18 inches wide and deep, and 4 feet apart; fork into the bottom of these some thoroughly rotten dung (cow-dung is preferable, if it can be got), well mixing it with the soil; this will bring the bottom of the trench to within 6 inches of the surface; and on this plant, 9 inches apart, the plants, which should previously be well hardened off; remove the side suckers and trim one or two of the longest leaves. A little spray may be placed over the rows for a week afterwards, and a crop of Lettuce, or other vegetable of short duration, sown between the trenches, to come off before the final earthing up; hoe between advancing crops while they are in a young state—this will keep down weeds and assist the crop. Slugs, notwithstanding the dry cold weather, are busy; select damp dewy mornings, and sow the quarters over with quick-lime, or, where it can be done without injuring the crops, sow the ground with salt.

STATE OF THE WEATHER NEAR LONDON,

For the week ending May 6, 1852, as observed at the Horticultural Gardens Chiswick.

April and May.	Moon's Age.	Barometer.		Temperature. Of the Air.			Of the Earth.		Wind.	Rain.
		Max.	Min.	Max.	Min.	Mean	1 foot deep.	2 feet deep.		
Friday.. 30	11	29.600	29.546	66	44	55.0	49	45	W.	.00
Satur.. 1	12	29.873	29.729	57	34	45.5	49½	46	N.	.00
Sunday . 2	13	30.082	29.780	51	25	38.0	48	46	N.E.	.01
Monday 3	14	30.171	30.101	57	28	42.5	45	46	N.E.	.00
Tues. .. 4	15	30.190	30.162	56	27	41.5	47	46	N.E.	.60
Wed. .. 5	16	30.240	30.216	59	30	44.5	46½	45	N.E.	.00
Thurs.. 6	17	30.239	30.162	54	34	44.0	47	46	N.E.	.00
Average ..		30.058	29.956	57.1	31.7	44.4	47.4	45.7		.01

April 30—Cloudy and fine throughout.
May 1—Overcast and cold; cloudy; clear.
— 2—White clouds and cold north wind; overcast; clear; frosty.
— 3—Light clouds, with clear intervals. fine; clear; frosty.
— 4—Few white clouds; cloudy and fine; clear; frosty.
— 5—Fine; cloudy; clear at night; slight frost.
— 6—Cloudy; densely clouded; clear at night.
Mean temperature of the week .7½ deg. below the average.

STATE OF THE WEATHER AT CHISWICK,

During the last 26 years, for the ensuing week, ending May 15, 1852.

May.	Average highest Temp.	Average lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 9	61.8	40.8	51.3	10	0.60 in.	2	7	4	1	3	7	2	1
Mon. 10	62.1	39.7	50.9	8	0.10	2	4	4	1	2	5	5	1
Tues. 11	62.7	41.4	52.0	9	0.26	5	5	3	1	5	4	1	2
Wed. 12	63.4	41.5	52.4	12	0.40	3	6	7	1	3	3	1	3
Thurs. 13	64.0	39.2	51.6	11	0.22	3	7	4	—	3	4	3	2
Friday 14	63.5	41.0	52.2	9	0.56	3	5	5	1	3	5	3	1
Satur. 5	64.7	40.8	52.8	7	0.41	2	7	2	4	8	3	2	1

The highest temperature during the above period occurred on the 15th, 1833—therm. 86 deg.; and the lowest on the 15th, 1850—therm. 25 deg.

Notices to Correspondents.

Bees: *Mr. Pettitt's* account of his contrivance is an Advertisement.
Drying Plants: *C F.* You will find the information you seek in a Leading Article at p. 164 of the current year's volume.‡
Early Produce: *H.M.S. Amazon.* We never heard of such an event as Strawberries and Peas maturing in the open air in the month of February, the one at Plymouth and the other at Bristol.
How to Restore Lost Bloom on Grapes and Cucumbers: *Clericus* says—"I remember once seeing in the 'Gardeners' Magazine' a method of artificially giving a bloom to Grapes and Cucumbers by means of a machine and calcined magnesia. The number of the Magazine I forget, but I much wish to know the method, and have a plan of the machine." Perhaps some of our correspondents will kindly furnish the required information?
Limestone Quarry: *Eboracensis.* Try Chamærops humilis, any of the Pistacias, Cistuses, and bushy Helianthemums, Juniperus oxycedrus, all sorts of Van Diemen's Land and New Zealand shrubs, all sorts of Chilian and Patagonian plants, Fuchsias, Podocarps, Tea plants, Camellias, Californian annuals, Cape bulbs, Oxalises, Oleanders, with Indian and Mexican Oaks. This will give you a pretty good batch to begin with.
Names of Plants: *H H.* Abutilon striatum.—*A Z.* Dielytra is the correct way of spelling the name.—*A B C D.* 1, Tropæolum pentaphyllum; 2, Muscari racemosum.—*J A B.* 1, Erica herbacea; 2, Doodia caudata; 3, Notholæna trichomanoides; 4, double-flowering Furze; 5, Gymnogramma chrysophylla; 6, Platyloma falcata. *S.*—*J N.* A beautiful creeper, the Bugainvillea. How on earth did you flower it? It is one of the most charming of plants, when it blossoms, which is rarely the case in England, though an every-day occurrence at Naples.
Tea Plants: *Inquirer.* If you cannot wait the arrival of the seed, mentioned in our Leading Article of last week, then you must apply to the nurserymen for plants.‡
The Vinegar Plant: *J Jones.* We will repeat your experiment, but we apprehend that you are labouring under some mistake.
Tropæolum: *J K.* It appears to be T. Lobbii.
Vines: *D.* As we are unable to explain the circumstance to which you refer, we have printed your letter in another column.
Wardian Cases: *J A.* Any three Ferns of small size and any three Lycopods will be found the best six plants for a small Wardian case.‡

PERUVIAN GUANO.

CAUTION TO AGRICULTUISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

ANTONY GIBBS AND SONS, AS THE ONLY IMPORTERS OF PERUVIAN GUANO,

Consider it to be their duty to the Peruvian Government and to the Public again to recommend Farmers and all others who buy to be carefully on their guard.

The character of the parties from whom they purchase will of course be the best security, and, in addition to particular attention to that point, ANTONY GIBBS AND SONS think it well to remind buyers that—

The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 9l. 5s. per ton, less 2½ per cent.

Any resales made by dealers at a lower price must therefore either leave a loss to them, or the article must be adulterated.

MANURES.—The following Manures are manufactured at Mr. LAWES'S Factory, Deptford Creek:

Turnip Manure, per ton	...	...	... £7 0 0
Superphosphate of Lime	...	...	... 7 0 0
Sulphuric Acid and Coprolites		...	... 5 0 0

Office, 69, King William-street, City, London.

N.B. Peruvian Guano, guaranteed to contain 16 per cent. of Ammonia, 9l. 10s. per ton; and for 5 tons or more, 9l. 5s. per ton, in dock. Sulphate of ammonia, &c.

THE LONDON MANURE COMPANY offer the following Manures on the best terms, warranting every article strictly genuine:—Peruvian Guano, Superphosphate of Lime, Nitrate of Soda, Concentrated Urate, Peat Charcoal, Gypsum, Fishery Salt from Cornwall, also a constant supply of Salt for agricultural purposes; Linseed and Rape Cake. Peruvian Guano, warranted the genuine importation of Messrs. A. Gibbs and Sons, at 9l. 10s. per ton, or for 5 tons and upwards, 9l. 5s. in Dock. EDWARD PURSER, Sec.

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MANURE DEPOT.—PEAT CHARCOAL.

TO FARMERS, AGRICULTURISTS, AND OTHERS.

G. H. FOLEY, Essex Coal Wharf, Lea-bridge, Middlesex, Agent to the Irish Amelioration Society for the sale of the above. All needful particulars will be given on application at the above address.

Price of the unmixed Charcoal, 55s. per ton, sacks included. Mixed with Nightsoil, 50s. per ton, sacks included. Mixed with Urine, 70s. per ton, sacks included. Carriage to any of the Wharfs or Railway Stations, from 3s. 6d. to 5s. per ton extra, according to distance.

TURNIP SOWING.

SUPERPHOSPHATE OF LIME, made from bone only, equal in quality, but in superior condition to that manufactured by the under-signed, as reported in the Royal Agricultural Society's Journal, Vol. vi. Part 2. It is also suitable for use with Chandler's Liquid Drill; also Peruvian Guano, Nitrate of Soda, Gypsum, Bone-dust, Sulphuric Acid, and all other Manures of known value.—Apply to MARK FOTHERGILL, 204, Upper Thames-street, London.

FOSSIL BONES AND PSEUDO-COPROLITES.

(FROM THE SUFFOLK CRAG.)

EDWARD PACKARD AND CO., of Ipswich, having erected very powerful Machinery for the purpose of reducing these Phosphatic Nodules to a fine Powder, and being in the immediate locality of where they are found, are now prepared to supply them on the most economical terms, in any quantity, either Ground, Whole, or Dissolved in Acid. They form the cheapest source of Phosphate of Lime in the market, and are peculiarly eligible for manufacturing Superphosphate of Lime in conjunction with Bone.

Prices and every information connected with their use forwarded on application to EDWARD PACKARD AND CO., Artificial Manure Manufacturers, Ipswich, Suffolk.

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Messrs. J. OWEN and Co. are now importing from their Copenhagen Manufactory SUPERPHOSPHATE OF LIME, of the very best description, containing at least 18 per cent. of Neutral Soluble Phosphate of Lime, and capable of furnishing at least 3 per cent. of Ammonia to the Soil. The "Analysis" is made by Professor J. THOMAS WAY, Consulting Chemist to the Royal Agricultural Society. The price, in London, of this powerful Manure, is 7l. per ton, cash, or Banker's Bill on London.

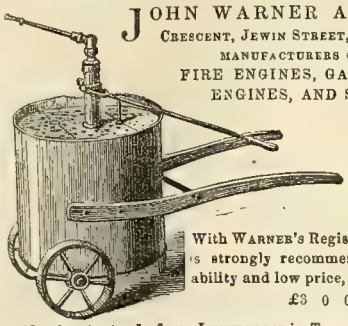
HOSE FOR LIQUID MANURE, FIRE ENGINES, or GARDEN PURPOSES, made of Canvas, lined and coated with Gutta Percha. It is exclusively used by agriculturists, and at the Government Public Works, giving great satisfaction. Also, KASE'S FORCE and SUCTION PUMP, which is the most simple and complete; it will throw 40 gallons per minute, 40 feet high, and it is not at all liable to get out of order. Price 5l. 10s.; on wheels and stand, 7l. 7s.

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M'CORMICK'S AMERICAN REAPER.

BURGESS AND KEY, Agents, 103, Newgate-street, London.—Extract from Mr. Pusey's Report on the Agricultural Implement Department, Great Exhibition.—"Mr. M'CORMICK'S Reaper, in this trial, worked as it has since worked at Cirencester College, and elsewhere, to the admiration of practical farmers, and therefore received a Council Medal. Mr. Hussey's sometimes became clogged, as in the former trial at Tiptree, and therefore could not possibly obtain that distinction."—Price of Reaper, 25l.

CHEAP AND DURABLE ROOFING.

BY HER MAJESTY'S



ROYAL LETTERS PATENT.

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At the Great National Agricultural Shows, it is this Felt which has been exhibited and obtained TWO SILVER MEDAL PRIZES, and is the Felt SOLELY patronised and adopted by

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ROYAL BOTANIC GARDENS, REGENT'S PARK,

And on the Estates of the Dukes of Sutherland, Norfolk, Rutland, Newcastle, Northumberland, Buccleuch (at Richmond), and late Earl Spencer, and most of the Nobility and Gentry, and at the ROYAL AGRICULTURAL SOCIETY'S HOUSE, Hanover-sq.

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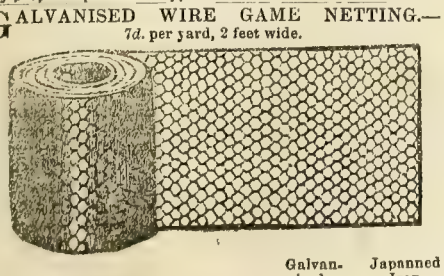
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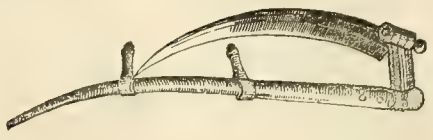


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The Agricultural Gazette.

SATURDAY, MAY 8, 1852.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY,	May 12	—Agricultural Society of England.
THURSDAY,	— 13	—Agricultural Imp. Soc. of Ireland.
WEDNESDAY,	— 19	—Agricultural Society of England.
THURSDAY,	— 20	—Agricultural Imp. Soc. of Ireland.

"WILL GUANO PAY?" If the price of the raw material exceed that of the manufactured article, then the manufacture of the article is a losing concern. This is just the proposition which Mr. MECHI has of late been enunciating in these important questions—"Will guano pay?" "Will artificial food for fat stock pay?"

In the manufacturing world the above proposition is self-evident and independent of proof, but in the agricultural world it is somewhat different; for, when we place guano in the one scale and its produce in the other, or butcher-meat in the one and artificial food in the other, we have still balances remaining requiring consideration. When the manufacturer balances his accounts after effecting a sale, either page presents net cash. The balance may possibly be on the wrong side of the ledger, still the account is closed, presenting an item in cash in some shape or other—profit or loss; but the balance-sheet of the farmer invariably presents an open account:—Dr. the soil for so much guano, Dr. the dunghill for so much manure, &c.

But, besides the indefinite nature of the answer which the agriculturist gives to the question thus put in any particular instance, a still greater complexity attends its discussion as a question of general interest. And the answer varies according to the locality and to time. Once guano paid well, but now indifferently. In such and such a locality, again, it pays the farmer to grow butcher-meat for the London market, while in others it will not.

Farmers have long been familiar with the story of land getting tired of growing this and the other kind of crop, and the guano question before us is but another phase of the same truth. For the question which Mr. MECHI has asked just resolves itself into this—Is Tiptree-hall tired of guano? According to the old proverb, "When poverty rides, it rides high," so is it with the poor soils of Essex; so long as they were poor, they were "grateful for guano," but now that they have become rich, they have become "saucy."

A little explanation is necessary in illustration of the "agricultural economy," to which Mr. MECHI is addressing himself. "Five quarters of Wheat" obviously require a greater quantity of manure to keep the same soil at a uniform fertility than "2½ quarters;" and this extra quantity, we are informed, is derived from a richer quality of farm-yard manure. If Mr. MECHI has already adopted the system which Mr. BURNESS has proposed (*Agricultural Gazette*, p. 602, 1851), of home slaughtering and working up the whole of the offal of fat stock fed upon the farm into manure, it is difficult to say how independent he may become of Peru; for, if his crops get an abundance of fertilising matter of this kind, long known to be the most productive of any, the result is obvious. He finds one ton of Turnips, as the raw material, corresponds to 14 lbs. of meat, as the manufactured article; and that there is, moreover, a balance of offal equivalent to 14 lbs. more, besides another valuable item remaining in the bottom of the feeding-box and urine-tank. The obvious inference is, that, when we send the live ox to Smithfield on the present antiquated practice, we have only 14 lbs. of meat in return for every ton of Turnips grown; but when we send the four quarters only, applying the offal as manure, we have for every ton of Turnips 28 lbs. Now, without vouching for the accuracy of details as here stated in pounds, on either side of the account, a very important question is brought before us in the economy of farm pro-

duce; for, whatever may be the exact amount of butcher-meat manufactured from a given quantity of produce, there cannot be a doubt but that the value of the offal, as to its fertilising effects, bears a very high proportion to it, and that the removal of that offal from the farm is the removal of the raw material of no mean proportion of its produce. We have only to reduce the offal to lbs. on the one side of the ledger, and Turnips to tons on the other, as Mr. Mechi does, when the result will speak for itself.

That blood and such offal form a more valuable manure than guano, however, is no satisfactory answer to the question "Will guano pay;" for the latter, independent of the greater value of the former, ought nevertheless to cover its own cost, whatever that may be, other things being equal. Other things, however, may not be equal. Produce, for instance, may be reduced in value, and the natural fertility of the soil may be increased, and that not in proportion to the constituent elements of guano upon which its value depends.

Thus, while corn has been decreasing in price during the last half century, has guano, the raw material of which it is manufactured, been decreasing in a corresponding ratio? Now, if the Americans can import us Wheat at 9*l.* per ton, surely the Peruvians ought to be able to give us guano at something less. We obviously want free-trade in guano, and—not to speak of the discovery of new guano islands in the Pacific—perhaps the discovery of the ammonia field present on every man's farm, which Mr. Mechi has just made, is the first thing which will give a salutary check to the Peruvian monopoly of this valuable manure; for it is a tenfold more extensive one, and richer, too, than all the islets of Peru put together. There cannot be a doubt but that there is a limit to the price of guano—a price beyond which it will not pay, and it is equally manifest that the reduction which has taken place in corn brings up the price of guano nearly to this limit, if not in some cases beyond it.

STRAW AS MANURE.

In describing my shed, I stated that the water-tight tank for eight cattle, into which the liquid and solid excrements passed through open boards or grating, was 2 feet 6 ins. by 2 feet 6 ins., and 28 feet long; its capacity being about 6 yards. When my cattle are fattening, they consume per day about 60 lbs. of Swede Turnips, 3 to 4 lbs. of oilcake half Linseed and half Rape, 3 lbs. of Bean meal, and as much chopped straw as they can be induced to take. On this food they fill the tank in one month; it then requires to be emptied and is removed to its stead which is fenced off by a wall 3 feet high, or otherwise carted direct to the field where it is to be used; it will be obvious that in this state it is not suited to spread on Grass; its effect would be to scorch it. To correct this, and for other objects, I apply peat soil in the proportion of one part to three; this is obtained from an adjacent common, at an expense of about 1*s.* 6*d.* per load. Peat soil will, of course, vary much in properties (especially in the mineral ones), according to the locality and formation in which it is found. I have not had the peat soil I am using tested by analysis, yet I am strongly impressed with the notion that it contains most of the essential properties of straw when in a state of decomposition, in which it is alone applicable as manure for Grass land. Admitting that I have provided for the comfort of my animals, I am thus procuring for 1*s.* 6*d.* a load a component of my manure heap, which has heretofore cost 2*l.* to 2*l.* 10*s.*; with this remarkable difference, that instead of being the means of evolving or throwing off the ammonia, its effect is to fix and retain it. Of this I am fully satisfied, and have sensible proof. When the dung has been mixed up with the peat soil, it completely loses all odour, and I have, on no occasion, observed anything like vapour or effluvia from the manure heap so composed. When convenient, I cart the manure direct from the tank in the cow-shed to the field, having previously brought thither the peat soil, which has been dug out and heaped up for some time previous, in order to increase its absorptive powers. On being blended, the compost is again placed in the cart, which is followed by a man with a shovel, who dots it over the field in small regular patches; whilst this is going on, the material being in a somewhat fluid state, I follow with a Cumberland clod-crusher (a useful implement with which I became acquainted from a drawing and description given in your columns); it distributes the manure evenly on the surface, as if daubed over with a coat of paint, resembling in colour and consistency common treacle. I am most mindful to have this performed in wet weather; even at hay and harvest time I am not more observant of the barometer than during this operation; if it be succeeded by continuous rain of some hours, the colour is completely changed from a dark brown to a pale straw colour, the rubbing with the clod-crusher is repeated at short intervals, and in wet weather the dressing very soon disappears. In summer, when the absorbent powers of the soil are in full activity, I have known a single shower produce the desired effect. I am aware that this system may be deemed at variance with the prevailing opinion that manure, to afford food to plants, must be prepared by fermentation. I leave this to the consideration of those whose province it is to trace out and explain the laws by which these operations are effected, and confine myself to practice and its results.

The following figures illustrate the construction of my cattle sheds.

Fig. 1.

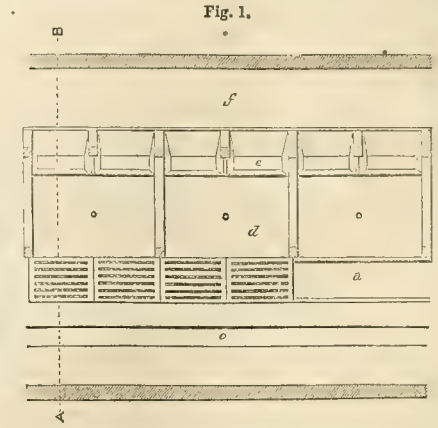


Fig. 2.

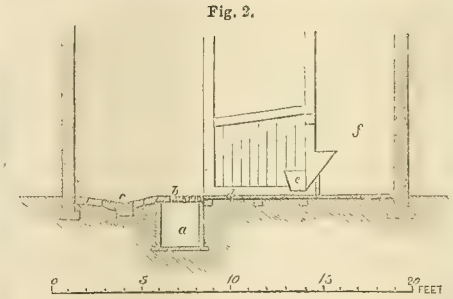


Fig. 3.

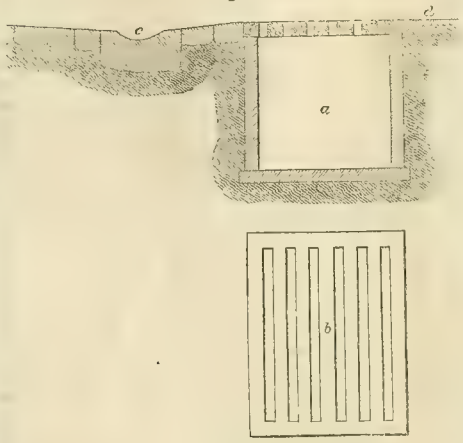


Fig. 4.

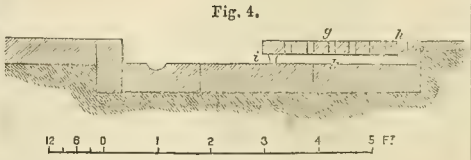


Fig. 1 shows plan of part of cattle shed.
Fig. 2 is a section taken along line A B, in fig. 1.
Fig. 3 supplies details of manure tank, &c.
In these drawings *a* is manure tank, 2 ft. 6 ins. wide by 2 ft. 6 ins. deep; *b*, a wooden grate, with 1½-inch openings, and 3-inch square bars; *c*, channel; *d*, boarded floor; *e*, manger; *f*, feeding passage.

Fig. 4 shows an arrangement in which *g* is a wooden grate similar to that already described, having two copper hinges *h*, and small feet in front *i*, resting upon the floor *k*, so that when required to be cleaned it is only necessary to turn the grate over upon its hinges.

I applied this manure for the first time on an old pasture which had become hide-bound, and produced but little Grass, and of inferior quality, being tough and unpalatable. The previous summer I applied an ample top-dressing of lime, and in March I applied the compost at the rate of eight one-horse loads to the acre. Towards the close of June I cut an abundant crop of Grass. The staple of this field is not favourable, being on clay, with no great depth of soil. It is now in high condition, producing two heavy crops of Grass in the year—the first for hay, the second for soiling. After the second mowing it receives a dressing of the compost at the rate of 12 loads per acre. It was eaten off close in December, and in this month of March, by no means a genial one, it has afforded excellent pasturage for my lambing ewes. In July I applied a dressing to a meadow which was being cut for soiling; in less than six weeks this meadow Grass was found to measure more than 3 feet high, having grown at the rate of an inch per day. I have to remark on two properties of this manure; the one will be obvious—it can be applied much later in the spring season than straw manure: if late in April, or early in May, the weather being suitable, an abundant crop will follow towards the close of June, or early in July, which in this somewhat northern latitude is the customary hay time. The other property I have learned from experience; horned cattle and sheep are found to graze on and eat the Grass greedily and close a month or six weeks after the manure has been applied; whether this is attributable to the deodorising effects of the peat soil, or to its getting into the ground so quickly, I am unable to determine. I will now state its effects on the root crop, Swede Turnip, having tried it in two fields in 1851. Both sowings took place in May; the tank manure was applied without intermixture, except of a little saw-dust, which my herdsman had strewed on the floor of the cattle shed, with no other object than to imitate his clean cottage floor when strewed with bright sand. The furrows for each description of manure were formed of equal depth; the tank or unfermented manure being solid and much less bulky, was almost hid in the furrow before it was closed up, while the fermented straw manure filled in a great measure the furrows. I notice this difference, as I am by no means sure that it had not an effect on the growth of the plant. To both were applied, in addition, guano and fermented bones, at the cost of more than 30*s.* an acre. The fermented manure took the lead, and seemed for awhile to outstrip the other. Early in August I observed a change, the rows dressed with tank manure assumed a darker and richer green; in the course of a few weeks the top or leaves became far more exuberant, and when at their full growth in foliage, the leaves of rows 2 feet 4 inches apart were so completely interwoven, that I could not at all step amongst them without damage. When taken up in December I carefully examined them, and found those to which the tank manure had been applied fresher and greener in the top, and considerably larger in the bulb; they were in every respect more vigorous; they were, however, more drawn up into the neck or stem, not so handsomely shaped, and contained more decayed ones in proportion than those dressed with fermented straw manure. Having observed the rapid growth of Grass consequent on the application of the compost, which I have not seen equalled by any top-dressing of farm-yard manure, I am of opinion that the start obtained by the Turnip rows dressed with fermented manure was attributable to the seed being deposited nearer to the manure than in the rows with fresh or tank manure; that this was the case will be evident from what I stated when describing the operation of depositing the manure in the furrows. Not having in the course of my observation or reading met with or seen described any farm economy similar to what I am now practising, I have been induced to send this account for insertion in your pages, feeling assured that from a numerous, and, I hope I may add, intelligent portion of your readers, it will receive the consideration due to its merits.

It will be seen from the above statement that the capacity of my tank for eight cattle is about six yards. This is filled once per month or 12 times in the year; to this I add one-third peat soil for Grass, and, latterly, one-third decayed tanner's bark, which I obtain close at hand free of charge, for my root crop, making together 96 yards of compost, or 12 yards for each beast during the year—a yard may be taken as equal to a load of about a ton. I consider this compost superior to the stable and stall litter which is sold in the neighbouring towns at 5*s.* per load, and carted thence by the purchaser sometimes a distance of several miles. I had prepared a statement per data, under my own personal observation, as to the relative cost of labour in cleaning out the manure and rubbing down the cattle on the two modes, straw and boards, but content myself with confirming what I have before stated, that there is a decided saving in the board system. *Y., March*, 1852.

WOOL.

Would a few remarks on the growing of wool be acceptable to your readers? I presume that they would, as this article of produce forms a rather considerable sum in the balance sheet, and it is a branch of the farmer's business which I have not seen introduced to your columns. I must say, however, that I am no farmer, but have had experience in the buying and selling of wool for a good many years; my remarks must consequently go to show what style of wool will suit the buyer best, and how a farmer may spoil his wool by bad management, leaving it to him to make the application or apply the remedy.

Without further preface, then, I may say that, for some years past, and as a rule, the half-bred class of wool has fetched the highest price among the English wools. By half-bred, in this case, I mean the produce of a cross between a well-bred long-woolled sheep and a well-bred short and fine-woolled sheep, as the Leicester and Southdown or the Leicester and Cheviot breeds; the former of these crosses being found principally in Norfolk, and the counties south and west of these, and the latter in Scotland and one or two of the northern counties of England. The wool produced by these crosses has length enough for most purposes of manufacture, combined with a fineness of hair altogether unattainable in the pure Leicester breed. As to the comparative results of these two crosses, my experience goes to prove that in fineness of wool the Southdown cross has a decided advantage over the Cheviot cross, and it is not so liable to grow wild and hairy towards the hind quarters of the sheep; but this advantage is

too frequently neutralised by a want of cleanliness and a general carelessness in the getting up of the wool. This particular of cleanliness and appearance is one not sufficiently valued by many growers of wool; there is sadly too much use made of tar in some form of application or other. I do not know if spirits of tar be the best remedy for scab; but if I were a sheep farmer, tar in any shape should never come near my wool, except in case of sheer necessity, and for this reason: no washing, even with hot water and soft soap, will take away the stain, and this disqualifies the wool for the purposes for which it is most esteemed. A very little of this stained wool among the unstained will make the yarn spun from it streaky, and no dye but black, or very dark colours, will hide this defect. For a mere washing for the destruction of vermin, &c., there are preparations sold by the chemists which I believe answer the desired purpose, and which I know rather improve than injure the colour of the wool. Olive oil, too, I am told, answers well, and I am sure it would greatly benefit the wool; however, it is dear. In these remarks about tarring, I am, of course, not alluding to districts where the sheep require to be regularly "laid" with tar and butter. Another great drawback on the value of wool is the presence of that gritty sand which we sometimes see lying so thickly strewn among the locks. This is most generally found in hill flocks, and on uneven ground, where the sheep have inviting opportunities of rubbing their itching sides against conveniently protruding ridges of soil. In such cases I consider that the farmer neglects his duty, and his interest too, if he does not have these ridges cut down, and made level with the surrounding surface. If very strong winds occur during a dry spring, it sometimes happens that, even on low-lying arable land, the soil, if sandy, is sent flying by cart-loads into the roadsides and hedge-bottoms; and in such a case the sheep are almost sure to receive a good dredging. For this I do not know a remedy, but if the farmer can devise any, it is his duty to adopt it; for however well bred and well managed his wool may have been up to that time, a *contretemps* like this spoils it for the season. Assuredly no washing that he can give it will ever "take away that stain." Buyers always look shy at such a clip of wool, and it will frequently be left till late in the season, or perhaps over season, till a good companion clip of the following year shall help the tainted one away, and then there is no satisfaction to either buyer or seller; for the price will necessarily be low, and the consumer finds that though (after the processes of sorting, washing, and combing), his "tops" are pretty clean, the loss of weight is immense, this "short" wool being almost unsaleable through the quantity of sand accumulated in it. Not long ago I tried such a sample of fleeces, and by mere working through the fingers (without either washing or combing), found the loss, in sand alone, to be rather better than 60 parts in 100; but this was a bad lot.

Another great drawback on the value of wool is the presence of that moss, or, as the Scotch call it, fog, which abounds in some soils, and is thence transferred to the fleece. It is not that the weight of this moss is of much importance, but that the difficulty of freeing the wool from it is so great. This can only be done by manual labour, and it is so difficult to separate the two, that I have known clips of which a sorter could not clean more than six fleeces a day (say 30 lbs.), at the rate of 3*s.* 6*d.*; making the cost of sorting and cleaning one pack, or 240 lbs., of wool amount to 28*s.* Now this same pack of wool, had it been free from the plaguy moss, might have been sorted in one day, so that the difference is a loss to the consumer of nearly 1½*d.* per lb., or 25*s.* per pack in wages alone. I have known a coarse comb used, before clipping, on the back of each sheep (where the moss principally lies), bring away a deal of this stuff, and much more readily than it can be got out after the fleece is off the back; but the only certain remedy must be to get rid of such vegetation, and replace it with something more useful, and less apt to worm itself into the wool.

The next point of management which presents itself is the washing of the sheep. This, I am certain, can be done nowhere so effectually as where there is a running stream of some width and sufficient depth to leap the sheep and swim them from one man to another. Sooner than wash in the puddle holes which are the only conveniences some farmers possess, I would drive the sheep several miles to a suitable place, taking care, however, that they were not driven back before the wool was dry, or they would be little better for washing at all. I have known the wool of a large flock lose all its bloom and be quite soiled by being driven, even one mile, over the dusty roads on a hot day after washing. Therefore, seeing the difficulty of keeping the wool clean if you have thus to drive, the best thing would be to have the sheep clipped where they are washed—let them walk back minus their coats, and you bring the wool home in the carts. I should think any honourable farmer would give his brother farmer the opportunity on fair terms, and cleanliness of the wool would thus be secured. Some may cry out "But what trouble and expense!" Truly; but if I were a farmer I think I should not be content for my first-rate sheep to produce second-rate wool, if a little expense and labour would remedy the evil; and that wool is certainly second-rate that is not good in all respects. The wool ought to be clipped as soon as dry, say from five to ten days, at the outside, after washing. If the sheep run so long as 14 days, especially in hot weather, the wool suffers by it, for the grease or yolk gets up into the staple again, and it rapidly approaches the condition it was in before washing. I know it is said that wool clips better after a little grease has got into it, and I can well believe it; but if you err, err on the right side—clip early after the wool is dry; remember that grease will not make yarn, and no one knows this better than the buyer. Before the fleece is wrapped up all clag-locks, &c., should be removed; it does not increase the confidence of the buyer when he finds lumps of filth almost as big as his fist inside the fleeces; besides, such roguery is not only dishonourable, but punishable by law. And now, having got your wool in nice order, let each fleece be firmly tied and stowed in a suitable place, namely, one that is dry, clean, and light. We too frequently see it laid against damp walls, on wet timber, or in dark out-of-the-way places, where no human eye can form an opinion of its merits; however, if wool is to be kept over year, it is best kept in the dark, always guarding against damp and dust.

As a summary of what I would inculcate, I will say, if you wish to grow good wool be particular as to your breed, avoiding the wild, hairy-coated animals, such as the Teeswater. When you buy, prefer buying from a known good breeder, at his own house, to waiting for the market; you run less risk of disease, and are more certain of your breed. Guard against any check in the feeding of your flock; a regular diet, even if low, being preferable to first high feeding and then the reverse. Do not breed too much into your own stock, for by doing so you lose as much weight of wool as you do of mutton in proportion; therefore introduce fresh blood at times. Wash well, clip early after the fleece is dry, remove all dirty locks, stow your wool in a dry clean place, and then, with confidence, expect a good price. *J. M., Halifax, Yorkshire, April* 20.

Home Correspondence.

Crops in Northumberland.—Your correspondent signing himself "W. R. Carter" has made a bad guess at my being a resident in the county of Essex, and is also mistaken as to my want of knowledge of Northumberland. I expressed my surprise on reading a statement, from authority, that land within a few miles of Newcastle upon Tyne, only produced 19 or 20 bushels of Wheat per acre. I did so from having been acquainted with the district many years ago, and feeling quite satisfied, with proper management, the produce could be nearly doubled. The owner of "Eel Moor Farm" appears rather to ridicule the idea of my ignorance of the capabilities of the land in the north, and in the same breath acknowledges that his friends are bad farmers, shewing that I had good reason for asking for information on a point of such vast interest at the present moment, as to whether tenants were improving their land, and keeping pace with other industrial classes. Whatever they may be doing in other counties, according to "W. R. Carter," the agriculturists in Northumberland are far behind the rest of the country; and perhaps he would do well to recommend the introduction of "Mr. and Mrs. Draining Tile" and their numerous family, where, by his own acknowledgement, they are so much required. From what I can recollect of the land, nothing was so much wanted to make it productive, as drawing off the superfluous water, which might be seen standing both on pasture and arable. When men complain of the lightness of their crops, it is generally supposed that the fault is in the poverty of the soil, particularly when they demand protection, and wish to excite commiseration on their behalf. But what is the fact here, as in many other instances? The land cannot be blamed for sterility, but "W. R. Carter" affirms, and I have no doubt he is correct, "that the farm land in Northumberland is not well tilled." The sooner a different course is pursued the better. *Draining Tile.*

Allotments.—Individuals either do not, or will not understand the proper allotment system. To be carried out usefully the portion of land intended for the labourers' garden should be just sufficient to employ his spare time, when work is slack, and give the younger branches of his family something to do, in weeding, and collecting manure. To let one or two acres of indifferent stiff land to a poor man, at a rental varying from 4*l.* to 5*l.*, compelling him to cultivate the soil with the spade, is an abuse under the plea of charitable intentions, the consideration being for self instead of the tenant. However, it is a question whether such grinding conduct does not fall upon the head of the landlord, in the shape of bad debts and exhausted land; this is not the only evil resulting from an erroneous system of granting allotments. The tenant becomes involved in difficulties, having engaged in an undertaking which he cannot carry out from want of capital; and even if he had money to expend upon his holding, he could not anticipate any profit, and would be fortunate if, at the end of the year, he was not out of pocket. The introduction of squatters into this country, similar to those in Ireland, will bring much discontent and misery upon all classes. To act first, and think afterwards, is too much the custom, where the contrary should be the guiding principle and would save mankind much sorrow and wretchedness. A quarter of an acre, near a labourer's home, would provide his family with vegetables and enable him to kill a bacon pig; when an acre or more, at a distance from his cottage, would cost him more than it was worth. The vocation of a labouring man should not be interfered with—take him from his usual occupation, and you sow the seeds of discontent. He cannot gain a livelihood from his land, which requires his attention when he is wanted elsewhere. A small quantity of land may be cultivated at odd times with benefit, beyond this it becomes a burthen, and must be looked after when workmen are in request and can gain fair wages without risk. Will any of your correspondents answer the following question? "If a farmer only gives 2*l.* per acre, how can a poor labourer be expected to give 4*l.* for the same land?" *Falcon.*

Breeding of Salmon and Trout.—I have read, with much interest, the articles on the artificial breeding of salmon and trout. For some years I have been successful in the hatching of trout, and at the present time I have a brood of some thousands. I have also a few salmon hatched from spawn which had been sent me by post, in damp moss. *S. Gurney, jun., Carshalton, May* 3.

Poultry Prize List of the English Agricultural Society.—A rumour has got about (which I hope is likely to prove true), that the list of prizes to be given for poultry by the Royal Agricultural Society at Lewes, is to be altered and amended. In this hope, allow me, Sir, to point out one arrangement which I cannot think fair or judicious, and which, if adhered to, will I think cause several amateurs to retain their poultry at home. I cannot consider the general classification of prizes and poultry as good, and I think the Committee might well take a hint from the prize list of the Birmingham Show in 1851; but I allude more particularly to the inequality of the 1st prizes offered for Dorkings and Spanish poultry: 5*l.* for the former, while the latter are only deemed worthy of 2*l.* or 3*l.* It is well known to every fancier that it is easier to get many good Dorking chickens, than one good white-faced Spanish fowl; as a proof of this, I know one fancier, who refused ten guineas for his Spanish cock, and I hear that the same sum was offered for a hen. I am far from wishing to undervalue a good Dorking, but in the number and size of the eggs laid, they are not to compare with a Spanish: and though the Dorking is unrivalled at table, the Spanish fowl is excellent also, putting on one side Mr. Cook's prejudice in favour of white legs. I should hope the committee may be induced to give an equal prize to the best pen of birds of each different sort. If not, many like myself, will be (I think) not inclined to send their pets to the show. *A Spanish Poultry Fancier.*

Wheat after Root Crops.—It is a very desirable and necessary point to get light sandy lands as firm and close as possible, after the Wheat crop has been put in, and this, according to the general methods of cultivation, can only be effected by heavy rollings, sheep treading, &c.—of course attended with considerable expense. Now, in order to avoid this, and yet have the land in even a firmer condition than these means could produce, I left a small portion of a field unploughed, after a Swede crop fed off upon the ground, and merely drag-harrowed it twice, to make a slight tilth and just cover in the manure and urine of the flock. The corn was dibbled with Saunders and Newbury's dibble, 4 pecks per acre, 8 inches between the rows; the dibble working much better than I had ever seen it before, owing to the firmness of the ground preventing the rollers taking up dirt, stones, &c., and becoming clogged, which is too often the case on lighter land. The Wheat has come up remarkably well, and looks much evener and of a better colour than the rest of the field which was drilled and ploughed; the annual weeds too are much easier destroyed by the hoe in this case, as less depth of soil is moved, and consequently the weeds are left more on the surface, added to which, there is a clear saving in horse labour of 10*s.* per acre. I shall be happy to give you the results of the experiment when the corn is threshed. *John Coleman, Albury.*

Ploughing by Steam.—I extract the following from the American *Gardeners' Chronicle*. As it is novel and interesting perhaps you may find a corner for it in your valuable Paper:—"Much attention has been attracted by the model of a very ingenious mechanical invention for ploughing land by steam power. The inventor is Mr. Alexander T. Watson, of Staten Island. The machine would have, when in operation, very much the appearance of a railroad locomotive, being so arranged as to pass steadily along through a field dragging the ploughs, harrows, and seed-drills behind. The ploughs, 12 in number, or less, are attached to the after-part of the locomotive frame, and are so arranged as to be easily controlled by those who have the machine in charge. They can be elevated or depressed for light or deep ploughing as may be required. The harrows and seed-drills follow the ploughs, so that all the operations of turning the soil, harrowing, and planting are completed at the same time. The wheels of the machine are constructed in a very peculiar manner, and takes hold of the ground in a way which gives an enormous force with which to overcome the resistance of the ploughs whether on hard or soft soil. On the whole, the invention seems admirably adapted to the uses for which it is intended. Should it be found in practice to operate well, a new era in agricultural operations will have commenced. The machine will plough, harrow, and sow over 100 acres per day." I do not know the size of the machine, but 100 acres seems enormous for one day. *Edgar Sanders, Englefield Green, Chertsey, Surrey.*

Clover-sick Land.—It is too well known to farmers, that land sometimes refuses to bear Clover, however carefully or skilfully tilled; but the cause of this "Clover-sickness" is still problematical; and a certain remedy much wanted. I cannot pretend that the following will supply this want, my experiment having been only on a few acres; but there it produced a deep green, dense mat of Clover, while the other fields on the estate were pale, thin, and hungry. And it is fair to add, that I was

led to the mixture from the comparison of some hundreds of experiments, in this country and Scotland, reported in the agricultural journals and other periodicals: and if fortunate enough to have elicited something like a specific, I shall rejoice to have rendered such a useful service to our depressed and oppressed agriculturists. For 5 acres: nitrate of soda, 3 cwt.; gypsum, 5 cwt.; wood-ashes, 1 ton. Strewed on, in May, in damp weather, or light rain. When wood-ashes cannot be obtained, fishery salt, 5 cwt., mixed with hedge or ditch earth, a ton, and then with slaked lime, 5 cwt., may be substituted—or any other salt, foul with animal matter. Clean salt I do not think likely to answer. In my last the wood-ashes were omitted, which I find, on reference, gave the best product. *J. Prideaux.*

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

(*Continued from page* 285.)

Fresenius (1847).—The amount of sugar in the Beet varies considerably, according to the circumstances of soil, manuring, climate, &c., under which it is cultivated; and various methods have been proposed and carried out for its extraction, of which the following is the most usual. 1. The roots being washed clean from earth are grated or reduced into pulp. 2. The juice is cleared from impurities by being boiled with the addition of a little lime. 3. The clarified fluid is filtered through coarse bone charcoal, then concentrated by evaporation, filtered through finer bone charcoal, and lastly evaporated to the point of crystallisation. 4. The concentrated solution is transferred from the boiling-pan to the cooling apparatus, where it is allowed to cool down to a temperature of between 122° and 131° of Fahrenheit; it is then brought into the crystallization cases, which consist of inverted conical vessels provided below with an aperture that may be closed or left open as required, where, on cooling, the raw sugar separates itself in a crystalline state. On removing the stopper from the lower aperture of the crystallization vessel, the molasses or treacle flows down and leaves the raw sugar in a dry state for the market. The juice of the Beet contains besides sugar all the soluble component parts of the original bulb, particularly albumen, pectin, gum, salts with organic and inorganic acids, and malic acid. The process of clarification has for its object to remove as much as possible all foreign substances. Boiling, for instance, coagulates the albumen; lime precipitates the pectic and malic acids, as well as the phosphoric and silicic acids, magnesia, &c., while at the same time it enters with the sugar into a peculiar light combination, which is again decomposed by means of the animal charcoal. Before the latter circumstance was known, it was thought that lime alone ought not to be employed, and at a subsequent stage of the process sulphuric acid was added with a view to saturate the lime in question. This, however, is now only done when after the clarifying with lime the fluid is found on testing to be too strongly alkaline. The former, usual course of proceeding, known as the German method, by which sulphuric acid was first added and then milk of lime, is now nearly if not wholly discontinued. By filtration through animal charcoal, the combination of the sugar with lime is suspended and the lime intercepted by the charcoal, the fluid at the same time becoming to a certain extent deprived of colouring matter, and freed from the insoluble compounds separated from the fluid by clarifying and evaporating processes. By evaporation a portion of the crystallisable sugar is converted into uncrystallisable, and every ingenuity has accordingly been exercised to curtail the evaporating process as much as possible. At present, heat is only applied through the medium of steam, and the process of evaporation is accelerated by maintaining a rarified space above the surface of the heated fluid.

Gasparin (1848).—Varieties of Beet. 1. The field Beet or scarcity Beet: fleshy substance of bulb varied with white and rose colour; outer skin red. This is the variety most commonly cultivated for the purpose of feeding cattle. One of its sub-varieties grows almost entirely out of the ground, to which it is only attached by its inferior radicles. This is the kind generally preferred, on account of the facility of its crop. It contains much water and woody fibre. Mathieu de Dombasle considers it inferior to the white Silesian Beet in the proportion of 3 to 5 when equal weights are compared. 2. The common long yellow Beet: fleshy substance yellow; bulb elongated; outer skin of a clear yellow. It grows also above ground. It is highly esteemed by rearers of stock. 3. The yellow German Beet: bulb nearly globular; outer skin a deep yellow. It grows below the surface of the ground, and is a variety that appears to be preferred by many growers. M. Vilmorin informs us that, after comparative trials, M. Bailly, an extensive cultivator of Beet, has found this variety superior to all others. 4. The white Silesian Beet: bulb a little elongated, very large; outer skin and fleshy substance white. There is a sub-variety with a greenish neck, which is employed almost exclusively for the extraction of sugar. It becomes very bulky, but remains below the surface of the earth while growing. This Beet has been constantly shown by the experiments of M. Girardin to be the most productive of all the varieties grown. The white Silesian Beet is much richer in sugar than the field Beet, but contains less nitrogenous matter. M. Boussingault, having analysed these two varieties from crops grown in 1838, found that in the dry state the field Beet had 1.70 per cent. of nitrogen and the white Silesian only 1.43, and in the ordinary state the former 0.21 and the latter 0.18. The field Beet therefore would, on chemical theory, be more advantageous for feeding cattle, and the white Silesian Beet more valuable for the purposes of sugar manufacture. Beet-root exposed to a temperature below that of congelation enters into decomposition. Its seed germinates and its vegetation commences when the temperature reaches 45° of Fahrenheit. We know from the researches of M. Decaisne, that what we call the root of the Beet, bears in its middle portion an elongated pith in the form of an inverted cone, the characteristic of a stem expanded by a cellular mass, and where the radicular part is surrounded and concealed by such expansion. In the greater number of cases, that part of the Beet which is raised out of the earth comprehends the small stem, and the part below the earth the true root. The mass increases gradually by the superposition of concentric zones, each of which is composed of materials perfectly identical throughout the whole of them; in such a manner, according to the observations of M. Peligot, that the quantity of sugar, at every age of the plant, is proportional to the bulk of the root and of the root-shaped stem. During the first year of the growth of the Beet, its stem increases in length and becomes gradually more expanded and fleshy; each successive rank of its leaves tends, by the expansion of its fibres, to augment the number of the concentric zones: it is only in the second year that the herbaceous or woody stem elongates itself finally, and bears its flowers and seeds. The Beet is perhaps more indifferent than any other plant of its class, to the nature of the soil in which it is cultivated, provided that it has depth without stagnant moisture; and if the management and manures are the same, the crops do not vary so much under different circumstances as might perhaps at first be supposed. The Beet, in fact, succeeds in every soil, excepting in those without tenacity, composed only of siliceous and calcareous sand, which are ready to dry up, and in which the plant experiences in consequence too frequent checks to its regular growth. M. Girardin has cultivated the white Beet in alluvial sands, humiferous or peaty sands, argillaceous sands, and calcareous sands; and the produce under these four different circumstances was found to be represented by the following numbers—59, 46, 48, and 34; the alluvial sand proved the best suited of these soils, and the calcareous sand the least so. Generally speaking, this plant prefers soils of an average consistence, rather tenacious than light, fresh, and enriched with manuring matter. Schwerz considers the Beet as less exhausting than the Potato; a crop of Barley after Beet having been found much finer than the one taken off the same field after Potatoes. Beet requires a good stock of manuring matter, of which however it borrows only a small amount for its own use; in other words, it should be cultivated on land in very good condition, but which it exhausts but little, especially if the leaves are returned as manure to the soil. Better than all the other roots, it succeeds in different climates, provided that no frost should set in during the period of its cultivation; its times of sowing and cropping may be advanced or retarded according to the particular mode of culture adopted; it is accordingly capable of adapting itself with great facility to arrangements connected with improved systems of husbandry. It is true that when we do not grow it for the purposes of sugar manufacture, its produce must be consumed on the farm, and that it offers but few resources for the alimentary support of man, although efforts have often been made to introduce it into the composition of bread. It is otherwise when it is grown in the neighbourhood of sugar-works, and becomes a produce immediately realisable. Under these circumstances the Beet crops will be sought for and purchased for ready money; they will assume all the extension of which they are capable; and the cultivation, being required to furnish produce of indisputable character, will no doubt arrive eventually at the highest degree of perfection attainable. Grown, however, in districts remote from manufactories, the Beet will no longer occupy more than a few fields on the farm, for the purpose of supplying additional fresh food for cows and pigs; and it will only be found on lands a little more extended in possession of rich and first-rate agriculturists, where however it will be limited by the proportion its cultivation ought to bear to the other forage crops, to which it is never more than an auxiliary. In the first case, it will become the pivot and most valuable stimulant for the improvement of general cultivation; it will introduce into the country methods of culture of the most perfect and economical character, which will extend from the Beet to other plants. In the second case, the Beet has special and most valuable properties. It requires operations less costly than the Carrot; the risks to which it is exposed from insects are much fewer than those with which the Turnip has to contend. It can be consumed in its raw state without inconvenience, and it is capable of being easily preserved for a long time in store; such, however, is not the case with the Potato, which sprouts two months before the Beet-root has ceased to yield fresh food for cattle. The Beet accordingly ought to be included in every good assortment of winter food. Its true use should be regarded as a resource when other roots have failed. Thus, during frost, when the earth cannot be conveniently opened to get at the Jerusalem Artichoke, we ought to supply its place by Beet-root, and defer its further consumption when the weather changes; again however having recourse to it when the Potato and the Jerusalem Artichoke begin to sprout; the circuit of the year therefore is then accomplished, which recommences with the vegetation of spring. It is by such combinations that the supply of fresh vegetable nourishment need not be suspended for a moment on the farm, to the great advantage of the health and condition of the animals.

Schleiden (1849-51).—Of all the binary compounds of the known elements, those formed of oxygen and of hydrogen are the most important for vegetation. 1. Of the oxygen compounds, water and carbonic acid stand in the foremost rank of importance; then oxalic acid and the other oxygen acids; and, lastly, the oxides of the known metals. 2. Of the hydrogen compounds, ammonia is the most remarkable; then the hydrogen acids of chlorine, iodine, and bromine. Ammonia is probably the source of all the nitrogenous compounds occurring in plants; it exists, however, in a free state, only in immature vegetable juices, as, for instance, in the spring sap of the Birch, the Vine, and also perhaps in some plants whose juice is of an anomalous character; as, for instance, in the Beet-root. The Cabbages and Beets are particularly distinguished above all other plants, by the great amount of nitrogenous matter in their leaves; and they belong on this account to the most nourishing vegetable productions; as food, however, they very easily become flatulent. Beets of every kind are roots, the Kohl-rabi stalks, which through cultivation have become fleshy, that is, in which the parenchymatous matter of the pith and the rind has remarkably increased in size. They are generally rich in sugar and gum.

Schmid (1850).—The discovery was first made by Marggraf, at Berlin, in 1747, that the same sugar as that furnished by the sugar-cane was contained in the juice of the Beet-root, and could be extracted from it in a pure state. This discovery soon obtained the notice of parties engaged in the industrial arts; but it was not until the year 1812 that it received from France a wider diffusion, and a knowledge of it became more generally extended, especially throughout Germany and Belgium. The result of all the experiments appears to prove that the variety known under the name of the white Silesian Sugar-Beet is the richest in saccharine matter. A fertile sandy loam, deeply cultivated to the extent of from 12 to 16 inches, yields the best Beet-roots. Fresh animal manure, containing, as it does, much nitrogenous matter, is on that account not the best application adapted for its cultivation, because it increases the amount of nitrogenous compounds in the root at the expense of the sugar. The greater the weight of a Beet-bulb is, so much smaller, generally, is the amount of sugar it contains. Accordingly, Beet-roots of the same crop have been found to give the following results:—

Beet-root weighing a quarter of a lb. contained			13 per ct.	sugar
,,	,,	half a lb.	,, 11 to 12	,,
,,	,,	two lbs.	,, 8 to 10	,,
,,	,,	three lbs.	,, 6 to 7	,,

Boussingault (1851).—In France, it is estimated that the average amount of white sugar obtained from the Beet is only about 4½ per cent., while the composition of that root shows so much larger a proportion of saccharine matter. This considerable loss is chiefly attributed to the action of the salts of potash contained in the juice of the Beet, as well as in that of the sugar-cane, salts that are again found in large proportion in the molasses obtained from each of those juices. To this undoubted cause of the alteration of the sugar during boiling, must be added another, more powerful perhaps, and of which the effects are manifest in the juice immediately after its extraction by the press. This destructive action proceeds from the circumstance of the albuminous matter modifying itself in contact with the air into a real fermentative substance which renders the sugar uncrystallisable. In the opinion of M. Melsens, who has successfully devoted his attention to the study of the causes of changes taking place in saccharine matter, it is sufficient, for the purpose of opposing the formation of destructive ferments, to exclude all intervention of air. In setting out from this principle, M. Melsens has applied himself to the discovery of a body very absorptive of oxygen, without action on the sugar, without danger to the health, and easy to be prepared. The bi-sulphite of lime has appeared to him to satisfy these various conditions. This salt effects the coagulation of albumen, of casein, and of white of egg, at the temperature of boiling water. The bi-sulphite of lime possesses all the properties of a clarifier, as it removes all the nitrogenous matter from the juice of the sugar-cane and that of the Beet; it acts, too, as a de-colouriser or bleaching agent; it substitutes for the fixed acids in the juice an acid that is gaseous and inert, namely, the sulphurous acid. M. Melsens having made a great number of experiments on this subject, is so fully persuaded of the preservative properties of the bi-sulphite of lime, that he believes it will become possible, in tropical regions where the juice of the cane turns sour so rapidly, to extract the sugar from it by the sole employment of the sun's heat, evaporating the juice in the open air in the same manner as the salt water is dried up in marshes near the sea. Without participating in all the expectations of M. Melsens on this subject, I am inclined to think that the bi-sulphite of lime will find an useful application in the treatment of the "begasse" (cane trash or sugar-cane stalks that have passed through the mill, and are used only for lighting fires), the residuary sugar of which is destroyed with astonishing rapidity. The employment of the bi-sulphite would allow of the Beet-roots being grated in advance, and of their pulp being kept on hand, to be pressed at convenient leisure after undergoing successive macerations. The juice would furnish limpid and colourless decantations, no longer requiring the employment of animal charcoal. Concentrated in evaporating vessels to the density of 1.30, it would then be removed to the crystallising chamber. This method would much simplify the extraction of sugar; and even supposing that it were not adopted on a large scale, it would be the means of bringing the manufacture of Beet sugar within the range of farmers. All, indeed, that would be required, as M. Melsens himself remarks, would be a root-cutter, a few casks, a boiling-copper, and some earthenware pans, to extract at once from a ton of Beet-roots, a whiter sugar than any of the finest sugars of commerce. During a close investigation of the juice of the Beet, M. Braconnot has ascertained that the nitrogenous principle, albumen, that it contains does not become coagulated by the action of heat, even on continuing the boiling of the liquid or concentrating it by evaporation. He attributes this non-coagulation of the albumen to the absence of salts of lime in the Beet-juice; for he found that if a small quantity of a calcareous salt, such, for instance, as the chloride of calcium, the acetate of lime, or even sulphate of lime in powder, was mixed with the juice, and heat then applied, the whole of the albuminous matter would be instantly precipitated in the form of bulky floccules. By this simple addition of a salt of lime, a liquor was obtained quite as limpid and colourless as that resulting from the Beet-juice when clarified by means of quick-lime. This liquor, evaporated conveniently and removed to the drying-room, yielded a mass of crystallised sugar almost completely free from treacle. M. Braconnot concludes his researches by remarking that sulphate of lime in powder will probably be found advantageously to replace quick-lime in the clarification of Beet-juice, without presenting any inconveniences of that caustic alkaline earth. From the whole of M. Péligot's experiments, it results that the average composition of the Beet may be assumed to be constituted of 87 per cent. of water, 8 per cent. of substances soluble in water—chiefly sugar, and of 5 per cent. of insoluble woody matter; and as only about 4½ per cent. of sugar is extracted from the juice, it is obvious how great a loss of sugar is experienced in the manufacture. It occurs, however, in this case as in that of the sugar cane, that a part of such loss is occasioned by saccharine matter being left behind in the plant after the juice has been pressed out of it. Thus, with the presses now in use, only from 60 to 70 lbs. of juice are obtained from 100 lbs. of grated Beet-roots, which at the same time, perhaps, contain very nearly 95 lbs. of that liquid. We cannot therefore reckon on there being subjected to the process of sugar extraction more than the average weight of 65 lbs. of juice, containing, according to the mean result of the analyses, 5½ lbs. of sugar. The real loss of sugar, therefore, sustained, when we obtain only 4½ lbs. of it from 100 lbs. of Beet-root, may be stated as about one-fifth. This loss, great as it appears, is often estimated to be still greater when the roots contain from 10 to 11 per cent. of crystallisable sugar. In sugar-cane works, the saccharine matter left in the begasse or pressed canes, is completely lost, being either burnt with the wood or destroyed by fermentation. In this respect the Beet-root has an advantage over the sugar cane, which is, that the sugar of the pressed pulpy matter may serve as food for cattle. This pulp cake, indeed, is ungrated Beet; and if as cattle food a little inferior to the entire root, it arises only from containing a larger proportion of woody matter, that is to say, of woody matter which belonged to the juice extracted by the press. We may even estimate approximatively the composition of the pulp relatively to that of the root; for, according to the average constitution we have already assigned to the Beet-root, and supposing that it has yielded 65 per cent. of juice and 35 per cent. of pulp, it is obvious that 100 parts by weight of pulp will give 79 of water, 7 of sugar and albumen, and 14 of woody matter. One of the causes which have perhaps the greatest influence in diminishing the amount of saccharine yielded by the Beet, is the difficulty of preserving its root when it has attained its maturity. The crop being taken up at the end of autumn, the bulbs are as liable to injury from the severity of winter as from too mild an atmosphere. The frost destroys their organisation, while mild winters promote their vegetative tendency at the expense of the sugar they contain. As Beet contains saccharine matter at every stage of its growth, it might perhaps be advisable to prevent its attaining its full development by taking it up earlier. By sowing also more thickly, and commencing the extraction of the sugar before the full time of the crop, we should probably be enabled to compensate the difference that would result, as one of the consequences of this innovation, from the less size and weight of the bulbs. Should this view of M. Peligot be realised, even to a certain extent only, in practice, the cultivation of the Beet would recur more nearly to that of the Sugar-cane, in allowing to the manufacture of Beet sugar a routine that would be found to diminish the inconveniences attending the preservation of the root.

Pabst (1851).—Beet-roots are from autumn to spring a wholesome food, promoting at the same time both the milk and the flesh of an animal. They are more watery than Potatoes, and on the average 3 lbs. of Beet-root may be reckoned for 2 lbs. of Potatoes; but as they are neither purgative nor flatulent, when obtained in good condition and given with the necessary addition of dry fodder, Beet-roots in a raw state may be given in a considerably greater quantity than Potatoes can. When the Beet is of really good quality, as for instance of the yellow globe Oberdorf, or the white Silesian Sugar-Beet varieties, 275 lbs. will be found equal to 200 lbs. of Potatoes, or 100 lbs. of good sound hay. I found, during the course of some experiments on fodder made by me at Hohenheim in 1825, that a fodder composed of one-fourth Potatoes, one-fourth Beet-root, and one-half hay and straw, was quite as valuable for dairy stock as 250 lbs. of Beet and 200 of Potatoes. There is, indeed, no reason whatever for giving Beet-root to cattle in any other than its raw state, as its value for fodder would not be increased by boiling or steaming. When good stacks of Beet are made, and a portion also is put away in the store-house, it will keep fit for use until May, provided it be guarded from the injury of frost on the one hand, and from the influence of too warm an atmosphere on the other; for this root loses much of its value as soon as it begins to sprout. In every case the sugar Beets are more easily wintered than the other varieties; and their value on that account is essentially increased.

Wolff (1851).—Sugar occurs in the vegetable kingdom of two essentially different kinds; namely, as raw sugar, and as Grape or fruit sugar. The first kind is well known as being present in the sugar-cane, as well as predominating in the juice of the Beet-root and of the Maple tree; it differs from the second kind in external condition by the perfect facility with which it crystallises, and chemically by the less proportion of

water it contains. Raw sugar contains rather less oxygen and hydrogen (in the proportions forming water) than the starch or dextrine (starch-gum), out of which sugar is in every case formed; while Grape sugar, on the other hand, contains rather a greater amount of those two elements of water. Raw sugar is easily converted into Grape sugar during the process of fermentation, by the action of the peculiar substance diastase, and by means of diluted acid; so that it is probable that on the abstraction of water in the vegetable organism raw sugar first arises out of dextrine, and is again on the resumption of a certain portion of water further changed into Grape sugar, namely, into a kind of sugar which occurs far more frequently in the vegetable world than raw sugar does. Sugar is formed in large quantities in different plants and particular portions of them at certain seasons of the year; in fruits at their time of ripening, in many roots at the end of summer, in trees in the spring, in all young plants during the first period of their growth. We cannot regard any particular organ, not even in the case of one and the same plant, as the seat of sugar-formation; for even saccharine matter, like all matter universally diffused in the vegetable kingdom, is produced in the most widely different portions of plants; the formation of dextrine, however, always precedes that of sugar. It has been observed, for instance, that in spring the juice of the Birch-tree is richer in sugar, in proportion as the part from which it is drawn is further removed from the root; a circumstance arising from the dextrine being in greater amount in the lower vessels of the tree, and becoming converted into sugar, as its transition upwards is effected through a greater number of cells. Sugar can obviously be transformed into starch, as the accumulation of starch in the seeds of the Grasses, particularly in the grain of the Cerealia, clearly proves. In their early growth, these and many other plants are rich in saccharine matter, which, as in the case of the Indian corn stalk, disappears when the grain attains its perfection, and is converted, as it would seem, into the great quantity of starch which those grains are found to contain. Whether the formation of sugar always precedes that of starch, is not generally to be ascertained; that it is often, however, the case, is certain. Starch, like woody fibre, may, it appears probable, be formed immediately from dextrine, in the same manner as dextrine on the other hand may be easily produced from starch. Sugar also, under certain circumstances, undergoes a clear re-conversion into woody fibre and cellular matter, as may be observed in the case of sweet fruits, which sometimes lose their sweetness in consequence of their sugar being in a great degree converted into cellular substance. It is impossible to point out the causes of all these progressive and retrograde formations; we must content ourselves with knowing that they do actually take place, and that they possess in themselves some instruction for our guidance, since all these substances display so great a similarity in their chemical composition, while, at the same time, by the simple assumption or rejection of water, they are often, beyond the range of vegetable organism, transformed into each other, and always contain oxygen and hydrogen in the same quantitative proportions as they exist in the composition of water.

PAYEN AND RICHARD (1851).—There are very few agriculturists of the present day who are not perfectly acquainted with the advantages attending the cultivation of the Beet or Mangold Wurzel; it is, in fact, one of the most important plants in good husbandry. Its roots give, in nearly every soil, a large amount of crop, and serve both as a food for cattle and for the extraction of a sugar, which, when well refined, is equal in every respect to that which in hot climates is produced by the sugar-cane. These roots also, when properly cooked, furnish a tolerably agreeable vegetable, which serves to vary the food of man during the winter season, when there are so seldom fresh vegetables for the table. The breadth, however, of its cultivation in France is only 142,500 English acres, being much less than that of the Potato. The departments in which Beet culture is carried on to the greatest extent are those of the North, of the Pas-de-Calais, of the Somme, of the Aisne, &c., which furnish the greater part of the roots required for the sugar manufactories. The Beet is an indigenous plant; it came originally from the southern countries of Europe, but can be cultivated with equal facility in the north or the south. The following are its principal varieties:—1. Field-Beet: long, rose colour, growing above the earth; fleshy part veined with rose colour. It offers two sub-varieties: the one flat-bulbed, short, and half sunk into the earth; the other long, and growing more above the ground. This variety of Beet contains in general less nutritive principles than the other varieties, and especially less saccharine matter. In deep, wet land, the crop is very abundant; it can therefore be only grown as food for cattle. A sub-variety has, however, been found by M. Payen and M. Vilmorin to yield greater proportions of sugar and other proximate principles than even white varieties grown on the same soil. 2. The Sugar Beet: white, short, growing in the earth; flesh white. Two sub-varieties have been distinguished; the one with the neck green, is the Silesian Beet; the other with the neck of a rose colour, is in general richer in sugar. 3. The Yellow German Beet: long, yellow, grows above ground; flesh white, or lightly veined with yellow. 4. The Yellow Globe Beet: round shape, growing almost completely out of the earth; flesh white, or lightly veined with yellow; contains only a small proportion of sugar. 5. White-Yellow Beet; middle length, grows in the earth, flesh white, skin of a pale yellow colour. 6. The long or great Yellow Beet of Castelnaudary: long, grows much out of the ground; flesh and leaf-stalks deep yellow. This is the variety especially cultivated in the neighbourhood of Paris. 7. The Great Red Beet: long, grows much out of the soil; flesh and leaf-stalks red. In general, even for the food of animals, we should less consider the bulb of the roots, or even the quantity of their produce, than the amount of nutritive matter that they contain. There is obviously every advantage in cultivating a variety which in the same bulb will contain more nutritive principles. On this account the generality of farmers agree in giving the preference to the Silesian Beet, which contains more sugar and less foreign matters than the field-beet; and has also the great advantage of being one of those varieties that best resist the action of frost. If all rearers of stock are agreed as to the nutritive qualities of the Beet, they are not equally so as to the influence it exercises on the production of milk in dairy cows. According to some authors, Beet favours the secretion of milk; while others, on the contrary, think that it is very unfavourable for that purpose. Schwerz considered that feeding for two days only on this root was sufficient to diminish the amount of milk in a very striking degree. It maintained animals in flesh and good condition, a circumstance highly favourable in severe seasons. Potatoes and Turnips forced the milk, and Beet the flesh; the latter being more favourable for fattening stock than Potatoes and raw Turnips are. This opinion on the but little favourable influence of Beet on lactation is not participated in by all farmers. The Baron Crud remarks:—"After an experiment which I have conducted with the greatest care, and after the inferences which I have deduced from the results I have obtained in the employment of this root for the food of cattle, and particularly for that of dairy stock, I consider to be wholesome, fattening, and milk-secreting; the milk given by the cows part y fed upon it being of an agreeable taste and flavour." We might here cite other parties in favour of the milk-yielding properties of the Beet, of whose roots the rearers of stock, who may be regarded as excellent judges on this point, require an enormous supply for consumption by the dairy-stock which they rear. Horses in particular appear to be the animals to which the diet of the Beet is most favourable. There are districts, as in the Palatinate for instance, where the horses are fed almost exclusively on this root during seven or eight months of the year, and are maintained by it in a perfect condition even while employed in the roughest kind of work.

DOBEREINER (1852).—The manufacture of crystallised sugar out of the white Sugar Beet has assumed in Europe, and particularly in Germany, so important an extension, that a considerable competition has arisen between this article of commerce and the Indian sugar derived from the Sugar-Cane. The returns obtained in consequence from field husbandry and cattle feeding have essentially increased, while corn growing on the other hand has ceased in some of the most fertile of our districts. The white Silesian Sugar Beet is the variety best adapted for the extraction of the largest amount of sugar; and it requires for its cultivation an adequately deep, fertile, sandy loam, and in dry seasons a clay soil; on either of which kinds of soil the Beet may be raised several years in succession, but never with fresh manuring matter. The crop is stored for future use in pits two feet deep, in which the roots are heaped four feet high and covered with a sufficient layer of earth. The stock must, however, from time to time be examined, in order that in necessary cases it may be immediately brought into use.

FRAAS (1852).—The Sugar Beet, Fodder Beet, or Mangold-Wurzel roots were much cultivated in Burgundy in 1764; also in Upper Franconia in 1765, where Muenchhausen became acquainted with them and recommended their adoption. Leopold was acquainted with three varieties of them in his time. Von Entnersfeld recommended them in 1791, and they were cultivated at Schleissheim, in Bavaria, in 1772. Bergen, however, in 1780, discountenanced their cultivation. About the year 1811, the Economical Novelties and the Hesperus periodicals contained many notices of successful experiments connected with the extraction of sugar from the Beet. In Bohemia, manufactories were established at Ziak and Liboch; and at Neuhaldensleben, near Magdeburg, Nathusius, in 1820, prepared Beet sugar on a large scale.

(To be continued.)

Miscellaneous.

New Guano.—Official notification.—*(To the Editor of the Morning Post.)*—Sir,—As several incorrect statements have appeared in the public papers relative to an alleged discovery of a new deposit of guano in the rainless district of the South Pacific, which may tend to mislead shipowners and masters of vessels into the belief that they can legally touch at the localities referred to and load guano, I have considered it my duty to caution all persons against proceeding to the Guano Islands, which are in possession and under the jurisdiction of Peru; and I have no doubt you will consider the enclosed caution of sufficient importance to assign to it a prominent place in your paper. I have the honour to be, sir, your most obedient servant, *Emilio de Althaus.* "It having been publicly stated that the islands called the 'Lobos de Tierra,' and 'Lobos de Fuera,' containing guano beds, are desert islands, and have never been claimed by any nation, the Peruvian Legation in London feels called upon to make the following statement, as a caution to owners of vessels and others: 1. The aforesaid islands of 'Lobos de Tierra,' and 'Lobos de Fuera,' opposite the province of Lambayeque, in the department of Libertad, have been known ever since the discovery of the west coast of South America by the Spaniards, to whom they belonged, and they now form part of the several deposits of guano situated between the latitude of the river Loa and that of Tumbes, which are in the possession of the Republic of Peru. 2. By virtue of decrees now in force, no vessel, either under the national or any foreign flag, has a right to go to the Peruvian guano deposits, without first obtaining permission from the Peruvian Government, under penalty of confiscation. 3. Foreign vessels, furnished with Government licenses, are allowed to load at the Chincha Islands only. 4. The before-mentioned islands of 'Lobos de Fuera,' and 'Lobos de Tierra,' as well as those of Guanape, Malabrigo, and other localities north of Callao, where deposits of guano exist, as also some of the southern deposits in the province of Tarapacá, are purposely kept uninhabited and unfrequented by order of the Government, in order that the birds may be left undisturbed, and thus a constant increase of the deposits be promoted. 5. From time immemorial the fishermen of Lambayeque have been accustomed to inhabit the 'Lobos de Tierra,' and 'Lobos de Fuera;' but for some years past the Peruvian Government have prohibited their so doing, in consequence of their destroying thousands of birds, and bringing away boat-loads of eggs to the villages of Lambayeque, San Pedro, and other places on the coast. 6. Since the commencement of the export of guano to Europe, all the deposits belonging to the Republic of Peru have been surveyed and measured by orders of the Government; and amongst these are enumerated the 'Lobos de Tierra,' and 'Lobos de Fuera,' within the jurisdiction of the department of Libertad, formerly called Trujillo. 7. There exist in the archives of the Peruvian Legation in London particulars of the measurements and calculations made some years since, with a view to ascertain the quantity of guano on the 'Lobos de Tierra,' and 'Lobos de Fuera.' 8. Finally, any attempt to load vessels without the proper license, would subject them to be seized by the Government vessels appointed to cruise off, and visit the different guano deposits, in order to prevent, not only the illegal extraction of guano by foreign trading vessels, but also to prevent the natives of Peru from violating the Government orders against visiting those localities, and destroying or disturbing the birds. *Emilio de Althaus. First Attaché to the Peruvian Legation, and Vice-Consul. London, 21st April, 1852."*

Transfer of Land.—If Law Reform is now the rallying word of parties, this land question is, of all others, in a party view, that note which may be sounded most loudly and with the greatest effect. It has come to be an admitted truth that the value of the land is affected by the state of the law connected with it; and the only question with the great bulk, not only of the public, but of the profession, is, how can the law be altered safely and wisely?—how can the present practice in conveyancing be so adjusted as to render the transfer of land easy, and to bring land within the reach of the great body of consumers of other articles of commerce? This desire is now expressed among all classes of the community, and from all parts of the United Kingdom. Is any district peculiarly distressed? Is any particular class suffering? These further questions now arise,—What is the law as to land in relation to the class affected? How is the land occupied? How is it leased? Can land be obtained with facility? Is its transfer free or impeded? Is it easily incumbered? Can money be readily and cheaply borrowed on its security? These are questions which, if answered satisfactorily, assist us in determining the happiness or misery of the people living on the land. Others may employ themselves with other inquiries for other scientific purposes, or other social objects. What crops best suit the soil? What is its productive power? How deep must you go for water? What strata are to be found, and in what order do they come? May mines or minerals be expected? These are all important points; but inferior to none is that which we raise: How is the land transferred? How can I, if its owner, get rid of it if I wish it? How many persons are there who will take it off my hands? Can this be done cheaply? Can this be done safely? If I wish to hold it, can I borrow money easily on it? If I borrow the money, can I transfer the sum so borrowed easily? They may seem strange questions to ask, as contributing to the happiness of mankind, but on their answers depend the difference between a wretched and a happy land. *Law Review.*

Notices to Correspondents.

CATTLE STALLS: *Erratum.* I observe in your paper of Saturday, April 10, an error in the description of my cattle stalls. The openings between the boards were stated to be ¾ of an inch instead of 1¾ inches. The hoofs of my cattle measure 4 inches and upwards from heel to toe, so that more than one half of the foot always rests on the bar of wood or board. *Y.*

LIBRARY: *Query.* We are not aware of any public library in London, especially agricultural, unless it be that of the English Agricultural Society, which is accessible to members.

MILK PANS: *E G, Ipswich,* asks for the experience of our readers on glass milk pans. What shape is best—where are they to be had—what is the best method of cleaning them? &c.

PERMANENT COVER FOR HAY: *N M* reminds us that information on this subject, which was asked for two or three weeks ago, is given in Dickinson's "Prize Essay on the Agriculture of West Cumberland," published by Whittaker and Co. A figure and cut of the erection are given.

RAPESEED: *New Acquaintance.* 1. The true "branching Rape," if you can get it. There is but a trifling difference between different sorts of Rape, but inquire, when you purchase, what kind of crops the seed has been produced from. 2. About 2 quarts of seed per acre; generally about 8*s.* or 10*s.* per bushel. 3. You can sow seed just as Turnip seed; cut when only some has begun to turn brown; let it lie to ripen, then thresh in the field with flails. 4. The straw makes good litter for the farmyard. Let the poor of your neighbourhood fetch the stocks left standing, for they make good firing; cannot say what their value is. 5. The produce is four or five quarters per acre, a quarter weighing about 30 or 32 stones. 6. Consult the price lists in the newspapers.

SAWDUST: *S C E.* Do not fear it. If you soak it with liquid manure, it, like any other useless absorbent, becomes useful. If we had the command of it as you have, we should not hesitate to use it as litter.

TENANT RIGHT: *An Old Subscriber.* To get the fraction or proportion of the original cost of drainage which is due to you, on leaving the farm, you take 14 for denominator, and for numerator you take 14, *minus* the number of years which has elapsed since the drainage was executed.

THE TOP OF THE KOHL RABI: *G M.* Unless accompanied with a spring growth, when it is highly nutritious and a delicious vegetable, it is of much the same use and quality as the top of the Swede. The bulb, if allowed to remain through the winter upon the land, sends forth shoots very luxuriantly in the spring, and early produces a large amount of green food, but as this is made at the cost of the bulb, which is exhausted in the same way as other Turnips are by their growth, and as the modern practice of drawing the roots and feeding in yards, and thus freeing the land for winter ploughing and early sowing, is so much more advantageous, I cannot recommend its being left on the land for spring feed. *Hewitt Davis, 3, Frederick's-place, Old Jewry, London.*

TROUT IN THE VALE OF DERWENT: *L.* Too late for this week.

WINTERING SHEEP: *Delta.* We have not seen the article alluded to. Could you favour us with a sight of it?

Markets.

COVENT GARDEN, MAY 8.

More favourable weather having at last arrived, the market begins to improve in regard to the supply of vegetables and fruit. English Pine-apples, however, realise good prices, as do also hothouse Grapes. A few Court of Wick, Newtown Pippin, and Reinette Gris Apples may still be obtained. Oranges are plentiful and good. Nuts are nearly the same as last quoted. Strawberries are very plentiful. Young Carrots, Beans (both French and Mazagan), Peas, Lettuces, and Artichokes continue to be supplied from France. Potatoes are generally good in quality. Some new ones have appeared from open borders in the west of England. Mushrooms are cheaper. Cut flowers consist of Heaths, Epacrises, Cinerarias, Mignonette, Camellias, Roses, Acacias, Azaleas, Primulas, Lily of the Valley, and other forced bulbs.

FRUIT.

Pine-apples, per lb., 6*s* to 10*s*	Pears, dessert, per doz., 2*s* to 6*s*
Grapes, hothouse, p. lb., 8*s* to 12*s*	Oranges, per doz., 1*s* to 1*s* 6*d*
— Lisbon, per lb., 2*s* to 4*s*	— per 100, 3*s* 6*d* to 10*s*
Strawberries, p. oz., 6*d* to 1*s*	— Seville, per doz., 1*s* to 3*s*
Apples, kitchen, per bushel, 2*s* to 3*s* 6*d*	Lemons, per doz., 1*s* to 2*s*
Almonds, per peck, 5*s*	Nuts, Barcelona, p. bsh., 20*s* to 22*s*
— sweet, per lb., 2*s* to 3*s*	— Brazil, p. bsh., 12*s* to 14*s*
	Cobs, per 100 lbs., 100*s*

VEGETABLES.

Cabbages, per doz., 9*d* to 1*s* 3*d*	Parsnips, per doz., 4*d* to 1*s*
French Beans, per 100, 1*s* to 2*s*	Leeks, per bunch, 2*d* to 4*d*
Broccoli, p. bunch, 5*d* to 1*s*	Shallots, per lb., 8*d* to 10*d*
— heads, each, 2*d* to 4*d*	Garlic, per lb., 8*d* to 1*s*
Asparagus, p. bundle, 2*s* to 7*s*	Lettuce, Cab., per score 4*d* to 6*d*
Seakale, per basket, 9*d* to 2*s*	— Cos, p. score, 9*d* to 1*s* 6*d*
Greens, per doz., 2*s* 6*d* to 4*s*	Radishes, per doz., 8*d* to 1*s*
Rhubarb, p. bundle, 3*d* to 10*d*	— Turnip, 1*s* to 1*s* 6*d*
Potatoes, per ton, 45*s* to 80*s*	Small Salads, p. pun., 2*d* to 3*d*
— per cwt., 2*s* to 5*s*	Horse Radish, p. bundle, 1*s* to 4*s*
— per bush., 1*s* 6*d* to 2*s* 6*d*	Mushrooms, p. pott., 8*d* to 1*s*
— Frame, per lb., 1*s* to 2*s*	— per punnet, 9*d* to 1*s*
— New (border), do., 6*d* to 1*s*	Sorrel, p. hf. sieve, 1*s* 3*d* to 1*s* 8*d*
Turnips, p. doz., 2*s* 6*d* to 3*s* 6*d*	Artichokes, Jerus., do., 9*d* to 1*s*
Cucumbers, each, 6*d* to 1*s* 6*d*	Fennel, per bunch, 2*d* to 3*d*
Celery, per bundle, 6*d* to 1*s* 6*d*	Savory, per bunch, 2*d* to 3*d*
Carrots, per bunch, 4*d* to 7*d*	Thyme, per bunch, 2*d* to 3*d*
Spinach, per sieve, 1*s* to 1*s* 6*d*	Parsley, p. doz. bnchs., 2*s* to 3*s*
Onions, per bunch, 2*d* to 4*d*	Mint, per bunch, 4*d* to 6*d*
— Spanish, p. doz., 1*s* 3*d* to 3*s*	Basil, green, p. bunch, 1*s* to 1*s* 6*d*
Endive, per score, 9*d* to 1*s*	Marjoram, do., 3*d* to 4*d*
Beet, per doz., 1*s* to 2*s*	Watercresses, p. 12 bun., 9*d* to 1*s*

HAY.—Per Load of 36 Trusses.

SMITHFIELD, May 6.

Prime Meadow Hay	80*s* to 86*s*		Clover	...	85*s* to 95*s*
Inferior do.	... 70	75	2d cut	...	... 78 85
Rowen ...	... 65	—	Straw	...	... 23 27
New Hay ...	... —	—			J. COOPER.

A short supply.

CUMBERLAND MARKET, May 6.

Prime Meadow Hay	78*s* to 86*s*		Inferior Clover	...	75*s* to 84*s*
Inferior do. ...	... 60	72	New do.	...	... — —
New Hay ...	... —	—	Straw	...	... 28 30
Old Clover ...	... 90	95			JOSHUA BAKER.

WHITECHAPEL, May 6.

Fine old Hay	... 75*s* to 84*s*		Old Clover	...	... 88*s* to 95*s*
New Hay ...	... —	—	Inferior do. ...	... 70	80
Inferior do. ...	... 55	65	New Clover ...	... —	—
Straw ...	... 24	28	Inferior do. ...	... —	—

COAL MARKET.—FRIDAY, May 7.

Hollywell, 13s. 6d.; Carr's Hartley, 14s.; Eden Main, 15s 3d.; Wallsend Riddell, 14s.; Wallsend Haswell, 16s. 3d.; Wallsend Hetton, 16s.; Wallsend Lambton, 15s. 9d.; Wallsend Stewarts, 16s.; Wallsend Tees, 16s.—Ships at market, 184.

HOPS.—BOROUGH MARKET, May 7.

Messrs. Pattenden and Smith report that there has been more doing since this day week in cheap Mid Kents, as well as in Wealds and Sussex, the stock of the latter being almost exhausted.

Mid & East Kents	120s to 180s	Sussex ...	... 115s to 130s
Weald Kents ...	120s to 147s	Yearlings...	... 90s to 110s

Old Hops. 20s. to 50s.

WOOL.

BRADFORD, THURSDAY, May 6.—The transactions in the English Wool market during the current week have been of a limited character. It would seem that the purchases made in the course of the two or three weeks preceding have placed consumers temporarily in stock, and that they find no inducement from the general tone of the market to operate extensively upon speculation. Prices are very firm, and from the remarkably small arrivals of wool from the country, present every indication of remaining so. Short wools and noils are a fair sale at late prices.

POTATOES.—SOUTHWARK, May 3.

The committee report, that since our last report the arrivals both coastwise and by rail have been limited, and good Regents have made more money; but all second-rate sorts sell badly. The following are this day's quotations:—York Regents, 90s. to 100s.; Scotch do., 70s. to 80s.; Fifeshire Cups, 50s. to 60s.; Wisbeach and Cambridge, 55s. to 80s.; Kent and Essex, 70s. to 80s.

SMITHFIELD.—MONDAY, May 3.

Although the number of Beasts is not so large as of late, it is still considerable, and the demand is but small; consequently trade is dull. A few choice Scots, however, make 3s. 4d. pretty readily, and some of the most selling Short-horns are rather dearer. There is not quite so large a supply of Sheep, and trade is more cheerful for them, but it is extremely difficult to advance prices. In consequence of the cold weather Lamb is selling badly. Trade is still very dull for Calves, at about Friday's quotations. From Germany and Holland there are 448 Beasts, 670 Sheep, and 173 Calves; from Spain, 370 Sheep; from Scotland, 680 Beasts; from Norfolk and Suffolk, 2350; and 120 from the northern and midland counties.

Per st. of 8lbs.—	s	d	s	d	Per st. of 8lbs.—	s	d	s	d
Best Scots, Herefords, &c. ...	3	2	to 3	4	Best Long-wools .	0	0	to 0	0
Best Short-horns	3	0	—3	2	Do. Shorn ...	3	0	—3	4
2d quality Beasts	2	4	—2	10	Ewes & 2d quality	0	0	—0	0
Best Downs and Half-breds ...	0	0	—0	0	Do. Shorn	2	6	—2	10
Do. Shorn	3	4	—3	8	Lambs	4	8	—5	4
					Calves	2	8	—4	0
					Pigs	2	6	—2	6

Beasts, 3974; Sheep and Lambs, 23,940; Calves, 226; Pigs, 350.

FRIDAY, May 7.

The supply of Beasts is shorter, and in consequence Monday's improvement is fully maintained, and in a few instances exceeded. Trade still is dull. There is a fair supply of Sheep and Lambs; for the former trade is about the same as on Monday, and for the latter rather better. The number of Calves is large, but the majority are of inferior quality; the choicest, therefore, are rather dearer, but trade is no better for middling ones. From Germany and Holland we have 17 Beasts, 330 Sheep, and 228 Calves; from Spain, 240 Sheep; from Scotland, 50 Beasts, and 120 Milch Cows from the home counties.

MARK LANE.

MONDAY, May 3.—There was a fair supply of English Wheat from Essex and Kent to this morning's market, which could only be disposed of by submitting to a decline of 1s. per qr. Foreign was so little inquired after, that we are unable to quote any alteration in prices.—The Flour trade is extremely heavy.—Barley, Beans, and Grey Peas are fully as dear; white Peas must be written 1s. per qr. dearer.—There is a better sale for Oats, at the rates of Friday last.

PER IMPERIAL QUARTER.	s.	s.		s.	s.
Wheat, Essex, Kent, & Suffolk...White	44	—46	Red	39	—41
— — fine selected runs...ditto	45	—48	Red	41	—43
— — Talavera	45	—51			
— Norfolk	38	—43	Red	—	
— Foreign	36	—52			
Barley, grind. & distil. 26s to 29s...Chev.	30	—35	Malting .	29	—31
— Foreign ...grinding and distilling	22	—29	Malting .	—	
Oats, Essex, and Suffolk	20	—22			
— Scotch and Lincolnshire...Potato	22	—25	Feed	21	—23
— Irish .....Potato	21	—24	Feed	20	—23
— Foreign .....Poland and Brew	20	—22	Feed	18	—21
Rye	—		Foreign .	—	
Rye-meal, foreign	—				
Beans, Mazagan.....25s to 28s.....Tick	26	—31	Harrow .	26	—31
— Pigeon .....27 — 33s...Winds.	—		Longpod	—	
— Foreign .....Small	23	—31	Egyptian	24	—25
Peas, white, Essex and Kent.....Boilers	34	—36	Suffolk..	35	—37
— Maple.....28s to 31s.....Grey	27	—29	Foreign .	28	—35
Maize ..... White	—			—	
Flour, best marks delivered ..per sack	37	—40	Yellow...		
— Suffolk .....ditto	25	—32	Norfolk .	25	—32
— Foreign..... per barrel	17	—22	Per sack	28	—34

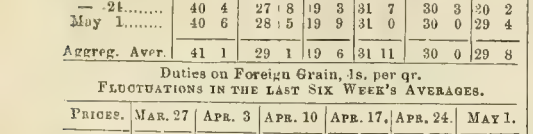
FRIDAY, May 7.—The arrivals of English and foreign Wheat and Flour this week are good, but moderate of spring corn. The above has caused a feeling of depression in the trade, and business is consequently limited, and prices nominal.—Flour sells slowly, at late rates.—Barley, Beans, and Peas remain as last quoted.—The Oat trade is dull, at Monday's prices.

IMPERIAL AVERAGES.

	WHEAT.		BARLEY.		OATS		RYE.		BEANS.		PEAS.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
Mar. 27.....	42	2	30	2	19	6	30	5	30	3	29	8
April 3.....	41	7	29	9	19	4	32	3	30	0	29	7
— 10.....	41	4	29	4	19	7	32	8	29	1	29	2
— 17.....	40	10	29	1	19	4	33	6	29	10	29	11
— 24.....	40	4	27	8	19	3	31	7	30	3	30	2
May 1.....	40	6	28	5	19	9	31	0	30	0	29	4
Aggreg. Aver.	41	1	29	1	19	6	31	11	30	0	29	8

Duties on Foreign Grain, 1s. per qr.

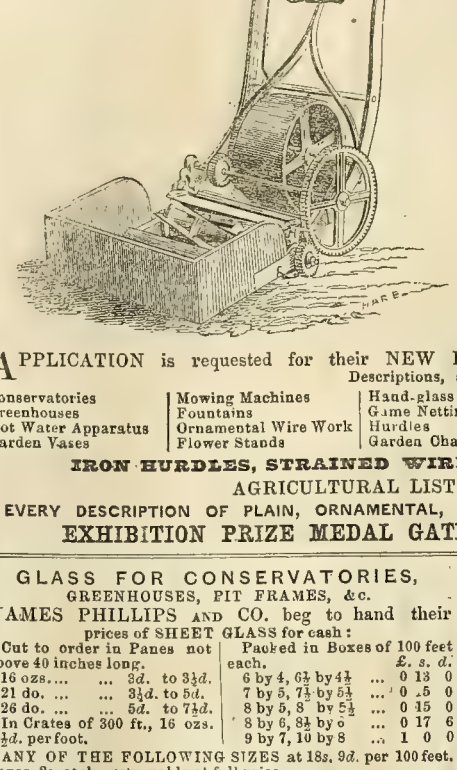
FLUCTUATIONS IN THE LAST SIX WEEK'S AVERAGES.



LIVERPOOL, TUESDAY, May 4.—A most desirable change in the weather has taken place this week, and the face of the country has greatly improved. The corn trade this morning was tolerably steady. A fair consumptive demand was experienced for Wheat, by holders submitting to 1d. to 2d. per bushel decline on last Tuesday's rates. American Flour was held more firmly, but, nevertheless, purchases were easier to make. There was no observable change in the quoted value of any other article of the grain market.

COTTAM AND HALLEN,

2, WINSLEY STREET, AND 76, OXFORD STREET, LONDON.





APPLICATION is requested for their NEW HORTICULTURAL LIST, containing Illustrations, Descriptions, and Prices of

Conservatories	Mowing Machines	Hand-glass Frames	Garden Engines	Flower Sticks
Greenhouses	Fountains	Game Netting	Do. Syringes	Garden Bordering
Hot Water Apparatus	Ornamental Wire Work	Hurdles	Do. Rollers	Watering Pots
Garden Vases	Flower Stands	Garden Chairs	Flower Labels	Garden Arches, &c.

IRON HURDLES, STRAINED WIRE FENCING, GAME NETTING, &c.

AGRICULTURAL LIST UPON APPLICATION.

EVERY DESCRIPTION OF PLAIN, ORNAMENTAL, CAST AND WROUGHT IRON, AND WIRE WORK.

EXHIBITION PRIZE MEDAL GATES AND ENAMELLED MANGERS.

GLASS FOR CONSERVATORIES,

GREENHOUSES, PIT FRAMES, &c.

JAMES PHILLIPS AND CO. beg to hand their prices of SHEET GLASS for cash:

Cut to order in Panes not above 40 inches long.		Packed in Boxes of 100 feet each.	£. s. d.
16 ozs.... ...	3d. to 3½d.	6 by 4, 6½ by 4½ ...	0 13 0
21 do.	3½d. to 5d.	7 by 5, 7½ by 5½ ...	0 15 0
26 do.	5d. to 7½d.	8 by 5, 8 by 5½ ...	0 15 0
In Crates of 300 ft., 16 ozs.		8 by 6, 8½ by 6 ...	0 17 6
½d. per foot.		9 by 7, 10 by 8 ...	1 0 0

ANY OF THE FOLLOWING SIZES at 18s. 9d. per 100 feet. Boxes, 2s. each; returnable at full price.

22 by 16	22 by 15	22 by 13	20 by 15 ... 20 by 14
20 by 13	18 by 14	18 by 13	18 by 12 ... 20 by 12
15 by 12	16 by 12	17 by 12	14 by 12 ... 18 by 11
17 by 11	16 by 11	15 by 11	16 by 10 ... 15 by 10
14 by 10	14 by 11	13 by 10	13 by 9 ... 12 by 10
12 by 9	11 by 9	...	... ...

ALL SIXTEEN OUNCES TO THE FOOT.

HARTLEY'S PATENT ROUGH PLATE GLASS for Conservatories, Public Buildings, Manufactories, Skylights, &c., ⅛ inch thick. Packed in boxes of 50 feet each.

6 by 4 and 6½ by 4½...10s. 6d. | 7 by 5 and 7½ by 5½...12s. 0d.
8 by 6 and 8½ by 6½...13s. 6d. | 9 by 7 and 10 by 8 ...15s. 0d.

FOREIGN SHEET GLASS, of very superior quality, packed in cases of 200 feet, and in sizes varying from 36 by 26 to 44 by 30 inches, at 38s., 40s., to 42s. per case.

HARTLEY'S PATENT QUARRY GLASS.

Milk Pans, from 2s. to 6s. each, Propagating and Bee Glasses, Cucumber Tubes, Lactometers, Lord Camoys' Milk Syphons, Tiles and Slates, Wasp Traps, Plate, Crown, and Ornamental Glass, Shades for Ornaments, Fern Shades, and every article in the Trade.

HORTICULTURAL GLASS WAREHOUSE, 116, Bishopsgate-street Without.

GLASS FOR CONSERVATORIES, ETC.

HETLEY AND CO. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2d. to 3d. per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices and Estimates forwarded on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLATES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to JAMES HETLEY and Co., 35, Soho-square, London.

See *Gardeners' Chronicle* first Saturday in each month.

GLASS.

THOMAS MILLINGTON'S FOREIGN SHEET GLASS is far superior to any other manufacture, as well as cheaper. In 100-feet boxes packed for immediate delivery.

6 inches by 4 and 6½ by 4½	...	...	...	13s.	0d.
7 ,, 5 and 7½ by 5½	...	...	...	15	0
8 ,, 5 and 8 by 5½	...	...	...	15	0
8 ,, 6 and 8½ by 6½	...	...	...	17	6
9 ,, 7 and 10 by 8	...	...	...	20	0
12 ,, 10 and 13 by 9	...	...	...	20	0

And many other sizes, or cut to order in various thicknesses. Cases containing large Sheets, in 100, 200, and 300 feet, at 21s. per 100 feet.

ROUGH PLATE, perfectly flat, ⅛ in. thick, best manufactured. In sizes under 15 inches ..... 6d. per foot.

,, ,,	35 ,,	.....	8d.	,,
,, ,,	50 ,,	.....	9½d.	,,
,, ,,	75 ,,	.....	12d.	,,

Milk Pans, 2s. to 6s. each; Metal Hand Frames, Glass Tiles and Slates; Cucumber, Propagating, and Bee Glasses; Wasp Traps, Glass Shades, and Plate Glass, at 87, Bishopsgate-street Without, same side as Eastern Counties Railway.—Established 100 years.

GREEN AND HOTHOUSES, made by Machinery, at J. LEWIS' Horticultural Works, Stamford Hill, Middlesex, warranted best materials, and the cheapest in England.—A List of Prices sent by enclosing 2 postage stamps.

ROSES.—The attention of Rose Gardeners and Amateurs is called to the "FLORUMBRA" or Rose-preserver, by which BROWN'S Fumigator is rendered applicable to Rose trees, for the purpose of freeing them from the Aphis.

The "Florumbra," which was introduced with success last season, will at the same time protect choice Roses intended for exhibition from sun or rain. They may be had wholesale from Messrs. Barber and Groom, London; and retail of most ironmongers and Seedsmen, and of W. J. Sangster, 75, Cheapside. Further particulars on application.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER.

WARRANTED BEST MATERIALS AND WORKMANSHIP AT THE LOWEST POSSIBLE PRICES.



J. WEEKS AND CO., King's Road, Chelsea, Horticultural Architects, Hothouse Builders, and Hot-water Apparatus Manufacturers. The Nobility and Gentry about to erect Horticultural buildings, or fix Hot-Water Apparatus, will find, at our Hothouse Works, King's Road, Chelsea, an extensive variety of Hothouses, Greenhouses, Conservatories, Pits, &c., erected, and in full operation, combining all modern improvements, so that a lady or gentleman can select the description of House best adapted for every required purpose.

THE HOT-WATER APPARATUSES (which are efficient and economical), are particularly worthy of attention, and are erected in all the Houses, Pits, &c., for both Top and Bottom Heat, and in constant operation in the Stoves.

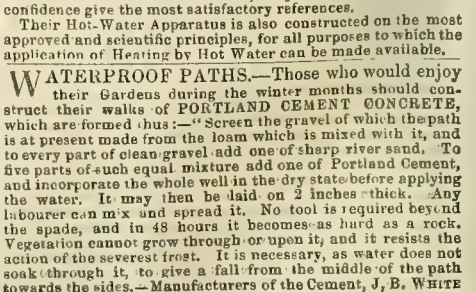
The splendid collection of Stove and Greenhouse Plants is in the highest state of cultivation, and for sale at very low prices. Also a fine collection of strong Grape Vines in pots from eyes, all the best sorts.

Plans, Models, and Estimates of Horticultural Buildings; also Catalogues of Plants, Vines, Seeds, &c., forwarded on application.

J. WEEKS AND CO., KING'S ROAD, CHELSEA, LONDON.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER.

AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.



GRAY AND ORMSON, Danvers Street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

G. and O. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders, they can with the greatest confidence give the most satisfactory references.

Their Hot-Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating by Hot Water can be made available.

WATERPROOF PATHS.—Those who would enjoy their Gardens during the winter months should construct their walks of PORTLAND CEMENT CONCRETE, which are formed thus:—"Screen the gravel of which the path is at present made from the loam which is mixed with it, and to every part of clean gravel add one of sharp river sand. To five parts of such equal mixture add one of Portland Cement, and incorporate the whole well in the dry state before applying the water. It may then be laid on 2 inches thick. Any labourer can mix and spread it. No tool is required beyond the spade, and in 48 hours it becomes as hard as a rock. Vegetation cannot grow through or upon it, and it resists the action of the severest frost. It is necessary, as water does not soak through it, to give a fall from the middle of the path towards the sides.—Manufacturers of the Cement, J. B. WHITE and Sons, Millbank-street, Westminster.

HOTHOUSES, GREENHOUSES, ETC.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

BENCH, PATENT HOTHOUSE WORKS, King's Road, Chelsea.—The superior qualities in every respect of these Structures having been proved in all parts of the United Kingdom, has caused a greater demand for them than E. D. could execute; he has been obliged to have perfect and powerful machinery made to meet the numerous orders, and can now execute any amount of work to great perfection, with dispatch, and for quality and price to defy all competition. Patent Hothouses, with excellent glass, 3 feet long by 1 foot wide, every front sash to open, and every top one to slide down, with pulley made of the same materials as the electric telegraph wires, which require no painting; delivered free to Wharf or Railway Station, at 1s. 2d. per foot super., complete, having been fitted, and every portion marked previously, making a Greenhouse 16 ft. 6 inches long, 12 ft. ratter, 400 ft., 23l 6s 8d.; 24 ft. 6 ins. long, do. do., 52s ft., 39l 13s. 8d.; 28 ft. 6 ins. long, 15 ft. ratter, 712 ft., 41l. 10s. 8d. Heating by Hot-water on the most approved and economical principles.

Patent Sashes for Pits and Peach Walls, &c., 7d. and 8d. per foot, super.

BEE HIVES.—A NEW AND EXTENSIVE SELECTION OF THE MOST APPROVED KINDS.—A detailed Catalogue, with Drawings and Prices, sent on receipt of Two Stamps. GEORGE NEIGHBOUR and SON, 127, High Holborn, London.

"In noticing the hives exhibited in the Crystal Palace, first and foremost, in my opinion, stands Mr. Taylor's Eight-Bar Hive, and Messrs. Neighbour and Son's Improved Cottage Hive, both exhibited by Messrs. Neighbour."—*J. H. Payne.* (See the "Cottage Gardener," Nos. 169, 170).

AGENTS.—Liverpool: Wm. Drury, Castle-street, Manchester: Hall and Wilson, 50, King-street. Glasgow: Austin and McAslan, 168, Trongate. Dublin: J. Edmondson and Co., 61, Dame-street.

PETTITT'S ROYAL EXHIBITION TEMPLE BEE-HIVES, as exhibited in Class IX, No. 92, are constructed on a new principle, the result of long practical experience, and may be worked with safety, humanity, and profit by the most timid and unaccustomed to Bee-manipulation. The necessity of Swarming is obviated, and the drones are effectually excluded from the glass hives.

A Descriptive circular forwarded on application to W. J. Pettitt, Sole Inventor and Manufacturer, Marine-terrace, Dover; and 24, Church-street, Shoreditch, London.

BEES.—All lovers of these wonderful insects should send three Postage Stamps to W. King, Littlebury, Saffron Walden, Essex, and by return of post, they will receive a description, engraving, and directions for management of his PATENT SAFETY HIVE, on a principle which only needs to be known to be appreciated.—Agent for London, H. Weatherly, 54, Theobald's-road.

EGGS OF THE PURE AYLESBURY DUCKS.—The Advertiser has for sale a few Settings of Eggs of the above, which he can warrant of the purest breed:—6s. per dozen. Also, a pair (male and female) of Egyptian Geese, 2 years old, in splendid plumage and condition; price three guineas the pair, package included.—Orders, accompanied by Post-office orders or reference, addressed to Isaac Brunning, North-end Great Yarmouth will receive prompt attention.

TERRA COTTA VASES, PENDANT BASKETS, BRACKETS, ORNAMENTAL FLOWER-POTS, &c., manufactured by HENRY DOULTON and Co., High-street, Lambeth, London. West-end Show and Sale Rooms, Exposition, Baker-street, Portman-square.



H. D. and Co.'s Terra Cotta is vitrified, and consequently imperishable, retaining its freshness and sharpness unimpaired by time or exposure to the weather.

DRAWINGS AND PRICES ON APPLICATION.

TANNED NETTING for the Protection of Fruit Trees from frost, blight, and birds, and for the security of fresh-grown seeds, either in gardens or fields, at 1d. per square yard, 200 yards for 14s., 500 yards for 30s., 1000 yards for 50s.; waxed Netting for Aviaries, &c., at 3d per square yard. Scrim canvass for wall fruit, netting for sheep folds; a considerable saving of labour, and less expense than hurdles. Sun blinds in great varieties, rick cloths, with poles, &c. Marquees, tents, awnings, and temporary rooms, with boarded floors, elegantly lined and lighted for fêtes, &c., on sale or hire. Carriage, cart, and truck covers impervious to rain; cloths for the covering of furniture in change of residence, &c. Tarpaulings on hire for houses under repair, at THOMAS EDGINGTON & Co's, 17, Smithfield-bars, and Old Kent-road.

N.B. Orders and inquiries per post punctually attended to.

IRON HURDLES, STRAINED WIRE FENCING, GAME-PROOF NETTING, and other manufactures in wrought and cast iron and wire work, at very low prices For Cash. Price of Iron Hurdles, with 6 bars, 6 feet long by 3 feet 6 inches high, having DOUBLE PRONGS additional for fixing in the ground, 3s. 11½d. each. Estimates, Drawings, &c., on application.—William Dodd and Co.'s, 102, Leadenhall-street, London.

ALSO

ARTIFICIAL MANURES of superior quality, at the following very low rates: Super-phosphate of Lime, 5l 2s. 6d. per ton; Patent Manure, 5l. 5s. per ton; highly-concentrated Guano Manure, 7l. 10s. per ton; Turnip Manure, 4l. 10s per ton, from 1 to 5 tons, per acre, amply sufficient. Gutta percha, coated and lined canvas bags for liquid manure and farm purposes, much improved this season, being more flexible, and capable of bearing greater pressure.—Apply as above.

WIRE AND IRON WORKS.

H. WEST, 17, New-road, Fitzroy-square, Original Inventor of ORNAMENTAL WIRE FLOWER STANDS, &c., and Manufacturer of every description of useful and fancy Wire and Iron Work, respectfully invites the inspection by the Nobility and Gentry of an extensive assortment of his new Wire Flower-stands and Flower-trainers, Dovetail and Perforated Espalier, Trellis and Garden Arches, Portmanteau and Verandahs, Aviaries and Pheasantries, all kinds of Game Wire-netting and Invisible Fencing, Sieve Wire-work, Venetian Window-blinds; and also a great variety of Iron Bedsteads, Children's Cribs, Spring Mattresses, Bedding, &c. &c. Novel designs in Wire-work, to screen on sliding panels or for ornamental purposes, made to fit any locality, executed by experienced workmen, at the lowest practicable charges.

LINGHAM BROTHERS, 170, Hampton-street, Birmingham, sole Manufacturers of the Improved WOOD and ZINC MENOGRAPH, or Label for Garden Borders, Flower-pots, &c., in boxes of 100, &c. The Zinc Labels are highly approved of for their lasting durability; can be written upon with the greatest ease, and, when dry, a permanent inscription is secured. Directions for use sent with each box, including bottle of Metallic Ink.

Sole Agents in London, G. and J. Deane, Horticultural Implement Warehouse, 46, King William-street, London-bridge.

THERMOMETERS.

HENRY BAKER'S (90, Hatton Garden, London) List of Prices. Every instrument made by him warranted accurate.—Vertical self-registering THERMOMETER, for heat and cold, of the best construction, and not liable to get out of order, 14 inches high, in copper case, 1l. 5s; in japan case, 1l. 1s., and 1l; 10 inches high, in copper case, 1l. 2s.; in japan case, 18s. Horizontal Thermometers for registering the extreme of cold only, 4s. 6d.; Hot-bed Thermometers, in oak frames, 1l. 1s.; copper frames, 1l. 5s. Thermometers for Brewing, Baths, &c., in copper cases, 14 inches, 7s. 6d.; 10 inches, 5s. 6d.; 8 inches, 4s. 6d.; in japan cases, 14 inches, 5s.; 10 inches, 3s. 6d; 8 inches, 2s. 6d. Dr. Mason's Hygrometer, or wet bulb Thermometer, for showing the humidity of the air, with tables, ivory scale, 1l.; wood, 15s. An invaluable instrument in Hothouses, Sick Chambers, &c. Wheel Barometers from 1l. 1s. each, sent, securely packed, without fear of getting out of order.

WATER YOUR GARDENS AND MANURE YOUR LANDS WITH GUTTA PERCHA TUBING.

FARMERS, GARDENERS, FLORISTS, and all who have a garden, will save a deal of trouble in watering and manuring gardens or land, by using Gutta Percha Tubing. Testimonials to its economy, efficiency, durability and convenience, are being constantly received. This Tubing can be had in any length from 1-16th of an inch, internal diameter (suitable for smoking tubes, &c.), to 6 inches internal diameter; half-inch Tubing for gardening, 3d., 3½d., and 4d. per foot.

Brass or Gutta Percha Unions for attaching to Butts or Cisterns. Spreaders, Stopcocks, Jets, and Roses complete.

Price Lists of Tubing can be had or sent, on application, to James Sheath and Company, at the Patent Gutta Percha Warehouse, 35, Old-street-road, London.

GUTTA PERCHA TUBING FOR WATERING GARDENS, ETC.



TESTIMONIAL.

From Mr. J. Farrah, Gardener to Boswell Middleton Jalland, Esq., of Holderness House, near Hull.

"I have had 400 feet of your Gutta Percha Tubing (in lengths of 100 feet each, with union joint) *in use for the last twelve months for watering these gardens, and I find it to answer better than anything I have ever yet tried.* The pressure of the water is very considerable, but this has not the slightest effect on the Tubing. I consider this Tubing to be *a most valuable invention for Gardeners*, inasmuch as it enables us to water our gardens in about one-half the time, and with one-half the labour formerly required."

FOR SUCTIONS OF PUMPS AND CONVEYANCE OF WATER.

The value of Gutta Percha Tubing for the conveyance of water is no longer a matter of doubt. Experience has proved its adaptation and superiority to metal pipes, and the important consideration that it is entirely free from those corrosive properties which have proved so highly injurious in the use of lead pipes. The Gutta Percha Company have received the following—

TESTIMONIALS.

From C. Hacker, Esq., Surveyor to his Grace the Duke of Bedford, Woburn Park.

"Office of Works, Woburn Park, Jan. 10th, 1852.

"Gentlemen,—In answer to your inquiries respecting the Gutta Percha Tubing for pump suctions (after two years' trial), I find that the water has not affected it in the least, although it will eat lead through in two years; we have adopted it largely, both on account of being cheaper than lead, much easier fixed, and a more perfect job"

From Sir Raymond Jarvis, Bart., of Ventnor, Isle of Wight.

"Ventnor, March 10, 1852.

"Gentlemen,—In reply to your letter, received this morning respecting the Gutta Percha Tubing for Pump Service, I can state, with much satisfaction, it answers perfectly. Many builders, and other persons, have lately examined it, and there is not the least apparent difference since the first laying down, now several years; and I am informed that it is to be adopted generally in the houses that are being erected here—building going on to a considerable extent.

"I am, Gentlemen, your obedient servant,

"R. Jarvis.

"P.S. The only difficulty experienced was in fixing the tube to the pump barrel. The plumber employed being averse to the job, did not properly secure it, and air got into the tube; otherwise, carefully arranged, there is no question it supersedes lead or any kind of metal pipes. R. J."

From William Bird Herapath, Esq., M.R.C.S., Surgeon to St Peter's and Queen Elizabeth's Hospitals, Bristol.

"September 1850.

"I have used Gutta Percha as a lining to a cistern, with tubing of the same material, to conduct the water into my dressery; they answer admirably. At first some disagreeable flavour was communicated to the water, but it soon disappeared.

"My plumber readily learnt the mode of managing it from your printed directions."

Every variety of Gutta Percha Goods may be had. Manufactured by the Gutta Percha Company, Patentees, London; and sold at the Wholesale City Depot of Messrs. Burgess and Key, 135, Newgate-street, who will forward Lists of Prices on application.

J. S. FRY AND SONS, ESTABLISHED 1728,

MANUFACTURERS BY SPECIAL APPOINTMENT TO THE QUEEN,

Obtained the Prize Medal, Great Exhibition, 1851.

NEW FRENCH CHOCOLATES.—CHOCOLATS de la REINE VICTORIA, du PRINCE ALBERT, and other varieties à la Française.

Whilst FRY AND SONS' various Cocoas possess those peculiar advantages which have so long and so largely commended them to the public approval, their Cake Chocolates have ever maintained their position.

FRY AND SONS introduce to the public their French Chocolates, prepared according to principles alike dictated by their own ample experience and the results of the most refined foreign taste, carried out by the utmost care and skill in their manufacture. They confidently recommend these Chocolates as eminently combining that richness and delicacy of flavour, with those remarkably salubrious qualities which are essential to Chocolate in all its forms. J. S. FRY and SONS' CHOCOLAT PASTILLES, CHOCOLAT DE VOYAGE, and other BON BONS, are strongly recommended as delicious and nutritious condiments for the railway carriage, the nursery, the invalid chamber, the luncheon table, &c., &c. It is needful to observe that the name of FRY and SONS is upon every packet and box, and to attend to the *directions* enclosed. The above articles may be ordered from all tea-dealers, grocers, and confectioners throughout Great Britain and Ireland, of whom Frys' Churchman's and other Cake Chocolates, their Patent, Homœopathic, Soluble, and other Cocoas may be had as usual. The public are especially invited to read their pamphlet entitled "Chocolate and Cocoa, their properties and uses as manufactured by FRY and SONS," containing full directions for preparing these articles for the table, an account of the Cocoa tree, &c., &c., to be obtained gratis, where FRY and SONS' articles are sold, or on application at 12, Union-street, Bristol.

CUNDY'S PATENT PRIZE STOVE.

W. HODGES, late of 123, Oxford-street, begs to announce that he has transferred the license for manufacturing the above STOVES to Messrs. CUTLER and SONS, 16, Great Queen-street, Lincoln's-inn, where a large assortment is always kept on sale. Open fire, Warm Air, Ventilating Stoves, suitable for Churches, School-rooms, Public Offices, Halls, and other rooms, of all dimensions; and Smoke-expelling Register Stoves, which are guaranteed as a perfect cure for Smoky Chimneys.

THE PERFECT SUBSTITUTE FOR SILVER.—The REAL NICKEL SILVER, introduced 15 years ago by WILLIAM S. BURTON, when plated by the patent process of Messrs. Elkington and Co., is beyond all comparison the very best article next to sterling silver that can be employed as such, either usefully or ornamentally, as by no possible test can it be distinguished from real silver.

	Fiddle Pattern.	Thread Pattern.	King's Pattern.
Tea-spoons, per dozen	18s.	32s.	36s.
Dessert Forks ,,	30s.	54s.	58s.
Dessert Spoons ,,	30s.	56s.	62s.
Table Forks ,,	40s.	65s.	70s.
Table Spoons ,,	40s.	70s.	75s.

Tea and Coffee Sets, Waiters, Candlesticks, &c., at proportionate prices. All kinds of replating done by the patent process.

CHEMICALLY PURE NICKEL, NOT PLATED.

	Fiddle.	Thread.	King's.
Table Spoons & Forks, full size, p. doz.	12s.	28s.	30s.
Dessert ditto and ditto	10s.	21s.	25s.
Tea ditto	5s.	11s.	12s.

THE BEST SHOW of IRON BEDSTEADS in the KINGDOM is WILLIAM S. BURTON'S.—He has added to his Show-rooms two very large ones, which are devoted to the exclusive Show of Iron and Brass Bedsteads and Children's Cots, with appropriate Bedding and Mattresses. Many of these are quite new, and all are marked in plain figures, at prices proportionate to those that have tended to make his establishment the most distinguished in this country. Common Iron Bedsteads from 12s. 6d.; Portable Folding Bedsteads from 18s. 6d.; Patent Iron Bedsteads, fitted with dovetail joints and patent sacking, from 16s. 6d.; and Cots from 20s. each; handsome ornamental Iron and Brass Bedsteads in great variety, from 3l. 5s. to 31l.

WILLIAM S. BURTON has TEN LARGE SHOW-ROOMS (all communicating), exclusive of the shop, devoted solely to the show of GENERAL FURNISHING IRONMONGERY (including Cutlery, Nickel Silver, Plated, and Japanned Wares,) so arranged and classified that purchasers may easily and at once make their selections.

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AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 20—1852.] SATURDAY, MAY 15. [PRICE 6*d.*

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ROYAL BOTANIC SOCIETY, REGENT'S PARK.—The FIRST EXHIBITION this season of PLANTS and FLOWERS will take place on WEDNESDAY next, May 19.

Tickets of Admission to be obtained at the Gardens, by orders from Fellows of the Society, price 5*s.* each, or on the day of Exhibition, 7*s.* 6*d.* each. The gates open at 2 o'clock.

ROYAL SOUTH LONDON FLORICULTURAL SOCIETY.—Under the Patronage of HER MOST GRACIOUS MAJESTY THE QUEEN.—The SECOND EXHIBITION for this season will be held at the ROYAL SURREY ZOOLOGICAL GARDENS, on THURSDAY, MAY 20TH, when Prizes will be awarded for the following productions, viz.:—Stove, Greenhouse, Orchideous, and Specimen Plants; Pelargoniums, Cape Heaths, Azaleas, Tulips, Heartsease, and Vegetables. In addition to the Prizes offered by the Society, F. STAFF, Esq., will give a Silver Tankard, with Cover, value 15*l.* 15*s.*, for the best collection of 15 Pots of Stove and Greenhouse Plants; Messrs J. and J. FAIRBAIRN offer a small Silver Victoria Medal for the best 6 Indian Azaleas; and Mr. C. TURNER, small Silver Victoria and small Silver Linnæan Medals, for Two Prizes for 12 Pansies (cut blooms), sent out by C. T. Prizes and Certificates will be awarded for Seedling Florist Flowers.

List of Prizes, Rules for Exhibitors, &c., may be had of Mr. JOHN TAYLOR NEVILLE, Secretary, Ebenezer House, Peckham, Surrey.

STAINES HORTICULTURAL EXHIBITION.
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A prize of 3*l.* will be given for the best collection of six Pelargoniums—varieties—in No. 24-sized pots. A second prize of 1*l.* 10*s.* will also be given.

A Prize of 2*l.* 10*s.* will be given for the best collection of Six distinct species of Stove or Greenhouse Plants, which shall not contain more than two of the same genus—excluding Pelargoniums, Fuchsias, and Calceolarias. Persons exhibiting in this class will not be allowed to compete for the 5*l.* prize.

NURSERYMEN.

A prize of 4*l.* will be given for the best collection of Six Pelargoniums—varieties—in No. 12-sized pots. A second prize of 2*l.* will also be given.

A prize of 3*l.* will be given for the best collection of Six Pelargoniums—varieties—in No. 24-sized pots. A second prize of 1*l.* 10*s.* will also be given

OPEN TO ALL COMPETITORS.

A prize of 5*l.* will be given for the best collection of 10 distinct species of Stove or Greenhouse Plants, which shall not contain more than two of the same genus—excluding Pelargoniums, Fuchsias, and Calceolarias.

The Judges will not be bound to award the full amount of a prize, or any, if they deem the production unworthy of it.

All productions must be on the grounds by 11 o'clock.

CHAS. WALLIS, WM. WATKINS } Hon. Secs.

SCOTTISH PANSY SOCIETY.—The EIGHTH ANNUAL COMPETITION of the SCOTTISH PANSY SOCIETY will be held in George's Square, Glasgow, on WEDNESDAY, 9TH JUNE next. A. TAIT, Sec.

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And the Nobility, Clergy, and Gentry of the County,

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Gardens open at 12 o'clock. Music commence at 2.

OPEN TO ALL ENGLAND.

A GRAND NATIONAL HORTICULTURAL MEETING will be held in LEWES, on WEDNESDAY and THURSDAY, the 14th and 15th days of July, 1852, during the week of the Meeting of the Royal Agricultural Society of England. The list of Premiums and Regulations can be had on and after the 24th of May inst., by application to the Secretary.

EDWIN NEALE, JOHN HEAD, } High Constables.

GEORGE WHITFELD, Esq., Honorary Secretary.
H. J. BARTLETT, Assistant Secretary.

Lewes, May 15th, 1852.

FINE GRASS LAWNS.—The importance of securing pure and fine SHORT GRASSES for GARDEN LAWNS has for many years engaged our especial attention, and we believe that SUTTON'S FINE MIXED LAWN SEEDS are unrivalled. We have the satisfaction of receiving the thanks and commendations of many professional Gardeners and others, who, since using their seeds, have discontinued the expensive practice of cutting and carting old green sward to form new lawns.

The following testimony has been received, and is only similar to very many others:—

From Arlington Court, near Barnstaple, Devon.

"I shall always in future send to you, as the Grass Seeds proved entirely to my satisfaction."

From Eding Thorpe Rectory, North Walsham.

"The Grass Seed you sent me was most excellent. Three months ago I had no lawn at all; I have now a close, short, verdant lawn, the wonder of my neighbours."

These Grass Seeds will be sent carriage free, according to our former Advertisements. Price 1*s.* 3*d.* per lb., 3*s.* per gallon, 21*s.* per bushel.

Address—JOHN SUTTON & SONS, Seed-growers, Reading, Berks.

PLANTS FOR BEDDING OUT.

BASS AND BROWN have a large stock of the following, well established, strong, and in good condition:

VERBENAS.—New varieties of last year, comprising the best raised by Turner, Smith, Barker, Chauviere, Dufoy, &c. (See Catalogue.) We have still a good stock of last year's struck plants, fine and bushy plants, for early flowering. 12 varieties for 12*s.*, or 20 for 18*s.*

Best of previous introduction, 3*s.* 6*d.* to 7*s.* 6*d.* per doz.

	s.	*d.*
50 well assorted and fine varieties, 18*s.*		
PETUNIAS, strong plants, choice, per doz. ... 4*s.* to	9	0
Best do., all of last years, new, per doz.	12	0
25 well assorted and choice varieties for	15	0
FUCHSIAS, fine plants, choice, per doz. ... ... 4*s.* to	9	0
Best, all of last year's, per doz.	15	0
50 well assorted and choice varieties for	20	0
SCARLET GERANIUMS, best sorts, per doz. ... 5*s.* to	9	0
FANCY GERANIUMS, extra strong, choice, p. doz., 9*s.* to	15	0
DAHLIAS, choice, per doz. ... ... 5*s.* to	9	0
Best Fancy do., per doz	9	0
CHRYSANTHEMUMS, LARGE FLOWERING VARIETIES, last year's struck, choice, per doz. ... ... 5*s.* to	9	0
Do., LILLIPUTIAN VARIETIES, do., per doz....	7	6
Anagallis, in three best varieties, per doz.	4	0
Bouvardia splendens, per doz....	6	0
Campanula vidilla, per doz.	6	0
Calceolaria, shrubby varieties, per doz.	6	0
Cantua dependens, per doz. ... ...15*s.* to	24	0
Cuphea platycentra, per doz.	6	0
Gaillardia, in three fine varieties, per doz.	6	0
Heliotrope, in seven fine varieties, including Reptans, Gem, Lilacea, &c., per doz.	6	0
Lantana crocea and delicatissima, per doz.	6	0
Lobelia erinus, in two vars., white and blue, per doz. ...	4	0
Mimulus, four best vars., including Prince of Wales, Criterion, &c., per doz.	9	0
Myosotis azorica and alpestris, per doz.	6	0
Plumbago Larpentæ, per doz.	9	0
,, capensis, per doz	9	0

HARDY PLANTS FOR BEDDING.

Anemone japonica and hybrida, extra strong, per doz. ...	6	0
Anthrrhinum, best varieties, per doz.	6	0
,, best of new varieties, per doz.	10	0
,, Primrose Perfection, each	2	6
Campanula carpatica, blue, per doz.	5	0
Erinus alpinus, per doz.	5	0
Dielytra spectabilis, each ... ... 1*s.* to	1	6
Geum grandiflorum splendens, large fine scarlet, p. doz.	5	0
Delphinium Wheelerii, each	2	6
Pentstemon azureum, Buckii, Marshallii, & Clusii, p. doz.	9	0
Other fine varieties, per doz.	6	0
Phlox, best varieties, per doz.... ... ... 6*s.* to	9	0
Saponaria ocymoides, per doz.	6	0
Saxifraga, six fine varieties, per doz.	4	0
Silene Schafra, per doz....	5	0
Escholtzia, new white, per doz.	5	0
100 distinct and showy varieties of Herbaceous Plants ...	30	0
50 ditto for	17	6
100 varieties, including superior new	50	0
50 ditto for	30	0
25 fine Rock Plants	12	"
12 ditto, for	7	6

CLIMBERS.

Ipomœa Leiril, 1*s* 6*d.* to 2*s.* 6*d.* each; Calempelis scaber, 6*s.* to 9*s.* per dozen; Lophospermums, of sorts, 9*d.* to 1*s.* 6*d.* each; Maurandya Barclayana, 3 vars.—white, rose, and blue, 9*d.* each; extra strong, 1*s.*; Solanum jasminoides, 1*s.* 6*d.* each; Tropæolum Wagnerianum, 1*s.* 6*d.* each; speciosum, 1*s.* 6*d* to 2*s.* 6*d.*; Smithii, 1*s.* 6*d.* to 2*s* 6*d.*; Bignonia radicans major, 1*s.* each; Calystegia pubescens, 1*s.* each; Clematis, Honeysuckles, Jasminums, Climbing Roses, &c., in great variety.

The Descriptive Priced Spring Catalogue supplied for four penny stamps. The Autumn Catalogue, which contains chiefly the Hardy Plants, for two penny stamps, which amount may be deducted from orders.

Goods sent, carriage free, to London, or any Station on the Ipswich and Norwich line; and with goods of 2*l.* and upwards, extra plants presented gratis.

Remittances required from unknown correspondents. Post-office orders to be made payable to BASS and BROWN, or to STEPHEN BROWN.

Seed and Horticultural Establishment, Sudbury, Suffolk.

EXHIBITION OF TULIPS.

C. TURNER'S extensive Collection is now in FULL BLOOM, and may be viewed (Sundays excepted), till the end of the month.—Royal Nursery, Slough.

BELGIAN CHICORY SEED.—On account of the many applications, I have obtained some of the above, and can send packets, at 1*s.*, post free, but it can be had of any Seed house in London as well. Also, CUTHILL'S Potato Pamphlet, at 2*s*, or by post, 2*s.* 4*d.*; also, his "Market Gardening Round London," 1*s.* 6*d.*, or by post, 1*s.* 8*d*, or of HAMILTON and ADAMS, Paternoster Row; or RIDGWAY, Piccadilly; or of JAMES CUTHILL, Horticulturist, Camberwell, London.

*** A YOUTH WANTED, about 17 years of age, who has some knowledge of Gardening.

HIMALAYA SEEDS.—*The following Seeds from the Himalaya Mountains may be had of J. CARTER, Seedsman and Florist, No. 238, High Holborn, London, at the following prices, prepaid:—*

					s.	*d.*
Cedrus Deodara, warranted, per 1000 seeds					7*s*	6*d.*
,,	,,		per 100	,,	1	0
30 Packets Flower Seeds, undescribed					10	0
25	,,	,,	,,		8	6
20	,,	,,	,,		6	6
15	,,	,,	,,		5	0

PELARGONIUMS.

JOHN DOBSON'S Collection of all the leading varieties of PELARGONIUMS is now in bloom, and will continue so for several weeks, and may be viewed every day (Sundays excepted).

Trains leave the Waterloo station every hour.

JOHN DOBSON'S Treatise on the Cultivation of this popular flower will be sent post free on receipt of eight stamps.

WOODLANDS NURSERY, ISLEWORTH.

SCARCE AND BEAUTIFUL FLOWER SEEDS.

EMPEROR STOCK, a perennial species, and hardy, 1400 seeds, 1*s.*

CINERARIA and CALCEOLARIA, selected from collections of Plants, that were admitted by all persons who saw them to be the finest they had ever seen; 250 seeds of the former, and 500 of the latter, 1*s.* each paper.

MYOSOTIS AZORICUS, a bed of this on an eastern or northern aspect is very beautiful; 200 seeds, 1*s.*

CALENDRINIA UMBELLATA, one of the neatest growing and most brilliant flowering of all bedding plants; 1500 seeds, 1*s.*

SWEET WILLIAM, in 100 varieties; 10,000 seeds, 1*s.*

Payment may be made in postage stamps.

JEVES and Co., Nurseries, Northampton.

BEDDING PLANTS.

WOOD AND INGRAM have to offer well established Plants at the following prices, for cash.

Per dozen—*s.* *d.*		Per dozen—*s.* *d.*	
Anemone japonica	3 0	Myosotis azoricus	6 0
Ageratum grandiflorum	2 0	Salvias, sorts	2*s.* to 3 0
Calceolaria viscosissima	2 0	Geraniums, Scarlet, sorts	2*s.* to 4 0
Cineraria ameloides	2 0	Pelargoniums in great variety	4*s.* to 8 0
Heliotropes	2 0	Verbenas sorts	2 0
Lobelia, scarlet varieties	4 0		
Linum flavum	4 0		

With other kinds equally low, of which Catalogues may be had.—Huntingdon Nurseries, May 15.

PELARGONIUMS—GOOD PLANTS.

DILLISTONES AND CO., Sturmer, Halstead, beg to offer the following:

Aspasie	Painter
Aurora	Minna
Centurion	Lady Clementine
Cassandra	Empo
Feu-de-joie	Vesta
Mary Queen of Scots	Zenobia

And 50 others, at 9*s.* per dozen.

Carriage of Packages paid to London, if the order amount to 20*s.* Bedding Plants in great variety.

THIS ADVERTISEMENT WILL NOT BE REPEATED.

NEW HARDY HYBRID RHODODENDRON "BLANCHE SUPERBE."—This fine hardy Rhododendron was exhibited at Chiswick on Saturday last, and was greatly admired. It was awarded the Banksian Medal. It is a Seedling of Messrs. Veitch, who can supply nice established plants of it at 10*s.* 6*d.* each. Discount to the trade.

Exeter, May 15

ROSE NURSERIES, HERTFORD.

EDWARD P. FRANCIS offers the following Bedding-out Plants, strong and vigorous, in 60-size pots, carriage paid to London:

	Per dozen—*s.* *d.*
Scarlet Geraniums, Tom Thumb and Frogmore	4 0
Verbenas, the best varieties ... ... 3*s.* to	4 0
Salvias, blue and red	4 0
Fuchsias, best varieties	6 0
Heliotropes, strong, in 48-size pots	6 0
,, smaller plants	4 0
Pentstemons, fine varieties	4 0
Ageratum coelestinum	3 0
Calceolarias, viscosissima, floribunda, amplexicaulis	4 0
Anagallis, blue	4 0
Nierembergias	4 0
Cuphea platycentra	3 0
Gaillardia picta	4 0
Petunias, Beauty, Splendens, &c.	4 0
Double Senecio	4 0
Lobelia racemosa	6 0
,, erinus	4 0
Œnothera vivipara	
Tropæolum canariensis	4 0
Variegated Geraniums, strong	8 0
Fine mixed sorts do., in 48 and 32-size pots	9 0

Collection of the best Hollyhocks, in pots, 1*s.* each.

E. P. F. engages to supply none but strong healthy plants.

May 15.

HORTICULTURAL SOCIETY OF LONDON.

EXHIBITION AT THE GARDEN, MAY 8, 1852.

AWARD OF THE JUDGES.

THE LARGE GOLD MEDAL.

1 To Mr. May, Gardener to Mrs Lawrence, F.H.S., for a collection of 20 Stove and Greenhouse Plants
2 To Mr. Franklin, Gardener to Mrs. Lawrence, F.H.S., for 20 species of Exotic Orchids.

THE GOLD KNIGHTIAN MEDAL.

1 To Mr. Cole, Gardener to H. Colyer, Esq., of Dartford, for a collection of 20 Stove and Greenhouse Plants
2 To Mr. Speed, of Edmonton, for 15 Stove and Greenhouse Plants
3 To Mr. May, Gardener to Mrs. Lawrence, F.H.S., for six Stove and Greenhouse Plants, in 20-inch pots
4 To Mr. Blake, Gardener to J. H. Schröder, Esq., F.H.S., for 20 species of Exotic Orchids.

THE GOLD BANKSIAN MEDAL.

1 To Messrs. Fraser, of Lea Bridge Road, Essex, for a collection of 20 Stove and Greenhouse Plants
2 To Mr. Green, Gardener to Sir E. Antrobus, Bart., F.H.S., for 15 Stove and Greenhouse Plants
3 To Mr. Carson, Gardener to W. F. G. Farmer, Esq., F.H.S., for 6 Stove and Greenhouse Plants, in 20-inch pots
4 To Mr. Williams, Gardener to C. B. Warner, Esq., F.H.S., for 20 species of Exotic Orchids
5 To Messrs. Veitch and Son, of Exeter, for 15 species of the same
6 To Mr. Ivison, Gardener to the Duchess Dowager of Northumberland, F.H.S., at Sion, for 10 species of the same
7 To Mr. May, Gardener to Mrs. Lawrence, F.H.S., for 12 varieties of Greenhouse Azalea
8 To the same, for 10 varieties of Cape Heath
9 To Messrs. Rollisson, of Tooting, for the same
10 To Mr. Terry, Gardener to Lady Puller, of Youngsbury, Herts, for 12 varieties of Roses in pots
11 To Mr. Francis, of Hertford, for the same
12 To Mr. Turner, of Slough, for 12 varieties of Pelargoniums, in 8-inch pots.

THE LARGE SILVER-GILT MEDAL.

1 To Messrs. Pamplin, of Lea Bridge Road, Essex, for a collection of 20 Stove and Greenhouse Plants
2 To Mr. Dods, Gardener to Sir John Cathcart, Bart, F.H.S., for 15 Stove and Greenhouse Plants
3 To Mr. Kinghorn, Gardener to the Earl of Kilmorey, F.H.S., for 6 Stove and Greenhouse Plants, in 20-inch pots
4 To the same for 6 species of Exotic Orchids
5 To Mr. Over, Gardener to W. McMullen, Esq., of Clapham, for 6 Stove and Greenhouse Plants, in 13 inch pots
6 To Messrs. Rollisson, for 15 species of Exotic Orchids
7 To Mr. Carson, Gardener to W. F. G. Farmer, Esq., F.H.S., for 10 species of the same
8 To Mr. Chitty, Gardener to J. Basset, Esq., of Stamford Hill, for 12 varieties of Greenhouse Azalea
9 To the same for 12 varieties of Roses in pots
10 To Messrs. Rollisson, for 6 of the newer kinds of Greenhouse Azalea in 8-inch pots
11 To the same, for a collection of Miscellaneous Plants
12 To Mr. Green, Gardener to Sir E. Antrobus, Bart., F.H.S., for 6 varieties of Greenhouse Azalea
13 To the same, for 6 varieties of Tall Cacti
14 To Mr. Ivison, Gardener to the Duchess Dowager of Northumberland, F.H.S., for a collection of Indian Rhododendrons
15 To Mr. Cole, Gardener to H. Colyer, Esq., of Dartford, for 10 varieties of Cape Heath
16 To Mr. Epps, of Maidstone, for the same
17 To the same, for 10 varieties of Cape Heath, in 11-inch pots
18 To Mr. Watson, Gardener to Mrs. Tredwell, of St. John's Lodge, Norwood, for the same
19 To Messrs. Lane, of Great Berkhampstead, for 12 varieties of Roses in pots
20 To Messrs. Veitch and Son, for Hexacentris mysorensis
21 To Mr. Dobson, of Isleworth, for 12 varieties of Pelargonium, in 8-inch pots
22 To Mr. Bray, Gardener to Sir J. Goldsmid, Bart., F.H.S., for 6 varieties of Pelargonium, in 11-inch pots
23 To Mr. Kempster, of Blackheath, for 6 varieties of Fancy Pelargonium, in 8-inch pots
24 To Mr. Turner, of Slough, for the same.

THE CERTIFICATE OF EXCELLENCE.

1 To Mr. Laybank, Gardener to T. Maudslay, Esq., of Knight's Hill, Norwood, for a collection of 15 Stove and Greenhouse Plants
2 To Messrs. Rollisson, for 6 Stove and Greenhouse Plants, in 13-inch pots
3 To Mr. Taylor, Gardener to J. Coster, Esq., of Streatham, for a collection of Helichrysums
4 To the same, for six varieties of Cape Heath, in 8-inch pots
5 To Mr. Woolley, Gardener to H. B. Ker, Esq., of Cheshunt, for 10 species of Exotic Orchids
6 To Mr. Green, Gardener to Sir E. Antrobus, Bart., F.H.S., for 6 species of the same
7 To Mr. Fleming, Gardener to the Duke of Sutherland, F.H.S., at Trentham for six of the newer kinds of Greenhouse Azalea, in 8-inch pots
8 To Messrs. Fraser, for 6 varieties of Greenhouse Azalea
9 To the same, for 10 varieties of Cape Heath
10 To Messrs. Veitch, for a single specimen of Medinilla magnifica
11 To Messrs. Lane, for a collection of Indian Rhododendrons
12 To Mr. Williams, Gardener to C. B. Warner, Esq., F.H.S., for a collection of Miscellaneous Plants
13 To Mr. Smith, Gardener to W. Quilter, Esq., of Norwood, for 10 varieties of Cape Heath.
14 To Mr. Roser, Gardener to J. Bradbury, Esq., of Streatham, for the same, in 11-inch pots
15 To the same, for 6 varieties of Fancy Pelargonium, in 8-inch pots
16 To A. Rowland, Esq., F.H.S., for 12 varieties of Roses in pots
17 To Messrs. Paul, of Cheshunt, for the same
18 To Messrs. Veitch, for a single specimen of Cattleya Mossiæ
19 To the same, for a new species of Aerides from Moulmein
20 To Mr. Gaines, of Battersea, for 12 varieties of Pelargonium, in 8-inch pots
21 To Mr. Ayres, of Blackheath, for 6 varieties of Fancy Pelargonium, in 8-inch pots
22 To Mr. Jarvis Gardener to J. Ruck, Esq., of Croydon, for a Queen Pine-apple
23 To Mr. Davis, Gardener to Lord Boston, F.H.S., for a Providence Pine-apple
24 To Mr. Jackson, Gardener to G. Beaufoy, Esq., of South Lambeth, for Dutch Sweetwater Grapes
25 To Mr. Dods, Gardener to Sir John Cathcart, Bart., F.H.S., for Black Hamburgh Grapes
26 To Mr. Davis, of Oak Hill, for the same.

THE LARGE SILVER MEDAL.

1 To Mr. Taylor, Gardener to J. Coster, Esq., of Streatham, for a collection of 15 Stove and Greenhouse Plants
2 To the same, for 6 of the newer kinds of Greenhouse Azalea, in 8-inch pots
3 To Mr. Watson, Gardener to Mrs. Tredwell, of St. John's Lodge, Norwood, for 6 Stove and Greenhouse Plants, in 13-inch pots
4 To Mr. Green, Gardener to Sir E. Antrobus, Bart., F.H.S., for a collection of Helichrysums
5 To Mr. Stanly Gardener to H. Berens, Esq., F.H.S., for a single specimen of Erica Hartnelli
6 To Mr. Carson, Gardener to W. F. G. Farmer, Esq., F.H.S., for 6 distinct varieties of Greenhouse Azalea
7 To Mr. Gaines, of Battersea, for a collection of Indian Rhododendrons
8 To the same, for 6 varieties of Fancy Pelargonium, in 8-inch pots
9 To the same, for 6 varieties of Calceolaria, in 8-inch pots
10 To Mr. Jarvis, Gardener to J. Ruck, Esq., of Croydon, for 10 varieties of Cape Heath, in 11-inch pots
11 To Mr. Speed, of Edmonton, for 6 varieties of Cape Heath, in 8-inch pots
12 To Mr. Parker, Gardener to J. M. Strachan, Esq., F.H.S., for a collection of Cape Pelargoniums
13 To Mr. Kinghorn, Gardener to the Earl of Kilmorey, F.H.S., for a single specimen of Phalænopsis grandiflora
14 To Messrs. Standish and Noble, of Bagshot, for Azalea amœna
15 To Messrs. Veitch, for Dendrobium clavatum
16 To Mr. Bray, Gardener to E. Lousada, Esq., of Peak House, Sidmouth, for a Queen Pine-apple
17 To Mr. Allport, Gardener to H. Akroyd, Esq., of Doddington Park, Nantwich, for Black Hamburgh Grapes
18 To Mr. Spary, of Brighton, for the same
19 To Mr. Davis, of Oak Hill, for Sweetwater Grapes.

THE SILVER KNIGHTIAN MEDAL.

1 To Mr. Chitty, Gardener to J. Basset, Esq., of Stamford Hill, for a collection of 20 Stove and Greenhouse Plants
2 To Mr. Kinghorn, Gardener to the Earl of Kilmorey, F.H.S., for 6 Stove and Greenhouse Plants, in 13-inch pots
3 To Mr. Stuart, Gardener to T. Huggins, Esq., of Norwood, for a collection of Helichrysums
4 To Mr. Smith, Gardener to W. Quilter, Esq., of Norwood, for a single specimen of Erica Sindryana
5 To Mr. Falconer, Gardener to A. Palmer, Esq., of Cheam, for 6 distinct varieties of Greenhouse Azalea
6 To Messrs. Veitch, for Fitzroya patagonica
7 To the same, for Saxe-Gothæa conspicua
8 To Mr. Over, Gardener to W. M'Mullen, Esq., of Clapham, for 10 varieties of Cape Heath
9 To Mr. Fairbairn, of Clapham, for the same
10 To Mr. Hamp, Gardener to J. Thorne, Esq, of South Lambeth, for 6 varieties of Cape Heath, in 8-inch pots
11 To Mr. Busby, Gardener to S. Crawley, Esq., F.H.S., for 12 varieties of Roses in pots
12 To Mr. Watson, Gardener to Mrs. Tredwell, St. John's Lodge, Norwood, for a collection of Cape Pelargoniums
13 To Mr. Cole, Gardener to H. Colyer, Esq., of Dartford, for a single specimen of Dendrobium nobile
14 To Messrs. Veitch, for Dendrobium albosanguineum
15 To Messrs. Standish and Noble, for Azalea vittata Fortuni
16 To Mr. Westwood, of Acton Lane, for 6 varieties of Fancy Pelargonium, in 8-inch pots
17 To Mr. Turner, of Slough, for 12 varieties of Pansies, in 8-inch pots
18 To Mr. Lochner, of Warwick House, Paddington, for 6 varieties of Cineraria, in 8 inch pots
19 To Mr. Forbes, Gardener to the Duke of Bedford, F.H.S., at Woburn Abbey, for Black Hamburgh Grapes
20 To Mr. Fleming, Gardener to the Duke of Sutherland, F.H.S., of Trentham, for May Duke Cherries
21 To Mr. Judd, Gardener to Earl Spencer, F.H.S., for British Queen Strawberries
22 To Mr. May, Gardener to J. Watney, Esq., F.H.S., for Keens' Seedling Strawberries
23 To Mr. Dew, of Ham Common, for Keens' Seedling Strawberries
24 To Mr. Robertson, Gardener to Lady Emily Foley, Stoke Edith Park, Ledbury, for a Green-flesh Melon.

THE SILVER BANKSIAN MEDAL.

1 To Mr. Stanly, Gardener to H. Berens, Esq., F.H.S., for a collection of 6 Stove and Greenhouse Plants
2 To Mr. Hamp, Gardener to J. Thorne, Esq., of South Lambeth, for a collection of Helichrysums
3 To Mr. May, Gardener to Mrs. Lawrence, F.H.S., for a single specimen of Eriostemon intermedium
4 To Messrs. Lane, for 6 varieties of Greenhouse Azalea
5 To Messrs. Veitch, for a Hardy hybrid Rhododendron, named Blanche Superbe
6 To Mr. Roser, Gardener to J. Bradbury, Esq., of Streatham, for 12 varieties of Roses in pots
7 To Messrs. Henderson, Pine Apple Place, for Tetratheca ericifolia
8 To Mr. Ivison, Gardener to the Duchess Dowager of Northumberland, F.H.S., at Sion, for Oncidium sessile
9 To the same, for a tree of Eriobotrya japonica in fruit
10 To Mr. Lochner, of Warwick House, Paddington, for 12 varieties of Pansies in 8-inch pots
11 To Messrs. E. G. Henderson, of St. John's Wood, for 6 varieties of Cineraria in 8-inch pots
12 To Mr. Povey, Gardener to the Rev. J. Thorneycroft, F.H.S., for a Black Jamaica Pine Apple
13 To Mr. M'Ewen, Gardener to the Duke of Norfolk, at Arundel, for British Queen Strawberries
14 To the same, for Keens' Seedling Strawberries.

THE CERTIFICATE OF MERIT.

1 To Mr. Carson, Gardener to W. F. G. Farmer, Esq., F.H.S., for a single specimen of Leschenaultia Baxteri
2 To Mr. Laybank, Gardener to T. Maudslay, Esq., of Norwood, for Erica Murrayana
3 To Messrs. Henderson, Pine Apple-place, for Boronia tetrandra
4 To Mr. Franklin, Gardener to Mrs. Lawrence, F.H.S., for a new species of Trichopilia
5 To Messrs Rollisson, for Aracia cristata
6 To Mr. Hally, of Blackheath, for a species of Libertia
7 To Messrs. Veitch, for Streptocarpus biflorus
8 To Mr. Terry, Gardener to Lady Puller, of Youngsbury, Herts, for 12 varieties of Pansies, in 8 inch pots
9 To Mr. Roser, Gardener to J. Bradbury, Esq., of Streatham, for six varieties of Cineraria, in 8-inch pots.
10 To Mr. Britten, of Lewisham, for British Queen Strawberries
11 To Mr. Brewin, Gardener to R. Gunter, Esq., F.H.S., for Keens' Seedling Strawberries

FINEST DOUBLE HOLLYHOCKS.

A. PAUL AND SON, NURSERYMEN, &c., Cheshunt, Herts, beg to inform their friends and the public in general that they have a large stock of all the leading varieties of Hollyhocks exhibited by them at the Crystal Palace last year. The following and six others of equal value for 30s. :—Comet, Magnum Bonum, Charles Baron, Sulphurea perfecta, Snowball and Queen. The following and six others of equal value for 12s. :—Napoleon, Formosa, Model of Perfection, Delicata, Queen purpurea elegans. The plants will bloom this autumn.

GERMAN AND OTHER FLOWER SEEDS.

J. CARTER, SEEDSMAN and FLORIST, 238, High Holborn, London, submits the following list of CHOICE SEEDS to the notice of his customers, the present season being extremely favourable for general sowing. 12, 6, or 3 packets may be had at half the price of 24, 12, or 6, but the smaller assortments cannot be divided. The Seeds will be sent prepaid by post.

I. *The following Annuals, &c., may be sown on a hot-bed or warm border till the end of May. The Stocks also in August, under glass, for next season. Mixed Packets, 6d. each.*

24 Aster, fine German...	3s. 0d	3 Mesembryanthemum	1s. 6d.
12 „ fine dwarf ...	1 6	6 Mimulus	1 0
12 Balsam, double ...	2 0	6 Petunia	1 6
12 „ Camellia ...	2 6	12 Phlox Drummondii...	5 0
12 „ rose-flowered	2 6	6 Portulaca	2 0
12 „ new dwarf ...	2 6	12 Salpiglossis	3 6
12 Convolvulus major ...	2 6	4 Salvia	1 6
4 Gaillardia	1 6	24 Stock, German ...	3 0
6 Jacobæa	1 3	12 „ Prussian ...	1 6
6 Gourds, extra ...	2 0	6 „ new large ...	2 0
4 Lobelia	1 6	6 „ very dwarf ...	2 0
6 Marigold	1 6	12 „ intermediate ...	2 0
5 Martynia	2 0	12 Zinnia elegans ...	3 6

II. *To be sown in the open borders during May or June, or for early flowers next year, in September. Mixed packets 3d. each.*

6 Calliopsis	1s. 6d.	12 Larkspur, all ...	2s. 6d.
6 Candytuft	1 0	12 „ Stock-flowered	3 0
6 Clarkia	1 0	6 „ new Hyacinth	1 6
5 Collinsia	1 0	6 Lupinus	1 3
6 Convolvulus minor	1 3	6 Nasturtium ...	1 3
4 Gilia...	0 9	6 Nemophila ...	1 3
6 Godetia	1 3	6 Poppy, extra ...	1 6
4 Leptosiphon ...	0 9	12 Scabious, fine ...	2 6
12 Larkspur, dwf. ...	2 6	5 Venus' Looking-glass	1 0

III. *Biennials and Perennials. May be sown from May to September. Many of them flower the first year. Mixed Packets, 6d. each.*

12 Antirrhinum ...	2s. 6d.	4 Geum	1s. 3d.
6 Aquilegia	1 6	24 Hollyhock	4 0
6 Anemone	2 0	5 Indian Pink ...	1 6
6 Campanula ...	1 6	3 Liatris	1 0
4 Canterbury Bell ...	1 0	6 Œnothera	1 6
4 Carnation and Picotee	10 0	6 Papaver	1 6
„ mixed ...	2 6	6 Pentstemon ...	1 6
6 Delphinium ...	1 6	6 Potentilla	1 6
6 Dianthus	1 6	3 Stock, Brompton...	0 9
6 Digitalis	1 3	6 „ new Imperial	2 0
4 Eschscholtzia ...	0 9	12 „ Winter ...	1 6
6 Gentiana	1 6	12 Wallflower, extra	2 6

IV. *Greenhouse Seeds, &c. May be sown from May till August. Mixed packets of those not priced may be had at 6d. each.*

6 Acacia	2s. 0d.	Gesnera, mixed ...	1s. 0d.
Achimenes, mixed .	1 0	Gladiolus, 20 var....	1 0
4 Alstrœmeria ...	1 6	4 Globe Amaranth ...	1 0
4 Anagallis	1 6	Gloxinia, mixed ...	1 0
Calceolaria, mixed .	1 0	3 Helichrysum ...	1 0
Cineraria, mixed ...	1 0	5 Kennedya	1 6
6 Erica...	2 6	4 Lophospermum ...	1 6
„ fine mixed ...	2 6	5 Maurandya... ...	1 6
Fuchsia, mixed ...	1 0	4 Passiflora	1 6
6 Geranium	2 6	6 Thunbergia ...	2 0

And a large collection of other Flower Seeds, &c., of which a Catalogue may be had gratis

CHOICE SEEDLING PETUNIAS.—We have selected the following three beautiful and distinct varieties from a very fine and brilliant batch of Seedlings. The three varieties we can recommend as superior, and the colours will be found rich and attractive.

BRAGANZA, very rich dark purple crimson, and fine shape.
RICARTONII, bright crimson purple, with very dark throat and veins.
MAZEPPA, large pinky blush, very dark throat.

Strong plants are now ready, at 3s. 6d. each, and may be had Free by Post. The usual allowance to the Trade, by taking three plants of a sort.

BASS AND BROWN, SUDBURY, SUFFOLK.

"'LIZZY' is the very acme of form, and highly attractive, on account of its cheerful colour."—*Gardeners' Chronicle.*

COLE AND SHARP are now sending out good plants of the above BEAUTIFUL DAHLIA at 10s. 6d. each.

For description and awards, see Advertisement in this Paper, April 23. Drawings may be seen at Messrs. CLARKE and SON's, King-street, Covent Garden.

Aston Lane Nursery, near Birmingham.

DAHLIAS.—If Certificates are any criterion of merit, the under-mentioned received Thirty-three out of Fifty-five given to all England, at the Great National, Surrey Gardens, Trowbridge, Newbury, Walsall, Shacklewell, Taunton, Notting-hill, London, and Slough. They stand on this recommendation. Fine plants are now ready, with all the leading varieties, on application to JOHN KEYNES, Nurseryman, Salisbury.

Triumphant (Keynes), crimson	Aurora (Keynes), buff
Una (do.), white	Cricket (Dodd's), fancy, peach and white
Douglas Jerrold (do.), buff-edged scarlet	Miss Bathurst (do.), fancy, lilac and white
Laura Lavington (do.), fancy, fawn and white	Cloth of Gold (Hooper's), fine yellow
Nancy (do.), fancy, scarlet and white	

Catalogues, showing the three best varieties of each colour, may be had on application.—Salisbury, May 15

NEW AND CHOICE FUCHSIAS, &c.

Comte de Beaulieu	Dr. Grosse (Kendall)
Hebe (Mayle)	Expansion (Banks)
Unique (Story)	Sir J. Falstaff
South Devon (do.)	Gem of the West
Multiplex (do.)	Voltigeur (Smith)
Devonia (do.)	Brilliant.
Striata (do.)	

The above set, hamper included, 7s.

DAHLIAS.—Choice show flowers, including Nil Desperandum, 6s per dozen.

VERBENAS.—First-class Flowers, 6s. per dozen.

PETUNIAS.—Fine named sorts, 3s. per dozen.

Bedding plants, of the most popular and approved kinds stout plants 25s. per 100, hamper included.

HART and NICKLIN, Florists, Guildford, Surrey.

NEW ACHIMENES.

H. LANE AND SON, Great Berkhamstead, are now prepared to send out, per post, Achimenes Margaretta, at 5s. each, pure white, size and habit of Longiflora, very distinct from any other, quite a gem.

Presented to us by G. U. Skinner, Esq.

ORCHIDS AND FERNS FOR THE MILLION.—DODMAN.

WILLIAM MASTERS, the Exotic Nursery, Canterbury, being over-stocked with ORCHIDS and FERNS, is enabled to offer them from 18s. to 30s. per dozen sorts. Also 12 species of the new Sikkim Rhododendron, from 42s. per dozen. Early orders are particularly requested.—May 15.

FINE PASTURE GRASS SEEDS for laying down Land.—Hand-picked Seed at 24s. per acre, allowing 3 bushels of the mixed Grass Seed and 6 lbs. of Dutch Clover to each acre. HENRY CLARKE, Seed Merchant, 39, King-street, Covent-garden, London.

NEW ROSE.

PAUL'S "QUEEN VICTORIA" (TRUE).

A. PAUL AND SON, NURSERYMEN, &c., Cheshunt, Herts, beg to inform their friends and the public in general that they have now ready for sale a few plants of this unique ROSE, at 10s. 6d. each. Scarcely half the orders received last autumn could be executed. Should the demand again exceed the supply, the earliest orders will have the preference.

N.B.—This fine variety is quite distinct from Caroline de Sansal.

CAPE HEATHS, ETC.

W. J. EPPS, in offering the following varieties of CAPE HEATHS, AZALEAS, &c., begs to remark that they are splendid, bushy, vigorous, plants, not to be equalled in the trade:—

Erica tricolor	Erica jasminiflora
" " Wilsonii	" Shannonii
" " rubra	" Bandonii
" " Dunbarii	" ampullacea
" " Leeana	" " vittata
" " speciosa, (McNab)	" Macnabiana
" " Jacksonii	" Easoniana
" " dumosa	" " purpurea
" Hartnelli	" princeps
" retorta major	" " carnea
" Veronni superb	" vestita fulgida
" Irbyana	" " rosea
" aristata major	" " grandiflora
	" Cavendishii

Strong plants of the above, in 48-sized pots, from 18s. to 24s. per dozen.

Selections from the following, 12s. to 15s. per dozen:—Rollissonii, aristata vittata, baccans, propendens, Sindryana, Bowieana, depressa, depressa multiflora, Juliana, commosa alba, ceriothoides, Savillei major, rubella, splendens, intermedia, physoides, verticillata, perspicua nana, ventricosa globosa, sanguinea, mammosa pallida, andromedæflora, elata, and Banksia. Fine healthy plants in 48-sized pots.

AZALEA INDICA.—Selection from the following varieties, 9s. to 21s. per dozen, very strong plants:—Alba magna, ignescens, Edmondsii, Glory of Sunning Hill, Holdenii, optima, carminata, alba lutescens, splendens, delecta, Prince Albert, præctaria, triumphans, Hebe, obtusa, puniciflora, coronata, Minerva, Perryana, Cupid, vivicans, Conqueror, coccinea superb, lateritia grandiflora, magnifica plena, rosea superba, Incomparable, Fulgens, modesta, variegata, blanda, rosea punctata, semi-duplex maculata, Lawrenceana, Broughtonii, Duke of Devonshire.

Stove and Greenhouse Plants in great variety, 12s. to 24s. per dozen.

Strong well-established plants of the newest and best kinds of Fuchsias, 9s. to 15s. per dozen.

Fine new and show varieties of Pelargoniums, in 48-sized pots, very strong, bushy plants, 9s. to 21s. per dozen.

Dahlias, all the leading kinds of former years, together with the novelties of the present season, from 6s. per dozen.

A descriptive Spring Catalogue will be sent on application.

Bower Nurseries, Maidstone, May 15.

NEW CAMELLIA.

JACKSON'S "COUNTESS OF ELLESMERE."—To be sent out in the first week of June, price 42s. each; and for every three ordered one added gratis. On the 8th of April last it was awarded by the National Floricultural Society of London a first-class Certificate, and received the highest commendation; it is described as being of first-rate form, with broad cupped petals, of a blush white, faintly striped with rose (see *Gardeners' Chronicle* and *Gardeners' Journal*, for report of meeting, April 17). It is figured in the "Florist" for May, 1851, and is again mentioned in the "Florist" for this month, as having been exhibited, and deserving to be placed in every collection. It has the beautiful form of the Coup d'Hébé Rose.—THOMAS JACKSON and SON, Nurserymen, Kingston, near London (on the South Western Railway).

NEW CALCEOLARIAS, SCARLET PELARGONIUMS, &c.

CALCEOLARIAS.—Conway's Ruby Bicolor and Crimson King, choice varieties for bedding, 2s. 6d. each. Other good sorts 6s. per dozen.

SCARLET GERANIUMS.—Conway's King of Nepaul and Pet Supern, 2s. 6d. each. All the best varieties at moderate prices. Good plants for bedding, 6s. to 9s. per dozen.

VERBENAS.—A good selection, 6s. to 9s. per dozen.

Geraniums, Fancy Geraniums, Heliotropes, Antirrhinums, Phloxes, Penunias, &c. &c., at reasonable prices.

A Catalogue may be had on application.

MARY CONWAY, Earl's-court Nursery, Old Brompton, London.

STANDISH AND NOBLE, NURSERYMEN, Bagshot, Surrey, have to offer the following new and select Plants, all of which are hardy, except Azalea vittata:

ABIES JOZENSIS, seedling plants, 21s each; this is one of the last novelties in Conifera; forms a noble tree of 120 feet in height, and of very distinct character (very hardy).

AZALEA VITTATA.—A specimen of this unique variety was awarded a Knightian Medal when exhibited at the Horticultural Society's Room last April; the ground colour of the flower is white, beautifully striped with purple, after the manner of a Carnation. It is a very free bloomer, 9 inches to 1 foot, 21s. each.

CUPRESSUS FUNEBRIS.—Seedlings, 5s. to 21s. each.

CEPHALOTAXUS FORTUNI, male, long leaves, seedlings, 21s. each.

CEPHALOTAXUS FORTUNI, female, short leaves, seedlings, 21s. each. These have withstood the late frost and dreying winds without losing any of their verdure (very hardy).

ILEX FURCATA, 21s. each.

" MACROCARPA, 21s each.

QUERCUS SCLEROPHYLLA, 21s. to 42s. each.

" INVERSA, 21s to 42s. each.

SPIRÆA CALLOSA, an abundant and continued bloomer. It has large corymbs of rosy purple blossoms, and is a handsome addition to our shrubbery plants. 10s. 6d. each.

SUTTON'S PERMANENT GRASSES.—THE SUPERIOR QUALITY OF SUTTON'S GRASS SEEDS is plainly indicated by the numerous orders they are daily receiving, through the recommendation of former customers.

Some interesting particulars of Land laid down with these Seeds is published in the GARDENERS' CHRONICLE *of March 27th, page 195.*

The prices for the best quality are as under, but for poor reclaimed Lands or other cases where the cost is the principal consideration, mixtures at about half the price may be had.

For best permanent Meadow and Pasture, mixed expressly to suit the soil ... ... Per acre. 24s. to 28s.

For best Clovers and Grasses (for one, two, or three years' lay) ... ... 14s. to 20s.

The sorts consist of true Perennial Grasses and Clovers, as named particularly in our Advertisement on the last page of the *Gardeners' Chronicle* of March 20.

JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

NEW AND BEAUTIFUL GLOXINIA, "QUEEN OF ENGLAND."

J. HODGE, NURSERYMAN, Lee Bank House, Lee Bank Road, Edgbaston, Birmingham, begs leave to acquaint his friends and the public generally that the above beautiful Gloxinia is now ready, at 10s. 6d. each, one over to the trade when three are taken. Early orders are requested, as the stock is short.—Lee Bank House, Birmingham, May 15.

EDWARD GEORGE HENDERSON AND SON, Wellington-road, St. John's-wood, London, are now sending out their New Plants, as advertised for this month. See back Numbers of this Paper. Also good Plants of the following:—

Select Show Verbenas (of 1851), at 12s. and 18s. per dozen.

" " Geraniums, at	18s., 30s., and 42s.	"
" Fancy ditto, ...	18s, 30s., and 42s.	"
" Show Fuchsias, ...	12s. and 18s.	"
" " Calceolarias, ...	18s. and 30s.	"
" " Cinerarias	12s. and 18s.	"
" Large Flowering Chrysanthemums	12s. and 18s.	"
" Lilliputian ditto	12s. and 18s.	"
" Phloxes, strong plants, 9s.,	12s., and 18s.	"
" Tree Carnations ...	21s., 30s., and 42s.	"

WOODLANDS NURSERY, MARESFIELD, NEAR UCKFIELD, SUSSEX.

DWARF ROSES FOR BEDDING.—The present month is considered the most eligible for planting out ROSES (from pots), for grouping in the Flower Garden. W. WOOD and SON beg to offer their Friends and the Public a large stock of well-grown plants, at the following prices, selection being left to themselves:—

Per dozen—	s.	d.	s.	d.
Hybrid Perpetual Roses, on the Manetti stock, also on own roots	12	0	to 18	0
Isle de Bourbon (own roots)	12	0	to 18	0
Tea-scented (own roots)	12	0	to 18	0
China, Noisette, and Climbing	9	0	to 12	0

The following Tea-scented Roses are highly recommended either for bedding or for pot culture:—

Each.—	s.	d.	Each.—	s.	d.
Abricote	1	6	Marechal Bugeaud ...	1	6
Duchess of Mecklenburg (yellow)	5	0	Moyré	1	6
Elize Sauvage	1	6	Niphetos	1	6
Eugène Desgaches ...	1	6	Princesse Adelaide (yellow)	1	6
La Sylphide	1	6	Safranot	1	6
Madame Bravay	1	6	Souvenir du 30 Mai ...	1	6

PLANTS FOR BEDDING.

	Per doz
Pentstemons	6s. to 9s. 0d.
Phloxes	6s. to 9 0
Phloxes, new Continental varieties	12 0
Herbaceous Plants, fine collection, 42s. per 100, or 6s. to	12 0

Plants presented for distant carriage.—May 15.

SEAKALE FOR THE MILLION.

SEAKALE POTS AND FORCING *superseded by "The Early Yellow-Crown Seakale."*

This valuable new vegetable (exhibited at the Horticultural Society's Rooms, Regent-street), is perfectly distinct from all other varieties of Seakale, *being free from any purple or green tint, very large, of a peculiarly rich flavour, and delicate straw colour, which it retains if kept for* 10 *or* 12 *days after cutting.*

It is so early and hardy that it may be easily grown in the open ground, fit for use early in February. It has been so grown in the Kempshot Gardens several winters, and is now first offered to the public by JOHN SUTTON and SONS, Reading, Berks.

As the Stock is very limited, early orders are requested *and recommended*, which orders will be faithfully executed in rotation, so far as the stock will suffice, with good plants, about the first week in June, which will be fit for cutting from next February. Price 10s. 6d. per dozen. Trade discount allowed where not less than three dozen are taken. Orders for less than one dozen will not be executed. Remittances or references required from unknown correspondents.

Instructions for cultivation will be sent with the plants.

READING NURSERIES, READING, BERKS.

The Gardeners' Chronicle.

SATURDAY, MAY 15, 1852.

MEETINGS FOR THE ENSUING WEEK.

WEDNESDAY, May 19—Royal Botanic Gardens.....2 P.M.
THURSDAY, " 20—Royal South London .....1 P.M.

COUNTRY SHOWS.—Tuesday, May 18: South Devon.—Thursday, May 20: Liverpool, Wolverhampton, Bath, and Ireland Royal Horticultural.

SATURDAY, May 8, 1852, will long be celebrated in the annals of HORTICULTURAL EXHIBITIONS. Such a mass of noble plants as was then produced at Chiswick no one ever saw before. Accustomed as we have long been to displays of the kind, and especially to those in May, we must own that we were as agreeably surprised as our neighbours. It was known that Mr. RUCKER would not show Orchids, and that part of the exhibition was looked to with doubt. He did not show; yet such was the vast display of noble specimens that he was not missed. It was expected that Pelargoniums would be behind-hand, owing to the season, and yet the place assigned to those plants was full to overflowing. At 4 in the morning the approaches to the garden were crowded with some 30 or 40 caravans, and till half-past 8, the hour of closing the gates, the stream of such vehicles continued to flow. A lady, celebrated for her horticultural enthusiasm, sent 19 caravans full; 16 horses were required to drag the contributions of another exhibitor, and thus the tents were filled; and not only the Exhibition tents, but every other tent in the Garden.

Of the plants themselves, our reporter has given ample details. Here glowed a forest of Chinese Azaleas, too brilliant to be steadily looked at; there arose a long bank of Orchids, perfuming the air and delighting the observer with their tender colours and extraordinary forms; one tent was redolent of Roses; another sparkled with the enamelled blossoms of the Cape Heaths; in a third, Australia presented the fairest and gayest children of her golden soil. Many novelties also made their first appearance, conspicuous among which were the Mysore Hexacentris, whose gaudy red and yellow flowers were shown to advantage by a graceful twining habit; Saxe-Gothæa, worthy of its illustrious name, which, together with Fitzroya, is expected to rank among the finest of hardy exotic Coniferous trees, and a charming little Azalea, called amœna, just introduced by Mr. FORTUNE, from China, and said to be as hardy as Rhododendron ferrugineum, which it resembles.

The air was warm, and the day propitious; but the trees were almost leafless, and the turf and shrubberies were browned by the long cold rainless weather, so that the lovers of flower-shows might be well excused for deferring their visit till a later day. Nevertheless the visitors amounted, exclusive of Exhibitors, to 2755, who thoroughly enjoyed the most admirable display of horticultural skill which has ever yet been seen.

WE have not been so fortunate, it seems, as to gain the approbation of all our friends in the course we have announced our determination of taking with respect to the GUANO TRADE. One correspondent, in particular, who believes that his sources of information are to be relied upon, writes in the following strong language:—

"Notwithstanding all you suggest in defence of guano dealers, I assert that at this moment—east, west, north, and south; in every direction round the metropolis—are sheds and yards where sifting and mixing loam with other ingredients is in full operation, for the purpose of producing an article so utterly worthless that I much doubt whether it contains a single particle of guano. The buyers have become so blind, and the dealers so audacious, that the latter no longer think it worth their while to mix; they find it quite sufficient to *make* an article which smells and looks like guano. This stuff is conveyed by ship-loads to all parts of the coast, as well as to the continent; and the farmer is stupid enough to buy it because it is low-priced, although it would be enormously dear at 1*l.* a ton. Scotland takes its full share, and the English towns, from Shields to the Land's End, are drugged with it. A very large number of men and boys, of carts and barges; of watermen, bargemen and lightermen; of brigs, sloops, schooners, coasters, and steamers, are constantly employed, and the railways are getting their full share of the profitable traffic. I possess facts relating to names, places, times, and persons, which would be wholly incredible, if they were not the result of a long and costly investigation. I affirm that I am in a position to prove systematic fraud to such an enormous extent as to render it doubtful whether it is prudent to purchase guano of any merchant or dealer whatsoever, at any price, or under any circumstances, unless the most conclusive proof is produced that it comes direct from GIBBS' and their avowed agents, without having passed into the hands of any third party. I will add that even then there is no certainty that fraud has not been committed, unless these great Peruvian agents will refuse to sell guano at all, except in bags protected by their seal, the imitation of which would be felony."

"These things are so notorious, that I have read with astonishment your arguments to prove that there is no such adulteration as I describe. No adulteration! when it is well known to every free waterman on the Thames, that there are several places in which large fortunes have been rapidly made by frauds of this kind, and where the practices are in no degree less infamous than those for which the notorious PICKERING, whose fate you seem to lament, was transported."

No one denies that these assertions may not be true; but where are the proofs to corroborate them? Our correspondent says he has "facts relating to names, places," and so forth. But where are they? He does not produce them: and in their absence we must continue to maintain that we have no legal right to sit in judgment upon

any man. Let us once more draw attention to the class of facts, or, as we might say, to the questionable evidence, from which unfavourable and yet, perhaps, erroneous inferences may be drawn.

Mr. Rawlinson, of Ratcliffe, used to fetch large quantities of loam from Wanstead, but does not do so now. There is a railway arch hired by a Mr. Cook, in Snow's-fields, near James's-place, Ratcliffe, where what seems to be loam is beaten and sifted and put into bags. Mr. Rawlinson's carts were lately loaded with these bags, and conveyed them to Bowles's wharf, where the bags were put on board a barge, which proceeded to Lander's Road, Limehouse, whence she moved up to Dockhead, Shad Thames, Horsleydown, and discharged her cargo at a wharf belonging to Messrs. Jackson and Smythe. The bags were conveyed to the first floor of the warehouse.

In this case we must admit that loam in bags was conveyed to Messrs. Jackson and Smythe's; but we fail to perceive in what way it is proved that it was to be employed in the fabrication of guano. If it is urged that the conveyance of the bags was effected clandestinely, we may ask how that is shown? A railway arch is not a very private place. The carts were not driven by night, that we know of; the arrival of the barge at Lander's Road on the Saturday could have been seen by anybody. When the barge moved to Dockhead on Monday it was between five and six in the morning; and as to the bags being hoisted up to the first floor of the warehouse, that we presume was their destination, it being probably the store of the person who bought the loam.

What should be shown, but what is not shown, is that this loam was mixed with other ingredients and sold as guano. For ourselves, we know nothing about it further. We venture, however, to suggest that it would be as well, since suspicion as to its application must arise in the minds of prejudiced persons, if either Mr. Ashton or Mr. Fisher, or Mr. Batchellor, dealers in guano, living in the neighbourhood, would set on foot an inquiry and inform the public what did become of the loam in question.

Another example will perhaps show yet more clearly how easily suspicion points to people, concerning the nature of whose acts no legal certainty exists; and we must not be satisfied with anything less than that. Circumstantial evidence enables a jury, indeed, to arrive at a safe conclusion; we see that happen every day; jurors, indeed, are celebrated for their acuteness—when assisted by counsel and judge. But an individual may be excused for requiring that evidence presented to him should be precise, before he forms a decided opinion. As he has only one-twelfth part of the brains of a jury, so he may be supposed to run twelve times as much risk of error. The example is this. One fine day in April, Wanstead loam was carted into a yard near Bow Common. Shortly after, bags of what was supposed to be guano were removed from the same yard to a wharf on one of the creeks in this common, and were there added to some 40 or 50 tons of similar bags. The bags were put on board a certain barge; the barge came out of the creek's mouth (the river Lea) below Blackwall, and afterwards proceeded to Hanover Wharf, near Mr. Fisher's, where she was hung to the tier. The bargeman expressed his intention of putting her alongside "the wharf" at high water. Now, "*the* wharf" might have been the Hanover-wharf, or the Swan-wharf where Mr. Fisher has guano, or some other wharf; and we are not going to assume that Swan-wharf was the wharf meant by the bargeman; for, as we have already said, we are no longer suspicious, and we expressly declare that, even if we had seen the barge unloading at Mr. Fisher's, we should not have felt our legal scruples removed; for, after all, the bags from Bow might have contained guano, even although they came out of a loam-yard.

But our narrow space compels us to drop the subject till next week.

The singular weather that has prevailed during the present spring having now fairly broken, a review of it and its results will, we doubt not, interest many of our readers.

In January, 1852, the mean maximum temperature of the days was 6° warmer than usual; but the mean temperature of the nights was only equal to the average. The wind was 18 days from south-west. The quantity of rain was an inch above the average, the amount being 2.72 inches. The lowest temperature was only 12° below freezing.

In February, the average daily temperature was maintained, but the nights averaged 2⅕° colder than usual. In general, the first half of the month was moist and warm; the remainder, cold and dry.

In March, north-east winds prevailed for 19 days. Sun-heat, notwithstanding the coldness of these winds, maintained an average temperature during the days; but the nights were 5½° below the average, and 2½° colder than the average of those in January; their mean was only 28.61°. The lowest temperature occurred on the 4th, when the thermometer was 17° below freezing. The barometer was remarkably high during the first three weeks, being then steadily influenced by north-east winds. With the exception of the 1st and 29th, the weather was dry throughout; for on three other days the quantity of rain which fell was almost inappreciable; the total amount was only a quarter of an inch.

April has almost been without its showers; but instead, frosts, more or less severe, have been experienced for 18 nights. North, north-east, and east winds have prevailed for 21 days; and to this circumstance the coldness of the nights is doubtless to be attributed. Their average temperature corresponded with that of the freezing point, or about three-fourths of a degree colder than the average of the nights in February, and scarcely a degree warmer than the average of the nights in January. The mean maximum temperature of the days was equal to the average of the month, and had the effect of forwarding some kinds of vegetation to a dangerous extent. On the night of the 19th, the thermometer was 12° below freezing, and it was 11° below that point on the following night. This is lower than has been experienced so late in April for at least 26 years. The air was generally very dry; sometimes, and before the sharpest frosts more especially, it was excessively so. In April of this year the dryness of the air, as ascertained by the hygrometer, has been greater than in any corresponding month in the period above mentioned, with the exception of April 1840 and 1844; but in these years the dryness was occasioned by hot weather, and not by the predominance of north-east winds. So much dryness of the air, with as low a temperature, has not been experienced in any month of the year since a register of these conditions was commenced in 1826.

It has often been remarked, that when the air becomes very dry in spring, with a brisk north or north-east wind, frost almost invariably accompanies or immediately follows such condition. Unfortunately too many instances of this could be adduced. On the last day of April, 1850, the dryness was 25° by Daniell's hygrometer, a great amount for that period of the season; wind, but little, from N.E. Next day the wind was brisk from the same quarter; at night 4° of frost. On the 2d of May, wind still N.E, air very dry, containing no vapour to form clouds, night very clear, and before morning the thermometer fell 9° below freezing, a degree of cold which then destroyed most of the crops of Apples and Pears in the open ground. Previously, it may be remarked, vegetation had been tenderly brought forward by warm, moist, south-west winds.

The severe frosts which occurred on the nights of the 19th and 20th of last April were attended with circumstances nearly similar to those above detailed; they differed only in degree of intensity. The wind during the day of the 19th was brisk, cold, and dry, from N.E.; the night clear; and before morning there were 12° of frost. On the 20th, the dryness of the air was as much as 30°; and at night there were 11° of frost, and probably there would have been more had the wind not changed during the day to S.W. An under current of it at least came from that quarter; but there is reason to suppose that the upper current was still from N.E., for the barometer did not fall. Next day the dryness of the air became excessive, the hygrometer indicating 37°. At saturation the air would have contained, according to its temperature at the time, upwards of 5½ grains of vapour in a cubic foot; but its dryness was such that it only contained $1\frac{6}{10}$ grain.

When the air is so excessively dry and cold, there is an insufficiency of vapour for the formation of clouds; and, in the absence of this natural canopy, the radiation of heat from the earth proceeds rapidly. This was the case on the nights in question, as was ascertained by a radiating thermometer; that is, one placed so that all, or nearly all, the heat radiating from the earth is intercepted. On the severe night of the 19th, the common registering thermometer indicated 12° below freezing. It was placed a foot above the surface of the ground, freely exposed to the coldness of the air, and also to the influence of whatever amount of heat might be radiating from the earth. The radiating thermometer was equally exposed to the coldness of the air, but not to the influence of radiant heat from the earth; and it indicated 20° below freezing, thus showing that 8° of heat were being lost from the surface of the earth by radiation into space.

On referring to the weather-tables in another part of this paper, it will be seen that May has commenced with similar characters to those which have been so consecutively maintained throughout the two preceding months. The effects on vegetation of such protracted drought and severe cold cannot be fully stated at present. It is certain that much injury has been done to the fruit crops, but vegetation has not been so much excited as it usually is at this season. If the weather had been mild, day and night, for some time previous to the 19th ult., and the sap consequently in full flow, vegetation must have suffered greatly when it came to be subjected to 12° of frost; for it was found that 7° of frost, in the middle of last May, occurring after some very warm days and nights, completely destroyed the young fruit in many cases, even that of Pears on walls. To the comparatively little excited state of vegetation, and the dry state of the air, may be chiefly ascribed the preservation of some portion, at least, of the fruit crop, which at one time promised to be so abundant in the present season. In the open ground Cherries and Plums are mostly destroyed. Apples and Pears were in many instances killed, even in the unexpanded state of the blossom-buds; late sorts, however, are likely to come forward tolerably safe. Pears on walls are much injured, but besides those that are black in the centre and evidently destroyed, there are a number which are not so, and these will grow for some time: but it remains to be seen whether they do not become yellow, and drop after the warm weather sets in. Peaches and Nectarines on a south wall, with a coping sufficient against 6° of frost, have been mostly destroyed in consequence of the 12° recently experienced. Additional protection was, however, employed, consisting chiefly of straw screens, and under these the blossoms were quite safe.

We have now recorded the general character of this ungenial period, noticing some of the most injurious frosts, and more particularly the concomitant circumstances. The object is to direct attention to these circumstances, in order that similar may be recognised when they occur; for when they do, similar consequences may reasonably be expected, and ought to be guarded against. If it has been found that modes of protection hitherto considered sufficient are not now to be depended on, others more effectual should be devised, whilst the amount of recent cold, and its injurious effects, are fresh in the memory. It would be important to know what means have proved effectual this season, and also those that have not. For example:

Coping boards, as above mentioned, were not sufficient, nor even these with a net. Thin straw screens have proved worthy of recommendation; so far as regards their protecting properties they are excellent. Peaches and Nectarines were quite safe under them, whilst on the upper part of some of the trees, above the extent of the screens, the blossoms were completely killed, with the exception of some that were pressing against the wall, from which it appears they derived sufficient heat to keep themselves alive. The air in the hollow of the straws is not readily cooled. They may, therefore, be compared to a series of warm air tubes, gradually parting with their heat for the benefit of the trees against which they are made to slope. The French make very neat straw coverings. The substance is considered unsightly in a garden; but it may be made quite the contrary; and if it could be worked at moderate expense, so as not to have an objectionable appearance in a garden, it would be very desirable, and might rank among the various meritorious modes of protection which may result from attentively considering the nature of our variable and too frequently inclement springs.

THE GENUS KALOSANTHES.

Some of the species of this genus are amongst the most showy and fragrant of summer flowering plants, and they deserve to be more generally cultivated than they have hitherto been. The magnificent specimens annually produced at the great metropolitan exhibitions in July indicate the capabilities of the genus, and good plants are frequently produced far from the scene of these meetings. I doubt, however, whether any genus equally deserving attention is so commonly neglected or mismanaged as this. With a little care the flowers remain in perfection for some six or eight weeks, and the plants will be found exceedingly useful in the show-house, to take the place of the Azalea when the beauty of the latter is over.

Young plants intended for specimens should be dwarf and bushy, with strong well-ripened wood; those that may have been wintered in a soft half-growing state should be rejected, as it is difficult to get them to break freely or grow vigorously. Place them early in March in a mild growing temperature of from about 45° at night to 60° with sunshine. The shoots must be stopped, or cut back, as may be necessary to insure a compact bushy growth, and young branches will be produced much more freely, if two or three pairs of leaves are removed from the points of the shoots; and this should always accompany stopping. If the roots are abundant and active, shift into pots two sizes larger than those the plants are in; but first see that the soil is properly

moist, and be careful to have the mould to be used in the same condition. Nothing is more likely to cause failure than neglect of this. The side shoots should be tied out, keeping them near the surface of the soil. Keep the atmosphere rather close and moist, and water carefully, till the roots start into the fresh soil. When the plants have broken and are fairly started, the temperature may be increased to about 55° at night, and from 65° to 75° with sunshine. This high temperature must not however be maintained without a free circulation of air; for the Kalosanthes, like most Cape plants, very much dislikes a stagnant atmosphere, and it requires all the light which can possibly be afforded it—therefore admit air freely, and keep the plants near the glass.

In May, or as early as warm weather sets in, they may be removed to a cold frame, where with a little care they can be kept sufficiently warm, and where the conditions most conducive to vigorous growth will be readily supplied. Air should be freely admitted whenever the state of the external temperature will permit; although a stagnant humid atmosphere is injurious, with a circulation of air it cannot be kept too moist; if they stand on a bed of coal ashes, this should be watered on the mornings of bright days, and the plants sprinkled over-head towards evening, leaving a little air on during night, and a thin shade should be thrown over the glass during the forenoons of bright days, but use this sparingly. A liberal supply of water will be necessary whilst the plants are in active growth, but give no more than is requisite to keep the soil in a healthy moist state, and when the pots are moderately well filled with roots, manure-water in a clear weak state may be used with advantage two or three times a-week.

The treatment of the plants after midsummer must be regulated by the size of specimens desired. To produce large flowering plants it will be necessary to grow them two seasons, and in this case they should be stopped and potted as early in June as they may have filled their pots with roots. Have an eye to the formation of compact dwarf specimens, and stop and cut back as freely as may be necessary to secure this, for they break freely, and there is no danger of injuring them by stopping or cutting back. If plants to produce about a dozen heads of bloom each are all that is wanted, with good management this may be secured by one season's growth; but if large specimens are desired it will be necessary to grow them two seasons. Plants intended to flower the following spring should receive a rather large shift at the beginning of the season, and must neither be stopped nor potted after the middle of May. It may be advisable to inform beginners at once that it is easier to produce large handsome specimens of Kalosanthes than to have well flowered plants; and unless the wood is thoroughly ripened previous to winter, it will be useless to expect a fine display of blossom. The necessary maturation of the wood can be effected only by subjecting the plants to full exposure to air and sunshine, and keeping the soil in a rather dry state. This change of treatment must be introduced very gradually; but if a fair amount of flower is expected, the plants should be inured to it by the middle, or at latest the end of August. Those that were repotted may be treated less hard during autumn, but care must be used to get the wood of these well ripened before winter. If they can be placed near the glass in a house where Grapes are preserved during winter, they will be suited perfectly; and as they require very little water at the root they will be less injurious there than most plants.

The best situation for the flowering plants during spring is the front shelf in the greenhouse. They should be kept freely exposed to air and sun; and after the appearance of the flowers the atmosphere can hardly be kept too dry. A moist stimulating atmosphere promotes growth, and the effect of this would be an unsightly lengthening of the stems, an occurrence by far too common. When the flowers assume their proper colours remove them where they can be kept dry, cool, and shaded from the sun.

Plants intended for large specimens should be stopped and potted in March, and treated as already recommended for specimens intended to flower the following spring. I prefer keeping up a supply of young plants, and, with the exception of any plant that may be full of young wood near the base, I throw all to the rubbish heap immediately after they have done flowering.

Propagation is easily effected; I generally select firm young shoots with several branches, and plant them in 4-inch pots in sandy peat, placing them in a close pit, and carefully shading them till rooted, which will be in about a month. As regards soil, this should be light but rich; half-turfy sandy loam, and half-fibry peat, with a liberal allowance of sharp silver sand and small potsherds, broken bones, or charcoal, will be found a suitable compost. Strong tenacious loam had better be avoided, or at least used very sparingly. The peat and loam should be broken up into pieces about the size of a nut, and intimately mixed with the sand, &c., previous to use. Secure perfect drainage by placing an inch or two of potsherds in the bottom of the pots, and so arrange them as to prevent the soil being washed down amongst them. *Alpha.*

BEDDING PLANTS IN TURF IN BOXES.

The boxes employed by me for this purpose are made upon the same principle as the "West Kent Garden Pot," viz., with detached or moveable bottoms, by which arrangement the transfer from box to bed is greatly facilitated, the operation of dividing the sods being more easily performed; the boxes "entire" need never be taken to the flower-garden: by placing them on two flower-pots of convenient size, and at equal distances, and pressing them downwards, the bottoms with the sods and plants will be elevated, and can be lifted and placed on the hand-barrow, and conveyed to their intended destination, where, after the whole are planted out, instead of having to collect pots innumerable, there will only be one piece of board or false bottom for every three or five dozen plants planted.



Boxes 4 feet by 1, and 2½ inches deep, clear inside measuring, will take five dozen plants and upwards; and those of 3 feet by 9 inches, upwards of three dozen.

These boxes, when not required for bedding purposes, may be turned to account in every way in which boxes are made available in garden practice, and in this respect they possess advantages above pots; they will last a great number of years, especially if an annual coat of paint be given them. The annexed woodcut represents a fac simile of the instrument used by me in perforating the turf, whether in boxes or in pits and frames. It answers the purpose admirably, and may be made as cheaply as it is simple in construction. *George Fry, Manor House, Lee, Kent.*

Home Correspondence.

Earthing up the Brassica Tribe.—At p. 216, the writer of your weekly Calendar of Operations says, "Will any one explain the utility of drawing the earth round the stem of each Cabbage and Cauliflower plant?" &c. I would suggest to him the following, but I do not undertake to give the explanation he requires. Cauliflower plants, owing to the nature and position of their leaves, particularly when they grow strong and large, are much exposed to the action of winds, which rock them about so much that the young fibres are often torn from the strong roots, and in many cases I have seen the plants uprooted altogether. Your correspondent observes that "drawing the clay round the stem of the plant will throw the rain off from the roots;" but even admitting that it does throw the water off, and prevent its immediately wetting the soil in contact with the roots, yet from the affinity of clay for water I cannot but infer that it will in a very short time become equally wet with the soil on which the rain has fallen. I have had the growing of some acres of the above, as well as other vegetables, and I have invariably found that drawing the clay (when hoeing) round the stem of the Cauliflower effects a great saving from that unsparing element strong wind. In the case of Cabbages, your correspondent's advice "not to draw the clay to their stems, but only to stir the soil between them" is good; the leaves of Cabbages become consolidated as they grow up, but those of Cauliflowers extend horizontally, and hang loosely; the latter is also, as everybody knows, a more tender kind of Brassica, and hence my reasons for practising the above method for bringing it safe to maturity. *E. F., Phœnix-park, Dublin, May 4.*

Machine for Restoring Bloom to Grapes.—"Clericus" will find a plan of the contrivance he inquires about, with directions for its use, in the third volume of the "Gardeners' Magazine," p. 34 (year 1828). It is there stated that the article in question, together with a box of Mr. Gauen's invention, was sold by Mr. Eddy, of No. 354, Oxford-street, but whether or not they can be obtained there now, I cannot say. *C. Judd, Palace Gardens, Addington.*

Strawberries for Forcing.—Permit me to inform "Arbitrator" that Myatt's Surprise is not so suitable for early forcing as the sorts I recommended. I find, however, that it is better than Kitley's Goliath, Wilmot's Prince Arthur, and larger and more prolific than British Queen. In flavour it is not "up to the mark," but on this part of the subject I have not yet had sufficient evidence. Perhaps I may add that Trollope's Victoria is likely to be useful, and nearly verifies the character given with it. Myatt's Cinquefolia is also promising, but I must defer saying more until I have further tested it. There are others which I am trying, and may at another time report upon. *G. M'Ewen, Arundel.*

Mixed Beds.—As the season is at hand when gardeners will be planting their flower gardens, permit me to call attention to the admixture of plants in flower-beds. We have many plants that make but indifferent beds by themselves, which are, nevertheless, excellent when mixed with others; for example, Mr. Beaton's charming shot-silk bed is made by mixing together equal quantities of the old variegated scarlet Geranium and Verbena venosa. The roots of the latter may be cut into pieces, containing two or three eyes each, and planted with the dibble between the Geraniums. This I first saw at Shrubland, and I have grown it ever since; it forms quite a bouquet of flowers. I have found Calceolarias Kentish Hero and corymbosa to mix well, as do also many of the Verbenas, being careful to select such colours as will agree together. The varieties must be as near as possible of the same habit. I shall leave the colours to the choice of the planter, and I will be happy, in the course of the summer, to hear how he has succeeded. There are many upright plants that do not of themselves cover the ground well, which would be greatly improved by being planted between with something else, of a more spreading habit. Large beds look well planted in the centre with scarlet Geraniums (Collinson's I have found the best), then a band of about two rows in width of Mangles's variegated, finishing off with two rows of the white Ivy-leaf Geranium on the outside. There are many other things that might be used in a similar way, which I am confident would give more satisfaction than the large self-coloured beds or patches which are at present so fashionable. Of course I am speaking of neutral beds, introduced into groups for relief; but they are also very useful for detached beds, that do not form a group. If gardeners would give mixed beds a trial, I am of opinion that our gardens would be greatly improved. What is a handful of white, red, blue, or yellow flowers, compared with a tastefully-arranged bouquet, containing a variety of colours? *R. G.*

Boyd's Self-adjusting Scythe.—Your correspondent, "S. F." "thinks it a pity that so ingenious a device as my invention should risk its reputation by a defect in workmanship," alluding to the screw of one of the above scythes purchased by him having lost its power, but which evil had soon been remedied by the "country smith." I am unable to account for this defective screw, as every scythe is carefully tested by my wholesale agents, Messrs. W. Dray and Co., before being sent out; but I presume the screw in this instance had "stripped," an occurrence by no means uncommon with screws of every description, in whatever way they are applied. I am sorry he has been put to any inconvenience in the matter; and while thanking him for the hint, I beg gratefully to acknowledge his complimentary remarks in favour of my scythe. *James T. Boyd, 70, Lower Thames-street.* [We gladly profit by this opportunity to say that Mr. Boyd's scythes stand well the great test, experience; especially with his late ingenious and very useful improvement.]

Jasminum nudiflorum and Forsythia viridissima.—Observing in the notice of Jasminum nudiflorum, in the Number of Curtis's "Botanical Magazine" for the present month, that this shrub is spoken of as flowering on an open wall through the winter, I think it may be worthy of notice that it blooms also at the same time in the open ground. When planted in an open border or shrubbery, it becomes a stiff broom-like bush. The ends of its later shoots are liable to be nipped by the severer frosts of winter; these also sometimes spoil the expanded blossoms, but fresh ones open when the weather becomes mild throughout the winter months. This has, at least, been the case for the last three winters. In early spring the fine yellow flowers of Forsythia viridissima succeed those of the Jasminum nudiflorum in similar exposures; and the older the bushes of Forsythia have become, the more densely have they been covered with blossoms. *James Backhouse, York.*

Makoy's Experiments (see p. 292).—Would some of your correspondents kindly inform me whether any fuller report has been anywhere published of "Mr. Makoy's numerous experiments on our trees and shrubs with different coloured woods, &c.," than that given in your "Foreign Garden Gleanings." I more particularly ask because the article is signed "Masson's Report," and I am very curious on some of the points specified in regard to Mr. Makoy. *C. D.*

The Vinegar Plant.—Having seen by your pages that some questions have been asked relative to the Vinegar Plant or Fermentation Fungus, I send you a bottle of the vinegar made from one, which not being so strong as I was led to suppose it would be, perhaps you can tell me if more or less sugar is wanted, the proportion having been three wine-bottles of water to three quarters of a pound of brown sugar, which was converted into vinegar in six weeks. The plant is not a mothery substance, but fleshy and leathery, and a fresh plant is formed every six weeks. *H.* [More sugar would have made stronger vinegar. "Mothery" matter is not necessarily soft, thin, or ropy; it may be, and in this case is, leathery.]

Societies.

HORTICULTURAL: GARDEN EXHIBITION, *May 8.*—The leading features of this, in all respects "Great Exhibition," will be found in another column, and therefore we will at once proceed here to give some account of the scene in detail.

In collections of 20 STOVE and GREENHOUSE PLANTS, the large Gold Medal was awarded to Mr. May, gr. to Mrs. Lawrence, of Ealing-park. At the back of this group stood a magnificent example of the double red Azalea, studded with brilliant flowers; the enormous Pimelea spectabilis shown last year, and nearly though not quite in as good condition; an unusually large Epacris grandiflora; the red variety of Eriostemon cuspidatum; Azalea Gledstanesii, quite a mass of elegant blossoms; Bossiæa disticha plumosa, a graceful bush, loaded with yellow and brown Pea-shaped flowers; Chorozema Henchmanni, in admirable order; the white-blossomed Erica intermedia; E. ventricosa coccinea minor, in the shape of a bush, at least 4 feet high and as much through, and covered with blossoms; Oxylobium Pultenæa, gaily ornamented with numerous small globular heads of yellow flowers; Gompholobium polymorphum, not trained stiffly over a wire trellis, but loose and free, being merely kept in proper shape by a few upright stakes; Polygala acuminata, 5 feet high and as much through; a charmingly blossomed Boronia pinnata the dazzling crimson Azalea Law-

renceana ; Hovea Celsi, nearly 5 feet high and 4 feet through ; the large yellow-blossomed Gompholobium barbigerum, a plant not so common as it deserves to be ; the Oleander-leaved Eriostemon ; and a famous specimen of the glorious Medinilla magnifica.—Another collection of 20 was contributed by Mr. Cole, gr. to H. Colyer, Esq., of Dartford. It comprised an Epacris grandiflora, at least 7 feet high and as much through ; a plant of the same beautiful Oxylobium Pultenæa, already noticed ; a luxuriant Allamanda cathartica, richly decorated with large yellow flowers ; Azalea fulgens, a mass of glowing crimson ; the Oleander-leaved Eriostemon, forming quite a pyramid of white star-shaped blossoms ; Polygala acuminata and cordifolia ; the Showy Pimelea, in the best possible condition ; Chorozema Henchmanni, beautifully blossomed ; the Scarlet Ixora, than which we have few more striking plants ; an Everlasting ; the Gledstane and Variegated Azaleas ; the variety of Cape Heath called favoides elegans ; Erica ventricosa coccinea minor, covered with flowers ; Boronia pinnata, Leschenaultia formosa, the Cels Hovea ; Chorozema varium nanum and the charming Erica propendens.—Groups of 20 plants were also contributed by Messrs. Fraser and Pamplin, both of Lea Bridge-road, Leyton, Essex. The former had a fine example of the Everlasting called Aphelexis macrantha purpurea, Chorozema varium nanum, the Oleander and Box-leaved Eriostemons, Pimelea spectabilis and the lovely rosy-blossomed P. Hendersoni, Azalea lateritia, the large-flowered Epacris, Leschenaultia formosa and Baxteri, Erica Cavendishii scarcely out enough, the Showy Adenandra, Polygala acuminata and the variety called Dalmaisiana, Boronia pinnata and serrulata, and a nice specimen of Ixora coccinea.—Mr. Pamplin sent Bossiæa disticha plumosa and linophylla, Corræa ventricosa, the Opposite-leaved Polygala, Epacris grandiflora, two small white-blossomed Cape Heaths, the large-flowered Epacris, Pultenæa stricta, Pimelea lanata, a white Azalea, and Boronia serrulata.

There were no fewer than six collections of 15 STOVE and GREENHOUSE PLANTS. The first was communicated by Mr. Speed of Edmonton. It consisted of Clerodendron splendens, beautifully managed ; the brilliant C. fallax ; Azalea Minerva, a mass of gay flowers ; Pimelea Hendersoni, Chorozema Henchmanni and varium nanum, Erica favoides elegans, Leschenaultia formosa ; the old-fashioned Vinca rosea, which, when well grown and bloomed, is not an unattractive exhibition plant ; the bright crimson-flowered Erica Westphalingia, the charming Æschynanthus pulcher, Ixora coccinea, Eutaxia pungens, an Everlasting, and Erica perspicua nana.—The second group was contributed by Mr. Green, gr. to Sir E. Antrobus, Bart., of Cheam. It comprised a double red Azalea, conspicuous for its size and beauty ; a large Epacris grandiflora ; Box-leaved and Intermediate Eriostemons, the latter with blossoms not quite expanded ; a fine example of Polygala acuminata, the charming Erica propendens, the large variety of E. aristata major, quite a little gem ; Boronia pinnata, Leschenaultia Baxteri, Chorozema varium nanum, Gompholobium barbigerum, perhaps hardly sufficiently in flower ; Pimelea spectabilis, Polygala Dalmaisiana, a large Azalea Gledstanesii, Ixora coccinea, and Aphelexis macrantha purpurea, certainly the best of the Everlastings.—Mr. Dods, gr. to Sir J. Cathcart, Bart., furnished a third group, which contained evenly grown plants of the Box-leaved Eriostemon ; the Gledstane, double red, and other Azaleas ; Bossiæa disticha plumosa, Erica Hartnelli and one of the many varieties of E. ventricosa, Boronia pinnata, an Everlasting, a small plant of the graceful Chorozema Lawrenceanum, Podolobium staurophyllum, Ixora coccinea, a large Epacris miniata, Polygala acuminata, and a small Hovea Celsi.—A fourth collection was shown by Mr. Laybank, gr. to T. Maudslay, Esq., of Norwood. It contained Chorozema Lawrenceanum in the most admirable condition, and measuring at least 6 feet high and as much through ; a fine plant of the Box-leaved Eriostemon, scarcely perhaps sufficiently in bloom ; Acacia diffusa, one of the best kinds for pot culture ; Erica propendens, Eriostemon myoporoides, a capital Chorozema angustifolium, Zichya coccinea, the Showy Adenandra, a small Pimelea spectabilis, one of the better kinds of Everlasting, a white Azalea, the elegant Erica Sindryana, the Anemone-leaved Boronia, Leschenaultia formosa, and the Azalea called Apollo.—The last two collections of 15 came from Mr. Taylor, gr. to J. Coster, Esq., of Streatham, and Mr. Chitty, gr. to J. Basset, Esq., of Stamford-hill. In the former of these we remarked good plants of the Cels Hovea, a white Azalea, Eriostemon buxifolium, with blossoms insufficiently expanded ; Erica depressa, Cavendishii, propendens ; Polygala acuminata, Chorozema Henchmanni, Azalea Bianca, one of the best whites ; a well cultivated Leschenaultia formosa, Chironia glutinosa, rather a striking plant when well flowered ; an Everlasting, Pimelea spectabilis insufficiently in bloom, Adenandra speciosa, Boronia serrulata, and a nice bush of saffron-coloured Ixora.—Mr. Chitty sent a large Pimelea spectabilis, two Azaleas, the fragrant Gardenia florida, Erica favoides elegans, Euphorbia splendens, Adenandra speciosa, Eriostemon myoporoides, Ixora coccinea, and one or two varieties of Cape Heath.

There were three collections of 6 STOVE and GREENHOUSE PLANTS in 20-inch pots. Mr. May, gr. to Mrs. Lawrence, sent well grown specimens of Polygala acuminata, Pultenæa stipularis, Eriostemon buxifolium, Chorozema varium nanum, and the Showy Pimelea. The latter could scarcely be less than 6 feet high, and it was loaded with blossoms.—Mr. Carson, gr. to W. F. G. Farmer, Esq., of Cheam, had Pimelea spectabilis ; Gardenia Stanleyana, whose flowers were suffering from the effects of being brought out of heat into the open air ; Polygala oppositifolia, Oxylobium Pultenæa, Ixora coccinea, and the somewhat coarse though not unhandsome Franciscea macrophylla.—From Mr. Kinghorn came Erica vasiflora, Oxylobium Pultenæa, Diosma capitata, an old-fashioned plant now seldom met with ; Azalea variegata ; one of the best of the Everlastings ; and Dillwynia pungens.

In the class of 6 STOVE and GREENHOUSE PLANTS, in 13-inch pots, there were eight collections, all of which were highly creditable to the growers. The best group was furnished by Mr. Over, gr. to W. McMullen, Esq., of Clapham. It contained Epacris miniata, the sweet-smelling Rhynchospermum jasminoides, the pretty violet-flowered Tremandra verticillata, Azalea Murrayana, Sphenotoma gracilis—a useful plant for cutting from, and Hovea Celsi.—Messrs. Rollisson sent the large yellow-flowered Gompholobium barbigerum, the Oleander-leaved Eriostemon, Erica florida, Azalea exquisita, Aphelexis sesamoides, and the yellow Chorozema (C. flavum).—The next six plants came from Mr. Watson, gr. to Mrs. Tredwell, of Norwood, who furnished the somewhat scarce Boronia spathulata, Gompholobium polymorphum, Azalea triumphans, the Scarlet Ixora, Erica fastigiata, and Cyrtoceras multiflorum.—Mr. Kinghorn had Stephanotis floribunda, the glowing Azalea optima, Boronia pinnata, Leschenaultia formosa, Aphelexis humilis, and the Cavendish Heath ; the latter hardly sufficiently in bloom.—Mr. Stanly, gr. to H. Berens, Esq., of Sidcup, Kent, produced Boronia pinnata, the large-flowered variety of Tropæolum tricolor, an Everlasting, Clerodendron Kæmpferi, and the Oleander-leaved Eriostemon.—Finally, Mr. Stuart, gr. to T. Huggins, Esq., of Norwood, sent Azalea refulgens, Eriostemon myoporoides, Boronia serrulata, Leschenaultia formosa, Lithospermum bullatum, and an Everlasting.

ORCHIDS.—These were so numerous and fine that even the absence of Mr. Rucker's magnificent plants was scarcely felt. The Large Gold Medal was awarded to Mr. Franklin, gr. to Mrs. Lawrence, for a collection of 20 plants ; among which we remarked a very fine Phaius grandifolius, with 11 spikes loaded with highly-coloured blossoms ; P. Wallichii, with some seven flower-spikes ; Dendrobium cærulescens, nobile, moniliforme, and densiflorum, the latter a fine specimen, beautifully bloomed ; also the charming D. Devonianum, with long stems coiled round a few stakes, and covered with flowers ; Aerides virens, in lovely condition ; A. crispum, with three flower-spikes ; the white Butterfly-plant (Phalænopsis amabilis) ; a Cattleya Mossiæ, with 15 flowers on it ; C. intermedia, the useful and brilliant C. Skinneri, the long-tailed Lady's Slipper (Cypripedium caudatum), a small Epidendrum aurantiacum, Odontoglossum citrosmum, Saccolabium guttatum, and Vanda tricolor and suavis.—The next group in point of merit was produced by Mr. Blake, gr. to J. H. Schröder, Esq., of Stratford. It contained Oncidium ampliatum, Phaius Wallichii, with three flower-spikes ; Schomburgkia tibicinus, the large-blossomed white Butterfly-plant in fine condition, a lovely Cattleya Skinneri, C. Mossiæ, Cypripedium barbatum, the Twisted Trichopil (T. tortilis), not so finely flowered as it was last year ; the yellow Dendrobium densiflorum, in great perfection ; the Fragrant Burlingtonia ; Vanda cristata ; the rare Trichophilia coccinea ; the orange-flowered Lælia cinnabarina ; Calanthe veratrifolia, with numerous spikes of snow-white blossoms ; Chysis bractescens ; the Brassia-like Oncidium phymatochilum ; and the lovely Dendrobium Farmeri.—A third group was produced by Mr. Williams, gr. to C. B. Warner, Esq., of Hoddesdon. In this we observed Aerides virens, with four flower-spikes ; Vanda insignis and tricolor ; the rhubarb-scented Dendrobium macrophyllum ; the broad-leaved variety of D. Pierardi, with seven long branches, charmingly ornamented with flowers ; D. pulchellum, 2 feet through, and covered with bloom ; the orange-blossomed Epidendrum aurantiacum ; the Slender-leaved Maxillaria, Cattleya Mossiæ and Skinneri both in admirable order, also the violet-tinted variety of C. intermedia, the Spotted Brassia with 8 flower-spikes, the White Butterfly-plant, Phaius Wallichii and grandifolius, Calanthe veratrifolia, and the Fernando Po Ansellia africana.

ORCHIDS, in collections of 15, were shown by Messrs. Veitch and Rollisson. The former had the broad-leaved variety of Dendrobium Pierardi, quite a fountain of blossoms, falling in streams for at least 5 feet from the wire basin out of which they issued ; this might with good propriety be styled one of the lions of the exhibition. Associated with it were D. moniliforme, D. densiflorum with 6 flower-spikes, a well-managed D. nobile, D. Farmeri, the Twisted Dendrobe (D. tortile), the large variety of Oncidium ampliatum, the White Butterfly-plant, the long-tailed Lady's Slipper (Cypripedium caudatum), with colours so distinctly "brought out" as to render the flowers truly handsome ; the Twisted Trichopil (T. tortilis), Vanda teres, the Sweet Vanda, and Aerides virens.—In Messrs. Rollisson's group were Dendrobium nobile, the scarce D. cretaceum, and transparens ; a large plant of Sobralia macrantha, bearing three of its showy blossoms ; Maxillaria macrophylla, Epidendrum macrochilum album, the curious and rare Bolbophyllum Henshalli, and the bright yellow Clowes Anguloa.

Ten ORCHIDS were contributed by Mr. Ivison, gr. to the Duchess Dowager of Northumberland, at Sion, Mr. Carson, gr. to W. F. G. Farmer, Esq., and Mr. Woolley, gr. to H. B. Ker, Esq., of Cheshunt.—Mr. Ivison had the larger variety of Oncidium ampliatum, O. altissimum, 6 feet high and as much through, quite a mass of small yellow flowers ; O. leucochilum, a well cultivated Dendrobium nobile, D. cærulescens, a small Cattleya Skinneri, the Spotted Brassia, Odontoglossum citrosmum with highly-coloured blossoms, O. hastatum, and the handsome Epidendrum macrochilum.—Mr. Carson produced Acineta Humboldti, with five flower-spikes issuing from a square wire basket ; Oncidium luridum, Dendrobium nobile, the large variety of Brassia maculata, the Aloe-leaved Epidendrum, E. Stamfordianum ; Aerides virens, the White Butterfly-plant, and Cattleya Skinneri.—Mr. Woolley showed nice examples of Dendrobium nobile and densiflorum, the pretty Vanda insignis, Phaius Wallichii, the beautiful Cattleya intermedia, Epidendrum crassifolium, the White Butterfly-plant ; the pale-blue tinged variety of Zygopetalum crinitum, and a small Roxburgh Vanda.

The best collection of six ORCHIDS was shown by Mr. Kinghorn, gr. to the Earl of Kilmorey, at Orleans House, Twickenham. It consisted of a noble Phaius grandifolius ; Oncidium Baueri, graceful in habit, and loaded with flowers ; the large variety of O. ampliatum ; Dendrobium macrochilum, the yellow D. aggregatum, and a fine Cattleya Skinneri.—A second group was furnished by Mr. Green, who sent Dendrobium nobile, Oncidium luridum, the broad-leaved Epidendrum, Gongora maculata, the sweet smelling Epidendrum macrochilum, and the Spotted Brassia.

Of specimen ORCHIDS, Messrs. Veitch sent a good Cattleya Mossiæ ; Mr. Kinghorn, a well flowered Phalænopsis grandiflora ; Mr. Cole, Dendrobium nobile ; and Mr. Ingram, two examples of Stanhopea tigrina placed on short stumps of trees covered with moss.

AZALEAS were more numerous and fine than ever we remember to have seen them, and they made, as they always do at the May Show, a most effective display. Two excellent collections of 12 plants were produced, one by Mr. May, gr. to Mrs. Lawrence, the other by Mr. Chitty, gr. to J. Basset, Esq., of Stamford Hill.—Mr. May had huge specimens of Double-red, optima, sinensis, variegata, Grenvilliæ, præstantissima, macrantha purpurea, exquisita, Broughtonii, rosea superba, Rawsoni, and Gledstanesii.—Mr. Chitty sent fine bushes of splendens, Duke of Devonshire, Fielder's white, Murrayana, one of the many varieties of phœnicea, præstantissima, Broughtonii, Prince Albert, carminata, Gledstanesii, triumphans, and lateritia.—Groups of six plants were furnished by Messrs. Green, Fraser, Carson, Falconer, Lane, Thompson, Williams, Robins, and Pawley. In these we remarked Double-red, Iveryana, Variegata, Old White, coccinea superba, lateritia, resplendens, coronata, semi-duplex, Prince Albert, fulgens, triumphans, Falconeri, Woodsii, sinensis, lateritia, optima, Smithii, Perryana (a fine variety), Bianca (a good white), mirabilis, and grandis. Six of the newer kinds in 8-inch pots were shown by Messrs. Rollisson, Fleming, and Taylor ; but we did not observe among them anything strikingly distinct from the varieties above enumerated.

A collection of TALL CACTI in flower was exhibited by Mr. Green. It contained Epiphyllum speciosum and its handsome variety called elegans ; E. Jenkinsoni, E. rubrum cæruleum, E. Russellianum, and Cereus Malleson roseus.

RHODODENDRONS.—A magnificent collection of white, spotted, and blush varieties, was shown by Mr. Ivison, gr. to the Duchess Dowager of Northumberland, at Sion House ; they were part of the batch of seedlings raised at Sion from which the beautiful sorts Cliveanum, Percyanum, and Sionense were named, and some of which they very much resemble. They were obtained from a cross between a good white ponticum and the red tree Rhododendron ; they are stated to be perfectly hardy as far as the plant is concerned, but on coming into flower in the spring (and especially during such seasons as the past), they require the protection of a greenhouse to have the flowers in perfection ; and it is an easy matter to have them in flower from Christmas up to the middle of May.—Messrs. Lane, of Great Berkhampstead, showed a group containing R. carneum, sulphureum, a fine kind with large compact heads of well-formed flowers ; aureum, macranthum flavum, cupreum, and formosum, which is also sometimes called Gibsoni.—Mr. Gaines also produced a collection in which were Symmetry, roseum purpureum, aureum, tigrinum, and floribundum.

ROSES in pots were so numerous that a new round tent which was appropriated to their exhibition did not hold more than the half of them. The rest were therefore accommodated in the iron tent along with the Fancy Pelargoniums. Mr. Francis's collection, to which the first prize was awarded, contained Coupe d'Hébé, bright peach colour, height about 5 feet—it had 50 blooms out on it ; Paul Perras, bright rose, the gem of the collection, being a beautiful pyramidal plant covered with flowers ; Charles Duval, deep rose, a spreading plant with 25 blooms on it ; Chenédolé, vivid crimson ; Blairii, delicate creamy white, with deep pink towards the centre, an attractive variety ; Solfaterre, a fine plant, 5 feet high, covered with beautiful pale yellow flowers ; Souvenir de la Malmaison, creamy white, bearing 25 well-expanded blooms, Augustine Mouchelet, bright rose, though naturally a slender grower, this was in great perfection ; Baronne Prevost, delicate rose, a fine plant, 5 feet, with 35 blooms ; the favourite Géant de Batailles, with 25 blooms ; La Reine, rose, a difficult sort to force, with 45 blooms on it ; Aubernon, dark rose, with 30 blooms.

—Mr. Francis also showed a collection of Roses on the Céline stock, in 5-inch pots; they were beautifully in flower, and exhibited blooms as large and fine as under natural growth in the open ground.—Messrs. Lane furnished—*Tea:* Moiré, pale yellow; Souvenir d'un Ami, blush, shaded with pink, an exceedingly handsome Rose, and one which does not soon get shabby; Vicomtesse de Cazes, yellow; Baronne Prevost, rose; Duchess of Sutherland, pale rose; William Jesse, crimson, tinged with lilac; Louis Bonaparte, vermilion. *China:* Miellez, white; Mrs. Bosanquet, creamy white. *Hybrid Bourbon:* Comtesse Molé, delicate rosy pink, Chenédolé, dark brilliant crimson. *Hybrid China:* Emperor Probus, deep lilac red.—Messrs. Paul sent fine plants, but insufficiently in bloom, of—*Tea:* Niphetos, pale lemon, often snowy white; Cels Multiflora, pale flesh, large and full; Safranot, bright apricot, in bud, changing to buff. *Bourbon:* Armosa, bright pink. *Hybrid Perpetual:* Madame Laffay, rosy crimson; Louis Bonaparte, vermilion; Aubernon, bright rose, changing to red; La Reine, rosy pink, tinged with lilac; Duchess of Sutherland, pale rose; William Jesse, crimson, tinged with lilac. *Hybrid Bourbon:* Paul Perras, pale rose, and Coupe d'Hébé, bright peach.

In the Amateurs' Class we find the names of Messrs. Terry, Chitty, Rowland, Busby, and Roser, all of whom contributed beautiful examples of excellent Rose growing. In the different collections we remarked, in addition to the kinds already enumerated—Lamarque, pale yellow; Comtesse de Lacepède, white; Bougère, salmon; Mansais, nankeen; Le Dauphine, pale blush; Mrs. Elliott, large crimson; General Jacqueminot, purplish crimson; Fabvier, bright crimson; Devoniensis, pale yellow; Madeline, pale edged carmine; Armosa, rosy pink; Abbé Mioland, rosy purple; Adam, large blush; and Madame Bureau, white.

Cape Heaths were numerous, and notwithstanding the backwardness of the season, they were generally well flowered. Excellent plants were furnished by Messrs. May, Cole, Smith, Watson, Over, Taylor, Speed, Roser, Hamp, Jarvis, and Pawley; and in the Nurserymen's Class by Messrs. Rollisson, Epps, Fraser, and Fairbairn. The specimens, both in 11 and 8-inch pots, were fine examples of good Heath management. In the different collections we remarked the following varieties:—Vestita alba and rosea, propendens, denticulata moschata, favoides elegans and purpurea, intermedia, vasiflora, Beaumontiana, perspicua nana, Cavendishii, suaveolens, elegans, Macnabiana, Hartnelli, mundula, ampullacea vittata, mutabilis, Sprengelii, Westphalingia, fastigiata lutescens, Andromedæflora, mirabilis, nitida, Sindryana (a rather new and charming Heath); dilecta, florida, metulæflora, princeps, Templeana, tortuliflora, echiiflora, aristata major, tricolor, and odore rosæ.

Everlastings.—Collections were shown by Messrs. Taylor, Green, Stuart, and Hamp. In these we remarked Aphelexis humilis, A. macrantha purpurea, A. purpurea grandiflora, A. speciosa, A. rupestris, A. sesamoides with its rosy variety, and A. spectabilis.

Single Specimens.—The best consisted of a glorious Medinilla magnifica, from Messrs. Veitch; a beautifully cultivated Erica Hartnelli from Mr. Stanly; an enormous Erica Sindryana from Mr. Smith, gr. to W. Quilter, Esq.; Eriostemon intermedium from Mr. May, gr. to Mrs. Lawrence; Leschenaultia Baxteri from Mr. Carson; Zichya longipedunculata and Statice Holfordii from Messrs. Henderson; Z. longipedunculata from Mr. Stuart, of Norwood; and Vriesia speciosa from Messrs. Jackson.

Some interesting Novelties were produced. Messrs. Veitch had the remarkable Hexacentris mysorensis mentioned in another column; a new Aerides, related to affine, from Moulmein; Dendrobium clavatum and albosanguineum; and Streptocarpus biflorus, a very promising plant.—Messrs. Standish and Noble sent plants of Azalea amœna, some account of which was given at p. 262, and Mr. Fortune's striped Azalea vittata; Messrs. Henderson, of Pine-Apple place, communicated Tetratheca ericifolia, a plant which we hope to see again; Mr. Ivison, Oncidium sessile, a yellow flowered species of considerable beauty; Mr. Franklin, a Trichopil, which resembled a pale variety of T. coccinea; Messrs. Rollisson, a curious looking almost black-flowered plant called Ataccia cristata; and Mr. Hally, of Blackheath, a blue flowered Libertia, which bids fair to be a good exhibition plant.

Collections of Miscellaneous Plants were produced by Messrs. Rollisson, Mr. Williams, gr. to C. B. Warner, Esq., and Mr. Hamp, gr. to J. Thorn, Esq. The following are the names of 20 of the most striking of the variegated plants shown in Messrs. Rollisson's group, viz.:—Cissus discolor or marmorata, sent from Java by their collector last year, very beautiful in foliage; Pandanus Javanicus variegatus; Maranta roseo-lineata, albo-lineata, glumacea, v ttata; Pharus vittatus, Hoya picta aurea, Vriesia speciosa, Mikania speciosa, Dracæna nobilis, Pavetta borbonica, Musa zebrina, Caladium hæmatostigma; Anæctochilus setaceus, xanthophyllus, and maculatus; Physurus argenteus, Cheirostylis marmorata—a species of Goodyera, and Cypripedium Javanicum.—Mr. Williams had the following variegated Orchids, viz.:—Anæctochilus argenteus, with silvery markings; A. intermedius, having dark green foliage, veined with gold; a fine plant of A. Lowei; A. maculatus, with silvery markings; the common A. setaceus, A. xanthophyllus, a remarkably fine plant; and A. striatus, which resembles Goodyera discolor. Among Mr. Hamp's plants were Stephanotis floribunda, a good Punctea Hendersoni, some Amaryllids, Eriostemon myoporoides, a large Erica Cavendishii, hardly sufficiently in bloom; Chorozema varium, and one or two other plants. Mr. Salter, of Versailles Nursery, Hammersmith, sent a nice collection of Daisies.

Among Miscellaneous Single Specimens, the most remarkable were Fitzroya patagonica, Saxe-Gothæa conspicua, and a hardy hybrid Rhododendron named Blanc Superbe, from Messrs. Veitch; Erica Murrayana, a charming bright crimson kind, from Mr. Laybank; and Boronia tetrandra, from Messrs. Henderson, of Pine-apple-place. A hybrid Nymphæa, between N. rubra and dentata, and an Aphelandra (?), with striped leaves, came from Mr. Van Houtte, of Ghent.

Hothouse Ferns were shown by Messrs. Woolley, Williams, and Ivison. In the different collections, we observed well-cultivated plants of Adiantum trapeziforme, A. formosum, A. pubescens, A. concinnum, A. Foveanum, A. macrophyllum, A. cuneatum, Blechnum brasiliense, Goniopteris vivipara, G. fraxinifolia, Lastrea decomposita, Cheilanthes spectabilis, Polypodium aureum, Asplenium marinum, Pteris serrulata.

Pelargoniums were more numerous than had been anticipated, and seldom have we seen, even at a June meeting, such plants as those which composed the first collection. They exhibited what is rarely met with in combination, viz., quality with quantity of flower. The plants were large, with foliage in some instances covering a third of the pots. These came from Mr. Turner, of Slough, who obtained the Gold Medal, for 12 varieties in 8-inch pots. The sorts were, Magnet, Mochannum, Pulchrum, Pride of the Isles, Constance, Ajax, Chieftain, Magnificent, Virgin Queen, Rosamond, Gulielma, and Rowena. Magnet was the admiration of everybody; 2d, Mr. Dobson, Woodlands Nursery, Isleworth, for Chastity, Purpureum, Incomparable, Mont Blanc, Cuyp, Pulchellum, Vanguard, Mulready, Chloe, Arethusa, Rosa, and Rosalind; 3d, Mr. Gaines, Battersea, with Cecil, Aspasia, Mont Blanc, Salamander, Grandiflorum, Negress, Marquis of Stafford, Flying Dutchman, Mars, Rosamond, Alphonsa, and Gulielma.—Six varieties in 11-inch pots (private growers), 1st, Mr. Bray, Regent's-park. These were old kinds with poor flowers. Six Fancy Pelargoniums—Dealers: 1st, Mr. Turner, with Hero of Surrey (a fine specimen, with colours distinctly brought out), Fairy Queen, Minerva, Ambrose's Perfection, Statuiski, Reine des Français; 2d, Mr. Ayres, Blackheath, with Fairy Queen, Reine des Français, Ytolinski, Mirandum, Hero of Surrey, Picturatum; 3d, Mr. Gaines, with Signor Casoloni, Agnes, Reine des Français, Defiance, Odoratum, Magniflorum. Six Fancy Pelargoniums—Amateurs: 1st, Mr. Kempster, Blackheath, with Statuiski, Bouquet tout fait, Alboni, Formosum, Hero of Surrey, Jenny Lind; 2d, Mr. Roser, gr. to J. Bradbury, Esq., with Modestum, Madame Miellez, Queen Victoria, Ibrahim Pacha, Alboni, Cleopatra.

Cape Pelargoniums.—1st, Mr. Parker, gr. to J. Strachen, Esq., Teddington, with elatum, elegans, Blandfordianum, bicolor, roseum, tricolor; 2d, Mr. Watson, gr. to Mrs. Tredwell, with elegans, bicolor, Blandfordianum, ardens, and fulgidum.

Mr. Westwood, of Acton-lane, sent 12 well-grown Hydrangeas, in small pots, with enormous heads of flower.

Calceolarias.—Mr. Gaines received a Large Silver Medal for Phydias, Amœna, Pluto, Vulcan, Magnifica, and Cerito.

Cinerarias.—1st, Mr. Lochner, with Adela Villiers, Surprise, Effie Deans, Climax, Amy Robsart, and Queen of Beauties; 2d, Messrs. Henderson and Sons, St. John's Wood, with Adela Villiers, Effie Deans, Marianne, Cerito, Catherine Hayes, and Fairy Queen; 3d, Mr. Roser, gr. to J. Bradbury, Esq., with Lady Hume Campbell, David Copperfield, Madame Miellez, Pauline, Annie, and Beauty, of Hammersmith. There was but little interesting among new Cinerarias; the best were Polyanthiflora, Picturata, Prince Arthur, and Mrs. Seagrave. The favourite Lady Hume Campbell was very generally shown.

Pansies.—These had large flowers of the richest colours, averaging 12 blooms to a pot. The plants were compact and healthy, one only occupying a pot. 1st, Mr. Turner had Duke of Perth, Pompey, Climax, Ophir, Euphemia, and Thisbe; Mr. Beck Bellona, Almanzor, Robert Burns, and Eustace; 2d, Mr. Lochner, with Queen of England, Bellona, Climax, Ophir, Robert Burns, Sicira, Juventa, Duke of Perth, Duke of Norfolk, Helen, Ethelred, and Addison; 3d, Mr. Terry.

In the Seedling Tent there were but few novelties. Of Pansies, the best were Sir J. Cathcart, National, and Sir Joseph Paxton, all from Mr. Turner.—Mr. Lane, of Great Berkhampstead, had a novel and peculiar hybrid Rhododendron, a blush or French white, spotted on the upper part of the flower with brownish-yellow; flower-heads large, and foliage ample.—Mr. Carmichael, of Bath, sent a pretty spotted Calceolaria of good shape.—Mr. Fleming, of Trentham, produced a charming specimen of Fancy Pelargonium, in a glazed porcelain pot, with a view to prove that this kind of material is not in any way unfavourable to the growth of plants.

Fruit was more abundant than it was last year in May. Mr. Jarvis, gr. to J. Ruck, Esq., received a Certificate of Excellence for a well swelled Queen Pine-apple. The next Queen in point of merit came from Mr. Bray, gr. to E. Lousada, Esq. These were not remarkable for weight, the heaviest scarcely reaching 4 lbs. Other Queens were furnished by Messrs. Watson, Dods, Jones, Davis, and Price. A good Black Jamaica was shown by Mr. Povey, gr. to the Rev. J. Thornycroft. The same variety came from Mr. Davis of Oak Hill, Enville, from Mr. Watson and Mr. Jones, a Cayenne from Mr. Fleming, and a Black Prince from Mr. Burn, gr. at Tottenham-park.—The best Providence, which weighed upwards of 9 lbs., was produced by Mr. Davis, gr. to Lord Boston, at Hedsor.—Others came from Mr. Watson, gr. to Mrs. Tredwell; and Mr. Winfield, gr. to W. Bracebridge, Esq., of Warwick.

Black Hamburgh Grapes were shown pretty plentifully. The best came from Mr. Dods, gr. to Sir J. Cathcart, Bart; well-swelled bunches were also contributed by Mr. Allport, gr. to H. Akroyd, Esq., of Nantwich; Mr. Forbes, gr. to the Duke of Bedford, at Woburn; Mr. Davis, of Oak Hill; and Mr. Spary, of the Queen's Graperies, Brighton.—The same variety of Grape was likewise exhibited by Mr. Robertson, gr. to Lady Emily Foley, Stoke Edith Park, Ledbury; Mr. Jones, gr. to Sir J. Guest, Bart.; Mr. Morrison, gr. to the Earl of Harrowby; Mr. Jupp, gr. to J. O. Smith, Esq., of Brighton; Mr. Stent, gr. to W. Herbert, Esq., of Clapham; Mr. Slowe, gr. to W. R. Baker, Esq., of Bayfordbury; Mr. M'Kay, gr. to J. Swaby, Esq., of Acton Green; Mr. Jackson, gr. to G. Beaufoy, Esq., of South Lambeth, and Mr. Henderson, gr. to Dr. Merry, of Ledbury. Mr. Davis, Mr. Dunsford, and Mr. Spary, also showed Black Hamburgh. Very good Sweetwaters came from Mr. Davis, of Oak Hill, and the same variety was also shown by Mr. Jackson, gr. to G. Beaufoy, Esq. Among other white Grapes we noticed Josling's St. Albans, from Mr. Robertson, gr. to Lady Emily Foley. Dutch Sweetwater on Vines in pots, were contributed by Mr. Jackson, gr. to G. Beaufoy, Esq., of South Lambeth.

Peaches were small and ill-coloured. They were furnished by Mr. Reath, gr. to Mrs. Smith, of Ashton Court, Bristol; Mr. Winfield, gr. to W. Bracebridge, Esq.; and by Mr. Gardiner, gr. to Sir G. Phillips, Bart., of Weston. The latter were stated to have been grown on trees, in 12-inch pots, at the back of an early Vinery. The early crop was said to average from 15 to 20 on each tree; but later ones from 18 to 24 on a tree.

May Duke Cherries, well-coloured and swelled, were shown by Mr. Fleming, gr. to the Duke of Sutherland at Trentham. Black Circassian Cherries were sent by Mr. Evans, gr. to C. H. Newdegate, Esq., of Airbury.

Strawberries.—Enormous examples of British Queen, well-coloured and ripened, came from Mr. Judd, gr. to Earl Spencer, at Althorpe. These were the admiration of everybody. Good dishes of this variety were also sent by Mr. McEwen, gr. to the Duke of Norfolk, at Arundel; and Mr. Britten, of Lewisham. Mr. Munro, gr. to Lord Clarendon, and Mr. Bennet, of Dulwich, likewise showed British Queens. The best Keens' Seedlings were from Mr. May, gr. to J. Watney, Esq., of Croydon.—Mr. McEwen, and Mr. Brewin, gr. to R. Gunter, Esq., also produced good examples of this fruit, as did likewise Mr. Dew, of Ham Common, Mr. Bennet, Mr. Munro, gr. to Mrs. Oddie; Mr. Jarvis, Mr. Macqualter, gr. to Col. Challoner; and Mr. Watson, gr. to Mrs. Tredwell.

Figs.—We remarked some Brown Figs from Mr. Fleming, of Trentham.

Melons.—The best was a hybrid yellow fleshed Persian, from Mr. Robertson, gr. to Lady Emily Foley. It was a roundish fruit, about the size of the clenched fist, and exceedingly well flavoured. Mr. Fleming had his hybrid Trentham.

Of Miscellaneous Fruit, Mr. Snow, gr. to the Earl de Grey, sent a collection of Apples and Pears in good condition; Mr. Salter, Apples; and Mr. Reath, fruit of the Cavendish Musa. Mr. Ivison contributed from Sion a tree of the Loquat (Eriobotrya japonica) in fruit.

We take this opportunity of mentioning that there were stationed in the Arboretum, but unconnected with the show, some beautiful oil-paintings of the finer Orchids, executed for Messrs. Veitch and Co., by M. Constans, the French artist employed for preparing the plates and other illustrations connected with "Paxton's Flower Garden." In another part of the grounds we also noticed the model of a Conservatory, from Messrs. Weeks and Co., of the King's-road, Chelsea, which attracted so much attention last year in the Crystal Palace.

Books, &c., Received.

Annales des Sciences. Vol. XVI. No. 4.

Records of the School of Mines and of Science applied to the Arts. Vol. I. Part 1. *Inaugural and Introductory Lectures to the Courses for the Session* 1851-2. 8vo. Longmans.—The student of geology will find these lectures in all respects worthy of the able men by whom they were delivered, and of the highest interest in prosecuting his researches.

The Writings of Douglas Jerrold. Vol. III., containing *Mrs. Caudle's Curtain Lectures, the Story of a Feather, and the Sick Giant and Doctor Dwarf.* 8vo. Bradbury and Evans.

Born in a Gale: a descriptive Poem; by Ned Nautilus. *Creation: a Sacred Poem;* by Oxoniensis. *Miscellaneous Poems;* by the same. 8vo. Lumley.

Capt. Mangles' Arctic Papers. 8vo. Rivington. 2d Edition, with copious additions.

Walpers, Annales Botanices Systematicæ. Vol. II., Fasc. 5. Rubiaceæ to Compositæ.

Notes on the Isthmus of Panama, with Remarks on its Physical Geography and its Prospects. By A. Dunlop. Thomas.—A pamphlet.

The English Flower Garden. No. 5. 4to. Simpkin.—A

well written, cheap monthly periodical, containing neat coloured figures of plants, and likely to be useful to amateurs and gardeners.

Practical Rustic Work; by H. Howlett. Jarrold and Co.—This is a pamphlet of 15 pages, showing how the author applies Fir cones to the construction of what are called rustic baskets. From what we have seen of Mr. Howlett's work we should say that he is well qualified to teach this art. His pamphlet is illustrated by three lithographic plates, containing 13 figures.

FLORICULTURE.

National Floricultural Society, *May* 13.—Mr. Bragg in the chair. Pelargoniums were contributed by Mr. Dobson, Mr. Hoyle, and Messrs. A. Henderson and Co.; Pansies by Mr. Bragg, Mr. Turner, and Mr. Edwards; Cinerarias by Messrs. E. G. Henderson and Son, Captain Darley, Mr. Hodge, Mr. Robinson, and Mr. W. Ivery; Heaths by Mr. Epps; Azaleas by Messrs. A. Henderson and Co.; Mimulus by Mr Ivery; and Roses on the Celine Stock by Mr. Wilkinson, of Ealing. First-class Certificates were awarded to Mr. Turner's Pansy "National," white-ground, narrowly margined with purple, smooth, and good in form; to Schofield's Fearless, chrome yellow ground, margined with very dark purplish maroon, good in form, smooth, and stout; to Erica jasminiflora rubra, being of excellent habit, having an extra long tube, rosy red, with large trusses; to E. tricolor Eppsii, tube short and stout, truss large, habit good, colour scarlet, shading into white and very glossy: these were contributed by Mr. Epps, of Maidstone. Certificates of Merit to Pansy Sir Joseph Paxton, light yellow ground, margined with mulberry; this was from Mr. Turner. Cinerarias Lord Stamford and Picturata, from Messrs. E. G. Henderson and Son; to Pansy Joe Miller, dark self, remarkably large and bold, from Mr. Edwards; and to Erica tricolor splendida, from Mr. Epps. *J. E.*

Blinds for Geraniums: *A Lady.* White canvas will answer the purpose, but it will be injurious to have it permanently fixed. It should be made to run up and down on a roller, in order that the plants may be exposed in favourable weather. *J. E.*

Pansies: *J S and Son.* Forwarded as directed. *J. E.*

Received a Schedule of the Whitby Amateur Floral and Horticultural Society; days of exhibition fixed, May 25, July 6, and September 15.—*Z.* The Notting-hill Dahlia is fixed for August 26; and the Scottish Pansy for June 9. *J. E*

The York Horticultural Exhibitions are fixed for June 30, August 11, and September 22.

SEEDLING FLOWERS.

Auriculas: *Paddington.* What we gave was the official return, from which, of course, there is no appeal.—*Winslow.* Your Alpine is certainly the largest we have seen for some time; colour not determinable, owing to the varnish having destroyed it. *J E.*

Cinerarias: *Winslow.* Colours entirely destroyed by the varnish with which you had fastened them on the card.—*Admiral T.* 1, petals ribby, indented, and too narrow to give average outline for a flower of its size; strongly tipped rosy purple, with disk of the same shade. 2, a lively deep purple, equal to many in cultivation; 3, petals too oval to be valuable; 5, blue self, quite a "star," but in this instance valueless; 6, delicate and pretty, with some merit—its worst defect is its ribbyness; 7, chaste, if it had petals equal to 2 its merits would be much enhanced; 8, deeper in colour than 5, but too much notched for toleration; all arrived in good condition. *J E.*

Pelargonium: *Admiral T.* A small smooth flower, wanting density in the blotch on the upper petals; the full blown pip had fallen. *J. E.*

Miscellaneous.

Professor J. F. Schow, the Danish botanist, a philosopher of European reputation, and a State-councillor, died on the 5th inst., in his 64th year. His talents were not confined to his department of science; he was a man of great patriotic energy, and was elected president both of the Assembled Estates, and of the Constitutional Assembly, which adopted the present ground law.

Calendar of Operations.

(For the ensuing week.)

FORCING DEPARTMENT.

Early Vinery.—Presuming the Grapes are ripe, the fermenting material which has been kept on the border till this time may now be removed; as the roots are frequently found close to the surface after the litter is removed, spread a little rotten dung and loam over the border, to preserve them from the sun. If the Vines are at all exhausted, either from the poorness of the border or over-cropping, two or three good soakings of rich manure water should be given after the Grapes are cut; this will be of great benefit to the Vines; and if care is taken to preserve the leaves green and healthy for as long a time afterwards as can be done without infringing on the rest they ought to have, they will have time to form a fresh stock of roots, and to prepare themselves for another season's work. By following the above rules, we have forced an early Vinery 15 years successively, without the Vines showing any appearance of diminished vigour. Vines to be fruited in pots are useful auxiliaries where new houses have been planted, and the permanent Vines not yet in a bearing state; and are likewise a source of enjoyment to a numerous class of amateurs. We do not, however, recommend them on the score of profit. Those intending to grow plants for next season's fruiting should now select the strongest plants struck from the present year's eyes, and pot them at once into their fruiting-pots, which need not be more than 12 inches wide; or, some of last season's plants may be potted for the same purpose. Use rotten turf alone, and trust to watering with liquid manure, for giving them the necessary stimulus; they should be trained close to the glass, and stopped when of the desired length. Melons.—The early fruit will be swelling, and if they are trained to trellis-work, the fruit should be carefully suspended, either on a piece of thin board, or in a small net. Pay especial care to preserve the foliage healthy, and encourage at this stage a fresh growth, that immediately the first crop of fruit is cut, a successional one may be advancing to supply its place. This can more effectually be done in houses than in frames. The heat, both bottom and top, must be kept steadily up, that no check may prevent the gradual progression of the fruit to maturity. Pay the same attention to the advancing crops, by a daily superintendence; for a few days' neglect is often the cause of failure. Use pigeon dung or weak guano-water occasionally. We prefer this plan to mixing dung with the compost, which should consist of sound turfy loam. Now is a good time to make a sowing for the autumn crop, of which by far the best for the purpose is Mr. Fleming's hybrid "Dampsha."

FLOWER GARDEN AND SHRUBBERY.

In this department the next few weeks will be devoted to filling up the flower garden beds and clumps, intended for the summer and autumn display; and now a change has taken place in the weather, every exertion should be made to get the planting out completed with all possible dispatch; and premising the plants intended for each bed have been previously determined, and hardened off, no great difficulty will be met with in filling up the beds. Some allowance must, however, be made in regard to the time when it is wished to have the principal display of flowers; if early, the plants will require planting thicker, and need not be stopped. And if not before a later period in the summer, somewhat thinner; and the flower-buds should be pinched off as they appear, till the plants have filled the beds. There are two objects principally held in view in arranging the planting of parterres and flower gardens; one is to produce a striking effect by employing plants only of a decided colour, principally red, blue, and yellow, using white for separating the different divisions. When the colours are well contrasted, this plan is very effective, particularly when viewed from a distance, and is well adapted for situations where the beds are not numerous, and where there is a considerable breadth of either Grass or gravel to overpower; yet a repetition of the same thing, however brilliant, is seldom so pleasing on a close examination as where variety both in form and colour has been called in, and where the gradations into which the primary colours run have been arranged in accordance with the rules governing their distribution. There is now no lack of colours to effect this, as nearly every class of bedding-out plants present sufficient variety for the purpose. In single beds or in the mixed flower garden, a deal may be accomplished in this way, by using a decided colour for the centre, and surrounding it with plants of the same kind, but of less intense colour, which should gradually diminish from the centre as a point to the sides. This, with well contrasted edgings, particularly for the larger beds, will be found more generally pleasing than where masses of one colour only are employed. Select a shady border, and give it a good dressing of rotten dung or leaf soil, slightly forked in, for planting with the runners of the different kinds of Violets for forcing; the Neapolitan is the best for frames or pots, and the runners will now be found in proper state for removing; plant them 8 or 10 inches apart; water them abundantly in dry weather, and pinch off the runners as they appear; if the soil is rich and open, they will grow into stout bushy plants by the autumn, and may then either be potted or planted into pits for forcing.

HARDY FRUIT GARDEN.

The present is the most critical time for fruit trees; those against walls requires to be constantly looked over, not only to perform the necessary disbudding, &c., but to keep down the different species of aphides, which, if allowed to get the upper hand at this season, would irretrievably ruin them. The nights are still cold, and therefore the washings with the engine should be done early enough for the leaves to become dry before evening, or mildew may intervene. If the engine proves insufficient to eradicate these pests, tobacco water and soapsuds should be occasionally applied, as previously directed. In disbudding, it will be better to pinch out the shoots not wanted, leaving two or three joints, and as many leaves, than to take them close off the parent branch. In many kinds of fruit trees, such will form useful spurs, and where they are likely to cause a crowded state of the wood, they can (during the summer) be cut clean out with the knife; this, however, will rarely occur if the tree has previously been well managed. Strong gross shoots should be stopped, to throw the sap into the weaker ones; and this should be again repeated on the lateral shoots, to produce a uniformity of growth, and a well-balanced tree. Constant watching through the summer months will be requisite to effect this, if a disposition to grossness prevails; and root pruning in the autumn should always form a part of the practice in bringing too vigorous growing trees into a bearing state.

STATE OF THE WEATHER NEAR LONDON,

For the week ending May 13, 1832, as observed at the Horticultural Gardens, Chiswick.

May.	Moon's Age.	Barometer. Max.	Barometer. Min.	Temperature. Of the Air. Max.	Of the Air. Min.	Of the Air. Mean	Of the Earth. 1 foot deep.	Of the Earth. 2 feet deep.	Wind.	Rain.
Friday.. 7	18	30.106	30.040	70	38	54.0	47	46	W.	.00
Satur... 8	19	30.051	30.043	69	43	56.0	49	47½	W.	.00
Sunday . 9	20	30.055	30.026	73	40	56.5	51	49	S.W	.00
Monday 10	21	29.945	29.852	60	43	51.5	53	50	S.W.	.05
Tues. .. 11	22	29.883	29.841	61	46	53.5	52	49	W.	.09
Wed. .. 12	23	29.724	29.639	67	49	58.0	51½	48½	S.W	25
Thurs... 13	24	29.714	29.680	59	51	55.0	52	49	S.W.	.02
Average		29.927	29.873	65.5	44.3	54.9	50.8	48.4		.41

May 7—Overcast; very fine; overcast.
— 8—Overcast and fine, cloudy; overcast.
— 9—Fine throughout, slightly overcast at night.
— 10—Fine; ove cast; rain at night.
— 11—Boisterous; heavy shower; partly hail, 9 A.M.; hail shower in forenoon, cloudy.
— 12—Heavy rain thunder; showery; more constant rain at night.
— 13—Cloudy; fine; rain.
Mean temperature of the week, 3 deg. above the average.

STATE OF THE WEATHER AT CHISWICK,

During the last 26 years, for the ensuing week, ending May 22, 1832.

May.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 16	65.9	43.7	54.8	10	0.31 in.	5	4	5	1	2	8	1	1
Mon. 17	65.5	42.8	54.1	9	0.58	1	5	4	2	3	6	4	3
Tues. 18	64.5	44.0	54.3	12	0.17	1	5	4	2	2	7	4	1
Wed. 19	65.1	44.6	54.8	11	0.50	2	5	6	1	2	7	2	—
Thurs. 20	65.0	44.7	54.8	13	0.64	1	4	6	3	3	5	1	3
Friday 21	66.0	45.2	55.6	11	0.36	2	5	8	2	3	3	1	2
Satur. 22	65.9	44.3	55.1	12	0.20	5	4	3	3	3	5	2½	1

The highest temperature during the above period occurred on the 17th, 1833—therm. 86 deg.; and the lowest on the 16th, 1828 and 1839—therm. 28 deg.

Notices to Correspondents.

Assessments: *G B.* We must refer you to your solicitor. We never answer mere legal questions.

Broccoli: *J. P.* It is what is called a Cockscomb Broccoli. Such deviations from the usual structure are not uncommon with the Brassica tribe. ‡

Chiswick Exhibitions: *T P.* Exhibitors are not required, but they are most particularly requested to give notice in writing on the Wednesday before each meeting of the articles they intend to produce, and of the classes under which they will be shown. This is requested in order that their cards may be prepared before the exhibitors' arrival in the garden. Those who comply with this request find their entries made for them when they come, instead of being detained perhaps for an hour or more, as otherwise would unavoidably be the case.‡

Figs: *J D.* The variety of Fig grown so abundantly at Worthing is, we believe, the Brown Turkey. In some instances, as with you, it is brown; but, in many situations, it acquires a purplish colour. ‖

Fumigators: *Delta* complains that he cannot understand the construction of the instrument described at p. 294 of our last week's Paper, and he would feel obliged to "G. E., Fife," if he would furnish a sketch of it, or more explicitly describe its upper part. Why is the iron top to be riveted on to the chaffer or cylinder?

Gooseberries: *J D* asks, "Which of our numerous enemies has probably eaten off the calyx and corolla of a specimen of Gooseberry sent. The damage is generally attributed to birds, but I doubt whether they could operate so neatly. Possibly, it might be done by woodlice." If you watch the bullfinches, you will find them removing the whole fruit-bud early in the season; when in blossom, the tomtits pinch off, very neatly, as in your case, the calyx, corolla, and all that is within these, close to the top of the receptacle. This operation is termed *snuffing* in fruit-gardens near London. ‖

Heating: *Z.* It matters little which plan you adopt, provided you take care that your flow-pipe gradually rises to the extreme end, however small the rise may be, and that the return as gradually falls; and also that you have an air-vent at the highest point, as well as an expansion cistern large enough to prevent all possibility of overflow.

Insects: *T G.* The lace-winged insect sent is Chrysopa vittata, Wesm. (perla Stephens, but not of Linnæus). It is very common. The larvæ of Pyralis farinalis of Linnæus feed upon flour, meal, &c. We should be much obliged for specimens of the larvæ and chrysalids.—*P F.* From your description the insects which attack your Melon and Cucumber leaves are the common Thrips. Fumigation with tobacco smoke *will* destroy them, but the frames must be made quite air-tight, so as to prevent its escape. Try also the burning of saw-dust from Juniper or other strongly resinous wood, which Mr. Fortune has ascertained is the means which the Chinese employ successfully to drive away musquitoes.—*G E.* The little beetles which have eaten the crowns of your Hollyhocks are the Haltica fuscipes, a species closely allied to the common Turnip flea-beetle. The most effectual mode of stopping their ravages is to place a large sheet of paper covered with pitch or bird-lime close to your plants, and then shake them well over the paper, upon which the insects will fall and stick fast. Lime-dust sprinkled thickly every morning over the leaves, whilst wet with dew or water, will also preserve them. *W.*

Laurels: *G L.* They may be propagated by cuttings of the present year's wood, taken off with a small piece of the old wood attached, and put in in September. A sandy soil, somewhat shaded, suits them best.‡

Lobelias: *G H P.* The kinds you mention are all blue.

Manure: *Y B.* We do not understand what is meant by soot in a liquid state. Soot, as it comes from the chimney, is an excellent ingredient in all manures. It is needless to add anything to it. Rub off all the shoots next the ground, but leave a few laterals, stopping them above the fourth leaf.

Names of Plants: *Hitchen.* Claytonia perfoliata.—*G P.* Rosa bracteata, the Macartney Rose.—*Bodryddan.* Melianthus minor, a Cape shrub.—*Aline.* 1, Tortula muralis; 2, T. rigida.—*J G, Bath.* Dendrobium Calceolus.—*Wincanton.* It is Cercis Siliquastrum, commonly called the Judas Tree; a hardy tree, native of Syria.—*R A H.* Berberis cuneata; to be propagated by layers.—*L L B.* 1, Erica gelida; 2, E. Humeana; 3, E. declinata; 4, E. Bandoni; 5, E. odorosæ.‡

Oak Coppice: *Cartmel.* It is a very bad plan to cut them down *in the sap.* The right time is the end of November.

Rockwork: *Sub.* Burrs joined together in masses, dashed over with Portland cement, and sprinkled with coal-ashes, form a good substitute for grey rocks. As to plants, such as Aubrietia, Arabis alpina, Alyssums, Musk, Saxifrages, Soldanella alpina, Sedums, Erinus hispanicus, Saponaria ocymoides, Aquilegia Skinneri and perhaps glandulosa, Primula altaica, and other sorts; Verbenas, Petunias, Violets, and hardy Ferns will be found suitable.‡

Seakale: *J.* The Seakale plants you sent appear to have been *burned* or destroyed, in consequence of too hot steam from dung in forcing ‖

Spring Transplanted Evergreens: *Q.* Water the leaves as often as you can. It is of little use watering the roots separately.

Vines: *A Well Wisher.* The Gromier du Cantal Grape has large bunches, with very large round berries, of a grizzly colour; and on the whole, it appears to partake equally of the natures of the Black Hamburgh and White Sweetwater. It has very strong short-jointed wood; it would therefore not be advisable to graft it on the Black Cluster.‖—*Cartmel.* The Welbeck Black Tripoli is considered to be a variety of the Black Hamburgh.‖

Watercresses: *Cartmel.* You will find some advice on the formation and management of beds at p. 165 of our last year's volume. Only such plants as are wanted for seed should be allowed to flower. Plants raised from seeds are said to be less liable to "run" than those produced in any other way; and by sowing at different seasons young Cresses may be had nearly all the year round. A running stream suits them best, but means should be provided to prevent their being injured by floods.‡

Misc: *E.* The address of Mr. Snow, gr. to the Earl de Grey, is Wrest-park, Silsoe, Beds.‡

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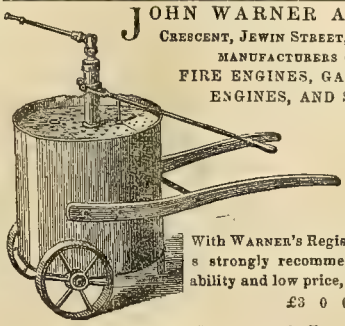
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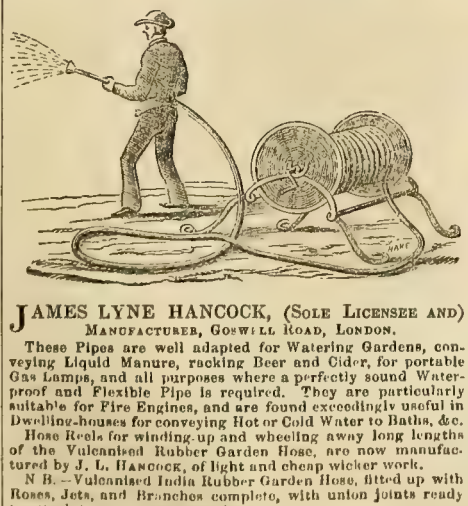


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BURGESS AND KEY, Agents, 103, Newgate-street, London.—Extract from Mr. Pusey's Report on the Agricultural Implement Department, Great Exhibition.—"Mr. M'CORMICK'S Reaper, in this trial, worked as it has since worked at Cirencester College, and elsewhere, to the admiration of practical farmers, and therefore received a Council Medal. Mr. Hussey's sometimes became clogged, as in the former trial at Tiptree, and therefore could not possibly obtain that distinction."—Price of Reaper, 25l.

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From Sir Tatton Sykes, Bart., to Mr. Crosskill.

Sledmere Castle, Driffield, Sept. 9th, 1851.

Sir,—I have just been seeing your Machine for reaping, and am very much pleased with it. It does its work beautifully, and I have no doubt they will soon be in general use.

I am, sir, your obedient servant,

(Signed) TATTON SYKES.

HUSSEY'S "CHAMPION" REAPER IN LINCOLNSHIRE.

Fairford House, Louth, March 13, 1852.

Sir,—I enclose a Cheque for 18l., the cash price of Hussey's Reaping Machine. I should have done this earlier, but have been much engaged, and waited to try it. I have done so on Wheat Stubble, and find it answer beyond my most sanguine expectations. I am, yours, &c., (Signed) WM. J. OSLEAR.

To Mr. Crosskill, Beverley.

W. CROSSKILL will warrant Hussey's Reaper to cut "standing" or "laid" Corn, across "ridge and furrow." W. C. is making three Reapers a day for purchasers who have already given orders for delivery in May, but cannot guarantee to deliver future orders in time for Harvest unless given immediately. Full particulars and Report of the Cleveland Challenge and Trial, &c., will be forwarded, gratis, on application per post.

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ROYAL AGRICULTURAL SOCIETY OF ENGLAND.—The MAY GENERAL MEETING of the SOCIETY will be held at the Society's House, in Hanover-square, on SATURDAY, the 22D of MAY, at Eleven o'Clock in the Forenoon.—By Order of the Council,

London, May 15. JAMES HUDSON, Secretary.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.—LEWES MEETING.—The last day for the entry of Stock is TUESDAY, 1st of JUNE. Prize Sheets and Forms of Certificate can be obtained on application, by post or otherwise, to the Secretary, No. 12, Hanover-square, London.

By Order of the Council, JAMES HUDSON, Secretary.

The Agricultural Gazette

SATURDAY, MAY 15, 1852.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY,	May 19	Agricultural Society of England.
THURSDAY,	— 20	Agricultural Imp. Soc. of Ireland.
THURSDAY,	— 27	Agricultural Imp. Soc. of Ireland.

"WILL GUANO PAY?" The fertilising effect of guano principally depends upon the amount of ammonia which it contains, and hence as a manure for any individual soil its value will depend upon the peculiar fertility of that soil. If the soil, for instance, is defective in ammonia it may be successfully applied; but if otherwise, then guano may not pay. It is seldom that soils are to be found in this latter state; yet high farming, with peculiar manures, may bring them up to it.

Guano may enable some soils to work up into crop, substances in which it is itself defective. Consequently, if guano and guano alone is applied, such a soil must ultimately become exhausted of these substances; and hence, according to popular expression, become tired of guano.

The grand use of guano and all artificial manures

i

s to supply deficiencies. There is, for instance, a deficiency of farm-yard manure, and there may be a deficiency of ammonia in it, or there may not. Now, in either case the expense and quality of guano may be such as to render its application profitless. With guano at 10*l.* per ton, we cannot grow Wheat at 9*l.* per ton, and pocket the same profit as when Wheat was at 15*l.* and 20*l.* per ton; and the difference may include all the profits of the farmer. Again, if we adopt Mr. MECHI's plan of home-slaughtering, we may become so independent of ammonia as to find in other artificial manures a more profitable auxiliary than guano, whatever almost may be its price. In short, home-slaughtering, and the application of the offal to the soil, while it would greatly increase our produce, and render us less dependent upon guano and other artificial manures, would also at the same time reduce their money and relative fertilising values. At present we starve the soil, and thus enhance the value of guano in a twofold manner. We give away our ammonia for nothing—and even less than nothing—for we pay an exorbitant charge for its conveyance to market into the bargain. No wonder, therefore, though we complain that our crops will not balance expenses under free-trade prices.

Our present embarrassments demand of us to pay more attention to "agricultural economy" than we now do; for, while we are ransacking South America for guano at an exorbitant price, and upholding systems out of date to support it, we are paying a high premium to steamboat and railway companies to remove from our hungry soils ammoniacal manures, in order to suffocate the inhabitants of large towns in their pestilential fumes for nothing. There are more than farmers who want protection from the effects of such a system.

WE now resume our hints as to measures which may safely be adopted for increasing the VALUE OF LAND, by facilitating its transfer. In our last Paper on this subject (April 24), we proposed that on every transfer of land, after a given time (as 1st of January, 1853), in which the fee simple was conveyed, it should be placed in the names of trustees, with absolute power of sale, and that the trustees should always afterwards convey the fee simple, and that the transfer should be recorded in a register; so that when the title was unencumbered it might be dealt with in a simple and uniform manner. We would propose that any less estate than a fee simple or any charge or encumbrance should be kept off the register, but might be protected by a caveat to be entered by the owner of the lesser estate, or the encumbrancer, similar to the distringas by which the transfer of stock is now prevented. This practice, so far as stock is concerned, has been found to work well in practice, and might be easily adapted to land, except that instead of intrusting the Court of Chancery with the power of issuing the distringas, it should be vested in the registrar of the district in which the land to be transferred was situate.

We believe that under this arrangement a system for the transfer of land might be adopted by which land might be easily, cheaply, and safely conveyed. All existing owners, so far *as their interests were concerned*, might adopt the system, and after a sufficient time had elapsed a good title would be made on the register.

But something more than this is necessary. It is obvious that if a plan of this nature came into operation on the 1st of January, 1853, it would not be sufficient to provide only for the interests of all persons then entitled or professing to be entitled to land. Their conveyance could operate only on their interests in the land conveyed; some mode of dealing with claims other than theirs must be provided for, or the measure would be incomplete. Thus A is in possession of close Black-acre on the 1st of January, 1853, and he then conveys all his interest to trustees, with absolute power of sale, making their receipts sufficient discharges. A transfer by the trustees will be good against A, and all claiming through him; but it is clear it would not affect the rights of any person that did not claim through A; and if A was not really entitled to the land, the purchaser from his trustees might be evicted by a person having a better title.

To provide, then, for these claims some mode of dealing with past titles is necessary before any system of registry can benefit the existing owner to land. Now, can this be had easily and safely? If it cannot it must be admitted that it is a great hardship upon the landowners; for great authorities tell us that in no country is the state of titles better than in England, and yet we know that in no country is the expense and trouble of proving them so great. Let us hear what Mr. SENIOR says as to this, who was not only an experienced conveyancer for 20 years, but has long acted as a Master in Chancery. In his evidence before the committee on the "Burdens of Land," page 459, he said, "I think there is really little defective title. Titles almost all seem to be *safe for holding*, but the difficulty is to transfer them. There are many objections as to marketableness, few as to safety." Now it may be suggested that if a title is *safe to hold*, safe to enjoy, that is all that a purchaser wants. He is not much interested in the question whether it is a strictly accurate title; he does not look upon it with a critical eye, as he might perhaps look at a horse or a picture; it is sufficient for him, when he buys a piece of land, that he should *hold* it against all the world, and enjoy the fruits of it securely. When Mr. SENIOR assures us, then, that almost all titles are safe for *holding*, that is sufficient for most persons. But what says the present LORD CHANCELLOR on this subject?—the highest authority that we can give. In one of his learned works* Lord ST. LEONARDS states it as the result of his experience as a conveyancer, that the present expense as to titles "is, in forty-nine cases out of fifty, SUPERFLUOUS; but as everyone may be in danger, all are guarded against it. This precaution has very much increased within the last thirty years, but not from any increased danger." If then the present tedious and expensive practice is, in fact, not necessary, means should be taken to dispense with it. This examination of title, this raking into all past transactions for the last sixty years, is the great difficulty connected with the transfer of land; and this it is which the LORD CHANCELLOR tells us is superfluous in forty-nine cases out of fifty. This it is, then, that we must take measures to limit or avoid altogether. Let us quiet existing titles, and let a purchaser be enabled to dispense with this 60 years' inquiry, and purchase from trustees who shall have power to convey the fee simple. This plan, which we believe both safe and practicable, would soon render land easily transferable. Here, by a little legislative assistance, and by availing ourselves of the experience of the last 20 years, we might add to the security of every existing landowner, and enable him to part with such portion of his possessions as he wished, and establish a better system for the future. If any one doubts this, let him consider what has happened under the railroad system with respect to land. These great roads, running as they do through the length and breadth of the country, have ransacked almost every title in the country; and here is additional and certain evidence of the general soundness of the titles to land. If Mr. SENIOR and the LORD CHANCELLOR do not satisfy us, let us go to Mr. GLYN and Mr. DENISON, and ask them how many bad titles they have found as chairmen of railways, and how often they have had to pay twice for the land they have taken for the North Western or the Great Northern. If an act were passed legalising all existing titles to land, we believe very little injustice would be done; and if the state were called upon to make good any loss that might be thus occasioned to individuals, a great boon would be purchased at a very small cost; but this, perhaps, may be considered too strong a measure. A plan short of this may be more generally agreed to; and to this, not to tire our readers, we shall call their attention in an early number.

WE are happy to perceive that the ROYAL AGRICULTURAL IMPROVEMENT SOCIETY OF IRELAND is rapidly gaining the confidence of the body for the promotion of whose interests it was established. Upwards of 100 new members have been added to it during the present session; and the Dublin Chamber of Agriculculture, a farmers' club, and the Journal (an agricultural periodical) about to be established, which have emanated from the Society, prove the energy of its present office-bearers, and the greater hopefulness and activity of the agricultural body generally.

IN reference to the remarks lately made on the possibility of cheapening agricultural implements, a correspondent, who farms largely in Berwickshire, writes to us as follows:—"From your recent notice of the proposal by Messrs. —— and Co., about cheap agricultural implements, I see that there are some facts unknown to you. Their prospectus, *in principle*, has all the merit which you ascribe to it; but then, instead of clogging, or rather pretending to clog it with the condition of so many hundreds of an implement being ordered before it is a bargain, the fact is, that a single order is tolerably sure of being executed, for this good reason, that *the ordinary makers are at present sending out the implements enumerated, at the same, and in some instances at less prices than Messrs. —— and Co. themselves announce.* For instance, excellent metal rollers, in halves, weighing 5 cwt., can be had for 5*l.* 15*s.* These can be worked by one horse, and are superseding all others. If the smaller makers can sell implements at the prices named in the prospectus of Messrs. —— and Co., then they, on their own showing, should be well able to sell them at prices lower still."

The principle on which Messrs. —— and Co. insist, admits therefore, it appears, of application against their own price list, as truly, if not in so great a degree, as they contend that it applies against the price lists of other firms.

* SUGDEN on "Vendors," 986, edit. 11.

KILWHISS *v.* ROTHAMSTED.—No. II.

IN former communications we stated that it tended to promote correct ideas in regard to the ammoniacal exhaustion which the soil suffered by certain plants, to look upon all plants as having certain conditions in which they could appropriate the nitrogen of the atmosphere, and certain conditions in which they could not do so. In fact, that the ammoniacal exhaustion which soils underwent by any vegetable must be in a great measure regarded as the result of certain states in which they were placed, and which states were inconsistent with their exercising the function of assimilating their nitrogen from the atmosphere.

Further, we considered that it is only by a close and scrutinising examination of these opposite external influences, whether atmospheric or terrestrial, that we could ever arrive at anything like a rational or satisfactory solution of the part which the atmosphere, the great storehouse of ammonia, plays in the economy of practical agriculture. It appeared to us that the attempt to connect the chemical products of plants with their botanical orders or alliances, as having anything to do with the exhausting nature of plants, was causing a considerable amount of confusion in our agricultural theory, inasmuch as the mere production of starch, oil, albumen, or other vegetable products in plants, was not the cause of their requiring more or less of ammonia or carbon in the manure; but we attempted to demonstrate that where the physiological characters of plants were somewhat similar, the amount of ammonia which was required in manures was in the inverse ratio to the amount of heat and moisture in the atmosphere during the time the primary organs of plants were being developed. In surveying the wide field of nature, it was evident that the more heat and moisture which there were in the atmosphere during the early development of plants, the less ammonia they required in proportion to the gross quantity of nitrogenous constituents which they would yield in their produce; and in regard to Cereals, we demonstrated that the proportion of heat and aqueous vapour exercised a most important part in varying the quantity of ammonia required.

In the further prosecution of this subject we touched upon the opinions of an eminent experimental agriculturist—Mr. Huxtable—who, following Mr. Lawes, classified all the Cereals as great "spendthrifts" of ammonia; we showed that it was a very unfair standard to rate the productive powers of soils for other Cereals by the quantity of Wheat they could raise, simply because other Cereals could be developed in very opposite circumstances. The ammoniacal exhaustion principally depended on the quantity which was required to grow the primary organs of plants. It appeared to us that so long as such great authorities had such very inadequate notions of the causes and nature of Cereal exhaustion, that little progress was to be made, as their opinions were constantly referred to as indisputable authority.

Although we are afterwards compelled to show the application of these principles to solve some of the other questions in dispute, in the meantime we may allude to the very unsatisfactory ideas which are entertained on the exhausting nature of the different kinds of Cereals, in the question which was put by Mr. Hope, Fenton, East Lothian, at a recent discussion before the Highland Society, and answered by Dr. Anderson. So far as regards the ammoniacal exhaustion, the question was wrongly put, and as wrongly answered, in the following reply:—"Mr. Hope has touched, in his observations, on the prevalent idea that Wheat is a more exhausting crop than any of the other Cereals—as Oats, for instance—and has expressed the opinion, in which I agree with him, that this can scarcely be considered to be correct; weight for weight, Wheat no doubt is so. But in order to arrive at a fair result, we must not compare equal weights, but determine the total amount of valuable matters removed by a crop of each, and we shall then find that an Oat crop ought to be decidedly more exhausting than Wheat, as it removes from an acre a much larger quantity of these substances than the latter." We formerly endeavoured to draw the line of distinction between two kinds of exhaustion, which were totally confounded, viz., the exhaustion as practically manifested in the greater amount of ammonia which it took to raise a plant, and the exhaustion which resulted to soils when certain crops could be grown with less ammonia in the manure. The different exhausting effects of Wheat and Oats in Scotland may be compared, in a less degree certainly, with the Turnips which are grown early in spring by the market gardener, and the Turnips which are grown by the farmer for cattle food. The Wheat in Scotland, like the Turnips in the garden, must be grown where there is food enough in the soil and even to spare, but the Oat and the Barley may be developed in a warmer and moister atmosphere, like the Turnip in the field, with a much smaller expenditure of manure. Therefore the absurdity in prescribing the growth of Wheat in leases is a violation of the same principles as we would

forbid Turnips to be raised early in spring, because they were more exhausting (requiring more manure) than when grown in summer, forgetting that the one crop might be a good criterion of the soil's fertility, the other of its poverty. Lord Leicester restricted the growth of Oats on his farms as the leases expired, because a much higher standard of productiveness was maintained than in the foolish one of limiting, and in some cases altogether forbidding, the growth of Wheat on farms.

We were under the impression that the peculiar circumstances which regulated the exhaustion of the soils by the different cultivated crops could never be well understood until we had correct notions of the conditions which demanded the ammoniacal manures to Turnips. We stated that the experiments of Mr. Lawes on Turnips were not so satisfactory as those on Wheat, and we still think that some of his opinions are most erroneous. It was certainly with much surprise that we read in Mr. Pusey's "review" that "carbon appears to be the distinctive active principle of dung for Turnips?" In the *Gazette* of the 26th July and 2d of August last we tried to show that this carbon was merely ammonia in disguise; and we there went over the "circumstances of soil and weather" in which ammonia was of greater or less consequence to the Turnip, which point was confessed to be matter demanding "further inquiry." If we were right in our remarks, and had derived our information from Mr. Lawes's papers, we think we deserved some credit rather than so severe a reprimand, seeing that eminent agriculturist (Mr. Pusey) could not understand, or had actually with ourselves misrepresented Mr. Lawes's opinions. In this view of the matter we might have consoled ourselves that our labours had not been in vain.

Had we stood in need of further consolation, we might have plucked comfort from other sources while under the rebuke of Mr. Lawes; for even the erudition of Oxford could not fathom the science of Rothamsted in all its profundity. The learning of a Daubeny could not read Mr. Lawes's interpretations aright. It would almost appear that we alone are capable of doing so, for Mr. Lawes's whole tactics as yet have been to show our opinions and his own, after all, are much the same. The great curiosity, however, is, that we can aptly apply them to refute those who confide in him, and can captiously apply them against himself when we separate the "legal" from the popular. If we had happened to have misrepresented or cavilled with Mr. Lawes, we might have pleaded a good excuse for ourselves on a field where so many eminent men had stumbled and well-nigh fallen. But we suspect it will yet appear the interpretations of Rothamsted are much safer in our hands than in Mr. Lawes's own.

Being anxious to get through with the more disagreeable parts of the discussion, before we come to the sober subjects which are before us, we must endeavour to wash our hands both from the praise and blame which have been bestowed upon us, in consequence of our remarks on the recent lecture delivered by Dr. Daubeny. We said:—

"Perhaps one of the greatest discrepancies at the present moment between the 'science' and 'practice' of agriculture is found in the theoretical assertion, that an agricultural crop of Turnips can dispense with ammonia as a manure; no less an authority than Dr Daubeny has given countenance to this opinion, in his late elegant and well-timed lecture, where he says, 'Turnips, which contain more nitrogen in proportion than the Grasses (?), can dispense with ammoniacal manures, provided only sufficient superphosphate be administered to them in an early stage of their growth.' He thus so far coincides with Mr. Lawes, and refers this supposed property in the Turnips to a difference in their 'organisation' from the Grasses; but we maintain that it arises chiefly from the totally opposite conditions in which they are grown; for if Dr. Daubeny would view the atmospheric conditions under which Wheat and Turnips are grown in our agricultural rotation, and compare the 'vivifying influences' of early spring, when the Wheat developes its primary organs with those which exist when the Turnip unfolds and expands its leaves, he would at once perceive that this is the principal cause of difference; for it must be borne in mind that superphosphate is almost as useless a manure for Turnips grown in the early vernal months, as it is for Wheat."

To tell the truth, we did not believe that either Dr. Daubeny or Mr. Lawes were convinced that Turnips could dispense with nitrogen in the manure, but the very indistinct ideas which were entertained on this subject led to much confusion in strictly scientific writing; we therefore took the opportunity of putting this "assertion" on the pillory, and we are glad Mr. Lawes heartily disclaims it; but we consider he is not without blame, from the manner in which he has tampered and nibbled with the fertilising value of ammonia and carbon for Turnips. "But," says Mr. Lawes, "we never did say any such thing as that Turnips could dispense with ammoniacal manures, provided only superphosphate be administered to them in an early stage of their growth." We hope it was not Mr. Lawes who had led Dr. Daubeny astray. We only said that he so far coincides with Mr. Lawes, and refers the supposed property in the Turnips to a difference in their "organisation from the Grasses;" nevertheless, we think Mr. Lawes has said something very like our words, so far as they were used against him, as well as Dr. Daubeny, "that an agricultural crop of Turnips can dispense with *ammonia* as a manure." In his "Few Words of Advice on Artificial Manures," we there find, "My experiments show that *ammonia* is not a necessary ingredient in a Turnip manure."

Dr. Daubeny, like ourselves, had "legally" read from "Rothamsted" that the Wheat plant could under no circumstances absorb its nitrogen from the atmosphere; he had gone to Egypt to protest against the validity of this doctrine "as establishing a general law applicable to all places and climates." We thus thought that we might with impunity follow such a truly distinguished man, and go to Xalapa and give its death-blow to this doctrine, which at present may be said to taint our agricultural theory. And when the seeded produce of the Wheat was freely compared with the Grasses in the pasture, and the disappearance of nitrogen in the seeded Cereals was used as "powerful arguments" for breaking up every meadow in Britain, we really thought Mr. Lawes was in earnest. Few would have been inclined to grant Mr. Lawes the privilege of playing with them in this strictly scientific game at "heads you lose, tails I win," and at the same time take a good many hard words to boot—but we are quite in the humour to do so.

The truth and simplicity of our illustration in regard to the effects of manures on Turnips seem to have astonished Mr. Lawes. If he had not thought that he might make an effort to show that our opinions were much the same as his own, he would have felt himself outdone. The essence of this whole discussion we put in a few words, "Superphosphate is almost as useless a manure for Turnips growing in the early vernal months as it is for Wheat." It is strange that Dr. Daubeny could not find this in the bond at Rothamsted; and who can yet find it out? Mr. Lawes looks diligently over the hundred and fifty pages of his experiments on Wheat and Turnips to prove that it was there, but to our utter astonishment quotes passage after passage in his paper of 3d April, as the probable sources of our opinions, for we find that we had marked out these same passages as containing most objectionable matter. It certainly would have been a piece of "apt" scholarship on our part to extract truth out of such materials, and gratitude ought to have been shown to us instead of something else.

If Mr. Lawes' writings really admit of so free and flexible an interpretation as he has claimed for them in this instance, we consider that they will embrace and appropriate all the discoveries that may be made in the chemistry of vegetation for years to come. We must say, however, that we should underrate the intelligence of the readers of the *Gazette* if we thought they had not already discovered the woof of error delicately wrought up in the lengthened web which he has woven. We shall afterwards take up, one by one, the extracts which Mr. Lawes has made, and to which he so confidently referred us, as we shall thus have the opportunity of showing that Mr. Lawes in a great measure misunderstands the principles upon which a rotation of crops is founded. After we have used those passages as a fulcrum to overthrow the interpretations of "Rothamsted," we shall have to return these "inflexible" theories, cracked and broken in the attempt which has been made to bend them to our simple and consistent principles, which almost every one knows, but which have been merely overlooked by gazing too intently on the revelations of the crucible.

The opinions of Mr. Lawes in regard to the action of carbon in practical agriculture appear to us to be at the root of the whole misunderstanding. To distinguish between its passive and its active agency, has, to our mind, been a more difficult problem than that of the conditions demanding an ammoniacal supply to plants. We will first direct the attention of our readers to this subject. No one will be more ready to adopt the suggestions of others, if we think they afford a better explanation of the phenomena. There are a number of questions which we believe will not be satisfactorily cleared up until we come to a more general agreement on the uses and action of carbon, such as—Wheat being sown after Grass in the east of England, and not so in the west and north; the circumstances under which guano in one case is the cheapest source of repairing the fertility of soils, while the feeding of cattle with large allowances of cake appears to be so in others; the theory of liquid manuring, &c. We have no intention of discussing these interesting subjects at present, but we will endeavour to point out the path that directly leads to their solution. If any one thinks he can solve these questions "by the light of Mr. Lawes' chemistry, just let him try it." *R. Russell, Kilwhiss.* [We must add here that we have received from Mr. Lawes not only a continuation of his criticism on "R.'s" papers, but a reply to No. 1 of Mr. Russell's rejoinder. The latter we hope to publish next week, and then to proceed with the former. Meanwhile we have requested Mr. Russell to delay any further reply till Mr. Lawes has completed his statement. We must beg the parties to the controversy to be as concise as possible.]

Home Correspondence.

To keep Meat fresh in hot weather.—This has been frequently done by wrapping it in a cloth moistened with vinegar, or crude pyrolignous acid, called "essence of smoke;" but either of these communicates its taste to the surface of the meat, often to an unpleasant degree. To obviate this, the vapour of creosote has been lately recommended, and with good success. But pure creosote being costly, and not often at hand, oil of tar, which contains it, may be substituted; or tar itself (not coal tar, of course), and still better the "essence of smoke" above mentioned; and the smell of this essence being less agreeable than that of the wood smoke itself, may be improved by the admixture of coriander seeds, as follows:—Bruise coriander seeds in a mortar, so as to break them all, but not powder them; and tie them up in a calico bag. Moisten all through with "essence of smoke" (which may be got from the druggists, or, if not, vinegar flavoured with a few drops of oil of tar will serve); squeeze it out, so that it will not drop or leak, and hang it up with the meat in a close safe, or covered box or cask; or under the cover upon a dish, for it does as well for dressed meat as for raw. It must not touch the meat, but merely charge the air with its vapour; and the safe or other containing vessel need not be air tight, only covered, so as to prevent the vapour from being dissipated; *i. e.* to keep up the smell within. Two ounces of coriander, well moistened, is enough for a safe the size of a tea-chest. Where the odour of coriander is not liked so strong, part bran may be substituted; or all bran where coriander is disliked altogether. Indeed a mere cloth moistened with the essence, and well folded together to prevent getting dry is quite sufficient; the purpose being to keep the air within the safe saturated with creosote vapour, or that of a palatable compound of creosote; although the flavour is hardly, when at all, perceptible on the meat, even when kept several days longer than it would have remained good without this protection. *J. Prideaux.*

Butter.—Having some time ago purchased what is usually called an American churn, or Anthony's Double Acting Patent Churn, and having closely followed the directions given for working it, I find that it does not produce the same quantity of butter as the common old box churn from the same quantity of cream (the latter giving 12 lbs., and the American churn giving 11 lbs.) When the buttermilk is poured off from the American churn, and stands a minute or so, it heads over and becomes like a pan of milk covered with thick cream. You or any of your correspondents who may have used this sort of churn, would oblige by informing me if they experience anything of what I have described, or what the general character of this churn is amongst those who have used it; there must be something wrong with ours if other people's do not act in the way I state. *S. B.*

Trout in the Vale of Derwentwater.—I observe there has been some correspondence in the *Agri. Gazette* on the subject of breeding trout; and I noticed a paragraph last week in the newspaper department of your journal, which has been very generally circulated by the press, mentioning that the drought had this spring destroyed both trout and spawn in the breeding streams of the Vale of Derwentwater. The general topic of breeding the Salmonidæ, and the particular instance afforded by the effects of the present drought on their spawn, may, with propriety, be noticed together. But first let me assure anglers, who are mourning over the destruction of the finny tribe in the Vale of Keswick, one of the most ancient and beautiful resorts of the rod fisher, that the trout here have escaped better than probably anywhere else in England or Scotland; for the Derwentwater streams and rivers are what the angler calls "early," and last year the majority of the grey trout had spawned in the tributaries of the Derwent, and gone down to their secure retreats in the depths of the lakes by the middle of October. In the middle of November the breeding streams were empty of spawning trout, so that the watchers of the Derwentwater Angling Society were then dismissed for the season. You know the ova of trout, like those of the other species of the Salmonidæ, take from 100 to 110 days to be hatched, so that our small brooks and rivers swarm with the young fry in February and early in March, and have thus this year been enabled in a great measure to escape the effects of the long drought. The newspapers contain accounts of the beds of rivers in various parts of England and Scotland being quite dry; and there, no doubt, young and old trout have perished together; but here, when the rivers are low, the trout retreat to the lakes of Derwentwater and Bassenthwaite, which are linked together by a fine angling river only three miles long; and after every flood they issue forth up all the runners, while the early period of the year at which they spawn very much secures the young fry, as it has especially done this year, from the effects of spring droughts. While there has been no river fishing, therefore, anywhere this year, there have been some days of excellent sport in the lakes of Crummock, Buttermere, Bassenthwaite, and Derwentwater; and as soon as we have two or three days' rain our streams will be stocked with the fish which have been secure in the depths of these lakes during the long drought. There can be no doubt that for many years to come the bad effect of this dry spring will be felt by anglers, especially in plain countries; and this leads me to remark that it would be very well for those who reside near "late" to be in communication with the rod-fishers of "early" rivers like those of the Vale of Derwentwater, and in seasons like the present to make timely arrangements for securing a supply of vivified *ova*; or, when the places were not far apart, even of the young fry. These, with care, might be carried in large panniers—changing the water frequently on the way. But a still better plan would be to turn out trout ready to spawn in suitable places—such as mill-races—secure from the effects of heavy floods, on the one hand, and from any danger of want of water to cover the ova, on the other, and to dismiss the young fry in spring during suitable states of the rivers. Good and secure spawning beds, either artificial or left to be made by the fish themselves, might be formed in these mill-races, or in similar runners constructed with sluices to regulate the stream, and furnished with the proper gravelly bottom for the purpose. A very little care annually taken would secure the anglers of any district from suffering the loss of the young trout, either from droughts or floods. The mill-streams of the Tweed, the Spey, an other fine salmon rivers, might be thus used for breeding this royal fish. Placed at regular intervals along the rivers, and under constant surveillance as they are, they

would form the finest artificial "rudds" possible. While salmon are monopolised, however, as at present, by great proprietors, near the mouths of rivers, it is quite impossible to expect anglers on upland streams, where the salmon breeds, to take any interest in their preservation, and this noble fish is therefore becoming gradually extinct in these islands. To protect the trout as a game fish, and to secure the breed from poachers, floods, and droughts, is an object still attainable by the angler; and, in a county like this of Cumberland, where the rivers and lakes are open to all rod-fishers, it becomes an object well worthy of especial care. From the days of Isaac Walton the lovers of angling have generally been lovers of nature, and in a large majority of instances it is the love of pure running streams, fresh green fields, and silent colloquy with nature, which lures out the student, the artist, and the man of business. Among these beautiful mountains, lakes, and rivers of Cumberland, the combined attractions exist in a pre-eminent degree, and will no doubt be resorted to so long as

"Flowing rivers yield a blameless sport."

L., Derwent-Bank, Keswick, May 3.

Pulverised Peat.—A most important discovery has been made by an eminent agricultural professor of chemistry, that finely pulverised peat will effectually deodorise the most offensive putrid matter, and destroy the most fœtid odours; in fact, that it possesses the wonderful disinfecting properties of charcoal, that by mixing it with common night-soil in about equal proportions, one of the most valuable manures is made, and proved by experiments not inferior in results to the best South American guano. It may be made at all seasons and stored away for use, or the land dressed with it immediately. This valuable manure may be used as a top dressing, or drilled, or dropped in with the seed, at the rate of from 600 cwt. to 800 cwt. per acre, and it may be applied with benefit to every kind of crop. It may be sown with the seeds of all green crops, and it will push them into early and rapid growth. It will also be found highly serviceable in all garden crops, shrubs, and flower beds. If the finely pulverised peat be strewn over the floors of stables, piggeries, or cow-houses, with a very slight covering of straw over, it will absorb and retain all moisture, disinfect the building of every noxious gas so injurious to cattle, and, by its mixture with the excreta from the animals, form a most valuable and portable manure fit for immediate use. Sheep folded upon it at night would produce wonderful and most important results to farmers in the vast production of valuable manure. Finely pulverised peat also supplies the ready means of removing all nuisances, thereby promoting the public health—and many years cannot elapse before this important discovery will be adopted to convert all the noxious matter of the country into solid portable manure, without any offensive odour, instead of being carried into streams and rivers, vitiating the water we drink by polluting it with animal and vegetable matter, again, by evaporation, impregnating the very atmosphere we breathe, and producing an actual loss of the most valuable materials to the agriculture of the United Kingdom, which, if taken in the aggregate from all available resources, can scarcely be estimated at less than 10,000,000*l.* sterling annually. Further details cannot now be entered upon, but it may be remarked:—let every cottage be possessed of this cheap and valuable article, finely pulverised peat, and his garden may vie with the best in produce and verdure; he may thoroughly manure his own ground and have a large surplus to dispose of to his more wealthy neighbour. Let every small householder see to it, and produce a portable, inodorous, and valuable manure, saleable in every locality. From the palace to the hovel the same means are available, but where water-closets, cesspools, sewers, &c., have to be contended with, time will be required to effect the necessary changes; yet, in the nineteenth century, surely, our enlightened age, with these startling facts before us, will never long permit the foundation of such vast wealth to the country to be floating into the ocean. These remarks are only the outline of this important discovery. *J. L.*

New Plan of Watering Ascents and Descents of Bridges and Streets.—They become at times so dangerous by the working of the mud into a paste by the horses' feet and the wheels together, that many accidents take place, and many valuable horses knees are broken by not having a good hold of the paving. The simple plan that I propose, is, to lay down a 2-inch pipe along the centre, perforated, and on a level with the paving; and where the descent is sharp to have horizontal pipes leading to the curb every 15 or 20 feet, perforated also, so as to cause a regular flow of water all over the carriage way. If this plan could be adopted it would save watering by cart, and instead of scraping off, the mud could then be swept, saving a considerable expense, besides giving horses a firm hold of the paving; the same plan would answer along the streets, as all streets are raised in the middle, or ought to be; besides, all towns want a more continual flow of water into the sewers. Water is Nature's deodoriser of impurities. *James Cuthill, Camberwell, Feb.* 10.

On Permanent Pasture.—It is incontestably allowed that a gradual improvement takes place in land whenever it is laid down to permanent pasture. The cause of such improvement arises from the annual decay of the leaves and stalks of the Grass; the treading and droppings of animals; the application of manure; the rains which fall upon, and percolate through the turf into the soil beneath; and, lastly, the labours of the earth-worm. These all combined do in the course of years form a stratum of vegetable mould, the thickness of which is proportional to the time laid down. During that formation of rich mould, a part is carried down by the earth-worm and combined with the soil beneath, which, even if a clay, it enriches; and this very process makes easy the descent of the roots of the Grass. Thus a fresh and fertile soil is formed fit for a higher system of plants, plainly indicating the tendency to progressive improvement in the order of Nature; and placed too within the reach of man, who, when requiring food, need only to exert those faculties to obtain the same, which the goodness of God has so greatly blessed him with. Before the undertaking is commenced of laying down land to permanent pasture, it is here right to state that the species of Grass denominated Rye-grass should be rejected if the owner intends at some future time to break the same up for the growing of Cereal plants; because the affinities of this Grass and Cereal plants are so similar as to affect their produce, which, in consequence, will fall far short of the crops grown after other Grasses. *Henry Roger Smithe, Eastling.*

Dairy Pans.—It struck me in reading the interesting discussion in your paper lately on dairy management, that the new material of "iron coated with glass," would, probably, be better than glass only; and I wish to know whether there would be any objection to the iron if thus lined with glass. Is there any advantage to be derived from putting only 4 quarts of milk into a pan made to hold 8 quarts, as Captain Carr advises? Would not shallower pans of the same diameter (16 inches) answer? *J. T.* [No doubt they would.]

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

(*Concluded from page* 301.)

Dairy Management.

Captain Stanley Carr, agreeably with his engagement, attended this meeting, for the purpose of reporting the arrangements he had made for the importation of the German glass milk-pans, for more economical purchase by small farmers than it appeared was afforded by the expensive glass milk-pans brought into the market by the English manufacturer. Captain Carr stated that Mr. Thomas Peterson, of Trinity Chambers, Water-lane, Tower-street, London, had undertaken to supply the German milk-pans in any quantity at 2*s.* each, or at 21*s.* for the dozen, of the same shape, size, and quality as those which Captain Carr had himself obtained and sent to the Society some years ago.—Mr. Duncan, a gentleman residing at Bradwell, near Stony-Stratford, in Buckinghamshire, favoured the Council with the following communication, dated April 15.

"All I know about glass milk-pans is this: When I first took to dairying on a large scale I laid out 20*l.* in glass pans, because they looked so well in a dairy. On further acquaintance with them, I have come to the conclusion that they are the cheapest things (even at 4*s.* each) that a farmer can use; for they are washed, and wiped, and are kept clean with 300 per cent. less trouble than 'leads.' If the dairy-maid is given to understand that she will have to replace all the pans cracked by the use of hot-water, experience proves to me that there will be no breakages whatever from that cause. I have seen them crack once or twice in three years, when the milk has been poured into them; but I imagine there must have been a flaw somewhere previously. But even supposing half a dozen to be broken annually, we have to balance that expense the dairy-maid's time throughout the whole year; for the trouble in keeping leads clean and polished is known to all dairy-farmers. I want 25 glass pans soon, and shall be only too much obliged to Captain Carr if he can procure them for me at the price named by him at the last meeting. My glass pans are about 20 inches in diameter: I do not like larger ones."

Mr. Slaney, M.P., reported to the Council the communication into which he had entered with Mr. Alderman Copeland, M.P., on the manufacture of milk-pans of Staffordshire-ware; and Mr. Law Hodges, M.P., favoured the Council with the following communication, dated April 20:—

"I regret extremely that I cannot possibly be present at the Council to-morrow, when the very interesting subject of Dairy Management will be again under consideration. If I could have been present, I should have mentioned a fact that I believe is little known. I forget the name of the party, but a dairyman who occupies an establishment built by Lord Bristol, at Kemp Town, Brighton, and who keeps 50 or 60 cows for dairy purposes constantly under that roof, has in one or two places, where these cows are milked, cisterns with fresh water running into them, and provided also with soap and towels, in order that the men who milk the cows may wash their hands after milking each cow; because these men found that where any cow's teats were diseased, though at first so slightly as not to be perceivable, they nevertheless carried the infection on their hands and inoculated other cows. Now, in order to make this serious inconvenience, which gives the men so much trouble to cure, impossible, they very willingly obey this order to wash their hands; and there is another reason for their doing so, because in warm weather their hands often perspire, and the milk frequently coming in contact with their damp hands, it becomes tainted in consequence.—With regard to the form of the milk-pans, there cannot be a doubt that sides as nearly upright as possible must cause the largest amount of cream: the depth of the milk is a matter easily determined by observation, because the weather, the nature and quantity of the fodder, and the breed of the animals, may prevent, I should think, any precise rule on this head being laid down."

Mr. Rowlandson submitted to the inspection of the Council a gutta percha siphon on the Italian principle, with recurved moveable ends, to retain the liquid and admit of the siphons being removed in a filled state from pan to pan without being emptied and refilled on each occasion.—Lord Camoys also presented a complete dairy siphon of his own invention, which had been used in his own and other dairies with great success. It was made of block-tin, and provided with a flexible wire piston, by which the air was drawn out and the milk set to flow without the necessity of the mouth being applied for that purpose. As the siphon had been reduced to great simplicity of construction, without impairing its efficiency, it could be made at a very cheap rate, and it was desirable that one should be kept for each pan. There was no registry of invention, or enrolment of patent-right connected with the instrument, so that any individual was at liberty to make and sell it. His lordship's own siphons had been made for him by Mr. Tagg, of Henley-on-Thames, at 1*s.* 6*d.* each; Mr. Freeman Roe too, of No. 70 in the Strand, undertakes to make them at 9*d.* each.—Capt. Stanley Carr thought this siphon a very simple mode of separating the milk from the cream, and one that would save much time and trouble. He remarked that in the best dairy districts of Holland and Germany the cream was removed by a very thin, shallow, finely-formed skimming-dish, generally made of lime wood, and on that account capable of being kept beautifully clean; also with a large scallop-shell, to which sometimes for convenience a handle was fitted. This operation in Germany was generally assigned to the head dairymaid, and it was astonishing with what rapidity and exactness she was able by constant practice to accomplish that delicate task.—Sir Matthew Ridley having called the Council's attention to the subject of churns, Mr. Love stated, that he considered the perfection of a churn to consist in its having an outside case that could be filled with water for the purpose of keeping the milk or cream, as the case might be, at the proper temperature during the operation of churning, namely, at about 60° of Fahrenheit; and in its having its dashers so constructed as to carry down into the milk or cream a certain amount of pure air during the process.—Lord Camoys observed, that the American churn (of which Burgess and Key, in Newgate-street, were the English agents) was exactly constructed on that principle, and he had in his own dairy found the full efficiency of that churn, which he had constantly in use with the most satisfactory results.—Mr. Fisher Hobbs referred to the similarity between the continental mode of placing the milk-pans on the floor of the dairy, and that adopted in best dairies in the neighbourhood of Cork.—Lord Berners and Lord Camoys detailed the conditions which they had respectively found to affect the ventilation of dairies, stables, and other buildings connected with farm establishments.—Prof. Way thought the theory on which the formation of dew was founded might also illustrate the beneficial effects of placing the milk-pans on the floors of dairies.

Farmers' Flax Mill.

The Hon. R. H. Clive, M.P., has given notice that on the 5th of May he will make a statement to the Council on the mechanical preparation of Flax from the straw by simple machines adapted for the use of farmers; and the production of a marketable article which they may sell with advantage to themselves, and which the manufacturers will readily purchase.

Society of Arts, *May* 12.—Earl Grey in the chair. The Secretary read a paper by Mr. G. Boccius, on the "Artificial Breeding and Rearing of Fish, and the methods to be adopted to preserve and improve the fisheries of this country and the colonies." In this paper the author drew attention to the causes at present operating to the detriment of the fisheries in this country, and stated the most serious to be the corruption of the fresh waters of our rivers by the great increase of the population, and various factories on their banks, the numerous weirs which prevent the fish from ascending as far and in as great numbers as they otherwise would, and the present system of taking fish of all sizes indiscriminately as soon as they enter the rivers. To the latter cause especial attention was drawn; and the author showed that notwithstanding the extreme rapidity with which salmon are known to multiply, the quantity of that fish in our rivers was seriously and fast decreasing; as an instance he mentioned the Severn, which for 25 miles from its mouth upwards, was so lined with baskets, resembling eel baskets, and called "puts" and "putchers," that scarcely any fish, however small, could ascend that river without being caught, and consequently but little spawn could be deposited. Mr. Boccius proposed, as a remedy for this, that the "puts" and "putchers" should be abolished, and that nets alone, with not less than 2½-inch meshes, should be employed for taking the fish. The weirs also should be so constructed as to allow fish to go with ease up and down the stream, and not as at present so as completely to bar their passage to and fro. As a means of renovating the supply of fish, attention was drawn to a plan of artificial spawning, which had been adopted in several instances with great success, and which the author hoped would be extensively carried out, not only in this country, but in the colonies and elsewhere. The great points to attend to in artificial spawning were stated to be the temperature, freshness, and abundance of water. The rapidity with which fish are produced from spawn had been ascertained to vary with the temperature very considerably, so much so that salmon spawn, which, under ordinary circumstances, did not yield fish in less than 100 days, had in water, kept at the temperature of 70° to 75° yielded fish in less than half that time. The purity of the water, *i.e.*, its freedom from all decomposing vegetable and animal matter, was also stated to be extremely important, as but a very small quantity of such impurities caused the eggs to addle. With reference to the colonies, Mr. Boccius drew attention to the fact, that early in the present year he had sent out in the ship Columbus, Capt. Smith, bound for Van Diemen's Land, 60,000 eggs of salmon and trout, placed in tubs of a peculiar construction and supplied with pure water

taken from the Wandle, and that he had received a letter from Capt. Smith, dated 9th March, 1852, in which that gentleman stated that a large number of fish had then come to life and were doing well, and that but a very small number of the eggs were addled; directions were given that there should be a constant change of fresh water, of which a large supply from the Wandle was taken out in prepared iron tanks, and that the fish when produced should be fed on ship biscuit soaked in the water. As evidence of the success of the artificial system of spawning, it was stated that in France attempts upon the author's plan had been made, under the auspices of MM. Milne Edwards and Dumas, to stock the great rivers of that country, and that although but a short time had yet elapsed the results had proved most satisfactory. A calculation had been made that from the Rhone, Garonne, Seine, Loire, and Saône, no less than 500,000,000 lbs. of food might be obtained yearly, and employment given to 1,500,000 persons employed in and about the fisheries.—In the course of the evening mention was made of a curious and interesting experiment conducted by Mr. Warrington, showing how completely the impurities produced by animals are destroyed and compensated by vegetables, and *vice versa*. A case somewhat similar to a Ward's case was taken, and into it were placed some fresh water, two gold fish, and a plant of Valisneria; in a few days the water began to change colour, from the decomposition of vegetable and animal matter, and the fish began to look unhealthy. A few water-snails were then introduced, in the hope that they would remove the impurities, which they were found to do in a short time; and it was ascertained that the vegetable impurities were removed by the snails, and were eaten by the fish; and that the animal impurities were removed by the Valisneria, which gave out in exchange a continual supply of oxygen for the support of the animals; and thus by the addition, from time to time, of a few water-snails, the fish and plant had, without any change of water, been kept in a perfect state of health.

Miscellaneous.

Transfer of Land.—In all countries and at all times the Land Question must ultimately resolve itself into a consideration of the comparative facilities that should be afforded for the free use and transfer of land: in other words, it is a question of free-trade in land. It may also be safely asserted that in every civilised country the state of its cultivation, and as a consequence the general condition of its people, will become deteriorated in proportion to the amount of obstacles that impede the free transfer of its land, and tend unduly either to increase or to diminish the size of its estates. Although the tenant-farmer in Ireland may naturally feel indifferent about preserving the integrity of his precarious holding, the concurrent testimonies of all well-informed writers, who have carefully examined the condition of occupying owners in other countries, have now established, beyond any further controversy, that landed proprietors feel no natural tendencies to fritter down their patrimonial estates into small-sized farms, and that unless coerced by the operation of local laws they will not subdivide a compact estate. If properties in France have become pulverised into small and dispersed patches, that evil result has arisen from those laws which render imperative a division among the widow and children in all cases of succession to land, and prevent the owner from devising it as he may think fit. On the other hand, if the landowners of the United Kingdom continue to 'lay field to field,' and to accumulate large tracts of land into few hands, that still greater evil is also chiefly caused by the legal obstacles to its free transfer. Those impediments are occasioned to some slight extent by the indirect operation of the laws of primogeniture and entail, but principally by the legal delays and expenses attendant upon transfers of landed property, as well as by those laws that permit land to be held either in perpetual mortmain or under indefeasible settlements, for a period that may extend to any number of existing lives and 21 years after their expiration, and which period is in practice periodically renewed. It might be safely asserted that, upon a very moderate estimate, at least four-fifths of the United Kingdom are held in perpetual mortmain, or are fettered by family settlements which effectually exclude that land from the public market, to the injury of its owners as well as of the community at large. In order to afford the necessary facilities for liberating all this land, and at the same time to guard the rights of all parties, it is obvious that a comprehensive measure of land reform is imperatively required, and it is equally plain that some superintending control would be essential for its safe guidance. It will matter little whether that measure of reform and that controlling power shall be called in plain terms a "New Land System and a Land Tribunal," or be less distinctly designated a "Safe and Practicable Scheme," and a "Cheap Public Tribunal." *Scully's Notes on Ireland and the Land Question, in the Law Review.*

The Lobos Guano Islands.—An eminent mercantile firm in this town has received the following communication from the Foreign-office, with respect to the Lobos guano islands:—"Foreign-office, April 26, 1852.—Gentlemen,—I am directed by the Earl of Malmesbury to acknowledge the receipt of your letter of the 20th inst., and I am to acquaint you, in reply, that his lordship is unable to state whether the islands of Lobos de Tierra and Lobos de Afuera belong of right to any foreign nation. But, as they certainly do not belong to Great Britain, and as the British Government have no intention of claiming them as British property, her Majesty's Government do not contemplate sending any of her Majesty's ships-of-war to those islands, with a view to guard them. I am, gentlemen, your most obedient humble servant, H. U. ADDINGTON."—*Liverpool Times.*

Notices to Correspondents.

BITTER BEER. We have received from Mr. Allsopp the report upon the alleged adulteration of pale ales by strychnine, by Professors Graham and Hoffman, from which it appears that the scandal propagated on this subject was not only utterly unfounded and untrue, but impossible. The means of detecting strychnine are ready and unfailing. We have not room for the publication of the report.

DAIRY MANAGEMENT: *Cleveland.* The little book by Mr. Milburn (W. S. Orr and Co.) seems to contain all you want.

DRAINING: *Simplex.* We do not believe that to add bushes above the tiles is to increase their efficiency. We will publish your letter and a note upon it next week.

HOEING: *Agapanthus.* A man will hack or hoe deeply with a heavy tool between plants 2 feet apart, an acre of ground in five days.

RYE: *H S M.* You might sow Barley still with probability of a crop. Rye sown now would not yield much of a crop next year, after cutting in autumn.

SUPERPHOSPHATE OF LIME: *Inquirer.* If you were to submit acid and bones to destructive distillation, water would come off, and then the gases consequent on the charring of the animal matter of the bone; and so soon as the carbon thus set free began to act upon the phosphoric acid of the superphosphate, phosphorus in the state of vapour and phosphuretted hydrogen gas would make their appearance. The remainder in the retort would be sulphate, phosphate, and carbonate of lime.

SWEDES AND MANGOLD: *Tenant Farmer.* In Southern England it is easier to grow 30 tons of the latter than 20 of the former per acre; and 30 tons of the latter contain more nutriment than 20 of the former. But we would as soon have 20 tons of Swedes in November as 24 tons of Mangold Wurzel. Mangold Wurzel is better than Swedes per ton in March and April; and it is in the spring months, when it has partly dried, that it is especially useful. We should think that for young stock, about three quarters of a cwt. of Mangold Wurzel per day, and Oat straw chaff *ad libitum*, with about 2 lbs. of Beanmeal dusted among it, was as good a mixture of food as they could have. Thirty tons of Mangold Wurzel will exhaust the land more than 20 tons of Swedes.

Markets.

COVENT GARDEN, MAY 15.

Vegetables and fruit are plentiful. English Pine-apples, however, still realise good prices, as do also hothouse Grapes. A few dessert Apples may still be obtained. Oranges are plentifully supplied, and very good. Nuts are nearly the same as last quoted. Strawberries are plentiful. Young Carrots, Beans (both French and Mazagan), Peas, Lettuces, and Artichokes continue to be supplied from France. Potatoes are generally good in quality. Some new ones have appeared from open borders in the west of England. Mushrooms are cheaper. Cut flowers consist of Heaths, Epacrises, Cinerarias, Mignonette, Camellias, Roses, Acacias, Azaleas, Primulas, Lily of the Valley, and other bulbs.

FRUIT.

Pine-apples, per lb., 6s to 10s
Grapes, hothouse, p.lb., 6s to 12s
— Lisbon, per lb., 2s to 4s
Cherries, per lb, 15s
Strawberries, p. oz., 6d to 1s
Apples, kitchen, per bushel, 2s to 3s 6d
Almonds, per peck, 5s
— sweet, per lb., 2s to 3s
Pears, dessert, per doz., 2s to 6s
Oranges, per doz., 1s to 1s 6d
— per 100, 3s 6d to 10s
— Seville, per doz., 1s to 3s
Lemons, per doz., 1s to 2s
Nuts, Barcelona, p. bsh, 20s to 22s
— Brazil, p. bsh., 12s to 14s
Cobs, per 100 lbs., 100s

VEGETABLES.

Cabbages, per doz., 9d to 1s 3d
French Beans, p. 100, 1s 6d to 3s
Broccoli, p. bunch, 5d to 1s
— heads, each, 2d to 4d
Asparagus, p. bundle, 2s to 5s
Seakale, per basket, 9d to 2s
Greens, per doz., 2s 6d to 4s
Rhubarb, p. bundle, 3d to 10d
Potatoes, per ton, 45s to 80s
— per cwt., 2s to 5s
— per bush., 1s 6d to 2s 6d
— Frame, per lb., 1s to 2s
— New (border), do., 6d to 1s
Turnips, p. doz., 2s 6d to 3s 6d
— new, per bunch, 2s
Cucumbers, each, 6d to 1s 6d
Celery, per bundle, 6d to 1s 6d
Carrots, per bunch, 4d to 7d
Spinach, per sieve, 1s to 1s 6d
Onions, per bunch, 2d to 4d
— Spanish, p. doz. 1s 3d to 3s
Endive, per score, 9d to 1s
Beet, per doz., 1s to 2s
Parsnips, per doz., 4d to 1s
Leeks, per bunch, 2d to 4d
Shallots, per lb., 8d to 10d
Garlic, per lb., 8d to 1s
Lettuce, Cab., per score 4d to 6d
— Cos, p. score, 9d to 1s 6d
Radishes, per doz., 8d to 1s
— Turnip, 1s to 1s 6d
Small Salads, p. pun., 2d to 3d
Horse Radish, p. bundle, 1s to 4s
Mushrooms, p. pott., 8d to 1s
— per punnet, 9d to 1s
Sorrel, p. bf. sieve, 1s 3d to 1s 8d
Artichokes Jerus., do., 9d to 1s
Fennel, per bunch, 2d to 3d
Savory, per bunch, 2d to 3d
Thyme, per bunch, 2d to 3d
Parsley, p. doz bunchs., 2s to 3s
Mint, per bunch, 2d to 4d
Basil, green, p. bunch, 1s to 1s 6d
Marjoram, do., 3d to 4d
Watercresses, p. 12 bun., 9d to 1s

HAY.—Per Load of 36 Trusses.
SMITHFIELD, May 13.

Prime Meadow Hay	78s	to 85s	Clover	...	88s to 100s
Inferior do.	70	75	2d cut	...	80 88
Rowen	—	—	Straw	...	23 27
New Hay	—	—			J. COOPER.

Trade dull.

CUMBERLAND MARKET, May 13.

Prime Meadow Hay	84s	to 88s	Inferior Clover	...	76s to 84s
Inferior do.	65	78	New do.	...	— —
New Hay	—	—	Straw	...	26 30
Old Clover	88	95			JOSHUA BAKER.

WHITECHAPEL, May 13.

Fine old Hay	75s	to 80s	Old Clover	...	90s to 96s
New Hay	—	—	Inferior do.	...	70 80
Inferior do.	55	70	New Clover	...	— —
Straw	24	28	Inferior do.	...	— —

COAL MARKET.—FRIDAY, May 14.

Eden Main, 15s; Wallsend Russell's Hetton, 15s, 9d.; Wallsend Hetton, 16s.; Wallsend Lambton, 15s. 9d.; Wallsend Stewarts, 16s.—Ships at market, 183.

HOPS.—BOROUGH MARKET, May 14.

Messrs. Pattenden and Smith report that the demand continues steady for all sorts, at firm prices. There has been a good inquiry for 1846's, 1847's, and 1848's, the stocks of which are becoming small.

Mid & East Kents	120s	to 180s	Sussex	...	115s to 130s
Weald Kents	120s	to 147s	Yearlings	...	84s to 110s

Old Hops, 20s. to 50s.

WOOL.

BRADFORD, THURSDAY, May 13.—There is no material alteration in the state of the English Wool market. The demand continues to be an average of some weeks previous, and prices are well sustained. The arrivals from the country are unusually limited, even for the season, and the wants of the trade must of necessity be supplied from the stocks now in the hands of the staplers. Short wool and noils are a good sale at full rates. In both the yarn and piece markets there is a more hopeful tendency. The spinners are better employed, and evince a disposition to maintain advanced prices, although they are only grudgingly conceded. The demand for pieces is improving, but there is no change in prices.

POTATOES.—SOUTHWARK, May 10.

The committee report, that during the past week the arrivals coastwise and by rail have been more limited than any week during the season, and prices have consequently improved. The following are this day's quotations:—York Regents, 90s. to 120s.; Scotch ditto, 80s. to 90s.; ditto Cups, 60s. to 70s.; Wisbeach and Cambridge, 60s. to 100s.; Kent and Essex, 80s. to 100s.

SMITHFIELD.—MONDAY, May 10.

We have a large supply of Beasts, and no increase in the demand, consequently trade generally is worse; still, however, a few choice Scots make 3s. 4d. Sheep and Lambs are rather more plentiful, but there is an adequate demand, and late quotations are fully maintained. Good Calves are selling rather better. From Germany and Holland there are 350 Beasts, 800 Sheep, and 166 Calves; from Scotland, 530 Beasts; from Norfolk and Suffolk, 2800; and 150 from the northern and midland counties.

Per st. of 8lbs.—s d	s d	Per st. of 8lbs.—s d	s d
Best Scots, Herefords, &c. ... 3	0 to 3 4	Best Long-wools . 0	0 to 0 0
Best Short-horns 3	0 — 3 2	Do. Shorn ... 3	0 — 3 4
2d quality Beasts 2	4 — 2 10	Ewes & 2d quality 0	0 — 0 0
Best Downs and Half-breds ... 0	0 — 0 0	Do. Shorn 2	6 — 2 10
Do. Shorn 3	4 — 3 8	Lambs 4	8 — 5 4
		Calves 3	0 — 4 4
		Pigs 2	6 — 3 8

Beasts, 4193; Sheep and Lambs, 25,540; Calves, 231; Pigs, 365.

FRIDAY, May 14.

The number of Beasts is small, so also is the demand. Monday's quotations are fully maintained, and perhaps more freely given, but no advance. We have a moderate supply of Sheep and Lambs; trade is brisk for the best qualities, and in some instances higher prices are realised. Inferior foreign Calves, which form a considerable proportion of the supply, make very low prices; but trade continues nearly as good as of late for choicest English. Our foreign supply consists of 32 Beasts, 200 Sheep, and 318 Calves. The number of Milch Cows is 130.

MARK LANE.

MONDAY, May 10.—Although the supply of English Wheat by land carriage samples to this morning's market was moderate, it met but a slow sale, at a decline of 1s. to 2s. per qr., some quantity remaining unsold late in the day. In foreign we are unable to quote any change; quotations must be considered as nominal, and to force sales lower prices would be necessary.—In Barley we observe no alteration from this day se'nnight.—Beans and Peas are each 1s. per qr. dearer.—Oats maintain last week's quotations.—English Flour is difficult of sale, but foreign is inquired after, and holders insist on former rates.

PER IMPERIAL QUARTER.	s. s.		s. s.
Wheat, Essex, Kent, & Suffolk... White	44—45	Red	39—40
— — fine selected runs.. ditto	45—47	Red	40—41
— — Talavera	45—50		
— Norfolk	38—40	Red	—
— Foreign	36—52		
Barley, grind. & distil., 26s to 29s... Chev	30—35	Malting .	29—32
— Foreign ...grinding and distilling	22—29	Malting .	—
Oats, Essex, and Suffolk	20—2		
— Scotch and Lincolnshire... Potato	24—25	Feed	21—23
— Irish ..... Potato	21—24	Feed	20—23
— Foreign ..... Poland and Brew	20—22	Feed	18—21
Rye	—	Foreign .	—
Rye-meal, foreign	—		
Beans, Mazagan.....26s to 29s.....Tick	27—32	Harrow .	27—32
— Pigeon .....28 — 34s...Winds.	—	Longpod	—
— Foreign .....Small	23—31	Egyptian	24—25
Peas, white, Essex and Kent.....Boilers	35—37	Suffolk...	36—38
— Maple.....29s to 32s.....Grey	28—30	Foreign .	28—35
Maize ..... White	—		—
Flour, best marks delivered ..per sack	37—40	Yellow...	
— Suffolk .....ditto	25—3	Norfolk .	25—32
— Foreign..... per barrel	17—23	Per sack	28—34

FRIDAY, May 14.—Excepting 25 710 barrels of Flour, and 8380 qrs of foreign Barley, the arrivals from abroad, as also those from our own coast, since Monday, have been small. This morning's market was only thinly attended, and sales of Wheat limited. Prices may be considered as on that day. In the floating cargoes there is little doing.—For Barley there is an improved inquiry at Monday's prices.—Beans and Peas are unaltered in value.—The Oat trade is firm at late rates.

ARRIVALS THIS WEEK.

	Wheat.	Barley.	Oats.	Flour.
	Qrs.	Qrs.	Qrs.	
English ...	1960	910	1530	1810 sacks.
Irish	—	710	6120	
Foreign ...	1620	8380	3250	25,710 brls

IMPERIAL AVERAGES.

	Wheat.	Barley.	Oats	Rye.	Beans.	Peas.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
April 3.....	41 7	29 9	19 4	32 3	30 0	29 7
— 10.....	41 4	29 4	19 7	32 8	29 1	29 2
— 17.....	40 10	29 1	19 4	33 6	29 10	29 11
— 24.....	40 4	27 8	19 3	31 7	30 3	30 2
May 1.....	40 6	28 5	19 9	31 0	30 0	29 4
— 8.....	41 1	28 1	19 8	30 8	30 5	30 5
Aggreg. Aver.	40 11	28 9	19 6	31 11	30 1	29 9

Duties on Foreign Grain, 1s. per qr.

FLUCTUATIONS IN THE LAST SIX WEEK'S AVERAGES.

PRICES.	APR. 3	APR. 10	APR. 17.	APR. 24	MAY 1.	MAY 8.
41s 7d						
41 4						
41 1						
40 10						
40 6						
40 4						

LIVERPOOL, TUESDAY, May 11.—At this day's market there was a moderately good attendance of the town and country trade, who, however, acted with extreme caution, and a very limited business resulted. Wheat was in slow request, at a decline of 1d. to 2d. per 70 lbs. American Flour was in good demand, at a slight reduction on the prices of this day week. Oats and Oatmeal sold slowly, at late rates. Barley and Peas remained without change, but Beans were 6d. per qr. dearer, 25s. to 28s. 6d. per qr. being obtainable in quantity for Egyptian. Indian Corn met with little attention, and must be quoted 6d. to 1s. per qr. cheaper.——FRIDAY, May 7.—At this day's market there was only a small attendance of the trade, and a very limited demand was experienced for Wheat and such Flour, at barely late rates. Oats and Oatmeal were in moderate request, but without change in value. Barley and Peas brought rather more money, and Beans were saleable at 6d. per qr. advance. Indian Corn was neglected, and parcels on the spot were 6d. per qr. lower.

JAS. PHILLIPS AND Co., 116, Bishopsgate-street Without, London, beg to submit the following :—

GLASS MILK PANS.

12 Inch	Diameter, each	2s. 0d.
14	,, ,,	2 6
16	,, ,,	3 0
18	,, ,,	3 6
20	,, ,,	4 0
22	,, ,,	4 6
24	,, ,,	5 0
26	,, ,,	6 0

PROPAGATING GLASSES. **BEE GLASSES.**

	s. d.	s. d.
2 Inch Diam.	0 2	0 3
3 ,, ,,	0 3	0 4
4 ,, ,,	0 4	0 5
5 ,, ,,	0 6	0 7
6 ,, ,,	0 8	0 10
7 ,, ,,	0 10	1 1
8 ,, ,,	1 0	1 4
9 ,, ,,	1 2	1 8
10 ,, ,,	1 4	2 0
11 ,, ,,	1 6	2 8
12 ,, ,,	2 0	3 6
13 ,, ,,	2 6	
14 ,, ,,	3 6	
15 ,, ,,	4 0	

PRESERVE JARS.

3 Inch Diameter	0s. 3d.
4 ,, ,,	0 5
5 ,, ,,	0 7
6 ,, ,,	0 9
7 ,, ,,	1 0
8 ,, ,,	1 3
9 ,, ,,	1 6
10 ,, ,,	2 0

HAND GLASSES.

	Glazed.
12 Inch ... 3s. 0d. ...	6s. 0d.
14 ,, ... 3 6 ...	7 0
16 ,, ... 4 0 ...	8 0
18 ,, ... 4 6 ...	9 0
20 ,, ... 5 0 ...	10 0
24 ,, ... 6 0 ...	12 0

Painted, and Glazed with 16 oz. Sheet Glass.
If open tops, 1s. extra.

GLASS CREAM POTS.

6 Inch Diameter, each	2s. 0d.
8 ,, ,,	2 6
10 ,, ,,	3 0
12 ,, ,,	4 0
14 ,, ,,	5 0
16 ,, ,,	6 0
18 ,, ,,	7 6

LACTOMETERS.
For testing the quality of Milk. 4s. 6d. each.

CUCUMBER GLASSES.

24 Inches long ...	2s. 0d.
22 ,, ,, ...	1 10
20 ,, ,, ...	1 8
18 ,, ,, ...	1 6
16 ,, ,, ...	1 4
14 ,, ,, ...	1 2
12 ,, ,, ...	1 0

Made to any length.

PASTRY SLABS.
Of strong Plate Glass, fitted in Wood Frames.

20+14	13s. 0d. each.
22+16	16 0 ,,
24+18	19 6 ,,
26+20	23 6 ,,
28+24	30 0 ,,
30+24	32 6 ,,

Intermediate sizes charged proportionately.

GLASSES FOR WALL FRUIT.
HALLIMAN'S FRUIT PROTECTOR, Registered March 22, 1850.
FERN SHADES.
WASP TRAPS, 3s. 6d. per dozen.
LORD CAMOYS' MILK SYPHON.
GLASS CHURNS.
HYACINTH AND FLOWER DISHES.

Glass Shades for Ornaments, Self-registering Thermometers Insulators, &c. &c. Fish Globes, Lamp Glasses, for Greenhouses, Pianoforte

GLASS FOR CONSERVATORIES, ETC.

HETLEY AND Co. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2d. to 3d. per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices and Estimates forwarded on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLATES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to JAMES HETLEY and Co., 35, Soho-square, London.
See *Gardeners' Chronicle* first Saturday in each month.

GLASS.

THOMAS MILLINGTON'S FOREIGN SHEET GLASS is far superior to any other manufacture, as well as cheaper. In 100-feet boxes packed for immediate delivery.

6 inches by 4 and	6½ by 4½	... ...	13s. 0d.
7 ,,	5 and 7½ by 5½	... ...	15 0
8 ,,	5 and 8 by 5½	... ...	15 0
8 ,,	6 and 8½ by 6½	... ...	17 6
9 ,,	7 and 10 by 8	... ...	20 0
12 ,,	10 and 13 by 9	... ...	20 0

And many other sizes, or cut to order in various thicknesses. Cases containing large Sheets, in 100, 200, and 300 feet, at 21s. per 100 feet.

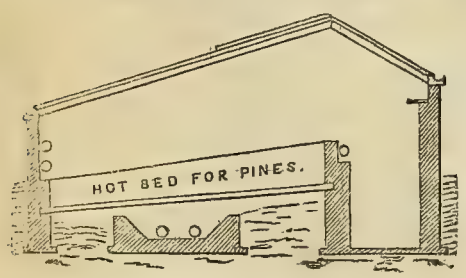
ROUGH PLATE, perfectly flat, ⅛ in. thick, best manufactured.

In sizes under 15 inches	.....	6d. per foot.
,, ,, 35 ,,	.....	8d. ,,
,, ,, 50 ,,	.....	9½d. ,,
,, ,, 75 ,,	.....	12d. ,,

Milk Pans, 2s. to 6s. each; Metal Hand Frames, Glass Tiles and Slates; Cucumber, Propagating, and Bee Glasses; Wasp Traps, Glass Shades, and Plate Glass, at 87, Bishopsgate-street Without, same side as Eastern Counties Railway.—Established 100 years.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER.

WARRANTED BEST MATERIALS AND WORKMANSHIP, AT THE LOWEST POSSIBLE PRICES.



J. WEEKS AND CO., King's Road, Chelsea, Horticultural Architects, Hothouse Builders, and Hot-water Apparatus Manufacturers. The Nobility and Gentry about to erect Horticultural buildings, or fix Hot-Water Apparatus, will find, at our Hothouse Works, King's Road, Chelsea, an extensive variety of Hothouses, Greenhouses, Conservatories, Pits, &c., erected, and in full operation, combining all modern improvements, so that a lady or gentleman can select the description of House best adapted for every required purpose.

THE HOT-WATER APPARATUSES (which are efficient and economical), are particularly worthy of attention, and are erected in all the Houses, Pits, &c., for both Top and Bottom Heat, and in constant operation in the Stoves.

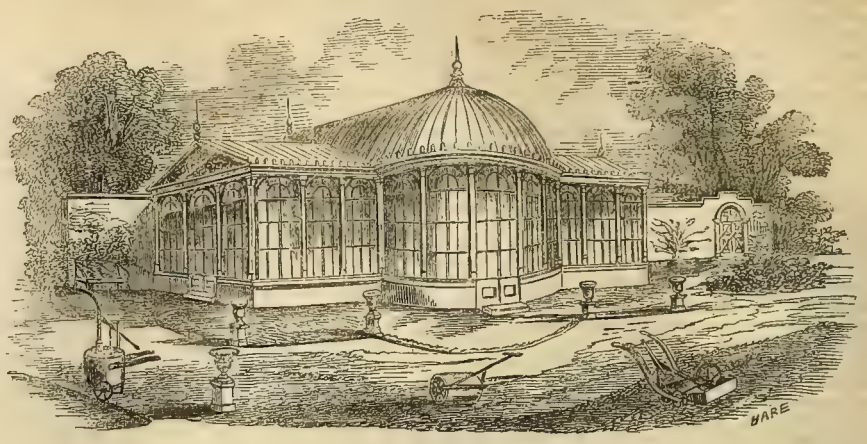
The splendid collection of Stove and Greenhouse Plants is in the highest state of cultivation, and for sale at very low prices. Also a fine collection of strong Grape Vines in pots from eyes, all the best sorts.

Plans, Models, and Estimates of Horticultural Buildings; also Catalogues of Plants, Vines, Seeds, &c., forwarded on application.

J. WEEKS AND CO., KING'S ROAD, CHELSEA, LONDON.

COTTAM AND HALLEN,

2, WINSLEY STREET, AND 76, OXFORD STREET, LONDON.



APPLICATION is requested for their NEW HORTICULTURAL LIST, containing Illustrations, Descriptions, and Prices of

Conservatories	Mowing Machines	Hand-glass Frames	Garden Engines	Flower Sticks
Greenhouses	Fountains	Game Netting	Do. Syringes	Garden Bordering
Hot Water Apparatus	Ornamental Wire Work	Hurdles	Do. Rollers	Watering Pots
Garden Vases	Flower Stands	Garden Chairs	Flower Labels	Garden Arches, &c.

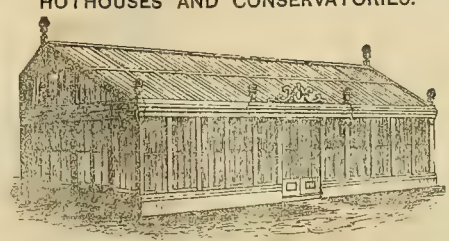
IRON HURDLES, STRAINED WIRE FENCING, GAME NETTING, &c.

AGRICULTURAL LIST UPON APPLICATION.

EVERY DESCRIPTION OF PLAIN, ORNAMENTAL, CAST AND WROUGHT IRON, AND WIRE WORK.

EXHIBITION PRIZE MEDAL GATES AND ENAMELLED MANGERS.

HOTHOUSES AND CONSERVATORIES.

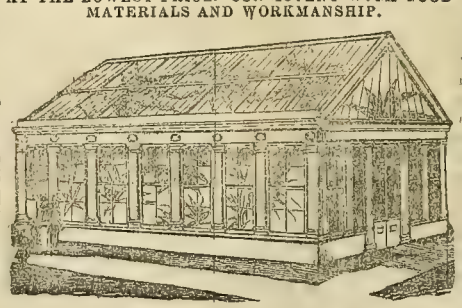


JAMES WATTS, HOTHOUSE BUILDER, CLAREMONT-PLACE, OLD KENT-ROAD, has 200 CUCUMBER and MELON BOXES and LIGHTS of all sizes, ready for immediate use, and of well-seasoned materials, packed and sent to all parts of the Kingdom.

HOTHOUSES, CONSERVATORIES, &c., made and fixed complete at a considerable reduction, and Garden Lights of every description. References may be had to the Nobility, Gentry, and the Trade, in most of the counties of England.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER,

AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.



GRAY AND ORMSON, Danvers Street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

G. and O. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders they can with the greatest confidence give the most satisfactory references.

Their Hot-Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating by Hot Water can be made available.

ROSES.—The attention of Rose Gardeners and Amateurs is called to the "FLORUMBRA" or Rose-preserver, by which BROWN'S Fumigator is rendered applicable to Rose trees, for the purpose of freeing them from the Aphis.

The "Florumbra," which was introduced with success last season, will at the same time protect choice Roses intended for exhibition from sun or rain. They may be had wholesale from Messrs. Barber and Groom, London; and retail of most ironmongers and Seedsmen, and of W. J. SANGSTER, 75, Cheapside. Further particulars on application.

GREEN AND HOTHOUSES, made by Machinery, at J. LEWIS' Horticultural Works, Stamford Hill, Middlesex, warranted best materials, and the cheapest in England.—A List of Prices sent by enclosing 2 postage stamps

LINGHAM BROTHERS, 170, Hampton-street, Birmingham, sole Manufacturers of the Improved WOOD and ZINC MENOGRAPH, or Label for Garden Borders, Flower-pots, &c., in boxes of 100, &c. The Zinc Labels are highly approved of for their lasting durability; can be written upon with the greatest ease, and, when dry a permanent inscription is secured. Directions for use sent with each box, including bottle of Metallic Ink.

Sole Agents in London, G. and J. DEANE, Horticultural Implement Warehouse, 46, King William-street, London-bridge.

HOTHOUSES, GREENHOUSES, ETC.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

E. DENCH, PATENT HOTHOUSE WORKS, KING'S ROAD, CHELSEA.—The superior qualities in every respect of these Structures having been proved in all parts of the United Kingdom, has caused a greater demand for them than E. D. could execute; he has been obliged to have perfect and powerful machinery made to meet the numerous orders, and can now execute any amount of work to great perfection, with dispatch, and for quality and price to defy all competition. Patent Hothouses, with excellent glass, 3 feet long by 1 foot wide, every front sash to open, and every top one to slide down, with pulley made of the same materials as the electric telegraph wires, which require no painting; delivered free to Wharf or Railway Station, at 1s. 2d. per foot super., complete, having been fitted, and every portion marked previously, making a Greenhouse 16 ft. 6 inches long, 12 ft. rafter, 400 ft., 23l. 6s. 8d.; 24 ft. 6 ins. long, do. do., 526 ft., 30l. 13s. 8d.; 28 ft. 6 ins. long, 15 ft. rafter, 712 ft., 41l. 10s. 8d. Heating by Hot Water on the most approved and economical principles.

Patent Sashes for Pits and Peach Walls, &c., 7d. and 8d. per foot, super.

DEANE'S WARRANTED GARDEN TOOLS.—Horticulturists, and all interested in Gardening Pursuits, are invited to examine DEANE, DRAY, AND CO.'s extensive Stock of GARDENING and PRUNING IMPLEMENTS, best London-made Garden Engines and Syringes, Colebrook-dale Garden Seats and Chairs.

Averuncators	Garden Scrapers	Mowing Machines
Axes	Gidney's Prussian Hoe	Pickaxes
Bagging Hooks	Grape Gatherers & Scissors	Potato Forks
Bills	Gravel Rakes and Sieves	Pruning Bills
Borders, various patterns	Greenhouse Doors and Frames	,, Knives, various
Botanical Boxes	Hammers	,, Saws
Brown's Patent Fumigator	Hand-glass Frames	,, Scissors
Cases of Pruning Instruments	Hay Knives	,, Shears
Daisy Rakes	Horticultural Hammers & Hatchets	Rakes in great variety
Dibbles	Hoes of every pattern	Reaping Hooks
Dock Spuds	Hotbed Handles	Scythes
Draining Tools	Ladies' Set of Tools	Scythe Stones
Edging Irons and Shears	Labels, various patterns, in Zinc, Porcelain, &c.	Shears, various
Flower Scissors	Lines and Reels	Sickles
,, Stands in Wires & Iron	Marking Ink	Sickle Saws
Fumigators	Mattocks	Spades and Shovels
Galvanic Borders and Plant Protectors	Menographs	Spuds
Garden Chairs and Seats	Metallic Wire	Switch Hooks
,, Loops	Milton Hatchets	Thistle Hooks
,, Rollers	Mole Traps	Transplanting Tools
		Trowels
		Turfing Irons
		Wall Nails
		Watering pots
		Weed Hooks
		Wheelbarrows
		Youths' Set of Tools

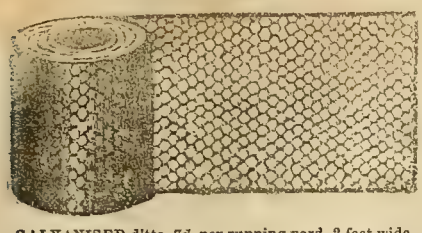
DEANE, DRAY, AND CO. are sole Agents for LINGHAM'S PERMANENT LABELS, samples of which, with their Illustrated List of Horticultural Tools, can be sent, post paid, to any part of the United Kingdom. Also, Wholesale and Retail Agents for SAYNOR'S celebrated PRUNING KNIVES, used exclusively by the first Gardeners in the United Kingdom.—DEANE, DRAY, & CO. (Opening to the Monument), London-bridge.

DRAINAGE OF LAND.

MR. HENRY WEBBER begs to inform Landowners and the public, that having had considerable practical experience, he is prepared to undertake the Drainage of Estates to any extent, upon the most improved principles, either by contract or on commission. Orders executed with a due regard to economy and efficiency. Reference given.—Address, Halberton Court, near Tiverton, Devon.

BAKER'S PHEASANTRY, Beaufort-street, King's Road, Chelsea, by special appointment to her MAJESTY and H. R. H. PRINCE ALBERT.—ORNAMENTAL WATER FOWL, consisting of black and white Swans, Egyptian, Canada, China, barnacle, brent, and laughing Geese, Shieldrakes, Pintail, Widgeon, summer and winter Teal, Gadwall, Labrador, Shovellers, gold-eyed and dun Divers, Carolina Ducks, &c., domesticated and pinioned; also Spanish, Cochin China, Malay, Poland, Surrey, and Dorking Fowls; white, Japan, pied, and common Pea-fowl, and pure China Pigs; and at 3, Half-moon Passage, Gracechurch-street, London.

CHEAP WIRE GAME AND POULTRY NETTING, 5*d.* per running yard;

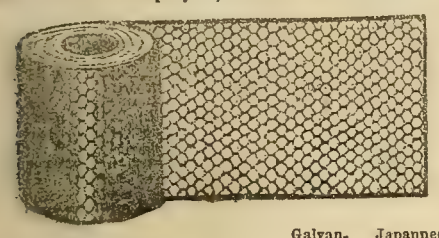


GALVANISED ditto, 7*d.* per running yard, 2 feet wide.

	Galvanised.	Not Galvanised.
24 in. wide, 2 in. mesh,	7*d.* per yard.	5*d.* per yard.
30 in. ,, 2 in. ,,	9*d.* ,,	6½*d.* ,,
36 in. ,, 2 in. ,,	10½*d.* ,,	7½*d.* ,,
48 in. ,, 2 in. ,,	1*s.* 2*d.* ,,	10*d.* ,,

Sparrow Proof Netting, Galvanised, 3*d.* per square foot, made to any size for the same proportionate price. This article was shown at the "Great Exhibition," where it was so much admired for its light and durable appearance, and acknowledged to be the cheapest and best article of the kind ever offered. Extra strong Wire Sheep Netting, 3 feet high, 1*s.* 6*d.* and 2*s.* 3*d.* per yard. Also every description of Flower Trainers, Dahlia Rods, Garden Arches, Bordering, Flower Stands, Tying Wire, Trellis Work, Invisible Wire Fencing, Hurdles, and every description of Wire Work for Horticultural purposes.—Illustrated Catalogues of Patterns forwarded, post-free, on application to T. H. Fox, City of London Wire Work and Iron Fence Manufactory, 44, Skinner-street, and 6 and 8, Snow-hill, London.

GALVANISED WIRE GAME NETTING.—7*d.* per yard, 2 feet wide.



	Galvanised.	Japanned Iron.
2-inch mesh, light, 24 inches wide ...	7*d.* per yd.	5*d.* per yd.
2-inch ,, strong ,, ...	9 ,,	6½ ,,
2-inch ,, extra strong ,, ...	12 ,,	9 ,,
1½-inch ,, light ,, ...	8 ,,	6 ,,
1½-inch ,, strong ,, ...	10 ,,	8 ,,
1½-inch ,, extra strong ,, ...	14 ,,	11 ,,

All the above can be made any width at proportionate prices. If the upper half is a coarse mesh, it will reduce the prices one-fourth. Galvanised sparrow-proof netting for Pheasantries, 3*d.* per square foot. Patterns forwarded post free.

Manufactured by BARNARD and BISHOP, Market-place, Norwich, and delivered free of expense in London, Peterborough, Hull, or Newcastle.

TANNED NETTING for the Protection of Fruit Trees from frost, blight, and birds, and for the security of fresh-grown seeds, either in gardens or fields, at 1*d.* per square yard, 200 yards for 14*s.*, 500 yards for 30*s.*, 1000 yards for 50*s.*; waxed Netting for Aviaries, &c., at 3*d* per square yard. Scrim canvass for wall fruit, netting for sheep folds; a considerable saving of labour, and less expense than hurdles. Sun blinds in great varieties, rick cloths, with poles, &c. Marquees, tents, awnings, and temporary rooms, with boarded floors, elegantly lined and lighted for fêtes, &c., on sale or hire. Carriage, cart, and truck covers impervious to rain; cloths for the covering of furniture in change of residence, &c. Tarpaulings on hire for houses under repair, at THOMAS EDGINGTON & Co.'s, 17, Smithfield-bars, and Old Kent-road.

N.B. Orders and inquiries per post punctually attended to.

DESTRUCTION OF BLIGHT AND FUMIGATION SUPERSEDED, UPON WALLFRUIT TREES, STOVE AND GREENHOUSE PLANTS, ROSES, CUCUMBERS, MELONS, &c. &c.

PAGE AND Co., SEED MERCHANTS, Southampton, have much pleasure in offering their COMPOSITION, which has proved the most effectual remedy ever introduced, and beg to annex two testimonials, *only*, of the great numbers received with orders this season.

1*s.* per quart, to which add three of water.

From Mr. J. Wilkins, gardener to H. F. K. Holloway, Esq.

Gentlemen,—I highly approve of your Composition, as it answered admirably, saving my Wall Trees from an untimely death, and quite recovering my Roses, killing every insect it touches in an instant. I intend to have a quantity of it this season for all my plants.

From Mr. A. Dowling, gardener to the Right Hon. Lord Henry Cholmondeley.

Gentlemen,—Your Composition is most destructive to all blight. My Wall Trees must have died, had I not availed myself of it. I consider it applicable to all cases, as it is not the least injurious to the foliage of the most tender plants. You will be good enough to send me four gallons, &c.

Gardeners and Land-Stewards' Registry Office, 37 and 38, Oxford-street, Southampton.

CARSON'S ORIGINAL ANTI-CORROSION PAINT, specially patronised by the British and other Governments, the Hon. East India Company, the principal Bank Companies, most public bodies, and by the Nobility, Gentry, and Clergy, for out-door work at their country seats. The Anti-Corrosion is particularly recommended as the most durable out-door Paint ever invented, for the preservation of every description of Iron, Wood, Stone, Brick, Compo, Cement, &c., work, as has been proved by the practical test of upwards of 60 years, and by the numerous (between 500 and 600) testimonials in its favour, and which, from the rank and station in society of those who have given them, have never yet been equalled by anything of the kind hitherto brought before the public notice.

Lists of Colours, Prices, together with a Copy of the Testimonials, will be sent on application to WALTER CARSON and Son, No. 9, Great Winchester-street, Old Broad-street, Royal Exchange, London.—No Agents. All orders are particularly requested to be sent direct.

TERRA COTTA VASES, of classic shapes, more durable than iron, manufactured by a new process, suitable for the drawing-room, parlour, or conservatory, of various sizes, from 6*d.* upwards; also Strawberry Tiles, Melon Tiles, Celery Sockets, and other horticultural appliances manufactured by J. ROBERTS, Upnor Pottery and Tile Works, near Rochester, Kent, of whom may be had a Pamphlet descriptive of various improvements in horticultural appliances, for six postage stamps.—London Agents: Messrs. COGAN and Co., 48, Leicester-square; and Messrs. FLANAGAN and SON, Seedsmen, Mansion-house-stree, City.



TERRA-COTTA VASES, PENDANT BASKETS, BRACKETS, ORNAMENTAL FLOWER-POTS, &c., MANUFACTURED BY HENRY DOULTON & CO., HIGH STREET, LAMBETH, LONDON.

West-End Show and Sale Rooms, Exposition, Baker-street, Portman-square.

H. D. and Co.'s Terra-Cotta is vitrified, and consequently imperishable, retaining its freshness and sharpness unimpaired by time or exposure to the weather.

DRAWINGS AND PRICES ON APPLICATION.

BEE HIVES.—A NEW AND EXTENSIVE SELECTION OF THE MOST APPROVED KINDS.—A detailed Catalogue, with Drawings and Prices, sent on receipt of Two Stamps. GEORGE NEIGHBOUR and SON, 127, High Holborn, London.

"In noticing the hives exhibited in the Crystal Palace, first and foremost, in my opinion, stands Mr. Taylor's Eight-Bar Hive, and Messrs. Neighbour and Son's Improved Cottage Hive, both exhibited by Messrs. Neighbour."—*J. H. Payne.*

(See the "Cottage Gardener," Nos. 169, 170).

AGENTS.—Liverpool: Wm. Drury, Castle-street. Manchester: Hall and WILSON, 50, King-street. Glasgow: Austin and McAslan, 168, Trongate. Dublin: J. Edmondson and Co., 61, Dame-street.

GUTTA PERCHA TUBING FOR WATERING GARDENS, ETC.



TESTIMONIAL.

From Mr. J. Farrah, Gardener to Boswell Middleton Jalland, Esq., of Holderness House, near Hull.

"I have had 400 feet of your Gutta Percha Tubing (in lengths of 100 feet each, with union joint) *in use for the last twelve months for watering these gardens, and I find it to answer better than anything I have ever yet tried.* The pressure of the water is very considerable, but this has not the slightest effect on the Tubing. I consider this Tubing to be a *most valuable invention for Gardeners*, inasmuch as it enables us to water our gardens in about one-half the time, and with one-half the labour formerly required."

FOR SUCTIONS OF PUMPS AND CONVEYANCE OF WATER.

The value of Gutta Percha Tubing for the conveyance of water is no longer a matter of doubt. Experience has proved its adaptation and superiority to metal pipes, and the important consideration that it is entirely free from those corrosive properties which have proved so highly injurious in the use of lead pipes. The Gutta Percha Company have received the following—

TESTIMONIALS.

From C. Hacker, Esq., Surveyor to his Grace the Duke of Bedford, Woburn Park.

"Office of Works, Woburn Park, Jan. 10th, 1852.

"Gentlemen,—In answer to your inquiries respecting the Gutta Percha Tubing for pump suctions (after two years' trial), I find that the water has not affected it in the least, although it will eat lead through in two years; we have adopted it largely, both on account of being cheaper than lead, much easier fixed, and a more perfect job."

From Sir Raymond Jarvis, Bart., of Ventnor, Isle of Wight.

"Ventnor, March 10, 1852.

"Gentlemen,—In reply to your letter, received this morning respecting the Gutta Percha Tubing for Pump Service, I can state, with much satisfaction, it answers perfectly. Many builders, and other persons, have lately examined it, and there is not the least apparent difference since the first laying down, now several years; and I am informed that it is to be adopted generally in the houses that are being erected here—building going on to a considerable extent.

"I am, Gentlemen, your obedient servant,

"R. JARVIS.

"P.S. The only difficulty experienced was in fixing the tube to the pump barrel. The plumber employed being averse to the job, did not properly secure it, and air got into the tube; otherwise, carefully arranged, there is no question it supersedes lead or any kind of metal pipes. R. J."

From William Bird Herapath, Esq., M.R.C.S., Surgeon to St. Peter's and Queen Elizabeth's Hospitals, Bristol.

"September, 1850.

"I have used Gutta Percha as a lining to a cistern, with tubing of the same material, to conduct the water into my dispensary; they answer admirably. At first some disagreeable flavour was communicated to the water, but it soon disappeared.

"My plumber readily learnt the mode of managing it from your printed directions."

Every variety of Gutta Percha Goods may be had. Manufactured by the Gutta Percha Company, Patentees, London; and sold at the Wholesale City Depot of Messrs. BURGESS and KEY, 103, Newgate-street, who will forward Lists of Prices on application.

CUNDY'S PATENT PRIZE STOVE.

W. HODGES, late of 123, Oxford-street, begs to announce that he has transferred the license for manufacturing the above STOVES to Messrs. CUTLER and SONS, 16, Great Queen-street, Lincoln's-inn, where a large assortment is always kept on sale. Open fire, Warm Air, Ventilating Stoves, suitable for Churches, School-rooms, Public Offices, Halls, and other rooms, of all dimensions; and Smoke-expelling Register Stoves, which are guaranteed as a perfect cure for Smoky Chimneys

NEW MODE OF APPLYING HEAT, SUITED FOR VINERIES, PINERIES, AND EVERY STRUCTURE REQUIRING ARTIFICIAL HEAT.

THE ARNOTT STOVE, BOILER, AND EXPANSION PIPES, may be had, and fitted, if required, by W. BEALES, wholesale Ironmonger and working Engineer, Louth, Lincolnshire. The above is an entire deviation from the present system of heating by hot water, and attended by the greatest success, being the best in design, the best in construction, and the simplest in principle. Reference in town will be given on application, and at the Nurseries of Messrs. RIVERS, Sawbridgeworth, Herts; where it may be seen in full work, and pronounced by them to be the best mode of heating yet invented; for early forcing it is unequalled, as ripe Grapes were cut in quantity on the 8th of April, at the cost of 2½*d.* for 24 hours' fuel. Every description of building fitted and heated at half the usual charge; boilers, 25*s.* each.

Manufactory—Louth, Lincolnshire.

TO BOTH SEXES, SEEKING RESPECTABLE EMPLOYMENT.—Mr. ALLEN WOOD, of 169, High-street, Rochester, continues to send free, and with the greatest satisfaction, to all parts of the Kingdom, his Sixteen easy and valuable methods of RESPECTABLE EMPLOYMENT, by any of which, either sex, with ordinary industry, may realise 1*l.* to 5*l.* per week. Upwards of twelve months has A. W. advertised those methods, and has positively benefited hundreds—a pile of thankful letters prove that fact. Send a directed stamped envelope and twelve postage stamps, and the fullest instructions will be forwarded by return of post. Emigrants ought to possess them.—N.B. Depend this is entirely free from deception or falsehood.

THE ROYAL EXHIBITION.—A valuable newly-invented, very small, powerful, waistcoat-pocket Glass, the size of a Walnut, to discern minute objects at a distance of 4 to 5 miles, which is found to be invaluable for YACHTING, and to SPORTSMEN, GENTLEMEN, and GAMEKEEPERS.

TELESCOPES.—A new and most important INVENTION in TELESCOPES, possessing such extraordinary powers that some, 3½ inches, with an extra eye-piece, will show distinctly Jupiter's Moon, Saturn's Ring, and the Double Stars. They supersede every other kind, and are of all sizes—for the waistcoat-pocket, Shooting, Military purposes, &c. Opera and Race-course Glasses with wonderful powers; a minute object can be clearly seen from ten to twelve miles distant.—Invaluable Acoustic Instruments for relief of extreme Deafness.

MESSRS. S. AND B SOLOMONS, OPTICIANS and ACOUSTS, 39, Albemarle-street, opposite the York Hotel, London.

HEAL AND SON'S ILLUSTRATED CATALOGUE OF BEDSTEADS, sent free by post, contains designs and prices of upwards of ONE HUNDRED different Bedsteads, in Iron, Brass, japanned Wood, polished Birch, Mahogany, Rose-wood, and Walnut-tree Woods; also their Priced List of Bedding; and their new ware-rooms enable them to keep one of each design fixed for inspection. They have also, in addition to their usual stock, a great variety of the best designs of PARISIAN BEDSTEADS, both in wood and iron, which they have just imported. HEAL and SON, Bedstead and Bedding Manufacturers, 196 (opposite the Chapel), Tottenham Court-road, London.

FORD'S EUREKA SHIRTS are, beyond doubt, the most scientific and really useful improvement in the art of Shirt-making. Their superiority does not rest solely upon their being entirely different from all others, but upon the combination of perfect novelty of design with sound practical use, resulting from a study of scientific principles, making them, in fact, the only solid and thoroughly sensible alteration from the old shapes worthy of notice. There are two qualities, in both of which the principle is strictly carried out, viz., Six for 40*s.*; Second quality, Six for 30*s.*

List of Prices, and mode of self-measurement sent per post free. RICHARD FORD, 33, Poultry, late of 185, Strand, London.

GLENFIELD PATENT STARCH.—NOW USED IN THE ROYAL LAUNDRY.—The Ladies are respectfully requested to make a trial of the GLENFIELD PATENT DOUBLE-REFINED POWDER STARCH, which, for Domestic Use, now stands UNRIVALLED. Sold by nearly all the Oil and Colourmen and Chandlers in London, and throughout the Kingdom.—Agents wanted; apply to Mr. R. WOTHERSPOON, 40, Dunlop-street, Glasgow.

London Depot: WOTHERSPOON, MACKAY, and Co., 40, King William-street, City.

A NEW BEDSTEAD, portable without detaching any of its parts, packs in a sponge bath, is admirably adapted for summer use on account of its extreme coolness, and can be changed in one moment from a bed to a lounge or sofa for the sitting-room, may be seen at

COTTAM and HALLEN'S, 76, Oxford-street,

where also is on view a great variety of Metallic Bedsteads, fitted with and without the Patent Rheocline, &c. &c., together with a large assortment of the Patent Radiating and other Stoves, and every other description of Ironmongery.

METCALFE AND Co.'s NEW PATTERN TOOTH-BRUSH and SMYRNA SPONGES.—The Tooth-Brush has the important advantage of searching thoroughly into the divisions of the teeth, and cleaning them in the most extraordinary manner, and is famous for the hairs not coming loose.—1*s.* An Improved Clothes-Brush, that cleans in a third part of the usual time, and incapable of injuring the finest nap. Penetrating Hair-Brushes, with the durable unbleached Russian bristles, which do not soften like common hair. Flesh-Brushes of improved, graduated, and powerful friction. Velvet-Brushes, which act in the most surprising and successful manner. The genuine Smyrna Sponge, with its preserved valuable properties of absorption, vitality, and durability, by means of direct importations, dispensing with all intermediate parties' profits and destructive bleaching, and securing the luxury of a genuine Smyrna Sponge. Only at METCALFE, BINGLEY, and Co.'s Sole Establishment, 130*B*, Oxford-street, one door from Holles-street.

METCALFE'S ALKALINE TOOTH POWDER, 2*s.* per box.

CAUTION.—Beware of the words "From METCALFE'S," adopted by some houses.

ALLSOPP'S EAST INDIA PALE AND OTHER BURTON ALES.—The public is respectfully informed the ALES of this season's Brewings are now ready for delivery, and may be obtained Genuine in Casks of 18 Gallons and upwards, either singly or in any quantity, at their respective Stores, as under, where also a list of the Bottlers may be had:—The Brewery, Burton-on-Trent; 61, King William street, City, London; Cook-street, Liverpool; High-street, Birmingham; The Exchange, Manchester; Royal Brewery, Dudley; and 33, Virginia-street, Glasgow.

THE ORIGINAL PENNY PLANT GENTLEMAN

IS NOW OFFERING

BEDDING-OUT PLANTS FOR THE MILLION,

At 1s. 6d. per dozen, if 5 to 20 dozen are taken
" 1s. 3d. per dozen, if 20 to 50 dozen are taken
" ONE PENNY EACH, if 50 dozen are taken

5 dozen added if 100 dozen are taken
100 dozen added if 1000 dozen are taken
10,000 dozen added if 100,000 dozen are taken.

Carriage Free to all Railway Stations in Britain, to Dublin, Paris, and Amsterdam.

BASKETS AT COST PRICE, AND NO CHARGE FOR PACKING.

DAVID FERGUSON, STOWE, BUCKINGHAM.

VICTORIA REGIA.

J. WEEKS AND CO., King's Road, Chelsea, have a few fine strong Plants for Sale of VICTORIA REGIA, Nymphæa cærulea, Nymphæa deutata, Nymphæa stellata, &c. As also a splendid Collection of Stove and Greenhouse Plants, all in the highest state of cultivation —PLANS and ESTIMATES for building Aquariums and all other Horticultural erections. J. WEEKS & Co's HOT-WATER APPARATUS is well adapted for Warming large Ponds, for Stove Aquatics, and for Heating extensive ranges of Forcing-house.

HORTICULTURE IN ALL ITS BRANCHES.

ROBERT M. STARK begs to intimate that his SPRING CATALOGUE of FLORISTS' FLOWERS, BEDDING PLANTS, &c., is now ready, and may be had on application. Among other new and rare plants it contains, he would particularly notice the beautiful purple LINARIA RETICULATA, figured in the "Garden Companion" for April, and described as a "very pretty plant, flowering freely in summer." It is well suited for rockwork or bedding purposes. R. S. has the entire stock, and will be ready to supply plants the first week in May at 5s. each.

Edgehill Nursery, Dean, Edinburgh, May 15.

NEW AND FIRST-RATE BEDDING PLANTS.

JOHN CATTELL begs to say that his Spring Catalogue of new and choice Florist, Fancy, and other GERANIUMS and BEDDING PLANTS, &c., is now ready, and may be had on prepaid application, enclosing one penny stamp.

The following selection will show the moderate rate at which the plants are offered :—

	Each.	Doz.
Geranium "Flower of the Day"	1s. 0d.	9s. 0d.
" "Mountain of Light," extra strong	10 6	
" " " smaller, 5s. to	7 6 ...	60 0
" Scarlets, of the finest sorts... ...	— ...	6 0
" Pinks of the scarlet habit	— ...	6 0
Calceolaria "Kentish Hero"	— ...	6 0
" "Sultan," fine crimson	— ...	9 0
" fine yellow varieties	— ...	6 0
Petunia "Purple Perfection," the best purple	— ...	4 0
" "Crimson King," splendid crimson ..	1 0 ...	9 0
Verbenas of the best established sorts, 3s. to		4 0
Oxalis Bowei	— ...	6 0
Lobelia erinus maxima, finest dwarf blue ...	— ...	4 0
" fulgens multiflora, finest scarlet ...	0 9 ...	8 0
Heliotropes of sorts	— ...	6 0

The Scarlet and other Geraniums, Heliotropes, Calceolarias, &c., are stout bushy plants, having been several times topped, and regularly shifted into larger pots, so that they will almost make an immediate effect.—Westerham, Kent, May 15.

HEXACENTRAS MYSORENSIS.—This extraordinary and beautiful new Climber (requiring the temperature of a stove or warm greenhouse), is perfectly distinct in its character from anything yet introduced. It was exhibited by Messrs. VEITCH and SON at Chiswick, on Saturday the 8th of May, and received the First Prize for New Plants; and was indeed, on that occasion, the admiration of all who saw it.

It is a most abundant bloomer, producing its long pendulous clusters of large golden yellow and deep crimson flowers in great abundance, continuing in perfection for several months. The habit of the plant is excellent, with neat dark green foliage, and is of easy culture. It is altogether a plant of such first-rate quality and great beauty, that Messrs. VEITCH and SON feel every confidence in highly recommending it.

Good established plants will be ready for delivery in the month of August next, at 21s. each. One plant over to the Trade on every three taken. Orders executed in strict rotation as received.—Exeter, May 15.

SEED AND HORTICULTURAL ESTABLISHMENT, SUDBURY, SUFFOLK.

CHOICE GERANIUMS, fine strong plants.—See names advertised in *Gardeners' Chronicle* of April 3d, 10th, 24th, and May 8th.

	s.	d.
25 fine show varieties, 22s.; or 12 vars. for	12	0
25 superb and best prize vars., 33s.; or 12 for	21	0
12 best new vars. of last season	50	0
12 fine fancy vars., 9s; 12 superb fancy for	15	0
9 best new fancy vars. of last season	28	0
Scarlets of best sorts, per dozen, 5s. to 9s.		
ACHIMENES, 12 best vars., 10s.; 12 fine vars.	6	0
GLOXINIAS, 12 best vars., 20s., including Petoiana, Maria Van Houtte, and others, as before advertised.		
Do. 12 fine vars.	12	0
GREENHOUSE PLANTS, fine and select, 50 vars. ...	45	0
Do. 25 vars., 24s.; 12 vars.	12	0
Do. 12 extra choice, new and select	25	0
STOVE PLANTS, fine and select, 50 vars., 65s.; 25 for 35s.; 12 for	18	0

The DESCRIPTIVE SPRING CATALOGUE supplied for four penny stamps; or, gratis, to purchasers.

Goods, carriage free, to London, or on the Ipswich and Norwich line, and extra plants presented with orders of 40s. and upwards.

Post-office orders payable to STEPHEN BROWN; or to BASS and BROWN, Sudbury, Suffolk.

CORNER OF HALF MOON-STREET, PICCADILLY.

TURNIP SEEDS.

Purple-top Swedish Turnip	Globes and Tankards of sorts
Green-top do. do.	
Skirving's Swedes	Yellow Globe Mangold Wurzel
Gibbs' Green-top Yellow Hybrid	Long red do. do.

GRASS SEEDS for Permanent Pastures and Meadows, and all kinds of Agricultural and other Seeds.

THOMAS GIBBS AND CO. the Seedsmen to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND," corner of HALF MOON-STREET, Piccadilly.

TURNIP SEEDS DIRECT FROM THE GROWERS.

JOHN SUTTON AND SONS respectfully recommend Turnip Growers to favour them with their orders early, while they have a good Stock of New genuine Turnip Seeds, of their own growth, which they can warrant new and true to their kinds, and which are the best varieties of Swedish, Hybrid, and other Turnips in cultivation. Priced Lists may be had gratis, and post free.

Address, JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

FINE NEW HARDY PATAGONIAN CONIFERS.

SAXE-GOTHÆA CONSPICUA (LINDLEY), and FITZ ROYA PATAGONICA (HOOKER).

MESSRS. VEITCH AND SON beg to inform the Public that they are now prepared to take orders for fine plants of the above-named beautiful HARDY NEW CONIFERS, which will be ready for distribution on and after the 10th of June next, at the following scale of prices :—

1st size plants of Saxe-Gothæa conspicua	63s. 0d	} The two together	105s.
Do. do. Fitz-Roya patagonica...	63 0		
2d size plants of Saxe-Gothæa conspicua	42 0	} The two together	70s.
Do. do. Fitz-Roya patagonica ..	42 0		
3d size plants of Saxe-Gothæa conspicua	31 6	} The two together	53s.
Do. do. Fitz-Roya patagonica...	31 6		

The usual discount to the Trade, and where a number are taken additional plants given over in *proportion* to the quantity.

These plants are fully described by Dr. LINDLEY and Sir W. J. HOOKER, in the Journal of the Horticultural Society for October, 1851; in the "Botanical Magazine" for November, 1851; and in "Paxton's Flower Garden" for October, 1851. They were exhibited at Chiswick on the 8th and each had a FIRST PRIZE in its Class.

Lithographed Plates, with full descriptions, are now in preparation, the distribution of which will be announced in a future Advertisement.—Exeter, May 15.

GREEN'S SCARLET KING DAHLIA.—As no more Plants can be supplied by the agent, until the 30th of May, applicants are referred to Messrs. TURNER, KEYNES, BRAGG, SALTER, LOCKHART, and others of the trade, whose wholesale orders are executed in full. 84, Fleet-street, London. May 15.

SKIRVING'S IMPROVED TURNIP SEEDS.

WILLIAM SKIRVING begs to announce to his friends and the public, that he has fixed the price, for this season, of his IMPROVED SWEDE, and also the PURPLE-TOP YELLOW BULLOCK, at 9d. per lb.

W. S. can, with perfect confidence, recommend these Turnips as being the best now in cultivation, in every respect, whether for the greatest crop, the best quality, or for keeping, according to the time of sowing. At the same time he begs to state that he has no agent in town or country, and, of course, is not accountable for the low-priced spurious Turnip Seeds offering under his name.

All other kinds of Turnip and Agricultural Seeds in general, of the best quality, at very moderate prices. A remittance or reference is requested from unknown correspondents.

Queen-square, Liverpool, May 15.

STUBBLE SWEDE TURNIP SEED.

JOHN RIVERS solicits the attention of the Agriculturist to his quick growing STUBBLE SWEDE TURNIP; though this variety originated from a cross between a large white Stone Turnip and the old Green-top Swede, by careful selection it has the colour, solidity, and the hardiness of the true Swede. As it was extensively distributed last year, experience has proved it superior for sowing in May, for early feed; its growth being matured before the mildew attacks it in the autumn, being better adapted for giving more time in the preparation of the Land than any other kind from its quickness of growth, and it is a heavy cropper. It may be sown for a full crop throughout the month of June. Price 1s. 6d. per lb.

Orders to the amount of 10s. carriage paid to London. Post-office orders are requested of unknown correspondents.

Sawbridgeworth, Herts.

TO NURSERYMEN AND FLORISTS.

PARTNERSHIP.—A young Man, having no previous knowledge of the business, wishes to purchase a share in a concern where he could attend to the books and undertake other light duties.—Direct to X. Y. Z., Mr. Waterman's, Threadneedle-street, London.

Sales by Auction.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will sell by Auction, at the Mart, Bartholomew-lane, on MONDAY, May 17th, and THURSDAY, 20th, at 12 o'clock, a first-rate collection of Dahlias, Calceolarias, choice Fuchsias, Verbenas, Climbing and other Roses; Geraniums, Heartsease, and other Plants, in bloom; with a large and rich assortment of useful and ornamental Plants for bedding. May be viewed the morning of sale; Catalogues had at the Mart; and of the Auctioneers, American Nursery, Leytonstone, Essex.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will submit to public competition, by Auction, on the premises, opposite St. George's Church, Wells-street, Camberwell, on FRIDAY, May 21, at 12 o'clock, without reserve (by order of the proprietor, leaving the business), the entire stock of GREENHOUSE PLANTS, consisting of choice Scarlet and other Geraniums, Fuchsias, Verbenas, Dahlias, Carnations and Picotees, Pinks, Heartsease, &c.; also four capital Greenhouses, three Pits, two-light Boxes, together with a quantity of Hand-lights, Flower-pots, Compost, &c.—May be viewed prior to the Sale. Catalogues may be had on the Premises; of the principal Seedsmen; and of the Auctioneers, American Nursery, Leytonstone, Essex.

TO TULIP FANCIERS, GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. VEITCH AND SON are directed by Mr. Mowatt to sell by Auction, on the premises, opposite the Model Prison, Caledonian-road, King's-cross, on MONDAY, May 24th, at 1 o'clock (in consequence of the land being required for building purposes), the whole of his choice collection of TULIPS, consisting of several beds, amongst which are many new varieties and seedling breeders; also several variegated American Aloes, Lilies, Gladiolus, &c. May be viewed prior to the sale; Catalogues may be had on the premises; of the principal Seedsmen in London; and of the Auctioneers, American Nursery, Leytonstone, Essex.

TO TULIP FANCIERS, GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS are instructed by Mr. WILLMER, to Sell by Auction on the premises, Sunbury Nursery, Middlesex, on TUESDAY, May 18, 1852, at 1 o'clock, a splendid and costly collection of TULIPS, comprising all the leading and most approved kinds in cultivation, and many kinds that are only in this collection —may be viewed one week prior to the sale. Catalogues may be had of the principal seedsmen in London; on the premises; and of the Auctioneers, Leytonstone, Essex.

ORCHIDS FROM GUATEMALA.

MR. J. C. STEVENS will Sell by Auction at his Great Room, 38, King-street, Covent-garden, on TUESDAY, 18th May, at 12 for 1 o'clock, an Importation of ORCHIDS from Guatemala, including many of the magnificent varieties or that rich district, such as Cattleya and Lycaste Skinneri, in the finest masses and condition; Odontoglossum grande, Bictonense, and pulchellum.—May be viewed on Monday and morning of Sale, and Catalogues had.

MESSRS. LODDIGES' FIRST SALE. HARDY CONIFERS,

WHICH HAVE BEEN REMOVED FOR THE CONVENIENCE OF PURCHASERS.

MR. J. C. STEVENS will sell by Auction, at his Great Room, 38, King-street, Covent Garden, on TUESDAY, 25th May, at 12 for 1 o'clock, the entire collection of HARDY CONIFERS, IN POTS, and well suited for immediate planting; they comprise many new and rare species, with good specimens of the most ornamental kinds. May be viewed the day prior and morning of sale, and Catalogues had.

LODDIGES' NURSERY.

The Entire Stock at this renowned Establishment, the Sale of which will extend over a period of several months.—By direction of the surviving Partner of the old and respected Firm of CONRAD LODDIGES and SONS, who is relinquishing the business (in consequence of the Lease expiring at Lady-day next.)

MR. J. C. STEVENS is favoured with instructions to sell by Auction, without any reservation, during the Months of June, July, August, September, and October next, on the Premises at Hackney, and at his Great Room, 38, King-street, Covent-garden, THE UNRIVALLED ASSEMBLAGE OF EXOTIC AND OTHER PLANTS in the above-named establishment, including the far-famed COLLECTION OF PALMS. The ORCHIDS, comprising upwards of 2000 species, many of which are only to be found in this collection, STOVE PLANTS, among which will be included an immense number of imported novelties which have not yet flowered. FERNS, including some of the rarest Arborescent species. CAMELLIAS, from 3 to 18 feet in height, of the finest varieties and perfect form. Heaths, New Holland and other Greenhouse Plants, Coniferæ, &c. &c. Also the Glass Erections and Implements of Trade —More detailed Particulars, and the days of Sale, will be announced in future advertisements. N.B. The first Sale will take place at Mr. J. C. STEVENS's Auction Room, on TUESDAY, 25th inst, and consist of Hardy Conifers (vide separate advertisement.)

38, King-street, Covent-garden, May 15.

FULHAM-ROAD, BROMPTON.

SALE OF GREENHOUSE PLANTS, ETC.

MR. D. A. RAMSAY will sell by Auction, on the Premises, Brompton Nursery, Fulham-road, Brompton, on THURSDAY, May 20, at 2 o'clock precisely, without reserve, a large collection of GERANIUMS, including Tom Thumb and other Scarlet varieties, Fuchsias, Verbenas, Calceolarias, Petunias, and various plants fit for bedding out; fine Pinks, Carnations, and Picotees to name, Mushroom Spawn, &c.—May be viewed prior to sale, and Catalogues had on the premises.

SALE OF CHOICE TULIPS.

MR. ALEXANDER will sell by Auction, on the premises, North-street, Poplar, on WEDNESDAY, May 26, at 12 o'clock, a choice Collection of TULIPS, the property of Mr. Dark, comprising Beteral's Brulante, Éclatante, Louis XVI., Strong's King, Camuse de Craix, Brown's Ulysses, Lord Brougham, Thalia, Duke of Devonshire, Jeffe's Elizabeth, Rose Magnificent, Zuill's Flora, Lady Stanley, Queen of the Bizarres, Reid's Prince Albert, Richard Cobb's Helen Faucit, Gibbons' Emperor, Thomas Brown, Dark [illegible]sack, Dangerous, Voltaire, Samson, Lady Flora [illegible] Soult, Midway, Water Witch, Manfred, &c.; also of newly broken flowers.—May be viewed two days Sale. Catalogues had on the premises; City of Poplar; White Swan, West Ham; and of the Auctioneer, Shacklewell.

OLD BOND-STREET.—TO AMATEURS, GENTLEMEN, FLORISTS, AND OTHERS.

MR. C. FURBER will sell by Auction, at the Auction Gallery, 21, Old Bond-street, on MONDAY, May 17, at 11 for 12 o'clock, a Collection of CHOICE PLANTS of a celebrated Amateur Horticulturist, comprising a variety of prized Dahlias, Verbenas, Fuchsias, several fine specimens of Geraniums, Araucarias, Cedrus, Deodoras, Ericas, Cinerarias, Azaleas, Camellias, &c., &c., in all the most approved varieties.—May be viewed the morning of sale, and Catalogues had at the Rooms, and at the Auction Offices in Warwick-court, Gray's Inn, London.

TO MARKET GARDENERS.

TO BE LET, in consequence of the present tenant going into another line of business, a first-rate GARDEN FARM, in a high state of cultivation, in the parishes of Higham and Frindsbury, two miles from the Railway Station at Strood, consisting of 73 Acres, with good Farm Buildings. Rates and Tithes low.—For further particulars, enquire of J. LEWIS, Esq., Solicitor, Rochester, Kent.

CLAHEE AND CO., ESTATE AGENTS and VALUERS, 98, Piccadilly, London, having numerous applications for Country Properties for Sale or Hire, furnished and unfurnished, respectfully beg the proprietors of such to favour them with the particulars, for registering which they make no charge, unless they succeed in procuring purchasers or tenants. Offices, 98, Piccadilly, London, four doors west of Cambridge House.

PRIZE SHANGHAI FOWLS' EGGS FOR HATCHING, 18s. per dozen. Also White Cochin China Eggs, 20s. per dozen; Buff Cochin China Eggs, 6s. per dozen; Polish and white-faced Spanish, 6s per dozen. The above are warranted fresh and genuine, and can be forwarded on the receipt of Post-office orders on Islington. Letters to inclose stamp. P.S. Gold Pheasants to be sold cheap.

WM. TURNER, Tufnell Park, Holloway, London.

Printed by WILLIAM BRADBURY, of No. 13, Upper Woburn-place, in the parish of St. Pancras, and FREDERICK MULLETT EVANS, of No. 7, Churchrow Stoke Newington, both in the County of Middlesex Printers, at their Office in Lombard-street, in the Precinct of Whitefriars, in the City of London; and published by them at the office, No 5, Charles-street, in the parish of St. Paul's, Covent garden, in the said County, where all Advertisements and Communications are to be ADDRESSED TO THE EDITOR.—SATURDAY, MAY 15, 1852.

THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 21—1852.] SATURDAY, MAY 22. [PRICE 6*d.*

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HORTICULTURAL SOCIETY OF LONDON.—NOTICE IS HEREBY GIVEN, that the NEXT EXHIBITION of FLOWERS and FRUIT, in the SOCIETY'S GARDEN, will take place on SATURDAY, JUNE 12, at 2 P.M.

Tickets, price 5*s.* each, can be procured at this Office, upon presenting the order of a Fellow, or on the day of the meeting, at Turnham Green, price 7*s.* 6*d.* each.

PRIVILEGE OF FELLOWS.—Each Fellow of the Society has free personal admission to these Exhibitions without a Ticket. A Fellow may also personally introduce a friend with an Admisston Ticket at half-past Twelve, at Gate No. 4, in the Duke of Devonshire's Road; or, if unable to attend personally, the privilege may be transferred to a brother, sister, son, daughter, father, mother, or wife, residing in the Fellow's house, provided the person to whom the transfer is made be furnished with a Ticket signed by that Fellow.

21, Regent-street, London.

THE GREAT NATIONAL TULIP SHOW, in connection with a grand Plant Exhibition, will be held in the Town Hall, Birmingham, on THURSDAY next, May 27. The band of the 16th Lancers will be in attendance. Admission to the private view, from 12 to 3 o'clock, Two Shillings; and from 3 to 8 o'clock, One Shilling. Offices, 24, Bennett's Hill,

CHARLES JAMES PERRY } Local
JOB COLE } Secretaries.

OPEN TO ALL ENGLAND.

A GRAND NATIONAL HORTICULTURAL MEETING will be held in LEWES, on WEDNESDAY and THURSDAY, the 14th and 15th days of July, 1852, during the week of the Meeting of the Royal Agricultural Society of England. The list of Premiums and Regulations can be had on and after the 24th of May inst., by application to the Secretary.

EDWIN NEALE, } High Constables.
JOHN HEAD, }

GEORGE WHITFELD, Esq., Honorary Secretary.
H. J. BARTLETT, Assistant Secretary.

Lewes, May 15th, 1852.

THE CHELTENHAM AND COUNTY OF GLOUCESTER MONSTER EXHIBITION OF USEFUL AND ORNAMENTAL POULTRY, at the ROYAL OLD WELLS, CHELTENHAM, on THURSDAY, the 3D of JUNE, 1852.

OPEN TO THE UNITED KINGDOM.

UNDER THE PATRONAGE OF
THE LORD LIEUTENANT OF THE COUNTY OF GLOUCESTER,
THE WORSHIPFUL THE MAYOR OF GLOUCESTER,
THE LORD OF THE MANOR OF CHELTENHAM,
THE REV. F. CLOSE, INCUMBENT OF CHELTENHAM,

And the Nobility, Clergy, and Gentry of the County, At which Exhibition will be given 100 Sovereigns as Prizes.

Schedules to be obtained on application to the Secretaries, Messrs. JESSOP, BROTHERS Cheltenham.—Tickets of Admission, if taken on or before the 29 h of May, 3*s.* 6*d.*; after that day, 5*s.* Subscriptions of 10*s.* 6*d.* will entitle Subscriber to Four Tickets of Admission. The Subscription Book to be closed on Saturday, the 15th May, 1852. Children, under 12 years of age, admitted at half-price.

Gardens open at 12 o'clock. Music commence at 2.

THE ROYAL GARDENERS' BENEVOLENT INSTITUTION.

A COLLECTION OF GUATEMALA ORCHIDS having been presented by a Gentleman to this Institution, Notice is hereby Given that they will be sold by Auction, on FRIDAY next, the 28th inst., by MR STEVENS, at his Rooms, King-street, Covent-garden; the net proceeds of the Sale to be appropriated to the purposes of the Charity.

It is hoped that a large attendance of buyers will be present, so that the intentions of the Donor may be realised, and the Funds of the Charity greatly increased.

EDWARD R. CUTLER, Secretary, 97, Farringdon-street, May 22.

STANDISH AND NOBLE, NURSERYMEN, Bagshot, Surrey, have to offer the following new and select Plants, all of which are hardy, except Azalea vittata:

ABIES JEZOENSIS, seedling plants, 21*s* each; this is one of the last novelties in Conifers; forms a noble tree of 120 feet in height, and of very distinct character (very hardy).

AZALEA VITTATA.—A specimen of this unique variety was awarded a Knightian Medal when exhibited at the Horticultural Society's Room last April; the ground colour of the flower is white, beautifully striped with purple, after the manner of a Carnation. It is a very free bloomer, 9 inches to 1 foot, 21*s.* each.

CUPRESSUS FUNEBRIS.—Seedlings, 5*s.* to 21*s.* each.

CEPHALOTAXUS FORTUNI, male, long leaves, seedlings, 21*s.* each.

CEPHALOTAXUS FORTUNI, female, short leaves, seedlings, 21*s.* each. These have withstood the late frost and drying winds without losing any of their verdure (very hardy).

ILEX PURGATA, 21*s.* each.

" MACROCARPA, 21*s* each.

QUERCUS SCLEROPHYLLA, 21*s.* to 42*s.* each.

" INVERSA, 21*s* to 42*s.* each.

SPIRÆA CALLOSA, an abundant and continued bloomer, it has large corymbs of rosy purple blossoms, and is a handsome addition to our shrubbery plants. 10*s.* 6*d.* each.

NEW HARDY HYBRID RHODODENDRON "BLANCHE SUPERBE."—This fine hardy Rhododendron was exhibited at Chiswick on Saturday last, and was greatly admired. It was awarded the Banksian Medal. It is a Seedling of Messrs. Veitch, who can supply nice established plants of it at 10*s.* 6*d.* each. Discount to the trade.

Exeter, May 22.

FINE NEW HARDY PATAGONIAN CONIFERS.

SAXE-GOTHÆA CONSPICUA (LINDLEY), and
FITZ ROYA PATAGONICA (HOOKER).

MESSRS. VEITCH AND SON beg to inform the Public that they are now prepared to take orders for fine plants of the above-named beautiful HARDY NEW CONIFERS, which will be ready for distribution on and after the 10th of June next, at the following scale of prices:—

1st size plants of Saxe-Gothæa conspicua	63*s.*	0*d.*	}	The two together 105*s.*
Do. do. Fitz-Roya patagonica	63	0		
2d size plants of Saxe-Gothæa conspicua	42	0	}	The two together 70*s.*
Do. do. Fitz-Roya patagonica	42	0		
3d size plants of Saxe-Gothæa conspicua	31	6	}	The two together 50*s.*
Do. do. Fitz-Roya patagonica	31	6		

The usual discount to the Trade, and where a number are taken additional plants given over in *proportion* to the quantity.

These plants are fully described by DR. LINDLEY and Sir W. J. HOOKER, in the Journal of the Horticultural Society for October, 1851; in the "Botanical Magazine" for November, 1851; and in "Paxton's Flower Garden" for October, 1851. They were exhibited at Chiswick on the 8th and each had a FIRST PRIZE in its Class.

Lithographed Plates, with full descriptions, are now in preparation, the distribution of which will be announced in a future Advertisement.—Exeter, May 22.

PLANTS FOR BEDDING OUT.

BASS AND BROWN have a large stock of the following, well established, strong, and in good condition:

VERBENAS.—New varieties of last year, comprising the best raised by Turner, Smith, Barker, Chauviere, Dufoy, &c. (See Catalogue.) We have still a good stock of last year's struck plants, fine and bushy plants, for early flowering. 12 varieties for 12*s.*, or 20 for 18*s.*

Best of previous introduction, 3*s.* 6*d.* to 7*s.* 6*d.* per doz.
50 well assorted and fine varieties, 18*s.*

		s.	*d.*
PETUNIAS, strong plants, choice, per doz.	4*s.* to	9	0
Best do., all of last year's, new, per doz.		12	0
25 well assorted and choice varieties for		15	0
FUCHSIAS, fine plants, choice, per doz.	4*s.* to	9	0
Best, all of last year's, per doz.		15	0
50 well assorted and choice varieties for		20	0
SCARLET GERANIUMS, best sorts, per doz.	5*s.* to	9	0
FANCY GERANIUMS, extra strong, choice, p. doz., 9*s.* to		15	0
DAHLIAS, choice, per doz.	5*s.* to	9	0
Best Fancy do., per doz		9	0
CHRYSANTHEMUMS, LARGE FLOWERING VARIETIES, last year's struck, choice, per doz.	5*s.* to	9	0
Do., LILLIPUTIAN VARIETIES, do., per doz.		7	6
Anagallis, in three best varieties, per doz.		4	0
Bouvardia splendens, per doz.		6	0
Campanula vidilla, per doz.		6	0
Calceolaria, shrubby varieties, per doz.		6	0
Cantua dependens, per doz.	15*s.* to	24	0
Cuphea platycentra, per doz.		6	0
Gaillardia, in three fine varieties, per doz.		6	0
Heliotrope, in seven fine varieties, including Reptans, Gem, Lilacea, &c., per doz.		6	0
Lantana crocea and delicatissima, per doz.		6	0
Lobelia erinus, in two vars., white and blue, per doz.		4	0
Mimulus, four best vars., including Prince of Wales, Criterion, &c., per doz.		9	0
Myosotis azorica and alpestris, per doz.		6	0
Plumbago Larpentæ, per doz.		9	0
" capensis, per doz		9	0

HARDY PLANTS FOR BEDDING.

Anemone japonica and hybrida, extra strong, per doz.		6	0
Antirrhinum, best varieties, per doz.		6	0
" best of new varieties, per doz.		10	0
" Primrose Perfection, each		2	6
Campanula carpatica, blue, per doz.		5	0
Erinus alpinus, per doz.		5	0
Dielytra spectabilis, each	1*s.* to	1	6
Geum grandiflorum splendens, large fine scarlet, p. doz.		5	0
Delphinium Wheelerii, each		2	6
Pentstemon azureum, Buckii, Marshallii, & Clusii, p. doz.		9	0
Other fine varieties, per doz.		6	0
Phlox, best varieties, per doz.	6*s.* to	9	0
Saponaria ocymoides, per doz.		6	0
Saxifraga, six fine varieties, per doz.		4	0
Sliene Schafta, per doz.		5	0
Escholtzia, new white, per doz.		5	0
100 distinct and showy varieties of Herbaceous Plants		30	0
50 ditto for		17	6
100 varieties, including superior new		50	0
50 ditto for		30	0
25 fine Rock Plants		12	0
12 ditto, for		7	6

CLIMBERS.

Ipomœa Leirii, 1*s* 6*d.* to 2*s.* 6*d.* each; Calempelis scaber, 6*s.* to 9*s.* per dozen; Lophospermums, of sorts, 9*d.* to 1*s.* 6*d.* each; Maurandya Barclayana, 3 vars.—white, rose, and blue, 9*d.* each; extra strong, 1*s.*; Solanum jasminoides, 1*s.* 6*d.* each; Tropæolum Wagnerianum, 1*s.* 6*d.* each; speciosum, 1*s.* 6*d.* to 2*s.* 6*d.*; Smithii, 1*s.* 6*d.* to 2*s.* 6*d.*; Bignonia radicans major, 1*s.* each; Calystegia pubescens, 1*s.* each; Clematis, Honeysuckles, Jasminums, Climbing Roses, &c., in great variety.

The Descriptive Priced Spring Catalogue supplied for four penny stamps. The Autumn Catalogue, which contains chiefly the Hardy Plants, for two penny stamps, which amount may be deducted from orders.

Goods sent, carriage free, to London, or any Station on the Ipswich and Norwich line; and with goods of 2*l.* and upwards, extra plants presented gratis.

Remittances required from unknown correspondents. Post-office orders to be made payable to BASS and BROWN, or to STEPHEN BROWN.

Seed and Horticultural Establishment, Sudbury, Suffolk.

VANDA CÆRULEA, DENDROBIUM, a new and distinct variety, rivalling Dendrobium nobile, together with D. Devonianum and Cambridgianum; Aerides affine and affine rubra; Vanda teres, Pleiones, and other Orchidaceous plants.

MAULE AND SONS beg respectfully to inform the growers of Orchidaceous plants, that their Vanda cæruleas are now established, together with the above-named varieties, which they have received from India, and will be offered by Mr. STEVENS, at his Great Room, King-street, Covent-garden, on FRIDAY next, the 28th of May.

Vide Advertisement at page 336.

Stapleton-road Nurseries, Bristol, May 22.

TO CALCEOLARIA GROWERS, GENTLEMEN'S GARDENERS AND OTHERS.

A COLLECTION OF SEEDLING CALCEOLARIAS, now in bloom, for Sale. May be seen any day during this month, Sundays excepted, on application, No. 5, Surinam-terrace, Stratford, Essex.—May 22.

"THE FLOWER OF THE DAY," VARIEGATED GERANIUM.—This elegant plant proved, last season, to be the gayest and most attractive ever beheld. The excellent habit and beautiful form of the plant, and its green and silver leaves, contrasted with the brilliant light scarlet bloom, rendered it an object of the highest admiration. Those who have not yet adopted it as a bedding plant, are strongly recommended to do so this season, as it is without a rival.

JOHN AND CHARLES LEE beg to offer fine well-established plants at 9*s.*, 12*s*, and 18*s.* per dozen. A few large plants for Vases at 3*s.* 6*d.* and 5*s.* each.—Nursery, Hammersmith.

GREEN'S SCARLET KING DAHLIA.—As no more Plants can be supplied by the agent, until the 30th of May, applicants are referred to Messrs. TURNER, KEYNES, BRAGG, SALTER, LOCKHART, and others of the trade, whose wholesale orders are executed in full. 84, Fleet-street, London. May 22.

NEW CALCEOLARIAS, SCARLET PELARGONIUMS, &c.

CALCEOLARIAS.—Conway's Ruby Bicolor and Crimson King, choice varieties for bedding, 2*s.* 6*d.* each. Other good sorts 6*s.* per dozen.

SCARLET GERANIUMS.—Conway's King of Nepaul and Pet Superb, 2*s.* 6*d.* each. All the best varieties at moderate prices. Good plants for bedding, 6*s.* to 9*s.* per dozen.

VERBENAS.—A good selection, 6*s.* to 9*s.* per dozen.

Geraniums, Fancy Geraniums, Heliotropes, Antirrhinums, Phloxes, Petunias, &c. &c., at reasonable prices.

A Catalogue may be had on application.

MARY CONWAY, Earl's-court Nursery, Old Brompton, London.

SENECIO ROSEA GRANDIFLORA, A NEW BEDDING PLANT.

BAINBRIDGE AND HEWISON are prepared to send out the above plant, post free, at 3*s.* each.

BAINBRIDGE'S GUIDE TO THE CONSERVATORY, 5*s.* each.

BAINBRIDGE'S ALKALINE EXTRACT, for destroying the Red Spider and Mildew, to be procured by gentlemen in the country from their stationers, in their book parcels, from BALDWIN, Publisher, Paternoster Row, London, at 3*d.* per pint.

Hope Nursery, York, May 22.

HUGH LOW AND Co. have to offer the undernamed Plants:—

OTAHEITE ORANGES, extra fine, full of bloom, 7*s.* 6*d.* each, or 63*s.* per dozen.

SWEET do. do. do. and Fruit, 7*s.* 6*d.* each.

DEUTZIA GRACILIS (Japan), one of the prettiest hardy shrubs yet introduced, well adapted for early forcing, 2*s.* 6*d.* to 7*s.* 6*d.* each.

MIMULI, five new varieties, raised by A. Clapham, Esq., of Scarborough, the most successful cultivator of this genus, 5*s.* each, or 17*s* 6*d.* the set.

EPIMEDIUM RUBRUM, a new and handsome hardy herbaceous plant, with blood red flowers, 7*s.* 6*d.* each.

SCARLET GERANIUM "THE AMAZON" (see former Advertisement), 5*s.* each.

OXALIS, new species from the Pacific Islands, with charming rose-coloured flowers, quite distinct, 7*s.* 6*d.* each.

DELPHINIUM HYBRIDUM, a very fine variety, with deep blue flowers, 3*s.* 6*d.* each.

BOUVARDIA LEIANTHA, this is the finest and most distinct of its species, with beautiful orange scarlet flowers, well suited for either the greenhouse or flower garden, 1*s.* 6*d.* each, or 12*s.* per dozen.

GASTROLOBIUM CUNEATUM, a very handsome New Holland plant, with large spikes of orange-coloured flowers, very free bloomer, 3*s.* 6*d.* each.

BRACHYSEMA ACUMINATA, an excellent conservatory climber, habit quite distinct, flowers bright scarlet, 5*s.* each.

SOLLYA species, Swan River (Drummond), a very rapid climber, for the greenhouse, with woolly leaves and bright blue flowers, which appear during the autumn months, 3*s* 6*d* each.

OXYLOBIUM LEAKEANUM (Swan River), a beautiful plant for the greenhouse, 5*s.* each.

ACACIA, three species from Swan River, distinct in habit and most abundant b oomers. 3*s.* 6*d.* each.

DAVIESIA SCOLOPENDRIODES, a magnificent species of this much admired genus, 21*s.* each.

LILIUM COLCHICUM (Caucasus), of dwarf habit, perfectly hardy, with splendid golden yellow flowers, 10*s.* 6*d.* each.

LIBOCEDRUS CHILENSIS, a handsome Conifer, from the Andes of Chili, and one of the finest Evergreen Trees yet introduced, 5*s.* to 7*s.* 6*d.* each.

VERBENAS, the best of last year's continental varieties, 9*s.* to 12*s* per dozen.

CHRYSANTHEMUMS, do. do. 9*s.* to 12*s.* per dozen.
Pompon do. do. do. 12*s.* to 18*s.* "
PHLOXES, do. do. 9*s.* to 12*s.* "

Also a selection of the older Verbenas, Petunias, Lantanas, Fuchsias, Heliotropes, Bedding Geraniums, &c. &c., at from 2*s.* 6*d.* to 4*s.* per dozen.

Clapton Nursery, London, May 22.

CHOICE BEDDING PLANTS, ETC.

YOUELL AND CO.

BEG TO CALL ATTENTION TO THE FOLLOWING :—

CALCEOLARIA SULTAN, this finest dark variety (in fact none of the others will bear any comparison with it), strong plants, 9*s* per dozen.

CALCEOLARIA KENTISH HERO, this fine, dark, orange variety, 9*s*. per dozen.

CALCEOLARIA VISCOSISSIMA, light orange, splendid trusser, excellent for pot culture or bedding, a first-rate variety, 9*s*. per dozen.

CALCEOLARIA VULCAN, superb, dark, velvety crimson, good habit, and very free bloomer, 6*s*. per dozen.

CALCEOLARIA CAIEANA, canary, good habit and excellent trusser, 6*s*. per dozen.

CALCEOLARIA (ROLF'S SUPERB), light bronze, excellent for bedding, and very distinct, 6*s*. per dozen.

CALCEOLARIA SALVIÆFOLIA, bright yellow, 6*s*. per doz.

CALCEOLARIA GRANDIS, this very distinct and strong species produces very large flowers, of a pale yellow, and with a little care may be induced to bloom throughout the winter. 1*s*. 6*d*. each.

VERBENAS.—We are well known as possessing a large and very select collection of this charming flower, including the best of the Continental varieties of last year, as well as of those raised at home. Our stock is very large this season, and when the selection is left to us, we shall be happy to supply good bushy plants from cold pits at 4*s*. per dozen.

CHEIRANTHUS MARSHALLII.—This is a fine thing, flowering when not more than 3 inches high, in spikes of rich orange. It is very fragrant. 12*s*. per dozen.

LOBELIA ERINUS LUCIDA and COMPACTA, two of the best blues, 4*s*. per dozen.

ANAGALLIS ANDOMARIENSIS, purplish crimson, of a compact and bushy habit, an abundant bloomer, quite a little gem. 6*s*. per dozen.

ANAGALLIS BREWERII, fine blue, 4*s*. per dozen.

PETUNIAS in fine variety, including Crimson King, Rosy Circle, &c., 6*s*. per dozen.

HELIOTROPES.—Triomphe de Liège, Voltairianum, &c. (strong), 6*s*. per dozen.

ŒNOTHERA RIPARIA, the prettiest, perhaps, of the genus, of trailing habit, and small lanceolate foliage; it is literally a mass of canary coloured bloom through the summer and autumn. 6*s*. per dozen.

PENTSTEMON VARIABILIS, "Salter's" new variety, 1*s*. 6*d*. each.

CAMPANULA CORALLINA, strongly recommended for bedding where neat dwarf plants are desirable, of trailing habit, bearing pretty blue star-shaped flowers so abundantly as almost to conceal the foliage. 6*s*. per dozen.

OXALIS FLORIBUNDA, one of our handsomest hardy plants, excellent for bedding; universally admired for its pretty rose-coloured flowers, which it yields in profusion all through the summer and autumn. 6*s*. per dozen.

ANTIRRHINUMS in great variety. 6*s*. per doz.

SAPONARIA OCYMOIDES.—This fine old favourite 4*s*. per dozen.

CHOICE AND NEW PLANTS.

EPACRIS, fine bushy plants, in large 48's, full of flower, 9*s*. per dozen.

ERICAS, fine bushy blooming plants, of choice varieties, principally in large 48's, 9*s*. per dozen.

ERICAS, in large 60's, nice bushy plants, many showing flower, 6*s*. per dozen, comprising ventricosa superba, v. tenuifolia, v. fasciculata superba, v. breviflora, v. carnea, Cavendishiana, mirabilis, perspicua nana, hyacinthoides, aristata vittata, Sindriana, trossula, exurgens coccinea, viridiflora, Linnæoides superba, ditto nana, Westcottiana, Willmoreana superba, intermedia, Linnæa nova, mammosa, Bowei rubra calyx, echiflora purpurea, curviflora, ovata, hybrida, gracilis, &c.

APHELEXIS HUMILIS, bushy plants, in large 48's, with flowers, 12*s*. per dozen.

VERONICA ANDERSONII.—This choice variety is of the easiest culture, a good specimen plant producing its pretty spikes of lilac flowers, from early spring till late autumn. 1*s*. 6*d*. each.

CRASSULA NITIDA ODORATA.—This makes a splendid specimen plant, is very fragrant, and should be in every collection. Large plants in 48's, 1*s*. 6*d*. each; smaller ditto, 9*s*. per dozen.

CRASSULA "NAPOLEON BUONAPARTE," a fine new variety; brilliant scarlet, far superior to C. coccinea, 2*s*. each.

FANCY GERANIUMS, choice sorts, 9*s*. per dozen.

GERANIUM ARDENS MAJOR, strong plants, 9*s*. per doz. This fine Cape species stands unrivalled for brilliancy of colour, being a rich ruby.

FUCHSIAS.—Our collection of this lovely flower comprises all the novelties of merit as well as the old standard varieties. Where the selection is left to us we shall supply strong plants of last season's growth or of this at 6*s*. per dozen.

FUCHSIA MACRANTHA, a fine species, with long purple flowers, habit of Humboldt's Splendens, 1*s*. 6*d*. each.

CHRYSANTHEMUMS.—Much improvement has been made in these of late years, and, being particular favourites of ours, we have spared neither pains nor expense in our pursuit of new and fine varieties. Our specimen plants are every year the admiration of all who see them. The collection at present comprises nearly 200 varieties, which we shall be happy to supply in strong plants, the large and dwarf varieties 5*s*. per dozen.

GLOXINIAS.—Many fine new varieties, 9*s*. per dozen.

GLOXINIA PETOIANA.—This superb light variety, sent out by us last season, coloured all round with crimson lake, in the way of Fyfiana; the finest of its class, strong bulbs, 3*s*. 6*d*. each.

HOYA BELLA.—This plant has proved itself well worthy the high character given it when first circulated; it is one of the most lovely plants we know. Plants extra strong, showing bloom, 3*s*. 6*d*.; smaller, 2*s*. 6*d*.

ESCALLONIA MACRANTHA, the finest, perhaps, of our new hardy shrubs; strong plants, 9*s*. per dozen.

MITRARIA COCCINEA.—This fine hardy shrub produces numerous scarlet flowers, very similar in form and colour to Erica splendens; strong plants, 9*s*. per doz.; a few specimen plants, 3*s* 6*d*. each. We are happy to say it proves itself a remarkably free bloomer, as most of our plants in large 48's are showing flower.

CALYSTEGIA PUBESCENS fl. pl., or Double Convolvulus.—This, first introduced as a stove plant, proves to be perfectly hardy, and one of our most ornamental climbers; it is admirably adapted for trellis work, &c., being of robust habit. The flowers are produced at the axils of the leaves in great profusion, of a delicate rose colour, and very double, 9*s*. per dozen.

DEUTZIA GRACILIS, 2*s*. 6*d*. each.

DIELYTRA SPECTABILIS, 1*s*. each.

CEANOTHUS RIGIDUS.—This, so strongly recommended in the *Gardeners' Chronicle* as decidedly the hardiest and best of the new Californian species, produces numerous spikes of light blue feathery flowers; strong bushy plants, 1*s*. 6*d*. each; smaller, 12*s*. per dozen.

CEANOTHUS DENTATUS, 1*s*. 6*d*. each. These are remarkably free bloomers.

MIMULUS.—Leo, Prince of Wales, Duke of Wellington, and Sagi Huras, 1*s*. each.

FORTUNE'S YELLOW ROSE, 2*s*. 6*d*. each.

LESCHENAULTIA FORMOSA, strong plants, in flower, 9*s*. per dozen.

OXALIS ELEGANS and ELEGANS MAJOR, 1*s*. 6*d*. each. These are purple with a dark eye.

EUONYMUS FIMBRIATUS, 1*s*. 6*d*. each.

SOLLYA DRUMMONDII, fine new species, light blue greenhouse climber, colour of Lobelia compacta; strong plants, 1 to 1½ foot, 18*s*. per dozen. This is of very robust habit and quick growth—excellent for trellis work.

PHLOXES, in many fine new varieties, strong plants, in pots, 6*s*. per dozen.

Finest Mixed ANEMONE SEED, of this year's growth, from selected sorts, (by post free), at 2*s*. per oz.

For other choice and new plants we beg to refer to our Advertisement of April 10th. The Conifers, and nearly all the others, being in pots, may still be removed with perfect safety.

PICEA PINSAPO, 4 inches, from seed, very robust, in pots, 12*s*. per dozen.

YOUELL AND CO.'S NEW PLANT CATALOGUE, having the newspaper stamp to go free by post, will be published in a few days, and may be had on application.

All orders of 2l. and upwards delivered free to any Railway Station within 150 miles of the Nursery.

ROYAL NURSERY, GREAT YARMOUTH.

CHEAP BEDDING PLANTS FOR THE MILLION.

JOHN HAYES, FLORIST, Farnham, Surrey, begs to say that his Plants at 1*s*. per dozen are strong, and the greater part in bloom. One dozen sent gratis to every five dozen taken; 2*s*. per dozen if a hamper is sent; 1*s*. 4*d*. per dozen, post free, when three dozen are taken.

This Advertisement will not be repeated.—May 22.

CHEAP & EXTRA STRONG DAHLIAS FOR 1852.

HENRY WALTON, FLORIST, &c., Edge-end, Marsden, near Burnley, begs to offer extra fine DAHLIAS at the prices named, as follows :—New varieties of 1851, 9*s*. to 12*s*. per dozen; older varieties, 4*s*. 6*d*. to 6*s*. per dozen. Also strong plants of the yet unequalled dark PANSY, "JENNING'S KING," 5*s*. 6*d*. each; to the Trade, 30*s*. per dozen; one over when three are ordered. H. W. offers the above Pansy with full confidence that it will give satisfaction, having received several testimonials as to its merit from parties who have already purchased it. The "Midland Florist" of April, 1852, says, that it is "a very beautiful dark purple self; petals of good substance, and excellent in form." 12 good Show Pansies, with a plant of King, 12*s*. 6*d*.; or 20, with a King, 1*l*. All the New Fuchsias of last year, 1*s*. each, or 10*s*. 6*d*. per dozen; New Verbenas of last year, 12 for 7*s*. 6*d*., or 24 for 12*s*.; New Petunias of last year, 7*s*. 6*d*. per dozen. Also a choice selection of Scarlet and other Geraniums, Verbenas, Antirrhinums, and other plants suitable for bedding, at equally low prices.

H. W. begs to refer purchasers to his detailed Advertisement in the *Chronicle* of May 1st. Strong well-rooted plants may be depended on, securely packed, so as to insure safe delivery. It is respectfully requested that all orders be accompanied with a Post-office Order, made payable at Marsden, Lancashire.

N.B. Catalogues of the above may be had for one stamp.

LANDSCAPE GARDENING.

MR. THOROLD, of Thorpe-Bower, near Norwich, offers his services as a LANDSCAPE and ORNAMENTAL GARDENER, in the highest style of the art, including Decorations round the House, Forming Water, Approaches, Picturesque and Distant Scenery, Vistas, &c.; correcting the efforts of amateurs, and directing the practical execution of works.—Mr. T. has no connection with Nurserymen or any trade whatever.

STUBBLE SWEDE TURNIP SEED.

JOHN RIVERS solicits the attention of the Agriculturist to his quick growing STUBBLE SWEDE TURNIP; though this variety originated from a cross between a large white Stone Turnip and the old Green-top Swede, by careful selection it has the colour, solidity, and the hardiness of the true Swede. As it was extensively distributed last year, experience has proved it superior for sowing in May, for early feed; its growth being matured before the mildew attacks it in the autumn, being better adapted for giving more time in the preparation of the Land than any other kind, from its quickness of growth, and it is a heavy cropper. It may be sown for a full crop throughout the month of June. Price 1*s*. 6*d*. per lb.

Orders to the amount of 10*s*. carriage paid to London. Post-office orders are requested of unknown correspondents.

Sawbridgeworth, Herts.

CORNER OF HALF MOON-STREET, PICCADILLY.

TURNIP SEEDS.

Purple-top Swedish Turnip	Globes and Tankards of sorts
Green-top do. do.	
Skirving's Swedes	Yellow Globe Mangold Wurzel
Gibbs' Green-top Yellow Hybrid	Long red do. do.

GRASS SEEDS for Permanent Pastures and Meadows, and all kinds of Agricultural and other Seeds.

THOMAS GIBBS AND CO., the Seedsmen to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND," corner of HALF MOON-STREET, Piccadilly.

SKIRVING'S IMPROVED TURNIP SEEDS.

WILLIAM SKIRVING begs to announce to his friends and the public, that he has fixed the price, for this season, of his IMPROVED SWEDE, and also the PURPLE-TOP YELLOW BULLOCK, at 9*d*. per lb.

W. S. can, with perfect confidence, recommend these Turnips as being the best now in cultivation, in every respect, whether for the greatest crop, the best quality, or for keeping, according to the time of sowing. At the same time he begs to state that he has no agent in town or country, and, of course, is not accountable for the low-priced spurious Turnip Seeds offering under his name.

All other kinds of Turnip and Agricultural Seeds in general, of the best quality, at very moderate prices. A remittance or reference is requested from unknown correspondents.

Queen-square, Liverpool, May 22.

SCARCE AND BEAUTIFUL FLOWER SEEDS.

EMPEROR STOCK, a perennial species, and hardy, 1400 seeds, 1*s*.

CINERARIA and CALCEOLARIA, selected from collections of Plants, that were admitted by all persons who saw them to be the finest they had ever seen; 250 seeds of the former, and 500 of the latter, 1*s*. each paper.

MYOSOTIS AZORICUS, a bed of this on an eastern or northern aspect is very beautiful; 200 seeds, 1*s*.

CALENDRINIA UMBELLATA, one of the neatest growing and most brilliant flowering of all bedding plants; 1500 seeds, 1*s*.

SWEET WILLIAM, in 100 varieties; 10,000 seeds, 1*s*.

Payment may be made in postage stamps.

JEYES and Co., Nurseries, Northampton.

TARES.

TARES.—Several acres to be disposed of at Wood-lane, Shepherd's Bush, at per acre. For Particulars, apply to FREDERICK MITCHEL on the premises.—May 22.

A PRIVATE GENTLEMAN

A PRIVATE GENTLEMAN residing about 20 miles from London, approached by Railway, and within one mile and a half of a county town, is disposed to LET his GARDEN, about Two Acres, with Eight large Glass-houses therein well stocked. To any respectable Man accustomed to market business, this will be an excellent opening.—Apply to A. B. C., Office of this Paper.

TO MARKET GARDENERS.

TO BE LET, in consequence of the present tenant going into another line of business, a first-rate GARDEN FARM, in a high state of cultivation, in the parishes of Higham and Frindsbury, two miles from the Railway Station at Strood, consisting of 73 Acres, with good Farm Buildings. Rates and Tithes low.—For further particulars, enquire of J. LEWIS, Esq., Solicitor, Rochester, Kent.

LAND.

LAND.—WANTED, about Three or Four Acres, for Gardening purposes, with or without a Cottage, within 10 miles of London, immediately.—P.S. The north of London preferred—W. TURNER, Tufnell Park, Holloway, London.

PRIZE SHANGHAI FOWLS' EGGS FOR HATCHING, 18*s*. per dozen.

PRIZE SHANGHAI FOWLS' EGGS FOR HATCHING, 18*s*. per dozen. Superior Cochin China Eggs, white-faced Spanish Eggs, and Polish Eggs, 6*s*. per doz. White Cochin China Eggs, 20*s*. per dozen. The above are genuine and fresh. W. T. begs to suggest this as the best time to purchase Eggs for Hatching, as more chickens are obtained from now to the middle of June than earlier in the season. Letters to inclose stamp.

WM. TURNER, Tufnell Park, Holloway, London.

WARRANTED GARDEN TOOLS.

DEANE, DRAY, AND CO.'S STOCK OF GARDEN TOOLS for the season is now complete, and includes every recent approved invention, in addition to their usual large assortment, selected from all the best makers.

DEANE, DRAY, and Co. are London Agents for GIDNEY'S PRUSSIAN HOE, which obtained the First Prize Silver Medal at the Tarvin Grand National Exhibition; also Sole Agents for Lingham's Menographs and Metallic Labels, samples of which may be had on application, post free. They have always on hand a stock of BROWN'S PATENT FUMIGATORS, which have stood the test of three seasons, and continue to give general satisfaction; also Epps' Registered Sulphurator for destroying Mildew upon Grapes, Hops, Roses, Fruit Trees, &c. An Illustrated Priced Catalogue sent per post, free.

DEANE, DRAY, and Co. (opening to the Monument), London-Bridge.

CLARKE'S PREPARATION FOR DESTROYING WHITE MEALY BUG, SCALE, THRIP, AND ALL OTHER INSECTS, WITHOUT INJURING THE PLANTS.

CHARLES CLARKE begs to acquaint all who are troubled with either of the above insects on their plants, that his preparation has been thoroughly tested in the Gardens of the Horticultural Society, and pronounced a perfect remedy, (see Report, p. 278, *Gardeners' Chronicle*, May 1). C. C. having received intimation from various parts that the quantity sent is sufficient only to dip very small plants, he intends for the future to send it out in 9*s*. as well as 5*s*. bottles (on receipt of a post-office order or postage stamps) the former to make two gallons, and the latter one; directions will be found on each bottle. Post-office orders payable at Brompton.

Also,

CLARKE'S TOBACCO PAPER for fumigating Greenhouses, &c. This article is acknowledged to be more effective than Tobacco, and is very much cheaper; price given on application. The trade supplied.

Percy Cross Nursery, Walham-green, Fulham

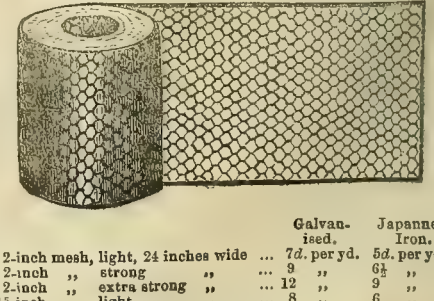
LINGHAM BROTHERS, 170, Hampton-street,

LINGHAM BROTHERS, 170, Hampton-street, Birmingham, sole Manufacturers of the Improved WOOD and ZINC MENOGRAPH, or Label for Garden Borders, Flower-pots, &c., in boxes of 100, &c. The Zinc Labels are highly approved of for their lasting durability; can be written upon with the greatest ease, and, when dry, a permanent inscription is secured. Directions for use sent with each box, including bottle of Metallic Ink.

Sole Agents in London, G. and J. DEANE, Horticultural Implement Warehouse, 46, King William-street, London-bridge.

GALVANISED WIRE GAME NETTING.

GALVANISED WIRE GAME NETTING.—7*d*. per yard, 2 feet wide.



			Galvanised.	Japanned Iron.
2-inch mesh, light, 24 inches wide		...	7*d*. per yd.	5*d*. per yd.
2-inch	,, strong	,, ...	9 ,,	6½ ,,
2-inch	,, extra strong	,, ...	12 ,,	9 ,,
1⅝-inch	,, light	,, ...	8 ,,	6 ,,
1⅝-inch	,, strong	,, ...	10 ,,	8 ,,
1⅝-inch	,, extra strong	,, ...	14 ,,	11 ,,

All the above can be made any width at proportionate prices. If the upper half is a coarse mesh, it will reduce the prices one-fourth. Galvanised sparrow-proof netting for Pheasantries, 3*d*. per square foot. Patterns forwarded post free.

Manufactured by BARNARD and BISHOP, Market-place, Norwich, and delivered free of expense in London, Peterborough, Hull, or Newcastle.

VICTORIA REGIA.

J. WEEKS AND CO., King's Road, Chelsea, have a few fine strong Plants for Sale of VICTORIA REGIA, Nymphæa cærulea, Nymphæa dentata, Nymphæa stellata, &c. As also a splendid Collection of Stove and Greenhouse Plants, all in the highest state of cultivation —PLANS and ESTIMATES for building Aquariums and all other Horticultural erections J. WEEKS & Co.'s HOT-WATER APPARATUS is well adapted for Warming large Ponds, for Stove Aquatics, and for Heating extensive ranges of Forcing-house.

HORTICULTURE IN ALL ITS BRANCHES.

EXHIBITION OF TULIPS.

HENRY GROOM, CLAPHAM-RISE, near London, FLORIST by appointment to HER MAJESTY THE QUEEN, and to HIS MAJESTY THE KING OF SAXONY, respectfully informs the Nobility, Gentry, Amateurs, and Public that his EXTENSIVE COLLECTION OF TULIPS is now in FLOWER, and can be viewed every day from 9 o'clock until 6 (Sundays excepted). Admittance, 1s.; Children half-price.

NEW CAMELLIA.

JACKSON'S "COUNTESS OF ELLESMERE."—To be sent out in the first week of June, price 42s. each; and for every three ordered one added gratis. On the 8th of April last it was awarded by the National Floricultural Society of London a first-class Certificate, and received the highest commendation; it is described as being of first-rate form, with broad cupped petals, of a blush white, faintly striped with rose see *Gardeners' Chronicle* and *Gardeners' Journal*, for report of meeting, April 17). It is figured in the "Florist" for May, 1851, and is again mentioned in the "Florist" for this month, as having been exhibited, and deserving to be placed in every collection. It has the beautiful form of the Coup d'Hébé Rose. —THOMAS JACKSON and SON, Nurserymen, Kingston, near London (on the South Western Railway).

DAHLIAS.—If Certificates are any criterion of merit, the under-mentioned received Thirty-three out of Fifty-five given to all England, at the Great National, Surrey Gardens, Trowbridge, Newbury, Walsall, Shacklewell, Taunton, Notting-hill, London, and Slough. They stand on this recommendation. Fine plants are now ready, with all the leading varieties, on application to JOHN KEYNES, Nurseryman, Salisbury.

Triumphant (Keynes), crimson
Una (do.), white
Douglas Jerrold (do.), buff-edged scarlet
Laura Lavington (do.), fancy, fawn and white
Nancy (do.), fancy, scarlet and white
Aurora (Keynes), buff
Cricket (Dodd's), fancy, peach and white
Miss Bathurst (do.), fancy, lilac and white
Cloth of Gold (Hooper's), fine yellow

Catalogues, showing the three best varieties of each colour, may be had on application.—Salisbury, May 22.

SEED AND HORTICULTURAL ESTABLISHMENT, SUDBURY, SUFFOLK.

CHOICE GERANIUMS, fine strong plants.—See names advertised in *Gardeners' Chronicle* of April 3d, 10th, 24th, and May 8th.

	s.	d.
25 fine show varieties, 22s.; or 12 vars. for	12	0
25 superb and best prize vars., 35s.; or 12 for	21	0
12 best new vars. of last season	50	0
12 fine fancy vars., 9s.; 12 superb fancy for	15	0
9 best new fancy vars. of last season	28	0
Scarlets of best sorts, per dozen, 5s. to 9s.		
ACHIMENES, 12 best vars., 10s.; 12 fine vars.	6	0
GLOXINIAS, 12 best vars., 20s., including Petoiana, Maria Van Houtte, and others, as before advertised.		
Do. 12 fine vars.	12	0
GREENHOUSE PLANTS, fine and select, 50 vars. ...	45	0
Do. 25 vars., 24s.; 12 vars.	12	0
Do. 12 extra choice, new and select	25	0
STOVE PLANTS, fine and select, 50 vars., 65s.; 25 for 35s.; 12 for	18	0

The DESCRIPTIVE SPRING CATALOGUE supplied for four penny stamps; or, gratis, to purchasers.

Goods, carriage free, to London, or on the Ipswich and Norwich line, and extra plants presented with orders of 40s. and upwards.

Post-office orders payable to STEPHEN BROWN; or to BASS and BROWN, Sudbury, Suffolk.

NEW CATALOGUES FOR 1852.

EDWARD GEORGE HENDERSON AND SON, Wellington-road, St. John's Wood, London, are now sending out their new plants as advertised for this month, also the following choice plants:

Abronia umbellata
Ageratum conspicuum
Balsamina latifolia alba
Calceolaria "Crimson King"
" Shankleyana
Campanula coronata
Deutzia graciliis
Dianthus fulgens
Gallardia semiplena
Gesnera zebrina compacta
Heliotropium paniculatum
Lantana purpurea
Lobelia Erinus racemosioides
Lychnis dioica alba pleno
Passiflora Decaisiana
" Kermesina major
Pentstemon Californicus
" mutabilis
Petunia meredes
" striata superb
Phlox Drummondi Mayi
" " Thompsoni
" " Leopoldi Superb
" " Jarratti
Rose Fortuni, "new," not Fortune's yellow
Statice Halfordi
Scutellaria macrantha, "strong"
Tropæolum Triomphe de Gand
Vibernum suspensum "strong"

For descriptions and prices of the above see new Catalogues, which will be forwarded, post free, on application.

ROSE NURSERIES, HERTFORD.

EDWARD P. FRANCIS offers the following Bedding-out Plants, strong and vigorous, in 60-size pots, carriage paid to London:

	Per dozen—	s.	d.
Scarlet Geraniums, Tom Thumb and Frogmore ...		4	0
Verbenas, the best varieties ... ... 3s. to		4	0
Salvias, blue and red		4	0
Fuchsias, best varieties		6	0
Heliotropes, strong, in 48-size pots		6	0
" smaller plants		4	0
Pentstemons, fine varieties		4	0
Ageratum coelestinum		3	0
Calceolarias, viscosissima, floribunda, amplexicaulis		4	0
Anagallis, blue		4	0
Nierembergias		4	0
Cuphea platycentra...		3	0
Gallardia picta		4	0
Petunias, Beauty, Splendens, &c.		4	0
Double Senecio		4	0
Lobelia racemosa		6	0
" Erinus		4	0
Œnothera vivipara			
Tropæolum canariense		4	0
Variegated Geraniums, strong		8	0
Fine mixed sorts do., in 48 and 32-size pots		9	0

Collection of the best Hollyhocks, in pots, 1s. each.

E. P. F. engages to supply none but strong healthy plants. May 22.

NEW AND FIRST-RATE BEDDING PLANTS.

JOHN CATTELL begs to say that his Spring Catalogue of new and choice Florist, Fancy, and other GERANIUMS and BEDDING PLANTS, &c., is now ready, and may be had on prepaid application, enclosing one penny stamp.

The following selection will show the moderate rate at which the plants are offered:—

	Each.	Doz.
Geranium "Flower of the Day"	1s. 0d.	9s. 0d.
" "Mountain of Light," extra strong	10 6	
" " " smaller, 5s. to	7 6 ...	60 0
" Scarlets, of the finest sorts... ...	— ...	6 0
" Pinks of the scarlet habit	— ...	6 0
Calceolaria "Kentish Hero"	— ...	6 0
" "Sultan," fine crimson	— ...	9 0
" fine yellow varieties	— ...	6 0
Petunia "Purple Perfection," the best purple ...	— ...	4 0
" "Crimson King," splendid crimson ..	1 0 ...	9 0
Verbenas of the best established sorts, 3s. to		4 0
Oxalis Bowei	— ...	6 0
Lobelia Erinus maxima, finest dwarf blue ...	— ...	4 0
" fulgens multiflora, finest scarlet ...	0 9 ...	8 0
Heliotropes of sorts	— ...	6 0

The Scarlet and other Geraniums, Heliotropes, Calceolarias, &c., are stout bushy plants, having been several times topped, and regularly shifted into larger pots, so that they will almost make an immediate effect.—Westerham, Kent, May 22.

HEXACENTRIS MYSORENSIS.—This extraordinary and beautiful new Climber (requiring the temperature of a stove or warm greenhouse), is perfectly distinct in its character from anything yet introduced. It was exhibited by Messrs. VEITCH and SON at Chiswick, on Saturday the 8th of May, and received the First Prize for New Plants; and was indeed, on that occasion, the admiration of all who saw it.

It is a most abundant bloomer, producing its long pendulous clusters of large golden yellow and deep crimson flowers in great abundance, continuing in perfection for several months. The habit of the plant is excellent, with neat dark green foliage, and is of easy culture. It is altogether a plant of such first-rate quality and great beauty, that Messrs. VEITCH and SON feel every confidence in highly recommending it.

Good established plants will be ready for delivery in the month of August next, at 21s. each. One plant over to the Trade on every three taken. Orders executed in strict rotation as received.—Exeter, May 22.

NEW ROSES.—The following varieties are fine healthy plants in pots, worked on the Manetti Rose:

HYBRID PERPETUALS.	Each. s.	d.
Blanche de Portemer, when fully open nearly pure white	10	6d.
Mère de St. Louis, white tinted with rose, a seedling from La Reine	10	6
Eugene Sue, bright rose, a seedling from Duchess of Sutherland, with flowers as large as Baronne Prevost	10	6
General Bedeau, bright red	5	0
Graziella	5	0
Inermis, rose, thornless and very robust	7	6
Isocrate, rose, tinted with salmon, from La Reine ...	7	6
Laure Ramand	5	0
Louise Peyrouny	5	0
Le Lion des Combats, deep crimson	7	6
L'Etendard du Grand Homme	5	0
L'Elegante Nouvelle	2	6
L'Enfant du Mont Carmel, fine crimson	7	6
Madame Andry, bright rose, a seedling from William Jesse, fine	5	0
Madame Hilaire, rose	5	0
Madame Fremion, brilliant carmine	3	6
Madame Ducher, delicate rose	5	0
Madame Seigneur, bright rose	5	0
Palais de Cristal	7	6
Souvenir de la Reine des Belges, carmine	7	6
Souvenir de l'Empire, crimson scarlet...	5	0
Victoria (Paul)	10	6
William Griffiths	5	0
The new White Banksian Rose (Rosa Fortuniana), with flowers as large as Noisette Aimée Vibert ... Carriage paid to London.	5	0

THOMAS RIVERS, the Nurseries, Sawbridgeworth, Herts.

CHOICE CHRYSANTHEMUMS.—Young Plants of the above, for flowering this autumn, are now ready for sending out. Best sorts, 12s. per dozen; good sorts for planting out, 6s. and 9s. per dozen. A Catalogue may be had; also an extensive stock of bedding-out Plants, 3s. and 4s. per dozen.

CHANDLER and SONS' Nursery, Wandsworth-road, Surrey.

The Gardeners' Chronicle.

SATURDAY, MAY 22, 1852.

MEETINGS FOR THE ENSUING WEEK.

MONDAY,	May	24	Linnean (Anniversary)	1 P.M.
			Geographical (ditto)	1 P.M.
			Horticultural	3 P.M.
TUESDAY,	—	25	Civil Engineers	8 P.M.
			Medical and Chirurgical	8½ P.M.
			Zoological	9 P.M.
WEDNESDAY,	—	26	Society of Arts	8 P.M.
			Microscopical	8 P.M.
			National Floricultural	3 P.M.
			Royal Soc. of Literature	4 P.M.
THURSDAY,	—	27	Numismatic	7 P.M.
			Antiquarian	8 P.M.
			Royal	8½ P.M.
FRIDAY	—	28	Royal Institution	8½ P.M.
SATURDAY,	—	29	Royal Botanic Gardens (American Plant Show)	2 P.M.
			Medical	8 P.M.

COUNTRY SHOWS.—Tuesday, May 25: Oxfordshire Horticultural and Northampton Tulip.—Wednesday, May 26: Derby and Colchester Horticultural.—Thursday, May 27: Birmingham National Tulip, and Hull Horticultural.—Friday, May 28: Wallingford Horticultural.

MESSRS. RENDLE and Co., of Plymouth, have forwarded us a circular, wherein they charge some person, unnamed, with dealing in ADULTERATED GUANO, which, they say, reached the Commercial-wharf, Plymouth, in the early part of March last, in a vessel called the Chester, and has been ascertained by Professor WAY, upon analysis, to consist of two-thirds gypsum, salt, and sand. Here, then, is a clear case of adulteration, for no foreign guano whatever consists of such ingredients; but it is useless to publish the case, because Messrs. RENDLE and Co. shrink from making known the name of the swindler, and therefore do nothing to guard the public against his further frauds.

In another case we remark that the detected offenders set up a cry of anti-monopoly, and seek to justify fraud by pretending that guano of no value should be sold as genuine, in order to destroy the exclusive trade possessed by the Peruvian Government!

The cases now alluded to admit of no explanation; the evidence concerning them is clear and conclusive —and shows that people are not alarmed with so little reason as we have thought it necessary to suppose.

It is, however, by no means a necessary inference that because two cases have been exposed there are plenty of others. There may or may not be; and we cannot undertake to decide the question. Buyers, however, may do it for themselves by very simple processes, thus described by Mr. NESBIT:—*

"Procure from any druggist a common wide-mouthed bottle, with a *solid* glass stopper; one known as a wide-mouthed 6-oz. bottle will do very well. Let this bottle be filled with ordinary water, the stopper inserted, and the exterior well dried. The scales to be used ought to turn well with a couple of grains. In one pan of the scales place the bottle, and exactly counterpoise it in the other by shot, sand, or gravel. Remove the bottle from the scale, pour out two-thirds of the water, and put in 4 ozs. avoirdupois of the guano to be tested. Agitate the bottle, adding now and then a little more water; let it rest a couple of minutes, and fill with water, so that all the froth escapes from the bottle; insert the stopper carefully, wipe dry, and place the bottle in the same scale from which it was taken. Add now to the counterpoised scale 1½ oz. avoirdupois, and a fourpenny piece, and if the bottle prove the heavier, the guano is in all probability adulterated. Add in addition a threepenny piece to the counterpoise, and if the bottle and guano prove the heavier, the guano is certainly adulterated. By this simple experiment, the admixture of a very small amount of sand, marl, &c., is distinctly shown.

"We venture also to propose another method, founded on the properties of the mineral constituents of guano. When guano is burnt to ashes at a red heat, the ash has a pearly white appearance, which is owing to the absence of iron and other colouring metallic oxides. As iron is always found in marl, clay, &c., the ash of any sample of guano contaminated with them *will not only be coloured*, but its weight will be increased."

Having used these two methods, the last of which may, as we long ago pointed out, be tried in a common tobacco-pipe, the buyer will be pretty certain whether he has a genuine sample or not. And we strongly advise those concerned to apply the test to the following instances—viz.:

1. The cargo of the Dart, of Ostend, which sailed about the beginning of this month.

2. The seven bags sent not long since to Mr. PAGE, of Colchester.

3. The 16 bags sent about the same time to Mr. HAYDON, of Buntingford.

4. The cargo of the Hudgill, of Newcastle, which sailed about the middle of April for that port.

5. The cargo of the Jack of Dundee, which sailed about the same time for Port Soy, in Banffshire.

6. The cargo of the Ebenezer, from London to Ayr.

7. The cargo of the Albion, of Goole, which sailed for Goole, with "British goods" on board.

8. The cargo of the Georgina, of Perth, from London to Invergordon, which reported herself as having 90 tons of guano on board in bags.

We have no doubt that the public will derive much advantage from knowing how these cargoes stand a chemical analysis; and it cannot be otherwise than gratifying to both vendors and consignees, to find that their customers are satisfied with the genuineness of their purchases.

WE pointed out last week the more striking facts which belong to the late UNGENIAL SPRING. But the subject is not exhausted.

Vicissitudes similar to those which have frequently occurred in the climate of a country may be reasonably expected to occur again. Such as have been experienced at somewhat regular intervals are usually better provided against than those which occur irregularly. In some countries winter and summer maintain their respective characters throughout distinctly limited periods. The climate of Britain has no such constancy; on the contrary, it is known to be most precarious, its irregularities prove more especially injurious to subjects of horticulture; those who would wish to protect such ought to make themselves acquainted with the nature of the climate against which they may have to contend.

The geographical position of the British Isles renders their climate peculiar. They lie in the way of a current which proceeds from the equatorial

* *On Peruvian Guano; its History, Composition, and Fertilising Qualities &c.* By J. C. NESBIT, F.G.S. Longmans. An able shilling pamphlet, of which we see that a second edition has just appeared.

ocean and circulates round them, carrying with it sufficient heat to prevent freezing of the ocean, even on the northern coasts. In consequence of this the average mean temperatures of summer and winter differ less in Britain than in any other country in the world equally distant from the equator. The following table, calculated from 26 years' observations of daily maxima and minima temperatures, exhibits the average mean range throughout the year, at Chiswick:

AVERAGE TEMPERATURE AT CHISWICK, 1826—1851 = 26 YEARS.

	Jan.	Feb.	March.	April.	May.	June.	July.	August	Sept.	October.	Nov.	Dec.
Mean Max.	42.21	47 41	50.88	57.48	65.03	72.14	74 07	73.20	67 49	58.93	49 99	45.30
Mean Min.	31.37	32.71	34 16	37.13	43.11	49.07	52.73	51.04	46 81	42.08	36.17	34 07
Mean	36.79	40.06	42 52	47.30	54 07	60.61	63 40	62 12	57.15	50.50	43 08	39 69
Mean Monthly range	10 84	14.7	16.72	20.35	21 92	23.07	21.34	22.16	20 68	16.85	13 82	11 23

From the above it appears that the—

Mean temperature of the whole year is = 49.78°
Mean temperature of the three hottest months, June, July, August ... ... = 62.04
Mean temperature of the three coldest months, December, January, February = 38.84

These months comprise the summer and winter seasons, as the year is divided by meteorologists. Accordingly, the

Difference in mean temperature of summer and winter is ... ... = 23.20°
And of the hottest and coldest months... = 26.61

Near the sea, whether on the east, west, south, or even north coast, the range of temperature is less than the above. We may select, for example, Penzance in Cornwall, lat. 50° 7′; and Sandwick, Orkneys, lat. 59° 5′. These places are on parallels of latitude which are upwards of 600 miles apart; and they are situated respectively almost at the extreme south and north limits of the island.

At Penzance, Cornwall,

The mean temperature of the year is = 51.78°
Difference of summer and winter ... = 16.18
Difference of hottest and coldest months= 19.48

At Sandwick, Orkneys,

The mean temperature of the year is = 46.25
Difference of summer and winter ... = 14.31
Difference of hottest and coldest months= 17.45

These places have comparatively little variation of mean temperature; and it is remarkable that its uniformity is greater in the Orkneys than in Cornwall. It is also found that at Sandwick the mean temperature of December and January averages 2° higher than that of the corresponding months at Chiswick. The former place must, therefore, be more immediately under the influence of a warm current of the ocean. It is impossible to account for the circumstance in any other way.

Probably these currents may act at times with greater or less intensity than usual. It is certain, however, that they maintain a *permanent modification of the climate* of this country. Were not this the case our shores would become ice-bound, and most evergreens and South of Europe plants that now flourish throughout the kingdom would soon disappear. How much our climate is mitigated by the warmness of the ocean currents, may be inferred from the following comparative temperatures of places situated on the same, or very nearly the same, parallels of latitude.

At Gosport, Hampshire, lat. 50° 47′, the mean temperature of January is 40°.

At Orenburg, Russia, lat. 50° 46′, the mean temperature of January is 0°.

Dublin, Liverpool, and Manchester are almost on the same parallel of latitude with each other, and with Barnaul, in Siberia; and the following is the respective mean temperature of January:—

Dublin, lat. 53° 21′ ... ... 38.49°
Liverpool, lat. 53° 25′ ... 39.95
Manchester, lat. 53° 29′ ... 36.70
Barnaul, lat. 53° 20′ ... ... —5.57

Selecting another parallel of latitude, we find Glasgow, Edinburgh, Copenhagen, Moscow, and Kasan, all between lat. 55° 41′ and 55° 58′, and for the purpose in hand may therefore be considered as being on the same line. The mean temperature of January is, at

Glasgow ... ... 38.23°
Edinburgh 37.38
Copenhagen 29.25
Moscow 13.57
Kasan 3.45

At Uist, in Shetland, lat. 60° 45′, the mean temperature of January is 40°. At Tomsk, in Siberia, lat. 56° 30′, it is 4° below zero. At Yakoutsk, in Siberia, lat. 62° 1′, the mean temperature of January is 45° below zero, or 85° colder than in Shetland.

In order to find as high a mean temperature in January as that of Uist, if we except places near bays and estuaries accessible to the tropical currents, we must go to the south of France, or of Italy. In January, Uist is only 1° colder than Constantinople, although the latter is 20°, or 1390 miles, farther to the south.

From these instances it appears evident that much heat is continually conveyed by currents urged from the tropical ocean, so as to render the winters in the British Isles comparatively mild—not only in the southern, but even in the northern parts, where, in the winter season, little heat can be derived from the sun, then scarcely appearing, and but for a brief period of the day, above the horizon. The tendency of these currents is to produce a constant mildness, as appears from the averages here given; and many things are in consequence cultivated, which could not otherwise be attempted in the open air in so high a latitude. But it must be observed that this tendency, and these averages, are liable to be greatly interfered with by a variety of causes, some of which may be pointed out on another occasion, in order that their injurious effects may be guarded against in cases where this is possible.

LETTER TO A YOUNG ORCHID GROWER.

I AM glad you have begun to collect, and am very willing to send you all my experience in the matter. First, as regards the mode of growing or management, I have little to add to the papers which appeared in the *Chronicle*—"Orchids for the Million." Having a fancy to grow a few of the more showy and easily cultivated kinds, I began under the direction of Mr. Williams; and I persuaded him to classify his observations, and publish them in the *Chronicle* for the use of others. He has now collected these papers, and with some additions printed them in a small volume—"The Orchid Grower's Manual." I am sorry he has rejected the old title, "Orchids for the Million," which got him his fame; but this is the old story, as we get on in life we are always striving after the genteel and the aristocratic. If you recollect even the bear leader in one of Goldsmith's plays assures the ladies that his bear only danced to the most genteel tunes. But never mind the new name; you cannot do better than use this book as the manual for yourself and your gardener, if he is not already a skilful cultivator. I however think Mr. Williams might have made up his number of plants described to 300, but I suppose he has only enumerated those which he himself cultivates. Again, I think it would have been well if he had said a little more about the cultivating and flowering those which are especially difficult to manage, or to make bloom—such as the Renanthera coccinea, which few flower, the particular treatment for Phaius albus, Epidendrum bicornutum, Zygopetalum rostratum, Paphinia cristata, Epidendrum rhizophorum, and some others which are either difficult to grow or to bring into blossom.

As regards the forming of the collection: if you are very rich, the way is to go to Messrs. Veitch, Messrs. Rollisson, and Mr. Loddiges, with your bankers' check-book, and order well-established plants of all the most ornamental kinds; and as to new plants give orders to Mr. Linden and Mr. Skinner, *en attendant* the sending out your own collector to South America and the East; but as this is not convenient, you must be content to go to work more humbly. I can tell you what to avoid. Of course you will ask all your friends who are collectors, and whom you will find willing to give you small plants of the more common Epidendrums, Cattleya Forbesii, Acanthophippium bicolor, Acroperas, Gongoras, and some of the Stanhopeas, and some of the more easily grown and not showy plants. However, do not despise them; they will do at first to fill your shelves, and if you intended to make a general collection would be useful, but as you only want those which are showy or curious, you will (looking to the smallness of your house), be soon obliged to discard these. Having got what you can from your friends, I recommend you to buy well-established plants. Do not do as I have done, import, nothing is more disappointing, and in the long run more expensive; with plenty of friends in the West and the East, I am certain I have paid five times as much for heaps of bad plants, and for baskets of dead and dying ones, as I should have paid for two or three dozen of good plants at Messrs. Veitch or Messrs. Rollisson's. At Rio, there are collectors who send home baskets at 10*l.* or 5*l.* a basket; half come rotten, and in general those that are alive, are nearly all worthless. Formerly a few used to be obtained from the Calcutta gardens, through some India director, if you have a friend; but of late very little is to be done in this way. There are, however, some people who advertise in the *Gardeners' Chronicle* to send over the Orchids of Assam, from whom I have had a valuable parcel of Dendrobiums, and in good condition; but even these are got cheaper (seeing you only want one plant of a kind), at Messrs. Low's of Clapton, who are great importers, and sell off nearly as soon as they receive their plants, at a reasonable profit. Again, you will now and then get a bargain at Mr. Stevens's auction rooms, either when a collector disposes of his plants, or when Mr. Skinner or Messrs. Rollisson sell their imported collections, and here will be your principal chance of getting now and then a new plant. But within these last six months it is quite clear that the collectors have multiplied in a great degree, and I believe this is principally owing to Mr. Williams's "Orchids for the Million." In my own neighbourhood there are two new collections which have started up this spring; and at the great sale of South American Orchids the other day, although it was stated in the *Chronicle* that collectors might go there and obtain plants for shillings which before could not be bought for pounds, the contrary was the fact, and plants were selling for pounds that in the same room I had two years ago bought for shillings. I have no doubt but that the supply will be soon equal to the demand, and that if you wait a little longer we shall soon have more importations, and sold at a more reasonable price. I should, however, caution you to buy only on the advice of some one well acquainted with the state of the plants, and who has examined them carefully. It is said (but how truly I do not pretend to say) that the demand for Vanda cærulea was so great that it is suspected, in some instances, to have been supplied by Vanda Roxburghii. Although I do not recommend importation, others entertain a different opinion on this subject; a friend of mine who sends to the East and to the West describes the delight of receiving first the letter of advice, then the basket or box from the ship agent, and all the anxiety of its opening, and then the unknown plants, and the chance of something good, or at least something new. All this I have experienced; but he says nothing of not seldom finding all the plants rotten, or finding that what he fancies was rare turns out an ugly inconspicuous Eria, or an old yellow Oncidium or brown Epidendrum—to say nothing of a box overland, filled with Vanda multiflora, &c.

Although there has been already published in the *Chronicle* two or three lists of the best Orchids for a small collection, I add an enumeration of what I think the best worth cultivating for a very small collection. The different species of Aerides, Vanda, and Saccolabium, are among the best, and they are all easily grown, but they are all dear; the cheapest, and one of the best, is Aerides odoratum; but you must get a small plant of Aerides crispum, and wait some two or three years for its flowering; it is a slow grower. Saccolabium guttatum must be had as soon as you can afford it; and mind, it is an object to begin early with these slow growing plants, as it will be some years before they will make good sized plants. The two best Angræcums are eburneum and caudatum; both are dear. Anguloa Clowesii and Ruckeri are both desirable, but dear; uniflora is the least desirable, but is handsome, and not so rare as the two first.

Barkerias.—The two best are spectabilis and Skinneri; both should be obtained.

Bletias are not very showy—but the best is campanulata; hyacinthina is a common and nearly hardy plant.

Bolbophyllums.—None very showy; the best Henshallii, and now, I believe, not very dear.

Brassavola.—The best is Digbyana, but it is very rare; but you should have one species, glauca, and probably you will find your friends supply you with others, none of which are very showy.

Brassias are curious and free flowerers; Lawrenceana and maculata are good and not rare.

Broughtonia sanguinea is pretty and not dear.

Burlingtonia.—Do not grow rigida, it is not a free flowerer, and not handsome when it does flower; venusta or candida may, I believe, now be had at no great cost.

Calanthe.—Veratrifolia is one of the oldest and one of the best of our terrestrial Orchids, lasting in flower for months. C. masuca and vestita are both beautiful but rare.

Camarotis purpurea.—Unless you have a large plant of this, like those of Mr. Holford or of Mr. Rucker, I do not recommend it.

Catasetum.—You should have one species; they are much alike, tridentatum perhaps would be the best.

Cattleya.—This genus comprehends on the whole the most desirable of all the Orchids, but most of the kinds are dear. Crispa and Harrisoniæ or violacea are the least rare, but you should have C. Mossiæ, C. Skinneri, and C. intermedia, in addition to those just named.

Chysis.—Aurea, lævis, and bractescens are good, but rare.

Cirrhæa.—The different specimens are not very showy, and the same applies to the genus *Gongora*, but you should have one species of each, especially as they are sweet.

Cœlogyne.—Some of the species are very handsome, especially cristata, Wallichii, speciosum, and maculata; these are not very dear. I will continue the list in my next. *Dodman.*

THE FUCHSIA.

THIS genus now contains an immense number of varieties, many of which are worthy of being ranked with our finest ornamental plants. All flower very profusely, remain long in perfection, and all are of comparatively easy culture. Most of the varieties may be readily induced to make strong vigorous growth during the winter and spring months, but they have a natural tendency to produce bloom towards June, after which time it is nearly impossible to excite them to active growth. Large well-formed specimens are more easily grown from cuttings than from old cut back plants—these come in very useful for autumn flowering; but the symmetrical form, luxuriant foliage, and increased display of blossom, which young plants furnish, when properly managed, can hardly be expected from old plants. Cuttings, destined to form large specimens during one season's growth, should be selected about

the end of July ; rather firm pieces of the young wood should be chosen, and, if possible, that which shows no indication of flowering. Let them be planted in light sandy soil, and placed in a shady situation where the temperature will be but a few degrees higher than that in which the plants from which they were obtained were growing ; and as nothing is so efficient in checking a premature production of flower as a uniformly moist atmosphere, this should be secured by covering with a bell-glass.

As soon as the cuttings are sufficiently rooted to bear handling, pot them singly in 4-inch pots, and keep them close and moist, until they are fully established. A temperature of about from 45° at night to 50° or 55° during the day, will be sufficient during winter ; and if kept free from insects, and allowed pot room, and properly supplied with water and a moist growing atmosphere, their progress will be very rapid. But it is probable that some of the plants, especially the weakly growing varieties, will, despite of every precaution, prove more inclined to flower than to make strong rapid growth. Such had better be set aside, as there is but little chance of their forming large handsome specimens; and I need not say that this casualty should be provided for, by rooting and preparing a sufficiency of plants from which to select the most promising of each variety. The plants should be strong vigorous examples, in 8 or 9-inch pots, ready for a final shift in March. The size of the pots to be used must be regulated by the habit of the variety. The stronger growers, if properly managed, will fill 18-inch pots ; while 12 or 15-inch ones will be sufficiently large for others. Keep the plants rather close after shifting, in order to encourage root action ; syringe over-head freely, and keep the atmosphere moist, but water very carefully till the growth indicates that they have taken to the fresh soil. Beginners should be especially careful in this respect, as it is easy either to over or under water after a large shift. When the plants appear to have laid hold of the fresh soil, admit air freely whenever the temperature rises above 60°, but shut up early in the afternoon; syringe over-head, and keep the atmosphere as moist as possible by sprinkling the floors, &c., frequently during the day. Clear manure water should be used as soon as it is supposed that the pots are moderately well filled with roots. When the sun becomes powerful use a thin shade on the forenoons of bright days, but apply this sparingly, and afford the plants all the light possible, without subjecting them to the direct rays of a mid-day sun.

Some attention will be requisite to secure the desired form of plant. If the pyramidal shape is preferred (and it is the best, as it is most in accordance with the habit of the plant) a stake for the support of the leading shoot, and a timely and systematic stopping of any over luxuriant side branches, are all that will be required until the shoots become loaded with blossom, when a few strips of matting or soft string so tied to the stake and side branches as to preserve the symmetry of the specimen, may be found necessary. Some growers stop their plants once or twice after they are fully grown and showing flower ; this causes them to break back, greatly adds to the number of shoots, and of course to the display of blossom, but plants treated in this way do not continue so long in beauty.

A cool airy shady house is the proper situation for the plants while in blossom, and during this time they should be liberally supplied with manure water, and carefully guarded against attacks of insects. The weaker growers are rather subject to red spider, and all the sorts to thrips ; but if insects are kept under during the growing season, and the plants are perfectly clean when placed in the show-house, there will be little to apprehend in this respect. When the beauty of the plants is over, they may be removed to a shady situation out of doors ; and, previous to any danger from frost, cut back rather closely, disrooted and repotted in 9-inch pots, using light sandy soil. If placed in a dry situation out of the reach of frost in winter, and put in a cool house when they commence growth in spring, potted when necessary, and set in a shady situation out of doors as soon as the danger of frost is over, they will make useful specimens for autumn flowering.

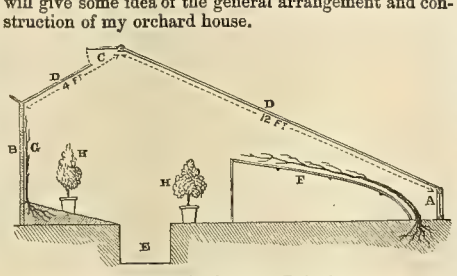
The Fuchsia delights in a light rich porous soil. Turfy sandy loam, two parts, and two parts thoroughly decomposed cow-dung and leaf-soil, with a sufficiency of clean sharp sand to ensure the free percolation of water through the mass, will form a suitable compost for it. For weakly growers turfy-peat will be preferable to leaf-soil, and for these very little cow-dung should be used. *Alpha.*

Home Correspondence.

Orchard Houses.—I am not sorry that I omitted to send you the account of my orchard house, and which in some respects I thought an improvement on Mr. Rivers', because your correspondent in a late Number has given an account of the one he has erected ; but his is one built on a more expensive plan than mine. My object was to get, at the least cost, a good glass covering for trees in a border, and also for trees in pots to be set on the border for the roots to pass into it, as suggested by Mr. Rivers. The object was to get head-room, and yet to have the building as low as possible, and to have complete ventilation. Mine is a span roof, and I have a long front sash running down to within 18 inches of the ground ; the back sash is not so long, and the back is 4 feet from the ground ; the path in the middle is sunk 2 feet, so as to give head-room. At the back there is a row of Cherries, and on the front border there are Peaches and Apricots planted, and in both borders there will be trees in pots—Cherries, Pears, Figs, and Apricots, and Raspberries also for early forcing. The back and front have loose shutters made of half inch deal, in lengths of about 3 feet, which slip into a groove, or may be fixed on by a thumb button ; these, when the weather is fine, may be entirely removed. They are only necessary during the very cold winds in spring—such as are now blowing.

"—When the tyrannous breathing of the north
Shakes all our buds from growing."

In addition to the back and front ventilation, and that obtained from the doors at each end, there is a top shutter 9 inches wide, which may be opened throughout the whole length, but I think Mr. Rivers' plan of making his back of a clipped Hornbeam hedge better than my board shutters, as this will ensure perpetual ventilation, and yet there will be no violent currents of air. You will observe that the glass lights are fixtures, and will not be moveable in the summer, and this I fear will render much syringing necessary to avoid red spider and green fly ; however, this year we shall have Mr. Rivers' experience of his houses both with wooden and hedge backs ; but after the frost the other night, I fear, except where mats or hay has been put over the lights, the trees under glass have been injured. In a Vine shed glazed, such of my Vines as were near the glass, and as were just coming into leaf, have been frozen ; and I am now satisfied that this will be the fifth or sixth consecutive failure of Pear crops. I begin to think that crops of the more tender kinds of Pears in England is a myth, and that my friend Mr. Rivers, writing about root-pruned Pear trees covered with fruit, &c., was in a dream. The following will give some idea of the general arrangement and construction of my orchard house.



A, front moveable upright shutters ; B, back moveable shutters ; C, 9-inch-wide board on a hinge, opening for top ventilation ; D D, back and front sashes, 12 feet and 4 feet ; E, sunken path ; F, trellis for Peaches, &c., in front border ; G, row of espalier Cherries ; H H, rows of pots. N.B. The sash-bars are very light, being the same as are used at the Crystal Palace, with a sunken groove, into which the glass slips, and no putty is used. *Dodman.*

Fumigating.—I am surprised that gardeners should persist in advancing argument in support of the old mode of fumigating, now that we have a means of effecting this without raising the temperature, by introducing fire into the building, and with a saving of tobacco ; for whatever may be said about other material, tobacco is found to be the best, and does not injure, but rather benefits the plants. It should be borne in mind, that to keep up a combustion of any substance, a draught of air is necessary, and if the substance to be consumed is placed within a building, this draught must be created by natural or artificial means : if natural, the house is not properly closed, and there will be a great waste by escape of smoke ; if artificial, it is usually done with bellows, generally by the operator going into the building, in order to stir up the machine occasionally. It is always a disagreeable, and sometimes a dangerous job, and for this reason not effectually performed. In proof of this, if proof is wanting, I may state my own case ; I have a conservatory abutting from my hall, standing over the ground offices; I availed myself of this, in order to introduce air, and fixed four tin pipes, about 2 feet long, 2 inches in diameter, to communicate from below. The lower pair of these tubes had funnel-shaped mouths, just under the ceiling, and to these I suspended small iron crates, made something in the form described by "G. E., Fife," in one of your late Papers. I expected that, owing to the current of air below, the pipes, acting as funnels, would draw the smoke up; but no, there was no draught above, in consequence of the conservatory being closely shut up, and I could not get the apparatus to act, even with the assistance of bellows. I have since procured the patent fumigator ; in fact, I have the three sizes. For all purposes, even for frames, I prefer the middle-sized one, and with this and a quarter of a pound of tobacco, I can fumigate my house (which is 40ft. by 14ft.), effectually, in about 10 minutes. The small one is, however, very useful for fumigating specimen plants, putting the plant under an inverted pot or cask, and turning down the nozzle of the instrument into the hole. It is objected to the patent fumigator that it is too small for large houses ; the same objection would apply to filling a large cask with a small tea-cup. These machines are made of all sizes. I saw some the other day at Messrs. Deane and Dray's, capable of taking a couple of pounds of tobacco or other material at a charge, and I presume they can be manufactured of any size required, the principle being the same—of drawing, instead of forcing the smoke through the nozzle, and operating from without, avoiding the necessity for entering the building, or admitting air after it is once closed up. There seems to be a proper way of using the fumigator as well as any other tool. I find it best, after igniting the tobacco with a bit of brown paper and lucifer match, not a live coal, at the top, just like a tobacco-pipe, to turn the handle, not too briskly, and not to disturb the charge until it is nearly burned out ; in fact, to treat it just as a smoker does his tobacco-pipe. *A. D., Wimbledon.*

The Brown Turkey Fig.—Having noticed that your reply to "J. D.," at p. 312, does not contain all that might be said respecting this Fig, as an inhabitant of Worthing, where it is much cultivated, I have taken the opportunity of forwarding more information for your correspondent on the subject. By reference to the Catalogue of the Horticultural Society, p. 70, the Brown Turkey is mentioned as of the first order, in size and quality, colour brown, shape pyriform, and the tree an abundant bearer. Its varieties are known under the following different names, viz :—Jerusalem, Brown Naples, Italian, Brown Italian, Murrey, Lee's Perpetual, Early, Howick, Walton, Fleur Rouge, Ashridge Forcing, Blue, Blue Burgundy, Large Blue, Small Blue, Common Purple, Purple, Blue Ischia (of some). See Catalogue of Fruits, as above. The honour of being the first county in the British Isles in which the first tree was planted and cultivated, after being imported by Thomas A' Becket, is claimed by Sussex ; and it is still grown with greater success in Worthing and its vicinity, than in any other spot along the south coast. One of the greatest novelties as to form, beauty of foliage, and bearing is in the possession of Mr. Head, florist, Worthing. Trained in the form of a wheel, its branches form 12 spokes, each expanding as it leaves the trunk into a fanlike shape, till at the circumference its perpendicular height is 14 ft. ; its diameter, from tip to tip, 30 ft. *Veritas.*

Dielytra spectabilis.—To aid the late inquiry respecting the hardiness of this Fumewort, I may mention that I obtained a plant last year which I planted out in a flower border, sheltered from the north and west by a high wall, in common soil, where it flowered, and soon afterwards died down. It was not at all protected during the winter, and shot up strongly early in the spring, and sustained no injury from any frosts till the latter part of April, when, just as it was in flower, we had two very sharp frosts. Its succulent flower-stems were injured, and all the flowers dropped off ; but it soon recovered, has thrown up fresh flowering-stems, and even those branches which appeared to be destroyed are putting forth fresh leaves. The plant is somewhat sheltered from the east wind by a large double Wall-flower, which has grown too luxuriantly and encroached upon it. As a proof of the severity of the frost, I may mention that all the unexpanded buds of a large Wistaria consequana on the adjoining wall were destroyed. The racemes in which the flowers were wholly or partially expanded have not suffered ; Clianthus puniceus, Erythrina Crista-galli, and Sutherlandia frutescens, were not hurt. The young shoots of the Silver Fir, Deodar, Abies Morinda and cephalonica, were generally destroyed, as were the flower-buds of the flowering Ash and of Deutzia scabra. *W. M. Tweedy, Alverton, Truro, Cornwall, May* 15.

Prolific Bean.—One self-sown Tick Bean came up last summer in my garden ; it had four stalks, on one of which was 83 pods, the whole produce from the one root being 531 Beans of excellent quality. *W. B. Burnham, Spital Cottage, near Birkenhead, May* 14.

Restoring Bloom to Grapes.—Having noticed, at p. 309, that some one has been inquiring how to put an artificial bloom on Grapes, I take the opportunity of expressing my dislike to the system of exhibiting fruit, flowers, or anything else, under other than natural conditions. A florist might as well ask how to put a petal into a bad flower, in order that it might win a prize. If such a thing were done, however, and the transaction discovered, he would, or ought to be, expelled the Society, as a fraudulent exhibitor ; and I think it nothing more than right that any one showing fruit bloomed by artificial means ought to be treated in a similar manner. I trust that your correspondent does not wish to bloom his Grapes artificially for any pecuniary advantage, but only to please his own fancy. *Cobnut.* [We take for granted that was our correspondent's object.]

Pruning Forest Trees.—I quite agree with "J. T." (see p. 277), on the subject of pruning young Oak ; from all I can gather the proper method seems to be that in young timber it is not disadvantageous to cut off a branch close to the trunk, a small knot over which the bark grows being the only consequence ; of course I suppose the tree to be in condition to afford such a loss of foliage ; if not, it is preferable merely to top the branch for the present, which will induce it to send out small lateral shoots, but not to increase in size; and on a future occasion it may be cut off close. In the selection of a leader care should be taken to choose one with an upright tendency, if possible ; if not, one which the prevailing winds will induce to become so. If it be necessary to cut off a branch from a full-grown tree, a snag of from 2 to 3 feet should be left, which will live, and the knot will be on the outside when the tree is felled ; whereas, if cut close to the trunk, or what is worse, a few inches from it, a decayed place in the timber will result. *Epsilon, Devon.*

Climate.—In a late Number, a correspondent remarks that, apart from the absence of the sun, climate is influenced by various unknown or unexplained causes; yet he appears to consider that an inferior breadth of land in small islands, and distance from the continent, are sufficient to account for the winter warmth of certain Scotch islands pointed out by him. That a surrounding ocean of a temperature above freezing will, to some extent, moderate the cold of small islands in the winter in

a high latitude, is tolerably evident; but these circumstances may not be the cause of the high temperature of the localities named. Grain, we are informed on good authority, will not ripen at a height of more than 1200 feet in Teneriffe, one of the Canary Islands, but it will come to maturity equally well at a height of 12,000 feet in the Himalaya valleys; yet the former is an island of moderate size, at a considerable distance from the mainland of Africa, and the latter is in the interior of a broad continent: the former is also nearer the equator by about 12°. The cause of this difference is probably to be found in the different action of aqueous vapour in the two cases. About the Scotch islands, in the winter, vapour is constantly rising from the comparatively warm water of the sea, and a portion of this vapour is regularly condensed, particularly during the night, by the colder air, when it gives out heat to the air. This condensation therefore prevents the temperature from sinking to so low a degree as it commonly does in the drier regions of the south, where no vapour is condensed to furnish heat to the air. Is not this sufficient to account for the higher winter temperature found in the north-western islands of Scotland? *T. H., Manchester, May* 10.

Oak Trees.—The Lucombe Oak mentioned by "M. S." at p. 294, appears to have been 37½ inches in circumference, breast high, when 29 years of age. I measured a common Oak tree growing in the County Meath, in May, 1843, which was then about 29 years of age, and it was, at the height of 2 feet 6 inches, 42 inches; and at 5 feet, 32½ inches. I have measured it almost every year since, and I find it has increased annually 1⅓ inch on the average—being now at the same heights 55½ inches and 45½ inches. *I. T.*

Norfolk Island.—In a late number of the "Household Words" is a description of Norfolk Island, particularly interesting to the gardener, as being the *habitat* of the grand Pine which is named from this island. The following extracts, descriptive of the scenery, will, I think, amuse such of your readers (only a few, however, I suspect), who have not read the paper. I am, however, rather sceptical as regards "the delicate Cinnamon, and the rough stout old English Oak," growing side by side. *Dodman.*—"The first glimpse of Norfolk Island that one gets from a ship's deck, is made remarkable by a tree—well known by means of pictures and descriptions—the grand Norfolk Island Pine; which clothes the hills to their summit."—"Norfolk Island consists of a series of hills and valleys beautifully interfolded, rising in green ridges one above another, till they all culminate in the summit of Mount Pitt, the highest point in the island, about 3000 feet above the level of the sea."—"Through a cutting in the ledge of rock which overhangs the sea, I come now upon an amphitheatre of hills. These hills are all richly dressed in a thick clothing of wild shrubs, flowers, and Grapery. On one side is a mount covered to the top with the gigantic Norfolk Island Pine; on another side down goes a ravine that seems to offer a short cut to the interior of the earth: a short and a most pleasant cut; for intricate dark foliage is lighted up by Lemon groves, where, here and there, the sun is playing on their golden fruit. I descend by the path into the ravine. Foliage shuts me out from the sun; magnificent creepers (for in nature, as in society, there are creepers which take rank as the magnificent), twist and twirl themselves about my path. The birds that perch upon them glitter like their flowers: lories, parrots, parroquets, beautiful wood-pigeons. But the forest is dark, and I ascend again, and get among such quaint aspects of vegetative life as are made by clusters of large Fern trees, rising with a lean—some to this quarter and some to that—trees sadly wanting in uprightness of character, but carrying their crests 15 or 20 feet above the ground. These look like Grass among the Norfolk Island Pines, which pile one dark feather-crown upon another—crown above crown, to a height of some 200 feet above the soil. From the summit of Mount Pitt, which I have now reached, I have Norfolk Island in complete subjection to one of my senses. I can see it all. Rock, forest, valley, corn-fields, islets, sunshine on sea, sunshine on birds, no sun in gloomy glades, rays darting into darkness, and revealing parasites and creepers exquisitely coloured, and the bright green fans of the Palmetto rising out of a froth of white Convolvulus; Guava and Lemon, a delicious air, clear sky, and the sharp outline of every light feather of the foliage picked out against it. There used to be Oranges; but, once upon a time, there lived in Norfolk Island a wise commandant, who voted Oranges too great a luxury for convicts, and caused the trees that grew them to be extirpated. They are now, however, being reintroduced. In a garden belonging to the commandant, called Orange Vale, sight, taste, and smell enjoy a paradise. Delicate Cinnamon grows by the rough stout old English Oak. Tea, Coffee, Tobacco, Sugar-cane, Banana, Figs, Arrow-root, and Lemon, grow in company with English fruits and vegetables, that have been forced by the climate into an ecstatic, transcendental state. The spirituality of a Carrot gets to be developed when it grows up in such good company as that of sweet Bucks and Bananas. Sweet Bucks are sweet Potatoes, which are very kisses to the palate; and are served out daily as rations to the evil and the good, the convicts and the officers. But, truly, there is need of a fine climate to make compensation for the other details of a residence in Norfolk Island."

The Weather in Ireland.—After a long continuance of dry weather and easterly winds, it has broken here, and we have had heavy gales, cold showers, and, with very few exceptions, anything but genial May weather. Nevertheless, we have fine crops of fruit set; all sorts of Pears freely, Cherries in abundance; the small fruits, Gooseberries, Currants, Strawberries, looking remarkably well. Apples (the last season was so prolific), are also well set; 1848 was the best year for Pears in my remembrance: the Christmas of that year I had 2985 in my fruit-house, without any consideration of the quantities used in the end of summer and the autumn; 1852 promises much better. The standards are all in bearing, and the rare kinds all with a fair crop on them. I cannot help saying that all Pear-trees I have ever got or seen from Mr. Rivers, Sawbridgeworth, Herts, are, more or less, good bearers, and his kinds true. Peaches have suffered severely in my own and neighbours' gardens. Vegetables are excellent; this Broccoli season exceeded any I ever saw: the Asparagus, long, green, and high flavoured. All things being in abundance, let us hail it as "an omen" that we shall not be "stricken" with the Potato blight this season, and that we shall have what we have not had now for "seven years"—a plentiful and abundant harvest. *J. B. Warren, Warren's Grove, County Cork, Ireland.*

Societies.

ROYAL BOTANIC, REGENT'S PARK, *May* 19.—This Society was favoured by a fine day for its first fête this season. Without anything particularly striking, the exhibition may be said to have been a good one. It was inspected by the Queen, his Royal Highness Prince Albert, and other members of the Royal family, a short time previous to the admission of the public. As regards plants, a large proportion of those brought together on this occasion had been previously exhibited to the Horticultural Society at Chiswick, when they were reported upon by us. We therefore confine our remarks to the more important of the subjects now produced for the first time.

In the fine collection of 30 STOVE and GREENHOUSE PLANTS furnished by Mr. May, gr. to Mrs. Lawrence, of Ealing Park, were pretty, medium sized examples of Hovea pungens, Acrophyllum venosum, Pultenæa stipularis, and one or two other plants of that kind.—Mr. Cole, gr. to H. Colyer, Esq., (who was placed 2d, but whose plants were scarcely inferior to those which gained the 1st prize), had charming specimens of the Willow-leaved Ixora, Dipladenia splendens, finely-flowered, Hoya imperialis, with glorious clusters of its singular blossoms, Cyrtoceras reflexum, hardly sufficiently expanded, the pretty rosy-tinged Adenandra fragrans, and other plants in beautiful condition.—Messrs. Fraser sent the white Vinca, the charming Pimelea Hendersoni, and Leschenaultia intermedia, a variety in the way of Baxteri, but, if anything, brighter than that kind; a collection from Mr. Pamplin completed the exhibitions under this head.

A beautiful group of 20 STOVE and GREENHOUSE PLANTS was produced by Mr. Speed, of Edmonton, in which we remarked an admirable plant of Gardenia Fortuni covered with its large double white fragrant flowers; Coleonema pulchrum, a brilliant Clerodendron fallax, and Ixora coccinea, with flowers in glowing scarlet heads that could not have measured less than half a foot across. Mr. Green, who was 2d, sent the rosy variety of Aphelexis sesamoides, and a Gardenia Fortuni as large and well flowered as that to which we have just alluded. These two plants were the admiration of everybody. Mr. Taylor, gr. to J. Cos'er, Esq., who was 3d, had Leschenaultia formosa; an Everlasting; and Pimelea hispida, a nice variety in the way of spectabilis, but smaller.

Ten STOVE and GREENHOUSE PLANTS were furnished by Messrs. Carson, Dods, Kinghorn, Williams, and Over. In these groups we remarked Erica tubiflora, Polygala cordifolia; an Everlasting; a very fine Daviesia floribunda, the violet flowered Tetratheca verticillata, Pimelea decussata, Leschenaultia formosa (very fine), and Pimelea spectabilis.

AZALEAS were shown by Messrs. Lane, Green, and Fraser, but they were not near so numerous or well flowered as they were at Chiswick, and therefore, as a matter of course, they were far less striking.

The RHODODENDRONS of Messrs. Lane and Ivison were also inferior to those shown to the Horticultural Society, the time that elapsed between the 8th, when they were in perfection, and the 19th, together with the travelling to and fro, having considerably impaired their beauty.

ORCHIDS were numerous and made a good display. In Mrs. Lawrence's group of 25, we observed a finely managed Sobralia macrantha with seven open flowers on it; and Lacæna bicolor, with six flower spikes, three of which were in perfection. Mr. Schröder had a small but nice specimen of Dendrobium Pierardi latifolium.—Mr. Williams, gr. to C. B. Warner, Esq., sent the pretty little Dendrobium triadenium, the large white-lipped Zygopetalum rostratum, and Dendrobium pulchellum purpureum.—Good groups of 20 plants came from Messrs. Veitch and Rollisson. The former had Lælia majalis, with one fine flower open and one coming; an unusually highly-coloured Dendrobium moniliforme, the large variety of D. longicornu, the scarce D. Dalhousieanum, D. pulchellum, and a magnificent Cattleya Mossiæ.—Messrs. Rollisson produced good examples of Saccolabium præmorsum and guttatum; the pretty Oncidium divaricatum, the Dalhousie Dendrobe, Aerides crispum, a well bloomed Acineta Humboldti, and the canary-coloured Peristeria cerina. In Mr. Carson's excellent collection of 15 were nice plants of Epidendrum aloeifolium, finely flowered; Acanthophippium bicolor, in capital condition; Brassia verrucosa, Saccolabium guttatum, and Camarotis purpurea; the latter was, however, scarcely sufficiently in bloom. Mr. Woolley had Barkeria spectabilis, in charming order; Dendrobium pulchellum and Paxtoni, the Aloe-leaved Cymbidium, and Aerides suaveissimum.—Six plants were furnished by Messrs. Kinghorn, Ivison, and Green. Among these were Cattleya intermedia, beautifully blossomed, but somewhat spoiled by travelling; Aerides odoratum, Oncidium roseum and divaricatum, and the sweet-smelling Epidendrum selligerum.—Of new Orchids, Messrs. Veitch had a Dendrobium in the way of nobile, and Phalænopsis Lobbii; Messrs. Rollisson sent a Burlingtonia and a Miltonia from Brazil, in the way of spectabilis.

ROSES in pots, well-grown, and excellently flowered, were produced (in the Nurserymen's class) by Messrs. Lane, Paul, and Francis; and (in the Amateur's Class) by Messrs. Rowland, Chitty, Roser, and others. Among these the favourite Souvenir d'un Ami might be frequently seen; also Géant des Batailles, Baronne Prevost, Duchess of Sutherland, Devoniensis, Blairii, Souvenir de la Malmaison, and other popular kinds.

CAPE HEATHS were numerous and well bloomed. They were supplied by Messrs. Smith, May, Cole, Roser, Rollisson, Epps, Williams, Over, and Chitty. With the exception of a buff-coloured variety named Alberti superba, and two new and handsome varieties of tricolor from Mr. Epps, we did not remark much different in this class of plants from what was shown at Chiswick.

The best SINGLE SPECIMENS consisted of a huge Chorozema Lawrenceanum, from Mr. Laybank; Pimelea Hendersoni, from Messrs. Fraser; a splendidly bloomed Stephanotis floribunda, from Mr. Norris; Boronia pinnata, from Mr. Kinghorn; and a capital Leschenaultia formosa, from Mr. Williams, gr. to Miss Traill, of Bromley.

NEW PLANTS.—A Silver Medal was awarded to Messrs. Veitch for their Mysore Hexacentris, which was much shaken and broken from travelling; a small Silver Medal to Mr. Cole, for Hemiandra pungens, a slender-growing labiate, lilac-flowered plant; to Messrs. Jackson, of Kingston, for Gomphrolobium Brownii; to Messrs. Standish and Noble, for their pretty Azalea amœna, and one for their A. vittata; Bronze Medal to Mr. Cole, for Gastrolobium gracile; to Mr. Over, gr. to J. McMullen, Esq., for Hoya Paxtoni, a variety resembling H. bella; to Messrs. Jackson for Ataccia cristata; to Messrs. E. G. Henderson for Hoya Paxtoni; and to Messrs. Standish and Noble for Trollius Chinensis, a perfectly new and very handsome hardy herbaceous plant, sent from China by Mr. Fortune. Some very handsome Moutans were also shown by the same firm; but they were not seen under advantageous circumstances, having scarcely had time to acquire their true character since they have been imported. Messrs. Rollisson showed a noble specimen of their charming Cissus discolor, a Java plant, with exceedingly handsome foliage.

PELARGONIUMS were shown in considerable numbers. In the Nurserymen's Class the Gold Medal was awarded to Mr. Turner, Royal Nursery, Slough, for Magnet, Mochanna, Prince of Orange, Ajax, Chieftain, Chloe, Magnificent, Pride of the Isles, Constance, Rosamund, Little Nell, and Alonzo; 2d, the Large Silver Medal to Mr. Dobson, Woodlands Nursery, Isleworth, for nice examples of Vanguard, Rosamund, Cupy, Mont Blanc, Arethusa, Loveliness, Harriett, Glow-worm, Incomparable, Delicatissimum, Purpureum, and Exhibitor. Silver Medal to Mr. Gaines, Battersea, for Aspasia, Gulielma, Mare, Virgin Queen, Grandiflorum, Salamander, Mont Blanc, Bruno, Rosamund, Cecil, Marquis of Stafford, Nonsuch. Amateurs: Gold Medal to Mr. J. Robinson, Pimlico, for Alderman, Pride of the Isles, Ajax, Norah, Alonzo, Salamander, Constance, Magnificent, Nonsuch, Star, Conspicuum, and Forget-me-Not. The Large Silver to Mr. Carragon, gr. to J. E. Lawrence, Esq., Kentish-town, for Prince of Orange, May Queen, Major Domo, Ajax, Mont Blanc, Marion, Gulielma, Alonzo, Rosamund, Ocellatum, Magnificent, and Virgin Queen. Three collections of 6 Plants in 11-inch pots were exhibited by Mr. Westwood, Turnham-green; Mr. Bray, Regent's-park; and Mr. Weir, gr. to J. Hudson, Esq., Hampstead. Fancies were numerous and in good condition. Large Silver to Mr. J. Robinson, for Empress, Madame Miellez, Queen Superb, Alboni, Fairy Queen, and Hero of Surrey. 2d, the Silver-gilt to Mr. Roser, gr. to J. Bradbury, Esq., for Queen Victoria, Ibrahim Pacha, Modestum, Alboni, Formosa, and Madame Miellez. 3d, The Silver to Mr. Miller, Edgeware-road, for Jehu superb, Duchess d'Aumale, Jenny Lind, Statiaski, Queen Victoria, and Orestes. Nurserymen: 1st, The Large Silver to Mr. Turner, for Hero of Surrey, Reine de Français, Minerva, Carlotta Grisi, Fairy Queen, and Empress. 2nd, Silver-gilt to ———, for Princess Maria, Galitzin, Signora Cassaloni, Defiance, Odoratum, Magniflorum, and Fairy Queen. 3d, Silver Medal to Mr. Westwood, for Empress, Statiaski, Lady Cooper, Magnificum, Reine de Français, Madame Miellez. Recommended:—Mr. Ayres, Blackheath, for Jenny Lind, Fairy Queen, Duchess d'Aumale, Reine de Français, Formosum, and Statiaski.

CALCEOLARIAS.—These were shown by Mr. Gaines and Mr. Westwood, of Acton-lane. The sorts were: Variabilis, Honoré, Black Prince, Monarch, Magnificent, Rembrandt, Mabel, Alpha, Redworth, Admiral, Sapphire, and Hebe.

CINERARIAS in good condition were shown by Messrs. Lodhner and Miller.

PANSIES.—A stand of 36 finely grown flowers, in beautiful colour, was shown by Mr. Turner; they consisted of Sir J. Cathcart, National, Sir J. Paxton, Gliff, Diadem, Euphemia, Great Britain (Parker), Duke of Perth, Adela, Pompey, Sir R. Peel, Sambo, Blanche, Mrs. Hamilton, Bellona, Thisbe, Elegant, Rising Sun, Duke of Norfolk, Juventus, Ophelia, Royal Visit, Climax, Queen of England, Rainbow, Alfred the Great, France Cycole, Chieftain, Lady Emily, Supreme, Robert Burns, Caroline, Commander-in-Chief, and three seedlings. 2d, Mr. Bragg, Star Nursery, Slough.

SEEDLINGS.—But few seedling Pelargoniums were shown; Mr. Hoyle sent Basilisk, a bright scarlet, very striking, and of free habit; Leonora, warm rose, large spot on the top petals, with white centre, a flower with the best bottom petal we have seen—very good shape; and Oscar; a deep crimson red. Mr. Black, gr. to E. Foster, Esq., sent National and Wee Pet, two flowers of good properties, with nearly black top petals, but they were not much in flower. A Cineraria of Messrs. E. G. Henderson's had a certificate; it is white with blueish purple tip, good in general form, but notched on the petals, it somewhat resembles Lady Hume Campbell. Mr. Turner's Pansy, Sir J. Cathcart, also had a certificate; it has been described before by us. Sir Joseph Paxton, National, and Monarch, were also shown in fine condition.

Among MISCELLANEOUS SUBJECTS were some Ferns and Lycopods, a few Alpines, Hydrangeas, and some fruit.

COUNTY OF GLOUCESTER AND CHELTENHAM HORTICULTURAL.—The first exhibition of this Society for the present year was held at the Old Wells, in Cheltenham, on the 13th inst. Before entering into the details of the Show, however, it may perhaps not be out of place here to remark that, even in a gardening point of view, Cheltenham is one of the most beautiful towns in England. It has grown into importance within a very limited period, and consequently a great proportion of the buildings are characterised by the happiest efforts of modern architecture; for apart from the older, or street portion of the town, it can be regarded as nothing else than an accumulation of miniature palaces dropped amidst groves of trees. Some portions of it reminds us much of the most beautiful continental cities, inasmuch as parts are laid out in long avenues of trees, between which are broad drives and walks. We remember nothing in England that surpasses the one reaching from the High-street to the Queen's Hotel, the effect of which is truly grand; and would have been much more so had the trees been all of one kind, and planted at the same period. This in some degree spoils the effect, owing to the want of preconception when the planting was first effected. The Garden of the Old Wells, both from its situation and extent, is eminently suited for a horticultural exhibition. A broad walk runs through the grounds, flanked by magnificent Elm trees of stupendous growth. In looking down this walk the eye rests in the distance upon a beautiful spire belonging to one of the many magnificent churches of which Cheltenham can boast. At the entrance is the Music Hall, a building of great magnitude, in the Corinthian style; and we understand that it contains the largest room in the kingdom. In this Hall and two tents were placed the numerous subjects sent for exhibition, which on the whole reflected great credit, not only on the exhibitors but also upon the Society, which held out such liberal inducements for the cultivator and amateur to attend. The exhibition was first-rate. Many of the specimens would have done credit to a metropolitan show, as the sequel will prove. The weather unfortunately was unfavourable, a drizzling rain setting in, and continuing at intervals during the day. This did not, however, deter a large number of visitors from attending. The 1st prize of 10*l*., for 15 Stove and Greenhouse Plants, was awarded to Mr. Carmichael, gr. to G. C. Tugwell, Esq., of Bath, for a finely bloomed Pimelea spectabilis, 4 by 3½ feet; Eriostemon buxifolium, 5 by 2½ feet, a perfect pyramid; Statice macrophylla, in good bloom; Aphelexis macrantha purpurea, 2½ by 3 feet; Eriostemon cuspidatum, in good health; Ixora coccinea, a grand plant loaded with flowers; Erica propendens, 3 by 2½ ft.; and perspicua nana, both in fine condition; Azalea Gledstanesii and præstantissima were in first-rate flower; but, above all, was a truly grand plant of Acrophyllum venosum 3 by 2½ feet, exemplifying the highest

possible culture, and never do we remember seeing it produced in better condition. This collection, as a whole, was turned out in a clean and masterly manner. The 2d prize was awarded to H. Brown, Esq., M.P., who had a good Chorozema varium nanum, 3½ by 3 feet; Eriostemon buxifolium, 3 by 3 feet, indifferently flowered; Erica Sindryana, Franciscea latifolia, 3 by 5 feet; Epacris grandiflora, Gesnera Cooperii, fine; Boronia macrophylla, and a noble plant of Boronia pinnata. The 3d prize was assigned to G. Reed, Esq., who had a fine Pimelea spectabilis in capital condition, and a lovely plant of Pimelea Nieppergiana in superb order; Hoya bella maintained its reputation fully; there was also a good Eriostemon buxifolium, and Aphelexis purpurea, besides which there was a fine specimen of a novel plant named Hibbertia rudiana, with an abundance of bright yellow flowers. Lord Beauchamp was placed 4th. He had a good Pimelea spectabilis, 3 by 3½ feet; Leschenaultia formosa, Statice imbricata, exquisitely fine; Kennedya inophylla on a trellis, and some well flowered Chinese Azaleas. Messrs. Garaway, Mays, and Co., of the Bristol Nursery, was 5th; amongst their collection was a noble specimen of the old Brunsfelsia Americana, a complete mass of bloom. The collections of 12 Stove and Greenhouse Plants were, upon the whole, creditable. The first on the list was Mr. Hodges, of Cheltenham, who had a fine Pimelea Hendersoni, and a beautiful P. Neippergiana, Erica Cavendishii and Azalea præstantissima were also fine. Mr. Bassett, gr. to R. Holford, Esq., was placed 2d. In his collection were fine plants of Pimelea Hendersoni, Leschenaultia biloba major and formosa; Eriostemon buxifolium, and Boronia serrulata. Mr. Head, gr. to C. Shaw, Esq, was 3d. In his group was a good Henfreya scandens. For collections of 8 plants E. Sanders, Esq., was 1st, A. M'Douell, Esq., 2d, and Lord Northwich, 3d. In collections of 4 Stove and Greenhouse Plants, E. Armatage, Esq., was 1st, Miss March Phillips, 2d, and Lady Agar, 3d. Orchids were not only abundant, but in many instances first-rate. Messrs. Veitch, of Exeter, were first in the collections of 10 plants. Although they were nearly the same as those they had at Chiswick, they had sustained little injury from the journey to London and back again to Exeter, and thence to Cheltenham. Mr. Bassett was 2d, having a beautiful Camarotis purpurea 2 feet through and 5 feet high, covered with flowers; Dendrobium densiflorum, Aerides crispum, Cattleya intermedia, Barkeria spectabilis, Epidendrum selligerum, and Cattleya Mossiæ, all in good condition. In collections of 5 Orchids, G. Reed, Esq., was 1st, with Saccolabium guttatum, a grand plant, with seven flower spikes, fully expanded; also a good Cattleya Mossiæ, and a noble Saccolabium prærnorsum. In this class Messrs. Garaway and Co. were 2d, and C. Shaw, Esq., 3d. In Cape Heaths, G. Reed, Esq., justly claimed the 1st award, with tortuliflora, Sprengelii, Cavendishii, coccinea minor, elegans, and a good propendens. Mr. Carmichael was a creditable 2d; but his plants, with one or two exceptions, were generally of inferior varieties, and as an exhibition, not uniform in size; they were notwithstanding in vigorous health. Indian Azaleas were shown in sixes; Mr. Bassett took the lead with a fine variegata, 3 by 3 feet, covered with flowers; lateritia grandiflora, 2½ by 3 feet; Holfordiana, 2½ by 4 feet; Prince Albert, 3 by 4 feet; Gledstanesii, 2½ by 2½ feet; all in fine condition. H. Brown, Esq., M.P., was 2d; in his group were good plants of triumphans superb, Hebe, magnifica, &c. To the 3d prize no letter was attached. In Azaleas, in threes, J. Webster, Esq., was 1st, with a striking variegata amongst his lot; and Lady Agar was 2d. Fancy Pelargoniums, in sixes, were abundant, and the competition was very great; A. McDonell, Esq., justly won the 1st prize; Mr. Hurstone was a good 2d; and Messrs. Pope and Son a fair 3d; Mr. Hodges was awarded a certificate. Roses, in pots, were not abundant, but nevertheless, there were some good specimens; H. Brown, Esq, M.P., took the 1st prize; in collections of sixes Mr. Hodges stood 2d; and Mr. Hopwood 3d. Cinerarias were plentiful, and well cultivated; in sixes Col. Fiddes was 1st; Mr. Hopwood 2d; and Miss March Phillips 3d. Pansies, in pots, were really excellent; there can be no doubt that this style of culture must eventually banish from exhibitions the artificial ironed out fragments which have hitherto presented themselves; in these C. H. Velley, Esq., was 1st; Mr. Hopwood 2d; and Mr. Hodges, 3d. In new plants, Messrs. Veitch had Hexacentris Mysorensis, together with Medinilla magnifica. The same firm also claimed the first specimen Orchid, viz., Cattleya Mossiæ; Mr. Bassett was 2d, with a splendid Camarotis purpurea, fresh, and loaded with innumerable flowers: Messrs. Veitch took the 1st prize for plants not in flower, with a new species of Sarracenia; H. Brown, Esq., was 2d. with Anectochilus Lowii. Messrs. Veitch gained the prize for the best specimen greenhouse plant, with Helichrysum sesamoides; and Lord Beauchamp the 2d. In single specimen Ericas, Messrs. Veitch was first, with Erica Peziza. Messrs. Orr, of London, offered the following prizes for "Collections of plants in or out of bloom, being of the most ornamental character, and displaying the greatest taste in arrangement." 1st, the "Gardeners' Magazine of Botany," 3 vols., value 3 guineas, to Mr. Basset; 2d, "Cottage Gardeners' Dictionary of Botany," and "Cuvier's Animal Kingdom," 1 vol., value 1*l.* 9*s.* 6*d.*, to C. Shaw, Esq.; 3d, "The Gallery of Nature," value 18*s.*, to H. Brown, Esq. Messrs. Veitch and Son, of Exeter, gave 2 guineas for a new plant in flower, which was gained by Mr. Basset, for Trichopilia coccinea. The Pitcher-plants, exhibited by Messrs. Veitch, attracted universal and deserved attention. C. Shaw, Esq., gave a prize of one guinea for the best four plants in 10-inch pots, displaying the greatest skill in culture and training, so as to make them plants fit for exhibition in 1853. This was obtained by Mr. Basset. There were prizes offered for what are termed baskets of plants, the merits of which lay more in their several dimensions than in any useful object that appeared likely to be obtained by such exhibitions. Messrs. Garaway and Co. had some very fine Amaryllids, well flowered and excellent kinds, well deserving of especial notice. A tent was exclusively appropriated to fruit and vegetables. Some good Grapes were brought forward by Mr. Houl-ton, which were well ripened, and for which he obtained a 1st prize; Mr. John Dorey was 2d; the colour of the latter was much inferior to that of the first. Good Strawberries were shown by J. Surman, Esq., 1st prize; James Taylor, Esq, 2d. The vegetables were excellent, and we may mention Cucumbers in particular; Cabbages, Broccoli, Asparagus, and Kidney Beans, were fine and plentiful. Potatoes were sound and ripe, and of fine size. Indeed, in this department altogether, much gardening skill was displayed. *R. G.*

Books, &c., Received.

The Vegetation of Europe; its conditions and causes. By A. Henfrey. 12mo. Van Voorst.—Considered in a general way, Botanical Geography is one of the most useful branches of Natural History, provided the facts connected with it are applied by the mind of a master. To how much it may lead, the success of Dr. Royle's tea and cotton speculations in India—or if the reader prefers that illustration, the state of English horticulture—abundantly proves; on the other hand, when confined to mere details of facts, or supposed facts, it is the barrenest of topics, leading to nothing, and not having even the merit of amusing the mind, unless in the concoction of dreamy hypotheses, typified, we presume, in the work before us, by the strange figure of a drunken lion, with a glass of wine in one hand and a pen in the other. We would not, however, insinuate that such is the character of Mr. Henfrey's book, which is in reality a large collection of notes relating to the distribution of plants, formed with care and put together with as much skill as his subject admits of.

Report of the South Devon Botanical and Horticultural Society for 1851. (First year.) Receipts, 147*l.* 8*s.*; expenditure, 164*l.* 8*s.* 11*d.*; value of prizes awarded, 96*l.* 14*s.* 6*d.*

The Prize Essay on the Application of recent Inventions collected at the Great Exhibition of 1851, *to the purposes of practical Banking.* By Granville Sharp. Waterlow and Sons. *A pamphlet.*—A very useful account of the many inventions which were found in the Crystal Palace applicable to the wants of merchants, tradesmen, and ordinary housekeepers.

The Waverley Novels. Library edition, Vol. I., pp. 564, 8vo.—Although 120,000 copies of these famous works of fiction have already been sold in this country alone, the demand for them is unabated, and will so continue for many years to come. The idea of publishing a Library edition is, therefore, one that cannot fail to be welcomed by all those who would place the great novelist's works on their shelves, in a form really worthy of the rank these imperishable works of fiction have gained by common consent. It seems that each novel is to fill a volume. That before us contains Waverley, beautifully printed, and illustrated by a frontispiece and vignette, both of which are charming works of art.

Philosophers and Actresses. (The second volume of Readable Books.) With 35 engravings on wood; 12mo. Vizetelly.—A collection of French stories, amusing enough, no doubt, but too free for readers on this side the Channel, and of very unequal merit.

The Island of Alderney; its early history, &c. By Louisa L. Clarke. 24mo. Longmans.—We recommend this guide book to those about to visit the curious little island; but not for the sake of its natural history.

Class Book of Botany. By J. H. Balfour. 8vo. Black, Edinburgh; Longman, London.—New discoveries are not to be expected in works of this kind; we can only say that the book before us is a good useful class-book, illustrated with numerous wood-cuts, many of which, like those of Professor Lindley, purchased from the French publishers, set our artists an example that they would do well to follow.

FLORICULTURE.

Dahlias.—As this is about the time when Dahlia orders are being executed by the "trade," we have thought it advisable to offer a few remarks respecting the successful treatment of plants thus supplied. Let us therefore suppose that a hamper of well packed Dahlias has just come to hand, containing the numbers and varieties for which due instructions have been given, being the results of our scrutinising observations last autumn. The plants will generally be found carefully tied to a small stick, with cotton wadding employed, to prevent injury from bruising. The pots will be mossed down and securely tied with bast matting, so that under the ordinary casualties of transit no serious damage may occur; yet how often have we found, that if one has been injured, it has curiously enough turned out to be a sort we most prized. In unpacking, be cautious not to expose the plants to the open air an instant longer than is actually necessary; let the operation be performed in your potting shed, forcing, or greenhouse; or, in the absence of these, in the dwelling house rather than in the open air; and once freed from moss and ligatures, place them immediately in a close frame (if with a little bottom-heat so much the better), and permit them to remain there for a day or two, until by their improved appearance all signs of confinement have disappeared. With a view to save weight and expense of carriage, it will doubtless be found that these young plants have been sent out in some 2-inch pots, so that a speedy shift into a 4-inch pot will not only be desirable but necessary, using good soil, and so drained that there may be but little need for at any time disturbing it; replace the plants in the frame, and keep close for a day or two longer, afterwards giving air by degrees, so as to insure robust growth. While all this is going on, look sharply after aphis or green-fly, to which, when detected, give no quarter. In this early stage of pot culture, promote by syringing and general attention to cleanliness a vigorous, rapid, and robust growth; for with Dahlias, as with other plants, unless a good and sound foundation be secured, little success will attend the superstructure. We would rather shake out a plant, reduce the fibres, and repot into the same sized pot, than permit a plant to be pot-bound from which we hoped to derive good blooms; therefore pot on up to planting-out time rather than keep your stock short of root room. To constrain a plant in that way is to throw it into premature bloom; with ample pot room, stout plants are all but insured; as the time arrives for planting out, the necessary precaution as regards hardening off is, of course, a matter of routine on which we do not intend at present to enlarge, our object being merely to direct attention to the importance of treating young plants well before they are placed in the Dahlia quarter, to which we look forward with all those hopes and fears ever attendant on an exhibiting florist. *J. E.*

National Tulip Exhibition.—Your remarks, at p. 295, relative to the schedule for the forthcoming exhibition on the 27th inst., appear to me to require some reply, from the probability of the schedule being misunderstood. I will therefore endeavour to explain the matter at issue. It has been the wish of the committee of management, as far as possible, to give precedence to popular opinion; but, in the absence of that, they have, as far as was expedient, represented the various opinions that exist on the subject. It must be admitted that a national gathering, like that under consideration, should fairly represent all localities; and it is generally understood by Tulip-growers that the opinions of the northern and southern florists are rather at variance with each other on the subject to which you allude; for instance, the Southerns acknowledge but three classes, and the Northerns six. For these reasons the two classes were provided, so as to suit the ideas of both parties—Class A. embodying the views of the North, on the one hand, by having six rectified flowers; and Class B. that of the South, by having four of each class (they acknowledge only three classes, which, by-the-bye, appears to me the best, as it avoids a confusion of names). I admit that the classification should have been more fully explained; but, believing that all would look on the schedule as one framed for a national purpose, it was thought it should be perfectly understood. Touching the *questio vexata*, viz., that no one variety is allowed to win all through the class, even although it is worthy, I think it would be rendering Tulip-growers a service if the contending points were to be entertained, according to the circumstances, by two competent individuals, and a report of the same made. I quite agree with you as to the sufficient expansion of the flowers to judge of their merits. I contend that the censors should not of necessity touch the flowers to judge of their purity or impurity; sufficient expansion should be demanded and enforced. *J. Cole, Birmingham.* [We are glad that the remarks we ventured to make at p. 295 have not passed unnoticed, inasmuch as Mr. Cole himself admits that more explanation was wanted; and now, we think, the matter has been made so clear that few will find any difficulty in understanding it. *J. E.*]

Hammersmith Heartsease Society, *May* 12.—As we anticipated, there was a brilliant meeting on this occasion. We have with much care classified the flowers staged, in order that no difficulty shall exist in obtaining a full knowledge of the several and respective merits of the varieties now in cultivation as show flowers, and of the arrangement which the different exhibitors thought best to adopt. Stands used by dealers for 36 varieties consist of four rows, each containing nine blooms; amateurs 24, are four rows of six blooms; our enumeration commences at the left hand corner of the back row, which row being completed we continue with the next row below it, left hand end, then again with the third row, concluding with the fourth or front row; we are thus explicit, in order that not only may the colours be readily known, but a knowledge of size be obtained; the back rows being formed of the largest specimens, gradually decreasing as they approach the front. The colours may be known by the following abbreviations:—A, yellow ground varieties; B, white ground varieties; C, yellow selfs; D, white selfs; E, dark selfs.—Amateurs: 1st prize, Mr. S. Treacher, with Juventa, A; Duke of Perth, E; Queen of England, B; Masterpiece, A; Lady Carrington, B; Pandora, A; Aurora, B; Timour, A; Flower of the Day, E; Royal Visit, B; Diadem, A; Duchess of Rutland, B; Lord Carrington, B; Maid of Athens, A; Nimrod, A; Lucy Neal, E; Helen, B; Supreme, A; Constantine, E; Thisbe, A; Almanzor, B; Iron Duke, A; Sambo, E; Kate, B. 2d, Mr. A. Lane, with President; Climax, B; Pompey, E; Ethelred, A; Royal Visit, B; Ophir, C; Matchless, B; Sir J. Sidney, A; Maid of Athens, B; Disraeli, E; Diadem, A; Queen of England, B; Androcles, A; Mr. Beck, A; Blanche, D; Timour, A; Mrs. Trotter, B; Elgiva, C; Helen, B; Duchess of Rutland, B; Polyphemus, C; Aurora, B; Eustace, A; Exquisite, B; Rubens, A.—Dealers: 1st, Mr. Turner, with Great Britain, A; Mrs. Hamilton, B; Robert Burns, A; Almanzor, B; Ghff, A; Duke of Perth, E; Lady Emily, A; Euphemia, B; Thisbe, A; Seedling, E; Duke of Norfolk, A; Sir R. Peel, B; Adela, C; Royal Visit, B; Duke of Rutland, B; Miriam, B; Alfred the Great, A; Privateer, A; Sir J. Cathcart, A; National, B; Salt Hill Rival, A; Pompey, D; Sir J. Franklin, A; Sir Joseph Paxton, A; Seedling, B; Diadem, A; Aurora, B; Supreme, A; Sambo, E; Mr. Beck, A; Criterion, B; France Cycole, A; Seedling, C; Seedling, A; Black Diamond, E; Pandora, A. 2d, Mr. Bragg, with Laertes, A; Queen of England, B; Hercules, E; Lady Carrington, B; Duke of Perth, E; Almanzor, B; Grace Darling, A; Flower of the Day, E; Pandora, A; Aurora, B; Timour, A; Pride, B; Kate, D; Ophir, C; Elegans, A; Mulberry, E; Polyphemus, C; Criterion, B; Constance, A; Royal Visit, B; Consteliation, A; Royal Purple, E; Lady Emily, A; Royal White, D; Supreme, A; Rotunda, B; Commander-in-Chief, B; Masterpiece, A; Nox, E; Rubens, A; Rotunda (Hunt's), B; Androcles, A; Lucy Neal, E; Cowper, C; Post Captain, A; Helen, B. First Class Certificates were awarded to Fearless (Schofield), A; a flower remarkably smooth, both on surface and edges, colours pure and bright, with well displayed eye; similar, but an admirable improvement on Supreme. Monarch (Turner), A; bold and of good colour. National (Turner), B; a flower peculiar for the extent of ground colour and regularity of the border marking; Sir J. Cathcart (Turner), A, previously described; on this occasion it was in famous condition. These four flowers will be for some time valuable acquisitions to our best collections. *J. E.*

Antirrhinums: *Enquirer.* If wanted for flowering in August, they may now be potted into their blooming pots; and unless the plants are very bushy, put three into an 8-inch pot. We have, however, seen single plants in 8 inch pots half a yard through, pyramidal in form, and with from 8 to 20 spikes of flowers mostly expanded. An exhibition of plants grown in this style would tend to enlist more attention in favour of the Antirrhinum. Can any one give us a list of good sorts? *J. E.*

Camellia Martinii: *Z.* We saw this variety at one of the Horticultural Society's meetings this spring. It is the nearest approach to scarlet of any flower possessing quality with which we are acquainted. *J. E.*

Catalogue received from Messrs. Hugh Low and Co., of the Nurseries, Clapton; and from Messrs. E. G. Henderson and Son, St. John's Wood. Also the "Greenhouse and Garden" (Birmingham) for May. *J. E.*

Exhibitions: *Sub.* You will find the kind of information you want, given every month in Turner's "Florist and Garden Miscellany."

Fancy Dahlias: *C.* We understand that Miss Mathews (Bragg) will not be let out this spring.—*K.* Admiration (Brimmer) has been submitted to our inspection. It is very dark maroon, approaching black, with pure white tips; for

decorative purposes it will prove attractive; it was shown at Highgate. *J. E.*

FUCHSIAS: *York.* You will find a selection of light and dark kinds at p. 183 of our current year's volume. *J. E.*

PELARGONIUMS: *J Kelly* You should have stated whether your plants were young or old. If young, the best plan would be to stop them at once, and shift into a size larger pot. Do not cut the roots back; merely rub them round with the hand. By these means, you may possibly have them in flower in September. ‡

VERBENAS: *D R S.* There is such a white Verbena as the one you mention; but its name is pulchella alba. The one called Shrubland Amethystina is the same as Duchesse de Nemours. *G S.* Received. Many thanks. *J. E.*

SEEDLING FLOWERS.

CINERARIA: *C K S.* A flower of good properties, not the least of which are its pure and strong colours and great substance.

PANSIES: *Messrs. B and H.* Of no value. *J. E.*

Miscellaneous.

Preserving Fruits, Flowers, and Roots.—In procuring and preserving organic substances, great attention must be paid to the following rules:—Roots, herbs, and flowers must be collected at a proper time, and guarded against spoiling. Roots are collected in spring, before the leaves are perfectly formed, or in autumn, when the leaves have decayed; however, there are some plants the roots of which may be also collected whilst they are in full vegetation. The roots must be cleaned, the thick ones even sliced, and dried slowly at a gentle heat not exceeding 130° Fahr., and placed afterwards in well-closed boxes, in a dry place. Barks, woods, and branches are gathered in spring, and even in autumn from young and healthy plants or trees. In spring also, buds and spores are collected. They are dried and kept in the same way as the roots. Herbs and leaves are gathered when the plant is near flowering, on a fine dry morning. Narcotic plants form therein an exception, most of them being most pregnant with active principles when in full flower. Herbs thus collected are generally dried in the shade in a well-ventilated room; however, if the season be wet, we must resort to artificial heat. Flowers are gathered when in full perfection, at noon on a fine dry day, and dried as quick as possible. Some flowers are freed from their calyx; others are gathered together with the tender stem, and are called summitates, as Absinthum. Fruits are generally collected when full ripe; some, for instance Oranges, when in an unripe state. Some are dried like roots, others used immediately, when fresh, to make extracts, like Momordica elaterium, or made into confections. *Annals of Pharmacy and Practical Chemistry.*

Irish Horticultural Societies.—It may be interesting to know that a Horticultural Society has just been established in Clonmel, with a view to promote the improvement of gardening in Tipperary. Its first exhibition is announced to take place next month. From a circular sent us along with the rules and bye-laws we learn that the committee are anxious to have a garden in connection with the Society, and they have opened a list for donations for that purpose. When sufficient money has been collected, they propose taking a few acres of land in the vicinity of the town, and laying them out as an ornamental garden, sufficiently attractive to interest all lovers of the beautiful, and containing the means of instruction in all branches of horticulture, and the elements of botany, for those anxious to avail themselves of it. This garden is to be placed under the care of a respectable foreman, who will take apprentices to do the work under his direction, and to be instructed in every branch of horticulture required for filling the situation of gardeners in the most respectable establishments—for which purpose a sufficient portion of the ground will be set apart. We wish the undertaking success, and trust that the inhabitants of Clonmel may heartily co-operate with the committee, in order to ensure the successful establishment of so excellent an institution.

Sale of Orchids.—A small importation from Guatemala was sold the other day by Mr. Stevens. It consisted of Lycaste Skinneri, Odontoglossum grande, pulchellum, and Bictonense; Cattleya Skinneri, Comparettia coccinea, Lælia acuminata and peduncularis, Oncidium Cavendishii, Epidendrum macrochilum roseum, aurantiacum, and Skinneri; Cyrtochilum filipes, Barkeria spectabilis, the handsome Arpophyllum giganteum, the Twisted Trichopil, and one or two other kinds. They fetched from *1l.* to *3l.* per lot, each containing from three to ten plants.

Calendar of Operations.

(For the ensuing week.)

PLANT DEPARTMENT.

As the time during which plants are in bloom is the only interesting period of their growth to the majority of their admirers, it is always desirable to prolong the period to which this interest attaches, and to allow them to be examined without subjecting visitors either to an overheated or over moist atmosphere. For this purpose, where there is no conservatory, a suitable house should be set apart to contain the more showy flowering specimens, and where the necessary shading and attention to internal neatness and order can be kept up. The want of such a structure is more generally felt in the gardens of the country gentry, where a variety of plants is frequently grown in the Pineries and Grape houses, &c., and where their beauty is often lost for the want of some house in which they may not only be seen to advantage, but have their period of blooming considerably lengthened. Of course these remarks do not refer to regular plant houses; but even with these it will, at some seasons, be preferable to remove very showy plants to such a house as we have recommended, than suffer them to remain subjected to treatment not always favourable to keeping them for a length of time in beauty. As a house of this kind is always attractive, it should be placed in a situation easily accessible to the family, and where the surrounding objects bear some kind of affinity to the floral display within. Part of the stock of Achimenes, Gloxinias, and similar plants, started in pits or frames, now they have made some progress, may be removed to the stove or intermediate house; stake out neatly the Achimenes as they advance, and water them liberally. As they will not bear strong sunshine, place them in a shady part of the house; a further supply for late blooming may be potted; continue to shift, as they require it, any free-growing plants, and let the necessary training always precede the plants' growth, that a free natural habit may be encouraged. In addition to the hardy plants named in a former Calendar to be potted and prepared for next season's work, we strongly recommend the common Mandarin Orange, as valuable for autumn and winter blooming purposes: the above, with Daphne indica rubra, and several varieties of the Chinese Azalea, may be made to bloom at almost any period, provided care has been taken to prepare them for the purpose; select, therefore, suitable plants of the above, and, if they require it, give them a small shift, and place the Oranges and Azaleas in any house at work; they will bear forcing freely (which the Daphne will not). Keep the tops as they grow in some desirable form, and allow them to remain in heat, till the Azaleas have formed their buds, and the shoots of the Oranges are firm and hard; they may then be placed in an open situation in the sun, till October, when forcing may begin at any time they are wanted to bloom.

FORCING DEPARTMENT.

PINERY.—Still continue the requisite attention to the advancing crop. The plants intended for autumn fruiting should now be shifted into their fruiting-pots. The best kinds for swelling their fruits well in the winter are the smooth-leaved Cayenne and the Black Jamaica, adding a few Queens. To insure these showing fruit within the next two months, it will only be necessary either to remove them into a house with a drier atmosphere, or apply it to them where they are growing. As they have made their first growth, there is generally no difficulty in getting them to show. If the conditions of good cultivation have been given the successions, they will by this time have filled their pots with roots, and should have larger pots without delay. Let the pots be large enough to allow for a good portion of turfy loam round the ball, pot them firm, and rather deeper than at the previous potting. In plunging them afresh, allow them considerably more room, and bring them near to the glass. They will now grow freely, and should have abundant room to throw out their leaves in an horizontal position; and it is likewise important that both light and air should be able to act on every part of the plant's surface. Pines planted out in open beds must have the same conditions applied to them, and the roots kept in a moist state by waterings, which at this period may be given them over-head, provided the pits are closed up warm; keep the bottom-heat to the whole of the stock at a steady point. PEACH-HOUSE.—That the ripening fruit may enjoy all the advantages of light and air, tie close in the shoots intervening between the trellis and the glass, and take off any leaves shading the fruit too much. Liberal quantities of air must be given to Peaches during the last stage, to improve the colour and flavour; and unless urgent reasons exist to the contrary, allow them plenty of time to ripen, which will much improve both the size and appearance of the fruit. A net should be suspended loosely underneath the trees before the crop gets ripe, to catch any fruit which may get overlooked in gathering them. Figs are now ripening their first crop, and, as the fruit soon gets injured from damp, considerable care should be taken not to wet such as are approaching that state. The house should, however, have frequent sprinklings, and every means taken to keep down the red spider. Figs in pots must be plentifully supplied with weak manure-water.

FLOWER GARDEN AND SHRUBBERY.

Use all diligence in filling the beds of the flower garden; the present showery weather will assist the plants in getting hold of the soil, without much watering. Stake or peg down such plants as require it, as the planting proceeds, or the boisterous winds will break many things off. Plant out in rich soil a good supply of Stocks and Asters for the autumn; and sow a succession of annuals for making up any vacancies which may occur; and likewise another sowing of Mignonette, in pots, for the rooms or for filling window boxes. The hardy climbers will require going over; thin out surplus shoots, and tie or nail in the remainder. Roses, both against walls and in open beds, will require frequent washings with the engine, to keep down blight; and take every means of destroying that pest to the Rose-grower, the Rose-maggot, which may now be found coiled up in the leaves and amongst the young buds. Keep the lawns in order, by frequently mowing and rolling them, to obtain a close-bottomed sward; and take advantage of rains to well roll the gravel walks.

FLORISTS' FLOWERS.

The amateur who is now delighting in the beauty of his Tulips, should not forget that even in his favourite flower there is an onward movement; "perfect purity" is now the *sine qua non*. In order to aid in the general improvement let him raise seedlings; and in order to obtain them distinct, pure, and of good form, let him, now they are in full flower, select the varieties he wishes to seed from, and cross-breed accordingly; many florists are now bitterly repenting that they saved seed from impure cupped flowers—after years of care and anxiety, they now find that the produce is comparatively worthless. Care should be taken that the flowers from which seed is saved are of the same class—for instance, it would be folly to cross a bizarre with a bybloemen or rose, a mongrel would result; but rose should be crossed with rose, bizarre with bizarre, and so on. In other floral matters attend to directions lately given, especially take care that nothing suffers for want of water.

KITCHEN GARDEN.

The work in this department will chiefly consist in giving the various crops the requisite culture to bring them on. The hoeing and thinning out of Onions, Carrots, &c., should be proceeded with in dry weather. Potatoes should be well loosened between the rows, and in a few days afterwards well earthed up; not drawing, however, the earth close up to the stem. In this neighbourhood the crops above ground were killed down by the frosts of the 2d and 3d inst. Sow more dwarf French Beans, or transplant those advised to be sown for the purpose, as in all likelihood those sown in the open ground are killed. Examine narrowly the state of the different crops, and see that nothing has been omitted, and, where failures have occurred, take immediate steps to make good the deficiencies, in the way most likely to meet the end. As the soil in the ridge intended for hand-glass Cucumbers will now be slightly warmed, the plants may be turned out, and a few Vegetable Marrows, in addition, to come in early.

STATE OF THE WEATHER NEAR LONDON,

For the week ending May 20, 1852, as observed at the Horticultural Gardens, Chiswick.

May.	Moon's Age.	Barometer.		Temperature.					Wind.	Rain.
				Of the Air.			Of the Earth.			
		Max.	Min.	Max.	Min.	Mean	1 foot deep.	2 feet deep.		
Friday.. 14	26	29.953	29.586	62	38	50.0	52	49	W.	.02
Satur. .. 15	27	30.077	29.935	65	39	52.0	51	50½	S.W.	.00
Sunday . 16	28	29.825	29.811	74	47	60.5	52	50	W.	.00
Mouday 17	29	29.851	29.709	66	47	56.5	54½	51	S.W.	.33
Tues. .. 18	1	29.662	29.569	72	45	58.5	54½	52	E.	.11
Wed. .. 19	2	29.937	29.783	72	43	57.5	53	52	S.E.	.00
Thurs.. 20	3	29.985	29.971	67	48	57.5	55	53	N.E.	.10
Average....		29.898	29.763	68.3	43.8	56.0	53.4	51.1		.56

May 14—Boisterous; showery, fine, but windy; clear.
— 15—Clear; very fine; clear at night.
— 16—Very clear; exceedingly fine; clear.
— 17—Slight drizzle; rain; overcast; hazy; thunder with lightning and rain.
— 18—Uniform haze; very fine; close haze; densely overcast.
— 19—Fine; very fine, with large white clouds; clear at night.
— 20—Fine; slight dry haze; fine; showers; densely clouded.
Mean temperature of the week, 2 deg. above the average.

STATE OF THE WEATHER AT CHISWICK,

During the last 26 years, for the ensuing week, ending May 29, 1852.

May.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds.							
						N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 23	68.3	46.2	57.3	7	0.53 in.	1	5	3	4	1	3	4	5
Mon. 24	68.2	45.8	57.0	9	0.54	2	5	6	1	4	4	2	1
Tues. 25	66.2	45.5	55.8	9	0.64	1	10	1	1	1	6	5	1
Wed. 26	67.9	42.9	55.4	11	0.27	1	9	3	1	2	5	3	2
Thurs. 27	68.4	45.7	57.1	13	0.41	1	8	6	1	1	5	2	1
Friday 28	68.0	45.5	56.7	9	0.97	—	7	7	1	4	5	2	—
Satur. 29	68.5	45.7	56.1	9	0.97	2	8	1	2	4	5	4	1

The highest temperature during the above period occurred on the 28th 1847—therm. 91 deg.; and the lowest on the 25th, 1839—therm. 29 deg.

Notices to Correspondents.

BOOKS: *J R M.* Koch's "Flora Germanica."

CALCEOLARIAS: *J R.* Your bloom presents an example of what is called technically a Peloria, *i. e.*, of an irregular flower recovering its regularity from the operation of some unknown cause. ‡

CONIFERS: *H* We will ask. But would not Messrs. Lawson's, or Messrs. Knight and Perry's Catalogues answer the same purpose?

GLASS: *C D.* Use Hartley's by all means; it answers perfectly for Vineries. Flues, if well managed, and well constructed, are quite as good as hot-water pipes for common Vineries. The upper tiles should be dished out, so as to hold water.

GOURDS: *M J B.* We are unacquainted with the seed—which is sown. It has probably had the origin you attribute to it.

HAWTHORNS: *Pontefract.* Bud them in the autumn when the buds are ripe and the bark runs. ‡

INSECTS: *E, Waterford.* You do not state in what manner the insects have attacked your Pear tree. Is it by devouring the young leaves or by laying their eggs in the buds? The insects sent are the Curculio (Polydrusus) oblongus. It would be serviceable to lay a large cloth under the tree in the dusk, and then shake the branches violently, when the weevils, which are then feeding, would fall on the cloth, and should be burnt.—*J S.* The grub found in numbers at the roots of your Pæonia is the caterpillar of the brown swift moth (Hepialus fuscus). The only plan is to examine the roots when the plant shows indications of being attacked, and destroy the caterpillars and chrysalids. *W.*

MULBERRY TREES: *H R.* These are raised in the nurseries from layers; you cannot do that in your garden. An old limb, as thick as the arm, well shortened back, and planted 3 feet deep in September, will often grow.

NAMES OF PLANTS: *C M H.* Pittosporum viridiflorum, a greenhouse plant.—*A Subscriber.* No. 1, seeds of some Cucurbitaceous plant; 2, pod of the Cotton plant; 3 (?); 4, Cytisus biflorus; 5, Cytisus elongatus; and a Juniper of some sort.

PEACHES: *T S L.* The varieties of this fruit cannot be certainly named from leaves and flowers. If you will forward the fruit, when ripe, there will be no difficulty in saying what it is.

VINES: *J B S.* Our columns have formerly contained abundant discussion concerning "shanking;" a disease wholly produced by the Vine roots being either in a cold soil, away from air, or absolutely rotten off. Rust is caused by any circumstance which destroys the skin of the berry when young and tender. Fingering the berries, or rubbing them against greasy hair, or sudden cold, or excessive sulphuring, all may have a hand in it.

MISC: *G F U.* The highest number on Fahrenheit's thermometer at which there will be the slightest frost is 32°. The slightest frost will appear white on the Grass in the morning, if there is any dew. The Pear-shaped Quince will answer for Pear stocks as well as the common or French Quince.—*A H.* Dielytra eximia is much like D. formosa, but handsomer. Anemone ranunculoides inhabits woods in the same way as A. nemorosa, both on the Continent and in this country. It is said to have been seen near King's Langley, in Herts, and Wrotham, in Kent.

PERUVIAN GUANO.

CAUTION TO AGRICULTURISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

ANTONY GIBBS AND SONS, AS THE ONLY IMPORTERS OF PERUVIAN GUANO,

Consider it to be their duty to the Peruvian Government and to the Public again to recommend Farmers and all others who buy to be carefully on their guard.

The character of the parties from whom they purchase will of course be the best security, and, in addition to particular attention to that point, ANTONY GIBBS AND SONS think it well to remind buyers that—

The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 9l. 5s. per ton, less 2½ per cent.

Any resales made by dealers at a lower price must therefore either leave a loss to them, or the article must be adulterated.

THE LONDON MANURE COMPANY offer the following Manures on the best terms, warranting every article strictly genuine:—Peruvian Guano, Superphosphate of Lime, Nitrate of Soda, Concentrated Urate, Peat Charcoal, Gypsum, Fishery Salt from Cornwall, also a constant supply of Salt for agricultural purposes; Linseed and Rape Cake. Peruvian Guano, warranted the genuine importation of Messrs. A. Gibbs and Sons, at 9l. 10s. per ton, or for 5 tons and upwards, 9l. 5s. in Dock. EDWARD PURSER, Sec.
40, New Bridge-street, Blackfriars.

MANURES.—The following Manures are manufactured at Mr. LAWES'S Factory, Deptford Creek:

Turnip Manure, per ton	...	...	£7 0 0
Superphosphate of Lime	...	...	7 0 0
Sulphuric Acid and Coprolites	...	...	5 0 0

Office, 69, King William-street, City, London.
N.B. Peruvian Guano, guaranteed to contain 16 per cent. of Ammonia, 9l. 10s. per ton; and for 5 tons or more, 9l. 5s. per ton, in dock. Sulphate of ammonia, &c.

MANURE DEPOT.—PEAT CHARCOAL.

TO FARMERS, AGRICULTURISTS, AND OTHERS.

G. H. FOLEY, Essex Coal Wharf, Lea-bridge, Middlesex, Agent to the Irish Amelioration Society for the sale of the above. All needful particulars will be given on application at the above address.

Price of the unmixed Charcoal, 55s. per ton, sacks included. Mixed with Nightsoil, 50s. per ton, sacks included. Mixed with Urine, 70s. per ton, sacks included. Carriage to any of the Wharfs or Railway Stations, from 3s. 6d. to 5s. per ton extra, according to distance.

TURNIP SOWING.

SUPERPHOSPHATE OF LIME, made from bone only, equal in quality, but in superior condition to that manufactured by the undersigned, as reported in the Royal Agricultural Society's Journal, Vol. vi. Part 2. It is also suitable for use with Chandler's Liquid Drill; also Peruvian Guano, Nitrate of Soda, Gypsum, Bone-dust, Sulphuric Acid, and all other Manures of known value.—Apply to MARK FOTHERGILL, 104, Upper Thames-street, London.

NITRO-SUPERPHOSPHATE OF LIME.

WM. SWANTON & CO. respectfully invite attention to their new preparation of animalised NITRO-SUPERPHOSPHATE OF LIME. This valuable and much improved manure for Turnips contains not only the usual proportion of Bone or mineral Phosphate of Lime, but a large quantity of Dried Blood, warranted to yield Nitrogen equivalent to more than 15 per cent. of Ammonia. According to the analysis by Professor Way, it contains organic or animal matter, salts of ammonia, &c., four times greater, and nitrogen nearly double and treble as compared with some of the best samples of ordinary Superphosphate of Lime, besides a high per centage of soluble phosphate, while the moisture, sand, and sulphate of lime is considerably less.

	For Cash on delivery.	Per ton.
Bone Nitro-Superphosphate of Lime pulverised, in bags		£8 0 0
Mineral do. do. do.		7 0 0
Coprolite and acid		5 0 0
Animalised fæcal manure, with a large portion of dried blood		5 0 0

Cartage to rail or wharf not exceeding 5s. per ton.
The NOTE on Dried Blood as a Manure, by Professor Way, in the Journal of the R. A. S., vol. xii., Part 2, p. 584, is founded on various samples of this article manufactured by WM. SWANTON and Co., and first converted by them into Nitro-Superphosphate of Lime. Mr. Way says, "A mixture of dried blood and mineral superphosphate of lime would be an admirable drill manure for Turnips. Dried blood is likely to be effective on all soils, but especially on sandy land."
Belle Isle Manure Works, Maiden-lane, King's-cross, May 22.

CHALLENGE FOR £100.

TO THE LANDOWNERS AND AGRICULTURISTS OF ENGLAND AND SCOTLAND.

THE TYNE MANURE AND CHEMICAL COMPANY, of Newcastle-on-Tyne, being desirous to test the value of GUANOS of Foreign Importation, Peruvian included, against *Home-made Artificial Manures*, are now prepared to back their AMMONIACAL GUANO, a Manure made at Newcastle-upon-Tyne, for ONE HUNDRED POUNDS, for the Turnip Crop, weight for weight, against any other Manure or Guano now made or Imported into this country.

In order to convince Farmers and Agriculturists that this Challenge is *bonâ fide*, they are also prepared to furnish *One Ton of their Ammoniacal Guano, gratuitously*, to the Farmers' Club of any particular district, if of known reputation, for a preliminary trial; and further, to guarantee to farmers using it its productive properties against any other Guano or Artificial Manure, weight for weight, per acre, on the same soils, on the principle that if the Crop is less in weight from it than that produced from any Guano or Artificial Manure used against it, they will make good the deficiency to the user, at the current market rate; but if, on the other hand, the Crop produced by it should exceed in weight that produced by any other Guano or Artificial Manures, then that they shall receive the value of such excess in weight of the Crop at the same current rate, in compensation for the risk of such guarantee.

The Company wish it to be distinctly understood, that 8l. 10s. net cash, or 9l. credit per Ton in bags, is the price of their Ammoniacal Guano. Parties anxious to try it are requested to make early application, and any desirous of accepting the above Challenge (each party depositing the cash), will be immediately accommodated on application to the Company at Newcastle-upon-Tyne.

The same Manure now offered is at present under trial by several of the principal Farmers' Clubs in Scotland, and last year, in several instances, their Ammoniacal Superphosphate, when tried weight for weight, beat the best Peruvian Guano, in some cases by 5s. per acre, in others by 15s. per acre, and in favourable cases by 1l. 14s. 6d. per acre.—Letters to be addressed to the TYNE MANURE AND CHEMICAL COMPANY, Glass-house Quay, Newcastle-upon-Tyne.
Newcastle-upon-Tyne, May 22.

FOSSIL BONES AND PSEUDO-COPROLITES.

(FROM THE SUFFOLK CRAG.)

EDWARD PACKARD AND CO., of Ipswich, having erected very powerful Machinery for the purpose of reducing these Phosphatic Nodules to a fine Powder, and being in the immediate locality of where they are found, are now prepared to supply them on the most economical terms, in any quantity, either Ground, Whole, or Dissolved in Acid. They form the cheapest source of Phosphate of Lime in the market, and are peculiarly eligible for manufacturing Superphosphate of Lime in conjunction with Bone.

Prices and every information connected with their use forwarded on application to EDWARD PACKARD and Co., Artificial Manure Manufacturers, Ipswich, Suffolk.

CHARCOAL AND SEWAGE MANURE.—Promote the Health and Wealth of Town and Country by increasing the use of that valuable manure PEAT CHARCOAL, impregnated with the fertilising matter of LONDON SEWAGE. The ammonia, phosphates, and fæces are absorbed, and the water pressed out bright, palatable, and soft.

Sold at the Charcoal and Sewage Works, Stanley-bridge, Fulham, Middlesex, at 60s. per ton, 4s. per cwt., 2s. 6d. per half cwt.

TO AGRICULTURISTS.

OWEN'S ANIMALISED CARBON is now for Sale, at 2l. 5s. per ton in bulk.—This Manure has been introduced, with the most beneficial results, at St. Croix and the Mauritius, in the growth of the Sugar Cane, as proved by testimonials from the planters. The powerful fertilising properties of the Carbon have long since been acknowledged in Denmark, where it has been extensively used for agricultural purposes, as no less than 26,000 tons have already been sold. It is ready for immediate use, having no occasion to be ground, is equally as portable and diffusible as bones, and the low price at which it can be sold in this country must always be a paramount recommendation. *A liberal Commission allowed to Dealers or Agents.* For copies of the testimonials of its utility in this country, also for samples, apply to J. OWEN and Co., 3, Rood-lane.

Messrs. J. OWEN and Co. are now importing from their Copenhagen Manufactory SUPERPHOSPHATE OF LIME, of the very best description, containing at least 18 per cent. of Neutral Soluble Phosphate of Lime, and capable of furnishing at least 3 per cent. of Ammonia to the Soil. The "Analysis" is made by Professor J. THOMAS WAY, Consulting Chemist to the Royal Agricultural Society. The price, in London, of this powerful Manure, is 7l. per ton, cash, or Banker's Bill on London.

HOSE FOR LIQUID MANURE, FIRE ENGINES, or GARDEN PURPOSES, made of Canvas, lined and coated with Gutta Percha. It is exclusively used by agriculturists, and at the Government Public Works, giving great satisfaction. Also, KASE'S FORCE and SUCTION PUMP, which is the most simple and complete; it will throw 40 gallons per minute, 40 feet high, and it is not at all liable to get out of order. Price 6l.; on wheels and stand, 7l. 7s.
BURGESS and KEY, 103, Newgate-street, London.

HAY HARVEST.

S. G. BENNET'S ORIGINAL RICK-CLOTH, TENT, AND MARQUEE WAREHOUSE, (established upwards of 40 years,) 250, Tooley-street, opposite Topping's-wharf, where may be had rick-cloths, with poles, pulleys, and lines complete, on the shortest notice, and most reasonable terms, to meet the times. Orders by post promptly attended to. N.B. A large marquee, in excellent condition, to be disposed of, remarkably cheap: dimensions, 140 feet by 30.

CHEAP AND DURABLE ROOFING.

BY HER MAJESTY'S  ROYAL LETTERS PATENT.

F. M'NEILL AND Co., of Lamb's-buildings, Bunhill-row, London, the Manufacturers and only Patentees of THE ASPHALTED FELT FOR ROOFING Houses, Farm Buildings, Shedding, Workshops, and for Garden purposes, to protect Plants from Frost.

At the Great National Agricultural Shows, it is this Felt which has been exhibited and obtained TWO SILVER MEDAL PRIZES, and is the Felt SOLELY patronised and adopted by

HER MAJESTY'S WOODS AND FORESTS,
HONOURABLE BOARD OF ORDNANCE,
HONOURABLE EAST INDIA COMPANY,
HONOURABLE COMMISSIONERS OF CUSTOMS,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANIC GARDENS, REGENT'S PARK,

And on the Estates of the Dukes of Sutherland, Norfolk, Rutland, Newcastle, Northumberland, Buccleuch (at Richmond), and late Earl Spencer, and most of the Nobility and Gentry, and at the ROYAL AGRICULTURAL SOCIETY'S HOUSE, Hanover-sq.

It is half the price of any other description of roofing, and effects a great saving of Timber in the construction of Roofs. Made to any length by 32 inches wide.

PRICE ONE PENNY PER SQUARE FOOT.

*** Samples, with Directions for its Use, and Testimonials of seven years' experience, with references to Noblemen, Gentlemen, Architects, and Builders, sent free to any part of the town or country, and orders by post executed.

☞ The Public is cautioned that the only Works in London or Great Britain where the above Roofing is made, are

F. M'NEILL AND CO.'S

Patent Felt Manufactory, Lamb's-buildings, Bunhill-row, London, where Roofs covered with the Felt may be seen.

The new Vice-Chancellor's Courts, at the entrance of Westminster Hall, were roofed with F. M'NEILL and Co.'s Felt about two years since, under the Surveyorship of Chas. Barry, Esq., R.A. Her Majesty's Commissioners of Woods and Forests are so satisfied with the result that they have ordered the Committee Rooms at the Houses of Parliament to be roofed with their Felt. Quantity altogether used, 24,000 feet.

NOTE.—Consumers sending direct to the Factory can be supplied in lengths best suited to their Roofs, so that they pay for no more than they require.

Every information afforded on the construction of Roofs, or any proposed particular application of the Felt.

WATERPROOF PATHS.—Those who would enjoy their Gardens during the winter months should construct their walks of PORTLAND CEMENT CONCRETE, which are formed thus:—"Screen the gravel of which the path is at present made from the loam which is mixed with it, and to every part of clean gravel add one of sharp river sand. To five parts of such equal mixture add one of Portland Cement, and incorporate the whole well in the dry state before applying the water. It may then be laid on 2 inches thick. Any labourer can mix and spread it. No tool is required beyond the spade, and in 48 hours it becomes as hard as a rock. Vegetation cannot grow through or upon it, and it resists the action of the severest frost. It is necessary, as water does not soak through it, to give a fall from the middle of the path towards the sides.—Manufacturers of the Cement, J. B. WHITE and SONS, Millbank-street, Westminster.

BATH AND WEST OF ENGLAND AGRICULTURAL SOCIETY.

The First Summer Meeting of this Society will be held at Taunton, on WEDNESDAY, THURSDAY, and FRIDAY, the 9th, 10th, and 11th days of June, 1852, when PRIZES to the amount of 474l. will be awarded for Cattle and Implements. Particulars of which may be obtained of

H. ST. JOHN MAULE, Secretary.
Newton St. Loe, Bath, May 22.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.—LEWES MEETING.—The last day for the entry of Stock is TUESDAY, 1ST of JUNE. Prize Sheets and Forms of Certificate can be obtained on application, by post or otherwise, to the Secretary, No. 12, Hanover-square, London.

By Order of the Council, JAMES HUDSON, Secretary.

The Agricultural Gazette.

SATURDAY, MAY 22, 1852.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY,	May	26—Agricultural Society of England.
THURSDAY,	—	27—Agricultural Imp. Soc. of Ireland.
WEDNESDAY,	June	2—Agricultural Society of England.
THURSDAY,	—	3—Agricultural Imp. Soc. of Ireland.

WE have already expressed our wish that the bill which has passed the House of Commons, to provide for the gradual enfranchisement of the COPYHOLD TENURE, may pass into law in the present session. There is probably no measure which Parliament could pass which would more relieve the landed interest than this. Arbitrary fines are a direct check upon agricultural improvement, heriots are a disgrace to the country, and the fees of the steward and the other incidents to copyholds a most serious burden on the enjoyment and alienation of land. The bill which stands for second reading in the House of Lords on Tuesday next (25th), will, if it become law, gradually extinguish these evils, and give a fair compensation to the lord for his rights. Its provisions were most carefully considered and settled by the select committee of the House of Commons last session, and it has thus passed through that House without any opposition, far less any division. We have great hopes, therefore, that it will pass the House of Lords also; but we feel a little alarmed at a notice given by Lord ELLESMERE to refer the bill to a select committee, and to allow counsel to be heard against the bill. Now it is obvious that if this course be taken, the bill cannot pass this session. We do hope, therefore, that this motion will not be adopted by the Lords, but that the bill will be allowed to pass, and that this opprobium to our law of real property will cease to exist, due attention being paid to secure to all parties a just equivalent for their rights.

WHEN, at some future day, and by some pen not yet out of straight strokes and pothooks, there shall be written, for the edification of the agricultural public, an historical sketch of the 'Rise and Progress of STEAM CULTIVATION,' it is to be feared that some of the reflections will not be of the most complimentary kind to the genius or the faith of the generation that witnessed the Great Exhibition of 1851,—that embraced nearly in one experience the development of Steam Navigation, of the Railroad system, the Electric Telegraph, and other kindred appliances in the many-pathed field of practical science.

'It was strange,' we may suppose our future annalist to write, 'that amidst the blaze of surrounding discovery in the arts that economize the labour and advance the condition of man, an application of steam-power that must surely have pressed with such powerful motive and exigency on a period when an extensive change of commercial policy seemed especially to evoke the mechanical resources of the kingdom, by way of set-off to its often-urged disadvantages in climate and in fiscal burthens, —should have been long regarded rather with the apathy evinced towards the cobweb speculations of dreaming enthusiasm, than dealt with as a practical question by practical minds. While zealous agriculturists were eloquently excited once a year over the weight of an ox, or the twist of an improved mould-board, 'Science' was satisfied, and 'Practice' seemed to tread on the heels of perfection. Under such patronage, 'Improvements' in the established implements of tillage, were of course as numerous as the moiety of 20 acres of ground could conveniently accommodate for annual Exhibition. A revolution impending over *Tillage itself* was of course the last thing dreamt of. It is ever so. True, a few black funnels might be seen smoking in the show yard, and the whirring drum of the steam-driven Threshing-machine had, thanks to the *previous* invention of a certain Scotch lawyer, made the agrestial mind forget to expect, or its prizes to stimulate, improvements in the Flail. But the principal and time-honoured act of agriculture proper, of *cultivation* itself—still laboured under its

ancient tribe of horse-adapted implements. The Plough and the Harrow were still in the ascendant: the instruments of equine-tillage were still received as its essential agents; and people who would have smiled at the mechanical curiosity of a Steam-*Flail*, gravely anticipated the day when some such combination would be triumphantly achieved for the darling tool whose Heaven-invoked 'speed' had long supplied the toast and figure-head of Agricultural Prosperity.

'Yet it can hardly be wondered at,' our aggravating Critic will continue, 'that men should have slowly and with such difficulty eradicated from their minds a mode of tillage so long compelled by the very nature and necessity of animal-power: every child that has wept and smiled over the 'Death of Cock-robin' knows when he hears

"Who'll toll the bell?
'I' says the Bull,
'Because I can *pull*,'"

that Mr. Bull was guilty of a pun; that the 'pull' of a quadruped is only *horizontal;* that his strength can be applied in no other way; and that when you employ a four-footed beast to cultivate the soil you have no choice left but horizontal traction, from one end of the field to the other; a mode of action which commenced when the spade was abandoned in field-culture for the plough, and which was to continue so long as horse-power tillage continued: and no longer: since it formed (as the spade had already shown) no necessary element of cultivation, and had no relevance whatever with the action or capabilities of the Steam-engine.

'Steam-power having however been hitherto chiefly employed in Manufactures, and its versatile modes of application being unfamiliar to the agriculturist, we can scarcely be surprised, that even those few who gave a serious thought to the subject, looked upon the Steam-engine rather as a piece of concentrated horse-power to be harnessed as best it might to the existing horse-worked implements, than as a New Agent, whose entry on the scene of action enabled him to reconsider the whole philosophy of Tillage, to analyse it into its elements, to see *what it was;* what it *had been* when confined to manual power under the primeval dynasty of the Spade and Hoe; what it was under the advanced but equally special limitations of animal power, as exhibited in the Plough and every other implement of draught; and what it *might be* under the wider sphere of available process which the Steam-engine presented. What was *cultivation?* Did Steam-power offer any cheaper, better, or *more direct* mode of performing it, than manual or animal power had done? Could it accomplish *in one act* the problem of converting the hard clod into fine soil? Could it, like the mole, *cut a seed-bed out of the solid?* If so, why entangle it with implements foreign to its nature, unessential to its action, and behind it in that order of inventive progress whose deep-cut label is '*Vestigia nulla* RETRÒRSUM?'

'But the Plough had left its ridge-and-furrow impress not more in the fields than, alas! on the mind of the agriculturist of that day. It was long, and naturally so, before he could bring an imagination preoccupied with the old-established system of field-culture, to recognise its impending emancipation from the whole chain of subordinate necessities exacted by the employment of horse-labour. The old fable had become reversed: the quadruped was riding the man: and to shake him off was now the difficulty! For a century after its invention, the Steam-engine lay still-born to the soil, and the virtue unappreciated of a new Power which could antiquate mere *implements* altogether, and convert the cultivating agent into a *machine*, in the strict sense of the word; a machine whose locomotion across the field was a mere collateral incident, not a *means:* just as the sheep, or ox, walks over the pasture that he may feed, and yet is not *fed by* walking.

'And yet it was somewhat strange, too, that recognition should have been so tardy, and accustomed thought so ineradicable on this point, when we reflect that modes of tillage already existed, so totally and specifically different in action from all horse-worked implements, as those both of the Spade and its more ancient congener the Hoe;* and that the *perpendicular* and very effective action of these manual tools, contrasted with the farm-implements of draught, might have dimly suggested the possible discovery of *other* means of cultivation as different from all of these as they were from each other. Any one who had ever seen a nutmeg rasped away into fine atoms against the armed surface of a grater, or sawdust scattered in heaps from timber by the teeth of a circular saw, and could find room in his imaginative faculty for the contemplation of this *mechanical* process, side by side with the *agricultural* fact that a seed-bed was only a layer of comminuted soil a few inches in depth, might surely (one should now suppose) have saved the credit of his generation by some more congenial suggestion for the effectuating of tillage by Steam-power, than attempting to bind it down to an apprenticeship in which Ploughs and Harrows, Rollers and Scufflers, or even the Spade, were still to figure as the rude terms of the Indenture, as out of keeping with its genius and aptitude, as they were irrelevant and non-essential to tillage itself analytically regarded, apart from its conventional modes necessitated by horse or hand-power.'

Such will be the kind of after reflection thrown back upon his forefathers of this generation by our future agricultural historian. 'It is true' he will be obliged to add, 'there were not wanting heaps of patents and pretensions crowding in confused succession on the public notice, during this period of mental vacuity and decrepitude of invention. Wherever there is a lack of grain there are plenty of weeds to fill the gaping space. There were plough-dragging engines, stationary and locomotive, there were 'ploughshares on circular frames,' 'revolving spades,' and all the train of piebald monstrosities and biform incongruities which mark those periods of false gestation and miscarriage in the annals of invention, when would-be discoverers dashing blindfold at unconsidered combinations, are each profoundly busy putting new wine into old bottles; never devoting one serious hour of study to the simple elements of the problem they undertake,—the mechanical act to be accomplished, and the mechanical means necessary to accomplish it; but, (like the scribe DICKENS tells of, who ventured a treatise on Chinese Metaphysics, by looking out '*China*' and '*Metaphysics*' in the Cyclopædia!)—taking a plough and a steam-engine—or a spade and a steam-engine—as the inevitable sire and dam of the fore-determined 'cross,' plunged headlong into the labyrinth of complex and solitary contrivance how to join things which Nature had put asunder.

——"velut ægri Somnia, vanæ
Fingentur species; ut nec pes, nec caput uni
Reddatur formæ. * * * *
Infelix operis Summâ, quia *ponere totum*
Nesciat!"——

Thus have we attempted to anticipate the storm of keen reflection, to be showered over our graves by some writer of the end of this, or beginning of next century, who looks back upon the origin of Steam-agriculture from just such a point as we do now on that of Steam-navigation; who will be as familiar with the sight of soil pulverised a foot deep, in one act, by surface abrasion from a steam-driven cylinder [armed with the Talparian claw that "works i' the earth so fast," and solves in the dark, beneath our very feet, a harder problem!] as we are with ships of 2000 tons, driven through the water like a duck with her web-feet at work beside or behind her, only obedient to the steam-law of *circular motion.*——We have called aloud: will no man hear? We have piped often: will no one dance? *C. W. H.*

* In the Southern Countries of Europe, as in Italy, Spain and Portugal, and in the once dependent offshoots of the latter Madeira and Brazil, the Hoe is the almost exclusive implement of (manual) tillage. The Spade is, originally, a form of the Hoe, adapted to more northerly climates where the moistness of the soil increases the labour of cultivation by forbidding the tread of the workman, and obliging him to stand upon the 'land-side' of the trench.

ROTHAMSTED AND THE WRITER "R."

SINCE the writer "R." has already thrown off his mask, and commenced his counter reply, whilst, publicly at least, we were still only on the threshold of our own, we think it may be well, at this stage, to make a few remarks on the general position of this discussion, which otherwise we might probably have postponed until the several individual points of it had themselves been passed in review. Before doing so, however, we wish to state what was the plan we proposed to ourselves when we first commenced any notice of the criticisms of "R.," and to what extent this plan has been already executed; for in Mr. Russell's reply No. 1, he has assumed that what had then appeared from ourselves was to constitute at least the substance of our reply, and hence it might appear that anything further than had then been published was contrary to our original intention, and only drawn from us by Mr. Russell's somewhat menacing assurance conveyed in the following sentences:—

"We are afraid we must snap the fragile cord with which they imagine they have bound us, when we come to point out the wide differences which are yet betwixt us." And, again:—

"We have been rather amused with the character of our position, at which we will request our readers to take a glance, as we point out what were the subjects of dispute, and what are the differences between Mr. Lawes' opinions and our own; and then we shall proceed to the discussion of those differences, *which are much wider and more important than one would be led to believe by the rejoinder from 'Rothamsted.'*"

We have to say, then, that at the outset we ventured again to commit our old sin of arrangement and classification, by bringing the numerous and miscellaneous objections and illustrations which have been arrayed against us, under the three following headings:—

1st. So far as they relate to our classification of the main elements of agricultural practice.

2dly. As to our views on the subject of the growth of the Turnip in our rotations. And,

3dly. As to the chemical circumstances of the growth of the Cereals.

The course taken with regard to each of these main divisions of the subject being to show, 1stly, that the objections made were not founded in facts; and, 2dly, that the illustrations brought were in accordance with the facts and principles embodied in our papers: and in regard to the execution of our plan, we would add that the whole of our remarks on the first and second of these heads, and partly those on the third, were written before our first number appeared in the columns of the *Agricultural Gazette;* and that there is still unpublished a considerable portion on the Turnip question which was forwarded to the Editor of the *Gazette* on the 28th of April. On this point we have only further to say, that it is our intention to adhere to the plan thus far executed, irrespectively of any reiterations, should such appear in the mean time, from Mr. Russell's pen. Indeed, we think we have found sufficient matter for comment, for the present at least, in what he has already written; and as he has had the discussion all his own way for a twelvemonth or so, we think that confusion, rather than any aspect of fairness on his own part, would result from any additions just now.

For ourselves we did not need to be told who was the writer of the articles signed "R.;" and we were well aware that there were circumstances quite independent of the merits of the case which would render it necessary to take up our own cause, if it was to be advocated at all in the columns of the *Agricultural Gazette.* We have, indeed, for some time observed that "storms" were gathering in the north—a quarter where it would seem their mode of development has been studied, perhaps not without a view to some practical result; and it is much to be deplored that, at least, the occasion and the spirit of these sustained attacks are too clearly traceable to the discussion which arose in consequence of Mr. Pusey's memorable comments on Scotch farming, and about the same time his favourable notice of our papers. But we are willing to hope, now that the winds have blown and the showers have fallen, and we have again gleams of sunshine in what would seem to be assurances of "candour and honesty of purpose," and "a sincere desire for the furtherance of truth," we are willing to hope that now, slight differences in geographical position, however much they may have to do with the real subject-matter of discussion, will no longer render it necessary to uphold "Scotch practice" to the disparagement of "English science."

But to go back from the future to the past. We say, as a matter of *fact*, that in the articles in question the misrepresentation of our papers has been *complete;* and that whilst the scope, spirit, and bearing of them in reference to the several main points of discussion, have been generally either ignored or reversed, many of the facts and principles involved, have at the same time been, to a greater extent, *practically* adopted by the writer, "R," than by any other that we have met with. This, we say, is the simple fact of the case. But whether or not this misrepresentation has been *intentional* is, we freely grant, quite another question; and it seems to us that Mr. Russell has the proof of his claim to acquittal on this ground entirely in his own hands: namely, in the acknowledgment of superficial view and misapprehension of our papers. We have, indeed, recognised throughout his articles a fundamental difference of *method* from our own, such as of itself might account for much of the diversity of result, and his consistency in this respect would perhaps have led us to attribute his treatment of our views to misrepresentation rather than to intentional unfairness, but that his clearness of perception on other points, and the animus manifested in his remarks, seemed to forbid any such lenient interpretation. And here we would observe that we were not a little amused to find Mr. Russell expressing any surprise that his criticisms had "not been received in so friendly a spirit as we expected." (!) For we have yet to learn, that a critic, who, of *our experiments*, says "deliberately" that we have ourselves shown them "to be entirely devoid of value, as the foundation for general conclusions"—of our *plan* and *carefulness*, "that what was locally and only circumstantially correct, we have *without hesitation or inquiry* deemed to be so absolutely"—of our *views*, that they are "false science, inflexible and unnatural theories," and "a dilemma about which so much ingenuity has been wasted,"—*of any one who trusts them*, that he "only wonders at his credulity; the stratum of errors, although covered by a mass of *débris*, yet crop out at his very feet"—and lastly, of *our papers themselves*, that they are "absurd articles!"—we say, that we have yet to learn, that either the writer who manifests such a spirit as is shown in these passages, or those who have sanctioned it, need be much surprised, if after showing, not by mere assertions but by copious quotations, that there has been copious misrepresentation also, if we freely comment upon the result as it turns up under this process, and if we fail to discover that all was fair and "*friendly*," and only calculated to promote the cause of truth.

But we have said, that there is much in the diversity of *method*, which we are willing to believe may account for much of the difference between our critic and ourselves; and we must here appeal to his discrimination and candour, whilst we attempt to direct his attention within such limited space as we can devote to it, to

what, if there have been no intentional unfairness, may, we think, serve to explain much of the difference that has already been manifest, and at the same time, if he appreciate our meaning, and is so disposed, may tend much to lessen it henceforth.

We would say, then, that when we had commenced a systematic and laborious experimental investigation into the chemistry of agricultural practices, it very soon appeared to us that hitherto there had been much need of plan and classification of the facts and practices of agriculture in the treatment of this subject, and that such plan and classification were absolutely essential to any convenient view and grasp of the almost infinite accumulation of individual fact arising from difference of crop and of other general elements of rotation on the one hand, and from local circumstances of soil, climate, and other influences on the other. It appeared to us, we say, absolutely essential to arrange this vast gathering of miscellaneous items into a few main divisions or groups, which, when they had been satisfactorily studied, and the main characteristics of each pointed out, might again be subdivided, and so on, descending from the general to the particular, till the individual and local facts would themselves receive their due share of attention. It is obvious that such a classification as is here supposed, might be adopted, either having reference to certain prominent elements of rotation generally, or to the influences of soil, climate, or other circumstances; and it is also obvious, that upon whichever of these foundations our grouping was arranged, the other classes of circumstances, however important, must be considered to take a place to some extent but secondary. Upon mature consideration we then decided, and we do now decide, that the characteristic elements of rotation should constitute the basis of our main or broadest classification; and that local and other secondary influences should guide us in any *subdivisional* treatment of the subject.

But Mr. Russell, having chiefly given his attention to the effects of climatic circumstances on agricultural practice, looks at the subject, we would submit, through this medium too exclusively; and since he finds clearly enough that these influences effect very different results upon the individual members within our respective groups, and even according to their variations upon the same individual member, he therefore repudiates our classification altogether, preferring rather to view each individual fact, the result of climatic circumstance, separately, and on its own merits. The result of such a course would be that we should be left to cast our eye wearily over the almost illimitable space of individual and miscellaneous agricultural fact, without a resting-place or any broad lines of demarcation, or any prominent centres around which other points would naturally arrange themselves. In fact, looking at the subject from the same point of view or centre, Mr. Russell, on the one hand, with a great practical appreciation, and logic enough in dealing with *individual* facts, and with climate as his telescope, has, we think, sought to reason upon the materials before him too much one by one; we, on the other hand, have, from one common centre, attempted to throw around them and draw them within, the circumference of *rotation*, and then to divide our circle into so many sections, within each of which we believe the varied facts of agriculture arrange themselves more naturally and with less of intersection than were the elements of climate or of any other influence taken as our guide. *J. B. Lawes.*

(To be continued.)

Home Correspondence.

Adulterated Guano.—Having been kindly supplied with a sample of the adulterated guano, exposed by Mr. Clarance's letter in your Paper of the 8th inst., I submitted it to the test of burning to a red heat. This immediately detected the imposture, as I believe will always be the case in such adulterations. The pure guano burns to a white ash like that of a good cigar, the earth and clay in the adulterated burns to a red or brown powder; this is a test any one may adopt with the assistance of an iron ladle, or tobacco pipe. I have tried it on several samples, and it has never failed. *J. C. C., Berkshire.*

The Evidences of Roman Cultivation still visible on the Surface of many of our old Pastures.—That the greater part of the present pastures of England have at some distant time been in tillage will be seen by every one practised in agriculture, who examines the ridges and furrows, the banks, roadways, cuttings, &c., still to be found upon them. In many instances, the carefully rounded uplands, the raised headlands, the soil worked away from the higher to the lower ground, the termination of the lands beside brooks at the points where occasional floods limited the application of the ground to the growth of corn, are unmistakeable evidences of the plough having for ages been at work there; and when we reflect upon the care and time which has been spent in working up many of these old lands into their present high-backed forms, and the time spent in ploughing down sides of hills into the deeps so often to be met with, we shall be convinced that these marks of cultivation were not formed by the occasional breaking-up of wastes for an occasional crop of corn, and then leaving the exhausted stubble to again return to Grass, as is the practice of thinly-occupied and rudely-farmed countries at this day, but that these remains owe their origin to ages of tillage, conducted with great skill, and to the use of ploughs very superior to those we see delineated on Saxon coins or drawings. I cannot help taking great interest in tracing these evidences of the former occupation of the land for raising of corn, for they, like the gigantic Druidical remains in this country, the ruins of gigantic structures in South America, the canal networks in the East, &c., are monuments of past history which, with the lost characters of the writings of past days, stand up to tell us of a past condition of the country and the people, of which we know little, and on which the more we reflect the more occasion we shall find to confess our very uncertain knowledge of the past. In my examination of the land's surface, I continually find marks of former general cultivation which point to a period in England's history, when agriculture was practised with a skill that has afterwards been lost; and, as Mr. Bailey Denton calls on me to give my reasons for dating this to the time of the Romans, I will endeavour to do so. We know, for a certainty, that the pastures to which I allude have been in Grass from time immemorial, and that our population and its want of corn become less and less as we go back in English history; and we find the marks of cultivation belong to a very distant time, for across these pastures may be still traced the lines of furrows cut asunder by ancient highways, and they are generally seen extending in directions independent of existing boundaries. Of all this an instance is to be found in Windsor Forest, and about the park. There, although the land has not required to be landed up, the ancient plough furrows and divisions may still be traced upon the ground now occupied by gigantic ancient Oaks, which are hollow and in decrepitude, from extreme old age—trees that have occupied centuries to attain maturity and centuries after to reach their present decay. To what page in history are we to look for the cultivation of this land, and a state of civilisation and security that such employment of the soil points to? and when can we suppose the wants of man can have called for such general cultivation? My answer is—to the latter period of the Roman dominion of Britain, when her powerful sway had given ages of internal peace, and had called forth the cultivation of the useful arts and sciences, and of which we have other remains—to those times of luxury and repose which are described as having been fatal to the martial spirit of the Britons, and to have laid the country open to barbarous invasions when Roman protection was withdrawn. The open field tillage, the diffused population, the civilisation, the call for general cultivation, with the security and occupation of the people in tillage, of which we have such indisputable evidences, could not have existed whilst the country was the prey of Picts and Scots, of Danes and Normans. It was not under the ever-shifting Government of the Heptarchy, nor after the Norman conquest, when barons found security only in their castles; but if we go back to the Roman times, we alight on a state of affairs that at once admits of it, and wants that called for it. The occupation of the Romans lasted nearly four centuries. We are told they at first oppressed the natives by employing them in making roads, drainage, and public works, all of which had reference to the general occupation of the country for cultivation, and it was at the latter period of their dominion, as we are informed by their historians, that they drew large supplies of grain from the island, and of which we have such strong proof in their indiscriminately calling both the Isle of Man and of Anglesey, the granary of the Western provinces. Here, then, was a condition of the country, employment of the people, and a consumption for its corn, accounting for the general application of the land to tillage, which certainly cannot be reconciled with the condition, the population, or the wants of the country since the Romans left it. I might considerably extend this letter by giving other examples of cultivation found in the woods, over our commons, and high up the hills. I might also enlarge on the consequence the Romans attached to the possession of the island, the large forces they kept here, the evidences of civilisation and luxury they left behind, which can only be accounted for by supposing their receipts from the island were proportionably important, and that they were so there can be no doubt. But what could they have drawn from here—but corn? and corn supplies to them were indeed important. Rome, with her four or five millions of inhabitants, and all her principal towns, were fed for centuries with foreign corn drawn from her provinces, and among which Britain we know ranked high. *Hewitt Davis, 3, Frederick's-place, Old Jewry, London, May 10.*

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

LECTURE ON SOILS.

Professor Way, Consulting Chemist to the Society, delivered to the Members, in the Council Room of the Society, the following lecture "On the Absorptive Power of Soils," on Wednesday, the 28th of April; Mr. Pusey, M.P., Trustee, in the chair.

Mr. Way commenced his lecture by saying that he proposed on the present occasion to report to the Society the progress which had been made in the investigation of this interesting subject. It would be remembered that he had before had the pleasure of addressing them on the same topic, and had subsequently published a more detailed report in the Journal of the Society. To facilitate the comprehension of what he had to say, and to place the whole subject distinctly before their view, he should shortly recapitulate the principal points of his previous lecture and report. Before the singular property of soils in reference to the salts of manure had first been observed, it was usually considered that the soil was an inert, dead mass; that it did indeed possess certain substances essential for the growth of plants, but that it was principally as a *place* for the roots of plants to find attachment to, and in which the various salts and compounds of manure might be presented to them—where also changes might take place between those compounds either internally or by atmospheric influence, and not as being absolutely or in a distinct way connected with the preparation of those substances, that the soil was to be regarded. It was not, of course, denied that physiologists and chemists had looked to the soil to yield to vegetation its necessary silica, its indispensable phosphates or alkalies; but there was, he believed, little or no idea of how this was to be effected. We were in the habit of reasoning on the action of different salts upon vegetation *in* the soil by the effects that we observed to follow from their use *out* of the soil. How numerous were the experiments that had been made of growing plants in different solutions! how constantly had the results been quoted and applied to the probable and expected action of the same salts when added to the soil! Sulphate of ammonia or nitrate of potash, when used as manure, and incorporated with the soil, were still viewed *as* sulphate of ammonia and nitrate of potash; no change was expected to occur to them, but it was a matter of speculation what the plant would do with these salts, how it would appropriate the parts that it wanted, and get rid of that which was unnecessary and objectionable; substances in every possible form of combination, and in solution of every imaginable and constantly varying strength, were supposed to come with equal welcome to the growing plant, which of course had the fullest power to compound and recompound according to circumstances and the necessity of its requirements. This, Mr. Way believed, was the general impression—an impression not confined to the ordinary observer, but shared by those who had made vegetable physiology their special study. Now, however, it became necessary to take another view of these matters; it had been shown that most, if not all, the salts of manure underwent an immediate and radical change directly they were incorporated with the soil; that sulphate of ammonia, for instance, directly it reached the soil, was no longer to be found in it, no longer existed there as such; that water, which washed it in, would not wash it out again; that all salts of the same base and of most other bases underwent similar changes, and that they were reduced to one general form, in which they were to be presented to the growing vegetable. It would be shown that the soil was by no means a passive or idle spectator of what took place in it; that it was not a mere meeting-place for the roots of plants and the food they were to grow upon, but that it was actually the *stomach* of the plant; or he might go further, and say that nature had actually given to the soil the function and office which in animals is performed by the gastric juice and the chyle—that of preparing and digesting the food of plants. If this position could be established—and he believed that it followed as a logical deduction from the facts which he had to bring before them—he thought that we should have gained a new and a charming insight into the working of nature, and should have supplied a link hitherto wanting in that chain of phenomena which we perceive to connect animate and inanimate existence. The passage from vegetable to animal life was comparatively easy; the proximate forms of the one are changed, indeed, in organisation, but appropriated without change of composition in the other. Gluten in Wheat and Barley becomes albumen in the egg, and fibrine in the flesh of the fowl; and these substances are, in the act of decay, by easy processes readily explainable on the laws of chemistry, again reduced to a few simple forms of combination: the egg and the flesh putrefy, and form intermediate compounds, which ultimately unite with the oxygen of the air, and carbonic acid, ammonia, and water, with various mineral salts, are the final results. But the building up of these various compounds again into the form of plants was a somewhat long step in the ladder; at the best it was difficult, and might always remain difficult, to conceive how carbonic acid and ammonia, with a certain portion of sulphur and phosphorus, were to be converted into starch and gluten; but at all events it was highly desirable to reduce this difficulty as much as possible, and it appeared that if it could be proved that the soil was entrusted with the duty of changing the various salts and compounds resulting from the decay of animal life into one general and uniform state, suited to the delicate organs of plants and releasing them from the necessity of dealing with the heterogeneous materials which they might otherwise have to encounter and make use of, a certain and not unimportant step had been made in the perception of that unity and simplicity which cannot but obtain in all the great outlines of nature. Henceforth we should consider the soil not as a dead, inert mass, but endowed by virtue of chemical laws with a species of activity, subordinate and inferior, but somewhat more nearly approaching than we have been in the habit of thinking, to that of the plants that live on it. To return, however, to the history of these discoveries: whilst the state of knowledge was such as he had described it, observations were made by the Rev. Mr. Huxtable and Mr. H. S. Thompson, but more especially by the latter, which threw a new light upon the subject. Solutions of different salts of ammonia, and the drainage of manure heaps were found, when filtered through beds of ordinary soil, to be entirely altered in character; the

colouring matter and smell of the manure were removed, and in the case of ammoniacal salts, the ammonia was arrested and retained by the soil. This was a curious and most interesting result: it indicated a power in the soil to combine with certain organic substances and salts, and to render them insoluble—a power which previously had never been supposed to exist. When he (Mr. Way) took up the subject, he soon found that this property was not confined to the salts of ammonia, but extended more or less to all the different alkaline compounds of manure—that it was shared by salts of potash, magnesia, lime, &c., and that phosphoric acid and soluble phosphates were included. He also observed that the power of the soil—its tendency to retain the compounds—only applied to the *base*, and not to the whole salt; that is to say, that if a solution of sulphate of ammonia were filtered through a soil, the sulphuric acid was found in the liquid, not indeed in the free or uncombined state, but as sulphate of lime, or in combination with some other earthy or alkaline substance. The filtration process, too, did not appear to be necessary. A salt when in solution had only to be incorporated with the soil, and could not afterwards be washed out of it. This action was instantaneous, or almost so: no length of time was needed for its occurrence. With regard to the extent of the action, it was found that 100 parts of an ordinary loamy soil would unite with 2-10ths or 3-10ths of ammonia, and a larger quantity of potash; or in other words, 1000 lbs. of soil would unite with from 2 to 3 lbs. of ammonia. This quantity might at first seem small, but it was not so when taken in connection with the vast mass of the soil which in agriculture we have to deal with. Every inch in depth of a soil over an acre of land was calculated to weigh 100 tons; and if 6 inches of the soil were cultivated, that quantity would weigh 600 tons, and would be found equal to unite with nearly 1½ ton of ammonia—a quantity which would be furnished by about 7½ tons of sulphate of ammonia, or 10 tons of Peruvian guano. It was plain, therefore, that the power of absorption was fully twenty times as much as was necessary, or likely to be ever put in force; so that, allowing for a very large portion of the soil not being brought into contact with the manures, the power in question was practically ample for all purposes. He had endeavoured to show how important the property was in relation to many details of agriculture—for instance, in the preservation of manure; since it was plain that alkaline salts did not remain in the soil in such a state that they might be washed away by the first shower into the drains—that manure consequently might with safety be entrusted to the soil, and that the manuring for a rotation of crops was not so wasteful a process (with due allowance for the nature of the soil) as might otherwise have been supposed. It was important, also, as removing any fear of the effects of drainage, and indeed threw an additional light on the benefit of drainage as a means of bringing the manure into contact with a depth and quantity of the soil which would ensure its retention. It had been shown, too, that this discovery had given a new feature to irrigation, and to the use of liquid manure, since water might, and did, carry into the soil in solution substances which it would leave there in the most available form for the uses of vegetation. Thus a solution of carbonate of lime as it was met with in hard water would leave in the soil a dressing of chalk, which although perhaps not large by absolute weight, was, on account of its more perfect and equal distribution, more than equal in effect to a mechanical addition of the same manure. Liquid manure might have been—he might say *had* been—supposed only so far available for vegetation as it could be at once taken up by the plants: if it were used in such quantity as that any liquid were to escape into the drains, that liquid was supposed to be the manure itself. Now, however, we saw that liquid manure might be applied to the *soil*, without reference to whether plants were or were not growing on it; and that manure was even more safe when so laid on than if applied in the solid state. All these conclusions, and many more which time would not allow of his dwelling on, had resulted from the discovery of the power of soils to unite with manure. But two important questions had now naturally presented themselves:—1st. What is the cause and nature of the change which the different salts of manure undergo by mixing with the soil? 2dly. How, supposing these fertilising ingredients to be rendered insoluble in the soil, do plants ultimately get at them for their nourishment? It was in respect to these two questions that he hoped to give the members of this Society some further information; but he would remark that he did not pretend at present to give more than a report of the progress that had been made. The subject was still, and would probably remain for a long time, under investigation; and as he hoped to have the pleasure to publish a paper on it in the Midsummer number of the "Society's Journal," he should content himself in the present instance with a brief outline of the principal results. And first, as to the cause of these changes. In the last paper it had been shown partly what were *not* the causes—that it was not a surface-attraction, such as, according to Lord Bacon and others, sand possessed, enabling it to remove common salt from sea-water—for in that case the whole salt was removed; whereas, in the case of the soil, it was only the base of the salt that was detained. It had been supposed to be due to carbonate of lime in soils; but independent of the fact that the change of a salt such as sulphate of ammonia into carbonate of the same base by the influence of carbonate of lime would still leave it soluble and capable of removal by water, clay, absolutely free from chalk, had been found to possess the absorptive property to a large extent, and the addition of chalk to it did not increase that power. Again, it was supposed to be due to certain organic compounds capable of forming insoluble combinations with ammonia; but although he did not deny that such compounds might exist, the property in question was clearly not referable to them, for not only did a clay dug from a pit, white and free altogether from organic compounds, absorb ammonia, but a soil when burnt so as to destroy its vegetable contents, still, in a great measure, retained its power. The power therefore did not reside in sand, nor in carbonate of lime, neither did it belong to the organic bodies of the soil; and it could only therefore pertain to the clay, or some substance in the clay. That it was not shared by the whole clay he was early convinced; because, if so, the amount of the power would have been far greater than it really was. He (Mr. Way) had early believed that it was connected with the existence of some double class of silicates; and he had mentioned this belief fully twelve months ago, when lecturing to them on the use of lime. And knowing that clay contained portions of the felspar, and other minerals which had existed in the rocks from which the clay was originally formed, he was induced to try whether they were the substances of which he was in quest. Felspar is a double silicate of alumina and potash; it might be supposed capable of yielding its potash up to certain acids and taking ammonia from them instead. Accordingly, powdered felspar was digested in sulphate of ammonia, but no kind of result was obtained. He had observed that wherever a solution of a salt of ammonia was poured upon a soil, although this soil contained no soluble salt of lime, yet the resulting liquid always contained lime in solution. It was thought, therefore, that soils might contain an insoluble silicate of lime capable of uniting with ammonia in place of lime, and so giving rise to the results observed. Silicate of lime was therefore prepared by adding to a solution of a salt of lime a solution of silicate of soda, or soluble glass, as it was sometimes called; but the resulting silicate, after being collected and washed, had not the requisite action on salts of ammonia. It was, therefore, necessary to look further; and an attempt was made to produce artificially, and without the aid of heat, a class of compounds similar to felspar and other natural silicates existing in granitic rocks. Such a class of compounds had hardly been known to chemists, or, if known, had been but little studied, and certainly not with reference to their agricultural bearings. The present attempt to form them had been eminently successful, and had, as he hoped to show, served to clear up the difficulty in regard to the absorptive powers of soils. Mr. Way here showed to the meeting the way in which these silicates were formed. A solution of common alum gave, with a solution of silicate of soda, a bulky precipitate, which was not silicate of alumina only, but a compound of silicate of alumina and silicate of soda. Mr. Way explained that the best plan to get this compound of definite composition and containing the highest proportion of alkali, was to dissolve pure precipitated alumina in caustic soda, and to add to this a solution of silicate of soda in which the silica was in relation to the soda in the proportion of rather less than one equivalent. The resulting silicate might be washed with distilled water, and dried. Mr. Way went on to say that this double silicate of soda and alumina was the type of several others which could be formed from it. He represented it in a diagram, thus—

Silicate of Soda and Alumina { { Silica / Alumina } / { Silica / Soda } } With water of combination;

and stated that, when the water was driven off by heat, its composition in 100 parts was—

Silica	52.40
Alumina	29 68
Soda	17 91

or in the relation of two equivalents of silica to one of soda and one of alumina. This silicate was chiefly of interest as the source of others; thus, when digested in a solution of a salt of ammonia, soda dissolved out in the shape of a muriate or sulphate, as the case might be, whilst the silicate, when washed and dried, would now be found to contain ammonia. On the table were several of these silicates, which were white powders. He would, on the present occasion, direct their attention principally to the silicate of alumina and ammonia. He had not yet succeeded in obtaining it with the full theoretical proportion of ammonia; but it was found with as much as six or seven per cent. of ammonia. It was a salt only very slightly soluble in plain water; indeed, it was hardly to be said to be dissolved by water, for water did not dissolve the whole compound, but left the silicate of alumina undissolved. The solubility was such that one part of ammonia dissolved in 70,000 parts of water, or, in other words, an imperial gallon of water would dissolve out from the silicate one grain of ammonia. Upon consideration, this would be seen to be an excessively slight degree of solubility; for an equal quantity of water, quite free from carbonic acid, would dissolve twice as much (or two grains) of carbonate of lime, which was usually reckoned an insoluble substance. One of the great questions—namely, as to how plants got their ammonia from the new compounds—was, therefore, partly answered. These compounds were not absolutely insoluble, although water dissolved so little of them that he might be pardoned for having believed at first that no portion of ammonia passed through the soil. But the silicate of ammonia was much more soluble in water containing carbonic acid gas, as all natural water did. It had been found that one gallon of a saturated solution of carbonic acid dissolved about two grains and a half of ammonia from the double silicate, or more than twice as much as pure water. If the quantity of water that annually fell on an acre of land, and which was as much as from 2000 to 3000 tons, was taken into consideration, and that part of the water was always in the soil, and might be engaged over and over again in dissolving the ammonia and presenting it to the plant, there was no difficulty in understanding how the few pounds of ammonia required by the Wheat crop might be supplied to it with sufficient rapidity for its ordinary growth. But still it was possible that under certain circumstances the slight solubility of the silicate of ammonia might somewhat retard vegetation, and that this might explain the action of common salt. He had found that a solution of common salt dissolved the ammonia in much larger quantity than even carbonic acid water; thus, one gallon of water, containing two grains of common salt, would dissolve 20 grains of ammonia from the silicate, or twenty times as much as plain water. How very likely it was that this was the real explanation of the action of common salt! but in order that they might fully understand this part of the subject, he must explain to them an idea which he had taken in reference to this double silicate of ammonia and alumina. He had already stated that water did not dissolve the whole salt, but that the silicate of alumina remained undissolved, whilst the silicate of ammonia was dissolved in small quantity. Now he had found that this solution of silicate of ammonia, when carefully evaporated, dried up on the sides of the dish into thin transparent scales, like very thin glass, and these scales were found upon examination to be silica; the ammonia having evaporated with the water, and leaving the silica as a transparent varnish on the dish. Was it not likely that this fact formed the true explanation of the manner in which silica was deposited on the straw of Wheat? He thought it might be. Chemists had always had a difficulty in accounting for this deposition of silica on the straw of cereal plants by reference to the soluble silicates of potash and soda; and the solubility of silica in ammonia had not been before observed. By the easiest and simplest process a weak solution of silicate of ammonia, in passing through the plant, might leave its silica behind; and the probability of this explanation was increased by Mr. Lawes' observation of the loss of ammonia from the soil in the growth of corn crops. Mr. Lawes had found that for every pound of ammonia of which the nitrogen was fixed in the Wheat, in the shape of aluminous constituents, other 4 lbs. were lost to the soil in the growth of the crop—that is to say, that 5 lbs. of ammonia were required to produce a quantity of Wheat containing nitrogen equal to 1 lb. of ammonia. This loss would at once be accounted for, and would inevitably result, if the deposition of the silica were due to the action to which he had referred. This argument might seem opposed to the general experience that ammoniacal salts, whilst they rendered Wheat very luxuriant, and increased the produce, were attended with the objection of frequently causing the crop to lodge from want of strength in the straw. But this difficulty he could meet. If, as he had shown, the power of the soil to convert salts of ammonia into an all but insoluble double silicate were twenty times more than was usually called into play, it followed as a necessary consequence that in soils containing a fair proportion of clay, all ammoniacal compounds, when fairly incorporated with the soil, would pass into that state. It further followed that in ordinary and natural circumstances, the form of silicate of ammonia or of carbonate, formed by the decomposition of the silicate by carbonic acid water, would be the only one in which the ammonia could be presented to the plant. In other words, that silicate and carbonate of ammonia were the only compounds of ammonia naturally available to supply that important substance to vegetation. He might mention, by the way, how probable this view became when the mild and harmless nature of these acids (the silicic and carbonic) was considered, as fitting them for the nutrition of the delicate organs of plants. Now, in the case of manuring with ammoniacal salts, especially in the form of top-dressings, which was the mode usually adopted, it was quite possible that a portion of the salts were taken up by the Wheat in their unchanged condition, without having undergone the necessary elaboration and conversion into the true form of food, the silicate or carbonate; the ammoniacal salts might therefore make the Wheat unhealthily gross, without affording it the necessary silica. Such an explanation was consistent with experience, which proved that all highly forcing and stimulating manures, such as guano and ammoniacal salts, soot, and animal matters, should be brought into thorough incorporation with the soil by being used before the time of sowing; then there was never any fear of the result; the maxim of never manuring for the Wheat crop was evidently founded on this principle. If this reasoning were correct, every pains should be taken to form compounds of the manure with the soil; and the use of compost heaps of manure and soil had, since he commenced these experiments, always appeared to him by far the most philosophical mode of employing manure. He would even suggest, *for trial*, the mixing of guano and other concentrated manures with dry loamy soil some months before it was needed, watering and turning over the heap occasionally in a shed; or if sufficient earth were employed it might be done uncovered in the corner of the field where the manure was to be used. When

eventually this compost was used, it would no longer be guano, but ready formed compounds, after the model of nature, and such as plants delight in. Mr. Way observed that he had a great deal more to say on these various silicates, but he must now call their attention to another character which the silicates of lime and soda possessed, namely, that of abstracting ammonia from the air. This would be seen to be of the highest importance. When silicate of ammonia and soda, or the corresponding silicate of lime, was placed under a bell-jar or glass shade, upon the bottom of which a few lumps of carbonate of ammonia were strewed, it was found that in two or three days the silicate would have absorbed three per cent. of ammonia or upwards. Here the volatile carbonate of ammonia, being diffused through the atmosphere, came in contact with the silicate, and the ammoniacal silicate was produced, whilst carbonate of soda remained mixed with it. The action would go on till the silicate was saturated with ammonia. Here, then, was one explanation of the fertility produced by cultivating the soil. The presence of these silicates in clay enabled the soil to abstract ammonia from the atmosphere, and this abstraction would of course be in proportion to the extent of surface of the soil that is exposed. It had always, indeed, been understood that clay possessed this power of acquiring fertility by exposure, and that it was on its collecting ammonia that the advantage depended. But the power had been referred to a wrong cause, namely, the free alumina or oxide of iron in the soil. It had usually, also, been supposed that rain or dews were necessary to bring down the riches of the air to the earth; but it would be plain that at all times a good soil, freely opened to the air, would be getting richer in ammoniacal compounds. The power of clay to absorb ammonia from the air was most marked. If air saturated with carbonate of ammonia were passed through a tube containing dry clay in fine fragments, it would be found to issue quite free from ammonia; whereas, passed through a tube similarly filled with sand, the ammoniacal gas was in no degree removed. Mr. Way then exhibited to the meeting the experiment above described, and showed from the absence of any action of the air which had passed the tube on reddened solution of litmus, that the ammoniacal vapours were retained by the clay; the air passing through the sand, however, immediately turned the solution blue. He stated his intention of repeating the experiment at his next lecture with a tube containing some of the double silicate of alumina and soda, instead of clay. The subject was of the highest interest, but he should have another opportunity of enlarging upon it. He should now only further add, that these various silicates were convertible, one into the other, under given circumstances, which were being carefully studied, and that a knowledge of these was necessary for the understanding of the real action of many salts used as manure. Thus sulphate of ammonia, when added to the soil, produced sulphate of lime or gypsum, and this gypsum would be capable of effecting all that it usually does when added as manure. Manuring with sulphate of ammonia is also then indirectly manuring with gypsum as well, and so on. Mr. Way had speculated on the possibility of making these double silicates for agricultural use. If they could be made cheaply enough, they would undoubtedly be beneficial to light lands, which, owing to their position, it was impossible to dress with clay; and a few cwts. of the artificial compound might serve much of the purposes of a heavy coat of clay. Again, they might be used to abstract potash, and, more importantly, ammonia, from tank-water or sewage; and the liquids might be thus deprived of their valuable parts and allowed to run away. No known substance was capable of doing this, and it might prove of great use; but at present he did not wish to raise such expectations, for, independently of the question of cost, there were many other points which could not then be entered into which would have to be taken into consideration. Mr. Way concluded his lecture by apologising for its desultory character. He had more materials than he knew what to do with, and could easily have occupied their attention for several hours instead of one. He should have the pleasure of again addressing them on this and kindred subjects, when he would endeavour to fill up any gap which he might have left.

On the motion of Col. Challoner, seconded by Lord Lovaine, the best thanks of the meeting were expressed to Professor Way, for the valuable and interesting lecture he had then delivered before the members, as the opening of a course during the present season, which would not fail to advance the objects of the Society.

Miscellaneous.

Transfer of Land.—It has been apparently the business of almost all past legislation with respect to land to weave round it a most artificial network, which prevents all dealing with it after the ordinary fashion. The old story of the agriculturist who thought it absolutely necessary that the extraction of a tooth should be preceded by dragging the patient three times round the room, applies to his present idea with respect to buying a piece of land. It is by no means necessary that all the expense and delay which now accompany it should take place. They are not inseparable from such transactions, and he is a deluded agriculturist if he thinks so He might be safely entrusted with much more power, even over settled land, under the control of some cheap and accessible tribunal; such as the powers usually inserted in settlements, and even under certain circumstances with the power of sale of part of the land to pay off incumbrances. Land, also, now vested in corporations, and at present unalienable, might be thus, under certain regulations, brought into the market. In fact, the power to deal freely with land might be thus obtained, and thus a great increase of value be conferred upon it. The whole subject is, in fact, well worthy the attention of the Government. The Lord Chancellor, as we have seen, declared that they are anxious to carry into execution measures relating to the laws which affected property, and some other members of the Government have realised this intention by assisting particular bills having this object. We do not know that any fresh inquiry is necessary; but if it does take place, we trust that the lay element, which has been found so useful in the Chancery Commission, may be again brought into use; and we do believe that the art and mystery now attending the practice of conveyancing may become as intelligible as the once inexplicable oracle of Dodona. This perhaps is best shown by reference to what is actually taking place. The operations of the Inclosure Commission have been lately extended to many familiar conveyancing transactions. The recent Inclosure Act* and its subsequent Amendment Acts have clothed the Commissioners with most extensive powers for effecting exchanges and partitions of land. Under the provisions of private Inclosure Acts power was ordinarily given to the Commissioners thereby appointed to carry out exchanges of lands entitled to common right within the district dealt with. The Inclosure Commission has, in addition to its jurisdiction in the matter of waste and commonable lands, power to authorise exchanges of lands, irrespective of inclosure proceedings. The extended power thus given will be found in practice, there can be no doubt, to be of the utmost value to the landowners of the kingdom. These powers have been in force since the autumn of 1845. For a time, however, they were very little known or acted upon; whilst in some quarters the validity of such exchanges was held not to be free from doubt. All such doubts, however, have now been set at rest; and many professional men of the highest eminence have availed themselves of these powers of exchange; whilst even suitors in the Court of Chancery are now in the habit, with the consent of the Masters, of effecting exchanges and partitions through the Inclosure Commission. On referring to the annual reports of the Inclosure Commissioners, we find that, according to the report for 1846, there was only one application for exchange; in that for

1847	there were	9	applications.
1848	,,	13	,,
1849	,,	39	,,
1850	,,	51	,,
1851	,,	73	,,
1852	,,	96	,,

This list proves that the landowners of the kingdom are now beginning duly to estimate the benefit conferred by these provisions. Not only portions of estates, but even entire estates, may be thus exchanged. The whole expenses to which the parties are thus subjected are very trifling in amount, ranging ordinarily from 3*l.* to 7*l.*, the cost of the requisite advertisements being the main expense, and the only stamp duties. Assuming the exchange to be between two parties, three engrossed orders of exchange, with maps attached, are required; one remains for deposit, and one for each party. The form, however, of the order is simple and concise, and consequently inexpensive. The cost of the valuations, on which such exchanges are based, is not included in the above estimate of expenses; but those of our readers who are acquainted with transactions of this nature, which have been effected in the usual manner, will appreciate the great saving of expense made in exchanges effected through this commission. Nor is there anything remarkable in this. We merely adduce it as an instance of what may be done in cases where the will and the power exist to render the dealings with property simple, cheap, and expeditious; and we are sure that these principles may be safely and wisely extended to many other similar transactions. Here, then, we have a safe and practicable field of operation for a Government bound to relieve the land from the burdens which now oppress it. We see that the agriculturists are reminding Lord Derby that the Committee of the House of Lords on the Burdens of Land (1846), of which his lordship was a member, agreed only in one recommendation, "the necessity for thorough revision of the whole subject of conveyancing, and the disuse of the present prolix, expensive, and vexatious system." Political friends and foes agree in calling for the fulfilment of this recommendation; and we would not enforce it if we did not feel certain that it is practicable—that the transfer of land may be assimilated to the transfer of stock; that the transfer of the one may be made as free, as simple, and nearly as cheap as the other. It will be our duty to redeem this promise, and to prove to the landowner that on this subject he is far behindhand, and that he has it now in his power to pursue a policy which impoverishes no one,

"But makes him *rich* indeed."

—*Law Review.*

Remedy for "Sprouted" Corn.—A quantity of Wheat had been greatly damaged or "sprouted," and a sample was shown for which at market no bidder could be found; it was offered at 6*l.* a load and refused; the price for good Wheat at the time being 9*l.* Sifting, winnowing, and shaking in a variety of ways, were resorted to, in order to effect a separation, but to no purpose. Grown or germinated corns are specifically lighter than the sound. The experiment was tried, if it was likely that they would swim in water, but did not answer, the whole sinking instantly. The density of the water was increased by means of salt, and the heavy or sound Wheat remained at the bottom, while the grown, spongy, and otherwise imperfect grains, floated and admitted of easy separation. Both kinds were well washed, to remove the salt, and dried; and of the two samples, one was pronounced better than good Wheat usually is, and worth from 9*l.* to 10*l.* a load, the other all damaged, but worth about 4*l.* a load, for feeding poultry and cattle. *Annals of Pharmacy and Practical Chemistry.*

* 8 and 9 Victoria, c. 18.

Notices to Correspondents.

CATTLE BOXES: *Sub.* If you support the manger on pins passing through the end pieces into holes in two uprights (one at either end), you will be able to shift them a notch higher when you choose, placing the pins into higher holes necessarily as the animal rises with its lair. And if you furnish the manger with two such pins at each end, the one above the other, you will be able, by pulling out the upper one of each pair, to let the manger swing round bottom upwards (hanging on its lower pins) whenever you please. And if this be always done as soon as the cattle finish feeding, you will be able to keep the manger always clean.

LUCERNE: *J R.* We would rather sow fresh seed in the blanks than trust to transplanting.

POULTRY: *G E.* Cochin China and Spanish chickens are the most subject to this malady. From their fast growth, their legs are not sufficiently strong to support the weight of their bodies. They easily recover from it, and nothing is so conducive to their restoration as generous diet. Vary the food constantly, give Wheat instead of Barley meal slaked with water, and give them every other day some crusts steeped in old strong ale.—*B A, Edinburgh.* Trim the lower bills of your ducks with a razor or very sharp knife. Never allow them to project beyond the upper one. If soreness ensue, which I do not anticipate, feed on meal put into water. You should not lose your ducks from such a cause.—*A B.* The ground of your pheasantries is become tainted, and the birds are roupy. They are as subject to it as fowls. Move them to a fresh grassy spot, discontinue feeding entirely on whole corn, and give meal slaked with warm water, and mixed with some pounded peppercorns. Give them crusts steeped in strong old ale every day while they are ill. It will give them strength and courage to throw off the disease. I cannot give better advice to poultry and pheasant keepers in confined spots than to urge them to vary the food as much as possible, and above all not to confine themselves to Barley. I prefer Wheat, but a change is absolutely necessary.—*S F C.* It is not an uncommon thing for a Spanish fowl to moult white, or partly so; it is not the effect of fright or anything of the sort. I myself had last year a cock that moulted with a white necklace like a Brent Goose. I also had a hen moult perfectly white, but the produce of both these birds was the original colour. *J. Baily*, 113, *Mount-street.*

Markets.

COVENT GARDEN, MAY 22.

Vegetables and fruit are plentiful. The sale for English Pine-apples is heavier than last week. Hothouse Grapes continue to realise fair prices. A few dessert Apples may still be obtained. Oranges are plentifully supplied, and very good. Nuts are nearly the same as last quoted. Strawberries are plentiful. Young Carrots, Beans (both French and Mazagan), Peas, Lettuces, and Artichokes continue to be supplied from France. Potatoes are generally good in quality. New ones from open borders in the west of England are coming in plentifully, as are also green Peas of excellent quality Mushrooms are cheaper. Cut flowers consist of Heaths, Epacrises, Cinerarias, Mignonette, Roses, Acacias, Azaleas, Primulas, Lily of the Valley, and other bulbs.

FRUIT.

Pine-apples, per lb., 6s to 10s	Almonds, per peck, 5s
Grapes, hothouse, p.lb., 6s to 10s	— sweet, per lb., 2s to 3s
— Lisbon, per lb., 2s to 4s	Oranges, per doz., 1s to 1s 6d
Peaches, per doz., 15s to 30s	— per 100, 3s 6d to 10s
Cherries, per lb., 15s	— Seville, per doz., 1s to 3s
Strawberries, p. oz., 6d to 1s	Lemons, per doz., 1s to 2s
Apples, kitchen, per bushel, 2s to 3s 6d	Nuts, Barcelons, p.bsh, 20s to 22s
	— Brazil, p. bsh., 12s to 14s
Pears, dessert, per doz., 2s to 6s	Cobs, per 100 lbs., 100s

VEGETABLES.

Cabbages, per doz., 3d to 1s	Leeks, per bunch, 3d to 6d
French Beans, p. 100, 2s to 3s	Shallots, per lb., 3d to 10d
Broccoli, p. bunch, 9d to 2s	Garlic, per lb., 3d to 1s
— heads, each, 2d to 4d	Lettuce, Cab., per score 4d to 6d
Asparagus, p. bundle, 1s to 4s	— Cos, p. score, 9d to 1s 6d
Greens, per doz., 2s 6d to 4s	Radishes, per doz., 3d to 1s
Rhubarb, p. bundle, 3d to 6d	— Turnip, 9d to 1s 6d
Potatoes, per ton, 45s to 80s	Small Salads, p. pun., 2d to 3d
— per cwt., 2s to 5s	Horse Radish, p. bundle, 1s to 4s
— per bush., 1s 6d to 2s 6d	Mushrooms, p. pott., 3d to 1s
— Frame, per lb., 1s to 2s	— per punnet, 6d to 1s
— New (border), do., 3d to 6d	Sorrel, p. hf. sieve, 1s 3d to 1s 8d
Turnips, p. doz., 2s 6d to 3s 6d	Artichokes, Jerus., do., 9d to 1s
— new, p. bun., 1s to 1s 6d	Fennel, per bunch, 2d to 3d
Cucumbers, each, 6d to 1s 6d	Savory, per bunch, 2d to 3d
Celery, per bundle, 6d to 1s 6d	Thyme, per bunch, 2d to 3d
Carrots, p. bun., 1s 3d to 2s 6d	Parsley, p. doz. bnchs., 2s to 3s
Spinach, per sieve, 9d to 1s	Mint, per bunch, 2d to 4d
Onions, per bunch, 2d to 4d	Basil, green, p. bunch, 6d to 9d
— Spanish, p.doz., 1s 3d to 3s	Marjoram, do., 3d to 4d
Beet, per doz., 1s to 2s	Watercresses, p.12 bun., 9d to 1s

HAY.—Per Load of 36 Trusses.

SMITHFIELD, May 20.

Prime Meadow Hay	78s to 84s		Clover	85s to 98s	
Inferior do.	68	74	2d cut	80	86
Rowen	68	—	Straw	24	28
New Hay	—	—			

J. COOPER.

Meadow Hay lower, with a very heavy sale.

CUMBERLAND MARKET, May 20.

Prime Meadow Hay	78s to 84s		Inferior Clover	75s to 84s	
Interior do.	66	72	New do.	—	—
New Hay	—	—	Straw	26	30
Old Clover	90	95			

JOSHUA BAKER.

COAL MARKET.—FRIDAY, May 21.

Eden Main, 15s.; Wallsend Riddell, 13s. 9d.; Wallsend Heaton, 14s.; Wallsend Hetton, 16s.; Wallsend Lambton, 15s. 6d.; Wallsend Stewarts, 16s.—Ships at market, 244.

HOPS.—BOROUGH MARKET, May 21.

Messrs. Pattenden and Smith report that the demand for Hops continues unabated, at late prices.

WOOL.

BRADFORD, THURSDAY, May 20.—The English Wool market has been quiet during the current week, but all the transactions entered into have been characterised by a firmness in the tone of prices. The arrivals from the country are unusually

small and stocks in the hands of staplers here are much diminished. Appearances seem now to point to a continuance of firm rates for all classes of good wool, and an improvement in the general trade of the district would in all probability be immediately followed by an advance. Short wool and Noils are in good request, and command full prices. The feeling that the sale of Colonial Wools which opens to-day will go off firmly gains ground, and gives a tone of firmness to holders of that class here.

POTATOES.—SOUTHWARK, May 17.

The committee report, that during the past week the arrivals both coastwise and by rail have been extremely limited, and more money has been realised for good samples. The following are this day's quotations:—York Regents, 100s. to 140s.; Scotch do, 90s. to 100s.; Cups and Reds, 70s. to 80s.; Wisbeach and Cambridge, 80s. to 110s.; Kent and Essex, 90s. to 110s.

SMITHFIELD.—MONDAY, May 17.

We have a shorter supply of Beasts, and a pretty good demand, consequently prices have advanced a little; a few choice Scots have realised 3s. 8d. The number of Sheep and Lambs is smaller; trade is cheerful at rather higher rates. Calves are plentiful; inferior kinds are still very low, but choice ones are rather dearer. From Germany and Holland there are 427 Beasts, 790 Sheep, and 149 Calves; from Spain, 79 Beasts; from Scotland, 400; from Norfolk and Suffolk, 2100; and 100 from the northern and midland counties.

Per st. of 8lbs.—s d	s d	Per st. of 8lbs.—s d	s d
Best Scots, Herefords, &c. ... 3 4	to 3 6	Best Long-wools . 0 0	to 0 0
Best Short-horns 3 2	— 3 4	Do. Shorn ... 3 4	— 3 8
2d quality Beasts 2 8	— 3 0	Ewes & 2d quality ... 0 0	— 0 0
Best Downs and Half-breds ... 0 0	— 0 0	Do. Shorn 2 8	— 3 2
Do. Shorn 3 6	— 3 10	Lambs 4 8	— 5 4
		Calves 2 8	— 4 4
		Pigs 2 6	— 3 8

Beasts, 3714; Sheep and Lambs, 22,980; Calves, 207; Pigs, 340.

FRIDAY, May 21.

We have considerably more Beasts than on Friday last; the demand has also increased, and consequently Monday's quotations are fully supported. Sheep and Lambs are more plentiful; trade is cheerful for them, and in a few instances prices have advanced. The number of Calves is very large; on the average prices are lower, but a fair clearance is effected. From Germany and Holland we have 110 Beasts, 240 Sheep, and 303 Calves; from Spain, 180 Sheep; from Norfolk and Suffolk, 500 Beasts; and 135 Milch Cows from the home counties.

Per st. of 8lbs.—s d	s d	Per st. of 8lbs.—s d	s d
Best Scots, Herefords, &c. ... 3 4	to 3 6	Best Long-wools . 0	to 0 0
Best Short-horns 3 2	— 3 4	Do. Shorn ... 3 4	— 3 8
2d quality Beasts 2 8	— 3 0	Ewes & 2d quality ...	
Best Downs and Half-breds ... 0 0	— 0 0	Do. Shorn ... 2 8	— 3 2
Do. Shorn ... 3 6	— 3 10	Lambs 4 8	— 5 4
		Calves 2 8	— 4 2
		Pigs 2 6	— 3 4

Beasts, 997; Sheep and Lambs, 9750; Calves, 534; Pigs, 395

MARK LANE.

MONDAY, May 17.—The supply of English Wheat by land carriage samples to this morning's market was moderate, and disposed of on the terms of this day se'nnight. The demand for foreign continues limited, and its value unaltered.—Flour being held with some degree of firmness, little business is doing in it.—In the value of Barley we observe no alteration from this day se'nnight.—Beans and Peas are very scarce, and command full prices.—The Oat trade is firm at late rates.

PER IMPERIAL QUARTER.	s. s.		s. s.
Wheat, Essex, Kent, & Suffolk...White	44—45	Red	39—40
— — fine selected runs...ditto	45—47	Red	40—41
— — Talavera	45—50		
— Norfolk	38—40	Red	—
— Foreign	36—52		
Barley, grind. & distil., 26s to 29s...Chev.	30—35	Malting .	29—31
— Foreign ...grinding and distilling	22—29	Malting .	—
Oats, Essex, and Suffolk	20—2?		
— Scotch and Lincolnshire...Potato	22—25	Feed	21—23
— Irish .....Potato	21—24	Feed	20—23
— Foreign .....Poland and Brew	20—22	Feed.....	18—21
Rye	—	Foreign .	—
Rye-meal, foreign	—		
Beans, Mazagan.....26s to 29s.....Tick	27—32	Harrow .	27—32
— Pigeon .....28 — 34s...Winds.	—	Longpod	—
— Foreign ..... Small	28—31	Egyptian	24—25
Peas, white, Essex and Kent.....Boilers	35—37	Suffolk...	36—38
— Maple.....29s to 32s.....Grey	28—30	Foreign .	28—35
Maize ..... White	—		—
Flour, best marks delivered ...per sack	37—40	Yellow...	
— Suffolk ..... ditto	25—32	Norfolk .	25—32
— Foreign..... per barrel	17—23	Per sack	28—34

ARRIVALS IN THE PORT OF LONDON LAST WEEK.

	Wheat.	Barley.	Malt.	Oats.	Beans.	Peas.
Flour, 9686 sks — 39335 brls	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.
English	2430	923	1110	442	237	20
Irish	—	1160	96	12110	—	—
Foreign	3672	8380	—	3906	—	35

FRIDAY, May 21.—The arrivals of grain and Flour this week have been small. This morning's market was badly attended; nevertheless, in the little business transacted Monday's prices for Wheat were fully maintained.—In floating cargoes there is little or nothing doing. Flour is held firmly, and in some instances a trifling advance has been paid for American barrels.—Barley, Beans, and Peas are without alteration in value.—The Oat trade is firm; there is but little business doing, arrivals being small.

IMPERIAL AVERAGES.

	WHEAT.	BARLEY.	OATS	RYE.	BEANS.	PEAS.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
April 10.....	41 4	29 4	19 7	32 8	29 11	29 2
— 17.....	40 10	29 1	19 4	33 6	29 10	29 11
— 24.....	40 4	27 8	19 3	31 7	30 3	30 2
May 1.....	40 6	28 5	19 9	31 0	30 0	29 4
— 8.....	41 1	28 1	19 8	30 8	30 5	30 5
— 15.....	41 3	28 8	19 10	30 0	31 0	29 2
Aggreg. Aver.	40 11	28 6	19 7	31 7	30 3	29 9

Duties on Foreign Grain, 1s. per qr.

FLUCTUATIONS IN THE LAST SIX WEEK'S AVERAGES.

PRICES.	APR. 10.	APR. 17.	APR. 24.	MAY 1.	MAY 8.	MAY 15
41s 4d						
41 3						
41 1						
40 10						
40 6						
40 4						

LIVERPOOL, TUESDAY, May 18.—There was a better attendance of millers and dealers at our Corn Exchange this morning, and a fair extent of business was transacted in Wheat, at an improvement of 1d. per bushel on American white. There was no advance on red Wheat, but this description and American Flour realised the full prices of this day se'nnight. Egyptian Beans 3d. per qr. lower. Oats, Barley, Peas, and Indian Corn were each quoted the same as on Tuesday last.

HARTLEY'S PATENT ROUGH PLATE GLASS,

FOR RIDGE AND FURROW ROOFS, GREENHOUSES, RAILWAY STATIONS, ENGINE SHEDS, MILLS, MARKET-HALLS, AND PUBLIC BUILDINGS GENERALLY.

FOR CONSERVATORIES, PUBLIC BUILDINGS, MANUFACTORIES, SKYLIGHTS, &c., &c.	1/8th inch thick.	3-16th inch thick.	1/4 inch thick.
PACKED IN CRATES, for cutting up of the sizes as Manufactured:—	s. d.	s. d.	s. d.
30 inches wide and from 40 to 50 long ... ... Or 20 ,, ,, 50 to 70 ,, ...	0 6	0 8	0 10
IN SQUARES, cut to the sizes ordered:—			
Under 8 by 6	0 4	0 6	0 7
8 by 6 and under 10 by 8	0 4½	0 7	0 8
10 by 8 ,, 14 by 10	0 5	0 7	0 9
14 by 10 ,, 1½ feet super., if the length does not exceed 20 inches	0 5½	0 7	0 9
1½ feet sup. ,, 3 ,, or if above 20, and not above 30 inches long... ...	0 6	0 8	0 10
3 ,, ,, 4 ,, ,, 20 ,, 30 ,, ...	0 6½	0 8	0 10
4 ,, ,, 5 ,, ,, 30 ,, 35 ,, ...	0 7	0 8½	0 10
5 ,, ,, 6 ,, ,, 35 ,, 40 ,, ...	0 7½	0 9	0 10½
6 ,, ,, 8 ,, ,, 40 ,, 45 ,, ...	0 8	0 9½	0 11
8 ,, ,, 10 ,, ,, 45 ,, 55 ,, ...	0 8½	0 10	1 0
10 ,, ,, 12 ,, ,, 55 ,, 70 ,, ...	0 9	0 11	1 1
12 ,, ,, 15 ,, ,, 70 ,, 85 ,, ...	.....	1 0	1 2

PACKED IN BOXES OF 50 FEET EACH:

Ins. Ins. Ins. Ins.	s. d.
6 by 4 and 6½ by 4½	10 6
7 by 5 ,, 7½ by 5½	12 0
8 by 6 ,, 8½ by 6½	13 0
9 by 7 ,, 9½ by 7½ and 10 by 8	15 0

NOTE.—Squares are charged according to the superficial contents, except where the length exceeds the restriction above, in which case the higher price is charged irrespective of the contents.

Bending.—1-8*th*, 6*d.*; 3-16*ths*, 9*d.*; ¼ *inch*, 1*s. per foot, net.*

*** *Irregular shapes are charged as squares.*

When Crates are ordered, the 30-inch widths will be sent, unless otherwise specified.

THE PATENT ROUGH PLATE, one-eighth of an inch thick, and weighing 2 lbs. to the foot, has now become an article of very extensive and increasing consumption.

It is universally admitted to be the best and most suitable Glass for Ridge and Furrow Roofs, Greenhouses, Factories, Workshops,

And all such like purposes, and is a cheap and efficient substitute for Fluted or Obscured Glass, where the object is to intercept the vision without diminishing the light. Its non-transparency, strength, and cost (being no more weight for weight than Common Sheet Glass), render it eminently suitable for the Glazing of Conservatories and Roofs of all kinds; Blinds are unnecessary, and when used in Greenhouses *no scorching occurs.*

Where still greater strength is required the 3-16ths and ¼ inch thick will be found much cheaper than the Common Rough Plate. Samples will be forwarded on application, by applying to

JAMES PHILLIPS AND CO.,

HORTICULTURAL GLASS MERCHANTS, 116, BISHOPSGATE-STREET WITHOUT, LONDON.

GLASS MILK PANS.

JAMES PHILLIPS AND CO., 116, BISHOPSGATE-STREET WITHOUT, BEG TO INFORM THEIR FRIENDS THEY ARE PREPARED TO SUPPLY GLASS MILK PANS THE SAME SIZE AS THE FOREIGN ONES, BUT SUPERIOR IN COLOUR, MAKE, AND QUALITY, AT

2*s.* EACH, OR 21*s.* PER DOZEN.

IF A LARGE QUANTITY ARE TAKEN A DISCOUNT WILL BE ALLOWED.

LORD CAMOY'S MILK SYPHONS, LACTOMETERS, GLASS CREAM POTS, &c. &c.

GLASS.

THOMAS MILLINGTON'S FOREIGN SHEET GLASS is far superior to any other manufacture, as well as cheaper. In 100-feet boxes packed for immediate delivery.

6 inches by 4 and 6½ by 4½	13*s.* 0*d.*
7 ,, 5 and 7½ by 5½	15 0
8 ,, 5 and 8 by 5½	15 0
8 ,, 6 and 8½ by 6½	17 6
9 ,, 7 and 10 by 8	20 0
12 ,, 10 and 13 by 9	20 0

And many other sizes, or cut to order in various thicknesses. Cases containing large Sheets, in 100, 200, and 300 feet, at 21*s.* per 100 feet.

ROUGH PLATE, perfectly flat, ⅛ in. thick, best manufactured.

In sizes under 15 inches	6*d.* per foot.
,, ,, 35 ,, ...	8*d.* ,,
,, ,, 50 ,, ...	9½*d.* ,,
,, ,, 75 ,, ...	12*d.* ,,

Milk Pans, 2*s.* to 6*s.* each; Metal Hand Frames, Glass Tiles and Slates; Cucumber, Propagating, and Bee Glasses; Wasp Traps, Glass Shades, and Plate Glass, at 87, Bishopsgate-street Without, same side as Eastern Counties Railway.—Established 100 years.

GLASS FOR CONSERVATORIES, ETC.

HETLEY AND Co. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2*d.* to 3*d* per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices and Estimates forwarded on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLATES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to JAMES HETLEY and Co., 35, Soho-square, London.

See *Gardeners' Chronicle* first Saturday in each month.

EWING'S PATENT GLASS WALLS.

—The following are the Agents, and on application to whom drawings may be seen, and all other information obtained:—Messrs. Knight and Perry, Nurserymen, &c., Chelsea; Messrs. Henderson and Co., Nurserymen, Pine-apple-place, London; Messrs. Whitley and Osborn, Nurserymen, &c., Fulham, London; Mr. Gleudinning, Nurseryman, &c., Chiswick, London; Messrs. Veitch and Son, Nurserymen, Exeter; Messrs. Dickson, Nurserymen, Chester; Messrs. Lawson and Sons, Nurserymen, Edinburgh; Messrs. Dickson and Turnbull, Nurserymen, Perth; Mr. M'Intosh, F.R.S., Gardener to the Duke of Buccleuch, Dalkeith; Mr. Fleming, F.H.S., Gardener to the Duke of Sutherland, Trentham, Staffordshire; Mr. Ewing, Gardener, Bodorgan, Anglesea; Messrs. Pilkington and Co., Plate, Crown, and Sheet Glass Works, St. Helen's, Lancashire.

These Walls can, when desired, be made wide enough for a person to enter, by which they become elegant hothouses on the best principle. Existing Walls covered with Glass and Iron.

THE CHEAPEST HOUSE FOR LEAD, GLASS, OIL, AND COLOURS.

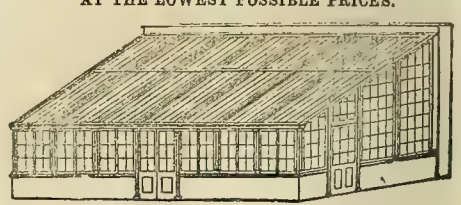
WHOLESALE PRICES CHARGED.

H. J. AND W. WALKER, LEAD, GLASS, OIL, and COLOUR MERCHANTS, 125, Queen-street, Portsea, supply in any quantities, at wholesale prices, Crown and Horticultural SHEET GLASS, Patent and Polished Plate, Rough Plate for Conservatories and Greenhouses, Glass Milk Pans, Bee, Cucumber, and Propagating Glasses, and every description of Glass for Horticultural purposes. Ornamental and Stained Glass, Church Quarries, &c. Deep Well, Lift, and Garden Pumps. Plumbers' Brass Work, Brushes, Varnishes, and Colours at London prices.

N.B.—Experienced workmen sent to any part of the country.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER.

WARRANTED BEST MATERIALS AND WORKMANSHIP, AT THE LOWEST POSSIBLE PRICES.



J. WEEKS AND CO., King's Road, Chelsea, Horticultural Architects, Hothouse Builders, and Hot-water Apparatus Manufacturers. The Nobility and Gentry about to erect Horticultural buildings, or fix Hot-Water Apparatus, will find, at our Hothouse Works, King's Road, Chelsea, an extensive variety of Hothouses, Greenhouses, Conservatories, Pits, &c., erected, and in full operation, combining all modern improvements, so that a lady or gentleman can select the description of House best adapted for every required purpose.

THE HOT-WATER APPARATUSES (which are efficient and economical), are particularly worthy of attention, and are erected in all the Houses, Pits, &c., for both Top and Bottom Heat, and in constant operation in the Stoves.

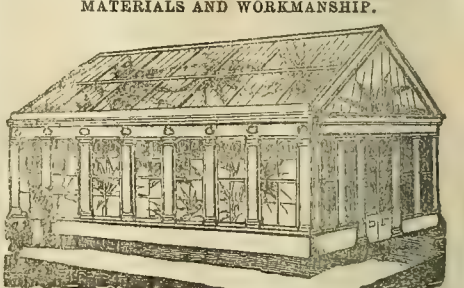
The splendid collection of Stove and Greenhouse Plants is in the highest state of cultivation, and for sale at very low prices. Also a fine collection of strong Grape Vines in pots from eyes, all the best sorts.

Plans, Models, and Estimates of Horticultural Buildings; also Catalogues of Plants, Vines, Seeds, &c., forwarded on application,

J. WEEKS AND CO., KING'S ROAD, CHELSEA, LONDON.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER,

AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.



GRAY AND ORMSON, Danvers Street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

G. and O. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders they can with the greatest confidence give the most satisfactory references.

Their Hot-Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating by Hot Water can be made available.

ROSES.—The attention of Rose Gardeners and Amateurs is called to the "FLORUMBRA," or Rose-preserver, by which BROWN'S Fumigator is rendered applicable to Rose trees, for the purpose of freeing them from the Aphis.

The "Florumbra," which was introduced with success last season, will at the same time protect choice Roses intended for exhibition from sun or rain. They may be had wholesale from Messrs. Barber and Groom, London; and retail of most ironmongers and Seedsmen, and of W. J. SANGSTER, 75, Cheapside. Further particulars on application.

HOTHOUSES, GREENHOUSES, ETC.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

E. DENCH, PATENT HOTHOUSE WORKS, 4, King's Road, Chelsea.—The superior qualities in every respect of these Structures having been proved in all parts of the United Kingdom, has caused a greater demand for them than E. D. could execute; he has been obliged to have perfect and powerful machinery made to meet the numerous orders, and can now execute any amount of work to great perfection, with dispatch, and for quality and price to defy all competition. Patent Hothouses, with excellent glass, 3 feet long by 1 foot wide, every front sash to open, and every top one to slide down, with pulley made of the same materials as the electric telegraph wires, which require no painting; delivered free to Wharf or Railway Station, at 1s. 2d. per foot super., complete, having been fitted, and every portion marked previously, making a Greenhouse 16 ft. 6 inches long, 12 ft. rafter, 400 ft., 23l. 6s. 8d.; 24 ft. 6 ins. long, do. do., 52l. 10s. 13s. 8d.; 28 ft. 6 ins. long, 15 ft. rafter, 712 ft., 41l. 10s. 8d. Heating by Hot Water on the most approved and economical principles.

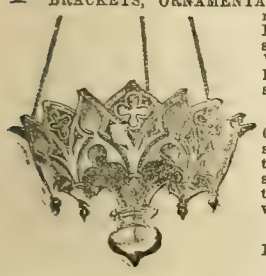
Patent Sashes for Pits and Peach Walls, &c., 7d. and 8d. per foot, super.

GREEN AND HOTHOUSES, made by Machinery, at J. Lewis' Horticultural Works, Stamford Hill, Middlesex, warranted best materials, and the cheapest in England.—A List of Prices sent by enclosing 2 postage stamps.

DRAINAGE OF LAND.

MR. HENRY WEBBER begs to inform Landowners and the public, that having had considerable practical experience, he is prepared to undertake the Drainage of Estates to any extent, upon the most improved principles, either by contract or on commission. Orders executed with a due regard to economy and efficiency. Reference given.—Address, Halberton Court, near Tiverton, Devon.

TERRA COTTA VASES, PENDANT BASKETS, BRACKETS, ORNAMENTAL FLOWER-POTS, &c., manufactured by HENRY DOULTON and Co., High-street, Lambeth, London. West-end Show and Sale Rooms, Exposition, Baker-street, Portman-square.



H. D. and Co.'s Terra Cotta is vitrified, and consequently imperishable, retaining its freshness and sharpness unimpaired by time or exposure to the weather.

Drawings and Prices on Application.

TERRA COTTA VASES, of classic shapes, more durable than iron, manufactured by a new process, suitable for the drawing-room, parlour, or conservatory, of various sizes, from 6d. upwards; also Strawberry Tiles, Melon Tiles, Celery Sockets, and other horticultural appliances manufactured by J. Roberts, Upnor Pottery and Tile Works, near Rochester, Kent, of whom may be had a Pamphlet descriptive of various improvements in horticultural appliances, for six postage stamps.—London Agents: Messrs. Cogan and Co., 48, Leicester-square; and Messrs. Flanagan and Son, Seedsmen, Mansion-house-stree , City.

DESTRUCTION OF BLIGHT AND FUMIGATION SUPERSEDED,

UPON

WALL-FRUIT TREES, STOVE AND GREENHOUSE PLANTS, ROSES, CUCUMBERS, MELONS, &c. &c.

PAGE and Co., Seed Merchants, Southampton, have much pleasure in offering their COMPOSITION, which has proved the most effectual remedy ever introduced, and beg to annex two testimonials, *only*, of the great numbers received with orders this season.

1s. per quart, to which add three of water. Bottles 3d.

From Mr. J. Wilkins, gardener to H. F. K. Holloway, Esq.

Gentlemen,—I highly approve of your Composition, as it answered admirably, saving my Wall Trees from an untimely death, and quite recovering my Roses, killing every insect it touches in an instant. I intend to have a quantity of it this season for all my plants.

From Mr. A. Dowling, gardener to the Right Hon. Lord Henry Cholmondeley.

Gentlemen,—Your Composition is most destructive to all blight. My Wall Trees must have died, had I not availed myself of it. I consider it applicable to all cases, as it is not the least injurious to the foliage of the most tender plants. You will be good enough to send me four gallons, &c.

Gardeners and Land-Stewards' Registry Office, 37 and 38, Oxford-street, Southampton.

A NEW BEDSTEAD, portable without detaching any of its parts, packs in a sponge bath, is admirably adapted for summer use, on account of its extreme coolness, and can be changed in one moment from a bed to a lounge or sofa for the sitting-room, may be seen at

COTTAM and HALLEN'S, 76, Oxford-street,

where also is on view a great variety of Metallic Bedsteads, fitted with and without the Patent Rheocline, &c. &c., together with a large assortment of the Patent Radiating and other Stoves, and every other description of Ironmongery.

NOTWITHSTANDING the numerous preparations for the hair which are daily put before the public, ROWLANDS' MACASSAR OIL continues unrivalled, and the successful results of the last half century have proved beyond question that it is endowed with singularly nourishing powers in the growth and restoration of the human hair; and, when every other known specific has failed, it preserves and reproduces the hair—prevents it from turning gray, or, if so changed, restores it to its original colour—frees it from scurf—renders it soft, silky, curly, and glossy—and retains it in curl and other decorative form unaffected by the variations of the atmosphere, or the effects of the crowded assembly—facts abundantly proved by numerous testimonials. For children, it is especially recommended, as forming the basis of a beautiful head of hair, and rendering the use of the fine comb unnecessary. This oil is the friend of both sexes, for while it adds to the charms of female beauty, it enhances the graces of manhood, by producing whiskers, moustachios, &c. Price 3s. 6d. and 7s.; or family bottles (equal to four small) at 10s. 6d.; and double that size, 21s.

Caution.—On the wrapper of each bottle are the words, Rowlands' Macassar Oil, in two lines; the same are engraved on the back of the wrapper nearly 1500 times, containing 24,024 letters.—Sold by A. ROWLAND & SONS, 20, Hatton Garden, London; and by all chemists and perfumers.

TANNED NETTING, for the Protection of Fruit Trees from Frost, Blight, and Birds, and for the security of Fresh-sown Seeds, either in Gardens or Fields, at 1d. per yard; 200 yards for 14s., 500 yards for 30s., 1000 yards for 50s.; Waxed Netting, for aviaries, &c., at 3d. per square yard. Scrim Canvas for wall fruit. Sun Blinds in great varieties; Rick Cloths, with poles, &c. Marquees, Tents, Tarpaulings, &c.—At Edgington and Co.'s, 17, Smithfield-bars, and Old Kent-road, London.

IRON HURDLES, STRAINED WIRE FENCING, GAME-PROOF NETTING, and other manufactures in wrought and cast-iron and wire work, at very low prices for Case. Price of Iron Hurdles, with 6 bars, 6 feet long by 3 feet 6 inches high, having double prongs additional for fixing in the ground, 3s. 11½d. each. Estimates, Drawings, &c., on application.—William Dodds and Co., 102, Leadenhall-street, London, Agents for the sale of Alex. Shanks and Son's Improved Grass Cutting and Rolling Machines.

ALSO

ARTIFICIAL MANURES of superior quality, at the following very low rates:—Superphosphate of Lime, 5l. 2s. 6d. per ton; Patent Manure, 5l. 5s. per ton; highly-concentrated fæcal Manure, 3l. 10s. per ton; Turnip Manure, 4l. 10s. per ton, from 3 to 4 cwt. per acre, amply sufficient. Gutta percha, coated and lined canvas hose for liquid manure and farm purposes.

Apply as above.

WATER YOUR GARDENS AND MANURE YOUR LANDS WITH GUTTA PERCHA TUBING.

FARMERS, GARDENERS, FLORISTS, and all who have a garden, will save a deal of trouble in watering and manuring gardens or land, by using Gutta Percha Tubing. Testimonials to its economy, efficiency, durability and convenience, are being constantly received. It can be had in any length from 1-16th of an inch, internal diameter (suitable for smoking tubes, &c.), to 6 inches internal diameter; half-inch Tubing for gardening, 3d., 3½d., and 4d. per foot.

Brass or Gutta Percha Unions for attaching to Butts or Cisterns. Spreaders, Stopcocks, Jets, and Roses complete.

Price Lists of Tubing can be had or sent, on application to James Sheath and Company, at the Patent Gutta Percha Warehouse, 35, Old-street-road, London.

GUTTA PERCHA TUBING FOR WATERING GARDENS, ETC.



Testimonial.

From Mr. J. Farrah, Gardener to Boswell Middleton Jalland, Esq., of Holderness House, near Hull.

"I have had 400 feet of your Gutta Percha Tubing (in lengths of 100 feet each, with union joint) *in use for the last twelve months for watering these gardens, and I find it to answer better than anything I have ever yet tried.* The pressure of the water is very considerable, but this has not the slightest effect on the Tubing. I consider this Tubing to be a *most valuable invention for Gardeners*, inasmuch as it enables us to water our gardens in about one-half the time, and with one-half the labour formerly required."

FOR SUCTIONS OF PUMPS AND CONVEYANCE OF WATER.

The value of Gutta Percha Tubing for the conveyance of water is no longer a matter of doubt. Experience has proved its adaptation and superiority to metal pipes, and the important consideration that it is entirely free from those corrosive properties which have proved so highly injurious in the use of lead pipes. The Gutta Percha Company have received the following—

Testimonials.

From C. Hacker, Esq., Surveyor to his Grace the Duke of Bedford, Woburn Park.

"Office of Works, Woburn Park, Jan. 10th, 1852.

"Gentlemen,—In answer to your inquiries respecting the Gutta Percha Tubing for pump suctions (after two years' trial), I find that the water has not affected it in the least, although it will eat lead through in two years; we have adopted it largely, both on account of being cheaper than lead, much easier fixed, and a more perfect job."

From Sir Raymond Jarvis, Bart., of Ventnor, Isle of Wight.

"Ventnor, March 10, 1852.

"Gentlemen,—In reply to your letter, received this morning respecting the Gutta Percha Tubing for Pump Service, I can state, with much satisfaction, it answers perfectly. Many builders, and other persons, have lately examined it, and there is not the least apparent difference since the first laying down, now several years; and I am informed that it is to be adopted generally in the houses that are being erected here—building going on to a considerable extent.

"I am, Gentlemen, your obedient servant,

"R. Jarvis.

"P.S. The only difficulty experienced was in fixing the tube to the pump barrel. The plumber employed being averse to the job, did not properly secure it, and air got into the tube; otherwise, carefully arranged, there is no question it supersedes lead or any kind of metal pipes. R. J."

From William Bird Herapath, Esq., M.R.C.S., Surgeon to St. Peter's and Queen Elizabeth's Hospitals, Bristol.

"September, 1850.

"I have used Gutta Percha as a lining to a cistern, with tubing of the same material, to conduct the water into my dispensary; they answer admirably. At first some disagreeable flavour was communicated to the water, but it soon disappeared.

"My plumber readily learnt the mode of managing it from your printed directions."

Every variety of Gutta Percha Goods may be had. Manufactured by the Gutta Percha Company, Patentees, London; and sold at the Wholesale City Depot of Messrs. Burgess and Key, 103, Newgate-street, who will forward Lists of Prices on application.

METCALFE and Co.'s NEW PATTERN TOOTH BRUSH and SMYRNA SPONGES.—The Tooth-Brush has the important advantage of searching thoroughly into the divisions of the teeth, and cleaning them in the most extraordinary manner, and is famous for the hairs not coming loose.—1s. An Improved Clothes-Brush, that cleans in a third part of the usual time, and incapable of injuring the finest nap. Penetrating Hair-Brushes, with the durable unbleached Russian bristles, which do not soften like common hair. Flesh-Brushes of improved, graduated, and powerful friction. Velvet-Brushes, which act in the most surprising and successful manner. The genuine Smyrna Sponge, with its preserved valuable properties of absorption, vitality, and durability, by means of direct importations, dispensing with all intermediate parties' profits and destructive bleaching, and securing the luxury of a genuine Smyrna Sponge. Only at Metcalfe, Bingley, and Co.'s Sole Establishment, 130 B, Oxford-street, one door from Holles-street.

METCALFE'S ALKALINE TOOTH POWDER, 2s. per box. Caution.—Beware of the words "From Metcalfe's," adopted by some houses.

TO ALL PERSONS OF TASTE.

MR. MECHI, 4, Leadenhall-street, invites public attention to his display of Elegancies suitable for use or for presentation. Those who inspected Mr. Mechi's display of manufactures at the Great Exhibition, will be able to form a proper estimate of the general style and quality of his productions. He has endeavoured to combine, for those who study economy, cheapness with elegance, and, in fact, to give to the cheapest article he manufactures a pleasing form and style. For instance, the Shilling Penknives and Sixpenny Toothbrushes are as useful in their class as the 50-guinea Dressing-case. The external and internal fittings of his Premises have been much improved, so as to harmonise more completely with the progressive elegance of his stock, and have been designed and carried out under his immediate plan and direction.

ELEGANCIES FOR PRESENTATION, &c.

Ladies and Gentlemen's Dressing-cases from 17s. 6d. to 200l.; Work-boxes from 10s. to 40l.; Envelope-cases from 6s. to 7l.; Writing-desks from 10s. to 55l., and an infinite variety of articles in Papier Mâché.

LEADING ARTICLES FOR EVERY-DAY USE.

Table Cutlery of every description; Razors, Scissors, Penknives, Hair, Nail, and Tooth Brushes, Combs, Electro-plated Forks and Spoons of very superior character and finish. Illustrated Catalogues gratis.—N.B. All articles of Cutlery, &c., ground and repaired on the premises daily.

THE PERFECT SUBSTITUTE FOR SILVER.—The REAL NICKEL SILVER, introduced 15 years ago by WILLIAM S. BURTON, when plated by the patent process of Messrs. Elkington and Co., is beyond all comparison the very best article next to sterling silver that can be employed as such, either usefully or ornamentally, as by no possible test can it be distinguished from real silver.

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Tea-spoons, per dozen	18s.	32s.	36s.
Dessert Forks ,, ...	30s.	54s.	58s.
Dessert Spoons ,, ...	30s.	56s.	62s.
Table Forks ,, ...	40s.	65s.	70s.
Table Spoons ,, ...	40s.	70s.	75s.

Tea and Coffee Sets, Waiters, Candlesticks, &c., at proportionate prices. All kinds of replating done by the patent process.

CHEMICALLY PURE NICKEL, NOT PLATED.

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THE BEST SHOW of IRON BEDSTEADS in the KINGDOM is WILLIAM S. BURTON'S.—He has added to his Show-rooms two very large ones, which are devoted to the exclusive Show of Iron and Brass Bedsteads and Children's Cots, with appropriate Bedding and Mattresses. Many of these are quite new, and all are marked in plain figures, at prices proportionate to those that have tended to make his establishment the most distinguished in this country. Common Iron Bedsteads from 12s. 6d.; Portable Folding Bedsteads from 13s. 6d.; Patent Iron Bedsteads, fitted with dovetail joints and patent sacking, from 16s. 6d.; and Cots from 20s. each; handsome ornamental Iron and Brass Bedsteads in great variety, from 3l. 5s. to 31l.

WILLIAM S. BURTON has TEN LARGE SHOW-ROOMS (all communicating), exclusive of the shop, devoted solely to the show of GENERAL FURNISHING IRONMONGERY (including Cutlery, Nickel Silver, Plated, and Japanned Wares,) so arranged and classified that purchasers may easily and at once make their selections.

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39, OXFORD-STREET (corner of Newman-street); Nos. 1 and 2, NEWMAN-STREET; and 4 and 5, PERRY'S-PLACE. ESTABLISHED A.D. 1820.

THE NURSERY AND THE SCHOOL.—The care of the Hair in Infants and young children is, by inexperienced mothers and nurses, too little regarded. No mistake can be more injurious than the supposition that neglect in this particular can continue with impunity. The seeds of strength or weakness are laid in the nursery; and the majority of the fine flowing ringlets, or bald heads of after years, are traceable to this early period. OLDRIDGE'S BALM OF COLUMBIA, long celebrated for its genial and invigorating qualities in promoting and restoring the growth of the hair, is peculiarly fitted for application during the tender years of infancy and childhood; and no nursery or school, where personal advantages are held in any estimation, should be without it. For Cleansing the Hair the Balm is most valuable, as it effects this essential object on the first application, and immediately removes the scurf. For Embellishing the Hair the Balm is pre-eminent. A smooth, rich, and beautiful appearance, with a gentle wave, or glossy ringlets, full, luxuriant, and graceful, being the admirable results of its use. Sold by all respectable Chemists, Perfumers, and Stationers. Price 3s. 6d., 6s., and 11s. per bottle; no other prices are genuine. Ask for "Oldridge's Balm," and never be persuaded to use any other article as a substitute.—13, Wellington-street North, seven doors north of the Strand, London.

ALLSOPP'S PALE AND BITTER ALES.—The recent disquisitions on the components of "Pale Ale or Bitter Beer" have given occasion to a renewal from all quarters of those recommendations of the Faculty which originally gave the start to its great popularity in this country. A registry of certificates from the most eminent Physicians, as well as a list of the agents authorised for the sale of Allsopp's Pale Ales (so as to preclude the possibility of adulteration, and insure a constant supply of this celebrated beverage) may be obtained from the Brewery, Burton-on-Trent; and the various branch offices of Messrs. Allsopp and Sons, in

London at 61, King Wm.-st., City
Liverpool ..... at Cook-street
Manchester ..... at Ducie-place
Birmingham at Market Hall
Dudley at the Ryl. Brewery
Glasgow, 115, St. Vincent-st.
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GARDEN ENGINES, SYRINGES, &c., &c., upon the most Improved Principles.



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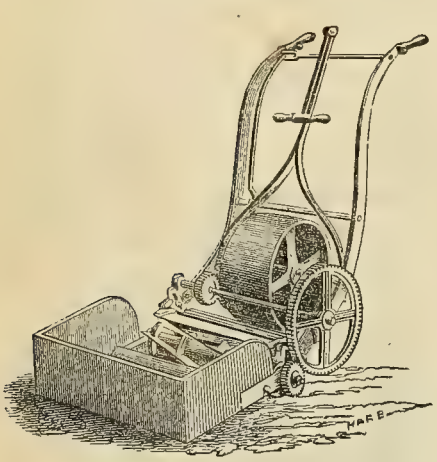
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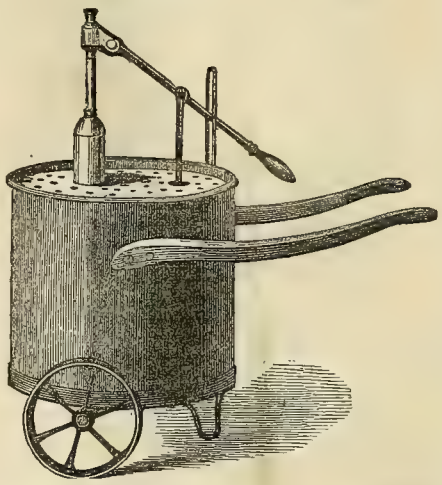
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Conservatories	Mowing Machines	Hand-glass Frames	Garden Engines	Flower Sticks
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MANUFACTURERS OF
FIRE ENGINES, GARDEN ENGINES, AND SYRINGES.

No. 12 GALVANISED IRON TUB GARDEN ENGINE,

With WARNER'S Registered Spreader, is strongly recommended for durability and low price, viz.:—

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May be obtained of any Ironmonger in Town or Country.

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THE ZOOLOGICAL GARDENS, REGENT'S PARK, are open to Visitors daily. The Collection now contains upwards of 1500 specimens; a fine Series of ANTELOPES having been added to the HIPPOPOTAMUS, ELEPHANT CALF, and other rare animals, during the winter. All Visitors are now admitted to Mr. Gould's collection of HUMMING BIRDS, without any extra charge.

The BAND of the 1ST LIFE GUARDS will perform, by permission of Col. HALL, on every SATURDAY, at Four o'Clock, until further notice.—Admission, SIXPENCE EVERY DAY IN WHITSUN WEEK, except Saturday.

M'CORMICK'S AMERICAN REAPER.

BURGESS AND KEY, Agents, 103, Newgate-street, London.—Extract from Mr. Pusey's Report on the Agricultural Implement Department, Great Exhibition.—"Mr. M'CORMICK'S Reaper, in this trial, worked as it has since worked at Cirencester College, and elsewhere, to the admiration of practical farmers, and therefore received a Council Medal. Mr. Hussey's sometimes became clogged, as in the former trial at Tiptree, and therefore could not possibly obtain that distinction."—Price of Reaper, 25*l*.

STEPHENSON AND PEILL, 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Manufacturers of Copper Cylindrical and Improved Conical Iron BOILERS, and Conservatory and Hothouse Builders, either in wood or iron, respectfully call the attention of the Nobility, Gentry, and Nurserymen to their simple but efficacious method of warming Horticultural and other Buildings by hot water. From the extensive works they have executed, references of the highest respectability can be given, and full particulars furnished on application.

BEE HIVES.—A NEW AND EXTENSIVE SELECTION OF THE MOST APPROVED KINDS.—A detailed Catalogue, with Drawings and Prices, sent on receipt of Two Stamps. GEORGE NEIGHBOUR and SON, 127, High Holborn, London.

"In noticing the hives exhibited in the Crystal Palace, first and foremost, in my opinion, stands Mr. Taylor's Eight-Bar Hive, and Messrs. Neighbour and Son's Improved Cottage Hive, both exhibited by Messrs. Neighbour."—*J. H. Payne.*

(See the "Cottage Gardener," Nos. 169, 170).

AGENTS.—Liverpool: Wm. Drury, Castle-street. Manchester: Hall and Wilson, 50, King-street. Glasgow: Austin and McAslan, 168, Trongate. Dublin: J. Edmondson and Co., 61, Dame-street.

Sales by Auction.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will sell by Auction, at the Mart, Bartholomew-lane, on WEDNESDAY, May 26th, 1852, and following day, at 12 o'clock, a first-rate collection of DAHLIAS; the newest varieties of FUCHSIAS, VERBENAS, CALCEOLARIAS, CLIMBING and other ROSES; also GERANIUMS, and other Plants in Bloom, with a large assortment of useful and ornamental Plants for Bedding. May be viewed the morning of Sale.—Catalogues had at the Mart, and of the Auctioneers, American Nursery, Leytonstone, Essex.

TO TULIP FANCIERS, GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS are directed by Mr. Mowatt to sell by Auction, on the premises, opposite the Model Prison, Caledonian-road, King's-cross, on MONDAY, May 24th, at 1 o'clock (in consequence of the land being required for building purposes), the whole of his choice collection of TULIPS, consisting of several beds, amongst which are many new varieties and seedling breeders; also several variegated American Aloes, Lilies, Gladiolus, &c. May be viewed prior to the sale; Catalogues may be had on the premises; of the principal Seedsmen in London; and of the Auctioneers, American Nursery, Leytonstone, Essex.

MESSRS. LODDIGES' FIRST SALE.
HARDY CONIFERS,
WHICH HAVE BEEN REMOVED FOR THE CONVENIENCE OF PURCHASERS.

MR. J. C. STEVENS will sell by Auction, at his Great Room, 38, King-street, Covent Garden, on TUESDAY, 25th May, at 12 for 1 o'clock, the entire collection of HARDY CONIFERS, IN POTS, and well suited for immediate planting; they comprise many new and rare species, with good specimens of the most ornamental kinds. May be viewed the day prior and morning of sale, and Catalogues had.

ORCHIDS FROM THE EAST AND WEST INDIES, AND A NEW CONIFER FROM SOUTH AUSTRALIA.

MR. J. C. STEVENS will Sell by Auction, at his Great Room, 38, King-street, Covent Garden, on FRIDAY, 28th May, at 12 for 1 o'clock, a Collection of ORCHIDS FROM THE EAST, imported some months since, and now in a healthy and growing state, including 40 plants of Vanda Cærulea; 22 of a new Dendrobium, in the way of Nobile; 30 Aerides affine; 12 of Vanda teres, and many other favourite varieties; also an Importation from South America, comprising Cattleya Mossiæ superba, and other Cattleyas; Oncidium papilio, &c.; some Guatemala Orchids, the sale proceeds of which will be presented to the Gardeners' Benevolent Institution; and a few plants of a new Conifer from South Australia, presumed to be hardy. May be viewed on the morning of sale, and Catalogues had.

SALE OF CHOICE TULIPS.

MR. ALEXANDER will sell by Auction, on the premises, North-street, Poplar, on WEDNESDAY, May 26, at 12 o'clock, a choice Collection of TULIPS, the property of Mr. Dark, comprising Beteral's Brulante Eclatante, Louis XVI., Strong's King, Camuse de Craix, Brown's Ulysses, Lord Brougham, Thalia, Duke of Devonshire, Jeffery's Elizabeth, Rose Magnificent, Zuill's Flora, Lady Stanley, Queen of the Bizarres, Reid's Prince Albert, Richard Cobden, Helen Faucit, Gibbons' Emperor, Thomas Brown, Dark's Don Cossack, Dangerous, Voltaire, Samson, Lady Flora, Marshal Soult, Midway, Water Witch, Manfred, &c.; also a quantity of newly broken flowers.—May be viewed two days prior to Sale. Catalogues had on the premises; City of Canton, Poplar; White Swan, West Ham; and of the Auctioneer, Shacklewell.

NEW & MOST SCARCE CONIFEROUS PLANTS, SPECIES ARTHROTAXUS.

MAULE AND SONS beg to inform the lovers of rare Plants, that Mr. STEVENS will offer to public competition, at his Sale Room, King-street, Covent Garden, May 28th, on the same day as the Vanda cæruleas and other Orchids are sold, Eight Plants, being the entire stock of this new and rare CONIFEROUS PLANT, which has stood the test of the last winter, and will in all probability prove hardy: also a few Plants of Arthrotaxus, Saliginoides, or imbricata. The original plant of each variety will be exhibited to show the habit of growth of this most valuable and quite new class of Plants, the former of which has never before reached Europe. Stapleton Road Nurseries, Bristol.

TO NURSERYMEN AND FLORISTS.

PARTNERSHIP.—A young Man, having no previous knowledge of the business, wishes to purchase a share in a concern where he could attend to the books and undertake other light duties. Capital about 500*l*., or more could be advanced, if required.—Direct to A. B., 30, Norfolk-street, Strand, London.

MANUFACTURERS BY SPECIAL APPOINTMENT TO THE QUEEN.

Obtained the Prize Medal, Great Exhibition, 1851.

NEW FRENCH CHOCOLATES.—Chocolats de la Reine Victoria, du Prince Albert, and other varieties à la Française. Important directions are enclosed in each package.

Chocolats Pastilles, Chocolat de Voyage, and FRY AND SONS' other Bon Bons, are delicious and nutritious condiments. They confidently recommend these Chocolates as combining the results of the most refined foreign taste, that richness and delicacy of flavour, with that peculiar softness on the palate which is rarely to be met with. Sold by Tea Dealers, Grocers, and Confectioners, of whom FRYS' Churchman's and other Cake Chocolates, their Patent Soluble, Homœopathic, and other Cocoas may be obtained.

Their elegant French Chocolates are particularly adapted for presents. See their Pamphlet, "containing full directions for preparing these articles for the table, an account of the Cocoa tree, Liebig's analyses of Cocoa, showing its adaptation for human food, &c. &c.," to be obtained gratis where FRY AND SONS' articles are sold; or on application, personally or by letter, at 12, Union-street, Bristol.

Printed by WILLIAM BRADBURY, of No. 13, Upper Woburn-place, in the parish of St. Pancras, and FREDERICK MULLETT EVANS, of No. 7, Church-row, Stoke Newington, both in the County of Middlesex Printers, at their Office in Lombard-street, in the Precinct of Whitefriars, in the City of London; and published by them at the office, No. 5, Charles-street, in the parish of St. Paul's, Covent-garden, in the said County, where all Advertisements and Communications are to be ADDRESSED TO THE EDITOR.—SATURDAY, MAY 22, 1852.

THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 22—1852.] SATURDAY, MAY 29. [PRICE 6*d*.

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HORTICULTURAL SOCIETY OF LONDON.—NOTICE IS HEREBY GIVEN, that the NEXT EXHIBITION of FLOWERS and FRUIT, in the SOCIETY'S GARDEN, will take place on SATURDAY, JUNE 12, at 2 P.M.

Tickets, price 5*s*. each, can be procured at this Office, upon presenting the order of a Fellow, or on the day of the meeting, at Turnham Green, price 7*s*. 6*d*. each.

21, Regent-street, London.

THE ROYAL GARDENERS' BENEVOLENT INSTITUTION.

The NINTH ANNIVERSARY FESTIVAL, in aid of the funds of this Society, will be celebrated at the London Tavern, Bishopsgate-street, on MONDAY, June 14th, CHARLES DICKENS, Esq., in the Chair; supported by the following influential Noblemen and Gentlemen, who have kindly consented to act as Stewards:—

The Right Hon. the Earl of Carlisle.
The Right Hon. the Earl of Ellesmere.
The Right Hon. Lord Robert Grosvenor, M.P.
The Baron Lionel de Rothschild, M.P.

Sir John V. B. Johnston, Bart., M.P.	Henry Thos. Hope, Esq., M.P.
Sir Brook W. Brydges, Bart., M.P.	George W. Johnson, Esq.
Sir Joseph Paxton	Charles Knight, Esq.
J. L. Barnard, Esq.	J. E. Lane, Esq.
E. L. Betts, Esq.	Charles Lawson, Esq., jun.
William Henry Bodkin, Esq.	Thomas Moxon, Esq.
Joseph Brown, Esq.	George Warde Norman, Esq.
Peter Carthew, Esq.	John Crace Stevens, Esq.
Robert Haubury, Esq.	James Thomson, Esq.
John Henderson, Esq.	James Thorne, Esq.
Robert Steiner Holford, Esq.	J. Ingram Travers, Esq.
	C. B. Warner, Esq.
	Alderman Wilson.

DINNER TICKETS, 21*s*. each. The Gallery will be opened for the admission of Ladies, Tickets, 3*s*. 6*d*. each.

The Musical Arrangements will be under the direction of Mr. Genge.

EDWARD ROGER CUTLER, Sec.

May 29. 97, Farringdon-street.

THE ROYAL GARDENERS' BENEVOLENT INSTITUTION.—NOTICE IS HEREBY GIVEN, That the Half-yearly General Meeting of the Members of this Society will take place at the HORTICULTURAL SOCIETY'S ROOMS, No. 21, REGENT-STREET, on WEDNESDAY, the 30TH JUNE, for the purpose of Electing Two Pensioners on the Funds of the Institution.

The Chair to be taken at Twelve o'Clock precisely.—The Ballot will close at TWO o'Clock precisely.

97, Farringdon-street, May 29. EDW. R. CUTLER, Sec.

EXTRA GRAND DAHLIA AND HOLLYHOCK COMPETITION, OPEN TO THE UNITED KINGDOM.—The Nurserymen of Scotland who originated the above, beg to intimate that it is now arranged to take place, through the Caledonian Horticultural Society, at their GARDENS, INVERLEITH, EDINBURGH, on the 18TH of SEPTEMBER next, when Four Silver Cups (one of which is given by the Caledonian Horticultural Society), with other Prizes, will be awarded. Full particulars and conditions of Competition will hereafter appear in their Schedules and Advertisements.

As it is desirable that the other Prizes offered should be as large and numerous as possible, Subscriptions for that purpose are solicited, and will be received by the Treasurer, Mr. GREIG of JAMES DICKSON and SONS, Hanover-street, Edinburgh; or the Secretary, Mr. HANDASYDE, Musselburgh.

THE CHELTENHAM AND COUNTY OF GLOUCESTER MONSTER EXHIBITION OF USEFUL AND ORNAMENTAL POULTRY, at the ROYAL OLD WELLS, CHELTENHAM on THURSDAY, the 3D of JUNE, 1852.

OPEN TO THE UNITED KINGDOM.

UNDER THE PATRONAGE OF
THE LORD LIEUTENANT OF THE COUNTY OF GLOUCESTER,
THE WORSHIPFUL THE MAYOR OF GLOUCESTER,
THE LORD OF THE MANOR OF CHELTENHAM,
THE REV. F. CLOSE, INCUMBENT OF CHELTENHAM,
And the Nobility, Clergy, and Gentry of the County,
At which Exhibition will be given 100 Sovereigns as Prizes.

Schedules to be obtained on application to the Secretaries, Messrs. JESSOP, BAGTHLEB Cheltenham.—Tickets of Admission, if taken on or before the 29 h of May, 3*s*. 6*d*.; after that day, 5*s*. Subscriptions of 10*s*. 6*d*. will entitle Subscriber to Four Tickets of Admission. The Subscription Book to be closed on Saturday, the 15th May, 1852. Children, under 12 years of age, admitted at half-price.

Gardens open at 12 o'clock. Music commence at 2.

EXHIBITION OF AMERICAN PLANTS.

JOHN WATERER begs to announce that his unrivalled collection of RHODODENDRONS, AZALEAS, &c., is now on view at the ROYAL BOTANIC GARDENS, Regents' Park, and may be seen gratis by orders from members of the Society.

His collection at the Nursery, comprising many thousand specimens, is also in perfection, and may be seen gratis.

The American Nursery, Bagshot, Surrey, near the Farnborough Station, South-Western Railway, and three miles from Blackwater, South-Eastern Railway; conveyances may be obtained at either station.

EXHIBITION OF AMERICAN PLANTS.

KNAP HILL NURSERY, WOKING, SURREY.—The AMERICAN PLANTS at this Nursery are fast coming into bloom, and will afford during the ensuing month of June probably the grandest display of flowers to be witnessed in this country. The Azaleas are now in high perfection.

The Knap Hill Nursery is near the Woking Station, South Western Railway, which may be reached in about 40 minutes from the Waterloo terminus. All Trains stop at Woking, and capital conveyances may be obtained there.

HOSEA WATERER begs to inform his customers that he is in no way concerned with the Exhibition of American Plants in the Botanic Garden, Regent's Park. The Nursery may be seen daily, Sundays excepted, gratis.—Knap Hill, Woking, 29th May.

SEED AND HORTICULTURAL ESTABLISHMENT, SUDBURY, SUFFOLK.

CHOICE GERANIUMS, fine strong plants.—See names advertised in *Gardeners' Chronicle* of April 3d, 10th, 24th, and May 8th.

	s.	*d*.
25 fine show varieties, 22*s*.; or 12 vars. for	12	0
25 superb and best prize vars., 35*s*.; or 12 for	21	0
12 best new vars. of last season	50	0
12 fine fancy vars., 9*s*.; 12 superb fancy for	15	0
9 best new fancy vars. of last season	28	0
Scarlets of best sorts, per dozen, 5*s*. to 9*s*.		
ACHIMENES, 12 best vars., 10*s*.; 12 fine vars.	6	0
GLOXINIAS, 12 best vars., 20*s*., including Petoiana, Maria Van Houtte, and others, as before advertised.		
Do. 12 fine vars.	12	0
GREENHOUSE PLANTS, fine and select, 50 vars.	45	0
Do. 25 vars., 24*s*.; 12 vars.	12	0
Do. 12 extra choice, new and select	25	0
STOVE PLANTS, fine and select, 50 vars., 65*s*.; 25 for 35*s*.; 12 for	18	0

The DESCRIPTIVE SPRING CATALOGUE supplied for four penny stamps; or, gratis, to purchasers.

Goods, carriage free, to London, or on the Ipswich and Norwich line, and extra plants presented with orders of 40*s*. and upwards.

Post-office orders payable to STEPHEN BROWN; or to Bass and BROWN, Sudbury, Suffolk.

NEW ROSES.

WOODLANDS NURSERY, MARESFIELD, NEAR UCKFIELD, SUSSEX.

SUPERB NEW ROSES OF 1851, in pots, worked on the Manetti Stock, offered by WM. WOOD and SON.

HYBRID PERPETUALS.	Each— *s*.	*d*.
Baronne de Morel, delicate rose	7	6
Blanche de Portemer, nearly pure white	10	6
Capitaine Charpine, bright cherry colour, shaded	10	6
Comte de Bourmont, deep rose	5	0
Diodore, a seedling from La Reine, shape and colour of Coupe d'Hébé	10	6
Docteur Julliard, crimson shaded	7	6
Egérie, shaded rose	5	0
Etendard du Grand Homme, apricot shaded	5	0
Eugene Sue, bright rose, flowers as large as Baronne Prevost, superb	10	6
General Bedeau, bright red, fine	5	0
General Castellane, bright carmine	10	6
Inermis, rose, very robust	7	6
Isocrate, a seedling from La Reine, bright rose, cupped	7	6
Joseph Decaisne, bright rose, of exquisite form	10	6
La Séduisante, bright red	7	6
L'Enfant du Mont Carmel, crimson	7	6
Leon le Quay, in the way of Chereau, but deeper red	7	6
Lion des Combats, deep crimson	7	6
Madame Andry, bright rose, superb, a seedling from William Jesse	5	0
Madame Ducher, delicate rose	5	0
Madame Flory, lilac rose	7	6
Madame Hilaire, rose	5	0
Madame Seigneur, bright rose, fine	5	0
Mère de St. Louis, nearly white, large	10	6
Miss Jane Carolina Meymott, deep flesh colour, imbricated, fine	10	6
Palais de Cristal, deep flesh colour	7	6
Queen Victoria (Paul)	10	6
Robert Burns (Paul), dark climber	7	6
Souvenir de la Reine des Belges, carmine	7	6
Théodose de St. Remy	5	0
Triomphe de Meaux, pale rose	7	6
BOURBON.		
Archévêque de Cambrai, crimson	7	6
Beauté Lyonnaise, lilac rose, superb	10	6
Louise Odier, bright rose, form of Coupe d'Hébé, splendid	7	6
Mandarin Chinois, crimson shaded	7	6
Pigeon, bright red	5	0
Souvenir de l'Empire, crimson scarlet, very showy	5	0
Souvenir de l'Exposition, rich puce	7	6
TEA-SCENTED.		
Madame Sylvestre, white, with yellow centre	5	0
Mélanie Oger, yellowish white, deeper centre	7	6

Extra plants presented for distant carriage.

PELARGONIUMS, 18*s*. per dozen.

Beck's Hebe's Lip.	Beck's Mont Blanc, No. 2.
,, Symmetry.	,, Centurion.
,, Cassandra.	,, Mount Etna.
,, Princess.	Foquett's Lalla Rookh.
,, Ruby.	Hoyle's Crusader.
,, Painter.	Beck's Marc Antony.

Select show sorts, 30*s*. per dozen.

The above are fine blooming plants. Carriage paid to London.—THOMAS RIVERS, Sawbridgeworth, Herts.

LANDSCAPE GARDENING.

MR. THOROLD, of Thorpe-Bower, near Norwich, offers his services as a LANDSCAPE and ORNAMENTAL GARDENER, in the highest style of the art, including Decorations round the House, Forming Water, Approaches, Picturesque and Distant Scenery, Vistas, &c.; correcting the efforts of amateurs, and directing the practical execution of works.—Mr. T. has no connection with Nurserymen or any trade whatever.

SKIRVING'S IMPROVED TURNIP SEEDS.

WILLIAM SKIRVING begs to announce to his friends and the public, that he has fixed the price, for this season, of his IMPROVED SWEDE, and also the PURPLE-TOP YELLOW BULLOCK, at 9*d*. per lb.

W. S. can, with perfect confidence, recommend these Turnips as being the best now in cultivation, in every respect, whether for the greatest crop, the best quality, or for keeping, according to the time of sowing. At the same time he begs to state that he has no agent in town or country, and, of course, is not accountable for the low-priced spurious Turnip Seeds offering under his name.

All other kinds of Turnip and Agricultural Seeds in general, of the best quality, at very moderate prices. A remittance or reference is requested from unknown correspondents.

Queen-square, Liverpool, May 29.

CORNER OF HALF MOON-STREET, PICCADILLY.

TURNIP SEEDS.

Purple-top Swedish Turnip	Globes and Tankards of sorts
Green-top do. do.	
Skirving's Swedes	Yellow Globe Mangold Wurzel
Gibbs' Green-top Yellow Hybrid	Long red do. do.

GRASS SEEDS for Permanent Pastures and Meadows, and all kinds of Agricultural and other Seeds.

THOMAS GIBBS AND CO., the Seedsmen to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND," corner of HALF MOON-STREET, Piccadilly.

BAKER'S PHEASANTRY, Beaufort-street, King's Road, Chelsea, by special appointment to her MAJESTY and H. R. H. PRINCE ALBERT.—ORNAMENTAL WATER FOWL, consisting of black and white Swans, Egyptian, Canada, China, barnacle, brent, and laughing Geese, Shieldrakes, Pintail, Widgeon, summer and winter Teal, Gadwall, Labrador, Shovellers, gold-eyed and dun Divers, Carolina Ducks, &c., domesticated and pinioned; also Spanish, Cochin China, Malay, Poland, Surrey, and Dorking Fowls; white, Japan, pied, and common Pea-fowl, and pure China Pigs; and at 3, Half-moon-Passage, Gracechurch-street, London.

BLIGHT WASH, for effectually destroying the Thrip, Mealy Bug, Green-fly, and other Insects on Roses and other Plants, giving them a healthy and luxuriant appearance; with directions for use. To be had in bottles at 2*s*. 6*d*. each, of J. MANLEY (late Hembery) at his English and Foreign Fruit Warehouse, 41, Watling-street, Cheapside, London; noted house for genuine Orange and Lemon Juice, so much recommended by the faculty for Gout, Rheumatism, &c.

DEANE'S WARRANTED GARDEN TOOLS.—Horticulturists, and all interested in Gardening Pursuits, are invited to examine DEANE, DRAY, AND CO.'S extensive Stock of GARDENING and PRUNING IMPLEMENTS, best London-made Garden Engines and Syringes, Colebrook-dale Garden Seats and Chairs.

Averuncators	Garden Scrapers	Mowing Machines
Axes	Gidney's Prussian Hoe	Pickaxes
Bagging Hooks	Grape Gatherers & Scissors	Potato Forks
Bills	Gravel Rakes and Sieves	Pruning Bills
Borders, various patterns	Greenhouse Doors and Frames	,, Knives, various
Botanical Boxes	Hammers	,, Saws
Boyd's Patent Scythe	Hand-glass Frames	,, Scissors
Brown's Patent Fumigator	Hay Knives	,, Shears
Cases of Pruning Instruments	Horticultural Hammers & Hatchets	Rakes in great variety
Daisy Rakes	Hoes of every pattern	Reaping Hooks
Dibbles	Hotbed Handles	Scythes
Draining Tools	Ladies' Set of Tools	Scythe Stones
Edging Irons and Shears	Labels, various patterns, in Zinc, Porcelain, &c.	Shears, various
Flower Scissors	Lines and Reels	Sickles
,, Stands in Wires & Iron	Marking Ink	Sickle Saws
Fumigators	Mattocks	Spades and Shovels
Galvanic Borders and Plant Protectors	Monographs	Spuds
Garden Chairs and Seats	Metallic Wire	Switch Hooks
,, Loops	Milton Hatchets	Thistle Hooks
,, Rollers	Mole Traps	Transplanting Tools
		Trowels
		Turfing Irons
		Wall Nails
		Watering pots
		Weed Hooks
		Wheelbarrows
		Youths' Set of Tools

DEANE, DRAY, AND CO. are sole Agents for LINGHAM'S PERMANENT LABELS, samples of which, with their Illustrated List of Horticultural Tools, can be sent, post paid, to any part of the United Kingdom. Also, Wholesale and Retail Agents for SAYNOR'S celebrated PRUNING KNIVES, used exclusively by the first Gardeners in the United Kingdom.—DEANE, DRAY, & CO. (Opening to the Monument), London-bridge.

GLASS MILK PANS.



JAMES PHILLIPS AND CO., 116, BISHOPSGATE-STREET WITHOUT, BEG TO INFORM THEIR FRIENDS THEY ARE PREPARED TO SUPPLY GLASS MILK PANS THE SAME SIZE AS THE FOREIGN ONES, BUT SUPERIOR IN COLOUR, MAKE, AND QUALITY, AT 2*s.* EACH, OR 21*s.* PER DOZEN.

IF A LARGE QUANTITY ARE TAKEN A DISCOUNT WILL BE ALLOWED.

LORD CAMOY'S MILK SYPHONS, LACTOMETERS, GLASS CREAM POTS, &c. &c.

GLASS FOR CONSERVATORIES, ETC.

HETLEY AND Co. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2*d.* to 3*d.* per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices and Estimates forwarded on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLATES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to JAMES HETLEY and Co., 35, Soho-square, London.

See *Gardeners' Chronicle* first Saturday in each month.

GLASS.

THOMAS MILLINGTON'S FOREIGN SHEET GLASS is far superior to any other manufacture, as well as cheaper. In 100-feet boxes packed for immediate delivery.

6 inches by 4 and	6½	by	4½	...	...	13*s.* 0*d.*
7 ,,	5 and	7½	by	5½	...	... 15 0
8 ,,	5 and	8	by	5½	...	... 15 0
8 ,,	6 and	8½	by	6½	...	... 17 6
9 ,,	7 and	10	by	8	...	... 20 0
12 ,,	10 and	13	by	9	...	... 20 0

And many other sizes, or cut to order in various thicknesses. Cases containing large Sheets, in 100, 200, and 300 feet, at 21*s.* per 100 feet.

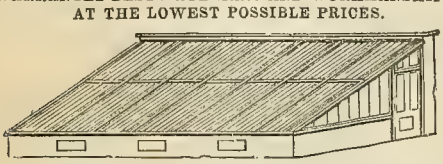
ROUGH PLATE, perfectly flat, ⅛ in. thick, best manufactured.

In sizes under 15 inches			6*d.* per foot.
,, ,,	35	,, ...	8*d.* ,,
,, ,,	50	,, ...	9½*d.* ,,
,, ,,	75	,, ...	12*d.* ,,

Milk Pans, 2*s.* to 6*s.* each; Metal Hand Frames, Glass Tiles and Slates; Cucumber, Propagating, and Bee Glasses; Wasp Traps, Glass Shades, and Plate Glass, at 87, Bishopsgate-street Without, same side as Eastern Counties Railway.—Established 100 years.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER.

WARRANTED BEST MATERIALS AND WORKMANSHIP, AT THE LOWEST POSSIBLE PRICES.



J. WEEKS AND CO., King's Road, Chelsea, Horticultural Architects, Hothouse Builders, and Hot-water Apparatus Manufacturers. The Nobility and Gentry about to erect Horticultural buildings, or fix Hot-Water Apparatus, will find, at our Hothouse Works, King's Road, Chelsea, an extensive variety of Hothouses, Greenhouses, Conservatories, Pits, &c., erected, and in full operation, combining all modern improvements, so that a lady or gentleman can select the description of House best adapted for every required purpose.

THE HOT-WATER APPARATUSES (which are efficient and economical), are particularly worthy of attention, and are erected in all the Houses, Pits, &c., for both Top and Bottom Heat, and in constant operation in the Stoves.

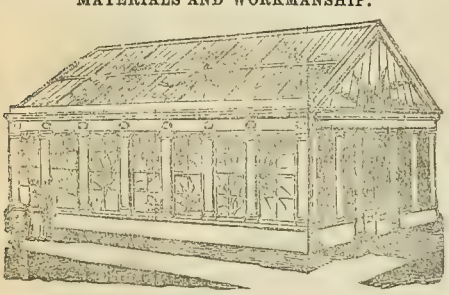
The splendid collection of Stove and Greenhouse Plants is in the highest state of cultivation, and for sale at very low prices. Also a fine collection of strong Grape Vines in pots from eyes, all the best sorts.

Plans, Models, and Estimates of Horticultural Buildings; also Catalogues of Plants, Vines, Seeds, &c., forwarded on application.

J. WEEKS AND CO., KING'S ROAD, CHELSEA, LONDON.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER,

AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.

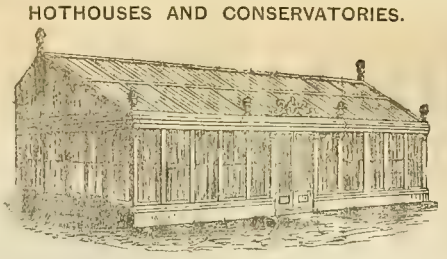


GRAY AND ORMSON, Danvers Street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

G. and O. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders they can with the greatest confidence give the most satisfactory references.

Their Hot-Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating by Hot Water can be made available.

HOTHOUSES AND CONSERVATORIES.



JAMES WATTS, HOTHOUSE BUILDER, CLAREMONT-PLACE, OLD KENT-ROAD, has 200 CUCUMBER and MELON BOXES and LIGHTS of all sizes, ready for immediate use, and of well-seasoned materials, packed and sent to all parts of the Kingdom.

HOTHOUSES, CONSERVATORIES, &c., made and fixed complete at a considerable reduction, and Garden Lights of every description. References may be had to the Nobility, Gentry, and the Trade, in most of the counties of England.

HOTHOUSES, GREENHOUSES, ETC.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

E. DENCH, PATENT HOTHOUSE WORKS, KING'S ROAD, CHELSEA.—The superior qualities in every respect of these Structures having been proved in all parts of the United Kingdom, has caused a greater demand for them than E. D. could execute; he has been obliged to have perfect and powerful machinery made to meet the numerous orders, and can now execute any amount of work to great perfection, with dispatch, and for quality and price to defy all competition. Patent Hothouses, with excellent glass, 3 feet long by 1 foot wide, every front sash to open, and every top one to slide down, with pulley made of the same materials as the electric telegraph wires, which require no painting; delivered free to Wharf or Railway Station, at 1*s.* 2*d.* per foot super., complete, having been fitted, and every portion marked previously, making a Greenhouse 16 ft. 6 inches long, 12 ft. rafter, 400 ft., 23*l.* 6*s.* 8*d.*; 24 ft. 6 ins. long, do. do., 526 ft., 30*l.* 13*s.* 8*d.*; 28 ft. 6 ins. long, 15 ft. rafter, 712 ft., 41*l.* 10*s.* 8*d.* Heating by Hot Water on the most approved and economical principles.

Patent Sashes for Pits and Peach Walls, &c., 7*d.* and 8*d.* per foot, super.

GREEN AND HOTHOUSES, made by Machinery, at J. LEWIS' Horticultural Works, Stamford Hill, Middlesex, warranted best materials, and the cheapest in England.—A List of Prices sent by enclosing 2 postage stamps.



LIQUID MANURE conveyed over LAND by FREEMAN ROE, HYDRAULIC ENGINEER, 70, STRAND, LONDON.

Farms supplied with water by the HYDRAULIC RAM.

WELLS SUNK AND BORING DONE IN ALL PARTS OF TOWN OR COUNTRY.



JOHN WARNER AND SONS, CRESCENT, JEWIN STREET, LONDON, MANUFACTURERS OF FIRE ENGINES, GARDEN ENGINES, AND SYRINGES.

No. 12 GALVANISED IRON TUB GARDEN ENGINE,

With WARNER'S Registered Spreader, is strongly recommended for durability and low price, viz.:—

£3 0 0

May be obtained of any Ironmonger in Town or Country.

WATER and MOW your LAWNS with M. WEDLAKE AND CO.'S improved GARDEN ENGINE and GRASS MOWING MACHINES; and grind and dress, ready for use, your Wheat into good flour with their domestic Mill—get pure Bread in spite of the baker and the doctor. For your Horse, bruise your Oats; one sack well crushed makes nearly two.—118, Fenchurch-street, London. A Pamphlet on either operation, 1*s.*, free per post. Also, How to make Hay at half the usual expense, in any county and in any weather, 1*s.*

WATER YOUR GARDENS AND MANURE YOUR LANDS WITH GUTTA PERCHA TUBING.

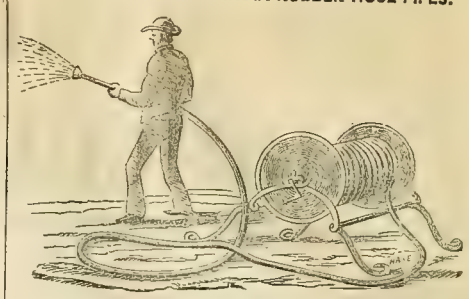
FARMERS, GARDENERS, FLORISTS, and all who have a garden, will save a deal of trouble in watering and manuring gardens or land, by using Gutta Percha Tubing. Testimonials to its economy, efficiency, durability and convenience, are being constantly received. Tubing for gardening, 3*d.* light; and 3½*d.* to 4*d.* per foot half inch bore stout, which is the best and most economical, copper branch and rose complete.

Brass or Gutta Percha Unions for attaching to Butts or Cisterns. Spreaders, Stopcocks, Jets, and Roses complete.

Price Lists of Tubing can be had or sent, on application to JAMES SHEATH and Company, at the Patent Gutta Percha Warehouse, 35, Old-street-road, London.

WATERPROOF PATHS.—Those who would enjoy their Gardens during the winter months should construct their walks of PORTLAND CEMENT CONCRETE, which are formed thus:—"Screen the gravel of which the path is at present made from the loam which is mixed with it, and to every part of clean gravel add one of sharp river sand. To five parts of such equal mixture add one of Portland Cement, and incorporate the whole well in the dry state before applying the water. It may then be laid on 2 inches thick. Any labourer can mix and spread it. No tool is required beyond the spade, and in 48 hours it becomes as hard as a rock. Vegetation cannot grow through or upon it, and it resists the action of the severest frost. It is necessary, as water does not soak through it, to give a fall from the middle of the path towards the sides.—Manufacturers of the Cement, J. B. WHITE and SONS, Millbank-street, Westminster.

FOR WATERING GARDENS, DISTRIBUTING LIQUID MANURE, BREWERS' USE, ETC. PATENT VULCANISED INDIA-RUBBER HOSE-PIPES.



JAMES LYNE HANCOCK, (SOLE LICENSEE AND) MANUFACTURER, GOSWELL ROAD, LONDON.

These Pipes are well adapted for Watering Gardens, conveying Liquid Manure, racking Beer and Cider, for portable Gas Lamps, and all purposes where a perfectly sound Waterproof and Flexible Pipe is required. They are particularly suitable for Fire Engines, and are found exceedingly useful in Dwelling-houses for conveying Hot or Cold Water to Baths, &c.

Hose Reels for winding-up and wheeling away long lengths of the Vulcanised Rubber Garden Hose, are now manufactured by J. L. HANCOCK, of light and cheap wicker work.

N.B.—Vulcanised India Rubber Garden Hose, fitted up with Roses, Jets, and Branches complete, with union joints ready to attach to pumps or water cisterns.

All Letters or Orders addressed to J. L. HANCOCK, Goswell Mews, Goswell Road, London, will meet with immediate attention.

IRON HURDLES, FENCING, ETC.

STEPHENSON AND PEILL, 61, Gracechurch-street, London, and 17, New Park-street, Southwark, beg to inform their friends and the public generally they are now manufacturing Iron Hurdles, at the following low prices:—For sheep, 6 ft. long 3 ft. high, 5 bars, 3*s.* 2*d.* each; and for cattle, 6 ft. long, 3 ft. 3 in. high, 5 bars, 3*s.* 6*d.* each.

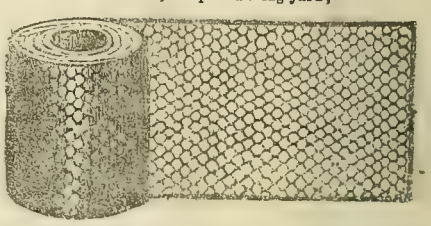
IRON HURDLES, STRAINED WIRE FENCING, GAME-PROOF NETTING, and other manufactures in wrought and cast-iron and wire work, at very low prices FOR CASH. Price of Iron Hurdles, with 6 bars, 6 feet long by 3 feet 6 inches high, having DOUBLE PRONGS additional for fixing in the ground, 3*s.* 11½*d.* each. Estimates, Drawings, &c., on application.—WILLIAM DODDS and Co., 102, Leadenhall-street, London, Agents for the sale of Alex. Shanks and Son's Improved Grass Cutting and Rolling Machines.

ALSO

ARTIFICIAL MANURES of superior quality, at the following very low rates:—Superphosphate of Lime, 5*l.* 2*s.* 6*d.* per ton; Patent Manure, 5*l.* 5*s.* per ton; highly-concentrated fæcal Manure, 3*l.* 10*s.* per ton; Turnip Manure, 4*l.* 10*s.* per ton, from 3 to 4 cwt. per acre, amply sufficient. Gutta percha, coated and lined canvas hose for liquid manure and farm purposes.

Apply as above.

CHEAP WIRE GAME AND POULTRY NETTING, 5*d.* per running yard;

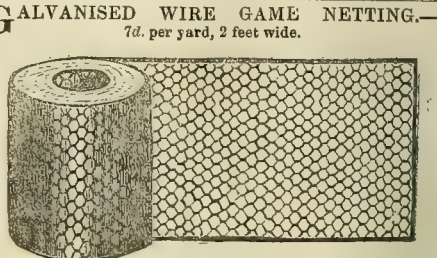


GALVANISED ditto, 7*d.* per running yard, 2 feet wide.

	Galvanised.	Not Galvanised
24 in. wide, 2 in. mesh,	7*d.* per yard.	5*d.* per yard.
30 in. ,, 2 in. ,,	9*d.* ,,	6½*d.* ,,
36 in. ,, 2 in. ,,	10½*d.* ,,	7½*d.* ,,
48 in. ,, 2 in. ,,	1*s.* 2*d.* ,,	10*d.* ,,

Sparrow Proof Netting, Galvanised, 3*d.* per square foot, made to any size for the same proportionate price. This article was shown at the "Great Exhibition," where it was so much admired for its light and durable appearance, and acknowledged to be the cheapest and best article of the kind ever offered. Extra strong Wire Sheep Netting, 3 feet high, 1*s.* 6*d.* and 2*s* 3*d.* per yard. Also every description of Flower Trainers, Dahlia Rods, Garden Arches, Bordering, Flower Stands, Tying Wire, Trellis Work, Invisible Wire Fencing, Hurdles, and every description of Wire Work for Horticultural purposes.—Illustrated Catalogues of Patterns forwarded, post-free, on application to T. H. FOX, City of London Wire Work and Iron Fence Manufactory, 44, Skinner-street, and 6 and 8, Snow-hill, London.

GALVANISED WIRE GAME NETTING.—7*d.* per yard, 2 feet wide.



		Galvanised.	Japanned Iron.
2-inch mesh, light, 24 inches wide	...	7*d.* per yd.	5*d.* per yd.
2-inch ,, strong ,,	...	9 ,,	6½ ,,
2-inch ,, extra strong ,,	...	12 ,,	9 ,,
1⅝-inch ,, light ,,	...	8 ,,	6 ,,
1⅝-inch ,, strong ,,	...	10 ,,	8 ,,
1⅝-inch ,, extra strong ,,	...	14 ,,	11 ,,

All the above can be made any width at proportionate prices. If the upper half is a coarse mesh, it will reduce the prices one-fourth. Galvanised sparrow-proof netting for Pheasantries, 3*d.* per square foot. Patterns forwarded post free.

Manufactured by BARNARD and BISHOP, Market-place, Norwich, and delivered free of expense in London, Peterborough, Hull, or Newcastle.

CHOICE CHRYSANTHEMUMS.—Young plants of the above, for flowering this autumn, are now ready for sending out. Best sorts, 12s. per dozen; good sorts for planting out, 6s. and 9s. per dozen. A Catalogue may be had; also an extensive stock of bedding-out plants, 3s. and 4s. per dozen.

CHANDLER and SONS' Nursery, Wandsworth-road, Surrey.

WOODLANDS NURSERY, ISLEWORTH.
(NEAR THE RAILWAY STATION.)

JOHN DOBSON respectfully invites the lovers of Floriculture to his EXHIBITION OF PELARGONIUMS, FUCHSIAS, CALCEOLARIAS, &c. &c., which will take place at his *Nursery and Floral Grounds*, on WEDNESDAY and THURSDAY next, June 2d and 3d, from 12 o'clock until dusk.

J. D.'s varieties of Pelargoniums, which have secured the leading prizes at the Horticultural Fêtes, are now in *full bloom*, and present an unusually gay appearance.

J. D.'s Treatise on the Cultivation of the Pelargonium, so favourably noticed in the *Gardeners' Chronicle*, sent on receipt of eight stamps, and a Catalogue of Plants for one postage stamp.

VICTORIA REGIA.

J. WEEKS AND CO., King's Road, Chelsea, have a few fine strong Plants for Sale of VICTORIA REGIA, Nymphæa cærulea, Nymphæa dentata, Nymphæa stellata, &c. As also a splendid Collection of Stove and Greenhouse Plants, all in the highest state of cultivation.—PLANS and ESTIMATES for building Aquariums and all other Horticultural erections. J. WEEKS & Co.'s HOT-WATER APPARATUS is well adapted for Warming large Ponds, for Stove Aquatics, and for Heating extensive ranges of Forcing-house.

HORTICULTURE IN ALL ITS BRANCHES.

"THE FLOWER OF THE DAY," VARIEGATED GERANIUM.—This elegant plant proved, last season, to be the gayest and most attractive ever beheld. The excellent habit and beautiful form of the plant, and its green and silver leaves, contrasted with the brilliant light scarlet bloom, rendered it an object of the highest admiration. Those who have not yet adopted it as a bedding plant, are strongly recommended to do so this season, as it is without a rival.

JOHN and CHARLES LEE beg to offer fine well-established plants at 9s., 12s, and 18s. per dozen. A few large plants for Vases at 3s. 6d. and 5s. each.—Nursery, Hammersmith.

SCARCE AND BEAUTIFUL FLOWER SEEDS, EMPEROR STOCK, a perennial species, and hardy. 1400 seeds, 1s.

CINERARIA and CALCEOLARIA, selected from collections of Plants, that were admitted by all persons who saw them to be the finest they had ever seen; 250 seeds of the former, and 500 of the latter, 1s. each paper.

MYOSOTIS AZORICUS, a bed of this on an eastern or northern aspect is very beautiful; 200 seeds, 1s.

CALENDRINIA UMBELLATA, one of the neatest growing and most brilliant flowering of all bedding plants; 1500 seeds, 1s.

SWEET WILLIAM, in 100 varieties; 10,000 seeds, 1s.

Payment may be made in postage stamps.

JEYES and Co., Nurseries, Northampton.

STANDISH AND NOBLE, NURSERYMEN, Bagshot, Surrey, have to offer the following new and select Plants, all of which are hardy, except Azalea vittata:

ABIES JEZOENSIS, seedling plants, 21s. each; this is one of the last novelties in Conifera; forms a noble tree of 120 feet in height, and of very distinct character (very hardy).

AZALEA VITTATA.—A specimen of this unique variety was awarded a Knightian Medal when exhibited at the Horticultural Society's Room last April; the ground colour of the flower is white, beautifully striped with purple, after the manner of a Carnation. It is a very free bloomer, 9 inches to 1 foot, 21s. each.

CUPRESSUS FUNEBRIS.—Seedlings, 5s. to 21s. each.

CEPHALOTAXUS FORTUNI, male, long leaves, seedlings, 21s. each.

CEPHALOTAXUS FORTUNI, female, short leaves, seedlings, 21s. each. These have withstood the late frost and drying winds without losing any of their verdure (very hardy).

ILEX FURCATA, 21s. each.

" MACROCARPA, 21s each.

QUERCUS SCLEROPHYLLA, 21s. to 42s. each.

" INVERSA, 21s to 42s. each.

SPIRÆA CALLOSA, an abundant and continued bloomer. it has large corymbs of rosy purple blossoms, and is a handsome addition to our shrubbery plants. 10s. 6d. each.

HUGH LOW AND Co. have to offer the undernamed Plants:—

OTAHEITE ORANGES, extra fine, full of bloom, 7s. 6d. each, or 63s. per dozen.

SWEET do. do. do. and Fruit, 7s. 6d. each.

DEUTZIA GRACILIS (Japan), one of the prettiest hardy shrubs yet introduced, well adapted for early forcing, 2s. 6d. to 7s. 6d. each.

MIMULI, five new varieties, raised by A. Clapham, Esq., of Scarborough, the most successful cultivator of this genus, 5s. each, or 17s 6d. the set.

EPIMEDIUM RUBRUM, a new and handsome hardy herbaceous plant, with blood red flowers, 7s. 6d. each.

SCARLET GERANIUM "THE AMAZON" (see former Advertisement), 5s. each.

OXALIS, new species from the Pacific Islands, with charming rose-coloured flowers, quite distinct, 7s. 6d. each.

DELPHINIUM HYBRIDUM, a very fine variety, with deep blue flowers, 3s. 6d. each.

BOUVARDIA LEIANTHA, this is the finest and most distinct of its species, with beautiful orange scarlet flowers, well suited for either the greenhouse or flower garden, 1s. 6d. each, or 12s. per dozen.

GASTROLOBIUM CUNEATUM, a very handsome New Holland plant, with large spikes of orange-coloured flowers, very free bloomer, 3s. 6d. each.

BRACHYSEMA ACUMINATA, an excellent conservatory climber, habit quite distinct, flowers bright scarlet, 5s. each.

SOLLYA species, Swan River (Drummond), a very rapid climber, for the greenhouse, with woolly leaves and bright blue flowers, which appear during the autumn months, 3s 6d. each.

OXYLOBIUM LEAKEANUM (Swan River), a beautiful plant for the greenhouse, 5s. each.

ACACIA, three species from Swan River, distinct in habit and most abundant bloomers, 3s. 6d. each.

DAVIESIA SCOLOPENDRIODES, a magnificent species of the much admired genus, 21s. each.

LILIUM COLCHICUM (Caucasus), of dwarf habit, perfectly hardy, with splendid golden yellow flowers, 10s 6d. each.

LIBOCEDRUS CHILENSIS, a handsome Conifer, from the Andes of Chili, and one of the finest Evergreen Trees yet introduced, 5s. to 7s. 6d. each.

VERBENAS, the best of last year's continental varieties, 9s. to 12s per dozen.

CHRYSANTHEMUMS, do. do. 9s. to 12s. per dozen.

Pentstemon do. do. 12s. to 18s. "

PHLOXES, do. do. 9s to 12s. "

A fine selection of the older Verbenas, Petunias, Lantanas, Pentstemons, Heliotropes, Bedding Geraniums, &c. &c., at from 2s. to 6s. per dozen.

Chelsea Nursery, London, May 29.

NEW CAMELLIA.

JACKSON'S "COUNTESS OF ELLESMERE."—To be sent out in the first week of June, price 42s. each; and for every three ordered one added gratis. On the 8th of April last it was awarded by the National Floricultural Society of London a first-class Certificate, and received the highest commendation; it is described as being of first-rate form, with broad cupped petals, of a blush white, faintly striped with rose (see *Gardeners' Chronicle* and *Gardeners' Journal*, for report of meeting, April 17). It is figured in the "Florist" for May, 1851, and is again mentioned in the "Florist" for this month, as having been exhibited, and deserving to be placed in every collection. It has the beautiful form of the Coup d'Hébé Rose.—THOMAS JACKSON and SON, Nurserymen, Kingston, near London (on the South Western Railway).

NEW ROSES.—The following varieties are fine healthy plants in pots, worked on the Manetti Rose:

HYBRID PERPETUALS.	Each.
Blanche de Portemer, when fully open nearly pure white	10s. 6d.
Mère de St. Louis, white tinted with rose, a seedling from La Reine	10 6
Eugene Sue, bright rose, a seedling from Duchess of Sutherland, with flowers as large as Baronne Prevost	10 6
General Bedeau, bright red	5 0
Graziella	5 0
Inermis, rose, thornless and very robust	7 6
Isocrate, rose, tinted with salmon, from La Reine	7 6
Laure Ramand	5 0
Louise Peyronny	5 0
Le Lion des Combats, deep crimson	7 6
L'Etendard du Grand Homme	5 0
L'Elegante Nouvelle	2 6
L'Enfant du Mont Carmel, fine crimson	7 6
Madame Andry, bright rose, a seedling from William Jesse, fine	5 0
Madame Hilaire, rose	5 0
Madame Fremion, brilliant carmine	3 6
Madame Ducher, delicate rose	5 0
Madame Seigneur, bright rose	5 0
Palais de Cristal	7 6
Souvenir de la Reine des Belges, carmine	7 6
Souvenir de l'Empire, crimson scarlet	5 0
Victoria (Paul)	10 6
William Griffiths	5 0
The new White Banksian Rose (Rosa Fortuniana), with flowers as large as Noisette Aimée Vibert	5 0

Carriage paid to London.

THOMAS RIVERS, the Nurseries, Sawbridgeworth, Herts.

The Gardeners' Chronicle.

SATURDAY, MAY 29, 1852.

MEETINGS FOR THE ENSUING WEEK.

MONDAY,	May 31	British Architects	8 P.M.
TUESDAY,	June 1	Linnean	8 P.M.
WEDNESDAY,	2	Society of Arts	8 P.M.
		Geological	8 P.M.
THURSDAY,	3	National Floricultural	3 P.M.
		Zoological	3 P.M.
FRIDAY	4	Botanical	8 P.M.
		Royal Institution	8½ P.M.
SATURDAY,	5	Asiatic	2 P.M.
		Royal Botanic Gardens (American Plant Show)	2 P.M.
		Royal Botanic	3½ P.M.

COUNTRY SHOW.—Thursday, June 3: Cheltenham Poultry.

IN order to throw a little more light upon the discussion going on respecting the uses of LOAM, we now venture to ask a few questions, candid replies to which cannot fail to assist the public in arriving at a just conclusion. We put the questions, moreover, for the express purpose of assisting our friends the guano dealers, in satisfying the world that they are cruelly misrepresented or misunderstood.

1. Of whom did Mr. ESSERY buy the "guano" shipped for Plymouth on board the Chester, and proved by Professor WAY to consist of 1 ton of guano mixed with 2 tons of gypsum, common salt, and sand?

2. Of whom did Messrs. MARSH and Co. buy the "guano" exposed the other day by Messrs. CLARANCE and Co.? As no loam was found in these samples, it will be evident that a reply would be useful in a negative point of view.

3. Upon what authority did FALKNER, the labourer, tell Mr. PLAXTON that Lord MORNINGTON'S loam was used for guano making, whereupon Mr. PLAXTON stopped the sale?

4. What do the Bow and Wanstead labourers mean by saying, when the loam carts pass them, "Ah! there they goes, robbing the poor farmers again?"

5. Where did the loam (?) come from that was conveyed a few weeks since in a cart belonging to "R. WILSON, Lambourne Hall, Essex?"

6. To what purpose do Mr. CAREY, of West Ham, and others, apply the loam which is so largely carted for them. What is it sent to the Abbey Mills wharf for? Perhaps Farmer BURTON can tell.

7. There is a place called Rhodes' Well, up the Regents' Canal. Where did the "gypsum" come from that was loaded on a barge about the 12th of April, at CLARKE'S dust-yard there; and why did the gypsum look so very much like loam that the workmen said it was guano from Bow Common? Who was the person for whom the barge took it to Dockhead?

8. Why are boards hung over the names of the barges that take in loam from Mr. COOK'S yard in Copenhagen Place? The owners cannot be ashamed of being known, and can have no objection to say where the loam is barged to. Perhaps they will do us the favour to inform us.

9. Who is the person in Rotherhithe to whom RICHARDSON carts the clay that he heats up in that arch which he rents of the Blackwall Railway Company? No doubt RICHARDSON can tell us, like an honest man, what the sifted clay is used for. It did not go to Ostend, did it, or any of it, on board the Panther?

10. To what purpose does Mr. POOLEY apply the clay that is brought out of Kent to his wharf by the side of the Surrey Canal?

11. Where does the loam come from that is so frequently barged out of the Surrey Canal; and how does it happen that no loam ever goes up it?

12. What became of the loam from Bow Creek, brought into the river in the Jane, on the 1st of May; and why was she lying alongside the wharf so long after she was loaded? She could not have been afraid of weather, for she is a decked boat. Will Mr. GILBERT, her owner, be so good as inquire of young HAWKINS, and let us know?

13. What is doing in the loam line in that place just by Plaistow? Mr. REYNOLDS may possibly tell.

14. For what purpose was the loam carted to Hungerford-market vaults a month ago? the man who helped to unload it says it was for Mr. COLES, the seedsman, of 43, Cranbourne-street, and that he has a great deal of it. We are sure that Mr. COLES will readily state to what use it is applied by him. As he deals in garden seeds, he is peculiarly well qualified to reveal the novel application of loam, which we are so anxious to ascertain.

We ask these questions with a most sincere desire to elicit truth; to guard the public against misconceptions or mistakes; and to gain for our gardening friends what cannot fail to be very interesting information concerning the uses to which loam may be applied beyond those of which they at present possess any knowledge.

A VERY curious circumstance has just occurred in a crop of LEGGE'S BROCCOLI, which we do not recollect to have noticed before. A large quantity of the plants were forked, the one division remaining blind with two, or at most three leaves arranged spirally after the fashion of those on the main stem, situated in the axilla of one of the normally disposed leaves, the corresponding members of the spiral being deficient towards the centre, where a fissure existed leading into the heart of the stem, and extending for many inches towards the root. The other division, meanwhile, was fully developed, and produced very fine and perfect heads. It was evident that the anomalous appearance of the stem did not depend on any union of two distinct shoots, for the general arrangement of the leaves was not in the least deranged, but seemed to arise from a fissure of its medullary substance communicating constantly with the atmosphere at the point of juncture of one of the main leaves.

In consequence of this communication, not only had the tissue acquired a layer of epidermal cells, like the fissures so common in Potatoes, but in proportion as the parts were near the orifice a layer of woody fibre had been produced beneath it, in some parts of great thickness and solidity, especially in that portion which produced the perfect heads, and in some instances the cavity was quite filled with roots produced from its walls, most of which, however, proceeded from above where the woody tissue was the most completely developed.

Nothing is of more frequent occurrence than the production of roots in Willows, from the sound portions running into those parts which are decayed; and instances are on record of the growth of the most intricate masses of fibres from wood constantly immersed in water, or in Elm pipes used for drainage, but we do not recollect any case in which a mass of roots like that before us had been produced under circumstances altogether similar to those under consideration. The axillary leaves forming part of a spiral belong doubtless to the bud, which was at once brought into life by the rupture of the cellular pith of the stem, and by the same action deprived of that portion which was nearest to the axis.

We have in vain tried to ascertain the reason of the rupture being always directed to the axilla of one of the stem leaves, but such is clearly the case, even where no actual division has taken place; and in such cases the quantity of rootlets contained in the cavity is most abundant. The complete conversion of a uniform tissue like that of the centre of the stem into one of much complication is full of physiological interest. *M. J. B.*

IT will be remembered that north of the Mediterranean basin, the region of middle Europe, taken as between the Alps and the Baltic, the Bay of Biscay and the Oural, fills up the largest space of land in this quarter of the globe; subject always to the same law of decreasing winter temperature and increasing summer heat as the regions north and south of it, in proportion to the latitude and longitude, as before laid down.

The central part of this space contains the birth-

place, apparently, of all that may be called the very common plants of Europe, as well as of those peculiar Alpine species which do not thrive by temperature alone, but whose distribution depends on other exceptional conditions. Some of all these, common as well as uncommon, are prolonged upon the smaller mountain ranges and high grounds on all sides, and make up a great part of the Flora of the hilly and inland districts of Italy, South of France, Hungary, Turkey, &c. This is only mentioned to complete the sketch, as it is a fact that calls for no remark as to climate, and is in fact what might be expected.

But the two extremities of the central region, the western shores of France and the eastern plains of Russia, form the natural connection, respectively, between the contiguous extremities of the Mediterranean flora and the next to be described, partaking in the mildness of the one and the extreme character of the other.

The Northern region alone remains to be described; so much narrower than the rest of the European continent, and so much divided by waters, it offers far less to botanical observation than the middle and southern regions already described. Its Flora, however comparatively scanty, is sufficiently remarkable, being partly a small repetition of the Alpine Flora of middle Europe, and partly consisting of its own peculiar and delicate species. Limited in extent in Europe, it is nevertheless the only Flora which in general character, and even in many of its species, encircles the whole globe within its own latitude, stretching through Scandinavia, Canada, Siberia, and the Arctic lands.

Even this northern region of Europe (by which is intended generally the lands north of the Baltic, and their parallel districts east and west of that sea), bears its testimony to that law of western mildness and eastern intensity of climate, though, of course, within narrower limits than either of the two more favoured regions to the south of it.

Taking first the eastern portion of it, we find that in Lapland, and in northern Russia, the severity of the winter is such as to check, or to prevent the vegetation of many common European trees, and, of course of smaller plants; in the depths of the forests towards the Oural eternal ice is found a few feet beneath the soil; at Archangel, and in the White Sea, the waters are annually frozen, and the peculiar plants of the country, Pedicularis Sceptrum carolinum, Linnea borealis, and others of what may be termed the hyperborean Flora, resist the arts of cultivation in a better climate—they shun the heat—they require the cold. As the forests, on proceeding north, become dwindled and scanty, the Grasses give way to Moss; the ground is covered with Ledum, Andromeda, Vaccinium, dwarf Willows, Oxycoccus, small Rubi—reminding one of the shores of Hudson's Bay.

Yet the heat of their short summer is such as to render the cultivation of corn, especially Rye, not only possible but successful, as to quality; tobacco, both of the occidental and oriental sorts, can be grown in lat. 60°; Cucumbers of some kinds are cultivated in the open fields at Petersburg; and even the Water Melon and Indian Corn, Hemp, and Flax, in vast quantities, are capable of perfecting their vegetation in the neighbourhood of Moscow and Cazan, where our Furze, Laurustinus, Tree Mallows, and Laburnum, are the common furniture of the greenhouse. Such is the north-eastern climate of Europe.

Turning now to the north-western portion of our continent, the climate is precisely reversed. The whole coast of Norway, some say Iceland also, the British Islands, and we may include the north and north-west of France, as far as Brittany, form a succession of lands in which the Vine may be grown, but not ripened. Cucumbers must be artificially helped at the beginning or ending of their growth; the fruit of Indian corn is precarious and seldom matured; many of the trees and evergreens of the south may be grown in all perfection, save fruit, and sometimes they barely flower; but the sea does not freeze; open winters are the rule rather than the exception; and in some places, as for example the west of Ireland, the north and south so meet and mingle together, that Alpine and Mediterranean species grow promiscuously in the same turf, independent of level above the sea. This north-western tract, stretching from Brittany to Norway and comprehending these Islands, exhibits, owing to the mildness of its climate, a prolongation of that great extension of a part of the Flora of southern Europe, which was described in the beginning of this paper; just as the north-eastern tract, reaching from the Oural to Lapland, is an extreme prolongation of that hot and cold tract, the vegetation of which connects the Flora of the Mediterranean with that of Central Asia.

Allowance must of course be made for latitude in all cases; the hottest or coldest regions will be hotter or colder as they stand respectively more north or south (on the same meridian); it is the difference of maximum and minimum—not mean temperature, that is the circumstance so remarkable on the same parallels; a fact so well established in its principal bearings that it might be possible to represent it by a diagram.

ENTOMOLOGY.

The Early Spring Wild Bee.

One of the earliest, and consequently pleasantest indications of the return of spring, is the appearance of a particular species of wild bee, whose peculiar motions must have attracted the notice of every lover of a garden.

To those who have not paid much attention to entomology, it may be useful to mention that, in addition to the hive bee, and the different kinds of humble bees, all of which live in societies, either permanent or annual, there are a great number of other species which belong to the same family (Apidæ), which are solitary and not social in their habits, and of which there are consequently no neuters or workers, each female making its own nest, and providing its cells with a store of food for the supply of the young larvæ when hatched. The bee which is the subject of this notice is one of these solitary species.



The earliest flowering of the common white Alyssum seems to be the period when this bee first appears. Then may be observed darting about with wonderful agility a brownish orange-coloured bee, with a body much thicker and more hairy than that of the hive bee, which ever and anon stops, and poising itself with remarkable ease in front of a flower, it unfolds a tongue as long as its whole body, which it thrusts into the depths of the blossom, to extract its honey. Should you approach too near, the bee, ever on the alert, wheels round, and facing you, regards you for a short period, during which it seems to be immoveable. Its large eyes and peculiarly-spotted face give it a striking character, which a lady of my acquaintance likened the other day to the face of a monkey. This orange-brown bee is a male insect, and is especially distinguished by the remarkable brush-like appendages to its middle legs. In about a fortnight after the first appearance of the males, some other individuals make their appearance, quite unlike the former, being entirely jet black in the colour of their coating. These are the females, which, in addition to the habit of sucking the honey from flowers, in the same manner as the males, occupy themselves in collecting the pollen from the anthers, which they knead into little masses, and carry off on their hind shanks, which are formed for that purpose. It is rare to see one of these females, unaccompanied by her attendant partner, whose movements whilst fluttering round her, or hovering over her, while she, with great coolness collects the honey from flower to flower without bestowing any attention upon him, are very amusing; if she departs he departs, and if she returns he returns likewise, remaining as it were suspended in the air, while she quietly pillages the sweets from a flower. These males exhibit an amount of jealousy at the approach of a rival quite ludicrous. I have observed a pair of males fighting in the air for a considerable length of time, rolling to the ground, and biting each other with their powerful jaws.

"During the season of courtship," says Mr. Kirby, "the whole employment of the male seems to be to attend upon his partner, but when the halcyon days of love are over, like many other husbands, he goes about his business, and leaves her to take her flight in solitude." The personal appearance of the male, however, undergoes a considerable change for the worse; a few weeks turning his bright orange-brown coat into a dirty clayish-coloured grey, so that he is hardly to be recognised as the same individual we had at first so much admired.

"The female makes her nest in hard banks of gravel or clay, containing several cells of an oval or elliptical shape, covered within with a thin white membrane, each being about three-fourths of an inch in length, and not quite half-an-inch in diameter, they are placed in no regular order. In Northamptonshire, as we learn from Ray, it makes its nest in stone walls. I found it myself in great abundance frequenting the walls built with Kettering stone at Wansford and Ufford, in that county; and once at Norwich I was much amused at seeing a female, one sunny morning, very busily employed upon a brick wall, and exerting all her might to pull the mortar from between the bricks; but whether this was to prepare a place for a cell, or only a sheltered cavity to pass the night in, according to the observation of Rossi, I could not ascertain." Kirby, Mon. Apum Angl., vol. i., p. 188.

In the great lime pit at the west end of Gravesend, between Rosherville-gardens and the river, a large mass of lime, thickly intersected with narrow strata of gravel, as large as a house, has been left standing, the southern side of which may be called the metropolis of this insect, as it occurs there in countless myriads. I spent several hours there on the 10th of April last, examining their nests, and had only to pull down a small portion of the gravelly strata to expose great numbers of the nests, nearly every one of which then contained a perfect bee, ready to make its escape at its appointed time. In a few of the nests I found the white larvæ full grown and unchanged; in still fewer the pupæ; in some the bee of a previous year arrived at its full perfection, but dead and mouldy; and in others the Melecta punctata, another species of wild bee which is parasitic in the nests of the Anthophoræ.

Mr. Rennie, in the interesting little work, "Insect Architecture," p. 33, describes the nest of a mason bee (evidently Anth. retusa from his figure), which he had found on the wall of Greenwich Park, about 4 feet from the ground, in the month of December, in the perpendicular line of cement between two bricks. Externally there was an irregular cake of dry mud, precisely as if a handful of wet road-stuff had been taken from a cart-rut and thrown against the wall (though upon closer inspection the cake contained more small stones than usually occur in the mud of the adjacent cart-ruts), having a circular hole on one side of it, indicating the perforation of some insect, and which proved to be the orifice of a cell about an inch deep, exactly of the form and size of a lady's thimble, finely polished, and of the colour of plaster of Paris, but stained in various places with yellow. This cell was empty, but on removing the cake of mud another cell was discovered separated from the former by a partition about a quarter of an inch thick, and in it a living male Anthophora, which was supposed to have just changed to the winged state. The accompanying figure represents the interior cavity of the patch of mud, with the two oval cells and the aperture above described, which, however, seems to be an opening common to both; and as the plan of forming the cells in a patch of mud brought by themselves, bit by bit, from a distance, is not the ordinary habit of the Anthophoræ, whilst it is that of the Osmiæ, an allied genus of bees, I apprehend that Mr. Rennie's Anthophoræ had simply made use of the deserted abode of one of the Osmiæ.

Mr. Curtis informs us that Mr. Mathews "found a nest of this insect in a wall at Chiswick, *where they destroyed the Grapes in the garden in September;* and having caught a male and confined it in an open box, he was enabled to take many specimens of the female which came and settled there. This led him to think that the first was a female; "he also observed a considerable number of Melecta punctata entering and coming out of this nest, as if they lived together, which renders Mr. Kirby's supposition very probable, that they deposit their eggs in the nest of A. retusa." The late appearance of the insect mentioned in this paragraph, and the fact of its injuring Grapes in September, are worthy of notice, whilst the supposition of the parasitism of the Melecta is rendered positive, by my having found it in the unopened cells of the Anthophora, as above mentioned.

Our figures represent the male and female Anthophora of the natural size, the female having her tongue fully extended, together with a mass of their nests, with the larva in one of them. *J. O. W.*

PLEROMA ELEGANS.

It was predicted when the Elegant Pleroma was first introduced, that it would prove the most beautiful greenhouse plant hitherto known to cultivators; and the matchless soft, rich, violet-purple colour of the blossoms which are produced in bountiful succession for a long time, and the comparative ease with which the plant is cultivated, fully justify the prediction.

It is very easily propagated. Cuttings of the young side-shoots taken off early in the season, planted in light sandy peaty soil, covered with a bell-glass, and placed in a gentle bottom-heat, root freely, and with care form nice plants in 5-inch pots, before winter arrives. The young plants should be wintered in a house or pit where the temperature averages about 45°. In February place those intended for specimens near the glass, where the temperature may range from 50° to 60°. If they have been properly managed up to that time, they will require a shift at once, but this should not be given unless the roots are active and abundant, and in this case shift into pots two sizes larger than those they are in; admit very little air, keep the atmosphere moist, and water over-head with the syringe frequently, but give no more at the roots than sufficient to keep the ball moist until they have rooted into the fresh soil. When fairly established admit air freely, but guard against cold dry currents, which disfigure the young foliage; the syringe may be used morning and evening during bright weather, and the atmosphere should be kept as moist as is convenient during the whole of the growing season. The foliage is liable to suffer if exposed to the direct action

of a bright sun, therefore a thin shade will be necessary; if very rapid growth is desired, it will be requisite to maintain a rather high temperature during the summer months, but the plants will thrive very well during this season in a cold frame, where they can be kept rather close, and shut up early in the afternoon, after being sprinkled over-head.

A second shift will probably be required early in June; if the plants are growing in a rather high temperature the most promising specimens may be put into 13-inch pots. Any of the plants that may not have made sufficient progress to need shifting in June will not prove good flowering specimens the following season, and therefore they had better be treated on the cool system during the remainder of the season; after another season's growth, such will make specimens of almost any size. After shifting, treat the plants as before, and keep them as close and warm until the middle of September as can be done without drawing the young wood. Frequent waterings, with clear rather weak manure-water, will be of service while the plants are in active growth. I have said nothing respecting stopping and training; but these, as a matter of course, should receive attention from the commencement. The nature of the plant is, however, such that very little trouble is required to induce a compact bushy habit.

The plants should not be kept growing later in autumn than will admit of the young wood being properly ripened previous to the dark cloudy days of winter. This Pleroma requires a plentiful supply of water at the roots while in active growth, but very little during its season of rest; and no more should be given at that time than is absolutely required to preserve the soil in a healthy state. The portion of plants that has been kept actively growing in a rather warm and moist atmosphere until late in the autumn, should be wintered in a house where the temperature will average about 45°; those that have been treated more coolly may be placed in the warmest end of the greenhouse. The flowering specimens should not be excited by a high temperature early in spring; they should have abundance of air and light, and therefore an intermediate house, or the warm end of a close greenhouse, will suit them at that season. When in flower, a sheltered rather shady place in the conservatory, greenhouse, or elsewhere, will answer for them.

After flowering, the plants should be slightly cut back, and placed in a rather close, moist, warm atmosphere, to encourage growth, and they should be potted if necessary, which will be required where very large bushes are desired. Plants intended to be grown a second season before flowering, should be placed in a growing temperature early in March, shifted as soon as requisite, and treated throughout the season nearly as recommended for those of last season. But as they will be much larger to begin with, they need not be kept quite so warm. With ordinary management these will fill 15-inch pots, and form very handsome large specimens before winter.

For soil, use rich fibry peat, and light turfy sandy loam, in about equal quantities, with a sufficient proportion of silver sand to keep the mass porous. A sprinkling of clean potsherds, or charcoal broken into pieces of the size of Beans, will also assist to ensure efficient drainage. The peat and loam should be carefully broken up, without rendering it too small, and intimately mixed with the sand, &c. The pots must be carefully drained; and in potting, guard against the drainage being choked by the finer particles of soil being carried down by the water; this is best done by covering the draining materials with some of the rough turfy pieces of the peat. *Alpha.*

Home Correspondence.

Culture of Calathea distillatoria.—I have often remarked, when guiding parties round an extensive gardening establishment, that there were a number of such who admired fine foliage, quite as much as others admired fine flowers. Knowing this to be a fact, I have been induced to call the attention of leaf lovers to this Calathea, feeling assured that it will speedily become a favourite with them. It is a native of the West Indies, from whence it has been imported by the proprietors of the Sheffield Botanic Garden. The Distilling Calathea is a most appropriate name for this plant, for wonderful indeed is its distilling power; when the plant is in full vigour, and the air very moist, a multitude of drops of clear water exude through the pores of the leaf, and fall in an almost constant shower from its point, forming a vegetable fountain of extraordinary beauty; this operation seems a spasmodic one: the beholder being almost persuaded that he can see this hydraulic pump mechanically force out the water through the cuticle. Had I no other plea than this to advance in favour of this noble plant, some would wish to become acquainted with it for its distilling powers; but it possesses other attractions. It has leaves far superior to those of the Musa, or any other leaf with which I am acquainted—they are cordate, bright green, and pendant, on their first appearance; the colour gradually deepens as they become older, running through a variety of shades, until it settles in a fine rich green. They attain their maximum size in about nine days from their first appearance; and when three or four days old, generally in the middle of the day, their margins recurve, contributing no small share of graceful beauty to the young foliage. The whole of the leaf at this stage of its growth is charmingly tinted with colours varying from the most delicate to the deepest and richest green. From their ponderous size the leaves require support during their development, but they ultimately attain sufficient strength to stand erect, becoming afterwards somewhat horizontal. I have not yet had the pleasure of seeing the Calathea in flower, and therefore I am unable to speak of that from observation; I am credibly informed, however, that it blossoms freely, and that the flower possesses considerable attraction. I know from experience that the plant is very easily propagated, and that it is a free and rapid grower. The specimen here came into my possession in February last; it was then in a 7-inch pot; in the beginning of March I removed it into a pot 5 inches larger, using a compost of one-third lumpy loam, one-third rotten dung, and one-third half-decayed leaves, some chopped sphagnum moss, and a little sand. The plant is usually immersed in water, a plan I have not followed; it requires large doses of water to the soil, with frequent syringing over-head. Having under my management an admirably constructed house, I can give any quantity of aqueous vapour I require.—The following is the result of this treatment: the plant stands 7 feet high, the smallest leaf is 36 inches long and 24 inches broad, and the largest, not yet one week old, measures 44 inches long and 30 broad. To what dimensions the leaves would ultimately attain, if the plant were placed in rich soil, and in a suitable atmosphere, is not for me to guess; but when it forms such splendid foliage in a pot we may fairly conclude that, under more favourable circumstances, it would form one of the most magnificent, as well as most curious objects at present in cultivation. My employer would be glad to make a present of a small plant of the Calathea to any gentleman who may wish to grow it. *William Payne, gardener to Edward Smith, Esq., Fir Vale, near Sheffield.*

Planting Potatoes Late.—Before the Potato blight first showed itself in this country, the following method of procuring late crops proved perfectly successful with us, and should the disease not again manifest itself, good results from the practice may still be expected; we would therefore recommend its adoption on a small scale. About the first week in June, we selected early kinds of ordinary size, and cut them into sets. We then drew shallow drills on reserve ground, or on any spare corner; and after watering them, planted the sets thickly, with the eyes upwards, covering them slightly, so as to be transplanted (with sets entire) about midsummer, or the beginning of July. By carefully raising them with a fork, the sets will adhere to the roots, and nothing grows more freely when transplanted than the Potato. A little watering, if the weather is dry, will start them into full growth. By thus planting in advance, due time is given for clearing off early crops of Potatoes, Peas, Cabbages, &c., and for the ground to be fresh manured and well prepared for their reception. This practice is far better than planting between them, with the view of obtaining a second crop. *Hardy and Son, Maldon.*

Fumigating.—Many plans have been recommended for fumigating conservatories, &c. I have found the following to be most effectual: put some red hot cinders into a flower pot, place it upon a couple of bricks so as to leave the hole free to admit air, throw in shag tobacco according to the size of the house, which must be carefully shut up for 12 hours, get out of the way as quickly as possible, unless you wish to be smothered; a little milk of sulphur added will make the smoke more pungent and destructive. The dead insects must be washed off with the syringe—not a greenfly will escape such treatment. *Falcon.*

Suedia: the late Mr. Barker.—The following is an extract from the work of Mr. Neale—"Eight Years in Syria, Palestine, and Asia Minor." It refers to the late Mr. Barker, who contributed more than one kind of fruit tree to this country; and, I believe, it was from him that the Duke of Northumberland received the seeds of the Nectarine which has been called the Stanwick Nectarine, and which he has so wisely distributed to the public. Mr. Neale, in his book above noticed, mentions more than once a very large Quince, double the size of an ostrich egg, and teeming with rich and delightful perfume, called the China Quince. Is this the variety we grow in England? There is one variety sent out by Mr. Rivers, the flavour of which is far more delicate than that usually cultivated in our gardens. Have any attempts been made to produce any hybrids of this fruit, so as to produce a fruit with the flavour of the Quince, but less austere? *Dodman.* "Suedia, or, as it is termed by the Syrians, Zectoonti, embraces a wide range of Mulberry gardens, extending over a space of 10 miles by 3, and containing a scattered and mixed population, equal, if not exceeding in number, that of Antioch. The village is spread chiefly on the banks of the Orontes, and running parallel with the beach, which forms a boundary to the waves of the Seleucian Gulf, where the Orontes ends her course, and Nature has scattered around her choicest gifts. It is difficult to describe in adequate colours this garden of Eden. Mulberry, Lemon, and Orange trees form an uninterrupted succession of gardens, surrounding picturesque little cottages, each one eclipsing the other in neatness and beauty of situation. The peasants themselves are hale, robust, and sturdy, and simple in their habits and character. To this quiet retreat, Mr. Barker, after zealously serving his king and country for a long period of years, retired, on quitting Egypt, to enjoy in seclusion the pension awarded him by the Government, and devote the remainder of his days to the peaceful pursuit of agriculture. Few men could better appreciate the rich gifts Nature had lavished on this spot. A perfect botanist, and skilled in agriculture, his time and income, during a period of nearly 20 years, were spent in promoting every improvement in cultivation of the soil; and many have grown rich, directly or indirectly, from the methods of tillage introduced into the country by him. On taking possession of his wife's landed inheritance, Mr. Barker's first steps were to erect an edifice becoming his means and station, and one that would render his sojourn in the country agreeable to himself and his family, and many friends and strangers. His gardens have been long celebrated for the quantity, variety, and excellent quality of their fruit. In the piece of ground attached to his own private residence, I have plucked from the trees the Guava, the sweet-kernelled Apricot, the Stanwick Nectarine (for which the Duke of Northumberland obtained for him a Silver Medal), the sweet-kernelled Peach, the Shucarpara, the celebrated Apricot of Damascus, the Diospyrus kaki, the Loquat, or Mespilus japonica, the Mandarin and the Malta Blood Orange; in short, the fruit of every country in the world. At Mr. Barker's request, I wrote to Penang and China for seeds of some rare fruits and spices, which Colonel Butterworth and Sir George Boutram had the kindness to send me; and though previously produced solely in those climes, they have since sprung up in these charming gardens. Besides introducing the finest fruit trees in the world, and many rare ornamental trees, from the cuttings and graftings of which the whole of the gardens of Suedia have been supplied, Mr. Barker greatly ameliorated the condition of the natives by obtaining from Italy regular supplies of the best silkworm seed, which was then divided amongst them. Originally, the silk produced was of a very inferior quality; it has now become the finest in any part of the east. As for the flowers, it was a perfect sight to see the gardens attached to Mr. Barker's house at any season of the year, even in the depth of winter, when the surrounding mountains were covered with snow, and everywhere else vegetation had disappeared, thousands of Bengal Roses, and other rare and beautiful flowers here, presented the appearance of perpetual summer. Spring brought us all the sweet smelling flowers, from Violets to Tuberoses, and many delicious fruits, as Strawberries and the Mespilus japonica, or Loquat, and Apricots. Summer fanned us with cool sea breezes, which one could inhale at will, lolling under the shade of some broad spreading lofty tree, and reading of other lands and other days. The luscious Melon, the Nectarine, and the Peach, now poured their abundance upon us. Autumn, with almost cloudless skies, trellised the houses, the gardens, the very hedges with every variety of the Vine, bending with the weight of rich Grapes. Even winter had its harvest, and in the coldest season the rare Diospyrus kali (or Plaqueminier) yielded its fresh and inviting fruit to vary the insipid flavour of preserves." [We have taken the liberty of correcting the typographical errors found in the original of this extract.]

Stephanotis floribunda.—From recent articles in your pages it appears that the fruiting of this beautiful stove-climber is a circumstance of rare occurrence. In one of the Pine stoves here there is a plant with five large fruit upon it; it is said by some that the fruit is eatable, but we have the high authority of Professor Lindley that it is acrid and deleterious. I can therefore discover no utility in allowing the plant to produce fruit, except in special cases, to perpetuate the species, when cuttings cannot be obtained: for if the fruit was removed in a young state it would economise the secretions of the of the plant, and, doubtless, cause it to bloom more abundantly. *G. Grey Watson, Ribston-hall Gardens, Wetherby, Yorkshire, May 26.* [Quite right.]

Earthing up the Brassica Tribe.—Like your Calendar writer, I am an advocate for discontinuing the practice of earthing up any of the Brassica tribe. I consider the practice unnecessary, especially when the plants have been properly treated in and after they have been removed from the seed-bed. Of course they must not be allowed to become drawn. When this is the case earthing-up is absolutely necessary to prevent them from being torn up by strong winds. The utility of stirring the soil between crops is now generally admitted both by the theorist and practical man, and this cannot be readily performed where earthing-up is practised. I have invariably found plants which I did not earth up succeed better by far than those that were earthed. The following is my method of growing and bringing Cauliflowers to maturity. When the young plants are of sufficient size, I prick them out into well-prepared nursery beds, where they are allowed to grow freely and receive plenty of air, by which treatment I have nice healthy plants with short stems. In planting out, the ground is prepared by digging in dung, and making all perfectly level. The drills are marked out and drawn with a good-sized hoe. The plants are then put into the drill, and, when they have begun to root and grow vigorously, the whole plot is forked over, taking care to level the ridges which are on each side of the rows. These afford support enough against strong winds; and the necessary operations of hoeing, &c., between the plants can be very easily accomplished. In these go-a-head days we should not follow implicitly the old rule-of-thumb system of our predecessors, but keep pace with the times in which we live. *H. J. R., Dublin, May 26.*

Orchard Houses.—I have been much pleased with "Dodman's" letter, at p. 325, giving a sketch and an account of his orchard house. The objection I should feel to his plan is the difficulty of getting at the Peaches

on the trellis F, to train them, &c., during the growing season. This might be avoided by adopting the system of glazing invented by Mr. Kent, of Chichester; for then a few squares might at any time be removed to allow of reaching any tree, or portion of a tree that was desired. But independently of this, I question whether such a plan makes the most of the room. I think a larger crop of fruit could be obtained from plants in pots. In my own case I have my orchard house not only well filled with fruit trees, but the intermediate spaces are occupied with Roses and Pinks, Azaleas, Kalmias, Dielytra spectabilis, &c., &c., and the effect is very pleasing, whilst the slight shade which the Peaches, Vines, &c., afford is rather favourable than otherwise to the preservation of the flowers, which are brought into the orchard house from a forcing pit whilst yet in bud. My Vines have suffered in the same way as "Dodman's" from the frost, but all my other trees are looking most luxuriant, some of them loaded with fruit. Moreover, my root-pruned Pears in pots have also a good show of fruit; so that I hope Mr. Rivers was *not* dreaming when he encouraged the hope of success which I have realised. *C. J., Farnham.*

Societies.

Horticultural, *May* 25.—Sir Philip de Malpas Grey Egerton, Bart., M.P., in the chair. Viscount Canning, Lady Shelley, A. Hambro, Esq., H. Barnard, Esq., C. Leach, Esq., G. Miller, Esq., J. Murray, Esq., J. Bradbury, Esq., J. Berners, Esq., Sir T. Parkins, Bart., Mr. A. Dancer, and Mr. J. Fairbairn, were elected Fellows; and as foreign members, the following, viz., his Excellency Prince Woronzow, his Excellency Count Francis Von Thun Hohenstein, Prof. Alphonse de Candolle, Prof. Adrien de Jussieu, Prof. W. H. de Vriese, Prof. W. Gasparrini, Prof. H. Mohl, and Prof. Treviranus. Among subjects of exhibition was an interesting collection of Orchids from Messrs. Loddiges, in which were three species of Odontoglossum, two kinds of Brassia, Acineta Humboldti, with a long pendulous spike of brown-spotted flowers; a small example of the somewhat scarce Dalhousie Dendrobe (D. Dalhousieanum), Aerides crispum, the purple variety of A. odoratum, the singular looking Sarcopodium Lobbii, whose slightly-hinged lip keeps continually moving with every breath of air; and the dark-purple variety of the Bearded Lady's Slipper (Cypripedium barbatum atropurpureum). A Knightian Medal was awarded for the four last-named plants.—J. Allnutt, Esq., of Clapham Common, furnished a large semi-double Azalea called Fulgens, and a hardy hybrid Rhododendron which he has found to flower well this year, while the blossoms of other hybrids of the same nature, associated with it, have been all killed by the cold winds and frosty nights of the late peculiar spring.—Mr. Floud, gr. to C. Bailey, Esq., M.P., sent a Providence Pine-apple, weighing 9 lbs., for which a Certificate of Merit was awarded. A similar award was also made to Mr. Davis, of Oak Hill, East Barnet, for a basketful of very fine Black Hamburgh Grapes. A Certificate of Merit was likewise given to Mr. Reith, gr. to Mrs. Smythe, Ashton Court, near Bristol, for a dish of good Royal George Peaches. Murray Nectarines, well swelled and highly coloured, from Mr. Fleming, gr. to the Duke of Sutherland, at Trentham, were similarly rewarded. The same establishment also furnished two examples of the Trentham Hybrid Melon, weighing respectively 2 lbs. 10 oz., and 3 lbs. 4 oz.—The true Bailey's Green-fleshed Melon, a round netted kind, weighing in this instance 5 lbs. 11 oz., was sent by Mr. Bailey, of Shardeloes Gardens, Amersham, who raised the variety from seed upwards of 20 years ago. It was stated by Mr. Bailey to be a finely flavoured variety; but as the fruit was not permitted to be cut up, the meeting had no opportunity of satisfying itself on the point.—Mr. Smith, of Mauchline, in Ayrshire, exhibited specimens of what he called a "transplant shade" which, he expects, will prove better than flower-pots for sheltering newly bedded out plants, &c., from the heat of the sun in the day-time, and from cold at nights. These shades, which are to be made of earthenware, resemble an inverted flower-pot set on feet, which enable the plant, while it is efficiently shaded, to receive as much air under the circumstances as it can possibly require. Two models were shown, one without a top, the other with a top perforated with small holes, and surrounded by a rim. The fault of the first was stated to be that it permitted radiation from the soil at night to go on about as freely as if the plant was exposed; and that of the latter that while it allowed water to pass through the top, it kept its inmate nearly as dark as under a common flower-pot. Instead of fixed tops, or no top at all, it was suggested that moveable lids should be used, and then it was thought the contrivance might be a considerable improvement on the common flower-pot, for purposes of shading.—From the Garden of the Society came a fine specimen of Saccolabium guttatum, the handsome Ceanothus dentatus, a large Russellia juncea, Boronia tetrandra, and one or two other plants, among which was a new Diplacus raised from Californian seeds. It proves to be a very distinct and handsome kind, with large showy buff flowers shaded with salmon. The following proposed alteration in the bye-laws was read a first time:—"The Council hereby give notice that they propose to substitute for Chapter 8, Article 1, of the present bye-laws, namely, 'The number of honorary members shall not at any time exceed five,' the following words: 'The number of honorary members shall not at any time exceed ten.'"

Caledonian Horticultural, *May* 8.—On this occasion the display of productions was varied and extensive. Prizes were awarded as follows:—Two finest shrubby Greenhouse Plants: 1st, Mr. Reid, gr. to Professor Syme, with Leschenaultia formosa and Pimelea Hendersoni; 2d, Mr. Ritchie, gr. to G. Innes, Esq., with Aphelexis humilis and Pimelea Hendersoni. There was no proper competition for the prize offered for the finest Rhododendron; but an honorary award was voted to Mr. Crocket, gr. to Colonel Ferguson, who produced a fine specimen of R. formosum. Cape Heaths: 1st, Mr. Ritchie, with ventricosa coccinea minor and spuria; 2d, Mr. Reid, with Linnæoides superba and odorata; 3d, Mr. Veitch, with elegans and ovata. Finest specimen of a trained perennial Climbing Plant: 1st, Mr. Thomson, gr. to Mrs. Balfour, with Tropæolum tricolorum grandiflorum, trained in a balloon form; 2d, Mr. Reid, with Gompholobium polymorphum, trained in an elongated conical form. Azaleas: 1st, Mr. Ritchie, with Prince Albert; 2d, Mr. Reid, with Gledstanesii. Auriculas: 1st, 6 varieties, Mr. Henderson, gr. to C. K. Sivewright, Esq., with Waterhouse's Conqueror of Europe, Wilmer's Squire Chilman, Kenyon's Ringleader, Lightbody's Star of Bethlehem, Clegg's Imperator, and Smith's Britannia; 2d, Mr. Campbell, Falkirk, with Fletcher's Ne plus-ultra, Booth's Freedom, Ashton's Prince of Wales, Cheetham's Countess of Wilton, Campbell's Diana, and Sykes's Complete. Best two pots of Forced Strawberries: 1st, Mr. Reid, with Keens' Seedling; 2d, Mr. Pender, with the same variety. The prize of one guinea, offered by Messrs. Dicksons and Co., for the best four Indian Azaleas, was gained by Mr. Sleigh, gr., Lauriston Castle, with præstantissima, Cupid, elata plena, and Holfordii. The prize of one guinea, offered by Messrs. J. Dickson and Son, for the 6 best Cinerarias, let out since September, 1850, or Seedlings not yet out, grown in 8-inch pots, was awarded to Mr. Henderson, Cargilfield, who produced well flowered plants of Amy Robsart, and five seedlings of 1851. In addition to articles sent in for competition, there was a good display of productions sent for exhibition only. Messrs. Dickson and Co. contributed greenhouse and Alpine plants. Messrs. Dickson and Sons Exotics, including Deutzia gracilis, Phlox Mayii, a number of Heaths and Epacrises, and named Cinerarias. Among greenhouse plants sent by Messrs. Lawson and Son were Heaths, Azaleas, Geraniums, and a fine plant of Salvia gesneriflora. Mr. Carstairs exhibited Pelargoniums and other greenhouse plants, together with two bouquets, and 25 heads of Asparagus weighing 33 ozs. From Mr. Stark were plants of Leschenaultia formosa, Ceanothus papillosus, and Deutzia gracilis, with Heaths and Azaleas. From Mr. Methven hybrid Rhododendrons, Cupressus funebris, and greenhouse plants. From Messrs. Downie and Laird stands of Cinerarias and Pansies, and the new double crimson Rocket; and from Messrs. Urquhart and Sons Auriculas in cut blooms. From the garden of I. Anderson, Esq., were Azaleas, for which an honorary award was voted. From the garden of C. K. Sivewright, Esq., named Cinerarias, and several Seedlings, for one of which a Certificate of Merit was granted. From the garden of John Henderson, Esq., Erica Cavendishii, E. intermedia, ventricosa alba, and other varieties. From John Mood, Esq., Cinerarias. From P. N. Fraser, Esq., Alpine plants, including Primula capitata in fine condition, Polemonium pulcherrimum, &c. From G. Innes, Esq., an Azalea; and from Mr. Anderson, St. Andrews, a bunch of superior Asparagus. Mr. Sleigh, Lauriston Castle, exhibited Rose Comtesse Mole, and Azaleas. Mr. Baxter, gr. to Sir W. Gibson-Craig, Bart., border Auriculas, for which an honorary award was voted. Mr. Anderson, gr. to the Earl of Stair, Strawberries. Mr. Forrester, a dark-coloured double Auricula, and a stand of stage Auriculas. Mr. Richardson, Pansies, and six stage Auriculas. Mr. Grieve, two stands of Pansies. Mr. Stirling, three baskets of Alpine plants. Seedling Cinerarias were exhibited by Mr. H. Gibb, Mr. Munro, and from Grange House. Mr. Aitken exhibited very large Flanders Spinach, treated with liquor from the Dalkeith Gas-works. Mr. Schlochow exhibited a series of miniature succulent plants, on rustic stands of various forms; and Miss Hepple a vase of wax flowers. In addition to the above, the display in the Winter House was much enhanced by a number of fine plants from the Society's collection.

Entomological, *May* 3.—J. O. Westwood, Esq., President, in the chair. Among the donations announced was an extensive series of the insects of Ceylon, collected by G. H. K. Thwaites, Esq., the Director of the Botanical Gardens at Colombo, presented by Mr. Spence, and containing a great number of very rare species. The President announced that a new Part of the Transactions, completing the volume, was ready for delivery; and likewise that the Council had resolved to offer a prize of five guineas for the best essay, to be illustrated by original experiments, upon the duration of life of the three different kinds of individuals in the hive, with the view to clear up some of the physiological as well as practical questions connected with that subject.—Mr. Edwin Shepherd exhibited a living specimen of the very rare Notodonta Carmelita, taken at West Wickham; and Mr. Aug. Shepherd a series of Halias chlorana, reared from caterpillars, and a remarkable variety of Cerura Vinula.—Mr. Adam White described two remarkable spiders' nests, one from Albania, covered with the scale-like seeds of Paliurus, arranged symmetrically; and the other from Pernambuco, being of a conical shape, suspended by a slender peduncle, 3 inches long, and surrounded by seven rows of scale-like appendages. He also exhibited various interesting species of Coleoptera, brought from the Himalayas by Dr. Hooker, including new species of Cicindela and Cereidocerus. Likewise specimens of a species of Poduridæ, brought from the Arctic regions by Dr. Sutherland, who was present, and stated that it was found in immense numbers in the neighbourhood of Wellington Channel, in June, upon the Nostoc, and was also frequently met with on the ice at considerable distances from the land. Mr. White pointed out its close relation to Desoria glacialis, found on the ice in the glaciers of Switzerland.—A note by Mr. Ainger was read on a successful mode of destroying cockroaches by sinking a basin into the hearth-stone at the side of the fire-place, which was during the day covered with an iron plate.—Mr. S. Stevens exhibited some splendid specimens of Goliathus Polyphemus from Cape Palmas, and Callithea Batesii and sapphirina from South America.—Mr. Douglas read a note from Mr. Fortune's new work on China, on the employment of fumigation with the saw-dust of Juniper or other resinous woods, as an effectual mode of getting rid of musquitoes. Mr. Douglas also read a note by H. Schrenier on the specific identity of Lithosia depressa and helvola.—A paper by Mr. Hewitson on five new exotic species of Papilio was read. Also a sketch of the entomological productions of China, with descriptions of some new species of Cetonidæ, brought by Mr. Fortune from Shanghai, by Mr. W. W. Saunders.—Mr. Smith also read descriptions of a number of new species of Hymenoptera, brought home by Mr. Fortune; and Mr. Dallas the description of a new species of Dinidor from Brazil.

Reviews.

Handbuch der allgemeinen Mycologie als Anleitung zum Studium derselben, nebst speciellen Beiträgen zur Vervollkommnung dieses Zweiges der Naturkunde. Von Dr. H. F. Bonorden. Stuttgart, 1851. 8vo, pp. xii. and 336, tab. 12.

If the German mycologists of the present day were to any great extent taken as the student's guide, the whole science must soon become a mass of confusion. While in Sweden the venerable Fries is still adding day by day to our knowledge, and constantly improving and correcting his former labours—while in France, Montagne, Léveillé, Tulasne, and others, are illustrating the obscurest groups, so as to throw quite a new light on the science, the utmost respect meanwhile being paid to the labours both of their predecessors and contemporaries—while in England various mycologists are proceeding in the same fair and philosophical spirit—while in America, Curtis is collating the thousand-and-one new species of the United States with those of the mother country—the German mycologists seem bent on bringing the science altogether into disrepute by neglect not only of the writers of other countries, but even by a disregard of many of the earlier authors of Germany, or even of their contemporaries. The inaccuracies, for instance, of the voluminous collection of Rabenhorst are beyond all belief; some of the most glaring have been corrected from time to time, but many still remain to perplex those who have not a pretty good acquaintance with species, and whose herbaria are not stored with authentic specimens. The same may be said of Fiedler's less numerous fasciculi; and, if we turn to illustrations, we find the mischief which was commenced by Corda, notwithstanding all his merits, continued in a host of separate memoirs, and more especially in the volume before us, where well-known species are constantly described as new; while mistakes which have been pointed out for ages are still continued. If, for instance, we compare the figure of *Sporocybe byssoides* with that of Nees von Esenbeck, which certainly must be accessible to any German botanist, it will be seen at once that they cannot be the same thing. The true species is probably intended by *Periconia pyriformis*, which is certainly much more like the real plant. Unger's erroneous interpretation of Greville's genus Cylindrosporium is still continued, though the true structure of Greville's plant has been pointed out in more than one place; *Crateromyces candidus*, which has long been recognised as the egg of an *Hemerobia*, is still continued; *Cephalothecium candidum* is the early stage of *Trichothecium roseum*, and many other instances might be brought forward. Meanwhile many of the most important genera, long since published, are totally neglected; and though the plates of Corda's sixth fasciculus are in the hands both of French and English mycologists, the author seems quite ignorant of their existence. Indeed, the list of mycologists, given at the beginning of the work, is perfectly ridiculous. And all this is the more to be lamented, because the author has evidently powers which would make him a most valuable writer, did he but take the pains to become even moderately *au courant*. What, let us ask, would be thought of Phænogamic botanists who should attempt the publication of volumes illustrative of particular natural orders of plants, without any attempt to recognise the species of Decandolle, Decaisne, or Hooker, not to mention a host of botanists renowned for the extent of their herbaria; and why should a different principle be applied to Cryptogams? Every man who undertakes to write on a subject is bound to obtain all possible information, and, within reasonable limits, to examine the most recent information; and if he does not

take such pains, he will have no right to complain if his works are thrown aside as calculated to mislead. We would, however, by no means speak unjustly of Bonorden's work. Where his own observations are recorded, there is often much to command attention; and were it not the fact, that he has given some excellent figures, and proposed some good genera, we should not have recommended the purchase of his work to several of our friends, as we have felt justified in doing. It is a sad drawback even to Corda's useful volumes, that it is necessary to examine everything most painfully, before it can be considered as a fact acquired to science, and the same observation is equally applicable in the present case. The work is highly suggestive, and so far extremely valuable; but it is one the conclusions of which must not be too hastily adopted by the student.

Books, &c., Received.

A Journey to Katmandu (the Capital of Nepal), with the Camp of Jung Bahadour, &c. By L. Oliphant. 12mo. Murray.—This little volume forms a part of Murray's Railway Reading, for which it is well suited. The remarkable personage whom Mr. Oliphant accompanied, his jewels, his attendants, and his adventures here and in Paris, are so fresh in the memory that everybody must wish to know something of him as he is in his own country. That information the author conveys in an agreeable manner. We hope, however, that his political and social statements are to be more relied upon than his natural history; for we are rather startled at being assured (p. 25) that the Baobab tree was discovered in *Java* by Mr. Adanson. We had thought that every schoolboy knew by this time that the Baobab was an African tree, *first* observed in *Senegal* by the celebrated French botanist M. Adanson.

Curtis's Beauties of the Rose. Part X. 4to.

Garden Memoranda.

Messrs. Lane's Nursery, Great Berkhampstead, Herts.—The Azalea houses here are at present one mass of bloom; and owing to the size of the plants, together with the various shades of colour which the different varieties possess, the effect on entering is truly striking. Some idea of the kind of display produced may be formed when we state that two houses, each upwards of 60 feet in length and about 20 feet in width, are filled with these showy plants. The largest specimens are arranged in beds in the centre, and the smaller ones on shelves and borders along the sides. The centre plants are nearly all between 4 and 5 feet high, and many of them are "unions," *i. e.*, two and three different kinds worked on one stock, the effect of which, when the sorts are judiciously selected, so as to bloom at the same time, is very good, owing to the charming contrast created by the intermixture of so many different colours. The varieties that have been found to associate best together here are Gledstanesii, lateritia, and variegata; but no doubt there are others which would answer equally well. Such kinds as optima and picturata, however, should not be "worked" together, as they do not flower at the same time. Some of the larger plants are standards, and very handsome, with compact different coloured heads. Of other good varieties, besides those we have already named, there were Broughtonii, Murrayana, and Andersonii, three distinct and fine kinds; Perryana, a brilliant glossy salmon crimson, fine in form and good in substance, one of the very best Azaleas in cultivation; and Lanei, white, stained at the base of the upper petals with very pale green, giving the flowers the appearance of having a faint sulphur-coloured centre; it occasionally comes striped with pink. Among showy kinds not very remarkable for good shape, were magniflora, refulgens, and some others. Intermixed here and there with the Azaleas were plants of Rhododendron aureum superbum, with large globular heads of bloom, containing on an average 20 pips or flowers in each. Much as Messrs. Lane's fine Rhododendron sulphureum was admired in the Crystal Palace, and elsewhere, last year, we expect that this will prove a still greater favourite; for it is a deeper and brighter yellow than sulphureum, or, indeed, than any Rhododendron of its class, with which we are acquainted. We also noticed here the singular hybrid, raised between R. ponticum and Azalea sinensis, which was shown at Chiswick on the 8th inst. While speaking of Rhododendrons we may mention that the comparatively new deep purple hardy kind called Victoria was nicely in bloom in the open ground, as was also a good white sort named coriaceum. Ghent Azaleas, too, were beginning to make a good display. Among other plants specimens of the common yellow Broom, and of the purple, white, and yellow dwarf Cytisuses, worked on high standards, were also beautifully in flower; planted in suitable situations, as by the sides of long straight walks or near terraces, these have a pretty effect. As regards the Cytisuses people complain that they soon die with them; but the fault lays in their pruning them in too much, when the stock (common Laburnum) being too vigorous for them, kills them. If they were permitted to form good heads, so as to exhaust the stock of more of its sap, they would be found to succeed. Some new glass houses have lately been erected, and more are contemplated. The working of the Rose-house, which is heated on the Polmaise principle, has been found to be very efficient and satisfactory, the plants exhibiting the best of health. Among new sorts, Mere de St. Louis, a large white Hybrid Perpetual, was in flower, as were also Eugène Sue and Diodore; all promising kinds of the same class, which we hope to see again under out-of-door culture. Cinerarias, of which Messrs. Lane have a fine collection, were in full bloom. Among them were nice examples of Lady Hume Campbell and other leading kinds. The stock of "union" and other Azaleas, and of yellow Rhododendrons in pits is extensive, and in excellent condition. Among the Rhododendrons the charming bright orange Java species (R. javanicum) will soon be in flower. Those who are interested about gay border plants may like to be reminded of the common European Trollius. It is now producing its large bright yellow flowers here in abundance, and is very showy.

FLORICULTURE.

Rhapsodies about Roses.—

Old England's emblem is the Rose;
There is no other flower
With half the graces, that adorn
This beauty of the bower!
And England's daughters are as fair
As any bud that blows!
What son of hers that hath not loved
Some bonny English Rose!

I blush, almost as deep a crimson as "Géant des Batailles, H. P.," when I confess that for a quarter of a century I walked "this goodly frame, the earth," with about as much appreciation of the beauties of Flora as a hippopotamus. If in childhood I had some respect for the Cowslip, it was only in anticipation of its sparkling wine; and no sooner was I promoted to port, than I coldly abandoned my former friend to its graminivorous synonyme. Pomona was the goddess of my youth; and the sacrifices which I made unto her (upon the altar of our family medicine-chest) were great indeed. "*O dura puerorum ilia!*" it makes me shudder to recall how I cranched those huge green Gooseberries! Mine early manhood brought no change, though oft I gave my guineas for bouquets; and, when there was a Show at Chiswick, wore raiment which defied the showers, and laughed expense to scorn. There might have been, so beautiful was my apparel, a special prize for "gent's best primrose kids," and a Banksian medal, as big as a warming-pan, for the neatest, glossiest pair of patent morning boots! "Accoutred as I was," have I many a time strolled through those tented gardens, and never (for I will make a clean breast of it) never looked at a flower. Those Pinks, Carnations, Roses, and Tulips, which require the protection of a bonnet, monopolised *my* admiring gaze, until I sought for "Heartsease" within my breast, but found (oh, dash my "Bachelor's Buttons!") nothing but "Love-Lies-Bleeding!" "Have you seen the beautiful Polly-Anthus?" I was asked one day by a friend. "No," I replied, "*do* point her out; and may I beg you to introduce me?" Of course, he never forgot it, and had great subsequent fun at my expense in inquiring "if I wished an introduction to *Mary*-Gold, or *Hannah*-Gallis, or *Miss*-Embryanthemum, or *John*-Quil, or *Bill*-Bergia." . . . . . Thus "sans eyes, sans nose," (floriculturally) did I misspend five-and-twenty years. Then I was converted, and thus, one evening,—

"'T was in the prime of summer time,
An evening calm and cool,"

I wandered to my favourite garden-chair, with a cigar *de la première qualité*, to digest my dinner and the last new novel. There was, I remember in both, a considerable proportion of calf's head; and altogether, having left Oxford, and not being particularly in love at the time, I felt, what the author of the novel aforesaid would term, "*triste*" and "*ennuié*," doubtful of the veracity of the poet who wrote about "Home, sweet home," and, like Goldsmith's "Traveller,"—

"Remote, unfriended, melancholy, *slow*."

In such a mood, and resting my eyes for a moment from the wearisome trash, so liberally administered to the public at half-a-guinea a volume, something flashed before them, and I saw—A Rose! It glowed with such an intensity of vivid crimson; it shot such sparks of fire from its brilliantly scarlet centre, that I believe it was a special missionary from Flora, and that such a bloom of Rose "D'Aguesseau, Gallica," was never seen before nor since. Away went the cigar, and the still more *weedy* novel, and I stooped over the flower with all the love and enthusiasm of a neophyte. Mr. Vincent Crummles could not have felt more admiration when he first saw the future Mrs. C., as "she stood upon her head on the butt-end of a spear, surrounded by blazing fireworks!" . . . . . But, seriously, and passing "from gay to grave, from lively to severe," I count that hour among the happiest of my life, for I date therefrom so many of its purest pleasures; and then first I experienced that indescribable but intense feeling of reverential joy, which the true florist knows when he "looks through Nature up to Nature's God," and "admiring, cannot but adore." . . . The next evening found me seated as before, but my book was "Rivers on the Rose." *S. R. H.*

Hardiness of the Cineraria (see p. 39).—A few days after I was found fault with for causing the loss of a stock of Cinerarias, by asserting their hardiness, an accident occurred among mine which it may be of use to mention. A feeble plant of Pauline, in flower, was removed to the nursery pit to be kept somewhat closer than ordinary. It was then freezing every night; and that particular night the white frost was so hard that the ground was quite white at 9 o'clock the next morning. But, by mistake, that Pauline and another pot of three young plants of Georgiana were left out of the frame, and frozen hard and stiff. Yet that same Pauline has now another small truss of flowers coming from the same stem, and two or three young ones are shooting up vigorously from under-ground. Two also out of the three of Georgiana have now recovered, one above ground, and one from the roots, so that I hope your correspondent has not lost his stock, whatever may have become of his bloom for the season. *George Jeans, Tetney, Lincolnshire.*

Royal South-London Floricultural Society, *May* 20.—As a whole, this show was above the average May displays under the auspices of this Society.—15 miscellaneous plants were exhibited by Mr. Cole (1), Mr. Over (2), Mr. Roser (3), Mr. Hamp (4), and Mr. Rhodes (5). Dealers: 18 plants, Messrs. Rollisson (1), Mr. Pawley (2).—Cape Heaths: Mr. Cole (1), Mr. Roser (2), Mr. Over (3). Dealers: Messrs. Rollisson (1), Messrs. Fairbairn (2), Mr. Pawley (3).—6 Orchids were shown by Mr. Cole and Messrs. Rollisson.—Pelargoniums: 6 varieties, Mr. Robinson (1), with Nora, Salamander, Constance, Ajax, Alonzo, and Alderman. Dealers: 8 varieties, Mr. Turner (1), with Rosamond, Little Nell, Pride of the Isles, Magnificent, Mochanna, Constance, Alonzo, and Prince of Orange; Mr. Gaines (2).—6 Fancy ditto, Mr. Robinson (1), Mr. Roser (2). Dealers: Mr. Gaines (1), Mr. Turner (2).—4 Azaleas: Mr. Cole (1), Mr. Over (2). Dealers: Mr. Lane (1), Mr. Ivery (2), Messrs. Rollisson (3).—12 Tulips: Mr. Betteridge (1), with Duc de Bouffleurs, Aglaia, Violet Alexander, Platoff, Glory of Abingdon, La Belle Nanette, Sir E. Codrington, King (Holmes), Madame Vestris, Roi de Navarre, Pass Salvator Rosa, and Claudiana; Mr. Treacher (2), with Duke of Devonshire, Lac, Violet Brun, Shakspeare, Lady Jane, Salvator Rosa, Queen Adelaide, King (Holmes), Vivid, Catalani, La Belle Nanette, and Hamlet; Mr. Hardstone (3), Mr. Lane (4), Mr. Phillips (5). Dealers: 12 varieties, Mr. Lawrence (1), with Fabius, Madame Vestris, Pandora, Glencoe, Emily, Salvator Rosa, Aglaia, Byzantium, Everard, Catalani, Maid of Orleans, and Vivid; Mr. Turner (2), with Madame Vestris, Royal Sovereign, Purple Perfection, Triomphe Royale, Triumph de Lisle, Aglaia, Champion of England, Pandora, Midland Beauty, Pilot, Maid of Orleans, and King (Strong); Mr. Willmer (3), Mr. Norman (4).—24 Pansies: Mr. Lane (1), with Ethelred, Blanche, Pompey, Queen of England, Diadem, Matchless, Viceroy, Pandora, Exquisite, Ophir, Climax, Masterpiece, Bertha, Androcles, Lucy Neal, Duchess of Rutland, Commander-in-Chief, Notabilis, Eustace, Aurora, Polyphemus, Mrs. Trotter, Virgo, and Keepsake; Mr. Betteridge (2), Mr. August (3). Dealers: 36 varieties, Mr. Turner (1), with the leading kinds as shown at Hammersmith, and noticed in a former page; Mr. Bragg (2), Messrs. Hart and Nicklin (3).—Pot-Roses were shown by Messrs. Lane (1); Messrs. Paul and Francis being equal (2). Pansy, Sir J. Cathcart, received a first-class certificate; National was deserving of one. Pansies and Tulips were certainly inferior to what we have seen them, both in numbers and quality.

Antirrhinums: *Enquirer.* Autumn struck cuttings once stopped will soon be in flower. Lists of half a dozen good and distinct sorts would be acceptable.

Cinerarias: *Ajax.* We are unable to comply with your request. We scarcely ever know by whom blooms are sent; if we did we would give a summary at the close of the season.

Fuchsias: *Enquirer.* We know of no white variety possessing good qualities whose tube is purple; such are much wanted.

Nemophila: *Reader.* It appears to be a cross between discoidalis and insignis.

Pansies: *K M.* Early flowering plants in pits will be degenerating rapidly; if any of the sorts are scarce, put in a few cuttings at once, before mildew, &c., commence the work of destruction among them; however, you have been prudent, and possess some "young stuff," throw the old plants to the rubbish heap.

Tulips: *M J B.* About four weeks. We will have something to say on the subject before that time.—*H J.* It may be and doubtless is Bijou (Scarnell), which has this season, so far as we have seen, gone far astray; the three bulbs we are blooming are worthless.

Verbenas: *Benjamin.* They are very accommodating, and may be had in flower nearly all the year round.

SEEDLING FLOWERS.

Cinerarias: *Winslow.* We cannot venture an opinion from mere impressions of flowers. We should like to see 3 and 4, which are stated to be pink and vermilion selfs. You will find a good method of packing blooms at p. 295.

Fancy Pelargonium: *E J.* In the way of Hero of Surrey, but apparently scarcely so good.

Pansies: *N B.* 1, surface smooth, ground white, eye bold, and well displayed; margin and upper petals deep purple; 2, cream ground, narrowly margined with light purple, much in the way of Miss Edwards. 3, eye radiates through the deep yellow ground colour, which is also too square; edges rough. 4, a bold and well marked variety; the side petals meet well in the centre of the flower, and the eye is well displayed. 5, possesses much to recommend it, as does 6 and 8. 7 has a model eye and belting. 9 wants smoothness of surface.

Pelargoniums: *E W S.* Of no value to a florist.—*W D.* Not worth house room.

Tulips: *W D.* In good condition, and as a bed flower remarkably showy, but of no other value.

Miscellaneous.

A Poison for Rats.—Mix twelve ounces of starch thoroughly, with eight ounces of cold water, and add 40 ounces of boiling water. When by stirring the starch, jelly is formed, put into it an ounce and a half of phosphorus, and cover the vessel for a few minutes. Then mix the mass well with a spatula; when cold, add some powdered Valerian root, or Anise-seed. To preserve the paste, fill some small wide-mouth jars with it, and close the jars carefully to prevent access of air. Dr. Hanle recommends that the paste should be spread on slices of bread, and these placed near holes through which the rats pass, taking care that they are constantly renewed as consumed. *Annals of Pharmacy and Practical Chemistry.*

Manufacture of Gas from Wood.—Two years ago, Dr. Pettenkofer showed by experiment, at a meeting of the Polytechnic Institute of Bavaria, that a very considerable amount of illuminating gas could be disengaged from 2 oz. of wood. Its practicability on a large scale has since been the subject of much doubt. The inventor's process is now in operation at Basle, and it is also about to be introduced at Zurich, Stockholm, and Drontheim. The process is said to be far less expensive than the manufacture from fossil-coal, and furnishes a gas which is free from sulphuretted hydrogen, and

several useful collateral products, as charcoal, wood-tar and wood-vinegar. *Central Blatt., March* 10, 1852; *Chemical Gazette.*

Gutta Percha String is infinitely the neatest article we have yet seen for tying plants. It is soft, flexible, sufficiently strong, and withal so imperceptible as to be scarcely visible. It is made of various sizes, at a price moderate enough to admit of general employment. We saw it in use in the garden of J. H. Schröder, Esq., Stratford, a short time since, and at a little distance it was not perceivable—though strained from a pot upwards to the flower-spike of an Orchid, with bright yellow blossoms. *Gardeners' Record.*

Sale of Conifers.—Messrs. Loddiges' first sale took place at Stevens's on Tuesday last. It was confined to hardy Conifers in pots. Some idea of the kind of prices they realised may be gleaned from the following: lots consisting of Abies (Picea) amabilis, Pinus Wincesteriana, and other good varieties, 4*s.*; Abies (Picea) grandis, Abies (Pinus) Pinsapo, and others, 5*s.* 6*d.*; Abies grandis, diffusa, and others, from 5*s.* 6*d.* to 7*s.* 6*d*; Abies grandis, Pinus Lambertiana, and others, 5*s.*; other lots fetched from 5*s.* to 12*s.* each lot.

Calendar of Operations.

(For the ensuing week.)

PLANT DEPARTMENT.

ORANGE TREES, and other large specimens of greenhouse plants, for decorating the flower garden, courts, &c., may now be placed in their summer quarters; previous to this, see that the drainage of each is perfect, and that in watering the water passes freely through the ball, and does not escape round the sides. If you have choice in the matter, place them in a situation sheltered from violent winds, and yet exposed to the full sun. If there is any appearance of aphides on them, give them a fumigating before removing them out of doors. Keep a damp growing heat to Camellias, Azaleas, &c., now making their young wood; the latter are very liable to thrips. The instant these are detected recourse must be had to fumigation, followed up each alternate evening for a week; syringe them at the same time with weak tobacco-water, until all appearance of the pest is gone. The utmost vigilance will now be required in keeping the more choice plants in a healthy growing state, and at the same time preserving that proper uniformity of growth to insure a perfect and well-bloomed specimen. To judge which is the proper time to suspend the plant's active growth, and direct its energies to maturing the young wood, is a question the cultivator must decide, after considering over the precise time in which he wishes the plant to bloom, and its habit in regard to the period it ought to rest. Young plants growing into specimens—and where for a season or two bloom is no object—may have a partial rest, for a month or six weeks, and afterwards started into a fresh growth. This will save much time in growing them. Another plan presenting many advantages in growing young Heaths, Epacris, and similar plants, is to make raised beds, about 1 foot high, of suitable compost, and turn out the young plants at a sufficient distance apart to allow for their summer's growth; these will, in one summer, grow into nice bushes, and form better plants for specimens than when kept in pots; provided they are taken up and potted sufficiently early for their wood to become ripened before the dark days of winter, or damp and mildew will spoil the summer's growth. Apply manure water frequently to Brugmansias and other free-growing conservatory plants, to keep up their vigour; this treatment will likewise benefit such plants as scarlet Geraniums, Fuchsias, Kalosanths, &c., now developing their flowering buds, and requiring to be kept up by stimulants. Keep the plants intended for autumn blooming in a moderately progressive state; a too vigorous growth should be checked by a free exposure to the air, that the wood may become ripe early. Attend to the tying and training of plants as the growth proceeds, that no confusion may occur, which will be the case even with a few days' neglect. Pick off the withered bloom and seed-pods from Azaleas and other plants going out of bloom; give them a good washing with the syringe; and now will be the proper time to prune any of the above requiring the knife: they should afterwards be placed in a cool steady temperature, until they begin to show signs of renewed action, keeping them damp with the syringe, to encourage their breaking.

FLOWER GARDEN AND SHRUBBERY.

As soon as the beds, borders, &c., of the flower-garden are furnished, the baskets and vases filled, and the general spring planting out brought to a finish, the remaining stock of bedding stuff should have a look over. A portion will be required for stock, and as a considerable number of plants will, in all probability, be yet required to make good failures, or to replace beds now occupied with plants continuing only a short time in bloom, a corresponding reserve must be kept on hand, to meet the additional demands through the season. This extra stock, with few exceptions, had better be kept in pots; and therefore if any unpotted cuttings yet remain, let them be potted off and repot others requiring a shift. They should afterwards be plunged in ashes, in a cool shady situation, and the early blooms picked off; they will thus be ready for immediate turning out, whenever required. A few kinds of annuals for the same purpose should likewise be sown on a light soil and shady border; these, when up, should be frequently transplanted and stopped; this will stop their tendency to bloom, encourage the formation of roots, and they will be found to bear removing to the permanent beds at any time without injury. It will add much to the effect of vases, &c., if, after they are filled, a few trailing plants are put in to peg over the surface of the mould, and ultimately to hang over the sides. For this the different kinds of Maurandyas, Lophospermums, &c., are well adapted for the larger ones; while for the lesser vases, baskets, &c., dwarf Lobelias, Ivy-leaved Geraniums, Saponarias, the trailing Loose-strife, and plants of similar habit, will add much to the beauty of the group, and have a better appearance than moss, which we so frequently see used for the purpose.

FLORISTS' FLOWERS.

If the cold east wind we have had for the past three or more months continues, it will be better to defer planting out Dahlias for a few days. Seize, however, the first favourable opportunity. Go through the collection of Tulips, carefully marking those which are out of place, rearranging them according to their respective heights, either in the 1st, 2d, 3d, or 4th rows; also note those which have impure stamens—this is a serious defect. Some flowers will be cloudy at the base of the petals when in a flamed state, which are perfectly pure when feathered, but we never knew an instance of a variety with stained stamens becoming pure in either character. Carefully attend to Ranunculus beds; water between the rows in the evening, if they require it; let the water be soft, and warmed by exposure to the sun during the day. Divest Pinks, intended for exhibition, of their laterals, leaving one, two, or three buds on each stem, according to the strength and variety of the plant. Water Hollyhocks occasionally with weak liquid manure, taking care that the ligatures do not chafe the rising stems.

HARDY FRUIT GARDEN.

The present is a busy period in this department, and much vigilance and perseverance will be requisite to keep pace with the advancing growth in preventing and keeping down the different pests which, this season, appear more than usually numerous, assisted, no doubt, by the prevalence of cold easterly winds. As we have before directed, tobacco-water must be instantly applied whenever the black or green-fly makes its appearance, endeavouring to make it act on the under side of the leaves. When the foliage becomes much curled from blight, a good sulphurator, charged with snuff and a small portion of sulphur, will be found the most effectual implement; before using this, damp the trees with the syringe, and apply the snuff before the trees become dry, that it may more effectually adhere to the leaves. Pay close attention to Apricots, Pears, &c., to dislodge the maggot which coils itself up in the foliage, and not unfrequently spoils some of the finest fruit. In disbudding Pears, Plums, and Cherries, the fore-right shoots, and those not wanted for laying in, should remain for the present, as stopping them at this time would only cause a fresh breaking into wood, either of the eyes at the base of the stopped shoot or of some portion of the spurs, and would destroy the end aimed at, viz., the converting the eyes at the base of each shoot into fruit spurs; as they, however, look unsightly on well-regulated trees, it will be better to tie them slightly to the main branches for the present—this will give a better appearance to the trees, and bending the shoot will in some measure stop the free action of the sap, and help the object in view. The precise time at which the shoots should be shortened must be regulated by the vigour of the tree, and should be deferred till all danger of the remaining eyes again breaking into wood is over. Where a large number of Strawberries is yearly forced, the plants, after the fruit is gathered, will be found valuable for planting out, producing a most abundant crop the following year: the later forced ones will answer best for this, as they are not so liable to bloom again in the autumn; turn the plants into rich soil, and if they are only to remain one year (which is our own practice), they may be planted pretty thick; water them till they get established. Place straw or some similar material between Strawberries now in bloom, to preserve the fruit clean in heavy rains, and to keep the ground moist.

KITCHEN GARDEN.

Stick advancing crops of Peas and Scarlet Runners, and sow a fresh supply of the above and the dwarf French Bean. Peas, if the land is dry or sandy, should be sown in a shallow trench, that the waterings they will require during hot weather may well soak their roots. Carry on the different successional sowings of vegetables, and stir the soil between those advancing; frequently water Cauliflowers, Spinach, Turnips, and other vegetables depending for their excellence on the rapidity of their growth. Plant out Tomatoes, either against vacant places on the walls or warm slopes: a portion should be kept under glass for an early supply. Chillies are best planted out under glass; see the newly planted Celery gets no check, and prick out in beds of rich soil that sown in the open ground for later crops. Transplant Leeks into similar trenches, as directed for Celery, only plant two rows of plants in each trench, which need not be more than 2 feet apart. They will require an abundance of water, and should be earthed up when sufficiently advanced. Cut the flowering stalks off from Rhubarb, Seakale, and other roots, when the ripening of the seed would be injurious to the vigorous growth of foliage. In cutting Asparagus for the table, take all the shoots as they spring from the ground; to leave any, however small, would only prevent the growth of the dormant buds below. On young beds, not yet at their best, cutting should be discontinued early; the remainder should not be cut later than the middle of June, unless there are beds going to be broken up, which may be cut while any shoots come up. It is a waste of time to save old beds for forcing, as they rarely pay for the trouble, and the finest forced "grass" is always obtained from roots not older than four or five years.

ERRATUM.—Under the head Plant Department, at p. 328, 19 lines from top of column, for "the common Mandarin Orange," read "the common, Mandarin, and Otaheitian Oranges."

STATE OF THE WEATHER NEAR LONDON,

For the week ending May 27, 1852, as observed at the Horticultural Gardens, Chiswick.

May.	Moon's Age.	Barometer.		Temperature.					Wind.	Rain.
				Of the Air.			Of the Earth.			
		Max.	Min.	Max.	Min.	Mean	1 foot deep.	3 feet deep.		
Friday.. 21	2	29.992	29.972	61	46	53.5	54½	51½	N.	.00
Satur.. 22	3	30.039	29.995	61	47	54.0	54	51	N.E.	.00
Sunday.. 23	4	30.063	30.027	57	45	51.0	53½	51	E.	.00
Monday 24	5	30.026	29.970	66	49	57.5	53½	50½	N.E.	.00
Tues. .. 25	6	29.955	29.876	61	49	55.0	54½	51½	N.E.	.11
Wed. .. 26	7	29.850	29.790	54	49	51.5	54	51	N.E.	.35
Thurs.. 27	8	29.902	29.875	54	47	50.5	53	51	N.E.	.11
Average ...		29.976	29.786	59.1	47 4	53.3	53 8	51.0		.57

May 21—Hazy; overcast; fine; densely overcast at night.
— 22—Cloudy; clear at night.
— 23—Uniformly overcast; cloudy; overcast.
— 24—Overcast; fine; overcast.
— 25—Overcast; rain at night; at times boisterous.
— 26—Rain, with cold north-east wind; overcast.
— 27—Uniformly overcast; slight drizzle; overcast.
Mean temperature of the week, 3 deg. below the average.

STATE OF THE WEATHER AT CHISWICK,

During the last 26 years, for the ensuing week, ending June 5, 1852.

May and June	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds.							
						N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 30	68.6	45.7	57.2	7	0.22 in.	2	4	6	1	1	3	6	3
Mon. 31	70.4	45.8	58.1	8	0.38	1	1	6	1	1	3	7	3
Tues. 1	71.1	46.5	58.8	8	0.27	1	1	8	2	1	5	8	1
Wed. 2	70.3	46.5	58.4	11	0.33	—	4	2	2	3	6	5	5
Thurs. 3	71.3	45.8	58.6	9	0.91	—	1	4	1	5	8	3	4
Friday 4	71.3	46.8	59.0	10	0.76	1	3	2	2	3	6	5	4
Satur. 5	70.7	47.1	58.9	14	0.64	2	3	2	—	4	6	6	1

The highest temperature during the above period occurred on the 2d, 1834, 3d, 1846, and 5th, 1849—therm. 85 deg.; and the lowest on the 30th, 1835—therm. 36 deg.

Notices to Correspondents.

ANTS: *M W J.* Try the effect of placing rags steeped in turpentine in their holes and runs.‡

ASPARAGUS: *W C.* The proper way is to salt in March, making the beds quite white, and again in July.‡

BANANAS: *J H G.* Grow them in a mixture of peat and loam, and treat them as stove plants.

EMIGRATION TO AUSTRALIA: *A Sub.* Such a young man must succeed, if he has industry, strength, and good conduct. All men possessing these indispensable qualities will find Australia a land of prosperity to them.

GOOSEBERRIES: *W C.* It is too late to prune them now. Wait till winter.‡

GREEN SLIME: *M J B* will feel greatly obliged by any of our correspondents pointing out a remedy against the occurrence of the green slimy stratum, consisting of minute Algæ, which is so destructive to pots of seedlings raised in frames. The most perfect drainage, he adds, is ineffectual.

HONEYSUCKLES: *H* will be obliged to any of our correspondents who would give the names of a good variety of Honeysuckles to fill a large bed; it would, of course, be desirable that they should flower at different periods through the summer.

INSECTS: *Rev. T W.* The insects you have sent are Lithobius forcipatus, and Geophilus subterraneus, two species of Centipedes, which are of carnivorous habits. The mischief in your garden, of which you complain, is probably caused by some other insect.—*C O.* We have carefully examined the leaf of the Brugmansia, but cannot find any insect. The slits along the mid-rib do not seem to be the work of an insect.—*E L.* Syringe your Gooseberry-trees well with strong lime-water, and sprinkle quick-lime over the leaves and caterpillars; also laying a quantity under the trees. Water heated to 140° Fahr. will also destroy the caterpillars without injuring the trees. The best way in winter and early spring is to batten the earth down as hard as possible, instead of loosening, as you have done; the former plan prevents the flies (which are the parents of the present caterpillars) from making their way out of the earth, in which they have passed their pupa state.—*Annette.* Your Peas have been eaten by Julus pulchellus (one of the species of hundred-legs); the best plan for the destruction of which is to lay traps for them by burying slices of Potato or Turnip fixed on a stick, in your beds, or sinking potties of damp moss in the earth, and examining them every morning. *W.*

MELONS: *Jones.* Owing to the bruised condition in which your Melon leaves arrived, we are unable to say what ails them, with any degree of certainty; but they look as if excessive moisture was the cause of the mischief.‡

NAMES OF PLANTS: *F F.* Hydnum auriscalpium.—*A H.* Apparently a shrivelled morsel of Oxalis floribunda.—*G J C.* Pyrus Aria. — *Redwood.* Camassia esculenta, Cerastium tomentosum. — *P Joy.* Mespilus grandiflora.—One or two inquiries under this head, which require time, will be answered next week.

PINE-APPLES: *X.* The night temperature, or top heat, of a good succession Pine-house, supposing the day heat varies from 80° to 90°, should be 66°. The smooth-leaved Cayenne has large brownish-yellow pyramidal fruit and grey leaves, divested of spines. Close pipes will be found best for bottom heat ‡

RATS: *F Benson.* Try phosphorus balls, or the remedy given in another column.‡

RHODOLEIA: *H P.* As this plant is from Hong-Kong it may be expected to require the same climate as Chinese Azaleas. It certainly is not hardy.

SEED LISTS: In our notice of Carter's Seed Catalogue, at p. 104, we remarked that no such plant as *Lusania calycina* was known to us. The seed has produced two species of Antirrhinum.

SULPHURATOR: *R.* We never recommend dealers. ‡

MISC: *E H H.* Send 12 postage stamps, with your address, and they shall be forwarded.

*** As usual, many communications have been received too late, and others are unavoidably detained till the necessary inquiries can be made. We must also beg for the indulgence of those numerous correspondents, the insertion of whose interesting contributions is still delayed.

PERUVIAN GUANO.

CAUTION TO AGRICULTURISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

ANTONY GIBBS AND SONS, AS THE ONLY IMPORTERS OF PERUVIAN GUANO,

Consider it to be their duty to the Peruvian Government and to the Public again to recommend Farmers and all others who buy to be carefully on their guard.

The character of the parties from whom they purchase will of course be the best security, and, in addition to particular attention to that point, ANTONY GIBBS AND SONS think it well to remind buyers that—

The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 9l. 5s. per ton, less 2½ per cent.

Any resales made by dealers at a lower price must therefore either leave a loss to them, or the article must be adulterated.

MANURES.—The following Manures are manufactured at Mr. LAWES'S Factory, Deptford Creek:

Turnip Manure, per ton	... ...	£7	0 0
Superphosphate of Lime	... ...	7	0 0
Sulphuric Acid and Coprolites	... ...	5	0 0

Office, 69, King William-street, City, London.

N.B. Peruvian Guano, guaranteed to contain 16 per cent. of Ammonia, 9l. 10s. per ton; and for 5 tons or more, 9l. 5s. per ton, in dock. Sulphate of ammonia, &c.

THE LONDON MANURE COMPANY offer the following Manures on the best terms, warranting every article strictly genuine:—Peruvian Guano, Superphosphate of Lime, Nitrate of Soda, Concentrated Urate, Peat Charcoal, Gypsum, Fishery Salt from Cornwall, also a constant supply of Salt for agricultural purposes; Linseed and Rape Cake. Peruvian Guano, warranted the genuine importation of Messrs. A. Gibbs and Sons, at 9l. 10s. per ton, or for 5 tons and upwards, 9l. 5s. in Dock. EDWARD PURSER, Sec.

40, New Bridge-street, Blackfriars.

TO AGRICULTURISTS.

OWEN'S ANIMALISED CARBON is now for Sale, at 2l. 5s. per ton in bulk.—This Manure has been introduced, with the most beneficial results, at St. Croix and the Mauritius, in the growth of the Sugar Cane, as proved by testimonials from the planters. The powerful fertilising properties of the Carbon have long since been acknowledged in Denmark, where it has been extensively used for agricultural purposes, as no less than 26,000 tons have already been sold. It is ready for immediate use, having no occasion to be ground, is equally as portable and diffusible as bones, and the low price at which it can be sold in this country must always be a paramount recommendation. *A liberal Commission allowed to Dealers or Agents.* For copies of the testimonials of its utility in this country, also for samples, apply to J. OWEN and Co., 3, Rood-lane.

Messrs. J. OWEN and Co. are now importing from their Copenhagen Manufactory SUPERPHOSPHATE OF LIME, of the very best description, containing at least 18 per cent. of Neutral Soluble Phosphate of Lime, and capable of furnishing at least 3 per cent. of Ammonia to the Soil. The "Analysis" is made by Professor J. THOMAS WAY, Consulting Chemist to the Royal Agricultural Society. The price, in London, of this powerful Manure, is 7l. per ton, cash, or Banker's Bill on London.

FOSSIL BONES AND PSEUDO-COPROLITES.

(FROM THE SUFFOLK CRAG.)

EDWARD PACKARD AND CO., of Ipswich, having erected very powerful Machinery for the purpose of reducing these Phosphatic Nodules to a fine Powder, and being in the immediate locality of where they are found, are now prepared to supply them on the most economical terms, in any quantity, either Ground, Whole, or Dissolved in Acid. They form the cheapest source of Phosphate of Lime in the market, and are peculiarly eligible for manufacturing Superphosphate of Lime in conjunction with Bone.

Prices and every information connected with their use forwarded on application to EDWARD PACKARD and Co., Artificial Manure Manufacturers, Ipswich, Suffolk.

TURNIP SOWING.

SUPERPHOSPHATE OF LIME, made from bone only, equal in quality, but in superior condition to that manufactured by the undersigned, as reported in the Royal Agricultural Society's Journal, Vol. VI., Part 2. It is also suitable for use with Chandler's Liquid Drill; also Peruvian Guano, Nitrate of Soda, Gypsum, Bone-dust, Sulphuric Acid, and all other Manures of known value.—Apply to MARK FOTHERGILL, 204, Upper Thames-street, London.

CHARCOAL AND SEWAGE MANURE.—Promote the Health and Wealth of Town and Country by increasing the use of that valuable manure PEAT CHARCOAL, impregnated with the fertilising matter of LONDON SEWAGE. The ammonia, phosphates, and fæces are absorbed, and the water pressed out bright, palatable, and soft.

Sold at the Charcoal and Sewage Works, Stanley-bridge, Fulham, Middlesex, at 60s. per ton, 4s. per cwt., 2s. 6d. per half cwt.

SCOTLAND.

TO AGRICULTURISTS.—The Subscribers have always on sale, and which can be delivered at any railway station in Scotland,

BONE MANURE AND BONE CHARCOAL.

ROBINSON and NIVEN,
West Burn Mills, May 29, 1852. Drysalters, Greenock.

Messrs. R. and N. request the attention of Agriculturists to the undernoted CHEMICAL ANALYSIS of their Bone Charcoal, which contains the following fertilising ingredients:

"Phosphates of Lime and Magnesia	83.5
Carbonate of Lime	4.7
Carbonate of Magnesia	0.6
Charcoal	5.7
Alkaline sulphates and chlorides	1.6
Water	2.0
Silicious and clayey matter, and oxide of iron ...	1.9
	100.0

"It will be observed, from the foregoing Analysis, that this substance is particularly rich in phosphates of lime and magnesia, containing 83½ per cent. of these ingredients; on this account it is admirably adapted for use as manure, for these phosphates rank amongst the most powerful of fertilising agents. (Signed) FREDERICK PENNEY, Professor of Chemistry, Andersonian University, Glasgow."

ANTHONY'S PATENT AMERICAN CHURN makes Butter in 10 minutes. It obtained the award of the Great Exhibition Medal, and also a prize at every one of the numerous AGRICULTURAL MEETINGS at which it has been shown. It is now acknowledged to be the best Churn ever produced. 200 have been sold in one year.

BURGESS and KEY, 102, Newgate-street, London.

M'CORMICK'S AMERICAN REAPER.

BURGESS AND KEY, Agents, 103, Newgate-street, London.—Extract from Mr. Pusey's Report on the Agricultural Implement Department, Great Exhibition.—"Mr. M'CORMICK'S Reaper, in this trial, worked as it has since worked at Cirencester College, and elsewhere, to the admiration of practical farmers, and therefore received a Council Medal. Mr. Hussey's sometimes became clogged, as in the former trial at Tiptree, and therefore could not possibly obtain that distinction."—Price of Reaper, 25l.

BOYD'S PATENT SCYTHE and the celebrated STEEL DIGGING FORKS.—BOYD'S Scythe is capable of being adjusted to any angle by the person using it, and never requires the aid of a blacksmith; when out of use it shuts up like a clasp-knife. The *Gardeners' Chronicle* thus comments upon it:—"We gladly state that Mr. BOYD'S Scythe stands well the great test, experience, especially with his late ingenious and very useful improvement."—G. C., 15th May, 1852. The Steel Digging Forks are those celebrated by Mr. Mechi, "When a labourer has once used them, he will never work with any other implement for digging. They effect a saving of nearly 50 per cent. in labour."—Wholesale and Retail at WM. DRAY and Co.'s Agricultural Implement and Machinery Warehouse, Swan-lane, Upper Thames-street, near London-bridge.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.—LEWES MEETING.—The last day for the entry of Stock is TUESDAY, 1st of JUNE. Prize Sheets and Forms of Certificate can be obtained on application, by post or otherwise, to the Secretary, No. 12, Hanover-square, London.

By Order of the Council, JAMES HUDSON, Secretary.

THE BIRMINGHAM CATTLE AND POULTRY SHOW, 1852. The fourth GREAT ANNUAL EXHIBITION of FAT CATTLE, SHEEP, PIGS, and the various kinds of DOMESTIC POULTRY will be held in BINGLEY HALL, BIRMINGHAM, on the 14th, 15th, 16th, and 17th of DECEMBER next. The PRIZE LISTS are now ready, and may be had on application to the Secretary.

JOHN MORGAN, Jun., Secretary.

Offices, No. 2, Insurance Buildings, Union Passage, Birmingham.

The Agricultural Gazette.

SATURDAY, MAY 29, 1852.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY, June	2	Agricultural Society of England.
THURSDAY,	3	Agricultural Imp. Soc. of Ireland.
WEDNESDAY,	9	Agricultural Society of England.
THURSDAY,	10	Agricultural Imp. Soc. of Ireland.

No act of the Earl of DERBY'S Government has done his party so much injury as the course which the LORD CHANCELLOR has been permitted to take with the COPYHOLD ENFRANCHISEMENT BILL. If ever a bill had been thoroughly considered by men best able to judge of its effect, it was that, which, after struggling with adverse majorities for years, at last passed the House of Commons triumphantly. It was so framed as to put an end gradually to one of the most frightful incubi by which land was ever oppressed; and while it fully indemnified the lord for the loss of his manorial rights, it offered compensation to the steward for that of his personal interests, thus providing equitably for the just claims of all parties.

We need not say what copyhold tenures are. Our readers are unfortunately too well acquainted with their operation. As the *Times* most justly remarks, the whole theory of copyholds would appear to have been contrived by a Brahminical priesthood for the sake of maintaining society in a given position. For the last quarter of a century the Houses of Parliament have struggled to liberate the country from so distressing a servitude; and now that a measure which has met the approval of men of all parties is ready to pass into a law, the Government steps in to shelve it. To quote the words of our great contemporary, "Since the period of Sir ROBERT PEEL'S bill there has been discussion after discussion—measure after measure—committee after committee. The intelligence of the Houses has been completely saturated with the subject. In the present session a bill was introduced founded upon all the past experience, and after many secret heart-burnings and unnoticed struggles, was successfully carried through the Commons. When the bill was carried up to the Lords, it was just one of those occasions when it was necessary to take time by the forelock and improve the opportunity. Every one expected that as the support of the Government had been given to the measure in the Lower House, it would meet with the same patronage in the Upper Chamber. The knell of the copyhold system was supposed to have been rung. It needed but the *fiat* of the CHANCELLOR to have relieved the country from a burden which has weighed upon the springs of agricultural industry, and affected the interests of the landlord in a far more important manner than the removal of any duty upon the produce of his estate."

But the *fiat* was withheld; difficulty upon difficulty was suggested; the CHANCELLOR armed himself with his legal magnifying glass; a speck was seen here, a particle of dust there, and instead of brushing them off in committee it was pronounced indispensable that the final polish should be the work of a select committee! Well might Lords CRANWORTH and CAMPBELL express their apprehension that sending the bill to a select committee practically meant that it should not become law this session. Nobody doubts that such is the purpose of the Government.

To be sure, the LORD CHANCELLOR hoped that he might have credit for stating that *he* had no such object; and, on the part of her MAJESTY'S Government, that *they* had no such object, but that they would go into the committee with the determination to give the measure their best attention, and to render their honest assistance in carrying it into effect. But, unfortunately, the present Government has contrived in a few short months to earn such a reputation for insincerity that men are indisposed to trust their assurances. The PRIME MINISTER says one thing, the CHANCELLOR of the EXCHEQUER another, and the COLONIAL SECRETARY something else. The SOLICITOR-GENERAL has his own way of representing matters, and some other exalted functionary his. The result of which is that no person knows what the Government is at, and all belief in what are supposed to be official projects is shaken. We must therefore, for the present, look with much doubt upon the LORD CHANCELLOR'S good intentions; if his acts should prove to be what he leads us to hope for, we shall be among the first to admit that the public suspicion was groundless.

That Lord DERBY'S position is one of extreme delicacy and difficulty must be admitted; he is wholly unable to do that which has been most expected of him, for the country will not suffer him to reimpose taxes upon food. But he is well able to relieve the landed interest from many of its real burthens; he could if he chose carry a sound measure for facilitating the transfer of land, and thus augment largely the value of every estate in the country; he can, if he thinks fit, secure the passing of this Copyhold Enfranchisement Bill during the present session; and he will do a grievous wrong to his party if he leaves such a suicidal measure, as the shelving it, to be justified on the hustings.

ROTHAMSTED AND THE WRITER "R."

(*Continued from page* 331.)

WE will not here forestall what will be found further on in our remarks, more than to say that we conceive that we do not one whit less than Mr. Russell recognise and take into our calculations the vast influence of varying climatic agencies; indeed, were there no evidence to the contrary, it would be simply ridiculous, paying as we do every year agricultural visits to the eastern, the western, and the southern counties of England, sometimes also to the northern, and spending as we do the largest portion of the "*Turnip season*" every year in Scotland—it would, we say, on this ground alone, be simply ridiculous to suppose that we do not fully recognise and appreciate the influence of varying climatic and other local circumstances upon the various crops of our rotations. But granting that it were shown that, owing to these influences, some of the characters of the individual members of a class intersected those of another, this would, by none of the requirements of scientific or useful classification, disprove the legitimacy of such grouping, provided there were certain main characteristics which, either in common or in contrast, belong to the members of each class as such. Surely, the very idea of *class* involves also the idea of diversity among the elements which compose it; if the elements were identical, they would be one, and could not be classed; a "*type*," surely, represents not elements identical with itself, or these would equally be types, or rather there would be no types at all. And here we would remark, in passing, that it appears to us that, when Mr. Russell speaks of "*generalisation*" or of "*general conclusions*," he exactly reverses the accepted meaning of those terms; at any rate, we say "*deliberately*" that it is pre-eminently "as the foundation for *general* conclusions" that our experimental results are most directly applicable, whilst they are so "locally and circumstantially" only when intelligent deduction has been exercised upon them.

Classification then, we say, essentially brings within each group elements differing from one another; and in agriculture *climate* is admitted to be *one* of the most influential of the agents which determine the wide diversities of character of an individual member of a class, and wider still between different members. Still, we say, the classification we have adopted is not only legitimate but highly useful in aiding our study of the vast fund of otherwise miscellaneous fact which agriculture presents to our view. Whilst then we would by no means through the lens of *Chemistry* bring the rays of agricultural light which surround us to a "*focus*"—nor attempt to study them by the telescope of *Meteorology* in their variations due to seasons and geographical position alone, and blended and scattered as they then would be over the whole sphere of a strained and even assisted vision—yet we do believe, that in spite of the intersections that might still remain we have in the prism of *rotation* a means at once of analysis and of arrangement, such as will tend materially to facilitate the elimination of the broadest and most fundamental principles involved in British agriculture.

So much, then, for what we consider to be the *natural* method and arrangement, in any systematic investigation

into the chemistry of British agriculture ; and although it is true that, excepting so far as departmental points of interest have come under examination almost necessarily in the course of treating the main question—although except in this incidental and collateral way, we have hitherto confined our attention, to a great extent, to the chemical principles involved in the main and characteristic, or "broadest features" of agricultural practice, as we have arranged them, we have always looked forward to the subjects of soil, of climate, and of the variety of items within each of our agricultural classes—these being mainly involved in the *variations* of agricultural practice and result—as those which should in due order receive our attention as separate and distinct points of inquiry, should they not in the mean time have been satisfactorily undertaken by others ; nay, we are sure that there are none who more fully agree with Mr. Russell than ourselves, when he says :—"It is surely proper that we should become acquainted with the aberrations due to diversity of circumstances, and to know the limits to which the truth of a proposition extends."

And, as to the subject of *climate*, it is one which has already peculiarly occupied our attention, having for years been engaged in collecting materials, with a view, at some future time, to a *systematic* treatment of it in its relations to British agriculture ; and having, at one time, actually arranged, and to a great extent prepared for, a tour over the corn-growing districts of Europe, with a view to gathering parallel climatic and agricultural information, unavoidable circumstances at the time only having prevented. And surely there is something like enthusiasm, if not of arrogance, in assuming, as the writer "R." has done, that no one is disposed to assign a due importance to his own pet influence—*climate*—but himself !

It is, however, only owing to the magnitude of the labour involved in an *experimental* treatment of our present subject—such, indeed, as we ourselves little anticipated, and we are sure none will suppose—that we have as yet not been able to publish more than a fraction of our results relating to the Turnip and to the Cereals, and only mere incidental indications of those relating to our other two main elements of agricultural practice, viz., the chemical circumstances involved in the growth of Leguminous crops and in the feeding of animals, for the double purpose of meat and manure. And here we may observe that we have been not a little amused at the inconsistency of the writer "R.," in the freedom with which, though so boastfully asserting his independence of the "*dicta*" of any one, he has occasionally sat in judgment upon, and condemned, *experimental* evidence, using as his precedents what are peculiarly *only the* "*dicta*" of authorities, without bringing, either on their behalf or his own, a shadow of experimental proof. Nothing is more easy than this summary method ; but in a scientific argument nothing is more misplaced.

But in illustration of what we have assumed in our papers to be the task we were now fulfilling, and what that which would be required were it once accomplished, we will quote the following paragraph from one of them.

Journal of the Royal Agricultural Society, Vol. X., Part 1, p. 276 :—

"Much has, however, been done of late years, both by societies and individuals, towards providing that basis of facts without which fixed principles in agriculture, and a right understanding of the practices already approved by experience, cannot be attained ; yet, much remains to be done before even the more *general and fundamental* usages can be satisfactorily explained ; *whilst the circumstances of their local adaptation may be said to constitute a distinct and not less important, and at the same time more extensive and permanent, field of inquiry.*"

Surely in this sentence the importance of studying "the aberrations due to diversity of circumstances" is sufficiently prominently urged when, as contrasted with that of "the more general and fundamental usages," it is stated to be "a distinct and not less important, and at the same time more extensive and permanent field of inquiry." Nay, surely, had the expressions been concocted for the special purposes of this discussion, they could scarcely have been more apt, as meeting the totally groundless insinuations that are attempted to be cast upon us on this head. *J. B. Lawes.*

(*To be continued.*)

Home Correspondence.

The Adulteration of Guano is enough to ruin any farmer who uses much of the cheap description. The waste of manure on a large holding is immense, and would supply guano for all ordinary purposes. The house refuse and liquid sewage, mixed with either road scrapings, ashes, charred weeds, sifted lime from an old wall, sawdust, or smother-burnt clay, and allowed to dry under cover, would form a compost, as a forcer or fertiliser, almost equal to any importation from abroad, and at less than one-fourth of the price—no slight consideration to an agriculturist's pocket. How often do people say, when living near a marvellous natural curiosity, a splendid view, interesting historical locality, or the excavated remains of British or Roman antiquities, "We have never been near the place ; residing within a few miles, we can go at any time ;" thus remaining ignorant, during the best part of their lives, of what would be both pleasing and instructive ; at the same time taking long journeys into foreign countries to see sights, neglecting the beauties and wonders of their own. So it is with gardeners and farmers ; they have within their reach every requisite for manufacturing a valuable assistant to vegetation, but because the ingredients are on their own premises, they are overlooked, and an article purchased for treble its worth in preference. The inconsistencies of man are strange and unaccountable, proving, however, a weakness, and showing the necessity of reliance on a higher Power for strength and guidance both in small and great things. To accuse half-cultivated land of being unproductive is bad policy, particularly when relief is claimed for the landed interest. Let every exertion be made to bring the soil into average bearing before an attempt is made to excite commiseration. Farming is a commercial speculation requiring capital. The old plan of tillage, on the faith of a fictitious price for grain, kept up by an extravagant protection, is no longer tenable. A crop of from 18 to 20 bushels per acre from good stiff land, tells a tale not much to the credit of the agriculturist. *Falcon.*

The Dungheap at Lobos and the Dungheap at home.—Lord Malmesbury has lately given dire offence to certain agriculturists by refusing to take possession of the Lobos Islands, and thereby afford to them guano at 5*l.* per ton. I should like much to know how many of the gentlemen who are so anxious for protection to guano at Lobos extend their fostering care to their own dunghills. How many of those who are anxious to pay 5*l.* per ton for guano take any care to arrest in its progress to the nearest pond or ditch the liquid guano which is continually flowing from their own cow-stalls, piggeries, and stables. For my own part, having an objection to pay for manure which I can make at home, I have formed a tank which receives the whole of the runnings from my house and stables ; close to this tank I propose to erect a large two-hogshead barrel on a raised stage, and just in front of the barrel I shall put a tank, the top of the tank being on a level with the bottom of the barrel. About 2 inches from the bottom of the barrel I shall insert an inch iron or lead pipe, which will be carried down to the level of the bottom of the tank. The tank will be filled with charcoal and gypsum or other matter, and the barrel will be pumped full of liquid manure from my large tank. By this means the liquid manure descending through the inch pipe from the barrel to the bottom of the tank will ascend through the charcoal and gypsum, the water being carried away from the surface by a waste pipe, while the fruitful properties of the liquid will, I trust, remain in the tank. By this means I hope to obtain during the year a large quantity of a cheap but powerful manure. I am very far from a large town or a railway, and consequently both charcoal and gypsum are expensive articles ; my object, therefore, in writing this letter is to ask you whether you can suggest to me any other medium through which to pass the liquid manure—burnt ashes or burnt clay, for example ? *An Economist.* [Burnt clay sufficiently often renewed will answer the purpose.]

Pulverised Peat.—I take this opportunity of inquiring whether finely pulverised and sifted peat, if it could be introduced into London at a moderate price, would find an extensive sale ? As a deodoriser and fertiliser, in conjunction with night-soil, it is second only to guano, and in this neighbourhood the scientific farmers are bedding down all their animals with it, to absorb and retain the ammonia. Pulverised, dried, and finely sifted, I can sell it on the spot at 8*d.* the sack ; not sifted and not so fine, about 5*d.*, that is, I can deliver it on the Great Western Railway, at Highbridge, at these prices, and I believe they will deliver in London at from ½*d.* to 1*d.* per ton per mile. This may be worth the consideration of nurserymen, manure-makers, &c. I have this spring planted my Potato seeds, &c., with peat charcoal and pulverised peat, and the luxuriant appearance of the leaf is most gratifying. A little night-soil in addition gives a guano equal to Peruvian at very much less than half the price. *John Lilly, Glastonbury.*

Is not Bush and Tile Draining better than simple Tile Draining for a Clay Soil ?—Regarding the object of draining to be the lowering of the water-table below the plough instead of letting it lie on the surface, I wish to know the use of draining to a very great depth on a clay soil, free from swamps, but cold from the wet that lies on it, and stiff and clogged for the same reason—land that will grow as sound an Oak as Britain can boast, but yet starve a donkey. My object is to get my land warm and dry, and if I drain a foot deeper than the deepest plough can go, am I not as likely to succeed in that object as if I went 5 feet deep ? On the Oak clays, I cannot imagine that if a deep drain run through a field on the bottom of which there is a pipe, that the water will be drawn on either side to that pipe through 7 or 8 yards of clay ; but I can imagine that if I drain as close as the Regent's Park is now drained, and cut my drains in the shape of a V (putting a collared pipe at the bottom and filling up the top with bushes) that the bushes will prevent the clay from closing over in a compressed state, and admit the air, and thereby permit the water to soak through it on either side, to reach the pipe, which will carry it off, and thus my land become gradually friable, and more warm. The incredulous farmer is told to go and look at the water coming out of the tiles, and he must judge for himself how it got it. In a porous soil that *argumentum ad oculum* will do, but in a Sussex clay I fancy you would look a long while before you saw any water coming out of a 6 foot drain, and yet find plenty of signs of there being water not a foot below the surface. *Simplex.* [Suppose you have a very long sugar-loaf, and wish to keep 1 foot of the top dry, it is not enough that you hold 1 foot of it up out of the water ; you would need to hold 3 or 4 feet of it out, because by capillary attraction the water would be drawn up so high. In the same way a greater depth of the soil above the "water table" is necessary, and hence the *need* of deep drains.]

Hoeing.—In your "Notice to Correspondents," in No. 20, you say, "A man will hack or hoe deeply, with a heavy tool, between plants 2 feet apart, an acre of ground in five days." Having some hoeing betwixt Potatoes to do, the rows rather above 2 feet apart, I noticed what a man who has always been considered a good hard-working man did in one day, and I had my eye upon him most of the time, and found him constantly at it, and no signs of idleness ; it was merely hoeing or hacking deep, no earthing up, and I found at the rate he was working it would take him at least 15 days to complete an acre. The soil is gravelly and light, but a good many weeds. Am I to conclude he did not do his duty, or is your correspondent, "Agapenthus" in error ? *Buffer.* [The ordinary price for hacking Potatoes in our neighbourhood is 8*s.* or 9*s.* per acre ; and if they are to be moulded up as well, 12*s.* per acre. It is, however, quite possible so to hack as to double the labour.]

Troublesome Weeds.—In a field, denuded of its turf, ploughed up, and subsequently sown with Oats, the enclosed weed has sprung up in such quantities as to occupy the entire field. Will you kindly give me its botanical and common name ? *Novice, Derby.* [It is Sanguisorba officinalis, the common Burnet.]

Adulterated Guano.—In the early part of March last, a cargo of Peruvian guano arrived at the Commercial Wharf, Plymouth, brought by a vessel called the "Chester." We found that it was shipped in London, without any name, nor was there any name on the manifest to whom it was to be delivered. We had reason to believe that a good deal of adulterated guano came to this port, and we determined to take samples of this cargo ; which we accordingly did, and sent one to Professor Way, the Consulting Chemist to the Royal Agricultural Society, and another to Messrs. Antony Gibbs and Sons, London. In a few posts we received the following analysis from Professor Way.

"March 15, 1852 :—

	per cent.
Moisture	7.45
Organic matter and salts of ammonia	15.72
Sand, &c.	10.34
Phosphate of lime	9.40
Sulphate of lime (gypsum)	35.04
Alkaline sulphate and muriates (chiefly common salt)	22.05
	100.00
Nitrogen	4.24
Equal to Ammonia	5.15

"I send you the analysis of the guano forwarded to me last week. It is, of course, anything but genuine Peruvian guano ; but, judging from the relation between the phosphates, the organic matter, and the ammonia, I believe it to be an article manufactured by the mixing of one ton of good guano with two tons of gypsum, common salt, and sand ; this is, in point of fact, its composition in round numbers. As it only contains one-third of its weight in guano, its value does not exceed 3*l.* 5*s.* per ton.—I am, dear sir, your's truly, J. Thomas Way."
—*William E. Rendle and Co., May* 7.

Mr. Essery, of Launceston, Cornwall, is the party alluded to in this circular. *William E. Rend'e and Co., Plymouth, May* 26.

Island of "Lobos de Afuera."—Respecting the island of "Lobos de Afuera" about which so much good law has been thrown away, allow me to relate a tale of the times of 1824 on the coast of Peru. In the months of March and April of that year I commanded my own ship, then lying in the port of Callao. Those were troublesome and even dangerous times ; the Peruvian army had possession of the city of Lima and the country around, while the Royalist army, under the command of General Rodil, held the port and castles of Callao. It behoved every person who had business to transact between the two places to keep his eyes open, his mouth shut, and carry little money in his pocket ; and lucky was he who, withal, did not get shot, robbed, or maltreated by one or other of the contending parties. The British Consul-General was shot on his way from Callao to Lima ; the most grievous and vexatious exactions were attempted to be placed upon ships and commerce ; old and obsolete laws were renewed to cover new robberies, under one of which 10 doubloons were taken from me by the order of General Rodil, although part of that money was to pay his own Custom-house expenses. I protested against this noon-day robbery, and was threatened to be put into the "Casas Matas"—dungeons so called in the castle. The day before I sailed I was required to get some responsible person residing in the place to join me in a bond of 20,000 dollars as security that my ship should not touch at or trade to any enemy's port. I took the bond on board H.M.S. Tartar, and appealed to the captain of that frigate ; and had it not been for the judicious and manly bearing of that officer, my ship would have been detained ; to sign such a bond was quite out of the question. By the mate's log-book, now before me, I see that the ship sailed about 2 o'clock on Sunday morning the 9th May, bound to Payta. Previous to sailing I was offered a considerable sum to land or transship goods at Lobos de Afuera, which offer, although tempting, I declined. The island of Lobos de Afuera is in the direct track of ships, in their passage from Callao to Payta ; it is 33½ nautical miles from the land ; the coast thereabout forms an indent or bay. The island of Lobos de Tierra is just 10 nautical miles from the land ; ships usually go within the one and outside the other ; as there is always a heavy swell setting in upon the coast, the fishermen of Lambayeque, and coast opposite, go to the Lobo islands, to catch their fish under the lee of the land, and in the small creeks ; the large sailing "Balsas" from Guayaquil, also go to the outer island to fish, trade, and smuggle. My ship anchored in Payta bay about 5 o'clock in the afternoon of Wednesday, the 12th of May. The merchant who had chartered my ship and I went on shore as usual. We had been on shore about two hours when the military comandante sent for us, and after many questions put us both under arrest, placed two sentinels over each, with drawn bayonets ; sent the captain of the port on board, with 30 men, and took possession of the vessel ; sent all the crew, with the exception of the mate, steward, and one boy, to prison ; demanded of the mate all the money and papers belonging to the merchant and myself, as well as the arms and ammunition belonging to the ship. All this violation of the British flag was committed under the pretext that, as the ship had only the half of a cargo on board, the other part had been transshipped, or landed at the island of Lobos de Afuera. We were thus kept prisoners two days and two nights, with not even prisoners' allowance, or even pens, ink, or paper ; slept upon a stool in our clothes, to prevent them from being stolen by the soldiers ; and looked to the charitable donations of our friends for food. In the meantime a gentleman volunteered his services to go to the capital, San Miguel de Piura, to acquaint the Intendente of the province ; that chief fortunately was my personal friend. I had served branches of his family in sickness, in sorrow, and in exile ; to him in return I looked for protection, and was not disappointed. An order reached Payta in the evening of Friday, 14th May, and my ship was restored to me, with everything taken from her, at 10 o'clock the same night. Thus, you see that in the midst of all the turmoil of battle and strife, the Peruvians never relinquished their sovereignty over the island of Lobos de Afuera. *Sinbad, London, May* 14.

Guano or Huano.—"Farmers' friends" are as plentiful as blackberries, but many of them not so valuable; they are of all denominations, all no doubt willing to serve, but lacking the means, are just as likely to lead the farmer astray. There are many, no doubt, well-intentioned gentlemen, who would wish to procure for themselves and friends good Peruvian guano at 5*l.* the ton. I wish also that I could assist them in attaining their object, as it would no less benefit me, as the occupier of 530 acres of my own land, than other agriculturists. From many years' acquaintance with the guano districts of Peru, and the price of that staple article of commerce, from the year 1817 to 1829, I know that the farmers of this country have no prospect of obtaining good Peruvian guano at 5*l.* the ton; unless, indeed, it be stolen from the island of Lobos de Afuera, as proposed, and brought here at an extremely low freight. The ships that I commanded on the west coast of South America during 12 years, were much too large for guañeros; moreover I had no great ambition to drive my own "night-cart," as the guañero was contemptuously called. Many of my friends made good return freights with guano from the bay of Arica to Chili; by notes now before me, I see the price paid from 1821 to 1825 was for dark brown, with a mixture of seal guano, 2*l.* 15*s.*; light brown, 3*l.* 5*s.*; best light colour, 3*l.* 15*s.* the ton. In this calculation I have turned the measure by which guano is sold into weight, and taken the Spanish dollar at 4*s.* To embark the guano, always attended with risk, from the heavy swell setting in upon the coast from the westward, was about 5*s.* per ton more; so that the relative prices in Arica bay, placed on board, were 3*l.*, 3*l.* 10*s.*, and 4*l.* per ton on an average; these prices, however, fluctuated according to demand. The highest freight for guano to London has been 6*l.* 10*s.* and 10 per cent. primage; the lowest, by return California ships, 30*s.* and 5 per cent. primage; the average freight about 3*l.* Insurance, loss, warehouse rent, bags, and commission, about 2*l.* per ton more. Unless the Peruvians are disposed to lower their price for the article, I see no prospect of guano being much lower in price, except by the extremely low freight of 30*s.* the ton by the return California ships. The case between the Peruvians and the Wheat growers may be stated thus: the Peruvians inhabit almost a rainless country, the soil of which will not grow Wheat, except in patches on the mountains, at a high elevation; those who take Wheat and flour to them get a high price for them. I have traded in Wheat many times, bought it in Valparaiso at 1 dollar and in a few days after sold it to the Peruvians at 17 dollars the fanega; both were extreme prices. Providence, on the other hand, has furnished the Peruvians with an abundance of rich fertilising manure, which the Wheat growers, or the people of Chili require (for Chili is the granary for Peru). Will any commercial man step forward, and give a reason why the Peruvians are not as much entitled to a profit upon their guano as the Chilenos are upon their Wheat? Before the English ask them to give it away, it appears to me the holders of Peruvian bonds ought to tear up their bonds and abandon all further claim against the Peruvian Government. *Sinbad, London, May* 13.

Rotting of Swedes.—Our farms are here situated on the upper chalk formation, the chalk being on the hills from 2 feet to 4 feet below the surface. An enterprising farmer, a neighbour of mine, broke up a portion of down land which was covered with Fern, Furze, and Heath, with an admixture of rough Grass of little value for anything. After having taken a crop or two, he found the produce of such "sour" land would be small until chalked. It is one of those red soils so often found in the upper chalk; it is a poor, thin soil, but by a liberal use of superphosphate of lime blended with compost, an abundance of sheep food is obtained, which is generally followed by corn and Grass crops equally good; this, as must be understood, is the result of heavy manuring at short intervals. What I have to complain of is the rotting of Swedes in early spring, when preserved on this land for late feed. After the land was chalked, this has invariably been the result of all attempts to save the Swedes for late feed, as is practised in adjoining fields of different character. Its altitude is high; the aspect north, and much exposed. Any information on the subject will greatly oblige *G. Summers, Houghton Farm.*

As to Medicine for Sheep.—During 14 years' farming I rarely had to use any medicine, except occasionally during lambing; and I never lost by death but one sheep, although my flock annually amounted to from 200 to 600 head of Southdown ewes, mine being a breeding flock, selling off the lambs at proper time, &c., and the ewe which died was one of 17 I selected from a flock of 200 I had bought at a fair, which I suspected had symptoms of the rot. But, on taking these 17 into the barton, and there confining them for a few weeks on dry food, and as much common salt as they would eat, they all recovered, except one only! I may now be asked how I managed my sheep at so little loss during 14 years? It was done by supplying them freely with that well-known condiment which they so dearly love, viz., common salt!! My shepherd was supplied with a bag of it every night, which he took with him in the morning to the fold or the pasture in which the sheep were, and the quantity was regulated by the number he had in flock, averaging 2 ounces per head, and which he placed in several of the troughs; and so sensible of and delighted were they at seeing him arrive with their morning's sweetmeat on his back or in his hand, that the whole flock ran towards him with an avidity that astonished him at first, although he had been 40 years a shepherd. Their bleating might be heard all over the neighbourhood, and some of the neighbours who had a view of the farm inquired of me the cause of such a disturbance among my flock every morning on the shepherd making his appearance. I will only state farther a case in point as to the effects of salt. One year, after selling my lambs and fat ewes, I determined not to add to my flock of them, or to purchase any others as usual that season, the price and prospects being so very unfavourable. On this being known, a neighbouring farmer requested me to take in a flock of his own of 160 to winter. This I agreed to. A few days after, being on the point of going away for 8 or 10 days, I visited every part of my farm to give orders to my bailiff respecting it, and then examined my neighbour's flock, which I observed to be in a very miserable condition, their coats staring apart in all directions. Fearing that the rot might be among them, I directed that they should be kept apart from my own flock for a time, and that they should be amply supplied with salt in their chaffed hay, as well as the usual troughs with salt in them placed in the pasture field they exclusively occupied until my return. This was duly attended to. On my return, after a fortnight, I went to see them, and on my way overtook their owner, who had come to see them, for the first time; and, in our way, passed through a flock of good-looking wether sheep. He, not knowing his own sheep, asked me if they were mine, to which I replied, "No;" for mine were all ewes. At that moment, my bailiff met us, when I inquired of him respecting this strange flock. "Oh," he said, they are Mr. ——'s flock." When he expressed great astonishment, and observed that he never could have expected such an improvement. "Now," said I, "you see the effects of salt! I left them a fortnight ago in a sad state, and you see how they have improved on chaffed hay and salt! I would give them no roots until I had ascertained the real cause of their very miserable condition; and I am convinced that had they remained on your farm, the rot would have been confirmed in them!" To which he fully agreed, as well as my bailiff, who was an experienced and intelligent man; and he frankly confessed that he did expect to hear of some of their deaths. I then directed their being supplied with machine-cut Swedes and Mangold Wurzel, mixed with chaffed hay and salt, as usual. There is nothing so perfectly efficacious as salt when rot may be expected to affect sheep—which is readily produced by humid pasture land; and which I found afterwards these sheep had been confined to. *Delta, in Bath and Cheltenham Gazette.*

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

A Monthly Council was held at the Society's House in Hanover Square, on Wednesday, the 5th of May. The following Members of Council and Governors of the Society were present: The Earl of Ducie, President; Lord Camoys, Lord Berners, Lord Southampton, Lord Portman, the Hon. R. H. Clive, M.P., Sir John Villiers Shelley, Bart., Sir Matthew White Ridley, Bart., Sir Charles Lemon, Bart., M.P., Sir John V. B. Johnstone, Bart., M.P., Colonel Austen, Mr. Bailward, Mr. Raymond Barker, Mr. Barnett, Mr. Bramston, M.P., Mr. Brandreth, Rev. Thomas Cator, Mr. W. G. Cavendish, M.P., Colonel Challoner, Mr. Druce, Mr. Foley, M.P., Mr. Garrett, Mr. Gadesden, Mr. Brandreth Gibbs, Mr. Grantham, Mr. Hamond, Mr. Fisher Hobbs, Mr. Hornsby, Mr. Hudson (Castleacre), Mr. Jonas, Rev. C. E. Keene, Mr. Langston, M.P., Mr. Lawes, Mr. Walter Long, M.P., Mr. Miles, M.P. (Leigh Court), Mr. Millward, Mr. Sanford (Nynehead Court), Prof. Sewell, Mr. Shaw (London), Mr. Sillifant, Prof. Simonds, Mr. Simpson, Mr. Slaney, M.P., Mr. Smith (Exmoor), Mr. Stansfield, M.P., Mr. Turner (Barton), and Professor Way.

The Earl of Darnley, of Cobham Hall, Kent, and John Mainwaring Paine, Esq., of Farnham, Surrey, were elected Governors of the Society.

The following new members were elected:—
Oliver, Thomas, jun., Sunderland, Durham
Freeland, H. W., The Albany, London
Clarke, John, Ipswich, Suffolk
Tatchell, John T., Sydling-house, Dorchester, Dorset
Tucker, John, Abbey Print Works, West Ham, Essex
Hutchinson, William, Ipswich, Suffolk
Richardson, James M., Wilton-place, Tonbridge Wells
Bale, John, South Creake, Fakenham, Norfolk
King, John, Thorpe-Abbots, Scole, Norfolk
Sexton, George, Wherstead, Ipswich
Hillman, John, jun., Lewes, Sussex
Ranelagh, Viscount, Park-place, St. James's
Botting, William, Westmeston, Lewes
Hardwick, Arthur, Haugleton, Shoreham, Sussex
Young, Charles D., North-bridge, Edinburgh
Magens, John Dorrien, Hammerwood, East-Grinstead
Daws, Walter William, Lordine, Ewhurst, Hurst-green
Holmes, William, Borovere-cottage, Alton, Hants

Finances.—Mr. Raymond Barker, Chairman of the Finance Committee, laid before the Council the monthly report on the accounts of the Society; from which it appeared that the current cash-balance in the hands of the bankers was 2732*l.* He explained the various special balances of accounts included in this general sum; and laid on the table, for the information of the members, the quarterly statements of income and expenditure, invested capital and life compositions, assets and liabilities.

Country Meeting of 1853.—The Report of the Inspection Committee having been read, the Council were favoured by deputations comprising the following gentlemen:—The Hon. Admiral Berkeley, C.B., M.P., the Hon. and Rev. W. W. Chetwynd Talbot, M.A., the Hon. General Lygon, M.P., Sir C. W. Codrington, Bart., M.P., Sir T. E. Winnington, Bart., Sir John B. Walsh, Bart., M.P., Captain Rushout, M.P., Colonel Clifford, M.P., Mr. Booker, M.P., Mr. Brown, M.P., Mr. A. Bubb, Mr. Clutterbuck (Mayor of Gloucester), Mr. Hill (Town-clerk of Worcester), Mr. H. Hudson, Mr. Jenkins (Town-clerk of Gloucester), Mr. A. G. Jones, Mr. H. Kerr, Mr. Knight, M.P., Mr. Laslett, M.P., Mr. Cornewall Lewis, M.P., Mr. Lucy (Mayor of Worcester), Mr. R. Potter, Mr. Ricardo, M.P., Mr. C. H. Saunders, Mr. John Solley, Mr. Joseph Stallard, Mr. James Trebb, Mr. Alderman Walker, Mr. J. W. Walters, Mr. Gregory Watkins, Mr. Wegg Prosser, M.P., Mr. Westhead, M.P., and Mr. F. Woodward. These gentlemen having communicated to the Council the fullest local information connected with the South Wales district, derived from their respective personal knowledge, and answered satisfactorily every enquiry made of them by the Council; the President expressed to them the best thanks of himself and the Council for their kindness in having attended the meeting of that day, and for the deep interest they had evinced in promoting the objects of the Society. The deputations then withdrew; when the Council proceeded to the consideration of the particular locality best suited, under all circumstances, for the holding of the Country Meeting next year; and, after a lengthened discussion of the respective advantages of each position to which their attention had been called, it was finally carried, on the motion of Lord Portman, seconded by Mr. Brandreth, that the city of Gloucester should be the place of such meeting.

District of 1856.—The Council appointed a committee, consisting of Sir John Shelley, Mr. Raymond Barker, Col. Challoner, Mr. Brandreth Gibbs, Mr. Miles, M.P., and Mr. Shaw, to take into consideration the subject of the district for the Country Meeting of 1856.

Essay Prizes.—Mr. Pusey, M.P., Chairman of the Journal Committee, transmitted to the Council Mottoes of Essays to which prizes had been awarded by the Judges. The sealed motto papers being opened by the President, the following successful candidates were announced:

I. To William Dickinson, of North Mosses, near Cockermouth, the Society's prize of 50*l.*, for the best report on the Farming of Cumberland.

II. To Hugh Raynbird, of Laverstoke, near Andover Road, Hampshire, the Society's prize of 20*l.*, for the best Essay on the Management of the Clovers, Rye-grass, &c., with the best remedy for Clover Sickness.

Life-Compositions.—On the motion of Mr. Raymond Barker, the consideration of the general question of the principle on which the Life Compositions of the Society are founded, as connected with any alterations it may be thought desirable or otherwise to make in the bye-laws affecting them, was referred to the special consideration of a committee, consisting of the Finance Committee and the Trustees, with the addition of Sir John Shelley, Sir Matthew Ridley, and Mr. Shaw.

General Meeting.—The Council decided on the arrangements connected with the general meeting to be held on Saturday, the 22d of May, at 11 in the forenoon; and agreed, by ballot, to the House List required by the bye-laws to be recommended by the Council to the members on that occasion.

Lectures.—Mr. Gadesden's suggestion that Prof. Way's lecture "On Jethro Tull's Principles of Agriculture," fixed for Wednesday, the 26th of May, at 12 o'clock, should be delivered in the previous week on account of that date falling on the "Derby day" at Epsom having been brought under consideration, the Council, being desirous that no disappointment should occur among those members who might wish to be present, decided that an adjournment should take place over the Derby day, and that Professor Way's lecture should be delivered on Wednesday, the 19th of May, at noon, in the Council-room of the Society.

Veterinary Committee.—On the motion of Mr. Shaw, and with the concurrence of Col. Challoner, the Chairman of the Veterinary Grant Committee, the Report of that Committee, then laid on the table, and about to be read, was withdrawn for another month, for the purpose of enabling the Committee to take the subject into further consideration before presenting their final recommendations.

Fines for Non-Exhibition.—The names of those parties who still refused to pay the fines incurred by them at the Windsor meeting were read; when orders were given by the Council that legal steps should at once be taken to enforce their payment in the Westminster County Court.

Judges' Committees.—Lord Portman, Chairman of the Past President and Stewards' Committee, reported the names of the Committee nominated by them for the selection of the Judges of Stock at the Lewes meeting. The Council adopted this list, and proceeded to appoint, as usual, the Committee for the Selection of the Judges of Implements on that occasion.

Stewards of Implements.—On the motion of Sir John Shelley, seconded by Col. Challoner, Mr. Miles, M.P. (the senior Steward of Implements of the Society), was requested by the Council to supply the place at the Lewes meeting which would have been filled by the late Hon. Captain Pelham, had his life been spared; a request to which Mr. Miles (willing to lend his aid on all occasions to promote the good of the Society) cheerfully assented. On the motion of Mr. Shaw, seconded by

Mr. Jonas, Mr. Fisher Hobbs was appointed the Steward-Elect of Implements on the same occasion.

Poultry Entries.—The Council adopted the suggestion of Mr. Davey, of Lewes, that the non-members' fee for entering poultry for exhibition at the Lewes meeting should be reduced from 10*s.* to 2*s.* 6*d.*, in order to enable cottagers to compete in that department.

Farmers' Flax Mill.—The Hon. R. H. Clive, M.P., informed the Council that he had paid a visit by invitation to the works of Mr. Donlan, in the Warwick Road, Kensington, where he had inspected the construction and operation of the farmers' Flax machines invented by that gentleman. Having taken with him a sheaf of his own Flax straw, from which the seed had been removed, this straw was divided into four equal portions; and three of these being subjected to the action of Mr. Donlan's machines, the result was then submitted by Mr. Clive to the Council. The first portion was the original straw, on which no operation had been performed; the second was the next portion, which had gone through the first, or beating process; the third portion had gone through the beating process, and had also been passed through the double roller press, and undergone the rolling process; the fourth portion had been subjected to all the three processes—namely, those of beating, rolling, and scraping, and gave the final results of about 25 per cent. of marketable farmers' Flax, and about 12½ per cent. of tow. The whole of these machines were constructed in the simplest manner, but with the most exact adaptation of mechanical means for effecting the separation of the woody matter contained in the Flax-stalk from the fibre required by the manufacturer; all the weak, imperfect fibres being retained, and only the strong and perfect ones being allowed to pass through. They were not of an expensive character; and could be worked either by men, women, or children, and by one person singly, or by several at the same time; horse, water, or steam-power might also be used, according to circumstances. The whole of the results, then submitted to the Council, had been attained by one man in the course of 20 minutes. This farmers' Flax, produced under favourable conditions of the straw, was valued at 32*l.* per ton, and the tow at about 12*l.* per ton; and for the marketable article thus obtained, the farmer, who under present circumstances could only dispose of his Flax straw at about 2*l.* or 3*l.* per ton, or not at all, would find in this country and on the continent a ready sale, the ton of straw, by this mechanical operation, yielding farmers' Flax of commerce and tow, which together might be estimated at nearly 10*l.*; a sum from which would have to be deducted only the very small proportional part of the cost, rent, and wear and tear of the machines employed, and the labour required to work them. The Flax, when dry, might be taken at once from the field without stacking, and, after the removal of the seed, was ready, without any other preparation, for this mechanical process, which was alike available to the smallest cottager or the largest occupier, and adapted either for manual labour or the application of machinery worked by any motive power. He could not but regard this subject as one of great importance to the English farmer; and, as it had often engaged the attention of the Council, whose members had long considered such mechanical aid as this now referred to as a great desideratum, he felt that he was only discharging his duty as one of their body in calling their particular notice to the machines in question; at the same time, as the Council could not collectively deviate from their usual course, by giving any opinion themselves on an invention like the present, he would request a few of the members in their private capacity to accompany him to Mr. Donlan's works at an early convenient day, in order that they might inspect his operations more accurately in detail, and inform themselves of the full bearing of the question in a practical point of view.

Lewes Meeting.—Mr. Manning, of High Holborn, the Society's contractor of works, reported the favourable progress of his operations connected with the erection of the receiving, exhibition, and trial yards, at Lewes, agreeably with the plans approved by the Council.

Poultry Show.—Mr. Miles, M.P., laid before the Council a letter addressed to the Earl of March by Mr. Baily, of Mount-street, suggesting that a distinct class of prizes should be offered by the Society, for "Chickens," at the Lewes meeting, and that the classification of some of the prizes should be altered. The Council directed information to be sent to Mr. Baily that Poultry *of any age* might be exhibited under the present schedule; but no alteration could now be made in any of the prizes, which were settled for each country meeting at a given date, agreeably with the bye-laws of the Society; his suggestions would, however, be reserved for consideration when the prizes of another year came under the notice of the Council.

Horses' Feet.—Mr. Turner, of Barton, submitted to the inspection of the Council various inventions of Mr. Pope, of Bridge-street, Exeter, for protecting the foot of the horse from injury. The chief of these was a compact felt, pressed into proper shape to adapt it as a covering for the outer hoof, and a protective shield for the bottom of the foot inside the shoe. Mr. Turner had found the felt in these cases infinitely superior to leather, as it was cheaper in the first instance, and very durable in wear; much softer in its substance, which never became hard or cracked, like that of leather; and when moistened with water, it retained its flexibility and dampness for a considerable time, to the great benefit of the horses' feet, which were thus maintained cool and moist, and prevented from cracking, while the horses were kept standing in the stable; the protective part of the felt, for the inside of the shoe, being well adapted for tender-footed horses. Mr. Pope's mode of shoeing also superseded the necessity of more than a very few nails being driven into the hoof to effect that object.

Beet-root Beer.—Mr. Baker, of Writtle, presented to the Council a Paper on the preparation of a Strong-bodied Bitter Beer or Stout from the Beet-root; and submitted to their inspection a sample of this proposed new branch of domestic economy for the adoption of farmers.

The Council then adjourned to Wednesday, the 12th of May, at noon, when Mr. Trimmer would deliver, before the Council, and such other members of the Society as would favour them with their attendance, his lecture "On Agricultural Geology in its practical bearings."

The May General Meeting of this Society was held as usual, at the Society's house, in Hanover Square. The chair was taken at eleven o'clock by the Earl of Ducie, the president for the current year. Among the members present were Lord Camoys, Mr. Barker, Col. Challoner, Sir P. Pole, Bart., Sir R. Jodrell, Bart., Mr. Shaw, and a large attendance of other promoters of agricultural improvement.

The first business being that of electing a president for the ensuing year,

Mr. Raymond Barker, Chairman of the Finance Committee, said he felt great pleasure in proposing a nobleman who had shown his attachment to the Society by constant attendance, and who had been restored to that position in the Council which he lost during a period when he could not give his attention to the Society's affairs in the manner that he had done recently. Of late that nobleman had shown as much zeal for the Society's interests as during the time of his earliest connection with it; and though he might not possess in so eminent a degree as their present chairman the qualification of uniting science with practice, he had shown, by the ability which he had displayed, by the speeches which he had made, and by his general devotion to the pursuits of agriculture, that he was quite capable of conducting the affairs of the Society successfully, and was fully adequate to all the requirements of the office. Without detaining the meeting longer, he begged to propose Lord Ashburton for the office of President, convinced that they would do themselves credit by electing his lordship to fill that important post during the ensuing year.

Mr. H. Blanshard seconded the motion, and expressed his conviction that the selection was an exceedingly good one. The motion was put and carried.

Mr. Shaw moved that the following noblemen and gentlemen should be the trustees for the ensuing year:—Sir Thomas Dyke Acland, Bart., M.P.; Lord Braybrooke; Colonel Challoner; Hon. Robert Henry Clive, M.P.; Right Hon. Sir James Graham, Bart., M.P.; Joseph Neeld, M.P.; Lord Portman; Philip Pusey, M.P.; Duke of Richmond; Duke of Rutland; Earl Spencer; and Duke of Sutherland.

Sir Peter Pole seconded the motion, which was adopted unanimously.

Mr. Blanshard moved that the following gentlemen should be the Vice-Presidents, observing that they were so well known that it was quite unnecessary for him to dilate on their qualifications or character:—Thomas Raymond Barker, Earl of Chichester, Marquis of Downshire, Earl of Ducie, Earl of Egmont, Marquis of Exeter, Earl Fitzwilliam, Earl of Hardwicke, Viscount Hill, William Miles, M.P., Duke of Wellington, and Earl of Yarborough.

The motion having been seconded by Mr. Bramston, M.P., and agreed to,

Mr. Barker said he could not help individually expressing his sense of the compliment which had just been paid to the Vice-Presidents by their re-election.

The meeting then proceeded to elect 25 General Members of Council, and for that purpose the list recommended by the Council was handed to the members present.

Colonel Challoner observed that if any person wished to scratch out a name, and to substitute for it another, it was competent to him to do so. The Council were required by the bye-laws to recommend a list, but the meeting was not bound to adopt it without alteration.

After the lapse of a few minutes, it was announced by the Chairman that the Council had been re-elected without any change.

The Secretary, Mr. Hudson, read the following report from the Council.

REPORT.

Since the last General Meeting in December, 37 members have died, and the names of 120 been removed from the list, while 104 candidates have during the same period been elected: so that the Society now consists of 93 Life Governors, 156 Annual Governors, 711 Life Members, 4002 Annual Members, and 19 Honorary Members—making a total of 4,981 members on the list of the Society at the present time: a census which shows a slight decrease, since the last general meeting, in the governors and members paying annual subscriptions, but an increase in those who have connected themselves more permanently with the Society by payment of the compositions for life.—The Council have appointed Mr. Miles, M. P., of Leigh Court, one of the Vice-Presidents of the Society, in the place of Sir Thomas Gooch, Bart., deceased; and have elected the Earl of March a general Member of the Council, to supply the vacancy thus created in that list by the transfer of Mr. Miles's name to the list of the Vice-Presidents.

The Council have the satisfaction of stating, that at no former period in the history of the Society, have its finances been in a more favourable condition than at the present time.

The arrangements for the Country Meeting at Lewes, in the middle of July next, are nearly completed. The entries of implements for exhibition and trial at this meeting exceed in amount those made for any former occasion; and the entries of live-stock, although not yet closed, promise to be equally numerous. The Council have adopted this year new regulations for the nomination and selection of the Judges of Stock; and they have limited the duties of the Veterinary Inspector to a general examination of the animals in reference to contagious or infectious disease, and to such special investigation on doubtful points as the Judges, in considering their awards, may think proper to direct his attention. They have concluded their arrangements in the show-yard at Lewes for such an exhibition of poultry as may, in their opinion, best promote competition among those varieties of breed which have been found by experience to be most profitable in an agricultural point of view; and for the purpose of enabling cottagers to compete for the prizes in this department the Council have reduced the non-members' exhibition-fee from ten shillings to half-a-crown.—The Council have accepted the invitation of the authorities of Gloucester to hold the Country Meeting of next year for the South-Wales District in that city.

The chemical investigations instituted by the Society are in a state of active and favourable progress in the laboratory of Professor Way, the consulting chemist to the Society, who has already this season delivered before the members two interesting lectures on the peculiar agency of certain soils in promoting the supply of manuring matter as food to plants, and on the light thrown by the agricultural principles established more than a century ago by the celebrated Jethro Tull, on practical results obtained at the present day under certain conditions of soil and culture. Mr. Trimmer, the author of the Society's prize essay on agricultural geology, has also favoured the members with a lecture on the geological distribution of soils throughout the country; a subject of much practical importance to the farmer who is desirous at any time of transferring analogically the system of one district to another locality identical with it in the circumstance of soil: a result not always to be inferred from the ordinary geological maps, in which the rocks or subsoils are represented in their denuded state, and irrespectively of the actual drift or soil that may happen, from various causes, to rest upon their strata.

The Council are aware of the great caution required in the application of science to the practice of agriculture; and of the guarded manner in which any new or striking facts of cultivation ought to be enunciated, in order that the particular circumstances of their occurrence may be most clearly defined. These circumstances, they conceive, must be accurately understood by the farmer before he can safely transfer to his own locality a mode of management that may have been adopted with success elsewhere. Science, so called, can only mislead, when its quality is unsound, or its application erroneous: sound science, indeed, consisting only of principles derived immediately from facts, which principles, when duly applied to practice, constitute an art of any kind; and this art—whether that of agriculture or any other branch of industry—is only to be perfected by the application of improved principles, whether these be accidentally discovered or ascertained by direct investigation. The Council feel how much the modification or establishment of such principles of improvement depend on the extended practical observation and actual test of their members; and while they are most desirous on the one hand to aid in their legitimate development, they are most anxious on the other to prevent their hasty adoption. The really best practice in agriculture always includes as its prime mover the best science; but it is only by obtaining the distinct knowledge of such included science that the conditions can be ascertained under which the practice itself may be transferred successfully to other circumstances: and the Council, in endeavouring to carry out that union of "practice with science," which has become the well-known motto of the Society, invite from its members such communications of successful instances of management or cultivation, as will either at once become models for adoption, or serve, by comparison with other results, to modify the character and extent of the deductions to be drawn from them. With such practical aid, the Council feel assured that the Society will continue to proceed in its steady course of public usefulness, gradually developing those national objects for which it was originally established.

By order of the Council, James Hudson, Secretary.

Sir Peter Pole said from the report which had been just read, it was evident that the Council had done their duty in relation to the interests of agriculture generally, and though there might be a few members less among the annual subscribers, the permanent members had increased, and that, on the whole, the Society was in an improved position. (Hear, hear.) He was very glad to have that opportunity of thanking the Council for having determined that the next show to that which was approaching should be held in his own county. There had been a strong feeling in the county of Gloucester that it would be a great advantage to that part

of the country, and even to Wales, if a show were held there; and he rejoiced exceedingly at the resolution which had been adopted on that subject.

Mr. Hercy having expressed the pleasure it gave him to second the adoption of the satisfactory and able report just read, the motion was then put, and carried unanimously.

Mr. Barker, as Chairman of the Finance Committee, then read the following balance-sheet:—

HALF-YEARLY ACCOUNT ENDING 31st DEC., 1851.

Receipts.	£	s.	d.
Balance in the hands of the Bankers, 1st July, 1851	2584	9	5
Balance in the hands of the Secretary, 1st July, 1851	0	1	2
Dividends on Stock	169	6	1
Life-Compositions of Members	179	0	0
Annual Subscriptions of Governors	144	0	0
Annual Subscriptions of Members	1570	5	0
Receipts on account of Journal	201	0	3
Receipts on account of Country Meetings	3144	10	3
	£7983	12	2

Payments.			
Purchase of 1029*l.* Stock in the 3½ per cents. ...	1010	0	0
Permanent Charges	178	12	6
Taxes and Rates	13	19	5
Establishment	422	16	9
Postage and Carriage	19	11	0
Advertisements	2	16	6
Payments on account of Journal	303	3	2
Chemical Grant: two quarters	100	0	0
Chemical Investigations	200	0	0
Prizes of the Society	1820	0	0
Payments on account of the Country Meetings ...	2850	4	2
Transfers of Subscriptions	7	0	0
Sundry items of petty cash	5	5	10
Balance in the hands of the Bankers, 31st Dec., 1851	1020	8	11
Balance in the hands of the Secretary, 31st Dec., 1851	29	13	11
	£7983	12	2

Examined, Audited, and found correct, this 21st day of May, 1852—

Thos. Raymond Barker, Chairman,
C. B. Challoner,
Henry Blanshard,
} Finance Committee.

Thos. Knight,
George I. Raymond Barker,
George Dyer,
} Auditors on the part of the Society.

Mr. Rowlandson said that, in rising to move a vote of thanks to the auditors for their care in auditing the accounts, he was happy to be able to congratulate the Society on the very favourable position in which it was placed in a financial point of view. (Hear, hear.) He felt quite certain that the onerous duties which had fallen upon the auditors had been much lightened by the care and attention which had been bestowed upon that department by the talented secretary and his assistants; but at the same time the mass of accounts which necessarily accumulated in that Society must require much care and attention in the auditors, and all present would feel that they were entitled to the cordial thanks of the meeting. The names of the auditors were alone a sufficient guarantee for the ability and skill which had been exerted in the supervision of the accounts.

Sir P. Pole said he could not feel a moment's hesitation in seconding the motion. That all parties concerned in the management had done their duty, was proved by the exceedingly favourable statement to which they had listened.

The Chairman formally conveyed to Mr. Dyer, as one of the auditors, the thanks of the meeting, and declared his belief that there was no society in the country whose finances were better attended to than those of the Royal Agricultural Society.

Mr. Dyer, in returning thanks, said he had never seen any accounts which manifested more care than those of the Society. The books were so plain and clear, that a person of the humblest capacity might understand them; and he felt, with a preceding speaker, that the Society was greatly indebted to the secretary and his assistants. As regarded the motion, it was to the finance committee that thanks were most due; the labours of the auditors were comparatively light.

Mr. Sillifant said, that amongst the many ways in which the Society sought to promote its objects, he could see none more important than that of encouraging and providing weekly lectures. They all knew that the motto of the Society was "Practice with Science." The practice of agriculture could only be pursued in the fields of the country, but the science required the quietness of study; and science was, he believed, greatly promoted by the lectures given in that building by the gentlemen to whom he had risen to move a vote of thanks. The two names which he would especially mention were those of Professor Way and Mr. Trimmer. Those only who had been sufficiently fortunate to hear those gentlemen during the past year could fully appreciate the value of their lectures; but he was sure the cordial thanks of the meeting would be given to those gentlemen, for the deep attention which they had paid to the science of agriculture, and for the admirable manner in which they had illustrated it in that room.

Mr. Grantham, of Sussex, seconded the motion, which was then adopted.

The Chairman said it was the practice on that occasion for the Chairman to put one general question to the members before the meeting terminated; but before he did that, he wished to call the attention of the meeting to one or two points. One point had respect to an alteration which had been made in the mode of selecting judges; and he would first read the resolution which the Council had agreed to on that subject. He then read the resolution, the effect of which was to allow members of the Society to challenge the competency of the judges selected, and to communicate in writing any remarks which they might wish to make in reference to the merits of the respective candidates. As this was a new rule (continued the Chairman), he had thought it right to direct attention to it. (Hear, hear.) The list was hanging up, and if any gentleman objected to any of the names he could state his objection in writing, and it would be laid before the Committee of Selection. He then stated that the usual Weekly Meeting would not be held on the following Wednesday, and concluded by observing that his chief reason for rising was this, that it was usual on that occasion for the Chairman to ask the members generally who were present, if they had any remark to make on any matter connected with the Society. He now put that question.

After the lapse of a few seconds, Lord Camoys said he had no remark to make in the sense which was intended by the noble Lord in the chair; but he rose for the purpose of proposing a vote of thanks to the noble Lord, not only for his conduct in the chair that day, but also for his conduct as President of the Society during the whole of the past year. (Cheers.) He was sure that, though many persons might do greater justice to that motion than himself, no person could feel more sincerely than he did that the noble Lord was entitled to their best acknowledgments.

Colonel Challoner said, as having the honour to hold the situation of one of the Trustees of that Society, he trusted he might be allowed to express his sense of how due the thanks of the Society were to its President, Lord Ducie. (Cheers.) Whether it were in the small finance room—whether it were in the show-yard—whether it were in the implement-yard—or whether it were in promoting the general good of the Society—Lord Ducie had, ever since the Society's formation, made himself eminently useful. (Cheers.) His name as an agriculturist, his name as one of those who first opened the door, he might say, to the adaptation of science to agriculture, was, he thought, a sufficient guarantee that they acted wisely in electing the noble earl as their President—(hear, hear)—and he was happy to say that up to that moment he had fully answered the expectations of those who proposed him. He had therefore great pleasure in seconding the motion proposed by Lord Camoys; and he thought it was due from that Society to give not a mere cold and formal vote of thanks, but its real heartfelt acknowledgments to the nobleman who occupied the chair.

Colonel Challoner put the motion, which was cordially adopted.

The Chairman said it was always very difficult, even for a man who felt that he deserved approbation, to return thanks for such a compliment in appropriate terms. But on the present occasion the difficulty was increased by the circumstance that the difficulties of his office were really none, and that he had positively received the thanks of the Society for doing nothing. (A laugh.) He should be most ungrateful if he were not to acknowledge that, owing to the kind and continuous attention of many old members of that Society, he had become instructed on points on which he was previously ignorant, and that his path had been made smooth and easy. He should also be most ungrateful if he did not allude to a gentleman who had been already referred to by Mr. Dyer—if he did not say, not only that he himself had found everything made easy and plain before him, but that he was sure that the noble Lord who had been elected to succeed him for the ensuing year would also find everything made smooth and easy to him by the continued and able exertions of their secretary, Mr. Hudson. (Cheers.) He was quite sure that he should not have done his duty if he had not alluded to the exertions of that gentleman, and he would never have forgiven himself if he had not mentioned in the strongest terms the benefits which the Society had received from that gentleman. As Mr. Dyer had stated, the accounts were laid before the auditors in the plainest and clearest manner; and being ignorant to an extent which he ought not perhaps to own, of the proceedings of the Society, he (Earl Ducie) had found no difficulty in transacting what little business he had to perform.

The meeting then separated.

Agricultural of Ireland: Half Yearly Meeting.—The half-yearly meeting of this Society was held on Thursday, May 13, at their Rooms in Sackville-street. The chair was occupied by Viscount Monck. Mr. Harkness, the Secretary, read the

Half-yearly Report of the Council, of which the following is part:—The Council have much satisfaction in expressing their conviction that while improved culture and farm management are extending throughout Ireland, cheering prospects are generally presented of marked amelioration in the industrial resources of the country. The accession of upwards of 100 additional members to the Society, since its last half-yearly meeting in December, and the approbation expressed by many early and zealous supporters of the Society, of the well conducted evening discussions on agricultural subjects—its proposal of publishing a journal of its transactions, and a farmers' club, to be called "The Dublin Chamber of Agriculture," with a library—all these show unequivocally that the principle on which this Society is based, coupled with its exertions to stimulate and benefit Irish husbandry, are daily becoming more appreciated, thereby holding out a reasonable expectation of additional subscribers, whereby the means of usefulness of the Society will be augmented. The Council have to report of the national show, which is fixed to be held at Galway on the 18th and 19th of August next, that every arrangement hitherto practicable has been made by the parent society in conjunction with the zealous co-operation of the Galway Local Committee, to promote the holding, this year, of a large influential meeting in the metropolis of Connaught; and looking to the revisal of the Society's premium sheet—the enlargement of the premium lists for some kinds of stock—the substitution of gold and silver medals for implements, in place of the small money prizes previously offered, and the general spirit manifested by the public as to the Galway show, the Council entertain a favourable anticipation that it will reflect credit alike upon the country and this Society; nor shall any exertion be wanting on the part of the Council to induce exhibitors to come over to Ireland from the great cattle shows of England and Scotland, which have been so arranged as to precede that at Galway—thus affording an excellent opportunity to all exhibitors to bring over their cattle, sheep, and implements, after the several annual shows on the other side, and of disposing of them to breeders and cultivators in this country, at a suitable period of the year.

The Council's Monthly Evening Discussions.—Various well prepared papers have been read at these evening meetings, followed by an interchange, among the members, of scientific and practical information, which, through the instrumentality of the press, cannot fail to diffuse a knowledge of the results of various experiments, well calculated to forward agricultural improvement, more especially among the proprietary and tenantry connected with the Society, which has resolved carefully to prepare and circulate among them, through its journal, the reports and proceedings at such discussions, along with other appropriate agricultural information.

The Society's Journal.—This organ, resolved upon to circulate such matter, is described, in its prospectus, as a periodical of rural economy, to be established for "the encouragement and circulation of practical and useful knowledge, connected with husbandry and agriculture in all their branches."

Notices of Books.

Fen Sketches, &c. By John Algernon Clarke, author of the Prize Report on the Great Level of the Fens in the Journal of the Royal Agricultural Society. Hall, Virtue, and Co., 25, Paternoster-row.

This little volume, by one who is himself a Fen-man, deserves the perusal of agriculturists, as a most inspiriting testimony to the reward which follows energetic and well-directed effort in farming, as in other professions; and it deserves the perusal of those who may have no professional interest in its subject, as a most interesting chapter in English history.

Miscellaneous.

New Mode of Making Butter.—The following process for the manufacture of butter is recommended, by which its quality is improved and its disposition to become rancid prevented. When butter contains only the fatty portions of milk, it changes slowly under the influence of the atmosphere. It contains, however, generally a quantity of casein, derived from the cream, which retains this nitrogenous substance. This casein acts as a ferment on the fatty acids of the butter, and produces those changes which give the character of rancidity to it. By washing butter, this cause of its rancidity cannot be completely removed, because water will not dissolve casein when, by the acids of the cream, it has been converted into an insoluble modification. It could be entirely removed if these acids were neutralized, as the casein could then be washed from the butter. To accomplish these objects, proceed in the following way:—The cream, in small portions, is with constant agitation to be carefully neutralized with milk of lime, and agitation proceeded with in the churn until the butter separates from it, but not so as to form a mass, as is usually the practice. The buttermilk is then poured off, fresh water added to the butter, and churning continued until the butter combines into a mass; the butter is then finished in the ordinary method. By this process, it is stated, butter is best obtained, and keeps good much longer than that made in the usual way. The buttermilk thus produced loses its disagreeable smell and its laxative properties on men and animals; and besides, in this state they will more readily partake of it than in the common form. It is found that when butter has become too rancid to be consumed as food, it may be again restored by washing it with lime water. For this purpose lime water can be replaced by any other alkaline fluid. *Annals of Pharmacy and Practical Chemistry.*

Patent, Sept. 4, 1851.—Benjamin Hallewell, of Leeds, wine-merchant, for improvements in drying malt. These improvements consist in the employment, for drying malt, of numerous jets of gas, alone or in combination with the use of steam. The gas or steam pipes are placed alternately under the floor of the malt-house, which is constructed of perforated tiles, for the ready transmission of the heat, and the burners of the gas-pipes are placed on each side of the same, so as to play on the outside of the steam-pipes, as well as against the underside of the perforated tiles. The advantage of using gas is, that it admits of the heat applied being regulated with great nicety; and at the same time it prevents the condensation of the steam in passing through the steam pipes. Claim: The employment of numerous jets of gas, alone or combined with the use of steam, for drying malt. *From the Mechanics' Magazine of March* 6, 1852.

Calendar of Operations.

MAY.

Dorset Farm, *May* 17.—Since last report the weather has been drier than usual for April and May; but just as we were beginning to despair about food for our stock, we got some fine nourishing showers about the end of April. The Wheat has preserved a good appearance through the season. Barley and Oats generally look healthy. The only drawback is in Grass, of which a good deal has been fed up to the present time, that should have been laid up for hay about the end of last month, and this will render the hay crop light, for the Clover that has not been spring fed, is coming to maturity fast, before it attains any weight; but still we see a good many old hay-ricks standing about, which must be set against this drawback. All kinds of stock are doing well, better than when they seemed to have a more plentiful supply of food, from which we may infer that, bulk for bulk, Grass is more nutritious in dry weather than in wet; and taking everything into consideration, we must report favourably. We have got our Mangold Wurzel in, and most of it is showing itself again. We have also sown some Turnips and Rape, which look well. Potatoes generally appear healthy. We are about to begin sowing Swedes, which we must not be too quick with, as the earlier sowings generally get affected by mildew, and the fly is also more annoying in the early part of the season, and this year she seems to possess more than her usual vigour; but the best preventive of her ravages is a little stimulating manure to push the young plant up at first: and we will now rejoice in a supply of genuine artificial manure, as we hear that there is now no such thing as adulteration carried on. On this point I hope your brother Editor will not cease to bring those commercial gentlemen of fair dealing before the public, so that we may know who to trust—I was going to say distrust—but as Dr. Lindley is not admitting anything but plain legal evidence, I suppose I must not yet use the extra syllable; but I believe those gentlemen who cart the loam and chalk, &c., had better look out, or some of them will have to pay high for their whistle, for farmers generally know that they can have manures analysed, and there will be more samples in the chemists' laboratory this year from them than have ever been before. We have found chemistry useful, we will try and make the chemists useful also. *G. S.*

Lammermuir Sheep Farm, *May* 10.—For once, at least, that oft appealed to, though somewhat erratic personage—the "oldest inhabitant," may affirm, without much fear of contradiction, that the past seed time and lambing season have been the most favourable he remembers to have seen. The Oats in the Lammermuirs were all got in good season, and, as far as our observation has extended, are looking well, especially where sown after Turnips. Unquestionably both grain crops and pastures require rain, but notwithstanding this, and the frequent frosty nights we have had of late, everything is looking better than is usually the case in the beginning of May, and as rain has begun to fall since we commenced writing, a few days, we expect, will make everything wear a bright aspect. The lambing is now about a close, though a few stragglers will continue to come for another fortnight. From some cause we are unable to explain, we have rather more barren ewes this year than usual, still, unless some unforeseen casualties occur, we shall have a very full crop of lambs, there being a much larger proportion of twins than usual—a remark which applies to the ewe flocks of the district generally. It is still rather premature to speculate, with any degree of certainty, upon the probable turn out of hill lambs in autumn, but if we may hazard an opinion, we would at once say that it will be very superior, both as regards numbers and quality. In the border districts ewes are everywhere in good condition, consequently the lambs are well nursed and vigorous, while from the fine weather, there has been nothing to reduce the numbers beyond a few ordinary casualties which occur in any year. We intend, should the weather prove favourable, to have the joint operations of castrating and docking performed this week, with the exception, perhaps, of the Blackfaces, which will be left over for a few days longer, as we purpose selecting some of the best lambs for tams, and prefer having these as old as possible, before making the final decision, as this breed makes many strange mutations during the different stages of its growth. Where the hogs are wintered by themselves they are generally removed during this month to the grounds they are ultimately to occupy. The present spring has been highly favourable for this age of hill sheep, as well as for wedders; the latter on the border grazings will, we are sure, turn out well this year; the almost total absence of snow, and general mildness of the season, having enabled them to range the higher grounds much earlier than usual, where, from the same causes, many of the alpine pasture plants are now in perfection. On the arable portion of the farm, we are busy preparing for Turnip sowing, which we hope to commence about the 20th, beginning with Swedes and a few white Globes, to be lifted early in autumn for young cattle. *A Lammermuir Farmer.*

West Somersetshire, *May* 14.—After a longer continuance of dry harsh weather, with east winds, than has been known for some years at this period of the year, the late genial showers partaking more of the character of the preceding month, have been extremely welcome, and have done immense good both to the field and the garden. Indeed, the supply of water was so scanty, that some of the visitors and residents of the village here suffered from the want of it, and have even had to remove to other places, for being near the sea we have few if any springs on the limestone hills above, though the flats further inland in the valleys have continued green and comparatively fresh of pasture during the late drought; the water lying close under the surface has this effect, so that draining to much extent would be here injurious, even though they are, after winter heavy rains, under water in places. Crops have of course fetched up with the rain, and late sown Peas, spring Wheat, Barley, and seeds are working up out of the ground in fine style. Sheep and lambs are also in good condition about here. With respect to agricultural machinery, this part of the county is not very forward yet; the fact is, much is in dairy and grazing farms, so that you still see the flail used for threshing; though in ploughs we have improved, the iron ones being used, and generally a pair of horses only worked. As you were kind enough to insert an extract from an Annual Register on the above-named subject in a late number of your Paper, I enclose another which I chanced to light on for April, 1770, with the description of a trenching plough then apparently first invented. The last one, you may remember, was an account of a reaping machine invented in the year 1804 by two Americans, which was applicable to the present time, there having been one brought to perfection at the Great Exhibition. Extract, April, 1770: "On Friday the plough for making trenches for drains, brought out of Suffolk, and invented by one Makings, a poor farmer, was tried at Upton, near Stratford, on the grounds belonging to Mr. Pearce, before a committee of the Society of Arts, &c. It cut in the space of 34 minutes a complete trench of about 18 inches deep, 2½ inches broad at the bottom, and of the length of 660 feet; executed in a manner that cannot be effected by the spade, even with any degree of labour. The force used for this performance was that of six horses, managed by two men, and without any greater strain than would have permitted them to have done a full day's work. It is computed that by this means trenches for close drains may be cut at 2*d.* per rod, or considerably less, where the work of men and horses is cheap." *H. E.*

Notices to Correspondents.

Adulteration: *An Aberdeenshire Farmer* asks how he may know whether Barley-meal has been mixed with Oatmeal for the purpose of adulteration.

Gates: *Porta.* No. 2 is strongest; No. 1 is no doubt perfectly strong enough; No. 3 is not bound sufficiently. The arched back is the only *bond* in it. The circumstance of its being "nearly an entire surface" is not enough.

Gorse: *W G W.* See Vol. VI., Journal of the Agricultural Society of England. One farmer there speaks of giving it to sheep. It is used in winter and early spring—from October or November till the cuckoo comes.

Gutta Percha Tubing: *Tycho.* The Board of Health quote it at 2s. a yard; and the Gutta Percha Company offer it at 1s. 3*d.* a foot. How is this?

Hay-making Machine: *X Y Z.* Wedlake, of Romford; but most of the agricultural machine-makers now make the double action hay-making machine.

Lead Mine: *A B C.* We are unable to give legal advice; but it is surely the common-sense view of the case to suppose that if A injures B, compensation may be claimed from him.

Peat: *Hortulus.* It is peat uncharred that is referred to. Its character, undoubted we believe, as an absorbent and deodorizer, rests mainly on the experiments of Dr. Anderson, chemist to the Highland Agricultural Society.

Permanent Cover for Hay: *Andre* The cost of erecting such a cover on Larch pillars, let into stone pedestals, and with a light and well tarred sheet iron roof on a Pine framing, to contain 270 cubic yards, has been 10*l.* 10*s.* The roof is lowered in rain by pulleys at the corners, or by a ladder applied by two or more men to each corner in succession, a boy shifting the iron bolts in the holes of the pillars. The surface covered is 6 yards square, and the poles are 24 feet high. So says Mr. Dickinson, in his Agriculture of West Cumberland.

Poultry: *D F.* As regards eggs of pure breeds, our advertising columns are the only part of our Paper in which we can help you.

Sainfoin: *Aberdeenshire Farmer.* It will grow in cold and exposed situations on a free soil, of sufficient depth, with a rocky subsoil, though it be not calcareous. On this point the experience of some of our correspondents would be useful.

Southdowns: *X Y Z.* Some of the Sussex fairs. If you apply to any of the well-known breeders, we dare say they will tell you.

Steel Mills: *Bradwell.* Will any of our readers, who use steel mills, give the result of their experience with them, stating the name of the maker.

Weeds: *Constant Reader.* Can any one help our correspondent to eradicate the lesser Celandine and the common Chervil from his pastures? The latter is generally seen in hedges, from which it may be removed by ordinary attention to the condition of the fence. The other is sometimes hopelessly master of the ground. Ducks and geese will eat its flower and leaf, and may tend to keep it under.

Markets.

COVENT GARDEN, May 29.

Vegetables and fruit are plentiful, although, owing to the coldness of the weather, the former have received a slight check. The sale for English Pine-apples continues rather dull. Hothouse Grapes are plentiful, and cheaper. A few dessert Apples may still be obtained. Oranges are plentifully supplied, and very good. Nuts are nearly the same as last quoted. Strawberries though plentiful maintain their prices. Young Carrots, Beans (both French and Mazagan), Peas, Lettuces, Endive, and Artichokes continue to be supplied from France. Potatoes are generally good in quality. New ones from open borders in the west of England are coming in plentifully, as are also green Peas of excellent quality Mushrooms are cheaper. Cut flowers consist of Heaths, Epacrises, Cinerarias, Mignonette, Roses, Acacias, Azaleas, Primulas, Lily of the Valley, and other bulbs.

FRUIT.

Pine-apples, per lb., 6s to 10s	Almonds, per peck, 5s
Grapes, hothouse, p.lb., 4s to 10s	— sweet, per lb., 2s to 3s
— Lisbon, per lb., 2s to 4s	Oranges, per doz., 1s to 1s 6d
Peaches, per doz., 12s to 24s	— per 100, 3s 6d to 10s
Melons, each, 3s to 10s	— Seville, per doz., 1s to 3s
Cherries, per lb., 4s to 12s	Lemons, per doz., 1s to 2s
Strawberries, p. oz., 6d to 1s	Nuts, Barcelona, p. bsh, 20s to 22s
Apples, kitchen, per bushel, 2s to 3s 6d	— Brazil, p. bsh., 12s to 14s
	Cobs, per 100 lbs., 100s

VEGETABLES.

Cabbages, per doz., 3d to 1s	Leeks, per bunch, 3d to 6d
French Beans, p. 100, 1s 6d to 2s 6d	Shallots, per lb., 8d to 10d
Broccoli, p. bunch, 9d to 2s	Garlic, per lb., 8d to 1s
— heads, each, 4d to 6d	Lettuce, Cab., per score 4d to 6d
Asparagus, p. bundle, 1s to 4s	— Cos, p. score, 9d to 1s 6d
Greens, per doz., 2s 6d to 4s	Radishes, per doz., 8d to 1s
Rhubarb, p. bundle, 3d to 6d	— Turnip, 9d to 1s 6d
Potatoes, per ton, 45s to 80s	Small Salads, p. pun., 2d to 3d
— per cwt., 2s to 5s	Horse Radish, p. bundle, 1s to 4s
— per bush., 1s 6d to 2s 6d	Mushrooms, p. pott., 8d to 1s
— Frame, per lb., 1s to 2s	— per punnet, 6d to 1s
— New (border), do., 3d to 6d	Sorrel, p. hf. sieve, 1s 3d to 1s 8d
Turnips, p. doz., 2s 6d to 3s 6d	Artichokes, Jerus., do., 9d to 1s
— new, p. bun., 1s to 1s 6d	Fennel, per bunch, 2d to 3d
Cucumbers, each, 6d to 1s	Savory, per bunch, 2d to 3d
Celery, per bundle, 6d to 1s 6d	Thyme, per bunch, 2d to 3d
Carrots, p. bun., 1s 3d to 2s 6d	Parsley, p. doz. bnchs., 2s to 3s
Spinach, per sieve, 9d to 1s	Mint, per bunch, 2d to 4d
Onions, per bunch, 2d to 4d	Basil, green, p. bunch, 6d to 9d
— Spanish, p. doz., 1s 3d to 3s	Marjoram, do., 3d to 4d
Beet, per doz., 1s to 2s	Watercresses, p. 12 bun., 9d to 1s

HAY.—Per Load of 36 Trusses.

Smithfield, May 27.

Prime Meadow Hay	75s to 80s		Clover	85s to	95s
Inferior do.	6s	72	2d cut	75	84
Rowen	60	—	Straw	24	28
New Hay	—	—		J. Cooper.	

Trade dull.

Cumberland Market, May 27.

Prime Meadow Hay	78s to 84s		Inferior Clover	78s to	84s
Inferior do.	65	72	New do.	—	—
New Hay	—	—	Straw	26	30
Old Clover	90	96		Joshua Baker.	

HOPS.—Borough Market, May 28.

Messrs. Pattenden and Smith report that the Hop market continues without variation. A few fly have made their appearance. Duty as yet not named.

WOOL.

Bradford, Thursday, May 27.—The advanced prices realised at the colonial wool sales now progressing in London have contributed to improve the firmness of tone which has characterised the English Wool market for some time previous. We cannot, however, report any decided advance of price in wool generally here, and the favourable change appears to extend no further than that most classes of good wool can be readily sold at the full quotations of the previous week or two. Any further advance is firmly resisted by spinners, and their position certainly does not warrant the slightest being conceded. Short wool and noils are a good sale, at firm rates. The Yarn and Piece markets continue much the same as reported for some weeks past; the demand is steady, but there is no improvement in prices.

POTATOES.—Southwark, May 24.

The committee report, that during the past week the supply has been more than equal to the demand, which, together with mild weather, has caused a fall in prices, with a heavy trade. The following are this day's quotations:—York Regents, 100s. to 120s.; Scotch do, 80s. to 100s.; Scotch Cups, 70s. to 80s.; Wisbeach and Cambridge, 70s. to 100s.; Kent and Essex, 85s. to 100s.

SMITHFIELD.—Monday, May 24.

We have rather fewer Beasts than on Monday last, and the dead markets are very clear; our trade to-day is therefore active, at an advance of fully 2d. per stone on that day's quotations. The number of Sheep and Lambs is rather larger, but the demand has increased; for the former, higher prices are on the average obtained; and for the latter, late quotations are fully maintained, with a brisk sale. We have a cheerful trade for good Calves, but it is exceedingly difficult to obtain better prices. From Germany and Holland there are 311 Beasts, 1300 Sheep, and 147 Calves; from Scotland, 600 Beasts; from Norfolk and Suffolk, 2100; and 160 from the northern and midland counties.

Per st. of 8lbs.—s	d	s	d	Per st. of 8lbs.—s	d	s	d
Best Scots, Here-				Best Long-wools.	0	0 to 0	0
fords, &c.	3	6 to 3	8	Do. Shorn	3	6 — 3	8
Best Short-horns	3	4 — 3	6	Ewes & 2d quality	0	0 — 0	0
2d quality Beasts	2	10 — 3	2	Do. Shorn	2	10 — 3	4
Best Downs and				Lambs	4	8 — 5	4
Half-breds	0	0 — 0	0	Calves	2	8 — 4	4
Do. Shorn	3	8 — 4	0	Pigs	2	8 — 3	8

Beasts, 3681; Sheep and Lambs, 25,140; Calves, 221; Pigs, 450.

Friday, May 28.

We have a fair supply of Beasts, but there being very little on hand trade is cheerful, at fully Monday's quotations. There is a larger number of Sheep and Lambs; choice qualities are not very plentiful, consequently for these Monday's prices are readily obtained; trade is, however, slow for inferior kinds. The choicest Calves are rather dearer, but there is not a quotable advance. Our foreign supply consists of 160 Beasts, 470 Sheep, and 216 Calves; the number of Milch Cows is 125.

Per st. of 8lbs.—s	d	s	d	Per st. of 8lbs.—s	d	s	d
Best Scots, Here-				Best Long-wools.	0	0 to 0	0
fords, &c.	3	6 to 3	8	Do. Shorn	3	6 — 3	8
Best Short-horns	3	4 — 3	6	Ewes & 2d quality		...	
2d quality Beasts	2	10 — 3	2	Do. Shorn	2	8 — 3	4
Best Downs and				Lambs	4	8 — 5	6
Half-breds	0	0 — 0	0	Calves	2	8 — 4	4
Do. Shorn	3	8 — 4	0	Pigs	2	8 — 4	0

Beasts, 1089; Sheep and Lambs, 11,020; Calves, 493; Pigs, 330.

MARK LANE.

Monday, May 24.—The supply of English Wheat by land carriage samples to this morning's market was small, and realised the full prices of this day se'nnight. Foreign was in limited demand at our quotations. Flour was in many instances held for a slight advance, which restricts business; but the extreme prices of last week were obtainable.—Barley meets a fair inquiry, at fully last week's rates.—Beans and Peas are without alteration.—Having a large supply of Oats, factors can only realise at a reduction of 6d. per qr.

Per Imperial Quarter.	s.	s.		s.	s.
Wheat, Essex, Kent, & Suffolk	White	44—45	Red	39—40	
— — fine selected runs	ditto	45—47	Red	40—41	
— — Talavera		45—50			
— Norfolk		38—40	Red	—	
— Foreign		36—52			
Barley, grind. & distil., 26s to 29s	Chev.	30—35	Malting	29—31	
— Foreign ...grinding and distilling		22—29	Malting	—	
Oats, Essex, and Suffolk		20—2			
— Scotch and Lincolnshire	Potato	22—25	Feed	21—23	
— Irish	Potato	21—24	Feed	20—23	
— Foreign	Poland and Brew	20—22	Feed	18—21	
Rye		—	Foreign	—	
Rye-meal, foreign		—			
Beans, Mazagan	26s to 29s	Tick	27—32	Harrow	27—32
— Pigeon	28 — 34s	Winds.	—	Longpod	—
— Foreign		Small	23—31	Egyptian	24—25
Peas, white, Essex and Kent	Boilers	35—37	Suffolk	36—38	
— Maple	29s to 32s	Grey	28—30	Foreign	28—35
Maize		White	—		—
Flour, best marks delivered	per sack	37—40	Yellow		
— Suffolk	ditto	25—32	Norfolk	25—32	
— Foreign	per barrel	17—23	Per sack	28—34	

Friday, May 28.—The arrivals of foreign Wheat and Oats this week are considerable. This morning's market was not well attended; and in Wheat a limited business only was transacted at Monday's prices, millers holding off in hopes that the arrivals will induce bolders to accept lower terms, which is not probable, there being now but little afloat. In floating cargoes of Wheat from the Mediterranean there is nothing doing.—Indian Corn meets a lively inquiry, and anything near at hand would meet an easy sale.—Barley sells slowly at Monday's prices.—Beans and Peas are unaltered in value.—To effect sales of Oats it is necessary to submit to a decline of 6d. per qr. on Monday's prices.—Flour is in rather better demand at former rates.

Imperial Averages.

	Wheat.		Barley.		Oats		Rye.		Beans.		Peas.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
April 17	40	10	29	1	19	4	33	6	29	10	29	11
— 24	40	4	27	8	19	8	31	7	30	3	30	2
May 1	40	6	28	5	19	9	31	0	30	0	29	4
— 8	41	1	28	1	19	8	30	8	30	5	30	5
— 15	41	3	28	3	19	10	30	0	31	0	29	2
— 22	40	6	27	10	20	1	30	5	31	6	30	9
Aggreg. Aver.	40	9	28	3	19	8	31	2	30	6	28	0

Duties on Foreign Grain, 1s. per qr.

Arrivals this Week.

	Wheat.	Barley.	Oats.	Flour.
	Qrs.	Qrs.	Qrs.	
English	2350	1410	840	2380 sacks
Irish	—	—	1420	
Foreign	13370	4750	40090	420 sacks

Fluctuations in the last Six Week's Averages.

Prices.	Apr. 17.	Apr. 24.	May 1.	May 8.	May 15	May 22.
41s 3d	...	...	...	...	...	...
41 1	...	...	...		...	...
40 10	—	...	...	...	...	...
40 6	...	...		...	...	...
40 6	...	...	...	...	...	
40 4	...		...	...	...	...

Liverpool, Tuesday, May 25.—At this morning's market we had several Irish millers purchasing Wheat, Flour, and Indian Corn for shipment to the sister country. The demand for local consumption was moderate, but on the whole a fair business was transacted. Fresh qualities of red and white Wheat commanded an advance of 1d. per bushel over the price of this day se'nnight; American and French Flour brought full prices, and Indian Corn fully sustained the advance of 1s. per quarter established during the week. Oats, Barley, Beans, and Peas remain as quoted on Tuesday last, with a moderate demand.—Friday, May 21.—Business has prevailed in the grain trade since Tuesday; and at this morning's market the business transacted in any article was moderate. A small advance was demanded and obtained on American white Wheat, but in other things there was no perceptible alteration of value. This week's return of the deliveries of Wheat by the British farmer is larger than anticipated, being 94,297 quarters, at 41s. 3d. per imperial quarter.

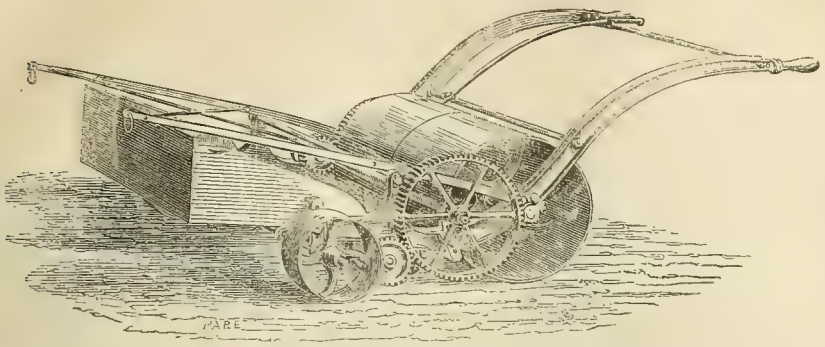
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The Horse Machines are very strong and powerful, and adapted for cutting Grass of the utmost length usually met with on Lawns and Pleasure Grounds. In addition to the Registration Number—3074, the improved Machines have the name, "J. FERRABEE & SONS," cast on the frames; and none should be purchased without this guarantee.



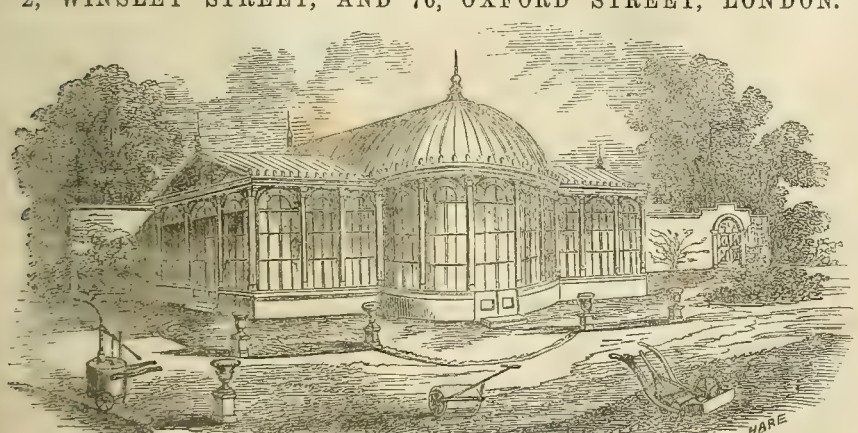
HAND MACHINE.—*Half-inch Scale.*

SIZES AND PRICES.

				£	s.	d.
HAND MACHINE, cutting	16 inches wide	...	...	5	10	0
Ditto	19 „	...	...	6	0	0
Ditto	22 „	...	...	6	0	0
HORSE MACHINE	30 „	...	...	13	0	0
Ditto	36 „	...	...	15	10	0

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UPON

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PAGE AND Co., SEED MERCHANTS, Southampton, have much pleasure in offering their COMPOSITION, which has proved the most effectual remedy ever introduced, and beg to annex two testimonials, *only*, of the great numbers received with orders this season.

1s. per quart, to which add three of water. Bottles 3*d*.

From Mr. J. Wilkins, gardener to H. F. K. Holloway, Esq.

Gentlemen,—I highly approve of your Composition, as it preserved admirably, saving my Wall Trees from an untimely death, and quite recovering my Roses, killing every insect it touched in an instant. I intend to have a quantity of it this season for all my plants.

From Mr. A. Dowling, gardener to the Right Hon. Lord Henry Cholmondeley.

Gentlemen,—Your Composition is most destructive to all insects. My Wall Trees have died, and I now have good crops. I consider it a good remedy to all cases, as it is no injury to the leaves of the trees or the plants. I have used enough to clear me for some years, &c.

Seed and Land-Steward's Register Office, 27 and 28, High-street, Southampton.

TANNED NETTING, for the Protection of Fruit Trees from Frost, Blight, and Birds, and for the security of Fresh-sown Seeds, either in Gardens or Fields, at 1*d*. per yard; 200 yards for 14*s*., 500 yards for 30*s*., 1000 yards for 50*s*.; Waxed Netting, for aviaries, &c., at 3*d*. per square yard. Scrim Canvas for wall fruit. Sun Blinds in great varieties; Rick Cloths, with poles, &c. Marquees, Tents, Tarpaulings, &c.—At EDGINGTON and Co.'s, 17, Smithfield-bars, and Old Kent-road, London.

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THE FIRST PORTION OF THE COLLECTION OF MESSRS. LODDIGES AND SONS.

MR. J. C. STEVENS will sell by Auction, at his Great Room, 38, King-street, Covent-garden, on TUESDAY, June 15, at 12 for 1 o'clock, the FIRST PORTION of this celebrated Collection of ORCHIDS (which contains upwards of 2000 species); it will be found to comprise many fine specimens of the most rare and beautiful varieties, too numerous to mention; the smaller plants, which are in remarkably fine health, will be lotted in a manner that will afford persons commencing the cultivation of this interesting tribe an opportunity of purchasing, which has never before occurred.—Catalogues are preparing, and will be ready a week before the sale.

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AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 23—1852.] SATURDAY, JUNE 5. [PRICE 6*d*.

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HORTICULTURAL SOCIETY OF LONDON.—NOTICE IS HEREBY GIVEN, that the NEXT EXHIBITION of FLOWERS and FRUIT, in the SOCIETY'S GARDEN, will take place on SATURDAY, JUNE 12, at 2 P.M.

Tickets, price 5*s*. each, can be procured at this Office, upon presenting the order of a Fellow, or on the day of the meeting, at Turnham Green, price 7*s*. 6*d*. each.

21, Regent-street, London.

ROYAL BOTANIC SOCIETY REGENT'S PARK.—The SECOND EXHIBITION this season, of PLANTS, FLOWERS, and FRUIT, will take place on WEDNESDAY NEXT, JUNE 9th. Tickets of admission can be obtained at the Gardens, by orders from Fellows of the Society, price 5*s*., or on the day of the Exhibition, 7*s*. 6*d*. each. The AMERICAN PLANTS will be in perfection on Wednesday.

N. B. The gates open at 2 o'clock.

ROYAL SOUTH LONDON FLORICULTURAL SOCIETY.—Under the Patronage of her Most Gracious Majesty the QUEEN.—The Third EXHIBITION for the Season will take place at the ROYAL SURREY ZOOLOGICAL GARDENS on WEDNESDAY, 23*d* June (open to all Exhibitors), when Prizes will be awarded for the following productions, viz.:—Stove, Greenhouse, Orchideous, and Specimen Plants; Pelargoniums, Cape Heaths, Roses, Pinks, Ranunculuses, and Fruit. In addition to the Prizes offered by the Society, J. Powell, Esq., offers a small Silver Linnean Medal for 20 specimens of Wild Flowers, with name and place of growth; by Messrs. J. and J. Fairbairn, a large Silver Victoria Medal for 6 Cape Heaths; by Mr. C. Turner, a large Silver Victoria Medal for 6 Pelargoniums, sent out since August, 1851; by Messrs. Paul and Son, a small Silver Victoria Medal for 12 new Roses; and by Mr. E. Denyer, of Brixton, four prizes for 12 Roses, to amateurs and gentlemen's gardeners.

The following EXHIBITIONS will also take place at the ROYAL SURREY ZOOLOGICAL GARDENS: on WEDNESDAY, July 21, and WEDNESDAY, September 8. List of Prizes and Rules for the Exhibitions may be obtained from JOHN TAYLOR NEVILLE, Ebenezer House, Peckham, Surrey. Secretary.

The Committee will meet at the Horns Tavern, Kennington, on the following days, for the production and awarding first-class Certificates for Seedling Florist Flowers for such as are deserving of the same, viz.:—Thursday, June 17, July 15, August 19, September 2, October 14, November 11, and December 9, in addition to the Exhibitions as above.

MAIDSTONE HORTICULTURAL SOCIETY.—The First Exhibition of this Society for the present season will be held in a field adjoining Rocky-hill-terrace (near the Railway Terminus), Maidstone, on the 24th of June, when, in addition to the usual Subscribers' Prizes, the following will be given (open to all England):—

	£.	*s*.	*d*.
For the best collection of Eight Stove or Greenhouse Plants, exclusive of Calceolarias, Geraniums, and Fuchsias	5	5	0
For the second best ditto	2	2	0

Entrance Fee to Non-subscribers, 7*s*. 6*d*.

No Exhibitor will be entitled to receive BOTH Prizes. The Plants must be on the Ground before 10 o'clock, and notice of intention to compete is required to be given to the Secretary before June 16 By order of the Committee,

10, Week-street, Maidstone. J. G. SMITH, Hon. Sec.

NOTTINGHAM ARBORETUM.

FLORAL AND HORTICULTURAL EXHIBITION, Open to all England.—On MIDSUMMER-DAY, June 24, 1852, a Grand Exhibition of Flowers, Fruits, and Vegetables, Floricultural Designs, Bouquets, and Wax Flowers, will be held at the Arboretum, Nottingham.

Three silver Cups, value 5*l*. each, and a considerable sum in money, will be awarded as Prizes. Schedules may be had on application to the Town Clerk, Nottingham.

Admission, 6*d* each.

June 5. WM CHAPMAN, J. F. WOOD, F.H.S., } Hon. Secs.

THE VALE OF TAUNTON DEANE HORTICULTURAL AND FLORICULTURAL SOCIETY will hold an extra Exhibition in the Vivary Park, Taunton, on Wednesday and Thursday, the 9th and 10th of June instant, during the Bath and West of England Agricultural Meeting.

PRIZES FOR NURSERYMEN.—OPEN TO ALL ENGLAND.

	1st prize.			2d prize.			3d prize.		
	£	*s*.	*d*.	£	*s*.	*d*.	£	*s*.	*d*.
For the best collection of Stove, Greenhouse, and Miscellaneous Plants	2	10	0	1	10	0	1	0	0
For the best New and Rare Plants in Flower	0	10	0	0	7	0	0	5	0
For Seedling Plants of peculiar merit	0	10	0	0	7	0	0	5	0

Persons intending to compete are requested to communicate with the Hon. Sec., Mr. J. KINGSBURY, 10, Hammet-street, Taunton.

COUNTY OF GLOUCESTER AND CHELTENHAM HORTICULTURAL SOCIETY.—The SECOND EXHIBITION of the above Society will be held at the ROYAL OLD WELLS, Cheltenham, on TUESDAY, the 15th of June next. All parties intending to exhibit are particularly requested to observe the regulations (as laid down in the Schedule), and give the THREE DAYS' notice requested, in order that sufficient space may be reserved.

As the Prizes to be awarded at this show amount to upwards of ONE HUNDRED AND THIRTY-NINE POUNDS, it is expected a large number of Plants, &c., will be exhibited, rendering it highly necessary that the rules be strictly adhered to.

J. H. WILLIAMS, Hon. Sec.

Committee Room, 382, High-street.

FINE NEW HARDY PATAGONIAN CONIFERS.
SAXE-GOTHÆA CONSPICUA (LINDLEY), and FITZ-ROYA PATAGONICA (HOOKER).

MESSRS. VEITCH AND SON beg to inform the Public that they are now prepared to take orders for fine plants of the above-named beautiful HARDY NEW CONIFERS, which will be ready for distribution on and after the 10th of June next, at the following scale of prices:—

1st size plants of Saxe-Gothæa conspicua	63*s*.	0*d*.	
Do. do. Fitz-Roya patagonica	63	0	
2d size plants of Saxe-Gothæa conspicua	42	0	
Do. do. Fitz-Roya patagonica	42	0	
3d size plants of Saxe-Gothæa conspicua	31	6	
Do. do. Fitz-Roya patagonica	31	6	

The usual discount to the Trade, and where a number are taken additional plants given over in *proportion* to the quantity.

These plants are fully described by Dr. LINDLEY and Sir W. J. HOOKER, in the Journal of the Horticultural Society for October, 1851; in the "Botanical Magazine" for November, 1851; and in "Paxton's Flower Garden" for October, 1851. They were exhibited at Chiswick on the 8th and each had a FIRST PRIZE in its Class.

Lithographed Plates, with full descriptions, are now in preparation, the distribution of which will be announced in a future Advertisement.—Exeter, June 5.

EXHIBITION OF AMERICAN PLANTS. KNAP HILL NURSERY, WOKING, SURREY.—The AMERICAN PLANTS at this Nursery are just now in the highest perfection, and will afford during the ensuing month of June probably the grandest display of flowers to be witnessed in this country. The Azaleas are now in high perfection.

The Knap Hill Nursery is near the Woking Station, South Western Railway, which may be reached in about 40 minutes from the Waterloo terminus. All Trains stop at Woking, and capital conveyances may be obtained there.

HOSEA WATERER begs to inform his customers that he is in no way concerned with the Exhibition of American Plants in the Botanic Garden, Regent's Park. The Nursery may be seen daily, Sundays excepted, gratis.—Knap Hill, Woking, June 5.

CHOICE CINERARIA SEED.

LUCOMBE, PINCE, AND CO. have now ready for sending out some exceedingly fine CINERARIA SEED, carefully saved from a very select collection of all the newest and finest varieties of the season, in packets, sealed and warranted by them, free by post, 2*s*. 6*d*. each.

L. P. and Co. have also some very

SUPERIOR CALCEOLARIA SEED,

Saved from well-shaped, highly coloured, well marked flowers, which they can strongly recommend; in packages, sealed and warranted by them, free by post, 2*s*. 6*d*. each.

L., P., and Co. have great pleasure in stating that they have received numerous testimonials of the satisfaction which their Calceolaria and Cineraria Seeds gave last season, and they respectfully solicit early orders, as strong plants for early flowering will be obtained by sowing now.

Exeter Nursery, Exeter, June 5.

TURNIP SEEDS.

JOHN SUTTON AND SONS are now sending out their different varieties of HYBRID AND OTHER TURNIPS AND SWEDES, saved from the same pure stocks which have given so much satisfaction in former seasons.

	Pound. *s*.	*d*.		Gallon. *s*.	*d*.
ASHCROFT, large, hardy, and of quick growth	0 10	...	5	0	
SKIRVING'S LIVERPOOL, grown from seed received from Mr. Skirving	0 8	...	4	0	
LAING'S SWEDE, fine	0 9	...	4	6	
PURPLE-TOPPED YELLOW SWEDE (SUTTON'S fine stock)	0 10	...	5	0	
GREEN-TOPPED YELLOW SWEDE, very fine	0 8	...	4	0	
RIVERS' STUBBLE SWEDE, direct from Mr. Rivers	1 6	...	9	0	
DALE'S HYBRID	0 9	...	4	6	
SUTTON'S PURPLE-TOPPED YELLOW HYBRID, the hardiest, largest, and most nutritious of all hybrid Turnips	1 0	...	6	0	
YELLOW BULLOCK AND YELLOW ABERDEEN	0 8	...	4	0	
POMERANIAN, large white	0 8	...	4	0	
GREEN GLOBE, superior stock	0 8	...	4	0	
WHITE GLOBE, fine large	0 8	...	4	0	
LINCOLNSHIRE RED GLOBE, a superior variety, presented to us by Philip Pusey, Esq., M.P.	0 10	...	5	0	
GREEN ROUND (best variety of)	0 6	...	3	6	
TANKARD; RED, WHITE, OR GREEN	0 9	...	4	6	
YELLOW TANKARD (or Tankard Swede)	0 10	...	5	0	
NORFOLK WHITE, large	0 6	...	3	6	
WHITE STONE STUBBLE	0 6	...	3	6	
SUTTON'S EARLY SIX WEEKS, very early and large. This is very superior to the sort commonly sold as "Six Weeks"	0 10	...	5	0	

JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

NEW HARDY HYBRID RHODODENDRON, "BLANCHE SUPERBE."—This fine hardy Rhododendron was exhibited at Chiswick on Saturday May 8, and was greatly admired. It was awarded the Banksian Medal. It is a Seedling of Messrs. VEITCH, who can supply nice established plants of it at 10*s*. 6*d*. each. Discount to the trade.

Exeter, June 5.

SUPERB SEEDLING FUCHSIAS.

LUCOMBE, PINCE AND CO. intend sending out, on the 5th of July next, the following very beautiful new FUCHSIAS:—

APOLLO (PINCE'S).—Rosy tube and sepals, well reflexed; corolla purplish lilac, finely expanded. 10*s*. 6*d*.

ASPASIA (PINCE'S).—Scarlet tube and sepals, finely reflexed; corolla beautiful blue. 10*s*. 6*d*.

PRINCEPS (PINCE'S).—Brilliant scarlet-lake tube and sepals, reflexed to a greater extent than any other Fuchsia, which produces a novel and most attractive effect; corolla deep blue. 10*s*. 6*d*.

L., P., and Co., as the raisers of "Exoniensis" and "Corollina," which gave such general satisfaction, can with confidence recommend the above to all cultivators of this favourite flower, having fully tested their qualities last season, during the whole of which, in their new Show House, they were seen and admired by numerous visitors. They possess waxy firmness, and are particularly smooth and fine in quality, void of all coarseness, of excellent habits, and blooming most profusely; indeed, the high character which these Fuchsias have obtained, from their having been so generally seen in all their stages, render it unnecessary to say any more in their praise.

P.S. Allowance to the Trade, one over when three of each are ordered.—Exeter Nursery, Exeter, June 5.

NEW ROSES.
WOODLANDS NURSERY, MARESFIELD, NEAR UCKFIELD, SUSSEX.

SUPERB NEW ROSES OF 1851, in pots, worked on the Manetti Stock, offered by WM. WOOD and Son.

HYBRID PERPETUALS.	Each—*s*.	*d*.
Baronne de Morel, delicate rose	7	6
Blanche de Portemer, nearly pure white	10	6
Capitaine Charpine, bright cherry colour, shaded	10	6
Comte de Bourmont, deep rose	5	0
Diodore, a seedling from La Reine, shape and colour of Coupe d'Hébé	10	6
Docteur Julliard, crimson shaded	7	6
Egérie, shaded rose	5	0
Etendard du Grand Homme, apricot shaded	5	0
Eugene Sue, bright rose, flowers as large as Baronne Prevost, superb	10	6
General Bedeau, bright red, fine	5	0
General Castellane, bright carmine	10	6
Inermis, rose, very robust	7	6
Isocrate, a seedling from La Reine, bright rose, cupped	7	6
Joseph Decaisne, bright rose, of exquisite form	10	6
La Séduisante, bright red	7	6
L'Enfant du Mont Carmel, crimson	7	6
Leon le Quay, in the way of Chereau, but deeper red	7	6
Lion des Combats, deep crimson	7	6
Madame Andry, bright rose, superb, a seedling from William Jesse	5	0
Madame Ducher, delicate rose	5	0
Madame Flory, lilac rose	7	6
Madame Hilaire, rose	5	0
Madame Seigneur, bright rose, fine	5	0
Mère de St. Louis, nearly white, large	10	6
Miss Jane Carolina Meymott, deep flesh colour, imbricated, fine	10	6
Palais de Cristal, deep flesh colour	7	6
Queen Victoria (Paul)	10	6
Robert Burns (Paul), dark climber	7	6
Souvenir de la Reine des Belges, carmine	7	6
Thérèse de St. Remy	5	0
Triomphe de Meaux, pale rose	7	6
BOURBON.		
Archévêque de Cambrai, crimson	7	6
Beauté Lyonnaise, lilac rose, superb	10	6
Louise Odier, bright rose, form of Coupe d'Hébé, splendid	7	6
Mandarin Chinois, crimson shaded	7	6
Pigeon, bright red	5	0
Souvenir de l'Empire, crimson scarlet, very showy	5	0
Souvenir de l'Exposition, rich puce	7	6
TEA-SCENTED.		
Madame Sylvestre, white, with yellow centre	5	0
Mélanie Oger, yellowish white, deeper centre	7	6

Extra plants presented for distant carriage.

BEAUTIFUL NEW PLANT.

ÆSCHYNANTHUS SPLENDIDUS.

LUCOMBE, PINCE, AND CO. beg leave to inform the Public that they purpose sending out, on the 5th of July next, strong healthy plants of their much admired NEW HYBRID ÆSCHYNANTHUS, which they can with full confidence recommend to all cultivators as a plant that cannot fail to give general satisfaction. Excellent drawings of it will be found in the "Gardeners' Magazine of Botany," Dec., 1851; and in the "Floricultural Cabinet" of last month, to which they respectfully refer, and also invite attention to the following remarks:—

"A hybrid production, and a very beautiful one. It is, no doubt, the finest of its race; which, as is well known, now contains many very splendid imported species. It will prove a most useful ornamental plant of very easy culture, and the brilliance of its large clusters of flowers will make it conspicuous amongst the most showy plants."—*Gardeners' Magazine of Botany, Dec*, 1851.

"The species under consideration ('Æschynanthus splendidus'), is one of the most recently introduced, and certainly one of the very best."—*Gardeners' Journal, March* 13, 1852.

Price 21*s*. each. Allowance to the Trade, one over when three are ordered.—Exeter Nursery, Exeter, June 5.

YOUELL AND CO.'S NEW PLANT CATALOGUE, having the newspaper stamp, to go free by post, may be had on application. It will also be forwarded post free to America, Austria, Australia, Belgium, France, Germany, Holland, Prussia, and Russia.

They take the present opportunity of referring the readers of the *Gardeners' Chronicle* to their advertisement of the 22d May.

Possessing a fine stock of the true Yellow Violet, introduced by Messrs. Veitch and Sons, they are enabled to offer the same at 9*s.* per dozen. This has proved to be perfectly hardy.

Royal Nursery, Great Yarmouth.

TRUE DRUMHEADS FOR CATTLE, by THOMAS WELLAND, Surrey Gardens, near Godalming, Surrey, well packed, and delivered at Godalming Station, at 3*s.* 9*d.* per 1000.

DORKING FOWLS.—The Advertiser is desirous of purchasing a few Sittings of EGGS of the pure DORKING FOWL, from birds of great weight and size.—Apply by letter, giving full particulars, price, &c., addressed D. F., Box D, 62, Post-office, Liverpool.

PRIZE SHANGHAI FOWLS' EGGS FOR HATCHING, 18*s.* per dozen; Buff Cochin China, Spanish, and Polish Eggs, 6*s.* per dozen; China Silk Fowls' Eggs, 20*s.* per dozen. A pair of first-rate White-faced Spanish, a pair of choice Cinnamon Cochin China, and a pair of White Cochin China Fowls for sale; also Cochin China Chickens and Gold Pheasants. A remittance to accompany all orders, and letters to enclose a stamp. WM. TURNER, Tufnell Park, Holloway, London. P.S. Any quantity of Pheasant Poults in season. Post-office orders payable at Islington.

WARRANTED GARDEN TOOLS.

DEANE, DRAY, AND CO.'S STOCK OF GARDEN TOOLS for the season is now complete, and includes every recent approved invention, in addition to their usual large assortment, selected from all the best makers.

DEANE, DRAY, and Co. are London Agents for GIDNEY'S PRUSSIAN HOE, which obtained the First Prize Silver Medal at the Tarvin Grand National Exhibition; also Sole Agents for Lingham's Menographs and Metallic Labels, samples of which may be had on application, post free. They have always on hand a stock of BROWN'S PATENT FUMIGATORS, which have stood the test of three seasons, and continue to give general satisfaction; also Epps' Registered Sulphurator for destroying Mildew upon Grapes, Hops, Roses, Fruit Trees, &c. An Illustrated Priced Catalogue sent per post, free.

DEANE, DRAY, and Co. (opening to the Monument), London-Bridge.

BLIGHT WASH, for effectually destroying the Thrip, Mealy Bug, Green-fly, and other Insects on Roses and other Plants, giving them a healthy and luxuriant appearance; with directions for use. To be had in bottles at 2*s.* 6*d.* each, of J. MANLEY (late Hembery) at his English and Foreign Fruit Warehouse, 41, Watling-street, Cheapside, London; noted house for genuine Orange and Lemon Juice, so much recommended by the faculty for Gout, Rheumatism, &c.

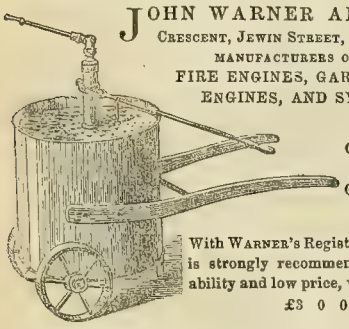
TERRA COTTA VASES, PENDANT BASKETS, BRACKETS, ORNAMENTAL FLOWER-POTS, &c., manufactured by HENRY DOULTON and Co., High-street, Lambeth, London. West-end Show and Sale Rooms, Exposition, Baker-street, Portman-square.



H. D. and Co.'s Terra Cotta is vitrified, and consequently imperishable, retaining its freshness and sharpness unimpaired by time or exposure to the weather.

DRAWINGS AND PRICES ON APPLICATION.

JOHN WARNER AND SONS,
CRESCENT, JEWIN STREET, LONDON,
MANUFACTURERS OF
FIRE ENGINES, GARDEN ENGINES, AND SYRINGES.



No. 12 GALVANISED IRON TUB GARDEN ENGINE,

With WARNER'S Registered Spreader, is strongly recommended for durability and low price, viz.:—

£3 0 0

May be obtained of any Ironmonger in Town or Country.

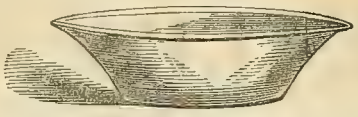
TANNED NETTING, for the Protection of Fruit Trees from Frost, Blight, and Birds, and for the security of Fresh-sown Seeds, either in Gardens or Fields, at 1*d.* per yard; 200 yards for 14*s.*, 500 yards for 30*s.*, 1000 yards for 50*s.*; Waxed Netting, for aviaries, &c., at 3*d.* per square yard. Scrim Canvas for wall fruit. Sun Blinds in great varieties; Rick Cloths, with poles, &c. Marquees, Tents, Tarpaulings, &c.—At EDGINGTON and Co.'s, 17, Smithfield-bars, and Old Kent-road, London.

RIPE FRUIT, STRAWBERRIES, AND SEED-BEDS. NEW TWINE NETTING (Tanned if required). One yard wide, 1½*d.* per yard; 2 yards wide, 3*d.* per yard; 4 yards wide, 6*d.* per yard; half-inch mesh ditto, 2 yards wide, 5*d.* per yard.

THE ELASTIC HEXAGON GARDEN NETTING, 76 meshes to the square inch, effectually excludes birds, wasps, flies, &c., from fruit-trees, flower or seed-beds, 1½*d.* per square yard. Tanned Netting, 2 or 3 yards wide, 1½*d.* per yard; 4 or 6 yards wide, 3*d.* per yard—exactly the same as advertised by others at double the above prices. Coir or Hemp Sheep-folding Net, of superior quality, 4 feet high, 4*d.* per yard. Lamb Net, 6*d.* per yard. Rabbit Net, 1½*d.* per yard 4 feet wide. Each Edge Corded, 2*d.* per yard, suitable for fowl-fencing. Square Mesh Cricketing Net, fix its full width and length, made of stout cord, 3*d.* per square yard; this is the best article made for fencing, against fowls, cats, &c. The largest, cheapest, and best stock in the world, at W. CULLINGFORD'S, 1, Strathmore-terrace, Shadwell, London. The Trade supplied. Orders by post punctually attended to.

Fishing Nets of all kinds in Stock.

GLASS MILK PANS.



JAMES PHILLIPS AND CO., 116, BISHOPSGATE-STREET WITHOUT, BEG TO INFORM THEIR FRIENDS THEY ARE PREPARED TO SUPPLY GLASS MILK PANS THE SAME SIZE AS THE FOREIGN ONES, BUT SUPERIOR IN COLOUR, MAKE, AND QUALITY, AT 2*s.* EACH, OR 21*s.* PER DOZEN.

IF A LARGE QUANTITY IS TAKEN A DISCOUNT WILL BE ALLOWED.

LORD CAMOY'S MILK SYPHONS, LACTOMETERS, GLASS CREAM POTS, &c. &c.

CUCUMBER TUBES, PROPAGATING AND BEE GLASSES, SHADES FOR ORNAMENTS, FISH GLOBES, PIANO INSULATORS, &c. &c.

GLASS.

THOMAS MILLINGTON'S FOREIGN SHEET GLASS is far superior to any other manufacture, as well as cheaper. In 100-feet boxes packed for immediate delivery.

6 inches by 4 and	6½ by 4½	...	...	...	13*s.* 0*d.*
7 ,,	5 and 7½ by 5½	...	...	...	15 0
8 ,,	5 and 8 by 5½	...	...	...	15 0
8 ,,	6 and 8½ by 6½	...	...	...	17 6
9 ,,	7 and 10 by 8	...	...	...	20 0
12 ,,	10 and 13 by 9	...	...	...	20 0

And many other sizes, or cut to order in various thicknesses. Cases containing large Sheets, in 100, 200, and 300 feet, at 21*s.* per 100 feet.

ROUGH PLATE, perfectly flat, ⅛ in. thick, best manufactured.

In sizes under 15 inches	.....	6*d.*	per foot.
,, ,, 35 ,,	.....	8*d.*	,,
,, ,, 50 ,,	.....	9½*d.*	,,
,, ,, 75 ,,	.....	12*d.*	,,

Milk Pans, 2*s.* to 6*s.* each; Metal Hand Frames, Glass Tiles and Slates; Cucumber, Propagating, and Bee Glasses; Wasp Traps, Glass Shades, and Plate Glass, at 87, Bishopsgate-street Without, same side as Eastern Counties Railway.—Established 100 years.

GLASS FOR CONSERVATORIES, GREENHOUSES, PIT FRAMES, ETC.

HETLEY AND CO. are supplying 16-oz. Sheet Glass, of British Manufacture, packed in boxes, containing 100 square feet each, at the following REDUCED PRICES for cash A reduction made on 1000 feet.

Sizes.—Inches.					Per foot.	Per 100 feet.
	Under	6	by 4	at	1½*d.*	is £0 12 6
From 6 by 4	,,	7	,, 5	,,	2*d.*	,, 0 16 8
7 ,, 5	,,	8	,, 6	,,	2½*d.*	,, 0 18 9
8 ,, 6	,,	10	,, 8	,,	2½*d.*	,, 1 0 10
10 ,, 8	,,	12	,, 9	,,	2¾*d.*	,, 1 2 11

Larger sizes, not exceeding 40 inches long.

16 oz. from 3*d.* to 3½*d.* per square foot, according to size.
21 oz. ,, 3½*d.* to 5*d.* ,, ,, ,,
26 oz. ,, 3½*d.* to 7½*d.* ,, ,, ,,

PATENT ROUGH PLATE, THICK CROWN GLASS, and PATENT PLATE GLASS for Horticultural purposes, at reduced prices, by the 100 square feet.

GLASS TILES AND SLATES made to any size or pattern, either in Sheet or Rough Plate Glass.

Propagating Glasses, Bee-hive Glasses, Cucumber Tubes, Glass Milk Pans, Glass Water Pipes, and various other articles not hitherto manufactured in glass.

PATENT PLATE GLASS.—The present extremely moderate price of this superior article should cause it to supersede all other inferior window glass in a gentleman's residence. No alteration connected with the sash is required.

GLASS SHADES, as ornamental to, and for the preservation of every description of goods susceptible of injury by exposure. Prices, since the removal of the excise duty, reduced one-half. List of Prices and Estimates forwarded on application to JAMES HETLEY and Co., 35, Soho-square, London.

THE CHEAPEST HOUSE FOR LEAD, GLASS, OIL AND COLOURS.

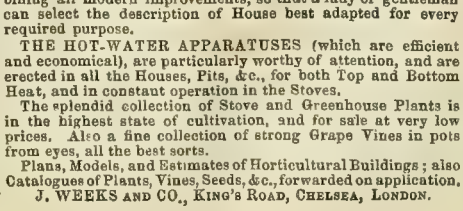
WHOLESALE PRICES CHARGED.

H. J. AND W. WALKER, LEAD, GLASS, OIL, and COLOUR MERCHANTS, 125, Queen-street, Portsea, supply in any quantities, at wholesale prices, Crown and Horticultural SHEET GLASS, Patent and Polished Plate, Rough Plate for Conservatories and Greenhouses, Glass Milk Pans, Bee, Cucumber, and Propagating Glasses, and every description of Glass for Horticultural purposes. Ornamental and Stained Glass, Church Quarries, &c. Deep Well, Lift, and Garden Pumps. Plumbers' Brass Work, Brushes, Varnishes, and Colours at London prices.

N.B.—Experienced workmen sent to any part of the country.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER.

WARRANTED BEST MATERIALS AND WORKMANSHIP, AT THE LOWEST POSSIBLE PRICES.



J. WEEKS AND CO., King's Road, Chelsea, Horticultural Architects, Hothouse Builders, and Hot-water Apparatus Manufacturers. The Nobility and Gentry about to erect Horticultural buildings, or fix Hot-Water Apparatus, will find, at our Hothouse Works, King's Road, Chelsea, an extensive variety of Hothouses, Greenhouses, Conservatories, Pits, &c., erected, and in full operation, combining all modern improvements, so that a lady or gentleman can select the description of House best adapted for every required purpose.

THE HOT-WATER APPARATUSES (which are efficient and economical), are particularly worthy of attention, and are erected in all the Houses, Pits, &c., for both Top and Bottom Heat, and in constant operation in the Stoves.

The splendid collection of Stove and Greenhouse Plants is in the highest state of cultivation, and for sale at very low prices. Also a fine collection of strong Grape Vines in pots from eyes, all the best sorts.

Plans, Models, and Estimates of Horticultural Buildings; also Catalogues of Plants, Vines, Seeds, &c., forwarded on application.

J. WEEKS AND CO., KING'S ROAD, CHELSEA, LONDON.

HOTHOUSES, GREENHOUSES, ETC.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

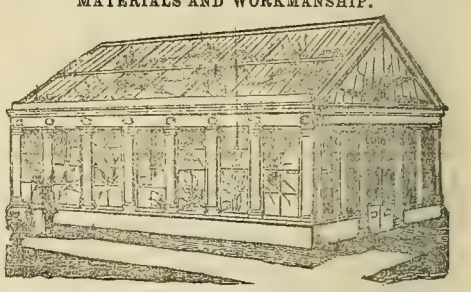
E. DENCH, PATENT HOTHOUSE WORKS, KING'S ROAD, CHELSEA.—The superior qualities in every respect of these Structures having been proved in all parts of the United Kingdom, has caused a greater demand for them than E. D. could execute; he has been obliged to have perfect and powerful machinery made to meet the numerous orders, and can now execute any amount of work to great perfection, with dispatch, and for quality and price to defy all competition. Patent Hothouses, with excellent glass, 3 feet long by 1 foot wide, every front sash to open, and every top one to slide down, with pulley made of the same materials as the electric telegraph wires, which require no painting; delivered free to Wharf or Railway Station, at 1*s.* 2*d.* per foot super., complete, having been fitted, and every portion marked previously, making a Greenhouse 16 ft. 6 inches long, 12 ft. rafter, 400 ft., 23*l.* 6*s.* 8*d.*; 24 ft. 6 ins. long, do. do., 526 ft., 30*l.* 13*s.* 8*d.*; 28 ft. 6 ins. long, 15 ft. rafter, 712 ft., 41*l.* 10*s.* 8*d.* Heating by Hot Water on the most approved and economical principles.

Patent Sashes for Pits and Peach Walls, &c., 7*d.* and 8*d.* per foot, super.

GREEN AND HOTHOUSES, made by Machinery, at J. LEWIS' Horticultural Works, Stamford Hill, Middlesex, warranted best materials, and the cheapest in England.—A List of Prices sent by enclosing 2 postage stamps.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER,

AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.



GRAY AND ORMSON, Danvers Street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

G. and O. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders they can with the greatest confidence give the most satisfactory references.

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JOHN TAYLOR begs most respectfully to call the attention of the Nobility, Gentry, and Gardeners, to the very superior manner in which he erects all kinds of Greenhouses, Conservatories, Forcing Pits, &c., and all other buildings for Horticultural purposes, combining all the most modern improvements with elegance and utility. His manner of heating Horticultural Buildings, Churches, Chapels, Public Buildings, Entrance Halls, &c., has received the greatest approbation from the Nobility and Gentry by whom he had been extensively engaged.

TO GARDENERS AND OTHERS.

TO BE SOLD, cheap, a large quantity of COCKLE-SHELLS, for Garden Walks, as used in the Regent's Park, Surrey Zoological, and Rosherville Gardens, &c., price 4*s.* per yard, on Wharf.—Apply to Messrs. COLES, SHADBOLT, and Co., St. James's Lime and Cement Wharf, Caledonian-road, Islington, London.

TO BE SOLD, a few Acres of TARES, abundant crop, and ready for immediate cutting. For Terms, inquire on the field, at Wood-lane, Shepherd's Bush, to FREDERICK MITCHEL.—The Land to be Let.

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"In noticing the hives exhibited in the Crystal Palace, first and foremost, in my opinion, stands Mr. Taylor's Eight-Bar Hive, and Messrs. Neighbour and Son's Improved Cottage Hive, both exhibited by Messrs. Neighbour."—*J. H. Payne.*

(See the "Cottage Gardener," Nos. 169, 170).

AGENTS.—Liverpool: Wm. Drury, Castle-street. Manchester: Hall and Wilson, 50, King-street. Glasgow: Austin and McAslan, 168, Trongate. Dublin: J. Edmondson and Co., 61, Dame-street.

LINGHAM BROTHERS, 170, Hampton-street, Birmingham, sole Manufacturers of the Improved WOOD and ZINC MENOGRAPH, or Label for Garden Borders, Flower-pots, &c., in boxes of 100, &c. The Zinc Labels are highly approved of for their lasting durability; can be written upon with the greatest ease, and, when dry, a permanent inscription is secured. Directions for use sent with each box, including bottle of Metallic Ink.

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WATER YOUR GARDENS AND MANURE YOUR LANDS WITH GUTTA PERCHA TUBING.

FARMERS, GARDENERS, FLORISTS, and all who have a garden, will save a deal of trouble in watering and manuring gardens or land, by using Gutta Percha Tubing. Testimonials to its economy, efficiency, durability and convenience, are being constantly received. Tubing for gardening, 3*d.* light; and 3½*d.* to 4*d.* per foot half inch bore stout, which is the best and most economical, copper branch and rose complete.

Brass or Gutta Percha Unions for attaching to Butts or Cisterns. Spreaders, Stopcocks, Jets, and Roses complete.

Price Lists of Tubing can be had or sent, on application to JAMES SHEATH and Company, at the Patent Gutta Percha Warehouse, 35, Old-street-road, London.

CARCE AND BEAUTIFUL FLOWER SEEDS.
EMPEROR STOCK, a perennial species, and hardy. 00 seeds, 1s.
CINERARIA and CALCEOLARIA, selected from collections Plants, that were admitted by all persons who saw them to the finest they had ever seen; 250 seeds of the former, and of the latter, 1s. each paper.
MYOSOTIS AZORICUS, a bed of this on an eastern or rthern aspect is very beautiful; 200 seeds, 1s.
CALENDRINIA UMBELLATA, one of the neatest growing d most brilliant flowering of all bedding plants; 1500 seeds, 1s.
SWEET WILLIAM, in 100 varieties; 10,000 seeds, 1s.
Payment may be made in postage stamps.
JEYES and Co., Nurseries, Northampton.

EXHIBITION OF AMERICAN PLANTS.
OHN WATERER begs to announce that his unrivalled collection of RHODODENDRONS, AZALEAS, , is now on view at the ROYAL BOTANIC GARDENS, gent's Park, and may be seen gratis by orders from members he Society.
lis collection at the Nursery, comprising many thousand imens, is also in perfection, and may be seen gratis.
he American Nursery, Bagshot, Surrey, near the Farnough Station, South-Western Railway, and three miles from okwater, South-Eastern Railway; conveyances may be tained at either station.

CANDISH and NOBLE, Nurserymen, Bagshot, Surrey, have to offer the following new and select Plants, f which are hardy, except Azalea vittata:
BIES JEZOENSIS, seedling plants, 21s. each; this is one of ast novelties in Conifera; forms a noble tree of 120 feet in ht, and of very distinct character (very hardy).
ZALEA VITTATA.—A specimen of this unique variety awarded a Knightian Medal when exhibited at the Horticultural Society's Room last April; the ground colour of the er is white, beautifully striped with purple, after the ner of a Carnation. It is a very free bloomer, 9 inches to t, 21s. each.
PRESSUS FUNEBRIS.—Seedlings, 5s. to 21s. each.
PHALOTAXUS FORTUNI, male, long leaves, seedlings, each.
PHALOTAXUS FORTUNI, female, short leaves, seed- 21s. each. These have withstood the late frost and g winds without losing any of their verdure (very hardy).
SX FURCATA, 21s. each.
MACROCARPA, 21s. each.
ERCUS SCLEROPHYLLA, 21s. to 42s. each.
" INVERSA, 21s. to 42s. each.
RÆA CALLOSA, an abundant and continued bloomer. large corymbs of rosy purple blossoms, and is a handaddition to our shrubbery plants. 10s. 6d. each.

VICTORIA REGIA.
WEEKS and CO., King's Road, Chelsea, have a few fine strong Plants for Sale of VICTORIA REGIA, hæa cærulea, Nymphæa dentata, Nymphæa stellata, &c. o a splendid Collection of Stove and Greenhouse Plants, the highest state of cultivation.—PLANS and ESTIMATES ilding Aquariums and all other Horticultural erections. EEKS & Co.'s HOT-WATER APPARATUS is well adapted arming large Ponds, for Stove Aquatics, and for Heating ive ranges of Forcing-house.
HORTICULTURE IN ALL ITS BRANCHES.

ON HAYES, Florist, Farnham, Surrey, begs to that he has 300 dozen of autumn-struck VERBENAS , potted early in February; he will turn them out of s, and send them for 1s. 4d. per dozen, naming colours ; 7 dozen well-rooted plants, in varieties, with good f earth, for 5s., and 1s. per dozen, sent post free where n are taken.

VERLOCK'S NEW BROWN COS LETTUCE.
The parent was selected in 1850, and produced seed in or a crop in 1851, from which that now offered was It is now proved to be correct, by a bed of 1000 in full ion, turned in without tying, like a sugar-loaf Cabbage; d weighed 2¾ lbs. Its habit is dwarf, growing close to und, and appears very hardy. A packet will be sent post, on receipt of orders enclosing 30 postage , by H. SILVERLOCK and SON, Chichester.—June 5.

GH LOW and Co. have to offer the undernamed Plants:—
ITE ORANGES, extra fine, full of bloom, 7s. 6d. each, per dozen.
do. do. do. and Fruit, 7s. 6d. each.
IA GRACILIS (Japan), one of the prettiest hardy yet introduced, well adapted for early forcing, 2s. 6d. 6d. each.
.I. five new varieties, raised by A. Clapham, Esq., of rough, the most successful cultivator of this genus, ch, or 17s. 6d. the set.
DIUM RUBRUM, a new and handsome hardy herbaplant, with blood red flowers, 7s. 6d. each.
ET GERANIUM "THE AMAZON" (see former sement), 5s. each.
s, new species from the Pacific Islands, with charming loured flowers, quite distinct, 7s. 6d. each.
INICUM HYBRIDUM, a very fine variety, with deep wers, 3s. 6d. each.
RDIA LEIANTHA, this is the finest and most distinct species, with beautiful orange scarlet flowers, well for either the greenhouse or flower garden, 1s. 6d. 12s. per dozen.
OLOBIUM CUNEATUM, a very handsome New d plant, with large spikes of orange-coloured flowers, e bloomer, 3s. 6d. each.
YSMA ACUMINATA, an excellent conservatory r, habit quite distinct, flowers bright scarlet, 5s. each.
species, Swan River (Drummond), a very rapid r, for the greenhouse, with woolly leaves and bright wers, which appear during the autumn months, each.
ICUM LEAKEANUM (Swan River), a beautiful plant greenhouse, 5s. each.
three species from Swan River, distinct in habit and undant bloomers, 3s. 6d. each.
IA SCOLOPENDRIODES, a magnificent species of rth admired genus, 21s. each.
COLCHICUM (Caucasus), of dwarf habit, perfectly with splendid golden yellow flowers, 10s 6d. each.
RUS CHILENSIS, a handsome Conifer, from the d Chili, and one of the finest Evergreen Trees yet ed, 5s. to 7s. 6d. each.
BIAN, the best of last year's continental varieties, 9s. per dozen.
YSANTHEMUMS, do. do. 9s. to 12s. per dozen.
do. do. 12s. to 18s. "
do. do. 9s. to 12s. "
selection of the older Verbenas, Petunias, Lantanas, Heliotropes, Bedding Geraniums, &c. &c., at from 4s. per doz.
Nursery, London, June 5.

MESSRS. J. AND H. BROWN'S NEW LIST of BEDDING-OUT PLANTS, &c., can be had by Post. They also offer the following selected Plants, which they will forward to any part of the Kingdom.

	Per dozen.—s.	d.
Alstrœmerias, new sorts	12	0
Anagallis, fine large blue and red do.	6	0
Bouvardias, of sorts, strong plants	9	0
Calceolarias, shrubby yellow, orange, scarlet, and spotted	6	0
Dahlias, show and fancy varieties ... ... 6s. to	12	0
Cuphœas and Salvias, of sorts ... ... 4s. to	6	0
Verbenas and Petunias, new sorts ... ... 4s. to	6	0
Lobelias, tall and dwarf varieties ... ... 6s. to	8	0
Œnothera, large yellow and white ... ... 6s. to	9	0
Pentstemons and Antirrhinums, in colours...	6	0
12 Tea-scented Roses, one of a sort, by name, in pots ...	9	0
12 Fairy Roses, crimson, white, and pink, for edgings ...	6	0
12 Bourbon Roses, best sorts for beds, in pots	10	0
Climbing Roses, choice sorts, in pots, per doz.	6	0
Passifloras, Clematis, Jasmines, Wistaria, Loniceras, and other hardy and tender Climbers, 1s. 6d. each, or, per dozen, in pots	12	0
12 Azaleas, new hardy Belgian varieties, on their own roots, in pots, one of a sort, by name, very fine ...	12	0
12 Rhododendrons, including scarlet, white and rose ...	12	0
12 Greenhouse Azaleas, one of a sort, blooming plants ...	25	0
50 Choice flowering Greenhouse plants, by name ...	45	0
24 Choice Ericas, one of a sort, by name	16	0
12 Orchidaceous plants, choice species, and good plants	30	0
12 Gloxinias, Achimenes, and Gesneras, one of a sort ...	10	0
Fancy show and scarlet Geraniums, best sorts for beds, per dozen ... ... 6s., 9s., and	12	0
12 Phloxes, new Belgian perennial varieties	8	0
6 Potentillas, beautiful new varieties	6	0
Chrysanthemums, fine show varieties per dozen, 6s. to	8	0
Dwarf Pompon varieties, by post ... " 6s. to	8	0
25 Choice hardy Herbaceous plants, by name	10	0
Hardy Ferns, and other plants for rockwork, per dozen	8	0

All the choice Coniferæ, Pinus, Araucarias, Cryptomerias, and Taxodiums, of various sizes, in pots. List of prices on application.—Albion Nursery, Stoke-Newington, London, June 5.

THROUGH a mistake of one of our growers, we have sent out a considerable quantity of a PEA *for our Early No.* 1, which bears no resemblance to it. We are very sorry it should have happened so, and beg to say, on application, the money will be returned to all who have had the wrong article, or the same quantity will be delivered, carriage free, next November. We are now going over our orders, to enable us to see to whom they were sent.
HAY, SANGSTER, and CO., Newington Butts, London, June 5.

HEXACENTRIS MYSORENSIS.—This extraordinary and beautiful new Climber (requiring the temperature of a stove or warm greenhouse), is perfectly distinct in its character from anything yet introduced. It was exhibited by Messrs. VEITCH and SON at Chiswick, on Saturday, the 8th of May, and received the First Prize for New Plants; and was, indeed, on that occasion, the admiration of all who saw it.
It is a most abundant bloomer, producing its long pendulous clusters of large golden yellow and deep crimson flowers in great abundance, continuing in perfection for several months. The habit of the plant is excellent, with neat dark green foliage, and is of easy culture. It is altogether a plant of such first-rate quality and great beauty, that Messrs. VEITCH and SON feel every confidence in highly recommending it.
Good established plants will be ready for delivery in the month of August next, at 21s. each. One plant over to the Trade on every three taken. Orders executed in strict rotation as received.—Exeter, June 5.

The Gardeners' Chronicle.
SATURDAY, JUNE 5, 1852.

MEETINGS FOR THE ENSUING WEEK.

MONDAY,	June	7	Entomological	8 P.M.
			Chemical	8 P.M.
			Syro Egyptian	7½ P.M.
TUESDAY,	—	8	Medical and Chirurgical	8½ P.M.
			Zoological	9 P.M.
			Royal Botanic Gardens	2 P.M.
WEDNESDAY,	—	9	Society of Arts	8 P.M.
			Pharmaceutical	8½ P.M.
			Ethnological	8½ P.M.
			Royal Soc. of Literature	4 P.M.
THURSDAY,	—	10	Antiquarian	8 P.M.
			Royal	8½ P.M.
			Philological	8 P.M.
FRIDAY	—	11	Astronomical	8 P.M.
			Royal Institution	8½ P.M.
SATURDAY,	—	12	Horticultural Gardens	2 P.M.
			Royal Botanic	3½ P.M.

COUNTRY SHOW.—Wednesday, June 9: Scottish Pansy.

A CORRESPONDENT says: "I hear nothing of the hybridising of the beautiful and hardy genus IRIS; but it ought to be done extensively. The structure of the flower makes it difficult. Could you not explain, in words intelligible to very stupid people, *how it should be effected?*"

We cannot admit that any reader of the *Gardeners' Chronicle* should be ranked among very stupid people; and therefore we must decline addressing ourselves to that unfortunate class. To the intelligent part of society we say, in reply to this question, that the method of proceeding is very simple, as the following statement will show. Take the common large purple German Iris; it will be found to have three dark floral leaves which are turned downwards, and three others of a much paler colour which stand erect. Cut off all these, and a part will remain having—1, a somewhat triangular base, containing young seeds; 2, a smooth tubular neck, from which the floral leaves have been cut; and 3, a set of three thin erect convex blades, which are cloven at the upper end and firmly united at their lower. These are styles, in the state of petals. Beneath each style, and concealed within the cavity which it forms, is a stamen of the usual structure. Just below the cleft of the styles there is a transverse slit, of which the cloven part forms the upper lip, and the curved end of the concave portion forms the lower lip. If these two lips are gently opened they will be found to present a viscid surface. That surface is the stigma, and all which the operator has to do is to brush the pollen out of the anther of one kind of Iris, and to apply it to the viscid surface within the slit of some other Iris; or he may dispense with the brush and simply knock the anther against the open slit, so as to cause the pollen to fall in. We hardly need add that the stamens of the flower to be operated upon should be removed before their anthers have opened.

As a guide to those voters of the GARDENERS' BENEVOLENT INSTITUTION, at the next anniversary, who have no personal interests to serve, we think it as well to place the candidates in the order in which their claims appear to us to stand, with reference to the support each has given to the Charity while he was in a condition to subscribe to it; for, as we have formerly observed, it seems very unfair that those who have aided it most by their subscriptions should be placed in a worse position than they who have done less, or, nothing at all. That all are equally deserving of the assistance of charitable persons we can well believe, and we should be happy to know that all could be elected; but as there is only room for two, the following list will, we think, show distinctly which the two should be:—

NAME.	No. of years during which he has subscribed.
GREEN, JAMES	12
OLIVER, ROBERT	11
JACKSON, WILLIAM	10
BATTEY, JAMES	7
LAWRENCE, JACOB	5
THACKER, WILLIAM	5
ROBINSON, CORNELIUS	4
SNOW, JOHN	4
BLACKE, JOHN	3
MARSHALL, EDWARD APPLEBY, JOHN HOPKINS, JOHN SCHNEIDER, HENRY CARTER, WILLIAM MEARNS, JOHN	0

IN the prosecution of our researches into the use of LOAM, we last week suggested that Mr. COLES, the seedsman of Cranbourn-street, would perhaps tell us for what purpose the loam is used which has been carted for him to Hungerford-market vaults. That suggestion has produced us the following letter:—

"Sir,—In answer to the leading article, paragraph 14, in last week's paper respecting the adulteration of Guano, I beg to say, that as far as I am concerned in those nefarious transactions, I deny in toto every word that your informant states, and defy him or anybody else to prove the delivery of a single particle of loam to either the vaults in Hungerford market, or to the Wharf at the bottom of Salisbury Street, Strand, and more than that I am not a Guano dealer, but in an article known under the name of the Compound Animal Manure, of which I have sold a great quantity during the last four years, and of which I beg to enclose you a prospectus, and court the most strict enquiry as to the genuineness and fertilizing properties of the above, and am willing to send samples, or if more satisfactory any party may come and take samples themselves direct from the premises, and I shall be happy to give any explanation they may require respecting it. That rubbish is sold as manure I am quite aware, as sometime ago I ordered of a party in the city several tons of a certain manure (not Guano), to be sent in according to the sample shewn at the time of its being ordered, but upon its being sent it was no more like the sample than chalk to cheese, consequently I sent it back, before a bag was shot, and if every body that had an impure article sent were to do the same, we should soon have no more complaints about the adulteration of manures, saying nothing about the robbery committed upon the consumers. Trusting that you will insert the above in vindication of the foul accusation made against me,

"I am, Sir, your obedient servant,
"H. COLES.

"43, Cranbourn-street, Leicester-square."

It will be seen that Mr. COLES supposes our observations to have related to the adulteration of guano; but if he will refer to what we said, he will perceive that the inquiry was entirely confined to the use of loam—quite another matter. He says that he is not a guano dealer; we never said that he was; we did not suppose that he was; as far as we had any knowledge of his transactions, we had every reason to think that he did not deal in guano: and we now entirely exonerate him from any participation in the trade. The people at Hungerford-market may assert as roundly as they please that he is a guano dealer; we believe the exact contrary.

He seems, however, to know a great deal about the guano trade, and to have a very bad opinion of it. He says he is aware that "RUBBISH" is sold as manure; and even adds that he has bought some of it—and sent it back; which was not unnatural. Finally, he calls the report that loam is brought for him to Hungerford vaults "a foul accusation," and denies that he ever received a single particle of it either there or elsewhere. As we have repeatedly

said, we do not understand why people should be so sensitive about being suspected of dealing in loam; loam is a very useful material in gardening, especially when containing calcareous matter, and it seems to us the most surprising thing in the world that the mere assertion that he receives loam at Hungerford vaults should be regarded by Mr. COLES as a foul accusation.

For ourselves we accuse no man; we merely state such circumstances of horticultural interest as come to our knowledge; and we will now explain out of what "the foul accusation," that Mr. COLES is a receiver of loam, arose.

There is a warehouse adjoining the Surrey Canal belonging to Mr. POOLEY, a builder, we believe. To that warehouse clay is brought out of Kent and other districts. At that warehouse, too, vans belonging to Hungerford Wharf were loaded one Saturday in April with bags of loam or dried clay, as was believed. They could not have been bags of guano, for Mr. POOLEY is not known to deal in the article. These vans were emptied at Mr. COLES' vaults. A sample of the substance they were loaded with was taken, and is now before us. A portion has also been analysed by Prof. WAY, who finds it to consist of

	Per cent.
Water and organic matter	12.00
Fine sand	48.00
Clay	17.50
Carbonate of lime	9.80
	87.30

Now we submit that this is calcareous loam, and very good loam, too. So that Mr. COLES must be quite mistaken in saying that loam is not carted into his vaults. As to its being the "Compound Animal Manure" alluded to in his letter, it is impossible that it can be that; for the compound animal manure is sold at from 5*l.* to 8*l.* a ton, and we are sure that Mr. COLES would be the last man to sell as manure any substance nearly nine-tenths of which is loam.

ECHEVERIA RETUSA.

THIS can scarcely be considered to be a first-class plant, as respects either beauty or fragrance, but its natural season of blooming being from November to April, it is well worthy of the attention of those who value winter flowers. Its culture is very simple, and when guarded from damp and kept in a temperature of from 40° to 45° it will remain in beauty for a very long time.

It is quite possible to propagate and grow the plants to moderate sized specimens in one season, but the better way is to root a sufficient stock of plants, and have them established in 5-inch pots previous to winter; these are ready to be placed in a growing temperature early in spring, and form finer specimens than can be made of plants propagated and grown in one season. The cuttings may be selected any time previous to midsummer, and as leaves, or any part of the plant, root freely, and produce plants, these are readily obtained. Before planting, expose the cuttings in a dry place until the wounds become dry. Use light sandy soil, and insert them very lightly; cover with a glass, place them in a shady situation in a moderately warm house, and give no more water than is just sufficient to keep the surface slightly damp until roots are emitted, when there will be no further danger of rotting or damping off; and when this is the case the glass may be removed, and water be applied more liberally. Pot singly, in 5-inch pots, as soon as the cuttings are moderately well rooted, and place them in a close shady situation for a fortnight, till they become established. They may then be removed to an airy place in the greenhouse, or elsewhere, where they can be protected from drenching rains. During winter they will merely require protection from frost and damp—and at that season very little water should be applied to the soil—but they should be set near the glass. If any of the plants throw up flower stems these should be removed; but unless they are kept in too high a temperature, and over freely watered, this will not happen.

Early in March, place the plants in a moist growing temperature of about 50°; gradually increase the supply of water, and encourage active growth. As soon as the pots are moderately filled with active roots, shift into 8-inch pots, and place the plants in a rather close part of the house till the roots get hold of the fresh soil. When they appear to be well established, after potting, they should be freely exposed to sun and air on all favourable occasions. About the middle or end of May they may be removed to a cold frame, which will afford a very suitable situation for them during the summer months—but if the weather should prove cold and damp immediately they are placed there, the frame must be kept rather close, to prevent the plants from sustaining a check. Admit air freely during bright days—sprinkle overhead and shut up early in the afternoon. If all goes on properly a second shift will be required in June, and on this occasion the plants may receive 12-inch pots. Keep the frame rather close, and with a moist atmosphere, lowering the temperature by means of a slight shade during bright sunshine; water cautiously at the root, but freely with the syringe overhead, till the roots appear to have laid hold of the fresh soil.

In order to secure the greatest possible display of blossom, it will be necessary to have the growth perfectly ripened during autumn; this will be easily effected by gradually reducing the supply of water to the soil, and exposing the plants to the sun's rays, and the freest possible circulation of air. I need not say that while the object is to mature the growth, the plants should occupy a situation where they will be protected from rain. Towards the end of September they may be placed in the closest end of the greenhouse, and if a few are placed in a pit where a little artificial heat can be afforded them, they will be in blossom early, and the flowering season may be prolonged from the beginning of November to the middle of April, by a little attention, in bringing a portion of the plants into a warmer place, at intervals of about six weeks, leaving some to flower in ordinary greenhouse temperature. The flower stems should be tied to neat stakes, so placed as to give the plants the desired form, and this should be attended to soon after the stems begin to elongate, as they are liable to be broken and injured, when this is deferred until they attain their full length. As already intimated, a rather dry atmosphere, with a temperature of about 45°, is most suitable during the flowering period. If there is a stock of young plants in hand, the specimens may be thrown to the rubbish-heap, as soon as their beauty is over; or the flower-stems may be cut back, and the plants placed in the greenhouse, and watered very carefully until they commence growth. If treated during summer and autumn as recommended, they will probably make large specimens, and flower as freely as they did last season, but especial care must be observed not to overwater at any time; for if the soil ever gets into a soddened condition, the plants will probably do but little good afterwards.

The soil for this Echeveria should be light and rich, such as water will pass through freely. Two-thirds light turfy loam, one-third rich turfy peat or leaf-soil, with a liberal admixture of silver sand, small potsherds, or charcoal, will answer perfectly. *Alpha.*

FOREIGN GARDEN GLEANINGS.

IN the few notes I sent you on German gardens I did not mention Potzdam. I had an old prejudice against Sans Souci, derived from a dislike to Frederick the Great; and, moreover, all who have not been there, have, I suspect, a notion that Potzdam is in the midst of a sandy desert. We were, indeed, agreeably disappointed; the terrace, or rather the series of (I believe) six terraces, mounted by broad flights of steps, was by far the grandest garden feature I ever saw—finer than anything at Versailles. At the top was a long range of Villa or Casino-building, in which Frederick so much delighted; and no wonder, for the garden at his feet was exquisite, and instead of the sandy desert, the view was very pleasing—wood, water, green plains and low hills, and fine groups of trees. The sides of the terraces are faced by high brick walls, against which Grapes and other fruit trees were planted, and protected by upright glazed sashes. I suspect that there had been a failure of the Grape crop at Sans Souci or elsewhere last autumn, for I did not see a single bunch of fruit; the Vines and trees did not appear to have been much pruned or thinned. Along the edge of each terrace there were gay flower borders of showy common plants, and especially those having fine shaped or beautifully coloured leaves. I have already noticed the taste in Berlin and elsewhere, in the north of Germany, for groups of herbaceous plants with fine leaves, and I hope soon to see this introduced into England, and that there will be some addition made in the eternal pattern beds, the ill-kept shrubbery borders, and the herbaceous borders of our best gardens. Rhubarb, Beet, Angelica, New Zealand Flax, Palma Christi, and all the Cannas, especially Canna discolor, are the principal plants. In addition to the vases and sculpture, there were placed along the whole line of the edges of the terrace, at equal distances, immense yellow Gourds (Poterium jaune), and others of a large kind, ribbed, and of different shapes, which had been cut and were left to ripen in the sun before storing for winter use. This, I was told, was the especial taste of the king; this being his favourite garden, and his usual summer residence. The effect was excellent; and at a distance looked like a line of gilt and bronze vases. The king, however, is not singular in his admiration of gourds; his taste is shared by one of the most eloquent and original of modern American writers.

"Speaking of summer Squashes, I must say a word of their beautiful and varied forms. They presented an endless diversity of urns and vases, shallow or deep, scalloped or plain, moulded in patterns which a sculptor would do well to copy, since art has never invented anything more graceful. A hundred Squashes in the garden were worthy, in my eyes, at least, of being rendered indestructible in marble; if ever Providence (but I know it never will), should assign me a superfluity of gold, part of it shall be expended for a service of plate, or most delicate porcelain, to be wrought into the shapes of summer Squashes, gathered from Vines which I will plant with my own hands. As dishes for containing vegetables they would be peculiarly appropriate."

Independently of the originality and beauty of the garden, and the view from the terrace, Sans Souci must, from historical associations, always be interesting—the retirement of old Fritz, the grave of his horse and his dogs, perhaps the only creatures he really loved: and where, probably, many of his plans for his camps and conquests were first thought over and worked. But notwithstanding its assumed *nominal* absence care, I dare say neither the King nor his courtiers able to charm away that which must have been inse able from one with his objects, and those who under him. There reigns through the garden all the adjoining garden buildings an Italian air, perhaps, well suited to the climate; long wreath Vines and Ivy are grown so as to twine round Oranges and other trees placed on the terrace, and edges of most of the borders are festooned with shoots of Vines, planted at intervals, while in roads leading to the house Vines are festo from tree to tree so as (but for the climate bring all Italy to one's mind—whilst we were t a fierce cold continual northern wind was b ing, and made one think more of coughs and g coats than Italy. By the side of the road also Italian arbour walks, consisting of a low brick with open lattice work with brick columns and tr verse rafters of wood covered with Vines, but grown for the leaves, I suspect. There is also nea Sans Souci a beautiful little Pompeian villa, care executed and decorated according to authority Zhann, who had published an elaborate work on P peian ornaments; and two or three miles from town is a small castellated house built by the Cr Prince near the lake; the grounds are beautiful, as far as I could judge, the very best imitation of En park grounds and garden I ever saw. I unders Prince Puckler was the person who directed the position and the planting of the grounds, and his v on gardening shows that he was a master of the The house and the gardens both of Sans Souci, Pompeian villa, and the Crown Prince's Cassino shown to all comers with the greatest liberality understood that there was a large forcing establish for fruit at the Royal gardens at Potzdam, but t did not see. It is well to have reports from diffe persons of the same place. The reports already print the *Chronicle* speak well of the Berlin nurseries. although I took some pains at Berlin to find a nurseryman's garden, and although a distingui botanist took me to one which he said was the be own I was much disappointed; everything seeme bad condition—the Camellias and Azaleas spin and drawn—the orchidaceous plants ill-grown crowded—and the few flowers there were rotting in cold and damp of the house. But yet the numbe well-grown plants one sees in the plant-cellars shops prove that there must be some places w floriculture is well understood. *Dodman.*

GREEN CURLED ENDIVE.

IT is now nearly 30 years since Mr. Kershaw, gardener to the Duke of Sutherland at West Hill H Wandsworth, had given him by some traveller a d green curled and very compact Endive, which no possessed but himself; and, being one of the old s of practitioners, he took good care to keep it exclus for his own use as long as he could. Up to that p green Endive was not curled, but large coarse b leaved, and very tough to eat. Now, however, markets are supplied with this valuable sort, whi grown very fine and sold cheap. When the winter not very wet, the markets are generally well furn with Endive. All through the past season it neve finer, many heads weighing from a half to three qua of a pound undressed, compact and finely blan The harder the frost the better Endive keeps, growers now all resort to that famous prot material, straw.

Endive seed is sown at various times, beginni June and sowing monthly afterwards. The p which are generally of good size before plantin put in pretty deep in light ground, in order to assi blanching. They generally stand a foot or so apar way. The first plantations are made amongst crops, which succeed them; but for winter it is u planted in sheltered places, such as under walls, h and on prepared ridges, sloping to the south or the grand secret being to have it high and dry well-drained light land. Should the winter hap be very wet, the plants are lifted and put into f sheds, lofts, and other out-houses; but if frosty are covered with straw. The value of this coveri not sufficiently appreciated many years ago, and eve some take the plants up, which soon get rotten and Market gardeners not only cover their Endive with but they also employ it as a protection for other Many of them now use it for early out-of-doors Rh Mr. Randall protects the whole of this crop, b putting a small forkful on the crowns. When th begins to grow, it lifts up the straw, which, w affords ample protection against frost, no wind ca off. Under this covering, the leaves are not n large, the stems are pink-coloured, the skin half so thick, nor half so acid; and when cooke sugar is required. This year Mr. Martin, one oldest market gardeners here, covered, for th time, about half an acre of early Rhubarb, and l rest uncovered. When I saw it, that protected foot high, while the uncovered portion was just ning to grow, producing broad leaves and short Straw forms an excellent shading for the grour afterwards it is a good manure. It is therefore important covering for Endive, which it eff protects in winter, and, at the same time, it perm

culate amongst the plants, thereby keeping them rotting; in mild weather the straw is taken off. der ordinary management, Endive is plentifully ed to the markets all the winter. Owing to the ss of the weather, and this king of coverings, , it was had in good condition this year up to the of March. Late planted Globe Artichokes might be preserved by a handful of straw being laid them in autumn; and in fact it is one of the very protecting materials with which I am acquainted. not only valuable for covering vegetables with, but ere seasons, like that we have just experienced, it saves the crop of fruit on wall trees. *James ll, Denmark Hill, Camberwell.*

Home Correspondence.

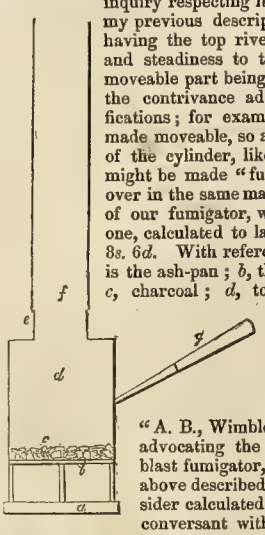
rdiness of the recently introduced Californian othes.—Believing that a few observations relative e hardiness of Ceanothus papillosus, dentatus, and us might prove interesting, I have sent you the ving facts respecting them:—In May, last year, s requested to plant out one of each sort against a having a west aspect; I prepared a compost of and loam in about equal parts, in which I planted ; they grew rapidly until late in the autumn, when gan to entertain some doubts as to their safety g winter without protection, but as they were ed for the purpose of testing their hardiness, they left uncovered, and to my great satisfaction they stood the winter without sustaining the least injury. pillosus has been covered with flowers since the lle of April; our plant is about 5 feet high and t in width; C. dentatus is now coming into bloom, is equally full of pretty blue flowers, which are what darker than those of papillosus, but not so ; C. rigidus does not show any sign of flowering at nt, probably it will blossom in autumn. One of each e above kinds was planted out in the open quarter ne, and they also made rapid growth, but they did tand the winter so well as those planted against vall. C. rigidus stood without the least injury, C. llosus was injured at the points of the shoots, and ntatus was quite killed. As evergreens for a wall, ce such plants are required, these fine Ceanothes ot be too extensively planted; their beautiful ng foliage, and exquisite blue flowers, render them ts of universal admiration. *G. W. Mason, Foreman, hgate Nursery, Chichester.*

imate of the far North of Scotland.—Being particu- interested in subjects relating to climate, I beg fer a few observations suggested by reading "J. H.'s" r (see p. 325) to your correspondent Mr. Webster p. 293). But as I have a few remarks to make on each ie articles just alluded to, I shall notice them in the r in which they appeared. That the climate of the h of Scotland is comparatively uniform I have had le opportunity of observing; but I must dissent from Webster's opinion in supposing that the causes h influence the temperature there, "apart from the nce of the sun," are either "unknown" or "unex- ned," as he would have us to believe. On the rary, philosophers have established facts from which s easy to adduce that the causes which operate so ficially in promoting a uniformity of climate in the thern Islands of Scotland, are by no means terminable. In fact, it would be more difficult pply a theory that would account for the climate e, were it other than uniform, as a reference to records of distinguished men, who have made matters their study, will show. The great rent of the Atlantic, to which you have already ded, and which has, at its commencement, its surface- r heated to 80° or 85°, and which in its circuit ps the shores of those islands, contributes materially itigate the cold of winter in such places coming so diately under its equalising influence as those ds do. Although we cannot account for the mild ters enjoyed by the inhabitants of those islands, out having recourse to this warm current, I cannot leave of it without expressing my belief that it is not is cause alone that the uniformity of temperature ely attributable; for in these northern islands only nall amount of evaporation takes place during winter, nsequence of the sky being almost always overspread clouds, which not only prevent the earth from g cooled, but radiates heat to it—heat which have been absorbed in the formation of vapour he tropical seas. These causes, combined with the ospheric currents, being, I believe, sufficient to account the climate "in the far north," I shall turn my ntion to warmer latitudes, and notice the information tributed to us by "J. H." in respect to the altitudes which Wheat ripens on Teneriffe and the Himalaya. not the circumstance be accounted for more rectly than "J. H.'s" opinion does? At all events know that as a great portion of the warmth of the osphere comes to it indirectly from the earth, and Himalaya mountains, having a vast base of elevated d, must, as a consequence, place the situation at ich Wheat will ripen at a greater altitude than at neriffe; notwithstanding its being nearer the equator n the Himalayas, its summit presents a much aller surface to receive and communicate radiant t. *J. K.*

Early Strawberry.—Cuthill's "Black Prince" appears deserve a place in every collection; if I was near ndon I should like to send you a few fruit gathered terday (May 26), off plants near a south-east wall, l ripened without any artificial appliance. Size good for so early a period; this being the third season since the plants were set, they are stronger and promise better than at first. The fact of the slugs attacking them vigorously is no bad proof of their ripeness and quality. *J. Abell, Limerick.*

New Hardy Bulbous Plant.—Will you oblige me with the name of the enclosed bulb? I received it, with many other rare things from Dr. Drayton, of the Royal Hospital, Greenwich, in the shape of seed, 15 years ago, and this is the first time of its flowering. *It has been exposed to all weathers for these six years,* in as unsheltered a situation as could well be conceived, and treated like Scillas, Hyacinths, and Narcissi. I believe that it was collected in India, on high mountains, above 16,000 feet above the sea. *John H. Thomas,* 16, *John-street, Greenwich.* [This is Habranthus intermedius, a Brazilian bulb: its hardiness is a very unexpected discovery.]

Fumigators.—Perhaps the accompanying section of my fumigator will furnish the best answer to "Delta's" inquiry respecting it, and help to illustrate my previous description. I consider that having the top riveted on gives strength and steadiness to the apparatus, the only moveable part being the funnel. Of course the contrivance admits of various modifications; for example, the top might be made moveable, so as to slip over the sides of the cylinder, like a lid; or the funnel might be made "funnel mouthed," to slip over in the same manner, &c. The expense of our fumigator, which is a very strong one, calculated to last for many years, was 8*s.* 6*d.* With reference to the section: *a* is the ash-pan; *b*, the grating or fire-bars; *c*, charcoal; *d*, tobacco; *e*, flange; *f*, funnel (slightly raised to show how it fits on); *g*, handle. In your Number for May 22, p. 325, I observe an article by "A. B., Wimbledon," in which, while advocating the cause of the fanner-blast fumigator, he alludes to the one above described in a way which I consider calculated to mislead. Any one conversant with the *rationale* of currents of air, or fire-draughts, is aware that such a choffer as that now represented will draw, and that even in a close house. In fact it can be kept burning in any house of ordinary construction, for any length of time, with neither door nor ventilator open. And as a house, 40 feet long by 14 feet wide, can be filled with smoke in five minutes, "A. B." need not be anxious about the deterioration or heating of the air; and, as tobacco can be put in the apparatus from time to time, as necessary, a long range of houses may be fumigated without re-lighting, and in a very short time. It is not necessary that the operator should be constantly in the house with the apparatus, as he can ascertain from the outside whether or not it burns too fast; or, if preferred, the fumigator itself can be kept outside; for a knee'd or bent tube might be fitted on to the top of the funnel, to turn in any direction, or be carried any distance. The experiment made by "A. B." is altogether inconclusive; hanging fire in a crate under a funnel is a very different affair from enclosing it in a cylinder, and causing the air to pass through it. *G. E., Fife.*



Cure for Mildew on the Vine and other Plants.—The first spot of mildew which has been publicly recorded to have been seen on the Grape Vine in this country, was noticed by myself in the gardens of the Horticultural Society, in the year 1846. This is a very interesting fact, as it is certain that the same species of oidium had previously attacked a great many other plants, native as well as exotic; and it is marvellous that all at once it should break out so generally on the Vine, both in this country and on the Continent, at the same time that the Botrytis infestans was devastating the Potato crop. Various remedies have at times been suggested for both species of mildew, although not the slightest encouragement, by way of reward, has been hitherto offered, either by our Government or our great national societies, notwithstanding produce to the amount of millions was every year falling a sacrifice beneath their insidious attacks. Why matters of such great importance to the landed interest should be treated with such apathy, while palatial Schools of Design can be erected and supported for the benefit chiefly of those concerned in trade, I am at a loss to know. Yet it is certain that, but for the discoveries of men who have devoted the best part of their lives to the study of these fungi, with no other hope than that of increasing the stock of natural science, we might still have been in ignorance of the cause of the destruction both of the Potato and the Vine crops; and without a knowledge of the cause, to attempt a remedy, it is at best but groping in the dark. I have myself tried various experiments, some of which have been partially successful; but I am happy to say that I have at length hit upon a very simple method of applying sulphur, which has in a short time accomplished all that I could desire, namely, the total extirpation of the mildew from every part of my Vines. In the first place, I had the stems and old branches painted with sulphur and train oil; but in spite of this, a fortnight ago, spots of mildew appeared on many of the leaves, petioles, and young wood. My vexation at the thought of losing my crop for the third time drove me almost to the regions of despair; but after a little reflection I threw an ounce of powdered sulphur into a water pot nearly filled with water, and taking up a syringe (one of Read's) repeatedly squirted the water upon the sulphur till it was properly mixed; and while thus held in suspension, immediately syringed the Vines in every direction, using considerable force. This was within two or three days of their coming into bloom. When I examined the Vines next day, I rejoiced greatly, for not a particle of living mildew was visible even under my microscope, but merely the dark spots, where the tiny forests had recently luxuriated, covered with heaps of their demolished stems, thrown together and glued into a paste by means of their own viscous covering, incrusted with the fine particles of sulphur, so as to resemble rocks of yellowish coral. If the mixture be applied properly, every portion of the Vines will be sprinkled with the sulphur; for, by using sufficient force, it will fall like a mist or fine spray, and wherever it falls no mildew can live. I have ascertained, however, that it is not killed by the application of dry sulphur, but continues to thrive in the intervals of the particles of sulphur, which, in a dry form, do not come into immediate contact with it. Another disadvantage of the dry application is, that it does not adhere to the smooth upright petioles and other parts, as will be found to be the case, when applied in the manner I have above described. Should the mildew appear again on the new foliage, which I think very probable, the operation must be repeated until the berries begin to colour, after which there is no danger, for the juice has then undergone a change, which this parasite does not affect. When I call to mind the pleasant smiles of some of my friends, the mocks of others, and the triumphant postulate of a third party, that studies of this kind were mere waste of time, it will be some consolation to learn that the result has been as successful with others as I have found it, for it does not the slightest injury; and when all danger of the mildew returning is past, may be washed off with clear water with the same instrument that applied it. This plan is equally available to Vines out of doors, and no doubt will prove of the greatest benefit to the Vineyards abroad, as also to Peach, Rose, and other trees, and Verbenas and other plants in pits, which are commonly infested with the same species of mildew, which for this reason I have named "Oïdium commune." I have no doubt that it will also be found equally efficacious in stopping the Potato mildew, at least in pits and small plots, but upon this plant I have not yet tried it. *F. J. Graham, Cranford, June* 1.

Poison for Ants.—Ferrocyanide of potass, 1 drachm; raspings of quassia, 1 drachm; boil together, and add sugar to make a syrup. The ants will eat this greedily, and repent when too late. *C. J., Farnham.*

Liquid Manure made from Poultry Dung.—I have read with considerable interest various articles on adulterated guano, and my reason for writing is to call attention to a home-made manure equal, if not better, than any guano ever imported—I mean poultry dung. I have used it for a considerable time, and I now come to the conclusion that it ought always to be employed in a liquid state. I find it to be an excellent manure for almost all sorts of soft-wooded plants, as well as vegetables, which it is desirable to grow quickly; hard-wooded plants do not form an exception, but for them it requires to be used with greater caution. I put one spadeful of manure to fifty gallons of water, stirring it up, and it is fit for use; half that quantity of dung is sufficient for plants in pots. *J. Rust, Enfield.*

The Brown Turkey Fig.—There are two fine specimens of this Fig growing here against a west aspect wall; extension from one extremity to the other 58 feet, height 17 feet, being 8 feet above the top of the wall; branches projecting from the wall 7 feet; projecting on each side, at the top of the wall, making 14 feet through. To give an idea of the magnitude of these trees a moderate size bower has been made within their gigantic branches, containing seats and a flower-basket in the centre. The contrast between the bright flowers and the beautiful dark foliage of the Fig, which forms a lining to the bower, has a very pleasing effect. The trees are loaded with fruit, and are swelling nicely, many being as large as pigeons' eggs. We seldom fail in having a good crop of Figs; this I partly impute to leaving the trees to take their natural course, never applying the knife to them by any chance; if they grow too luxuriant the best plan, I find, is to lay in as many of the branches as is convenient, which soon throws them into bearing. *J. J., Bodrhyddan, North Wales.*

Societies.

Royal Botanic, Regent's Park, *May* 29.—In consequence of an exhibition of American plants having been announced to take place this day, we attended. With the exception of a few of the earlier kinds, the plants were not in bloom. Owing to the rain, which fell heavily, nobody was there; and although the ground had been put in order for the reception of company, it was suffering much from the wet, which poured in between the ridges of the canvas covering.

Linnean, *May* 21: Anniversary.—The following gentlemen were elected officers for the ensuing year: R. Brown, Esq., President; W. Yarrell, Esq., Treasurer; J. J. Bennett, Esq., Secretary; and R. Taylor, Esq., Under-Secretary. The following five Fellows were elected members of the Council: C. Daubeny, M.D., W. H. Fitton, M.D., G. R. Gray, Esq., J. Reeves,

Esq., and J. F. Stephens, Esq., in the room of T. Bell, Esq., G. Busk, Esq., J. Hogg, Esq., E. Lankester, M.D., and W. Spence, Esq., who retired. The Secretary read over the usual obituary of the Fellows and Associates. From the Treasurer's account it appears that the Society received last year 751*l.* 15*s.* 4*d.*, and had paid 670*l.* 5*s.* 5*d.*, leaving a balance of 81*l.* 9*s.* 11*d.* During the year 53*l.* 18*s.* 2*d.* had been paid off the debt of the Society, which now amounted to the sum of 764*l.* 9*s.* 8*d.*

June 1.—R. Brown, Esq., in the chair. Dr. J. B. Hicks was elected a Fellow. A collection of dried specimens of Orchidaceæ, made by Capt. Strachey and Mr. Winterbottom, in the Himalaya, was presented by the East India Company.—Mr. Blofield exhibited a bird in spirit from St. Helena.—A paper was read from the Rev. M. J. Berkeley, on two new genera of fungi.—A paper on Acradenia, a new genus of Diosmeæ, was read by R. Kippist, Esq. This plant was discovered by Mr. J. Milligan, on the Franklin River, near Macguire Harbour, Van Diemen's Land. The genus is distinguished by possessing ovaries, surrounding a disk-shaped gynophore, with a villous gland seated on the apex of each ovary. The species was named A. Franklinæ, after Lady Franklin, who, with Sir John, was with Mr. Milligan when the plant was discovered in 1842. This plant is now in blossom at the Kew-gardens.—A paper was read from Mr. Thomas Moore, containing a description of two new species of Papilionaceous plants, which had recently blossomed in the nursery gardens of the Messrs. Henderson. The plants were both natives of Swan River, and were called Gastrolobium pyramidale and Chorozema nervosum.

Microscopical, *April 29th.*—G. Jackson, Esq., in the chair. A paper was read from Mr. Simon giving an account of a small cyst found in the olfactory nerve of a horse, in the interior of which was found a single octahedral crystal of oxalate of lime about one-twenty-fifth of an inch in diameter. The occurrence was worthy of notice, inasmuch as oxalate of lime was a salt seldom found in the tissues of the horse.—Mr. Ruckett exhibited specimens and described the microscopic structure of the teeth of the Echinus. These organs, which exist in the structure called by Aristotle the lamp of the sea-egg, are found to contain the two elementary structures—tubes and bone-cells—which are characteristic of the osseous tissue in the higher animals. At present this is the earliest instance in which the true bone-structure is met with in the animal kingdom. He also described the microscopic structure of the species of Cidaris, which are covered with a calcareous coating deposited in organic cells, and which is absent in the genus Echinus.—Mr. Brooke drew attention to the markings observed in Navicula hippocampus and N. angulata. The hexagonal spots which were characteristic of the latter he believed were produced by the action of the rays of light; he believed that both species presented a series of elevated ridges with gradually undulating furrows. Dr. Kingsley, Rev. W. Reade, James Hilton, Esq., R. S. Boswell, Esq., and Robert Ceeley, Esq., were elected members.

May 26.—G. Jackson, Esq., in the chair. Messrs. C. T. Roper, H. Coles, and G. W. Cooke were elected members. Mr. Busk read a paper on the Structure and Development of Volvox globator. His observations had been made on the species Volvox globator, V. aureus, V. stellatus, and Sphærosira Volvox, of Ehrenberg, which he believed to be all forms of the same organism. He entered in detail into the structure of these beings, and especially with regard to some points in their structure alluded to by Professor Williamson in a paper he had recently published on this subject. Whilst differing from Professor Williamson on some points of their structure, he agreed with him that they were truly plants and not animals. They were plants in the homologies of their structure and in their chemical composition. On testing their tissues with iodine and sulphuric acid, he had discovered in them both cellulose and starch. The analogies of their development with those of Protococcus nivalis and P. viridis were very strong, as also with the supposed animalcules called Euglena viridis. The author believed that the whole of the Monadinæ, the Cryptomonadinæ, and the Volvocina of Ehrenberg, belonged to the vegetable rather than the animal kingdom. Dr. Carpenter defended the view which had been taken by Mr. Williamson of the cellular structure of the interior of the Volvox, which was denied by Mr. Busk.—A paper was read by Mr. Mummery, of Dover, on the Development of the young of Tubularia indivisa. The author had had an opportunity of watching the development of the ova of these creatures, and had found that in their earlier stages they were free, moving rapidly through the water until they found some fit spot on which to fix themselves, and from which they grew, and attained their usual form and characters.

Botanical of Edinburgh, *May* 13.—The President in the chair. A note was read from the Rev. W. A. Leighton, transmitting specimens for the Society's Herbarium of a new fungus detected by the Rev. A. Bloxam on fallen Firs at Gopsall, Leicestershire, and named, by the Rev. M. J. Berkeley, Patellaria constipata.—Dr. Balfour read a letter from Dr. Dickie, mentioning that he had added two mosses to the Flora of Ireland, not recorded in Mackay's "Flora Hibernica," viz., Polytrichum hercynicum and Hypnum rufescens, "northern forms and associated with the Spanish forms, so called, by Professor E. Forbes." Dr. Balfour also read a letter from Professor M'Cosh respecting the angles of plants. It was mentioned that several donations had been made to the Museum since last meeting. The following papers were read:—1. *Notice of Chinese Vegetable Products*, by Mr. Fortune. Among these were two kinds of Arrow-root made from the root-stocks of Nelumbium speciosum. This substance is held in high esteem by the Chinese, and is extensively used in the central parts of the Empire. A bottle of fruit of Gardenia radicans: it furnishes a yellow dye used in colouring wood, the dye is boiled with a small portion of glue rubbed on the wood which is thus oiled over. The wood is much used for ornamental work and for boats. Liquid Indigo made from Isatis indigotica, largely used in the northern province of China: it is the Tein-Ching of the Chinese, and is used exclusively in dyeing cotton cloth; it is much used in China. It is produced in a district near Shanghae and is hence called Shanghae Indigo. Specimens of the fibre of the Hemp Palm (Chamærops sp.): this is a most beautiful Palm tree which grows in the northern province (Chekiang and Kiangnan) where the winters are excessively cold, and where other tropical forms of vegetation are unknown. It produces large quantities of the brown fibre on its stem, which is probably intended by Nature to protect it from cold. These trees are very valuable to the natives, who remove a quantity of fibre from them every year. Its fibre is converted into ropes, cables for junks, and brushes; hats and cloaks are also made of it and worn in wet weather by the agricultural labourers and others. It makes excellent bottoms for beds and couches, and is used in many other ways. I believe that this Palm is much more hardy than any of its tribe; indeed it has been living in the open air at Kew for some years. Sir W. Hooker, to whom I sent plants in 1848, says in the "Botanical Magazine," March, 1850, that it "has braved, unharmed and unprotected by any sort of covering, the severe winters now passed (1849-50)." We may therefore hope to see this fine tree growing on our hill sides, as it does in Northern China, particularly in the milder parts of England, Ireland, and about Edinburgh.—2. *On Plants found in Yorkshire, Westmoreland, and Cumberland, in April*, 1852. By Mr. J. B. Davies.—Prof. Balfour exhibited a young plant of Victoria Regia, from one of the hothouses in the Botanic Garden, showing the remarkable difference in the form of the leaves produced in its early stage of growth from those afterwards formed. The plant showed the first-formed linear leaf, followed by the sagittate form, after which, leaves of a more or less rounded-cordate form are produced.—Four gentlemen were elected Fellows.

Bath Royal United Horticultural.—This, the second exhibition for the present season, held on the 15th ult., excelled any that have hitherto taken place under the auspices of this Society. The following is a list of the awards:—*Stove or Greenhouse Plants.*—1st, Mr. Yeeles, (gr., Mr. Salter), with Epacris grandiflora, Erica propendens, Tetratheca verticillata, Polygala acuminata, Epacris miniata, the sweet-scented Gardenia Fortuni, and Adenandra fragrans; 2d, Mr. Lawrence, (gr. Mr. Dingle), with Pimelea Hendersoni, Boronia tetrandra, Rhododendron Gibsoni, Statice Holfordiana, Eriostemon buxifolium, Tetratheca verticillata, the sweet-scented Rhynchospermum jasminoides, and a beautiful Leschenaultia biloba major, whose lovely sky-blue flowers were much admired. *In Collections of 9 varieties*, there were three exhibitors, viz:—G. C. Tugwell, Esq., J. Jarrett, Esq., and the Rev. Mr. Rhodes. In these groups were nice plants of Erica Sindryana, Acrophyllum venosum, Statice macrophylla, Tremandra verticillata Azalea variegata, Boronia serrulata, and Pimelea Hendersoni.—*In Collections of 6 varieties*, there were two exhibitors, viz.:—G. H. Simms, Esq., and Miss Bailey.—Mr. Griffin and Mr. Drummond showed in the Nurserymen's Class.—Mr. Yeeles obtained the 1st prize for the *best 3 Orchids*, viz.:—Sobralia macrantha, Saccolabium guttatum, and Dendrobium densiflorum. Mr. Simms, who obtained the 2d prize, and also a Certificate of Merit, had Saccolabium guttatum, Aerides crispum, and Cattleya intermedia. Messrs. Maule and Son, of Bristol, sent Stanhopea grandiflora and oculata. *Cape Heaths* were shown by Messrs. Yeeles and Tugwell. *For Collections of 3 Plants*, the 1st prize was obtained by A. Lawrence, Esq.—Mr. Griffin was the only exhibitor in the Nurserymen's Class. *For Azaleas*, the Silver Cup offered by the Committee, for the best collection of 9, was so closely competed for by J. M. Yeeles, Esq., and A. Lawrence, Esq., that the censors rewarded them equally. *In Groups of Four*, there were five exhibitors.—Mr. Griffin was first in the Nurserymen's Class. *For Pelargoniums*, the Rev. Mr. Rhodes obtained a 1st prize for some beautifully flowered plants, considering the early season. Mr. Jarrett was 2d. In collections in pots not exceeding 6 inches in diameter, Mr. Jarrett was 1st, and Mr. J. Chaffin 2d. *Nurserymen.*—Mr. Griffin, 1st; Mr. Scott, 2d. *Of Calceolarias*, Mr. Carmichael, gr. to G. C. Tugwell, Esq., sent Mayor of Bath, Mr. Disraeli (a well shaped flower), Lord Derby, Joseph Hume, Richard Cobden, J. Heywood Hawkins, Full Moon, Earl of Dundonald, and Earl of Dalhousie. *In Cinerarias*, Miss Bailey was the only exhibitor. *Of Roses in Pots*, the Rev. Mr. Rhodes obtained the 1st prize for a very fine collection, comprising William Jesse, La Reine, Duchess of Sutherland, and other favourite kinds. *Single Specimens.*—1st, the Rev. Mr. Rhodes, with Azalea lateritia; 2d, Mr. Yeeles, with Pimelea Hendersoni; and 3d, Mr. Griffin, with P. spectabilis. In collections of six *Tulips*, prizes were awarded—1st, to Miss Bailey; 2d, R. Godfrey, Esq., 3d, Mr. Cole; 4th, Mr. Hooper. *In collections of three varieties*, Miss Bailey was 1st, Mr. Hooper 2d, and Mr. Godfrey 3d. *Anemones.*—1st, Mr. Griffin; 2d, A. Lawrence, Esq., *Ranunculuses.*—1st, Mr. Griffin; 2d, J. Wiltshire, Esq.; 3d, Mr. Hooper. *Pansies.*—Some good collections were exhibited, and prizes awarded to—1st, H. Fowler, Esq.; 2d, Miss Bailey; 3d, Mr. R. H. Taylor. In the Nurserymen's class Messrs. Garaway, Mayes, and Co. were 1st; Mr. Griffin 2d; and Mr. Hooper 3d. The stand of 24 varieties, in pots, sent by Messrs. Garaway, Mayes, and Co., was very pretty, and much admired. *Fruit* was but scantily supplied. There were, however, some very fine Strawberries. The 1st prize was deservedly awarded to a dish of Trollip's Victoria, a seedling sent out last year. It is a well-formed fruit, with capital flavour, and we doubt not will prove one of the most useful Strawberries in cultivation. There was also a fine dish of Peaches sent by Mrs. Smyth, of Ashton-court, and good Nectarines by the same lady. *Bath Journal.*

Books, &c., Received.

De Candolle's Prodromus. Part 13, Sect. 1.—This new volume contains Solanaceæ, by Professor Dunal, with a few pages occupied by Diapensiaceæ ar Plantaginaceæ, the last from the pen of M. Decaisn We cannot but think it unfortunate that the first these orders, so large, so difficult, and so careful elucidated as it has been by our countryman Mr. Mier should have been entrusted to the learned Professor Montpellier, to whose reputation it, we regret to sa adds nothing. The multiplication of species is carrie beyond the limits of even German minuteness; and the example were likely to be followed by the leade in botanical science, it would speedily cast t vegetable kingdom into a ten times darker chaos tha that from which Linnæus formerly extricated Only imagine almost a score species made out the Potato, and as many more from the blac Nightshade (S. nigrum)! No wonder that the gen Solanum has, in the hands of Professor Dun been declared to comprehend *nine hundred speci* exclusive of Lycopersicons. On the other hand, t enumeration of what has been published is, we suspec by no means so complete as it might have been. least we can find no trace of Weddell's Withering superba, long since published in the "Annales d Sciences," and actually cultivated in the Garden Plants at Paris—an omission the more remarkab when it is remembered that it is the only species Pœcilochroma known to exist in Europe in a livi state. When we add that above 60 species of Capsicu are admitted into this volume, we shall have sa enough to show what opinion must be formed of it all naturalists, except such as believe that the gard varieties of Apples and Pears are to be regarded so many distinct species.

Sketches in Canada, by Mrs. Jameson. 12mo, Lon mans.—Two excellent parts of the Traveller's Librar

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Garden Memoranda.

Horticultural Society's Garden, Turnham Gree —The arboretum is now nearly in full summer dre although not quite so flowery as it will be a week two hence, when the Rhododendrons will be in bloo Some of the earlier kinds are already displaying the lovely blossoms; but, owing to the backwardness the season, the majority of them have not yet open their flower-buds. The red and white Hawthorn Horse Chestnuts, Magnolias, and other ornamental ea summer-flowering trees and shrubs, with which t part of the garden abounds, are in full beauty; the tu is in capital condition—smooth, soft, and dry, an owing to the late leafing of the different tre this year, the foliage yet wears all the peculi freshness and delicacy of early spring. The late froe we sometime ago experienced having killed its buds, t large Wistaria on the conservative wall is not floweri well this season—a circumstance, we believe, which pretty general everywhere. This proves that if wish to enjoy the beauty of this fine wall plant, must afford it some slight protection, at least in unf vourable seasons like the past. Mr. Fortune's Monta in pits in front of the stoves have been in fine flower; b their beauty is now nearly over; picta, a large a striking salmon-coloured kind, was however still bloom, as were also atropurpurea and globosa. The latt is a beautiful white variety. The different Californi Ceanothes, of whose hardiness some account will found in another column, have bloomed profusely in t garden this year—their lively blue flowers of vario shades producing a grand effect. Few ornament shrubs of recent introduction have proved great acquisitions than these.

The new Rose house, considering the short time has been planted, now begins to look tolerably gay; a notwithstanding what has been said to the contrar there is every reason to believe that it will eventua realise all that has been expected from it. T blossoms of the various Tea Roses, with which it to a great extent furnished, are very large for the si of the plants, and so fragrant as at times to quite perfu the house. A raised square bed near the entrance this house has been planted with different kinds Tropæolums, which when in bloom cannot fail to interesting. A plant in a pot of the Californi Evergreen Plum will soon be in full flower in t small conservatory erected by Messrs. Hartley; t blossom buds are thickly arranged on short flow spikes. We also noticed here Siebold's new evergree Privet (Ligustrum ovalifolium), which doubtless will pro an acquisition; and in an adjoining pit was a handson new hybrid Columbine, the result of crossing the Ca fornian kind with the fragrant Himalayan species. T flowers are very pretty, the upper half being purple, a the under yellow. Associated with it were the charmin new Diplacus, which was shown at the last meeting Regent-street, and described at p. 342, together wit Lopezia macrophylla, a crimson-flowered half-hard shrub, which will be useful on account of its bloomin in winter; a new Russian Primula (P. undulata) wit small starry lilac flowers placed on the summit of slender flower stalk; and Allium acuminatum, a hard bulb of considerable beauty.

The American garden will soon be well furnishe with flowers. The Rhododendrons promise to be ver fine, and the sides of the banks are already gay wit such rock plants as the white Gibraltar Iberis, a mor compact and better kind than sempervirens; the yello Alyssum, the Sweet Pink (Dianthus suavis), the whit Cerastium villosum, the lively blue-flowered Russia Forget-me-not, and Aubrietia deltoidea. These, inte mixed with the handsome fronds of some of the better sor

of our native Ferns, render the declivities of this garden at present highly attractive. It may be useful to those far removed from stone, to know that burrs run into masses by means of Portland cement, washed all over with a thin mixture of the same and sprinkled with coke dust, form when dry an excellent substitute for grey rocks. Several of these imitations are placed on the banks here, and with very good effect. Among the rarer shrubs to be found in this interesting corner are the female Garrya elliptica bearing fruit, those previously sent to this country by Douglas being, singularly enough, all males; Weigela rosea; Ceanothus integerrimus, which, in addition to its beautiful flowers, forms a graceful evergreen shrub; C. papillosus, and the other Californian species.

The erection of Messrs. Cottam and Hallen's Peach frame in the Orchard department is completed, and it looks as if it would answer; but this of course has yet to be proved. It is a light and neat contrivance, which can either be kept close or thrown open, as may be desired. The Peach trees on the wall, against which this frame is put up, are in the most thriving condition, and bearing a good crop, especially where they were protected by straw screens. Pears on walls are also well set with fruit, and it is still believed, notwithstanding the unfavourable spring, that there will be a fair crop in the open quarters. The kitchen garden, as well as the orchard, is in good order, and since rain has come things are progressing satisfactorily. We may mention that since we last visited the garden a trial of skill in Decimals, Principles of Perspective, Surveying, and Geometry has been made by the young men, and prizes awarded to them for their proficiency; the men were placed in the following order:—T. Williams 1, Spriggs 2, Tanton 3, Carpenter 4, Robinson 5, Ford 6, Laing 7, W. Williams 8, and Nelson 9. Great satisfaction was expressed by the examiner at the creditable manner in which the different competitors acquitted themselves. It will be interesting to know that other prizes are offered as inducements for another trial in Surveying, which cannot fail to be productive of advantage to all who thus test their skill, whether they get notice or not. *May* 31.

Miss Stapelton's, Greys Court, Oxfordshire.—There is now a Moutan or Tree Pæony in blossom in the gardens here, which is 5 feet 8 inches in height, measures 30 feet in circumference, and has at the present time 202 blossoms on it, one of which was measured and found to be 2 feet round—it is most beautiful.

FLORICULTURE.

Great National Tulip Exhibition at Birmingham, *May* 27.—At no similar meeting has it ever fallen to our good fortune to witness a national demonstration at once stamped with entire unanimity and realising the fondest desires of all who by their interest, support, and countenance deserved, if not commanded, such a result. That a most lively and widespread feeling had been aroused is evident from the fact that Nottinghamshire, Warwickshire, Staffordshire, Derbyshire, Buckinghamshire, Lancashire, and Middlesex, each sent forth its respective representative, amongst whom must be classed the leading growers of the Tulip. Those of our metropolitan friends who abstained from witnessing this exhibition have lost a treat which it will be difficult to regain, for never was the Town Hall more interestingly occupied than at this monster Tulip exhibition. With the keenest foresight was there appropriated a "place for everything" and "everything in its place;" and spacious as is the Hall alluded to, there was not an inch of table room to spare. To the local committee, to the honorary secretaries, to the exhibitors, and to the censors, great praise is due, for all was harmony and order; and that the Birmingham public had faith in the executive to whom the arrangements were entrusted, is evident from the fact that the receipts for admission exceeded 50*l.* To particularise the several improvements that were brought to bear on this meeting would fill too much of our space; we cannot, however, refrain from regarding the new stands as the most prominent, and that they were accepted as such by the exhibitors, was shown by their use being all but general. Of absolute "novelties" there were but few, still there were much in the way of "strangers" to interest Southerns, Midlanders, and Northerns. Amongst varieties claiming their origin in the first division, there were in Bizarres, Albion, Duke of Devonshire, Glencoe, Hamlet, Polyphemus, Priam, Sheet Anchor, King, Vivid; of Byblœmens, General Bournavelde, Maiidora, Pandora, Salvator Rosa, Victoria Regina; and of Roses, Aglaia, Astonishing, Madame Vestris, Walworth, &c.; while the second and third divisions claim and deserve full honours with Pilot, Midland Beauty, Princess Royal, Maid of Orleans, Purple Perfection, Bion, Prince Arthur, Agnes, Napoleon, Rebecca, Lord Denman, G. Glenny, Prince of Wales, &c. A byblœmen, shown by Mr. Houghton as Coup d'Hébé, was par excellence the bloom of the meeting; Lizzy, as a rose, shone pre-eminent. Upon computation of the space occupied, we give as an estimate that from 800 to 1000 blooms must have been staged for adjudication, and doubtless each was by its owner considered to possess some claim to merit; as this number was the selection from little short of 10,000 blooms, some idea may be gathered of the display as a whole, and of the patience needed by the judges in making the following awards:—Six blooms, one of each class, the Gold Medal to Mr. Houghton, of Hampe Hill, Notts, whose varieties were Royal Sovereign ex. feathered bizarre; Captain White, flamed bizarre; Coupe d'Hébé ex ex, feathered byblœmen; Queen Charlotte, flamed byblœmen; Heroine, feathered rose; and Triumphe Royale, flamed rose. These were most assuredly, excepting Captain White, the *ne plus ultra* of quality with growth. Class A., from which the premier stand was selected:—1, Mr. Godfrey, of Cheltenham, with Captain White, Royal Sovereign, Van Amburgh, Maid of Orleans, Triomphe Royale, and Heroine ex; 2, Mr. Turner, of Slough, with Triomphe Royale, Lord Denman, Royal Sovereign, Aglaia, Queen Victoria (Groom), Polyphemus (the base of this bloom acted prematurely to a more forward piece of the stand); 3, Mr. T. Adams, of Derby, with Royal Sovereign, Captain White, feathered byblœmen unknown, Queen Charlotte, Heroine, Triumphe Royale; 4, Mr. Marsden, with Captain White, Lizzy, Sarah Ann, Ambassadeur, Lady Jane Grey, La Belle Jennette; 19 pans were staged for these prizes. In Class B., 12 dissimilar blooms, 4 of each colour, 12 stands were staged. 1, Mr. Wilmore, of Barmingham, with Lady Flora Hastings, Earl Douglas, Duke of Devonshire, Washington, King (Strong), Triomphe Royale, Aglaia, Waterloo, Thalia (insufficiently in flower), Heroine, Britannia, Camuze de Craix; 2, Mr. Turner, of Slough, with Thalia, Duke of Devonshire, Triomphe Royale, Maid of Orleans, Madame Vestris, Triomphe de Lisle, King (Strong), G. Glenny, Pilot, Catalani, Claudiana (a dangerous flower to stage), Polyphemus; 3, Mr. J. Edwards, of Holloway, with Purple Perfection, Priam (anthers scarcely pure), Astonishing, Princess Royal, Junius Brutus, Violet le grande, General Bournavelde, Miss Catherine, Triomphe Royale, Pilot, Catalani, Hamlet; 4, Mr. Lymbery, with Captain White, Lord Milton, Donzelli, Lord Sandon, Seedling, Seedling, Prince ——, Sarah, Mantua Ducal, Baguet, La Vandicken, Bacchus. In Class C., 9 dissimilar varieties. 8 stands competed:—1, Mr. Houghton, with Triomphe Royale, Royal Sovereign, Queen Charlotte, Emperor of Austria, Victory, First-rate, Princess Royal, Abercrombie, and Heroine; 2, Mr. Parkins, with Rose Walworth, Britannia, Lord Duncan, Aglaia, Shakspeare, Royal Sovereign, Venus, Heroine, and Emma; 3, Mr. Adams, with Capt. White, Pilot, Royal Sovereign, Heroine, Maid of Orleans, Enchantress, Triomphe Royale, Princess Royal, and Cornelius; the latter bloom sadly injured the pretensions of this otherwise good stand. 4, Mr. Turner, with Princess Royal, Champion of England, Midland Beauty, Glencoe, Triomphe Royale, Lady Stanley, Gibbons No. 2, Purple Perfection, and Albion. Class D., Premier feathered rose, Agnes, Rev. S. Cresswell; Premier feathered byblœmen, Prince of Wales, Rev. S. Cresswell; Premier feathered bizarre, Pass Perfecta, Mr. Parkins. Class E., Single Specimens, Feathered Bizarres: 1, Charles X., Mr. Dixon; 2, Vivid, Mr. Thornily; 3, Magnum Bonum, Mr. Parkinson; 4, Colbert, Mr. Dixon; 5, Catafalque, Mr. Spencer; 6, Prince Arthur, Mr. Lymbery. Feather and Flamed Bizarres: 1, Captain White, Mr. Godfrey; 2, Pilot, Mr. Astle; 3, Lord Milton, Mr. Frearson; 4, King (Strong), Mr. J. Edwards; 5, Glencoe, ——; 6, Polyphemus, ——. Feathered Byblœmens: 1, Maid of Orleans, Mr. Thornily; 2, ditto, Mr. Adams; 3, Victoria Regina, Mr. Spencer; 4, Sarah, Rev. S. Cresswell; 5, Washington, Mr. Ackerly; 6, Baguet, Rev. S. Cresswell. Feathered and Flamed Byblœmens: 1, Princess Royal, Mr. Houghton; 2, Queen Charlotte, Mr. Thornily; 3, General Bournavelde, Mr. Hartland; 4, Lord Vernon, Mr. Parkinson; 5, Salvator Rosa, Mr. Dixon; 6, Lord Denman, Mr. Astle. Feathered Roses: 1, Heroine, Mr. Spencer; 2, Napoleon, Rev. S. Cresswell; 3, Rose Baguet, Mr. Dixon; 4, Bion, Mr. Dixon; 5, Lady Crewe, Mr. Ackerly; 6, Rebecca, Rev. S. Cresswell. Feathered and Flamed Roses; 1, Vicar of Bradford, Rev. S. Cresswell; 2, Aglaia, Mr. Parkinson; 3, Triomphe Royale, Mr. Parkins; 4, La Vandicken, Mr. Parkins; 5, Triomphe Royale, Mr. Godfrey; 6, Fanny Cerito, Mr. Astle. Class F., Flame or Beam: 1, King (Holmes), Mr. Wills; 5, High Admiral, Mr. Wilmore; the other blooms in this class to which prizes were awarded proved so different from the necessary requirements that we purposely omit to give their names; this arose from an erroneous reading by the censors. It will be interesting to our absent friends to know that no monopoly existed in regard to the many prizes offered; for, so far as we were able to ascertain, Nottingham, Derby, Manchester, Birmingham, Slough, and London each had its share of the hard won honours. The censors were Messrs. Lawrence, Wood, Bunn, Bromily, and Moreton; and on behalf of the many exhibitors, and at their express desire, we are entrusted to cordially thank them for the determination, punctuality, and strict impartiality with which their labours were conducted. Also Mr. J. Cole, for his indefatigable zeal and attention as hon. secretary, and the local gentry who so liberally contributed the "sinews of war" for the Great National Annual Exhibition of Tulips of 1852.

In connection with the above, the Handsworth and Lozells Floral and Horticultural Society held its May Meeting. We were greatly interested by the many fine examples of skill which were presented. Here Mr. J. Cole, gr. to J. Wilmore, Esq., shone conspicuously; his 6 Azaleas (1), Variegata, Lateritia, Optima, Duke of Devonshire, Refulgens, and Purpurescens; 6 Ericas (1), Elegans, Triumphans, Jasminiflora, &c.; 6 Orchids (1), the best being Saccolabium guttatum; 9 Stove and Greenhouse plants (1), give some idea of his varied qualifications. Other exhibitions were furnished by A. Kenrick, Esq., Lord Calthorpe, J. A. Rutter, Esq., T. C. Salt, Esq., Mr. J. Coudery, Messrs. Cole and Sharp, W. Wills, Esq., and E. Davies, Esq. Paul's new Rose, Queen Victoria, was shown (four blooms) by Messrs. Cole and Sharp. Fuchsias, for which Birmingham is far famed, were marvels of good management at this early season, being pyramidal plants varying from 3 to 8 feet high, and absolutely solid with healthy foliage and magnificently coloured flowers. Dr. Jephson, Scarletina Reflexa, Splendida, Sedonia, Gameboy, Hebe, and One in the Ring, were of the group furnished by W. Wills, Esq. The popular varieties of Cinerarias, Pelargoniums, Calceolarias, and Rhododendrons, &c., were all freely contributed, and more or less "well done."

Before we close, it may be well to observe that, at the evening meeting, Nottingham was selected and accepted as the locality for the Great Tulip Meeting for 1853; and further, that the florists of Birmingham availed themselves of the opportunity of presenting Mr. C. J. Perry, for his many years of indefatigable toil in the cause of floriculture, with a handsome service of plate of the value of 70 guineas. These matters, with the usual loyal proceedings, closed one of the most harmonious meetings with which we remember to have been associated. *J. E.*

National Floricultural Society, *May* 27.—Mr. Stains in the Chair. Pelargoniums were staged by Messrs. Beck, Story, and Ambrose, and cut blooms by Mr. Ayres. A Certificate of Merit was awarded to Empress (Beck), colours vermilion scarlet with rich crimson shaded spot, form tolerable, distinct, and desirable. A fancy variety, named Magnum bonum (Ambrose), was similarly rewarded; upper petals crimson purple, lower petals pencilled and shaded with crimson violet, form and substance good. A Cineraria named Beauty of Hamilton Terrace, received a Label of Commendation for its distinct colours and striking appearance; much in the way of Lady Hume Campbell. Calceolarias were sent by Messrs. A. Henderson and Co., but no award was made; one called Heywood Hawkins, a half-shrubby sort, had merit, and was requested to be shown again. Azaleas and Ericas were contributed by Messrs. Henderson; and Pansies, Fuchsias, and Tulips, by T. H. Brown, Esq., Mr. R. Drake, and Mr. J. Edwards. Mr. J. Hodge was elected a member.

June 3.—Mr. Lidgard in the chair. Calceolarias were numerous and interesting; Labels of Commendation were awarded to Heywood Hawkins, previously mentioned as being an excellent half-shrubby dwarf kind, bearing profuse masses of conspicuous flowers, having a clear yellow ground, uniformly broken by rich brown-crimson markings; to Fascination, whose colours are novel and desirable, being a shaded flamed red, of moderate form and good habit; to Araminta, yellow-ground heavily marked with richly shaded crimson—form good, habit only second-rate; to Fireball, colour new and desirable, being a richly marked orange-scarlet on a yellow ground; outline good and smooth, of average size and habit: these were all from Messrs. Henderson, of the Wellington Road.—Pansies were produced, and a Certificate of Merit awarded to Mrs. Rouse (Bragg), white ground, with purple belting and upper petals; Daphne (J. H. Brown), was of cheerful colour and in many respects commendable.—A Label of Commendation was awarded to a fancy Pelargonium named Ariel, of which the censors reported that if it maintains its properties when more in flower it will, doubtless, receive a higher award. This came from A. Henderson and Co. The breeder Tulip, King, together with a petal of a broken flower of the same variety, were sent by Mr. Willison; for form and substance the bloom was good; the same flower was sent last year, when it was in better condition.

Colour: *Alpha.* Verbena Heloise makes a good blue bed.

Manchester Exhibition: *Reporter.* Much obliged; but to be useful, the names of the winning flowers, as well as the awards, should have been given.

New Dahlias: *Beginner.* Scarlet King (Green); Alice (Drummond); Dr. Frampton (Rawlings); Una (Keynes); Laura Lavington (Keynes); Sir F. Thesiger (Rawlings); Triumphant (Keynes); Nancy (Keynes); Sir R. Whittington (Turner); E. Foster (Turner); Morning Star (Turner); Douglas Jerrold (Keynes); Malvina (Turner).

Received: A schedule of prizes of the National Horticultural Show at Lewes, which takes place on July 14 and 15.

Seedlings: *Vortigern.* So much depends on what a flower has done to make it popular, as well as on other circumstances connected with it, that we cannot even guess what price a good seedling ought to bring. A good Dahlia might bring 100*l.*, while another might not fetch 10*l.* A good Pansy might realise the latter sum, while another might only bring 5*l.*; and as much as 15*l.* might be given for a Carnation, which 5*l.* might be all another flower would fetch. These matters can only be arranged between the buyer and the seller.

Tulips: *W W Whitby.* Next week.

SEEDLING FLOWERS.

Azaleas: *A B C D.* A worthless variety, which we would advise you to throw away at once, and replace by a better one.

Calceolarias: *B B.* Dry and shrivelled even unto powder; blooms put loose into a box with no damp material about them, can scarcely be expected to keep good for any length of time.—*G H.* 1. Dull yellow ground, profusely covered with deep maroon. 2. Similar, but less densely marked. 3. Buff ground, nicely marked with deepish red, good outline, smooth, and, when inflated, possesses fair globular properties. 4. A tricolor, being buff, red, and maroon; but, like Nos. 1 and 2, collapsed, so that, although much pains were taken, we failed to get it into sufficient form to report further. 3 was in famous condition. *J. E.*

Cinerarias: *C W.* Dried up, almost past recovery; however we trace remarkably broad petals, both indented and reflexed, with flat disk; colour bluish lilac, boldly marked on a purely white ground. *J E.*

Gloxinias: *B V C.* Handsome, but not more so than kinds possessing similar colours, already in cultivation.

Pansies: *R S M.* Goldfinch, upper petals mottled dull purple and bright yellow, side and lower petals bright yellow, with good solid eye, is a fancy variety of very good shape and substance. Spot, similar colours as the foregoing, but with spots instead of being mottled; sadly deficient in form and substance. Lady Sale, of no value as a show flower; Dido, ditto, ditto; Addison, ditto, ditto; No. 1 in the way of Dido, but of no value; Duchess of Norfolk will not do, being coarse on the surface and irregular on the edges.—*J P.* Flowers 2⅝ inches in diameter, with creamy ground and large bold eye, sufficiently displayed in the lower three petals; belting and upper petals deep purple, of average form, flat and moderately smooth both on the surface and edges; much in the way of Mrs. M. Hamilton.

Verbena: *Sub.* A neat looking blush flower with darker eye radiating from the centre; deficient in form.

Miscellaneous.

Mosquito Tobacco.—In the evening we stopped with some other boats like our own near a small village, where we proposed to pass the night. The day had been very warm, and the moschetoes were now becoming very troublesome. The night before this, neither my servant nor myself had been able to close our eyes, and I now saw with dread these pests actually swarming around us, and anticipated another sleepless night. Our boatmen, who heard us talking about them, asked Sing-Hoo why he did not go and buy some moscheto tobacco, which they said might be had in the village, and which would drive all the moschetoes out of the boat. I immediately despatched him to procure some of this invaluable substance. In a few minutes he returned with four long sticks in his hand, not unlike those commonly used for burning incense in the temples, only somewhat longer and coarser in appearance. He informed me that they only cost two cash each—certainly cheap enough if they answered the purpose. Two of these sticks were now lighted and suspended from the roof of the boat. They had not been burning five minutes when every moscheto in the boat sought other quarters. We were quite delighted, and enjoyed a sound and refreshing sleep, for which we were most thankful. I had always dreaded these insects during this journey, as I did not carry curtains with me, on account of their bulk. I now found, however, that there was no need of them wherever we could procure the moscheto tobacco. Various substances are employed by the Chinese to drive away moschetoes. This which we had just purchased was made from the sawings of resinous woods—I believe procured from Juniper trees—and mixed with some combustible matter to make it burn. A piece of split Bamboo, 3 or 4 feet in length, is then covered all over with this substance. When finished it is as thick as a rattan or small cane. The upper end of the Bamboo has a slit in it for hooking on to any nail in the wall, or to the roof of a boat. When once lighted, it goes on burning upwards until within 6 inches of the hook, beyond which there is no combustible matter, and it then dies out. A somewhat fragrant smell is given out during combustion, which, at a distance, is not disagreeable. Sometimes the sawdust is put up in coils of paper, and is then burned on the floors of the houses. Various species of Wormwood are likewise employed for the same purpose. The stems and leaves of these plants are twisted and dried, and probably dipped in some preparation to make them burn. The moscheto has a mortal aversion to all these substances, and wherever they are burning there the little tormentors will not come. I procured the sticks in question, and burnt them daily, after this; and although the insects were often swarming when I entered the boat or an inn, the moment their "tobacco" was lighted they quickly disappeared, and left me to sit at my ease, or to enjoy a refreshing sleep. Whoever discovered this precious

tobacco was a benefactor to his country, and should have been honoured with the blue button and peacock's feather at the least. But I suppose, like all other Chinese discoveries, it is so old that the name of its original discoverer cannot now be traced. *Fortune's Tea Districts of China.*

Coffee a cure for Fresh Wounds.—Never have we seen on any skull such severe scars, or any attended with the loss of so much of the bone. On the head he has four cuts, more than four inches long and one and a half broad, in which one could easily conceal his thumb: only the inner bone plate remains, and in one of these cuts there is such a loss of the bony substance that the pulsation of the brain can be felt. We, laughing, asked him, if, when he received these wounds, he wore his amulets against sabre cuts: he replied, that he had them not on, as, if he had, no sabre would have harmed him. We also learned, from what he said, that men hold the inhabitants of Abyssinia, who are Christians, to know somewhat of the black art, believe them to have an understanding with the devil, and that, to make this power innocuous, some special papers or extracts are necessary. Sobi, in spite of his fearful wounds, was sound again within four weeks, these being healed by application of burnt coffee and brandy, the prescription of an Abyssinian doctor. *Werne's African Wanderings.*

Calendar of Operations.

(For the ensuing week.)

PLANT DEPARTMENT.

ORCHIDS are now making rapid growth, which should be encouraged by an atmosphere charged with as much moisture as it is possible to maintain, more especially for the East Indian species and their allies. Shade so as to exclude the sun's rays, and yet allow sufficient light to preserve the foliage of a dark healthy green. Those requiring less heat should have the same attention as to shading, &c. Avoid watering by dashes, but let every plant be daily examined; a moist, not a wet state of the material in contact with the roots, should be the object aimed at. Where plants are large, and extra fine spikes of bloom are desired, remove all weak growth as they advance, and retain only the strongest shoots. Stop the growths on Dendrobium nobile, and similar plants, except those starting from the bottom, to encourage regularly formed plants. Orchids now opening their blooms should be removed to a cool shady house, to prolong their beauty. The stock of Balsams and other annuals, grown for filling the vacant places in the plant-houses, should have every encouragement by frequent shifts, and by being kept in deep frames or pits near the glass. Pick off the early-formed bloom buds—the plants should attain a considerable size before they are allowed to bloom. A considerable number of greenhouse plants will now be benefited by being placed out of doors. Shady places, sheltered from strong winds, and, if possible, exposed to the east, are preferable. The more tender should be placed under a slight frame work, with tarpauling or painted canvass attached, to put over them during heavy rains. A portion of the more hardy stove plants may be removed to the houses emptied for the above purpose. This exposure to a larger amount of air will benefit the growth of many soft-wooded plants, and the habit induced by the change will be perceptible in the more intense colour of the flowers, and prolonged period of blooming.

FORCING DEPARTMENT.

Carry out the routine treatment of the succession Vineries, as directed in former Calendars; fires will still be required both to Grapes now ripe, and to the latest houses, till the Vines are out of bloom; for the former, it will only be necessary to apply sufficient to keep the house dry, and to allow for extra ventilation. When Grapes are required to be kept for some considerable time, shading must be used during bright weather, or the fruit will become shrivelled. If the shoots have been stopped at one or two joints above the fruit, the laterals (which should be taken clean out up to the bunch), should be stopped back to one joint, unless the previously formed leaves are already sufficiently close together, when they should be stopped close back; encouraging after growths, particularly when the foliage already occupies all the space beneath the glass, is productive of more harm than good. PEACH HOUSE.—The ripe fruit should be looked over each morning, to gather such as are likely to ripen in a day or two. The fruit will be higher in flavour than when allowed to ripen on the tree, and will save them from getting bruised by falling, to which heavy fruit of the Peach is very liable, with the best contrivances for catching them. MELONS.—As soon as the fruit is cut (if it is intended they should bear a second crop), prune back the shoots to where the fresh growth proceeds. Two or three inches of fresh loam should be spread over the surface of the bed, which should at the same time have a good soaking of manure-water, to assist the plants to make a fresh growth: an additional stimulus at the same time should be given to the roots, by slightly increasing the bottom heat; bring forward the succeeding crops, and take every means to keep down red spider, which, when once established on the foliage, is most difficult to destroy; as a preventive keep the air of the house or pit moist by frequent sprinklings, and wash the walls with the mixture recommended in former Calendars. Cucumbers, at this season, do best with a considerable amount of shade: this should be attended to, and the necessary bottom heat and moisture kept up. Keep the Vines thin and regular by frequent stopping; in planting out at this season use a rather poor, in preference to a rich soil, which in cold wet seasons induces canker.

FLOWER GARDEN AND SHRUBBERY.

The newly planted things will require constant watching, as under the best management failures will sometimes occur; these should instantly be made good, and the tying and staking of everything requiring support on no account delayed. Where an immediate display of flowers is not wanted, the buds may be pinched off for a week or two, to encourage the plants to cover the ground. Remove Pansies, Anemones, double Wallflowers, and other spring plants as they go out of bloom, to make room for autumn flowering ones; the beds will, however, require to be made up with fresh compost. Put in cuttings of double Wallflowers, Pansies, &c., for next spring's blooming. A shady piece of ground, or reserve garden, should be appropriated for the above. In addition, a stock of the more showy herbaceous plants should always be kept on hand, as well as the spare bedding-out plants, so that, in case of failures or alterations, a supply may always be ready for immediate planting. In large places a ground of this kind is indispensable, and no less so for those of less extent, as a continuous show of bloom cannot be kept up without a reserve stock being kept ready to remove whenever wanted. Creepers against walls or trellises should be constantly gone over to tie or nail them in. Standard and pillar Roses should likewise be looked over, to see they are properly secured to their stakes; take every means to eradicate all the broad-leaved plants and coarse growing Grasses from the lawns, which they much disfigure, and keep them closely cut with the scythe or machiue.

HARDY FRUIT GARDEN.

Still continue active operations against aphides and other pests to fruit trees, or their ravages will spoil your best hopes for a crop. The shoots of Cherry trees infested with the black fly should be dipped in tobacco-water immediately they are detected, to prevent the shoot from curling, which would stop its growth; either pick off with the hand or apply a wash of lime or clear soot-water to Gooseberries and Currants infested with the caterpillar; these increase so rapidly that a constant watch must be kept up for some time, if time permits. Pinch back all shoots off the latter, not wanted for wood; the fruit of Gooseberries, &c., like those of more value, will be considerably improved by summer stopping of the young wood—a fact well known to those who have paid attention to this mode of pruning, which is much better understood on the continent than in England, and is perhaps the only department of gardening in which English gardeners are behind their neighbours, and in many cases this arises more from want of time than knowledge; in France, cheap labour helps to carry this out to the greatest perfection.

KITCHEN GARDEN.

Continue to plant out fresh crops of Cauliflowers, Cabbages, Savoys, and Celery, in proportion to what the future demand is likely to be, and keep sowing at intervals of a fortnight such plants as Lettuce, Spinach, Radishes, &c., lasting but a short time in perfection. Select a cool and rather moist situation for the above through the summer months. The young Asparagus beds will be benefited by a dressing or two of salt applied in wet weather during the period of active growth. Seakale beds may have the same treatment. Salt on old worn-out soils acts most beneficially as a manure, in addition to its completely destroying slugs, worms, and other vermin; and it assists the growth of Celery and other cultivated marine plants considerably. Plant out Cardoons raised in pots into trenches similar to what was recommended for Celery. Hoe between, and earth up Potatoes, which in this neighbourhood look healthy; and for the first time these last seven years our frame Potatoes have shown no trace of disease, the foliage and crop having been healthy and good throughout. Peas, especially the tall growing kinds, should be stopped when they show bloom; this will not only throw them into bearing earlier, but make them more productive. Scarlet Runners treat the same, for similar reasons. Make up the deficiencies in the herb compartment by transplanting Thyme, Savory, &c., from the seed beds. Put in slips of Sage, and, with the exception of such herbs as are wanted for drying, remove the flower stems as they appear, to encourage such parts only as are of use.

STATE OF THE WEATHER NEAR LONDON,

For the week ending June 3, 1852, as observed at the Horticultural Gardens, Chiswick.

May.	Moon's Age.	Barometer.		Temperature.					Wind	Rain.
				Of the Air			Of the Earth			
		Max.	Min.	Max.	Min.	Mean	1 foot deep.	2 feet deep.		
Friday..	28	29.844	29.779	57	46	51.5	52	50	N.E.	.03
Satur..	29	29.689	29.611	51	35	43.0	52	50	N.E.	.25
Sunday .	30	29.763	29.686	57	38	47.5	50	49	N.W.	.01
Monday	31	29.817	29.795	60	34	47.0	51	50½	W.	00
Tues. ..	1	29.889	29.849	66	48	57.0	52	50	W.	.07
Wed. ..	2	29.866	29.791	63	50	56.5	53	51	S.W.	.09
Thurs...	3	29.858	29.709	65	41	53.0	53	51	S.W.	.03
Average .		29.819	29.745	59.8	41.7	50.8	51.8	50.2		.48

May 28—Uniformly overcast; cold N.E. wind; densely clouded.
— 29—Rain; clear with frosty air at night.
— 30—Fine; densely clouded; cold at night.
— 31—Fine; large masses of white clouds, and some dusky; clear; frosty air

June 1—Clear; fine; slightly clouded.
— 2—Cloudy; fine; rather windy; partially overcast.
— 3—Cloudy throughout; hazy at night.

Mean temperature of the week, 7 deg. below the average.

STATE OF THE WEATHER AT CHISWICK,

During the last 26 years, for the ensuing week, ending June 12, 1852.

June.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds.							
						N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 6	68.3	47.6	57.9	13	0.28 in.	4	4	1	2	3	7	2	3
Mon. 7	68.4	47.6	58.0	10	0.53	3	5	—	2	4	6	3	3
Tues. 8	69.8	46.7	58.3	9	0.10	3	5	1	—	4	7	4	2
Wed. 9	71.0	48.1	59.5	11	0.50	2	4	1	2	3	9	3	2
Thurs. 10	71.2	48.7	59.9	11	0.95	1	6	1	1	3	7	4	3
Friday 11	72.4	49.4	60.9	8	0.47	—	7	1	1	3	6	5	2
Satur. 12	72.1	50.7	61.4	10	0.78	—	5	2	1	5	8	2	1

The highest temperature during the above period occurred on the 7th 1846—therm. 90 deg.; and the lowest on the 8th, 1838—therm. 35 deg.

Notices to Correspondents.

AUSTRALIA: *A Reader.* Great numbers of very cheap guide books to this colony have been published, and may be had of the booksellers near the Royal Exchange. As they cost very little, you had better get as many as you can, and judge between them. Probably the best advice we can give is to go out with nothing more than a little linen, a little money, some credit, and a determination to work hard.

BIRDS: *Sylvanus.* The little bird found hanging near its nest, which was lined with horsehair, and supposed to have been accidentally hanged, appears to have been hung there by some person, inasmuch as the hair was not twisted round the neck: but tied very firmly in a regular knot. We are, however, unable to say whether it had been hung up alive or after it was dead: but probably the latter.‡

CUCUMBERS: *T L F., Essex.* The leaves you have sent look as if the plants were suffering from excessive moisture; but it is impossible for us to say with certainty whether that is the cause of the mischief or not. The origin of such mishaps can only be satisfactorily ascertained on the spot.‡

GREENHOUSE: *R G T.* Your plan appears to us judicious, with the following exceptions. We should not carry the border round the inside of the low front wall; it will be too dark. You might have a nice set of small trained plants outside against the wall in the flower garden. If you have rockwork, endeavour to connect it with your proposed fountain, so that the rock plants may have a damp atmosphere. We should not plaster the wall, but should merely trellis it. By all means collect the rain-water and use it for your plants as far as it will go. Perkins's pipes are too small; and besides, his apparatus works under high pressure, which is objectionable in gardens. Use 2-inch or 3-inch hot-water pipes instead. With regard to climbers, please say whether they are to be shrubs or annuals; and as regards Magnolia grandiflora, name your country, as we have no clue to the climate from which you write.

INSECTS: *J S. (Staffs.)* The grubs which have destroyed 21 acres of Oats, sown after Clover, are the larvæ of the common daddy-long-legs, now full grown. You must employ children to catch the flies when they appear, and so save your next crop. There is little chance of any application now being serviceable against the grubs themselves.—*X.* The insects found in your bacon box are the larvæ or caterpillars and perfect insects of the common bacon beetle, Dermestes lardarius. The beetles must be carefully hunted for and destroyed, and those in the bacon may be killed by immersing it for a short time in boiling water.—*Ignotus.* The white matter upon the bark of the Beech is a covering of masses of insects belonging to a species of Coccus allied to the Vine Coccus. Water heated to 140° washed over the bark will destroy them, as well as any oleaginous fluid or spirits of turpentine.—*J A.* The insects which have injured your Asparagus are the real wireworm or larvæ of Elater striatus. The best plan for their destruction is to lay traps in the beds of slices of Potato or Turnip stuck on sticks, which will attract them in great numbers, and which must be examined every morning and the insects destroyed.—*J D.* The black and red flies found in great numbers on the Pear leaves are the Bibio Marci, which are in no wise injurious, the grubs feeding on decaying vegetable matter. The dark spots on the young Pears do not appear to be caused by the attacks of insects.—*C W.* Your moths are—1, Cabera pusaria; 2, Aspilates citraria; 3, Harpalyce sylvatica; 4, Lampetia capreolaria; 5, Cilix compressa; 6, Nomophila hybridalis; 7, Diurnea Fagi; 8, Emmelesia candidulata; 9, Pyralis forficalis; 10, Hepralus obliquus; 11, Euclidia glyphica; 12, Orthosia lota. *W.*

MELONS: *A B, Manchester.* We never recommend dealers.‡—*J A.* We regret to say that we have no means of determining what ails your leaves. That can only be ascertained by yourself, who know all the circumstances attending their management. We can only say that they *look* as if they were suffering from too much moisture, or perhaps too little light, which is almost the same thing.

NAMES OF PLANTS: *H.* The "blight" observed upon Cupressus Uhdeana is a natural secretion of resin from the backs of the leaves. It is rather an indication of health than the contrary. We cannot imagine that your Cupressus thurifera could have been killed by it.—*Mr Skilbeck.* Lunaria rediviva, or common Honesty.—*W S.* 1, Abies cephalonica, or else Pinsapo; 2, Araucaria imbricata; 3, Coronilla Emerus; 4, some Conifer, quite indeterminable.—*C F.* Galium uliginosum and Orchis latifolia, as far as it is possible to judge from bad specimens.—*Tim.* 1, Limnanthes Douglasii; 2, Gesnera faucialis; 3, Gesnera Suttoni?—*J M R.* Hyacinthus Romanus, now called Bellevalia romana.—*John George.* Rosa alpina, a common Swiss plant, little cultivated, except in botanic gardens.—*John Thomas.* It is Habranthus intermedius, a very fine thing, from Brazil not India; it has always been taken for a tender bulb.—*A G.* 1, Salix aquatica; 2, S. incana, at least we believe so; but it is not practicable to determine with accuracy bad specimens of Willows in fruit only. We are unable to explain the circumstance you name.—*R B.* Carex teretiuscula; not a Grass.—*M A.* Ceanothus thyrsiflorus, ill figured in the "Botanical Register" for 1844, t. 38.—*W H.* 1, Hippeastrum Johnsoni; 2, Brunsfelsia americana; 3, Streptocarpus Rexii.

PAINT: *R W P.* Highly rectified spirits of turpentine will probably remove it, if rubbed on with patience. Last year a basket of Mushrooms was left all night upon a painted counter; in the course of the night some of the juice ran through, and wherever it touched the counter, the paint was removed clean down to the wood!

PANCRATIUM: *A H.* We know nothing of a bulb cultivated as hardy, and called Pancratium riparium.

PEACH-TREES: *W D.* We can express no opinion as to what ails your Peach-trees. It is only on the spot that the cause can be discovered. Encourage them as much as possible to make wood, which, if the autumn should prove favourable, may possibly ripen before winter.‡

PEAR LEAVES: *S F.* They look as if they were just attacked by some mining insect; if so, the mischief is only begun. We are unable to suggest a remedy.

RIGIDELLA: *A H.* The roots of these are not considered hardy.

STEPHANOTIS: *Marianne.* It might doubtless be wintered in a greenhouse; but a stove is the proper place for it.‡

UTRICULARIA: *Aline* is making a water garden, with a collection of native British aquatic plants; and wishes to know at what time of the year she can move the common Utricularia, and how she can best manage it, as, except when in flower, it is so difficult to find it. As we never heard of this plant being cultivated, we are obliged to refer the inquiry to our more experienced correspondents.

PERUVIAN GUANO.

CAUTION TO AGRICULTURISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

ANTONY GIBBS AND SONS, AS THE ONLY IMPORTERS OF PERUVIAN GUANO,

Consider it to be their duty to the Peruvian Government and to the Public again to recommend Farmers and all others who buy to be carefully on their guard.

The character of the parties from whom they purchase will of course be the best security, and, in addition to particular attention to that point, ANTONY GIBBS AND SONS think it well to remind buyers that—

The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 9l. 5s. per ton, less 2½ per cent.

Any resales made by dealers at a lower price must therefore either leave a loss to them, or the article must be adulterated.

THE LONDON MANURE COMPANY offer the following Manures on the best terms, warranting every article strictly genuine:—Peruvian Guano, Superphosphate of Lime, Nitrate of Soda, Concentrated Urate, Peat Charcoal, Gypsum, Fishery Salt from Cornwall, also a constant supply of Salt for agricultural purposes; Linseed and Rape Cake. Peruvian Guano, warranted the genuine importation of Messrs. A. Gibbs and Sons, at 9l. 10s. per ton, or for 5 tons and upwards, 9l. 5s. in Dock. EDWARD PURSER, Sec.

40, New Bridge-street, Blackfriars, London.

MANURES.—The following Manures are manufactured at Mr. LAWES'S Factory, Deptford Creek:

Turnip Manure, per ton	... ...	£7	0 0
Superphosphate of Lime	... ...	7	0 0
Sulphuric Acid and Coprolites	... ...	5	0 0

Office, 69, King William-street, City, London.

N.B. Peruvian Guano, guaranteed to contain 16 per cent. of Ammonia, 9l. 10s. per ton; and for 5 tons or more, 9l. 5s. per ton, in dock. Sulphate of ammonia, &c.

TO AGRICULTURISTS.

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Messrs. J. OWEN and Co. are now importing from their Copenhagen Manufactory SUPERPHOSPHATE OF LIME, of the very best description, containing at least 18 per cent. of Neutral Soluble Phosphate of Lime, and capable of furnishing at least 3 per cent. of Ammonia to the Soil. The "Analysis" is made by Professor J. THOMAS WAY, Consulting Chemist to the Royal Agricultural Society. The price, in London, of this powerful Manure, is 7l. per ton, cash, or Banker's Bill on London.

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(FROM THE SUFFOLK CRAG.)

EDWARD PACKARD AND CO., of Ipswich, having erected very powerful Machinery for the purpose of reducing these Phosphatic Nodules to a fine Powder, and being in the immediate locality of where they are found, are now prepared to supply them on the most economical terms, in any quantity, either Ground, Whole, or Dissolved in Acid. They form the cheapest source of Phosphate of Lime in the market, and are peculiarly eligible for manufacturing Superphosphate of Lime in conjunction with Bone.

Prices and every information connected with their use forwarded on application to EDWARD PACKARD and Co., Artificial Manure Manufacturers, Ipswich, Suffolk.

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SUPERPHOSPHATE OF LIME, made from bone only, equal in quality, but in superior condition to that manufactured by the undersigned, as reported in the Royal Agricultural Society's Journal, Vol. VI., Part 2. It is also suitable for use with Chandler's Liquid Drill; also Peruvian Guano, Nitrate of Soda, Gypsum, Bone-dust, Sulphuric Acid, and all other Manures of known value.—Apply to MARK FOTHERGILL, 204, Upper Thames-street, London.

CHARCOAL AND SEWAGE MANURE.—Promote the Health and Wealth of Town and Country by increasing the use of that valuable manure PEAT CHARCOAL, impregnated with the fertilising matter of LONDON SEWAGE. The ammonia, phosphates, and fæces are absorbed, and the water pressed out bright, palatable, and soft.

Sold at the Charcoal and Sewage Works, Stanley-bridge, Fulham, Middlesex, at 60s. per ton, 4s. per cwt., 2s. 6d. per half cwt.

SCOTLAND.

TO AGRICULTURISTS.—The Subscribers have always on sale, and which can be delivered at any railway station in Scotland,

BONE MANURE AND BONE CHARCOAL.

ROBINSON and NIVEN,
West Burn Mills, May 29, 1852. Drysalters, Greenock.

Messrs. R. and N. request the attention of Agriculturists to the undernoted CHEMICAL ANALYSIS of their Bone Charcoal, which contains the following fertilising ingredients:

"Phosphates of Lime and Magnesia	83.5
Carbonate of Lime	4.7
Carbonate of Magnesia	0.6
Charcoal	5.7
Alkaline sulphates and chlorides	1.6
Water	2.0
Silicious and clayey matter, and oxide of iron ...	1.9
	100.0

"It will be observed, from the foregoing Analysis, that this substance is particularly rich in phosphates of lime and magnesia, containing 83½ per cent. of these ingredients; on this account it is admirably adapted for use as manure, for these phosphates rank amongst the most powerful of fertilising agents. (Signed) FREDERICK PENNEY, Professor of Chemistry, Andersonian University, Glasgow."

HOSE FOR LIQUID MANURE, FIRE ENGINES, or GARDEN PURPOSES, made of Canvas, lined and coated with Gutta Percha. It is exclusively used by agriculturists, and at the Government Public Works, giving great satisfaction. Also, KASE'S FORCE and SUCTION PUMP, which is the most simple and complete; it will throw 40 gallons per minute, 40 feet high, and it is not at all liable to get out of order. Price 6l.; on wheels and stand, 7l. 7s.

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TO AGRICULTURISTS, GARDENERS, ETC.

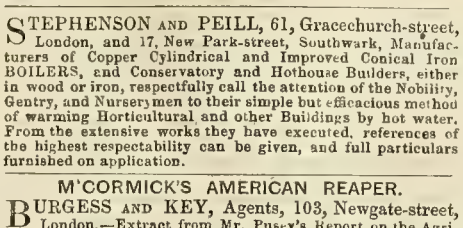
COMPOUND ANIMAL MANURE.—This Manure, fit either for the drill or for casting, is composed of a combination of highly fertilising artificial substances, with natural animal products, so as to contain, in a concentrated state, all the elements that are best calculated, not only for promoting the germination of seeds, and luxuriance of growth in vegetation, but increasing the produce, as well as improving the quality of the crop to which it has been applied. It is prepared, either to be suitable for general purposes, or expressly for each particular kind of crop as may be required, according to the constituents that are found, from analysis, to enter into the structure of the stems, seeds, or tubers of the plants; and its beneficial effects upon the soil will continue for several years after its application.

DIRECTIONS HOW TO APPLY THE COMPOUND ANIMAL MANURE.

The quantity recommended to be applied to each acre of land, is at the rate of 3 to 4 cwt.; but as it may prove rather too powerful by being put into the drill *alone* along with the seed, it had better be thoroughly incorporated previously with an equal bulk of common *well-dried* earth. If used as a top-dressing when the growth of the seed has made some progress, it will not be necessary to mix it with anything, but merely strew it in the first stated proportion on the surface around the roots of the young plants. For general application, 7l. 10s. per ton; 4l., ¼ ton; 2l. 5s., ⅛ ton; 10s. per cwt; for Cereals, 8l. per ton; for Turnips, Potatoes, 7l. per ton; for Grass, Clover, &c., 5l. per ton.

To be had of H. COLES, 43, Cranbourn-street, Leicester square, London.

BOYD'S SELF-ADJUSTING SCYTHE.



BOYD'S PATENT SCYTHE and the celebrated STEEL DIGGING FORKS.—BOYD'S Scythe is capable of being adjusted to any angle by the person using it, and never requires the aid of a blacksmith; when out of use it shuts up like a clasp-knife. The *Gardeners' Chronicle* thus comments upon it:—"We gladly state that Mr. BOYD'S Scythe stands well the great test, experience, especially with his late ingenious and very useful improvement."—G. C., 15th May, 1852. The Steel Digging Forks are those celebrated by Mr. Mechi. "When a labourer has once used them, he will never work with any other implement for digging. They effect a saving of nearly 50 per cent. in labour."—Wholesale and Retail at WM. DRAY and Co.'s Agricultural Implement and Machinery Warehouse, Swan-lane, Upper Thames-street, near London-bridge.

STEPHENSON AND PEILL, 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Manufacturers of Copper Cylindrical and Improved Conical Iron BOILERS, and Conservatory and Hothouse Builders, either in wood or iron, respectfully call the attention of the Nobility, Gentry, and Nurserymen to their simple but efficacious method of warming Horticultural and other Buildings by hot water. From the extensive works they have executed, references of the highest respectability can be given, and full particulars furnished on application.

M'CORMICK'S AMERICAN REAPER.

BURGESS AND KEY, Agents, 103, Newgate-street, London.—Extract from Mr. Pusey's Report on the Agricultural Implement Department, Great Exhibition.—"Mr. M'CORMICK'S Reaper, in this trial, worked as it has since worked at Cirencester College, and elsewhere, to the admiration of practical farmers, and therefore received a Council Medal. Mr. Hussey's sometimes became clogged, as in the former trial at Tiptree, and therefore could not possibly obtain that distinction."—Price of Reaper, 25l.

The Agricultural Gazette.

SATURDAY, JUNE 5, 1852.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY,	June	9—Agricultural Society of England.
THURSDAY,	—	10—Agricultural Imp. Soc. of Ireland.
WEDNESDAY,	—	16—Agricultural Society of England.
THURSDAY,	—	17—Agricultural Imp. Soc. of Ireland.

THERE are few things more deserving of notice than THE VENTILATION OF CATTLE HOUSES; for a proper supply of pure air is as necessary as a proper supply of solid food. Without the former the latter can never be wrought up into the animal system. The industry and economy of the bee have long been proverbially admitted, and perhaps there is no department more interesting than the ventilation of the hive, where gangs of working bees relieve each other alternately, and by means of their wings keep up a fanning operation, thus expelling the products of combustion, and circulating within the hive an abundant supply of pure air for respiration. But short-horns have no such mechanical ingenuity about them—hence the difficulty of maintaining a pure atmosphere of a proper temperature for before a proper supply is obtained the body too frequently suffers from currents of cold air—a result which is thus accounted for.

Horses, oxen, and sheep require a much larger area of space for the purpose of respiration than is generally imagined;—hence in the erection of buildings we are too often led astray by a penny-wise economy, confining stock of every kind within too narrow a circle. We build our houses too small, and then to make them hold our stock, crowd the animals too closely together; the consequences of which are obvious; for, owing to the large amount of carbonic acid given off from the lungs, the insensible perspiration of the animals themselves, and the vapour and gases containing putrefying matter present in the house, cattle have to breathe a vitiated atmosphere. Under such circumstances it is impossible that the food consumed should be turned to the best account: indeed the loss sustained is scarcely credible, and although not perhaps perceptible in all cases, in the majority it is; the poor animal is not unfrequently drenched in its own perspiration — restless and excited. Now, the water which drenches the animal's coat, and the condensed vapour trickling down the roof and walls, prove the loss sustained by the farmer; for it arises partly from the elements of food which under proper ventilation would have been worked up into fat, but chiefly from the combustion of fat whose carbon is given off in the insensible perspiration in the shape of carbonic acid, and whose oxygen and hydrogen are given off in the shape of vapour loaded with the other elements already noticed. The thermometer may stand in the beehive during winter at 35°; but if you tap on the hive, arousing the inmates, combustion becomes more active, and the thermometer soon rises, while the interior atmosphere becomes loaded with carbonic acid—a state of things at variance with the industry and economy of the bee. Hence, organised bands immediately start from their slumbers, and arrange themselves in working order, soon lowering the temperature again, expelling the vitiated atmosphere, and filling the hive with pure air; but in the feeding-house of the farmer there is no such industry, economy, and mechanical ingenuity. Instead of this, it but too frequently occurs that every door and cranny is carefully crammed with straw to prevent the ingress of cold air, under the notion that heat is favourable, and that a sweated coat once a day is good for the fattening ox! "Doctors differ," and so do bees and farmers in their notions of ventilation; and probably if the English bull had wings, like the great Assyrian bull in the British Museum, instinct would in this instance also triumph over reason; but, in the absence of such appendages, the position of the farmer is obvious.

A room, to be properly ventilated, requires a supply of 4 cubic feet of pure air per minute for every person in it under ordinary circumstances, but if the party is under excitement the quantity of carbonic acid and vapour given off in the insensible perspiration may be double, so that it may not unaptly be said that the evils arising from an overcrowded house beget themselves indefinitely,—the more you are annoyed by the heat and impure air, the more active becomes combustion, giving off proportionally a larger amount of heat and impure air in a given time. Sensations and results are similarly experienced among cattle; but with this difference that in the latter case a larger amount of nauseous gases is emitted from excrementitious matter and decomposing litter, requiring, proportionally, a larger supply of pure air. Now, it has been estimated that the ox consumes about 6 lbs. of carbon daily in the respiratory process, while that used by a man is stated at 7 oz.; hence the additional quantity of pure air required by the former is very great; so that the moment we exclude the free operation of the external atmosphere it will readily be perceived that to obtain a sufficient supply within is no easy task. This will be better understood when we come to glance, in another article, at the different modes of ventilation, confining ourselves to principles rather than practical details.

IT seems rather gratuitously assumed that certain crops are of themselves ameliorating; we are disposed to think that their ameliorating effects arise from the circumstances which attend their cultivation, rather than from any quality inherent in themselves.

All normal vegetation, it is true, appears, under favourable conditions of soil, to allow of the accumulation of the elaborated constituents of vegetables; and virgin soils are found to have thus acquired a fertility which will admit of many years' severe cropping with heavy produce. Yet this result appears to occur only when the land is called on to produce a normal growth; for when an increased produce or abnormal growth is stimulated by cultivation, these very ameliorating crops, apart from the means employed, do not appear to exert any improving influence; indeed, from the constant demand for manure, they are scourging crops—the kitchen garden is proverbially severe on the dunghill.

It has been said that these crops are ameliorating, as they are consumed on the farm; but even in this sense it is not true, for they can return no more to the land than what they have taken from it, and this is also foreign to the fertilising properties they are supposed to possess in themselves, for a grain crop might be so applied.

The large leaf, in its smothering cover, in its nitrogen-collecting power, in drawing more largely

on the atmosphere, and in the different constitution which it exhibits when compared either with itself when allowed to seed or with cereal crops cultivated for their grain produce, has been assumed as a cause of the ameliorating effects of certain crops.

For the ameliorating consequences resulting from the cultivation of these crops we think there are more obvious reasons to be found, although they seem to obtain less consideration, if they are not thrown together out of the account, in the working of the ground both previous to depositing the seed and in the after tillage, and in the supply of extraneous fertilising matters in the way of manures, all which we find absolutely necessary for that abnormal produce which is needed to render these crops remunerative.

Surely these fertilising operations, so much greater than are required by the so-called exhausting crops, do not indicate the ameliorating qualities we are so fond to attribute to them: one would take them as proofs of far heavier demands on the soil.

But, if the larger leaves of the so-called ameliorating crops enable them to draw their food more largely from the air, they also, from the larger surface they expose to the action of evaporating causes, must in the same proportion draw upon the soil, and thus be more exhausting than plants with smaller leaves, while, from the recumbent position of their leaves, with their thousand open mouths, they more readily imbibe the vapour as it rises from the earth.

Whether plants throw off excremental matters by their roots or not, it is certain that they throw off very much excremental matter by their leaves.

From the greater number or larger size, therefore, of the leaves of the so-called ameliorating crops, they must not only draw in more largely from the soil such matters as their roots find in solution, but discharge them into the air in greater volumes, proportional to the surfaces exposed to evaporation, than the so-called exhausting crops can from their smaller or less numerous leaves.

When, in addition to these considerations, we recollect the heavy draught of the great quantity of water we draw in from our fields with root crops, the cutting up and compressing, the kneading and poaching which the land thus suffers—the chilling effects of the quantity of cold water we throw into the stomachs of our cattle, the heavy manurings these crops require, and the late period to which the Wheat sowing is deferred by them—it will become a matter of calculation whether it may not be more profitable, in making our grain crops fallow ones, to depend more on grain and Pulse crops for feeding than we have done, without, however, superseding altogether the root and green crops.

Crops of inferior grain for cattle-feeding, as autumn-sown Rye, Oats, and Bere, would come off before the general harvest; and if these were followed by stolen crops of Turnips or Rape, an amount of superior cattle food would probably be obtained greater than a full crop of Turnips. It may be also found in practice to answer to sow Turnip or Rape seed in the intervals with portable manures before the crops are fit for harvesting, and thus a heavier return of these crops be obtained. This certainly may be safely done in Mr. SMITH's practice, and might perhaps in the 2-feet intervals of another experimenter. *G.*

ROTHAMSTED AND THE WRITER "R."

(*Continued from page 346.*)

BUT we will now adduce some passages emphatically defining the character of the experiments, and in which the reader is cautioned again and again against any indiscriminate or ill-considered *direct* application of them to practice; and these sentences will, we think, carry home a word of admonition to Mr. Russell as to the future conduct of his task, if, as the champion of practice, he would assume to himself the office of mediator and censor between it and science—if he would really put no check upon the progress of that science which he professes to have so much at heart—and if it be really his "wish, in dealing with the subject, to do it with impartiality to all parties."

Journal of the Royal Agricultural Society, Vol. VIII., Part 2, p. 496:—

"At the outset, however, it may be well to caution the agriculturist against expecting what we by no means presume to exhibit. The object of the experiments has not been the production of immense crops, but to trace, as far as we were able, the real conditions of growth required by the Turnip, and to distinguish these from those of the crops to which it is to a great extent subservient. To attain our object it will be necessary to speak of amounts of produce which may at first sight excite the ridicule of those who do not fully appreciate the nature of the question at issue; but those who choose to go through the details which we are about to quote will, it is thought, find that a true understanding of them tends much to explain the principles upon which the best agriculture is founded."

Journal of the Royal Agricultural Society, Vol. VIII., Part 2, p. 502:—

"We would again remind our readers that the object of the experiments was not the production of large crops, but to learn, by the effects of different and known conditions of supply, in what respect and to what extent the plant was dependant upon the resources which must be kept up by the farmer, and how far he may rely upon the natural yield of the atmosphere; for it is the item of *source* of constituents, as well as that of quantity and quality, which should influence our selection of plants and manures under a truly rational and economic system of agriculture."

Journal of the Royal Agricultural Society, Vol. VIII., Part 2, page 504:—

"Were we to look at the results of this table with a purely agricultural eye, the column of acreage weight of bulb would be sufficient to guide our judgment as to the efficiency of the various manures; but since the object of the experiments is rather to provide a key to the requirements of the Turnip than to afford exact examples of manuring, other items than that of the actual acreage results obtained must be taken into consideration in forming an estimate respecting the nature of the conditions which cultivation should be calculated to supply."

Journal of the Royal Agricultural Society, Vol. VIII., Part 2, p. 560:—

"It should, therefore, be distinctly understood that the objects of these experiments is not to provide any examples for direct imitation in practice, but to enable us to ascertain the real characters of season, soil, and manuring required for the growth of the Turnip, in order that, the principles of its culture being better understood, the practice of it may be more economically carried out."

We do not conceive it possible more clearly to disclaim for our experiments the idea of their being of interest as affording instances of large produce, or of their being *directly* applicable to practice, as providing exact examples of manuring; and the idea of their being compared in these respects with experiments arranged for *more directly* practical purposes, is surely clearly enough repudiated. But on this point our experiments have received the treatment from Mr. Russell which science is very apt to meet with from practical men when she is doing her best to help them. The following is Mr. Russell's comment upon some of them:—

Agricultural Gazette, July 26, 1850:—

"Mr. Lawes found that his Wheat field, which yielded 17 bushels per acre without any manure, did not produce as many cwts. of Turnips without any application; but a certain weight of superphosphate of lime raised the crop to 12 tons. This was a very interesting result; but practically the question and matter for discussion by farmers is, how the Turnip crop can be increased from 12 to 20 tons or upwards." * * * *

"We suspect, however, that carbon without ammonia is powerless; and also that in all soils which are capable of raising 17 bushels of Wheat annually, 20 tons and upwards of Turnips can be raised by applying phosphoric and ammoniacal manures, if common sense and good management in the details are followed."

And again; *Agricultural Gazette*, Dec. 13:—

"We have already given our opinion of Mr. Lawes' experiments, and we by no means underrate his labours—he has done much to consolidate our opinions on many special points. The elaborate experiments of Mr. Hannam and Mr. Gardner in the Transactions of the Highland Society are, however, as valuable for practical purposes, seeing that these were made under less artificial conditions. For on this account Mr. Lawes' figures will by no means bear that rigid application which many imagine."

Now, it is because we so entirely agree with Mr. Russell in the remark last quoted, and because we have ourselves so fully insisted upon the point as shown by the sentences already quoted from our papers, that we would complain of Mr. Russell, so comparing our experiments with those of a totally different plan and object, without reference to our own disclaimers on this point, as to give the aspect that we had ourselves claimed for them that plan and object; and we think, too, that it is much wanting either in discrimination or ingenuousness, to insinuate that the produce would be "20 tons or upwards," if "common sense and good management in the details are followed," especially when it is actually stated in our papers that 20 tons and upwards were in the ordinary farm management obtained.

See paper on Turnip Culture, p. 563, Journal of the Royal Agricultural Society, Vol. VIII., Part 2:—

"That the soil on this farm, although not a Turnip soil, is capable of producing good root crops, *under a proper supply of manure*, may be inferred from the fact that this year, which is anything but a good Turnip season, an acre of Swedes was weighed, the bulbs of which gave 20 tons 10 cwt."

Again, in his rejoinder No. 1, May 1, 1852, Mr. Russell writes:—

"Even in our ordinary farm rotations, were we to supply ammoniacal salts as freely to our Wheat crop as is done by Mr. Lawes, we should blight every straw of it."

Now, the large amounts of ammonia referred to by Mr. Russell were applied in our *experiments* upon Wheat; and as for our treatment of that crop in our ordinary farm rotation, we never have published a word on the subject; and certainly we should not then apply such large amounts of ammoniacal salts; nor can we be supposed to have in any way advocated such practice as generally applicable in farm rotations.

Nothing, indeed, is required but a little clever writing to disparage or expose to ridicule with practical men those results of scientific experiment which are the most significant, and which, when intelligently interpreted, tend most to explain and enforce the best practices. The respective provinces of *art* and of *science*, should, however, never be confounded, if the two are healthily to re-act upon each other. It should never be forgotten that what in agriculture are called *practical* experiments, as distinguished from scientific ones, are designed to provide results for direct adoption; whilst the most significant and important of scientific ones will most certainly not be fitted for direct imitation in practice, but are to provide materials for *deduction*, which, if intelligently applied, having reference to local circumstances, will thus have, though an indirect, yet not less important influence on actual practice itself. To treat scientific experiments in any other way, may indeed serve very well as a piece of stage effect with practical readers, but a triumph thus gained is surely of an inglorious kind, and it is, moreover, exceedingly disparaging to the usefulness of scientific effort. We are disposed believe, however, that were Mr. Russell's eminently practical talents more duly balanced by the requirements of science in this respect, he would have exercised a wiser discrimination on these as well as on some other points. *J. B. Lawes.*

(*To be continued.*)

DIGGINGS BY A FEN FARMER.—No. II.

THE first "floor" of our diggings, namely, that referring simply to the surface of the Fen district, will not occupy much space and time. We shall descend as quickly as possible under ground. To give the reader an idea of the present practice of farming, we will take the Great Level in its separate districts. The northern half is entirely in Lincolnshire, and is thus divided. The Witham Fens, the Black-Sluice Drainage, and Deeping Fen, form a band of peaty land, skirting the western uplands from Lincoln to the river Welland. West, north, and north-east of Boston, lie Holland Fen, Wildmore Fen, West Fen, and East Fen; the three former for the most part consisting of clay and loam, the latter being principally peat earth. And extending between these and the sea are the marsh lands, and those intervening tracts of stiff clay called Highland Fen; the largest tract of this clay and marsh is named South Holland. The Witham Fens, about 30,000 acres in extent, have received their chief improvement at a comparatively modern date. In the middle of last century they were a perfect sea during the winter inundations of the river Witham; and it is a remarkable fact that no longer than about 65 years ago a thousand acres in Blankney Fen (now one of the richest districts) were let annually by public auction at Horncastle, the reserved bid being 10*l.* The first act of Parliament for embanking and draining this waste passed about 1788, and during the enclosure the commissioners sold portions to speculators at 14*l.* per acre; these were immediately cropped for three years with Oats, each crop making more than the purchase-money. Windmills were employed to lift out the drainage-water; but since 1831, a considerable number of steam-engines have been erected, and the windmills removed. The peat soil has suffered from bad management; but claying and oilcake, yard manure and bone-dust are now raising from it good yields of grain and abundance of green food. They have been farmed by tenants whose "home farms" were upon the neighbouring highlands; and the straw, mown seeds, &c., have been carried off the Fen to the upland farms, no manure being returned beyond the few bones sown with the Coleseed. There are many superior managers, however, who consume their straw, &c., on the Fen, giving their beasts large quantities of linseed oilcake during the winter to enrich the manure. The old system of farming was to tear up an immense quantity of the black earth into heaps, with an implement called a "bob," and then burn it—the ashes making a manure for the Coleseed then sown. After this, one or two crops of Oats were taken, and the land then laid down to Grass for three or four years. No regular course of cropping is pursued, but a six-field system is much approved of; thus: 1st, Coleseed; 2d, Wheat; 3d, Seeds; 4th, Wheat; 5th, Oats; 6th, Wheat. About two-thirds of the seeds are grazed with long-wool sheep; and it may be noticed that whenever the seeds are eaten off so as to leave the land bare, the following Wheat crop is very deficient. This light soil is very subject to "honeycomb;" that is, sudden drying breaks the surface into lumps, the separating cracks running in all directions, and as minutely as the meshes of an eel net. A rather new method has been tried for preventing this, and so preserving the young Wheats from being drawn up by the roots and blown away. By means of a drill, made with coulters similar to the tines of a scarifier, the Wheat is sown upon the Coleseed stubbles without ploughing. The well-trodden and compressed surface is thus left unmoved and solid—unparched by the sun, and its moisture unabstracted by the wind. Comparatively little oilcake is used in these fens; but about 12 bushels of bone-dust per acre are commonly sown with the Coleseed. The average produce is—of Wheat 4½ quarters, Barley 6, and Oats 8 quarters, per acre.

The Black-Sluice Drainage district (not including Holland Fen), comprising both black and loamy land, was formerly imperfectly drained by wind-engines, and one steam-engine still remains. Recent improvements, however, in the main outfall promise a natural drainage for the whole tract. The rotation of Coleseed, Oats, Wheat, Seeds, and Wheat, is very generally followed.

Deeping Fen, of about 25,000 acres, is drained by two steam-engines, of 80 horse and 60 horse-power, both under one roof; which in the years 1824-25 were erected to perform the work of more than 40 windmills. About 4000 acres, lying farthest from the engines, in the "pan" or lowest portion of the district, are not well drained; the water in the ditches during winter being seldom lower than 15 inches from the surface. This is considered a good drainage by many who were accustomed to the wretched system of windmills, which frequently were unable to effect their duty until the water had remained so long upon the soil as to dissolve and wash out much of the nutritious salts and manures it contained. Nothing is more certain than that water, stagnating near the surface of the Fen lands for any considerable time, greatly injures the roots of growing Wheat, and likewise destroys Clover and all those valuable Grasses which strike their roots deep into the ground. Besides this, it washes out of the soil and carries away with it the soluble fertilising particles, thus occasioning a lasting injury to the productive powers of the land.

Hence there can be no doubt that many lands, usually regarded as well drained, do in reality suffer very much from the causes here stated, even when water is seldom or never seen level with their surface. A testimony to the truth of this remark may be drawn from the dark blood-coloured water which is thrown out by mills; whereas, in those parts where the drainage is tolerably rapid, the water in the drains is colourless and transparent. The truth is, that all the water which cannot be retained by the soil, evaporated by the air, or absorbed by vegetation, ought to be drawn off the soil without being suffered to stagnate; it has then no time to dissolve the soluble matters mixed with the soil, but, on the contrary, by its slow and uniform filtration through the earth, communicates and mixes the various substances in that equal manner which is most conducive to fertility. To accomplish this, a perfect subsoil drainage is required; but first of all the water-level must be kept at least 2½ or 3 feet below the surface of the land, and the outlet always kept open in winter, so that every shower of rain falling in excess upon the soil begins without a moment's delay to pass gradually away. Deeping Fen cannot expect to acquire a natural drainage for a long time to come; but a great improvement might be effected by lowering the scoop-wheels of the engines, so as to bale out the water to a lower level. This is the more needful, because the surface of the whole Fen has subsided at least 2 feet since the steam drainage was begun. That these powerful engines are capable of thoroughly drying the Fen, providing the highland water were excluded from the ditches instead of being taken in to refresh the crops in summer, is demonstrated by experiments made with a Dalton gauge; the engines removing exactly the excess of downfall water over that evaporated. A register is kept of the quantities of water raised; and the results, when compared with the amounts of rain fallen, are instructive to those who have low lands to drain, and who wish to ascertain the quantity of water requisite to be drawn off, and the power needed to effect its removal—useful also to every one who has lands of similar character to underdrain. The average annual fall of rain upon Deeping Fen, during the six years, 1838 to 1843, was 27.5 inches, or 69,632,393 tons of water on the whole 25,000 acres. The average weight of water lifted by the engines in those years was 24,704,828 tons. This is equivalent to 35.4 per cent. of the quantity of rain fallen; but as much water was admitted from the upland rivers in summer, the quantity remaining to be evaporated and used by vegetation was probably about 75 or 80 per cent. The average downfall throughout England within the same period was 26.8 inches, and the evaporation 57.4 per cent; by comparing which facts it appears that this Fen was superfluously charged with water. But in 1848, the fall of rain on the fen amounted to the great quantity of 34.3 inches, or 86,850,585 tons; the quantity taken off by the engines was 42,695,663 tons, equal to 49.1 per cent. So that if the upland water was never admitted, the engines are of sufficient strength and magnitude to leave only 50.9 per cent. of the heaviest downfall, or as much as 61.3 per cent. of the average annual downfall. To do this effectually for 25,000 acres, the steam-engines are of the united power of 140 horses, raising, when in full work, 300 tons of water per minute, on an average 7 feet high, with a consumption of 1700 tons of coal for the above 42,695,663 tons of water.

During the last 20 years this fen has been wonderfully benefited by "claying"; but now there is scarcely any need for performing this operation with the spade, as the subsoil, both of silt and clay, is in most places ploughed up and mingled with the upper soil of peat.

In the year 1799, Arthur Young writes—"Twenty years ago the land sold for about 3*l.* per acre; some was then let at 7*s.* or 8*s.* per acre, and a great deal was in such a state that nobody would rent it; now it is in general worth 20*s.* per acre, and sells at 20*l.* per acre." This great improvement was effected under mill drainage, and at a time when the system of paring and burning for Oats, Coleseed, and Rye, was in fashion; the same land now, in consequence of steam-drainage and claying, has doubled in value; the average rental of Deeping Fen being about 35*s.*, while a great breadth is let at 2*l.* per acre.

Landowners! here you perceive what skilful and bold engineering, and intelligent, enterprising, able-minded, able-bodied, able-pocketed occupiers can do for you—when your estates are in unfortunate circumstances.

And here we must "have a minute" to rest ourselves, promising to dig again another week. *I. A. C.*

AGRICULTURAL EDUCATION.

I READ with much pleasure many of the observations which are made from time to time in your *Gazette* with respect to our agricultural labourers; and whilst I cannot shut my eyes to the fact that very many of them are steeped in poverty, and not a few in recklessness and crime, I do not consider their case hopeless. Their pauperism in these parts is not to be ascribed to inadequate wages, for I shall presently show that their wages are amply sufficient to procure for them the necessaries of life, but to their improvidence, induced by ignorance—an ignorance of their duty to God, to their neighbour, and to themselves.

In the agricultural parish in which I reside, having a population of about 2000 persons, there have been for many years a boys' school, a girls' school, and two infant schools, and yet the ignorance of the labouring population, both male and female, not only as respects reading and writing, but also as regards the right management of themselves, their families, and property, is beyond expression great; and it arises, I conceive, in this way: Many of the girls are taken from school as soon as their parents consider them old enough to look after the younger children at home, and others because their ignorant parents think they have had education enough, although they have hardly entered their teens; and these half-educated, and finally ignorant girls, are those who afterwards become the mothers of families in the parish; for the girls who continue at school until they become young women, usually go into domestic service, and rarely become the wives of agricultural labourers. As respects boys, your agricultural readers will probably agree with me that the lad who is to earn his living at the plough's tail can hardly begin his apprenticeship too soon in the stable and the field; but in nine cases out of ten, long before that apprenticeship is ended, the lad has forgotten nearly all he learned at school. Now your correspondent, Mr. Batson, some time since showed, in a most convincing manner, that gentlemen who, like himself, farm extensively, have it in their power to employ many boys, and so train them that they may "become a more skilful and better conducted class of men." Much, too, might be done by means of evening schools for lads in their teens, and by putting into their hands, at the period of life when they are attaining to puberty, books calculated to teach them to "eschew the evil and choose the good." As respects the daughters of our peasantry, it is of the last importance that they should be well instructed, for mighty will be their influence, for good or for evil, as wives and mothers. We cannot, indeed, say to their parents, "You *shall* continue to send your daughters to school until they shall have attained a certain age;" but as the parents are usually very desirous to obtain a certain amount of schooling for their children, or at least to transfer the care of them during that portion of the day when they themselves are at work in the fields to teachers, the managers of the schools might, I conceive, with propriety condition that they shall make a small weekly payment, the amount of which they should be entitled to receive back on their daughter attaining a certain age, and being still a scholar. The payment, being small, would rarely be objected to; and penny added to penny would, after the lapse of a few years, become in their eyes a large sum. Education should be based on Christian principle, and children should be taught their duty to God, to their neighbour, and to themselves; but I object to making the Bible and the Book of Common Prayer the child's class and task books. In these days there is no lack of books well calculated to amuse and to imbue with useful and religious knowledge the youthful mind. And here I would draw the attention of teachers, and of all who have the management of children, to the admirable work by the late Dr. Andrew Combe, on the "Improvement of Physical and Mental Education." "In some infant schools," he observes, "no playgrounds have been provided, and the very best means of moral as well as physical training—play with companions—has, to the great injury of the poor children, been wholly omitted." "Under judicious direction," he goes on to say, "The playground affords the most valuable and effective aid to the parent and teacher, not only in eliciting the highest degree of physical health, but in developing the general character, by the practical inculcation of moral principle, kindness, and affection in the daily and hourly conduct of the children committed to their charge." Whilst I object to making the Bible a lesson book, I am very far from wishing to exclude it from our schools; it should be read daily, and the scholars should be taught to regard it as—as it is in truth—the word of God; but it is distressing to the Christian visitor to witness the irreverence with which that book is read and treated by them. Our village schools should be as much as possible self-supporting schools. It is a great mistake to educate the children of the labouring class gratuitously. Exceptions must be made, but as a general rule the parents should contribute towards the education of their children; and the more largely they contribute the more they will value it, and the more desirous they will be that their children should profit by it. Land should be attached to the schools, and allotted to the boys in gardens, which they should daily cultivate for an hour or two; and the master should be supplied with books on gardening, the better to enable him to instruct them in that delightful art. Their gardening should not be confined to esculent vegetables; the cultivation of flowers, by inspiring a taste for the beautiful, is calculated to refine and elevate the mind. Vegetable and flower-seeds, and garden tools, would be suitable and grateful rewards of merit.

I have said that the wages of the agricultural labourers in these parts are amply sufficient to procure for them the necessaries of life. Now, I will take the case of an agricultural labourer of good character, who, at the age of 20, can do any description of work usually required from a labourer on a farm, and who is in the receipt of 11*s.* a-week; and I will show, that after having provided himself with necessary food, lodging, and clothing, he may with the remainder of his earnings become a member of a benefit club, which will allow him 8*s.* a-week during illness; that he may by a small annual payment purchase an annuity of 12*l.* 10*s.*, payable to him at the age of 60, for the remainder of his life; and by another small yearly payment insure his life for 100*l.*, payable at his death to any person or persons he may think proper. Having done all which, he will still be enabled to deposit 4*l.* 1*s.* 9*d.* annually in a Savings' Bank, which, if allowed to accumulate there, will, when he shall have attained the age of 27 years, amount to 40*l.*, or thereabouts; and in the same proportion for other sums and different periods of time. With such a sum, he will be in no small measure prepared, should he then take to himself a prudent wife, adorned with a gentle spirit (woman's best endowment), to meet, with God's blessing, the many contingencies of the married state. This fund, moreover, will when his family increases and he can perhaps no longer save any portion of his weekly earnings, enable him to continue his payments to the benefit club, and pay the annual premiums of assurance, securing to himself, as I have said, an annuity of 12*l.* 10*s.* every year he may live after having attained the age of 60, and to his family the sum of 100*l.*, payable at his death.

The case stands thus:—

			s.	*d.*
Weekly Earnings			11	0
Weekly Expenses:	*s.*	*d.*		
Bread, 2 lbs. per day, at 5*d.*, the 4 lbs. loaf	1	5½		
Bacon, ½ lb. per day, at 7*d.* per lb.	2	0½		
Cheese, 2 oz. per day, at 7*d.* per lb.	0	6½		
Milk, 1 quart per day, at 2*d.*	1	2		
Tea or coffee, per week	0	3½		
Sugar, per week	0	2½		
Lodging and washing	2	0		
Sundries	0	3½		
			*8	0
Weekly savings			3	0
3*s.* × 52 weeks =			£7	16	0
Assurance of 100*l.*	1	11	11		
Benefit Club	1	0	0		
12*l.* 10*s.* Deferred annuity	1	2	4		
			3	14	3
Balance to be deposited in a Savings' Bank			£4	1	9

His extra earnings in summer will provide him with clothing; and by occupying a piece of garden ground, he may abundantly supply his table with Potatoes and other vegetables. *Senex.*

Home Correspondence.

Hedge-row Timber.—I rent 40 acres of land adjoining my own, on which are a number of small Elm trees, varying from 6 to 12 inches in diameter, and worth from 2*s.* 6*d.* to 7*s.* 6*d.* each. An arrangement has been made with the trustees to take them down at a valuation. One of the fields was, during winter, ploughed 12 inches deep, and whilst forking the furrows 10 inches below that, I was surprised to see the forkers embarrassed by roots the size of an ordinary cart-whip, so, stepping the distance to the small trees before-mentioned it was found to be 32 full yards! My men told me the roots extended very much further into the field. It is worthy of remark that these roots ramified in every direction below the cultivated soil, and I found, in another of these fields, that they searched the soil to a very considerable depth, passing under an open ditch in order to take the lion's share from the growing crop. It strikes me that landlords generally cannot be aware of the insidious and extensive damage done by these comparatively worthless stems. By a rule-of-three sum, if an elm worth only 3*s.* 6*d.* to 5*s.* extends its roots 35 yards, how far are we to look for those of more gigantic proportions? Although a strenuous advocate on common sense principles for the abolition of trees in hedge-rows (such timber is generally defective), I by no means recommend the general denudation of a country. Elegant and well-cultivated plantations should break the force and divert the current of the pitiless storm. Trees should never be seen in fences, for you cannot have a perfect fence under a tree. A Devonshire clergyman who visited my farm last week, shewed me in his note-book the size of his fields, varying from half an acre to 3 acres! Free-trade in corn will remedy this. It is clearly impossible that occupiers of such small enclosures can maintain a home, or foreign competition, with other more open districts. This dry spring affords a fine opportunity for estimating the extent of damage done by roots of hedge-row timber and by fences. Bright yellow discolourations in the growing crops, having a wide base and extending into the fields with acute angles, indicate fearfully the greedy capillarities of the gigantic and costly intruders. It is hopeless, as a matter of calculation, to compete with Nature's vast forests, whose carbon and ammonia, as Liebig truly says, are furnished by air and by moisture *J. J. Mechi, Tiptree Hall, May 11th, 1852.*

The Lobos Guano Islands.—The question as to whether or not this country shall have the benefit of the inexhaustible supply of guano which these islands afford, I trust the landowners and farmers of Britain will not allow to be answered by the reply that Lord Malmesbury has given to the mercantile firms who have shown such readiness to send their ships for it. The quantity this country has taken the last three years has reached from 100,000 tons to 200,000 tons per annum, and for this we have been charged by the Peruvian Government between 4*l.* and 5*l.* a ton; so that the price to the British consumer has been between 9*l.* and 10*l.* a ton, whilst it is possible to get any quantity from these islands at 5*l.* a ton; and thus the corn growers have been paying a tax of half a million a year to a foreign Government which it is now in their power to get relieved from if our own Government will only assist them. This is a question of immense interest to both landowners and farmers. Guano affords to the occupiers of ill-situated

* I do not mean to say that the labouring man's food should consist exactly of the articles above specified, but I am very sure that he could provide himself with a sufficient quantity of provisions for the sum which I have mentioned.

land, of worn-out soils a means of fertility hardly to be supplied by any other. When Sir Robert Peel, in 1847, met the Tamworth farmers (the year after the repeal of the Corn Laws), he called their attention to guano as one of the means within their reach to increase the fertility of their land, so as to make the increase in their produce compensate for the loss in price. But, large as his views were, he could hardly have contemplated the extent to which the consumption of this manure has since arrived. Had that great statesman lived and been the minister of this country, is it to be supposed he would have met the application with the indifference that Lord Malmesbury has shown? Would he not rather have seized the opportunity for giving this country a cheap and abundant supply of this valuable manure? The question, it is to be hoped, cannot be left where it is. The shipping already gone from this country and from America will not, it is to be supposed, be turned back by the Lilliputian force the Peruvian Government has to support its pretensions; and in the meantime let landowners and farmers use every means to urge on the Government the necessity for its interference, to rid them of such an oppressive tax, and to gain for them so useful an assistant to meet free trade. *D.*

Trout and Salmon Spawn.—I beg to acquaint you of the premature appearance of the trout and salmon from the spawn placed under my charge for conveyance to Hobart Town. We observed them for the first time on the 29th of February, being fifteen days before the time you stated, and as we have two sorts I conclude they are trout and salmon: the one we can distinctly observe the bright silvery sides of, and the other is not so large and well formed, but it must be the salmon. We have also another kind, which we cannot account for; it is a long dark fish, such as are seen in the ditches in England—I imagine they must have come on board with the water. We gave the spawn water at the rate of 24 gallons per day until within the tropics, after which 36 gallons, and immediately losing the trade winds, 3 times per day, or 48 gallons. All the eggs lying on the top of the gravel became addled: those in the interstices retained their bright appearance throughout. I am afraid the tub will be small for them, as by the time of our arrival they will be a tolerable size, but you may depend upon the greatest attention being paid them, as I feel perfectly aware of the great acquisition such a shipment must be to the colony. You shall hear from me by every opportunity, which I hope will continue to be favourable. *Daniel Smith, Barque Columbus, March 9*, lat. 1° 30′ N., long. 21° 30′ W. *To Mr. Boccius.* [The three kinds of fish spoken of are the two kinds of trout in the Wandle; the other, which he thought he had seen in ditches in England, is the salmon. We are indebted for the above to the kindness of Mr. S. Gurney, jun.]

The Milk of the Goat in Domestic Economy.—The comforts and convenience derived from an ample supply of really pure milk are felt by all; but to say nothing of the fraudulent adulterations so fully exposed by Charles Dickens' "Household Words," in the article headed "The Cow with the Iron Tail," persons residing in the country, at a distance from a town, find it difficult to obtain a regular supply, unless they fortunately occupy land sufficient to keep two cows, for one is not sufficient. However, it is not intended to write upon cow-keeping and its concomitant dairy operations, our express object being to prove, beyond question or doubt, that any economical housewife can always provide her family with the best and richest new milk twice a-day, if the premises contain a few poles of garden ground, a yard, and an open shed or two; for, by such simple appliances, and almost without expense, two or three milch goats, yielding each, upon an average, a quart of milk per day, can be kept. It is with great satisfaction that I have seen an article on the subject of goat's milk, to the ability and truthfulness of which, my own repeated observations for some years enable me to bear testimony. The author (Mr. Cuthbert Johnson) I have known long, and the near vicinity of our residences facilitates careful inspection. Without apology, I shall borrow several passages from the treatise, and I hope, to the profit of those domestic economists who feel and are candid enough to confess, that the objections raised against this milk on the score of strong and rank flavour, are utterly without foundation. On this point, our author observes:—"It must not be supposed that the taste of the milk of the goat differs in any degree from that of the cow; it is, if anything, sweeter, but it is quite devoid of any taste which might reasonably be supposed to be derivable from the high-flavoured shrubs and herbs upon which the animal delights to browse." This statement is true to the letter. I have proved the fact many a time with parties in the drawing-room of the writer; but now to cite authorities on the food of the goat, and the extreme hardihood of the animal. There is hardly a weed or a plant which is rejected by the goat; it has been calculated that while the cow eats 276 and rejects 218 common plants, the goat eats 449, but rejects only 126. "In the garden," says Mr. Johnson "(if by chance they are allowed to browse), I notice that they select the Rose trees, common Laurels, Arbutus, Laurustinus, and the Laburnum." It is well known to dairymen that the milk and butter of cows are rendered rank by the fallen leaves of autumn, but the goats "carefully pick up the leaves, whether green or autumnal, of timber trees; of these, they prefer those of the Oak and Elm, and delight in Acorns and Oak-apples. The waste produce of a garden is exceedingly useful in the keep of a goat. By them almost every refuse weed, all the cuttings and clearings that are wheeled into the rubbish yard, are carefully picked over and consumed. The trimmings of Laurels and other evergreens, Pea-haulms, Cabbage-stalks, &c., are all grateful variations in their food. In winter, a little Sainfoin, hay, or a few Oats, keeps them in excellent condition. In summer, the mowings of a small grass plot, watered with either common or sewage water, will, with the aid of garden refuse, keep a goat from April to October." In the Quarterly Journal of Agriculture, 1847, p. 511, Mr. Fennel observes, "When left to graze for themselves, goats generally select for food bitter and slightly astringent plants, as the leaves and buds of Spurge, Hemlock, Birch, Privet, Birch-cherry, and the tender tops of Furze and Heath." Want of space prohibits quotations from the classics; I only add, that "During winter goats will feed on indifferent hay or straw, Furze, Heath, Thistles, Cabbage-leaves, Potato-peelings, cold boiled Potatoes, old ship biscuits, or, in fact, almost anything that is presented to them." I have repeatedly observed the gentleness and playfulness of the female goats; the growing kids follow one like a lamb, and by gentle and kind treatment these animals accommodate themselves to any situation. I could extract many more interesting passages from Mr. Johnson's article, but must refrain. On the quality of the milk, however, a few remarks are required. By chemical analysis, it has been shown that it is much richer than that of the cow; "100 parts of each, according to M. Regnault, gave on an average:—

	Cow.	Goat.
Water	84 7 ...	82.6
Butter	4 0 ...	4.5
Sugar of milk and soluble salts ...	5.9 ...	4.5
Caseine (or cheese curd) and insoluble salts	3.6 ...	9.0."

"When mixed with more than its own bulk of lukewarm water, it is then, in every respect, superior to the milk supplied by the London dairymen." As a closing word, and one not the least impressive, the best and most ancient authority in the world gives assurance as a reward for diligence—"Thou shalt have goats' milk enough for thy food, for the food of thy household, and for maintenance (or life) for thy maidens."—Proverbs, ch. xxvii., v. 27. *J. T.*

Peruvian Guano.—It appears really to be a prominent and disastrous consequence of the protective system, that it has extinguished, to a great extent, the logical acumen and moral rectitude of large classes of men; and amongst these of none so much as of the so-called farmers' friends. If I am not much mistaken, the quantity of fertilising matter in a ton of Peruvian guano has been stated in your columns to be equivalent to 14*l.* 10*s.* of good stable manure. The Peruvian Government furnishes this quantity for 9*l.* 5*s.*, or 30 per cent. under its actual value, and yet people complain, and propose no less than the perpetration of piracy and national aggression, to redress their fancied wrongs Surely we have only to cast our eyes on the map of South America to be convinced of the absurdity of claiming any right to islands so close within the shores of Peru as Lobos, &c.? Furthermore, deducting the expenses of loading, and those incurred for freight, insurance, commission, and landing charges, the Peruvian Government obtains in reality only 3*l.* 10*s.* per ton net for this guano, of which a large amount is surrendered to the English creditor. On the other hand, if the statement about the intrinsic value of guano be correct, is it not clear that, supposing the trade to be perfectly free, importers would extort the full value of 14*l.* 10*s.* per ton from the farmer, or else reduce the value of stable dung down to the figure at which they would sell their guano? Not to benefit the farmer, but to enrich themselves at his expense is their object, and for that purpose alone they advocate acts becoming buccaneers and pirates. Captain Lawson was once in command of an unregistered Danish gun-brig, and may have contracted a fancy for such adventurous enterprise, but surely it would be unbecoming for our merchants and seamen to engage in the same; and I doubt its benefiting our farmers. *Mercator, Old Broad-street, City.*

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

A WEEKLY COUNCIL was held at the Society's-house in Hanover Square, on Wednesday, the 12th of May, Mr. PUSEY, M.P., Trustee, in the chair; when the following lecture was delivered before the members by Mr. Trimmer, author of the Society's Prize Essay on Agricultural Geology:—

The True Relations of Geology to Agriculture form the subject on which I am to have the honour of addressing you to-day. There ought to be an intimate connexion between them—between the art of cultivating the earth, and the science which treats of the materials of which the earth's crust is composed and the order in which they are arranged. The connexion is often denied. It is denied, or doubted, however, only by those who know nothing of geology, or who have heard only of its theoretical researches. They have been told much about the wonders which it has revealed respecting the ancient natural history of the earth; but the mass of facts capable of application to the useful arts, and more especially to agriculture, have been kept of late too much out of sight by geologists. They may therefore thank themselves, if they are very generally regarded as a set of visionary enthusiasts, who go about the country, hammer in hand, collecting "curiosities" for museums, or breaking stones, as Walter Scott said, "like road-makers run daft." The earlier researches of geology were essentially practical. Werner applied his discoveries to mining; Smith, the father of English geology, applied his to mining, general engineering, and agriculture. Were I called upon to prove the services which geology can render to the art of cultivation, I might appeal to the many instances of its successful application by Smith. I presume, however, such an audience as this to be sufficiently aware of these facts; and I would rather draw your attention to the remarkable circumstance, that all these triumphs of applied geology were achieved by one man, in the infancy of the science, and that scarcely anything of a similar kind has been effected by the many more highly accomplished geologists who have succeeded him. This has been, not because the resources of geology are exhausted, but because the field has been neglected, or very imperfectly cultivated. Smith was a practical man, conversant with agriculture; of agricultural origin, the son of a yeoman farmer; agricultural in his occupation, which was that of a land-surveyor, engaged in surveying and valuing for enclosures, draining land, and forming water meadows. His practice extended also to the construction of canals (the railways of his day), and the superintendence of collieries—branches of engineering which now constitute separate departments, rarely followed conjointly by the same individual. The only professional men who have since cultivated geology have been engaged in mining: the Buddles, the Taylors, and the Sopwiths, who have cultivated it so successfully. Practical men who have Smith's opportunities of applying it to agriculture, have neglected it too much; and the majority of the geologists who have succeeded him have been naturalists and philosophers, occupied more with theoretical than practical questions It may be as well to define, before we proceed, the sense in which I use the terms "practical geology," "applied geology," "theoretical geology," and "geology of the surface."

Practical or descriptive geology directs its researches to facts—to the structure of the earth's crust, the materials of which it is composed, the order in which they are arranged, the areas occupied by their several varieties, the unstratified rocks most commonly associated with certain parts of the stratified series, the useful metals and minerals peculiar to each, the changes which the intrusive igneous rocks have produced in the texture and composition of the strata with which they are in contact, the direction in which the strata dip, the angles at which they dip, the height to which they have been thrown up by disturbances which produced our chains of hills and mountains, the faults or fractures which have broken the continuity of the strata; with the other accidents to which they have been subject, and which affect the drainage of certain areas.

By applied or economic geology I mean the employment of the knowledge of these facts in aid of the miner, the engineer, the architect, and the farmer.

Theoretical or speculative geology investigates the causes of phenomena, and is occupied with such questions as the following: the processes by which the stratified and unstratified rocks were formed, the nature of the agencies by which they have been disturbed and altered, the successive races of plants and animals which have peopled the earth at different stages of its existence, their relations to existing races, the changes of climate which they indicate, the causes which produced those changes, and the causes which effected the extinction of the lost races—whether they died out one by one, or were cut off suddenly by physical convulsions; the geographical distribution of certain organic forms during the ancient periods of the earth's history, and the modes in which their migrations were effected in past geological epochs, as well as during the present.

The geology of the surface constitutes a department of the science hitherto much neglected, but of great importance to agriculture. It treats of the superficial deposits, formerly called diluvium, but now better known by the name of drifts or erratic tertiaries—deposits which are excluded from geological maps as at present constructed. This, like the geology of the substrata, may be divided into practical and theoretical. The former investigates the depth, composition, and distribution of the superficial deposits; the latter endeavours to discover the agencies which produced them.

Smith's great discovery, that strata may be identified by their fossils under a complete change of mineral type, was a discovery of great practical utility. It has contributed, nevertheless, to lead geologists away from practical to theoretical questions. It is, in effect, a discovery that there have been several successive creations of plants and animals before that creation of which man forms a part. Geologists have been fascinated by the wonders thus brought to light, and by the strange forms which they have disinterred from the depths of the earth. They have thus been led to pursue palæontology, or the science of ancient natural history, with such avidity that it has almost superseded geology, and has led many besides farmers to doubt whether there is anything practical in geology itself.

Geologists, moreover, have not only cultivated theoretical researches too exclusively, but when they have endeavoured to apply their science to agriculture, they have applied them on erroneous principles. They have attempted to construct a system of agricultural geology, not upon soils, subsoils, and substrata, as they exist in nature, but upon the conventionalities of geological maps. Those maps exclude the superficial deposits; they sink the mineral variations of the strata which

they represent as the surface, both those which take place vertically and those which take place horizontally; and they convey by their colours no other information than that within certain areas certain groups of clays, sandstones, and limestones are to be found, which contain a peculiar group of fossils not to be met with higher or lower in the series, and which remain constant, however the mineral characters of the beds containing them may change. These changes of mineral character are often so rapid and so great, that in a distance of 100 miles, or even less, clay will have passed into sandstone on the one hand, and into limestone on the other. Let us illustrate this by one example—that of the greensand. A belt of bright green stretches across our geological maps, from the coast of Dorsetshire to the banks of the Humber. Another girdles the Weald of Kent and Sussex, at the base of the North and South Downs. These belts add much to the beauty of our maps. They have caused many an animated discussion at the Geological Society on questions now set at rest. They have afforded much sport to the fossil hunters, and have enriched their cabinets with many beautiful specimens. But what information do they convey to the owners and occupiers of the estates which lie within them? Merely that they are upon the greensand. And what is the greensand? It consists of an upper and lower sand separated by the gault, a calcareous clay. The upper sand is generally calcareous, passing upwards into the chalk, and downwards into the gault. The lower sand is chiefly ferruginous and siliceous, with concretions of cherty beds, and beds of calcareous stone. It also contains, locally, beds and nodules of phosphate of lime. This is the southern form of the greensand, but the upper greensand does not extend further to the north than Cambridgeshire, nor the lower greensand than Lincolnshire. In the latter county and in Yorkshire, the upper greensand is represented by red chalk containing greensand fossils; and at the northern termination of the chalk ranges in Yorkshire, the white chalk rests immediately on blue and green clay (Speeton clay), the upper portions of which represent the gault, and the lower the Kimmeridge clay. The majority of geological maps include the three subdivisions of the greensand under one colour. The maps of the Government Geological Survey distinguish them by different tints. Even these maps, however, excellent as they are, fail to convey any useful agricultural information; for they do not show the variations of soil on each subdivision, and the lower greensand alone includes the extremes of barrenness and fertility. As examples of fertility we have the rich grazing grounds of the Vale of Aylesbury, the valuable hop-grounds of Farnham and Maidstone, the celebrated gardens of Sandey and Biggleswade. As examples of sterility, there are Dersingham Heath, in Norfolk; Leith Hill and Hind Head, Surrey; with parts of Woolmer, and Alice Holt Forest, Hampshire. Similar examples might be adduced from most of the other groups of strata which our geological maps represent as constituting the surface. And yet we are told these maps represent the variations of soils, and that the agricultural characters of a district may be known by the bare inspection of them. Every intelligent farmer, who has paid any attention to strata and geological maps, knows that this is not the case. He knows that on every group of strata, united by the possession of a common assemblage of fossils, there are a great variety of soils of very different values. He knows that these are intermixed with the utmost irregularity, and he sees no traces of such variations on the maps respecting which he is told such wonders. Is it surprising, then, that farmers treat geology as a delusion or an imposture? Is it surprising that the question should have been lately raised in a farmers' club, whether a knowledge of geology is of any use to the farmer, and that it should have been decided in the negative? If properly cultivated, however—if directed to practical questions—and if made to combine the geology of the surface with that of the substrata—geology is of the utmost value to agriculture. Had I been present at this discussion, I should have met the question by a series of other questions. I should have asked, for instance: Is it of any advantage to the farmer to know anything of the composition and qualities of the soils and subsoils which he cultivates? All the discrepancies which prevail in the practice of different and often adjoining districts, and all the discordant results of agricultural experiments, are attributed to certain undefined mysterious peculiarities of soil and climate. Surely it would conduce much to the improvement of the art of cultivation to know in what these peculiarities consist. I would have asked, again—Is it of any advantage to the farmer to be able to classify soils, and to describe them by names which shall be intelligible beyond his own immediate neighbourhood? What would conduce more to the improvement of agriculture than to obtain a knowledge of the most successful practices of the best cultivated districts, and to know which are capable of general, and which capable of only local application? But when farmers in different districts describe the successful or unsuccessful results of certain processes of cultivation or of certain manures, it is essential that we should know whether the soils to which they are applied are the same or different. How can we know this, so long as they use names for them which convey no meaning, or names which convey a meaning the very reverse of that intended? They use names which convey no ideas beyond very limited districts, where they employ such provincial terms as redland, whiteland, blackland, woodland, woodcockland, deaf-land, rammel, foxbench, clum, clunch, cledge, keale, pinnock, hassock, stone shatter, malm rock, coombe, and blackhover, with many others, not forgetting bear's-muck. They use expressions which convey ideas the very reverse of those intended, when they employ the ordinary terms, sand, loam, and clay, in so vague and loose a manner, that what one man calls sand is the loam of another, and the clay of a third, as the soil described happens to be more or less tenacious than the average of a district in which strong or light soils prevail. I would have asked, again, whether it is of any advantage to the farmer, looking out for a farm, to know anything of the distribution of soils, that is to say, in what districts he may expect to find the most extensive tracts of land suited to his particular requirements, whether he wants strong Wheat and Bean land, light dry soils for stock farming on arable land, rich grazing land for the fattening of cattle, or ordinary pasture for the dairy and for rearing young stock. This is a kind of knowledge which most farmers consider it part of their business to acquire from personal observation respecting their own immediate neighbourhood. They know the qualities of all the farms in their own and the adjoining parishes, under the system of cultivation to which they have been accustomed. They possess some general knowledge of the quality of the land in remoter portions of the district in which they reside, and to which their business occasionally leads them. However they may despise geology, they are thus unconsciously, and for a limited district, geologists. Agricultural geology merely combines and generalises the knowledge of other observers equally competent; and why should that be regarded as useful, practical knowledge so long as it is confined to a parish, or a county, and be scouted as "all theory" when it embraces many parishes and counties, or even takes a wider range, and investigates the agricultural capabilities of Australia and North America? Such knowledge is valuable to the farmer whose operations are confined to one locality, who, like the Vicar of Auburn, has "never changed, nor wished to change his place:" it is more valuable to the landowner whose property lies in different counties under different conditions of soil and climate; and to the land-agent, who frequently represents several such landowners, and whose business it is to develope to their full extent the property under his care. Such knowledge is valuable to the farmer in an old country; it is more valuable to the settler in a new country where cultivation is only commencing. The competition which arises from the consolidation of farms, and the increase of the farming class, both from within and by accessions from other classes from without, is driving many farmers and sons of farmers to look to new fields of enterprise in the British colonies and the United States. If it is advantageous to those who cannot make up their minds to emigrate, to know where they will find, within our own shores, land similar to that which they are leaving, and in the cultivation of which they have had the most experience — such knowledge is more valuable to a settler in a new country, where the quality of the soil cannot be known from the appearance of the crops, and where the spontaneous vegetation, being different from that to which the settler has been accustomed, cannot be relied upon as an indication of fertility, except after long observation. Geological structure, however, may be relied on, all the world over. The mineral characters of the rocks when free from a covering of transported matter, and the substances composing that covering when present, are indications of the agricultural capabilities of a country immediately and implicitly before a plough has been put into the ground, and while every plant which springs up on its surface is a stranger to the settler.

[Mr. Trimmer's lecture will be continued in our next.]

Reviews.

The Elementary Catechisms.—Cottage Farming. Groombridge and Sons.

If any one desires to help an allotment tenantry or the cultivators of small farms to manage their land more profitably than they may hitherto have been accustomed to do—we venture to recommend this little catechism, as likely to be very useful for distribution among them. As a sample of the contents we give a portion of the chapter on the "Management of a Two-acre Farm."

"Are there any fixed rules by which small farms in general should be cultivated?—There are no fixed rules by which small farms should be cultivated, because different circumstances may render different methods equally good. A cottage farmer living near a town, may find that Potatoes and garden vegetables are the most profitable productions in his case; but if he can make more money by keeping cows and pigs, he should grow Vetches, Clover, cattle Beet,* Parsnips, &c. for them, as largely as possible.

"May not the two acres be left beneficially in pasture for a cow?—No: it would be very extravagant in a cottage farmer to keep his small piece of land under pasture, unless it were low ground, liable to be overflowed by water. One acre of tillage will yield as much food for a cow as three in pasture.

"Are there any rules which every cultivator should always follow? if so, what are they.—There are rules for the guidance of every cultivator, viz.: to dig deeply, manure plentifully, keep the ground loose and clean, and avoid taking the same sorts of crops immed after each other. He should also try to obtain and quick successions.

"What might a cottager expect to obtain fro acres of good ground?—From two acres, a co might obtain food (except hay for winter fodde two milch cows, two or three pigs, with some Potatoes, and all garden vegetables for the use family.

"How would you economise two acres, so as to them yield milk, pork or bacon, corn, Potatoes other vegetables?—I would divide the two acr simple furrows into six portions, to be cropped as fo after the manner of Mr. Tower's plan of manag for 100 acres.

"What is the chief excellence of Mr. Tower's p cropping?—The chief excellence of Mr. Tower's p cropping is the variety of the ameliorating crops, of which a dry rich loam is suitable; and the freq of corn crops (if they were profitable), in the rota

ROTATION OF CROPS ON A TWO-ACRE FAR

First Year.	Second Year.	Third Year.	Fourth Year.	Fifth Year.	Sixt Year
Perches.	Perches.	Perches.	Perches.	Perches.	Perche
90 Wheat	30 Turnips and Cabbages 15 Cattle Beet and Carrots	45 Barley or Oats	45 Clover	45 Wheat	30 Po toes 9 Vetch 6 Bean
	30 Potatoes 9 Vetches 6 Beans	45 Wheat	30 Turnips and Cabbages 15 Cattle Beet and Carrots	45 Barley or Oats	45 Clo
45 Clover	45 Wheat	30 Potatoes 9 Vetches 6 Beans	90 Wheat	30 Turnips and Cabbages 15 Cattle Beet and Carrots	45 Bar or Oat
30 Turnips and Cabbages 15 Cattle Beet and Carrots	45 Barley or Oats	45 Clover		30 Potatoes 9 Vetches 6 Beans	45 Whe
45 Barley or Oats	45 Clover	45 Wheat	30 Potatoes 9 Vetches 6 Beans	45 Wheat	30 T nips a Cabbag 15 Cat Beet a Carrot
30 Potatoes 9 Vetches 6 Beans	45 Wheat	30 Turnips and Cabbages 15 Cattle Beet and Carrots	45 Barley or Oats	45 Clover	45 Whe
270	270	270	270	270	270

40 perches of Lucern, 10 perches of Garden; Total, 320 pe

"Is the table of crops which you have prese capable of changes that might be better, or eq good?—The successions and proportions stated i table of crops may be advantageously changed in of the details, according to the quality and conditi land and other circumstances, and yet without de ing from the general arrangement, by which the suitable classes of crops follow each other with be to each other and to the soil.

"Look at the table, and point out changes that be good in certain cases.—Soil, though not too cl for Wheat, may be unfit for Barley; on such Wheat, Rye, or Oats should be brought into the tions in its stead; Carrots should be left out, and B Drum-head or Scotch Cabbages, put in their pl Rape, also, would be better on such soil than any of Turnip, or cattle Beet. But it is to be rememb that thorough draining and careful tillage will ma clayey soil fit for Barley and the other crops whic unsuited to it in its natural state.

"On a very sandy soil, what cropping would be ferable to that stated in the table?—On a very s soil, Rye and Oats should come instead of Wheat Barley, and Peas and Carrots should be in pla Beans; and so in other details, changes should be m according to the quality of the soil.

"Might intercalary* crops be introduced bet some of the successions above recommended?—I calary crops might be introduced between those have been above recommended; for example, in first year, first column, stubble Turnips, Rape or *T lium incarnatum* might be sown immediately afte removal of the Wheat, except on a part intended winter Vetches."

We will only add that the Table of Contents incl chapters on Enclosing a Farm—on Land Draining Manures—the Management of a Two-acre Farm—(keeping—the Dairy—Pig-keeping—Bees and Poult on the Culture of a Ten-acre Farm—on Flax and H —on the Culture of a Twenty-acre Farm, and on F Offices.

Miscellaneous.

Trial of Reaping Machine on Wheat Stubble, Ja 1852.—"That corn may be cut by machinery is an ascertained fact, and while we are indebted to Crosskill, of Beverley, for first introducing Hus celebrated Champion Reaper into the Northern Cou we are glad to find that our Yorkshire farmers already adopting it with a spirit which bids fair to b it into common use next harvest. Mr. Charles H of Cridling Stubbs, was present when the first Hus

* Cattle Beet is more easily pronounced than the German name of the same plant—Mangold Wurzel.

* Intercalary means anything that may be brough between other things, out of regular order.

reaper, made by Crosskill, was publicly tried last harvest near Driffield, and was so satisfied with its success that he lately ordered one from Beverley. Mr. Crosskill offered to arrange for his traveller, Mr. T. W. Naylor (late of Doncaster), to personally attend the first starting of the reaper, and have a public trial on a field of stubble. The trial took place at Mr. Ingle's farm last Friday. In some parts of the field the stubble was nearly rotten, and also much trodden down by the crowd of visitors present; but fearless of the bad season and the effect of the late frosts, Mr. Naylor started the reaper across ridge and furrow, and fully proved its superior cutting propensities, notwithstanding so many unfavourable circumstances. The trial was witnessed by many of the principal practical farmers in the neighbourhood of Pontefract, who expressed their full appprobation of its efficiency, in a certificate to Mr. Naylor, and we very willingly add the names of several other enterprising gentlemen, well known in this locality, who have given orders to Mr. Crosskill for reaping machines, viz.:—Captain Newton, Womersley, Pontefract; C. Charnock, Esq., Ferrybridge, Pontefract; E. Brook, Esq., Hampole, Doncaster; T. Taylor, Esq., Darrington, Knottingley; M. Faviell, Esq., Snydal Hall, Pontefract; J. Brown, Esq., Rossington, Doncaster; W. Poskitt, Esq., Birkin, Knottingley; W. Boulton, Esq., Kensall, Snaith. Doubtless many more will adopt this most valuable invention; and the plan of testing one reaper in every parish, at this season of the year, upon stubble or winter Tares, is deserving of consideration, as it may enable many to decide to cut by the machine before next harvest." *Doncaster Gazette.*

Patent.—Richard Drover, of New-street, Spring-gardens, merchant — for improvements in treating sewage, in obtaining products therefrom, and in combining such products with other matters patent, dated October 16, 1851. These improvements consist in deodorising putrescent sewage by the addition of muriatic or other similar mineral acid, with a salt or salts, or other chemical compounds, and in applying the solid products to the manufacture of manure by combining the same with fertilising matters. The acid which the patentee prefers to use is muriatic (otherwise called hydrochloric) acid, which he adds to the sewage-water in the proportion of 5½lbs. to every ton, with chloride of sodium in the proportion of 3 ounces to the ton, and protosulphate of iron 6 ounces to the ton. In lieu of using chloride of sodium, other chlorides, as of potassium, magnesium, and calcium may be employed, and, in place of the protosulphate of iron, the sulphate of peroxide of iron and other salts which are capable of having their bases separated or precipitated from the acids with which they are combined by the action of the chemical constituents of sewage may be used. In addition to the above-named salts, there is also added to the sewage under treatment a small portion of protochloride, otherwise called muriate of iron. The several matters having been mixed together, are added to the sewage, and having been combined therewith by mixing, the whole is filtered to obtain the solid portions. These are then mixed with marl or other substances, and applied as manures, or the substances employed as filtering beds, such as charcoal, gypsum, or peat, may be mixed with the solid portions for producing fertilising compounds. The solid matters may be treated with chemicals to obtain products therefrom, and the liquids passing through the filters may be similarly treated to obtain the ammoniacal salts contained in them. *From the "Mechanics' Magazine," of April 24, 1852.*

Agriculture in France.—The following details on the present state of agriculture in France are taken (says the *Siécle*) from the most recent statistical tables. We assess 53 millions of hectares of land, and the gross produce of the soil amounts to about 6 milliards, being nearly 113f. per hectare (2⅞ acres). But it is known that a good tillage gives, in gross produce, about 10 per cent. on the value of the land, of which 6, 7, or 8 per cent. is for the cost of tillage and manure, and for the farmer's profit, and 2, 3, or 4 per cent. for the landowner's revenue. In France good land is worth, on an average, about 3000f. the hectare, and gives 300f. of gross produce. There are many pieces of land which the 500f. or 600f., without speaking of land cultivated in gardens or nurseries, which must not be included in the consideration of the average returns. Every piece of land which does not give 10 per cent. of gross produce must be considered a bad soil or badly cultivated, and purchased above its value. In fine, every piece of land which gives less than 250f. in gross produce calls indispensably for some amendment in the terms of its long held—such as to enable it to furnish at least such a return. If, then, the average return of land in France is only 113f. per hectare, that is, a little more than one-third of what it ought to be, the reason is, that nearly two-thirds of France are composed of land exceedingly poor, and often even totally unproductive. The districts which show the most sterility, throughout a great part of their extent, are—Berry, Bourbonnais, Auvergne, Lozère, Vélay, Gevaudan, Rouergue, the Landes, La Sologne, Brittany, Limousin, Sologne, and Champagne. Of these come, in degree of sterility, Anjou, Artois, Alsace, La Bresse, Lorraine, Maine, Poitou, and Provence. The districts which are the best cultivated and most productive must be considered the Nord, Normandy, and Beauce.

Why do we make Dung Heaps?—Merely to rot and promise the straw. This is an expensive process, involving much labour, cartage, and waste, which would be avoided by having covered yards, and allowing the animals to consolidate the manure whilst undergoing gradual carbonisation and decomposition. When we fold sheep on land, we consider it sufficiently manured, and do not regret the absence of carbonised straw. I hope the time will come when straw will be better appreciated and used as food. *Mr. Mechi's Second Paper.*

Notices to Correspondents.

AMERICAN CHURNS: *J B.* We have received from Messrs. Burgess and Key a reference to the jury's report on Class 9 of the Exhibition, in proof of all that they claim on behalf of the American Churn.

BUTTER-MAKING: *Lord Belhaven's* letter has been received just before going to press. The paragraph to which his lordship alludes shall be explained in detail next week.

COOMS OF WHEAT: *J G M.* It contains 4 imperial bushels.

DAMP HOUSE: *F Benson.* Rough casting it outside will help to keep the house dry; but your best remedy will be to batten and to lath and plaster it inside. We are unable to help you about soap.

DRAINAGE: *An Irishman.* Stephens "On Draining"—being an enlargement and republication of his observations on that subject in the "Book of the Farm."

FOALS: *P A D.* It will be well to give the mare a mild dose of physic, such as 4 drachms of aloes or 2 pints of Linseed oil; and the colt, when attacked, 1 drachm of tincture of opium and 1 drachm of spirit of nitrous ether, and repeat in six hours. *W C S.*

GUANO: *A Subscriber in North Staffordshire.* We cannot publish your question unless you give us (confidentially, if you like) your real name and address. Such inquiries *must* be authenticated.

LOSS OF EWES: *A Subscriber.* Your bailiff we think is right the deaths being due to the richness of the Grass. *W C S.*

MANGE: *E F A.* A similar question was answered a short time since. Well scrub the buildings with soap and hot water, and then whitewash. *W C S.*

MILK: *Dairy Farmer.* It is not deteriorated for dairy purposes by being carried one mile from the field in "a metal or other vessel on wheels." It is a common practice in Gloucestershire to milk in the fields, and carry the produce thus to the dairy.

TREFOIL: *H L.* We presume the seeding vegetated in the second year; possibly it may have been buried too deep at first.

Markets.

COVENT GARDEN, JUNE 5.

Vegetables and fruit are plentiful. The sale for English Pine-apples still continues rather dull. Hothouse Grapes have not altered in price since our last report. A few dessert Apples may still be obtained. Oranges are plentifully supplied, and very good. Nuts are nearly the same as last quoted. Strawberries though plentiful maintain their prices. A large quantity of French Cherries has been supplied during the week, some of them bringing only 1s. per lb. Young Carrots, Beans, Peas, Lettuces, Endive, and Artichokes continue to be supplied from France. Potatoes are generally good in quality. New ones from open borders in the west of England are coming in plentifully, as are also green Peas of excellent quality. Mushrooms are cheaper. Cut flowers consist of Heaths, Epacrises, Cinerarias, Mignonette, Roses, Acacias, Azaleas, Primulas, Lily of the Valley, and other bulbs.

FRUIT.

Pine-apples, per lb., 6s to 10s	Oranges, per doz., 1s to 1s 6d
Grapes, hothouse, p.lb., 4s to 10s	— per 100, 3s 6d to 10s
— Lisbon, per lb., 2s to 4s	— Seville, per doz., 1s to 3s
Peaches, per doz., 12s to 24s	Almonds, per peck, 5s
Nectarines, per doz., 12s to 24s	— sweet, per lb., 2s to 3s
Melons, each, 3s to 10s	Nuts, Barcelona, p. bsh, 20s to 22s
Cherries, per lb., 4s to 12s	— Brazil, p. bsh., 12s to 14s
Strawberries, p. oz., 6d to 1s	Cobs, per 100 lbs., 100s
Lemons, per doz., 1s to 2s	

VEGETABLES.

Cabbages, per doz., 3d to 1s	Leeks, per bunch, 3d to 6d
French Beans, p.100, 1s 6d to 2s 6d	Shallots, per lb., 8d to 10d
Broccoli, p. bunch, 9d to 2s	Garlic, per lb., 8d to 1s
— heads, each, 4d to 6d	Lettuce, Cab., per score 4d to 6d
Asparagus, p. bundle, 1s to 4s	— Cos, p. score, 9d to 1s 6d
Greens, per doz., 2s 6d to 4s	Radishes, per doz., 3d to 1s
Rhubarb, p. bundle, 3d to 6d	— Turnip, 9d to 1s 6d
Potatoes, per ton, 45s to 80s	Small Salads, p. pun., 2d to 3d
— per cwt., 2s to 5s	Horse Radish, p. bundle, 1s to 4s
— per bush., 1s 6d to 2s 6d	Mushrooms, p. pott., 8d to 1s
— Frame, per lb., 1s to 2s	— per punnet, 6d to 1s
— New (border), do., 3d to 6d	Sorrel, p. hf. sieve, 1s 3d to 1s 8d
Turnips, p. doz., 2s 6d to 3s 6d	Artichokes, Jerus., do., 9d to 1s
— new, p. bun., 1s to 1s 6d	Fennel, per bunch, 2d to 3d
Cucumbers, each, 6d to 1s	Savory, per bunch, 2d to 3d
Celery, per bundle, 6d to 1s 6d	Thyme, per bunch, 2d to 3d
Carrots, p. bun., 1s 3d to 2s 6d	Parsley, p. doz. bnchs., 2s to 3s
Spinach, per sieve, 9d to 1s	Mint, per bunch, 2d to 4d
Onions, per bunch, 2d to 4d	Basil, green, p. bunch, 6d to 9d
— Spanish, p.doz., 1s 3d to 3s	Marjoram, do., 3d to 4d
Beet, per doz., 1s to 2s	Watercresses, p.12 bun., 9d to 1s

HAY.—Per Load of 36 Trusses.

SMITHFIELD, JUNE 3.

Prime Meadow Hay	75s to 84s	Clover	85s to 95s
Inferior do. ...	68 72	2d cut	75 84
Rowen	60 —	Straw	24 30
New Hay	— —		J. COOPER.

A slight improvement in the trade.

CUMBERLAND MARKET, JUNE 3.

Prime Meadow Hay	78s to 84s	Inferior Clover ...	75s to 80s
Inferior do.	65 75	New do.	— —
New Hay	— —	Straw	26 30
Old Clover	84 90		JOSHUA BAKER.

HOPS.—BOROUGH MARKET, JUNE 4.

Messrs. Pattenden and Smith report that the demand for Hops continues unabated, and that the stock of 1849, 1850, and 1851 is very nearly exhausted. Fly is reported in various places. Nothing as yet doing on the duty.

WOOL.

BRADFORD, THURSDAY, JUNE 3.—From the opening of the colonial sales great spirit has prevailed, and an advance established beyond what was expected. The purchases are to a great extent for foreign account, and the quantity coming to this district by no means an average of the early sales of past years. The business doing in English Wool does not participate in the activity of colonial, for this being for actual consumption, there is great caution manifested in the purchases of the spinners, who, from their profitless avocation, are only buying for hand to mouth consumption, and prices are firm. Noils and brokes are ready sale, and prices dearer.

POTATOES.—SOUTHWARK, MAY 31.

The committee report, that during the past week the arrivals both coastwise and by rail have been liberal for the season, and a reduction of prices has been submitted to. The following are this day's quotations:—York Regents, 80s. to 110s.; Scotch do, 80s. to 90s.; Scotch Cups, 65s. to 70s.; Wisbeach and Cambridge, 70s. to 90s.

COAL MARKET.—FRIDAY, JUNE 4.

Hollywell, 14s.; Eden Main, 15s.; Townley, 12s. 6d.; Wallsend Haswell, 16s.; Wallsend Lambton, 15s. 6d.; Wallsend Stewarts, 16s.; Wallsend Merthyr, 22s.—Ships at market, 260.

SMITHFIELD.—MONDAY, MAY 31.

The number of Beasts is small, and there is a considerable falling off in quality. Some of the choicest Scots, therefore, make nearly 4s., but we cannot quote more than 3s. 10d. as an average for best descriptions. There are a few more Sheep and Lambs, and this being holiday week trade is dull. On the average prices are lower. The supply of Calves is fully adequate to the demand; indeed, it is difficult to clear out inferior kinds. The choicest descriptions are, however, quite as dear as on Friday. From Germany and Holland there are 354 Beasts, 1060 Sheep, and 210 Calves; from Spain, 100 Sheep; from Scotland, 400 Beasts; from Norfolk and Suffolk, 1900; and 200 from the northern and midland counties.

Per st. of 8lbs.—s d	s d	Per st. of 8lbs.—s d	s d
Best Scots, Herefords, &c. ... 3 8	to 3 10	Best Long-wools . 0 0	to 0 0
Best Short-horns 3 6	— 3 8	Do. Shorn ... 3 6	— 3 8
2d quality Beasts 2 10	— 3 4	Ewes & 2d quality 0 0	— 0 0
Best Downs and Lambs 4 6	— 5 4	Do. Shorn 2 8	— 3 4
Half-breds ... 0 0	— 0 0	Calves 2 8	— 4 4
Do. Shorn 3 8	— 4 0	Pigs 2 8	— 3 8

Beasts, 3390; Sheep and Lambs, 26,860; Calves, 317; Pigs, 415.

FRIDAY, June 4.

We have a considerable supply of Beasts and a smaller demand, consequently, on the average, lower prices are taken; some of the choicest things still maintain Monday's quotations, but this is only in few instances. Sheep and Lambs are also more plentiful, and are making fully 2d. per 8 lbs. less than on Monday last; indeed, a clearance cannot be effected at this reduction. There is a larger number of Calves than for a long time past. Second rate quality are considerably lower; a few choice ones make 4s., but this is an extreme quotation. Our foreign supply consists of 96 Beasts, 1270 Sheep, and 360 Calves; from Scotland, 40 Beasts; from Norfolk and Suffolk, 800; and 115 Milch Cows from the home counties.

Per st. of 8lbs.—s d	s d	Per st. of 8lbs.—s d	s d
Best Scots, Herefords, &c. ... 3 6	to 3 10	Best Long-wools . 0 0	to 0 0
Best Short-horns 3 4	— 3 8	Do. Shorn ... 3 4	— 3 6
2d quality Beasts 2 8	— 3 2	Ewes & 2d quality ...	
Best Downs and Lambs 4 4	— 5 2	Do. Shorn ... 2 8	— 3 2
Half-breds ... 0 0	— 0 0	Calves 2 6	— 4 0
Do. Shorn ... 3 6	— 3 10	Pigs 2 8	— 3 8

Beasts, 1147; Sheep and Lambs, 12,690; Calves, 649; Pigs, 480.

MARK LANE.

MONDAY, May 31.—The supply of English Wheat to this morning's market was moderate, and met a slow sale on the terms of this day se'nnight. The large arrival of foreign induces buyers to hold off for the present; where sales were imperative late prices were obtainable, and the business transacted was small. The Flour trade is dull at our quotations.—Barley moves off in retail, at rather under last week's rates.—Beans and Peas fully support their late value.—Oats must be written 1s. per qr. cheaper from this day sennight, and out of condition parcels are very difficult to quit at the decline.

PER IMPERIAL QUARTER.	s. s.		s. s.
Wheat, Essex, Kent, & Suffolk...White	44—45	Red	39—40
— — fine selected runs...ditto	45—47	Red	40—41
— — Talavera	45—50		
— Norfolk	38—40	Red	—
— Foreign	36—52		
Barley, grind. & distil., 26s to 29s...Chev.	30—35	Malting .	29—31
— Foreign ...grinding and distilling	21—28	Malting .	—
Oats, Essex, and Suffolk	20—22		
— Scotch and Lincolnshire...Potato	22—25	Feed	21—23
— Irish ..... Potato	21—24	Feed	20—23
— Foreign .....Poland and Brew	19—21	Feed	17—20
Rye	—	Foreign .	—
Rye-meal, foreign	—		
Beans, Mazagan.....27s to 29s.....Tick	28—32	Harrow .	28—32
— Pigeon .....28 — 34s...Winds.	—	Longpod	—
— Foreign .....Small	23—31	Egyptian	24—25
Peas, white, Essex and Kent.....Boilers	35—37	Suffolk...	36—38
— Maple.....29s to 32s.....Grey	28—30	Foreign .	28—35
Maize ..... White	—		—
Flour, best marks delivered ...per sack	37—40	Yellow...	
— Suffolk ..... ditto	25—32	Norfolk .	25—32
— Foreign..... per barrel	17—23	Per sack	28—34

FRIDAY, June 4.—The arrivals of grain and Flour, either English or foreign, have been small this week. This morning's market was thinly attended. English Wheat supports our quotations of Monday last, and in foreign but a very retail business was transacted on the terms lately submitted to, which may also be said of Flour.—Barley, Beans, and Peas remain unaltered in value.—The Oat trade is slow, and to effect sales to any extent it is necessary to accede to a reduction of 6d. per qr. upon inferior qualities.

IMPERIAL AVERAGES.

	Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
April 24.....	40 4	27 8	19 3	31 7	30 3	30 2
May 1.....	40 6	28 5	19 9	31 0	30 0	29 4
— 8.....	41 1	28 1	19 8	30 8	30 5	30 5
— 15.....	41 3	28 3	19 10	30 0	31 0	29 2
— 22.....	40 6	27 10	20 1	30 5	31 6	30 9
— 29.....	40 5	27 11	20 1	30 0	31 7	27 2
Aggreg. Aver.	40 8	28 0	19 9	30 7	30 9	29 6

Duties on Foreign Grain, 1s. per qr.

ARRIVALS THIS WEEK.

	Wheat.	Barley.	Oats.	Flour.
	Qrs.	Qrs.	Qrs.	
English ...	2980	70	2040	2160 sacks
Irish	—	150	6930	
Foreign ...	1600	3590	13320	200 sacks

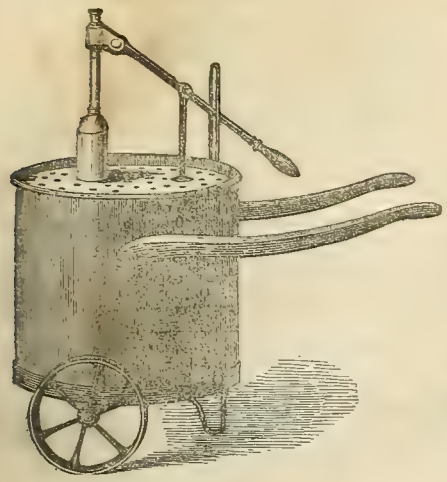
FLUCTUATIONS IN THE LAST SIX WEEK'S AVERAGES.

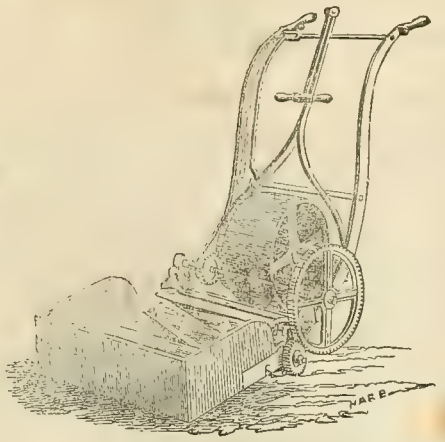
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41s 3d	...	...	...	...	...	...
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LIVERPOOL, TUESDAY, JUNE 1.—The receipts of grain and Flour since last Tuesday have been light, both from our own and foreign ports, whilst the exports to Ireland and coastwise continue to be liberal. There has been no particular change of price in any article of the corn trade during the week; holders have not pressed sales, and buyers will only accommodate themselves by moderate purchases. There is no alteration in the price of any article in the trade.——FRIDAY, MAY 28.—The arrivals from Ireland and coastwise since Tuesday have been quite insignificant, and from foreign ports we have only received 598 qrs. of Indian Corn, and 2702 barrels of Flour. At this day's market there was the usual attendance of the town and country trade, and a moderate business was done in Wheat and Flour at the full prices of Tuesday. Oats were in slow request, and without change in value; but Oatmeal met with a fair demand at late rates. Barley, Beans, and Peas were neglected, and nominally as last quoted. Indian Corn was again in good request, and about 6d. per qr. dearer, Galatz on the spot bringing 33s. per 480 lbs.

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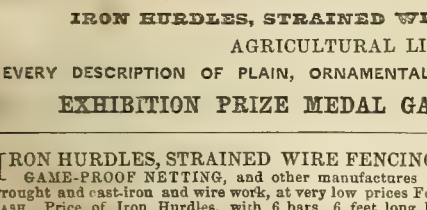
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"Office of Works, Woburn Park, Jan. 10th, 1852.

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"R. JARVIS.

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RARE AND VALUABLE ORCHIDS.
THE FIRST PORTION OF THE COLLECTION OF MESSRS. LODDIGES AND SONS.

MR. J. C. STEVENS will sell by Auction, at his Great Room, 38, King-street, Covent-garden, on TUESDAY, June 15, at 12 for 1 o'clock, the FIRST PORTION of this celebrated Collection of ORCHIDS (which contains upwards of 2000 species); it will be found to comprise many fine specimens of the most rare and beautiful varieties, too numerous to mention; the smaller plants, which are in remarkably fine health, will be lotted in a manner that will afford persons commencing the cultivation of this interesting tribe an opportunity of purchasing, which has never before occurred. — Catalogues are preparing, and will be ready a week before the sale.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will sell by Auction, at the Mart, Bartholomew-lane, on THURSDAY, June 10, and following day, at 12 o'clock, a first-rate collection of DAHLIAS; the newest varieties of FUCHSIAS, VERBENAS, CALCEOLARIAS, CLIMBING and other ROSES; also GERANIUMS, and other Plants in bloom, with a large assortment of useful and ornamental Plants for Bedding.—May be viewed the morning of sale. Catalogues had at the Mart; and of the Auctioneers, American Nursery, Leytonstone, Essex.

TO BE LET, and entered upon at Michaelmas next, TWO FARMS, situate at Coleshill, near Faringdon, Berks, one containing about 350 acres, the other 280 acres; the latter has been occupied by the proprietor since Michaelmas 1847, during which time the whole has been thoroughly drained, 100 acres of pasture converted to tillage, the old arable land brought into a high state of fertility, and the whole of the buildings, fences, &c., either renewed or thoroughly repaired.—Mr. MOORE will be happy to furnish any gentleman desirous of inspecting these farms with all needful particulars, and believes both are very desirable occupations. Shrivenham Station, on the Great Western Railway, is about four miles, and Swindon eight miles from Coleshill.—Address to EDWARD W. MOORE, Coleshill, near Highworth.

FERNS. — Twelve distinct species of BRITISH FERNS, correctly named and adapted for north border or rockwork, one of each sort for 5*s.*; two of each for 8*s.*, four of each for 15*s.*, or nine of each for 25*s.*—Address, JOHN LLOYD, Post-office, East Hill, Wandsworth, Surrey.

Printed by WILLIAM BRADBURY, of No 13, Upper Woburn-place, in the parish of St Pancras, and FREDERICK MULLETT EVANS, of No. 7, Church-row, Stoke Newington, both in the County of Middlesex Printers, at their Office in Lombard-street, in the Precinct of Whitefriars, in the City of London; and published by them at the office, No 5, Charles-street, in the parish of St Paul's, Covent-garden, in the said County, where all Advertisements and Communications are to be ADDRESSED TO THE EDITOR. —SATURDAY, JUNE 5, 1852.

THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 24—1852.] SATURDAY, JUNE 12. [PRICE 6*d*.

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ROYAL BOTANIC SOCIETY, REGENT'S PARK.—In consequence of the unfavourable state of the weather on Wednesday last, an EXTRA DAY, WEDNESDAY, the 16th instant, has been appointed for the Exhibition of AMERICAN PLANTS (Rhododendrons, Azaleas, Kalmias, &c.), which continue in undiminished beauty. The Bands of the 1st and 2d Life Guards, and the Royal Horse Guards (Blue), will attend at the Gardens from 2 until 6 o'clock.

The Exhibition Tickets already issued will be available on this occasion, and Tickets will be issued as usual to the orders of Fellows of the Society, at the fixed price of 5*s*. each, and on the day itself 7*s*. 6*d*. each. The Tickets for the Promenade are also available on this occasion.

N.B. The Gates will not be opened until 2 o'clock.

NATIONAL FLORICULTURAL SOCIETY.
OFFICES, 21, REGENT-STREET.

NOTICE is hereby given that the Seventh Meeting of the Season will be held on THURSDAY, the 17th inst., for the examination of Azaleas, Pelargoniums, Ericas, Antirrhinums, Pinks, Ranunculuses, Roses, Fuchsias, Verbenas, Calceolarias, Petunias, Cactuses, Carnations, Picotees, Pansies, &c.

All subjects must be entered, staged, named, and ready by 1 o'clock.

CENSORS.

Mr. W. Barnes	Mr. E. A. Hamp
,, W. Holmes	,, T. Moore
,, W. Cock	,, W. Catleugh
,, H. Groom	,, J. E. Lane
,, T. Osborn	,, W. Pearson
,, J. Cook	Rev. R. Garth.

The Eighth Meeting will take place on THURSDAY, the 1st of July. The Censors summoned are:

Mr. J. Cole, Birmingham	Mr. C. J. Perry, Birmingham
,, J. Keynes, Salisbury	,, J. Dodds, Salisbury
,, J. Sharp, Ampthill	,, J. Veitch, Exeter
,, T. Barnes, Stowmarket	,, Epps, Maidstone
,, J. Riley, Huddersfield	,, W. Paul, Cheshunt
,, Wood, Nottingham	,, Bayley, Derby.

JOHN EDWARDS, Hon. Sec.

THE GREAT NATIONAL ANNUAL EXHIBITION OF TULIPS
(ADJOURNED FROM THE TOWN HALL, BIRMINGHAM).

At a Meeting, held at the Assembly Rooms, in Nottingham, on Wednesday, the 2d June, and adjourned to Wednesday, the 9th June, S. WRIGHT, Esq., in the Chair, it was Resolved,—

That this Meeting regards with much pleasure the expressed determination of the National Tulip Society to hold its Exhibition for 1853 in this Town (according to the desire of the Nottingham Horticultural Society), and pledges itself to use its best endeavours for the successful carrying out of that object.

That it be held under the auspices of the Nottingham Horticultural Society.

That a subscription be forthwith entered into for defraying the necessary expenses which will be thereby incurred.

That a Committee be now appointed to make the necessary arrangements, and that such Committee do consist of the following gentlemen, with power to add to their number:—

President—WILLIAM FELKIN, Esq., Mayor.
Vice-President—THOMAS BALL, Esq., Sheriff.

J. Heard, Esq., Alderman	The Rev. S. Creswell
William Hannay, Esq.	William Windley, Esq.
William Cripps, Esq	John Brown, Esq.
T. Herbert, Esq., Alderman	J. Nevill, Esq.
R. Birkin, Esq., Alderman	Mr. J. F. Wood, F.H.S.
L. Heymann, Esq., Alderman	Mr. T. Gascoigne
J. Reckless, Esq., Alderman	Mr. John Hardy
Thomas Gimson, Esq.	Mr. J. Hedderly, Jun.
John Thackeray, Esq.	Mr. R. Lymbery

Treasurer—S. WRIGHT, Esq.
Honorary Secretary—S. R. P. SHILTON, Esq.

NOTTINGHAM ARBORETUM.

FLORAL AND HORTICULTURAL EXHIBITION, Open to all England.—On MIDSUMMER-DAY, June 24, 1852, a Grand Exhibition of Flowers, Fruits, and Vegetables, Floricultural Designs, Bouquets, and Wax Flowers, will be held at the Arboretum, Nottingham.

Three silver Cups, value 5*l*. each, and a considerable sum in money, will be awarded as Prizes. Schedules may be had on application to the Town Clerk, Nottingham.

Admission, 6*d*. each.

WM CHAPMAN, J. F. WOOD, F.H.S., } Hon. Secs.

June 12.

CHOICE CHRYSANTHEMUMS.

CHANDLER AND SONS, NURSERYMEN, Wandsworth-road, Surrey, are now sending out fine strong plants of the best CHRYSANTHEMUMS, at 12*s*. per dozen; also very good sorts at 6*s*. and 9*s*. per doz n. A good collection of the Pompone, or Dwarf Chinese varieties, at 9*s*. and 12*s*. per dozen.

EDWARD GEORGE HENDERSON AND SON Wellington-road Nursery, St. John's Wood, London, are now prepared to forward by post, CINERARIA SEED, saved from the best formed flowers, such as Cerito, Lady Hume Campbell, Adela Villiers, Pauline, Rosy Morn, Marianne, David Copperfield, Effie Deans, Carlotta Grisi, Prima Donna, &c.

E. G. H. and SON also beg to say, that the varieties of Calceolarias from which the seed is saved can now be seen in full bloom at the Nursery. Early orders are requisite to insure this seed, which will be sent out in July, at 5*s*. per packet.

CHOICE AND RARE SEEDS, confidently recommended, sold by WILLIAM DENYER, SEEDSMAN and FLORIST, 82, Gracechurch-street, London, near the Spread Eagle, at the following price per paper:—

ANTIRRHINUM, or SNAPDRAGON, 6*d*. Saved by an amateur from a most splendid collection.

BELLIS PERENNIS, or DAISY, very double, 6*d*. Saved from the new German varieties; brilliant colours, varying from the deepest crimson to white, through all the different shades.

CALCEOLARIA, saved by an amateur from the most splendid show flowers, 1*s*.

GAILLARDIA SPLENDIDISSIMA PLENA, 1*s*. A new and beautiful perennial variety.

PANSY, from the best named flowers, 1*s*. Saved by Thomson and other eminent growers.

New perpetual Gigantic Emperor double STOCK.—Colour, rosy crimson. *This is a splendid novelty*, lasting several years.

Autumnal-flowering double STOCKS, 6 best and brightest colours, 2*s*.

TRITOMA UVARIA, 1*s*. A hardy perennial, growing from 4 to 5 feet high, producing long spikes of crimson and orange-coloured flowers.

WALLFLOWERS, singular colours, 6 double gigantic varieties, 2*s*. Saved by a celebrated Continental grower, who has on several occasions gained the first prize for double Wallflowers

HEXACENTRIS MYSORENSIS.—This extraordinary and beautiful new Climber (requiring the temperature of a stove or warm greenhouse), is perfectly distinct in its character from anything yet introduced. It was exhibited by Messrs VEITCH and SON at Chiswick, on Saturday, the 8th of May, and received the First Prize for New Plants; and was, indeed, on that occasion, the admiration of all who saw it.

It is a most abundant bloomer, producing its long pendulous clusters of large golden yellow and deep crimson flowers in great abundance, continuing in perfection for several months. The habit of the plant is excellent, with neat dark green foliage, and is of easy culture. It is altogether a plant of such first-rate quality and great beauty, that Messrs. VEITCH and SON feel every confidence in highly recommending it.

Good established plants will be ready for delivery in the month of August next, at 21*s*. each. One plant over to the Trade on every three taken. Orders executed in strict rotation as received.—Exeter, June 12.

TO BE SOLD, by Private Contract, a Valuable Collection of STOVE and GREENHOUSE PLANTS, comprising choice specimens of Palms, Exotic Ferns, Camellias, &c., a few Orchids, and a splendid plant of the Nepenthes distillatoria; either singly or in lots.—Apply to Mr. PASS, Gardener, at Dee Hills, Chester.

PARTNERSHIP.

WANTED, an active PARTNER, one who is thoroughly qualified, and of persevering habits, to join in an extensive first-rate London Nursery of high standing. Capital required from 500*l*. to 1000*l*.—Address V. R. W. L., Post-office, Brompton, near London.

TO FLORISTS, SEEDSMEN, ETC.

PARTNERSHIP.—A young Man having a small capital is desirous of obtaining a JUNIOR PARTNERSHIP in a concern of the above description.—Address, A. B., 30, Norfolk-street, Strand, London.

DEANE'S WARRANTED GARDEN TOOLS.—Horticulturists, and all interested in Gardening Pursuits, are invited to examine DEANE, DRAY, AND CO.'S extensive Stock of GARDENING and PRUNING INPLEMENTS, best London-made Garden Engines and Syringes, Colebrook-dale Garden Seats and Chairs.

Averuncators	Garden Scrapers	Mowing Machines
Axes	Gidney's Prussian Hoe	Pickaxes
Bagging Hooks	Grape Gatherers & Scissors	Potato Forks
Bills	Gravel Rakes and Sieves	Pruning Bills
Borders, various patterns	Greenhouse Doors and Frames	,, Knives, various
Botanical Boxes	Hammers	,, Saws
Boyd's Patent Scythe	Hand-glass Frames	,, Scissors
Brown's Patent Fumigator	Hay Knives	,, Shears
Cases of Pruning Instruments	Horticultural Hammers & Hatchets	Rakes in great variety
Daisy Rakes	Hoes of every pattern	Reaping Hooks
Dibbles	Hotbed Handles	Scythes
Draining Tools	Ladies' Set of Tools	Scythe Stones
Edging Irons and Shears	Labels, various patterns, in Zinc, Porcelain, &c.	Shears, various
Flower Scissors	Lines and Reels	Sickles
,, Stands in Wires & Iron	Marking Ink	Sickle Saws
Fumigators	Mattocks	Spades and Shovels
Galvanic Borders and Plant Protectors	Monographs	Spuds
Garden Chairs and Seats	Metallic Wire	Switch Hooks
,, Loops	Milton Hatchets	Thistle Hooks
,, Rollers	Mole Traps	Transplanting Tools
		Trowels
		Turfing Irons
		Wall Nails
		Watering pots
		Weed Hooks
		Wheelbarrows
		Youths' Set of Tools

DEANE, DRAY, AND CO. are sole Agents for LINGHAM'S PERMANENT LABELS, samples of which, with their Illustrated List of Horticultural Tools, can be sent, post paid, to any part of the United Kingdom. Also, Wholesale and Retail Agents for SAYNOR'S celebrated PRUNING KNIVES, used exclusively by the first Gardeners in the United Kingdom.—DEANE, DRAY, & CO. (Opening to the Monument), London-bridge.

NOTICE.

JOHN SALTER'S splendid collection of IRIS GERMANICA is now in full bloom, and may be seen every day, except Sunday.

Versailles Nursery, near Hammersmith Turnpike, Middlesex.

SUPERB SEEDLING FUCHSIAS.

LUCOMBE, PINCE AND CO. intend sending out, on the 5th of July next, the following very beautiful new FUCHSIAS:—

APOLLO (PINCE'S).—Rosy tube and sepals, well reflexed; corolla purplish lilac, finely expanded. 10*s*. 6*d*.

ASPASIA (PINCE'S).—Scarlet tube and sepals, finely reflexed; corolla beautiful blue. 10*s*. 6*d*.

PRINCEPS (PINCE'S).—Brilliant scarlet-lake tube and sepals, reflexed to a greater extent than any other Fuchsia, which produces a novel and most attractive effect; corolla deep blue. 10*s*. 6*d*

L., P., and Co., as the raisers of "Exoniensis" and "Coralina," which gave such general satisfaction, can with confidence recommend the above to all cultivators of this favourite flower, having fully tested their qualities last season, during the whole of which, in their new Show House, they were seen and admired by numerous visitors. They possess waxy firmness, and are particularly smooth and fine in quality, void of all coarseness, of excellent habits, and blooming most profusely; indeed, the high character which these Fuchsias have obtained, from their having been so generally seen in all their stages, render it unnecessary to say any more in their praise.

P.S. Allowance to the Trade, one over when three of each are ordered.—Exeter Nursery, Exeter, June 12.

CHOICE CINERARIA SEED.

LUCOMBE, PINCE, AND CO. have now ready for sending out some exceedingly fine CINERARIA SEED, carefully saved from a very select collection of all the newest and finest varieties of the season, in packets, sealed and warranted by them, free by post, 2*s*. 6*d* each.

L. P. and Co. have also some very

SUPERIOR CALCEOLARIA SEED,

Saved from well-shaped, highly coloured, well marked flowers, which they can strongly recommend; in packages, sealed and warranted by them, free by post, 2*s*. 6*d*. each.

L., P., and Co. have great pleasure in stating that they have received numerous testimonials of the satisfaction which their Calceolaria and Cineraria Seeds gave last season, and they respectfully solicit early orders, as strong plants for early flowering will be obtained by sowing now.

Exeter Nursery, Exeter, June 12.

BEAUTIFUL NEW PLANT.

ÆSCHYNANTHUS SPLENDIDUS.

LUCOMBE, PINCE, AND CO. beg leave to inform the Public that they purpose sending out, on the 5th of July next, strong healthy plants of their much admired NEW HYBRID ÆSCHYNANTHUS, which they can with full confidence recommend to all cultivators as a plant that cannot fail to give general satisfaction. Excellent drawings of it will be found in the "Gardeners' Magazine of Botany," Dec., 1851; and in the "Floricultural Cabinet" of last month, to which they respectfully refer, and also invite attention to the following remarks:—

"A hybrid production, and a very beautiful one. It is, no doubt, the finest of its race; which, as is well known, now contains many very splendid imported species. It will prove a most useful ornamental plant of very easy culture, and the brilliance of its large clusters of flowers will make it conspicuous amongst the most showy plants."—*Gardeners' Magazine of Botany, Dec*, 1851.

"The species under consideration ('Æschynanthus splendidus'), is one of the most recently introduced, and certainly one of the very best."—*Gardeners' Journal, March* 13, 1852.

Price 21*s*. each. Allowance to the Trade, one over when three are ordered.—Exeter Nursery, Exeter, June 12.

NEW MIMULI.

ROBERT SIM begs to offer the following *very distinct* and fine varieties raised by A. CLAPHAM, Esq., of Scarbro'.

SCARBRO' DEFIANCE.—Clear yellow, with large dark crimson-brown blotches. Extra fine shape, size, and substance. Pronounced by Mr. Clapham to be the finest variety he has yet raised, 5*s*.

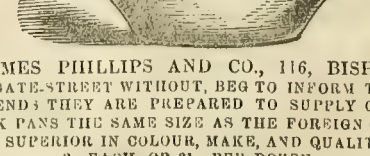
QUEEN VICTORIA.—White, very handsomely blotched with velvety maroon. A large, novel, and very attractive variety. 5*s*.

VENUS.—White, with a broad and even belting of rich crimson, 5*s*.

YELLOW PICTA.—Straw-ground, prettily covered with large and small maroon spots, 3*s*. 6*d*. The set for 15*s*. Discount to the trade if three of each be taken.

Nursery, Foot's Cray, Kent, June 12.

GLASS MILK PANS.



JAMES PHILLIPS AND CO., 116, BISHOPSGATE-STREET WITHOUT, BEG TO INFORM THEIR FRIENDS THEY ARE PREPARED TO SUPPLY GLASS MILK PANS THE SAME SIZE AS THE FOREIGN ONES, BUT SUPERIOR IN COLOUR, MAKE, AND QUALITY, AT 2*s* EACH, OR 21*s* PER DOZEN.

IF A LARGE QUANTITY IS TAKEN A DISCOUNT WILL BE ALLOWED.

LORD CAMOY'S MILK SYPHONS, LACTOMETERS, GLASS CREAM POTS, &c. &c.

CUCUMBER TUBES, PROPAGATING AND BEE GLASSES, SHADES FOR ORNAMENTS, FISH GLOBES, PIANO INSULATORS, &c. &c.

HARTLEY'S PATENT ROUGH PLATE GLASS,

FOR RIDGE AND FURROW ROOFS, GREENHOUSES, RAILWAY STATIONS, ENGINE SHEDS, MILLS, MARKET-HALLS, AND PUBLIC BUILDINGS GENERALLY.

For Conservatories, Public Buildings, Manufactories, Skylights, &c., &c.	1/8th inch thick.	3-16th inch thick.	¼ inch thick.
Packed in Crates, for cutting up of the sizes as Manufactured:—	s. d.	s. d.	s. d.
30 inches wide and from 40 to 50 long	0 6	0 8	0 10
Or 20 " " 50 to 70 "			
In Squares, cut to the sizes ordered:—			
Under 8 by 6	0 4	0 6	0 7
8 by 6 and under 10 by 8	0 4½	0 7	0 8
10 by 8 " 14 by 10	0 5	0 7	0 9
14 by 10 " 1½ feet super., if the length does not exceed 20 inches	0 5½	0 7	0 9
1½ feet sup. " 3 " or if above 20, and not above 30 inches long... ...	0 6	0 8	0 10
3 " " 4 " 20 " 30 "	0 6½	0 8	0 10
4 " " 5 " " 30 " 35 "	0 7	0 8½	0 10
5 " " 6 " " 35 " 40 "	0 7½	0 9	0 10½
6 " " 8 " " 40 " 45 "	0 8	0 9½	0 11
8 " " 10 " " 45 " 55 "	0 8½	0 10	1 0
10 " " 12 " " 55 " 70 "	0 9	0 11	1 1
12 " " 15 " " 70 " 85 "	.....	1 0	1 2

Packed in Boxes of 50 Feet Each:

Ins. Ins.	Ins. Ins.	s. d.
6 by 4 and 6½ by 4½		10 6
7 by 5 " 7½ by 5½		12 0
8 by 6 " 8½ by 6½		13 0
9 by 7 " 9½ by 7½	and 10 by 8	15 0

NOTE.—Squares are charged according to the superficial contents, except where the length exceeds the restriction above, in which case the higher price is charged irrespective of the contents.

Bending.—1-8th, 6d.; 3-16ths, 9d.; ¼ inch, 1s. per foot, net.

*** *Irregular shapes are charged as squares.*

When Crates are ordered, the 30-inch widths will be sent, unless otherwise specified.

THE PATENT ROUGH PLATE, one-eighth of an inch thick, and weighing 2 lbs. to the foot, has now become an article of very extensive and increasing consumption.

It is universally admitted to be the best and most suitable Glass for Ridge and Furrow Roofs, Greenhouses, Factories, Workshops,

And all such like purposes, and is a cheap and efficient substitute for Fluted or Obscured Glass, where the object is to intercept the vision without diminishing the light. Its non-transparency, strength, and cost (being no more weight for weight than Common Sheet Glass), render it eminently suitable for the Glazing of Conservatories and Roofs of all kinds; Blinds are unnecessary, and when used in Greenhouses *no scorching occurs.*

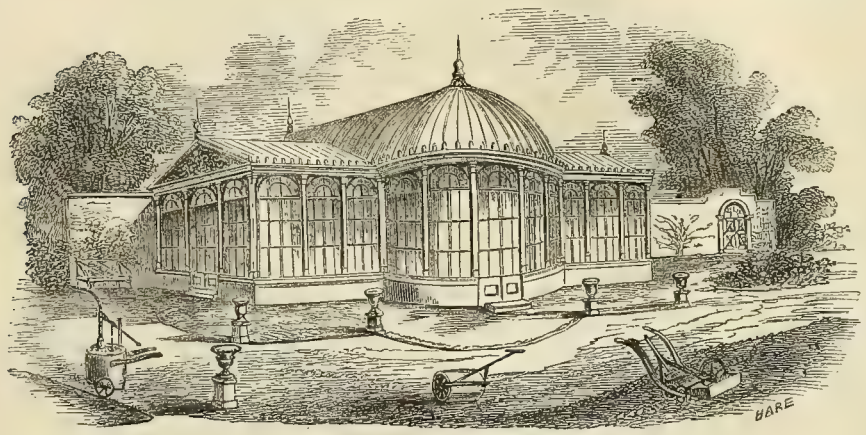
Where still greater strength is required the 3-16ths and ¼ inch thick will be found much cheaper than the Common Rough Plate. Samples will be forwarded on application, by applying to

JAMES PHILLIPS AND CO.,

HORTICULTURAL GLASS MERCHANTS, 116, BISHOPSGATE-STREET WITHOUT, LONDON.

COTTAM AND HALLEN,

2, WINSLEY STREET, AND 76, OXFORD STREET, LONDON.



APPLICATION is requested for their NEW HORTICULTURAL LIST, containing Illustrations, Descriptions, and Prices of

Conservatories	Mowing Machines	Hand-glass Frames	Garden Engines	Flower Sticks
Greenhouses	Fountains	Game Netting	Do. Syringes	Garden Bordering
Hot Water Apparatus	Ornamental Wire Work	Hurdles	Do. Rollers	Watering Pots
Garden Vases	Flower Stands	Garden Chairs	Flower Labels	Garden Arches, &c.

IRON HURDLES, STRAINED WIRE FENCING, GAME NETTING, &c.

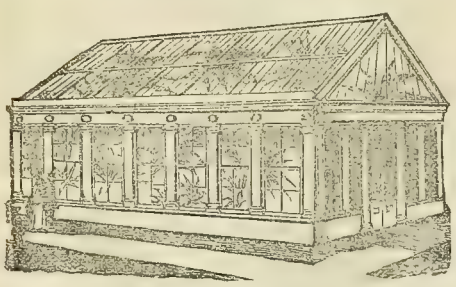
AGRICULTURAL LIST UPON APPLICATION.

EVERY DESCRIPTION OF PLAIN, ORNAMENTAL, CAST AND WROUGHT IRON, AND WIRE WORK.

EXHIBITION PRIZE MEDAL GATES AND ENAMELLED MANGERS.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER,

AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.

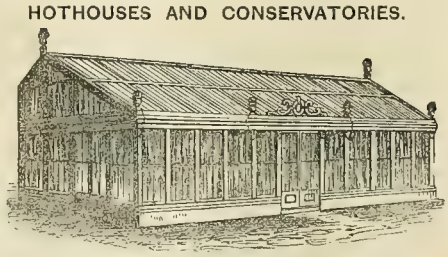


GRAY AND ORMSON, Danvers Street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

G. and O. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders they can with the greatest confidence give the most satisfactory references.

Their Hot-Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating by Hot Water can be made available.

HOTHOUSES AND CONSERVATORIES.



JAMES WATTS, Hothouse Builder, Claremont-Place, Old Kent-road, has 200 CUCUMBER and MELON BOXES and LIGHTS of all sizes, ready for immediate use, and of well-seasoned materials, packed and sent to all parts of the Kingdom.

HOTHOUSES, CONSERVATORIES, &c., made and fixed complete at a considerable reduction, and Garden Lights of every description. References may be had to the Nobility, Gentry, and the Trade, in most of the counties of England.

BAKER'S PHEASANTRY, Beaufort-street, King's Road, Chelsea, by special appointment to her Majesty and H. R. H. Prince Albert.—ORNAMENTAL WATER FOWL, consisting of black and white Swans, Egyptian, Canada, China, barnacle, brent, and laughing Geese, Shieldrakes, Pintail, Widgeon, summer and winter Teal, Gadwall, Labrador Shovellers, gold-eyed and dun Divers, Carolina Ducks, &c., domesticated and pinioned; also Spanish, Cochin China, Malay, Poland, Surrey, and Dorking Fowls; white, Japan, pied, and common Pea-fowl, and pure China Pigs; and at 3, Half-moon Passage, Gracechurch-street, London.

GLASS FOR CONSERVATORIES, ETC.

HETLEY AND Co. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2d. to 3d. per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices and Estimates forwarded on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLATES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to James Hetley and Co. 35, Soho-square, London.

See *Gardeners' Chronicle* first Saturday in each month.

GLASS.

THOMAS MILLINGTON'S FOREIGN SHEET GLASS is far superior to any other manufacture, as well as cheaper. In 100-feet boxes packed for immediate delivery.

6 inches by 4 and 6½	by 4½	...	13s. 0d.
7 " 5 and 7½	by 5½	...	15 0
8 " 5 and 8	by 5½	...	15 0
8 " 6 and 8½	by 6½	...	17 6
9 " 7 and 10	by 8	...	20 0
12 " 10 and 13	by 9	...	20 0

And many other sizes, or cut to order in various thicknesses. Cases containing large Sheets, in 100, 200, and 300 feet, at 21s. per 100 feet.

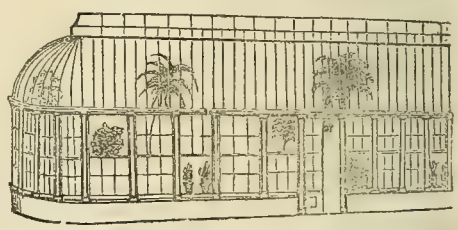
ROUGH PLATE, perfectly flat, ⅛ in. thick, best manufactured.

In sizes under 15 inches	6d.	per foot.
" " 35 "	8d.	"
" " 50 "	9½d.	"
" " 75 "	12d.	"

Milk Pans, 2s. to 6s. each; Metal Hand Frames, Glass Tiles and Slates; Cucumber, Propagating, and Bee Glasses; Wasp Traps, Glass Shades, and Plate Glass, at 87, Bishopsgate-street Without, London, same side as Eastern Counties Railway.—Established 100 years.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER.

WARRANTED BEST MATERIALS AND WORKMANSHIP, AT THE LOWEST POSSIBLE PRICES.



J. WEEKS AND CO., King's Road, Chelsea, Horticultural Architects, Hothouse Builders, and Hot-water Apparatus Manufacturers. The Nobility and Gentry about to erect Horticultural buildings, or fix Hot-Water Apparatus, will find, at our Hothouse Works, King's Road, Chelsea, an extensive variety of Hothouses, Greenhouses, Conservatories, Pits, &c., erected, and in full operation, combining all modern improvements, so that a lady or gentleman can select the description of House best adapted for every required purpose.

THE HOT-WATER APPARATUSES (which are efficient and economical), are particularly worthy of attention, and are erected in all the Houses, Pits, &c., for both Top and Bottom Heat, and in constant operation in the Stoves.

The splendid collection of Stove and Greenhouse Plants is in the highest state of cultivation, and for sale at very low prices. Also a fine collection of strong Grape Vines in pots from eyes, all the best sorts.

Plans, Models, and Estimates of Horticultural Buildings; also Catalogues of Plants, Vines, Seeds, &c., forwarded on application.

J. WEEKS AND CO., King's Road, Chelsea, London.

HOTHOUSES, GREENHOUSES, ETC.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

E. DENCH, PATENT HOTHOUSE WORKS, King's Road, Chelsea.—The superior qualities in every respect of these Structures having been proved in all parts of the United Kingdom, has caused a greater demand for them than E. D. could execute; he has been obliged to have perfect and powerful machinery made to meet the numerous orders, and can now execute any amount of work to great perfection, with dispatch, and for quality and price to defy all competition. Patent Hothouses, with excellent glass, 3 feet long by 1 foot wide, every front sash to open, and every top one to slide down, with pulley made of the same materials as the electric telegraph wires, which require no painting; delivered free to Wharf or Railway Station, at 1s. 2d. per foot super., complete, having been fitted, and every portion marked previously, making a Greenhouse 16 ft. 6 inches long, 12 ft. rafter, 400 ft., 23l. 6s. 8d.; 24 ft. 6 ins. long, do. do., 526 ft., 30l. 13s. 8d.; 28 ft. 6 ins. long, 15 ft. rafter, 712 ft., 41l. 10s. 8d. Heating by Hot Water on the most approved and economical principles.

Patent Sashes for Pits and Peach Walls, &c., 7d. and 8d. per foot, super.

GREEN AND HOTHOUSES, made by Machinery, at J. Lewis' Horticultural Works, Stamford Hill, Middlesex, warranted best materials, and the cheapest in England.—A List of Prices sent by enclosing 2 postage stamps.

COCHIN CHINA FOWLS AND EGGS.—An Amateur, having overstocked himself with this valuable breed, wishes to dispose of a few, at the following low prices:—A handsome light-red Cock, cost 5l. last summer when seven months old, and an imported Hen, for 2l. 10s.; also a Hen and eight China Chickens, one month old, for 1l. 5s. A handsome young Cock, remarkably fine, and a Hen, for 1l. 15s.; or the Cock and two Hens for 2l. 5s. A Hen, with six China Chickens, for 1l. Eggs from imported Birds, all warranted 7s. per dozen, box included. Persons in the country wishing to obtain this valuable breed can have them packed with care, and forwarded to any part, by sending a Post-office order to R. Wakely, 5, Avebury-street, Pool street, New North-road, Hoxton.

N.B. A handsome Malay Cock for 10s. Malay Eggs 6d. each.

LIGHT WASH, for effectually destroying the Thrip, Mealy Bug, Green fly, and other Insects on Roses and other Plants, giving them a healthy and luxuriant appearance; with directions for use. To be had in bottles at 2s. 6d. each, of J. MANLEY (late Hember) at his English and Foreign Fruit Warehouse, 41, Watling-street, Cheapside, London; noted house for genuine Orange and Lemon Juice, so much recommended by the faculty for Gout, Rheumatism, &c.

TURNIP SEEDS,
DIRECT FROM THE GROWERS.

JOHN SUTTON AND SONS are now sending out their various HYBRID AND OTHER TURNIPS AND SWEDES, which have given so much satisfaction in former seasons, the sorts and prices of which may be seen by reference to the first page of last week's *Chronicle*.

*** Carriage free to London, Bristol, Exeter, Southampton, Dorchester, &c., as see former Advertisements.

Reading, Berks, June 12.

SCARCE AND BEAUTIFUL FLOWER SEEDS.

EMPEROR STOCK, a perennial species, and hardy; 1400 seeds, 1s.

CINERARIA and CALCEOLARIA, selected from collections of Plants, that were admitted by all persons who saw them to be the finest they had ever seen; 250 seeds of the former, and 500 of the latter, 1s. each paper.

MYOSOTIS AZORICUS, a bed of this on an eastern or northern aspect is very beautiful; 200 seeds, 1s.

CALENDRINIA UMBELLATA, one of the neatest growing and most brilliant flowering of all bedding plants; 1500 seeds, 1s.

SWEET WILLIAM, in 100 varieties; 10,000 seeds, 1s.

Payment may be made in postage stamps.

JEYES and Co., Nurseries, Northampton.

EXHIBITION OF AMERICAN PLANTS.

KNAP HILL NURSERY, WOKING, SURREY.—The AMERICAN PLANTS at this Nursery are just now in the highest perfection, and afford probably the grandest display of flowers to be witnessed in this country.

The Knap Hill Nursery is near the Woking Station, South Western Railway, which may be reached in about 40 minutes from the Waterloo terminus. All Trains stop at Woking, and capital conveyances may be obtained there.

HOSEA WATERER begs to inform his customers that he is in no way concerned with the Exhibition of American Plants in the Botanic Garden, Regent's Park. The Nursery may be seen daily, Sundays excepted, gratis.—Knap Hill, Woking, June 5.

EXHIBITION OF AMERICAN PLANTS.

JOHN WATERER begs to announce that his unrivalled collection of RHODODENDRONS, AZALEAS, &c., is now on view at the ROYAL BOTANIC GARDENS, Regent's Park, and may be seen gratis by orders from members of the Society.

His collection at the Nursery, comprising many thousand specimens, is also in perfection, and may be seen gratis.

The American Nursery, Bagshot, Surrey, near the Farnborough Station, South-Western Railway, and three miles from Blackwater, South-Eastern Railway; conveyances may be obtained at either station.

STANDISH AND NOBLE, NURSERYMEN, Bagshot, Surrey, have to offer the following new and select Plants, all of which are hardy, except Azalea vittata:

ABIES JEZOENSIS, seedling plants, 21s each; this is one of the last novelties in Conifera; forms a noble tree of 120 feet in height, and of very distinct character (very hardy).

AZALEA VITTATA.—A specimen of this unique variety was awarded a Knightian Medal when exhibited at the Horticultural Society's Room last April; the ground colour of the flower is white, beautifully striped with purple, after the manner of a Carnation. It is a very free bloomer, 9 inches to 1 foot, 21s. each.

CUPRESSUS FUNEBRIS.—Seedlings, 5s. to 21s. each.

CEPHALOTAXUS FORTUNI, male, long leaves, seedlings, 21s. each.

CEPHALOTAXUS FORTUNI, female, short leaves, seedlings, 21s. each. These have withstood the late frost and drying winds without losing any of their verdure (very hardy).

ILEX FURCATA, 21s. each.

" MACROCARPA, 21s. each.

QUERCUS SCLEROPHYLLA, 21s. to 42s. each.

" INVERSA, 21s to 42s. each.

SPIRÆA CALLOSA, an abundant and continued bloomer; it has large corymbs of rosy purple blossoms, and is a handsome addition to our shrubbery plants. 10s. 6d. each.

IMPORTANT SALE OF PINE PLANTS.—The property of a Lady declining the growth of Pines, and wishing to dispose of the remaining stock, consisting of about 40 fine strong Fruiting, and 200 healthy, vigorous, Successional Plants, all perfectly clean; principally Ripley Queens, a few Moscow and Black Jamaicas. May be had at a very low price.—For particulars, apply to Mr. JOSEPH FAIRBAIRN, Nurseries, Clapham.—June 12.

SUTTON'S PERMANENT GRASSES.—The SUPERIOR QUALITY of SUTTON'S GRASS SEEDS is plainly indicated by the numerous Orders they are daily receiving, through the recommendation of former customers.

Some interesting particulars of Land laid down with these Seeds is published in the GARDENERS' CHRONICLE *of March 27th, page 195.*

The prices for the best quality are as under, but for poor reclaimed Lands or other cases where the cost is the principal consideration, mixtures at about half the price may be had.

	Per acre.
For best permanent Meadow and Pasture, mixed expressly to suit the soil	24s to 28s.
For best Clovers and Grasses (for one, two, or three years' lay)	14s. to 20s.

The sorts consist of true Perennial Grasses and Clovers, as named particularly in our Advertisement on the last page of the *Gardeners' Chronicle* of 29th March.

JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

FINE NEW HARDY PATAGONIAN CONIFERS,
SAXE-GOTHÆA CONSPICUA (LINDLEY), and
FITZ ROYA PATAGONICA (HOOKER).

MESSRS. VEITCH AND SON beg to inform the Public that they are now prepared to take orders for fine plants of the above named beautiful HARDY NEW CONIFERS, which will be ready for distribution on and after the 20th of June next, at the following scale of prices:—

1st size plants of Saxe-Gothæa conspicua	... 63s. 0d.
Do. do. Fitz-Roya patagonica...	... 63 0
2d size plants of Saxe-Gothæa conspicua	... 42 0
Do. do. Fitz-Roya patagonica ...	... 42 0
3d size plants of Saxe-Gothæa conspicua	... 31 6
Do. do. Fitz-Roya patagonica...	... 31 6

The usual discount to the Trade, and where a number are taken additional plants given over in *proportion* to the quantity.

These plants are fully described by Dr. LINDLEY and Sir W. J. HOOKER, in the Journal of the Horticultural Society for October, 1851; in the "Botanical Magazine" for November, 1851; and in "Paxton's Flower Garden" for October, 1851. They were exhibited at Chiswick on the 8th and each had a FIRST PRIZE in its Class.

Lithographed Plates, with full descriptions, are now in preparation, the distribution of which will be announced in a future Advertisement.—Exeter, June 12.

CHEAP DAHLIAS AND OTHER FLORIST FLOWERS.

J. PERKINS, Bedford Road Nursery, Northampton, begs to offer a fine Collection of Double DAHLIAS, true to name, 3s. 6d. per dozen, or 25s. per 100.

VERBENAS.—Favourite, Woodcock, Magnificent, Beauty Supreme, Melindres superba, Elleri, Charlwoodii, Boule de Feu, 2s per doz., or 15s. per 100.

ANAGALLIS, 2s. per dozen.

CALCEOLARIAS Millerii and rugosa, 2s. per dozen.

SCARLET GERANIUMS Tom Thumb, Dwarf Shrubland, Trentham, Mrs. Mayler, Lucia Rosea, Princess Alice, 2s. per dozen. The above are all in small pots

PELARGONIUMS, good named collection, dwarf bushy plants, in 60-size pots, 3s. to 4s. per dozen; in 48-size pots, 4s to 6s per dozen.

Remittance expected from unknown correspondents.

The Gardeners' Chronicle.

SATURDAY, JUNE 12, 1852.

MEETINGS FOR THE ENSUING WEEK.

MONDAY,	June	14	British Architects ... 8 P.M. Geographical ... 8½ P.M.
TUESDAY,	—	15	Linnean ... 8 P.M.
WEDNESDAY,	—	16	Geological ... 8½ P.M.
THURSDAY,	—	17	National Floricultural ... 3 P.M. Antiquarian ... 8 P.M. Royal ... 8½ P.M.
SATURDAY,	—	19	Royal Botanic ... 3½ P.M.

COUNTRY SHOWS.—Tuesday, June 15: Cheltenham.—Wednesday, June 16: Guildford, Wycombe Dunham, Leamington.—Friday, June 18: Newbury.—Saturday, June 19: Staines.

IN a lecture delivered by the Rev. EDWIN SIDNEY, to the Royal Institution, on the 14th of May, some very curious statements were made respecting the presence of OZONE IN PLANTS. A facetious friend calls ozone "the smell of electricity," and this may serve as a definition of it, by way of introduction to the following memorandum with which Mr. SIDNEY has favoured us:—

"In my discourse on May 14, at the Royal Institution, on the 'Rise of the Sap in Spring,' I mentioned that I had reason to believe that I had detected the presence of ozone in plants. It has struck me that it might be interesting to yourself and a numerous class of the readers of your valuable Paper, if I addressed to you a few remarks on the subject, explanatory of the methods by which I arrived at this conclusion. We have frequently been told by vegetable physiologists that the oxygen in plants was not in the same state as in the air, and I have for some time suspected that ozone was its not unfrequent condition. I have thought also that it may ultimately appear that many of the chemical changes, now so mysterious in vegetable tissues, are due to this agent. Before describing my own experiments, which are very simple, I would, that they may be the better understood, ask permission to make a few remarks on the properties of ozone itself, for a knowledge of which we are principally indebted to SCHÖNBEIN.

"Ozone is to be regarded as an *allotropic* or variable condition of oxygen, and has a peculiar odour, but it is not soluble in water. Respiration in air, where there is a considerable portion of it, is impeded, and it is even fatal to small animals. Ozone is produced easily by an electrical machine, from a moist wooden point on the conductor, and in most electrical discharges in air, as well as when water is decomposed by the galvanic battery. When it is wished to obtain it for experiments, the simplest method is to scrape a stick of phosphorus about half an inch long, putting it into a good sized glass bottle, keeping it at a temperature of about 60° FAHR., and adding as much water as will half cover the phosphorus. Ozone will be formed, and in a few hours will be in abundance, when the phosphorus may be removed, the acids formed washed out, and the bottle stoppered for experiments. Ozone instantly decomposes iodide of potassium, and recourse is therefore had to this salt for a test of its presence, and, as I shall soon show, was the leading ingredient in the one I used. It is that of SCHÖNBEIN, and consists of bibulous paper dipped into a solution of one part of iodide of potassium, 10 of starch, and 200 of water, boiled together for a few moments. The paper is then dried. If a strip of this paper is brought into contact with ozone, and removed and moistened, it becomes blued by the evolved iodine acting on the starch. Put a piece into the bottle containing ozone, and this effect instantly appears. The chemical effects of ozone are most remarkable. It has a power similar to that of chlorine in bleaching vegetable colours; while it refuses to unite with nitrogen in a general way, it will when lime-water is present, and nitrate of lime is formed; and it produces the highest possible oxidation of most metals. Phosphorus is converted by it, in time, into phosphoric acid, and it combines with chlorine, iodine, and bromine. There are scarcely any organic compounds which have been submitted to its action, on which it has not been found to produce oxidising effects, while certain metallic protosalts, as of iron and tin, are converted into persalts: its actions are indeed similar to those of the peroxide of hydrogen; heat prevents its formation, but if the vapour of ether is mixed with air, and a hot platina wire or glass rod introduced, the ether becomes partially oxidised, to produce acid, and also produces ozone.

"It is impossible to contemplate these properties of ozone, and to know at the same time that the tests indicate its presence in the atmosphere in different degrees at different periods, and especially during snow and thunder-storms, without being struck with the extensive field it opens for physical inquiry. Ever since I became acquainted with the subject I conceived the idea that it *might* be present in plants, and hereafter be discovered to be the cause of many phenomena hitherto inexplicable. With a view to see if I could detect it in vegetable tissues, I applied last autumn to my indulgent friend, Professor FARADAY, for a supply of ozonometric tests that might be relied upon. He most kindly acceded at once to my request, though unaware of my object; and there is, therefore, no doubt of the excellence of my tests. I inserted small slips of them in incisions in parts of plants during autumn and winter, with very slight indications of ozone in any case, and generally none, though sometimes there were signs of its presence in the air. But in the spring of the present year, in inserting them into the tissues of growing plants, I found very often my slips of test paper blued as decidedly as if they had been in a vessel containing experimental ozone. Geraniums especially gave these indications, and also a Pæony; and particularly the old stems of two Vines in pots where the sap was rising. In every trial these Vines blued the paper; but no such result occurred when a test was inserted in a young green shoot. Calceolarias and Petunias, and some other plants, gave no indication. In those plants in which I have found it there was no uniform result; sometimes none, sometimes feeble, and frequently extremely decided. There was always the most powerful effect in the night. On several occasions the paper that had been discoloured by vegetable juices was bleached completely, being a further sign that ozone was present.

"In the present state of these experiments, I of course abstain from hasty inferences, and have made them known thus early to induce abler persons, and more experienced than myself, to pursue the inquiry. May not even these results indicate the cause of rapid growth of Vines after thunder-storms, and open at least a new way to an explanation of the chemical changes in the contents of vegetable cells at particular periods? The properties already known of ozone show that its action is *sufficient* for such agency, and in the parts of many plants I have tried, the tests show the presence of it, or at least of oxygen tending to this condition. As far as my imperative clerical avocations will permit, I shall endeavour to make more trials at all seasons of the year; and if others will also turn their attention to the matter, it may be found to repay them; for the existence of such a powerful agent plainly indicates that effects may be expected commensurate with the ascertained properties I have briefly noticed."

It must be admitted that this statement is one quite unexpected by physiologists, and may lead to important consequences. If the test employed by Mr. SIDNEY can be relied upon, there can be no doubt that ozone is present in plants. We have ourselves seen the test paper which he had employed, and the violet colour was still perfectly distinct. The only question is, whether it is quite certain that plants contain nothing capable of decomposing iodide of potassium, unless it be ozone.

But what, it may be asked, has the presence of this element in plants, if it be there, to do with horticulture? To that question we may reply by another. When the laborious chemist first succeeded in obtaining from animal matters of the vilest kind the combustible substance called phosphorus, who could have thought that this product would have had the remotest value in the art of cultivation? And yet we now know that, in combination with oxygen, it forms one of the most important of all the substances upon which plants feed, as is sufficiently shown by Mr. LAWES's great factory of superphosphate of lime at Deptford Creek; and by the vast consumption of guano, whose principal value depends upon ammonia and the phosphoric acid that it contains, in combination with lime or other bases.

That being so, who can tell what may not come of a diligent investigation of the relation borne to vegetation by ozone?

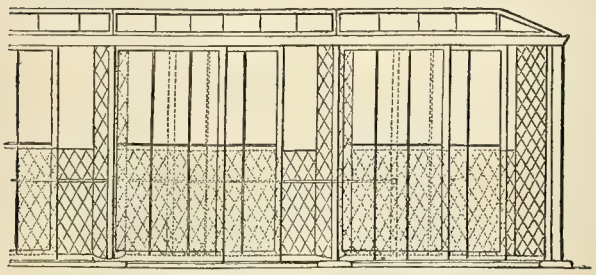
IT may interest our readers to know the depth of rain which had fallen near London up to the 9th, inclusive, of the present month:— June 1, 1852, .07 inch; June 2, .09; June 3, .03; June 4, .02; June 5, .03; June 6, .03; June 7, .41; June 8, .45; June 9, 1.48; in all, 2.61 inches. The quantity which fell on the 7th, 8th, and 9th, amounted to 2.34 inches, and was greater than has fallen near London on any three consecutive days for at least 26 years.

NEW FORCING HOUSES AT TRENTHAM.

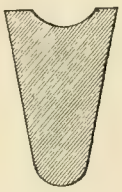
I SEND you a plan of some forcing-houses recently erected here by the Duke of Sutherland, which answer so well that I have thought some of your readers might like to know something of the principle on which they are constructed, and the uses for which they are adapted.

I find narrow upright houses, like those now represented, easily heated, and the crops to advance more rapidly in them than in lean-to houses. Rain or snow, which lowers the temperature of flat-roofed houses very much, has scarcely any effect upon these, owing to the greater part of the glass being protected by the iron gutter at the top of the front upright sashes. The sun acts more powerfully during the short days about mid-winter upon upright sashes than upon sloping ones; while, during the heat of the day in summer, the rays fall obliquely upon them, thus affording a great advantage over the old system. Air is given at the top by moving round the upright shaft, which raises simultaneously the whole of the sashes on one side of the ridge, which in one of the houses is 100 ft. long. The front upright sashes are moved by a handle, as shown in the plan; and as both the top and front lights are opened and shut from the centre of the house, the whole operation can be effected almost instantaneously, and without moving from one spot. A very small quantity of fuel is sufficient to expel damp from houses constructed on the plan now under consideration, as there is the whole surface of the wall (which is flued), and two rows of piping, to counteract the damp arising from 3 feet of border; and on the other hand, when moisture is required the troughs on the pipes supply it abundantly. When it is necessary to remove a tree from the front of the house, the upright sashes and the iron plates upon which they run can be easily lifted out of their places.

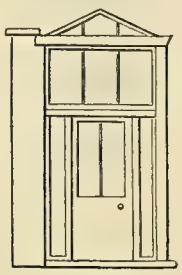
This mode of covering walls may be applied in the warmer parts of England, where no heating apparatus is required, with much advantage, merely as a protection



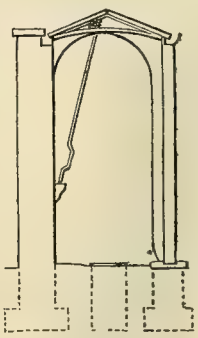
FRONT ELEVATION, SHOWING ALTERNATE SASHES OPEN.



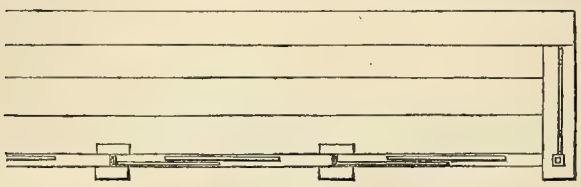
SECTION OF RAFTER.



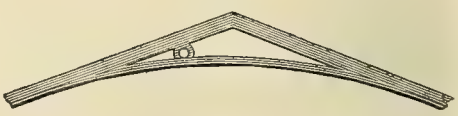
END ELEVATION.



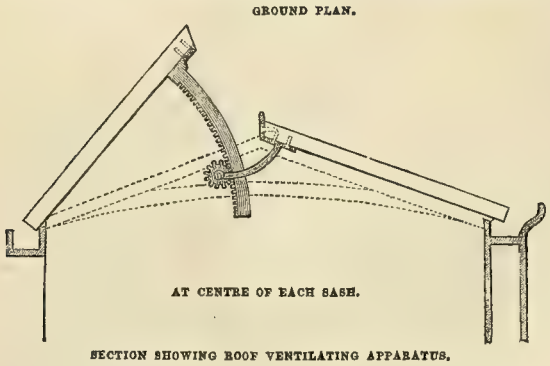
TRANSVERSE SECTION.



GROUND PLAN.

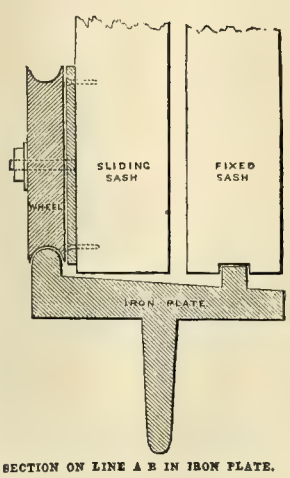


RAFTER.

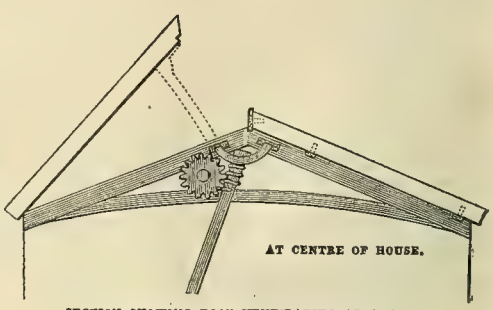


AT CENTRE OF EACH SASH.

SECTION SHOWING ROOF VENTILATING APPARATUS.

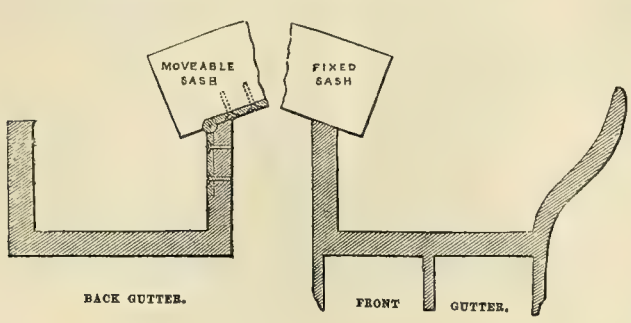


SECTION ON LINE A B IN IRON PLATE.

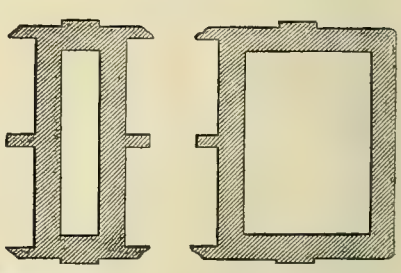


AT CENTRE OF HOUSE.

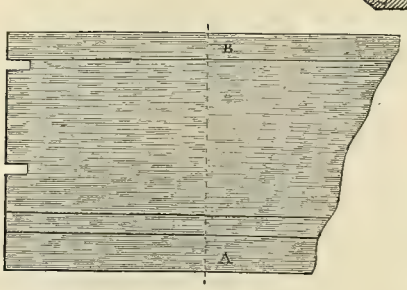
SECTION SHOWING ROOF VENTILATING APPARATUS.



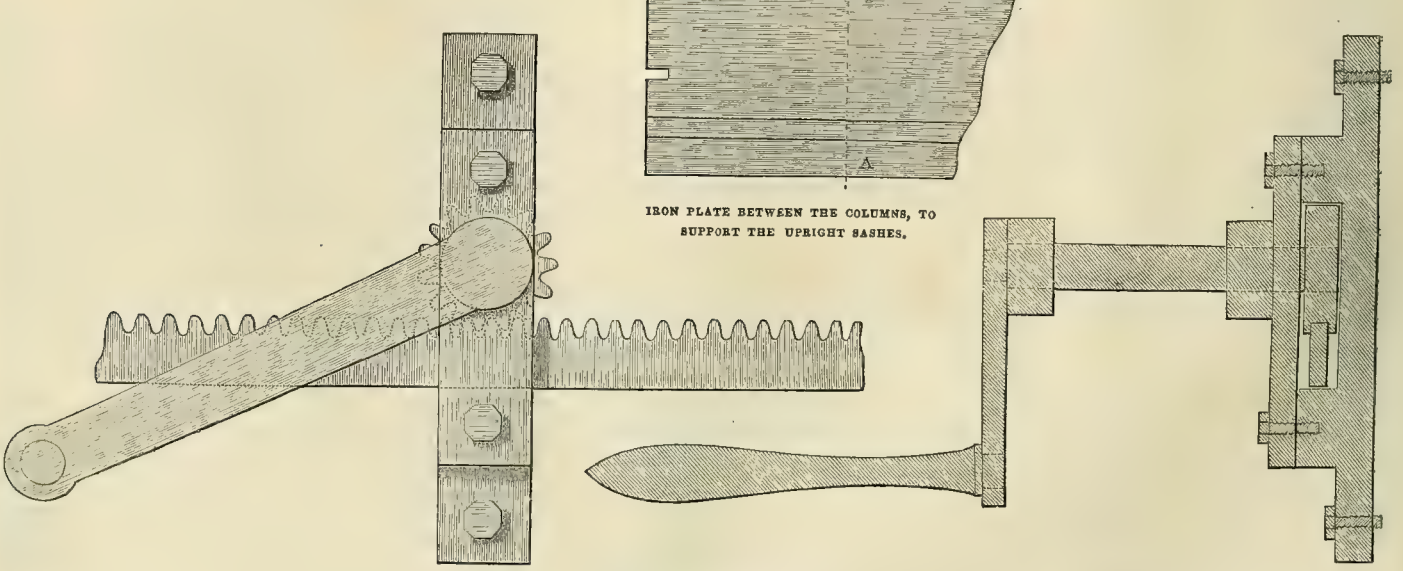
BACK GUTTER. FRONT GUTTER.



CENTRE COLUMNS. CORNER COLUMNS.



IRON PLATE BETWEEN THE COLUMNS, TO SUPPORT THE UPRIGHT SASHES.



FRONT VENTILATING APPARATUS.

from spring frosts, which of late years have destroyed at least half the Peach trees in the country. The plan in question would obviously effectually provide against such catastrophes.

The first house of this kind which we erected was commenced in November last year, and the last of them was completed in February 1852, the total length being 360 feet, in five divisions. The first that was finished is a Cherry house 75 feet long, on the wall of which were some established May Duke Cherry trees. These were started early in January, and we had an excellent crop of fine Cherries ripe early in April, some of which are still hanging upon the trees. There are Apricots on the front trellis; and on one tree shifted from a wall, the crop is now beginning to ripen. They are so near the glass, and the temperature required for the Cherries is so moderate, that I have no doubt of the Apricots succeeding. The wall is flued, and a flow and return 4-inch hot-water pipe runs along within 5 inches of the front trellis. Another house with Figs against the back wall, and Apricots in front, is 100 feet long; and the remaining three are Peach-houses, two of which are only heated by the flued wall. The late kinds of Peaches, such as the Admirable, Barrington, &c., will succeed well under this treatment; and for such fruit as Coe's Golden Drop Plum, which keeps long after it is ripe, the front trellis of these houses would answer admirably. The trellised arches shown in the plan being 10 feet apart, might have Grapes grown upon them without injury to the other crops; indeed, these houses are in every respect well adapted for Vineries, and more particularly for Grapes which are required to hang during winter, for the drying surface is so great, compared with that which gives off moisture, that no damp can possibly injure the fruit.

The plan of ventilating well deserves attention, even if there were nothing else worthy of notice. In the Fig-house, which, as before stated, is 100 feet long, there are ten pairs of upright sashes, each 5 feet wide; every other one of which opens simultaneously by moving the handle: and so easily that a lady can open them without inconvenience. The sashes being 10 feet high, a space of 500 feet can be obtained for the admission of air in a few seconds, and at the top a similar opening of 150 feet may be had in about the same time: thus throwing open exactly one-half of the whole structure in about half a minute, which is, I believe, more than has ever been accomplished in any plan of ventilating yet brought into notice. One of the most important things in such glass structures is securing ample and easy means of ventilation, and I feel much satisfaction in recommending a plan I find to answer so well.

Some may imagine that the trellis in front of the houses will shade the back wall; but the shade of the top of a trellis, 6 feet high, falls at noon, at this season, on the soil at the foot of the wall, in a house 6 feet wide. The price per running foot for a house 4 ft. 9 in. wide, including the ventilating apparatus, was 26*s.*; for the house 6 feet wide, somewhat higher: but now that the patterns are made, the castings can be done for less. *G. Fleming.*

LESCHENAULTIAS.

What can be more beautiful than a well grown and well bloomed blue Leschenault, or more delightful than the ever-flowering red kind? These plants are, however, dissimilar in habit, and require somewhat different treatment. The blue sort (L. biloba), flowers in spring or early in summer, and its growth should be well matured before winter; its habit is somewhat straggling, and unless perseveringly stopped while young, compact specimens will not be obtained; but plants intended to flower the following spring should not be stopped later than the beginning of August, and staking will probably be found necessary for the formation of handsome specimens. The red kind (L. formosa), has a tendency to produce flowers at all seasons of the year, and young plants from which rapid growth is expected must be divested of these as they appear, otherwise wood will be formed but slowly; its habit is so compact that stopping will be unnecessary, except in the case of any side branch obtaining a decided lead, which seldom occurs—and a stake for the leading shoot, together with a few supports from this for the side branches, is all that will be required. With these exceptions, the treatment which suits one will answer for the other.

An essential point towards securing good specimens consists in selecting young plants proper for the purpose; these should be stiff and bushy, in perfect health, and not pot-bound. Another important point is to induce active growth as early in spring as it can be obtained of a healthy character. If the plants are placed near the glass, in a situation where air can be freely admitted on all favourable occasions, a night temperature of about 45°, allowing it to rise 10° or 15° on clear days, with a free circulation of air, will be safe after the beginning of March; but at this early season the temperature should be greatly regulated by the amount of light. As soon as growth is apparent examine the state of the roots, and give a moderate shift if more space is required. One of the most critical periods of a plant's existence is that immediately after potting; the water is apt to pass off through the fresh soil, the ball where the roots are becomes dry, the new soil sodden, and uninviting to the roots; these dangers are best avoided by having the ball and soil in a properly moist condition when the potting is performed, and maintaining a close moist atmosphere until the plants appear to have struck root into the fresh soil; this prevents rapid evaporation, and the necessity for giving much water at the root. When established in their pots, and growing freely, both varieties require a liberal supply of water at the root; and the atmosphere should be kept moist by frequently sprinkling the floors, &c., and the plants will be benefited by sprinkling over-head with the syringe on the afternoons of bright days. As regards temperature, the maximum already mentioned should not be exceeded during the spring months, except in connection with a very free circulation of air, and this must not be allowed to pass over the plants on its entrance into the house, as the Leschenaultia is particularly impatient of cold drying currents.

If the plants can be placed in a cold frame during the summer months, provision will be afforded for promoting active robust growth. A thin shade for a few hours on the forenoons of bright days will be beneficial during June and July, but use this very sparingly, and discontinue it altogether early in August. Water the coal ashes on which the pots may stand frequently during bright weather, sprinkle the plants over-head on the afternoons, and keep the frame close during evening, but raise the lights for the night. Some of the specimens will probably require a second shift early in July; attend to this as early as it may be necessary, and avoid large shifts at this season. Towards the end of August the plants should be considered to have completed their season's growth, and should be prepared for winter by full exposure to sun and air. Avoid over-watering at the root and maintain a rather dry atmosphere.

Leschenaultias are very liable to suffer from damp in winter; they should therefore be placed where a rather dry atmosphere can be maintained. When they are watered it should be done early in the day, and avoid wetting the foliage, especially during damp cloudy weather. At this season, and early in spring, they are very subject to the attacks of a minute aphis, and unless a sharp watch is maintained, beginners will probably not detect it until considerable mischief is effected; fumigation must be resorted to immediately it is observed. If the specimen plants are considered sufficiently large for flowering, keep them in ordinary greenhouse temperature during spring, otherwise adopt the same treatment this season as recommended for last; but if good young plants, in 5-inch pots, were selected, with which to commence, they should be handsome specimens at the end of the first season's growth. If a second season's growth is decided upon, the blue one will require to be slightly cut back, to prevent it from becoming straggling; and the flowers must be picked off the red kind as they appear. The beauty of the blue sort will be prolonged by shading the plants during bright sunshine. After flowering, cut back the plants sufficiently to secure compact growth, and give a moderate shift if required, as soon as they start into growth. As regards the red sort, while in flower, if the plants are kept in health no particular care will be required to prolong its season of beauty, as it will continue in bloom most of the summer and autumn. The flowers should be picked off previous to winter, as, if allowed to remain on the plant, they frequently do much injury by promoting damp. With proper management the specimens will last several years, but keep up a stock of young plants, and so be provided for the occasional loss of a specimen.

Cuttings selected of rather firm pieces of the young wood, as early in spring as they can be obtained, planted in sandy peat, covered with a bell-glass, and placed in a bottom heat of about 70°, will root in a few weeks. They should be potted in small pots as soon as sufficiently rooted, and replaced in bottom-heat until they have become established. Their treatment after this need hardly differ from that recommended for young specimens. Supply them with pot room as they require it, and aim at obtaining dwarf strong plants.

Rich fibry peat in the best possible condition as to age, &c., is necessary for the successful culture of the Leschenaultia. This should be broken up into pieces about the size of a hazel-nut, and liberally mixed with silver-sand, and a sprinkling of clean small potsherds will be useful. A small portion of mellow fibry loam may be added with advantage, if the peat is not of a rich nature, but this should not exceed one-sixth of the whole. Use clean porous pots, and ensure perfect drainage by a sufficiency of potsherds properly arranged, and covered with the rough turfy pieces of the soil, to prevent the finer particles being washed down amongst the draining materials. *Alpha.*

Home Correspondence.

Out-door Grapes.—Will you give a corner to the memory of Clement Hoare? So far as his work upon "The Culture of the Vine on Open Walls" is concerned, he deserves well, indeed, of his countrymen. I acknowledge myself under grateful obligation to him; and, at this season of the year, would draw the attention of all who have out-door Vines to his excellent treatise. His "Weekly Calendarial Register," therein, is worded in such a manner that in whatever mode Vines happen to be trained, his directions are of value, therefore all should study it; but I would particularly direct attention to the simplicity, the saving of labour, shreds, and nails, and to the wonderful increase of fruit to be obtained by following his favourite method—cutting away all old wood except what is barely necessary to furnish the young shoots annually required, and training these on the long-rod system, each rod to bear in the succeeding year, and then to be cut out at two or three eyes from its base. Notwithstanding his recommendation to "cut down" established Vines, and begin *de novo*, I accommodated my Vines gradually to the system and have now four successive tiers at the back of my house; that is, a succession of short horizontal branches, at the ground and at three different heights, and these furnish rods which are serpentined in their first year, and in the second year branch out right and left, amply cropped. These side branches are so nailed as to leave perpendicular intervals for the rods of the current year to occupy; each tier is 6 or 8 feet in height. My success has been remarkable, and I have had large Black Hamburghs so well ripened that they have occasionally had quite a *nuance* of Frontignan flavour; and I have often thought that, like the Bicton Pines, they are a proof of what perfect ripening in the open air accomplishes. How can horticulturists be contented with stagnant warmth in their hothouses? *G. W., June 8.*

Wasps.—The annual sport of the youths of Belper has again come to a close. This is the third year in which J. Strutt, Esq., of Bridge Hill, Belper, has given a penny for every wasp that could be brought to his steward during a limited time. Early in April, on account of the remarkably dry weather, the wasps came freely out of their lurking places. The 29th of May was the day appointed for them to be taken in and paid for, when it was found that more than 12,000 wasps had been caught. This makes great havoc among the destructive little pests. A wasp is a great rarity in Belper, and if all the proprietors of large establishments were to act on the same principle, a wasp would soon become as great a rarity in our gardens as a fox is on the hills of Derbyshire. *Amos, Belper, June 9.*

Climate of the North-West of Scotland.—Having long felt considerable interest in the subject of the various climates that are found in different parts of the world, I have sought for information respecting them in books that treat of meteorology, without being able to find such as would enable me to account for them. It is sufficiently evident that heat may be, to a certain extent, communicated directly to the atmosphere by a surrounding body of water, or by land; but it is not clear that the warmth of climate found in many parts, such as Scotland, has been obtained from either of these sources. The philosophers alluded to by your correspondent "J. K.," appear to have been unaware of the important agency of evaporation of water, and subsequent condensation of aqueous vapour, in transferring heat from one locality to another, which may be at a great distance. If, however, we suppose that the winter climate of the north of Scotland is produced principally by the condensation of vapour brought from the Atlantic Ocean by wind, the peculiar mildness of it will be more in harmony with numerous other facts which might be named, than it will be by assigning any other cause for it. The winter temperature of the American Gulf stream is much higher off the island of Newfoundland, than that of the sea about the north of Scotland; but the water of that stream does not warm the atmosphere there to any considerable distance from its surface, as is proved by the cold of the winter over the adjoining land being intense. We have, however, the accompanying fact, that vapour is not there condensed within the body of the atmosphere, making it misty and cloudy to a considerable height, as it is about Scotland; and therefore the climate of Newfoundland is not rendered warm by condensation of vapour. In the southern hemisphere, Cape Horn and Terra del Fuego are nearly as far from the equator as Scotland is in the northern. There is no warm ocean current similar to the Gulf-stream running to these southern parts, nor do winds generally blow towards them from warmer latitudes; yet the winters are so very mild as to be almost as warm as the summers, and vegetation is said to be but little affected by the cold of winter. But condensation of aqueous vapour within the body of the atmosphere is still more abundant in Terra del Fuego than in Scotland; and it would not be easy to point out any adequate cause for the extraordinary mildness of the winter in a latitude so far removed from the equator, but the copious condensation of vapour which is there taking place, almost without intermission. With reference to warmth of climate at considerable elevation, I am not aware that grain will ripen at great heights in any part of the world where the atmosphere is dry; that is, where heat is not carried to the elevation by vapour, and given out there by its condensation. The higher parts of Teneriffe are represented by travellers as being dry, and that appears to be the reason that vegetation is stopped at so inferior an elevation. Being in the latitude of only about 28°, and in the neighbourhood of the hot African desert, as well as surrounded by water, it appears rather surprising that Wheat will not ripen at a greater height than about 1300 feet; and the want of rain, or rather of the heat liberated by the condensation that precedes the rain, seems to be the only cause that can be traced for the fact. At least 2° farther north, on the western side of the Himalaya mountains, where Wheat will ripen at a far greater elevation, indeed, at ten times the height, the south-west monsoon conveys vapour from a distant ocean to that height during the whole of the season, and the continuous warmth, as well as the moisture thus conveyed, enables grain to ripen at an elevation which, on other mountains not farther from the equator, is locked up in eternal frost. As to the broad expanse of land at the bases of mountains imparting heat to the higher portions, it is sufficient to observe

that it is not so imparted where condensation is absent. I would refer your correspondent, "J. K." to Major Archer's "Travels in the Himalaya Mountains" for further information on this interesting subject. *T. H.*

Fumigators.—I find that "G. E.'s" contrivance, described last week, is exactly the same as that exhibited by me at the Horticultural meeting, Regent-street, March, 1850, with this difference only: mine has the funnel fixed on a portable top, which shuts on like the lid of a saucepan; there is also a piece of tin suspended over the top of the funnel by a stout wire. Having used it a great deal in pits, and very low houses, I found this necessary, as it prevented the cracking of the glass. I had this apparatus in use some time previous to the introduction of Brown's fumigator, and, having used it ever since, can speak practically to its being the best of "self-acting contrivances," thus described in the report of the Horticultural Society's meeting. *George Fry, Manor House, Lee.*

Early Strawberry.—I observe, at p. 357, a notice from Ireland of a dish of Strawberries, gathered from plants of Cuthill's Black Prince, in the open air, on the 26th of May. On that day my gardener gathered a dish of the same sort, grown under exactly similar circumstances, under a south wall, from plants put in last autumn. *A Constant Reader, Sandhurst, Kent, June 8.*

Polmaise Heating.—Before the remembrance of the weeks and months of east wind prevalent in the spring has become so faint as to cause no shivering among your readers at its mention, I think it right to acquaint you with the lesson it has taught me. I can no longer advise Polmaisers to be content to let the whole open hollow, under their floors, act as and for a cold air drain—the air must be more confined and be specially directed to the bottom of the stove. In one of the instances alluded to in my former communication, there was on a bitter day an upward current from the grating in the floor; we covered each external ventilator with clay—still the current was upward! We then discovered small fissures in the basement of the building, where the ground fell away below the plinth, and the masonry was rough, into one of which a mason could thrust his rule; these were stopped, and all suspicious places pointed, but without effect; for, besides an ample rush through the stove-chamber, air actually continued to ascend through the grating. What a proof of the searching power of that "subtle fluid" air! The remedy, however, was easy:—three boards were taken up, a special drain made from a grating nearly in the centre of the room (which, by the bye, I think may be shown to be the best position) all done in little more than a day, and the east wind was laughed at. *G. W., June 8.*

Liquid Manure made from Poultry Dung.—At p. 357, Mr. J. Rust mentions having used the dung of poultry in a liquid state. I have done so for several years with great success, both with hard and soft-wooded plants. *T. G.*

The Lizard Orchis.—If the curious in British botany attach any interest to this Orchis (Satyrion hircinum of Withering), which has sometimes been supposed to be extinct, you may, perhaps, think the following worth insertion in your pages. Two plants were purchased in the early spring from an itinerant collector, which he stated to have been found in a wood between Crayford and Dartford. One of these plants has just come into flower, and agrees with the coloured figure in Sowerby's "English Botany," vol. i. plate 34. The present plant is 18½ inches high, and has 40 flower-buds on a single stalk. The part which represents the lizard is larger than in Sowerby's figure, being in some instances 2 inches long. In the early flower-bud this part is curiously rolled up, as hair is rolled upon a curl-paper, beginning at the point. The smell, I should say, is not "goat-like," but *fishy*; it strikes me as precisely like the smell of a roach or dace, which has been kept for a day or two, and is beginning to change. The colour of the flowers is rather paler than in the figure. The present plant has been kept in a greenhouse. Its companion has made no attempt to flower, and looks unhealthy. It is possibly too young to flower. If any of your readers should wish to see the plant in flower, it will be readily shown to them on calling at Colonel Thompson's, Eliot Vale, Blackheath. *T., June 7.* P.S. Since writing the above, I have ascertained that the name of the collector was Hughes. I take the opportunity to add, that I am pretty certain there is another Orchis which has a strong "goat-like" smell. There may consequently have been the mistake of a describer, in attributing this smell to the wrong kind.

Climate of Cornwall and Devonshire.—In the various notices of plants that flourish and bloom in this county (Cornwall), I have not observed the following, which are now in flower at this place, namely, Paulownia imperialis blooming beautifully, every branch terminated with a bunch of large blue flowers very similar to the old Gloxinia caulescens, in size and colour; also a plant, 12 feet high, of Abutilon vitifolium, clothed with large white Malvaceous flowers from the ground to its summit, blooms as large as Malope grandiflora, a beautiful tree and quite hardy, having stood out three winters here; also the old Melianthus major, 7 feet high, with three spikes of its curious blooms, from which honey is copiously distilled; this plant has likewise stood three winters without the least injury to its beautiful foliage. Callistemon lophanthus is flowering finely in a very open situation, with various other plants too numerous to mention, from New South Wales, Mexico, &c. *F. Enston, Antony House, East Cornwall, June 3.*——I have Paulownia imperialis in fine bloom; also Ceanothus divaricatus, 18 feet high and nearly as much through, together with C. rigidus, papillosus, and dentatus, and Solanum crispum giganteum, about 10 feet high, with several hundreds of bunches of bloom on it. Grevillea rosmarinifolia and G. sulphurea have been in flower for these last two months, and several other plants that I have never seen planted out before. *G. W. B., South Devon.* [It is stated at p. 387, 1849, that the Paulownia has once flowered at Claremont, and we find that Hampton Court also claims the honour.]—I saw at Maidencoombe, yesterday (about three miles from Torquay, Devonshire, near the coast), strong healthy plants, in bloom, of Epacris heteronema, Erica intermedia, Acacia armata, Salvia gesneriflora (finely in flower), Fabiana imbricata, with spikes of bloom from 1 foot to 1½ foot in length: all of which have been exposed, without any protection, during several winters in the borders and rockwork. *J. R.*—There is now flowering in the garden here a plant of the Melianthus major in the open air; it has been in the same spot for nearly 19 years, and has never blossomed before. *W. Stackhouse, Trehane, Probus, St. Austell, June 8.*

Ants.—Having been much troubled with ants in my plant-houses, I have tried nearly every thing recommended in your pages, but without success. Spirits of Juniper and turpentine only drive them away while the scent remains, but I find a mixture of levigated mercury and treacle will destroy them; I put the treacle on small plates with a very small portion of the mercury, which soon attracts them. *M. C., Birmingham, June 8.*

Societies.

ROYAL BOTANIC, REGENT'S PARK, *June 9.*—The second exhibition of the season, held under the auspices of this Society, took place on Wednesday last. The weather was most unpropitious, heavy rain falling without intermission during the whole of the day; and, as a matter of course, there was comparatively little or no company. As all the most important plants assembled on the occasion may be expected to be present at Chiswick to-day, we defer giving any special report of them until next week.

ROYAL HORTICULTURAL OF CORNWALL.—This Society held its 63d Exhibition—the first for this year—at Truro, on the 25th ult. The display of flowers was pronounced by all to be equal, if not superior, to any former exhibition. The following are some of the prizes awarded: *Fruit.*—Best Pine-apple, Queen—Rev. T. Phillpotts; 2d, Mr. Williams; Apples, Aromatic—Rev. Canon Rogers. *Flowers.*—Ornamental Plant, in bloom, not previously exhibited, Cryptolepis longiflora—Sir C. Lemon, Bart, M.P.; 2d, Mitraria coccinea—Mr. Daubuz. Best Stove and Greenhouse Plants: Mitraria coccinea, Erica vestita coccinea, Gardenia Fortuni, Justicia carnea, Epacris miniata, &c.—Mr. W. M. Tweedy; 2d, Eutaxia myrtifolia, Leschenaultia formosa, Eriostemon intermedium, Ixora coccinea, Franciscea acuminata, Statice Holfordii, Achimenes venusta, &c.—Mr. Daubuz; 3d, Justicia carnea superba, Ardisia crenulata, &c.—Mrs. Fox; 4th, Æschynanthus speciosus, Chorozema varium, &c.—Rev. T. Phillpotts. Best six varieties of ditto: Stephanotis floribunda, Torenia asiatica, &c.—Mrs. Fox; 2d, Mr. Daubuz. Best specimen Stove Plants: Stephanotis floribunda—Mr. Friend; 2d, ditto, Mr. Williams. Best Greenhouse Specimen: Tropæolum tricolorum—Rev. T. Phillpotts. Best six Orchids: Odontoglossum citrosmum, Pnaius Wallichii, Lycaste tetragona, Phalænopsis amabilis, Calanthe veratrifolia, Oncidium ampliatum—Rev. T. Phillpotts; 2d, Dendrobium Devonianum, Gongora maculata, Epidendrum ciliare, Phalænopsis amabilis—Sir C. Lemon, Bart., M.P.; 3d, Dendrobium densiflorum, Oncidium ampliatum, Cattleya Forbesii, Epidendrum cuspidatum—Mr. W. M. Tweedy. Best Specimen: Cattleya Mossiæ—Rev. T. Phillpotts; 2d, Lycaste cruenta—Mr. Simmons. Best Gloxinias, Gesneras, or Achimenes, Gloxinia maxima, Achimenes longiflora alba, A. major, Gesnera zebrina—Mr. Daubuz; 2d, Achimenes picta, Gloxinia Fyfiana, G. Teuchlerii, G. candida, G. Passinghamii—Mr. Williams. Best Specimen: Gesnera Douglasii—Rev. T. Phillpotts. Best Geraniums: Rosamond, Hyperion, Beeswing, Elegans, Lady Poltimore, Prince of Orange—Mr. Daubuz; 2d, Topping's elegans, Arnold's Virgin Queen, Forget-me-not, Negress, Orion, Desdemona—Mr. Friend. Best "Fancies:" Anais, Hero of Surrey, Jenny Lind, La Belle Africana, Lady Rivers, Jehu superb—Mr. Daubuz; 2d, La Belle Africana, Anais, Beauty of Winchester, Unique, Hero of Surrey—Mr. Friend. Best Heaths: Mr. Daubuz. Best Specimen: Cloweslana—Mr. Daubuz; 2d, Cavendishii—Mr. Simmons. Best Azaleas, Rhododendrons or Kalmias—Mr. Simmons; 2d, Mr. Daubuz. Best specimen of ditto: Azalea rosea—Rev. T. Phillpotts. Best Cinerarias: Annie, Compacta, Newington Beauty, Brilliant, Amanda, Rosea alba—Mr. Daubuz; 2d, Adela Villiers, Queen of England, Amy Robsart, David Copperfield, Bessie, Catherine Hayes—Mr. Williams. Best Calceolarias: Gem of the West, Elegans, Eclipse, Lucy Neal, Rebecca, Jenny Lind—Mr. Daubuz. Best specimen of ditto: Haben's Gem of the West—Mr. Daubuz. Best Heartsease: Masterpiece, Emma, Coroish Lass, Supreme, Princess, Polynices, Optimus, Pluy, Sambo, Attraction, Mary Jane, Climax, Prince of Orange, Queen of England, Addison, Indian Queen, Ondine, Duchess of Norfolk, Diadem, Polyphemus, Androcles, Duke of Norfolk, Duchess of Rutland, Juventus—Mr. Woolcock; 2d, Caroline, Notoriety, Supreme, Ibrahim Pacha, Orestes, Robert Burns, France Cycole, Alfred, Climax, Androcles, Rainbow, Aurora, Loveliness, Mr. Beck, Almauzor, Bellona, Bertha, Diadem, Polyphemus, Mrs. Trotter, Gem, Masterpiece, Constantine, Thisbe, Euphemia—Mr. Williams. Best Roses in pots: Paul Ricaut, Géant des Batailles, Duchess of Sutherland, Chateaubriand, Lamoricière, Chireaux—Mr. Williams. Best Ranunculuses—Rev. Canon Rogers; ditto Anemones—Mr. Williams. *Extra.*—Calceolarias—Mr. Smith; 3 Seedling Geraniums—Mr. Hockin; Cereus crenatus—Sir C. Lemon, Bart., M.P.; Cacti—Mr. Simmons. *Cornwall Gazette.*

Books, &c., Received.

Practical Hints on Planting Ornamental Trees. By Standish and Noble. 12mo; pp. 200. Bradbury and Evans.—This is one of those excellent practical works from which the most unlearned may profit as much as the most learned. To science it lays no claim: its purpose is to tell in plain words as much as the authors know of the way, and time, and place—the how, the when, and the where—that are found by experience the best for planting ornamental trees; and of that experience they have had as much as anybody. They have also profited skilfully by the experience of an extensive circle of correspondents, whose views are incorporated with their own. In fact, a large proportion of the facts included in this work have been derived from valuable "returns" made from all parts of the country. Having seen some of them, we can say of our own knowledge that they deserve the entire confidence of the public. The "lists of plants for particular soils and situations," given at the end of the volume, are particularly useful, as we know from the numerous inquiries addressed to ourselves upon this subject; we only regret that the lists are not much more full. It is true that the plan of Messrs. Standish and Noble's work includes ornamental trees only; but in our view all trees are ornamental in places to which they are adapted. We shall refer to this useful book on a future occasion.

The British Winter Garden. By W. Barron, head-gardener at Elvaston. 12mo; pp. 121. Bradbury and Evans.—The connection of the author with the remarkable works that have been carried on at Elvaston for more than 20 years, gives peculiar interest to this book, the matters in which are too important to be dismissed in a mere notice. We shall offer some observations upon it at a very early opportunity.

Tulasne, Monographia Podostemacearum. 4to. Paris. Baudry. Pp 208, tt. xiii.—One of the most beautiful works that have appeared on systematical botany, and only second to the same learned author's admirable monograph of Truffles. The plates, executed at the cost of Dr. Weddell, are among the best specimens of the French school of natural history. The obscure plants to which the work refers have long ranked among the perplexities of botanists; scarcely anything can be said to have been known of them till the appearance in 1834 of an indifferent memoir by the Russian botanist Bongard, who understood so ill their real structure as to have taken them for Endogens instead of Exogens. And to this day their natural affinities remain unsettled. That they are a reduced form of vegetation, probably bearing the same relation to some more perfect natural order, as Lemna to Arads, or Hippuris to Onagrads, could not escape the observation of any botanist accustomed to regard the vegetable kingdom in a philosophical point of view. If M. Tulasne does not even now decide the question, he has at least furnished other botanists with abundant details of such exact minuteness that the means of forming a reasonable judgment are in the possession of us all. This is not the place to open a dry scientific discussion, but we may be permitted to suggest that if no other views are regarded as tenable, it may be worth while to institute a comparison between Podostemaceæ and Littorella.

De Vriese, Descriptions et Figures des Plantes nouvelles du Jardin de Leide, &c. &c. 2 Livrais. Grandfolio.—Contains fine coloured plates of Hymenocallis Borskiana, a Venezuelan plant, and some elaborate figures of species of Cycas.

Walpers, Annales Botanices Systematicæ. Vol. II. Fasc. 6. 8vo.—Goes as far as Monotropaceæ, and completes the volume.

Ledebour, Flora Rossica. Fasc. 12. 8vo.—Includes Monocotyledons as far as the beginning of Cyperaceæ.

Garden Memoranda.

THE AMERICAN NURSERIES AT KNAP-HILL AND BAGSHOT.—Those who have only seen American plants cooped together under canvas in the neighbourhood of smoky London can form little idea of the grandeur and magnificence of the fields of Rhododendrons, Azaleas, and Kalmias, which have been planted and reared during years of care and solicitude by Messrs. Hosea and John Waterer, at Knap-hill and Bagshot. Every season about this time many acres are studded with the lovely blossoms of these charming plants, and, notwithstanding the unfavourable spring that has just passed by, they are as fine at the present time as ever we remember to have seen them. It is true that the blossom buds of some of the early flowering tender scarlet kinds have been killed by the late spring frost, but this is a circumstance the less to be regretted, for, thanks to the skill of the Messrs. Waterer, we can now enjoy the beauty of scarlet, or at least deep crimson Rhododendrons, which flower sufficiently late to be out of the reach of such a calamity. This has been effected through years of judicious and repeated cross breeding in the right direction; and it must certainly be regarded as an acquisition of no ordinary kind, and one which cannot fail in time to materially alter for the better the general aspect of ornamental grounds; for once it shall have become generally known that high coloured Rhododendrons exist, which will flower every year without fear of disappointment, we shall have them scattered profusely over every lawn; and who shall not long for the event? For what can be compared with the beauty and effect of a fine specimen of the scarlet "Rose-tree" in bloom?

AT MR. HOSEA WATERER'S, AT KNAP-HILL, whose extensive grounds are now one blaze of beautiful colours of almost every shade, we noticed standard Rhododendrons 10 and 12 feet high, with clean stems 5 feet in length and 6 inches in diameter, bearing heads 30 feet round, and loaded with flowers. Trees of these dimensions are not uncommon here; and a knowledge of this fact alone, independent of the thousands of bushes and standards of less size, will serve to furnish lovers of American plants with some idea of the kind of treat a visit to

these nurseries may be expected to afford. The scarlet, orange, and buff colours of the Azaleas, too, form an interesting intermixture, which renders the whole striking, varied, and effective. The broad-leaved Kalmias, of which there are immense specimens here, were scarcely sufficiently in bloom when we saw them. Among Rhododendrons, perhaps the best of the newer kinds is Brayanum, a charming sort, with good shaped truss and flowers, which possess a colour about as fine as that of the standard of Marengo Rose; Barclayanum, a vivid crimson, was just coming into blossom, showing that it is really late; Atrosanguineum is very dark, and Archimedes is one of the very best of bright rose colours; Brutus is desirable, and so is Desdemona; Nero and Onslowianum are two new and valuable kinds, as are also maculatum nigrum and rubrum, the former having exchanged the spots that are usually on the upper petals for a blotch of deep chocolate, which gives it a distinct and striking appearance. Other fine kinds consisted of Rembrandt, Titian, Vandyck, Victoria, and Vervaneanum, to which must be added Curricanum. Fastuosum is a well-known double kind, which still maintains its good character. The following free blooming and free growing varieties of catawbiense should be in every garden, viz.: elegans, azureum, bicolor, cœlestinum, c. pictum, candidissimum, delicatissimum, Everestianum (an old but very fine kind), grandiflorum; purpureum elegans, roseum elegans, splendens, multimaculatum, and hyacinthiflorum. The latter has a lovely effect in the shape of a standard, and the flowers last longer in perfection than those of the single kinds. Of Azaleas, one of the best scarlets is coccinea major, but cruenta is also a good one; aurantiaca cuprea is a fine orange, and carnea delicatissima a pretty light pink, and a good trusser; decus hortorum is rose, with the back petal yellow; and of buffs, none surpassed pontica globosa. Of other fine kinds of various colours we remarked Gloria Patriæ and Mundi, triumphans, imperatrix, monstrosa variabilis, Morterii, Ne plus ultra, persoluta, pontica imperialis, p. monstrosa, and p. princeps; prænitens, crocea distincta, and Nilens. These are all first-rate kinds, in which no one need fear to be disappointed. Seedling Azaleas and Rhododendrons are very plentiful here, but it is only now and then that such gems as Brayanum, and some others we have mentioned, can be picked from among them.

Mr. John Waterer's Nursery at Bagshot is charmingly situated on two sides of a valley, over which a fine view can be obtained from the rising ground on either side; and, seen from such elevated positions, the scene presented at the present time is magnificent. Standard Rhododendrons of no ordinary magnitude ornament the margins of the main walks, as well as the interior of the compartments into which the nursery is divided by Arbor-vitæ hedges; and the fine broad, deep banks of Azaleas, which exist here and there, are truly striking, and assist materially in setting off to advantage their associates, the Rhododendrons. In addition to the varieties of Azalea mentioned above, all of which we saw here, we remarked some promising seedlings, the result of crossing the yellow Chinese kind with the large light-coloured viscosissima; some of the produce from this cross look as if they would be striped. Among high coloured Rhododendrons none were more striking than Grand Arab, Soleil d'Austerlitz, Blandianum, vestitum, coccineum, and Charles Truffaud. These are exceedingly bright and beautiful, and we trust that future experience will prove them to be sufficiently hardy to resist our sharp late frosts. Leopardi is a very fine spotted, rosy-lilac kind, and Towardianum has large, very finely-shaped blossoms, which must ever render it a favourite. Captivation is worth attention, on account of its compact, neat, conical heads. Blatteum is a very dark kind, with large trusses; and Nobleanum bicolor is good, as is also Mammoth. Lady Eleanor Cathcart is reported to be a very fine sort; but we were not fortunate enough to see it in bloom. Catawbiense splendens and grandiflorum make charming standards; C. album elegans and delicatissimum are certainly the best whites; egregium makes a pretty standard; and Marriageanum is a fine kind, as are also mirandum, perspicuum, and roseum elegans. We also remarked here a very excellent variety o. Victoria.

Besides these fine Rhododendrons and Azaleas there were abundance of nice bushes of the charming genus Kalmia. It may perhaps be worth recording, in connection with this shrub, that the Myrtle-leaved kind has been budded here on the broad-leaved sort, furnishing another means of increasing it besides layering and grafting.

At Knap hill and Bagshot, Conifers grow splendidly in the bog earth, which prevails all over that district, and many fine examples of all the leading kinds are to be found at both places. A tree of Pinus macrocarpa at Knap-hill is at least 30 feet high, and just now it is extremely handsome, on account of the bunches of Orange blossoms with which every branch is terminated. Some time ago it produced a large cone, from the ripe seeds contained in which many plants have been raised. We also noticed a magnificent Laburnum (Waterer's variety) forming a fine tree, clothed to the very ground with immense clusters of golden flowers. At the entrance of Mr. John Waterer's Nursery, near Bagshot town, stands perhaps the largest Weeping Beech in the country; it is exceedingly pendulous and handsome. While speaking of Conifers we almost forgot to mention that plants of the Funereal Cypress, both here and at Knap Hill, have had their leaders killed by the late frosts. Young Cryptomerias at Bagshot have also suffered in a similar manner, while older plants have escaped. We therefore trust that larger plants of the Cypress, whose growth will be less succulent, will share a better fate.

Two propagating pits have been erected at Knap Hill, each 60 feet long, with a path up the middle, and beds on either side warmed with hot water in two 4-inch iron pipes, an arm of which is passed round the top for surface heat. They are glazed with Hartley's patent rough plate. The roofs are fixed; but here and there a pane opens outwards, and means of ventilation are also provided at the sides.

The Abutilon vitifolium is now in full flower in Antony Gardens, the seat of W. H. Pole Carew, Esq., M.P. It there forms a most beautiful, hardy, evergreen shrub, now 12 feet high, and covered with large white blossoms from top to bottom.

FLORICULTURE.

Rhapsodies about Roses (*continued from p.* 343.)—I can quite corroborate what Shakspere says of

"Books in the running brooks,"

for I found a most fascinating volume in Rivers, and I dived into its contents delightedly and eagerly, like as hot boys upon a summer's day plunge into rivers of water—truant it may be, and doomed after their ablutions to the coarsest kind of towelling, but for the time as oblivious of all the ills which the fleshy parts of youth are heir to, as though they bathed in Lethe. And as, moreover, the young gentlemen aforesaid are wont to diversify their sport by periodical excursions to the shore, where, "cool and classical," (as Mrs. Jarley would say) they revel in the flowery mead, so did I at intervals emerge from Rivers, and wander to my Roses, "born" so long "to blush unseen, and waste their sweetness on the desert air." As a pupil at Dotheboys Hall would be requested, after spelling the word "horse," to go and clean the animal in question, so I went from description to reality, first studying the portraits in this book of beauty, and then doing homage to the originals. How delighted I was, first to read, and then to have ocular proof, that Boula de Nanteuil was a standard of excellence; that Kean was always beautiful, in size first rate, and in shape perfection; that Coupe d' Hébé was the gem of its family, &c.; and how ashamed I felt when I saw that "Madame Laffay ought to be in every garden," yet could not find her in mine; but I was soon consoled by the presence of the Duchess and Baronne Prevost, and I had almost as much pleasure in my introduction to these belles of the parterre, as the author of my book, when one morning in June, looking over the first bed of Roses he had ever raised from seed, he saw, growing with great vigour, the Rose afterwards called (perhaps because robust as Brummell's "fat friend") Rivers's George the Fourth. I had but 12 trees in all, but they were of the best, and consequently (ponder this, O nurserymen, when executing a first order for a tyro) I have now 1200. Yes, though the sceptical Irishman did say, when told that "Virtue was its own reward" that he "considered the circumstance fortunate, for he never saw it get any other," yet I shall venture to repeat the adage for the benefit both of buyer and seller. As an individual purchaser, I have no complaint to urge; on the contrary, I have uniformly received the most liberal treatment from the dealers; but the trade is now in so many hands, in consequence of the wide-spread mania for Roses, that I can do no harm in sharpening the teeth of the good old saw, "honesty is the best policy." Send out then, I say, the best, and you give a man a chance of being a florist and a customer. Once make him really an amateur, and he will come at you like a pike at a bait, if not over-"gudgeoned." Give him the most select, and he will have others; for, as "every man in his time swallows a peck of dirt," so every florist in *his* time buys a deal of rubbish. But send him rubbish at first, and he will never be a florist; men do not lay in wine from samples that are "corked;" nor do we look for much enthusiasm on the subject of guano from those who may have purchased "loam" in lieu of the genuine Peruvian article! Rose trees themselves give a lesson on this subject, for the best are (with few exceptions) the easiest to propagate. What trees, for instance, so soon make a display in the budding-ground as Géant des Batailles, Duchess of Sutherland, and Paul Ricaut? "That Paul Ricketts," said a quaint old gardener to me; "that Paul Ricketts sets to work at top of a briar, like a weasel on a rabbit's back; sucks up the sap like a horse-leech, and shows a flower as big as a Peony afore some of the others can make a start of it." But to return to my history; I finished my book just at that hour—

"When in the crimson cloud of even,
The lingering light decays;
And Hesper, on the front of Heaven,
Has glittering gem displays."

And that night I had an extraordinary dream. "I dreamt," not "that I dwelt in marble halls;" but that I went with a large party, many members of which were resuscitated for the occasion, but appeared quite at their ease, to see the gardens of M. Laffay, near Paris. I noticed among our company Shakspere in a coat of rich crimson velvet, conversing with the Queen of Denmark (Hamlet's mother), about that unpleasant little affair in the orchard; the beautiful Duchess of Sutherland, in an elegant rose-coloured silk (watered), reprimanding a pretty *femme de chambre* Jenny, for talking to a Grenadier in brilliant uniform; Proserpine with her papa, Jupiter, and her mama, Ceres; Pius IX. discussing with Lord John Russell the bill about Ecclesiastical Titles; Mrs. Elliott escorted by William the Conqueror; and Miss Glegg by Charlemagne. After M. Laffay had kissed all the party on both cheeks (to the considerable disgust of the Duchess), we were shown over the grounds by a gardener, who (Mr. Rivers confidentially informed me) was the celebrated William Jesse. And oh! what brilliant Roses he showed us! Yellow, scarlet, sky-blue, and every colour known. As to size, M. Laffay himself assured us, that his children put him to considerable expense by playing at "hide and seek" in the blooms. Hereupon, Mr. Rivers, boldly but incautiously, affirmed that he had a seedling at Sawbridgeworth, with flowers at least 3 yards in diameter, and that it was his intention to call it Waterloo. Immediately (as I dreamed) there arose a frightful yell of Mort aux Anglais! Soldiers bearing the Standard of Marengo surrounded those peaceful gardens; and just as a gigantic officer, a regular case of Grand Capitaine, was going to cut me down—I awoke!

"In terror I woke, crying 'This is no joke!'
And jump'd out of bed like king Priam, king Priam!
And I 've but to remark, if you 're still in the dark,
You 're not a whit worse off than I am, than I am."

S. R. H.

Cheltenham Horticultural Society: We learn that the second exhibition will take place at the Royal Old Wells on Tuesday next, when, owing to the varied and liberal character of the schedule now before us, we may expect a satisfactory display. We shall not fail to give some account of it.

New Dahlias: *Beginner* The few enumerated at p. 359, were those exhibited throughout the whole of last season; they should be planted now.

New Roses: *A B.* We are unable to assist you. Inquire of some of the large Rose growers.

Received: Rules of the Shacklewell, Stoke Newington, and Hackney Floricultural Society; meetings the second Thursday in each month, at 8 o'clock. Also schedule of the Wycombe Horticultural Society's Prizes; show days, June 16 and August 25. The Maidstone Horticultural Society; show days, June 24 and September 8. And the Prize List of the Ipswich Horticultural Society; show day, June 30, on which occasion we find that a Silver Cup, value 5*l.*, is offered for the best collection of 24 varieties of cut Roses. Other prizes, varying from 5*s.* to 50*s.*, are also offered by the same Society for exhibitions of this flower.

Schedules: *Exhibitor.* We are of your opinion; it is unfair for any Society to issue its prize list only a few days before the exhibition takes place. Many prizes offered under such circumstances fail to produce competition. Can such a course be less than prejudicial?

The National Carnation and Picotee Society holds its annual meeting this year at Norwich, on Wednesday, the 28th of July

Tulip: *W W.* The breeder flowers steadily maintain the estimate formed of them at the National Society last year; the petal of the broken flower also in every way justifies the opinions that were then expressed of it.

SEEDLING FLOWERS.

Calceolaria: *R C.* Very much flattened and crushed, but apparently nothing remarkable. Below the average size.

Cinerarias: *M W.* Quite withered up when received.—*J C Winslow.* We regret your loss, as the colours would have have proved most desirable, even if other properties were wanting.—*R C K.* 1, white self; 2, deep purple tips; 3, lilac tips; 4, maroon self; 5, purple self; 6, crimson-purple self; 7, blue tips; 8, crimson tips; 9, white self; 10, ditto; 11, blue self; 12, purple tips; of these, 3 is by far the best, and may prove to be a valuable flower, possessing more quality than all the rest combined; 8 is attractive, and should be tried again.—*H E H.* Of average size; white ground, with deepish lilac tips; petals not broad enough to form even a moderate outline.

Hibiscus: *S. Whitmore.*—A very fine variety; flowers large, and of good substance; colour, bright scarlet crimson.

Pansies: *T Todd.* All inferior to kinds already in cultivation.—*J P.* The creamy ground colour will possibly bleach white; as a show flower it will rank as a bold back-row variety. What do you intend to call it? As a rule we are not particularly fond of large flowers—still, size has its recommendations; these remarks apply to the flower noticed last week as being much in the way of Mrs. Hamilton.

Miscellaneous.

A Robin in Difficulties.—While Mr. Newall, granite-hewer in Dalbeattie, was lately plying his vocation at Craignair Quarry, his attention was arrested by cries strongly indicative of distress proceeding from one or other of the feathered denizens of the wood. On throwing from him his tools and hurrying to the spot whence the sounds proceeded, he discovered a robin apparently in a state of the greatest agitation, whose movements immediately certified him of the true cause of the alarm. An adder 20 inches long, and one inch in circumference, had managed to drag itself up the face of the quarry, and was at that moment in the very act of protruding his ugly head over the edge of a nest built among the stumps of the cut-down brushwood, and containing poor mother robin's unfledged offspring—her maternal instinct prompting her to the only defence of which she was capable. She was engaged when Mr. Newall first got his eye upon her in alternately coming down the one moment upon the spoliator, darting her beak into his forehead, and anon rising on the other to the height of a yard or so above the scene of danger. It was the act of a moment for Mr. Newall to dislodge the aggressor. But in doing so two of the little birds were thrown out of their nest, where, however, they were speedily and carefully replaced. While Mr. Newall was killing the adder, the joy of the parent bird was so excessive, that she actually perched on the left arm of her benefactor, and watched with an unmistakeable and intense delight every blow inflicted by his right on her merciless and disappointed enemy; and when that enemy lay dead, she alighted upon and pecked the lifeless trunk with all her vigour; and revenge thus taken, entered her nest, and having ascertained that all was safe, swiftly repaired to a neighbouring branch, and piped, as she best could, what was no doubt meant

for a song of gratitude. When at work since Mr. Newall has been evidently recognised by the tiny biped. *Dumfries Courier.*

Calendar of Operations.

(For the ensuing week.)

PLANT DEPARTMENT.

To keep down insects in the conservatory and plant houses frequented by company is somewhat difficult, as fumigating cannot always be resorted to. On this account syringing must be well followed up on the permanent plants. Those infested, which can be removed, should be taken out and well cleaned, and weak ammoniacal water will destroy the green-fly, and leave but faint traces of its use in the houses afterwards. Pay every attention in keeping the greatest neatness and order in plant houses, more especially those visited by the family or company. The conservatory borders must at this season have frequent waterings, and should afterwards be neatly raked over. Remove Chinese Azaleas, now getting past their best, as their flowers fade, to make room for Pelargoniums and some of the more hardy stove plants. Keep the climbing plants in proper form by frequent looking over. Shade by day and keep down the temperature by large admissions of air, allowing a good portion to remain on during the night. As before directed, pick off the blooms from plants directly they begin to fade; this will be the more necessary with well-bloomed specimens, or they will take a considerable time to recover their lost energies. These will require to be kept some time in a cool shady situation, to induce them to break strongly. No attempt should be made to pot them, even if they require it, till the young growth has made some progress, or the loss of many delicate plants will be the result. Continue the necessary attentions to Fuchsias and other soft-wooded plants, which will be required next month in bloom for the conservatory &c. Stake neatly Japan Lilies and other plants growing for the same purpose; as these latter are nearly hardy, the lights need only be kept over them during heavy rains.

FORCING DEPARTMENT.

Do not neglect the Vines in the early house, because the crop is cut; frequently syringe them, to destroy any red spider, established since the ripening of the crop; they may be easily eradicated now; both inside and outside borders will require water occasionally (see Calendar, p. 312). Admit air freely at all times; the object should be, by careful management, to preserve the foliage in a healthy state for the next two or more months, that a supply of properly elaborated sap may be stored up for next season's supply. In thinning the later crops of Grapes well tie out the bunches, and leave the berries thinner than for the early ones; the Grapes will keep all the better from not being too thickly set in the bunch. Muscats and St. Peter's will require constant fires to set their fruit freely; the present is a favourable season for furnishing new Vineries, &c., with plants; the roots of the Vine being now in an active state, an immediate start may be expected. Plant only those kinds in the same house which require similar treatment, and ripen about the same time. If a succession of fruit is desirable better appropriate different houses for the purpose (even if smaller), than plant two such Vines as Hamburgh and the Muscat in the same house. The fire-heat required to ripen the Muscats would prove injurious to the Hamburghs, independent of the extra cost. PINERY.—Withhold water to fruit, directly a change of colour is discernible. If the fruit is growing in pots lift them on the surface of the bed, which will help to improve both colour and flavour. Continue to water and syringe occasionally those yet swelling. Fires will be required, to allow for extra ventilation, which, at this period of the crop's ripening, is more than ever necessary. Do not allow the bottom-heat to decline much. That portion of the fruiting stock which did not show fruit in February will now be most likely to show; these should be taken care of, as they will bring heavy fruit in October. To assist them, remove the suckers and gills, and keep them regularly supplied with weak manure water, and frequently damped with the syringe. Allow plenty of air to the successions; a little water may be given those first potted; keep the bottom-heat at a uniform point, somewhere between 85° and 90°. PEACH-HOUSE.—Give all the air possible to the ripe fruit; shade where it is desirable to prolong the season. Bring on the second house by an increased temperature, kept damp by the frequent use of the engine, and sprinkling the floors, &c.; at closing time give the inside border a good soaking of weak manure-water. Turn out Cherries, in pots, removed from the houses, into an open quarter of the garden, placing some turfy loam round the balls; this will invigorate them much better than keeping them in pots through the summer; they will take up with good balls in the autumn for repotting. Commence as soon as possible pegging down runners of Strawberries for next season's stock of forcing plants.

FLOWER GARDEN AND SHRUBBERY.

The present rains will greatly assist the recently turned out plants into growth, and when the plants are properly staked and pegged down, the beds should be neatly finished off. Avoid by all means, when the ground is wet, treading on the beds, which would render them too close for delicate plants to root in; in short, boards or other contrivances should at all times be used when the beds are being dressed, to prevent them from being trampled on by workmen, if they are too large to be managed without. Stakes of the proper height will have been placed against each plant requiring support at the time of planting, to secure them as they advance; take advantage of showery weather to cut Box edgings. Thrift and other substitutes for Box should be regulated when they go out of bloom; frequently examine Roses, to stop the ravages of the "maggot;" where they are wanted to bloom in August some of the Perpetuals and hybrid Roses should now have their buds removed, and the shoots slightly thinned and shortened back. Phloxes, Delphiniums, and some other herbaceous plants, will frequently throw up too many shoots; when tying them up, thin out sufficient, to prevent them having an overcrowded appearance, and where the roots are very large, three stakes should be placed instead of one, for the same purpose; the heads of bloom will be finer, and show to more advantage, than when crowded together round one support.

FLORISTS' FLOWERS.

TULIPS.—We do not imagine that the late heavy drenching rains will be of much good to Tulip bulbs—we much fear that they will get (if we may so express it) overgorged with moisture. From memoranda and observation, during a series of years, we have found that after excessive wet, either in spring or immediately succeeding the blooming season, the next year we have been deficient in perfectly feathered flowers. We are again experimenting by having one bed exposed to all weathers, whilst the other has had no moisture for three months, neither will it till the bulbs are safely harvested, and stowed away in their proper places in the cabinet. CARNATIONS AND PICOTEES.—These must be carefully watched as the flower-stems elongate, taking care that the ligatures are eased if they bind too hard on the stalk, and tying others up that may require it. PINKS AND RANUNCULUSES will also require constant attention. Aphis, or green-fly, is often a serious pest to the former. These must be brushed away with a camel-hair brush. DAHLIAS of course are all planted out, or should be. Stake immediately, and the sooner they are attached thereto the better.

HARDY FRUIT GARDEN.

We must again repeat our previous directions respecting following up the blight, which really appears this year more numerous than we ever remember. Besides the havoc the fly is making with wall-fruit trees, we have seen some orchards infested with the maggot to an extent sufficient to destroy the whole crop and leaves together. The only remedy is to make fires of any rubbish at hand, to the windward of the trees, and keep up as constant a body of smoke as your means permit through the trees.

KITCHEN GARDEN.

Take advantage of the present showery weather to finish the planting of such crops as yet remains to be done. Prick out from the seed beds the young plants of Broccolies, Kales, Cauliflowers, &c., to get stocky by the time they are wanted. Make a sowing of Endive, both curled and the Batavian; these useful vegetables ought to be grown in every one's garden, for cooking purposes; thin out, when the ground becomes sufficiently dry, Carrots, Parsnips, Beets, Onions, &c., allowing them to attain their full growth, with the exception of any requiring to be drawn as wanted. Autumn Onions planted for early use, showing flower-buds, should be topped, to make them bulb. Take every opportunity of destroying slugs, &c., by dusting the vegetable quarters with quicklime on damp mornings, and, in addition, lay down heaps of spare vegetables as traps for them.

STATE OF THE WEATHER NEAR LONDON,

For the week ending June 10, 1852, as observed at the Horticultural Gardens, Chiswick.

June.	Moon's Age.	Barometer.		Temperature.					Wind.	Rain.
				Of the Air			Of the Earth.			
		Max.	Min.	Max.	Min.	Mean	1 foot deep.	2 feet deep.		
Friday..	4	16	29.901	29.716	70	43	56.5	53	52	S.W	.02
Satur. ..	5	17	29.970	29.873	69	54	61.5	55	53	S.	.03
Sunday .	6	18	29.859	29.678	71	52	61.5	56	53	S.W	.03
Monday	7	9	29.579	29.539	62	51	56.5	57	53	S.E.	.41
Tues. ..	8	20	29.617	29.580	69	51	60.0	57	53	S.W.	.45
Wed. ..	9	[illegible]	29.570	29.518	61	51	56.0	57	53	S W	1.48
Thurs..	10	22	29.548	29.539	59	42	50.5	57	53	N.W.	.13
Average ..			29.717	29.634	65.8	49.1	57 5	56 0	52.8		2 60

June 4—Overcast; very fine; clear at night.
— 5—Very fine; cloudy; overcast; rain.
— 6—Rain; partially overcast; sunshine at intervals; hazy round the horizon; clear above
— 7—Rain, almost constant throughout; clear at night.
— 8—Fine; slight haze; heavy clouds; low fog in the evening; rain.
— 9—Constant heavy rain during the day and night—nearly an inch and a half fell.

Mean temperature of the week, 1¼ deg. below the average.

STATE OF THE WEATHER AT CHISWICK,

During the last 26 years, for the ensuing week, ending June 19, 1852.

June.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds.						
						N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 13	73.2	49.4	61.3	11	0.56 in.	1	5	3	1	2	7	5	2
Mon 14	73.7	49.8	61.8	10	0.21	1	2	4	1	4	8	5	1
Tues. 15	73.3	50.2	61.8	11	0.38	1	4	4	2	4	5	2	4
Wed. 16	72.3	49.4	60 8	10	0.17	2	3	4	1	6	5	3	2
Thurs. 17	73.1	50.0	61 7	14	0.80	1	4	2	—	5	7	3	4
Friday 18	73.2	51.1	62.1	14	0.25	2	2	2	2	3	5	8	2
Satur. 19	71.3	49.9	60.6	12	0.37	1	3	1	2	1	2	10	6

The highest temperature during the above period occurred on the 19th 1816—therm. 93 deg.; and the lowest on the 15th, 1850—therm. 30 deg.

Notices to Correspondents.

AUSTRALIA: *A Reader.* You have a fortune! Go to Port Philip, and in the first instance engage yourself with some experienced settler, who will be too happy to pay you well. Spend *nothing whatever* until you have become used to the country, and can judge for yourself. With prudence and industry you are quite safe.

BONE ASHES: *H P.* These are burnt bones.

BUGS: *R W.* Scrape off and *burn on the spot* all loose paper-hanging or similar substances that can harbour them. Mix corrosive sublimate with soft soap, and fill with the composition every crevice. Add corrosive sublimate to plaster of Paris, and fill every chink in the ceilings and similar places. Take the bedsteads to pieces, and put the soap composition thickly into the joints and holes. Fill all holes in furniture with the same substance, and you will destroy every one of these pests for ever.

CONCRETED VINE BORDERS: *J Abell.* In reply to your question, Mr. Spencer says, "that if the pipes in your Vine border have been plugged to make them water-tight, a stick thrust down them will show how far water is necessary. In this respect something will depend on whether the Vines have been forced or not; if they have, and the fruit is swelling, water may safely be given, particularly to a border situated and drained as you describe. The time when Vines require the most water is from when they are out of bloom till the wood approaches ripening. During this period of their active growth, on well-drained and porous borders, Vines may have liberal quantities of water, without danger, but caution should be used at other times in giving only little; and when the borders are flat (which is the case with my own), none is required, with a concreted surface over them. Perhaps trial holes might assist you, made 8 or 10 inches square (two or three for each border will serve); insert in each a wooden frame, 4 inches deep, with a cap to fit, and keep them water-tight. Through these the border can at all times be examined."

CURRANT LEAVES: *J C S.* They are attacked by swarms of aphides (green-fly). Dust the branches well with ground tobacco reduced to a fine powder, immediately after having syringed the b anches, and continue the dose till the bushes are clear. Some patience is necessary. You may do it more quickly by fumigating with tobacco, if you can cover your bushes with canvas, so as to prevent the escape of the smoke. Cantua dependens may be treated like a Fuchsia, but it is more impatient of frost.

DISEASED VINES: *A very Old Subscriber.* The leaves are in a state of "hypertrophy." That is to say, the atmosphere in which they have been grown has been so warm and damp, or else the soil has been so rich, that the whole surface of the leaves on the underside is broken up into cellular pimples. The disease comes, in fact, of good living: it is probably of no consequence.

FRUIT TREES ON SANDSTONE WALLS: *E W.* You do not state what kind of insects infests your trees. If they are aphides, they may be destroyed by dusting the leaves and branches with finely powdered tobacco, while they are sufficiently wet to make it adhere to them; but if they consist of other pests in the crevices and holes of the stone, then the latter must be stopped with some material that will prevent their ingress or egress ‡

GARDENERS' BENEVOLENT INSTITUTION: *R D.* Apply to the Secretary, 97, Farringdon-street, London.

GLASS: *J R.* No kind of white glass will do for propagation without shading. The description you give of what your glazier calls Hartley's patent rough plate does not at all apply to the real article. Shade can only be obtained by opaque materials. You might indeed use violet glass, but it is very expensive, and we cannot recommend it.

GREENHOUSES: *R G T.* Magnolia grandiflora will live with you as a standard, if you can screen it from wind. We, too, say a conical boiler. Can you not run some pipes from it into your proposed pit? You might easily stop off either arm of the pipes it you wished to do so. If not, heat your pit with a common brick flue, unless you are indifferent to expense, in which case have a small hot-water apparatus on purpose. Your gardener is right about the dung. For annual climbers, take Lophospermum, the Maurandyas, Tropæolum canariense and Lobbianum, Cobœa scandens, Ipomœa Quamoclit, coccinea, &c. For perennials, take Kennedyas, Roses, Mandevilla, Rhynchospermum, Jasminum Sambac, Clematis azurea and Sieboldiana, &c.

LUCULIA GRATISSIMA. *Angus.* It is a greenhouse plant. ‡

MICE: *Sub.* Try some of the rat poisons; as, for example, the paste mentioned at p. 343. What will destroy rats will kill mice. ‡

NAMES OF PLANTS: *A Constant Reader.* 1, Edwardsia chrysophylla; 2, Burchellia capensis; 4, Ardisia lenticinosa; 5, Xylophylla angustifolia; 6, Rhaphis flabelliformis; 7, Dracæna ferrea; 8, Dichorizandra thyrsiflora; 9, Ruscus androgynus; 10, Cistus purpureus; 11, Pomegranate; 13, a common Myrtle; 14, Edwardsia microphylla. Is it not rather too bad that a gardener should not know the names of such things as these? Suppose a farm bailiff did not know a pigeon, or a cat, or a pig, or a horse, and was obliged to send to us for assistance, what would be thought of *him?—Diss.* Doronicum Pardalianches.—*F F.* If you will do us the favour to refer to the replies on May 29, your lady-ship will see that the plant was then named Hydnum auriscalpium. It is a fungus.—*Anon, with two corks.* An Ornithogalum, and apparently umbellatum.—*G Plumbly.* Ononis rotundifolia.—*Rev. S S Y.* Polygala speciosa, a Cape plant.—*L.* 1, Veronica officinalis, starved; 2, V. serpyllifolia; 3, Mespilus grandiflora.—*G W B.* All the three names are correct.

PEACHES: *Old Subscriber.* A volume is required to tell you all you desire to know. Such a volume, and a very cheap one, is Errington on "the Peach," which we recommend to you. He gives excellent advice. Tobacco in the form of coarse snuff like powder, or used with a fumigator, is a certain remedy for green-fly. You cannot *force* on a fresh growth of shoots; they will come naturally with patience. As to ripening the wood, your climate may render that impossible without glass. In that case place glass sashes over your trees in September, and keep them and the soil round them as dry as you can.

RATES: *J W Warner.* We cannot give legal advice.

ROSES: *Anon.* There are now so many good Roses suitable for greenhouse culture that it is difficult to say which are the best. The following will afford variety and continuance of bloom. Tea: Vicomtesse Decazes, Devoniensis, Niphetos, Souvenir d'un ami, Goubault; and China Henry the Fifth; this latter for variety of colour. Macartney Maria Leonidas may perhaps be the most evergreen Rose, but it is not the freest to flower. Gloire de Rosamene is one of the most showy crimsons for a wall, and it retains its leaf a long time. Bourbon Pierre de St. Cyr, rose colour, would be very suitable. ‡

TRUFFLES: *Ham.* Your Truffle was at once recognised, before the seal was broken, by its abominable odour (resembling that of *Asafœtida*), as *Melanogaster ambiguus.* It occurs occasionally in the Truffle layers which produce *Tuber æstivum*, but it is a much earlier species; and when that is in perfection, only a few effete or corrupted specimens remain. *Melanogaster variegatus*, which it closely resembles, but which has a very different odour, and far smaller spores, is often sold in the market at Bath under the name of Red Truffle. *M. J. B.*

VINES: *J E* There is no mildew on them at present that we can discover. If it should, however, appear, sulphur instantly. ‡

*** As usual, many communications have been received too late, and others are unavoidably detained till the necessary inquiries can be made.

PERUVIAN GUANO.

CAUTION TO AGRICULTURISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

ANTONY GIBBS AND SONS, AS THE ONLY IMPORTERS OF PERUVIAN GUANO,

Consider it to be their duty to the Peruvian Government and to the Public again to recommend Farmers and all others who buy to be carefully on their guard.

The character of the parties from whom they purchase will of course be the best security, and, in addition to particular attention to that point, ANTONY GIBBS AND SONS think it well to remind buyers that—

The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 9l. 5s. per ton, less 2½ per cent.

Any resales made by dealers at a lower price must therefore either leave a loss to them, or the article must be adulterated.

THE LONDON MANURE COMPANY offer the following Manures on the best terms, warranting every article strictly genuine:—Peruvian Guano, Superphosphate of Lime, Nitrate of Soda, Concentrated Urate, Peat Charcoal, Gypsum, Fishery Salt from Cornwall, also a constant supply of Salt for agricultural purposes; Linseed and Rape Cake. Peruvian Guano, warranted the genuine importation of Messrs. A. Gibbs and Sons, at 9l. 10s. per ton, or for 5 tons and upwards, 9l. 5s. in Dock. EDWARD PURSER, Sec.
40, New Bridge-street, Blackfriars, London.

MANURES.—The following Manures are manufactured at Mr. LAWES'S Factory, Deptford Creek:

Turnip Manure, per ton	...	...	£7 0 0
Superphosphate of Lime	...	...	7 0 0
Sulphuric Acid and Coprolites	...	...	5 0 0

Office, 69, King William-street, City, London.

N.B. Peruvian Guano, guaranteed to contain 16 per cent. of Ammonia, 9l. 10s. per ton; and for 5 tons or more, 9l. 5s. per ton, in dock. Sulphate of ammonia, &c.

TURNIP SOWING.

SUPERPHOSPHATE OF LIME, made from bone only, equal in quality, but in superior condition to that manufactured by the undersigned, as reported in the Royal Agricultural Society's Journal, Vol. VI., Part 2. It is also suitable for use with Chandler's Liquid Drill; also Peruvian Guano, Nitrate of Soda, Gypsum, Bone-dust, Sulphuric Acid, and all other Manures of known value.—Apply to MARK FOTHERGILL, 204, Upper Thames-street, London.

CHARCOAL AND SEWAGE MANURE.—Promote the Health and Wealth of Town and Country by increasing the use of that valuable manure PEAT CHARCOAL, impregnated with the fertilising matter of LONDON SEWAGE. The ammonia, phosphates, and fæces are absorbed, and the water pressed out bright, palatable, and soft. Sold at the Charcoal and Sewage Works, Stanley-bridge, Fulham, Middlesex, at 60s. per ton, 4s. per cwt., 2s. 6d. per half cwt.

FOSSIL BONES AND PSEUDO-COPROLITES.

(FROM THE SUFFOLK CRAG.)

EDWARD PACKARD AND CO., of Ipswich, having erected very powerful Machinery for the purpose of reducing these Phosphatic Nodules to a fine Powder, and being in the immediate locality of where they are found, are now prepared to supply them on the most economical terms, in any quantity, either Ground, Whole, or Dissolved in Acid. They form the cheapest source of Phosphate of Lime in the market, and are peculiarly eligible for manufacturing Superphosphate of Lime in conjunction with Bone.

Prices and every information connected with their use forwarded on application to EDWARD PACKARD and Co., Artificial Manure Manufacturers, Ipswich, Suffolk.

TO AGRICULTURISTS.

OWEN'S ANIMALISED CARBON is now for Sale, at 2l. 5s. per ton in bulk.—This Manure has been introduced, with the most beneficial results, at St. Croix and the Mauritius, in the growth of the Sugar Cane, as proved by testimonials from the planters. The powerful fertilising properties of the Carbon have long since been acknowledged in Denmark, where it has been extensively used for agricultural purposes, as no less than 26,000 tons have already been sold. It is ready for immediate use, having no occasion to be ground, is equally as portable and diffusible as bones, and the low price at which it can be sold in this country must always be a paramount recommendation. *A liberal Commission allowed to Dealers or Agents.* For copies of the testimonials of its utility in this country, also for samples, apply to J. OWEN and Co., 3, Rood-lane, London.

Messrs. J. OWEN and Co. are now importing from their Copenhagen Manufactory SUPERPHOSPHATE OF LIME, of the very best description, containing at least 18 per cent. of Neutral Soluble Phosphate of Lime, and capable of furnishing at least 3 per cent. of Ammonia to the Soil. The "Analysis" is made by Professor J. THOMAS WAY, Consulting Chemist to the Royal Agricultural Society. The price, in London, of this powerful Manure, is 7l. per ton, cash, or Banker's Bill on London.

SCOTLAND.

TO AGRICULTURISTS.—The Subscribers have always on sale, and which can be delivered at any railway station in Scotland,

BONE MANURE AND BONE CHARCOAL.

ROBINSON and NIVEN,
West Burn Mills, May 29, 1852. Drysalters, Greenock.

Messrs. R. and N request the attention of Agriculturists to the undernoted CHEMICAL ANALYSIS of their Bone Charcoal, which contains the following fertilising ingredients:

"Phosphates of Lime and Magnesia	83.5
Carbonate of Lime	4.7
Carbonate of Magnesia	0.6
Charcoal	5.7
Alkaline sulphates and chlorides	1.6
Water	2.0
Silicious and clayey matter, and oxide of iron ...	1.9
	100.0

"It will be observed, from the foregoing Analysis, that this substance is particularly rich in phosphates of lime and magnesia, containing 83½ per cent. of these ingredients; on this account it is admirably adapted for use as manure, for these phosphates rank amongst the most powerful of fertilising agents. (Signed) FREDERICK PENNEY, Professor of Chemistry, Andersonian University, Glasgow."

IRON HURDLES, FENCING, ETC.

STEPHENSON AND PEILL, 61, Gracechurch-street, London, and 17, New Park-street, Southwark, beg to inform their friends and the public generally they are now manufacturing Iron Hurdles, at the following low prices:—For sheep, 6 ft. long 3 ft. high, 5 bars, 3s. 2d. each; and for cattle, 6 ft. long, 3 ft. 3 in. high, 5 bars, 3s. 6d. each.

M'CORMICK'S AMERICAN REAPER.

BURGESS AND KEY, Agents, 103, Newgate-street, London.—Extract from Mr. Pusey's Report on the Agricultural Implement Department, Great Exhibition.—"Mr. M'CORMICK'S Reaper, in this trial, worked as it has since worked at Cirencester College, and elsewhere, to the admiration of practical farmers, and therefore received a Council Medal. Mr. Hussey's sometimes became clogged, as in the former trial at Tiptree, and therefore could not possibly obtain that distinction."—Price of Reaper, 25l.

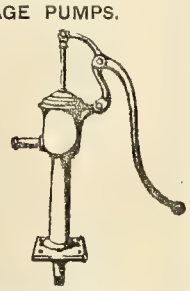


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PATENT CAST-IRON PUMPS, for the use of Farms, Cottages, Manure Tanks, and Shallow Wells.

	£	s.	d.
Patent Pump	1	12	0
Patent Pump, with 15 feet of lead pipe attached, and bolts and nuts ready for fixing	2	8	0



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JOHN WARNER & SONS,
8, Crescent, Jewin-street, London.

Every description of Machinery for Raising and Forcing Water either by Steam, Horse, or Manual power. Fire and Garden Engines. &c.
The usual allowance to the Trade.

HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND.

PERTH SHOW—3D, 4TH, 5TH, and 6TH of AUGUST.

STOCK and IMPLEMENTS must be entered with the Secretary not later than the 25th inst. Certificates will be furnished on application. JOHN HALL MAXWELL, Secretary.
6, Albyn-place, Edinburgh, June 12.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

THE ROYAL AGRICULTURAL SOCIETY OF ENGLAND desires to receive Tenders from Innkeepers or others to contract for the supply of a Cold Dinner, at Lewes, on Wednesday, the 14th of July next, in the Society's Pavilion, constructed to accommodate 1000 persons.

Printed Forms of Tender may be obtained on application to the Secretary, at the Office of the Society, No. 12, Hanover-square, London, and must be returned to him filled up on or before Tuesday, the 15th inst., the Society not binding itself to take the lowest Tender. By order of the Council,
London, June 12. JAMES HUDSON, Secretary.

The Agricultural Gazette.

SATURDAY, JUNE 12, 1852.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY,	June	16—Agricultural Society of England.
THURSDAY,	—	17—Agricultural Imp. Soc. of Ireland.
WEDNESDAY,	—	23—Agricultural Society of England.
THURSDAY,	—	24—Agricultural Imp. Soc. of Ireland.

OUR columns to-day bear ample witness to the efforts agriculturists are making to illustrate and improve their profession. Mr. TRIMMER'S lecture on Geology to the members of the English Agricultural Society—a very valuable contribution to the theory and practice of the art—and the Agricultural Shows also reported to us—the collected results of skilful practice, when guided by sound theory—all show that the agricultural world is thoroughly awake, and not in the least benumbed or enfeebled by its unprotected condition. From Dresden we have the account of an agricultural meeting—more a social fête than a professional demonstration, as such things are with us; and in Taunton, during the past week, there has been the first meeting of an important provincial agricultural association, which has exceeded, both in the extent and in the merits of its display, the early meetings of even the Royal Agricultural Society of England. The report of this meeting, published in another column, short as it may be, is instructive on more than one point; it proves the energy and vigour of the "agricultural interest" in spite of the political adversities under which it is said to languish; it shows that the withdrawal of legislative partiality in favour of our profession has not in the least tended to check individual effort or slacken local energies on its behalf; and it proves also, we must add, how great a power for good resides in resolute, pains-taking, and intelligent minds; for Mr. THOMAS DYKE ACLAND, and the gentlemen whom he has succeeded in indoctrinating with his own feeling on the subject, may well congratulate themselves on the success of this the first meeting of their West of England Agricultural Society. It has taken place amid the rain and storms of the most unpropitious weather we have had for many months; but it has succeeded, notwithstanding, in all the aims and objects to which such meetings are competent; it has thrown the agricultural and other industrial classes together more closely than they ordinarily come; it has drawn large numbers of agriculturists from distant localities, to discuss varying practices and communicate varying experience; it has brought landlords and their tenantry together for the promotion of a common object; and it has collected large numbers of the best agricultural machines and the best agricultural results, for the instruction of all.

THE CHANCELLOR of the EXCHEQUER, in his recent address, declares that "nothing contributes more to the enduring prosperity of a country than the natural deposit of its surplus capital in the improvement of its soil." We are glad to find this great truth thus acknowledged; but if this be a proof of prosperity, we fear it must be looked for in vain in this country. Surplus capital is not in the possession of many; but among the few who have it, who thinks of investing it on land? We agree with Mr. DISRAELI in his opinion, we only ask him to act upon it. Let him boldly apply himself to give the land that facility of transfer which it should have, but which by the present practice of conveyancing it has not. We have already shown how this may be effected (see the Numbers for April 24 and May 15), and we shall proceed with our inquiries. So far we are not aware that our propositions are disputed. "Justice to the land," says the CHANCELLOR of the EXCHEQUER; and we willingly echo the cry, believing that it is both possible and politic, by taking the right steps, thus to benefit all classes of the community, and especially the landowner. It would be idle to say this, if we had not, to the best of our ability, proved that it may be done.

VENTILATION may be said to be effected in two different ways. The pure air and vitiated air may be made to pass each other in different and opposite currents, through one opening or area of the building. Thus the pure air may be admitted at the top of the walls under the eaves, and from its greater density will consequently descend to the bottom, whence, after having served the purposes of respiration, it arises in the middle of the building, making its escape at louvre board openings at the ridge. By the other mode the fresh air is admitted at the bottom, or towards it, and after having served the purposes of respiration, as in the former case, makes its escape at the ridge in a similar manner, forming only one upward current of air.

The former of these modes, we may mention, is, in principle, that by which the House of Lords is ventilated, and the latter that by which the House of Commons is ventilated; differences in detail to meet the differences, from the circumstances of the cattle shed or byre being, we presume, little in favour of the Palace; for our correspondent, who has been attending the committee of the House of Commons on the subject, purposely to glean information, appears to have been somewhat disappointed, as he tells us that "Our political friends who reproach us so loudly with having fallen behind in the march of improvement, may be silent on the topic of ventilation."

The great objection to the first of these modes arises from the compressibility and expansibility of air, when unequally heated, and from the rapidity with which foreign gases, such as carbonic acid, and the other products of combustion, intermingle with it, contaminating the whole interior atmosphere. Were these confined, as in a balloon or chimney, they would instantly ascend; but being free, their natural tendency is to diffuse themselves equally over the whole interior volume downwards, as well as upwards. The fresh droppings of the horse illustrate this very forcibly; for although the temperature of the stable may be only 50°, while that of the gaseous matter emitted from this source is 98°, besides being of less specific gravity otherwise, yet in a moment it spreads itself over the whole area. We have here a difference of about 50° between the temperature of the air in the stable and the horses' breath—a difference which would increase the former one-tenth of its volume; but this heat has an equal tendency to diffuse itself, so that before the exhaled air or breath has lost the force with which it is discharged from the nostrils, it will have given off some 25° of its heat to the surrounding atmosphere, producing an upward current, not merely of the air exhaled, but of the surrounding air, so that the air which escapes at the ridge of a stable may be mainly composed of the fresh air coming in at the eaves, having only a small proportion of the vitiated air in it. If we crowd the building equally over the floor the velocity of the ascending current, between the eaves and the ridge, may be such as to hinder the fresh air from falling downwards to the animals on the floor, so that eventually the case may be fatal, from the inhaling of carbonic acid. Instances of this kind have been

experienced in the holds of vessels, or where cattle have fallen into pits, when fresh air could not be obtained at the bottom.

The second mode of ventilation, although it has perhaps more to recommend it than the first, is yet far from being free from imperfections; for whenever air is admitted at opposite sides of the building, currents are experienced: and when only at one side, it is liable to be affected by the heat of the sun and adverse winds, so that the openings designed for the ingress of pure air become occasionally the egress of foul, as in the case of a smoky house. On the other hand, carbonic acid does not ascend according to the law of fluids, from its being of less specific gravity than common air, because rarified by 40° or 50° of higher temperature; for with this difference it is still much heavier, but because it still forms only a very small part of the air exhaled, with which it has considerable affinity, and though there is at first a slight tendency to ascend until an equilibrium takes place, that result is soon effected by the diffusion of heat, and then the whole is dissolved in the atmosphere of the building; so that to carry off the vitiated air at the louvre boards at the top is as difficult a task as our forefathers experienced in the ventilation of their halls when the fire was kindled in the middle of the floor; for the ox in its feeding-box is like a little fire thus situated, requiring a chimney to carry off the products of combustion.

Such are the two modes of ventilation, with a few of the difficulties with which they are surrounded. The former system is obviously that of the bee-hive: the ingress of pure air and egress of foul at the same opening or area of the building, so that before success can attend the practice we must either have an arrangement of working bees, giving direction to opposing currents, or a chimney to every feeding-box; and under the second we have arrived at a similar conclusion—a smoky house in the absence of this latter auxiliary. Unless in some very closely constructed houses, and the holds of vessels, it is seldom that the former is to be met with in practice, there being generally an abundance of air flowing in or out at the doors, &c., so that it not unfrequently happens that the winds blow in at one side down on the feeding-box, and out at the other, instead of making their escape at the ridge. The latter is the hall fire of the olden time—and in the absence of a chimney in either case, we arrive at the conclusion *that pure air and plenty of room in the feeding-house go together.*

ROTHAMSTED AND THE WRITER "R."

(*Continued from page* 362.)

So much, then, for what we conceive to be the peculiar position of agriculture in its mutual relationship with chemistry and meteorology, with science and with practice. And we would submit that a careful and candid consideration of what we have endeavoured to indicate would tend to much more of unison in action in those who, travelling each by a different radius, have still one common centre in their view. Before concluding these general remarks, we will adduce a few quotations from the articles of the writer "R.," which will, we think, sufficiently account for our having taken up, just now, a subject so important in itself, so much in the discussional form, rather than to have treated it more exclusively on its own merits. Certainly none of the individual epithets which have been applied to our views or our papers, nor all of them together, would have been sufficient to call forth this notice had they been the result only of misconception or more intentional misrepresentation, and simply of a passing kind; and especially if, being of this kind, they had come forth only on the authority of their writer. It happens, however, that in this case the writer had secured the auspices of a highly respectable and widely circulated agricultural journal, and whether arising only from a want of analysis and discrimination, or whether from any other cause, we think the following quotations will show that, *as a matter of fact*, it was the object of this writer to contravene and dismiss some of our views which might stand in the way of the development of others; and hence it was, seeing, as we think we clearly do, what was the nature of the views in question, and that the development of them must inevitably lead to such as are in accordance with the indications relating to them in our papers, we were not disposed to allow the opinions of these to be systematically discussed and finally ignored or reversed, with a view of showing their antagonism to what, though not themselves, yet should constitute their closest allies. The following are the sentences in question from the writer "R."

Speaking of Wheat he says (*Agricultural Gazette*, July 5, 1851):

"Do its natural means of subsistence and capabilities of maturation keep pace with each other? Does the same amount of that essential element, ammonia, produce a corresponding return of produce in all its latitudes? Apart from all party and political considerations, the answer to this question would afford important topics for discussion." * * * "It will be our own wish in dealing with the subject to do it with impartiality to all parties. In the prosecution of our inquiry we shall first examine into the current chemistry of the subject, which lies on its threshold, and for this end we intend to review some of the deductions which Mr. Lawes has arrived at in his excellent papers on 'agricultural chemistry,' so far as they lie in our way."

Agricultural Gazette, July 19, 1851:—

"Thus, while the experiments themselves are extremely interesting, their interpretation affords a wide field for disagreement; for it is on this territory that the chemistry and meteorology of agriculture meet, and, we think, intersect each other."

Agricultural Gazette, Dec. 13, 1851:—

"Before we attempt to apply the meteorological figures which we gave in a former number, in explaining some of the causes of our varied systems of agriculture, we must first be convinced that these systems are actually required. For this end we shall take a general view of the subject in its broadest features; and we think it will appear patent to every one that our chemistry of vegetation must have a little more of elasticity in it if it is to assist us in solving the numerous problems of a practical nature by which we are beset. Mr. Pusey, in the last Number of the Royal Agricultural Journal, is still confident that at present Rothamsted must be considered 'as the principal source of trustworthy scientific information on agricultural chemistry.' Now we would say to Mr. Pusey what we would say to any one else, 'If you think you can account for the varied systems of British agriculture by the light of Mr. Lawes's chemistry, just try it.'" * * * "His last contribution to the Journal of Agriculture is but an iteration of his former opinions; but as he draws particular attention to a subject which happens to lie across our path, we make his propositions the basis for better developing the principles which we are endeavouring to trace. And to show that some of the difficulties with which he is struggling are of his own creation, we appeal from the narrow and limited horizon of Rothamsted to that of a much wider experimental field."

And lastly, in his reply to us, No. 1, May 1st, he says:

"For some time back it appeared as if we had come to a sort of finality in agricultural theory, which idea had to be dissipated before there was room left for further progress."

From these sentences it was certainly clear, *as a simple matter of fact*, that it was the intention of the writer to discuss some of our opinions, with a view, if possible, to their dismissal from the page of recognised agricultural theory, or, as he now expresses it, to make "*room*" for something further; and that this, an admittedly worthy enough *addition* to agricultural theory—though stated as opposed, yet is really in the main in accordance with our own opinions, is to us clearly enough shown by the indications of its character, not only in the sentences quoted above, but by the whole tenor of these anonymous articles; and it is, we think, further foreshadowed in the following remark, which he quotes from Sir Humphrey Davy: *Agricultural Gazette*, July 19, 1851.

"In cases where plants cannot absorb sufficient moisture, they must take up more manure."

And again, in his reply No. 1, *Agricultural Gazette*, May 1, 1852, Mr. Russell says:

"If we can once agree a little more closely on the sources of ammonia and carbon in plants, and the relation which one bears to another in manures, we shall then be better prepared to appreciate and examine the mineral question."

We believe, indeed, that the only legitimate interpretation of the indications in our papers on this subject would show that we do agree much more closely with Mr. Russell in regard to it than his aspect of our views would convey any idea of; yet if we are able rightly to gather his own, we believe that there are still some points connected with it on which we differ.

It was, then, in the face of so plainly an avowed undermining process, with a view to some new superstructure, that we thought it might be well to expose to view the engineering operations that were in progress, and to renew the marks of identification on the old materials, which so much labour and ingenuity were being expended to efface; so that, when these materials should be re-dressed, mixed up with new, and submitted to a new architecture, they might still be recognised. But surely there is "*room*" enough for good and honourable service in the as yet almost untrodden path of meteorology, as applied to agriculture, without first perverting or displacing the truths elicited by that science, to which the former should be the closest ally. At any rate, the subject of the properties and variations of *soils* is at this moment being successfully and usefully studied in the south, without anything of result antagonistic to our own; and we are sure that there is nothing in the *subject-matter* of climate, as applied to agriculture, which should prevent its satisfactory investigation in the north, with as little of antagonism. *J. B. Lawes, Rothamsted, May 6.*

P.S.—ROTHAMSTED, *May* 29, 1852.—Since our remarks on the general position of this discussion in this and previous Numbers, and called forth by Mr. Russell's rejoinder, "No. 1" (May 1), were written and sent to the *Gazette*, his "No. 2" has also appeared. Much of the *matter* of this rejoinder is only a reiteration of previous statements, to which, therefore, we need not give any special notice in this place; and as to the *manner* of it, we have only to congratulate the author on his progress. We shall now proceed, then, in ordinary course, with the simple task before us; viz., that of exposing misrepresentation in the articles of the writer "R.;" and in the execution of this duty, the subject will be taken up in our next, where we left it in our communication of April 3.

(*To be continued.*)

Home Correspondence.

Deep Tillage.—There is a story told of a man who, when he was dying, called his sons to his bedside, and informed them that there was a treasure buried on his farm; the exact spot he could not point out, but recommended them to dig deeply over the land and they would certainly be rewarded. Excellent advice! Neither silver nor gold was concealed in the soil, but it contained properties requiring exposure to the atmosphere to become a mine of wealth, in the shape of heavy crops. The moral of this fable is worth the attention of agriculturists, rich or poor, holders of small or large farms; for without deep tilth it is in vain to anticipate profitable returns. On this point there can be but one opinion amongst those who have experienced the results following four-inch ploughing and nine-inch subsoiling. The expense of the latter is not greater in comparison with the usual method of cultivation, and for this reason; one requires manure with the crop, the other is better without it; but when it is dressed the muck will tell doubly upon the subsoiled land. The operation of deep trenching should not be performed annually on stiff soils; the under stratum, which has probably not seen the light for centuries, and has been absorbing particles of manure, will need a few years to mellow it before it is again consigned to its old resting-place. The subsoil will never become hard and impervious again, provided the land is drained and treated with common skill. The expression "There is nothing new under the sun," when analysed will not be found quite correct. It would certainly be a novelty if men, after years of prejudice and ignorance, were converted in a moment, and made to comprehend how much it would be to their advantage to bring science and the practical knowledge of others to their aid. Hence the necessity of constantly recurring to the same subject. Not long ago, a well-known contributor to a floricultural periodical found fault with notices being published which so often leaned to the same point, and had a tendency to weary the readers of hebdomadal chronicles, journals, &c. The publications of the same individual have been diligently perused of late, without discovering anything to excite attention on the score of originality of thought. Useful hints have been raked up, and placed before the public in an agreeable manner, with valuable experience to induce others to follow in the same steps. When an attempt is made to teach a schoolboy, one lesson is not enough — repetitions of particular instructions are absolutely necessary, and in some instances not for days, but weeks and months. If the young mind is more ductile than the old, and yet has to be daily reminded of the task to be learnt, how obvious is the necessity of keeping before the eyes of adults (obstinate in their own views, and unwilling to engage in works costing trouble and money), projects which are beneficial to the enterprising and well-educated. Land is slow in manifesting its gratitude to the farmer, many months passing before vegetation speaks of improvements. Nevertheless, there are so many examples of the success of experimentalists, that a moderate outlay can no longer be termed a chance speculation, though a man has to wait some time for the interest of his money. *Falcon.*

Peat.—The paper of your correspondent "J. L." on the deodorising property of pulverised peat is deserving of attention. I will attempt to forward the object he has in view by suggesting that dried clay reduced to powder, or coal ashes, might be substituted for peat where peat is not found; the former being a powerful deodoriser, as recently proved by Professor Way in his communication on that subject to the Royal Agricultural Society. Having found the materials, peat, clay, or ashes, the only question is how most effectually to apply them. In the country all privies or water-closets might be changed into dust boxes. In towns, combined with a scavenging system which would pay itself, might not the same be done; and a great step taken in securing from waste the guano of England, purifying the air and water, multiplying food, and mending the health? It is an axiom in chemistry that waste and production are equal. It is only our ignorance or negligence in applying the waste of all kinds that prevents our realising the full crop of production—a crop only partially grown at present, the value of which, if universally, would be estimated by millions. I trust the time is come when the subject will be studied fully and worked out into practice, for the good of gentle and simple; stinking drains and ditches should all be destroyed, by converting them into sweet, odorous flowers and luscious fruits. Ceres, Flora, and Pomona will then dance and sing, where now corruption, disease, and death riot. *T. C. B.*

Hoeing.—In your Journal of Saturday, the 29th ult., there is a notice on hoeing signed "Buffer." That gentleman asks the question, "Am I to conclude that he (the man) did not do his duty?" Most certainly he did not do his duty; such a workman, if he was in the enjoyment of good health while working at the rate of an acre in 15 days, ought never to have employment again, excepting on the mill. On soil, somewhat like to that which "Buffer" describes, I employed an oldish man, lately, to hoe between Peas and other plants set out at 2 feet apart; the price I offered was 4*s.* per acre, and that by farmers is considered a great price in this part of the country; and at this price he made from 2*s.* to 2*s.* 6*d.* per day. One evening after he had left working, I had his day's work measured up, when I found that, for that day, he had moved the surface of no less than 110 poles of ground to the full depth of the blade of his hoe (a 9-inch one); this he did with ease. [It is not meant, we presume, that he moved 110 poles of land 9 inches deep. It is quite possible to bury the blade of a 9-inch hoe, and yet not move the land to the depth of an inch.] There were a good many weeds on the ground, such as purple Fumitory, Shepherd's-purse, Groundsel, Sows' Thistle, and dwarf Convolvulus, although they had not attained to any great size. Only a fortnight ago, I employed the same man to hoe 3½ acres of drilled Barley; this he did in 4 days, at 2*s.* 6*d.* per acre; and did it so well that the crop will not require to be hoed any more. This may strike "Buffer" as extraordinary, but I assure him it is a fact. Early last month, with a 9-inch hoe

in my own hands, I moved, for some inches deep, the surface of 90 poles; there were not a great many weeds to contend with, but even were this the case (I mean where weeds are plentiful), if taken in time, they can make very little difference to the working, particularly in a dry season like the present. There is nothing like a trial of the hoe by one's own hands for half a day, to come at the value of the labour. Candour, however, requires that I should say that such an amount of work is more than a man could be expected to hold out to from day to day, for any great length of time; yet I must tell "Buffer," or rather his man, that the labourer who cannot, within the hours of 6 to 6, hoe half an acre, or 80 poles, without distressing himself, ought to be sent to some other job; of course, I speak of crops that are not over-run with weeds. I know of some instances, this very season, where Wheat has been hoed for 2*s.* per acre, the land being dry, and not many weeds; but the usual price seldom exceeds 4*s.* per acre. Surely, after all, "Buffer" must have made some mistake when he calculated that it would take 15 days, at least, to hoe an acre of Potatoes set 2 feet apart; at this rate, the labourer was only hoeing little more than 10½ poles, of 30¼ yards per pole, a day. Why, an ordinary spadesman will dig the same quantity of ground with the spade in a day. "Buffer," must make a mistake. *A Constant Reader, Northamptonshire.* [To hoe, may mean anything between the mere surface operation adopted between rows of drilled corn and the deeper tillage of the land between rows of Potatoes; and its cost varies therefore from 3*s.* to upwards of 8*s.* per acre.]

Guano.—A correspondent asks, where and from whom Mr. Vyse, of Blythe-bridge Station, purchases the substance sold by him as Peruvian guano, at 10*l.* 10*s.* a ton. He would also be obliged by being informed by whom the mixture of about two-thirds sand and loam, with one-third guano, was compounded. A true answer to these inquiries would, he thinks, be of importance to the *Agriculturists of North Staffordshire.*

Bad Butter.—In a part of Warwickshire, where the pastures are of the richest quality, it happens every year that about the middle of May the cream becomes bitter, and the butter rancid and uneatable. This unfortunately lasts till the middle of June, when the butter and cream return to their usual excellence. The plants in these pastures are not known to be injurious, and the dairy utensils are in perfect order. Can any clever dairy correspondent solve this problem? *R.*

Foreign Correspondence.

Agricultural Show at Dresden.—Returning to England through Saxony, I could not refrain from once more paying a visit to Dresden; I accordingly took my ticket by the Leipzig and Dresden railway, and arrived on the morning of the 25th of May at the German Florence. I had never seen the old town in such splendour; crowds of well-dressed people, and peasants in their holiday costumes, thronged the roads and squares; omnibuses and droskies, to an extent I had never seen before in this usually quiet town, rattled through the streets, and the whole aspect of the place exhibited unusual excitement and activity.

Dresden is a curious and interesting town; avenues of Acacias and Lime trees intersect it, and gardens (or rather promenades laid down with Grass, and planted with noble Horse-Chestnuts and flowering shrubs) are scattered through it; the Laburnum, white and purple Lilac, Guelder Roses and Ribes, vie with each other in the richness of their colours; and the soft rain which has fallen during the last few days has given a fresh green to the Grass, seldom to be seen in this part of Germany. A noble promenade overhanging the river, called the "Bruhlische" Terrace, with rows of shady trees and handsome coffee-houses, commands a beautiful view of the windings of the Elbe and of the neighbouring Vine hills; narrow streets with quaint old-fashioned houses, and curious balconies and "Erker-fenster," or projecting windows, abound; and the broad stream of the Elbe (spanned by two magnificent bridges), which divides Dresden into the new and old towns, impart to it a beauty and character exceeded by few cities in Germany.

On alighting at my hotel, I found that the continuous stream of human beings which I had remarked, was wending its way to the Grand Cattle-show and Exhibition of Agricultural Implements, the first which, I was informed, had ever been held in Dresden, and would be found unrivalled in extent, as well as in excellence, in any part of Germany. My interest in all such matters decided me at once to devote the next two or three days to Dresden and its cattle-show; and divide my time between fatted beeves and prize pigs on the one side, and Murillos, Raphaels, and Titians on the other. The exhibition is held about half a mile from the town on the "Vogelwiese," a large common where shooting matches take place every year. I may say, *en passant*, that these annual festivities abound in Germany, and are, generally speaking, very interesting. The Dresden club was formed so long ago as in the year 1577; it meets in August, and the shooting lasts for eight days. The King and Princes mix freely with the people, and take their shots in turn with the other members of the club; for the Queen and Princesses separate targets are provided, and the shooting for them is performed by deputy.

For the cattle-show a space of 15 to 20 acres had been enclosed by a wooden boarding, and at the five entrances soldiers were stationed, to receive the tickets and preserve order. The price of a single admission was about 2½*d.* of our money, and for a card, good for five visits, 6*d.* The enclosure presented a very pretty sight; it was divided into three very long, wide streets, formed by tents for the visitors, and wooden sheds for the visited; the various inn-keepers, brewers, and confectioners, in and around Dresden, had here mustered their forces, and certainly the trays of "bifsticks de bœuf" and "bifsticks de mouton," the bushels of Potatoes, yards of sausages, piles of cakes, and barrels of beer, here brought together, induced a high respect for the "assimilating" powers of our worthy brother farmers in Germany. I counted 40 tents ornamented with flags for the poorer, and 30 for the better class of visitors, in which eating, drinking, and smoking continued unabated from 9 o'clock in the morning till late into the night; one very handsome tent was devoted exclusively to the excellent wines of Saxony, another to cakes and ices, and others to eatables and drinkables of all sorts; different breweries had provided tents for the exclusive sale of their own beer; modest booths dispensed Potato and corn brandy to the lovers of that cheap and popular liquid; besides these magazines of refreshment, I observed upwards of 40 booths for the sale of cakes, gingerbread, and spring Radishes.

The animals were lodged in spacious wooden sheds, plentifully provided with clean straw, good hay, and fresh water, and attended diligently by their male and female guardians. As there was no catalogue of the animals, and immense crowds of people obstructed the way, I had considerable difficulty in calculating the number of beasts and implements exhibited. As well as I could make out, there were about 170 horses, upwards of 400 head of cattle, 550 sheep, nearly 100 pigs, about 20 head of poultry, and a few goats. There were 50 exhibitors of agricultural produce, and 140 of machines, besides about 48 of things not immediately in connexion with agriculture. My first and longest visit was to the bulls, cows, fat beasts, and calves, and I certainly was surprised to find such a fine collection. The bulls did not appear to me equal to the other cattle—they were strong and large, but not fine bred; the cows and calves excellent, remarkably clean and sleek; and the fat cattle in prime condition, not certainly brought to that absurd state of useless fat which was the fashion with us a few years ago, but reasonably fat, firm in the flesh, and having the appearance of animals enjoying perfect health. I was agreeably surprised to see, with very few exceptions, the diligent use of the curry-comb; and the clean, healthy milkmaids and farm servants seemed quite as fit subjects for exhibition as the dignified looking beasts they attended. The finest-looking beasts I saw were English, the property of a Mr. Smith, an English gentleman, who has an admirably conducted farm in the neighbourhood of Tharand, not far from Dresden; there were also some fine cows of the Swiss and of the Algauer breed; the animals of the last-named race are small, of a light dun colour, and are good both as milk cows and for fattening. I next went to the horse department, and here, I own, I was disappointed; with the exception of a very few animals, there was nothing which we would tolerate in a reasonably good private stable. Saxony, however, is not celebrated in any way for her horses; and people, who were more conversant than I am with Saxon studs, pronounced this show as much more creditable than they had any reason to have expected. The best horses I saw were from Yorkshire sires, or "Jorkshiere," as they were labelled; out of the 550 sheep, there were some magnificent specimens of the Saxon breed.

Saxony is celebrated for the beauty and fineness of her wool, and was certainly here well represented; there were a few of an English breed, but, though larger in carcase, were far inferior in fineness of fleece. In this neighbourhood were some of the largest and finest goats I ever saw; amongst them two enormous ones, and two kids, each with double sets of horns. Here, also, were specimens of hens, contributed by Dr. Struve, the famous mineral-water manufacturer of Dresden; they were the most magnificent birds I ever saw; some of them labelled Brabanter Riesen (giants), and Elephanten, were nearly as large as turkeys. The pigs formed, however, the greatest attraction of the whole show, and from morning till night held a continued and crowded *levée;* the best were of the Essex breed, and many of them appeared, as an old woman expressed herself, as if one could lay them on their sides and roll them along the road like a ball. There were many much larger, but very coarse; but all were perfectly clean, and none over-fattened.

In the machinery department there was little of peculiar interest, the usual superabundance of indifferent ploughs, complicated threshing-machines, and self-acting churns, prevailed; but I could see nothing superior, and indeed hardly anything equal, to our own. The chaff-cutters and Oat-bruisers generally performed their work well; but they were clumsy and heavy in construction, and required a considerably greater expenditure of labour than was at all necessary to perform the same work in a given time. A small steam-engine, by Pfaff, of Chemnitz, in full work, excited great attention; and the wondering looks and curious observations of the peasants were very amusing to listen to. There were bundles of giant heads of Asparagus, and very liliputian Cauliflowers, good specimens of home-spun Flax (fine as silk), home-made sugar, and home-grown Tobacco; and cigars, which were to be sold at the rate of five dollars, or 15*s.* per thousand. Our lovers of the fragrant weed must not turn up their noses at cigars for 15*s.* per thousand; I can assure them from experience, from the experience of an old smoker, that the Tobacco is genuine and unadulterated, which is far more than I could guarantee to the "genuine old Havannahs" at 3*d.*, or "prime Cubas" at 2*d.* each, which we are accustomed to get at home. The specimens of Mangold Wurzel were very poor, but the seeds in general good. A small collection of models from Crosskill's agricultural implements were looked at by all classes, high and low, with marked and deserved interest.

I am afraid my friends at home will look aghast at the verbosity of my epistle, and wish that I and my British top-boots had remained quietly at home in England, instead of boring them with my "foreign correspondence." I must, however, beg their patience for one moment longer before I close. A small collection of stuffed birds, from whose manure guano is supposed to be produced, had been borrowed from the Royal Museum of Natural History, and was prettily arranged in the neighbourhood of some two or three dozen sacks of genuine Peruvian guano. In different parts of the show were small booths occupied by soldiers selling lottery tickets; the committee—and a harder working committee I never saw—had issued tickets to an unlimited amount, at 1*s.* each, for a lottery of horses, cows, pigs, and instruments; in short, specimens of everything exhibited. The sale of the tickets was closed at the end of the second day, when upwards of 60,000 had been disposed of; a tenth of the sum received was reserved for the expenses of the exhibition, but about 2700*l.* remained, to provide purchases for the lottery. There were about 1100 prizes, and amongst them I observed 60 head of fine cattle, consisting of one bull, about a dozen fatted beasts, and the remainder milk cows and calves; 14 horses, 29 pigs, and five litters, a splendid goat, four dozen sacks of guano, and innumerable agricultural machines, carts, barrows, and harness. The prizes for excellence, awarded by the committee, consisted of medals, silver goblets, and certificates, or, as they are here called, diplomas. The show was on the whole a most successful one, but some unquestionable faults there were in the arrangements: the cattle had not all arrived before the opening of the exhibition, and many had already left before its close; there was no catalogue of beasts or implements, and no power of ascertaining the number of the former, the nature of the food on which they had been fattened, or the length of time occupied in the process. Moreover, although the thermometer stood at 88° in the shade, the ground, which was of bare sand, was very scantily watered during the day, a neglect severely felt by all but the vendors of beer and wine. I will now finish, and only hope that this very imperfect, though long-winded account of the "Grosse Landes-Thier und Producten-Schau zu Dresden," will afford a half-hour's amusement to some farming friends at home.

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

(*Continued from page* 365.)

The lecturer then pointed out the connexion of geology with the three principal modes of improving land—draining, irrigation, and the use of mineral manures. The importance of geological knowledge to the success of operations, undertaken for the purpose of obtaining a supply of water by means of artesian wells, was insisted on. Reference was made to Mr. Prestwich's work on the water-bearing strata round London, and to his plan for supplying the metropolis by means of deep artesian wells carried down to the lower greensand, like that of Grenelle, near Paris. The importance of such wells, in an agricultural point of view, was also shown in the event of the extensive adoption of the use of liquid manure, one great impediment to which, in some situations, would be the want of water to dilute it sufficiently. The value of geological knowledge was next adverted to, in enabling the farmer (including in the term the landowner and land-agent) to decide questions which would often come before him; namely, where the best and cheapest materials for erecting farm buildings, filling drains, and repairing roads, were to be procured. Two extensive districts were pointed out, in which the greatest improvements, as well as economy, had resulted from the use of road materials brought from a distance of 100 miles; and, on the other hand, an instance was shown of wretched clay roads converted into good metalled roads by the discovery of beds of stone at an accessible depth in the Weald clay. Lastly, it was shown how geological structure affects the value of land by the non-agricultural employment to which it gives rise, the masses of population which it causes to congregate on certain localities, and the consequent demand created for agricultural produce. The three industrial districts of England dependent on geological structure were traced—the eastern or purely agricultural; the central or coal district, agricultural, manufacturing, and mining; and the western, a district of mines and mountain pasture. The agricultural characters of each district were referred to the joint influence of the stratified and unstratified rocks on the one hand, and the superficial deposits on the other. The order of succession, the dip and outcrops of the strata, were illustrated by a series of books laid in an inclined position. Their relation to the unstratified rocks which have disturbed them from their original horizontal condition were explained by means of a large root of Mangold Wurzel, against which the books leaned, and which represented the intrusive rocks forming the axis

of a mountain chain. The distribution of the superficial deposits which form the loose covering of the rocks was represented by some Wheat scattered irregularly over the books, thinnest on the slopes and summits, and deepest in the depressions between the hills. The superficial deposits, again, were described as of three classes—those produced by existing aqueous currents, acting at the present levels; those produced by marine currents, acting independently of existing levels and lines of drainage, and having power to transport large blocks hundreds of miles from their parent-rocks; and lastly, a class of deposits which indicate a less degree of transportation, but which still acted irrespectively of present lines of drainage and levels, and have mixed and spread over the surface of hills and plains the materials of several adjoining formations.

If, continued the lecturer, we examine the agricultural character of any of these districts in detail, we shall find them to depend on three geological conditions—the mineral composition of the rocks; the height to which they have been thrown up by local disturbances; and the depth, composition, and distribution of the covering of transported matter. All soils are composed of the fragments of the stratified and unstratified rocks—either of the rocks immediately below, or the fragments of other rocks lying at various distances, which have been transported by currents of water now in action, or by currents which have ceased to act. The changes from heat to cold, from wet to dry, from frost to thaw, separate the particles of the hardest and most compact rocks. Some decompose more rapidly than others, but all crumble more or less. Now, if the crumbling matter derived from each rock remained on the rock from which it was derived, the composition of the soil would always be identical with that of the rock below. Sandstones would then invariably be covered with sandy soils; clays, shales, and clay-slates with clayey soils; and limestones with calcareous soils; and the only modifying influence would be that of elevation and aspect. But the fragmentary matter produced by the weathering of rocks does not remain on the spots where it is formed. The rains wash it into the brooks; the brooks convey it to the rivers; the rivers transport it to the sea. Wherever, from the diminished declivity of the river-bed, the current slackens, there the stream deposits the matter which it is hurrying along. The coarser fragments are deposited the nearest to their source in the form of gravel; particles of smaller size travel farther, and fall down as sand, while the finest particles are borne to the greatest distances to form silt and mud. In this way those rich alluvial flats which border our rivers have accumulated, when in seasons of flood the turbid waters overflow their ordinary channels, and leave a rich sediment behind them. Again, where the tide and the freshets meet near the mouths of rivers, a further deposit takes place. In this way have been formed those alluvial marshes near the mouths of the Humber, the Thames, and the Severn, many of which, from the human remains and works of art contained in them, must have been formed since the Roman invasion. Besides the soils produced by this drifting and mixing of the materials of different rocks along the existing lines of drainage, and at present levels, by causes still acting, there is another class of deposits of older date, which exhibit proofs of a much more extensive transportation by currents which have ceased to act, and which acted independently of the present lines of drainage. These currents had power to transport great blocks of stone, weighing many tons, to points distant hundreds of miles from their parent rocks. In an essay in your Journal, which you recently honoured with your prize, I described these deposits in great detail; I described their distribution, depth, and composition, so far as it is known in the present neglected state of the geology of the surface; I described the heights to which they extend up our mountain chains, and the districts most free from them; I pointed out also the evidence of their having been formed beneath the sea by the submergence of the land, and of that sea having been an icy sea which overspread a large portion of the northern hemisphere. I will not go over that ground again, but will content myself with pointing out on the map, as briefly as possible, the different lines along which the transported matter has travelled, in order to impress you more strongly with the extent of these deposits, and the influence which they have exerted over large areas, in masking or modifying the characters which the rock immediately below would have imparted. I have thus pointed out five lines of drift north of the Thames, influenced by the position of the mountains and hills:—1, that east of the chalk range; 2, that between the chalk and the oolitic chain; 3, that between the western escarpment of the oolites and the Penine chain—the great central chain of England; 4, that between the Penine chain and the Cotswolds on one side, and the Cambrian and Cumbrian chains on the other; 5, that on the western side of the Cambrian chain. I have shown also the interlacing of the different lines of drift, by the transport of detritus at certain points across the chains, so that fragments of granite and other well-defined rocks, easily recognised, have been carried from Cumberland to the shores of the German Ocean, and there blended with others from the east of Scotland and Norway. I have shown how fragments of the red chalk of Yorkshire and Lincolnshire have been carried to Moreton-in-the-Marsh, and there mixed with peculiar pebbles derived from the Bromsgrove Lickey, and spread over the midland counties. These quartz pebbles have also been carried across depressions in the oolitic range into the valley of the Thames, and the gravel-pits of Hyde-park; while fragments of the peculiar chalk of the county of Antrim have been transported, in Ireland, as far south as Wexford, and across the bed of the Irish Channel to Carnarvonshire and Pembrokeshire.

The district south of the Thames must be considered separately. It is extensively covered with superficial accumulations, but they are of a different kind. Besides the marine strata which were formed on the bed of the erratic sea, there is another class of superficial deposits, which is only beginning to excite the attention which they deserve, and which have exercised an important influence on the distribution of soils. There are certain districts, both on our own island and on the continent, in which we find no traces of the erratic tertiaries, but which appear to have been subject to aqueous operations of some kind or other, which have produced a certain degree of local transport different from the effects of ordinary marine action, different from ordinary atmospheric action, and different from that peculiar marine action which is characteristic of the erratic tertiaries. They consist of thin deposits of clay, loam, and sand, containing angular fragments of the subjacent and neighbouring rocks. They are spread irregularly over the surface, being deepest and most free from coarse fragments on the plains; thinner and more mixed with them on the slopes and flat summits of hills; entirely absent from steep sides and sharp ridges. They appear to have been formed subsequently to the desiccation of the bed of the erratic sea, for they are spread (when the two deposits are present in the same district) over its denuded surface. In the meantime, England appears to have been repeopled by many of the species of land animals now extinct, which lived there before the erratic submergence. Whenever shells are found associated with these deposits, which are chiefly those of the land and fresh water, they belong to existing specimens, and, with one or two exceptions, to the very species now inhabiting the neighbourhood. These deposits containing angular detritus, and their effect on the variations of soil, were first described by me in your Journal, as they exist in Norfolk. Subsequently, in a paper yet unpublished, which was written five years since, at the request of Sir Henry De la Beche, for the Memoirs of the Government Geological Society, I described them as they exist in South Wales; and in the Journal of the Geological Society for last year, I described them as they exist in North Kent. I called them "warp." They have since been described, by Mr. Austen for Devonshire, under the name of "head;" and by Sir R. Murchison and Mr. Prestwich, for Sussex and the neighbourhood of Calais. Sir R. Murchison calls them "angular flint-drift." Of the nature of the agencies which produced them we know nothing; and I will not detain you by enumerating the conflicting opinions which prevail on that subject. The points of agricultural interest are their existence, their extensive distribution, and their influence on the variations of soils. These facts are quite independent of theories regarding their origin. The district south of the Thames is one in which we have no traces of the most peculiar of the erratic deposits—the till, boulder clay, or lower erratics—though it comes down to the north side of London. There are, however, some beds of partially-rolled gravel, which I think may be a modification of the upper erratics of the district north of the Thames, overlapping the lower. Be this as it may, these beds of gravel are extensively distributed, varying in their maximum depth from 15 feet to 30 feet. But the greater portion of the superficial deposits in that region consist of that "warp" or "angular flint-drift," which exhibits a certain amount of mixing of the materials of more than one formation, but not so great a degree of transport as the erratic tertiaries. This angular drifted matter is spread indifferently over flat-topped hills, over their long slopes, and over plains, on which last it is the deepest. The coloured section of a road cutting near Hartley Rectory (for the use of which I am indebted to the kindness of the Council of the Geological Society) exhibits this deposit as it exists on the chalk of Kent. A diagram of it was repeated, by their permission, in your Journal. For the two other coloured sections, I have to thank Sir Roderick Murchison, as well as the Council of the Geological Society. They exhibit two instances of this deposit; in one case on the top of Shakespeare's Cliff, in the other on the outcrops of the chalk and greensand near Folkstone. The Weald denudation, between the North and South Downs, enjoys the reputation of being a district wholly free from transported matter, and of being composed of soils derived exclusively from the rocks below. In the essay on the "Agricultural Geology of England and Wales" in your Journal, I expressed an opinion, founded on my own observation, that it contained more matter, indicating some degree of transport, than is generally supposed. In corroboration of this, I cited some notices of such deposits from Dr. Mantell's "Geology of the South-East of England." These views by Sir R. Murchison and Mr. Martin, of Pulborough have been confirmed by two papers recently published. From these it appears that the detritus of this district is arranged in east and west zones; that two of those zones are exterior to the escarpments of the chalk, both on the north and on the south, and two within the denudation of the Weald which is bounded by them. The outermost of these exterior zones is described, by Mr. Martin, as composed of slightly-worn flints mixed with many rolled pebbles, derived from the older tertiaries of the London clay series. These are the beds which I consider a modification of the upper erratics of the north of the Thames. That nearest to the chalk escarpment is described as composed either exclusively of angular and subangular flints, or of the same materials sparingly mixed, near tertiary outliers, with their rolled pebbles before mentioned. It is this which prevails on the chalk of the Sussex coast. The two zones within the chalk escarpment are called, by Mr. Martin, the subcretaceous and the wealden zones. In the subcretaceous zone there are many localities, both on the north and south of the central ridge of iron sand, covered with heaps of drifted and sharply fractured flints, mixed with chert, ironstone, and sandstone derived from the neighbouring and subjacent rocks. They fill hollows in the eroded surface, and are piled up in heaps at heights varying from 30 ft. to 300 ft. above the existing drainage. They are mixed with a few rounded pebbles, resembling those of the tertiary deposits. The lower chalk, the upper greensand, and the gault, which lie between the lower greensand and the chalk with flints, are generally free from this detritus, but a spread of flints occurs at intervals. From this, Sir R. Murchison infers that they were not derived from the chalk escarpments on the north and south, but were transported by currents from the west, where the ranges of the North and South Downs unite. The transverse gorges by which the waters of the Weald escape northwards to the Thames and southwards to the sea, also contain considerable accumulations of clay, sand, and fragmentary chalk. With respect to the wealden zone of detritus, the slopes of the hills and valleys of the really central ridge of iron-sand are described as destitute, or nearly so, of chalk-flints, or other extraneous fragments; but the valleys occasionally present thick accumulations of reaggregated clay or loam, derived from the adjoining hills. Sir R. Murchison notices the effect of these deposits in modifying the sterile character of the Weald clay by an admixture of loam, and also in producing the rich, arable plain of Little Hampton and Bognor, composed of the same materials as the thinner deposits on the higher slopes of the Downs, but mixed in different proportions. The flints which prevail on the hills are more sparingly mixed with loam and clay in the low grounds, where loam prevails; and between the thin deposits of the hills and the deep deposit of the plains, he declares that it is impossible to draw any line of separation. This is virtually identical with the statement I had previously made in your Journal and in the Journal of the Geological Society, as to the dependence of the variations of soils in Norfolk and North Kent on contours, and on the varying depth and composition of the "warp," *i. e.*, the "angular drift" of Sir R. Murchison. I therefore hail with great satisfaction the accession of so powerful an ally. I have been engaged for five years in a struggle for the advancement of agricultural geology against those geologists who regard fossils as the all-in-all of their science, and whose speculative views respecting the distribution of plants and animals require that soils should be formed from the rocks on which they rest by the sole influence of atmospheric action. Those views prevent them from "recognising warp as a distinct deposit." It is now proved, however, on the evidence of some of our best field geologists, with Sir Roderick Murchison at their head, that by whatever name we call it, and however unable we may be to explain the causes which produced it, there is such a deposit, and that it exercises an important influence on the distribution of soils. It results, then, from the collection and generalisation of our present stock of facts respecting the superficial deposits, that there is scarcely a district in England and Wales exempt from some kind of transported matter, in which are blended the materials of more than one formation, when even the thinnest are of sufficient depth to form the soil, and in many cases the subsoil also. To be useful to agriculture, therefore, geological maps must include the geology of the surface as well as of the substrata. We must lay down soils and subsoils as they actually exist, and then determine their relations to the rocks beneath; not deduce the former hypothetically from the latter. Such maps may be of two kinds. We may have maps of estates on the large scale of the tithe maps. On these the variations of soil may be denoted by colours after a plan which I proposed about two years since. The depth of soil and subsoil, and of the substrata down to the rocks, which form the assumed surface of ordinary geological maps, may be indicated by a system of figures and of conventional signs. The mineral characters of the rocks may also be shown by words written along the strike—as sandstone, clay, limestone, &c. The fossiliferous group to which they belong may be shown by words written in another character across the strike—as coal measures, lower greensand, &c. From their minuteness of detail these maps would be of great practical utility, and could not fail, if executed by competent persons, to furnish much information respecting the agricultural capabilities of the property, and to lead to the development of dormant resources. They should always accompany, if not be preliminary to, draining operations. By combining the two, the expense of the mapping will be reduced, since the trial holes necessary for the draining will give much of the information required for the maps. The remainder will be furnished in greater detail during the cutting of the drains. Inferior to these maps in practical utility, but more interesting to science—because they would condense and epitomise information which, on the larger scale, would be too much diffused for general and comprehensive views of the surface geology of large districts—would be the Ordnance sheets coloured like the map

of Norfolk before you, to represent the variations of soil. These would be maps of the surface geology, as companions to the Government maps of the substrata. On a scale so small as that of the Ordnance maps it is impossible to combine the geology of the substrata with that of the surface; they must be shown by separate maps. On the larger maps of estates they may be exhibited together, by the plan indicated above. In illustration of these three methods of constructing geological maps, let us suppose the floor of this room to be composed of different kinds of wood—Fir, Oak, Elm, Mahogany, &c.—arranged alternately. These will represent the strata. The carpet which covers them will represent the superficial deposits, which comprise the soils and subsoils of agriculture, except where holes in the carpet expose the floor. By means of these holes, and of our knowledge of the strike of the strata, which is at right angles to their dip or inclination, and is here represented by the direction in which the planks lie, we obtain the data on which our geological maps are constructed. We represent the strata as they would be if the carpet were removed. Such maps, therefore, can convey very little information respecting soils and subsoils, unless accompanied by another map, showing their variation; that is to say, the pattern of the carpet. On the Ordnance sheets I give a separate plan of the carpet. The Government maps give a plan of the floor. On the larger maps of estates I purpose to exhibit the pattern, thickness, and composition of the carpet. By means of the mineral characters of the strata, written along the strike, and of the fossiliferous groups to which they belong, written across the strike, I propose to render this map of the carpet transparent, so that the construction of the floor may be seen through it. In the outset of such an undertaking the want would be felt of a systematic nomenclature of soils, capable of general application. The authors of the reports to the Board of Agriculture complain repeatedly of the difficulty of describing soils, or of laying them down on maps, from the confusion existing as to nomenclature, as well as from the irregularity and intricacy of their distribution. Allow me to ask, how many of the local names which I enumerated in the early part of this address you understand? I would ask a Kentish man, what idea he attaches to the terms rammel, fox-bench, keale, and bears'-muck; and on the other hand, I would ask a farmer from Lincolnshire, Northamptonshire, or Cheshire, what he supposes to be meant by pinnock, hassock, stone-schatter, cledge, and blackhover. Soils require a double classification—chemical and geological. The chemical classification would arrange them, and name them in conformity with their composition, dividing them into sands, sandy loams, loams, clay loams, clays, marls, calcareous and vegetable soils, according to the proportion of sand, separable by washing, of lime, and of vegetable matter which they contain. The geological classification would express their relations, on the one hand, to the rocks on which they rest, and on the other to the superficial deposits. I know of no system which would answer the purpose so well as that which divides them into alluvial, erratic, and local. Alluvial soils will be those formed, as I have described, by existing aqueous action along existing lines of drainage. Erratic soils will be those which were formed by currents which have ceased to act, and which acted irrespectively of the present drainage. Local soils will be those composed exclusively of the material of the rock on which they rest. Under this double classification we shall have local, erratic, and alluvial sands, loams, and clays, &c.; on the chalk, oolite, greensand, &c. These particulars, together with the depth and colour of the soil, and the depth and composition of subsoil, might be concisely expressed by signs and symbols in a manner which would convey more information than could be gained from whole lines of description, or from heaping together such epithets as fine, deep, rich, mellow, putrid loam—or poor, cold, sour, hungry, barren clay. Such information, with notices of the elevation and aspect of the land and its elevations, would be nearly all that is required to enable a judgment to be formed respecting the present quality of the soil, its future capabilities, and the available means of improvement. The test by which to discriminate between local and erratic soils, when the rock is covered only by a thin film of the latter, is this:—Do they, or do they not, contain any pebbles or fragments of stone which are not found in the rock below, and which could not have reached them by ordinary atmospheric action? If any coarse foreign detritus is present, we may be sure that it is present also in finer particles; and that the soil differs somewhat in composition from the subjacent rock. Tried by this test, I believe that local soils will be found extremely rare. To establish such a system, we should require the co-operation of many agricultural surveyors, conversant with soils, to map their variations on different geological formations; they should act in conjunction with a central body of agriculturists, chemists, and geologists, in order to insure uniformity of colours, signs, and nomenclature. A systematic study and classification of soils such as this, is intimately connected with those researches which Professor Way is carrying on with so much success respecting the absorptive powers of soils. Is it too much to hope that some of the most perplexing anomalies of agricultural practice and agricultural experiment will disappear before accurate and systematic researches of this kind? I have occupied you very long; but there is one point connected with the superficial deposits to which, before I conclude, I must beg leave to draw your attention, in consequence of its bearings on the vexed question of the best distance and depth of drains. You will observe in the sections before you, by Sir R. Murchison and myself, as well as in some others which I formerly gave in your Journal, in a paper on the "Geology of Norfolk," the manner in which the "warp," or angular drift which forms the surface soil, fills cavities in the subsoil on which it rests. Most of these cavities are the transverse sections of furrows which communicate with the deeper cavities, which are of the form of cylinders and inverted cones. These cavities are most conspicuous where the warp rests on chalk, but they are also found when it rests on sandstone or clay. Mr. Austen has lately stated in a paper read before the Geological Society that, in the neighbourhood of Guildford, a loamy soil, requiring to be drained, rests on clay, the surface of which is furrowed in this manner. He states also that the farmers have found that drains cut across these furrows lay dry a much larger area than when they are cut parallel with them. This is precisely what might have been expected. These furrows act as so many parallel natural drains, and the artificial drains crossing them become submains. Perhaps some of the contradictory statements which are made respecting the superior efficacy of deep and shallow drains might be reconciled by examining the relations of the drains to these furrows, and determining whether they were cut across them or parallel to them, and whether they extended into the impervious clay much below these natural subterranean channels, or just coincided with their average depth. That average depth I apprehend would be the most effective depth, whether more or less than 3 or 4 feet. I throw out these views as suggestive of inquiry. I may add that when acting in Ireland, in 1847, as Government Inspector of the Cavan Union under the Temporary Relief Act, I had few opportunities for geological research, I could not avoid observing, in traversing the county, fresh sections of the soil and subsoil laid open by the relief-road cuttings of the Board of Works. Sections abounded exhibiting this irregular junction of the soil with a retentive subsoil; and I observed that the surface-water drained out along this irregular line of junction, whether it extended to the depth of four feet, or was only two feet deep. I have since made similar observations in fresh railway cuttings in this country.

On the motion of Lord BERNERS, seconded by Sir John V. B. Johnston, Bart, M.P., the best thanks of the meeting were voted to Mr. Trimmer, for his kind trouble in preparing, delivering, and illustrating by special diagrams, the lecture they had then heard.

[Our space obliges us to deter the discussional remarks, among the members present, to which this lecture gave rise.]

GUANO MONOPOLY.—At the monthly meeting of the Society, on Wednesday last, the Right Hon. Lord PORTMAN, trustee, in the chair, it was carried, on the motion of Mr. Fisher Hobbs, seconded by Mr. Shaw, that a deputation should be appointed to wait upon the Earl of Derby, as First Minister of the Crown, for the purpose of representing to his lordship "the importance of taking every possible means to effect a reduction in the price of guano;" that the deputation should consist of such members of the Council and of the Society as may think fit to attend; that the Earl of Ducie, as the President of the Society, should be desired to communicate with the Earl of Derby, and request, for the deputation, a day of interview with his lordship; and that a copy of these resolutions should be forwarded to the Duke of Richmond.

WEST OF ENGLAND AGRICULTURAL.

TAUNTON, *June* 10.—During the past week this town has been full, and to-day it is overflowing with visitors drawn together by the implement and cattle show of this Society. The streets are, for the time, avenues of trees, and the houses are almost hid in the flags which have been unfurled in honour of the concourse. Exeter was extraordinarily bedecked on the occasion of the meeting of the English Agricultural Society, but Taunton is certainly still more lavish of this outward show of welcome. The weather until this afternoon has been most unpropitious, but the business of the meeting has proceeded successfully notwithstanding, and that in the presence of very large numbers of spectators.

The Society is formed on the model of the English Agricultural Society; or, perhaps, more strictly on that of the Yorkshire Society; and is intended, like the latter, to maintain the agricultural spirit within its own provincial district, in the different towns of which it will hold its annual meeting. It originated, we believe, with Mr. Acland, son of Sir Thomas Acland. His letter on the subject, to Mr. William Miles last year, led to the formation of a committee and to various public meetings in the counties of Somerset, Devon, and Cornwall, at which the scheme of the Society was proposed, and the present meeting planned. According to the *literal* truth of the matter, the Bath and West of England Agricultural Society, for that is its full designation, is a development, extension, and renewal of a very old society, and it is thus holding, perhaps we ought to admit, its 75th instead of its first annual meeting; but as to all the results, and almost all the purposes of an agricultural association, this meeting is the inauguration of a new society, which the country owes to the energy and efforts of Mr. Acland.

Comparing it with the Yorkshire Society, to which it bears greatest resemblance in its scope and dimensions, we consider the present meeting fully equal in merit to the average of those in the north—exceeding them as regards the extent of the implement show; and if we may pit the Devons against the Short-horns, equal to it as regards the cattle exhibited, though much inferior as regards the horses, the sheep, and the pigs.

The cattle were arranged in two main classes, namely, "Devons" and "other pure breeds;" these being, however, as it happened, confined to the Short-horns; for only one Hereford, a yearling bull, was to be seen. There were about 60 lots of Devons arranged in six classes, and 26 lots of Short-horns also arranged in six classes. Among the exhibitors were Messrs. Quartly, Farthing, Turner, and many others, whose names will be seen in the prize list of Devons; and the principal prizes for Short-horns were carried off by Mr. Stratton, of Swindon. Nearly 100 lots of sheep were shown, the Leicesters and the Dorsets being remarkable for merit in their classes. About 50 lots of pigs and a few horses completed the exhibition. There was, however, also in the yard a considerable show of poultry, including some very nice lots of Cochin China fowls, a few of the Spanish breed, and some handsome silver-pencilled Hamburghs.

The implement yard contained 50 different stands, many of them belonging to the leading agricultural implement makers; among whom we may mention Barrett and Exall, of Reading; Clayton, Shuttleworth, and Co., of Lincoln; Howard and Sons, of Bedford; Hornsby and Son, of Lincoln; and many others.

We are unable to give a detailed account of the implements exhibited, but shall mention some of the more important. There were many steam-engines shown—and Messrs. Clayton, Shuttleworth, and Co. received the prize for theirs. Many threshing-machines have been exhibited—and Messrs. Cambridge and Co., of Bristol, exhibited an ingenious shaker, consisting of six parallel rollers, so to speak, only not of round but of square sections, and about 6 inches in the side. These placed parallel and close together, are made to revolve, and the straw and grain is transmitted over them, being thrown up and down by the difference between the diagonal and side of the revolving pieces, while the grain falls through the spaces between them.

Mr. Fry, of Bristol, exhibited his draining-machine, and the wet state of the land was admirably adapted for its successful operation. Large crowds of people witnessed its performance, and appeared, as we think with reason, to be satisfied that in the circumstances in which it was being tried, it would economise the process of draining without endangering its efficiency.

A very excellent and simple Barley hummeller—the best we have seen—has been exhibited by Messrs. Bruismead, of Torrington. It would answer their purpose to register the invention, and we hope they will exhibit it at Lewes, when we shall be able to describe it in detail.

Hussey's reaping-machine was exhibited at several of the stands, and was tried successfully on some standing Rye

We hope to be able to give the prize list of the implement yard next week. The following is the prize list of the live stock.

PRIZE LIST FOR CATTLE.

JUDGES—For Devons and long-woolled sheep:—Mr. Trethewy, of Grampound, Cornwall; Mr. Partridge, of Bow, Devon; Mr. Robert Smith, Emmett's Grange, Somerset. For other cattle—Mr. Gray, of Kingweston, Somerset; Mr. Leech, of Kilmington, Wilts; Mr. Beavis, of Chard.

DEVONS.

Mr. Tucker, of Staplegrove, near Taunton, a four years and four months old bull, 12*l*.

Mr. Webber, of Halberton-court, near Tiverton, a four years and two months old pure bull, 5*l*.

Mr. Wright, of Moor-farm, near Taunton, a two years and four months old bull, 12*l*.

Mr. Quartly, of Champsen Molland, near Southmolton, a one year and five months old bull, 5*l*.

Mr. Gibbs, of Bishop's Lydeard, near Taunton, a one year and five months old bull, 5*l*.

Mr. Farthing, of Stowey-court, near Bridgewater, a three years and two months old in-milk cow, 10*l*.

Mr. Farthing, of Nether Stowey, near Bridgewater, a three years and five months old in-milk cow, 5*l*.

Mr. Gibbs, of Bishop's Lydeard, a two years and six months old in-milk heifer, 10*l*.; ditto, 5*l*.

Mr. Hole, of Knowle-house, near Dunster, two one year and six months old yearling heifers, 5*l*.

OTHER BREEDS.

Mr. Abbott, of Long Ashton, near Bristol, a three years and one month old short-horned bull, 12*l*.

Mr. Lucley, of Cannington, near Bridgewater, a four years and one month old bull, 5*l*.

Mr. Stratton, of Bishop's Hinton, near Swindon, a one year and four months old bull, 12*l*.

Mr. Bult, of Kingston, near Taunton, a two years and four months old short-horned bull, 5*l*.

Mr. Stratton, of Bishop's Hinton, near Swindon, a one year and one month old bull, 5*l*.; a four years and eight months old cow, 10*l*; a three years and three months old cow, 5*l*.; a two years and four months old heifer, 10*l*.; a two years and three months old heifer, in calf, 5*l*.; two one year and four months old yearling heifers, 5*l*.

SHEEP.

Mr. Radmore, of Thorverton, near Collumpton, a Leicester shearling ram, 16 months old, 5*l*.

Mr. Bodley, of Horkely Pomeroy, near Crediton, a long-woolled ram, 14 months old, 3*l*.

Mr. Moon, of Lapford, near Crediton, a Leicester ram, 51 months old, 5*l*.

Mr. Bodley, of Horkley Pomeroy, near Crediton, a long-woolled ram, 26 months old, 3*l*.

Mr. Limbrick, of Orton, near Chipping Sodbury, a pen of five ewes, 5*l*.

Mrs. Bond, of Cheddon Fitzpaine, near Taunton, a pen of five long-woolled shearling ewes, 16 months old, 5*l*.

Mr. Moore, of Littlecot-farm, near Pewsey, Wilts, a Southdown ram, 16 months old, 5*l*.

Sir J. Kennaway, of Escot, near Ottery St. Mary, a Southdown ram, 16 months old, 3*l*.

Mr. Moore, of Littlecot-farm, near Pewsey, a Southdown ram, 27 months old, 5*l*.

Mr. Watts, of Freshford, near Bath, a Southdown ram, 42 months old, 3*l*.

Mr. Rhadon, of Birkham, near Dunster, a pen of five Southdown ewes, 5*l*.

Mr. Morle, of Cannington-park, near Bridgewater, a pen of five Southdown ewes, 3*l*.

Sir John Kennaway, a pen of five Southdown shearling ewes, 16 months old, 5*l*.

Mr. Dunger, of Huntstile, near Bridgewater, a yearling ram, 17 months old, first prize, 5*l*.; second, 3*l*.

The same, a Silver Cup, given by Mr. Frederick Hogg, of 40, St. James's-street, London, for same.

Mr. Kidner, of Bickley, near Milverton, Somerset, a ram, 5½ months old, 3*l*.

Mr. Coombe, of Creech St. Michael, near Taunton, a Dorset ram, 53 months old, 5*l*.

Mr. James Culverwell, of North Petherton, near Bridgewater, a pen of five Dorset ewes, 5*l*.

Mr. Coombe, of Creech St. Michael, near Taunton, a pen of five Dorset ewes, 53 months old, 3*l*.; a pen of five Dorset shearling ewes, 17 months old, 5*l*.

Mr. Nurcombe, of Hopcott, near Minehead, a Mountain ram, 40 months old, 4*l*.; a Mountain ram 64 months old, 2*l*.

Mr. Quartly, of Molland, near Southmolton, a pen of five pure Exmoor ewes, 5*l*.

Mr. Nurcombe, of Hopcott, a pen of five pure Exmoor ewes, 28 months old, 2*l*.

PIGS.

Mr. Blandford, of Sandridge, near Melksham, a Berkshire boar, one year and 11 months old, 4*l*.

Ditto, of Orchard Portman, near Taunton, a boar, two years and five months old, 2*l*.

Ditto, of Sandridge, a Berkshire sow, 10 months old, 4*l*.

Ditto, of Orchard Portman, a breeding sow, one year and five months old, 2*l*.; a pen of three breeding sows, 2*l*.; a pen of three breeding sows, four months old, 1*l*.

Mr. Northey, of Lake Lifton, near Launceston, Cornwall, a boar, two years and six months old, 4*l*.

Mr. Risdon, of Bickham, near Dunster, a Leicester boar, one year and 11 months old, 2*l*.

Mr. Northey, of Lake Lifton, near Launceston, a breeding sow, three years old, 4*l*.

Mr. Moon, of Lapford, near Crediton, a breeding sow, one year old, 2*l*.; a pen of three breeding sows, seven months old, 2*l*.

Mr. Northy, of Lake Lifton, near Launceston, a pen of three breeding sows, 1*l*.

HORSES.

Mr. Wicox, of Meare, near Wells, a cart mare, six years and one month old, 10*l*.

Mr. Corner, of Torweston, near Williton, a mare and foal, about 10 years old, 5*l*.

Mr. Champeney, of Theale, near Wells, a thorough-bred horse, 10*l*.

Miscellaneous.

Necessity for Good Buildings.—I believe my most inveterate opponents will agree with me that there is no mode of obtaining manure so cheaply as by feeding animals. How important then is it, that the Lincolnshire customs should extend to the many poverty-stricken and cattleless districts of this kingdom? (We should then hear no more of the difficulty of getting the straw "stamped" into manure.) The whole question of cattle feeding is worthy the most serious consideration of agriculturists; for if, as in my case, they show such a considerable charge for manure, having every comfort and convenience, and without disease and other casualties, what must be the loss where, as too often described by the *Times* commissioner, no proper buildings exist for their accommodation. The benefit of shelter is too obvious; but let those who doubt it remember that it is no uncommon occurrence, during severe weather, that whole fields of frozen Turnips are consumed by sheep, which absolutely lose condition, their food being worse than wasted. A reference to the "Royal Agricultural Society's Journal," Vol. XI., Part I., will show that a complete new range of farm-buildings may be erected, with steam-engine, threshing-machine, &c. &c., complete, for about 5*l*. per acre. Good buildings often let a farm—particularly a heavy land one—at an increased rent to an improving tenant, and add a permanent value to the fee-simple. The waste of time and money, owing to the misplacement of buildings and mal-arrangements of fields and roads, call loudly for a simplicity of transfer by which proprietors might exchange and square their fields, as readily as they would their consols, if mutually so inclined. Everything in agriculture is, owing to its enormous area, so vast, that a statistical table on this subject, as well as on noxious fences and timber, would be astounding and hardly credible. The necessity we are under of competing with the whole world in the growth of corn will compel a complete revolution in our agricultural economics. *Mr. Mechi's Second Paper.*

Notices to Correspondents.

AYLESBURY BUTTER: *Cleveland.* Perhaps, if butter-making on the Aylesbury system is not a profound secret, some of our correspondents might help you.

NEW MODE OF MAKING BUTTER: We beg to refer again, at the suggestion of Lord Belhaven, to the paragraph on this subject in page 349. The explanation there given of the difficulties in the way of making butter that shall keep is correct enough; but the sugges ion founded upon it is, we fear, more curious than usefu. The casein of milk and cream is the ferment which first causes the sugar of milk to assume the form of lactic acid, and then changes this lactic acid, inducing it the more rapidly to absorb oxygen, and become one or other of the fetid acids to which the offensiveness of rancid butter is owing. As soon as the lactic or any of these acids is formed it unites with and detaches the alkaline solvent of the casein in the milk, and the casein assumes its proper form as an insoluble curd. The object, then, of the proposed mixture of the cream with lime previously to putting it in the churn is to neutralise these acids, so that the casein shall remain in solution while the butter is being separated by agitation in the churn. And while the butter still remains distributed through the butter-milk in small particles, it is proposed to separa e it, by straining, we imagine, well washing it at the same time with water, so as to carry off all this soluble casein, and render the butter when ultimately collected free from this mischievous ferment.

POULTRY: *J L.* It is not an unusual thing for one-third of the hens in a yard to be clucking at this season of the year. I am always averse to deviations from Nature in this respect, and I let them set when they will. The penalty of making hens lay out of due course is, that they become prematurely old and worn out.—*B C.* I recommend meal in preference to whole corn, because I have found from experience that fowls do much better upon it, and becau e there is economy in its use. Greaves are good as a stimulant, but need only be given during cold easterly winds, in wet weather, or in damp situations. They should be chopped fine, put into a pail and covered with boiling water. A cloth should then be placed over the vessel or pan containing the greaves, and the steam confined till they are sodden. Fowls will starve on whole corn if confined entirely to it.—*A Qy, Haverfordwest.* I should think the ground is overstocked with chickens at this season of the year, and is become tainted. I infer this, because you say the disease always appears at this season every year. Remove them, if possible, to new ground; if you cannot, then I advise you to lessen the number, and to feed generously; give them oatmeal slaked with milk, and add pounded Peppercorns. Give every morning and evening some stale bread soaked in strong old ale. This will give the chickens strength to throw off he complaint.—*A Subscriber of Some Years' Standing* In Spanish chickens white feathers are admissible, but as soon as they are fully feathered and full grown, they are serious defects. I should not for a few of them consider a bird impure; but should rather impute their appearance to degeneracy and weakness. The fifth claw in Cochin China fowls is a certain indication of impurity; there has been a cross at some time, and they are throwing back. An egg cannot be judged by its colour as to purity of breed, but impurity may be detected where the deviation is too great; for instance, although Cochin China fowls and pheasants lay light eggs, I have never known either lay them perfectly white *J. Baily, 113 Mount-street.*

SALT: *J Pincut.* The muriate of soda, which common salt is when in solution, will, when it meets carbonate of ammonia in solution, in a measure decompose it and suffer decomposition. That is, the carbonate of soda and muriate of ammonia will be formed; and as the latter is a fixed salt of ammonia, while the carbonate of ammonia is volatile, this process, *in so far as it may take place in the dung heap,* would be a desirable result of the practice of salting farm-yard manure. But the practice is also beneficial simply in the addition of so much common salt to the land, which often benefits from the independent application of that substance.

VENTILATION: *Female Amateur.* The subject, so far as the principles are concerned, is being referred to in the leading section of this paper. For the reports of the English Agricultural Society's meetings we are indebted to the kindness of the secretary.

WATER: *A B C.* A brook or stream of water, used for the purpose of washing the ore of an extensive lead mine, for the purpose of cleansing and separating it from the gravel, calumine, and the earthy particles adhering to it, would certainly be injurious to the health of man or beast who might, subsequently to its being used for this process, drink of the same.

Markets.

COVENT GARDEN, JUNE 12.

Vegetables and fruit are plentiful. The sale for English Pine-apples still continues rather dull. Hothouse Grapes have much improved since our last report, both as respects supply and quality. A few dessert Apples may still be obtained. Oranges are plentifully supplied, and very good. Nuts are nearly the same as last quoted. Forced Strawberries are plentiful, and a few Keens' Seedling have made their appearance from the open ground. A large quantity of French Cherries has been supplied during the week, some of them bringing only 1s per lb. Young Carrots, Beans, Peas, Lettuces, Endive, and Artichokes continue to be supplied from France. Potatoes are generally good in quality. New ones from open borders are coming in plentifully, as are also green Peas of excellent quality. Mushrooms are cheaper. Cut flowers consist of Heaths, Epacrises, Cinerarias, Mignonette, Roses, Acacias, Azaleas, Primulas, Lily of the Valley, and other bulbs.

FRUIT.

Pine-apples, per lb., 6s to 10s	Lemons, per doz., 1s to 2s
Grapes, hothouse, p. lb., 4s to 8s	Oranges, per doz., 1s to 1s 6d
Peaches, per doz., 12s to 24s	— per 100, 3s 6d to 10s
Nectarines, per doz., 12s to 24s	— Seville, per doz., 1s to 3s
Melons, each, 2s to 6s	Nuts, Barcelona, per bush, 20s to 24s
Cherries, per lb, 2s to 8s	— Brazil, p. bsh., 12s to 14s
Strawberries, p. oz., 6d to 1s	Cobs, per 100 lbs., 100s
Almonds, per peck, 5s	
— sweet, per lb., 2s to 3s	

VEGETABLES.

Cabbages, per doz., 3d to 1s 3d	Leeks, per bunch, 3d to 6d
French Beans, p. 100, 1s to 2s	Shallots, per bunch, 4d
Broccoli, p. bunch, 9d to 2s	Garlic, per lb., 3d to 1s
— heads, each, 4d to 6d	Lettuce, Cab., per score 4d to 6d
Asparagus, p. bundle, 1s to 4s	— Cos, p. score, 9d to 1s 6d
Greens, per doz., 2s 6d to 4s	Radishes, per doz., 8d to 1s
Rhubarb, p. bundle, 3d to 6d	— Turnip, 9d to 1s 6d
Potatoes, per ton, 45s to 80s	Small Salads, p. pun., 2d to 3d
— per cwt., 2s to 5s	Horse Radish, p. bundle, 1s to 4s
— per bush., 1s 6d to 2s 6d	Mushrooms, p. pott., 8d to 1s
— Frame, per lb, 1s to 2s	— per punnet, 6d to 1s
— New (border), do., 3d to 6d	Sorrel, p. hf. sieve, 1s 3d to 1s 8d
Turnips, per doz., 2s to 3s	Artichokes Jerus., do., 9d to 1s
— new, p. bun., 6d to 9d	Fennel, per bunch, 2d to 3d
Cucumbers, each, 3d to 1s	Savory, per bunch, 2d to 3d
Celery, per bundle, 6d to 1s 6d	Thyme, per bunch, 2d to 3d
Carrots, p. bun., 9d to 1s 6d	Parsley, p. doz bnchs., 2s to 3s
Spinach, per sieve, 9d to 1s	Mint, per bunch, 2d to 4d
Onions, per bunch, 2d to 4d	Basil, green, p. bunch, 6d to 9d
— Spanish, p. doz. 1s 3d to 3s	Marjoram, do., 3d to 4d
Beet, per doz., 1s to 2s	Watercresses, p. 12 bun., 9d to 1s

HAY.—PER LOAD OF 36 TRUSSES.

SMITHFIELD, June 10.

Prime Meadow Hay	75s to 80s		Clover ...	...	84s to 95s
Inferior do.	... 68	72	2d cut ...	...	75 84
Rowen ...	... 60	—	Straw ...	...	24 28
New Hay ...	... —	—			J. COOPER.

WHITECHAPEL, June 10.

Fine old Hay	... 75s to 80s		Old Clover ...	...	84s to 90s
New Hay ...	... —	—	Inferior do....	...	70 80
Inferior do....	... 55	70	New Clover ...	...	— —
Straw ...	... 22	26	Inferior do....	...	— —

HOPS.—BOROUGH MARKET, June 11.

Messrs. Pattenden and Smith report that the accounts from Kent, Worcester, and Farnham speak of a general increase of fly, in some instances 40 to 50 on a leaf. The market in consequence is more active, with prices advancing. Supply very limited. Duty not yet named.

WOOL.

BRADFORD, THURSDAY, June 10.—From the opening of the colonial sales great spirit has prevailed, and an advance established beyond what was expected. The purchases are to a great extent for foreign account, and the quantity coming to this distric by no means an average of the early sales of past years. The business doing in English Wool does not participate in the activity of colonial, for this being for actual consumption, there is great caution manifested in the purchases of the spinners, who, from their profitless avocation, are only buying for hand to mouth consumption, and prices are firm. Noils and brokes are ready sale, and prices dearer.

POTATOES.—SOUTHWARK, June 7.

The committee report, that during the past week the supply has been moderate, still quite equal to the demand. The following are this day's quotations:—York Regents, 80s. to 110s.; Scotch do. 80s. to 90s.; Scotch Cups, 65s. to 70s.; Wisbeach and Cambridge, 70s. to 90s.

COAL MARKET.—FRIDAY, June 11.

Holywell, 14s. 6d.; Eden Main, 15s.; Wallsend Braddyll's, 15s. 6d.; Wallsend Haswell, 16s.; Wallsend Hetton, 16s.; Wallsend Lambton, 15s. 6d.; Wallsend Stewarts, 16s.; Wallsend Tees, 15s. 9d.—Ships at market, 203.

SMITHFIELD.—MONDAY, June 7.

The advance in price last week has brought an unusually large number of Beasts to market, and consequently all descriptions are lower. There is also an increased supply of Sheep and Lambs; trade for the former is slow at a reduction of 2d. per 8 lbs., and for the latter at fully 4d. per 8 lbs. lower. Calves are plentiful, and prices on the average lower. From Germany and Holland there are 460 Beasts, 2480 Sheep, and 226 Calves; from Scotland, 600 Beasts; from Norfolk and Suffolk, 280; and 100 from the northern and midland counties.

Per st. of 8lbs.—	s	d	s	d	Per st. of 8lbs.—	s	d	s	d
Best Scots, Herefords, &c.	3	6	to 3	8	Best Long-wools	0	0	to 0	0
Best Short-horns	3	2	— 3	4	Do. Shorn	3	4	— 3	6
2d quality Beasts	2	6	— 3	0	Ewes & 2d quality	0	0	— 0	0
Best Downs and Half-breds	0	0	— 0	0	Do. Shorn	2	6	— 3	2
Do. Shorn	3	6	— 3	10	Lambs	4	4	— 5	0
					Calves	2	8	— 4	0
					Pigs	2	8	— 3	8

Beasts, 4375; Sheep and Lambs, 29,170; Calves, 319; Pigs, 310.

FRIDAY, June 11.

We have a good supply of Beasts, although not so large as was expected. The weather being more favourable, trade is cheerful, at, in some instances, a slight advance on Monday's quotations. The number of Sheep and Lambs is considerably smaller than on Friday last. There is a fair demand for Sheep at rather better prices; but trade is no better for Lambs. Good Calves are by no means plentiful, and make 4s. readily; middling ones are, however, with difficulty disposed of. Our foreign supply consists of 120 Beasts, 1090 Sheep, 426 Calves, and 19 Pigs; from Scotland, 110 Beasts; from Norfolk and Suffolk, 400; and 120 Milch Cows from the home counties.

Per st. of 8lbs.—	s	d	s	d	Per st. of 8lbs.—	s	d	s	d
Best Scots, Herefords, &c.	3	6	to 3	10	Best Long-wools	0	0	to 0	0
Best Short-horns	3	2	— 3	6	Do. Shorn	3	4	— 3	8
2d quality Beasts	2	6	— 3	0	Ewes & 2d quality		...		
Best Downs and Half-breds	0	0	— 0	0	Do. Shorn	2	8	— 3	2
Do. Shorn	3	8	— 3	10	Lambs	4	4	— 5	0
					Calves	2	8	— 4	0
					Pigs	2	8	— 3	8

Beasts, 899; Sheep and Lambs, 370; Calves, 681; Pigs, 470.

MARK LANE.

MONDAY, June 7.—The supply of English Wheat by land carriage samples to this morning's market was small. The weather being wet, factors commenced by holding for an advance, but were subsequently compelled to accept the rates of this day se'nnight. Foreign was neglected, and prices must be considered nominal.—In Flour there is nothing doing.—There is a fair inquiry for Barley at about last week's rates.—Beans and Peas are very scarce, and command high prices.—The Oat trade is much the same as on Friday, say 6d. per qr. cheaper for inferior qualities since this day week.

PER IMPERIAL QUARTER.	s.	s.		s.	s.
Wheat, Essex, Kent, & Suffolk... White	44	—45	Red	39	—40
— — fine selected runs...ditto	45	—47	Red	40	—41
— — Talavera	45	—50			
— Norfolk	38	—40	Red		—
— Foreign	36	—52			
Barley, grind. & distil., 26s to 29s... Chev	30	—35	Malting .	29	—31
— Foreign ...grinding and distilling	21	—28	Malting .		—
Oats, Essex, and Suffolk	20	—22			
— Scotch and Lincolnshire... Potato	22	—25	Feed	21	—23
— Irish ..... Potato	21	—24	Feed	20	—23
— Foreign .....Poland and Brew	19	—21	Feed	17	—20
Rye	—		Foreign .	—	
Rye-meal, foreign	—				
Beans, Mazagan.....27s to 29s.....Tick	28	—32	Harrow .	28	—32
— Pigeon .....28s — 34s...Winds.	—		Longpod ...	—	
— Foreign .....Small	23	—31	Egyptian	24	—25
Peas, white, Essex and Kent..... Boilers	35	—37	Suffolk...	36	—38
— Maple.....29s to 32s.....Grey	28	—30	Foreign .	28	—35
Maize ..... White	—			—	
Flour, best marks delivered ...per sack	37	—40	Yellow...		
— Suffolk .....ditto	25	—37	Norfolk .	25	—32
— Foreign..... per barrel	17	—23	Per sack	28	—34

FRIDAY, June 11.—The supplies of grain and Flour this week have been moderate. The attendance of buyers at this morning's market was small, and little disposition evinced to purchase; the business was consequently limited, and prices of Wheat unaltered from Monday.—Barley, Beans, and Peas remain as last quoted.—The Oat trade is dull, and to effect sales less money is accepted on inferior qualities. Flour meets rather more inquiry.

IMPERIAL AVERAGES.

	Wheat.		Barley.		Oats		Rye.		Beans.		Peas.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
May 1.....	40	6	28	5	19	9	31	0	30	0	29	4
— 8.....	41	1	28	1	19	8	30	8	30	5	30	5
— 15.....	41	8	28	3	19	10	30	0	31	0	29	2
— 22.....	40	6	27	10	20	1	30	5	31	6	30	9
— 29.....	40	5	27	11	20	1	30	0	31	7	27	2
June 5.....	40	7	27	5	20	8	30	6	31	6	21	0
Aggreg. Aver.	40	9	28	0	20	0	30	5	31	0	29	8

Duties on Foreign Grain, 1s. per qr.

ARRIVALS THIS WEEK.

	Wheat.	Barley.	Oats.	Flour.
	Qrs.	Qrs.	Qrs.	
English ...	4410	40	270	2620 sacks
Irish	—	260	2150	
Foreign ...	7160	2010	17820	— sacks

FLUCTUATIONS IN THE LAST SIX WEEK'S AVERAGES.

PRICES.	MAY 1.	MAY 8.	MAY 15	MAY 22.	MAY 29.	JUNE 5.
41s 3d	...	...	...	...	...	...
41 1	...		...	...	...	...
40 7		...	...	...	...	
40 6	...	...	...	...	...	...
40 6		...	...	...	...	...
40 5	...	...	...	...		...

LIVERPOOL, TUESDAY, June 8.—Fair quantities of Oats and Oatmeal have been received from Ireland this week, but scarcely any Wheat and Flour, which articles the sister country still requires to import. Of foreign produce we have tolerably good receipts since last Tuesday of Wheat, Flour and Beans. But few transactions have been passing in Brunswick-street during the week in any article of the trade and prices generally have slightly receded. There appeared rather a good attendance of millers and dealers at the Corn Market held this morning. Wheat was in moderate request for consumption, at a decline of 1d. to 2d. per 70 lbs. Flour was 6d. per sack and barrel lower. Oats declined 3d. per bushel, Oatmeal, 6d. per load, and Egyptian Beans 6d. per qr. Peas and Barley without change in value.—FRIDAY, June 4.—Our market this morning was necessarily held in the open street, and evinced little animation in any of its departments. The operations in Wheat were consequently upon a moderate scale only, at a reduction of 1d. per 70 lbs. In French and Irish Flour we have no change to note. Barley, Malt, and Peas moved slowly at late prices, and Egyptian Beans declined 3d. per qr. Oats merely sustained their previous value, and Oatmeal was taken sparingly at our last quotations. India Corn met a moderate inquiry at 6d per qr. reduction.

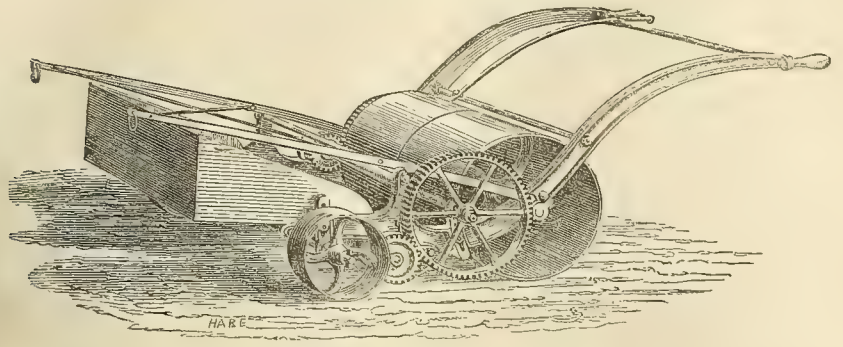
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JOHN FERRABEE AND SONS,

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BUDDING'S LAWN MOWING MACHINES FOR HAND AND HORSE POWER

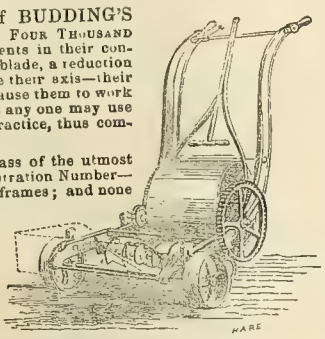
WITH REGISTERED IMPROVEMENTS, No 3074.



HORSE MACHINE.—*Half inch Scale.*

J. FERRABEE AND SONS, who were the Sole Manufacturers of BUDDING'S MACHINES under the Patent, and who have produced and sold nearly FOUR THOUSAND of them, have this year effected, and protected by Registration, great improvements in their construction. These improvements consist in the adoption of a new form for the fixed blade, a reduction in the number of cutting edges, and the application of regulating wheels outside their axis—their combined effect being to simplify the use and management of the Machines, to cause them to work much easier, and to render their motion over the ground so true and steady that any one may use them either by pushing or drawing them forward, without requiring the least practice, thus completely obviating every difficulty experienced with the old Machines.

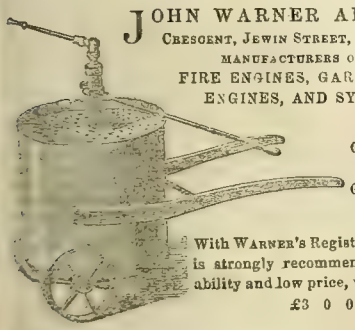
The Horse Machines are very strong and powerful, and adapted for cutting Grass of the utmost length usually met with on Lawns and Pleasure Grounds. In addition to the Registration Number—3074, the improved Machines have the name, "J. FERRABEE & SONS," cast on the frames; and none should be purchased without this guarantee.



HAND MACHINE.—*Half inch Scale.*

SIZES AND PRICES.

		£	s.	d.
HAND MACHINE, cutting	16 inches wide	5	10	0
Ditto	19 ,, ,, ...	6	0	0
Ditto	22 ,, ,, ...	6	0	0
HORSE MACHINE	30 ,, ,, ...	13	0	0
Ditto	36 ,, ,, ...	15	10	0

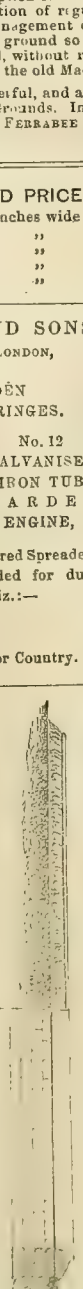


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MANUFACTURERS OF
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No. 12 GALVANISED IRON TUB GARDEN ENGINE,

With WARNER'S Registered Spreader, is strongly recommended for durability and low price, viz.:—
£3 0 0

May be obtained of any Ironmonger in Town or Country.



WATER BASINS.

J. SEELEY begs to inform Gardeners engaged in large grounds, that he is prepared to supply

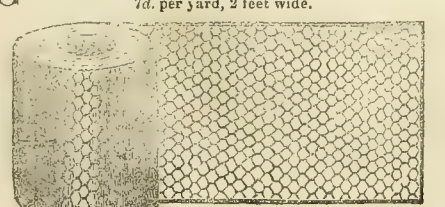
ORNAMENTAL COPING FOR WATER BASINS,

of various patterns, and to suit any circumference.

Nos. 1—4, KEPPEL ROW, NEW ROAD, REGENT'S PARK, LONDON.

TANNED NETTING, for the Protection of Fruit Trees from Frost, Blight, and Birds, and for the security of Fresh-sown Seeds, either in Gardens or Fields, at 1*d* per yard; 200 yards for 11*s*., 500 yards for 45*s*., 1000 yards for 80*s*.; Work Netting, for nurseries, &c., at 3*d*. per square yard. Scrim Canvas for wall fruit. Sun Bands in great variety; Mats, Cords, with poles, &c. Marquee Tents, Tarpaulings, &c.—At EDDINGTON and Co.'s, 17, Smithfield-bars, and Old Kent-road, London.

GALVANISED WIRE GAME NETTING.—7*d*. per yard, 2 feet wide.

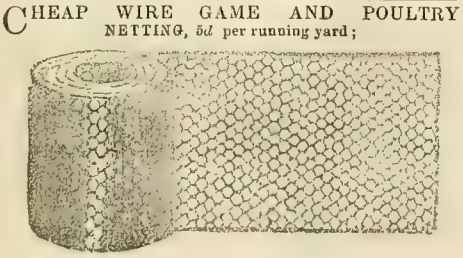


		Galvanised.	Japanned Iron.
2-inch mesh, light, 24 inches wide ...		7*d*. per yd.	5*d*. per yd.
2-inch ,, strong ,, ...		9 ,,	6½ ,,
2-inch ,, extra strong ,, ...		12 ,,	9 ,,
1⅝-inch ,, light ,, ...		8 ,,	6 ,,
1⅝-inch ,, strong ,, ...		10 ,,	8 ,,
1⅝-inch ,, extra strong ,, ...		14 ,,	11 ,,

All the above can be made any width at proportionate prices. If the upper half is a coarse mesh, it will reduce the prices one-fourth. Galvanised sparrow-proof netting for Pheasantries, 3*d*. per square foot. Patterns forwarded post free.

Manufactured by BARNARD and BISHOP, Market-place, Norwich, and delivered free of expense in London, Peterborough, Hull, or Newcastle.

CHEAP WIRE GAME AND POULTRY NETTING, 5*d* per running yard;



GALVANISED ditto, 7*d*. per running yard, 2 feet wide.

	Galvanised.	Not Galvanised.
24 in. wide, 2 in. mesh, 7*d*. per yard. ...		5*d*. per yard.
30 in. ,, 2 in. ,, 9*d*. ,, ...		6½*d*. ,,
36 in. ,, 2 in. ,, 10½*d*. ,, ...		7½*d*. ,,
48 in. ,, 2 in. ,, 1*s* 2*d*. ,, ...		10*d*. ,,

Sparrow Proof Netting, Galvanised, 3*d*. per square foot, made to any size for the same proportionate price. This article was shown at the "Great Exhibition," where it was so much admired for its light and durable appearance, and acknowledged to be the cheapest and best article of the kind ever offered. Extra strong Wire Sheep Netting, 3 feet high, 1*s* 6*d*. and 2*s* 3*d*. per yard. Also every description of Flower Trainers, Dahlia Rods, Garden Arches, Bordering, Flower Stands, Tying Wire, Trellis Work, Invisible Wire Fencing, Hurdles, and every description of Wire Work for Horticultural purposes.—Illustrated Catalogues of Patterns forwarded, post-free, on application to T. H. FOX, City of London Wire Work and Iron Fence Manufactory, 41, Skinner-street, and 6 and 8, Snow-hill, London.

ANTHONY'S PATENT AMERICAN CHURN makes Butter in 10 minutes. It obtained the award of the Great Exhibition Medal, and also a prize at every one of the numerous Agricultural meetings at which it has been shown. It is now acknowledged to be the best Churn ever produced. 200 have been sold in one year.

BURGESS and KEY, 102, Newgate-street, London.

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WIRE STRAND FENCING, as furnished with all its fittings, by R. S. NEWALL and Co., having elicited the unqualified approval of practical men, is confidently recommended as the best Fencing for Park and Farm Enclosures (instead of any kind of hurdles), for Road-side and all other Fencing

The PATENT WIRE STRAND FENCE possesses an economy, security, and durability, not to be found in any other Fence hitherto introduced. This Fence, as fixed by R. S. NEWALL and Co. (after the Model of the Fences of this material in the Slopes and Home Park at Windsor), has the inherent property of remaining *equally tight and rigid under any variations of temperature.* Though the Strands yield under the weight of persons climbing over the Fence, they do not take the permanent set, which often renders ordinary Wire Fencing unsightly; and owing to the great elasticity and strength of the whole Frame, it sustains any pressure from Cattle without injury or loss of symmetry.

Estimates given at so much per running yard for Fencing, fixed complete. Specimens, Sketches, or any other particulars, will be forwarded on application.

N.B. The Fencing of R. S. NEWALL and Co. is sufficiently palpable to sight to prevent all risk of accidents to Cattle from invisibility.

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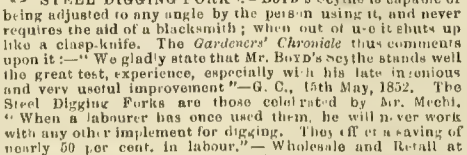
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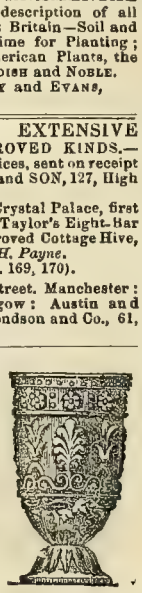
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MR. J. C. STEVENS is favoured with instructions to Sell by Auction, without any reservation, during the months of June, July, August, September, and October next, on the Premises at Hackney, and at his Great Room, 38, King-street Covent-garden, the UNRIVALLED ASSEMBLAGE OF EXOTIC AND OTHER PLANTS in the above-named Establishment; more detailed particulars of which and the days of Sale will be announced in subsequent advertisements.—38, King-street, Covent-garden, June 12.

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MR. J. C. STEVENS will sell by Auction, at his Great Room, 38, King-street, Covent-garden, on TUESDAY, June 15, at 12 for 1 o'clock, the FIRST PORTION of this celebrated Collection of ORCHIDS (which contains upwards of 2000 species); it will be found to comprise many fine specimens of the most rare and beautiful varieties, too numerous to mention; the smaller plants, which are in remarkably fine health, will be lotted in a manner that will afford persons commencing the cultivation of this interesting tribe an opportunity of purchasing which has never before occurred; also a few Ferns.—May be viewed the day prior and morning of sale; and Catalogues had at Messrs LODDIGES', Hackney; and of Mr. J. C. STEVENS, 38, King-street, Covent-garden.—June 12.

LODDIGES' NURSERY.

STOVE AND GREENHOUSE PLANTS, WITHOUT ANY RESERVE, TO CLEAR THE PREMISES—*vide* ADVERTISEMENT ABOVE.

MR. J. C. STEVENS will sell by Auction, on the premises, at Hackney, on FRIDAY, June 25, and following day, at 12 o'clock, a Portion of the STOVE AND GREENHOUSE PLANTS, including many fine and rare specimens.—Catalogues are preparing, and more detailed Advertisements will appear in a few days.—June 12.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will Sell by Auction, at the Mart, Bartholomew-lane, on TUESDAY, June 15, and FRIDAY, June 18, at 12 o'clock, a first class collection of DAHLIAS, comprising Sparkler, Edmond Foster, Tom, Dr. Frampton, Morning Star, Alice, Albert, Sir F. Thesiger, Malvina, Laura, Kossuth, Sir R. Whittington, Triumphant, Douglas Jerrold, Wm. Penn, Cloth of Gold, Una, Scarlet King, Cricket, Miss Bathurst, &c.; also the newest varieties of Fuchsias, Verbenas, Calceolarias, Climbing and other Roses, and Geraniums and other Plants in bloom, with a large assortment of Plants for bedding. May be viewed the morning of Sale.—Catalogues may be had at the Mart, and of the Auctioneers, American Nursery, Leytonstone, Essex.

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MR. J. RAWLINGS will Sell by Auction, at the Mart, Bartholomew-lane, on MONDAY, June 14th, 1852, at 12 o'clock, a large Assortment of useful and ornamental Plants for bedding, consisting of fine Dahlias, Fuchsias, Verbenas, Calceolarias, Geraniums, Heliotropes, Pansies, Chrysanthemums, &c.; also a fine Collection of Plants in Bloom, and a quantity of yellow Noisette Roses. May be viewed the morning of sale; Catalogues to be had at the Mart and of the Auctioneer, 50, Hoxton-square, and Ebenezer Nursery, Shacklewell.

Important Sale of valuable and costly Tulips, Orchideæ, Greenhouse and Stove Plants, Carnations, Pinks, choice Fruit Trees, Standard Roses, Pines, and Vines; together with the extensive ranges of Glass Houses, Stoves, Boilers, and Pipes, Hand-glasses, Garden Tools, &c.

MR. S. L. WALTER respectfully intimates that he is instructed by the Executors of the late William Turner, Esq., of Flaxmoss House, Helmshore, near Haslingden, to sell by Auction, on MONDAY and TUESDAY, the 28th and 29th days of June instant, the whole of the truly valuable and costly collection of TULIPS, which was purchased regardless of expense, and includes almost every variety grown; Orchideæ, a number of which have very recently been imported, Stove and Greenhouse Plants, Carnations, Pinks, Standard Roses, choice Fruit Trees, Pines, and Vines; together with the extensive ranges of Glass houses, Stoves, Boilers, and Pipes, Hand-glasses, Garden Tools, the Frames and Covers to the Tulip Beds, and several hundred yards of Flags, which form the walks of the garden. The Garden is situate on the north side of the Helmshore Station of the East Lancashire Railway, near Haslingden. The Tulips, which are now in full bloom, may be inspected from Monday, the 7th of June, to Saturday, the 12th, both days inclusive, and the remainder of the stock until the days of sale. Catalogues may be had on application at the Garden; or at the Auctioneer's Office, 15, St. Ann's-square, Manchester, on and after Monday next.

St. Ann's-square, Manchester, June 12.

TO BE LET, and entered upon at Michaelmas next, TWO FARMS, the property of the Earl of Radnor, situate at Coleshill, near Faringdon, Berks, one containing about 350 acres, the other 280 acres; the latter has been occupied by the proprietor since Michaelmas 1847, during which time the whole has been thoroughly drained, 100 acres of pasture converted to tillage, the old arable land brought into a high state of fertility, and the whole of the buildings, fences, &c., either renewed or thoroughly repaired.—Mr. MOORE will be happy to furnish any gentleman desirous of inspecting these farms with all needful particulars, and believes both are very desirable occupations. Shrivenham Station, on the Great Western Railway, is about four miles, and Swindon eight miles from Coleshill.—Address to EDWARD W. MOORE, Coleshill, near Highworth.

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THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 25—1852.] SATURDAY, JUNE 19. [Price 6*d*.

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ROYAL SOUTH LONDON FLORICULTURAL SOCIETY.—Under the Patronage of her Most Gracious Majesty the Queen.—The Third EXHIBITION for the Season will take place at the ROYAL SURREY ZOOLOGICAL GARDENS on WEDNESDAY, 23*d* June (open to all Exhibitors), when Prizes will be awarded for the following productions, viz.:—Stove, Greenhouse, Orchideous, and Specimen Plants; Pelargoniums, Cape Heaths, Roses, Pinks, Ranunculuses, and Fruit. In addition to the Prizes offered by the Society, J. Powell, Esq., offers a small Silver Linnean Medal for 20 specimens of Wild Flowers, with name and place of growth; by Messrs. J. and J. Fairbairn, a large Silver Victoria Medal for 6 Cape Heaths; by Mr. C. Turner, a large Silver Victoria Medal for 6 Pelargoniums, sent out since August, 1851; by Messrs. Paul and Son, a small Silver Victoria Medal for 12 new Roses; and by Mr. E. Denyer, of Brixton, four prizes for 12 Roses, to amateurs and gentlemen's gardeners.

The following Exhibitions will also take place at the Royal Surrey Zoological Gardens: on Wednesday, July 21, and Wednesday, September 8. List of Prizes and Rules for the Exhibitions may be obtained from John Taylor Neville, Ebenezer House, Peckham, Surrey. Secretary.

The Committee will meet at the Horns Tavern, Kennington, on the following days, for the production and awarding first-class Certificates for Seedling Florist Flowers for such as are deserving of the same, viz.:—Thursday, June 17, July 15, August 19, September 2, October 14, November 11, and December 9, in addition to the Exhibitions as above.

SYDENHAM FLORICULTURAL SOCIETY.—The SECOND FETE of the season will take place on Tuesday, 22*d* inst., within two minutes' walk of the Sydenham Railway Station. The attendance of the band of the Coldstream Guards has been secured. The Gardens open at half past 2 o'clock, and the music will commence at 3 o'clock precisely. Admittance by tickets only, price 2*s* 6*d*. each, to be obtained of Mr. Chartres, Florist, 74, King William-street, City, at the Greyhound Inn, and the Railway Station, Sydenham.

NOTTINGHAM ARBORETUM.

FLORAL AND HORTICULTURAL EXHIBITION, Open to all England.—On Midsummer-day, June 24, 1852, a Grand Exhibition of Flowers, Fruits, and Vegetables, Floricultural Designs, Bouquets, and Wax Flowers, will be held at the Arboretum, Nottingham.

Three silver Cups, value 5*l*. each, and a considerable sum in money, will be awarded as Prizes. Schedules may be had on application to the Town Clerk, Nottingham.

Admission, 6*d*. each.

June 19. Wm. Chapman, J. F. Wood, F.H.S., } Hon. Secs.

LANDSCAPE GARDENING.—The Advertiser undertakes Laying-out Lawns and Pleasure-grounds, Planting Shrubberies, Making Terraces, Ornamental Water, Rockwork, Roads, and Excavating Ground to any extent; also, the complete Formation of Fruit, Flower, and Kitchen Gardens, with everything necessary for the supply of a nobleman's or gentleman's establishment, or alter and improve any existing Garden. The work personally superintended. All necessary reference can be had of previous employers in different parts of the country.—Direct to H. Payne, Hook, near Kingston-on-Thames, Surrey.

J. W. THOMSON, Landscape Gardener, Hothouse Designer and Builder, Hammersmith.

Every kind of Horticultural Structure designed, erected, and heated by Hot-water, Common Flues, and other modes, on the most economical and improved modern principles. Testimonials and references from noblemen and gentlemen who have kindly patronised, for more than 15 years past, J. W. Thomson's modern and simple mode of Constructing, Building, Warming, and Ventilating Garden Structures. He begs to draw particular attention to his newly-invented plan for moving all Lights, front and top, for admitting air, by one action or simultaneously, at very little more expense than by the old and inconvenient mode of cords and pulleys. This simple plan can be applied, at a moderate cost, to houses already ventilated by the old and troublesome cord and pulley system.



TANNED NETTING, for the Protection of Fruit Trees from Frost, Blight, and Birds, and for the security of Fresh-sown Seeds, either in Gardens or Fields, at 1*d*. per yard; 200 yards for 14*s*. 500 yards for 30*s*., 1000 yards for 50*s*.; Wax Netting, for aviaries, &c., at 3*d*. per square yard. Herin Canvas for wall fruit. Sun Blinds in great varieties; Dark Cloths, with poles, &c. Marquees, Tents, Tarpaulins, &c.—At Eddington and Co.'s, 17, Smithfield-bars, and Old Kent-road, London.

ROYAL BOTANIC GARDENS, REGENT'S PARK.

GEORGE BAKER begs to announce his Collection of AMERICAN PLANTS is now in perfection, and may be viewed gratis, by orders from Members of the Society.

The large collection at the Nursery, consisting of many thousand Rhododendrons, Azaleas, Kalmias, Ledums, &c., is now in perfection, and may be seen gratis.

American Nursery, Windlesham, near Bagshot, Surrey; seven miles from Staines Station, three from Virginia Water, where conveyances may be obtained.

TO NOBLEMEN, LANDED GENTRY, AGRICULTURISTS, AND ROAD AND RAILWAY CONTRACTORS.

WIRE STRAND FENCING, as furnished with all its fittings, by R. S. Newall and Co., having elicited the unqualified approval of practical men, is confidently recommended as the best Fencing for Park and Farm Enclosures (instead of any kind of hurdles), for Road-side and all other Fencing.

The PATENT WIRE STRAND FENCE possesses an economy, security, and durability, not to be found in any other Fence hitherto introduced. This Fence, as fitted by R. S. Newall and Co. (after the Model of the Fences of this material in the Slopes and Home Park at Windsor), has the inherent property of remaining *equally tight and rigid under any variations of temperature*. Though the Strands yield under the weight of persons climbing over the Fence, they do not take the permanent set, which often renders ordinary Wire Fencing unsightly; and owing to the great elasticity and strength of the whole Frame, it sustains any pressure from Cattle without injury or loss of symmetry.

Estimates given at so much per running yard for Fencing, fixed complete. Specimens, Sketches, or any other particulars, will be forwarded on application.

N.B. The Fencing of R. S. Newall and Co. is sufficiently palpable to sight to prevent all risk of accidents to Cattle from invisibility.

OFFICE AND WAREHOUSE, 130, STRAND, LONDON.

RIPE FRUIT, STRAWBERRIES, AND SEED BEDS.—NEW TWINE NETTING (Tanned if required). 1 yard wide, 1½*d*. per yard; 2 yards wide, 3*d*. per yard; 4 yards wide, 6*d*. per yard; half-inch mesh ditto, 2 yards wide, 5*d*. per yard. The ELASTIC HEXAGON GARDEN NETTING, 76 meshes to the square inch, effectually excludes birds, wasps, flies, &c., from fruit-trees, flower or seed-beds, 4½*d* per square yard. Tanned Netting, 2 or 3 yards wide, 1½*d*. per yard; 4 or 6 yards wide, 3*d*. per yard—exactly the same as advertised by others at double the above prices. Coir or Hemp Sheepfolding Net, of superior quality, 4 feet high, 4*d*. per yard. Lamb Net, 6*d*. per yard. Rabbit Net, 1½*d*. per yard, 4 feet wide; each Edge Corded, 2*d*. per yard, suitable for fowl fencing. Square Mesh Cricketing Net, fix its full width and length, made of stout cord, 3*d*. per square yard; this is the best article made for fencing against fowls, cats, &c. The largest, cheapest, and best stock in the world, at W. Cullingford's, 1, Strabmore-terrace, Shadwell, London. The trade supplied. Orders by post punctually attended to. Fishing Nets of all kinds in Stock.

COCHIN CHINA AND SHANGHAI FOWLS' EGGS, from birds weighing 17 lbs. to 19 lbs. the pair, at 10*s*. the sitting of 13 Eggs, box included, carefully packed, and sent to any part of the Kingdom.

Apply to Mr. H. Copland, Chelmsford, Essex.

COCHIN CHINA FOWLS.—A gentleman who has some splendid Buff and Cinnamon Birds from the stocks that gained the two First Prizes at Birmingham, can part with some Eggs at 1*s*. each, or 12 for 10*s*.; also two pair of one-year old birds, and a few very fine young Cockerels and Pullets; also some Spanish Chicks from pure bred birds. They can be seen on application.—Address H. C., Post-office, Kingston, Surrey.

PRIZE SHANGHAI FOWLS' EGGS for hatching, 18*s*.; Buff Cochin China, 6*s*.; White-faced Spanish, 6*s*.; and Polish Fowls' Eggs, 6*s*. Cochin China Chickens and Gold Pheasants for sale. A remittance to accompany all orders; and letters to enclose a stamp.—W. Turner, Tufnell Park, Holloway, London.

P. S.—A few pair of Carrier Pigeons for sale.

EMIGRANTS TO AUSTRALIA, ETC., SUPPLIED.

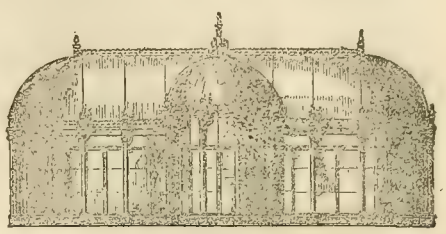
A PRIZE MEDAL FOR SUPERIOR LOCKS WAS AWARDED TO J. H. BOOBBYER, AT THE GREAT EXHIBITION OF 1851.

PATENT SPADES, DAISY RAKES, SCYTHES, Draining, and other Garden Tools. Mole Traps, 6*s*. per dozen. Carpenters' and Smiths' Tools, &c. Rubbers for sharpening Scythes, 2*s*. 6*d*. per doz. Patent fumigators for destroying insects on Plants, in greenhouses, &c: at Messrs. J. H. Boobbyer and Co.'s (late Stubch and Boobbyer), Ironmongery, Brass-foundry, Nail and Tool Warehouse, 14, Stanhope-street, Clare-market, London. Established nearly 200 years for the sale of goods from the best Manufactories at the lowest prices. Goods forwarded to any part on the receipt of remittance. List sent by post.

TO BE LET, a small NURSERY, which may be entered on immediately, consisting of a Mushroom-house, two Greenhouses, a Camellia-house, Bark Stove, three Pits, 11-light Frames. The Pits and Stove are partly filled with young Plants, chiefly Fuchsias. The extent of the four houses is 111 feet long by 11 feet wide, all well fitted up with stages, and in a thorough state of repair. A Dwelling-house is on the ground, the Furniture of which can be had, as the tenant is giving up business. Rent, 22*l*. per annum.—Apply, personally, or by letter (pre-paid), to D. Grant, Oyster-shell-house, Bath-lane Nursery, Newcastle-on-Tyne.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER.

WARRANTED BEST MATERIALS AND WORKMANSHIP AT THE LOWEST POSSIBLE PRICES.



J. WEEKS AND CO., King's Road, Chelsea, Horticultural Architects, Hothouse Builders, and Hot-water Apparatus Manufacturers. The Nobility and Gentry about to erect Horticultural buildings, or fix Hot-Water Apparatus, will find, at our Hothouse Works, King's Road, Chelsea, an extensive variety of Hothouses, Greenhouses, Conservatories, Pits, &c., erected, and in full operation, combining all modern improvements, so that a lady or gentleman can select the description of House best adapted for every required purpose.

THE HOT-WATER APPARATUSES (which are efficient and economical), are particularly worthy of attention, and are erected in all the Houses, Pits, &c., for both Top and Bottom Heat, and in constant operation in the Stoves.

The splendid collection of Stove and Greenhouse Plants is in the highest state of cultivation, and for sale at very low prices. Also a fine collection of strong Grape Vines in pots from eyes, all the best sorts.

Plans, Models, and Estimates of Horticultural Buildings; also Catalogues of Plants, Vines, Seeds, &c., forwarded on application.

J. WEEKS AND CO., King's Road, Chelsea, London.

HOTHOUSES, GREENHOUSES, ETC.

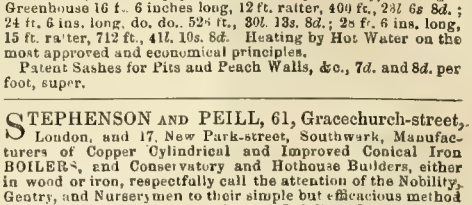
BY HER MAJESTY'S ROYAL LETTERS PATENT.

E. DENCH, PATENT HOTHOUSE WORKS, King's Road, Chelsea.—The superior qualities in every respect of these Structures having been proved in all parts of the United Kingdom, has caused a greater demand for them than E. D. could execute; he has been obliged to have perfect and powerful machinery made to meet the numerous orders, and can now execute any amount of work to great perfection, with dispatch, and for quality and price to defy all competition. Patent Hothouses, with excellent glass, 3 feet long by 1 foot wide, every front sash to open, and every top one to slide down, with pulley made of the same materials as the electric telegraph wires, which require no painting; delivered free to Wharf or Railway Station, at 1*s*. 2*d*. per foot super., complete, having been fitted, and every portion marked previously, making a Greenhouse 16 ft. 6 inches long, 12 ft. rafter, 400 ft., 28*l*. 6*s* 8*d*.; 24 ft. 6 ins. long, do. do., 52*l*. 13*s*. 8*d*.; 28 ft. 6 ins. long, 15 ft. rafter, 712 ft., 41*l*. 10*s*. 8*d*. Heating by Hot Water on the most approved and economical principles.

Patent Sashes for Pits and Peach Walls, &c., 7*d*. and 8*d*. per foot, super.

STEPHENSON AND PEILL, 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Manufacturers of Copper Cylindrical and Improved Conical Iron BOILERS, and Conservatory and Hothouse Builders, either in wood or iron, respectfully call the attention of the Nobility, Gentry, and Nurserymen to their simple but efficacious method of warming Horticultural and other Buildings by hot water. From the extensive works they have executed, references of the highest respectability can be given, and full particulars furnished on application.

GALVANISED WIRE GAME NETTING.—7*d*. per yard, 2 feet wide.



		Galvanised.	Japanned Iron.
2-inch mesh, light, 24 inches wide	...	7*d*. per yd.	5*d*. per yd.
2-inch " strong "	...	9 "	6½ "
2-inch " extra strong "	...	12 "	9 "
1½-inch " light "	...	8 "	6 "
1½-inch " strong "	...	10 "	8 "
1½-inch " extra strong "	...	14 "	11 "

All the above can be made any width at proportionate prices. If the upper half is a coarse mesh, it will reduce the prices one-fourth. Galvanised sparrow-proof netting for Pheasantries, 3*d*. per square foot. Patterns forwarded post free.

Manufactured by BARNARD and BISHOP, Market-place, Norwich, and delivered free of expense in London, Peterborough, Hull, or Newcastle.

HORTICULTURAL SOCIETY OF LONDON.

EXHIBITION AT THE GARDEN, JUNE 12, 1852.

AWARD OF THE JUDGES.

THE LARGE GOLD MEDAL.

1 To Mr. May, Gardener to Mrs Lawrence, F.H.S., for a collection of 20 Stove and Greenhouse Plants
2 To Mr. Blake, Gardener to J. H. Schröder, Esq., F.H.S, for 20 species of Exotic Orchids.

THE GOLD KNIGHTIAN MEDAL.

1 To Mr. Cole, Gardener to H. Colyer, Esq, of Dartford, for a collection of 20 Stove and Greenhouse Plants
2 To Mr. Green, Gardener to Sir E Antrobus, Bart., F.H.S., for 15 Stove and Greenhouse Plants
3 To Mr. May, Gardener to Mrs. Lawrence, F.H.S., for six Stove and Greenhouse Plants, in 20-inch pots
4 To Mr. Franklin, Gardener to Mrs. Lawrence, F.H.S., for 20 species of Exotic Orchids.

THE GOLD BANKSIAN MEDAL.

1 To Mr. Taylor, Gardener to J. Coster, Esq., of Streatham, for a collection of 20 Stove and Greenhouse Plants
2 To Mr. Carson, Gardener to W. F. G. Farmer, Esq., F.H.S, for 15 Stove and Greenhouse Plants
3 To the same, for 10 species of Exotic Orchids
4 To Mr. Kinghorn, Gardener to the Earl of Kilmorey, F.H.S., for 6 Stove and Greenhouse Plants, in 20-inch pots
5 To Mr. Williams, Gardener to C. B. Warner, Esq., F.H.S., for 20 species of Exotic Orchids
6 To Messrs. Veitch, of Exeter, for 15 species of the same
7 To Mr. Smith, Gardener to W. Quilter, Esq., of Norwood, for 10 varieties of Cape Heath.
8 To Messrs. Rollisson, of Tooting, for the same
9 To Mr. Terry, Gardener to Lady Puller, of Youngsbury, Herts, for 12 varieties of Roses in pots
10 To Messrs. Lane, of Great Berkhampstead, for the same
11 To Mr. Dobson, of Isleworth, for 12 varieties of Pelargonium, in 8-inch pots

THE LARGE SILVER-GILT MEDAL.

1 To Messrs. Fraser, of Lea Bridge Road, Essex, for a collection of 20 Stove and Greenhouse Plants
2 To Mr. Dods, Gardener to Sir John Cathcart, Bart, F.H.S., for 15 Stove and Greenhouse Plants
3 To Mr. Kinghorn, Gardener to the Earl of Kilmorey, F.H.S., for 6 Stove and Greenhouse Plants, in 13-inch pots
4 To Messrs. Rollisson, for 15 species of Exotic Orchids
5 To the same, for a collection of Variegated Plants
6 To Mr. Woolley, Gardener to H. B. Ker, Esq., of Cheshunt, for 10 species of Exotic Orchids
7 To Mr. Ivison, Gardener to the Duke of Northumberland, F.H.S, for 6 species of the same
8 To Mr. Fleming, Gardener to the Duke of Sutherland, F.H.S., at Trentham for six of the newer kinds of Greenhouse Azalea, in 8-inch pots
9 To Mr. Green, Gardener to Sir E. Antrobus, Bart., F.H.S., for 6 distinct varieties of Greenhouse Azalea
10 To the same, for 6 varieties of Tall Cacti.
11 To A. Rowland, Esq, F.H.S., for 12 varieties of Roses in pots.
12 To Messrs. Paul, of Chesbunt, for the same
13 To Mr. May, Gardener to Mrs. Lawrence, F.H.S., for 10 varieties of Cape Heath
14 To Mr. Fairbairn, of Clapham, for the same
15 To Mr. Roser, Gardener to J. Bradbury, Esq., of Streatham, for 10 varieties of Cape Heaths, in 11-inch pots
16 To Mr. Epps, of Maidstone, for the same
17 To Mr. Carson, Gardener to W. F. G. Farmer, Esq., F.H.S., for a single specimen of Dendrobium moschatum
18 To Messrs. Buckhouse, of York, for Lælia purpurata
19 To E. Lawrence, Esq., of Grove-terrace, Kentish Town, for 12 varieties of Pelargonium, in 8-inch pots
20 To Mr. Turner, of Slough, for the same.
21 To the same, for 6 varieties of Fancy Pelargonium, in 8-inch pots
22 To Mr. Parker, Gardener to J. M. Strachan, Esq., F.H.S., for 6 varieties of Pelargonium in 11-inch pots
23 To Mr. Westwood, of Acton-lane, for the same
24 To Mr. Robinson, Gardener to J. Simpson, Esq., of Thames Bank, Pimlico, for 6 varieties of Fancy Pelargonium, in 8-inch pots

THE CERTIFICATE OF EXCELLENCE.

1 To Mr. Stanly, Gardener to H. Berens, Esq., F.H.S., for a collection of 20 Stove and Greenhouse Plants
2 To Mr. Speed, of Edmonton, for 15 Stove and Greenhouse Plants
3 To Mr. Over, Gardener to W. McMullen, Esq., of Clapham, for 6 Stove and Greenhouse Plants, in 13 inch pots
4 To Mr. Green, Gardener to Sir E. Antrobus, Bart., F.H.S., for 6 species of Exotic Orchids
5 To Messrs. Veitch, for a collection of Helichrysums
6 To the same, for a collection of Nepenthes
7 To Mr. Woolley, Gardener to H. B Ker, Esq., of Cheshunt, for a collection of Hothouse Ferns
8 To the same, for a similar exhibition produced in May
9 To Mr. Bruce, Gardener to B. Miller, Esq., of Collier's Wood, Merton, for a single specimen of Erica Massoni
10 To Mr. May, Gardener to Mrs. Lawrence, F.H.S., for 6 distinct varieties of Greenhouse Azalea
11 To Mr. Roser, Gardener to J. Bradbury, Esq., of Streatham, for 12 varieties of Roses in pots
12 To the same for 6 varieties of Fancy Pelargonium, in 8-inch pots
13 To Mr. Francis, of Hertford, for 12 varieties of Roses in pots
14 To Mr. Cole, Gardener to H. Colyer, Esq., of Dartford, for 10 varieties of Cape Heath
15 To Messrs. Fraser, for the same.
16 To Mr. Watson, Gardener to Mrs. Tredwell, of St. John's Lodge, Norwood, for 10 varieties of Cape Heath, in 11-inch pots
17 To Mr. Clarke, of Streatham-place, Brixton, for the same
18 To Mr. Taylor, Gardener to J. Coster, Esq, of Streatham, for 6 varieties of Cape Heath, in 8-inch pots
19 To Messrs. Standish and Noble, of Bagshot, for two new evergreen pinnated Chinese Berberries
20 To Mr. Franklin, Gardener to Mrs. Lawrence, F.H.S., for a single specimen of Aerides odoratum
21 To Mr. Westwood, of Acton-lane, for 12 varieties of Fancy Pelargonium, in 8-inch pots
22 To the same, for 6 varieties of Fancy Pelargonium, in 8-inch pots
23 To Mr. Turner, of Slough, for 6 varieties of Pelargonium, in 11-inch pots.
24 To Mr. Constantine, Gardener to C. Mills, Esq., of Hillingdon, for 6 varieties of Calceolaria, in 8-inch pots
25 To Mr. Gaines, of Battersea, for the same
26 To Mr. Collinson, Gardener to the Marquis of Westminster, Eaton Hall, Cheshire, for a Queen Pine-apple, weighing 4 lbs. 4 oz.
27 To the same, for a Providence Pine-apple, weighing 10 lbs. 8 oz.
28 To Mr. Turnbull, Gardener to the Duke of Marlborough, at Blenheim, for a smooth Cayenne Pine-apple, weighing 4 lbs. 11½ oz.
29 To Mr. Dods, Gardener to Sir John Cathcart, Bart., F.H.S., for Black Hamburgh Grapes
30 To Mr. Davis, of East Barnet, for the same.
31 To Mr. Lushey, Gardener to J. Hill, Esq., of the Rookery, Streatham Common, for Black Prince Grapes
32 To Mr. Allport, Gardener to H. Arkroyd, Esq., of Doddington Park, Nantwich, for Muscat Grapes
33 To Mr. Summerby, Gardener to Major Martin, of Fern Cottage, Windsor Forest, for White Frontignan Grapes.

THE LARGE SILVER MEDAL.

1 To Messrs. Pamplin, of Lea Bridge Road, Essex, for a collection of 20 Stove and Greenhouse Plants
2 To the same, for 10 varieties of Cape Heath, in 11-inch pots
3 To Mr. Laybank, Gardener to T. Maudslay, Esq, of Knight's Hill, Norwood, for 6 Stove and Greenhouse Plants, in 13-inch pots
4 To the same, for 10 varieties of Cape Heath
5 To Mr. Dods, Gardener to Sir J. Cathcart, Bart., F.H.S., for 6 species of Exotic Orchids
6 To Mr. Green, Gardener to Sir E. Antrobus, Bart., F.H.S., for a collection of Helichrysums
7 To Mr. Over, Gardener to W. M'Mullen, Esq., of Clapham, for a single specimen of Hoya bella
8 To Mr. Williams, Gardener to C. B. Warner, Esq., F.H.S., for a collection of Hothouse Ferns
9 To the same, for a collection of Variegated Orchids
10 To Mr. Pawley, of Bromley, for 10 varieties of Cape Heath
11 To Mr. Jarvis, Gardener to J. Ruck, Esq., of Croydon, for 10 varieties of Cape Heath, in 11-inch pots
12 To Mr. Speed, of Edmonton, for 6 varieties of Cape Heath, in 8-inch pots
13 To Mr. Terry, Gardener to Lady Puller, of Youngsbury, Herts, for 25 varieties of Cut Roses
14 To Mr. Ivison, Gardener to the Duke of Northumberland, F.H.S., for two leaves of Victoria regia
15 To Mr. Ayres, of Blackheath, for 6 varieties of Fancy Pelargonium, in 8 inch pots
16 To Mr. Franklin, Gardener to Mrs. Lawrence, F.H.S., for six varieties of Calceolaria, in 8-inch pots.
17 To Mr. Draper, Gardener to the Bishop of Salisbury, for a Queen Pine-apple, weighing 4 lbs. 1 oz.
18 To Mr. Davis, Gardener to Lord Boston, F.H.S., for a Providence Pine-apple, weighing 8 lbs. 7 oz.
19 To Mr. Grienger, Gardener to S. Smith, Esq., F.H.S., for Black Hamburgh Grapes
20 To Mr. Mitchell, of Kemp Town, Brighton, for the same
21 To Mr. Martin, Gardener to Sir H. Fleetwood, Bart., F.H.S., for Black Prince Grapes
22 To the same, for Black Frontignan Grapes
23 To Mr. Smith, Gardener to S. Ricardo, Esq., of Titness Park, Sunning Hill, for White Muscadine Grapes
24 To Mr. Harrison, of Oatlands Palace Gardens, Weybridge, for Muscat Grapes
25 To Mr. Fleming, Gardener to the Duke of Sutherland, F.H.S., at Trentham, for 6 Royal George Peaches
26 To the same, for 6 Murray Nectarines.

THE SILVER KNIGHTIAN MEDAL.

1 To Mr. Stuart, Gardener to T. Huggins, Esq, of Norwood, for 6 Stove and Greenhouse Plants, in 13-inch pots
2 To the same, for a collection of Helichrysums
3 To Mr. Kinghorn, Gardener to the Earl of Kilmorey, F.H.S., for 6 species of Exotic Orchids
4 To Mr. May, Gardener to Mrs. Lawrence, F.H.S., for a single specimen of Erica Cavendishii
5 To Messrs. Rollisson, for Cissus discolor
6 To Mr. Woolley, Gardener to H. B. Ker, Esq., of Cheshunt, for a collection of Lycopods
7 To Mr. Stanly, Gardener to H. Berens, Esq., F.H.S., for 10 varieties of Cape Heath, in 11-inch pots
8 To Mr. Hamp, Gardener to J. Thorne, Esq, of South Lambeth, for 6 varieties of Cape Heath, in 8-inch pots
9 To Mr. Parker, Gardener to J. M. Strachan, Esq., F.H.S., for 6 species of Cape Pelargonium
10 To Mr. Cole, Gardener to H. Colyer, Esq., of Dartford, for a single specimen of Cattleya Mossiæ
11 To Messrs. Backhouse, for Cleisostoma ? crassifolium
12 To Mr. Williams, Gardener to C. B. Warner, Esq., F.H.S., for Lemons, Citrons, and Oranges
13 To Mr. Bragg, of Slough, for 12 varieties of Pelargonium, in 8-inch pots
14 To Mr. Gaines, of Battersea, for 6 varieties of Fancy Pelargonium, in 8-inch pots
15 To Mr. Willmer, of Sunbury, for 12 varieties of Pinks, in 8-inch pots
16 To the same, for 24 varieties of Pinks in boxes
17 To Mr. Roser, Gardener to J. Bradbury, Esq., of Streatham, for 6 varieties of Calceolaria, in 8-inch pots
18 To Mr. Turner, of Slough, for 12 varieties of Pansies, in 8-inch pots
19 To Mr. Jarvis, Gardener to J. Ruck, Esq., of Croydon, for a Queen Pine-apple, weighing 3 lbs. 9 oz.
20 To Mr. Davies, Gardener to J. Dixon, Esq., of Astle Park, Knutsford, Cheshire, for a Providence Pine-apple, weighing 8 lbs. 6 oz.
21 To Mr. Frost, Gardener to Lady Grenville, F.H.S., at Dropmore, for Black Hamburgh Grapes
22 To Mr. Harrison, Gardener to M. Ricardo, Esq., F.H.S., for Black Prince Grapes
23 To Mr. Rust, Gardener to J. Maclaren, Esq., F.H.S., for White Muscadine Grapes
24 To Mr. Collinson, Gardener to the Marquis of Westminster, Eaton Hall, Cheshire, for 6 Royal George Peaches
25 To the same, for an Egyptian Green-flesh Melon
26 To Mr. Tillyard, Gardener to Lord Southampton, F.H.S., for 6 Elruge Nectarines
27 To Mr. Smith, of Twickenham, for British Queen Strawberries
28 To the same, for the same variety in pots
29 To Mr. Wortley, Gardener to Mrs. Maubert, of Norwood, for British Queen Strawberries.

THE SILVER BANKSIAN MEDAL.

1 To Mr. Hamp, Gardener to J. Thorne, Esq., of South Lambeth, for 6 Stove and Greenhouse Plants, in 13-inch pots
2 To Mr. Taylor, Gardener to J. Coster, Esq, of Streatham, for a collection of Helichrysums
3 To Messrs. Veitch, for Rhododendron album grandiflorum
4 To the same, for Streptocarpus biflorus
5 To Mr. Stuart, Gardener to T. Huggins, Esq., of Norwood, for a collection of Lycopods
6 To Mr. Turner, of Holloway, for 12 Alpine Plants
7 To Mr. Smith, Gardener to W. Quilter, Esq., of Norwood, for a single specimen of Erica Bergiana
8 To Mr. Bragg, of Slough, for 12 varieties of Pansies, in 8-inch pots
9 To Mr. Williams, Gardener to C. B. Warner, Esq., F.H.S. for White Muscadine Grapes
10 To Mr. Chapman, Gardener to J. B. Glegg, Esq., F.H.S., for 6 Bellegarde Peaches
11 To the same, for 6 Brugnon Nectarines
12 To Mr. Bailey, Gardener to G. Harcourt, Esq., F.H.S., for 6 Brown Ischia Figs
13 To Mr. Judd, Gardener to Earl Spencer, F.H.S., at Althorp, for British Queen Strawberries
14 To Mr. Mann, of Mogden-lane, Isleworth, for the same
15 To Mr. Fleming, Gardener to the Duke of Sutherland, F.H.S., at Trentham, for a Trentham Hybrid Melon
16 To Mr. Cole, Gardener to H. Colyer, Esq., of Dartford, for a Hoosainee Scarlet-fleshed Melon.

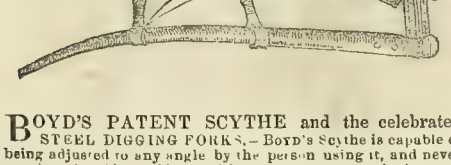
THE CERTIFICATE OF MERIT.

1 To Mr. Cole, Gardener to H. Colyer, Esq., of Dartford, for a single specimen of Leschenaultia formosa
2 To Mr. Turner, of Holloway, for a collection of British Orchids
3 To Messrs. Standish and Noble, for Lilium sinicum
4 To Mr. Over, Gardener to W. M'Mullen, Esq., of Clapham, for Hoya bella, var. Paxtoni
5 To Messrs. E. G. Henderson, of Wellington-road, St. John's-wood, for a Seedling Hybrid Pelargonium
6 To Mr. Braid, Gardener to H. Perkins, Esq, F.H.S., for 6 Brown Turkey Figs
7 To Mr. Turnbull, Gardener to the Duke of Marlborough, at Blenheim, for British Queen Strawberries.

N.B.—Among Nurserymen who showed 10 varieties of Cape Heath, Mr. Epps, of Maidstone, would have stood first if he had complied with the regulations.

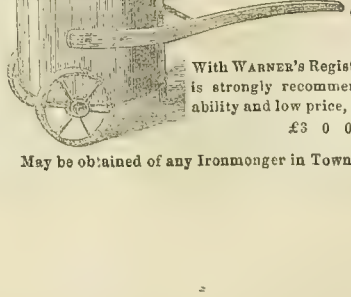
The Judges much commended the Muscat Grapes exhibited by Mr. Turnbull, Gardener to the Duke of Marlborough, at Blenheim; but could award no prize, in consequence of their unripeness.

BOYD'S SELF-ADJUSTING SCYTHE.



BOYD'S PATENT SCYTHE and the celebrated STEEL DIGGING FORKS.—BOYD'S Scythe is capable of being adjusted to any angle by the person using it, and never requires the aid of a blacksmith; when out of use it shuts up like a clasp-knife. The *Gardeners' Chronicle* thus comments upon it:—"We glad y state that Mr. BOYD's Scythe stands well the great test, experience, especially wi h his late ingenious and very useful improvement"—G C., 15th May, 1852. The Steel Digging Forks are those celebrated by Mr. Mechi. "When a labourer has once used them, he will never work with any other implement for digging. They effect a saving of nearly 50 per cent. in labour."—Wholesale and Retail at WM. DRAY and Co.'s Agricultural Implement and Machinery Warehouse, Swan-lane, Upper Thames-street, near London-bridge.

GREEN AND HOTHOUSES, made by Machinery, at J. LEWIS' Horticultural Works, Stamford Hill, Middlesex, warranted best materials, and the cheapest in England.—A List of Prices sent by enclosing 2 postage stamps.



JOHN WARNER AND SONS,
CRESCENT, JEWIN STREET, LONDON,
MANUFACTURERS OF
FIRE ENGINES, GARDEN ENGINES, AND SYRINGES.

No. 12 GALVANISED IRON TUB GARDEN ENGINE,

With WARNER'S Registered Spreader, is strongly recommended for durability and low price, viz.:—
£3 0 0

May be obtained of any Ironmonger in Town or Country.

THE ZOOLOGICAL GARDENS, REGENT'S PARK, are open to Visitors daily. The Collection now contains upwards of 1500 specimens, including the HIPPOPOTAMUS (presented by H H. the Viceroy of Egypt), ELEPHANTS, RHINOCEROS, GIRAFFES, and young LEUCORYX, ELANDS, BONTE-BOKS, CAMELS, ZEBRAS, LIONS, TIGERS, JAGUARS, BEARS, OSTRICHES, and the APTERYX presented by the Lieutenant-Governor of New Zealand. All Visitors are now admitted to Mr. Gould's collection of HUMMING BIRDS without any extra charge.

The BAND of the 1st LIFE GUARDS will perform, by permission of Col. HALL, on every SATURDAY, at Four o'Clock until further notice.

Admission, ONE SHILLING; on MONDAYS, SIXPENCE.

A NEW BEDSTEAD, portable without detaching any of its parts, packs in a sponge bath, is admirably adapted for summer use, on account of its extreme coolness, and which can be changed in one moment from a bed to a lounge or sofa for the sitting-room, may be seen at

COTTAM and HALLEN'S, 76, Oxford-street,

where also is on view a great variety of Metallic Bedsteads, fitted with and without the Patent Rheocline, &c. &c., together with a large assortment of the Patent Radiating and other Stoves, and every other description of Ironmongery.

EXHIBITION OF AMERICAN PLANTS.

JOHN WATERER begs to announce that his unrivalled collection of RHODODENDRONS, AZALEAS, &c., is now on view at the ROYAL BOTANIC GARDENS, Regent's Park, and may be seen gratis by orders from members of the Society.

His collection at the Nursery, comprising many thousand specimens, is also in perfection, and may be seen gratis.

The American Nursery, Bagshot, Surrey, near the Farnborough Station, South-Western Railway, and three miles from Blackwater, South-Eastern Railway; conveyances may be obtained at either station.

NEW PLANTS INTRODUCED BY MR. FORTUNE.

STANDISH AND NOBLE beg to announce that they possess all the highly interesting plants introduced by MR. Fortune, and mentioned by him in his recent popular work on China. Many of them are now on sale. Of the others, due notice will be given, as they are ready to send out. Every particular may be obtained by applying to the Advertisers.—Bagshot, June 19.

GLOXINIAS.—Selections from the following varieties, strong flowering plants, from 12s. to 18s per dozen:—Alba sanguinea, argyrostigma splendens, candida, Cartoni, carminata splendens, caulescens, Fybaua, marginata macrophylla variegata, maxima alba, Passinghami, Professor Decaisne, rubra grandiflora, speciosa major, Teuchlerii, Victoria regina, violacea, and Wortleyana. No charge for package.

J. and J. FRASER, Nurserymen and Seedsmen, Lea Bridge-road, Essex.

EDWARD GEORGE HENDERSON AND SON Wellington-road Nursery, St. John's Wood, London, are now prepared to forward, by post, CINERARIA SEED, saved from the best formed flowers, such as Cerito, Lady Hume Campbell, Adela Villiers, Pauline, Rosy Morn, Marianne, David Copperfield, Effie Deans, Carlotta Grisi, Prima Donna, &c.

E. G. H. and SON also beg to say, that the varieties of Calceolarias from which the seed is saved can now be seen in full bloom at the Nursery. Early orders are requisite to insure this seed, which will be sent out in July, at 5s. per packet.

SCARCE AND BEAUTIFUL FLOWER SEEDS.

EMPEROR STOCK, a perennial species, and hardy; 1400 seeds, 1s.

CINERARIA and CALCEOLARIA, selected from collections of Plants that were admitted by all persons who saw them to be the finest they had ever seen; 250 seeds of the former, and 500 of the latter, 1s. each paper.

MYOSOTIS AZORICUS, a bed of this on an eastern or northern aspect is very beautiful; 200 seeds, 1s.

CALENDRINIA UMBELLATA, one of the neatest growing and most brilliant flowering of all bedding plants; 1500 seeds, 1s.

SWEET WILLIAM, in 100 varieties; 10,000 seeds, 1s.

Payment may be made in postage stamps.

JEYES and Co., Nurseries, Northampton.

FUCHSIA RICKARDIANA.

JOHN RICKARD, FLORIST, Truro, Cornwall, begs attention to his new Seedling of 1851—a novel, globose flower, of good quality, beautifully reflexed, approaching to Glenny's ideal in this respect, smooth, and well contrasted; it is a free bloomer, of good habit, and a strong grower. The following are the opinions of the *Chronicle* and "Cabinet":—

Gardeners' Chronicle, October 18, 1851:—"A dark variety, of the ultra-reflexed class; corolla deep purple, stout and smooth, tube and sepals bright crimson."

Floricultural Cabinet, October 1, 1851:—"Tube and sepals shining red, the latter reflexing much, and fully exposing its rich plum-coloured corolla; neat and pretty."

Plants are now ready, at 5s. each; also a good dark variety (Sambo) at 2s. 6d. each.

NEW CAMELLIA.

JACKSON'S "COUNTESS OF ELLESMERE."—The undersigned are now sending out the above, price 42s. each; and for every three ordered one added gratis. On the 8th of April last it was awarded by the National Floricultural Society of London a first-class Certificate, and received the highest commendation; it is described as being of first-rate form, with broad cupped petals, of a bluish white, faintly striped with rose (see *Gardeners' Chronicle* and Gardeners' Journal for report of meeting, April 17). It is figured in the "Florist" for May, 1851, and is again mentioned in the "Florist" for this month, as having been exhibited, and deserving to be placed in every collection. It has the beautiful form of the Coup d'ilêbé Rose.—THOMAS JACKSON and SON, Nurserymen, Kingston, near London (on the South Western Railway).

CHOICE AND RARE SEEDS, confidently recommended, sold by WILLIAM DENYER, SEEDSMAN and FLORIST, 82, Gracechurch-street, London, near the Spread Eagle, at the following price per paper:—

ANTIRRHINUM, or SNAPDRAGON, 6d. Saved by an amateur from a most splendid collection.

BELLIS PERENNIS, or DAISY, very double, 6d. Saved from the new German varieties; brilliant colours, varying from the deepest crimson to white, through all the different shades.

CALCEOLARIA, saved by an amateur from the most splendid show flowers, 1s.

GAILLARDIA SPLENDIDISSIMA PLENA, 1s. A new and beautiful perennial variety.

PANSY, from the best named flowers, 1s. Saved by Thomson and other eminent growers.

New perpetual Gigantic Emperor double STOCK, 1s.—Colour, rosy crimson. *This is a splendid novelty*, lasting several years.

Autumnal-flowering double STOCKS, 6 best and brightest colours, 2s.

TRITOMA UVARIA, 1s. A hardy perennial, growing from 4 to 5 feet high, producing long spikes of crimson and orange-coloured flowers.

WALLFLOWERS, singular colours, 6 double gigantic varieties, 2s. Saved by a celebrated Continental grower, who has on several occasions gained the first prize for double Wallflowers.

CHOICE CINERARIA SEED.

LUCOMBE, PINCE, AND CO. have now ready for sending out some exceedingly fine CINERARIA SEED, carefully saved from a very select collection of all the newest and finest varieties of the season, in packets, sealed and warranted by them, free by post, 2s. 6d. each.

L. P. and Co. have also some very

SUPERIOR CALCEOLARIA SEED,

saved from well-shaped, highly coloured, well marked flowers, which they can strongly recommend; in packages, sealed and warranted by them, free by post, 2s. 6d. each.

L. P. and Co. have great pleasure in stating that they have received numerous testimonials of the satisfaction which their Calceolaria and Cineraria Seeds gave last season, and they respectfully solicit early orders, as strong plants for early flowering will be obtained by sowing now.

Exeter Nursery, Exeter, June 19.

MELON SEED.

JOHN HAYES, FLORIST, Farnham, Surrey, begs to say he has grown the VICTORY OF BATH MELON, and does not hesitate to say that it is the best Melon grown, it being early and a good setter; with good management can be ripened this year.—J. H. will send 6 Seeds for 12 postage stamps.

A quantity of Bedding Plants left, at a very low price.

STUBBLE SWEDE TURNIP SEED.

JOHN RIVERS begs to inform the Agriculturist, that the STUBBLE SWEDE may be sown from the present time until the middle of July, for a full winter crop.

Orders addressed to JOHN RIVERS, Seedsman, Sawbridgeworth, Herts, to the amount of 10s., will be carriage paid to London. — Post-office orders are requested of unknown correspondents.

BEAUTIFUL NEW PLANT.

ÆSCHYNANTHUS SPLENDIDUS.

LUCOMBE, PINCE, AND CO. beg leave to inform the Public that they purpose sending out, on the 5th of July next, strong healthy plants of their much admired NEW HYBRID ÆSCHYNANTHUS, which they can with full confidence recommend to all cultivators as a plant that cannot fail to give general satisfaction. Excellent drawings of it will be found in the "Gardeners' Magazine of Botany," Dec., 1851; and in the "Floricultural Cabinet" of last month, to which they respectfully refer, and also invite attention to the following remarks:—

"A hybrid production, and a very beautiful one. It is, no doubt, the finest of its race; which, as is well known, now contains many very splendid imported species. It will prove a most useful ornamental plant of very easy culture, and the brilliance of its large clusters of flowers will make it conspicuous amongst the most showy plants."—*Gardeners' Magazine of Botany, Dec*, 1851.

"The species under consideration ('Æschynanthus splendidus'), is one of the most recently introduced, and certainly one of the very best."—*Gardeners' Journal, March* 13, 1852.

Price 21s. each. Allowance to the Trade, one over when three are ordered.—Exeter Nursery, Exeter, June 19.

NEW CHRYSANTHEMUMS.

BASS AND BROWN can supply the following new varieties, strong and well established.

POMPON OR DWARF CHRYSANTHEMUMS.—The annexed set of 18 best new varieties for 21s., or 15s. per dozen; our selection 12s. per dozen—viz., Adonis or Ne plus Ultra, Argentine, Asmodee, Autumna, Chamelion, Cronstignac, Eliza, Gil Blas, La Gitani, Madame Lemichez, Mignonette, Modele, Ninon, Perfecta, Roi de Liliput, Sacramento, Solfaterre, Surprise.

LARGE FLOWERING VARIETIES.—The following 12 superb varieties for 12s., viz., Anaxo, Atrorubens, Erinne, Madame Laborde, Miss Kate, Monge, Naudee, Ne plus Ultra, Plutus, Racine, Rosa Mystica, Hendersonii.

Choice Chrysanthemums of best of older varieties, 5s. and 7s. 6d. per dozen.

NEW AND SELECT PLANTS.

Azalea vittata, 7s. 6d each; Azalea Symmetry, 5s. each.

Ipomœa palmata (figured in Mag. of Botany for February), 7s. 6d. each.

Gloxinia tricolor, superb and first-rate form, 5s. each.

Paul's Queen Victoria Rose, strong plants, 7s 6d. each.

Gesnera purpurea macrantha, 2s. 6d. each.

Antirrhinum Primrose Perfection, 2s. 6d. each.

" Hendersonii, 2s. 6d. each.

Capania grandiflora, fine plants, 1s. 6d. each; extra strong, 3s. 6d. to 5s.

Medinilla magnifica, fine plants, 10s. 6d.; extra strong, 15s. each. Allamanda neriiflora, 2s. 6d. each.

Cantua dependens, strong, 1s. 6d. each, 15s. per dozen; extra strong, 2s. 6d. each.

Dielytra spectabilis, 12s. per dozen.

Deutzia gracilis, 2s. 6d. each; 24s. per dozen; extra strong, 3s. 6d. each.

Hoya bella, strong, 1s. 6d. to 2s. 6d. each; extra strong, in flower, 3s. 6d.

Achimenes, 12 fine varieties, 6s; 12 superb new, 10s.

Gloxinias, 12 fine vars, 12s.; 12 superb new, 20s.

Greenhouse Plants, 50 vars. fine and select, 45s.; 25 vars., 24s.; 12 vars., 12s; 12 new and select, 25s.

Stove Plants, 50 vars. fine and select, 65s.; 25 vars., 35s.; 12 vars., 18s.

Petunias, our three new vars., Braganza, Ricartonii, and Mazeppa, 2s. 6d. each.

Our Descriptive Priced Spring Catalogue, free by post for four penny stamps, or gratis to purchasers.

Goods carriage free to London, Ipswich, Norwich, or any Station on the same line, and with orders of 2l. and upwards extra plants added gratis.

Remittances required from unknown correspondents.

Post-office orders payable to BASS and BROWN, or to STEPHEN BROWN.

Seed and Horticultural Establishment, Sudbury, Suffolk.

SUPERB SEEDLING FUCHSIAS.

LUCOMBE, PINCE AND CO. intend sending out, on the 5th of July next, the following very beautiful new FUCHSIAS:—

APOLLO (PINCE'S).—Rosy tube and sepals, well reflexed; corolla purplish lilac, finely expanded. 10s. 6d.

ASPASIA (PINCE'S).—Scarlet tube and sepals, finely reflexed; corolla beautiful blue. 10s. 6d.

PRINCEPS (PINCE'S).—Brilliant scarlet-lake tube and sepals, reflexed to a greater extent than any other Fuchsia, which produces a novel and most attractive effect; corolla deep blue. 10s. 6d.

L., P., and Co., as the raisers of "Exoniensis" and "Coralina," which gave such general satisfaction, can with confidence recommend the above to all cultivators of this favourite flower, having fully tested their qualities last season, during the whole of which, in their new Show House, they were seen and admired by numerous visitors. They possess waxy firmness, and are particularly smooth and fine in quality, void of all coarseness, of excellent habits, and blooming most profusely; indeed, the high character which these Fuchsias have obtained, from their having been so generally seen in all their stages, render it unnecessary to say any more in their praise.

P.S. Allowance to the Trade, one over when three of each are ordered.—Exeter Nursery, Exeter, June 19.

WARRANTED GARDEN TOOLS.

DEANE, DRAY, AND CO.'S STOCK OF GARDEN TOOLS for the season is now complete, and includes every recent approved invention, in addition to their usual large assortment, selected from all the best makers.

DEANE, DRAY, and Co. are London Agents for GIDNEY'S PRUSSIAN HOE, which obtained the First Prize Silver Medal at the Parvin Grand National Exhibition; also Sole Agents for Lingham's Monographs and Metallic Labels, samples of which may be had on application, post free. They have always on hand a stock of BROWN'S PATENT FUMIGATORS, which have stood the test of three seasons, and continue to give general satisfaction; also Epps' Registered Sulphurator for destroying Mildew upon Grapes, Hops, Roses, Fruit Trees, &c. An Illustrated Priced Catalogue sent per post, free.

DEANE, DRAY, and Co. (opening to the Monument), London-bridge.

AGRICULTURAL SEEDS.

PETER LAWSON AND SON'S PRICED LISTS OF SEEDS to be had free, by post, or on application, from their Agent, J. C. SOMMERS, 159, Fenchurch-street, London.

GARDENERS' BENEVOLENT INSTITUTION.—HUGH LOW and Co. present their compliments to the Subscribers of the Gardeners' Benevolent Institution, and will take it kind if any, whose Votes are not previously engaged, will, at the forthcoming Election, use their influence in behalf of JAMES GREEN, who, although perhaps one of the youngest on the list of applicants, is assuredly *the most* necessitous; and according to the rules of the Institution, has the greatest claim upon its supporters, he having been a Subscriber to the funds for TWELVE YEARS.

J. GREEN has been confined to his cottage for nearly six years, from an attack of Paralysis, by which he has lost the faculty of one side entirely, and cannot leave his Bed-room, except when carried. He lived for about 18 years in his last situation, at Williamstrip Park, near Fairford, in Gloucestershire, and had, by strict economy, saved a little to help in his declining years; but this small sum has been swallowed up by doctors' bills and other necessary expenses attendant on his illness, which compels him now, in his extremity, to appeal to the supporters of this Institution.

Proxies in his behalf will be most thankfully received by Mr. COCKBURN, Gardener to the Lord Mansfield, Kenwood, Hampstead; and by H. Low and Co., Clapton Nursery, London.—June 19.

The Gardeners' Chronicle.

SATURDAY, JUNE 19, 1852.

MEETINGS FOR THE ENSUING WEEK.

MONDAY,	June	21	Chemical	8 P.M.
			Statistical	8 P.M.
TUESDAY,	—	22	Horticultural	3 P.M.
			Medical and Chirurgical	8 P.M.
			Zoological	9 P.M.
WEDNESDAY,	—	23	Royal South London	1 P.M.
			Microscopical	8 P.M.
THURSDAY	—	24	Royal Soc. of Literature	4 P.M.
			Numismatic (Anniversary)	7 P.M.
SATURDAY,	—	26	Royal Botanic Gardens (Rose Show)	2 P.M.
			Royal Botanic	3 P.M.

COUNTRY SHOWS.—Tuesday, June 22: Great Marlow.—Wednesday, June 23: Oxfordshire and East Essex.—Thursday, June 24: Nottingham, Maidstone, Chichester, Bath, Liverpool, Hull, Aylesbury, and Kirkcaldy.—Friday, June 25: Meath.

ON the 12th inst. took place the second of the great HORTICULTURAL DISPLAYS AT CHISWICK. For the previous week it had rained in torrents, all day long, or at intervals. The ground was therefore damp, for neither sun nor wind had carried off the water; but the Grass was as green as emeralds, and the trees in their freshest foliage. At 6 in the morning many believed that it had frozen; the thermometer really stood at 44° at that time, and had been at 40° two hours earlier; by noon the temperature had risen with difficulty 15°, and at 6 P.M. it was only 56°. Not a gleam of sunshine cheered the scene; but it did not rain, and 4719 visitors examined the tents with all the gratification which the love of flowers on the one hand, and an endless variety of most beautiful specimens of cultivation on the other, could create.

That the splendid effects produced at the previous meeting by the Chinese Azaleas were missed could not but be perceived; but, on the other hand, Heaths were much finer; Cacti made their appearance, and a good many Azaleas, some of surprising beauty, still lingered on the scene. Our reporter tells elsewhere of these and all the other plants, as fully as our columns will permit. For ourselves, we have only to point to a most glorious Lælia, from St. Catharine's in Brazil, called purpurata, exhibited by Messrs. BACKHOUSE of York, and to two charming evergreen Berberries from China, exhibited by Messrs. STANDISH and NOBLE. These were the great novelties of the day, and rank among the highest of their respective classes.

To return to the consideration of the half-hardy Mediterranean species, of the group before mentioned; it is remarkable that many of the species alluded to, able to bear winter cold but requiring summer heat, gradually extend their natural region of spontaneous production in the direction of the Black Sea, the Crimea, the Steppes of Southern Russia, the borders of the Caspian, and the south-eastern steppes of even Tartary and Siberia. Not only genera, but species—which in Britain, not from too mild a winter, or too wet a summer, or flourishing a short time in our gardens, dwindle and fail eventually from not forming or perfecting their seed, owing to the absence of dry heat, which they meet with for a short season, as well in Siberia as in Spain—are found identical in that long range of diversified temperature. The necessary conditions are fulfilled, and there is all the climate that the plant requires.

Besides the characteristic indigenous genera of this north-eastern extension of the South European Flora, there are some cultivated annuals which equally mark the climate.

Without giving a long list, the following genera may be named, as extending from the Mediterranean into the regions of Eastern Russia.

Astragalus, Hedysarum, Oxytropis, Alhagi, Glycynbriza, Rhus, Tribulus, Salsola, Artemisia, &c., all wild, and in such quantity as to give a marked character to the districts they abound in; while among cultivated plants of the south (exclusively annuals, as might be expected in such a climate),

the Melon, Water Melon, Maize, Millet, Sesamum, some Capsicums, and Cucumbers, are common articles of cultivation in the open fields. The Vine, though perennial, being regularly buried under ground every autumn before the snow falls, and not uncovered till late in the spring, will give a correct measure of the climate, ripening in open Vineyards in summer, so that its treatment may almost be said to be that of an annual. Among ornamental plants, the herbaceous species of Hibiscus, which rarely, if ever, reach their flowering period in England, flourish in great beauty. Althæa ficifolia, the wild Yellow-flowered Hollyhock is a native both of Sicily and of the steppes of the South of Russia.

All this takes place in a climate whose winter temperature will not allow a Chestnut, a Laburnum, a Laurel, or a Box to live: where Daisies and Primroses are unknown, though considerably south of London.

In some instances the converse of the proposition, as it may be called, is proved true, by the uninjured state of several Siberian plants even under the sun of Naples and Sicily.

Thirdly, there is another group of plants forming part of the Flora of the Mediterranean which, unlike those last described, demand but a low degree of summer temperature to complete all the processes of growth, flowering, and ripening seed; but which absolutely require a mild winter, not necessarily so temperate as that of the south of Europe, but far more so than that to which the species of the last group are able to accommodate themselves. These will be found to extend their native localities as far to the north-west of the Mediterranean basin as those of the former group were seen to do towards the north-east; stretching through the Pyrenees, Portugal, Brittany, England (chiefly but not exclusively on the west coast) to Ireland and west of Scotland.

Such are Rubia peregrina, Scilla autumnalis, Ulex, Erica ciliaris, Inula crithmoides, Linum angustifolium, Lithospermum purpuro-cæruleum, Irish Ivy, Pinguicula lusitanica, some Ferns, Euphorbia paralias and hyberna, Cyclamen neapolitanum (wrongly called europæum), Cyperus longus, and other less conspicuous species, among natives; while the privilege of being able to adorn our gardens with the bulbous plants of Spain, Italy, and Greece, and our shrubberies with the evergreens of every southern land from the Atlantic to the Caucasus (which in middle Europe are not to be seen but in the greenhouse, or even stove), sufficiently attests the superiority of our climate.

The remaining climates, or regions of climate in Europe, will be more quickly described, being simpler in their character, and not so important in their bearing on horticulture.

Everybody knows ARTHUR YOUNG's map of the climate of France, as represented by her principal productions of the soil; a demonstration adopted as correct by French works on agriculture. There may be seen a series of lines following, more or less regularly, a diagonal direction from south-west to north-east, in proof of the extreme limits of certain main objects of cultivation: one line ranging behind the other, in proportion to the greater summer warmth required for its maturity. One line alone, and that the most southerly, is seen to pursue an irregular course, and not to follow the general slanting direction of the others. The reason is obvious; it is the line of cultivation of the Olive, a truly southern plant, demanding both mild winters for its existence as a tree, and hot summers for the ripening of its fruit. Why do not the two other chief cultivated plants follow a like devious but parallel line? Because one, Indian Corn, is an annual, and provided it has summer heat, winter warmth is no object; and the other, the Vine, though a ligneous perennial, is so hardy that it withstands far more severe winters than those of any part of France, though it is not every part of France that has summer heat strong or rather constant enough to bring its fruit to perfection. Therefore summer temperature alone rules the cultivation of the Vine, Indian Corn, and similar hardy annuals or perennials, while the necessity for a combination of the requisite summer heat and winter mildness, is the principle that draws that restricted outline within which such plants as the Olive, the Orange, &c., are capable of culture.

One thing is wanting, however, to the climate-map of France. We should have a corresponding indication of lines within which certain agricultural roots, garden winter vegetables, Peas and Beans in winter, &c., are produced. It is hardly a presumption to say that, if laid down, such lines would probably be found to follow quite a different direction from the others, namely, from south-east to north-west, and would be confined to the south-western part of France for some species, but would be prolonged into the north-western lines for others. In the latter case, the principle at work for both Vines and Maize and winter Greens would be the same, the damp mildness of the climate, which discourages the cultivation of the former, being the very cause most favourable to the latter. Thus France would represent an epitome of the climate of western Europe, as containing within her western provinces—probably near the mouth of the Loire, the very turning point of the milder—or it might be termed—the Atlantic—modification of the European climate.

The same thing would be seen on a smaller scale, and less strongly marked on account of the minor importance of the plants cultivated, in a map of the British Isles similarly divided. But as a phenomenon of climate, it would be still more remarkable than the case of France, inasmuch as it occurs in more northern latitudes.

It will be observed, that in laying two such maps, one of France and one of England side by side, the winter lines in the north of France and south of England would run in different directions; those of northern France being, as before stated, coincident with the summer lines of ARTHUR YOUNG, while those of southern and western England would be parallel to the analogous, though far distant lines supposed to be drawn in the south of France: that is, from south-east to north-west. The reason of this is, that the British Channel must be considered as a repetition of the Mediterranean Sea, reproduced in a colder climate, but with the same relation to the Atlantic on the west, and to the mass of the continental lands on the east: in other words, to the origin of drought on the one hand, and humidity on the other, which are the two great modifiers of heat and cold in every part of Europe.

This points out the natural conclusion to which we must come, namely, that it is scarcely possible, except in very favoured situations, to combine a mild winter temperature with a warm summer one; and that a climate like ours where, to omit other species of greater delicacy, the Pomegranate, the Magnolia, the Rhododendron, the evergreens of Spain and Italy, the Pines of Mexico and India, the various plants that daily reach us from New Zealand, Van Diemen's Land, California, Carolina, and Georgia, and even some few from North and South Africa, can all be grown out of doors, and be planted or transplanted during more than half the year, is, perhaps, the best garden climate in the world.

DURING our researches into the uses of LOAM we have met with a substance the existence of which ought to be made known, for the benefit of the ingenious producers. It appears that there exists at Newcastle an article of export called "British wares various," so much like Peruvian guano in appearance that the one may be mistaken for the other. Some time since the Agenora brought about 120 tons of this substance to London, and discharged it into barges which took it to Mr. ASHTON's wharf. As we have said, it is called "British wares various," at least the cargo in question was so entered at the Custom-house.

At first we thought the substance was guano, to which its likeness was striking; but a little reflection showed that that could hardly be the case; firstly, because it had no smell, and in the second place, because guano is not a Newcastle export. We then imagined it to be loam; but its fineness and smoothness negatived that supposition. So we sent it to Prof. WAY, who found it to be composed as follows, viz.:—

	Per cent.
Moisture and organic matter	1.00
Sand and clay	6.88
Earthy phosphates	15.19
Gypsum	69.12
Carbonate of lime, alkaline salts, &c. ...	7.81
	100.00

"British wares various" appear then to be a mixture of ground coprolites and gypsum, in the proportion of one part of the former to two parts of the latter. Can any of our correspondents possibly assist us to a knowledge of the use to which this is applied? A Mr. COLES is entered at the Custom-house as agent for the Agenora; some one who sees this may possibly be acquainted with the gentleman, and in that case will easily learn what is done with it?

Is it used as a substitute for loam? or by the plasterers? or as a new ingredient in snuff? or for some secret gardening purpose? We are very curious to know.

GARDENERS' BENEVOLENT INSTITUTION.

THE Ninth Anniversary Dinner of this Institution was held on Monday last at the London Tavern; and we have much satisfaction in recording its complete success, not only in all the essentials of the festive board, but in the presence of many influential supporters of the charity, and their contributions to the funds of the Institution.

The chair was taken by Mr. CHARLES DICKENS; and amongst the gentlemen present were, Sir Joseph Paxton, Sir John V. B. Johnston, Bart., M.P., Robert Hanbury, Esq., H. T. Hope, Esq., M.P., Charles Knight, Esq., James Thomson, Esq., C. B. Warner, Esq., J. H. Schröder, Esq., Thomas Moxon, Esq., John Murray, Esq., Robert Wrench, Esq., J. M. Wrench, Esq., Capt. Wrench, T. N. Farquhar, Esq., F. Fuller, Esq., Mark Lemon, Esq., J. Scott Russell, Esq., J. Mechi, Esq., E. Lawford, Esq., E. Purser, Esq., and others, to the number of more than 150. A large assembly of ladies was present in the gallery. The dessert was worthy of the company; and an admirable effect was produced by a profuse display of natural flowers upon the tables and in the decoration of the room. It is, indeed, much to be regretted that the miserable artificial flowers generally used at public dinners are not altogether superseded by the productions of Nature, which they so feebly imitate.

In proposing the health of "The Queen," the CHAIRMAN observed that it might be well assumed that her Majesty had a general interest in gardens, as affording a most agreeable relief from the cares of state and the gold and silver splendours of the palace; that she also felt an interest in gardeners was proved in the most emphatic and gracious manner, by a donation of 50*l.* to the funds of the Institution. (Loud cheers.) The toast, as well as that of the "Prince Albert and the Royal Family," was drank with great enthusiasm. The toast of "The Army and Navy" was drank in connection with the name of Captain WRENCH, who acknowledged the compliment with true military spirit.

The CHAIRMAN said that he had next to offer to the company the toast which must express their interest in, and their cordial good wishes for, the Institution in whose behalf they had assembled. For three times three years the Gardeners' Benevolent Institution had been stimulated and encouraged by such meetings; and by three times three cheers they would urge it onward in its prosperous career. (The cheers were warmly given.) Occupying the post he then did, he felt something like a counsel for the plaintiff with nobody on the other side; but even if he had been placed in that position ninety times nine it would still be his duty to state a few facts from the very short brief with which he had been provided. The Institution was founded in the year 1838. During the first five years of its existence it was not particularly robust, and seemed to have been placed in rather a shaded position; receiving somewhat more than its needful allowance of cold water. In 1843 it was removed into a more favourable position, and grafted on a nobler stock; and it had now borne fruit, and become such a vigorous tree that at present 35 old people daily sat within the shelter of its branches (cheers); and all the pensioners upon the list had been veritable gardeners, or the wives of gardeners. It was managed by gardeners; and it had upon its books the excellent rule that any gardener who had subscribed to it for 15 years, and conformed to the rules, might, if he would, be placed upon the pensioners' list without election, without canvass, without solicitation, and as his independent right. He laid very great stress upon that honourable characteristic of the charity, because the main principle of any such institution should be to help those who helped themselves. (Cheers.) That the Society's pensioners did not become such, so long as they were able to support themselves, was evinced by the significant fact that the average age of those now upon the list was 77; that they were not wasteful was proved by the fact that the whole sum expended on their relief was but 500*l.* a-year; that the Institution did not restrict itself to any narrow confines was shown by the circumstance, that the pensioners came from all parts of England; whilst all the expenses were paid from the annual income and interest on stock; and therefore were not disproportionate to its means. (Cheers.) Such was the institution which appealed to them through him, as a most unworthy advocate, for sympathy and support; an institution which had for its president a nobleman whose possessions were remarkable for taste and beauty, and whose gardener's laurels were famous throughout the world. (Loud cheers.) In the list of its vice-presidents there were the names of many noblemen and gentlemen of great influence and station, and he had been struck in glancing through the list of its supporters with the sums written against the names of the numerous nurserymen and seedsmen therein comprised. He hoped the day would come when every gardener in England would be a member of the charity. The gardener particularly needed such a provision as the institution afforded; his gains were not great; he knew gold and silver more as being of the colour of fruits and flowers than by its presence in his pockets; he was subjected to that kind of labour which rendered him peculiarly liable to infirmity; and when old age came upon him, the gardener was of all men perhaps best able to appreciate the merits of such an institution. To all indeed, present and absent, who were descended from the first gardener Adam and his wife, the benefits of such a society were obvious. In the culture of flowers there could not, by their very nature, be anything solitary or exclusive. The wind that blew over the cottager's porch, swept also over the grounds of the nobleman; and as the rain descended on the just and on the unjust, so it communicated to all gardeners, both rich and poor, an interchange of pleasure and enjoyment; and the gardener of the rich man, in developing and enhancing a fruitful flavour or a delightful scent, was, in some sort, the gardener of everybody else. (Cheers.) The love of gardening was associated with all conditions of men, and in all periods of time. The scholar and the statesman—men of peace and men of war—had agreed in all ages to delight in gardens; the most ancient people of the earth had gardens where there was now nothing but solitary heaps of earth; the poor man in crowded cities gardened still in jugs and basins and bottles; in factories and workshops people gardened; and even the prisoner was found gardening in his lonely cell, after years and years of solitary confinement. Surely, then, the gardener, who produced shapes and objects so lovely and so comforting, should have some hold upon the world's remembrance when he himself became in need of comfort. (Cheers.) He would call upon them to drink, "Prosperity to the Gardeners' Benevolent Institution," and he begged to couple with that toast the name of its noble president, the Duke of Devonshire, whose worth was written in all his deeds, and who had communicated to his title and his riches a lustre which no title and no riches could confer. (Great applause.)

Sir JOSEPH PAXTON, in responding to the toast, on behalf of his Grace the Duke of Devonshire, observed that the two objects which it embraced were both very near and dear to him, and he therefore considered it most impressive and important. His warmest and most generous sympathies were enlisted in the cause of the Institution, which it had been his good fortune to be in a position somewhat to assist; and his warmest love and gratitude were due to his Grace, the President, for the manner in which he had been for six-and-twenty years connected with him. (Loud cheers.) He felt that he need not dilate upon the advantage to the charity of having the Duke of Devonshire as its president (Cheers); no man had given more assistance to horticultural science than that nobleman; and he hoped it would not be thought egotistical in him to say that the great advances which that study had made were largely due to the support which the Duke had given, through him, to every branch of it; inasmuch as that support and encouragement had stimulated the energies of many others. (Cheers.) Twelve years ago a great impetus was given to horticulture by the erection of the large conservatory at Chatsworth, built, as it was, upon an entirely new principle, and covering nearly an acre of ground; and the Crystal Palace was in fact the result of that great conserva-

tory, and of the encouragement given to him by the Duke of Devonshire. The Crystal Palace was, in fact, as much the work of the Duke as of himself; for through his Grace's support he had been enabled to try every necessary experiment as to its construction. (Cheers.) The project for the Crystal Palace, as they were all aware, was brought forward when the public had condemned the notion of a brick and mortar building in Hyde Park; and in all the trials and difficulties which he had to encounter he had been supported by the Duke of Devonshire. It had been decided that the building should be removed; and he had been requested by the spirited company which had embarked in it to lend his aid and assistance in its removal to a new site. In this also the Duke had most cordially supported him, and had placed himself at the head of the new movement. The design for the re-erection of the building at Sydenham had, he believed, enchanted his Grace more than the original plan. It had certainly had more consideration from him, and had been improved by the experience he acquired in designing the building for the American Exhibition; and the public would now see a Crystal Palace of the utmost possible magnificence. In the former building gardening, and the exhibition of flowers, was prohibited; but in the new one it would form a prominent characteristic; and if carried out by the spirited gentlemen engaged in it in the manner at present indicated, he was confident by that day 12 months he should be able to give a very good account of the removal of the Crystal Palace. (Loud cheers.) He could not find words to express his gratitude to the Chairman for the warm and enthusiastic manner in which he had advocated the cause of the Gardeners' Benevolent Institution, intended as it was for the benefit of a class of men than whom none connected with the industry of the country were more deserving of sympathy and support. (Loud cheers.)

Sir JOHN JOHNSTON, M.P., regretted that through the absence of two noblemen who had been expected at the dinner, the task of proposing the next toast devolved upon him. The toast, however, needed no eulogium from him, being the health of one whose name was as familiar in the mouths of Englishmen as his own "Household Words." (Great applause.) The Chairman had been a great and a most successful labourer in the garden of literature; he had on various occasions culled from that garden bouquets and nosegays of every form and hue; the fragrance of which still remained; and there was no brighter wish that could be offered to him than that all his annuals might become perennials; and that the latest posterity might derive as much pleasure from them as the present age. (Loud cheers.) The charity could not but most deeply appreciate the attendance and the advocacy of their distinguished Chairman, whose health he called upon the company to drink with nine times nine. (The toast was drank with the greatest enthusiasm.)

The CHAIRMAN begged most unaffectedly and heartily to thank the company for the honour they had done him; but, looking to the other toasts upon the list, he would at once proceed to say that it was most important to all such charities to have the aid of efficient honorary officers, who, not merely under the excitement of an occasional festival, but at all times, were prepared to do them service. Among such officers none were more important than the vice-presidents, and he had much pleasure therefore in proposing "The Vice-Presidents," and the health of one of them, who was present, Mr. R. Hanbury.

Mr. HANBURY expressed his deep interest in horticultural pursuits; and his sincere thanks for the honour conferred upon him.

The SECRETARY (Mr. CUTLER) read a long list of subscriptions and donations, including the names of the Duke of Devonshire, 20 guineas; the Chairman, 5 guineas; Sir Joseph Paxton, in addition to many former subscriptions, 10 guineas; Mr. H. T. Hope, M.P., 10 guineas; R. Hanbury, Esq., 21*l.*; Truman, Hanbury, and Co., 10*l.* 10*s.*; S. Gurney, Esq., 10*l.* 10*s.*; C. Barclay, Esq., 10*l.* 10*s.*; T. N. Farquhar, Esq., 10*l.* 10*s.*; F. Fuller, Esq., 10*l.* 10*s.*; J. Murray, Esq., 10*l.* 10*s.*; J. H. Schröder, Esq., 10*l.* 10*s.*; T. Moxon, Esq., 10*l.* 10*s.*; J. Reeves, Esq., 10*l.* 10*s.*; C. A. Skinner, Esq., the proceeds of a sale of Orchids, 35*l.*; Baron Rothschild, 10*l.* 10*s.*; Mr. J. Johnston, 5*l.* 5*s.*; making a total of upwards of 300*l.*

The CHAIRMAN said that his office had compelled him to burst into bloom so often that he could wish there were a closer parallel between himself and the American Aloe. It was particularly agreeable and appropriate to know that the parents of the Institution were to be found in the seed and nursery trade; and the seed having yielded such good fruit, and the nursery having produced such a healthy child, he had the greatest pleasure in proposing "The Health of the Parents of the Institution," and to couple with the toast the name of Mr. James Thompson. (Cheers.)

Mr. THOMPSON replied, and expressed the pleasure which he felt, and which must be shared by those with whom he had been joined, in the fact that the toast had been proposed by the godfather of Sam Weller, Oliver Twist, and Martin Chuzzlewit; the biographer of the Dombey family, and many other celebrated individuals; the architect of Bleak House; and last, not least, the reporter of that most extraordinary of all suits—Jarndyce *versus* Jarndyce. (Cheers.) In humble imitation of an individual with whom they were all acquainted—the celebrated and immortal Captain Cuttle—he should not fail to "make a note" of an event so gratifying. (Cheers.)

The CHAIRMAN next proposed "The Horticultural and Botanical Societies of London," and Mr. H. T. Hope. That gentleman had objected to the association of his name with the toast; because he was not now, as he had been, connected with those Societies. Mr. Hope, however, was not a

"—— flower born to blush unseen,
And waste its sweetness on the desert air;"

and therefore he called upon the meeting to do all honour to a gentleman whose merits were so well known to them. (Cheers.)

Mr. HOPE acknowledged the toast. The Chairman, whose advocacy of the Society he warmly eulogised, had treated him as a forced flower, and he could not therefore refuse to blossom; but his bloom and fragrance would be far inferior to that of the natural flowers which so appropriately adorned the room. He sincerely thanked them for the honour they had done him, and trusted the result of the evening's proceedings would smooth the downward path of those whose cares and sorrows the charity was intended to relieve. (Cheers.)

In proposing the health of "The Treasurers," the CHAIRMAN said that his observation of the sign-boards of this country had taught him that its conventional gardeners were always jolly, and always three in number. (Laughter.) Whether that conventionality had reference to the three Graces, or to those very significant letters, £ *s. d.*, he did not know. Those mystic letters were, however, most important; and no society could have officers of more importance than its Treasurers; nor could it possibly give them too much to do. (Cheers.)

Mr. WARNER responded to the toast, and felt assured that the services of Mr. Dickens, as their Chairman, had attracted large additions to the coffers of himself and his colleague, as Treasurers of the Society.

The CHAIRMAN gave the health of Mr. Spencer, and "Horticulture," and adverted to the valuable and practical remarks of that gentleman at the last anniversary festival.

Mr. SPENCER, in reply eulogised the judgment displayed by the committee in their selection as chairman of the day of a gentleman whose whole life had been one demonstration against selfishness, and who in every way had shown his sympathy with the distressed. Mr. Spencer claimed a high position for horticulture in this country, though acknowledging that it was not so exalted as in France or Germany; and concluded his remarks with a graceful reference to the presence of Sir Joseph Paxton, the originator of the great Temple of Peace, the very existence of which would form an epoch in the history of the world.

"The Stewards," "The Secretary," and "The Ladies," were the concluding toasts; in proposing each of which the Chairman delighted the company by the point and eloquence of his remarks; regretting, in reference to the last, that he could not address the meeting as "Ladies and Gentlemen," by the stupid conventionality which made the ladies spectators only, and not partakers in their festivities.

The Misses Wells, Mr. Genge, and Mr. Farquharson Smith, contributed by their professional exertions to the enjoyment of the evening; and it is due to Mr. E. R. Cutler, the Secretary, to acknowledge the entire success of the general management, which devolved solely upon him.

Home Correspondence.

Vine Mildew.—I cannot agree with Mr. Graham, when he asserts that sulphur used in a dry state does not effectually destroy mildew amongst Vines, &c. No one, I think, has had much more to contend with, in regard to this pest, than myself; and having at all times applied the sulphur in as dry a condition as possible most successfully, which the Grapes exhibited at the Horticultural Society's Rooms in October last amply showed, I am confident that its action is most powerful in a dry state. I have never found any difficulty in diffusing the sulphur, or making it adhere to every part of the plants; to facilitate this I generally slightly syringe the house at night, and apply the sulphur before air is given on the following morning, when the plants and house are in a nice humid condition. After its application the temperature is raised considerably, which causes a gaseous evolution to take place, with which the air of the house is very perceptibly impregnated, and which, in my opinion, has a most salutary and purifying effect, even on such mildewed parts as may have escaped a dusting. In the application of sulphur, whether it be through the medium of water or otherwise, I deem it of paramount importance to increase the temperature of the internal air by employing stronger fire heat, and dispensing with water in any form for some few days. I recollect some time since being told by a person who stated that he had several large Vineries under his superintendence, that he arrested the mildew entirely by creating a high temperature, without the use of sulphur or anything else, which, if correct, is worth knowing; but not having tested the advice I cannot speak to its accuracy. So far, however, as my experience leads me, I am induced to believe that were a higher heat employed, avoiding those fluctuations which are sometimes allowed to occur, mildew would have no existence, and our patience would not be tired by its intrusion. Where houses are densely filled with plants of an ornamental character Vines have not fair play; they should be comparatively free, and at liberty to inhale air in its purest form. Nothing is so conducive to the growth of the Vine fungus as a stagnant atmosphere surcharged with humidity, and a transitory ever-varying climate. *George Fry, Manor House, Lee.*——Permit me to add my testimony in favour of sulphur, as recommended by Mr. Graham, for the cure and prevention of mildew on the Grape Vine, &c. I have used it as stated for several years, and I have never suffered from mildew; but I have found that it should be used fully a week before the Vines come into bloom, so that the powerful fumes may pass off before that time; otherwise, if the weather is hot and sunny, it is likely to cause "rust." I only use one dressing, which I never wash off, and that is the only syringing my Vines receive from their coming in leaf till the fruit is cut; the minute particles of sulphur adhere to the foliage, and footstalks of the bunches and berries (the fruit being perfectly clean) all the season; and any person passing through the houses and not knowing that sulphur had been applied, would not notice it, except by taking hold of and examining the backs of the leaves. It will also prevent the ravages of red spider, as my leaves are generally as green and healthy when the fruit is ripe as when the Vines are in bloom. *R. G., June* 15.

Size of Conifers at Eggesford.

	Height—ft.	in.
Abies Douglasii ...	58	1
Girth at 1 foot from the ground ...	6	1
Ditto at 5 feet ...	5	0
This flourishing tree was planted in 1835.		
Abies Deodara ...	22	8
Araucaria imbricata	20	5
Pinus ponderosa ...	40	2
„ insignis ...	31	6
Girth at 1 foot from the ground ...	3	10
Pinus insignis (2d) ...	35	4
„ ponderosa ...	40	2
„ Menziesii ...	25	9
„ Canadensis ...	21	6
„ excelsa	21	5
„ Cembra ...	15	2
„ apulcensis ...	22	10
„ orientalis ...	17	6
„ Banksiana ...	25	6
„ halepensis ...	20	3

John Woods, Gardener and Forester to the Hon. Newton Fellowes, Eggesford, Chumleigh, Devon, June 12.

Fumigation.—Perhaps the following plan may be found useful. In ¼ lb. of saltpetre, dissolved in a sufficient quantity of water, soak 1 lb. of tobacco, and after it is well dried, place a portion on some red-hot coals in a pan in the house, which it is necessary to fumigate. This will do away entirely with the unpleasant attention necessary with the plan mentioned at p. 357, and not leave a speck of tobacco unburnt, as is generally the case when the other method is resorted to. *A Constant Reader, Worcester.*

Chiswick Exhibitions.—As I am entirely ignorant of the rules and regulations of the flower shows at Chiswick, I beg to ask you if it is allowable for one exhibitor to "borrow" plants of another, and exhibit them as his own property? I know it is done to some extent, and I think it unjust. *Nemo.* [It is not tolerated, nor do we believe that it is done. At all events, if you will *prove* the practice upon any one, he will find very disagreeable notice taken of it.]

Worms.—The other evening, rather late, and after a heavy thunder-shower, I walked round the garden (not a large one), and was much struck by the immense number of huge worms, varying from 5 to 8 inches in length, which had come up from the bowels of the earth to enjoy the sweets of the upper regions. The thought immediately occurred to me that the sustenance of this slimy crew must be prejudicial to the shrubs and trees in the garden; so I set to work, and in a comparatively short time collected about a gallon of the destructive grubs. I considered the number enormous for half-an-hour's work; was it so? Likewise, was the space they occupied beneath the beds more desirable, or more necessary to the welfare of the garden than their presence? *H. I. P., Carlisle.* [Let the worms alone. They do you more service than you think of. It is only in garden pots and in lawns or walks that their presence is undesirable.]

How to Transplant the common Utricularia.—If "Aline" (see p. 360), finds the plant in bloom, she should take it up carefully with as many roots attached to it as possible, wrap it in wet Moss, on no account letting it get dry, and remove it to where it is to planted, which should be in water not more than 1 foot deep; the same treatment will apply to all British aquatics. *W. Turner.*

Rhubarb Jam.—To make this for present use, is simply to cut the Rhubarb into slices, and boil it gently for an hour, then strain and press it, and add sugar to suit the palate. Without the straining process, it is not so good for tarts or puddings; it is then most palatable and conducive to health, as its acidity is thus removed. But it is better eaten with plain bread than with pastry, and it is thus found to be most agreeable for children. It allays thirst, and gently subdues habitual costiveness. When eaten, a little cream or new milk is a good addition. *Hardy and Son, Maldon.*

Moutans.—Seeing, at p. 359, some account of a large Moutan, at Grays Court, induced me to count the flowers on one here, while cutting off the seed-vessels, and I found them to be 351 that had expanded, and 18 that remained to open—in all 369. The dimensions of the bush are, height 6 feet, breadth, one way 11 feet, and the other 8 feet, caused by a principal walk being close to it. The plant has received no protection, and is fully exposed to north and east winds. It is evidently very old, but I am unable to say when it was planted; some say it is the finest tree in the kingdom. Has anybody one larger? *Edgar Sanders, gardener to J. R. Mills, Esq., Kingswood Lodge, June* 14.

The Mango.—Captain Egerton seems to agree with the late Sir James Mackintosh in his love for the Mango. "Another luxury we had here (Bombay) was the Mango. I think I had tasted it in the West Indies before, but I don't think I ever saw any hardly so good as they are here, although it is too early in the year for them to have reached perfection. I am told that a rich Parsee has for years been endeavouring (but without success) to get some sent to the Queen; they never got home fit to be eaten. He was still however going to persevere; so I hope her Majesty may one day taste what I think certainly the most delicious fruit I ever tasted. To my notion it smells and tastes something like the most exquisite Geranium." (Journal of a Winter's Tour in India, by the Hon. Captain Egerton.) I can fancy the smell being like a Geranium, but the only Geraniums I ever tasted were sour. I hope the Parsee may succeed, and that her Majesty may some day taste this concretion of the Geranium. Perhaps some of your loyal correspondents may be able to assist the benevolent Parsee in his good intentions in catering for the Queen. I recollect George IV. was long anxious to ascertain whether the white Truffles which are principally found near Turin so far surpassed the black ones as Italian gourmand travellers reported. But it was in vain that the quickest couriers brought this rare delicacy, they were always spoiled before they crossed the sea. Railroads we may hope will now place this delicacy within the reach of royalty. *Dodman.*

Elvaston Gardens.—Will you oblige by inserting in your Paper a correction of a report to the effect that the gardens at Elvaston Castle have been dismantled by the sale of the choice trees. It is quite true that some of our many supernumerary trees, which are undoubtedly fine, have been sold, but not a single specimen has been parted with that has in the least injured the appearance or grandeur of these gardens; and the public may rest assured that such never will be the case. *William Barron, Elvaston Castle, June* 17.

The New Glass Houses at Trentham.—My attention has been directed to the article published at page 372, by Mr. Fleming, giving particulars of new forcing houses erected at Trentham, with illustrations. I was pleased to observe the satisfactory manner in which he spoke of moving the lights, &c.; but as it is a direct infringement of my patents for "Moving and Fastening Windows, &c.," I thought it right at once to apprise you of it, in order that (if you thought proper) you might put your readers upon their guard; for although I shall be glad to see the mode generally adopted, it can only be by making terms with me. The invention has been long since known to you, and you were good enough to exhibit a number of models at a meeting of the Horticultural Society in 1847, and in the same year you noticed it by remarks with some illustrations (October 23) in the *Gardeners' Chronicle. George Hurwood, College-street, Ipswich.*

Rhubarb Wine.—To make this, wait till the Rhubarb is ripe, at the end of June, or beginning of July. Cut it into thin slices, about 8 lbs. to a gallon of boiling water;

cover it and stir it daily for a week, then strain it through a cloth, and add 3 lbs. of sugar to each gallon, which, at 3*d.* per lb., makes a cost of about 1*s.* per gallon (loaf-sugar, however, is best). It may then be casked up, or put into large stone bottles, and in six months it will be delicious. *Hardy and Son, Maldon.*

Societies.

Horticultural: Garden Exhibition, *June* 12.—The leading features of this brilliant midsummer display of flowers and fruits being touched upon in another column, we shall, as before, confine ourselves here entirely to details.

In collections of 20 Stove and Greenhouse Plants, the first prize was awarded to Mr. May, gr. to Mrs. Lawrence, of Ealing-park, for as good a group of plants, perhaps, as ever was staged. At the back stood a Polygala acuminata, upwards of 7 feet in diameter, and profusely covered with flowers; the graceful Coleonema rubrum, equally fine; Azaleas coronata, magniflora and lateritia, still "mountains of flower;" the blue Leschenaultia, more than 3 feet through, and a mass of blossoms; Stephanotis floribunda, fresh, sweet, and beautiful; a very fine specimen of the red variety of Erica tricolor, and the Cavendish and other Heaths, together with the handsome pink-blossomed Adenandra fragrans, one of the better kinds of Everlasting, the ever-flowering red Leschenaultia, Ixora crocata, the clear yellow Gompholobium splendens, in the shape of a little bush, which looks much better than when it is trained stiffly on a trellis; Boronia serrulata, the Showy Rondeletia, the brilliant Epacris miniata, Pimelea mirabilis, in the way of, but rather handsomer than, decussata; and a noble Clerodendron Kæmpferi.—The second prize was awarded to Mr. Cole, gr. to H. Colyer, Esq., of Dartford, for a fine exhibition, which comprised a huge Allamanda Schottii, Dipladenia splendens, unusually well flowered; the charming D. crassinoda, the pale yellow-blossomed Allamanda grandiflora, Clerodendron paniculatum, bearing enormous panicles of gaudy flowers, the White Ixora, hardly sufficiently advanced in bloom, the Gledstane Azalea, a well-flowered Phænocoma proliferum, Leschenaultia formosa a depressed pyramid of red blossoms, the sweet Stephanotis floribunda, an Everlasting, Pimelea Hendersoni richly ornamented with rosy blossoms, Erica Cavendishii and two varieties of E. tricolor, the Hoya-like Cyrtoceras reflexum, Polygala acuminata and cordifolia, the rosy-eyed white-flowered Vinca, Pimelea mirabilis, an immense Pimelea decussata, and an example of Azalea lateritia, Gledstanesii, and variegata, all "worked" together on one stock.—A third group was contributed by Mr. Taylor, gr. to J. Coster, Esq., of Streatham. It consisted of a good Stephanotis floribunda, the favourite white-flowered Gardenia florida, a finely blossomed Chironia glutinosa, Erica Cavendishii, a complete mass of yellow blossoms; and the ever-flowering E. mutabilis, the red Leschenault, Boronia serrulata and pinnata, the Scarlet Ixora, the bright yellow Allamanda cathartica, Polygala cordifolia, and one or two other plants.—In Messrs. Fraser's collection, which was fourth, we remarked Epacris miniata and grandiflora, a fine Pimelea Hendersoni, Clerodendron Kæmpferi, with two spikes of scarlet flowers; the much esteemed Stephanotis floribunda, a neat bush of Chorozema varium nanum, Erica Wilsoni, the best of all the varieties of tricolor; the Diosma-leaved Pimelea, Polygala acuminata; one of the best of the Everlastings; the red Leschenaultia, the white-blossomed sweet-scented Sphenotoma gracilis, Ixora coccinea, Allamanda cathartica, the Azaleas Gledstanesii and lateritia united in one plant; Pimelea mirabilis, Aphelexis humilis, and the Cavendish Heath. —Mr. Stanly sent creditable examples of Cyrtoceras reflexum, Pimelea Hendersoni, the Saffron-coloured Ixora, the Showy Pimelea, Gloriosa superba, Chironia glutinosa, Leschenaultia formosa, an Everlasting, some Azaleas, and Cape Heaths.—Mr. Pamplin had the pretty Chinese indigofera, Cyrtoceras reflexum, Allamanda grandiflora, the lovely violet-blossomed Tetratheca verticillata, Stephanotis floribunda, the Wilson variety of Erica tricolor, Pimelea decussata, some Azaleas, and other plants.

In collections of 15 Stove and Greenhouse Plants the first prize was awarded to Mr. Green, gr. to Sir E. Antrobus, Bart., of Cheam, whose group consisted of the variegated Azalea, almost as gay as in the month of May; a nice Polygala acuminata, Stephanotis floribunda, loaded with snowy blossoms, an excellent specimen of Rondeletia speciosa, a luxuriant Allamanda cathartica, scarcely at its best as regards bloom; Azalea vivicans and præstantissima, both pyramids of brilliant flowers; Leschenaultia formosa and Baxteri, the Wilson variety of Erica tricolor, the Scarlet and Saffron Ixoras, both insufficiently advanced in bloom; Polygala Dalmaisiana, an Everlasting, and Erica depressa.—Mr. Carson, gr. to W. F. G. Farmer, Esq., of Cheam, sent the next best group, the crown head of which was decidedly Gardenia Fortuni, a fine plant covered with large double white sweet-scented flowers; then came Allamanda grandiflora and cathartica, both handsomely furnished with yellow blossoms; a large Epacris miniata, the charming rosy flowered Dipladenia crassinoda, the red Leschenault, Azalea Gledstanesii and variegata, the Scarlet Ixora, Polygala oppositifolia, the purple variety of Aphelexis macrantha, Crowea saligna, and small plants of Polygala Dalmaisiana, Leschenaultia Baxteri, and Coleonema rubrum.—Mr. Dods, gr. to Sir J. Cathcart, Bart., sent a huge Epacris miniata, Allamanda cathartica, Azalea Danielsiana, a perfect mass of brilliant flowers; the small yellow blossomed Dillwynia floribunda, Pimelea hispida (a neat kind), and P. Hendersoni; Tetratheca verticillata; an Everlasting; the Scarlet Ixora, a pale variety of Erica tricolor, Clerodendron fallax, and a neat Leschenaultia formosa.—Mr. Speed, of Edmonton, sent well cultivated plants of Clerodendron Kæmpferi, Stephanotis floribunda, perhaps hardly sufficiently advanced in bloom; the brilliant Epacris miniata, Allamanda cathartica, the rosy Dipladenia crassinoda, the Scarlet Ixora, Aphelexis macrantha purpurea, Cyrtoceras reflexum, the Cavendish Heath, two Vincas, Leschenaultia formosa, and Pimelea hispida.

In the class of 6 Stove and Greenhouse Plants in 20-inch pots, the best group was shown by Mr. May, gr. to Mrs. Lawrence. It consisted of large bushes of Coleonema rubrum, Polygala acuminata, Pimelea mirabilis, the Box-leaved Eriostemon, the large-flowered variety of the blue Leschenaultia, and Aphelexis purpurea grandiflora.—Mr. Kinghorn, gr. to the Earl of Kilmorey, was second, with huge examples of Allamanda Schottii, Erica Cavendishii, Pimelea decussata, scarcely sufficiently in bloom; Stephanotis floribunda, a pyramidal Azalea variegata, rather past its best; and a lovely Boronia pinnata.—In groups of six plants in 13-inch pots, Mr. Kinghorn was first, with Coleonema rubrum, Azalea coloraus, Epacris miniata, Erica perspicua, Chorozema varium nanum, and Adenandra uniflora.—Mr. Over, gr. to W. M'Mullen, Esq., of Clapham, was second, with Allamanda cathartica, a large Hoya imperialis, the sweet-scented white-flowered Sphenotoma gracilis, Epacris miniata, Cyrtoceras reflexum, and Erica ventricosa breviflora.—Mr. Laybank, gr. to T. Maudslay, Esq, of Norwood, who was third, sent Acrophylla venosa, a useful and rather handsome plant; Tetratheca verticillata, not sufficiently advanced in bloom; the purple variety of Aphelexis macrantha, Erica jasminoides, Azalea lateritia, and a Gompholobium.—Mr. Stuart, gr. to H. Huggins, Esq., of Norwood, had Sphenotoma gracilis, an Everlasting, Cyrtoceras reflexum, Polygala Dalmaisiana, Bossiæa linophylla, and the Chinese Azalea called Hebe.—Mr. Hamp, gr. to J. Thorn, Esq., of South Lambeth, produced Ixora crocata, the Cavendish Heath, the sweet-scented, and, as yet, somewhat scarce Rhynchospermum jasminoides, Pimelea mirabilis, a pretty Azalea variegata, and Cyrtoceras reflexum.—Mr. Watson, gr. to Mrs. Tredwell, of Norwood, contributed a well-flowered example of the red Ixora, the Oleander-leaved Allamanda, less showy but more shrubby than the other species; Clerodendron fallax, the Wilson variety of Erica tricolor, and Azalea Murrayana.

Helichrysums.—Collections were shown by Messrs. Veitch (1), Green (2), Stuart (3), and Taylor (4). In these we remarked Aphelexis macrantha purpurea and m. rosea, speciosissima, purpurea grandiflora, humilis and h. rubra, spectabilis grandiflora, sesamoides and its large variety, and rupestris.

Orchids.—These were plentiful and exceedingly fine, though perhaps they scarcely had the freshness and delicate beauty about them which they possessed in May. In the group of 20 plants from Mr. Blake, gr. to J. H. Schröder, Esq., to which the first prize was awarded, we remarked Galeandra Baueri; a large plant of Aerides odoratum, hardly sufficiently advanced in bloom; the pretty A. Larpentæ, and other species of that lovely genus; the white Dendrobium Heyneanum, Lælia cinnabarina, Saccolabium præmorsum and guttatum, the Bearded Lady's Slipper (Cypripedium barbatum), a very fine white Butterfly plant (Phalænopsis grandiflora), one of the many varieties of Cattleya Mossiæ, a fine plant of Vanda tricolor, the Slender-leaved Maxillaria, Lacæna bicolor, well flowered; Calanthe veratrifolia, in admirable condition; the Wray Brassia, Lycaste aromatica, and Vanda teres.—Mr. Franklin, gr. to Mrs. Lawrence, sent the next best collection, in which were Sobralia macrantha bearing some 15 or 16 glorious purple blossoms, Aerides purpurascens and odoratum, the broad-leaved Epidendrum, Oncidium flexuosum, Lacæna bicolor with six flower-spikes; Vanda tricolor, insignis, and Batemanni, the latter with a strong spike of beautiful blossoms; Saccolabium Blumei and S. guttatum, Trichopilia tortilis, the brown-spotted, green-flowered Brassia Wrayæ, Oncidium Papilio, bearing five glorious flowers; the Dalhousie Dendrobe, a good Cattleya Mossiæ, Epidendrum alatum, with two fine flower spikes; the useful Oncidium pulvinatum, and Odontoglossum hastilabium. —Mr. Williams, gr. to C. B. Warner, Esq., had a large Aerides odoratum, in good condition; A. crispum, with four fine flower spikes; A. purpurascens, insufficiently in bloom; the charming A. maculosum, the large Butterfly plant, Oncidium flexuosum, a small Dendrobium Wallichii, a beautiful Saccolabium guttatum, bearing 10 flower-spikes, some of which were nearly 18 inches in length; Cattleya Loddigesii, fresh and fine; a nice plant of C. Mossiæ, Calanthe veratrifolia, the favourite Epidendrum cinnabarinum, Oncidium ampliatum major, rather past its best; the Bearded Lady's Slipper, Vanda tricolor and V. suavis, the large white-lipped Zygopetalum rostratum, and the as yet somewhat scarce Trichopilia coccinea.

In the Nurserymen's Class of 15 Orchids, Messrs. Veitch and Rollisson produced collections. The former sent Sobralia macrantha with four large highly coloured blossoms on it; the charming Dendrobium Devonianum not stiffly trained, as it is generally met with, but hanging gracefully over the sides of the basket in which it was growing; Dendrobium densiflorum, tolerably well bloomed; Brassia verrucosa, Aerides roseum, odoratum, and crispum; a small Phalænopsis amabilis, Saccolabium præmorsum and S. guttatum, the latter having four flower-spikes; a well managed Cattleya Mossiæ, Dendrobium nobile in beautiful condition; Epidendrum aromaticum and Cypripedium barbatum finely bloomed. —Messrs. Rollisson had Dendrobium moschatum, densiflorum, and chrysanthum, a fine bush of Aerides odoratum, Saccolabium guttatum, with two flower-spikes; Vanda suavis and teres, the White Butterfly plant, the Twisted Trichopil, one of the better varieties of Cattleya Mossiæ, Oncidium pulvinatum, and a pale variety of Epidendrum macrochilum.

Collections of 10 Orchids were contributed by Mr. Carson, gr. to W. F. G. Farmer, Esq., of Cheam, and Mr. Woolley, gr. to H. B. Ker, Esq., of Cheshunt. The former sent the Aloe-leaved Cymbid, Aerides Larpentæ and affine, the white-lipped Zygopetalum rostratum, Dendrobium nobile, 3 feet high and as much through; Odontoglossum citrosmum, a fine specimen of Camarotis purpurea, a beautifully flowered Cattleya Mossiæ, Epidendrum longipetalum producing multitudes of yellow and reddish brown blossoms, and the Spotted Saccolabe.—Mr. Woolley sent the rare Dendrobium cretaceum, the beautiful D. Devonianum, Aerides crispum, a variety of the Roxburgh Vanda, a well flowered Cattleya Mossiæ, a pretty C. intermedia, the charming Epidendrum cinnabarinum, Sobralia macrantha, the Spotted Saccolabe, with four flower-spikes; and Barkeria spectabilis, the latter a good specimen of its kind.

Groups of 6 Orchids were communicated by Messrs. Ivison, Green, Dods, and Kinghorn.—Mr. Ivison had a very good Oncidium luridum, with long graceful spikes of dull yellow and brown blossoms; the large variety of O. ampliatum, with an upright branched spike of gay yellow flowers; Epidendrum macrochilum, Aerides odoratum, scarcely enough advanced in bloom; a vigorous Vanda tricolor, and Acropera Loddigesii. Some of these plants had the baskets and pots in which they were grown encased in moss.—Mr. Green sent Aerides crispum, the broad-leaved Epidendrum, a very fine specimen of Oncidium Lanceanum producing numerous spikes of lovely blossoms, a small divaricatum, one of the better varieties of Stanhopea tigrina, and a nice Dendrobium nobile.—Among Mr. Dods' plants was a magnificent Dendrobium densiflorum, literally loaded with large bunches of bright yellow or rather orange blossoms—this was by far the best example of the kind exhibited; associated with it were Brassia caudata, Stanhopea tigrina, with four glorious flowers fully expanded, and several more coming forward; Aerides affine, a small white Butterfly plant, and the rare Anguloa Ruckeri, bearing six highly coloured blossoms, and all in the highest perfection.—From Mr. Kinghorn came a large and fine Phaius grandifolius, Dendrobium cærulescens, 3 feet high, and as much through; Sobralia macrantha, the White Butterfly plant, Calanthe veratrifolia, and Cattleya Forbesii.

Of Specimen Orchids, Mr. Carson sent a magnificent Dendrobium moschatum; Mr. Franklin a large and fine Aerides odoratum; and Mr. Cole a good Cattleya Mossiæ, whose flowers however had sustained much damage from travelling.

Of Variegated Orchids, Mr. Williams had the following:—Anæctochilus argenteus, with silvery markings; A. intermedius, having dark green foliage veined with gold; A. Lowei, a fine specimen with leaves veined with gold, 4 inches long and 3 inches broad; A. maculatus, a fine kind with silvery markings; A. setaceus, a remarkably handsome species, beautifully veined with gold; A. striatus, a scarce sort; A. xanthophyllus, and Goodyera discolor.

British Orchids.—Mr. Turner, of Tufnell Park, Holloway, sent Listera ovata, Orchis ustulata, latifolia, and maculata; Gymnadenia conopsea, Habenaria bifolia and albida; Aceras anthropophora, Ophrys apifera, and O. muscifera.

Pitcher Plants.—Messrs. Veitch had a charming little group, consisting of Nepenthes sanguinea and its varieties.

Azaleas were again produced by Mr. Green and Mrs. Lawrence, but this time their brilliancy was much impaired. The sorts consisted of magniflora, decora, lateritia, Gledstanesii, variegata, Rawsoni, optima, rosea punctata, and exquisita alba. Mr. Fleming, gr. to the Duke of Sutherland, at Trentham, sent small plants of some of the newer kinds, among which were Amaranthina (a good sort, with large rosy blossoms); Comosa, Grandis, Iveryana, Decora, and Beauty of Reigate. Messrs. Lane had a collection of small plants, in which two and three sorts were "worked" together on one stock.

Messrs. Veitch received a Silver Banksian Medal for Rhododendron album grandiflorum, a hardy looking kind, the produce of a cross between R. catawbiense and maximum album. The flowers are of good shape and white, marked in the upper petal with a straw-coloured stain.

Tall Cacti in flower were furnished in good condition by Mr. Green, who produced the large-flowered variety of the white Epiphyllum crenatum, E. Ackermanni, E. speciosum and its much handsomer variety elegans; E. grandiflorum and Cereus speciosissimus.

Roses in pots were, as usual, much admired, and fine for June. The gems of Messrs. Lane's group, which was first, were Paul Ricant, certainly one of the very finest Roses we possess, being both excellent in shape and brilliant in colour; Great Western, Magna rosea,

a large blush but rather loose; Paul Perras, Emperor Probus, Duchess of Sutherland, and Queen.—Messrs. Paul produced Barbot, buff, with a salmon centre; Goubalt, the favourite Souvenir de la Malmaison, Mrs. Bosanquet, Paul Perras, and Madame Plantier, the latter hardly sufficiently in bloom. Mr. Francis had a fine plant of Brennus, a tall Coupe d' Hébé, Pauline Plantier with small pale-yellow flowers, and Warricus. —In the Amateurs' Class the 1st prize was awarded to Mr. Terry, gr. to Lady Puller, of Youngsbury, for admirably managed plants, among which were Sophie de Marcilly, blush, with a pink centre, neat and beautiful; Elise Sauvage, Las Casas, a very fine example of Souvenir de la Malmaison, which is deservedly the most esteemed of Roses; Duchess of Sutherland, Paul Perras fresh and fine, La Ville de Bruxelles, Armosa, and Lamarque.—Among Mr. Rowland's plants that which elicited most attention was Paul Ricant, which is a grand acquisition to the class of Hybrid Bourbons. The same gentleman had also good examples of Coupe d' Hébé, Emperor Probus, Queen, Paul Perras, Ne plus ultra, Chénedolé, and Louis Bonaparte.—From Mr. Roser, gr. to J. Bradbury, Esq., came our old friends Baronne Prevost and La Reine, together with Miellez and other good kinds.—Mr. Terry showed two boxes of cut Roses in tolerably good condition.

Cape Heaths were plentiful, well cultivated, and beautifully flowered. Among Nurserymen, Mr. Epps, of Maidstone, had the best plants; but they were disqualified on account of two of the sorts being so much alike as to be hardly distinguishable one from the other, the schedule requiring entirely distinct varieties. The plants in question consisted of tricolor Wilsoni and a seedling from it. The 1st prize was therefore given to Messrs. Rollisson; the 2d to Messrs. Fairbairn; the 3d to Messrs. Frazer; and the 4th to Mr. Pawley. —In the Amateurs' Class, Mr. Smith, gr. to W. Quilter, Esq., was 1st; Mr. May, gr. to Mrs. Lawrence, 2d; Mr. Cole, 3d; and Mr. Laybank, 4th. For plants in 11-inch pots, Mr. Epps was 1st, Mr. Clarke 2d, and Mr. Pamplin 3d; and among Amateurs, Mr. Roser was 1st, Mr. Watson 2d, Mr. Jarvis 3d, and Mr. Stanly 4th. Three groups in 8-inch pots were furnished by Messrs. Taylor, Speed, and Hamp. In the different collections we remarked the following varieties:—Ventricosa grandiflora (a very fine sort); v. breviflora, v. tumida, v. superba, v. prægnans; inflata, i. rubra, vestita coccinea, Cavendishii, Bergiana, depressa; tricolor, t. Leeana, t. elegans, t. Wilsoni, t. rubra; halicacaba, Massoni, Vernoni, mutabilis, gemmifera, elegans, perspicua, Beaumontia, metulæflora, eximia, Alberti (buff), Batemanni, jasminoides, Thunbergia, jubata, florida, dilecta, obbata, tortiliflora, Westphalingia, Maidstonensis, Savilleana, and odora roseæ.

Single Specimens.—The best of these were Erica Massoni from Mr. Bruce, gr. to B. Miller, Esq., of Merton; a good example of the charming Hoya bella from Mr. Over; Erica Cavendishii from Mr. May, gr. to Mrs. Lawrence; a large E. Bergiana from Mr. Smith, gr. to W. Quilter, Esq., of Norwood; Leschenaultia formosa from Mr. Cole; and Mitraria coccinea from Messrs. Veitch.

New Plants.—Messrs. Backhouse, of York, sent the beautiful Lælia purpurata mentioned in another column, Cleisostoma? crassifolium, and the Californian Diplacus; Messrs. Veitch had Streptocarpus biflorus; Messrs. Standish and Noble the orange-scarlet Chinese Lilium sinicum; and Mr. Over the variety of Hoya bella called Paxtoni; Mr. Woolley had Dendrobium clavatum; and Messrs. Rollisson a variety of Oncidium Papilio called pulchellum.

Foremost among New or Rare Plants not in flower were the evergreen pinnated Chinese Berberries (trifurca and Bealii), adverted to elsewhere, furnished by Messrs. Standish and Noble; these were the admiration of everybody. Then came the beautiful variegated-leaved Cissus discolor, from Messrs. Rollisson; two magnificent leaves of the Royal Water Lily, from Mr. Ivison, gr. to the Duke of Northumberland at Sion; and Fitz-Roya patagonica and Saxe-Gothæa conspicua, from Messrs. Veitch, of Exeter.

Messrs. Rollisson again produced a miscellaneous collection of plants, remarkable for the beauty of their foliage. The names of a few of the more striking among them will be found in our report of the May Meeting, at p. 311. The same firm also furnished a a fine specimen of the Venus' Flytrap, which was shown under a large bell-glass.

Lycopods were contributed by Messrs. Woolley and Stuart. Among these were L. stoloniferum, cæsium arborcum, apodum, Louisianum, cordatum, cuspidatum, and denticulatum.

Hothouse Ferns.—The following were shown, intermixed with Orchids, by Messrs. Woolley and Williams; viz., Adiantum formosum, formosum, concinnum, concinnum finer, trapeziforme, and macrophyllum; Gymnogramma sulphurea (fine), Goniopteris vivipara, Davea cicutaria (fine), and Bessonia brasiliensis.—Mr. Woolley also received a Certificate of Excellence, for a collection which he showed in May last.

Alpines.—An interesting collection was produced by Mr. Turner, of Holloway.

In Pelargoniums, 12 varieties, the 1st prize was withheld. The 2d prize was awarded to Mr. E. Lawrence, for Gulielma, Alonzo, Constance, Ajax, Marianne, Conspicuum, Governor, Oscllatum, Star, Prince of Orange, and Rosamond. Dealers: 1, Mr. J. Dobson, of Woodlands Nursery, Isleworth, whose plants were finely flowered, and "to the day." They consisted of Gertrude, Magnificent, Painter improved, Mont Blanc, Jupiter, Ambassador, Purpureum, Silkmercer, Diadem ex., Delicatissimum, Vanguard, and Star ex.; 2, Mr. Turner, of the Royal Nursery, Slough, with plants scarcely at their best, of Constance, Rubens, Rowena, Alonzo, Ganymede, Magnificent, Rosamond ex., Gulielma, Ajax, Narcissus, Beatrice, Enchantress ex.; 3, Mr. Westwood, of Acton-lane; 4, Mr. Bragg, of Slough. Six Pelargoniums in 11-inch pots: 1, Mr. Parker, of Teddington, four of whose plants were marvels of good cultivation. The sorts were—Thisbe, Bertha, Rosamond, Gulielma, Centurion, and Star. Dealers: 1, Mr. Westwood, with Bianca, Star ex., Cuyp ex., Sarah, Rosamond ex., and Painter ex.; 2, Mr. Turner, with Constance, Pride of the Isles, Narcissus, Rowena, Alonzo, and Norah. Six Fancies: 1, Mr. Robinson, of Thames Bank, with Queen Superb, Madame Miellez, Fairy Queen, Princess Maria Galitzin, Perfection, and Richard Cobden; 2, Mr. Roser, with Statiaski, Hero of Surrey, Picturatum, Prospero, Magnificum, Jenny Lind.—Dealers: 1, Mr. Turner, with Princess Maria Galitzin, Defiance, Miss Sheppard, Anais, Exquisite, and Triumphant; 2, Mr. Westwood, with Orlando, Mrs. S. Lefevre, Reine des Français, Nourmajed, Mrs. Bailey, Purity; 3, Mr. Ayres, of Blackheath, with Celestial ex., Queen Superb, Itolinski, Picturatum, Conspicuum ex, Alboni; 4, Mr. Gaines. The Five Guinea Cup for the new varieties of fancy Pelagoniums sent out in autumn 1851, by Mr. W. P. Ayres, of Blackheath, was awarded to Mr. Robinson, and reflected credit both on the grower and the raiser; the sorts were Conspicuum, Caliban, Mirandum, Gipsy Queen, Advancer, and Formosissimum, the last two received first class Certificates; and Certificates of Merit were awarded to the second, third, and fourth varieties enumerated by the National Floricultural Society. Of seedling Pelargoniums, we noticed Beck's Empress, described by us in a former Number; and Turner's Queen of May, a conspicuous and striking variety, Pasha (Dobson), is distinct, and in many respects good, Optimum (Foster), was in capital condition, although the plant was by no means well grown.—An interesting hybrid Pelargonium from Mr. E. G. Henderson received a Certificate; the tricolor-leaved sort from Mr. Kinghorn was, as it is named, "Attractive" for decorative purposes, but it could not be termed one of an entirely new cross. While on the subject of Seedlings we may mention that Fuchsia Perfection (Banks) will be the best dark variety "out;" corolla deep purple, sepals and tube coral red, smooth, the sepals reflexed sufficiently, and remarkable for their breadth; Model, by the same raiser, also has many sterling qualities; not so Grandis, which is comparatively worthless.

Cape Pelargoniums were produced in good condition by Mr. Parker, of Teddington, who has paid great attention to the culture of this class of plants.

We were agreeably surprised to find Pinks so early in the season, both growing and in a cut state, "so well done" as they were on Saturday last. These came from Mr. Willmer, of Sunbury, who was awarded 1st prizes for them.

Pansies, in pots, were again shown in excellent order by Mr. Turner 1st, and Mr. Bragg 2d.

Ranunculuses.—A collection of 50 varieties was furnished by Messrs. Tyso, of Wallingford, among which were fine blooms of the following Seedlings of their own raising, viz.:—Flaminius, Minos, Exhibitor, Amasis, Dædalion, Cathcart, Dilectus, Dido, and a new yellow called California; also Lightbody's Herald, Thompson's Seedling, Giles' Eliza, Gomer, Lentulus, Costar's Apollo, and Charlotte.

Calceolarias were brought out better than heretofore; but, to maintain their position, more, much more, must be accomplished. The 1st prize was awarded to Mr. Constantine; 2d, to Mr. Franklin; and 3d, to Mr. Roser. Dealers: 1st, to Mr. Gaines, for Cruenta, Baron Eden, Endymion, Confidence, Christine, Horatio; Mr. Gaines also staged, among many others, a showy Seedling, named Alderman; and Messrs. Henderson reproduced the sorts described in the last report of the National Floricultural Society.

Fruit, without anything very remarkable, was generally good. Pine-apples were not very heavy, but all of them were well swelled and ripened. Black Grapes may be said to have been all that could be desired both as to growth and colour: but some of the white kinds were not ripe. This was particularly the case with beautiful bunches of Muscats, furnished by Mr. Turnbull, gr. to the Duke of Marlborough, at Blenheim, to which no award could be made, on account of the green state in which they were shown. Peaches and Nectarines were fair examples of their forced cultivation. Strawberries of the British Queen kind were large and finely coloured: this sort is fast driving Keens' Seedling from our exhibition tables.

Pine-apples.—A Queen, 4 lbs. 4 oz., was contributed by Mr. Collinson, gr. to the Marquis of Westminster; another, 4 lbs. 1 oz., was sent by Mr. Draper, gr. to the Bishop of Salisbury; and Mr. Jarvis, gr. to J. Ruck, Esq., of Croydon, had one 3 lbs. 9 oz.—Other Queens of less merit came from Mr. Dixon, gr. to Mrs. Villebois; Mr. Howe, gr. to J. Bailey, Esq., M.P.; Mr. Flood, gr. to C. Bailey, Esq., M.P.; and Mr. Harrison, Oatland Palace Gardens, Weybridge. Of Cayennes, Mr. Turnbull sent a fruit of the smooth-leaved variety weighing 4 lbs. 11½ oz.—Mr. Terry had an Enville. Of Providences, Mr. Collinson contributed a fine specimen, weighing 10 lbs. 8 oz.; Mr. Davis, gr. to Lord Boston, sent one 3 lbs. 7 oz.; and another 3 lbs. 6 oz., came from Mr. Davies, gr. to J. Dixon, Esq., of Astle Park, Knutsford.—Mr. Jackson, gr. to H. Beaufoy, Esq., and Mr. Flood, also sent Providences.

Grapes.—The best Black Hamburghs were communicated by Mr. Dods, gr. to Sir John Cathcart, Bart.; but excellent examples also came from Mr. Grieve, gr. to S. Smith, Esq., Charman-Dean, Sussex; Mr. Frost, of Dropmore; Mr. Boyd, gr. to Viscount Dillon; Mr. Perkins, gr. to Viscount Combermere; Mr. Martin, gr. to Sir H. Fleetwood, Bart.; and Mr. Wortley, of Norwood.—In the Market Gardener's Class first-rate specimens of this kind of Grape came from Mr. Davis, of Oak Hill, and Mr. Mitchell, of Brighton. Mr. Harrison and Mr. Sparey also contributed Black Hamburghs. Mr. Lushey, gr. to J. Hill, Esq., of Streatham-common, sent excellent bunches of Black Prince; as did also Mr. Martin and Mr. Harrison, gr. to M. Ricardo, Esq. White Muscadines, well ripened and extremely good, were communicated by Mr. Smith, gr. to S. Ricardo, Esq.; Mr. Rust, gr. to J. Maclaren, Esq.; and Mr. Williams, gr. to C. B. Warner, Esq. The best Muscats, as we have already stated, came from Mr. Turnbull, gr. to the Duke of Marlborough, at Blenheim; but they would have required to have hung a long time before they had become sufficiently well coloured to have satisfied the requirements of the Society's schedule; they were therefore disqualified, and Mr. Allport, gr. to H. Arkroyd, Esq., received the first prize for an exhibition of ripe fruit. Mr. Harrison, of Oatlands, also sent good examples of this Grape. The best White Frontignans, beautiful examples, were produced by Mr. Summerby, gr. to Major Martyn, of Windsor Forest; and the best Black Frontignans by Mr. Martin, gr. to Sir H. Fleetwood, Bart.

Peaches were, with one exception, confined to the Royal George. Mr. Fleming, gr. to the Duke of Sutherland, at Trentham, sent excellent fruit of this kind, as did also Mr. Collinson. Mr. Chapman, gr. to J. B. Glegg, Esq., had Bellegarde. Mr. Tillyard, gr. to Lord Southampton, Mr. Turnbull, and Mr. Mitchell, gr. to the Earl of Shannon, at Castle Martyr, contributed dishes of Royal George.

Murray Nectarines, well swelled, and highly coloured, were sent from Trentham by Mr. Fleming; Mr. Tillyard had a good dish of Elruge, and Mr. Chapman another of the Brugnon variety.

Figs.—Good examples of brown Ischia were furnished by Mr. Bailey, gr. to G. Harcourt, Esq., of Nuneham; and Mr. Braid, gr. to H. Perkins, Esq., of Hanworth-park, had a good exhibition of Brown Turkey. The only other sort was the Nerii, which came from Mr. Constantine, gr. to C. Mills, Esq., of Hillingdon.

Strawberries.—The best British Queens were sent by Mr. Wortley, gr. to Mrs. Maubert, of Norwood. These were very large and highly coloured. The same variety was also shown by Mr. Judd, gr. to Earl Spencer at Althorpe; Mr. Turnbull, Mr. Perkins, and Mr. Elliott, gr. to Mrs. Boothby, of Acton.—In the Market Gardeners' Class, Mr. Smith, of Twickenham, was first, and Mr. Mann, of Isleworth, second. The latter likewise showed Keens' seedling, as did also Mr. Turnbull and Mr. Forsyth, gr. to Baron de Rothschild, at Gunnersbury; Mr. Smith, of Twickenham, produced excellent exhibitions of the British Queen in pots, and Mr. Elliott, gr. to Mrs. Boothby, also sent pots of the same kind.

The first award for the best-flavoured Melon, was on this occasion given to Mr. Collinson, for an Egyptian green-fleshed; and the second to Mr. Fleming, for his Trentham Hybrid. The best scarlet-fleshed was a Hoosainee, from Mr. Cole, gr. to H. Colyer, Esq., of Dartford. Other sorts consisted of the Persian Hybrid, Terry's Green-fleshed, Beechwood, Hybrid Green-fleshed, Cassabar, Masulipitan, Arundel Hybrid, Scarlet Cantaloupe, Windsor Scarlet-fleshed, and a good example of Brown's Superb.

Other kinds of fruit comprised a collection of Oranges, Citrons, and Lemons, from Mr. Williams, gr. to C. B. Warner, Esq., of Hoddesdon.

Books Received.

Black's Picturesque Tourist in Scotland. 9th edition. A. and C. Black, Edinburgh. 12mo; pp. 543, with numerous maps, copperplates, and woodcuts.—We can pay no higher compliment to this most useful book than by saying that it is as indispensable to a tourist as the best of Murray's Handbooks. That the public entertains the same opinion is sufficiently proved by its having reached a *ninth* edition; and one, we must add, so superior in every respect to its predecessors that it may be almost regarded as a new work. The woodcuts are extremely clever, and the railway maps constructed upon true principles of utility. The only thing we are disposed to criticise is an engraving of Edinburgh old town, which is quite unworthy the beautiful volume in which it appears.

Waverley Novels: The Library Edition. Vol. 2. Guy Mannering. Edinburgh: Black.—This second volume of the beautiful new series whose appearance we lately announced, yields in no respect to the preceding. The engravings represent scenes in which the artists have caught most happily the idea of the gifted author, and the letterpress renders the volume worthy of a place among the best specimens of modern typography. In the introductory matter are some new incidents, illustrating the circumstances which led to the composition of the novel itself.

FLORICULTURE.

NATIONAL FLORICULTURAL SOCIETY, *June* 17.—Mr. COLMAN in the Chair. There was a full meeting on this occasion. Verbenas were produced by Mrs. Conway and Mr. T. Barnes; Petunias by Mr. Barnes; Pansies by Messrs. Youell, of Yarmouth, Mr. Bragg, and Mr. Turner; Pelargoniums by Mr. Hoyle, Mr. Black, Mr. Turner, Mr. Bragg, Mr. Dobson, Mr. Robinson, Mr. E. G. Henderson, and Mr. Ayres; Ranunculus by Mr. Tyso; Fuchsias by Mr. Turner and Mr. G. Smith; Pinks by Mr. Turner; a Rhododendron by Mr. Griffin; Antirrhinums by Mr. Lochner and Mr. J. Edwards; Calceolarias by Mr. Henderson; and Ericas by Mr. J. Edwards. Among the few old subjects contributed, by which many of the new ones were tested, Antirrhinum Primrose Perfection was most conspicuous; three plants of it were staged by Mr. J. Edwards, and one by Mr. Lochner; these were well grown and beautifully flowered, showing to good advantage this very desirable variety. Of Fancy Pelargoniums, Advancer, Caliban, Perfection, R. Cobden, Fairy Queen, Gipsey Queen, Celestial, Formosissimum, &c., were amongst the best. Among Pansies, Lady Emily, Duke of Perth, Antonio, Duchess of Rutland, Boadicea, Lord Hardinge, and Pandora, proved good. Among Mr. Turner's Pinks were Marlborough Buck, Diana, Optima, Empress, Mrs. Herbert, Lord J. Russell Lola Montes, &c.; five plants of Pelargonium Optimum served to prove that it is a first-class flower; Dobson's Model, Spetz, Pacha, and Firefly, although in cut flowers, displayed meritorious qualifications. The censors awarded Labels of Commendation to Petunia Lady Cullum, from Mr. Barnes, of Stowmarket; ditto, to Pelargonium Astrea, from G. W. Hoyle, Esq.; ditto, to P. Miss Emily Field, from A. Henderson and Co.; ditto, to P. Kinesbury Favourite, from the same firm; and ditto, to P. Hebe, from Mr. W. P. Ayres; Certificates of Merit to Pelargonium Wonder, from Mr. Black, gr. to E. Foster, Esq.; to Fuchsia Dr. Lindley (C. Turner), and to Pelargonium odoratissimum punctatum from Mr Ayres; and a first-class Certificate was given to Fuchsia Glory (Banks). The latter was a fine bold flower, with violet corolla, and brilliant crimson sepals much reflexed.

MR. JOHN DOBSON, of Isleworth, had a special exhibition of his show Pelargoniums, and other flowering plants, the other day, in his nursery at Woodlands. A good company assembled on the occasion, and everybody seemed satisfied with the entertainment.

RECEIVED schedules of the Thirsk Floral and Horticultural Society. Show days, July 6 and September 7; Trowbridge Horticultural Society, meeting, August 25; Salisbury Dahlia Show, fixed for August 31; and Barnsley Floral and Horticultural Society, meeting, August 31.

SEEDLING FLOWERS.

ANTIRRHINUMS: *W J.* None sufficiently good to claim further notice.

FUCHSIAS: *G E.* Both pretty, but nothing new.

GLOXINIAS: *A UB.* 1, blush, veined and mottled in the throat with rosy lilac; a delicate looking and fine kind. 2, white, large, and showy.

PANSIES: *Y Y.* All received in a satisfactory condition: 1-52 a nice variety; eye fully displayed, margin true, and moderately distinct; edges wanting decision, and surface greater smoothness. 2-52, too young for critical inspection. 3-52, cheerful purple belting with creamy ground; not sufficiently meritorious for propagation. 4-52, a poor yellow self. 5-52, will not do now, when we have so many good yellow ground sorts. 5-51, rich ground colour, the crumples at the juncture of the side petals detract from its value, and will, we fear, be permanent. 29, yellow self the indenture in the lower petal prevents our saying aught in its favour. 30, a watery-coloured, flimsy, worthless sort.

PELARGONIUM: *S and Co.* Of no value as a florists' flower.

POTENTILLAS: *Y and Co.* A very fine clear yellow, double kind, well worth attention.

SCARLET GERANIUM: *W T.* A free flowerer, of good average colour; petals deficient in breadth.

VERBENAS: *A T P.* A pink of no value; 2 has some merit; 4, worthless; 3, quite withered up.

Miscellaneous.

Ripening Fruit on Trees.—A late number of a Paris journal, devoted to agriculture, gives a plan for forwarding the ripening of fruit on trees. Every one connected with horticulture knows that there exist in trees two kinds of sap, one rising and the other falling; the former nourishing the wood, and the latter the flowers and the fruit. The process alluded to consists in binding tightly round the lower part of the branch, on which the fruit is, a piece of wire, in order to stop the descending sap, which, thus arrested in its progress, flows with great abundance to the fruit, increases its size, and brings it to maturity a fortnight or three weeks earlier than in the natural way. *Leeds Mercury.*

Sale of Orchids.—The first portion of Messrs. Loddiges' fine collection of these favourite plants was sold the other day by Mr. Stevens. The kind of prices they fetched may be gleaned from the following: Dendrobium cærulescens, fine specimen, 2*l.* 6*s.*; D. chrysanthum, ditto, 2*l.* 6*s.*; D. Dalhousieanum, ditto, 4*l.* 5*s.*; D. cærulescens, Huntleya violacea, and Cymbidium bicolor, 2*l.* 2*s.*; the charming Lælia cinnabarina, in flower, and Aerides crispum, 2*l.* 15*s.*; the Dalhousie Dendrobe and Cypripedium barbatum, 2*l.* 10*s.*; Cœlogyne Lowei and Oncidium Lanceanum, 2*l.*; the Harrison Cattleya, a fine specimen, 2*l.* 10*s.*; C. crispa, ditto, 4*l.* 15*s.*; C. marginata, 2*l.* 12*s.* 6*d.*; C. pumila, 2*l.* 17*s.* 6*d.*; Sophronitis grandiflora, good plant, 2*l.* 6*s.*; Cymbidium giganteum, fine specimen, 4*l.*; Sobralia sessilis, 2*l.*; and Aerides odoratum, a good plant, 2*l.* 15*s.* Other lots, of which there were in all 183, fetched from 5*s.* to 30*s.* a lot, each consisting of several plants.

Calendar of Operations.

(*For the ensuing week.*)

PLANT DEPARTMENT.

CHINESE PRIMROSES, CINERARIAS, and other plants required to bloom early next spring, should now be forwarded, that they may get well established early. In addition, the stock of Epacrises and other hard-wooded plants for the above purpose should have abundance of air, to promote the ripening of the wood. Epacrises should be placed where they can be shaded for a few hours during the middle of each bright day. Look over the stock of plants placed out of doors, that the drainage acts properly; all the more delicate and newly-potted plants must be protected from heavy rains by canvas screens, made water-tight, and tarpauling.

FORCING DEPARTMENT.

VINERY.—Where new borders have been made this spring, it will prove of much benefit to them if some means can be taken to preserve them from the present heavy rains; for, although on well-made borders no stagnation of water will take place, yet continual drenching rains will render new borders in an unfavourable state for the growth of young Vines, and the extreme points of their roots often damp off (in rich borders) during long-continued wet weather. Fires must still be kept up in every department, to keep down damp and to allow for good ventilation. MELONS.—In planting out the last crop of Melons, it should be borne in mind that to have them with any sort of flavour, they should be assisted by a hot-water pipe, or fire heat. The period when Melons can be obtained of high flavour from common dung frames is limited to three or four of the summer months, and even then they are much better in every respect when grown in low houses and assisted by fire heat; for the latest crops, this will be the more necessary, as the fruit may not all ripen before November, and will consequently require both light and ventilation to produce them in perfection.

FLOWER GARDEN AND SHRUBBERY.

Nothing can be done during the present heavy rains except seeing that the recently-planted stuff is properly secured from the effects of high winds. Commence the propagation of plants, which require time to get established, as early as cuttings can be obtained. Novelties should be planted out, to see how far they are adapted for bedding purposes, when this cannot well be ascertained by keeping them in pots. I need scarcely say that notes of their habits, &c., should be made during the season, as data for next season's planting. Follow up the mowing and cleaning the lawns; and let every part of the grounds be kept in the neatest order.

FLORISTS' FLOWERS.

RANUNCULUSES, though rather late this season, will, in many instances, be in bloom, according to the locality; the awning should be put over them, and, should the weather set in very hot, the paths may be watered, but they have had so much wet lately, that they will hardly require any more. We need not again impress on the amateur the necessity of keeping the beds free from weeds, and destroying the insects which may harbour about them. TULIPS on the offset and exposed beds will require taking up at an earlier period than those which have been covered; as soon as the foliage begins to change they should be taken up, choosing a dry day for the operation. They should be stowed away in some dry, airy place, where mice cannot have access to them, allowing the fibres and husk or skin to remain till the bulb is thoroughly dry. AURICULA and POLYANTHUS seed must be attended to; as soon as the capsules turn the least brown they should be gathered. PINKS.—Take care that the pods do not burst; those which have had ligatures round them will require easing and retying. The longest Grass may be "*piped*," the plants will then put out an abundant stock for later cuttings.

HARDY FRUIT GARDEN.

Those gardens near London which we have visited the present week appear much more free from blight than those in the country. Nothing but the closest perseverance will keep down this enemy to wall trees. Glass cases and orchard-houses will be more than ever necessary where the finer fruits are grown.

KITCHEN GARDEN.

As soon as a crop is cleared off dig up the ground, to prepare it for the succeeding one. In cutting the different vegetables clear away every part of the plant at the same time, that the crops may present a tidy appearance at all times, and to allow no harbour for vermin. Stick advancing crops of Peas and Runner Beans; transplant on dry borders or slopes a good stock of Parsley, to be sheltered in the winter; and fill in the vacant spaces at the foot of south walls, for the chance of a supply of this vegetable in hard weather. Continue to plant out different crops for succession as ground becomes vacant, and thin out the proper distance those still requiring more room.

STATE OF THE WEATHER NEAR LONDON,

For the week ending June 17, 1852, as observed at the Horticultural Gardens Chiswick.

June.	Moon's Age.	Barometer.		Temperature.					Wind.	Rain.
				Of the Air.			Of the Earth.			
		Max.	Min.	Max.	Min.	Mean	1 foot deep.	2 feet deep.		
Friday.. 11	13	29.598	29.490	57	40	48.5	54	55½	W	.01
Satur.. 12	24	29.738	29.589	61	42	51.5	53	52	N.W.	.02
Sunday . 13	25	29.719	29.476	65	48	56.5	53	52	W.	.28
Monday 14	26	29.374	29.214	67	46	56.5	54	53	W.	.13
Tues. .. 15	27	29.570	29.477	67	44	55.5	55	54	W.	.16
Wed. .. 16	28	29.417	29.381	68	40	54.0	57	54	S.W.	.20
Thurs.. 17	●	29.490	29.437	67	50	58.5	57	55	S.	.09
Average .		29.557	29.458	64.5	44.3	54.4	54.7	53.2		.89

June 11—Overcast; heavy clouds; clear; cold at night
— 12—Overcast; slight shower in the morning, and in afternoon.
— 13—Fine; overcast; rain at night.
— 14—Cloudy; showery; heavy clouds.
— 15—Fine; showery; clear at night; rain.
— 16—Rain; showery; overcast at night.
— 17—Cloudy; sunshine occasionally; fine; rain at night.

Mean temperature of the week, 6 deg. below the average

STATE OF THE WEATHER AT CHISWICK,

During the last 26 years, for the ensuing week, ending June 26, 1852.

June.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds.								
						N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	
Sunday 20	73.1	51.0	62.1	10	0.21 in.	1	3	1	1	5	7	7	1	
Mon 21	74.9	51.7	63.3	9	0.68	1	3	3	2	1	12	4	—	
Tues. 22	73.3	48.8	61.2	11	0.59	1	1	1	1	2	9	8	3	
Wed. 23	73.7	49.3	61.6	6	0.44	1	1	3	1	3	1	4	3	
Thurs. 24	73.3	50.3	61.8	9	0.49	—	3	4	1	2	9	4	2	
Friday 25	71.8	50.0	60.9	13	0.72	1	1	5	2	4	7	4	2	
Satur. 26	72.8	50.6	61.7	12	1.00	1	2	4	1	2	8	7	1	

The highest temperature during the above period occurred on the 19th and 22d, 1846—therm. 93 deg.; and the lowest on the 23d, 1851—therm. 35 deg.

Notices to Correspondents.

BRITISH PLANTS: *W T.* The judges were wholly wrong, according to the evidence you have furnished We place the groups without hesitation 1, 2, 3. There is nothing in your collections that ought to have been objected to, unless it was Polemonium. But the judges were barred from entertaining that question, in consequence of the Society having acknowledged the Catalogue of the London Botanical Society as the authority by which the judges were to be bound.

CONIFERS: *H.* The question has been considered and decided in the negative. No objection would be made to any gentleman publishing the list at his own expence.

DRIED GRASSES: *F P.* Moore's Irish Grasses will probably answer your purpose. They are in a volume published in Dublin. Shanks's machine is the one generally employed, and we hear it extremely well spoken of.

GRAPES: *D J.* Your statement, and the specimens that accompany it, lead to the inference that your Grapes have been injured, when very young and tender, by a current of cold air, which has half killed the skin and produced rust. We see no other cause. If so, you had better thin out as many of the rusty berries as you can spare, and the evil may go no further. The leaves seem very healthy.

GREENHOUSE: *L S D.* Use Hartley's patent rough plate for the roof. It is a mistake to suppose that it is too dark. Take the smallest boiler you can procure, and mind that the expansion cistern is amply large.—*Woolton.* You must confine your Vinery to fruit and vegetables; in addition, have a pit constructed for forced vegetables, required when the Vinery is at rest. At that time employ the Vinery as shelter for any plants also at rest, such as Azaleas, Camellias &c. Give a little heat to your cold frame, if you can, or add a few yards of span-roofed warm pit, for bringing forward plants wanted for the greenhouse, &c. If you construct your hothouse, use Hartley's rough plate; but the plan proposed is a bad one. The plants will "draw" in it. Can't you put it on the east of the Vinery? Although the ground slopes, it may be level inside.

HEATING: *X X.* We cannot advise you, so much depends on circumstances. If you are certain that your apparatus will be skilfully constructed and carefully managed, we should say Polmaise: if you have any doubt upon that point, then we say the other.—*A Clergyman.* There is no reason why your kitchen boiler should not be used in the way proposed. The dimensions of the pit are immaterial; say 8 feet wide, and as long as it suits you to make it. Your difficulty will be the ventilation.—*An old Sub.* The plan of heating as employed by Mr. Beck, and explained in our volume for 1851, p. 726, appears to meet your case. We did not see Parnell's Artificial Climate Producer, nor do we know anything of it.

INSECTS: *X Y Z.* The wireworm is the larva or caterpillar state of a narrow brown beetle (Elater lineatus or sputator); the larva of the daddy long-legs is a cylindrical grub without legs, and not so tough a body as that of the wireworm. The best mode of attacking the wireworm is to make decoys for them, by burying slices of vegetables in the ground stuck on sticks, so that they may be easily examined every other morning. Soda-ash or a crop of Hemp must be but a partial remedy.—*J C M.* The insects found in knotted bunches eating into your Strawberries are the cylindrical centipede (Julus pulchellus). We know no better remedy than that given in the preceding answer. Damp clods of hay will also attract them.—*J O.* There must be some mistake about the earwigs producing young from the segments of its body. It is possible the supposed young were parasitic larvæ of some species of Ichneumonid. The young earwigs have legs, and are very like their parents.—*Dr. M., Londonderry.* Your Cherry leaves are attacked by a species of aphis. Fumigation with tobacco, or syringing with tobacco-water, will destroy them.—*G O.* The caterpillar which has attacked your Cauliflowers, Broccoli, &c., attacking the stem under-ground, is the larva of some of the radicivorous species of moths belonging to the family Noctuidæ. The roots should be carefully examined as soon as the leaves droop. The little white maggots which you regard as its young, are, doubtless, the larvæ of some dipterous fly. *W.*

MELONS: *J M.* There can be little doubt that excessive moisture is the cause of the mischief of which you complain. Keep them drier, both at the root and over-head, and we expect you will not be troubled with a recurrence of the evil. ‡

NAMES OF PLANTS: *Rubus.* Rubus suberectus.—*Anna Emily.* Listera ovata; it arrived quite fresh.—*Conway.* We are obliged to decline naming Cryptogamic plants, having no relation to horticulture.—*J Oldham.* You were answered last week, under "*Anon, with two corks.*" The plant was certainly not a Snowdrop, but what we stated it to be.—64, *Brook-street.* Celsia cretica; the seed must have been sent to Australia and then returned, for the plant is a native of the Mediterranean.—*C A.* 1, Platanthera bifolia; 2, Cephalanthera ensifolia. We cannot name Cryptogamic plants, having no relation to horticulture.—*J B.* The Lombardy Poplar is Populus fastigiata; we do not believe that the Black Italian is distinct from the Canadian P. monilifera. It is certainly not an Italian plant. The "Saccolabium" is Cleisostoma? crassifolium.—*J R M.* Rhinanthus Crista-galli.—*J G, Lewisham.* Probably Araucaria Cunninghami.—*Sir J A.* Clitoria Ternatea.—*Caernarvon.* Trigonella ornithopodioides, starved.—*Hardy.* Lavandula Stœchas.—*Constant Reader.* 1, Agrostis canina; 2, Anthoxanthum odoratum; 3, Aira præcox.

PEARS: *M W.* We apprehend that there can be no doubt that your Pears have been frost-bitten, although the symptoms are only now appearing. The different varieties of Pears have very different powers of resisting cold.

PLANTS FOR WET PLACES: *X Y Z.* Messrs. Standish and Noble, in their "Practical Hints on Planting," recommend the following, to which we have added the five last:—Chamæcyparis sphæroidea, Juniperus virginiana, Pinus rigida, P. serotina, P. Tæda, Taxodium distichum, Thuja occidentalis, Dirca palustris, Viburnum Opulus, Cedar of Lebanon, Myrica Gale, and M. Caroliniana. ‡

SNAKES: *J Oldham.* The common harmless slowworm, Anguis fragilis.

STOVE PLANTS: *H C.* Under the circumstances you mention, the group on the left hand side, or No 1, would be the best. ‡

THE TRUFFLE: *A Huntsman.* It has not been analysed that we know of. It is most like a good Mushroom in flavour.

MISC: *G M.* Pæonia is Latin, Pæony is English.—*G G.* The Fleur de Lis is believed to be Iris florentina. There is no book at present on the flora of New Holland; but we believe Dr. Hooker is preparing one.—*W T B.* Your Burdock leaves are attacked by some mining insect. The pale lines are the passages formed by the grub, which you will readily see if you hold the leaf up against the light.

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ANTONY GIBBS AND SONS, AS THE ONLY IMPORTERS OF PERUVIAN GUANO,

Consider it to be their duty to the Peruvian Government and to the Public again to recommend Farmers and all others who buy to be carefully on their guard.

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The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 9l. 5s. per ton, less 2½ per cent.

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THE LONDON MANURE COMPANY offer the following Manures on the best terms, warranting every article strictly genuine:—Peruvian Guano, Superphosphate of Lime, Nitrate of Soda, Concentrated Urate, Peat Charcoal, Gypsum, Fishery Salt from Cornwall, also a constant supply of Salt for agricultural purposes; Linseed and Rape Cake. Peruvian Guano, warranted the genuine importation of Messrs. A. Gibbs and Sons, at 9l. 10s. per ton, or for 5 tons and upwards, 9l. 5s. in Dock. EDWARD PUSSER, Sec.
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SUPERPHOSPHATE OF LIME, made from bone only, equal in quality, but in superior condition to that manufactured by the undersigned, as reported in the Royal Agricultural Society's Journal, Vol VI., Part 2. It is also suitable for use with Chandler's Liquid Drill; also Peruvian Guano, Nitrate of Soda, Gypsum, Bone-dust, Sulphuric Acid, and all other Manures of known value.—Apply to MARK FOTHERGILL, 204, Upper Thames-street, London.

CHARCOAL AND SEWAGE MANURE.—Promote the Health and Wealth of Town and Country by increasing the use of that valuable manure PEAT CHARCOAL, impregnated with the fertilising matter of LONDON SEWAGE. The ammonia, phosphates, and fæces are absorbed, and the water pressed out bright, palatable, and soft.

Sold at the Coarcoal and Sewage Works, Stanley-bridge, Fulham, Middlesex, at 60s. per ton, 4s. per cwt., 2s. 6d. per half cwt.

TO AGRICULTURISTS.

OWEN'S ANIMALISED CARBON is now for Sale, at 2l. 5s. per ton in bulk.—This Manure has been introduced, with the most beneficial results, at St. Croix and the Mauritius, in the growth of the Sugar Cane, as proved by testimonials from the planters. The powerful fertilising properties of the Carbon have long since been acknowledged in Denmark, where it has been extensively used for agricultural purposes, as no less than 26,000 tons have already been sold. It is ready for immediate use, having no occasion to be ground, is equally as portable and diffusible as bones, and the low price at which it can be sold in this country must always be a paramount recommendation. *A liberal Commission allowed to Dealers or Agents.* For copies of the testimonials of its utility in this country, also for samples, apply to J. OWEN and Co., 3, Rood-lane, London.

Messrs. J. OWEN and Co. are now importing from their Copenhagen Manufactory SUPERPHOSPHATE OF LIME, of the very best description, containing at least 18 per cent. of Neutral Soluble Phosphate of Lime, and capable of furnishing at least 3 per cent. of Ammonia to the Soil. The "Analysis" is made by Professor J. THOMAS WAY, Consulting Chemist to the Royal Agricultural Society. The price, in London, of this powerful Manure, is 7l. per ton, cash, or Banker's Bill on London.

FOSSIL BONES AND PSEUDO-COPROLITES.
(FROM THE SUFFOLK CRAG.)

EDWARD PACKARD AND CO., of Ipswich, having erected very powerful Machinery for the purpose of reducing these Phosphatic Nodules to a fine Powder, and being in the immediate locality of where they are found, are now prepared to supply them on the most economical terms, in any quantity, either Ground, Whole, or Dissolved in Acid. They form the cheapest source of Phosphate of Lime in the market, and are peculiarly eligible for manufacturing Superphosphate of Lime in conjunction with Bone.

Prices and every information connected with their use forwarded on application to EDWARD PACKARD and Co., Artificial Manure Manufacturers, Ipswich, Suffolk.

MANURE DEPOT.—PEAT CHARCOAL.
TO FARMERS, AGRICULTURISTS, AND OTHERS.

G. H. FOLEY, Essex Coal Wharf, Lea Bridge, Middlesex, Agent to the Irish Amelioration Society for the sale of the above. All needful particulars will be given on application at the above address.

Price of the unmixed Charcoal, 55s. per ton, sacks included; mixed with Nightsoil, 50s. per ton, sacks included; mixed with Urine, 70s. per ton, sacks included. Carriage to any of the Wharfs or Railway Stations, from 3s. 6d. to 5s. per ton extra, according to distance.

HOSE FOR LIQUID MANURE, FIRE ENGINES, OR GARDEN PURPOSES, made of Canvas, lined and coated with Gutta Percha. It is exclusively used by agriculturists, and at the Government Public Works, giving great satisfaction. Also, KASE'S FORCE and SUCTION PUMP which is the most simple and complete; it will throw 40 gallons per minute 40 feet high, and it is not at all liable to get out of order. Price 6l; on wheels and stand, 7l. 7s.
BURGESS and KEY, 103, Newgate-street, London.

M'CORMICK'S AMERICAN REAPER.

BURGESS AND KEY, Agents, 103, Newgate-street, London.—Extract from Mr. Pusey's Report on the Agricultural Implements, Great Exhibition.—"Mr M'Cormick's Reaper, in this trial, worked as it has since worked at Cirencester College, and elsewhere, to the admiration of practical farmers, and therefore received a Council Medal. Mr. Hussey's sometimes became clogged, as in the former trial at Tiptree, and therefore could not possibly obtain that distinction."—Price of Reaper, 25l.

BEE HIVES.—A NEW AND EXTENSIVE SELECTION OF THE MOST APPROVED KINDS.—A detailed Catalogue, with Drawings and Prices, sent on receipt of Two Stamps. GEORGE NEIGHBOUR and SON, 127, High Holborn, London.

"In noticing the hives exhibited in the Crystal Palace, first and foremost, in my opinion, stands Mr. Taylor's Eight-Bar Hive, and Messrs. Neighbour and Son's Improved Cottage Hive, both exhibited by Messrs. Neighbour."—*J. H. Payne.*
(See the "Cottage Gardener," Nos. 169, 170).

AGENTS.—Liverpool: Wm. Drury, Castle-street. Manchester: Hall and Wilson, 50, King-street. Glasgow: Austin and McAslan, 168, Trongate. Dublin: J. Edmondson and Co., 61, Dame-street.

IRON HURDLES, STRAINED WIRE FENCING, GAME-PROOF NETTING, and other manufactures in wrought and cast-iron and wire work, at very low prices FOR CASH. Price of Iron Hurdles, with 6 bars, 6 feet long by 3 feet 6 inches high, having DOUBLE PRONGS additional for fixing in the ground, 3s. 11½d. each. Estimates, Drawings, &c., on application.—WILLIAM DODDS and Co., 102, Leadenhall-street, London, Agents for the sale of Alex. Shanks and Son's Improved Grass Cutting and Rolling Machines.

ALSO

ARTIFICIAL MANURES of superior quality, at the following very low rates:—Superphosphate of Lime, 5l. 2s. 6d. per ton; Patent Manure, 5l. 5s. per ton; highly-concentrated fæcal Manure, 3l. 10s. per ton; Turnip Manure, 4l. 10s. per ton, from 3 to 4 cwt. per acre, amply sufficient. Gutta percha, coated and lined canvas hose for liquid manure and farm purposes.
Apply as above.

WATERPROOF PATHS.—Those who would enjoy their Gardens during the winter months should construct their walks of PORTLAND CEMENT CONCRETE, which are formed thus:—Screen the gravel of which the path is at present made from the loam which is mixed with it, and to every part of clean gravel add one of sharp river sand. To five parts of such equal mixture add one of Portland Cement, and incorporate the whole well in the dry state before applying the water. It may then be laid on 2 inches thick. Any labourer can mix and spread it. No tool is required beyond the spade, and in 48 hours it becomes as hard as a rock. Vegetation cannot grow through or upon it, and it resists the action of the severest frost. It is necessary, as water does not soak through it, to give a fall from the middle of the path towards the sides.—Manufacturers of the Cement, J. B. WHITE and SONS, Millbank-street, Westminster.

CATTLE SHOW OF THE ROYAL AGRICULTURAL IMPROVEMENT SOCIETY OF IRELAND.

The ANNUAL MEETING and NATIONAL CATTLE SHOW of this SOCIETY will take place this year in GALWAY, on WEDNESDAY, the 18TH of AUGUST, and following days, on which occasion ONE THOUSAND POUNDS and upwards (including the CHALLENGE CUP and MEDALS of the Society), will be offered in Premiums for Cattle, Horses, Sheep, Swine, Poultry, Dairy Produce, Flax, and Agricultural Implements, the particulars of which, together with Prize Sheets and Blank Forms of Entry, can be had on application to the Secretary, in Dublin, or the Local Secretaries, Galway, namely, RICHARD A. KIRWAN, and EDMOND O'FLAHERTY, Esqs.

Monday, the 26th of July, will be the last day for lodging notices of Entry for the Show, after which day none can be received.

Implements will be received in the Show Yard on Saturday, the 14th, and Monday, the 16th August, so as to enable the Judges to commence their inspection on Tuesday morning early.

All Stock and other articles, except Horses, must be in Show Yard before 6 o'clock on Tuesday evening, the 17th August, when the gates will be closed.

Horses and Mares will be admitted only between the hours of 7 and 8 o'clock on Wednesday morning.

Arrangements are in progress for the conveyance to Galway of Stock and Implements, duly entered for Exhibition, by steam-boats and railways, the particulars of which arrangements will be communicated on application.

All intending Exhibitors wishing to see the List of Premiums to be awarded, will please apply or write to the Secretary here, or to the Local Secretaries at Galway, who will forward the Premium Sheet as required.

Signed by Order. THOMAS HARKNESS, Sec.
Society's Rooms, 41, Upper Sackville-street, Dublin.

ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.

PATRON—His Royal Highness PRINCE ALBERT.
PRESIDENT OF COUNCIL—Earl BATHURST.
VICE-PRESIDENT—Earl DUCIE.
PRINCIPAL—Rev. J. S. HAYGARTH, M.A.
PROFESSORS, &c.

Chemistry—J. A. C. Voelcker, Ph.D., F.C.S.
Geology, Zoology, and Botany—James Buckman, F.G.S., F.L.S.
Veterinary Medicine and Surgery—G. T. Brown, M.R.C.V.S.
Surveying, Civil Engineering, and Mathematics—W. Sowerby, A.I.C.E.
Manager of Farm—R. Vallentine.
Assistant to Chemical Professor—A. Williams, M.R.C.S.

The NEXT SESSION will begin on Monday, August 9th. Students are admitted either as Boarders or as Out-Students. The annual fees for Boarders vary from 45 to 80 guineas, according to age and other circumstances. The fee for Out-Students is 40l. per annum. The College Course of Lectures and Practical Instruction is complete in one twelvemonth—though for younger students a longer time is recommended.

There is a department for general as well as for agricultural education.

Prospectuses and information can be had on application to the Principal.
Cirencester, June 15, 1852.

The Agricultural Gazette.

SATURDAY, JUNE 19, 1852.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY,	June	23—Agricultural Society of England.
THURSDAY,	—	24—Agricultural Imp. Soc. of Ireland.
WEDNESDAY,	—	30—Agricultural Society of England.
THURSDAY,	July	1—Agricultural Imp. Soc. of Ireland.

IT is to be regretted that Captain WENTWORTH BULLER should not have made himself acquainted with some of the facts belonging to the territorial limits of Peru before he induced so many gentlemen to follow him into the presence of Lord DERBY, for the purpose of persuading the British Government to dispute the unquestionable rights of that country. The object was to force the Peruvian Government to sell GUANO, the only valuable article they possess, upon such terms as English buyers may, in their liberality, be willing to pay. The gallant Captain thought that *there were circumstances which placed Peru* AT THE MERCY OF OUR GOVERNMENT; and therefore he recommended Lord DERBY to adopt measures which might deprive Peruvian bondholders of every shilling of dividend, and the Peruvian Government of the best part of their revenue. Mr. HILDYARD, *as a lawyer*, was satisfied that no right or title had been established by Peru to certain islands called the Lobos, on which guano was deposited in abundance; we presume that he meant to add, that therefore we ought to lay hold of the islands in question for ourselves. Let us say, however, that no others of the deputation urged upon the Premier such an argument. Mr. HUDSON, of Castleacre, most truly said that guano was of the utmost importance to the farmer, of far more importance than a duty on corn; and the Dukes of BUCCLEUCH and RICHMOND confirmed this statement, but neither they nor any one else, except Captain BULLER and Mr. HILDYARD, suggested that the English Government should employ force to procure it. It is of the more importance that this should be distinctly stated, when we find such men as Mr. ROBERT CLIVE, Sir JAMES GRAHAM, Sir JOHN SHELLEY, Sir CHARLES LEMON, Sir ROBERT PRICE, and Professor WAY among the gentlemen who joined Captain BULLER in the deputation that waited on the Premier.

And what could Lord DERBY say, except that "the legal right of the Peruvian Government over the Lobos Islands had been finally settled by the opinions of former law officers of the Crown, fully confirmed by the present. So far back as 1834 the question was raised with respect to the seal fishing, and was referred to the late Sir HERBERT JENNER, who gave the strongest opinion that these islands properly belonged to Peru, which for an unlimited period of time had exercised sovereignty and jurisdiction over them. The opinion further stated that the Peruvian Government had full right to prevent any seal fishing close to those islands. That opinion of course applied to the guano question, and therefore he must deal with the question on the assumption that the Peruvian Government had absolute sovereignty."

Of course Lord DERBY added that he should most gladly profit by any opportunity which might occur of persuading the Peruvian Government to sell their guano cheaper, and that he would cause it to be impressed with the advantages that would result from a largely increased demand; but the Peruvians "knew the value of guano as well as we did, and they knew that the consumption was increasing, notwithstanding the increase in price. It had been suggested that it should be represented to them that the consumption was falling off, but our agent in Lima said that he could not have the face to make such a statement with the returns in the possession of the Peruvian Government. By these returns it appeared that in 1848-49 the consumption was 68,000 tons, 1849-50 77,000 tons, and 1850-51 91,645 tons. As long as it got on at that rate it was vain to hope anything from the Peruvian Government on the score of the decline of consumption."

Nothing can be truer than this; unfortunately it is too true; and, as we have before stated, there is a very serious danger that the Peruvian Government, finding from such repeated incautious representations that their guano is indispensable to this country, may raise the price. And who could blame them? Do not Captain BULLER and his friend Mr. HILDYARD get the very highest price for their Wheat that can be squeezed out of the millers? Do not people clamour for Government interposition, in order that they may be enabled to obtain even higher prices than the best which the natural market will bear? and yet the Peruvians are blamed for acting just as we should act ourselves had we the opportunity. Men call upon the first minister of the Crown to help them to steal the guano, which they want; for that is the plain English of their demand. They say, "the Peruvians are weak, we are strong; let us then go up against them with our ships of war, and help ourselves to what we want, for are they not at our mercy, and may we not do as we please? What care we for their creditors, to pay whom they sell this guano? They may be our own countrymen, but what are they to us? It is very well to talk of the interests of bondholders, but are farmers and shipowners to be sacrificed to them?" We wonder the gallant captain did not recollect that the bondholders, with whom lies the right, might inquire whether they are to be sacrificed to farmers and shipowners who have none.

We must say that Captain BULLER stands in an unfortunate position in this business; for that the effect of his representations to Lord DERBY was such as we have stated, no person can deny. At the same time we acquit him of everything, except a want of knowledge of the subject of which he was the exponent. The gallant officer bears a noble character for honour and high principle, which we should be the last to challenge; but we must be

permitted to say that he was bound to make himself acquainted with facts before he misled others into joining him in the bootless errand upon which he went. The most ordinary inquiry among Peruvian merchants, or even an application to the Foreign-office, would have informed him of the following notorious facts :—

There is not a man in any Peruvian port that does not as well know that the Lobos Islands belong to Peru, as we know that the Isle of Wight is ours. This is, indeed, admitted by the English admiral on the station, as was clearly announced a short time since by Lord STANLEY in the House of Commons; and formal notice of it has also been given in the most public manner, by the Peruvian Minister, in this country. There is a printed Spanish book, called "A Geographico-historical History of the Western Indies, or America," written by Colonel ANTONIO DE ALCEDO, a captain in the Royal Spanish Guards, and published at Madrid in 1787, a work recognised by all geographers as one of the highest authority; among the Spanish possessions is expressly mentioned (Vol. II., p. 599) "the Lobos island in the province and corregimiento of Saña, called Barlovento (windward), in order to distinguish it from another island of the same province called Sotovento (leeward), lying off Aguija (or Ahuja) point;" and the same author (at Vol. IV., pp. 171 to 173), enumerates among the barbarian nations and principal places of Peru the same Lobos islands. The territorial rights of Spain became those of Peru when that Republic took its place among nations.

The question raised in 1834, and to which Lord DERBY referred, was this. The British Minister at Lima, Col. BELFORD WILSON, differed with Lord JAMES TOWNSHEND, the Admiral on the station, as to the right of the Peruvian Government to prevent all nations from sealing at the Lobos. The papers relating to the question were sent home, and laid before the legal advisers of the Crown. The result was that Lord PALMERSTON decided that the Peruvian Government had an indisputable right to deal with these islands as it thought fit. This occurred full eight years before the first cargo of guano arrived in England.

But the title of Peru to the guano islands in question would not be the less incontestible, had no such recognition been made by Lord PALMERSTON; for, exclusive of the rights of sovereignty constantly exercised by Peru over these islands, of which some examples have been afforded by one of our correspondents well acquainted with the coast (see p. 346), there is the following other fact. These Lobos guano islands lie off the port of Lambayeque, where there is a custom house; and for years past no persons have been suffered to visit the islands without first taking out a permit from that custom house.

These are facts that admit of no question; and yet, in the face of them, gentlemen insist upon the propriety of obtaining by force a valuable commodity which is as much the property of Peru as our Cornish tin mines are of England. Mr. HILDYARD says that the Peruvian Government has no title to the islands, they being "uninhabited, and their products not the result of human industry." So that if one of the Shetlands was to become uninhabited, and a gold mine were to be found in it, that island would, according to this doctrine, not belong to the Crown of Great Britain.

The *Times* talks of "booty." The *Daily News*, in order to escape from the consequences of having misled the public, pretends that there are many Lobos islands, and that those in question were first laid down by Capt. FITZROY, in the voyage of the Beagle; whereas the very precise declaration of ALCEDO that his Lobos laid off Aguija point, leaves no doubt whatever that the guano islands now occupying attention are what he meant, and no others. The same journal blames Lord DERBY for "opening the juggling chapter of national title," a phrase which sufficiently shows in what spirit the question is treated in its columns. As to the *Economist*, it seems to imagine that the Lobos are newly discovered or rediscovered, is wholly in the dark as to every fact relating to them, and reasons accordingly; while the shipowners of Dundee think that possession of the islands should be taken for the British Crown, or that at all events the Peruvian Government should be compelled to allow guano to be carried off by everybody who chooses to fetch it. Comment upon such piratical propositions is superfluous.

We should rejoice as much as anyone at finding that guano was reduced in price; for none can know better than we do how great its value, as ought indeed to be evident from the steps we have been taking with respect to the trade in it. But considering the extraordinary doctrines promulgated by a part of the press, and the language held by gentlemen uninformed of the facts of the case, we are bound not to shrink from the public duty of attempting, by such humble means as we possess, to put an end to the delusion under which so many agriculturists are labouring. We are bound as honest men to oppose an aimless or discreditable agitation, which raises expectations that cannot be fulfilled, and exposes the Government to the imputation of neglecting important interests, which it is impossible for it to assist, without an infraction of the laws of nations.

NOTES OF A RECENT TOUR THROUGH GLOUCESTERSHIRE AND NORTH WILTSHIRE.—(No. I.)

GENIAL showers were falling when I reached the railway station at Cirencester. Under the protection of an umbrella, I trudged off to the Royal Agricultural College by a road which was then in the pomatum state, so frequently alternating in Gloucestershire with that of powder. I was soon within the precincts of the college, which, with its (south) front of nearly 200 feet and handsome chapel, has a very noble aspect—quite in keeping with the important designs for which it was instituted a few years ago.

Having paid my compliments to the Rev. S. S. Haygarth, the principal, I was conducted through the lecture-rooms, museum, laboratories, private study-rooms, and ranges of dormitories for 200 students, which, with the apartments of the resident professors, and the galleries into which all these apartments open (on the upper floor), occupy much space; and, in their excellence of arrangement, exceeded all the preconceived notions I had formed from what I had seen or read of continental agricultural colleges. The rates of payment, however, being much higher at the Cirencester seminary than in the foreign ones, superior comforts and advantages are necessarily to be expected by the students. The senior ones, from 16 to 18 years of age, pay 70 guineas, and those above that age, 80 guineas per annum. This class of students have the privilege of occupying separate sleeping-rooms and a half share of a private study. Pupils are received also into a boarding-house in the adjacent town of Cirencester, under the care of a resident master, at the latter rate; and pupils under 14 years of age pay 45 guineas; and those from 14 to 16, 55 guineas. No private farmer of eminence in this country is disposed to take a pupil into his family under 100*l.* a year, at the least, and in many instances much higher sums have been paid for fewer advantages; for where is the practical tenant-farmer who can provide the scientific instruction which a seminary, with its staff of professors of all the branches of science connected with agriculture, maintains? At the Cirencester College I found many young gentlemen employed in chemical operations in the large and well supplied laboratory, which is under the management of Professor Voeleker, and the alternations of class lectures, of practical employment in the chemical laboratory, geology, botany, and surveying, &c., in the fields, with practical instruction in the routine of husbandry, fill up the time of young men disposed to make the most of their opportunities. Sessional examinations are held, and questions are proposed in carefully-prepared papers, which test the knowledge of the students in the various subjects in which they have been instructed. For example—"Describe a plough, with its various parts and uses." "State the difference in principle between the plough in use on the college farm and the swing plough." This involves all the mechanical principles on which a plough is constructed, and its triple action. Again—"What are the two objects of subsoiling?" What a wide field does not this open to the respondent? Other questions of detail in practical points, and not involving abstract science, are copiously propounded; such as "What is the average weight per bushel of Wheat, Barley, Oats, Beans, Peas, Vetches, Turnips?" Nor are the advantages of the establishment confined to those only who can afford to board in it. Out-of-door students are privileged, at 40*l.* each, to attend the lectures and the farm operations. The number of students is steadily increasing, and there is no ground for supposing that this will not be henceforth a self-supporting institution, as it ought to be with such liberal payments from the pupils, and such excellent land attached to it.

Though possessing a royal charter, it is altogether independent of aid from the public purse; and, when extrinsic assistance has been required for its extension or maintenance, this has been entirely supplied by the shareholders and promoters of the establishment. The farm contains 700 acres, including roads and the sites of the buildings. The rent amounts to 995*l.*, and the taxes to 175*l.* The labour averages 12*l.* a week.

The soil (oolite) is very fertile, and sufficiently varied in quality to admit of different modes of treatment. Mr. Vallentine, the farm-manager, with whom I conversed for a short time only, obligingly gave me a map of the farm, which, though it appears on paper exceedingly irregular as to the field divisions, does not present on the actual survey of the land any striking deformities. The outlines are so completely out of regular mathematical shape that it would be impossible to divide the area into large rectangular figures. Almost every conceivable form of field, excepting the circular or semi-circular, is traced on the map, and the divisions on it are very numerous. The manager gets his sheep stock over three-fourths of the land every year, and finds more profit on mutton than on beef; he sells straw and buys artificial manures, and, as he has nearly 300 acres of corn, the amount of straw must be very considerable. He departs from the modern system so far as to take two white crops (Wheat and Barley or Oats), on one-half of the land which had been previously under root crops; the other half is sown with Barley and Clover in the usual manner. Where the Wheat is followed by Barley, a root crop succeeds; and afterwards Barley or Oats with Clover.*

There are nearly 80 acres of Sainfoin on this farm, and 60 acres of permanent pasturage. The number of horses is only 13.

The amount of stock is taken every year; and the college establishment and farm are kept so perfectly distinct that the accounts of each can be accurately balanced, without that rather arbitrary and capricious giving and taking of credit which an individual farmer is likely to pursue when calculating the items of farm produce consumed in his domestic economy. A man anxious to make it appear, to his own delusion, that his farm produces more than it really does in point of market value, debits his housekeeping, &c., too heavily for the bread, meat, Oats, hay, &c., consumed; and, on the other hand, if he wants to show a falling scale as to his farm produce, he debits his domestic expenses too lightly.

Mr. Vallentine, therefore, sells his corn and sheep in the market to the highest purchaser; and the superintendent of the college buys his meat, flour, &c., there from the cheapest vendor. Thus the farm presents the accurate arrangements of a commercial concern. *D.*

CHICORY.

CHICORY will turn out to be one of the most important agricultural as well as horticultural roots that, perhaps, Nature has ever given us; every part of it is of great value—top and bottom, blanched as salads, green for cattle, sheep, and lambs, roots for cattle as well as for coffee, &c. I do hope that immediate attention will be given it this season. Every seed-merchant of London possesses the seed of it, and it is exceedingly cheap. I have no doubt that if Chicory was largely grown by the cattle and sheep farmers, that much less disease would prevail, and more milk and butter would be produced, and more healthy meat, as it is so fine a bitter and purifier of the blood; and we are well aware that this root is largely grown in Yorkshire, to mix with coffee; and, as Mr. Booth says, our fault is, that by trying to get a large crop we injure the flavour. That may be so in part; but have we got the climate to elaborate the sap? Considering that Chicory will become of immense importance to every country, I have, through the kindness of a German merchant, at present residing in London, obtained answers to questions put by me, and with much frankness, and from the very centre of Germany. Tastes differ; for the Germans do not use it as a salad, although it is so used over nearly all the continent of Europe. *James Cuthill, Camberwell.*

1. IT thrives in all soils that will grow Carrots; and prefers rich loose land to heavy binding ditto.
2. It exhausts the soil a little more than Carrots do.
3. Decayed stable dung, but almost any manure will do; but, if grown for coffee, it is not desirable to grow it too large, as it diminishes its flavour and consistency.
4. Cultivated to the depth of 1½ foot, dug or ploughed.
5. From the beginning of April to nearly the end of May. (Sown.)
6. Exactly like Carrots. (To be singled.)
7. Transplanting is never practised, as it would not do.
8. Nobody is foolish enough to grow it on the same soil without intermission for several years. Nevertheless, if the land can always be manured afresh, the crops might prove tolerably satisfactory; but change of soil is best for it as well as every other crop.
9. It will do with much or little water, as may happen.
10. *The foliage is a fodder highly esteemed for lambs, sheep, or cattle, and increases the produce of milk.*
11. 1st, the wild; 2d, the cultivated, best for coffee; 3d, the very large broad-leaved (not for coffee); and 4th, the spotted-leaved.
12. The cultivated 2d sort, which is neither very narrow nor very broad-leaved, is the best for every purpose.
13. The chief value of it is, that of converting it into coffee of a very wholesome nature; the next is for feeding cattle, but it is seldom cultivated for this purpose, as Carrots and Turnips are considered equally good and much more productive. [Its bitterness would unfit it for food.]
14. They are fed in a green state, not dried.
15. In a cellar or other darkish, warmish place, build up a wall of roots and dryish sand (more dry than moist), the tops being outwards and having freedom to grow; they will sprout forth by the warmer temperature, and appear white or blanched; the young, when about 2 inches long, may be picked off and prepared as salad, like the Dandelion.
16. They are lifted in autumn and well washed; then cut into small oblong squares of ½ inch to ¾ inch; then thoroughly kiln dried, after which they may be roasted and ground.
17. If wanted for salads, *vide* No. 15. It is never

* On this point we have been favoured by Mr. Vallentine with the following note: "I rather think your correspondent went away with the impression that our course of cropping upon one part of the College Farm was invariably Barley after Wheat, over one half of the Wheat grown in any year. Now our intended rotation is, to sow either Barley, Oats, Flax, Peas, or Beans, after all the Wheat grown after Turnips, so that Clover may not be grown too frequently. This, you will perceive, is very different from sowing Barley after Wheat always."

blanched in the open ground; it is altogether a salad not much cared for in Germany, and never brought to market, because the forced Lettuces are abundant, and both milder and more in custom.

18. The crop depends entirely on the soil, the richness or poverty of it, the tillage it has received or not, and other circumstances; the fault in England is the striving to grow as heavy a crop as possible, to the very great detriment of the quality of the root as coffee. The exact quantity per acre may be best ascertained by applying to some of the extensive cultivators of Chicory in Yorkshire and other parts of the island. *From Messrs. Booth and Co., Altona.*

1. CHICORY requires middling soil, mixture of clay and sand; it very seldom thrives in heavy clay land—never in sand or wet land.

2. It requires much manure, and draws much nourishment from the soil; but Oats, or perhaps Barley, may be grown on the land without any further manure.

3. Any manure, only plenty of it.

4. The best way is to dig the land, but ploughing will do also.

5. Seed time—end of April or beginning of May.

6. The seed is sown like Rapeseed or corn; it would not do to plant it in rows. [Why not?]

7. It cannot be transplanted, at least not when young.

8. After one year's crop, the land can only be used again for the cultivation of Chicory after three; better, four or five years.

9. During growth it requires much attention, must be weeded two or three times, after which the root grows better. In this respect it resembles the Beet-root.

10. The tops (leaves) are used as food for *cattle, lambs, and* SHEEP; pigs do not like it.

11. There are several sorts; but, for mixing with coffee, we only grow the broad-leaved (native of Brunswick) or the small-leaved, which has long roots, and is a native of Magdeburg. The former is, however, preferred, on account of its being the richest.

12. Nobody eats here salad of Chicory; in Switzerland some people use the leaves, before they are large, for salad, which, however, tastes very bitter; it is said to be purifying to the blood.

13. The Chicory root has much juice, and tastes very bitter; it is almost exclusively cultivated for the Chicory manufactories.

14. They are only used as fodder when green. Not dried out of doors.

15. The tops are never blanched.

16. After the tops have been cut off, the root is washed, cut in slices by machines, then dried and roasted and ground; in this state it may be kept for years.

17. The roots, with the leaves cut off, are thrown in heaps of from 4 to 6 feet in length, width, and height, on the surface of the ground; some straw and then some earth are put around. But generally the growers deliver the root to the manufacturers in the latter end of August till November, by whom they are immediately dried.

18. The root is from 2 to 4 inches thick, and from 3 to 7 inches long. We grow from 4 to 6 tons per Brunswick acre, according as the crops turn out.

19. The price of the roots in their original state is from 20*s.* to 35*s.* per ton, according as the crops have been good or bad; and one acre would realise from about 5*l.* to 7*l.* The cost for cultivating is about 3*l.* 15*s.* to 4*l.* 10*s.*

20. Germans certainly prefer salad of Endives.

21. Englishmen may have eaten the latter, but surely never of Chicory.

22. Chicory is never used here in beer instead of Hops; neither the roots nor the leaves, as they are not nearly bitter enough, and, in a dried state, would only dye the beer, without imparting that bitter taste to it which Hops do. *Brunswick, May* 12, 1852.

P.S. In order to save room, I have not put in my questions; the answers will be understood without. With regard to Chicory transplanting when young, I have practised it, and no root transplants better; neither can I see any reason against drying the leaves for fodder. The best length of leaves I have found for salad is 6 to 8 inches long; and the highest price per acre in this country was 30*l.*, for the use of mixing with coffee. *James Cuthill, Camberwell.*

ROTHAMSTED AND THE WRITER "R."

(*Continued from page* 378.)

RESUMING our remarks on the statements made by the writer "R.," in the *Agricultural Gazette*, as to what are the views maintained in our various papers, we propose now to call attention to his representations of our opinions on the subject of the manures required by the Turnip when grown in our rotations for feeding and manuring purposes. It will be seen that on this point he has not had recourse to such pure inventions as those which we had occasion to expose in our former articles, but that a method much more plausible, though equally wide of fairness and candour, has been adopted, viz., that of giving an *absolute* and *unconditional* interpretation to sentences, which either by themselves, their context, or both, are manifestly shown to have a meaning *strictly relative and conditional*. It would appear, however, that he has set himself the task of showing, to use an expression of his own, that "Scotch practice is far in advance of English science," and it may be that so worthy an end may require such unworthy means; but neither the end nor the means are what we might expect from one who, scarcely a year ago, read his brethren on both sides the Tweed a lesson for their occasional outbursts of absurd antagonism, and who, even in the course of the very articles of which we complain has given to his readers a sort of pledge of "impartiality to all parties!"

As in the case of the previous subject of discussion, we propose, then, to show, by means of quotations from the writer "R.," and from our own papers—

First—That we have *not* maintained the views attributed to us. And,

Secondly—That the views we *have* maintained are in accordance with the facts and opinions cited against us.

And in the course of our remarks, we shall discuss at some length some of the points of interest and importance that will be brought within our notice.

In the *Agricultural Gazette* of July 26, 1851, "R." writes thus:—

"The experiments of Mr. Lawes on Turnips are not so satisfactory as those on Wheat. Many of the deductions which he has so extensively drawn will not stand the test of experience; for he has generalised too freely on local and special results, and applied these to explain and regulate the whole principles of manuring where the circumstances were totally different."

Again, in the same article he says—

"Mr. Lawes has been led by his experiments to believe that in ordinary farm management carbon must be added to the superphosphate of lime, and that it is the essential and active principle. We suspect, however, that *carbon without ammonia* is powerless."

Further on he says—

"In market gardening no one believes that the value of the manure applied to the Turnips depends upon its *phosphates and carbon alone*, both are no doubt essential."

And he winds up his article thus:

"The conclusions which Mr. Lawes has arrived at, in regard to the effect of nitrogenous manures on Turnips, cannot be defended on any other grounds than that his experiments were made at a season too far advanced to give the nitrogenous dressings the necessary conditions to increase the weight of bulb. This supposition appears to us to afford the only way of escape from a dilemma about which so much ingenuity has been wasted." (!)

Resuming the subject on January 17th, 1852, he says:—

"Perhaps one of the greatest discrepancies at the present moment between the 'science' and 'practice' of agriculture, is found in the theoretical assertion that an agricultural crop of Turnips can dispense with ammonia as a manure. No less an authority than Dr. Daubeny has given countenance to this opinion in his late elegant and well-timed lecture, where he says: 'Turnips, which contain more nitrogen in proportion than the Grasses, (?) can dispense with ammoniacal manures, provided only sufficient superphosphate be administered to them in an early stage of their growth.' He thus, so far, coincides with Mr. Lawes, &c."

We shall make other quotations further on, but in the mean time, in reference to the representations of our views made in these sentences, we beg to say, that any statements which would make it appear as an opinion maintained in our papers that "carbon without ammonia," or "phosphates and carbon alone," are sufficient for the Turnip crop, or that it "can dispense with ammonia as a manure," are simply untrue.

It is true that there are some incidental remarks in our paper on *Wheat*, and published *earlier than the one on "Turnip Culture,"* upon which the writer "R.," perhaps, relies, to justify his representations—though these could only serve him by first disallowing their obviously intended meaning. We shall presume, however, that it is not from our earlier or incidental remarks that our opinions are to be taken when they have been given both more recently and more fully. It is, then, to our paper on "Turnip Culture," and to those that have followed it, that we shall refer for our own statements of our views on this subject; and surely no one who has taken the trouble to ascertain the spirit and intention of those papers, can fail to discover that our statements respecting the manures required for the favourable growth of the Turnip, refer to its production *as a crop in rotation with grain;* that is to say, that our object has been, not so much to provide specific rules regarding its culture *under varying circumstances of climate and soil*, but to point out, as far as the results of our experiments would allow, what are its CHARACTERISTIC requirements as contrasted with those of the crops with which it is grown in alternation; and it is in this sense alone, viz., as an essential element in attaining the *fallow result* of the Turnip crop, and, *as contrasted with the Cereals*, that we have called attention to the necessity of providing organic manures abounding in carbonaceous matter, *rather than in nitrogen.*

Nor, again, can any careful and candid reader fail to see that we do distinctly claim the importance of ammonia as a manure for the Turnip, only guarding against such an "EXCESS" of it as might tend to its expenditure, or to lessen the accumulation of it from natural sources, and thereby diminish the *rotation effect* of the crop; and, further, that it is only when looking at the subject in this point of view, and at the same time assuming that in practice carbon would be supplied by farm-yard dung, that we have supposed that in it, *especially provided that a liberal amount of imported cattle food be used in its manufacture*, any sufficient supply of carbon would be associated with a considerable, and *frequently* sufficient relative supply of nitrogen; it is, we say, under such circumstances, and such alone, that we have supposed that *further*, and *direct* nitrogenous manures will frequently not be necessary.

But, whilst laying down this broad principle, applicable at the discretion of the reader only, accordingly as he may know that in his case the stated conditions are fulfilled,—we have at the same time called particular attention to the fact that the effect of ammoniacal manures upon the Turnip is greatly to increase the "vitality" and "longevity" of the plant, and we have further distinctly admitted that where, as in Scotland, owing to "*the natural agencies of season*," the orbit of growth of the plant is much extended compared with many other localities, under such circumstances *direct* ammoniacal manures, such as Peruvian guano, will be advantageous. *J. B. Lawes.*

(*To be continued.*)

Home Correspondence.

Salt.—In your Number for May 29 there is an article on the management of sheep, copied from a west country paper, strongly recommending the use of salt, at the rate of 2 oz. per day, to breeding ewes. Now, as this practice is strongly condemned by many writers, when applied to animals during their period of gestation, as likely to occasion the dropping of lambs or calves, I have read the statement with some surprise. You are, no doubt, aware that, at the instance of Baron Mertens, on behalf of the Belgian Government, this particular question was last year brought under consideration in the Royal Agricultural Society, the Belgian farmers having experienced great losses by the cows slipping their calves, arising, as they believed, from a recently introduced practice among them of giving salt to the cows—adopting, as they supposed, a practice commended in England. The general result of the discussion in the Royal Agricultural Society was against the use of salt to breeding cows and stock generally. I also know a case, in this vicinity, in which a farmer having given to his breeding ewes some hay, cut from a stack which had been salted when it was made, many of the ewes dropped their lambs. On his consulting a neighbouring farmer respecting it, he asked if he had given them any salt, to which he replied, "No; but had given them hay which had been salted." He was advised to discontinue it, and from that time had no more lambs dropped. How are we to reconcile these facts with the astounding averments of "Delta?" If the latter is right, salt is the best thing in the world; but "who shall decide when doctors disagree?" *J. G.*

Agriculture in England in former Times.—I have been much interested in the discussion, which has been carried on in your columns, upon the state of agriculture in England in former times; and I beg to forward to you for insertion, should it be thought worthy of a place, the following proofs, extracted from "Henry's History of Britain," of the truth of the arguments advanced by Mr. Hewitt Davis, of the high state of cultivation, and great produce of corn in this island, when under the dominion of the Romans.

[*From Henry's History of Britain, Vol. II., p.* 106, *ed.* 1805, 8*vo.*—"As soon as the Romans had obtained a firm establishment in Britain, agriculture began to be very much improved and extended. This was an art in which that renowned people greatly delighted, and which they encouraged in all the provinces of their empire. 'When the Romans (says Cato) designed to bestow the highest praise upon a good man, they used to say, he understands agriculture well and is an excellent husbandman, for this was esteemed the greatest and most honourable character,' &c. As soon, therefore, as the Romans had subdued any of the British states, they endeavoured, by various means, to bring their new subjects to cultivate their lands, in order to render their conquest more valuable. The tribute of a certain quantity of corn, which they imposed on these states as they fell under their dominion, obliged the people to apply to agriculture. The colonies of veterans, who were as expert in guiding the plough as at wielding the sword, which they planted in the most convenient places, set before the native Britons an example both of the methods and advantages of this art. In a word, the Romans, by their power, policy, and example, so effectually reconciled the Britons to the cultivation of their lands, that in a little time this island became one of the most plentiful provinces of the empire, and not only produced a sufficient quantity of corn for the support of its own inhabitants and the Roman troops, but afforded every year a very great surplus for exportation. This became an object of so great importance that a fleet of ships was provided for this particular service of bringing corn from Britain; and capacious granaries were built on the opposite continent, for the reception of that corn; which from thence was conveyed to Germany and other countries, for the use of the Roman armies. 'He also built new granaries (says Ammianus Marcellinus of the Emperor Julian) in the room of those which had been burnt by the enemy, into which he might put the corn usually brought from Britain.' The great number of ships which were employed by the same Emperor, A.D. 359, in bringing corn from this island, must give us a very high idea of the fertility and cultivation of it in these times. 'Having collected prodigious quantities of timber from the woods on the banks of the Rhine, he built a fleet of 800 ships, larger than the common barks, which he sent to Britain, to bring corn from thence. When this corn arrived, he sent it up the Rhine in boats, and furnished the inhabitants of those towns and countries, which had been plundered by the enemy, with a sufficient quantity to support them during the winter, to sow their lands in the spring, and to maintain them till next harvest.'—Zosimi Hist., l. 3.]

So great and happy are the effects of well-directed industry. To enumerate the many improvements in husbandry which were introduced by the Romans, and produced this amazing plenty, would swell this article beyond all proportion. *John Bransby, King's Lynn.*

Draining.—I cannot see the analogy between a sugar-loaf or any other substance dipped in water and a bed of stiff clay requiring to be drained. Capillary attraction will doubtless operate in both cases; but if it should turn out that the clay does not rest on water, as the sugar is supposed to do, but is saturated from above, and not from below—and, moreover, that under the active soil it contains more water after draining than before—I scarcely see how the sugar will settle the proper depth of drains. The arguments of many seem to show that clay, when drained, absorbs and retains water where formerly it contained little or none, and that in consequence the crops are comparatively safe during drought. Now, this is not a bad argument, because its truth is borne out by facts; and it is incumbent on those who differ from it to prove the truth of

their own theories, for it is dangerous to lay down a system of drainage for clay except on sound principles. In the meantime, let no one be deceived; make every man prove his case by the strictest evidence before trusting to it, and it may then be found that the views of some, instead of being sound and philosophical, are based on assumptions which all experience, since the creation of the world, goes to controvert. *James Donald.* [The analogy between loaf-sugar and clay lies in their both possessing porosity, and in their consequent relationship to water being regulated by the laws of capillary attraction.]

Cheap Implements.—In your Number for May 15, there appears an extract from a letter written by a correspondent who farms largely in Berwickshire. In that letter the writer tries to throw cold water on the scheme of a company who propose, on certain conditions, to furnish the public with the most improved implements, at a decreased cost. I know nothing of the company in question, nor have I ever as yet bought an implement of them, but it seems to me that their scheme, if fairly carried out, would be as great a boon as in the present day could well be conferred on agriculture. I conceive that improved machinery is absolutely necessary to enable our farmer to meet the foreign market; but from the high price hitherto asked by agricultural implement makers, not one small farmer out of every five hundred can afford the purchase. Such being the case, it seems to me that such a scheme as the one in question deserves every encouragement that can be given to it. The only objection which your Berwickshire correspondent can find is, that the firm alluded to advertise two horse rollers at from 8*l.* to 12*l.* each, and that ordinary makers are sending out metal rollers, in halves, for a single horse, at 5*l.* 15*s.* On comparing the price of Messrs. —— and Co., for two-horse metal rollers, with that of other makers, I find that the first-named company charge from 8*l.* to 12*l.*; other makers charge from 10*l.* 10*s.* to 16*l.* 16*s.*; and from what source your Berwickshire correspondent draws his conclusion that the scheme of Messrs. —— and Co. is a failure, because they do not sell two-horse rollers cheaper than the ordinary maker sells a single horse one, is, I confess, beyond my comprehension. On comparing the price list of Messrs. —— and Co., under their new scheme, with the price list of other eminent makers now lying before me, I find the price of a Norwegian harrow in the first list, is from 5*l.* 18*s.* to 6*l.* 6*s.*, in the other lists from 13*l.* 10*s.* up to 20*l.*; Crosskill's roller in Messrs. —— and Co.'s list, 11*l.* 10*s.*; in others, 17*l.*; and other implements in the same proportion. As I before said, I have no knowledge of the company in question, and have seen none of their work; but if they send out a good article there is no question that they ought to be supported most gratefully by agriculturists. That such a scheme will meet with the greatest opposition from other agricultural implement makers I have no doubt. That, however, will weigh but little with me; and to your readers I would say, compare the list of Messrs. —— and Co. with others, and if they are cheaper, give them a fair trial. *An Economist.*

Cochin China Fowls.—Cyrus Clark, of Street, bought of Sturgeons, Grays, Essex, a Cochin China cock and two hens, about the 23d January, 1852. He has had hatched up to the 31st May, from the eggs of these two birds, the astonishing number of 98 chickens, all of which are alive. The three old birds and some of the chickens are entered for the coming exhibition at Taunton.

Societies.

AGRICULTURAL IMPROVEMENT, OF IRELAND, *June* 1, evening meeting.—Mr. BALL read an essay "*On Green Crop Culture,*" from which we make the following extracts:—"Next in succession to the Turnip and Mangold Wurzel, to which my observations on the former evening were principally confined, the crop that seems to claim a large share of our attention, and to which, within the last year or two, a vast amount of public attention has been drawn, in consequence of the expectations held out of its becoming, ere long, of not less commercial than agricultural importance in this country, is the White or Silesian Beet. I propose, therefore, to treat the Sugar Beet question in a strictly agricultural point of view. Now, as regards the farmer, the matter resolves itself into two questions, the first and least important of which is—At what price can the Irish farmer afford to sell and deliver his Beet to the manufacturer? And the second is—Supposing a price obtained that shall be to the full as high as the farmer would seem to have any right to demand, is it a safe or a sound principle of action to sell that, for the sake of present profit, which all former experience has taught us to be the master-key to present plenty and future fertility? First, then, as to the price we can afford to sell the roots at. This obviously depends on another question, viz., the average acreable weight that can be obtained by average management on land of average quality, and with the assistance of only a moderate allowance of manure, whether that be farm-yard or artificial, or a mixture of both. At our last meeting here, I mentioned an experiment I made last year in growing Sugar Beet, upon land decidedly above the average fertility of this country, in an excellent state of cultivation, and with the assistance of 40 tons of superior quality of manure, together with 3 cwt. of guano to the acre; the result of which was a return of 33 tons of clean roots. A much more valuable part of my own experiment was, that I grew alongside the Beet, and with exactly the same management and manure, two varieties of Mangold Wurzel, and Skirving's Swede, the result being 25 per cent. exactly in weight in favour of the Yellow Globe Mangold Wurzel and Swede, as compared with the Sugar Beet; and this result nearly agrees with other results. Now I have consulted practical men of great experience from different parts of this country, as to what would be a safe average to take of the acreable weight of Swedes or Mangold Wurzels that is at present grown, and they are all agreed that 25 tons to the Irish acre is rather a liberal estimate of these crops. If this be so, it follows that about 18 tons of Beet will be the average crop to be expected from the land. Some manufacturers already talk of 12*s.* a ton as a fair price, but we will take the highest price yet named by the Sugar Beet Company—15*s.* per ton.

18 tons of Beet, at 15*s.*	£13	10 0
We will assume the delivery to be within the reach of two turns of a horse and cart in the day, and, from its great bulk, and consequent cost of carriage, it should not be grown further from the factory, carrying on an average, 15 cwt. each turn, or say 3*s.* per ton for delivery	2	14 0
	£10	16 0
The immediate loss to the farmer by the sale of the green crops that should otherwise have fed, say, two beasts and a half five months, the manure of which cannot be valued at less than 1*l.* 10*s.* each, or	3	15 0
	£7	1 0

Leaving 7*l.* 1*s.* to pay rent, taxes, and expenses of cultivation, not to speak of the farmer's profit. From these calculations, and on consultation with many practical friends, I have been irresistibly led to the conclusion that, under any circumstances, the lowest price at which the crop can be grown and delivered, to leave a present profit, is 1*l.* per ton. If that were the price obtained, the account would then stand as follows:

18 tons Beet, at 1*l.*	£18	0	0
Delivery, at 3*s.*	£2	14 0	
Loss to farmer	3	15 0	
		6	9 0
	£11	11	0

There is another circumstance which bears upon this branch of the question, that ought not to be lost sight of; it was touched upon here at our last meeting, by Mr. Dargan, who drew attention to the fact, that it was one thing to grow large crops, and another to grow good crops; and instanced the case of the Sugar Beet, which I find has been ascertained, by the most careful analysis, to contain as much as two or three per cent. more sugar in bulbs that did not weigh more than two or three pounds, as compared with those that weighed six or seven. In consequence of this fact being well known in France, Prussia, and in Flanders, where the manufacture has been for some time established, I find that a considerably higher price is freely given for roots that do not average more than 2 or 3 lbs., than for those of a large size; in fact, that a high premium is given for growing the small roots, and it must be said this is only as it should be. My second query is—Is it a safe or a sound principle of action, to sell that, for the sake of present profit, which all former experience has taught us to be the master key to present plenty and future fertility? The first principle of all good farming is, to increase, by all possible means, the size of your manure-heap, and to this end to dispose of nothing off your farm but white corn and live stock. The cases in which this rule can be departed from with impunity only proving the rule—namely, in the vicinity of a large town, where manure can be had as back carriage for every load of produce sent to market. What, then, are we to say of a system that necessitates the annual sale of a certain proportion of what should go to increase the manure-heap, without offering any corresponding benefit to the grower? I have heard the question asked, how have they got on now for several years past in France, and the other continental countries, that have been growing Beet for sugar for many years? What if I say I am not prepared to answer the question? That will not prove me wrong; climate, soil, political and social differences, of which we know nothing, no doubt have an effect in modifying the evil consequences of transgressing the principles of good farming. There are one or two facts, however, within our knowledge, that may help to account for the trade prospering there in a manner that it cannot do here: from the refuse of the Beet, after the sugar is extracted, a brandy of medium quality is distilled, thus enabling the manufacturer to make a profit, and pay the grower a price which we never can hope to see realised in these countries through the same means. What conclusion, then, do I draw from these facts? Do I say, do not attempt to grow Beet? By no means. The farmer has an interest, and is bound, in common with every other member of the community, to co-operate in advancing the general good, as long as he can do so with safety. My advice, then, would be, first, not to attempt Beet at all, unless within a very short distance (say five miles) of a sugar factory. Second, not to be carried away by glowing representations, or expectations of large and immediate profits. The advantage to the farmer from this trade, if once established, will be, in my humble opinion, quite as much or more, from the stimulation of capital and industry in his neighbourhood than any direct profit he may make by the sale of his Beet. Third, let him not be induced, by the aforesaid glittering prospects, to sow more than a very limited proportion of his manured ground with Beet, recollecting that every acre so sown deprives him of the keep, on a moderate calculation, of two beasts and a half, or of a proportionate number of young stock, sheep, or pigs. It is impossible to lay down any rule, as much must depend on the facilities of procuring farm-yard manure, and of the intentions or capabilities of the grower to apply a portion of the money received, by the sale of the Beet, to the purchase of guano or bones, to keep up his fertility in the ensuing year; but I would say, as a general rule, that to sow more than a fifth or a sixth part of the crop in Beet would, in a majority of cases, be unwise. Fourth, to successfully carry on the growth of Sugar Beet, it would be absolutely essential to adopt the most active and energetic measures, to compensate to the farm, for the permanent drain that will be thus established upon its fertility—by increased care and attention to the collecting every morsel of manure, the formation of manure tanks, even of the rudest and most inexpensive description, by which the most valuable portion of the ammoniacal salts contained in farm-yard manure may be preserved and given back to the land—the use of turf-mould and other substances of a like nature, to soak up water—the establishment in the farm-yard of a receptacle for almost every description of refuse, particularly old bones, hoofs, horns, &c., which, even where the means are not at hand for purchasing the more expensive manures, will go far, with care and forethought, to make up for their loss; in fine, never to lose sight of the fact, that he has become debtor to his farm in exactly the amount of manures extracted by the sale of his crop, and that unless he speedily and regularly makes good this claim in some other way, when harvest time comes round, and the balance sheet has to be made up, that it will not continue to honour his drafts as formerly. *Dublin Farmers' Gazette.*

Reviews.

The Politics of Agriculture; with an Appendix: are Mr. Mechi's intentions honourable? By W. Walter Good. Author of "The Theorists Confuted; or, Practical Farmers Vindicated." J. Ridgway, Piccadilly.

To attack Mr. Mechi is the main object of Mr. Good's present pamphlet, and it is accordingly addressed to the members of the Society of Arts, who are supposed to have been deceived and misled by the former gentleman's recent address. We are not about to analyse the antidote which is here offered to that paper, nor to sift the worthless from the valuable parts of the composition. It is to only one aspect of the matter, and that not the agricultural, that we shall now advert. Mr. Mechi, as every one knows, *can* write English; now, judging from the "Politics of Agriculture," we fear that Mr. Good cannot. Language is necessarily the first department of study—all other learning comes by its means; and we recommend Mr. Good, who has no small portion of Mr. Mechi's spirit and energy, to obtain *his* acquaintance with the English before, in that language at all events, he ventures to expose the follies and the rogueries of Tiptree-hall. No one, we are sure, will be more ready than our author to take this advice in good part; for his opening passages so expressly acknowledge the importance of using "plain and simple terms," when addressing "the business men of a community," that he adds, "after reading these opening remarks carefully over, I have concluded that I shall be believed when I say that my object is to be understood 'in what it is that I mean to say.'" If this was his object, we have merely to add that, talking of failures, there never was a greater than Mr. Good's pamphlet on the "Politics of Agriculture"—Tiptree-hall farm is nothing to it! What can you make of writing full of such passages as the following:—"One of the important reasons why that policy, or reckless 'experiment,' which the State was bullied into the adoption of a few years since, and this by Chartists, 'Free Trade' agitators, and the various other divisions which assisted in throwing a light on the blessings of freedom and equality—sects composed of Modified Radicals, Radicals Patriotic, and Patriotics, where a scramble was likely to happen—made thus noble, perhaps, by the stimulating circumstances of continental convulsions, and a sentimental alarm of famine in our land when there was enough and to spare—by all these lesser 'streams' being brought to a focus, bearing power near by the 'Constitutional Fountain,' there were strong symptoms of the *spring* being 'tapped,' which might have ran it 'clean off,' had not the raging been allayed by diverting one or two of the stronger rivulets, so that they emptied themselves below the shrine of English boast and pride!—that policy, or 'experiment,' which was resorted to as an expedient at this perilous moment, has not proved itself to be a total failure, from the effects of the extraordinary circumstances which I am just about to allude to, and with becoming respect;" &c., &c.!!

Now, notwithstanding such egregious failures as this, in his attempt to attain the object with which he professedly started, we have this author more than once coming before the public, and always with the view of exposing the failures of others. He criticises unmercifully, and can therefore claim no consideration for himself. Mr. Mechi has more than once taught that which he has since been the readiest to denounce as agricultural heresy—*his* failures have instructed him; but Mr. Good's!—the strongest evidence of his incapacity appears in this—that he seems unconscious of them. The failures of Mr. Mechi on Tiptree farm have been such, that, seeing its owner and cultivator is not thereby hindered from continuing to record his experience, this gentleman is constrained to ask "Are his intentions honourable?" The failures of Mr. Good in his "Politics of Agriculture" are so ludicrous and

glaring that what *his* intentions may have been, we are utterly unable to divine.

One generally desires some guide to the character of a book before he yields to the advice of its advertisement and becomes its purchaser ; but in the present instance no such guidance is necessary—the advertisement speaks plainly enough for itself. The writer whose aim is to overthrow theory rather than assist in building it up, who desires rather to vindicate practice than to improve it, need not expect to number intelligent men among his readers.

Miscellaneous.

Intercalary Crops.—What other crops might be obtained between the regular ones ?—Cabbage plants (with liquid manuring) might be put down between drills of early Potatoes, when nearly ripe, and moulded after the Potatoes are removed ; these Cabbages would be consumed before the season for Wheat-sowing. In the same column, Rape plants might be introduced among the Beans ; Rape seed might be sown after the last hoeing of the Beans, and the plants would afford some green food in the autumn before Wheat-sowing. Thus every year additional crops could be obtained, also, by dropping Beans thinly into Potato drills some additional produce may be gained without injury to the Potato crop. You have named Trifolium incarnatum; what is it ? —Trifolium incarnatum is a variety of the Clover family : it bears a beautiful crimson blossom, and yields one good cutting. By sowing it in autumn, it is fit for cutting in the next year in time for a crop of Turnips, or for transplanted field Beet, or Swedes, Cabbages, &c. Afterwards it is valuable for filling up any bare spaces that may appear in autumn in the spring-sown Clover. How should stubble ground be prepared for Rape, stone Turnips, or Trifolium incarnatum ?—Stubble ground should be lightly dug or forked for Rape, or other crops, the stubble and weeds raked off and burnt, or carried to the cow-house or pig stye : the seed should be sown broadcast. There remain 50 perches to be apportioned ; how will you dispose of them ?—I would have 40 perches under Lucern, if the soil were suited to it, and 10 perches for a garden. Suppose a cottager to get possession of two acres of Grass or old ley land at Michaelmas, by what management can he bring it under cropping, on Mr. Tower's plan, in the shortest time ?—Let him first dig 45 perches very deeply, turning the grassy sides of the sods down, and laying them as evenly and closely as blocks of stone or wood are placed for pavement. On this portion, winter and spring Vetches may be sown in drills, formed with a hoe, 12 inches apart, and raked in. Thus green food for cow-feeding in the next summer will be provided. What next ? — Let him dig 45 perches in the same manner,* for Wheat ; 45 more at leisure, in the course of the winter for spring Oats (if the wire-worm do not infest the ground), with which Clover may be sown ; 90 perches in the same way, either for winter or spring Beans, as time may allow—and trench all the remainder during the winter, for Potatoes, cattle Beet, Swedish Turnips, garden roots, and Lucern if the soil suits it. Why is so large a portion to be laid apart for Beans ? —Beans are a good preparatory crop for Wheat ; they are profitable, also, and raised with little labour, and this quantity of the land will exactly suit for the proportion of Wheat to be sown every year according to the table. Will manure be necessary for Beans or fresh ley ? —Manure will be necessary for the Beans or ley, unless the soil be very rich. Short dung or compost manure should in such case be spread on the surface before digging. How should Beans be put into the ground ?—Beans should be planted with a dibble, in rows 16 inches apart, with 8 inches between the holes (2½ inches deep) in each row, and about three Beans should be dropped in each hole, after which a rake should be passed, or a bush drawn over the rows to cover the seed. What advantages have winter over spring Beans ?—Winter Beans usually ripen a fortnight earlier than spring Beans, and the produce is generally greater. When stubble Turnips are to follow, this early ripening is important. Is there any special advantage on the other hand in favour of spring Beans ?—The quality of spring Beans is usually better than that of winter Beans, and the time for sowing them (February), interferes very little with other field labour, whereas the planting of winter Beans may interfere much with Wheat sowing. Could a cultivator bring stubble or fallow land as quickly as ley into the particular system of cropping we have recommended ? —It would be more easy to bring stubble or fallow land into immediate cropping, according to the plan laid down, than ley land, inasmuch as the labour of digging and preparing it would be less. How many perches of stubble land could a man roughly dig, 14 inches deep, in a winter's day ?—A man, without overworking himself, could roughly but very deeply dig from 8 to 10 perches in a winter's day, and for many successive days ; and if the winter's digging be well done, the spring digging will be more quickly executed. Will not a cottager who is obliged to attend to his employer's work, feel it difficult to find time for the spring digging necessary to prepare his own ground for so many sorts of crops as he will have to sow and plant in spring ?—All the spring crops will not require to be put into the ground at the same time ; for instance, if the setting of Cabbages and Beans, and early Potatoes be commenced in February, the digging or forking of the soil for them may be easily done after the previous deep digging ; there will then be some weeks for digging the divisions intended for spring corn ; after this is overground, drills may be opened and completed for cattle Beet. What next ?—If lime, or compost of lime and earth, had been scattered over the surface intended for the main crop of Potatoes, it will be only necessary at the planting season to dig at first narrow strips, 30 or 36 inches apart, into which the sets might be dibbled, without, at that time, digging the spaces between the rows. Or drills, barely wide enough for receiving a due allowance of dung, might be planted and covered, and the spaces between them, as in the other case, dug in the course of a month or six weeks afterwards, when the Potato plants have clearly appeared : thus time would be economised without any injury to the first or succeeding crop. The preparation for Turnip land would not be necessary until all other work was over. Is a spade the best implement for digging land generally ?—A spade is the best implement for digging loam or any crumbling soil, but a fork is better for digging clay, because it enters the ground more easily, and turns it over equally well. What is the best sort of digging fork ?—Dr. Yellowley's three-tined fork is probably the best for digging stiff land. The fork part is 13¼ inches in length, and weighs 10 lbs. ; the whole length is 3 feet 3½ inches, and the wooden handle is 2 feet 2 inches. A workman will dig more clay land with it in a day than with a spade, and also with less fatigue. *From Groombridge's Elementary Catechism.*

Price of Agricultural Labour.—Amongst our many agricultural discrepancies is the price of agricultural labour in different counties. In Suffolk, parts of Essex, and other counties, 6*s.* 6*d.* to 7*s.* 6*d.* per week is a common price ; whilst in parts of Yorkshire, Lancashire, Kent, Surrey, and elsewhere, 11*s.* to 13*s.* is no uncommon rate, particularly in the manufacturing districts. Surely, this is powerful evidence of the necessity for setting labour free by a national rating, in lieu of the local trammels of parish or union relief. Labour being the parent of capital, should be as free as air, following the great principle of commercial equipoise ; not that I think cheaply-paid labour is by any means the most desirable. The physical condition of a man, as of a horse, is the limit of his powers, minus his intelligence ; but with extreme low wages, we see miserable raggedness and ill-conditioned cottages, disgraceful alike to the locality and to humanity, and evidencing a low scale of rent for land, with inferior farming. But there is no end to agricultural discrepancy. In Norfolk I can find a farm of 1000 acres, with only four fields of 250 acres each, the fences neatly trimmed, free from hedgerow timber, and the whole a pattern of good farming. I turn to Devonshire and many other counties, and there I see 60 and 70-acre farms, with 25 fields on an average of about 2½ acres each. Who can wonder at the complaints of agricultural distress ? Imagine, on such a farm, 25 gates to open, shut, and keep in repair ; 25 squares of hedgerows and timber trees, eating up the poor farmer's crops ; 25 squares of headland to turn upon and destroy, and yet all these nuisances are measured to the tenant as land, and he has to pay rent, rates, tithes, and taxes upon them. Again, in parts of Norfolk, Lincolnshire, and Scotland, steam-engines are almost as plentiful as Blackberries, whilst in most other counties, they have few or none. In my own, with a million of acres, we have less than half-a-dozen. Well, look at our tileries for drainage. When I visited Devonshire last year, I found a recently-erected one on Lord Fortescue's estate, the first in this county of 1,500,000 acres. If manufactures and commerce had been as slothful as agriculture, we should have been as dependent on foreigners for clothing as we have been for food. *Mr. Mechi's Second Paper.*

* In ground in which Grasses have rooted deeply, it will be better to turn over the upper sod more lightly, and to cast a second spit over it in order to smother the Grasses effectually.

Notices to Correspondents.

BEANS : *F C.* It is a common complaint, and the winter Beans are as peculiarly liable to this black mildewy blight as the spring sown ones are to injury by insects. We have lost our whole crop before now with the black blight, which has destroyed the foliage before the Beans were fully formed. Wet weather and bulky foliage favour the evil.—*W W.* We are unable to help you. We have ourselves had 20 acres of winter Beans destroyed and changed from luxuriant green to utter blackness in a week, before the blossoming was completed. The present wet weather is favourable to such rapid blight's.

COLOURED TILES : *An Amateur Tile-maker* says : "As it is matter considerably affecting the picturesqueness of our cottage scenery, I hope I shall not be taxing your Paper beyond its province when I ask if you or some correspondent could inform me what is the proper mixture to apply to pain tiles in their green state, that when burnt their flaring redness may be permanently subdued."

DAIRY : *Woodgate.* Your question was too late to appear last week. A good Alderney cow will yield 20 quarts of milk daily, and 10 lbs. of butter weekly, in the spring and summer months. A cow may cost 7*l.* 8*s.* a-year. Perhaps some of our correspondents may be able to give you more definite information on—1st, the average amount of butter a good Jersey cow will yield annually ; 2d, how many may be placed under the management of one dairymaid ; 3d, the cost of keep of one cow per annum.

GUANO : *Agricola.* Apply about 4 cwt. per acre in a compost with some loamy soil, so as to make three or four cart-loads per acre of the mixture. It will enrich the land sufficiently to get a crop, by the consumption of which on the land fertility may be made nearly permanent.

PEAT CHARCOAL : *A Subscriber.* " The clamps which I constructed in Lancashire were small, being about 2 yards square within, and the walls about 1½ yard high. These were rapidly and conveniently built of massive sods cut from the sup cucinal bog-earth, which had been recently turned over by a peculiar plough, in slices 18 inches broad by 9 inches deep. The joints of the walls were plastered, where needed, with soft stuff obtained from adjacent drains. Three or four small holes, say 4 inches square, are left in the walls at bottom to give air for kindling the fire, which is first made pretty strong with dried peats, in order to establish a mass of red-hot fuel at bottom. These apertures are diminished as the process goes on, and finally stopped up. If the peat to be charred be nearly dry, the clamp may be speedily filled, always using the driest peat first, and covering the top with damp sods or diggings. The air-holes must be quite closed when it is judged, by the appearance of the volume and clearness of the smoke, that sufficient heat is acquired below to carry on the operation. As the contents subside fresh stuff is added, care being taken to maintain the kiln quite full, to close all interstices in the walls and to fill up holes at top as they occur from shrinkage produced by combustion. Flame must never be allowed to appear on the surface. The clamp is known to be sufficiently filled with charcoal when the added stuff settles but little. The operation should be stopped when the charred mass approaches within 18 or 12 inches of the top ; otherwise, the incumbent air, particularly in windy weather, may reach the charcoal, which would then be quickly reduced to ashes. The fire will gradually go out on carefully stopping the access of air, and smothering the surface with wet stuff, but the best plan is to extinguish with water, which also prevents the finer dust from being blown away when the clamp is emptied." *Mr. Parkes, in Agricultural Gazette,* 1844.

POLITICAL QUESTIONS : *G W.* It is our wish to steer as clear as possible of all *party* questions, and we hope we do so ; but it is impossible, in a journal like this, to avoid altogether those great public, not party, questions which are incidental to the occupation of land, and which are hardly second to the cultivation of it. Agriculture is, however, our great object, and from that we are not at all likely to depart.

STEAMING : *F R.* You had better apply to some of the manufacturers ; Messrs. Richmond, of Salford, are noted for their steaming apparatus.

SUSSEX FAIRS FOR SOUTHDOWNS : *Horsham,* July 18. Wether lambs, from the hill flocks of West Sussex, and a few wether sheep.—*Findon,* Sept. 14. Draft ewes, wether lambs, cub ewe lambs, rams, and wether sheep for grazing.—*Lewes,* Sept. 21. First great fair for draft ewes, wether lambs, cub ewe lambs, and wether sheep ; rams and ram lambs not sold or let. At the annual sale of the principal breeders, some of the crack flocks, their draft sale ewes are disposed of before the fair, as are also some of the best stock in the neighbourhood of Goodwood, where his Grace the Duke of Richmond has an annual sale of his draft ewes, and letting of rams, early in September. We should have stated that the 5th of August is Lindsheld lamb fair, and the 2d of October is the Lewes second fair for sheep and lambs.

ERRATUM—INCLOSURE ACT : In the note to an article on the "Transfer of Land," in page 333 of the *Agricultural Gazette,* the Inclosure Act is stated to be 8 & 9 Victoria, c. 18 ; it should be 118. *T. S.*

Markets.

COVENT GARDEN, JUNE 19.

Vegetables and fruit are plentiful. The sale for English Pine-apples is still dull. Hothouse Grapes continue to improve both in supply and quality. A few dessert Apples may still be obtained. Oranges are plentifully supplied, and very good. Nuts are nearly the same as last quoted. Strawberries, owing to the unfavourableness of the weather, are very scarce. A large quantity of French Cherries has been supplied during the week, some of them binging only 1*s.* per lb. Young Carrots, Beans, Peas, Lettuces, Endive, and Artichokes continue to be supplied from France. New Potatoes are coming in pretty plentifully, as are also green Peas of excellent quality. Mushrooms are cheaper. Cut flowers consist of Heaths, Epacrises, Cinerarias, Mignonette, Roses, Azaleas, Primulas, Lily of the Valley, and other bulbs.

FRUIT.

Pine-apples, per lb., 6s to 10s	Lemons, per doz., 1s to 2s
Grapes, hothouse, p. lb., 4s to 8s	Oranges, per doz., 1s to 1s 6d
Peaches, per doz., 10s to 24s	— per 100, 3s 6d to 10s
Nectarines, per doz., 10s to 24s	— Seville, per doz., 1s to 3s
Melons, each, 2s to 6s	Nuts, Barcelona, per bush, 20s to 24s
Cherries, per lb., 2s to 8s	— Brazil, p. bsh., 12s to 14s
Strawberries, p. lb., 4s to 12s	Cobs, per 100 lbs., 100s
Almonds, per peck, 5s	
— sweet, per lb., 2s to 3s	

VEGETABLES.

Cabbages, per doz., 6d to 1s 3d	Shallots, per bunch, 4d
French Beans, p. 100, 2s to 3s	Garlic, per lb., 8d to 1s
Cauliflowers, per dozen, 2s to 6s	Lettuce, Cab., per score 4d to 1s
Asparagus, p. bundle, 1s to 4s	— Cos, p. score, 3d to 1s
Greens, per doz., 1s to 1s 6d	Radishes, per doz., 8d to 1s
Rhubarb, p. bundle, 3d to 4d	— Turnip, 9d to 1s 6d
Potatoes, per ton, 45s to 80s	Small Salads, p. pun., 2d to 3d
— per cwt., 2s to 5s	Horse Radish, p. bundle, 1s to 1s
— per bush., 1s 6d to 2s 6d	Mushrooms, p. pott., 8d to 9d
— Frame, per lb, 1s to 2s	— per punnet, 6d to 9d
— New (border), do., 3d to 6d	Sorrel, per hf. sieve, 6d to 1s
Turnips, per doz., 4s to 12s	Artichokes Jerus., do., 9d to 1s
Cucumbers, each, 3d to 1s 6d	Fennel, per bunch, 2d to 3d
Celery, per bundle, 1s to 2s	Savory, per bunch, 2d to 3d
Carrots, p. bun., 7d to 1s	Thyme, per bunch, 2d to 3d
Spinach, per sieve, 9d to 1s 3d	Parsley, p. doz bunchs., 2s to 3s
Onions, per bunch, 2d to 8d	Mint, per bunch, 2d to 4d
— Spanish, p. doz. 1s 3d to 3s	Basil, green, p. bunch, 6d
Beet, per doz., 1s to 2s	Marjoram, do., 3d to 6d
Leeks, per bunch, 4d to 6d	Watercresses, p. 12 bun., 9d to 1s

HAY.—Per Load of 36 Trusses.

SMITHFIELD, June 17.

Prime Meadow Hay	78s to 84s	Clover ...	... 85s to 95s
Inferior do.	... 68 72	2d cut ...	... 75 84
Rowen ...	... 63 —	Straw ...	... 26 30
New Hay ...	... — —		J. COOPER.

The supply short and trade brisk.

CUMBERLAND MARKET, June 17.

Prime Meadow Hay	78s to 84s	Inferior Clover	... 75s to 84s
Interior do. ...	... 68 75	New do. ...	... — —
New Hay ...	... — —	Straw ...	... 23 32
Old Clover ...	... 88 95		JOSHUA BAKER.

WHITECHAPEL, June 17.

Fine old Hay	... 75s to 80s	Old Clover ...	... 85s to 95s
New Hay ...	... — —	Inferior do....	... 70 80
Inferior do....	... 55 70	New Clover ...	... — —
Straw ...	... 24 27	Inferior do....	... — —

HOPS.—BOROUGH MARKET, June 18.

MESSRS. Pattenden and Smith report that the advance is well supported, which may be considered on the whole fully 8*s.* per cwt. on Weald Kents, and 6*s.* on Sussex and other descriptions. The stock of last year's growth is almost exhausted. Nothing has been done on the duty. Currency :

Mid & East Kents	126s to 180s	Sussex ...	... 122s to 132s
Weald Kents	... 126s to 147s	Yearlings...	... 20s to 50s

WOOL.

BRADFORD, THURSDAY, June 17.—The transactions in the English Wool market during the current week have been characterised by great firmness of tone, chiefly induced by the limited supply of good wool in the hands of the trade, and prices must be considered as decidedly in favour of the seller. The rates thus far asked by growers for new wool are much beyond those which can be realised at present here, and the consequence is, that staplers are only limited purchasers, the bulk of the new wool being disposed of to a few consumers,

who, in the early part of clip generally appear as prominent buyers of a certain class of wool, and not unfrequently give an unnatural firmness to prices which the actual position of the trade does not justify. Short wools and noils are a good sale, at full prices.

COAL MARKET.—FRIDAY, June 18.

Eden Main, 15s; Wallsend Braddyll's, 15s. 6d.; Wallsend Heaton, 14s.; Wallsend Haswell, 16s. 3d.; Wallsend Hetton, 16s.; Wallsend Stewarts, 16s.—Ships at market, 104.

SMITHFIELD.—MONDAY, June 14.

Having a smaller supply of Beasts and the dead markets being clear, trade has recovered from the depression it experienced on Monday last, and in a few instances 4s. is obtained for choice Scots. The number of Sheep and Lambs is also smaller, consequently trade is more cheerful. There is an advance of about 2d. per 8 lbs. on Sheep, but we cannot quote higher for Lambs. Good Calves meet with a ready sale, but prices on the average are not higher. From Germany and Holland there are 418 Beasts, 1650 Sheep, and 238 Calves; from Scotland, 620 Beasts; from Norfolk and Suffolk, 2000; and 140 from the northern and midland counties.

Per st. of 8lbs.—s d	s d	Per st. of 8lbs.—s d	s d
Best Scots, Herefords, &c.	3 8 to 3 10	Best Long-wools	0 0 to 0 0
Best Short-horns	3 6 — 3 8	Do. Shorn	3 6 — 3 8
2d quality Beasts	2 10 — 3 4	Ewes & 2d quality	0 0 — 0 0
Best Downs and Half-breds	0 0 — 0 0	Do. Shorn	2 8 — 3 4
Do. Shorn	3 10 — 4 0	Lambs	4 4 — 5 0
		Calves	2 8 — 4 0
		Pigs	2 10 — 3 4

Beasts, 3990; Sheep and Lambs, 24,610; Calves, 350; Pigs, 455.

FRIDAY, June 25.

The number of Beasts is not large—adequate, however, to the demand; prices are about as on Monday, with a slow trade. Sheep and Lambs are more plentiful; there is a pretty good demand, but Monday's quotations can scarcely be maintained. We have an unusually large supply of Calves, consequently they are considerably lower. From Germany and Holland we have 120 Beasts, 1110 Sheep, and 463 Calves; from Scotland, 10 Beasts; from Norfolk and Suffolk, 500; and 160 Milch Cows from the home counties.

Per st. of 8lbs.—s d	s d	Per st. of 8lbs.—s d	s d
Best Scots, Herefords, &c.	3 8 to 3 10	Best Long-wools	0 0 to 0 0
Best Short-horns	3 6 — 3 8	Do. Shorn	3 6 — 3 8
2d quality Beasts	2 10 — 3 4	Ewes & 2d quality	...
Best Downs and Half-breds	0 0 — 0 0	Do. Shorn	2 8 — 3 2
Do. Shorn	3 8 — 3 10	Lambs	4 4 — 5 0
		Calves	2 4 — 3 8
		Pigs	2 8 — 3 6

Beasts, 952; Sheep and Lambs, 12,830; Calves, 760; Pigs, 350.

MARK LANE.

MONDAY, June 14.—The supply of Wheat to this morning's market from the neighbouring counties was small, and for the very finest samples of white an advance of 1s. per qr. upon the prices of this day se'nnight was obtained. Fine foreign, particularly old, was rather more in demand, but we are unable to note any improvement in its value.—The foreign Flour trade is heavy.—For grinding Barley there is a fair demand at late rates.—Beans and Peas are fully as dear.—The Oat trade is heavy, and to effect sales it is necessary to accede to a reduction of 6d. to 1s. per qr. on the prices of this day week.

PER IMPERIAL QUARTER.	s. s.		s. s.
Wheat, Essex, Kent, & Suffolk...White	44—45	Red	39—40
— — fine selected runs...ditto	45—47	Red	40—41
— — Talavera	45—50		
— Norfolk	38—40	Red	—
— Foreign	36—52		
Barley, grind. & distil., 28s to 29s...Chev.	30—35	Malting	29—31
— Foreign ...grinding and distilling	21—28	Malting	—
Oats, Essex, and Suffolk	20—21		
— Scotch and Lincolnshire...Potato	22—24	Feed	20—22
— Irish	20—23	Feed	19—22
— Foreign .....Poland and Brew	18—20	Feed	17—19
Rye	—	Foreign	—
Rye-meal, foreign	—		
Beans, Mazagan.....27s to 29s.....Tick	28—32	Harrow	28—32
— Pigeon .....28s — 34s...Winds.	—	Longpod	—
— Foreign	Small	Egyptian	24—25
Peas, white, Essex and Kent.....Boilers	35—37	Suffolk	36—38
— Maple.....29s to 32s.....Grey	28—30	Foreign	28—35
Maize	White	—	—
Flour, best marks delivered...per sack	37—40	Yellow	
— Suffolk .....ditto	25—32	Norfolk	25—32
— Foreign..... per barrel	17—23	Per sack	28—34

FRIDAY, June 18.—The arrivals of grain this week, both English and foreign, have been moderate, but those of Flour are considerable. To-day's market was only tolerably attended, and rather more disposition evinced to purchase Wheat, but sales were limited. Floating cargoes of Wheat from the Mediterranean meet a good inquiry.—For Barley there is a retail trade at Monday's prices.—Beans and Peas remain as last quoted.—The Oat trade is slow, inferior qualities almost unsaleable.—Flour continues neglected.

IMPERIAL AVERAGES.

	WHEAT.	BARLEY.	OATS	RYE.	BEANS.	PEAS.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
May 8	41 1	28 1	19 8	30 8	30 5	30 5
— 15	41 3	28 3	19 10	30 0	31 5	29 5
— 22	40 6	27 10	20 1	30 5	31 0	30 2
— 29	40 5	27 11	20 1	30 0	31 6	27 9
June 5	40 7	27 5	20 8	30 6	31 7	31 2
— 12	40 11	27 6	20 0	29 8	31 10	31 2
Aggreg. Aver	40 10	27 10	20 0	30 3	31 4	29 11

Duties on Foreign Grain, 1s. per qr.

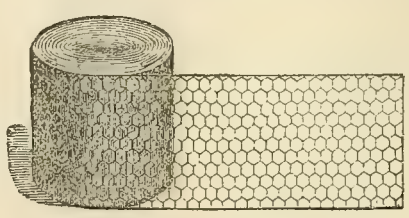
FLUCTUATIONS IN THE LAST SIX WEEK'S AVERAGES.

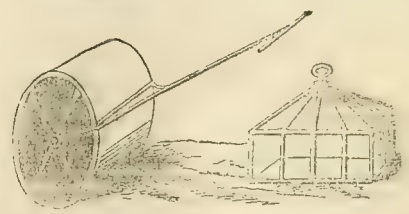
PRICES.	MAY 8.	MAY 15	MAY 22.	MAY 29.	JUNE 5.	JUNE 12.
41s 3d	...		...	...	...	...
41 1		...				
40 11	...	...	...	...	...	...
40 7	...	...	...	...	...	...
40 6	...	...				
40 5	...	...	...	...	...	...

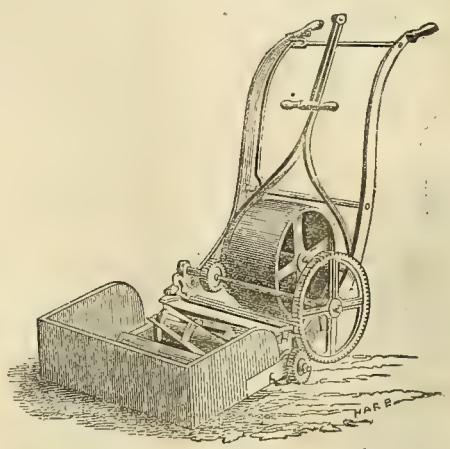
LIVERPOOL, TUESDAY, June 15.—The arrivals since Tuesday from Ireland and coastwise are moderate of Oatmeal, but light of other articles. At this morning's market there was a good attendance of town and country dealers. Wheat met a fair sale, at the full prices of last Tuesday, and fine qualities of sack and barrel Flour were in improved request at rather better prices. Oats and Oatmeal were in limited demand, at a decline of ½d. to 1d. per 45 lbs., and 3d. to 6d. per load. Barley, Beans, and Peas supported late rates. Indian Corn met a slow sale, buyers holding off in anticipation of lower prices.—FRIDAY, June 11.—We have had very few arrivals into this port, either coastwise or from Ireland, since Monday last. This morning's market was tolerably well attended, and a fair business transacted, chiefly in the finer descriptions of white and yellow Wheats, as well as Egyptian, at the currency of Tuesday last. Flour supported late prices. Barley was steady in value, and Beans firmly maintained their price. In Malt and Peas no variation. Oats and Oatmeal were in very slow request, and to have made progress in sales rather less money must have been conceded. Transactions of Indian Corn were of limited amount, without alteration in price.

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Greenhouses	Fountains	Game Netting	Do. Syringes	Garden Bordering
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Cut to order in Panes not above 40 inches long.	Packed in Boxes of 100 feet each.	£. s. d.
16 oz. ... ... 3d. to 3½d.	6 by 4, 6½ by 4½ ...	0 13 0
21 do. ... ... 3½d. to 5d.	7 by 5, 7½ by 5½ ...	0 15 0
26 do. ... ... 5d. to 7½d.	8 by 5, 8 by 5½ ...	0 15 0
In Crates of 300 ft., 16 oz., ½d. per foot.	8 by 6, 8½ by 6 ...	0 17 6
	9 by 7, 10 by 8 ...	1 0 0

ANY OF THE FOLLOWING SIZES at 18s. 9d. per 100 feet. Boxes, 2s. each; returnable at full price.

22 by 16	22 by 15	22 by 13	20 by 15
20 by 14	20 by 13	18 by 14	18 by 13
18 by 12	16 by 12	17 by 12	14 by 12
17 by 11	16 by 11	15 by 11	16 by 10
14 by 10	14 by 11	13 by 10	13 by 9
12 by 9	11 by 9		

20 by 15 ... 20 by 14
20 by 12
18 by 12 ... 18 by 11
16 by 10 ... 15 by 10
13 by 9 ... 12 by 10

ALL SIXTEEN OUNCES TO THE FOOT.

HARTLEY'S PATENT ROUGH PLATE GLASS for Conservatories, Public Buildings, Manufactories, Skylights, &c., ⅛ inch thick. Packed in boxes of 50 feet each.

6 by 4 and 6½ by 4½ ..10s. 6d.	7 by 5 and 7½ by 5½...12s. 0d.
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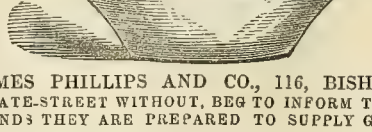
FOREIGN SHEET GLASS, of very superior quality, packed in cases of 200 feet, and in sizes varying from 36 by 26 to 44 by 30 inches, at 38s., 40s, to 42s per case.

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Milk Pans, from 2s. to 6s. each, Propagating and Bee Glasses, Cucumber Tubes, Lactometers, Lord Camoys' Milk Syphons, Tiles and Slates, Wasp Traps, Plate, Crown, and Ornamental Glass, Shades for Ornaments, Fern Shades, and every article in the Trade.

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GLASS MILK PANS.



JAMES PHILLIPS AND CO., 116, BISHOPSGATE-STREET WITHOUT, BEG TO INFORM THEIR FRIENDS THEY ARE PREPARED TO SUPPLY GLASS MILK PANS THE SAME SIZE AS THE FOREIGN ONES, BUT SUPERIOR IN COLOUR, MAKE, AND QUALITY, AT 2s EACH, OR 21s PER DOZEN.

IF A LARGE QUANTITY IS TAKEN A DISCOUNT WILL BE ALLOWED.

LORD CAMOY'S MILK SYPHONS, LACTOMETERS, GLASS CREAM POTS, &c. &c.

CUCUMBER TUBES, PROPAGATING AND BEE GLASSES, SHADES FOR ORNAMENTS, FISH GLOBES, PIANO INSULATORS, &c. &c.

GLASS.

THOMAS MILLINGTON'S FOREIGN SHEET GLASS is far superior to any other manufacture, as well as cheaper. In 100-feet boxes packed for immediate delivery.

6 inches	by 4 and	6½ by 4½	...	...	... 13s. 0d.
7	,, 5 and	7½ by 5½	...	...	... 15 0
8	,, 5 and	8 by 5½	...	...	... 15 0
8	,, 6 and	8½ by 6½	...	...	... 17 6
9	,, 7 and	10 by 8	...	...	... 20 0
12	,, 10 and	13 by 9	...	...	... 20 0

And many other sizes, or cut to order in various thicknesses. Cases containing large Sheets, in 100, 200, and 300 feet, at 21s. per 100 feet.

ROUGH PLATE, perfectly flat, ⅛ in. thick, best manufactured.

In sizes under 15 inches	.....	6d.	per foot.
,, ,, 35	,, ...	8d.	,,
,, ,, 50	,, ...	9½d.	,,
,, ,, 75	,, ...	12d.	,,

Milk Pans, 2s. to 6s. each; Metal Hand Frames, Glass Tiles and Slates; Cucumber, Propagating, and Bee Glasses; Wasp Traps, Glass Shades, and Plate Glass, at 87, Bishopsgate-street Without, London, same side as Eastern Counties Railway.—Established 100 years.

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HETLEY AND CO. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2d. to 3d. per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices and Estimates forwarded on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLATES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to JAMES HETLEY and Co., 35, Soho-square, London.

See *Gardeners' Chronicle* first Saturday in each month.

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These Walls can, when desired, be made wide enough for a person to enter, by which they become elegant hothouses or the best principle. Existing Walls covered with Glass and Iron.

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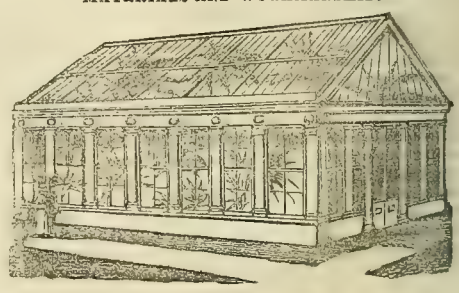
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AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.

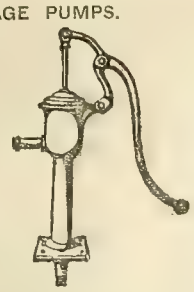


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G. and O. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders they can with the greatest confidence give the most satisfactory references.

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PATENT CAST-IRON PUMPS, for the use of Farms, Cottages, Manure Tanks, and Shallow Wells.

	£	s.	d.
Patent Pump	1	12	0
Patent Pump, with 15 feet of lead pipe attached, and bolts and nuts ready for fixing	2	8	0

Larger sizes if required.

May be obtained of any Ironmonger or Plumber in Town or Country, or of the Patentees and Manufacturers,

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8, Crescent, Jewin-street, London.

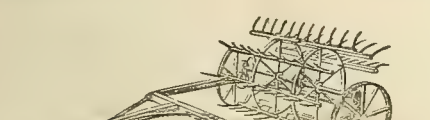
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The usual allowance to the Trade.

Just out, 1*s*, post free,

HOW TO MAKE HAY, Cut, Make, and Stack, at one-half the usual charges, in any weather and in any country. A Pamphlet on the above operation, or HINTS ON HAY-MAKING; being Plain and Intelligible Directions for Making Hay economically, and for securing the crop in any weather. (*Third Edition.*)

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BY HER MAJESTY'S  ROYAL LETTERS PATENT.

F. M'NEILL AND Co., of Lamb's-buildings, Bunhill-row, London, the Manufacturers and only Patentees of

THE ASPHALTED FELT FOR ROOFING

Houses, Farm Buildings, Shedding, Workshops, and for Garden purposes, to protect Plants from Frost.

At the Great National Agricultural Shows, it is this Felt which has been exhibited and obtained TWO SILVER MEDAL PRIZES, and is the Felt SOLELY patronised and adopted by

HER MAJESTY'S WOODS AND FORESTS,
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ROYAL BOTANIC GARDENS, REGENT'S PARK,

And on the Estates of the Dukes of Sutherland, Norfolk, Rutland, Newcastle, Northumberland, Buccleuch (at Richmond), and late Earl Spencer, and most of the Nobility and Gentry, and at the ROYAL AGRICULTURAL SOCIETY'S HOUSE, Hanover-sq.

It is half the price of any other description of roofing, and effects a great saving of Timber in the construction of Roofs. Made to any length by 32 inches wide.

PRICE ONE PENNY PER SQUARE FOOT.

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Patent Felt Manufactory, Lamb's-buildings, Bunhill-row, London, where Roofs covered with the Felt may be seen.

The new Vice-Chancellor's Courts, at the entrance of Westminster Hall, were roofed with F. M'NEILL and Co.'s Felt about two years since, under the Surveyorship of Chas. Barry, Esq., R.A. Her Majesty's Commissioners of Woods and Forests are so satisfied with the result that they have ordered the Committee Rooms at the Houses of Parliament to be roofed with their Felt. Quantity altogether used, 24,000 feet.

NOTE.—Consumers sending direct to the Factory can be supplied in lengths best suited to their Roofs, so that they pay for no more than they require.

Every information afforded on the construction of Roofs, or any proposed particular application of the Felt.

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This fragrant and spirituous perfume refreshes and invigorates the system during the heat of summer, and will be found an essential accompaniment for the opera, the public assembly, and the promenade. In all cases of excitement, lassitude, or over exertion, it will prove of great advantage taken as a beverage, diluted with water.—Price 3*s.* 6*d.* per bottle.

Sold by A. ROWLAND and SONS, 20, Hatton-garden, London; and by all Chemists and Perfumers.

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NEW PATENT PAINT, as used at the TOWER, by order of Her Majesty's Honourable Board of Ordnance; at the TUNNEL; ZOOLOGICAL GARDENS, Regent's Park, and various other public and private buildings; in quantities to finish 20 square yards for 10*s.*

PATENT LIQUID CEMENT for the fronts of houses, for beauty pre-eminent, giving the appearance of fine cut stone, and only one-eighth the cost of oil paint. In casks of 1, 2, and 3 cwt., at 8*s.*, 15*s.*, and 21*s.* each.

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BLACK MINERAL PAINT, very permanent, half the usual price, only 2*s.* per gallon.

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TESTIMONIAL.

From Mr. J. Furrah, Gardener to Boswell Middleton Jalland, Esq., of Holderness House, near Hull.

"I have had 400 feet of your Gutta Percha Tubing (in lengths of 100 feet each, with union joint) *in use for the last twelve months for watering these gardens, and I find it to answer better than anything I have ever yet tried.* The pressure of the water is very considerable, but this has not the slightest effect on the Tubing. I consider this Tubing to be a *most valuable invention for Gardeners*, inasmuch as it enables us to water our garden in about one-half the time, and with one-half the labour formerly required."

FOR SUCTIONS OF PUMPS AND CONVEYANCE OF WATER.

The value of Gutta Percha Tubing for the conveyance of water is no longer a matter of doubt. Experience has proved its adaptation and superiority to metal pipes, and the important consideration that it is entirely free from those corrosive properties which have proved so highly injurious in the use of lead pipes. The Gutta Percha Company have received the following—

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From C. Hacker, Esq., Surveyor to his Grace the Duke of Bedford, Woburn Park.

"Office of Works, Woburn Park, Jan. 10th, 1852.

"Gentlemen,—In answer to your inquiries respecting the Gutta Percha Tubing for pump suctions (after two years' trial), I find that the water has not affected it in the least, although it will eat lead through in two years; we have adopted it largely, both on account of being cheaper than lead, much easier fixed, and a more perfect job."

From Sir Raymond Jarvis, Bart, of Ventnor, Isle of Wight.

"Ventnor, March 10, 1852.

"Gentlemen,—In reply to your letter, received this morning, respecting the Gutta Percha Tubing for Pump service, I can state, with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years; and I am informed that it is to be adopted generally in the houses that are being erected here—building going on to a considerable extent.

"I am, Gentlemen, your obedient servant,
"R. JARVIS.

"P.S. The only difficulty experienced was in fixing the tube to the pump barrel. The plumber employed being averse to the job, did not properly secure it, and air got into the tube; otherwise, carefully arranged, there is no question it supersedes lead or any kind of metal pipes. R. J."

From William Bird Herapath, Esq., M.R.C.S., Surgeon to St. Peter's and Queen Elizabeth's Hospital, Bristol

"September, 1850.

"I have used Gutta Percha as a lining to a cistern, with tubing of the same material, to conduct the water into my dispensary; they answer admirably. At first some disagreeable flavour was communicated to the water, but it soon disappeared.

"My plumber readily learnt the mode of managing it from your printed directions."

Every variety of Gutta Percha Goods may be had, Manufactured by the Gutta Percha Company, Patentees, London; and sold at the Wholesale City Depot of Messrs. BURGESS and KEY, 103, Newgate-street, who will forward Lists of Prices on application.

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FARMERS, GARDENERS, FLORISTS, and all who have a Garden, will save a deal of trouble in watering and manuring Gardens or Land, by using GUTTA PERCHA TUBING. Testimonials to its efficiency, economy, durability, and convenience, are being constantly received. Half-inch bore Tubing, for Gardening, 3*d.* light, 3½*d.* medium, and 4*d.* per foot stout, which is the best and more flexible. Copper branch, Stopcocks, and Rose complete, 4*s.* 6*d.*, 5*s.* 6*d.*, 6*s.* 6*d.*, and 10*s.* 6*d.* each. Brass or Gutta Percha Unions, and Unions and Stopcocks, to attach to Cisterns or Butts, all sizes.

Price lists sent on application to JAMES SHEATH and COMPANY, at the Patent Gutta Percha and India Rubber Warehouse, 35, Old Street Road, London.

METCALFE AND Co.'s NEW PATTERN TOOTH-BRUSH and SMYRNA SPONGES.—The Tooth-Brush has the important advantage of searching thoroughly into the divisions of the teeth, and cleaning them in the most extraordinary manner, and is famous for the hairs not coming loose.—1*s.* An Improved Clothes-Brush, that cleans in a third part of the usual time, and incapable of injuring the finest nap. Penetrating Hair-Brushes, with the durable unbleached Russian bristles, which do not soften like common hair. Flesh-Brushes of improved, graduated, and powerful friction. Velvet-Brushes, which act in the most surprising and successful manner. The genuine Smyrna Sponge, with its preserved valuable properties of absorption, vitality, and durability, by means of direct importations, dispensing with all intermediate parties' profits and destructive bleaching, and securing the luxury of a genuine Smyrna Sponge. Only at METCALFE, BINGLEY, and Co.'s Sole Establishment, 130, Oxford-street, one door from Holles-street, London.

METCALFE'S ALKALINE TOOTH POWDER, 2*s.* per box.

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THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 26—1852.] SATURDAY, JUNE 26. [PRICE 6*d*.

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HORTICULTURAL SOCIETY OF LONDON.—His Grace the President has kindly directed the Grounds of Chiswick House to be opened for the reception of the Visitors to the Society's Gardens at the NEXT EXHIBITION, on SATURDAY, the 10th JULY. Tickets are issued at this Office, price 5*s*.; or at the Garden, in the afternoon of the 10th July, at 7*s*. 6*d*. each. Respectable strangers, or residents in the country, who will forward their addresses in writing to the Vice-Secretary, 21, Regent-street, on or before Thursday, the 8th of July, may obtain from that Officer an authority to procure Tickets.—21, Regent-street, London.

ROYAL BOTANIC SOCIETY, REGENT'S PARK.—The last EXHIBITION this Season of PLANTS, FLOWERS, and FRUIT, will take place on WEDNESDAY next, June 30.

Tickets to be obtained at the Gardens, by Orders from Fellows of the Society, price 5*s*.: or on the day of Exhibition 7*s*. 6*d* each.—N.B. The gates open at 2 o'clock.

NATIONAL FLORICULTURAL SOCIETY OF LONDON.—Offices, 21, Regent-street.

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All subjects must be entered, staged, named, and ready by 1 o'clock, P.M.

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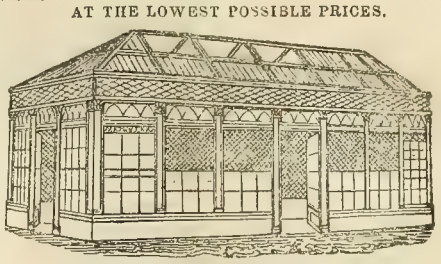
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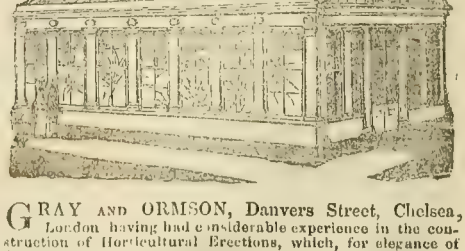


JAMES WATTS, Hothouse Builder, Claremont-Place, Old Kent-road, has 200 CUCUMBER and MELON BOXES and LIGHTS of all sizes, ready for immediate use, and of well-seasoned materials, packed and sent to all parts of the Kingdom.

HOTHOUSES, CONSERVATORIES, &c., made and fixed complete at a considerable reduction, and Garden Lights of every description. References may be had to the Nobility, Gentry, and the Trade, in most of the counties of England.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER,

AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.



GRAY and ORMSON, Danvers Street, Chelsea, London having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

G. and O. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders they can with the greatest confidence give the most satisfactory references.

Their Hot-Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating by Hot Water can be made available.

GREEN AND HOTHOUSES, made by Machinery, at J. Lewis' Horticultural Works, Stamford Hill, Middlesex, warranted best materials, and the cheapest in England.—A List of Prices sent by enclosing 2 postage stamps.

HOTHOUSES, GREENHOUSES, ETC.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

E. DENCH, PATENT HOTHOUSE WORKS, King's Road, Chelsea.—The superior qualities in every respect of these Structures having been proved in all parts of the United Kingdom, has caused a greater demand for them than E. D. could execute; he has been obliged to have perfect and powerful machinery made to meet the numerous orders, and can now execute any amount of work to great perfection, with dispatch, and for quality and price to defy all competition. Patent Hothouses, with excellent glass, 3 feet long by 1 foot wide, every front sash to open, and every top one to slide down, with pulley made of the same materials as the electric telegraph wires, which require no painting; delivered free to Wharf or Railway Station, at 1s. 2d. per foot super., complete, having been fitted, and every portion marked previously, making a Greenhouse 16 ft. 6 inches long, 12 ft. rafter, 400 ft., 23l 6s 8d.; 24 ft. 6 ins. long, do. do., 526 ft., 30l. 13s. 8d.; 28 ft. 6 ins. long, 15 ft. rafter, 712 ft., 41l. 10s. 8d. Heating by Hot Water on the most approved and economical principles.

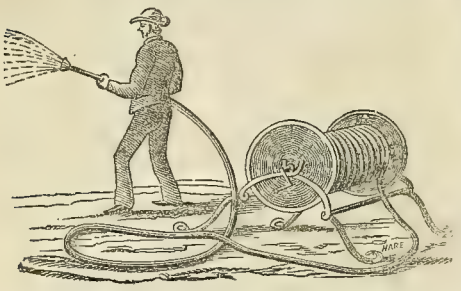
Patent Sashes for Pits and Peach Walls, &c., 7d. and 8d. per foot, super.

DEANE'S WARRANTED GARDEN TOOLS.—Horticulturists, and all interested in Gardening Pursuits, are invited to examine DEANE, DRAY, AND CO.'S extensive Stock of GARDENING and PRUNING IMPLEMENTS, best London-made Garden Engines and Syringes, Colebrook-dale Garden Seats and Chairs.

Averuncators	Garden Scrapers	Mowing Machines
Axes	Gidney's Prussian Hoe	Pickaxes
Bagging Hooks	Grape Gatherers & Scissors	Potato Forks
Bills	Gravel Rakes and Sieves	Pruning Bills
Borders, various patterns	Greenhouse Doors and Frames	,, Knives, various
Botanical Boxes	Hammers	,, Saws
Boyd's Patent Scythe	Hand-glass Frames	,, Scissors
Brown's Patent Fumigator	Hay Knives	,, Shears
Cases of Pruning Instruments	Horticultural Hammers & Hatchets	Rakes in great variety
Daisy Rakes	Hoes of every pattern	Reaping Hooks
Dibbles	Hotbed Handles	Scythes
Draining Tools	Ladies' Set of Tools	Scythe Stones
Edging Irons and Shears	Labels, various patterns, in Zinc, Porcelain, &c.	Shears, various
Flower Scissors	Lines and Reels	Sickles
,, Stands in Wires & Iron	Marking Ink	Sickle Saws
Fumigators	Mattocks	Spades and Shovels
Galvanic Borders and Plant Protectors	Menographs	Spuds
Garden Chairs and Seats	Metallic Wire	Switch Hooks
,, Loops	Milton Hatchets	Thistle Hooks
,, Rollers	Mole Traps	Transplanting Tools
		Trowels
		Turfing Irons
		Wall Nails
		Watering pots
		Weed Hooks
		Wheelbarrows
		Youths' Set of Tools

DEANE, DRAY, AND CO. are sole Agents for LINGHAM'S PERMANENT LABELS, samples of which, with their Illustrated List of Horticultural Tools, can be sent, post paid, to any part of the United Kingdom. Also, Wholesale and Retail Agents for SAYNOR'S celebrated PRUNING KNIVES, used exclusively by the first Gardeners in the United Kingdom.—DEANE, DRAY, & CO. (Opening to the Monument), London-bridge.

FOR WATERING GARDENS, DISTRIBUTING LIQUID MANURE, BREWERS' USE, ETC.
PATENT VULCANISED INDIA-RUBBER HOSE-PIPES.



JAMES LYNE HANCOCK, (Sole Licensee and) Manufacturer, Goswell Road, London.

These Pipes are well adapted for Watering Gardens, conveying Liquid Manure, racking Beer and Cider, for portable Gas Lamps, and all purposes where a perfectly sound Waterproof and Flexible Pipe is required. They are particularly suitable for Fire Engines, and are found exceedingly useful in Dwelling-houses for conveying Hot or Cold Water to Baths, &c.

Hose Reels for winding-up and wheeling away long lengths of the Vulcanised Rubber Garden Hose, are now manufactured by J. L. Hancock, of light and cheap wicker work.

N.B.—Vulcanised India Rubber Garden Hose, fitted up with Roses, Jets, and Branches complete, with union joints ready to attach to pumps or water cisterns.

All Letters or Orders addressed to J. L. Hancock, Goswell Mews, Goswell Road, London, will meet with immediate attention.

WATER YOUR GARDENS AND MANURE YOUR LANDS WITH GUTTA PERCHA TUBING.

FARMERS, GARDENERS, FLORISTS, and all who have a Garden, will save a deal of trouble in watering and manuring Gardens or Land, by using GUTTA PERCHA TUBING. Testimonials to its efficiency, economy, durability, and convenience, are being constantly received. Half-inch bore Tubing, for Gardening, 3d. light, 3½d. medium, and 4d. per foot stout, which is the best and more flexible. Copper branch, Stopcocks, and Rose complete, 4s. 6d., 5s. 6d., 6s. 6d., and 10s. 6d. each. Brass or Gutta Percha Unions, and Unions and Stopcocks, to attach to Cisterns or Butts, all sizes.

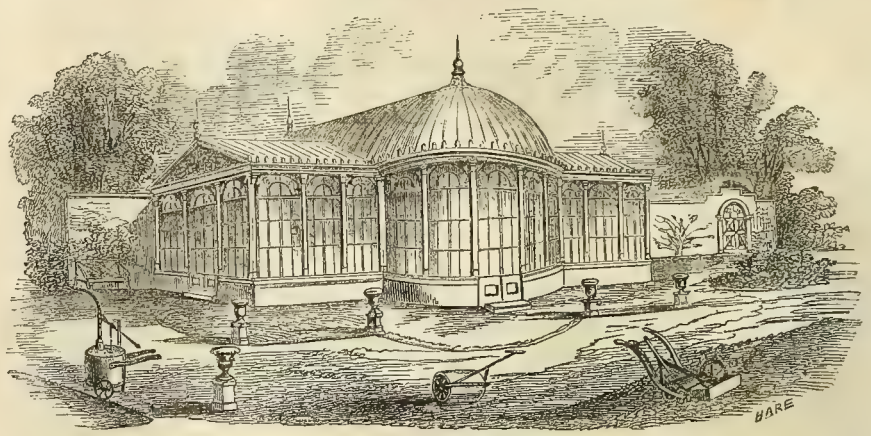
Price lists sent on application to JAMES SHEATH and COMPANY, at the Patent Gutta Percha and India Rubber Warehouse, 35, Old Street Road, London.

IRON HURDLES, FENCING, ETC.

STEPHENSON AND PEILL, 61, Gracechurch-street, London, and 17, New Park-street, Southwark, beg to inform their friends and the public generally they are now manufacturing Iron Hurdles, at the following low prices:—For sheep, 6 ft. long 3 ft. high, 5 bars, 3s. 2d. each; and for cattle, 6 ft. long, 3 ft. 3 in. high, 5 bars, 3s. 6d. each.

COTTAM AND HALLEN,

2, WINSLEY STREET, AND 76, OXFORD STREET, LONDON.



APPLICATION is requested for their NEW HORTICULTURAL LIST, containing Illustrations, Descriptions, and Prices of

Conservatories	Mowing Machines	Hand-glass Frames	Garden Engines	Flower Sticks
Greenhouses	Fountains	Game Netting	Do. Syringes	Garden Bordering
Hot Water Apparatus	Ornamental Wire Work	Hurdles	Do. Rollers	Watering Pots
Garden Vases	Flower Stands	Garden Chairs	Flower Labels	Garden Arches, &c.

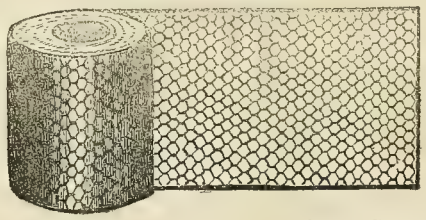
IRON HURDLES, STRAINED WIRE FENCING, GAME NETTING, &c.
AGRICULTURAL LIST UPON APPLICATION.
EVERY DESCRIPTION OF PLAIN, ORNAMENTAL, CAST AND WROUGHT IRON, AND WIRE WORK.
EXHIBITION PRIZE MEDAL GATES AND ENAMELLED MANGERS.

FOR SALE, a PURE DEVON BULL, 4 years old, has constantly served cows, and fed only on ordinary food (gained the second prize at the Bath and West of England Show, held at Taunton); his stock can be seen on the Farm For particulars apply to the owner, Mr. Webber, Halberton Court, Tiverton, Devon, distant two miles from the Tiverton Junction station of the Bristol and Exeter Railway.

M'CORMICK'S AMERICAN REAPER.

BURGESS AND KEY, Agents, 103, Newgate-street, London.—Extract from Mr. Pusey's Report on the Agricultural Implement Department, Great Exhibition.—"Mr. M'Cormick's Reaper, in this trial, worked as it has since worked at Cirencester College, and elsewhere, to the admiration of practical farmers, and therefore received a Council Medal. Mr. Hussey's sometimes became clogged, as in the former trial at Tiptree, and therefore could not possibly obtain that distinction."—Price of Reaper, 25l.

GALVANISED WIRE GAME NETTING.—7d. per yard, 2 feet wide.

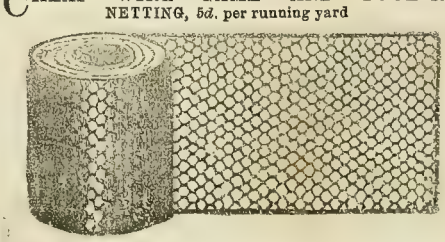


	Galvanised.	Japanned Iron.
2-inch mesh, light, 24 inches wide ...	7d. per yd.	5d. per yd.
2-inch ,, strong ,, ...	9 ,,	6½ ,,
2-inch ,, extra strong ,, ...	12 ,,	9 ,,
1⅝-inch ,, light ,, ...	8 ,,	6 ,,
1⅝-inch ,, strong ,, ...	10 ,,	8 ,,
1⅝-inch ,, extra strong ,, ...	14 ,,	11 ,,

All the above can be made any width at proportionate prices. If the upper half is a coarse mesh, it will reduce the prices one-fourth. Galvanised sparrow-proof netting for Pheasantries, 3d. per square foot. Patterns forwarded post free.

Manufactured by BARNARD and BISHOP, Market-place, Norwich, and delivered free of expense in London, Peterborough, Hull, or Newcastle.

CHEAP WIRE GAME AND POULTRY NETTING, 5d. per running yard



GALVANISED ditto, 7d. per running yard, 2 feet wide.

	Galvanised.	Not Galvanised.
24 in. wide, 2 in. mesh, 7d. per yard.	...	5d. per yard.
30 in. ,, 2 in. ,, 9d. ,,	...	6½d. ,,
36 in. ,, 2 in. ,, 10½d. ,,	...	7½d. ,,
48 in. ,, 2 in. ,, 1s. 2d. ,,	...	10d. ,,

Sparrow Proof Netting, Galvanised, 3d. per square foot, made to any size for the same proportionate price. This article was shown at the "Great Exhibition," where it was so much admired for its light and durable appearance, and acknowledged to be the cheapest and best article of the kind ever offered. Extra strong Wire Sheep Netting, 3 feet high, 1s. 6d. and 2s. 3d. per yard. Also every description of Flower Trainers, Dahlia Rods, Garden Arches, Bordering, Flower Stands, Tying Wire, Trellis Work, Invisible Wire Fencing, Hurdles, and every description of Wire Work for Horticultural purposes.—Illustrated Catalogues of Patterns forwarded, post-free, on application to T. H. Fox, City of London Wire Work and Iron Fence Manufactory, 44, Skinner-street, and 6 and 8, Snow-hill, London.

BEE HIVES.—A NEW AND EXTENSIVE SELECTION OF THE MOST APPROVED KINDS.—A detailed Catalogue, with Drawings and Prices, sent on receipt of Two Stamps. GEORGE NEIGHBOUR and SON, 127, High Holborn, London.

"In noticing the hives exhibited in the Crystal Palace, first and foremost, in my opinion, stands Mr. Taylor's Eight-Bar Hive, and Messrs. Neighbour and Son's Improved Cottage Hive, both exhibited by Messrs. Neighbour."—*J. H. Payne.*

(See the "Cottage Gardener," Nos. 169, 170,)

Agents.—Liverpool: Wm. Drury, Castle-street. Manchester: Hall and Wilson, 50, King-street. Glasgow: Austin and McAslan, 168, Trongate. Dublin: J. Edmondson and Co., 61, Dame-street.

FARM AND COTTAGE PUMPS.

PATENT CAST-IRON PUMPS, for the use of Farms, Cottages, Manure Tanks, and Shallow Wells.



	£	s.	d.
Patent Pump	1	12	0
Patent Pump, with 15 feet of lead pipe attached, and bolts and nuts ready for fixing	2	8	0

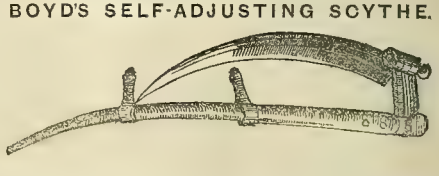
Larger sizes if required.

May be obtained of any Ironmonger or Plumber in Town or Country, or of the Patentees and Manufacturers,

JOHN WARNER & SONS,
8, Crescent, Jewin-street, London.

Every description of Machinery for Raising and Forcing Water either by Steam, Horse, or Manual power. Fire and Garden Engines, &c.
The usual allowance to the Trade.

BOYD'S SELF-ADJUSTING SCYTHE.



BOYD'S PATENT SCYTHE and the celebrated STEEL DIGGING FORKS.—Boyd's Scythe is capable of being adjusted to any angle by the person using it, and never requires the aid of a blacksmith; when out of use it shuts up like a clasp-knife. The *Gardeners' Chronicle* thus comments upon it:—"We gladly state that Mr. Boyd's Scythe stands well the great test, experience, especially with his late ingenious and very useful improvement."—G. C., 15th May, 1852. The Steel Digging Forks are those celebrated by Mr. Mechi. "When a labourer has once used them, he will never work with any other implement for digging. They effect a saving of nearly 50 per cent. in labour."—Wholesale and Retail at Wm. Dray and Co.'s Agricultural Implement and Machinery Warehouse, Swan-lane, Upper Thames-street, near London-bridge.

JOHN WARNER AND SONS,
Crescent, Jewin Street, London,
MANUFACTURERS OF
FIRE ENGINES, GARDEN ENGINES, AND SYRINGES.



No. 12 GALVANISED IRON TUB GARDEN ENGINE,

With Warner's Registered Spreader, is strongly recommended for durability and low price, viz.:—

£3 0 0

May be obtained of any Ironmonger in Town or Country.

NEW CHRYSANTHEMUMS.

BASS AND BROWN can supply the following new varieties, strong and well established.

POMPON OR DWARF CHRYSANTHEMUMS.—The annexed set of 18 best new varieties for 21*s.*, or 15*s.* per dozen; our selection 12*s.* per dozen—viz., Adonis or Ne plus Ultra, Argentine, Asmodee, Autumna, Chamelion, Cronstignac, Eliza, Gil Blas, La Gitani, Madame Lemichez, Mignonette, Modele, Ninon, Perfecta, Roi de Liliput, Sacramento, Solfaterre, Surprise.

LARGE FLOWERING VARIETIES.—The following 12 superb varieties for 12*s.*, viz., Anaxo, Atrorubens, Erinne, Madame Laborde, Miss Kate, Monge, Nandee, Ne plus Ultra, Plutus, Racine, Rosa Mystica, Hendersonii.

Choice Chrysanthemums of best of older varieties, 5*s.* and 7*s.* 6*d.* per dozen.

NEW AND SELECT PLANTS.

Azalea vittata, 7*s.* 6*d* each; Azalea Symmetry, 5*s.* each.

Ipomœa palmata (figured in Mag. of Botany for February), 7*s.* 6*d.* each.

Gloxinia tricolor, superb and first-rate form, 5*s.* each.

Paul's Queen Victoria Rose, strong plants, 7*s* 6*d.* each.

Gesnera purpurea macrantha, 2*s.* 6*d.* each.

Antirrhinum Primrose Perfection, 2*s.* 6*d.* each.

" Hendersonii, 2*s.* 6*d.* each.

Capania grandiflora, fine plants, 1*s.* 6*d.* each; extra strong, 3*s.* 6*d.* to 5*s.*

Medinilla magnifica, fine plants, 10*s.* 6*d.*; extra strong, 15*s.* each. Allamanda neriiflora, 2*s.* 6*d.* each.

Cantua dependens, strong, 1*s.* 6*d.* each, 15*s.* per dozen; extra strong, 2*s.* 6*d.* each.

Dielytra spectabilis, 12*s.* per dozen.

Deutzia gracilis, 2*s.* 6*d.* each; 24*s.* per dozen; extra strong, 3*s.* 6*d.* each.

Hoya bella, strong, 1*s.* 6*d.* to 2*s.* 6*d.* each; extra strong, in flower, 3*s.* 6*d.*

Achimenes, 12 fine varieties, 6*s.*; 12 superb new, 10*s.*

Gloxinias, 12 fine vars., 12*s.*; 12 superb new, 20*s.*

Greenhouse Plants, 50 vars. fine and select, 45*s.*; 25 vars., 24*s.*; 12 vars., 12*s*; 12 new and select, 25*s.*

Stove Plants, 50 vars. fine and select, 65*s.*; 25 vars., 35*s.*; 12 vars., 18*s.*

Petunias, our three new vars., Braganza, Ricartonii, and Mazeppa, 2*s.* 6*d.* each.

Our Descriptive Priced Spring Catalogue, free by post for four penny stamps, or gratis to purchasers.

Goods carriage free to London, Ipswich, Norwich, or any Station on the same line, and with orders of 2*l.* and upwards extra plants added gratis.

Remittances required from unknown correspondents.

Post-office orders payable to BASS and BROWN, or to STEPHEN BROWN.

Seed and Horticultural Establishment, Sudbury, Suffolk.

NEW PLANTS INTRODUCED BY MR. FORTUNE.

STANDISH AND NOBLE beg to announce that they possess all the highly interesting plants introduced by Mr. Fortune, and mentioned by him in his recent popular work on China. Many of them are now on sale. Of the others, due notice will be given, as they are ready to send out. Every particular may be obtained by applying to the Advertisers.—Bagshot, June 19.

SCARCE AND BEAUTIFUL FLOWER SEEDS.

EMPEROR STOCK, a perennial species, and hardy; 1400 seeds, 1*s.*

CINERARIA and CALCEOLARIA, selected from collections of Plants that were admitted by all persons who saw them to be the finest they had ever seen; 250 seeds of the former, and 500 of the latter, 1*s.* each paper.

MYOSOTIS AZORICA, a bed of this on an eastern or northern aspect is very beautiful; 200 seeds, 1*s.*

CALENDRINIA UMBELLATA, one of the neatest growing and most brilliant flowering of all bedding plants; 1500 seeds, 1*s.*

SWEET WILLIAM, in 100 varieties; 10,000 seeds, 1*s.*

Payment may be made in postage stamps.

JEYES and Co., Nurseries, Northampton.

EDWARD GEORGE HENDERSON AND SON Wellington-road Nursery, St. John's Wood, London, are now prepared to forward, by post, CINERARIA SEED, saved from the best formed flowers, such as Cerito, Lady Hume Campbell, Adela Villiers, Pauline, Rosy Moro, Marianne, David Copperfield, Effie Deans, Carlotta Grisi, Prima Donna, &c.

E. G. H. and Son also beg to say, that the varieties of Calceolarias from which the seed is saved can now be seen in full bloom at the Nursery. Early orders are requisite to insure this seed, which will be sent out in July, at 5*s.* per packet.

ROYAL BOTANIC GARDENS, REGENT'S PARK.

GEORGE BAKER begs to announce his Collection of AMERICAN PLANTS is now in perfection, and may be viewed gratis, by orders from Members of the Society.

The large collection at the Nursery, consisting of many thousand Rhododendrons, Azaleas, Kalmias, Ledums, &c., is now in perfection, and may be seen gratis.

American Nursery, Windlesham, near Bagshot, Surrey; seven miles from Staines Station, three from Virginia Water, where conveyances may be obtained.

GLOXINIAS.—Selections from the following varieties, strong flowering plants, from 12*s.* to 18*s.* per dozen:—Alba sanguinea, argyrostigma splendens, candida, Cartoni, carminata splendens, caulescens, Fyfiana, marginata, macrophylla variegata, maxima alba, Passinghami, Professor Decaisne, rubra grandiflora speciosa major, Teuchlerii, Victoria regina, violacea, and Wortleyana. No charge for package.

J. and J. PEARCE, Nurserymen and Seedsmen, Lea Bridge-road, Essex.

NEW CAMELLIA.

JACKSON'S "COUNTESS OF ELLESMERE."—The undersigned are now sending out the above, price 42*s.* each; and for every three ordered one added gratis. On the 8th of April last it was awarded by the National Floricultural Society of London a first-class Certificate, and received the highest commendation; it is described as being of first-rate form, with broad cupped petals, of a bluish white, faintly striped with rose (*see Gardeners' Chronicle* and Gardeners' Journal for report of meeting, April 17). It is figured in the "Florist" for May, 1851, and is again mentioned in the "Florist" for this month, as having been exhibited, and deserving to be placed in every collection. It has the beautiful form of the Coup d'Hébé Rose.—THOMAS JACKSON and SON, Nurserymen, Kingston, near London (on the South Western Railway).

STUBBLE SWEDE TURNIP SEED.

JOHN RIVERS begs to inform Agriculturists, that the STUBBLE SWEDE may be sown from the present time until the middle of July, for a full winter crop.

Orders addressed to JOHN RIVERS, Seedsman, Sawbridgeworth, Herts, to the amount of 10*s.*, will be carriage paid to London. — Post-office orders are requested of unknown Correspondents.

NEW CATALOGUE OF PLANTS.

A. VAN GEERT, NURSERYMAN, Ghent, Belgium, begs to inform the Trade and Amateurs that his new CATALOGUE OF PLANTS is just published, and may be had on application to his Agent, Mr. R. SILBERRAD, 5, Harp-lane, Great Tower-street, London.

SUPERB SEEDLING FUCHSIAS.

LUCOMBE, PINCE AND CO. intend sending out, on the 5th of July next, the following very beautiful new FUCHSIAS:—

APOLLO (PINCE's).—Rosy tube and sepals, well reflexed; corolla purplish lilac, finely expanded. 10*s.* 6*d.*

ASPASIA (PINCE's).—Scarlet tube and sepals, finely reflexed; corolla beautiful blue. 10*s.* 6*d.*

PRINCEPS (PINCE's).—Brilliant scarlet-lake tube and sepals, reflexed to a greater extent than any other Fuchsia, which produces a novel and most attractive effect; corolla deep blue. 10*s* 6*d.*

L., P., and Co., as the raisers of "Exoniensis" and "Coralina," which gave such general satisfaction, can with confidence recommend the above to all cultivators of this favourite flower, having fully tested their qualities last season, during the whole of which, in their new Show House, they were seen and admired by numerous visitors. They possess waxy firmness, and are particularly smooth and fine in quality, void of all coarseness, of excellent habits, and blooming most profusely; indeed, the high character which these Fuchsias have obtained, from their having been so generally seen in all their stages, render it unnecessary to say any more in their praise.

P.S. Allowance to the Trade, one over when three of each are ordered.—Exeter Nursery, Exeter, June 26.

CHOICE CINERARIA SEED.

LUCOMBE, PINCE, AND CO. have now ready for sending out some exceedingly fine CINERARIA SEED, carefully saved from a very select collection of all the newest and finest varieties of the season, in packets, sealed and warranted by them, free by post, 2*s.* 6*d* each.

L. P. and Co. have also some very

SUPERIOR CALCEOLARIA SEED,

Saved from well-shaped, highly coloured, well marked flowers, which they can strongly recommend; in packages, sealed and warranted by them, free by post, 2*s.* 6*d.* each.

L., P., and Co. have great pleasure in stating that they have received numerous testimonials of the satisfaction which their Calceolaria and Cineraria Seeds gave last season, and they respectfully solicit early orders, as strong plants for early flowering will be obtained by sowing now.

Exeter Nursery, Exeter, June 26.

BEAUTIFUL NEW PLANT.

ÆSCHYNANTHUS SPLENDIDUS.

LUCOMBE, PINCE, AND CO. beg leave to inform the Public that they purpose sending out, on the 5th of July next, strong healthy plants of their much admired NEW HYBRID ÆSCHYNANTHUS, which they can with full confidence recommend to all cultivators as a plant that cannot fail to give general satisfaction. Excellent drawings of it will be found in the "Gardeners' Magazine of Botany," Dec., 1851; and in the "Floricultural Cabinet" of last month, to which they respectfully refer, and also invite attention to the following remarks:—

"A hybrid production, and a very beautiful one. It is, no doubt, the finest of its race; which, as is well known, now contains many very splendid imported species. It will prove a most useful ornamental plant of very easy culture, and the brilliance of its large clusters of flowers will make it conspicuous amongst the most showy plants."—*Gardeners' Magazine of Botany, Dec*, 1851.

"The species under consideration ('Æschynanthus splendidus'), is one of the most recently introduced, and certainly one of the very best."—*Gardeners' Journal, March* 13, 1852.

Price 21*s.* each. Allowance to the Trade, one over when three are ordered.—Exeter Nursery, Exeter, June 26.

GARDENERS' BENEVOLENT INSTITUTION —HUGH LOW and Co. present their compliments to the Subscribers of the Gardeners' Benevolent Institution, and will take it kind if any, whose Votes are not previously engaged, will, at the forthcoming Election, use their influence in behalf of JAMES GREEN, who, although perhaps one of the youngest on the list of applicants, is assuredly *the most* necessitous; and according to the rules of the Institution, has the greatest claim upon its supporters, he having been a Subscriber to the funds for TWELVE YEARS.

J. GREEN has been confined to his cottage for nearly six years, from an attack of Paralysis, by which he has lost the faculty of one side entirely, and cannot leave his Bed-room, except when carried. He lived for about 18 years in his last situation, at Williamstrip Park, near Fairford, in Gloucestershire, and had, by strict economy, saved a little to help in his declining years; but this small sum has been swallowed up by doctors' bills and other necessary expenses attendant on his illness, which compels him now, in his extremity, to appeal to the supporters of this Institution.

Proxies in his behalf will be most thankfully received by Mr. COCKBURN, Gardener to the Lord Mansfield, Kenwood, Hampstead; and by H. Low and Co., Clapton Nursery, London.—June 19.

The Gardeners' Chronicle.

SATURDAY, JUNE 26, 1852.

MEETINGS FOR THE ENSUING WEEK.

MONDAY,	June	28—British Architects	8 P.M.
WEDNESDAY,	—	30—Royal Botanic Gardens	2 P.M.
THURSDAY,	July	1 { National Floricultural	3 P.M.
		{ Zoological	3 P.M.
FRIDAY	—	2—Botanical	8 P.M.
SATURDAY,	—	3—Asiatic	2 P.M.

COUNTRY SHOWS.—Tuesday, June 29: Hand-worth and Lozells and Northampton Rose and Pink.—Wednesday, June 30: York, Manchester, Ipswich, and Thame.—Thursday, July 1: Ireland Royal Horticultural.

IN all directions BLIGHT is making havoc; that is to say, the fungi which produce the appearances popularly known by the name of blight are showing themselves in great force. Beans are so attacked by *Uredo Fabæ* that farmers are ploughing them up; Wheat is withering under the joint or separate infliction of the *Uredos Rubigo* and *segetum*; *Æcidium cancellatum* is ravaging Thorns and Pear trees; *Oidium Tuckeri* is smothering Vines; *Erysiphes* are overrunning the Pea crops; and as a matter of course, our old enemy *Botrytis* is once more a visitor to the Potato grounds of Sussex. In all quarters men are alarmed, and making anxious enquiries as to what should be their course of proceeding.

We fear there is no immediate remedy within reach; for sulphur, the only agent that has stood the test of experience as a specific for Vine mildew, could not be applied on a large scale, and might not answer, even if it were applied regardless of cost. But, at the same time that we acknowledge our present helplessness, it may possibly lead hereafter to some result, if we can succeed in drawing attention to certain points connected with fungi and their manner of life.

The seeds of mildew or blight fungi appear to exist everywhere—dispersed through the air and lying in the soil. Drawn into the system of a plant with the water absorbed by roots, or possibly through the pores of the leaves, they are ready to grow wherever they find themselves in presence of matter on which they can feed, and in circumstances favourable to their developement. Hence they appear every year in some degree, particular species infesting particular kinds of plants, just as each animal is preyed upon by vermin peculiar to it. The mildew fungi must be coæval with other created things; but they attracted little attention until the mischief produced by them became serious. It would seem that their abundance has been coincident with the march of cultivation; and it is an almost universal opinion that now, when horticulture and agriculture have arrived at a state of perfection unknown before, mildews too are producing a degree of havoc to which there is no parallel. We believe that opinion to be well founded. Is the fact, if it be one, capable of explanation?

The injury inflicted upon crops by fungi is owing to the action of their mycelium or spawn, a cobweb-like substance of extreme tenuity, which escapes observation, in consequence of its being buried in the tissues beneath the skin of a plant. The mycelium constitutes the larger part of all fungi, and is so much alike throughout the entire race, that it is a fair inference to assume that the ascertained habits of some species correspond with the habits of others that have never been examined, or which, from their nature, are perhaps unexaminable. Now, among the great peculiarities of the race are these, firstly, that they exhale hydrogen and nitrogen, and, secondly, that they abound in the latter element. Hence, they feed greedily upon water which they decompose, and upon nitrogen which they separate from substances with which it is in a state of combination. In the absence of damp, they refuse to appear, as is known to builders and dockyard men, who only find dry rot, the mycelium of fungi, on timbers in damp, ill-ventilated places. When a fungus which has sprung up in a meadow decays there, immediately the Grass where it was becomes rank, and acquires that deep blackish-green colour which indicates the absorption of nitrogenous matter. The phenomenon called a fairy ring, caused by the decay of fungi growing in circles, is a familiar example of this fact. M. MARCET, of Geneva, in his enquiries into the respiration of fungi, obtained the following result:

	Hydrogen.	Nitrogen.	
Sphæria digitata gave off	65	33 in	10 hours.
Agaricus ericeus "	55	44 "	10 "
" deliquescens "	70	30 "	8 "
" physalodes "	57	43 "	2 "
" leucocephalus "	42	56 "	6 "

So that it is fully demonstrated that hydrogen and nitrogen are most abundant elements in the composition of fungi; and it seems a fair inference that they will abound, or the contrary, in proportion to the supply they may find of these gases.

When a tuft of Wheat is accidentally in contact with manure, it grows dark-green and rank, and is invariably mildewed. When a bush, a Rose, makes stout watery shoots, in consequence of strong manure applied to its roots, or from any other cause, those shoots are sure to mildew. In like manner the watery wood of Peaches is the first to exhibit signs of disease connected with fungi. The evidence obtained in the long inquiry made into the Potato disease all went to show that rich manures and wet soils were among the most certain causes of that terrible malady. In each of the instances now quoted, water yielding hydrogen, together with nitrogen, existed in excess. There is a firm belief that fungi appear in abundance after thunder-storms; the Irish maintained in 1845 that in all the north of their island the Potato disease broke out after vivid lightning; botanists often call fungi "meteoric" plants. These circumstances may be explicable with reference to an excessive quantity of ammonia (a source of nitrogen), produced in the air during storms, and brought down in rain.

On the other hand corn is never, we believe, mildewed extensively in dry unmanured land. The small well-ripened wood of Roses and Peach-trees suffer little from mildew. Potato disease was scarcely felt in the dry hungry sands of England, and always produced least injury where no manure

was employed. Gardeners find no mildew upon the hard, short-jointed bushes, which they force into abundant flower with so much skill. In these cases the quantity of water is reduced to a minimum, and supplies of nitrogenous matter are wholly withheld, or very sparingly applied, in the form of weak liquid manure.

It becomes then a question whether the alarming prevalence of mildews may not be traced to our high cultivation, and whether we ought not to seek for the means of increasing our crops by other means than the excessive application of ammoniacal manures. That question we venture to put to our readers, and we hope to receive an abundance of well-considered communications upon the subject, not advocating any particular view, but recording any ascertained facts on either side of the question. It is one of the deepest importance. If it should turn out that mildew does not prevail more extensively in highly manured land than in poor land, then we shall be able to proceed with renewed confidence in the application of ammoniacal substances. If, on the contrary, it should appear that mildew does in fact accompany in a serious degree the use of strong manures, then we must set about devising some means of dispensing with them.

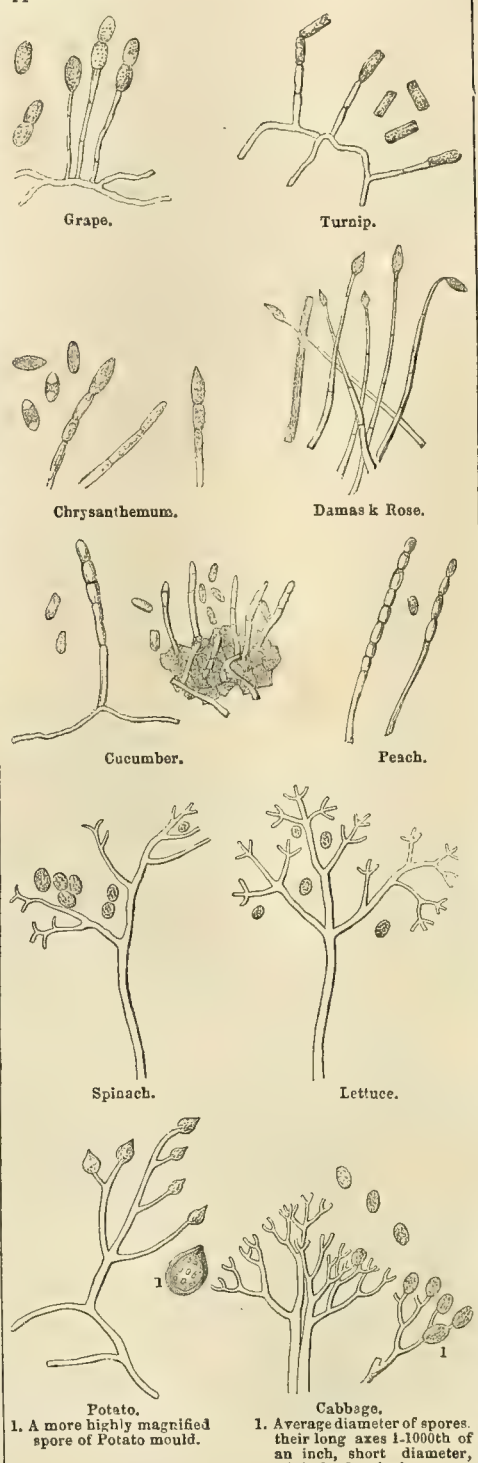
We would more especially invite attention to this subject from the able author of the "Word in Season," * a pamphlet, the interest of which cannot be overrated, and which is destined ere long to produce a great change in the system of both field and garden cultivation. We know that many persons of much intelligence regard the nameless author of this work as an amiable enthusiast, converting an instance of accidental success into a hobby-horse, which he is riding to death. But in that opinion we do not concur; on the contrary, we firmly believe that he advocates the soundest views of cultivation, and we confidently appeal to the gardeners who read this journal for confirming our judgment.

FUNGI.

THE failure of fruit trees, &c., after much expense and attention, has been a source of great annoyance to the owner, who, without knowing the true cause, often attributes his loss to a want of skill in their management. After two or three years' existence, they often either die or become sickly and stunted. It is true, the experienced and intelligent cultivator may show great assiduity and skill in the procuring and mixing his compost heaps, the analytical chemist may give the constituents of plants, both organic and inorganic, and tell what elements must be present in the soil in which they are planted, to secure healthy growth; he will inform you that for the Cerealia, a large amount of silica is needed; for Beans and Peas, potash; for Clover, Sainfoin, Linseed, &c., lime; and that Beet will flourish best where there is soda. All these substances the cultivator can supply; but they are not all that is wanted. There are circumstances over which he has little control, as, for instance, the combined action of water and soil;—and equilibrium in the motion of the sap, depending on the temperature and hygrometric state of the atmosphere. Evaporation will take place in proportion to the density of the latter, and by the combined force of atmospheric pressure and evaporation, food is supplied to the plant, and the motion of the sap is carried on (Hales).

When the air is dry, evaporation goes on so fast that the roots are unable to supply the demands made on them, the wood becomes dry, the energies of the plant exhausted, and it either dies or keeps in a sickly state. To restore vigour and activity, therefore, the judicious practice of cutting back is resorted to.

Again, in low damp situations, where the air in consequence is dense, an opposite result is experienced in the shape of over-vigorous and luxuriant growth. Where this occurs, plants often become suddenly struck with blight, which sometimes proves fatal to them. When this is the case, the remedy, in regard to ligneous plants, is to reduce the amount of roots, so as to make them disproportionate to the branches, *i. e.*, root prune. From causes such as the above, plants become debilitated, and afford suitable resting places for parasitic fungi and insects. Although it is contended by some of the highest authorities that the simplest kind of fungi will attack healthy living plants, yet there are others who question whether fungi can be developed at all, except some disturbance takes place in the tissues of the subject of their attacks. Of this we are at least certain, that when once a footing is effected, these insidious vegetable germs, whose diameter is not more than $\frac{1}{1000}$ of an inch, increase the malady and hasten the subject to a state of decay; and what is worthy of remark, there are two kinds of fungi peculiar to the two classes of plants I have been describing; *i. e.*, one for dried tissues, and one for dropsical or over-luxuriant vegetation; and, from experiments, I have proved that the one will not exist in company with the other. I have never found the Oidium on the Chrysanthemum while growing in the open air; but, on taking it to a forcing-house, it soon made its appearance. Take a Potato plant, with Botrytis infestans on it, treat it in the same way, and the disease will immediately cease to fructify. For several years I have had my Cinerarias affected with a species of Oidium. This season I kept them in a cool frame under a cold north wall till threatening frosts compelled me to move them to a warmer quarter, and the disease has not made its appearance.



The accompanying sketches (the result of my own observation) will show the different structures of the two classes of fungi just mentioned; the one having simple articulated or moniliform stems is called Oidium; the other with nonarticulated but branched stems is termed Botrytis. Here we have an instance of the care with which Nature provides for every necessity. The fungi that attack plants whose cells have become distended from suppressed evaporation, are furnished with a large amount of surface, by which evaporation is much assisted, their branched and multifarious stems enabling them to effect this with facility; while in my locality, where the rarification of the air, and consequent excessive evaporation, scarcely permit plants to grow, the mould which attacks them is evidently designed to serve another purpose. The Grape mildew is an example of the class of Fungi to which I now allude, as I believe this disease is seldom seen in cool damp situations. Do not these facts suggest a preventive to the Grape mould? The Vine is well known to be an abundant and gross feeder, and its open texture would permit capillarity and absorption to be carried on rapidly, consequently an excessive amount of water (if manure water the better) applied to the roots, and if practicable keeping the surrounding air moist, would, I believe, arrest the spread of the disease. As far as I have been able to follow it, I have found this plan to be successful. I believe the disease made its appearance with me before it was observed by any one else, and I have never failed to ripen a crop. *Edward Tucker, Gardener to J. Slater, Esq., Ramsgate.*

* A Word in Season; or how the Corn-grower may yet grow rich, and his labourer happy. Ninth edition. RIDGWAY.

IXORA COCCINEA.

THE glossy green foliage and large heads of bright scarlet flowers, which well managed specimens of this noble plant produce, form an ample recompense for any attention that may be bestowed on its culture. The beauty of the leaves alone renders the plant agreeable at all seasons; but when covered with its strikingly showy blossoms, which last during three or four months of the year, it is a perfect gem.

This Ixora, being a native of the East Indies, requires a warm temperature for its successful culture. While growing it should be freely supplied with water at the root, and it enjoys a moist atmosphere; but when the wood is formed from which flowers are expected, it must be subjected to a period of comparatively dry treatment, to thoroughly ripen the growth, without which flowers will not be satisfactorily produced. The plant is particularly accommodating as regards its season of flowering; and by the exercise of a little forethought it may be had in blossom at any period when it may be most desired, as thoroughly ripened wood will hardly fail to produce flowers when the plants are subjected to a moist growing temperature. Mealy bug and thrips have an especial liking for this plant, and beginners should be careful to procure stock not infested with these pests.

Young plants may be placed in a sharp growing temperature of about 65° to 75°, as early in spring as is convenient, and an effort should be made to afford them a bottom heat of 75° or 80°, which will be highly beneficial during the whole of their growing season. At that stage the plants should be kept near the glass, and allowed all the light possible, to prevent long-jointed weakly growth, and air must be admitted whenever the state of the weather will permit, especially after growth has commenced. If the plants selected are dwarf and short-jointed, with several shoots each, the point of each shoot may be pinched out, and the branches pegged down near the surface of the soil; but if the plants are long-jointed and straggling it will be necessary to cut them back freely. Shifting should be performed when the pots are moderately well filled with healthy roots; and when this is the case they should be shifted into pots about two sizes larger than those in which they have been growing. Plants in bottom heat require to be watered with great caution, as it is not so easy to judge of the state of the soil as when the pots are exposed; and this advice particularly applies for a fortnight or so after potting. Have the balls and soil when the potting is performed moist, keep the atmosphere damp and close, and sprinkle the plants over-head frequently with the syringe, and the roots will soon lay hold of the fresh soil, when water may be given more freely without danger. In all stages of growth, defer watering until it is required, and then give sufficient to thoroughly moisten the ball. It will probably be necessary to afford the plants some slight protection from the midday sun; and as the season advances, use a very thin shade, but only if scorching cannot be avoided without it.

When the young shoots have attained the length of about a foot, which should be the case by the end of May, gradually expose the plants to a free circulation of air, with exposure to sunshine, and a drier atmosphere, for about a month. This will ripen the wood, and the buds will break much more freely than if the plants were kept growing the whole summer without any rest. Previous to affording them a close moist atmosphere, to encourage a second growth, pinch out the points of the shoots, and peg the latter down, so as to cause the lower buds to start into growth. If a second shift is necessary, which will be the case if all has gone on properly, give this at once, as it is desirable to have the pots well filled with roots previous to winter. Until growth fairly commences the average heat should not exceed 70°, as a high temperature at this stage would not tend to promote a bushy habit of growth; but when the buds are once broken, it may be allowed to range about 85° by day and 75° at night, always admitting air freely on mild bright days.

If the plants can be placed in a pit or house, where the temperature may range from 55° to 65°, this will form a suitable situation for them during the winter months; and if they can be afforded a bottom-heat of about 65° the roots will be kept in a healthy condition. If the plants are deemed large enough to produce flowers, the atmosphere should be kept rather dry, with a free circulation of air on all favourable opportunities during the autumn and winter, and water should be sparingly applied to the roots; and if a second season's growth is to be afforded before flowering, the same treatment will be necessary to mature and harden the wood. As already stated, properly ripened wood will invariably produce flowers; and this will be the case irrespective of the size of the plant. The taste and convenience of the cultivator must decide as to whether the plants are sufficiently large for flowering after the first season's growth or not. If a second growth is deemed proper, they may be treated as recommended for last season. Before exciting them cut back and thin out any weakly shoots, and tie them out in a regular manner, so as to admit light and air, and encourage the lower buds to start.

If it is desirable to have the plants, or a portion of

them, in flower during the winter months, this will be easily secured by thoroughly ripening the first growth, and afterwards keeping the plants in a rather dry airy house until within six or eight weeks of the time that they are wanted in blossom, when they should be plunged in a bottom-heat of about 75° or 80°, with a close moist atmosphere. While in flower, a temperature of from 60° to 70° will be necessary to the health of the specimens. With proper treatment the plants will last many seasons. After flowering, allow them a period of comparative rest, to recruit their exhausted energies ; then cut back, thin out weak shoots, and encourage an active growth. The soil most suitable for the Ixora is light, rich, fibry peat, broken up into small pieces, and mixed with about one-sixth of sharp silver sand, adding a quantity of small potsherds or charcoal ; use clean, porous, thoroughly drained pots.

Cuttings of moderately firm young wood will root in a short time if planted in sandy peat, covered with a bell glass, and placed in a sharp bottom heat of from 80° to 90°. *Alpha.*

Home Correspondence.

The New Glass-houses at Trentham.—Mr. Hurwood, in his letter at page 389, demands a royalty from his Grace the Duke of Sutherland for an infringement by me of his patent for moving and fastening windows, &c. Now, unless Mr. H. can claim for his own invention the application of the screw as a motive power—which he certainly cannot do—it is far from being clear to me in what the supposed infringement consists ; for, with the exception of the lights being moved by a screw, there does not appear to be any other resemblance between Mr. Hurwood's method of ventilating, and the plan shown in your Paper of June 12th. It is true that in Mr. H.'s "Illustrated Catalogue," which he has been kind enough to send me, there is a house which is described as being ventilated on the screw principle : but in this there is a screw and four wheels to every pair of sliding sashes, while in the plan in question the whole of the hanging lights in a house 100 feet long are lifted simultaneously by one screw, and there is only one small wheel to each sash. I do not profess to know enough of the laws which regulate patents to enable me to say positively whether we have infringed upon Mr. H. in this case, or not ; but so numerous are the ways in which this principle is applied, that I cannot see how we are more liable to be called in question than thousands of others who adopt this very common, but not the less effectual means, of gaining power. If any of your readers will be kind enough to throw a little light upon this subject, they will much oblige, not only myself, but many others who may be desirous of adopting this mode of ventilation, without fear of restrictions from patentees. *G. Fleming.*

Potato Disease.—I am sorry to state that disease has again made its appearance in this part of the country (Sussex). I first noticed it on the 17th ult. ; it appeared then on the margin of the leaves ; but since that it has made great progress down the stem. Beans and early Peas are also affected. Should the weather continue wet and cloudy, with thunder, such as we have been visited with for the last 14 days, disease is likely to extend itself over all crops, both early and late.—P.S. Since writing the above, I have examined the different crops of fruit, and find them as follows, viz., Pears, very light ; Apples, ditto ; Plums, ditto ; Apricots, very good ; Cherries, ditto ; Peaches, light ; Nectarines, ditto ; Gooseberries, good ; Currants, ditto ; Raspberries, ditto. *John Daniels, Woodside, Frant.*

Violets turning white.—Enquiry was made some time ago in your Paper, whether any one had experienced the disappointment of blue violets becoming white ; unable at the time to notice the question, I now beg to say that it is the case in my garden the third year, and I am obliged to get a regular succession of plants from other gardens ; nor is change of colour confined to this plant ; Strawberries fade in like manner, and if left to the fourth year show a very large proportion of fruit, white, with loss of flavour ; in this way I lost Myatt's Eliza, a fine variety, but which suffered more rapidly than others. I do not know the cause. *An Ulster Gardener.*

Improved Mowing Machine.—Last autumn I took up my pen to write an article for insertion in your columns, wherein I intended to make known certain improvements which we had made in our mowing machine, and suggest further alterations. But ere I had transcribed a sentence it struck me that what I was about to say might affect the patentees of such contrivances. Hence I wrote to Messrs. Ferrabee and Sons, the manufacturers of Budding's patent machine. Between them and myself a correspondence was thus opened. Improvements necessary to the perfection of a mowing contrivance were suggested. I found that they were of opinion that the old machine was faulty, and were trying to improve it. The result has been the bringing out of an improved implement by J. Ferrabee and Sons, which I am anxious to introduce to the notice of my brother gardeners. The first machine which Messrs. Ferrabee finished this spring was sent to me to be examined and tested. After trying it, we pointed out to them what was objectionable. Since then, they have made some slight alteration in the construction, which has greatly improved it. Last Friday and this week we have seen a machine embodying the latest improvements, well tested in a heavy crop of Grass, and while it was raining heavily. The result was quite satisfactory. The wooden roller of the unimproved implement was most objectionable, as it caused the machine to be difficult to draw and hold, and would not allow it to cut wet Grass. In the improved contrivance we have no wooden roller, hence it is more easily drawn, runs more steadily, and cuts wet Grass. Rain never stops our machine now, till it sends the men in-doors. The construction of the fixed blade of the old implement was objectionable. The revolving cutters were apt to rub against it ; and when they did, it was horse-work to draw the machine. Many gardeners and their assistants, not knowing how to prevent this, have condemned the contrivance, and returned to the good old scythe. In the improved article, the fixed blade is admirably constructed and placed, so that the cutters cannot play against it. The improved machine of John Ferrabee and Sons will become a great favourite with gardeners and their men. That it is capable of further improvements, I firmly believe ; and should an alteration be made, or a better machine produced, I shall be glad to see and recommend it. I am enamoured of the mowing machine, though I know many gardeners prefer the scythe. At this place it takes four men with scythes 31 hours to cut our Grass ; *i. e.*, 124 hours' mowing of one man. Now, two men with a machine cut the same Grass in 35 hours ; *i. e.*, 70 hours of one man. The machine cuts the Grass more neatly, and requires no sweeping after it. I consider that a machine with two men is better than four men with scythes. For cutting verges and amongst small beds the wooden roller is better than, and may be substituted for the two wheels. The 22-inch machine I recommend as best for most gardens ; with this size 11 inches of Grass, or half the breadth of the implement, is cut every time it crosses the lawn. To cut the whole breadth in thick heavy Grass is too hard work. Where a machine is got, the men who are to work it ought to study the directions which are invariably sent by the manufacturers. I am fully convinced that when a mowing contrivance is thrown aside, it is because the men know not how to use it. If this letter makes any resolve to try one, let me say that a machine embracing the latest improvement ought to be sought. *A. Pettigrew, Cheetham-hill, Manchester.*

Action of the Moon on Plants. — In the interesting work of "Lives of Celebrated Travellers," by J. A. St. John (H. Colburn's edition, 1832), there is one (vol. 3) of Antonio de Ulloa, a Spanish naval officer, despatched to South America on scientific purposes in 1736. When arrived at Quito, "he observed, among many remarkable natural curiosities, a species of Cane, from 35 to 50 feet in height, and about 6 inches in diameter ;" and states that, "from the time of their first appearance till they attain their full perfection, when they are cut down or begin to dry, most of the tubes contain a quantity of water, but with this remarkable difference, that at full moon they are entirely or very nearly full, and with the decrease of the moon the water ebbs, till at the conjunction little or none is found. I have cut them at all seasons, so that I here advance nothing but what I know to be true from experience. I have also observed that the water during the decrease appears turbid, but about the time of the full moon it is clear as crystal." That the influence of the moon on vegetation is very considerable I entertain no doubt, and would strongly commend its study to those who have opportunities of practical observation. *J. C. M., Hastings, June* 19.

Climbing Plants. — One of the most natural and pleasing forms in which these can be employed in a flower garden is in covering unsightly portions of trees, rustic grottoes, vases, &c. Many species of the less rampant growing kinds also make excellent edges for flower beds, either on Grass or otherwise ; for this purpose low semi-cylindrical wire-work, laid with the open side upon the ground, from 6 inches to a foot or more in width, according to the size of the bed, and in pieces of any length, so as to fit exactly the shape of the beds, will be required for the plants to scramble along, and which they will soon fill up, so as to completely hide the wires, and when neatly kept in order they have a very pretty effect. Amongst common genera adapted for this purpose may be mentioned Maurandyas, Cobæa, Lophospermums, Lathyrus, and the weaker-growing varieties of Tropæolum : the stronger sorts being more suitable for covering the branches of trees. Cotoneasters and other plants of like habit form very beautiful permanent edgings, and even the common Ivy contrasts well with a bed of scarlet Geraniums, forming with very little trouble, and in a short time, a neat compact edge, without the need of any support. *W. H.*

Rhubarb Wine.—I do not wish to find fault with Messrs. Hardy and Son's recipe for Rhubarb wine, but I can supply your readers with one far better ; and if any one will take the trouble of trying both methods, I have little fear of the result. I have met with many people who have experimented a little on Rhubarb-wine-making, and with very few who have succeeded in getting more than a vapid, tasteless, and perfectly harmless concoction, and the reason of their failure has been because it was a concoction. They had boiled, or thrown boiling water on their sliced Rhubarb. I believe this to be a mistake. If your readers will try the following method, they will provide themselves with a summer beverage, light, fresh, racy, and sparkling like champagne :—To every gallon of water (rain water is best), add 5 lbs. of ripe Rhubarb cut into thin slices; let it stand nine days, stirring it three times a day, and it is well to cover the pan or tub with a blanket or cloth. Strain or squeeze the macerated substance through a coarse cloth ; to every gallon of the liquor thus procured add 4 lbs. of white sugar, the juice of two Lemons, and the rind of one ; then, to fine it, 1 ounce of isinglass to every 9 gallons ; and this part of the operation may be thus performed : take about a pint of the liquor, in which melt the isinglass over the fire ; be sure that it is cold before pouring it into the vessel containing the rest of the liquor. That done, cask it. When the fermentation is over bung it down. Bottle in March ; and the following June it will be fit for use. You will see that my recipe, which has stood the trial of many years and never failed, varies in some important particulars from that of Messrs. H. and Son. "Utrum horum mavis accipe." *A Country Curate.*

When to transplant the Common Utricularia.—"Aline" should move her Utricularia in September. I have at present a trough full of fine plants which were removed at that time last year. Residing near a locality where the above and the beautiful Hottonia palustris, &c., abound, I study the cultivation of aquatics with tolerable success. *C. S. J., Dickering.*

Pulverised Peat.—This substance, known in Ireland as turf-mould, is announced in a late *Chronicle* as being discovered to possess valuable deodorising properties. Let me assure you that it is practically and long known in Ireland to possess them. When it can be obtained by short carriage it is used in place of straw by the poor in cowhouses, and forms a most valuable manure. If carrion has to be buried, a few barrowfuls of turf-mould prevents any odour from arising. In my garden the house sewer passes down the fencing ditch, which has a sharp fall. I rail across at intervals, wattling pretty close. Beginning at the lower end I fill in above the railing with turf-mould ; the sewer-water passes through this, and comes out beyond quite pure and clear. When this is saturated I do the same at a railing above this one, and so secure invaluable manure, and which is removed without stench. *An Ulster Gardener.*

Scarlet Runners—I see by your Calendar of Operations, p. 392, that you recommend Scarlet Runners to be "sticked," to use an expressive term. Surely is it not better and more economical to do as the market-gardeners do with them, viz., nip off the shoots as they appear, and keep them dwarf? I did so with a couple of rows in my kitchen-garden last year, and had a most abundant and continuous crop, and saved sticks into the bargain. *Birkhurst.*

The Hawthorn.—Few objects adorn our landscapes in early summer more than the Hawthorn. The large isolated trees covered with "milk-white" blossoms, scenting "the evening gale," call forth scarcely less admiration than those greater masses grouped and contrasted with the foliage of other trees in untrimmed hedges. In the place where I reside, and in good situations, the Hawthorn grows well as a tree ; but when planted and trimmed into hedges, it often becomes sickly, and frequently dies in the course of a few years. It never blooms here, not even those trees which have been planted for a great number of years, with a good aspect and in favourable soils. The village is situated about 1560 feet above the level of the sea, and nearly surrounded with hills, rising some 500 feet or 600 feet higher. At Garrigill, the neighbouring dale, situated 360 feet lower, the Hawthorn grows well in hedges, and also blooms well. Hence it appears, that in the north of England, and at an elevation of 1600 feet, the Hawthorn will scarcely exist. *Wm. Wallace, Nenthead, Cumberland, June* 22.

Mice.—About 30 years ago an extensive tract of moorland was planted with Larch, the chief portion whereof having suffered from blight has lately been felled, and the ground has this spring been re-planted with Spruce and hard-wood trees. Mice are swarming on the ground, and have attacked the young trees recently planted, sparing neither bark, trunk, nor root. I shall feel obliged by advice as to the means of getting rid of these vermin. *B.*

Ice Huts.—Permit me to inform your correspondent, on the subject of above-ground ice-huts, that I followed this year the directions given in your columns for constructing these depôts—choosing a high and dry site, making a good drain, using rather more, than less, straw than the recipe prescribed—thatching it carefully, and on examining it lately, I found, that of the four or five loads of ice deposited under this covering, not a single trace remained. *E. G., Castle Carey.*

Gardens of Van Diemen's Land. — The following extract from Colonel Mundy's amusing volume "Our Antipodes," giving an account of the gardens of Van Diemen's Land, is interesting, especially as regards the pleasure he seems to have derived, in common with others, at finding, so far away, old friends. The use of Mint in place of Box for edging is new to me. *Dodman.*—"The luxuriance of the common red Geranium at this season makes every spot look gay; at the distance of miles the sight is attracted and dazzled by the wide patches of scarlet dotted over the landscape. The hedges of Sweetbriar, both in town gardens and country enclosures, covered with its delicate Rose, absolutely monopolise the air as a vehicle for its peculiar perfume : the closely-clipped Mint borders, supplying the place of Box, sometimes, however, overpower the Sweetbriar and every other scent of the gardens. Every kind of English flower and fruit appears to benefit by transportation to Van Diemen's Land ; well-remembered shrubs and plants, to which the heat of Australia is fatal, thrive in the utmost luxuriance under this more southern climate. For five years I had lost sight of a rough, but respected old friend—the Holly, or at most I had contemplated with chastened affection one

wretched little specimen in the Sidney Botanic Garden labelled for the enlightenment of the cornstalks. But in a Hobart Town garden, I suddenly found myself in the presence of a full-grown Holly, 20 feet high, and spangled with red berries, into whose embrace I incontinently rushed, to the astonishment of a large party of the brave and fair, as well as to that of my most prominent feature. The Fuchsia—the old original Fuchsia gracilis, attains here an extraordinary growth; edging the beds of a fine garden near where I lived, there were hundreds of yards of Fuchsia in bloom; and in the middle of the town I saw one day a young just married military couple smiling in all the plenitude of honey-lunacy, through a cottage window, wholly surrounded by this pretty plant, which not only covered the entire front of the modest residence, but reached above its eaves. Here, too, to get back to my botany, I renewed my acquaintance with the Walnut and the Filbert, just now ripe; the Spanish and Horse-Chestnuts, the Lime tree with its bee-beloved blossom and the dear old Hawthorn of my native land. As for Cherry and Apple trees, and the various domesticated berry bushes of the English garden, my regard for them was expressed in a less sentimental manner. I defy any school-boy or 'midship-mite' to have outdone me in devotion to their products, however much these more youthful votaries may have beaten me in the digestion of them."

Death of William Gardiner.—I had the pleasant prospect in view of sending you a letter about this time, announcing the complete recovery of the botanist in whom you were so interested; for, in point of fact, he had begun to look among his specimens, and was superintending a fourth edition of the first series of his "Mosses," which is nearly through the press; and cheering hopes were springing up for the future before him: but, alas! in this I am wofully disappointed, and instead, the painful duty now devolves upon me of apprising you of the melancholy fact, that, while out for a very short distance, for a draught of the fresh air on Thursday, the 10th current, though carefully protected by a plaid, he caught fever. He told me that he feared it was so. It proved to be the malignant typhus; which, in a day or two afterwards, clouded his reason, and completely prostrated him, and then this morning at 2 o'clock closed his career. Be assured all that medical skill and the kindness of various watchful and anxious friends could suggest or do, was done for the poor sufferer, but without avail. This humble, laborious, and enthusiastic botanist, now in the room where he studied and laboured so long, and surrounded by his books, shells, birds, and insects, and many thousand specimens of wild-flowers of his own gathering from the sea-shore, and from many a wood and stream, mountain and glen, lies unconscious of them all, a cold and inanimate corpse. On Thursday we bury him in the ancient Houff of Dundee, by the side of his departed wife. His little boy (named after the great Naturalist, Sir James Edward Smith), alone, of all his kindred, survives to bewail him. *James Scrymgeour*, 11, *Reform-street, Dundee*, 21*st June*, 1852.

Societies.

HORTICULTURAL, *June* 22.—J. B. GLEGG, Esq., in the Chair. Lady Jane Walsh, C. Townley, Esq., Lady Cook, J. S. Tench, Esq., and — Bartlett, Esq., were elected Fellows. Among plants exhibited, perhaps the most interesting was a new Clematis, discovered in the north of China by Mr. Fortune, and produced by Messrs. Standish and Noble, of Bagshot. It resembles azurea, but is nevertheless different from that species, and there are reasons to suppose that it will be hardier. The blossoms, even in their present state, were large and handsome; but they were not seen under favourable conditions, for the plant is as yet but small, and had been forced into bloom somewhat prematurely. A Silver Banksian Medal was awarded it.—Mr. John Waterer, of Bagshot, sent a deep purplish crimson Rhododendron called Celebrandum, with large heads of well shaped flowers of good substance. It will no doubt prove an acquisition, as it appears to flower sufficiently late for the blossoms to be out of the reach of spring frost. It was stated to be a cross between R. maximum and altaclerense. A Certificate of Merit was awarded it.—From Mr. Macintosh, nurseryman, Stanraer-place, Maida Vale, came an example of Cantua pyrifolia in bloom. It has a fine glossy green foliage and pale lemon-coloured flowers, which are, however, perhaps hardly sufficiently striking to make it anything more than a second-rate plant.—A cut specimen of a seedling Pelargonium, resembling Luceum roseum, was shown by Mr. Middlewood, of Hornsey-road.—The Hon. W. F. Strangways contributed flowering branches of the following plants, which have been proved to be hardy, at Abbotsbury, in Dorsetshire, viz., the blue Veronica formosa, a handsome shrub which is seldom met with; V. decussata, a white-flowered kind; the Thyme-leaved Melaleuca, the Mexican Echeveria secunda, Diplacus glutinosus, the New Holland Epacris heteronema, Grevillea acanthifolia, Swammerdamia glomulifera, Iris Monnieri, Gladiolus segetum, and a piece of a branch, split in two, and nearly 2 inches in diameter, of Callitris quadrivalvis, a Conifer remarkable for the durability of its wood. It was mentioned that should the success which has attended the planting out, at Abbotsbury, of many plants previously considered tender, induce persons in other parts of the country to try the experiment, at least with such over-grown New Holland and Australian plants as could not be conveniently accommodated longer in greenhouses, that warm sheltered places were not the most suitable situations for them. In such positions they became early excited into growth, and got injured by late frosts. Behind a western wall, or before shrubs where they would not receive the morning sun, was suggested as the most likely places to secure the object in view.—As regards fruit, Mr. Jones, gr. to Sir J. Guest, Bart., sent two handsome Ripley Queen Pine-apples, weighing respectively 4 lbs. and 5 lbs. 3 ozs.; a Certificate of Merit was awarded for the latter. From Mr. Martin, gr. to Sir H. Fleetwood, Bart., came a dish of Elruge Nectarines. The same grower also sent examples of Black Prince and Black Hamburgh Grapes. Sir J. Guest's gardener likewise furnished a dish of Black Hamburgh Grapes. From Mr. Summerby, gr. to Major Martyn, came a specimen in a pot of what was considered by him to be a new kind of Vine. It proved, however, to be only the Alexandrian Ciotat, a variety remarkable for its singularly cut foliage, but seldom cultivated, on account of its want of productiveness. Mr. Chapman, gr. to the Earl of Gainsbury, sent fine-looking examples of a hybrid Melon, weighing respectively 3 lbs. 8 ozs., and 4 lbs. 2 ozs. It was stated to be a cross between the Trentham Hybrid and a small Melon called the Chinese Green-fleshed. It had something of the appearance of the Bromham Hall, and was found to be excellently flavoured. A Certificate of Merit was awarded it.—From the Garden of the Society came Adamia versicolor, Mitraria coccinea, the deep violet-purple Myosotis azorica, a tender kind which is sometimes confounded with the hardy Russian Forget-me-not; a neat bush of Epacris miniata, the pale yellow Lilium Loddigesii, and a large brick-red kind called by the Belgians L. grandiflorum; Tropæolum edule, and some other plants; together with cut specimens of the Californian Cerasus ilicifolia, or evergreen Plum, which is now flowering in the garden for the first time. Its blossoms resemble those of a Portugal Laurel, and they are said to be succeeded by fruit as large as a Sloe, and which is eatable; but it was mentioned that as it belongs to a suspicious family any trial of its eatable quality must be made with caution.—The alteration in the bye-laws, printed at p. 342, was read a second time.

CALEDONIAN HORTICULTURAL, *June* 3.—J. EDMOND, Esq., in the Chair. On this occasion there was a good display of productions, to which prizes were awarded as follows: Finest Shrubby Greenhouse Plants—1st, Mr. Reid, gr. to Professor Syme, for Aphelexis speciosissima and Polygala cordifolia; 2d, Mr. Cameron, gr. to S. Hay, Esq., for Azalea præstantissima and A. lateritia magnifica. Cape Heaths—1st, Mr. Reid, for Erica tricolor and ventricosa Brownii. Pelargoniums grown in 10-inch pots—1st, Mr. Cameron, for Forget-me-not, Gulielma, Negress, and Painted Lady; 2d, Mr. Cossar, gr., Kingsmeadows, for Rosy Circle, Negress, Matilda, and Queen Anne. Fancy Pelargoniums, grown in 8-inch pots—1st, Mr. Cossar, for Reine de Française, Jehu Superb, Anais, and Decorum; 2d, Mr. Henderson, gr. to C. K. Sivewright, Esq., for Fairy Queen, Mignon (Miellez), Queen Victoria, and Modestum. Cinerarias—1st, Mr. Henderson, for Hammersmith Beauty, Pauline, Marianne, and Agnes (seedling). Pansies, in 8-inch pots—1st, Mr. Henderson, with Duke of Perth (Handasyde's), Supreme (Youell's), Robert Burns (Campbell's), and Sir Philip Sydney (Fellowes'); 2d, Mr. Mitchell, gr. to Lady Keith, for Sambo, Supreme, Alboni, and Queen of England. Twelve blooms—1st, Mr. Reid, gr. to W. Wilson, Esq., for Supreme, Duke of Perth, Lucy Neal, Duke of Norfolk, Helen (Hunt's), Royal Visit, Queen of England, Superb (Hooper's), Lady Emelie, St. Andrew, Rainbow (Hall's), and Sir Joseph Paxton; 2d, Mr. Stenhouse, for France Cycole, St. Andrew, Supreme, Mrs. Beck, Elegant, Helen, Flower of the Day, Duke of Norfolk, Magnificent, Constance, Jerome, and Lucy Neal; 3d, Mr. Grandison; 4th, Mr. M'Auslane, Inveresk. Red Stocks, with an account of the mode of culture—1st, Mr. Mackay, gr., Primrose Bank; 2d, Mr. Sanderson. Purple Stocks—1st, Mr. Dunn, gr. to J. Bridges, Esq. Tulips (Roses, Byblœmens, and Bizarres), four of each class—1st, G. B. Simpson, Esq., for Bizarres—Commandant de Berlin, Calypso, Gloria Mundi, and Grand Patriarch; Byblœmens—Washington, Sang de Beauf, Nero, and Holmes' King; Roses—Elephas, Surpasse Triomphe Royale, Noble Blanche, and Cerise de Moroc: 2d, Mr. Oliver, Larbert, for Roses—Prince de Galles, Breeder Broke 1852, Walworth, and Duchess of Newcastle; Byblœmens—Maid of Athens, Princess Royal, Holmes' King, and Irlandaise; Bizarres—John Bright, Nouri Effendis, Waterloo, and Hampden. Alpine Plants—1st, Mr. Falconer, gr. to Mrs. Fraser, for Ramonda pyrenaica, Linaria origanifolia, Trientalis europæa, and Trifolium uniflorum. Hardy Herbaceous Perennials—1st, Mr. Crombie, gr., Claremont Crescent, with a large plant of Dielytra spectabilis; an extra award was voted to Mr. Falconer, for a well flowered specimen of Primula sikkimensis. Vegetables—1st, Mr. Whytock, gr. to Count de Flahault; 2d, Mr. Pender, gr. to D. Anderson, Esq.; 3d, Mr. Thomson, gr. to R. S. Wilson, Esq. The prize of one guinea, offered through the Society, by Messrs. Dicksons and Co., for the best four Cape Heaths, was awarded to Mr. Reid, for fine specimens of Cavendishii, prægnans, tricolor Wilsoni, and ventricosa grandiflora. In addition to the articles sent in for competition, there was a good display of productions sent for exhibition. Messrs. Dicksons and Co. contributed Greenhouse Plants, including specimens of Aphelexis humilis, Statice Holfordii, Tropæolum edule, and other good plants, with Gloxinias and Azaleas, and a box of Seedling Pansies. Messrs. J. Dickson and Sons also sent Greenhouse Plants, including Chorozema Lawrenceanum, and an assortment of Cinerarias and Gloxinias. Messrs. P. Lawson and Son exhibited Seedling Cinerarias, Eriogonum sericeum, Zichya Beaumontiana, Thuja orientalis argentea, Ilex microcarpa, Exacum viscosum, Gloriosa virescens, Erysimum Arkansanum, and a new double Rhododendron. Mr. Stark sent Greenhouse Plants, including Pimelea spectabilis; also Linaria reticulata, a new species from Portugal, and a variety of L. tristis; with Alpine Plants, rare British Ferns, and a stand of Tulips. From Warriston Lodge were a number of Greenhouse Plants, and a basket of seedling Calceolarias. From Mr. Handasyde, Musselburgh, were Ghent Azaleas and Pansies; from Mr. Methven, Rhododendron nivaticum, Blandyanum, fastuosum flore pleno, and other sorts; from Messrs. Downie and Laird, Pentstemon Cobœa, Kellermanii, and seedling varieties, with Calceolarias and Cinerarias; from Messrs. Young and Mackay, Pelargoniums, Ranunculuses, Anemones, and Tulips; from Mr. Lightbody, two stands of Tulips; from Mr. Grieve, a plant of Calceolaria Sultan, and a stand of Pansies; and from Mr. Ferguson, two stands of Tulips. From the garden of Mrs. Fraser, there was a collection of Alpine plants, including Primula capitata and other species; from Professor Syme, Æchmea fulgens, and Stephanotis floribunda in flower and fruit, for which a certificate for excellence of growth was granted to Mr. Reid; from I. Anderson, Esq., good plants of Gaylussacia pseudo-vaccinium, Rhododendron Vervaneanum flore pleno, R. fragrans, and some well-flowered Azaleas; from J. Mood, Esq., three well grown Fuchsias; from the garden of J. Adam, Esq., Calceolarias and Cinerarias, and a plant of Epacris miniati; and from S. Hay, Esq., Pelargoniums. Mr. Addison exhibited a box of fine flowers of Dodecatheon elegans; and Mr. Munro, a collection of good Stocks. G. B. Simpson, Esq., sent a seedling Tulip named Queen Victoria, but the flower being past, the committee recommended the variety to be grown and exhibited another year. Mr. Meldrum showed a stand of Tulips. From the garden of D. Anderson, Esq., came Grapes, Peaches, and Strawberries; from R. S. Wilson, Esq., well preserved Royal Russet and Newton Pippin Apples; and from Mr. Nimmo, four stalks of seedling Rhubarb. Messrs. Ballantyne and Allan exhibited samples of a new kind of plant-label, made of thick glass, the lettering being vitrified; and Mr. G. Edwards produced a Fumigator which he had invented for smoking large plant-houses. On this occasion many new names were added to the roll of members.

LINNEAN, *June* 15.—R. BROWN, Esq., in the chair. The Rev. G. Armitage and J. P. Pascoe, Esq., were elected Fellows. A leaf of the Victoria regia, measuring 6 feet in diameter, was exhibited. A letter was read from Colonel Thomson stating that he had purchased of an itinerant vendor of plants a root of the Lizard Orchis, which was now in full bloom. Mr. Babington stated that this plant was still to be found wild, though very rare, in some parts of England.—A paper was read from Mr. Henfrey on the Development of the Spores of Ferns. The paper went minutely into the structure and growth of the prothallium, antheridia, spermatozoids, and archegonia, as the result of observations made on various species of Ferns. The prothallium, which is the result of the growth of the spore, produces on various parts of its surface the antheridia and the archegonia, the former being by far the most numerous. The spermatozoids are formed in cells contained in the antheridia. They consist of a flat band, twisted twice or three times, and covered with long vibratile cilia. They escape from the antheridia by the bursting of this organ, and are to be seen upon the surface of the prothallium. The archegonia consist principally of a cell like the embryo sac, which eventually becomes the young embryo. Mr. Henfrey denied that the spermatozoids entered the embryo sac; but inferred, without having observed any direct communication between the spermatozoids and the embryo sac, that the former were necessary to the growth and development of the embryo.—A discussion followed, in which Mr. Bowerbank stated that he had not observed the spermatozoids to be so completely covered with cilia as those represented by Mr. Henfrey. It was probable there might be a difference in this respect in different species.

Books Received.

Horsfield, Plantæ Javanicæ rariores, edited by Robert Brown, assisted by John Jos. Bennett, of the British Museum. Part 4 and last.—It was the misfortune of Dr. Horsfield to place the very important collections of plants which he formed in Java in the early part of this century, in the hands of a gentleman, who to an extensive acquaintance with the details of systematical botany adds habits of procrastination, concerning which we shall only say that they are fortunately unparalleled in the annals of natural history. One consequence has been that a work commenced about the year 1820, could not find its way into light till 1838, and has only arrived at an abortive end in 1852, with an account of just 50 species of plants out of 2196, which Dr. Horsfield had placed in the editor's hands. The

fatigue of describing these 50 in the course of 30 years was moreover found to be so excessive that a second editor had to be added to the first, in order that the Herculean labour might be accomplished. Another consequence has been, that the honour to which Dr. Horsfield had a most unquestionable claim, has passed away into the hands of Dutch and other continental botanists, and that he now stands before the world as the poor collector, in Java, of about 50 plants, (several of which had been known before), during the long period which elapsed between the year 1800, when he first visited Batavia, and 1819, when he quitted the island. A greater wrong could not have been done him than has been thus inflicted, and we at least feel bound to protest against the treatment which he has received, and which few other men would have borne. We protest too, more especially on behalf of the public, which after subscribing to a work that was announced as having for its object, "to give descriptions and figures of the more remarkable, new, or imperfectly known plants, contained in an herbarium of two thousand species," and after paying 8*l.* 11*s.*, is put off with a miserable half hundred species, many of which are neither "remarkable, new, or imperfectly known." Even in this last part of the work before us, in which one would have expected to find some atonement on the part of the editors for former short-comings, out of the five plants which it includes, three have been confessedly published before, and a fourth (named by one editor in compliment to the other), has already been well described in France; for Dr. Brown's Bennettia, brought forth in April, 1852, is no other than M. Tulasne's Cremostachys, well described in the *Annales des Sciences*, Vol. XV., No. 5, which appeared in Paris in 1851.

The Bookselling System. By a retail Bookseller. Bigg and Sons, 8vo. A Pamphlet.—If we buy a horse for 20*l.* and choose to sell it for 20*l.* 10*s.* no one disputes our right to do so, or even to sell it at a loss. But if we buy a book for 3*s.* we are not to be allowed to sell it for less than 4*s.*; to take 3*s.* 1*d.* is not to be permitted, according to the Booksellers' Association and according to this author. We wholly differ from him, as we believe does every disinterested person, who can see a plain proposition through the smoke which the book trade has produced.

FLORICULTURE.

Horticultural Exhibitions.—So much depends on the judicious selection of subjects, and on the proper distribution of funds for the successful gathering of competitors, and the satisfactory issue of horticultural and floricultural exhibitions, that we feel it to be our duty to call the attention of the management of the Grand National Horticultural Show to be held at Lewes, on the 14th and 15th of July next, to the sad want of experience which is evinced by their schedule of prizes lately received and acknowledged. At a time when the town and neighbourhood of Lewes are sure to be well filled with visitors, a floral meeting will form an attraction of no ordinary kind,—and however zealous our agricultural friends may prove to be in the cause for which they will be then and there assembled, yet we trust they will "find time" to contemplate the beauties of Flora, and to enjoy them with as much *goute* as they will the short-horns, the south-downs, the implements, &c., collected there through the all-powerful agency of the Royal Agricultural Society of England, with whose annual meeting Lewes has been favoured,—We are anxious that the success of the great horticultural undertaking, in connexion with this show, should be complete. We therefore urge the necessity of some alterations being effected in the arrangements; for instance, 12 varieties of Pelargoniums are invited in 11-inch pots, the prizes offered being 25*s.*, 10*s.*, and 7*s.*; and for 12 varieties in 8-inch pots similar rewards are held out. Now these sums cannot prove sufficient inducement to tempt even local growers to produce their plants; and then again, except those who cultivate for exhibition, few have their Pelargoniums in 11 inch or in 8-inch pots, and that in the middle of July. Fancies are invited, under similar conditions, as to size of pots, but in collections of 6. Fuchsias, Balsams, Cockscombs, Calceolarias, Heaths, and Salvias, constitute the other plants required; while in cut flowers, Petunias, Stocks, Lupins, Pentstemons, and other subjects, form separate classes in which collections of 12 varieties are invited and handsome rewards offered for them. Now we do not complain of want of liberality or of means, but we think it bad policy to give so much to the same things and so little to such standard subjects as Pelargoniums, Heaths, and Fuchsias. To these at least preference should have been given, if display be the object aimed at; 12 Petunia blooms, in as many varieties, may obtain a sum equal with 12 Pelargoniums in 11-inch pots, and this is extended to Antirrhinums, Zinnia, Pansies, and other subjects already enumerated; can a "grand show" therefore be calculated upon with such a bill of fare? We would advise a limitation of the variety of subjects invited, and an improvement in the prizes offered for plants of popular standing, in the proportion laid down for collections of miscellaneous plants and to fruits; under judicious management, and with a sum of 160*l.*, which is now offered in prizes, a first-class show might have been secured, and we trust that these remarks may tend to promote this desideratum, by drawing the attention of those in power to the formation of a new schedule. P.S.—We are glad to find, by an advertisement just received, that much of what we have been complaining, is about to be remedied.

Royal South London Floricultural Society, *June* 23.—There was a good show on this occasion, and the day being fine, it was well attended. Collections of Stove and Greenhouse Plants were furnished in great variety and profusion by Messrs. Cole, Over, Roser, Stanly, Hamp, and Rhodes; and in the Nurserymen's Class, by Messrs. Rollisson and Pamplin. Cape Heaths were contributed by Messrs. Rollisson, Fairbairn, Smith, Cole, Over, and others; and Roses in pots by Messrs. Paul and Son. From this firm we noticed two blooms of a new light-coloured Tea Rose, which we hope to see again under better circumstances. Pelargoniums were plentiful and in fair condition. Six varieties: 1st, Mr. Robinson, with Rowena, Alderman, Salamander, Pearl, Emily, and Norah; 2d, Mr. Lochner, with Guielma, Constance, Forget-me-Not, Orion, Star, and Falstaff. The plants in this last collection were finely grown; but they were insufficiently advanced in bloom. In the Nurserymen's Class Mr. Gaines was 1st, with Cuyp, Giantess, Ajax, Magnificent, Mars, Virgin Queen, Peerless, and Electra. Mr. Westwood, of Acton-lane, was 2d, with Norah, Rowena, Rosamond, Aspasia, Guhelma, Salamander, Forget-me-Not, and Pearl; 3d, Mr. Hunt. Fancies: 1st, Mr. Robinson, with Richard Cobden, Perfection, Delicatum, Statiaski, Fairy Queen, and Princess Maria Galitzin; 2d, Mr. Moseley, with Modestum, Jenny Lind, Madame Mielez, Reine des Français, Orestes, and Princess Maria Galitzin; 3d, Mr. Roser. Dealers: 1st, Mr. Hunt, with Albani, Empress, Queen, Statiaski, Bouquet tout Fait, and Reine des Français; 2d, Mr. Westwood, who also obtained an extra prize for 6 well-grown plants of the common kind. Mr. Robinson obtained Mr. Turner's Medal for the best 6 plants sent out since last August, with Rubens, Ariadne, Magnet, Pulchrum, Ophelia, and Eurydice. Mr. Roser had a collection of Calceolarias, among which were Holyrood, Prospero, Cleopatra, Joe Miller, and Voltigeur. A nice group of Gloxinias was contributed by Mr. Over, in which were Grandis, Queen Victoria, Fyfina, Wordleyana, Teuchlerii &c. The Pink show was very indifferent, scarcely any of the blooms being in good character. The best were furnished by Mr. Baker, who had Winchester Rival, Lola Montes, Mrs. Hooper, Laura, Countess Rossi, Morning Star, Dr. Fox, Jenny Lind (Read's), Pickwick, Jenny Lind (Pierce's), Kate, and Mrs. Burman; 2d, Mr. Hardstone; 3d, Mr. Halliday; 4th, Mr. Ellis. Dealers: 1st, Mr. Ward, with Huntsman, Queen, Laura, Winchester Rival, Prince Albert, Favourite, J. Neville, Morning Star, Pierce's Jenny Lind, Stow's Edwin, Melena, Pickwick; 2d, Mr. Wilmer. Ranunculuses were produced, but they were also inferior to what we have seen them. Mr. Phillips had the best, among which were Belle Agréable, Dilectus, Dr. Gardiner, Queen, Belvidere, Mars, Prince Albert, Hogarth, Felicitus, Flaminus, and Milo. In the Dealers' Class Mr. Parker was first. Some Pansies were furnished by Mr. August, of Beddington, and a collection of seedling Irises by Mr. Salter; Mr. Mocket, of Forest-hill, received a Certificate for Verbena (seedling) Purple King, a large bold flower, and good in colour. Some Fuchsias were shown, and we noticed plants of Antirrhinum Primrose Perfection (Edwards), which is certainly "the flower of the day" in this class of plants.

Oxford Horticultural Society, *June* 23.—This Exhibition, which is considered the "Show" of the season, took place in the grounds of Worcester College, and was well attended. Miscellaneous Plants were shown in good condition by Mr. Bailey, of Nuneham, and by Mr. Bragg and Mr. Turner, of Slough; those from the latter not for competition. Florist Flowers and Fruit were scarce and indifferent. Pelargoniums: 8 varieties; 1st, Mr. Bragg; 2d, Mr. Day. 6 varieties: 1st, Mr. Bragg; 2d, Mr. King, gr. to the Warden of Wadham College. The leading kinds were, Rowena, Virgin Queen, Jullieu, Claudiana, Star, Narcissus, and Magnificent. Some good Ranunculuses were shown by Mr. West, Mr. Coster, and Mr. Lochner. Pinks, by Mr. Colcutt and Mr. Bragg, and a box by Mr. Turner. Optima Sappho, Lola Montes, Criterion, Double X, Whipperin, Empress, Dr. Hawtrey, and Hebe, were the best. The four best Ericas, by Mr. Bailey, were neat, well-grown plants, of the following kinds, viz, depressa, vestricosa fasciculata, v. magnifica, and Bergiana. In Mr. Turner's group of Pelargoniums we noticed Magnet, Enchantress, Optimum, Virgin Queen, Oscar, Novelty, Pretty Polly, Magnificent, Constance, Ariadne, Elise, Eurydice, Mochanna, and 8 well-bloomed plants of Fancies, together with a collection of cut blooms. Large numbers of Pansies were shown, but generally they were out of colour. Fuchsias and cut flowers were very good, but the Pelargoniums from Oxford were but indifferent.

Scottish Pansy Society.—The eighth annual competition of this Society was held in Glasgow, on the 9th inst., simultaneously with the Glasgow Horticultural Society's Spring Show. A large tent was literally crammed with Pansies. The competition stands in every class were in excellent condition, and approached each other so closely in quality that in some instances there was not above half a point more value in the first prize stand than in the second. In almost every instance there was not more than four or five points betwixt the first and fourth stands. These facts tell well in favour of the lively interest taken throughout the country in the cultivation of this favourite flower. The prizes were awarded as follows: *Nurserymen.*—Twenty-four blooms: 1st, Messrs. Downie and Laird, Edinburgh, with Ajax (Downie and Laird), Africanus (Dicksons and Co.), Duke of Perth (Handasyde), Flower of the Day (D. and L.), Magnificent (Neilson), Polyphemus (Thomson), Premier (Russell), St. Andrews (D. and L.), Samb (Hales), Diadem (Fellowes), Duke of Norfolk (Bell), Elegant (Thomson), Juventus (Hooper), Lady Emilie (D. and L.), Post Captain (Maishment), Robert Burns (Campbell), Royal Visit (D. and Co.), Supreme (Youell), Duchess of Perth (Dicksons and Sons), France Cycole (Grieve), Mrs. Beck (Turner), Miss Maxwell (D. and L.), Miss Talbot (D. and Co.), and Queen of England (Fellowes); 2d, Mr. Grieve, Edinburgh, with Almanzor, Lady Emilie, Jerome (Nelson), Duke of Perth, Queen of England, Duke of Norfolk, Iron Duke, Miss Talbot, France Cycole, Miriam, Cliff, Magnificent, Euphemia, New Gown, Mrs. Trotter, Sir William Rae, Lucy Neal, Sir Robert Peel, St. Andrews, Sir Philip Sidney, Blanche, Mr. Beck, Mrs Lockhart, and Elegant; 3d, Mr. Robertson, Paisley. *Gardeners.*—Eighteen blooms—1st, Mr. Ramsay, Helen-burgh, with Juventus, Duke of Perth, Yellow Climax, Queen of England, Douglas, Elegantissima, Lucy Neal, France Cycole, Mrs. Beck, Pandora, Helen, St. Andrews, Hector, Marchioness of Lothian, Robert Burns, Polyphemus, Royal Visit, and Smolensko; 2d, Mr. Peddie, with Queen of England, Duke of Norfolk, Almanzor, Robert Burns, Aurora, Duke of Perth, Lady Emilie, Blanche, Marquis of Lothian, Constellation, Supreme, Sir Wm. Herschell, Juventus, France Cycole, Disraeli, Pandora, Elegant, and Adela; 3d, Mr. Stenhouse; 4th, Mr. Grandison. Best 12 blooms, 1st, Mr. Begg, Paisley, with France Cycole, Duke of Perth, a dark seedling (his own), Rainbow, Jerome (Nelson), Sir Wm. Rae, Sir Joseph Paxton, Duchess of Perth, Duke of Norfolk, Juventus, Queen of England, and Supreme; 2d, Mr Henderson, gr. to C. K. Stewenghe, Esq., Edinburgh, with Duke of Perth, Robert Burns, Queen of England, Ophir, Juventus, Harmony, a seedling (his own), Supreme, Polyphemus, Sir Joseph Paxton, Sir Philip Sidney, and Smolensko; 3d, Mr. Mulchill; 4th, P. S. Morrison, Esq. Best 6 Blooms: 1st, Mrs. Wharne, of Arbreath, with Robert Burns, Royal Visit, Countess of Strathmore, Africanus, Iron Duke, and Flower of the Day; 2d, Mr. Stenhouse, with Premier, Mr. Beck, Constance, St. Andrews, Aurora, and Prism; 3d, Mr. Grandison; 4th, P. S. Morrison, Esq. Twelve Blooms, viz., four yellow grounds, four white ground, and four selfs. Open to all classes: 1st, Mr. Peddie, Aitkenhead, with Queen of England, Climax, Royal Visit, France Cycole (white grounds), Diadem, Robert Burns, Duke of Norfolk, Iron Duke (yellow grounds), Adele, Flower of the Day, White Sergeant, Disraeli (selfs); 2d, Messrs. Downie and Laird, with Ajax, Duke of Perth, Knox, St. Andrew's (selfs); Duke of Norfolk, Diadem, Robert Burns, Lady Emilie (yellow grounds); France Cycole, Queen of England, Mrs. Beck, and Helen (white grounds); 3d, Messrs. Dicksons and Co, Edinburgh; 4th, Mr. Ramsay, Brandon Grove. The principal part of the Seedlings produced were from Messrs. Dicksons and Co., who exhibited upwards of 20 very creditable new sorts, among which were their Royal Standard and Sovereign, the first a white-ground flower, the second a golden yellow self; both were considered by the Judges second to none in their classes, and were unanimously awarded a first-class Certificate by the Society.—The Ninth Meeting will be held in Dunfermline.

Pelargoniums: *J C.* They are affected by the "sport," a disease caused by cold and damp.

Roses: *Young Rose-grower.* Hybrid Perpetuals are most like the Damask or Gallica Roses in their foliage, and very sweet. Bourbons more resemble the China or Indica, and very few of them are sweet, but they are much crossed one with the other. The Tea Rose has a larger capsule, or seed-vessel, besides being so much sweeter than the China. For destroying insects use ¼lb of tobacco, 1 pint of boiling water, and in two or three hours 3 pints more. This will free your bushes from the pests you mention. A Rose-house should not be too lofty; 6 feet sides would be better than 10 feet; 16 or 20 oz. glass will be sufficiently good for your purpose.—*Reader.* Roses are crossed by taking the flower of one sort of Rose and dusting the pollen on the stigma or style of another. The "Rose Garden," by William Paul, gives a full account of hybridising Roses.

SEEDLING FLOWERS.

Calceolarias: *J J.* Certainly not species; the spotted flower with pale straw ground colour is handsomely marked with crimson, and a free flowerer, of medium size and average outline; nothing striking or novel. The self coloured variety is bold and desirable, of deep golden yellow, clear, and larger than the average; we are desirous of seeing this variety again, should it be convenient for you to oblige us.

Eschscholtzia: *G C.* A striking flower, which must speedily become a favourite. Try to save as much good seed as you can of it. Your other request has been complied with.

Fuchsia: *J W.* A bold, stout, dark variety, with very widely expanded sepals, but not absolutely reflexed; the corolla is good, but if it had been darker in colour it would have been an improvement as regards contrast; if of good habit and a free flowerer it will prove desirable.

Pansies: *N B.* 1, side petals somewhat rough at their junction in centre of flower; 2, one of the flattest flowers we have seen—colours bright edges, and surface good, as is also the outline; 4, a yellow self of much merit, the substance might be better; 3, out of condition, and rough; 5, another bold flower of a creamy ground, eye wanting density and edges smoothness; 6, very similar in colours to No. 2, with better eye, but not so flat, nevertheless good; 7, rich and showy, but deficient in outline, and in the way of Royal Visit—the eye is not clear of the margin; 9, poor; 10, although remarkably bold, is too rough on the edges; 11, same fault; 12, in the way of 2 and 8. As a summary, 1, 2, 4, 5, 6, 8, and 12 are equal to the best we have "out," and for particular qualities surpass most sorts. As a batch, they possess greater substance than the average, and the colours are mostly glowing and dense.—*R S M.* Ne Plus Ultra a mulberry self, remarkable for its flatness; moderately smooth on the edges and very much so on the surface. We should like to see a flower when well grown, as we have some fears for the side petals.—*J L.* 7-52, yellow, with faint edging; wanting texture and smoothness 4-52 was faded past recovery. 9-52, a dark self, of good colour; not smooth enough on the edges. 1-52, very large; but that is all.—*A B P.* A beautiful flower in all but the edges; we possess few that will surpass it [illegible] creamy, eye bold, clear, and well displayed, [illegible] purple, as are also the back petals; texture good, size barely large enough. Miss Morgan, with smoother edges, is highly desirable; perhaps you will favour us with another bloom or two before the season is over, as we are desirous of further noticing a trifling defect in the back petals, which may not prove permanent.—*E B.* 1, although remarkably circular, has a poorness about it which must prevent its becoming popular; 2, worthless; 3, a style we cannot admire; 4, the remarks relative to No. 1 apply to this. Mary Blanche, the two flowers sent on this occasion scarcely maintain the former character of this variety, but it is now late in the season for it; and, although far from perfection, it must prove desirable as a back-row flower in any collection. All arrived in first-rate condition.

Pelargoniums: *J A M.* A desirable variety in the way of Luceum roseum, but deeper coloured.

Potentilla: *Y. and Co.* 2-52, bright scarlet crimson, and apparently very striking, but it had fallen to pieces before it reached us.

Veronica: *W T.* A pretty variety, apparently between speciosa and salicifolia, but not so handsome as V. Andersonii.

Miscellaneous.

Uses of Tobacco in Arabia.—In general the Turks and Arabs of Egypt are great smokers, but not those of the other tribes. Before the Turkish invasion, tobacco-smoking (dogahn, smoke), was unknown to the Schaigies, and even yet it is not practised by anything like a fourth part of these natives. Among the Mograbins it is hardly known at all,—but chewing, each portion of tobacco being accompanied by a piece of natron, is the order of the day. Master and servant, rich or poor, all carry about them a bag with tobacco and pieces of natron in it, and they do not carry their quid as Europeans who indulge in this bad habit do, in their cheek, but in front, between the teeth and upper lip. The blacks of Gesira have another method of enjoying this plant. They make a cold infusion of tobacco, and dissolve the natron in it. Of this precious mixture, called bucca, they take a mouthful, which they keep rinsing about in their mouths for some quarter of an hour ere they eject it. So much do they delight in this bucca, that it is the highest treat they can offer to their dearest friends. The whole party sit in solemn silence, the bucca cup makes its round, each takes his mouthful, and nothing is heard save the gurgling and working inside the closed mouths; at such a moment these blacks will give no reply to the most important questions, as to open the mouth would be to lose the cherished bucca, so signs are only used. All these races, however, blacks and all, are much addicted to snuff-taking (nuschuk); the snuff they usually carry in small oval-shaped cases, made out of the fruit of the Dom-palm; these have a very small opening at one end

stopped up by a wooden peg, and the snuff is not taken in pinches, but shaken out on the back of the hand. *Werne's African Wanderings.*

Calendar of Operations.

(*For the ensuing week.*)

PLANT DEPARTMENT.

AZALEAS and CAMELLIAS, intended to bloom early, and which have by this time completed their growth, should be gradually exposed to more air and light, preparatory to placing them out of doors. This will be the most eligible time for repotting such as require it; and if caution is used to prevent exciting them into a second growth, the blooms will be much finer next season than when the operation precedes the year's growth. Plants intended for forcing should on no account be overpotted at any time, the object being rather to obtain a compact plant, well set with bloom, than large specimens; another reason is, that those required for decorating living rooms are not unfrequently turned out into vases, tazzas, &c., and should have well filled their pots with roots, that no injury may arise to the plants from the ball breaking during the operation. Amaryllids and their allies (if started early) will soon be out of bloom; when such is the case, some little attention should be bestowed on this ornamental tribe, to enable them to perfect their growth; a hot water pit is the best structure to grow them in, filled up to within two or three feet from the glass, with materials to furnish a slight bottom heat; in this the plants, as they go out of bloom, may be plunged, and freely exposed to the light. The potting should always be done when the bulbs are in a dormant state. Pancratium speciosum, fragrans, and distichum, are valuable plants for room decoration, although a season of rest is requisite to cause them to bloom freely; they will require a little water occasionally, to prevent their leaves turning yellow. As the stock of plants for summer blooming may be supposed established, attention should be directed to those intended to take their place during the autumn and early winter months. Eranthemums, Justicias, Poinsettias, Euphorbias, Jasminums, and similar stove plants, should be grown into nice bushy plants, some in small pots will be the better for another shift, but if they are required to bloom early it will not be wise to defer this much longer, as the wood will scarcely have time to ripen sufficiently to insure a good bloom. Look over Fuchsias, Kalosanthes, Pelargoniums, &c., and give them their final staking and tying out before they get into bloom. Repot the spring-struck Chrysanthemums, using rich medium loam, well-rotten dung, and sand; they should be plunged in coal-ashes in an open situation, and when they begin to grow again have frequent waterings with liquid-manure; set them at a sufficient distance apart, so that the bottom leaves may be preserved healthy. They will require stopping, to induce them to form three shoots each; commence the propagation of plants for spring flowering, if not already done. Forcing Pelargoniums (not forgetting a supply of the Fancies) should be put in without delay. In addition Heliotropes, Salvias, the Cape Plumbago, and similar late flowering plants, should be grown on in good sized pots, to embellish the plant-houses during the autumn months. Get the last lot of Achimenes and Gloxinias potted, and remove those showing bloom into the show-house or conservatory. Tall greenhouse plants out of doors must be secured from the effects of high winds; do not crowd them together, but allow room for each to grow in its natural form. During heavy rains it will prove of advantage to protect the roots of Orange trees, and large specimens in general; common felt may be fixed on slight frames to effect this at a cheap rate; heavy rains, in connexion with the present low temperature, are unfavourable for such plants as the Orange, when exposed to their effects.

FORCING DEPARTMENT.

PINERY.—To preserve a lengthened supply of ripe fruit, it will perhaps be necessary to retard a part of those swelling off, by shading and larger supplies of air. We do not recommend removing them from the house, as such a step invariably stops the swelling of the fruit. A canvass shade, frequently wetted during the hot days with the garden engine, will (with the sashes kept down) produce a sufficiently low temperature to retard the swelling fruit for a considerable time, which in the country is often of importance for particular occasions. Remove the suckers from the stools after the fruit is cut, and plant them in 5-inch pots. These should be plunged in a brisk bottom-heat near the glass. By taking them off as the fruit ripens, and potting them a few at a time, the chances are in favour of their fruiting in regular succession; whereas, if potted in large numbers at once, it will be found they often all show at one time, producing a glut at one season and a comparative scarcity the rest of the year. Succession plants, now they are again on the move, will require large admissions of air both from the front and back. No shading need be applied after this, if the plants are in a healthy state. Water as they require, and after this manure-water may be given freely, minding it is well diluted and clear, that the drainage properties of the soil do not get choked by its application. The best foundation for next year's success will be found more in the culture given to produce a healthy vigorous plant the present season than the best subsequent treatment can supply. The latter stock, growing in open beds, should have the same attentions to air and water, and the bottom-heat kept steady by timely additions to the linings. PEACH HOUSE. — The early house, directly the fruit is gathered, should be gone over, to remove any weak or extra wood more than is needed for bearing next season; tie in the remainder, that the leaves may be fully exposed to the light; for a deal of next year's success will depend upon the next two months' management. As there will now be no more wood than necessary for the ensuing crop, care must be taken of the foliage, to ensure the proper ripening of the wood, and at the same time to prevent exciting them into fresh growth, which at this time would prove more injurious than the contrary. To keep down the red spider, well engine the house every morning, and allow plenty of air during the forenoon; early in the afternoon the house may be nearly closed, to maintain a somewhat high temperature for a few hours. Towards evening, make use of all the ventilation you have, to ensure as low a night temperature as the season will allow. By this practice the trees will keep their foliage green and healthy for some time, and the wood will gradually assume that firmness and solidity so necessary to future success. Pay attention to succeeding houses, by exposing the fruit to the light, and the uniform admission of air to all parts of the houses, so that the flavour and colour of the fruit may be perfect. Water the borders inside the house, which may probably not require more after this. To MELONS ripening, avoid any sudden transitions from dryness to moisture, which often causes the more delicate kinds to crack. A dry airy temperature must be kept up, to ensure their becoming high-flavoured, and which will be assisted by not allowing them to be overcropped. Attend to succession crops by a daily look over, keeping the vines thin by timely pinching off extraneous growth. In watering Melons, the greatest caution is requisite, particularly in common frames, where but small quantities should only be given. On the contrary, those growing in houses in which the air is dryer, and consequently evaporation takes place from the leaves more freely, will require larger quantities. As one means of avoiding excessive watering (particularly when the fruit approaches maturity), cover the surface of the bed with flat tiles or slates, to intercept evaporation from the soil, and at the same time keep the internal air congenial to the final ripening of the fruit.

FLOWER GARDEN AND SHRUBBERY.

The present puddled state of the ground will render a complete surface stirring of the beds necessary, whenever it gets dry enough for the purpose; making good at the same time the failures by damping off, which appear numerous enough, more especially with delicate plants. Take up the various spring-flowering bulbs as they get ripe, and dry them preparatory to stowing them away; the beds should be refilled with plants from the reserve stock; for an autumnal display proceed with propagating the more desirable kinds of perennials, as double Wallflowers, Rockets, &c., of which latter the double scarlet is a real acquisition. The American shrubs are now in full bloom, and their beauty ought to obtain for them a more general distribution, especially when we consider that the more common varieties are not only hardier than the common Laurel, but will even grow where the Laurel would starve. Frequently examine Roses, for causes before adverted to; remove suckers, and keep closely tied in those supported by poles, or against walls or trellising. When dry weather occurs, the shrubbery borders will require hoeing and raking, to stir and clean the surface; peg down the lower branches of shrubs near the outsides of the borders, that they may in time cover the ground; see that all newly planted trees and shrubs are properly secured against the action of high winds. Those which have been some time staked should be looked at, to see the tie is not doing injury by friction, or the swelling of the bark.

HARDY FRUIT GARDEN.

We hear that numerous Peach and Nectarine trees are injured by the heavy rains and cold sunless weather; in addition, the blight has made sad havoc in this neighbourhood. Continue to follow up our previous directions; and either use the sulphurator charged with snuff and sulphur or use tobacco-water. Nail in shoots when sufficiently advanced; their chance of ripening will increase by being close to the wall. The same rule should be followed with other wall trees in general. Wash Cherries frequently, and thin out the fruit of Morellos, when too thick; remove those suckers from the Raspberry plots not required for next season's wood, that a larger share of sun and air may be admitted to the ripening fruit; for the same reasons pinch off the extra shoots on the Gooseberry and Currant bushes, and as the fruit would now be disfigured by washings of lime or soot water, employ women and children to pick off the caterpillars, if you find them still troublesome.

KITCHEN GARDEN.

Still take every opportunity, where vacant ground occurs, to put in successional crops; varying of course the rotation, according to the nature of the soil. Carrots, Onions, Parsnips, Beets, &c., should now be finally thinned out. Proceed with making trenches for the late crops of Celery. A good breadth of Turnips should be sown; and a few Horn Carrots, to draw young in the autumn. Transplant the various Broccolies and Kales, to get strong before their final planting out. Finish earthing up Potatoes, if not already done; and make frequent sowings of Lettuce, Endive, Radishes and similar vegetables of short duration. When dry weather sets in, go over the whole of the growing crops, and well stir the soil between each plant. Continue sowing Peas, Beans, and French Beans; the more early kinds of Peas should now be substituted for the larger growing sorts.

STATE OF THE WEATHER NEAR LONDON,

For the week ending June 24, 1852, as observed at the Horticultural Gardens Chiswick.

June.	Moon's Age.	Barometer.		Temperature. Of the Air.			Of the Earth.		Wind.	Rain.
		Max.	Min.	Max.	Min.	Mean	1 foot deep.	2 feet deep.		
Friday.. 18	1	29.576	29 538	66	52	59.0	57	54	S.	.30
Satur. .. 19	2	29.730	29.578	69	49	59.0	57	54	S.W.	.12
Sunday . 20	3	29.780	29.577	69	56	62.5	58	54½	S.	.05
Monday 21	4	29 622	29.541	68	46	57.0	58½	55	S.W.	.02
Tues. .. 22	5	29.745	29.628	68	51	59.5	58	56	S.W.	.00
Wed. .. 23	6	29.849	29.717	72	47	59.5	58½	56	S.W.	.00
Thurs... 24	7	30.075	29.9 0	76	41	60.0	59	56½	W.	.01
Average ...		29.771	29.645	69.7	49 3	59.5	58 0	55.1		.50

June 18—Rain; cloudy and showery; heavy rain.
— 19—Heavy clouds; fine; half-past 3 P.M lightning, heavy thunder and rain; clear at night.
— 20—Uniformly overcast; masses of white clouds; overcast.
— 21—Rain; cloudy; black clouds at night and clear sky between.
— 22—Cloudy and fine throughout.
— 23—Fine; cloudy; clear and cold at night.
— 24—Fine; shower in forenoon; fine; clear.
Mean temperature of the week, 2½ deg. below the average.

STATE OF THE WEATHER AT CHISWICK,

During the last 26 years, for the ensuing week, ending July 3, 1852.

June and July	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 27	73.4	51.3	62.4	14	0.30 in.	2	2	2	2	4	8	6	—
Mon 28	72.7	50.5	61.6	9	0.65	2	2	5	1	2	5	3	6
Tues. 29	72.8	49.5	61.2	7	0.20	2	4	3	—	1	9	5	2
Wed. 30	72.8	50.5	61.6	9	0.80	—	4	4	2	4	6	4	2
Thurs. 1	72.2	53.3	62.7	10	1.18	1	2	5	—	4	7	5	2
Friday 2	73.4	53.8	63.6	12	0.38	1	3	2	—	5	6	7	2
Satur. 3	74.8	52.9	63.8	12	0.78	1	3	2	—	4	7	8	1

The highest temperature during the above period occurred on the 3d, 1826—therm. 89 deg.; and the lowest on the 30th of June, 1848, and 1st of July, 1837—therm. 37 deg.

Notices to Correspondents.

AMMONIA: *C A.* The quantity that falls in this country is always small and difficult to measure accurately; so that your inquiry is perhaps not susceptible of an answer. The application of liquid manure would not be affected by any supposed difference one way or the other.

BEDDING PLANTS: *Birkhurst.* Heliotropes and scarlet Geraniums look well together, and form a good bed.‡

CEDARS OF LEBANON: *J W.* It is probable that their roots have reached the limestone rock, which is likely to occasion their death.

COLTSFOOT: *Cornubian.* Destroy the leaves when they first appear, and continue to destroy them immediately that they reappear until the plants die. You will thus be rid of them in a season. The Strawberry story is what is vulgarly called "humbug."

GUM: *G H.* We regret to say that we do not know what is meant by "Gum or material used for setting or perpetuating the bloom of cut flowers."

INSECTS: *T H.* Your Cherry trees are infested by a species of aphis. The best plan is to dip the ends of the branches in tobacco water, and shortly afterwards in clear water, repeating the operation several times. The ants are attracted by the saccharine secretion of the aphides.—*W L.* Your Pinus insignis is infested by the larvæ of a sawfly, probably Lophyrus rufus, which we will attempt to rear. They are difficult to kill; but by burning weeds to the windward of the trees they become stupified, and may then be shaken to the ground and trod to death. In a couple of months they will have formed their cocoons on the ground near the trunks of the trees among moss, &c., which must be collected and burnt.—*X Y Z.* There are at least a score of species of click-beetles, whose larvæ are wire-worms, and have precisely similar habits. You will find a full history of several of the species in one of Mr. Curtis's excellent papers in the 5th volume of the "Journal of the Royal Agricultural Society," as well as in the *Gardeners' Chronicle*, 1845, p. 344. We doubt whether in a state of nature the larva state lasts five years. We fear they will attack your Potatoes. There is an irregularity about their proceedings which it is not possible to explain. After they are full grown they become pupæ, and then perfect beetles. *W.*

NAMES OF PLANTS: *J, Oldham.* It is as much like a Snowdrop as an adder is like a frog.—*F P.* 5, 6 or 9, Holcus mollis; 7, ditto; 6 or 9, Cynosurus cristatus; 8, Alopecurus arvensis; 3, Arrhenatherum avenaceum; 4, Dactylis glomerata; 1, Bromus mollis; 2, Poa pratensis. All the vulgarest of the vulgar.—*W S.* 1, Saxifraga sarmentosa; 4, Pyrus arbutifolia; the rest not determinable from most wretched morsels. —*H.* Xylophylla latifolia.—*W L.* Cotoneaster acuminata.—*J K L.* Cerasus Mahaleb.—*E S B.* It is a mule between a Rhododendron and an Azalea.—*E U.* 7, Cratægus tanacetifolia; 8, Cratægus Crus-galli; 4, Centranthus ruber; 1, some Thalictrum, without leaves; 5, Dictamnus ruber; 6, Asphodelus albus; 2, some Ornithogalum, perhaps pyramidale; 9, Cytisus Adami, a well known sport; 6, Veronica pallida.—*T L.* Asphodelus albus.—*P B.* The Thorns are attacked by the fungus called Æcidium cancellatum. The name of the Epidendrum you shall have next week.—*Diss.* Ceanothus thyrsiflorus.

NIGHT-BLOWING CEREUS: *Reader.* It will not expand its buds except you give it more warmth; you possibly also keep it too wet at the root ‡

OAK BARK: *R D.* You will prevent Oak bark from becoming mildewed by keeping it stacked in a dry, well ventilated place. There is no other way.

POTS: *E H.* All the sizes are correct, except the 5-inch or forty-eights, which should be 5 inches deep, and the same in width, and the 11-inch or twelves, which should be 11½ inches in width, and 10 inches in depth.‡

RED SPIDER: *Young Gardener.* Try the effect of sulphur, applied as recommended at p. 389.‡

SEEDS: *Z Z Z.* What you call "Rap sama" is probably Rape seed.‡

THERMOMETERS: *T E.* We never recommend dealers.‡

THORNS: *Tom Pouce.* Provide clean healthy Whitethorn stocks. Let them grow for a year, so as to be well established. Then bud them with ripe, but not sprung buds, when the bark runs in the autumn; or graft them in the spring as you would Apple trees. It is of no consequence how high the stock is; if standard high you will have a large plant so much the sooner. The mode of budding is the same as that employed in budding other things.

TOADSTOOLS: *South Derbyshire.* They come from decaying wood buried in the ground. Make a hole with a rake-handle through the middle of a patch, and pour into the hole a little corrosive sublimate dissolved in water. Plant out your Myrtle now. Any shrubs will grow under a north wall. Under trees plant Laurels, Hollies, Yews, Privets, Berberis aquifolium, and cover the ground with Ivy.

WOOD ENGRAVING: *A B C.* You can no more execute this by reading about it than you could make shoes by the same means. It is a very difficult art, and requires a long apprenticeship. As to etching, you should ask some artist of your acquaintanceship to put you in the way. If you can draw *well*, you may contrive to etch after a reasonable amount of failure; but as for wood engraving, we think that would be a hopeless attempt. We know of no book on such subjects. Probably you would learn something by consulting Rees's "Cyclopædia."

PERUVIAN GUANO.

CAUTION TO AGRICULTURISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

ANTONY GIBBS AND SONS, AS THE ONLY IMPORTERS OF PERUVIAN GUANO,

Consider it to be their duty to the Peruvian Government and to the Public again to recommend Farmers and all others who buy to be carefully on their guard.

The character of the parties from whom they purchase will of course be the best security, and, in addition to particular attention to that point, ANTONY GIBBS AND SONS think it well to remind buyers that—

The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 9l. 5s. per ton, less 2½ per cent.

Any resales made by dealers at a lower price must therefore either leave a loss to them, or the article must be adulterated.

THE LONDON MANURE COMPANY offer the following Manures on the best terms, warranting every article strictly genuine:—Peruvian Guano, Superphosphate of Lime, Nitrate of Soda, Concentrated Urate, Peat Charcoal, Gypsum, Fishery Salt from Cornwall, also a constant supply of Salt for agricultural purposes; Linseed and Rape Cake. Peruvian Guano, warranted the genuine importation of Messrs. A. Gibbs and Sons, at 9l. 10s. per ton, or for 5 tons and upwards, 9l. 5s. in Dock. EDWARD PURSER, Sec.
40, New Bridge-street, Blackfriars, London.

MANURES.—The following Manures are manufactured at Mr. LAWES'S Factory, Deptford Creek:

Turnip Manure, per ton	£7	0	0
Superphosphate of Lime	7	0	0
Sulphuric Acid and Coprolites	5	0	0

Office, 69, King William-street, City, London.
N.B. Peruvian Guano, guaranteed to contain 16 per cent. of Ammonia, 9l. 10s. per ton; and for 5 tons or more, 9l. 5s. per ton, in dock. Sulphate of ammonia, &c.

CHARCOAL AND SEWAGE MANURE.—Promote the Health and Wealth of Town and Country by increasing the use of that valuable manure PEAT CHARCOAL, impregnated with the fertilising matter of LONDON SEWAGE. The ammonia, phosphates, and fæces are absorbed, and the water pressed out bright, palatable, and soft.
Sold at the Charcoal and Sewage Works, Stanley-bridge, Fulham, Middlesex, at 60s. per ton, 4s. per cwt., 2s. 6d. per half cwt.

MANURE DEPOT.—PEAT CHARCOAL.
TO FARMERS, AGRICULTURISTS, AND OTHERS.

G. H. FOLEY, Essex Coal Wharf, Lea Bridge, Middlesex, Agent to the Irish Amelioration Society for the sale of the above. All needful particulars will be given on application at the above address.
Price of the unmixed Charcoal, 55s. per ton, sacks included; mixed with Nightsoil, 50s. per ton, sacks included; mixed with Urine, 70s. per ton, sacks included. Carriage to any of the Wharfs or Railway Stations, from 3s. 6d. to 5s. per ton extra, according to distance.

TURNIP SOWING.

SUPERPHOSPHATE OF LIME, made from bone only, equal in quality, but in superior condition to that manufactured by the undersigned, as reported in the Royal Agricultural Society's Journal, Vol. VI., Part 2. It is also suitable for use with Chandler's Liquid Drill; also Peruvian Guano, Nitrate of Soda, Gypsum, Bone-dust, Sulphuric Acid, and all other Manures of known value.—Apply to MARK FOTHERGILL, 204, Upper Thames-street, London.

TO AGRICULTURISTS.

OWEN'S ANIMALISED CARBON is now for Sale, at 2l. 5s. per ton in bulk.—This Manure has been introduced, with the most beneficial results, at St. Croix and the Mauritius, in the growth of the Sugar Cane, as proved by testimonials from the planters. The powerful fertilising properties of the Carbon have long since been acknowledged in Denmark, where it has been extensively used for agricultural purposes, as no less than 26,000 tons have already been sold. It is ready for immediate use, having no occasion to be ground, is equally as portable and diffusible as bones, and the low price at which it can be sold in this country must always be a paramount recommendation. *A liberal Commission allowed to Dealers or Agents.* For copies of the testimonials of its utility in this country, also for samples, apply to J. OWEN and Co., 3, Rood-lane, London.
Messrs. J. OWEN and Co. are now importing from their Copenhagen Manufactory SUPERPHOSPHATE OF LIME, of the very best description, containing at least 18 per cent. of Neutral Soluble Phosphate of Lime, and capable of furnishing at least 3 per cent. of Ammonia to the Soil. The "Analysis" is made by Professor J. THOMAS WAY, Consulting Chemist to the Royal Agricultural Society. The price, in London, of this powerful Manure, is 7l. per ton, cash, or Banker's Bill on London.



LIQUID MANURE conveyed over LAND by
FREEMAN ROE,
HYDRAULIC ENGINEER, 70, STRAND, LONDON.
Farms supplied with water by the
HYDRAULIC RAM.
WELLS SUNK AND BORING DONE IN ALL PARTS OF TOWN OR COUNTRY.

ANTHONY'S PATENT AMERICAN CHURN makes Butter in 10 minutes. It obtained the award of the Great Exhibition Medal, and also a prize at every one of the numerous Agricultural meetings at which it has been shown. It is now acknowledged to be the best Churn ever produced. 2000 have been sold in one year.
A few capital Rick Cloths for sale at cheap prices.
BURGESS and KEY, 103, Newgate-street, London.

WATERPROOF PATHS.—Those who would enjoy their Gardens during the winter months should construct their walks of PORTLAND CEMENT CONCRETE, which are formed thus:—Screen the gravel of which the path is at present made from the loam which is mixed with it, and to every part of clean gravel add one of sharp river sand. To five parts of such equal mixture add one of Portland Cement, and incorporate the whole well in the dry state before applying the water. It may then be laid on 2 inches thick. Any labourer can mix and spread it. No tool is required beyond the spade, and in 48 hours it becomes as hard as a rock. Vegetation cannot grow through or upon it, and it resists the action of the severest frost. It is necessary, as water does not soak through it, to give a fall from the middle of the path towards the sides.—Manufacturers of the Cement, J. B. WHITE and SONS, Millbank-street, Westminster.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

LEWES MEETING.

PROGRAMME.

THURSDAY, JULY 8.—Last day of receiving (before Five o'clock in the afternoon) the Implements, Seeds, &c., to be exhibited in the Implement Yard, and arranged by the Stewards for the Judges' inspection.

TUESDAY, 13.—Stock received in the Show-yard from Eight in the Morning till Four in the Afternoon. At Six o'clock in the afternoon (provided the Judges of Implements have completed their trials by that hour) Members of Council and Governors of the Society will have the privilege of admission into the Implement Yard, at 2s. 6d. each person.—At six o'clock, Professor Simond's Lecture in the County Hall.

WEDNESDAY, 14.—The Implement Yard open to the public from Eight in the morning till Six in the evening; admission 2s. 6d. each person. The Judges to inspect the Live Stock and award the prizes. At one o'clock (or as soon after as all the Judges shall have delivered in their awards), the public to be admitted into the Cattle Yard, on the payment of 5s. each person, at the special entrance; Members of Council and Governors being admitted by Tickets, to be purchased at the Finance Department of the Society, at the Show-yard. N.B. Notice will be posted up over such entrance when the Judges have completed their awards. At Eight o'clock in the evening the Yard will be closed.

THURSDAY, 15.—The Cattle and Implement Yards open to the public from Six o'clock in the morning till Six in the evening; admission 2s. 6d. each person.—The Dinner of the Society in the Pavilion, at Four o'clock. Doors open at half-past Three.

FRIDAY, 16.—The Cattle and Implement Yards open to the public from Six o'clock in the morning till Six in the evening; admission 1s. each person.—General Meeting of the Members in the County Hall, at Ten o'clock in the forenoon.

President, the Earl of DUCIE.
Stewards of Departments.

Cattle	Mr. Jonas, Mr. Milward, Mr. Barnett.
Implements	Mr. Miles, M.P.; Sir Matthew White Ridley, Bart.; Mr. Hamond.
Finance	Col. Austen, Col. Challoner.
Sale of Tickets	Mr. Henry Wilson.
Receipts and Admission to Show-yard	Mr. Raymond Barker.
Pavilion Dinner	Hon. R. H. Clive, M.P.; Sir John V. B. Johnstone, Bart., M.P.; Mr. Shaw, Sir J. Villiers Shelley, Bart.
General Arrangement of Show	Mr. Brandreth Gibbs.

By order of the Council, JAMES HUDSON, Secretary.
London, June 16.

By the Regulations of the Society,—All persons admitted into the Show-yard or other places in the temporary occupation of the Society during the Meeting, shall be subject to the Rules, Orders, and Regulations of the Council.

SALE OF TICKETS, AT THE FINANCE DEPARTMENT OF THE SHOW-YARD.

I. CATTLE-YARD TICKETS AND ADMISSION.—To Members of Council and Governors only; for admission into the Cattle-yard, on the afternoon and evening of Wednesday, 2s. 6d. each; sold on Tuesday, from 10 A.M. till 6 P.M., and on Wednesday from 10 A.M. till 2 P.M.—The public will be admitted into the Implement-yard on the Wednesday, and into the Implement and Cattle-yards on the Thursday and Friday, on payment of the respective prices of admission above stated in the Programme, at the public entrances of the Show-yards.

II. LECTURE TICKETS.—To Members or their Friends; for admission to Prof. Simond's Lecture in the County Hall; distributed gratis on Tuesday, from 10 A.M. till 6 P.M.

III. PAVILION DINNER TICKETS: price 10s. each (including a pint of wine).—(1.) To Members only; on Tuesday and Wednesday, from 10 A.M. till 6 P.M. (2.) To Members or their Friends; on Thursday from 8 A.M. till 3 P.M.

Subscriptions due to the Society will be received by the Finance Committee, at the Show-yard.

ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.

Patron—His Royal Highness PRINCE ALBERT.
President of Council—Earl BATHURST.
Vice President—Earl DUCIE.
Principal—Rev. J. S. HAYGARTH, M.A.

The next Session will begin on Monday, August 9. Students are admitted either as Boarders or as Out-Students. The annual Fees for Boarders vary from 45 to 80 guineas, according to age and other circumstances. The Fee for Out-Students is 40l. per annum. The College Course of Lectures and Practical Instruction is complete in one twelvemonth—though for younger students a longer time is recommended. There is a department for general as well as for agricultural education.
Prospectuses and information can be had on application to the Principal.—Cirencester, June 26.

The Agricultural Gazette.

SATURDAY, JUNE 26, 1852.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY,	June 30	Agricultural Society of England.
THURSDAY,	July 1	Agricultural Imp. Society of Ireland.
WEDNESDAY,	— 7	Agricultural Society of England.
THURSDAY,	— 8	Agricultural Imp. Society of Ireland.

FANCY the astonishment of some voyager, little versed in the mysteries of seamanship, who, while hundreds of leagues distant from shore, suddenly hears the captain announce a long batch of news but a few days old from the port to which they are sailing. It is many weeks since he embarked, and he knows that no vessel has passed them within speaking distance: can a bird of the air, then, have revealed the matter? Upon inquiry he finds that the captain has seen with his telescope an outward-bound ship far away in the offing, has signalled it, been perceived by it, and been informed by the flags exhibited how things public and private were proceeding at home.

Just so great a marvel can the GEOLOGIST excite in the brain of the unlearned by the aid of *his* "colours." He will declare respecting a remote locality in the kingdom, of which particularly he has seen, heard, or read nothing, what is the character of its soil, the facilities that exist for its drainage, the strata lying within it likely to improve the surface by application, the beds of fossils which offer a ready and appropriate manure, the system of husbandry probably pursued, the peculiar processes practised in tillage, the varieties of cropping most cultivated, the forwardness or otherwise of the seed-time and harvest, the probable produce per acre of different crops, the proportion of arable and pasture, the respective amounts of sheep and cattle kept; nay, perhaps, even the rent of the land, the expense of weeding, the implements used, &c.; and all this pretty near to the truth, merely from examining a map of the country.

The navigator knows the story belonging to each one of his signs, and also of these in combination, no matter where he may be when seeing them; in the same way the geologist knows the history attached to each of the tinted stripes of his map, and the results following from their relative postures and juxtapositions. The question is continually before us, "What can Science do for the farmers?" And many who plainly perceive the great assistance they have received and are receiving from the facts and principles of chemical science, are but little impressed with the advantages flowing from the discoveries of geology. Now, it is obvious that a science which by means of investigation and arrangement so classifies and systematises the soils of a country as to enable us to judge of the whole surface or any portion of it, from an examination of only a fractional area, must be of great economical value to landowners, to capitalists, to agents, to farmers who contemplate a change of property or agricultural pursuit, giving them data upon which to proceed in their choice, furnishing them with considerable knowledge of the capabilities and requirements of the district to which they may remove; so that they do not enter it entirely uninformed of its peculiarities, but already acquainted with it, and prepared with plans and materials for its management.

An advantage of this kind, however, is not sufficient of itself to recommend geology as a science of great importance to the farmer. Of what practical use is it to the individual farmer, who may not be liable to flit from clay to chalk, and from gravel to salt-marsh? Now, we believe that the teachings of geology tend to the advancement of the whole science of agriculture, to perfect its principles and to mould its precepts, rather than to guide the husbandman in his daily labours; and the ground upon which we would urge its study upon young farmers is, that geological facts of an order calculated to assist agriculture will come to light, and the practical utility of agricultural geology be augmented in proportion as the science is appreciated and enquired into by those whose every-day business is with the soil. If the former part of this belief be admitted, viz., that geology is of advantage to agriculture in its *scientific character* (that is, rather than in its business operations), the latter part may be left to the common-sense judgment of all those who value instruction in fundamental principles as preparatory to the acquirement of an art, and who regard the painstaking practical researches of qualified operators as of more service to a science than the speculations and criticisms of mere writers. Of the assistance, then, which geology offers agriculture, we propose in a few articles to discourse.

ON the banks of the Ohio, in North America, it is a well authenticated fact that Indian Corn has been grown on the same soils year after year, without any manure, from time immemorial. But on those very same soils crops of Wheat cannot be raised without a considerable expenditure of manure. The analogy in the requirements of other plants for manure, according to the atmospheric conditions, is thus well seen in regard to Maize. This plant is of summer growth, and like our common Grasses its vegetative powers are in great vigour during the flowering process, and even during the ripening of its seeds; whereas the Wheat in that part of the world is grown in the cold months of spring, and ripens its seeds, as in Italy, early in summer. So long as Maize is grown manure will be less required.

We have already shown that there is a very wide and striking difference in the necessities of Cereals for certain kinds of manure, according as they are grown in early spring or when they admit of being grown in summer. In order that the Wheat plant can ripen its seeds in Scotland it must be sown in autumn or early in spring, and it has to be forced in spring under a cold dry atmosphere, but Bere or Bigg will ripen its seeds when sown in June; this difference in the nature and habits of the two plants, whereby they are developed under such opposite atmospheric conditions, is the principal cause why Wheat requires more manure than Bere. The attempt to solve the question by chemical analysis of these two grains, is just as much

out of place as it would be to explain why a Turnip grown by a market gardener requires more manure than one raised by a farmer in his ordinary rotation.

In the general farming of a country, cattle are the chief instruments in the progress of its agriculture. The discovery of the guano islands has not yet done much to set aside this principle, which political economists have so long recognised. It is universally agreed upon that the western and northern parts of our island are best adapted for the growth of root crops used as cattle food. But if we inspect the arable lands in Norfolk and in Wales or Scotland, where the same proportions of Cereals are grown, it will be found that a much greater amount of meat is sold off the arable lands of Norfolk than in the west or north. This is particularly seen where a great proportion of spring crops are grown in the north or west; thus, to grow Bere, requiring much less manure than Wheat, fewer stock may be kept, and, on the other hand, it is invariably found when Wheat is increased on a farm the stock must also be increased.

Were we to suppose the climate of Scotland equal to Norfolk for the growth of Wheat, but that other kinds of spring corn could be grown with much less manure in the north or west, then in that case the facility with which these grains could be grown in the latter localities, would, for various reasons, give a greater force to those systems of agriculture where more reliance is placed on natural than the artificial results. The shortest way will always be taken in agriculture, if it will possibly do. There is no other business where the respective amounts of net produce that can be gathered from the two extremes—of small investment and large outlay—meet and enter so freely into competition with each other as in that of farming. Our primitive systems have their science as well as our most intensified, and the former are as well worthy of our study as the latter. We have seen a vast deal of ingenuity displayed in endeavouring to account for so few Turnips being grown and cattle fed on the arable lands of the western counties, in comparison to the eastern; but, if the truth is to be told, Cereals can be grown with fewer cattle in the one case than in the other. If there was any meaning in TALPA'S sly cut at the weak parts of our system, it falls with ten-fold greater force when applied to those counties where four white crops in succession still form the standard rotation.—"Turnips: they've no stock to give 'em to; what's the use o' them growing Turnips? that's not their sort o' business."

A very amusing instance of overlooking the practical workings of a question, when we are intent on the current theory of the day, occurred at a meeting of the London Farmers' Club, in discussing the peculiarities of Scotch and English farming. The subject was in excellent hands, but the old materials were simply wrought up and obtained the assent of all, with the exception of one individual who keeps his eyes about him when abroad, and who overturned the whole fabric. He said:—

"I feel much indebted to our friend Mr. BAKER for the very able manner in which he entered into the scientific part of the question, though I differ from him very much in respect to the conclusions which he has drawn. I do not consider that climate is the primary agent in the cultivation of the soil. I was particularly struck with that by this circumstance. In passing through North Devon, which is especially adapted to the growth of Turnips, I saw most miserable Turnip crops; whereas, in travelling along the east coast of Norfolk, an arid district, which is most adverse to such roots, I found excellent crops. Every one knows what has been done by Mr. Hudson on the Castleacre estate; when I turn from his farm to the western districts blessed with all the elements of fertility, I find such a different state of things existing, I must say that production depends more upon art than upon climate."

But whence this art? It is necessity. So long as the secondary grains are grown in the west, there is not much tendency to increase the stock on the arable lands. The Turnip crop in Norfolk requires a liberal outlay in regard to manure, and besides, the large quantities of artificial food consumed by stock in the consumption of this root, tend to render it a very unremunerating one, still it must be grown, because they cannot raise corn crops without this large expenditure. But this expensive system, which was founded about a century ago, by the more forward of the practical men of the day, seems yet to be the cheapest way *in their circumstances* of maintaining the fertility of the soil. *R.*

NOTES OF A RECENT TOUR THROUGH GLOUCESTERSHIRE AND NORTH WILTSHIRE.—(No. II.)

IF previously to my observation of Stroud and its vicinity, I had entertained doubts of the benefits conferred upon the working classes generally by the free-trade in corn, these doubts would have been removed by my subsequent visit to Captain Budd, R.N., who, though a tenant-farmer at a high rent, and deeply interested in maintaining a high market value for Wheat would not, even if he could, undo that great legislative act by which the prices of all grain have been so decidedly diminished. This gentleman having signalised himself in many naval actions, and fought at Acre under Sir Sidney Smith, retired with many wounds and disproportioned honours from the naval service, and entered upon the occupancy of a farm of 1100 acres (including 40 acres of glebe land), in the parish of Winterbourn Bassett, which contains altogether 2600 acres, held by three tenant-farmers. At the period stated there was neither resident clergyman nor schoolmaster, and the neglected and ignorant population was huddled together in cottages of a miserable description. In several cases one bed-room accommodated a family, including three generations and single males and females of adult age. The people had no certain and regular employment; poor rates were high, and paupers were continually sent to execute profitless and lazily-executed labour on the roads. This was the general condition of a very extended district. The three tenants cordially co-operated in taking their due proportions of labourers, according to their respective rates, and engaged to find remunerating work for them and their male children from the age of eight years upwards. The cottages were enlarged and improved, the proper separation of sexes was provided for among the unmarried, and the moral renovation of all was in various ways promoted. On Captain Budd's farm, the only one which I had the opportunity of inspecting, the rent of each cottage is but 1*s.* a week; and, besides the kitchen garden connected with it, an allotment of as much land as any family can cultivate in their spare hours is given. There is a nominal charge, but since the failure of the Potato crop, it has not been demanded. This piece of (fresh) land is manured and ploughed by the employer.

The cottages were built by Captain Budd; and these, which are now old and in some instances dilapidated in external appearance, from the decayed state of the thatched roofs, are neat and sufficiently commodious. There have been provided an infant day-school and a Sunday-school which the grown-up children, employed during the week-days at farm work, are expected to attend; and an active resident clergyman has the gratification of knowing that the farmers' families and all their labourers attend the Sabbath-day's services with exemplary regularity, and no labourers are kept on the farms to attend cattle during church hours.

Captain Budd acts in the management of his cottager's families in a manner resembling the discipline of a ship's company. He expects that every man shall do his duty, respect his superiors, and obey orders. He also classes his labourers in the naval fashion—as able bodied, &c., and pays wages accordingly, as accurately as circumstances will permit. The class of his able-labourers comprises shepherds, carters, head ploughmen, and hedgers. The men of this class receive from 8*s.* to 10*s.* a week, and the hedger gets faggots, which are delivered for him at his house; they have the allotments of land also to which I have referred, and the carters and ploughmen with their boys get beer every day. The head shepherd has privileges equal to 3*s.* a week over his regular wages.

The other classes receive from 6*s.* to 7*s.* a week, boys of course much less, women from 3*s.* to 4*s.*—going to work at 7 A.M., resting from 11 to 1, and leaving work at 6, or dusk in winter; and the system of piece-work is encouraged in all departments in which it is practicable, as the most equitable to the able-bodied or skilful labourer, and the fairest for his employer. For reaping Wheat the men are paid from 8*s.* to 9*s.* an acre, with abundance of beer; for (twice) hoeing Turnips, from 7*s.* to 9*s.*; Beans and Peas, 6*s.*; and all the day-labourers receive from 10*s.* to 12*s.* a week during 6 weeks in harvest; and carters and ploughmen from 1*l.* to 3*l.* for extra work during that period, and each family may obtain by gleaning from 2 to 4 sacks of Wheat.

There was not an individual in the Marlborough poor-house, on Lady-day last, from the parish of Winterbourn Bassett, and there were only 25 individuals in the receipt of out door relief.

Captain Budd is his own executive officer; he merely employs a *sub*, with small extra pay, to apply to him for orders every evening at 8 o'clock, and this person gives daily reports to the captain, who enters in his log-book every return and necessary account with his own hand. The few petty officers employed to work out the orders of the chief occasion an expense that is very inconsiderable, compared with the sum paid to bailiffs by farmers who attend less assiduously to their profession. Some of the labourers have received honorary and pecuniary gifts for length of servitude. On the same farm I saw one case of 59 years' service, and another of 39 in the same establishment. Many of the men have been there from the age of 8 years, and others, after a complete training on this farm, have been taken into other services as trustful and efficient servants. So comfortable is the clothing, and so ample are the means of providing it, that, except among the old stagers of peasantry, a smock-frock is not to be seen in Winterbourn church on Sundays. *D.*

ROTHAMSTED AND THE CRITIC "R."

(Continued from page 395.)

BUT to refer to our papers themselves. Let us see how far the following quotations justify the representation of them, that they maintain that "*carbon without ammonia*," or "*phosphates and carbon alone*," are sufficient for the Turnip crop; or that it "*can dispense with ammonia as a manure*;"—or whether, on the other hand, the utility of ammonia as a manure for Turnips is not distinctly stated in some, and fully implied in all of them.

(See Paper on Turnip Culture, Journal of the Royal Agricultural Society of England, Vol. viii., Part 2, p. 509.)

"Of the substances which we may term pure *constituents*, '*organic matters*,' and especially such as abound in *carbon*, must be supplied for the production of agricultural crops of Turnip bulbs. These manures, *as well as those which are chiefly nitrogenous*, should never be concentrated near to the plant in its earliest stages of growth, but only within its reach, when, under the immediate influence of mineral manures, the young plant has so far developed its organs of accumulation and its healthy vigour, as to be competent to grow faster than the natural atmospheric and soil resources of *nitrogen* and *carbon* enable it to do."

(Turnip Paper, p. 532).—"Admitting, then, that the organic manure required for the growth of Turnip *bulbs* should be carbonaceous rather than nitrogenous, there is still evidence that under the influence of a due provision of *nitrogen* the vitality or longevity of the plant is greatly increased."

(Turnip Paper, p. 533).—We say "that after the early stages of the plant are passed, its rapidity of growth depends upon an abundant provision *in the soil* of constituents for organic formation, especially of *carbon*—that *nitrogen* must be provided by cultivation, though seldom by special manures."

(Turnip Paper, p. 563).—"Peruvian guano, which contains a large quantity of ammonia as well as phosphates, is found to be a much more certain manure for Turnips in Scotland, where the fall of rain is large, than in those parts of England where it is much less."

We shall recur further on to the subject of the effect of climate upon the growth of the Turnip, but we may here remark, in reference to the sentence last given, that "R." has quoted it to make it appear that it is to an increased fall of rain exclusively that we attribute the superiority of the Turnip season in Scotland over that of some parts of England, and with this view he has chosen to omit the immediately succeeding sentence, in which we speak of "*the natural agencies of season*," an expression, surely, having no meaning, or unnecessary if the fall of rain which had already been mentioned were all that was to be included in it. The following is the sentence referred to:—

"Indeed, the '*natural agencies of season*' are much more favourable to the growth of Turnips in Scotland and the north and west of England than in the eastern counties, where the application of skill and capital, upon a soil well suited to the plant, has gained for them a high reputation."

In the following quotations also the importance of a due supply of nitrogen is fully implied, it being only *relatively to carbon, and in this respect as contrasting the Turnip with the Cereals*, that nitrogen is spoken of as being in a less degree the peculiar or characteristic manure for the Turnip; the adaptation of manuring according to variety of Turnip, or varying seasons, or local circumstances, being of course an entirely distinct and separate question.

(Turnip Paper, p. 514).—"That the defect is carbonaceous rather than nitrogenous is learned from a careful comparison of the effects of Rape cake and of ammoniacal salts." (Rape cake, it being remembered, itself containing, besides a large quantity of carbon, about 5 per cent. of nitrogen, though much less than the ammoniacal salts.)

(Turnip Paper, p. 525.)—"The results already selected from the table do not, however, show us whether this required supply by manure, of matter for organic formations, should be *more prominently nitrogenous, as in the case of Wheat, or carbonaceous.*"

(Turnip Paper, p. 530)—"The contrasts observed in the effects of ammoniacal salts upon Wheat and upon Turnips is very remarkable, and affords a striking illustration of the widely differing requirements and sources of growth of the corn exporting 'white crops' and the home consumed, meat producing 'green' or 'fallow' crops, of which classes respectively the two plants may be considered as the types." * * * "It has been seen that a liberal supply of available phosphates and of organic manures abounding in carbonaceous matter are pre-eminently favourable to the desired habit of the plant, and that nitrogenous supply, so essential to increased growth of corn, is so here only to a very limited extent."

(Turnip Paper, p. 548.)—"Indeed, the results will confirm the opinion already urged, viz., that Turnip bulb formation is very dependent on an abundant supply of carbonaceous matter to the roots, and that the more the nitrogenous condition of manuring *prevails over* the carbonaceous, the more will vascularity, and the less will special deposition be enhanced."

(Turnip Paper, p. 553.)—If, then, the powers of reliance upon normal supplies of nitrogen here observed are to be fully developed and turned to economical account, it is more especially by means of an artificial provision of the other constituents that this object will be attained. We think that in these facts we have a beautiful illustration of some of the physical and physiological characters upon which depend, materially at least, the economic value of the *Turnip in rotation with corn.*"

And, lastly, the following quotations will show that it is only provided a liberal supply of carbonaceous manure, containing also a considerable quantity of nitrogen, be employed, that *further* and *direct* ammoniacal supply is supposed to be frequently unnecessary; and, further, that it is only against such an "*excess*" of nitrogen relatively to carbon as would tend to an over production of leaf, and lessen the rotation effect of the crop, that the farmer is cautioned.

(Turnip Paper, p. 532)—"The *excess* of nitrogenous manure, however, is seen greatly to enhance the leaf-forming tendencies of the plant, which, it is true, may probably aid carbonic acid accumulation from the atmosphere, but at the same time gives a less profitable appropriation of the resources within the soil; and we shall afterwards see it to be by no means clear that there is, with a large production of leaf, a proportional *gain* of nitrogen from the atmosphere."

"We believe, however, that in the ordinary course of farming, the special supply of nitrogen to the Turnip crop, by means of artificial manures, is seldom if ever necessary; *for there is no ample source of available carbon which does not provide at the same time a considerable amount of nitrogen.*"

(Turnip Paper, p. 564.)—"*If a proper quantity of imported food be consumed upon a farm*, the direct supply of nitrogen to the Turnip crop, by means of artificial manures, will certainly not be necessary. An *excess* of nitrogen in the soil produces too large a proportion of leaf, and too little tendency to form bulb. It is true that a crop of Turnips having a large proportion of leaf will give a larger amount of manure to the land; but its

yield of food will be comparatively small. But since the manure obtained in such a case previously existed in the soil, the economy of the crop, even so far as its manuring influence is concerned, may be doubted. In fact, so far as our experiments on this subject enable us to judge, we believe that where the supply of nitrogen to the soil is very great, the amount of it collected from the atmosphere is less, and thus a part of the benefit of the crop would be lost. All the specimens in which we found a high per centage of nitrogen were those in which there was a great development of leaf, with a comparative small tendency to form bulb; and we believe that the high per centage of nitrogen was due to a deficient accumulation of carbon by the plant. Whilst, then, a high per centage of nitrogen may indicate an abundance of it in the soil, the growth of the plant has been in other respects defective. It is probable that the full-grown bulb of such a plant as has only a due proportion of leaf will seldom have a per centage of nitrogen much higher than that which has been usually observed; for, with an increased supply of nitrogen, there is an excessive production of leaf, and a bulb which, though rich in nitrogen, is not profitably developed."

(Agricultural Chemistry, Journal of the Royal Agricultural Society of England, Vol. XII., Part 1, p. 28) — "Neither *mineral manures* nor *carbon*, then, are indicated by our experiments as the *special* or *direct* manures for the growth of Wheat. Not so, however, with the Turnip, for the successful cultivation of which, a liberal supply within the soil of carbonaceous substance and phosphates, is found to be important. We have here, then, a remarkable contrast, for if in practice the Wheat plant be supplied with a sufficient amount of nitrogen, it is not likely to be deficient in carbon or in mineral matter; while the Turnip, on the other hand, will not be provided with a due quantity of carbon, *independently with a coincident, and frequently sufficient, supply of nitrogen.*"

(Agricultural Chemistry, Ibid. p. 35)—"Collateral experiments also clearly prove the importance of a liberal supply of organic substance rich in *carbon—which always contains a considerable quantity of nitrogen also*—if we would, in practical agriculture, increase the yield much beyond the amount which can be obtained by mineral manures alone; and *these conditions being fulfilled*, the direct supply of nitrogen, on the other hand, *is by no means so generally essential*."

What, then, are the views developed in the papers which the readers of the *Agricultural Gazette* have been told maintain that the manures required by the Turnip are "carbon without ammonia," "phosphates and carbon alone," or that it "can dispense with ammonia as a manure." They are these :—

First—That ammoniacal manures *are* required by the Turnip.

Secondly—That when grown successfully in our rotations for feeding and manuring purposes, the Turnip, *as compared with Wheat*, requires a manure more prominently *carbonaceous* than *nitrogenous*.

Thirdly—That, as in practice, farm-yard dung will constitute the chief carbonaceous manure employed; and as any ample supply of it will contain a considerable quantity of nitrogen also, the *direct* supply of nitrogen by *artificial manures* will frequently not be necessary, provided a liberal amount of imported food be consumed upon the farm, by which the richness of the dung, in *nitrogen* more particularly, will be increased.

Fourthly—That nitrogenous manures increase the "vitality" and "longevity" of the plant, so that wherever the natural orbit of growth of the plant is greater, so may the supply of nitrogen by manures be increased with advantage.

Fifthly—That an "*excess*" of nitrogen in the manure diminishes the tendency to form bulb, and tends to an excessive production of leaf, by which the amount of nitrogen fixed in the crop from natural sources will frequently be diminished, and hence the value of the crop *in rotation* may be reduced.

Sixthly—That although, other things being equal, nitrogenous manures increase the per centage of nitrogen in the produce, the value of the crop for feeding purposes will frequently not be equivalently increased, and even may be much diminished.

These, then, are the views developed in the papers which, it is said, "will not stand the test of experience," and it is a source of peculiar satisfaction to us to know that whilst they point in a very interesting manner to some of the characteristic requirements and uses of the Turnip as grown in our rotations, they are, at the same time, in accordance with the very varied practices in different parts of England and Scotland. So essentially various, indeed, must be the manuring of the Turnip according to variety, soil, climate, and other circumstances, that rules in regard to this subject must necessarily be of the nature of a *sliding scale*, and we claim it as a prominent peculiarity of our views that they have an "elasticity" and a "flexibility," without which they would not be found so generally in accordance with the wide range of current and recorded experience. It is, too, a peculiar satisfaction to us to find, that in spite of the assiduous and sustained efforts that the writer "R." has made to find us in error, he has in no case been able to attain a show of success except by direct misrepresentation of our views; and, further, that in the vast fund of miscellaneous fact which he has brought against us, we can only hail additional confirmation to those views which we, in our turn, have shown to be maintained in our papers.

So much, then, for the discrimination and candour of the writer "R." in his criticism of our views on the subject of the growth of the Turnip in our rotations; and we propose in our next to recur to some of the points of interest and importance which have come before us in the course of our remarks. *J. B. Lawes.*

(To be continued.)

APPLICATION OF LIQUID MANURE IN AYRSHIRE.

[The following is a more particular account of some of the farms described by the Honourable D. Fortescue in No. I. of the *Agricultural Gazette*. It is extracted from the "Minutes of Information" on the liquid manure question to which such frequent reference has already been made in our columns.]

Mr. James Kennedy, Myer Mill Farm, Ayrshire.—In visiting the farms in Ayrshire I derived much information and assistance from Mr. Young, engine-maker of Ayr, who accompanied me. The irrigation works here, and also at Mr. Telfer's dairy farm and Mr. Ralston's farm, have been constructed under his management. He is now engaged in laying down similar works on a home farm of 60 to 80 acres, belonging to the Marquis of Ailsa, about nine miles south of Ayr, on the sea coast.

Myer Mill farm is an instance in which the application of liquid manures, and, indeed, all other arrangements for scientific farming, have been carried to great perfection. The land, consisting of 400 acres, was formerly drained only 18 to 20 inches deep, but it is now being drained from 3 to 4 feet all over the farm. I need not enter into a full description of the works, because that has been done by others who had previously visited the place. Pursuing my object, however, of making the question one of figures, and of bringing out the result in pounds, shillings, and pence, it may be necessary to say, that the stock consists of about 200 feeding bullocks and other horned cattle,* 140 pigs, 1200 to 1400 sheep, 20 horses, and 4 or 5 dairy cows. The urine and drainage from all the farm buildings, from the house, and the percolations and washings from the solid manure, are received into large covered tanks.

In some respects this farm labours under peculiar disadvantages, as water for the purpose of diluting the liquid has to be raised 70 feet, and from a distance of more than 400 yards. There are four tanks, of the following dimensions in feet, namely—48 by 14 by 12, 48 by 14 by 15, 72 by 14 by 12, 72 by 17 by 12. The tanks, with the agitators, cost about 300*l.* There is a steam-engine of 12-horse power, working about 50 strokes per minute, and consuming 15 cwt. of coals per day, at 5*s.* per ton. The engine works on the average 10 hours per day, but the irrigation does not require quite one-half of the power. There are two pumps with five-inch barrels, two-feet stroke, and 25 strokes per minute, raising about 80 gallons per minute; equal to a discharge of 48,000 gallons per day of 10 hours. The steam-engine cost 150*l.*, and the irrigation pumps 80*l.*, making 230*l.* together. The iron pipes and hydrants in the fields throughout the farm cost 1000*l.*, equal to 2*l.* 10*s.* per acre.

The distribution from the hydrants is by lengths of gutta percha pipe, connected by union joints, so as to obtain a reach of upwards of 300 yards every way round the hydrant. The discharge is from a brass hand-pipe, such as is used for fire-engines. The jet reaches the ground in the form of a shower at a distance of 40 or 50 feet from the man in charge of the pipe. It will be obvious from this that the capability of distribution is very great; and I find that a man with the discharge-pipe, and a boy to move the flexible hose, can cover 10 acres in an ordinary day's work.

Taking the discharge, therefore, as given above, the quantity laid on at each dressing would be 4800 gallons per acre. With such an economical distribution Mr. Kennedy is able to dilute the fluid in warm weather to three or four parts water and one of liquid manure, and to lay it on the land six or seven times per annum, much more cheaply than the two applications given at Glasgow. In wet weather, when the ground is comparatively saturated, the irrigation is still carried on, but with equal parts of water and manure.

The advantages resulting from this varying dilution fully prove the propriety of what I have urged on the subject in the earlier part of this report. In wet weather manure in a soluble state is added to the water from the clouds, and in dry weather, when the ground is parching, the operation combines both watering and manuring.

There is a man to attend the engine, and a man and boy distributing. Their united wages are less than 2*l.* per week. The gutta percha pipe is bought by weight, and when broken or worn out will sell at 8*d.* per lb. There are 300 yards of 2 inches diameter, which cost 3*s.* 1½*d.* per yard run; but the article is cheaper now, and 50 yards of pipe, 1½ inches diameter, cost only 2*s.* per yard. Some of the pipes in use at the time of my visit were purchased two years ago, and will still last a considerable time. They appear, however, to be stronger than necessary, and this extra strength gives an amount of rigidity sufficient to cause crinks here and there, from folding and unfolding the lengths. On every occasion the pipes give way again at the same points, and this goes on until the tenacity of the material is destroyed, and a transverse fracture takes place, about half the circumference of the pipe. I think it would be well to substitute canvas hose pipe for this, as being cheaper and more durable; but if gutta percha be preferred, a much thinner pipe would suffice, and being more flexible, I believe it would last longer. A considerable saving would also be effected in the transport and management of the hose by the adoption of a hand-winch, similar to that described and figured in my report on town cleansing, by the hose and jet, printed in the reports of your honourable Board on water supply.

Taking into the irrigation account the whole cost of the engine, and the whole of the fuel and wages—although half these might have been deducted—the following appears to be the capital account and working expenses for fertilising Myer Mill farm:

Tanks complete	£300	0	0
Steam-engine	150	0	0
Pumps	80	0	0
Iron pipes, laying, and hydrants	1000	0	0
Gutta percha distributing pipes, &c. ...	56	0	0
	£1586	0	0
Annual interest on 1586*l.*, and wear and tear, at 7½ per cent.	£118	19	0
Annual wages	104	0	0
Fuel...	58	10	0
	£281	9	0

This amount, divided by the number of acres, is equal to the annual sum of 14*s.* per acre.

I now come to the practical result of so cheap a mode of fertilising land. Mr. Young informed me that in one of the fields he had himself measured the growth of Italian Rye-grass, and had found it to be 2 inches in 24 hours; and that within seven months Mr. Kennedy had cut from a field we were passing at the time 70 tons of Grass per acre. Where the whole is cut, four or five heavy crops are thus taken; but upon some of the land during the last two years 20 sheep to the acre have been penned in hurdles, and moved about the same field from time to time; after each remove the fluid has been applied, and immediately followed by an abundant growth of food. There is not the slightest appearance of exhaustion in the land—its fertility appears to increase. I was informed, that before the liquid manure was used the land would not keep more than a bullock or five sheep to an acre; now it will maintain, if the crops are cut and carried in, five bullocks or 20 sheep to the acre. Some Beans, bran, and oilcake are bought for the stock, but, on the other hand, one-third or more of the farm is kept in grain, notwithstanding the great number of live stock.

I took plans of some of the farm buildings, apparatus, &c., on this farm, intending to show how admirably everything is arranged in the way of economy and efficiency, both as to materials of every kind and labour; and how many ingenious contrivances have been adopted by the owner and his tenant for the comfort and health and happiness of horned cattle and sheep and pigs. Such arrangements have been made not merely from humane feelings, but from a prudent regard to the pecuniary interests of both landlord and tenant; and in this latter respect it would have been difficult to find a better investment. *Mr. Lee's Report to the Board of Health.*

* Dry cows give considerably more urine than milch cows, especially while feeding on Turnips.

DIGGINGS BY A FEN-FARMER.—No. III.

Holland Fen, 22,000 acres of fine loamy soil, lying west of Boston, was drained and enclosed shortly after 1795; before which it was an open common, stocked by persons who claimed rights. The rental before enclosure was 3600*l.*, but directly after, it let for 25,300*l.* A farmer is mentioned by Young, who, "before the draining and enclosure, paid 20*s.* rent for a cottage and croft. His stock on the fen was 400 sheep, 500 geese, 7 milch cows, 10 or 12 young horses, and 10 young beasts. Such a person, if ever one was heard of, must have been injured by an enclosure; for never could be known a more perfect contrast between the rent and stock of a holding. But he now rents (1798) about 50 acres of the enclosure at 25*s.* an acre, and greatly prefers his present situation, not only for comfort, but profit also." And since that prodigious increase in the value of this land, it has still been progressing, letting now for upwards of 2*l.* per acre, and producing abundant crops of corn and Pulse.

Wildmore Fen, West Fen, and East Fen, east of the river Witham, and north of Boston, comprise about 40,000 acres. Previous to the commencement of the present century, these districts formed a hazy region of boggy forage-ground and dreary swamp. In 1793 it was estimated that 40,000 sheep, or one per acre, rotted on the three fens. Nor was this the only evil, for the number stolen was incredible; so wild a country nursed up a race of people as wild as the fen, and the sheep were taken off by whole flocks. One who visited Wildmore Fen at the close of the last century says:—

"Whole acres are covered with Thistles and Nettles, 4 fee high and more. There are men that have vast numbers of geese, even to 1000 and more; if there are any persons who profit, it is those who keep geese. There may be five sheep an acre kept in summer on Wildmore and West fens, besides many horses, young cattle, and geese. Upon driving West Fen in 1784, there were found, 16th and 17th September, 3936 head of horned cattle. In dry years it is perfectly white with sheep. In East Fen are 2000 acres of water. Sir Joseph Banks had the goodness to order a boat, and accompanied me into the heart of this fen, which in this wet season had the appearance of a chain of lakes, bordered by great crops of reed. It is in general from 3 feet to 4 feet deep in water, and in one place, a channel between two lakes, 5 feet to 6 feet. The bottom a blue clay, under a loose black mud, 2 feet to 2½ feet deep. In both East and Wildmore fens the poor horses, called Wildmore tits, get on the ice in winter, and are *rerecved*, that is, their legs spreading outward, the wretched animals are split."

He also mentions "an ingenious and very simple tool in use in East Fen," viz., a sledge for going on the ice. "It is a small frame," he says, "that slides on four horse bones, the driver pushing himself forward with a pitchfork." These notes will sufficiently indicate the nature, aspect, and agricultural management of these low lands at that period; we may, however, add that about 6000 acres of the lowest and wettest fen, viz., East Fen, were water or shaking bog, the water from 4 feet to 6 feet deep, standing in pools from 60 to 600 acres in extent, and abounding in fish and wild-fowl. About 300 acres were denominated the Mossberry or

Cranberry Fen, from the quantity of Cranberries which grew upon it. Several decoys for entrapping wild-fowl were established here, and at that time the metropolis was principally supplied with ducks, widgeon, and teal, from these decoys. In one season, a few winters prior to the enclosures, 10 decoys furnished the astonishing number of 31,200 birds for the London market. A writer who lived in Kyme Fen says: "I have times out of number seen cows loosed out of their hovels and swim across a river with nothing but their faces and horns above water, and then take footing at mid-rib deep, or less, but not one spot of dry land, and then forage till weary, and return to their hovels in the like swimming position. I have also known, in the whole parish of Dockdyke, not two houses communicable for whole winters round, and sometimes scarcely in summer. We used to carry the sheep to pasture in a flat-bottomed boat, clip them in ditto, and afterwards fetch them away in the same conveyance."

The drainage of these tracts was executed by Mr. Rennie, in pursuance of an Act passed in 1801; and it was here that the principle of providing separate outlets for the low-land and hill waters was first carried into effect. The rapid floods of the upland becks are intercepted by catch-water drains surrounding the district, whilst the sluggish fen-water seeks the outfall through canals upon a lower level. Wheat, Oats, and Beans are grown upon the clay, and Wheat, Oats, and Barley, on the sandy land in West and Wildmore fens, the intermediate crops being seeds, Turnips, and Cole. About half the seeds are grazed by long-wool sheep, the rest being mown for hay. Under-drainage has been extensively carried on; but much land yet remains to be made friable by its influence. The farm buildings are pretty good, the hedges neat, the stock well fed; and there is every appearance of superior cultivation. In East Fen all the peat lands have been clayed, and a large portion several times. Under-draining is practised to some extent, the pipes being laid in the subsoil of clay. The courses of cropping are very various, but the best farmers take three-fifths of white corn. Many beasts are wintered with oilcake and straw, and sheep are grazed on the seeds, and fattened on the Cole. Cole-seed, Wheat, Oats, and seeds are the principal crops; and the land is manured frequently in consequence of its moisture and porosity. Oilcake for cattle in the farm-yards, and bones for the green crop, are universal items in fen husbandry. The peat soil is not difficult to work, but is peculiarly infested with twitch (couch); the light, yet rich earth forms a fine matrix for the growth of its long penetrating fibres, and great labour is necessary in constantly eradicating it. Field mice undermine the land, and devour immense quantities of cropping. The wireworm also revels here, as neither pressing with the roller, nor trampling with the flock, can give a solidity to the ground sufficient to check its ravages. Young Wheats are much blown and destroyed; and the best preventive hitherto is Crosskill's clod-crusher, and perhaps some other rival implements, which astonishingly compress the soil, and improve the crop.

In the parishes on the coast, north-east of Boston, are three different kinds of land and management. The newer marsh lands are arable and pasture, chiefly the former; the Grass is well adapted for feeding horses, and the sheep upon it produce a great quantity of meat, and fleeces of great weight. The ploughed land is of the best quality, bringing heavy crops of Wheat, Oats, and Beans. More inland is the higher ground on which the villages stand; and here is some of the luxuriant grazing land for which Lincolnshire is noted. The herbage is thick, forming a sward of a soft and carpet-like texture; sometimes swelling into tufts, but generally even and smooth, and always soft to the feet. It is in small enclosures, and neither the fences nor ditches are kept in good order. The arable land is not generally well managed, though considerable improvements have been made of late years. The principal care of the farmer was to manage his live-stock and keep his pastures in order, whilst the working of his arable land was neglected, and the Grass received more than a fair proportion of the weak manure from the yard and stable. The practice of taking two or three corn crops and a fallow has not been forgotten, and but little Clover or seeds are sown. There are instances, however, of more judicious management: root crops and Coleseed are grown, oil-cake is given to the beasts in winter, and under-draining has been commenced. Between this belt of land and the proper fen is a line of meadow-land, called now, as in the days of our Saxon progenitors, the "Ings;" a considerable portion is mown, and the hay partly consumed on the land, the remainder carried to the farmsteads situated upon the ground just referred to. The drainage improvements so ameliorated this low ground that much has been brought under the plough, and it now produces good Oats, Wheat, Turnips, and Coleseed. The superior grazing lands extend south-westward from Boston. The beasts fed are generally of the Lincoln breed, that is, they are large short-horns; though both Scotch and Hereford cattle are sometimes purchased. They are bought in spring, usually at Boston May fair, and sold fat in autumn; the best land feeding a bullock an acre, without any supply of Linseed cake or other additional food. The sheep-pastures will often carry eight or nine sheep per acre, and they fatten the animals without the assistance of other green or dry food to finish them off. The arable land intermingled with this pasture is very productive in corn, Pulse, and root-crops, and large breadths have been broken up for Woad, Mustard and Chicory. The rich grazing land continues from Spalding, south-eastward, through South Holland. Peculiar value belongs to certain spots; and the grazing farms of first quality are known throughout the whole district by their names; and many of the better fields are famed as "the hill-piece," the "doles," the "Jew's meadows," &c. The Grass-land in the marsh, nearer the sea, causes scouring in young stock, and great injury is occasioned by the saltness of the water in the creeks and ditches; a considerable quantity of sheep, however, are there bred. On the friable soil of the marshes large crops are grown, both of Turnips, Coleseed, Oats, Wheat, Peas, Beans, and Potatoes.

We have now noticed the northern or Lincolnshire half of the Great Level; in our next Number we will endeavour to complete our superficial survey; and then enter into another class of topic and remark. *I. A. C.*

Home Correspondence.

Wheat Sowing and Growing.—That there is a great difference in the yield of Wheat, for quantity sown in an acre of ground, is a fact known to and acknowledged by all farmers. One man sows 2 pecks per acre, and obtains as much, or nearly as much, corn at harvest as another who sows 12 pecks; so great a difference in the yield per peck of seed cannot be accounted for by the difference in the natural capability or quality of land; for by cultivation, the natural is changed for an artificial capability, so that more appears to depend on the method of cultivation than on the original quality of soil, or the kind of Wheat sown. When, then, so much corn may be unnecessarily wasted in seed, or saved for the profit of the farmer and food for the people, some consideration of the method of cultivation is interesting no less to the consumer than to the producer, and may not be time or application of mind entirely thrown away. Doubtless, the two quantities of seed above mentioned are extreme, and a saving of 10 pecks per acre in economical—over wasteful and extravagant—sowing is too much for any calculation to be founded upon; but take a saving of 8 pecks per acre, and see what it will amount to in a middling-sized parish. Let 200 acres be supposed to be under Wheat in a parish of 2000 acres, with a population of 500 persons. In such a parish the saving of 8 pecks of seed per acre will liberate for food, without costing the farmer one sixpence, 1600 pecks or 50 quarters; and, allowing one quarter of Wheat for the consumption of an adult person for one year, this saving of seed alone will provide bread for one-tenth of the population of the parish for 12 months. No one can calculate on the present or probable future range of price of Wheat, leaving room for waste and extravagance in seed, wherefore the question as to what is the best quantity of seed per acre is important. I would not, however, assume that either of the two quantities above mentioned is the right quantity, for one may be nearly as much under the mark as the other is above; nor would I wish to fall into the error of examining how little seed will produce a crop, but would rather inquire how much seed an acre of ground will profitably take up and bring to maturity. If 2 pecks will, on an average of years, produce as much corn at harvest as 10 or 12, it would appear to be the better quantity; but if 4 or 6 pecks per acre will produce a more than an equivalently heavy crop than 2 pecks, that extra quantity would appear to be profitably used for seed; and if it will produce as much as, or more than, 10 or 12 pecks, it will be the better, the more economical, and profitable quantity. Uniform narrow spaces between the rows render sufficient cultivation of the land difficult; and if one side of a row of Wheat be as good as exposure to a wide space (as I think it is), alternate wide and narrow spaces would be the most economical method of drilling. The best width of spaces will vary according to circumstances and nature of soil, and be determined by each person for himself. In growing Wheat the object of the farmer is to grow that which is most profitable, viz., much corn in proportion to straw, and in a manner as little exhausting to the land as possible. A large ear at the end of a healthy straw, with as few weeds as possible wasting the strength of the ground, is what is to be desired. Next to growing noxious weeds, growing a superabundance of weak Wheat roots—matting the ground and throwing up dwindling unhealthy straws, yielding but a scant proportion of corn—is wasteful extravagance and unduly exhausting the ground. The Rev. Samuel Smith, of Lois-Weedon, clearly shows the advantage of space, and frequent tillage of the space, as fallow in his crop; but whether his space be the best quantity, or be more than necessary, is a fair subject for other trials. Where Wheat is grown in the same field every year without the application of manure, his very wide spaces may be necessary; but are they under a rotation of crops, with the application of manure for some of them? By his plan, in a strip of land 5 feet wide (the width of his bed and alley) and 100 feet long, containing 500 feet of ground, he has three rows or 300 feet of wheat, so that the average quantity of ground taken up by 1 foot of his Wheat is 20 inches; but, with a rotation of crop and change of ground, does Wheat require so much space? Holding to the principle of space, for the roots healthily to spread under ground and the air to percolate in the crop above ground, I have this year drilled about 18 acres of Wheat in rows, with spaces alternate of 9 inches and 18 inches, so that each row of Wheat has one side exposed to an 18-inch space. By this plan, each foot of Wheat takes up 13½ inches of ground, so that in 500 feet of ground, where Mr. Smith gets only 300 feet of Wheat, I get about 448. At present my Wheat looks well, promising a good crop; and if my rows be nearly as productive as Mr. Smith's, I ought to have more than 34 bushels of corn per acre. The quantity of seed drilled per acre was about 5 pecks, which, if drilled early in the season, I think too much. In some stiff soils 18 inches of space may possibly not be sufficient, and in the opinion of some persons it may, in other soils, be more than necessary. Without presuming to do more than put this subject before your readers, I would state that at present I like the system of two rows and a wide space, as economical of ground, and practising in a moderate degree the mixture of fallow with the growing crop; in fact, very nearly making Wheat a fallow crop, and a system that tends to keep the crop robust and healthy. Winter Beans I have drilled two rows 1 foot apart, and a space of 3 feet, so that each foot of Beans takes up an average of only 2 feet of ground; but one side of the row is exposed to a space of 3 feet. This communication has already extended to too great a length, or it might be interesting also to pursue the same question, of how much will an acre of ground profitably take up, with regard to stock and labour? *Francis Clerke, Eydon.*

The Bunch Grass.—In the volume of the "National Illustrated Library" devoted to the history of the "Mormons," at p. 227, is the following passage, where it speaks of the physical features and the productions of their present *locale*, on the shores of the "Great Salt Lake:"—"The territory of the Mormons is unequalled as a stock-raising country. The finest pastures of Lombardy are not more estimable than those on the east side of the Utah Lake and Jordan River." We find here that cereal anomaly, the Bunch Grass. In May, when the other Grasses push, this fine plant dries upon its stalk, and becomes a light yellow straw, full of flavour and nourishment. It continues "thus through what are the dry months of the climate, till January, and then starts with a vigorous growth like that of our own winter Wheat in April, which keeps on till the return of another May. Whether as straw or Grass, the cattle fatten on it the year round." Should facts bear out the above, the addition of this to our list of pasture Grasses would be a boon to this country and Ireland, should its climate suit; for it, too, has some claims to consideration as a stock-raising country, its future well-being will likely depend on its great capabilities in this way. Could such a valuable Grass as this be induced to establish itself over Connemara and our other "houseless wilds," how would the stockmaster rejoice in the "early bite" and winter store "full of flavour and nourishment," afforded by this Grass. As I suppose it is neither the "Gynerium of the Pampas, or the Tussack of the Falkland Islands, or that called the Buffalo Grass," all of which I know have been long introduced, I would feel greatly obliged if you or any of your correspondents would kindly give its botanical name, and say if it as yet has found its way into Britain. In the same paragraph we are told that "hogs fatten on a succulent bulb, or tuber, called the Seacoe or Seegose root, which I hope will soon be naturalised with us. It is highly esteemed as a table vegetable by Mormons and Indians; and I remark they are cultivating it with interest in the French Garden of Plants." Is this the Melluco, if I recollect the name rightly, alluded to in the *Chronicle* some years since as likely to prove a substitute for the Potato? if not, the same information asked for respecting the Bunch Grass is solicited with regard to this useful plant. *A. B.*

Deep Draining.—If any of your numerous correspondents who are advocates for deep and wide drainage, that is, from 4 to 5 feet in depth, and at intervals of from 10 to 12 feet in width, would kindly furnish replies to the three simple questions given below, it would tend much to settle a point in which there is at present great diversity of opinion, namely, the most efficient depth and width for draining land. It appears that the practice of deep drainage is more especially defended on the plea of preventing capillary attraction from raising the moisture to the roots of the plants, in which you also seem to concur by your illustration of it, by the sugar-loaf in the *Gazette* of the 29th May. 1st. How deep is it necessary, for the promotion of the most healthy growth of agricultural plants in general, that the soil or bed on which they are placed should be laid perfectly dry? 2d. At what depth below the dry bed will water be raised by capillary attraction, so as to be injurious to the plants thereon? 3d. Would not many plants receive benefit in dry seasons by their roots being within reach of moisture, brought to them by capillary attraction? It may, perhaps, with reason be said in reply to the second question, that subsoils, by their different degrees of porosity, vary as to their powers of supplying moisture by capillary attraction; but this cannot be considered of any importance by the deep and wide interval drainers, as we see daily before our eyes commissioners and professional drainers, employed by large landed proprietors, expending thousands of pounds in draining loams, gravels, marls, and clays, over hill and valley, arable and pasture, on one uniform system only—that is, 4 to 5 feet deep and 10 to 12 feet apart, with 1 and 2-inch pipes. After narrowly watching this system, with the advantage of an experience of 40 years' practice in all kinds of land-drainage on my own occupations and on that of others, I must candidly confess that if this system is correct, it seems to prove that no judgment is required in draining, but merely to draw straight lines and preserve a fall, the latter not so carefully done sometimes, being rather a matter of chance; and that,

after all the writing and bother made about it for the last 10 years, it turns out to be a very simple affair. But should this system not prove correct for all soils and situations, then it will eventually be found that the pockets of the landlords and tenants have only been drained efficiently, and the land remains to be operated upon by a future generation who will combine "science with practice." *Richard Smith, Westacre, Droitwich.*

Hoeing.—Your correspondent "A Constant Reader," who has kindly noticed my remarks on the above subject, is, I expect, not aware of the tool used by my man in hacking and hoeing the Potato land. It was a planter's mattock weighing 5 lbs., each stroke sending the tool 5 or 6 inches into the soil, and by the pull turning it over. Notwithstanding the greater time this would take, I am not satisfied but the man could have done at least half as much more than he did. Remarks of this kind, published in your very useful and interesting Journal, are, I doubt not, beneficial to employers and employed; showing one what may reasonably be expected, and the other what is really due for his day's pay. *Buffer.*

Flax.—To bring this subject to a close, which in a previous article could not be done for want of space,—I must observe, that Mr. M'Dermott asserts distinctly, at p. 238 of the Royal Agricultural Journal, that Flax, "when properly managed, is not an exhausting crop, as was clearly demonstrated at the meeting of the Agricultural Society in February;" and he then cites several respectable authorities, whose names are given in the paper, "On Claussen's Flax Cotton," to which the reader is referred. Whatever be the facts, I take my stand on the theory of fæcal exudation by the roots of every species of plant, believing it to be the most trustworthy interpreter of rotation—subject, however, to serious modification, dependant upon the peculiar character and condition of the land. This I hope to notice more minutely on a future occasion. The exhaustion of land is a subject involved in too much mystery to be entirely understood or clearly interpreted. Macaire proved by chemical solutions, in which the washed roots of various plants were long immersed, that certain matters were ejected; but his experiments led to no elucidation of causes. Chemistry, in truth, does neither detect the agency of the vital principle, nor show why manure of any kind, however rich and compounded it may be, cannot restore the fertility of an individual plot, so as to enable it, in continuity, to support any one plant which fails under reiterated cropping. Liebig (4th edit. p. 75) says, that "plants return to the soil all matters unnecessary to their existence." If this be admitted, is it reasonable to suppose that Wheat or Oats, for example, can continue to thrive year after year on the same ground, progressively saturated with exuded fæcal matter? Liebig further observes, in his chapter on Rotation, at p. 150—"When two species of plants are cultivated on a field of the same nature throughout, the one plant will exhaust a soil of certain inorganic constituents, but it may still remain in a good condition for a second kind of plant requiring other constituents." The processes by which the great natural agents (electro-magnetism?) effect the decomposition of organic substances in a soil—converting them, first, into raw sap, and then causing its absorption by the spongioles of the roots, are mysteries which cannot be grasped or interpreted by analytic chemistry. It is, however, to this decomposition, varying in its results according to the habits and requirements of each individual plant, that we ought to ascribe the principal exhaustion of a soil. Chemistry is indeed a competent interpreter of numerous secondary phenomena, as is demonstrated by experiments, detailed in the article on Claussen's Flax Cotton (pp. 245-6), from which the following particulars are collected. To split or divide the fine hair-like fibre by hundredweights at a time, and to do it at a trifling cost, was a problem to be solved. What ordinary mechanical powers failed to accomplish, has been not only successfully but instantaneously performed by chemical forces. In preparing the article for the cotton-spinner—as well as for linen manufacture—the Flax is boiled in a solution of caustic soda; after which cleansing process it is taken out of the vat, washed, and placed in another vat containing carbonate of soda, in which it remains till fully saturated with that salt; it is then placed in a third vat, containing a weak solution of sulphuric acid. The hollow cylinders of the tubes speedily become charged with the acid-diluted solution; and the acid coming in contact with the soda which the fibres had taken up in the first and second solutions, developes the carbonic acid, the expansive force of which splits the fibres into a vast number of filaments, which, examined under the microscope, present the appearance of raw cotton. The philosophy of this faithfully abbreviated passage will be easily comprehended in all its bearings—and they are multifarious—by the chemical reader. *J. T.*

Small Coal.—It appears to me that a very valuable manure for stiff land exists, both in the county of Northumberland and other districts, where there are extensive coal mines. The slack, or siftings, are at present wasted, forming immense fires in the vicinity of the pits. Why should not this refuse be applied as a dressing to disintegrate clay soils? I think I have before suggested a trial of small coal as likely to be of use to the agriculturist; I trust some intelligent individual will experiment with it; it can do no harm, and must do good—to what extent remains to be proved. In this neighbourhood, even small coal is too expensive for the purpose recommended; however, I intend proving its value on a small scale, when pulverised, to mix with liquid manure, and the *Chronicle* shall be informed of the result. *Falcon.*

Churn.—I purchased a Drummond churn, being attracted by its plausible appearance and the promises of its performance. These I have not been able to realise. A 4 gallon churn, with 2 gallons of cream, is represented to produce butter in a little more than 6 minutes; in every trial with me it required a little more than 30; in fact it is in every respect inferior to the barrel-churn which is used here. You would oblige me much by stating the result of your own experience, or that of your friends, since the parties are so respectable that I cannot but suspect that there has been some mistake on my part, rather than any misrepresentation on theirs. *Verus.*

Poultry.—One of your correspondents complains that the committee of the Royal Agricultural Society should have given their highest prize in the poultry list to the "Dorking fowl," and thinks it should have been awarded to the "Spanish breed." Had the "Spanish breed" been selected, a "Cochin China fancier" would have troubled you with similar grumblings, because his favourite breed had not been preferred. These men proclaim their individual partialities, but do not represent the general opinion. The "Spanish Poultry Fancier" refutes his arguments by saying "it is easier to get many good Dorking chickens than one good white-faced Spanish fowl." Surely this is a high recommendation to a man who farms for profit; especially when to this is added, by the Spanish "Fancier" "the Dorking is unrivalled at table."—I have before me now, and have kept as an amateur, game, Dorking, Spanish, and bantam fowl. For beauty of form, and general eleganee of carriage, I certainly prefer the Spanish breed. But, tried by the farmer's standard, namely that of profit, I have no hesitation in stating that the Committee of the Royal Agricultural Society have acted wisely in giving the chief prize to the Dorking breed. It is moreover a proper compliment to the county in which their annual meeting will be held, for throughout Sussex, as in Surrey itself, the Dorking breed is the one in greatest repute. My Dorking fowl lay eggs as heavy as those of the Spanish—the heaviest weight produced by either kind (for a single egg) being 3 ¼ ounces avoirdupoise. The birds are kept in separate and remote yards, and there is no possibility of confounding the eggs of the two birds. *J. H.*

Cattle on Boards.—In the "Sporting Magazine" of the year 1803 is the following paragraph:—"In the royal stables of Sweden the horses are allowed no litter, but stand on a raised floor composed of boards with open joints. This plan is also common in Norway and Denmark, where cows and even pigs are housed on a similar platform. The Duke of York has, by way of experiment, directed some barracks to be constructed on the Swedish plan."

Reviews.

A Guide to the Royal Agricultural College Farm. By the Farm Manager. Hamilton and Co.

This is just a transcript of the conversation which Mr. Vallentine would hold with intelligent visitors, as they might be walking together over the grounds and offices of the Agricultural College at Cirencester. There are few farmers who would not be glad of an opportunity to join such a party as that; and this pamphlet will go far to make up for their misfortune to those who have not got such an opportunity. It is, of course, a succession of questions by the visitors, and of very instructive answers by their guide. It is, in fact, a catechism of the present condition of the institution, and of the opinions of those who are at its head. We extract a question or two in illustration of the manner in which the author has executed his performance. The party are supposed to have arrived at Field No. 37, old Saintfoin, where the lambs are which have just been weaned.

"Are not lambs more difficult to rear and manage than sheep of any other age?—Yes. There must be especial care taken that lambs do not scour, &c. When the symptoms appear, they require particular and immediate treatment.

"But what treatment?—If the lambs scour from the succulence of their food, or their mothers' milk, they frequently require to be weaned, and changed to fresh pasture, old bents, or, what is better, to old Saintfoin. They should also be kept from water. Malt is a good thing to give to lambs when scoured; it acts both as a medicine and as food. It is too dear to doctor much with. When lambs are scoured very much, they of course require a medicine to act quickly. It so happens that scour breaks out, as it were, all at once, where there is no apparent reason, and many die; but, nine times out of ten, early treatment and close attention to the flock would prevent such fatal occurrences. It is frequently useless to think of recovering a lamb, or indeed any animal, after it is nearly dead. There is nothing so good as daily and close observation of the flock. A shepherd should have a quick perception, as well as judgment and attentive industry; and the employer's care is also necessary to see that what should be, is done.

"What per centage of lambs usually die?—Various. For those lambed alive, 4 or 5 per cent. is moderate good luck for the first six months of their age. We have been lucky so far, this year, in losing less than 2 per cent. since the lambing concluded. Last year we lost many more. At present there is little danger of greater loss, as the lambs are weaned now. It is bad luck where 10 per cent. of the sheep are annually lost. Large sheep farmers, both in England and Scotland, reckon the loss of 4 per cent. annually, very moderate.

"There is a bit of this old Saintfoin ploughed up, it seems; what is that intended for?—For Turnips. That is ploughed very thin, so that it may dry readily, and the earth be separated from the turf for burning. It will be stifle-burned soon.

"Is stifle-burning a good thing?—No doubt of it. Stifle-burning appears to have been followed in this district for several centuries past, with the best effects. Burnt ashes are reckoned worth a halfpenny per bushel. Six hundred bushels are frequently burned upon an acre, and produce more of a manuring effect upon Turnips than 12 bushels of bones. Six hundred bushels of ashes, at a halfpenny a bushel, amount to 25*s.* An acre of stifle-burning seldom costs so much. Burnt ashes form a very good manure, when made from calcareous soils, for any kind of crop. Ashes, alone, produced as good Turnips here last year as any other manure. Their theoretical value is reckoned by their soluble potass and soda, their power to attract and absorb ammonia, &c. Any one sceptical as to whether burnt ashes are of practical value or not, might be convinced that they are so, by going through the country and observing how industrious labourers are in their spare time, in paring fragments in all parts for burning, to produce ashes to apply to the growth of vegetables."

Again, as they pass through the museum, the following remark is made:—

"Geology may be all very well for a miner, but to a farmer who works chiefly on the surface of the earth, it surely cannot be of much service—can it?—It has already conferred vast service to the agricultural interest, both in a direct and an indirect manner. The discovery of coals in many places has been made by the science of geology where perhaps coals would have never been sought for without it. The want of geology has cost large fortunes to some persons, in a fruitless search after coals where none could exist. Geology now prevents more fortunes being spent in this way. Geology has pointed out the readiest source for procuring water in many instances; it shows where coals, water, sand, clay, and stones may be found, and where they cannot be found. Geology is frequently of service in ordinary draining—in well sinking—in finding building materials—in finding road metal—in discovering limestone—in discovering sand for mortar, white sand for glass, and clay for tiles or bricks. It has been of service in many such cases, and will be more and more, as it is understood."

Miscellaneous.

American Reaping Machines.—Harvesters.—Under this division, 15 patents have been granted. For the last two years much attention has been given to this class of agricultural machines. At first, they were confined to the cutting of grain chiefly, then to grain and Grass, and now they have been extended to almost every herbaceous growth of the soil. Thus we have grain and Grass harvesters, corn harvesters, corn-stalk harvesters, cotton harvesters, cotton-stalk harvesters, Clover-head harvesters, hemp harvesters, &c. I shall notice several of these, as they present something of interest to prairie farmers especially. The first machine that I shall mention in this class, is a machine to harvest cotton-stalks in the fields. It is a machine having two horizontal shafts, running from side to side. The upper and forward one has radial knives or beaters, which rotate rapidly, and beat down the stalks, while the rear shaft is supplied with radial longitudinal knife-edges extending from side to side; and as the blades come down, they chop the stalks in pieces. The second machine noticed under this division, is a grain and Grass harvester, presenting two principal points of invention. First, the cutters, which consist of two horizontal saw blades, lying flat upon each other, with the teeth looking forwards, and vibrating upon each other as the face of the saws is pushed forward against the standing Grass. The peculiarity of these teeth consists in their being made concave on their inner faces, so that when they slide past each other, they cut somewhat on the scissors principle, and are, to some extent, self-sharpening. Second, there are what are called cyma-reversa fingers, working in combination with certain rake-teeth, designed to hold the charge while the fingers take it, and deposit it on the ground. The third machine of this division is a corn-stalk harvester, the frame of which resembles a low three-wheeled truck, and bearing upon its upper surface, near its middle part, two broad metallic discs, armed with teeth on their peripheries, which teeth slightly overlap each other, and are capable of seizing and holding within their grasp any herbaceous matter, and, as the machine moves forward, to tear it up by the roots. The meeting of these teeth is near the central part of the machine, anterior to which the space is perfectly clear, so that when the machine is driven over a row of the corn-stalks, the latter are successively brought against the teeth of the metallic discs, and drawn out of, and deposited upon the ground. The fourth machine is an ingenious contrivance for distributing the cut grain of a harvester into suitable parcels for bundles, by the weight of the grain. It is called a grain binder. It consists of a self-regulating rotary cylinder, mounted on the rear end or extreme right side of the machine, and having its axle parallel with the rear end of the machine. This cylinder is supplied with catches and springs, and so arranged that when a certain weight of grain is received into one of

ts three compartments, it performs a third part of the revolution, and deposits the amount received for a bundle, while the next compartment of the cylinder is being charged for a second bundle, and so on. One patent has been granted for a machine to harvest hemp, a prominent peculiarity of which consists in the method of severing the stalk, by means of an oblique chop stroke of the cutters falling obliquely across the spaces between the fingers, and upon the edge of the finger on the further extremity of the finger space; the oblique stroke being given by the shaft on which all the cutters are arranged, which shaft is semi-rotated in screw-thread bearings, so that the shaft in so rotating and re-rotating as to raise and depress the cutters, should, in performing this operation, give the oblique motion which severs the stalk, as set forth. Two machines, adapted to harvest Maize, have been patented. The first of these contains a thresher to husk and shell the grain. The harvester consists of a machine, in its general arrangement, not unlike a Clover-head harvester. But it has a series of pairs of rollers, one pair between every pair of teeth, to seize the stalks and pull them downwards, until the ear is drawn against the tops of the fingers, by which the ear is severed from the stalk. The ear then rolls down an inclined plane to the thresher. *A second machine for harvesting Maize or grain* has also been patented. The gist of this invention consists in the construction of the grain reel, made with rows of fingers, projecting radially, and rotating over or through the standing grain. The stalks being received between the fingers, the ears are pulled off and deposited on an inclined endless apron. *A Grass Harvester* of a novel construction has been patented, which it will be difficult to describe without the aid of drawings. Some idea of its general character, however, may be formed, by supposing a flat washer-like ring of metal to be cut out of a sheet of metal, and placing it in a horizontal position. Now place upon its surface, symmetrically, a series of sharp razor blades, a few inches apart, having the shank confined to the ring by a screw or rivet, and the ends of the blades projecting beyond the periphery of the ring. If now the ring be rotated, so that the cutting faces of the blades be forward, and in this state be brought against the standing Grass, it is contended by the inventor that the machine will be a successful instrument. The cutting-blades are supported in their position by suitable contrivances, and the ring with its cutters has also suitable devices for supporting it, and rotating it as the carriage moves forward, which it is unnecessary to refer to here. *Horse Rakes.*—Only one apparatus under this division is regarded worthy of special notice, although six patents have been granted. This invention is denominated a machine for binding grain. The frame of it resembles the platform of an ordinary harvester, so constructed that the curved rake-teeth, projecting upward through the floor, and passing across the same from side to side, collect the grain at the opposite side, where it is brought against a curved arm, between which arm and teeth the grain is pressed; and at the same moment another curved figure rises through the floor from behind, to support that half of the bundle, while at the same time the curved rake-teeth, by means of the machinery, fall backward through the floor, and are carried back to the opposite side of the platform, or to the starting-place, for a new charge. The only duty required of the attendant with the machine is, to tie the band for each bundle or sheaf. *From the American Patent-office Report for* 1850-51, *in the Mechanics' Magazine for Jan.* 1852.

Deep Cultivation.—The enormous cost of producing manures for our soil should teach us to rely more on deep cultivation. It seems a preposterous assertion that our agricultural pie-crust on this globe is only the depth of a common wine-glass; but I do sincerely believe from my actual observation, that 5 inches in the solid ground is a full average depth of our ploughing. Practically, I have found considerable advantage in trebling this depth by subsoiling; and I am sure that those farmers who know the benefits of frequent ploughings would benefit extremely by allowing one plough to follow in the track of the other, or by much deeper ploughing—I speak of course of drained lands. It is evidently depth of cultivation that gives our gardens such superiority over the farm. The recent practice of the reverend author of "A Word in Season" confirms, in an extraordinary manner, Jethro Tull's principles, and appears to confirm Liebig's mineral theory. There can, however, be no doubt but that the addition of good manures greatly increases the natural productions and economises time. Our gardeners consider the oft-cultivated soil exhausted, and bury it, bringing up from below fresh soil to admix with it. Good farmers can afford to do the same. We, as farmers, certainly forget that during summer our crops send their roots many feet into the subsoil (if in a proper state), there to absorb that liquid food, organic and mineral, which is denied to them on the dry surface. All crops will find out manure at a great depth. Perhaps, I may be allowed to remark here, that the fattening quality and density of my root-crops have greatly increased with the fertility of my soil, and that my Wheat seldom weighs less than 63 lbs. per bushel. *Mr. Mechi's Second Paper.*

Notices to Correspondents.

BAD TASTED BUTTER: *R.* We have obtained answers from Warwickshire, Cheshire, Gloucestershire, and Devonshire. Some of them *suppose* the annual occurrence of the nuisance to be due to the growth of some ill-tasted weed at that time; others appear to have had no experience of the evil complained of; the only one who speaks positively says:—"The cause of the unpleasant taste in your correspondent R.'s' butter is wild Garlic, or what in Devonshire is known by the name of Ramsey [Ramson], which is often found here in rich pastures. The leaf is much like the Lily of the Valley, and bears a white flower The reason of its not affecting the butter after the middle of June is, that it is then in flower, when the cows will not eat it. The best way is to dig it up early in May, or now, if not covered with Grass." The following is from Cheshire:—"I have not met with any case similar to the one you speak of respecting butter, although I have heard of instances, in some parts of North Wales, where the butter is not so good flavoured at certain seasons of the year, and the cause was attributed to ill-flavoured plants making their appearance at those times more especially the wild Onion. The herbage, certainly, has a great deal to do with the flavour of butter and cheese, and I find that Red Clover, even, affects it; in this county there is nothing to equal old pastures for the dairy. Perhaps if the farmers in Warwickshire would examine their land carefully they might be able to discover the real cause."

BLACK BLIGHT IN BEANS: *W W.* The disease is not uncommon amongst Beans. A whole field at Cotton, near Northampton, was destroyed by it a year or two ago, as described in the *Agricultural Gazette*, 1849, p. 345. There is no remedy, from the very nature of the case. A plant which runs only an annual course is necessarily destroyed by such attacks. The only way is to remove the crop, and, if practicable, to get a crop of Turnips instead. *M. J B.*

CHICKWEED: *X.* It can be destroyed at this time of year only by hoeing and *dry weather.*

COLOURED TILES: *Constant Reader.* Thanks for your notice; but the only part which is in direct reply to the practice of an amateur tile-maker is the words "mix manganese." Now, will you be good enough to give this instruction in a little more detail?

FLAX CROP: *H Haycroft.* The seed which has sprung up among your Flax appears to have been that of Woad, Isatis tinctoria, as far as we can judge from the very young specimens you have sent. It may have been mixed with Clover, but if so it was probably done accidentally.

GRASS SEEDS: *X.* If sown during the late wet weather they will do well enough.

IS A COW IN CALF? *X.* Experienced people can generally tell by feeling, although they are sometimes deceived. *W. C. S.*

MILK OF LIME: *Dorset.* We have not a recipe by us, but it is obtained by slacking quick-lime, and then adding water, until the mixture is about the consistence of a thinnish cream.

OSIERS: *T B.* We know of no book specially on the subject You will find the subject treated in Blackie's "Cyclopædia of Agriculture." Look at the indices of past vols. of the *Gardeners' Chronicle.*

WATER-PROOFING: *Z.* We will endeavour to procure a recipe.

WILL OILING GAD FLY TUMOURS DESTROY THE GRUB? *W W R* We do not think it would, though no doubt the oil would prevent the deposition of the gad-fly. *W. C. S.*

Markets.

COVENT GARDEN, JUNE 26.

Vegetables and fruit are plentiful. The supply of English Pine-apples is remarkably good, but the prices are getting lower; the same may be said of Hothouse Grapes. Strawberries exhibit the ill effects of the late unfavourable weather. A few dessert Apples may still be obtained. Oranges are plentifully supplied, and very good. Nuts are nearly the same as last quoted. A large quantity of French Cherries has been supplied during the week, some of them bringing only 3d. per lb. Young Carrots, Beans, and Artichokes continue to be supplied from France. New Potatoes are coming in very plentifully; 240 tons were sold in the market last week. Peas are improving in quality. Mushrooms are dearer. Cut flowers consist of Heaths, Epacrises, Cinerarias, Mignonette, Roses, Azaleas, Primulas, Lily of the Valley, and other bulbs.

FRUIT.

Pine-apples, per lb., 4s to 8s	Lemons, per doz., 1s to 2s
Grapes, hothouse, p. lb., 3s to 8s	Oranges, per doz., 1s to 1s 6d
Peaches, per doz., 10s to 24s	— per 100, 3s 6d to 10s
Nectarines, per doz., 10s to 24s	— Seville, per doz., 1s to 3s
Melons, each, 2s to 6s	Nuts, Barcelona, per bush, 20s to 22s
Cherries, per lb., 4d to 3s	— Brazil, p. bsh., 12s to 14s
Strawberries, p. pott., 6d to 1s6d	Cobs, per 100 lbs., 100s
Almonds, per peck, 5s	
— sweet, per lb., 2s to 3s	

VEGETABLES.

Cabbages, per doz., 6d to 1s 3d	Garlic, per lb., 8d to 1s
French Beans, p. 100, 1s to 2s	Lettuce, Cab., per score 4d to 1s
Cauliflowers, per dozen, 2s to 6s	— Cos, p. score, 3d to 1s
Asparagus, p. bundle, 1s to 4s	Radishes, per doz., 8d to 1s
Greens, per doz., 1s to 1s 6d	— Turnip, 9d to 1s 6d
Rhubarb, p. bundle, 3d to 4d	Small Salads, p. pun., 2d to 3d
Potatoes, per ton, 45s to 80s	Horse Radish, p. bundle, 1s to 1s
— per cwt., 2s to 5s	Mushrooms, p. pott., 9d to 1s6d
— per bush., 1s 6d to 2s 6d	— per punnet, 6d to 9d
— New (border), do., 3d to 6d	Sorrel, per hf. sieve, 6d to 1s
Turnips, per doz., 3s to 6s	Artichokes, Jerus., do., 9d to 1s
Cucumbers, each, 2d to 6d	Fennel, per bunch, 2d to 3d
Celery, per bundle, 1s to 1s 6d	Savory, per bunch, 2d to 3d
Carrots, p. bun., 7d to 1s	Thyme, per bunch, 2d to 3d
Spinach, per sieve, 9d to 1s 3d	Parsley, p. doz. buchs., 2s to 3s
Onions, per bunch, 2d to 8d	Mint, per bunch, 2d to 4d
— Spanish, p. doz., 1s 3d to 3s	Basil, green, p. bunch, 6d
Beet, per doz., 1s to 2s	Marjoram, do., 3d to 6d
Leeks, per bunch, 4d to 6d	Watercresses, per 12 bunches, 9d to 1s
Shallots, per bunch, 4d	

HAY.—Per Load of 36 Trusses.

SMITHFIELD, June 24.

Prime Meadow Hay	78s to 84s		Clover	...	86s to 97s
Inferior do.	... 70	75	2d cut	...	... 78 86
Rowen	... 65	—	Straw	...	... 28 32
New Hay	... —	—			J. COOPER.

The supply short and trade brisk.

CUMBERLAND MARKET, June 24.

Prime Meadow Hay	86s to 90s		Inferior Clover	...	84s to 90s
Inferior do.	... 70	80	New do.	...	... — —
New Hay	... —	—	Straw	...	... 28 33
Old Clover	... 94	100			JOSHUA BAKER.

WHITECHAPEL, June 24.

Fine old Hay	... 75s to 80s		Old Clover	...	... 90s to 96s
New Hay	... —	—	Inferior do.	...	... 70 84
Inferior do.	... 60	70	New Clover	...	... — —
Straw	... 23	28	Inferior do.	...	... — —

HOPS.—BOROUGH MARKET, June 25.

Messrs. Pattenden and Smith report that the accounts from the plantations are generally of a favourable nature; the low stiff soils are suffering from too much wet. Worcester has still a good deal of blight, and it is reported there is an increase of fly at Farnham. Our market is firm at the late advance, with scarcely anything on offer. Nothing doing on the duty.

POTATOES.—SOUTHWARK, June 21.

The committee report, that during the past week there has not been any arrivals either coastwise or by rail worth mentioning. Salesmen have been enabled to realise more money of few Potatoes that are left, owing to the wet weather. This will close the report for the season. The following are this day's quotations:—York Regents, 140s. to 160s.; Scotch Cups, 120s. to 150s.

WOOL.

BRADFORD, THURSDAY, June 24.—The demand for the better classes of English Wool during the preceding week has been active, and owing to the limited supply in the hands of the trade, and the very high rates which farmers are realising for their new clips, prices have ranged strongly in favour of the sellers. Considerable excitement prevails in almost all the wool-growing districts, and it remains to be seen whether spinners feel so far satisfied with the actual position, or the immediate prospects of the trade, as to concede the high prices now current. Noils and brokes are a good sale, at firm prices.

COAL MARKET.—FRIDAY, June 25.

Eden Main, 15s; Hasting's Hartley, 14s.; Wallsend Haswell, 16s. 3d.; Wallsend Hetton, 16s.; Wallsend Lambton, 15s. 6d.; Wallsend Stewarts, 16s.—Ships at market, 105.

SMITHFIELD.—MONDAY, June 21.

The number of Beasts is small, and the average quality very middling; consequently there is a brisk demand for choice descriptions, a advanced rates. Our top quotation has been rather exceeded for a few choice Scots. The supply of Sheep and Lambs is large; however, there is a demand for them, at rather lower prices than on Monday last. Trade is very heavy for Calves, and to effect a clearance lower prices are submitted to. From Germany and Holland there are 497 Beasts, 2540 Sheep, and 272 Calves; from Scotland, 450 Beasts; from Norfolk and Suffolk, 2400; and 200 from the northern and midland counties.

Per st. of 8lbs.—s d	s d	Per st. of 8lbs.—s d	s d
Best Scots, Here-		Best Long-wools . 0 0	to 0 0
fords, &c. ... 3 10	to 4 0	Do. Shorn ... 3 6	— 3 8
Best Short-horns 3 6	— 3 8	Ewes & 2d quality 0 0	— 0 0
2d quality Beasts 2 10	— 3 4	Do. Shorn 2 8	— 3 2
Best Downs and		Lambs 4 4	— 5 0
Half-breds ... 0 0	— 0 0	Calves 2 4	— 3 8
Do. Shorn 3 8	— 4 0	Pigs 2 8	— 3 6

Beasts, 3639; Sheep and Lambs, 29,690; Calves, 385; Pigs, 340.

FRIDAY, June 25.

We have a fair supply of Beasts for the time of year; there is a demand for them, at about the same rates as on Monday last. The number of Sheep and Lambs is considerable. The weather setting in hot has caused a depression in the trade for Sheep; but for lambs it is not worse. Although there is a large number of Calves at market, choice ones are not very plentiful. Quotations remain unaltered. From Germany and Holland we have 157 Beasts, 1260 Sheep, 425 Calves, and 10 Pigs; from Spain, 420 Sheep; from Scotland, 6 Beasts; from Norfolk and Suffolk, 300; 50 from the northern and midland, and 113 Milch Cows from the home counties.

Per st. of 8lbs.—s d	s d	Per st. of 8lbs.—s d	s d
Best Scots, Here-		Best Long-wools . 0 0	to 0 0
fords, &c. ... 3 8	to 4 0	Do. Shorn ... 3 4	— 3 8
Best Short-horns 3 6	— 3 8	Ewes & 2d quality ...	
2d quality Beasts 2 10	— 3 4	Do. Shorn ... 2 6	— 3 0
Best Downs and		Lambs 4 0	— 5 0
Half-breds ... 0 0	— 0 0	Calves 2 4	— 3 8
Do. Shorn ... 3 8	— 4 0	Pigs 2 8	— 3 8

Beasts, 866; Sheep and Lambs, 13,620; Calves, 724; Pigs, 640.

MARK LANE.

MONDAY, June 21.—The supply of English Wheat to this morning's market by land carriage samples was small, and disposed of at an advance of 1s. per qr. upon the prices of this day se'nnight. Foreign met an improved inquiry, but buyers are unwilling to comply with any advance. Flour is unaltered in value.—Barley sells slowly at late rates.—Beans and Peas must be written 1s. to 2s. per qr. dearer.—The Oat trade is dull, and inferior qualities are 6d. per qr. cheaper.

PER IMPERIAL QUARTER.	s. s.		s. s.
Wheat, Essex, Kent, & Suffolk...White	45—47	Red	40—41
— — fine selected runs...ditto	46—49	Red	41—43
— — Talavera	45—50		
— Norfolk	39—41	Red	—
— Foreign.....	36—52		
Barley, grind. & distil., 26s to 29s.., Chev.	30—35	Malting .	29—31
— Foreign ...grinding and distilling	21—28	Malting .	—
Oats, Essex, and Suffolk.....	20—21		
— Scotch and Lincolnshire...Potato	21—24	Feed.....	20—22
— Irish .....Potato	20—23	Feed.....	19—22
— Foreign .....Poland and Brew	18—20	Feed.....	16—19
Rye	—	Foreign .	—
Rye-meal, foreign	—		
Beans, Mazagan.....27s to 31s.....Tick	28—32	Harrow .	28—32
— Pigeon .....28s — 34s...Winds.	—	Longpod	—
— Foreign .....Small	28—33	Egyptian	26—27
Peas, white, Essex and Kent.....Boilers	37—39	Suffolk...	38—40
— Maple.....30s to 34s.....Grey	30—32	Foreign .	30—38
Maize .....White	—		—
Flour, best marks delivered...per sack	37—40	Yellow...	
— Suffolk .....ditto	25—32	Norfolk .	25—32
— Foreign..... per barrel	17—23	Per sack	28—34

FRIDAY, June 25.—The arrivals of grain this week, have been moderate, but good of Flour. To-day's market was badly attended, and scarcely any business in Wheat and Flour was transacted; prices may be considered nominally the same as on Monday. The same will apply to all descriptions of spring corn. We do not hear of any transactions in floating cargoes from the Mediterranean to-day.

IMPERIAL AVERAGES.

	WHEAT.	BARLEY.	OATS	RYE.	BEANS.	PEAS.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
May 15.....	41 3	28 3	19 10	30 0	31 5	29 5
— 22.....	40 6	27 10	20 1	30 5	31 0	30 2
— 29.....	40 5	27 11	20 1	30 0	31 6	27 9
June 5.....	40 7	27 5	20 8	30 6	31 7	31 2
— 12.....	40 11	27 6	20 0	29 8	31 10	31 2
— 19.....	40 9	27 5	20 2	30 7	32 0	31 9
Aggreg. Aver.	40 9	27 9	20 2	30 2	31 7	30 2

Duties on Foreign Grain, 1s. per qr.

FLUCTUATIONS IN THE LAST SIX WEEK'S AVERAGES.

PRICES.	MAY 15	MAY 22.	MAY 29.	JUNE 5.	JUNE 12.	JUNE 19.
41s 3d		...	...	...	...	...
40 11 —	...	...	...			
40 9	...	...	...	...	...	
40 7	...	...			...	...
40 6	...		...	...	...	...
40 5	...	...		...	...	...

LIVERPOOL, TUESDAY, June 22.—The market this morning was well attended by buyers. Wheat was in good request for consumption, fresh qualities commanding an advance of fully 1d. per bushel over the price of this day se'nnight. American Flour was not any dearer. Indian Corn has declined fully 1s. 3d. per qr. on the week. Oats slightly easier in price, but in fair demand. Egyptian Beans were 6d. to 9d. per qr. higher, and not many offering. Oatmeal, Barley, and Peas were without change in value. The weather continues cold and unpromising —— FRIDAY, June 18.—The arrivals since Tuesday from Ireland and coastwise are very light. At this morning's market there was a fair attendance of town and country dealers, and a good demand was experienced for Wheat and the best marks of sack and barrel Flour, at the extreme rates of Tuesday last. Oats and Oatmeal were much neglected, but our last quotations were supported. Beans were in improved demand, at fully late rates. Indian Corn met a very dull sale, and all descriptions were freely offered at a decline of 6d. per 480 lbs., without leading to much business. No change in other articles

HAY WILL BE DEAR THIS YEAR, SO USE ALL MEANS TO GET IT UP WELL.

(Copy.) "Neatham, near Alton, Hants, July 2, 1850.

"MADAM,—Your Haymaking Machine and Rake do their work remarkably well; last year I employed 30 haymakers tedding the Grass and turning it; this year, on the same land, I have used your Machine with two horses and one man, and will defy any hand-power to equal it.

"I am, Madam, yours truly, THOMAS LILLYWHITE."

"To MARY WEDLAKE, 118, Fenchurch-street."

DAMP WALLS.

NEW PATENT PAINT, as used at the TOWER, by order of Her Majesty's Honourable Board of Ordnance; at the TUNNEL; ZOOLOGICAL GARDENS, Regent's Park, and various other public and private buildings; in quantities to finish 20 square yards for 10s.

PATENT LIQUID CEMENT for the fronts of houses, for beauty pre-eminent, giving the appearance of fine cut stone, and only one-eighth the cost of oil paint. In casks of 1, 2, and 3 cwt., at 8s, 15s., and 21s. each.

PATENT MINERAL ZINC PAINTS, invaluable for cheapness, beauty, and permanence, ready for use. White Stone and Lead, 5s.; Greens and Blues, 6s. per gallon.

BLACK MINERAL PAINT, very permanent, half the usual price, only 2s. per gallon.

NEW PATENT COLOUR for inside work, may be applied on Wood, Stucco, Cement, or over Oil Paint. No smell, and will dry in an hour. In casks of 1 cwt., at 14s.

G. BELL AND CO., Steam Mills, 2, Wellington-street, Goswell-street, London.

CARSON'S ORIGINAL ANTI-CORROSION PAINT, especially patronised by the British and other Governments, the Hon. East India Company, the principal Dock Companies, most public bodies, and by the Nobility, Gentry, and Clergy, for out-door work at their country seats. The Anti-Corrosion is particularly recommended as the most durable out-door Paint ever invented, for the preservation of every description of Iron, Wood, Stone, Brick, Compo, Cement, &c., work, as has been proved by the practical test of upwards of 60 years, and by the numerous (between 500 and 600) testimonials in its favour, and which, from the rank and station in society of those who have given them, have never yet been equalled by anything of the kind hitherto brought before the public notice.

Lists of Colours, with Prices, together with a Copy of the Testimonials, will be sent on application to WALTER CARSON and SON, No. 9, Great Winchester-street, Old Broad-street, Royal Exchange, London.—No Agents. All orders are particularly requested to be sent direct.

NEW MODE OF APPLYING HEAT,
SUITED FOR VINERIES, PINERIES, AND EVERY STRUCTURE REQUIRING ARTIFICIAL HEAT.

THE ARNOTT STOVE, BOILER, AND EXPANSION PIPES, may be had of W. BEALES, wholesale Ironmonger and Working Engineer, Louth, Lincolnshire. The above is an entire deviation from the present system of heating by hot water, and attended by the greatest success; being the best in design, the best in construction, and the simplest in principle. Reference in Town will be given on application, and at the Nurseries of Messrs. RIVERS, Sawbridgeworth; Herts, where it may be seen at work, and is pronounced by them to be the best mode of heating yet invented, as ripe Grapes in quantity were cut by this plan on the 8th of April, at the cost of 2½d. for 24 hours' fuel. Every description of building fitted with hot water, in any part, if required; and Boilers at 25s. each, half the usual charge, of first-rate workmanship.

Establishment, Louth, Lincolnshire.

BEDSTEADS, BATHS, AND LAMPS.
WILLIAM S. BURTON has FOUR LARGE SHOW-ROOMS devoted exclusively to the SEPARATE DISPLAY of Lamps, Baths, and Metallic Bedsteads. The stock of each is at once the largest, newest, and most varied ever submitted to the public, and marked at prices proportionate with those that have tended to make his establishment the most distinguished in this country.

Bedsteads, from	10s. 6d. to 12l. 0s. each.
Shower Baths, from	7s. 0d. to 5l. 15s. each.
Lamps (Palmer's), from	1s. 6d. to 5l. 0s. each.

(All other kinds at the same rate).

Palmer's Candles.....6½d. per lb.

TEA URNS, of LONDON MAKE ONLY.—The largest assortment of London-made TEA-URNS in the world (including all the recent novelties, many of which are registered), is on Sale at WILLIAM S. BURTON'S, from 27s. to 6l.

CUTLERY, WARRANTED.—The most varied assortment of TABLE CUTLERY in the world, all warranted, is on SALE at WILLIAM S. BURTON'S, at prices that are remunerative only because of the largeness of the sales. 3½-inch Ivory handled table knives, with high shoulders, 10s. per dozen; desserts, to match, 9s.; if to balance, 1s. per dozen extra; carvers, 2s. 6d. per pair; larger sizes, in proportion, to 25s. per dozen; if extra fine, with silver ferrules, from 36s.; white bone table knives, 6s. per dozen; desserts, 4s.; carvers, 2s. per pair; black horn table knives, 7s. 4d. per dozen; desserts, 6s; carvers, 2s. 6d; black wood-handled table knives and forks, 6s. per dozen; table steels, from 1s. each. The largest stock of plated dessert knives and forks, in cases and otherwise, and of the new plated fish carvers, in existence. Also a large assortment of RAZORS, PENKNIVES, SCISSORS, &c., of the best quality.

WILLIAM S. BURTON has TEN LARGE SHOW ROOMS (all communicating), exclusive of the shop, devoted solely to the show of GENERAL FURNISHING IRONMONGERY (including Cutlery, Nickel Silver, Plated and Japanned Wares, Iron and Brass Bedsteads, so arranged and classified that purchasers may easily and at once make their selections.

Catalogues, with Engravings, sent (per post) free. The money returned for every article not approved of.

39, OXFORD-STREET (corner of Newman-street); Nos. 1 and 2, NEWMAN STREET; and 4 and 5, PERRY'S-PLACE.

METCALFE AND Co.'s NEW PATTERN TOOTH-BRUSH and SMYRNA SPONGES.—The Tooth-Brush has the important advantage of searching thoroughly into the divisions of the teeth, and cleaning them in the most extraordinary manner, and is famous for the hairs not coming loose.—1s. An Improved Clothes-Brush, that cleans in a third part of the usual time, and incapable of injuring the finest nap. Penetrating Hair-Brushes, with the durable unbleached Russian bristles, which do not soften like common hair. Flesh-Brushes of improved, graduated, and powerful friction. Velvet-Brushes, which act in the most surprising and successful manner. The genuine Smyrna Sponge, with its preserved valuable properties of absorption, vitality, and durability, by means of direct importations, dispensing with all intermediate parties' profits and destructive bleaching, and securing the luxury of a genuine Smyrna Sponge. Only at METCALFE, BINGLEY, and Co.'s Sole Establishment, 130, Oxford-street, one door from Holles-street, London.

METCALFE'S ALKALINE TOOTH POWDER, 2s. per box. Caution.—Beware of the words "From METCALFE'S," adopted by some houses.

TO ALL PERSONS OF TASTE.

MR. MECHI, 4, Leadenhall-street, invites public attention to his display of Elegancies suitable for use or for presentation. Those who inspected Mr. MECHI'S display of manufactures at the Great Exhibition will be able to form a proper estimate of the general style and quality of his productions. He has endeavoured to combine for those who study economy, cheapness with elegance, and, in fact, to give to the cheapest article he manufactures a pleasing form and style. For instance, the Shilling Penknives and Sixpenny Toothbrushes are as useful in their class as the 50-guinea Dressing-case. The external and internal fittings of his Premises have been much improved, so as to harmonise more completely with the progressive elegance of his stock, and have been designed and carried out under his immediate plan and direction.

ELEGANCIES FOR PRESENTATION, &c.

Ladies and Gentlemen's Dressing-cases from 17s. 6d. to 200l.; Work-boxes from 10s to 40l.; Envelope-cases from 6s to 7l.; Writing-desks from 10s. to 55l., and an infinite variety of articles in Papier Mâché.

LEADING ARTICLES FOR EVERY-DAY USE.

Table Cutlery of every description; Razors, Scissors, Penknives, Hair, Nail, and Tooth Brushes, Combs, Electro-plated Forks and Spoons of very superior character and finish. Illustrated Catalogues gratis.—N.B. All articles of Cutlery, &c., ground and repaired on the premises daily.

THE ROYAL EXHIBITION.—A valuable newly-invented, very small, powerful, waistcoat-pocket Glass, the size of a Walnut, to discern minute objects at a distance of 4 to 5 miles, which is found to be invaluable for YACHTING, and to SPORTSMEN, GENTLEMEN, and GAMEKEEPERS.

TELESCOPES.—A new and most important INVENTION in TELESCOPES, possessing such extraordinary powers that some—3½ inches, with an extra eye-piece—will show distinctly Jupiter's Moon, Saturn's Ring, and the Double Stars. They supersede every other kind, and are of all sizes—for the waistcoat-pocket, Shooting, Military purposes, &c. Opera and Race-course Glasses with wonderful powers; a minute object can be clearly seen from ten to twelve miles distant.—Invaluable Acoustic Instruments for relief of extreme Deafness.

MESSRS. S. AND B SOLOMONS, OPTICIANS and AURISTS, 39, Albemarle-street, opposite the York Hotel, London.

THE ZOOLOGICAL GARDENS, REGENT'S PARK, are open to Visitors daily. The Collection now contains upwards of 1500 specimens, including the HIPPOPOTAMUS (presented by H.H. the Viceroy of Egypt), ELEPHANTS, RHINOCEROS, GIRAFFES, and young LEUCORYX, ELANDS, BONTE-BOKS, CAMELS, ZEBRAS, LIONS, TIGERS, JAGUARS, BEARS, OSTRICHES, and the APTERYX presented by the Lieutenant-Governor of New Zealand. All Visitors are now admitted to Mr. Gould's collection of HUMMING BIRDS without any extra charge.

The BAND of the 1st LIFE GUARDS will perform, by permission of Col. HALL, on every SATURDAY, at Four o'Clock until further notice.

Admission, ONE SHILLING; on MONDAYS, SIXPENCE.

PROTECTION FROM THE RAIN WITHOUT DETRIMENT TO HEALTH.—BERDOE'S well-known LIGHT OVERCOAT, the Waterproof Pallium, resists any amount of rain, WITHOUT OBSTRUCTING FREE VENTILATION (the fatal objection to all other waterproofs), and, from its lightness and respectability, is adapted for general use at ALL times equally as for RAINY weather, and has long been reputed one of the most convenient, economical, and valuable garments ever invented. Price 45s. and 50s. A very large stock for selection also of CAPES, SHOOTING JACKETS, LEGGINGS, &c. CLOAKS, MANTLES, HABITS, &c., for Ladies.—W. BERDOE, TAILOR, &c., 96, NEW BOND-STREET; and 69, CORNHILL, London (only).

NOTWITHSTANDING the numerous preparations for the hair which are daily put before the public, ROWLANDS' MACASSAR OIL continues unrivalled, and the successful results of the last half century have proved beyond question that it is endowed with singularly nourishing powers in the growth and restoration of the human hair; and, when every other known specific has failed, it preserves and reproduces the hair—prevents it from turning gray, or, if so changed, restores it to its original colour—frees it from scurf—renders it soft, silky, curly, and glossy—and retains it in curl and other decorative form unaffected by the variations of the atmosphere, or the effects of the crowded assembly—facts abundantly proved by numerous testimonials. For children, it is especially recommended, as forming the basis of a beautiful head of hair, and rendering the use of the fine comb unnecessary. This oil is the friend of both sexes, for while it adds to the charms of female beauty, it enhances the graces of manhood, by producing whiskers, moustachios, &c. Price 3s. 6d. and 7s.; or family bottles (equal to four small) at 10s. 6d.; and double that size, 21s.

CAUTION.—On the wrapper of each bottle are the words, Rowlands' Macassar Oil, in two lines; the same are engraved on the back of the wrapper nearly 1500 times, containing 29,028 letters.—Sold by A. ROWLAND & SONS, 20, Hatton Garden, London; and by all chemists and perfumers.

YOURSELF! WHAT YOU ARE, AND WHAT FIT FOR.—ELLEN GRAHAM continues to give her novel and interesting delineations of character from an examination of the Handwriting, in a style of description peculiarly her own, filling the four pages of a sheet of paper. Persons desirous of knowing their true character, or that of any friend, must send a specimen of the writing, stating sex and age, or supposed age (inclosing 13 postage stamps), to Miss GRAHAM, 14, Handcourt, Holborn, London, and they will receive, in a few days, a minute detail of the gifts, defects, talents, tastes, affections, &c., of the writer, with many other things hitherto unsuspected.

DO YOU WANT LUXURIANT HAIR, WHISKERS, &c.?—EMILY DEAN'S CHINILENE has been pronounced by thousands to be the only preparation that can be relied upon for the Restoration of the Hair in Baldness from any cause, preventing the Hair falling off, strengthening weak Hair, and checking Greyness, and for the production of Whiskers, Moustachios, Eyebrows, &c., in a few weeks with certainty. It is elegantly scented, and sufficient for three months' use; will be sent, post free, on receipt of 24 postage stamps, by Miss DEAN, 48, Liverpool-street, King's Cross, London.—Testimonials: Dr. Thomson says, "It is a beautiful preparation, and the only one I can recommend."—"It perfectly restored my Hair, after seven years' baldness." Major HERN.

RUPTURES EFFECTUALLY CURED WITHOUT A TRUSS.

DR. BARKER continues to supply the afflicted with his celebrated Remedy for this alarming complaint, the great success of which, for many years past, renders any further comment unnecessary. It is easy and painless in use, causing no inconvenience or confinement, and is applicable to every variety of single and double Rupture, however bad or of long standing, in male or female of any age. The remedy, with full instructions for use, will be sent post free to any part of the Kingdom, on receipt of 7s in postage stamps, or Post-office order, by Dr. ALFRED BARKER, 48, Liverpool-street, King's Cross, London, where he may be consulted daily, from 10 till 1 and 4 till 8 o'clock (Sundays excepted).

WANTED, in October next, an UNFURNISHED DETACHED RESIDENCE, in the neighbourhood of Hampstead or Highgate, or any other locality equally high and dry, within six miles of London; to contain three sitting rooms, six best bed-rooms, with one or two dressing-rooms, and four servants' bed-rooms, double coach-house, and two-stall stable, small grounds, &c.—Address, Mrs. DEE, at Mr. Buckles's, 86, New Bond-street, stating particulars, with Rent and Taxes, &c.

RIPE FRUIT, STRAWBERRIES, AND SEED BEDS.—NEW TWINE NETTING (Tanned it required). 1 yard wide, 1½d. per yard; 2 yards wide, 3d. per yard; 4 yards wide, 6d. per yard; half-inch mesh ditto. 2 yards wide, 5d. per yard. The ELASTIC HEXAGON GARDEN NETTING, 76 meshes to the square inch, effectually excludes birds, wasps, flies, &c. from fruit-trees, flower or seed-beds, 4½d per square yard. Tanned Netting, 2 or 3 yards wide, 1½d per yard; 4 or 6 yards wide, 3d. per yard—exactly the same as advertised by others at double the above prices. Coir or Hemp Sheepfolding Net, of superior quality, 4 feet high, 4d. per yard. Lamb Net, 6d. per yard. Rabbit Net, 1½d. per yard, 4 feet wide; each Edge Corded, 2d. per yard, suitable for fowl fencing. Square Mesh Cricketing Net, fix its full width and length, made of stout cord, 3d. per square yard; this is the best article made for fencing, against fowls, cats, &c. The largest, cheapest, and best stock in the world, at W. CULLINGFORD'S, 1, Strathmore-terrace, Shadwell, London. The trade supplied. Orders by post punctually attended to. Fishing Nets of all kinds in Stock.

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THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 27.—1852.] SATURDAY, JULY 3. [PRICE 6*d*.

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HORTICULTURAL SOCIETY OF LONDON:—

HIS GRACE THE PRESIDENT has kindly directed the Grounds of Chiswick House to be opened for the reception of the Visitors to the Society's Gardens at the NEXT EXHIBITION, on SATURDAY, the 10th JULY. Tickets are issued at this Office, price 5*s*.; or at the Garden, in the afternoon of the 10th July, at 7*s*. 6*d*. each. Respectable strangers, or residents in the country, who will forward their addresses in writing to the Vice-Secretary, 21, Regent-street, on or before Thursday, the 8th of July, may obtain from that Officer an authority to procure Tickets.—21, Regent-street, London.

THE GRAND NATIONAL HORTICULTURAL

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Mr. JOHN HEAD, } Borough of Lewes.

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*** All persons intending to compete at this Show must give notice on Forms properly filled up (which may be obtained of the Secretary) on or before the 6th July next.

THE GARDENERS' ROYAL BENEVOLENT

INSTITUTION.—At a General Meeting of the Members of this Society, held on WEDNESDAY, the 30th June, 1852, at the Horticultural Society's Rooms, 21, Regent-street, for the election of Two Pensioners on the funds of the charity, the following was the result of the ballot:—

Name.	Application.	Age.	Votes.
EDWARD MARSHALL	11th	72	309
JOHN APPLEBY	7th	60	159
JAMES BATTEY	6th	69	400
CORNELIUS ROBINSON	5th	75	135
JOHN SNOW	5th	69	388
JOHN HOPKINS	4th	66	29
HENRY SCHNEIDER	4th	87	162
WILLIAM CARTER	3d	72	11
JAMES GREEN	3d	62	373
WILLIAM JACKSON	2d	70	422
JOHN MEARNS	2d	73	400
JOHN BLACKE	1st	78	9
SARAH LAWRENCE	1st	64	94
ROBERT OLIVER	1st	70	59
WILLIAM THACKER	1st	65	3

The meeting then declared William Jackson, as having the greatest number of votes, duly elected a Pensioner of this Society.

From the scrutineers' report, it appeared that the votes for James Battey and John Mearns were equal.

It was settled by the meeting that the election between these two candidates should be decided by a show of hands.

Upon the question being put from the chair, there were 16 hands for Battey (he having been a subscriber), and one for Mearns.

The chairman then declared James Battey duly elected a Pensioner of this Society. EDWARD ROGER CUTLER, Sec.,
July 3. 97, Farringdon-street.

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JOHN HENCHMAN begs to inform his friends that he has ready a few Packets of SEED, saved with great care from his well known and choice collection of Cinerarias and Calceolarias, at 2*s*. 6*d*. each.—Edmonton, July 3.

NEW PLANTS INTRODUCED BY MR. FORTUNE.

STANDISH AND NOBLE beg to announce that they possess all the highly interesting plants introduced by Mr. Fortune, and mentioned by him in his recent popular work on China. Many of them are now on sale. Of the others, due notice will be given, as they are ready to send out. Every particular may be obtained by applying to the Advertisers.—Bagshot, July 3.

EDWARD GEORGE HENDERSON AND SON

Wellington-road Nursery, St. John's Wood, London, are now prepared to forward, by post, CINERARIA SEED, saved from the best formed flowers, such as Cerito, Lady Hume Campbell, Adela Villiers, Pauline, Rosy Morn, Marianne, David Copperfield, Effie Deans, Carlotta Grisi, Prima Donna, &c.

E. G. H. and SON also beg to say, that the varieties of Calceolarias from which the seed is saved can now be seen in full bloom at the Nursery. Early orders are requisite to insure this seed, which will be sent out in July, at 5*s*. per packet.

NEW CAMELLIA.

JACKSON'S "COUNTESS OF ELLESMERE."—The undersigned are now sending out the above, price 42*s*. each; and for every three ordered one added gratis. On the 8th of April last it was awarded by the National Floricultural Society of London a first-class Certificate, and received the highest commendation; it is described as being of first-rate form, with broad cupped petals, of a bluish white, faintly striped with rose (see *Gardeners' Chronicle* and Gardeners' Journal for report of meeting, April 17). It is figured in the "Florist" for May, 1851, and is again mentioned in the "Florist" for this month, as having been exhibited, and deserving to be placed in every collection. It has the beautiful form of the Coup d'Hébé Rose.—THOMAS JACKSON and SON, Nurserymen, Kingston, near London (on the South Western Railway).

SUPERB SEEDLING FUCHSIAS.

LUCOMBE, PINCE AND CO. are now ready to send the following new FUCHSIAS:—

APOLLO (PINCE'S).—Rosy tube and sepals, well reflexed; corolla purplish lilac, finely expanded. 10*s*. 6*d*.

ASPASIA (PINCE'S).—Scarlet tube and sepals, finely reflexed; corolla beautiful blue. 10*s*. 6*d*.

PRINCEPS (PINCE'S).—Brilliant scarlet-lake tube and sepals, reflexed to a greater extent than any other Fuchsia, which produces a novel and most attractive effect; corolla deep blue. 10*s*. 6*d*.

L., P., and Co., as the raisers of "Exoniensis" and "Coralina," which gave such general satisfaction, can with confidence recommend the above to all cultivators of this favourite flower, having fully tested their qualities last season, during the whole of which, in their new Show House, they were seen and admired by numerous visitors. They possess waxy firmness, and are particularly smooth and fine in quality, void of all coarseness, of excellent habits, and blooming most profusely; indeed, the high character which these Fuchsias have obtained, from their having been so generally seen in all their stages, render it unnecessary to say any more in their praise.

Specimen plants of the above may now be seen in flower at the Exeter Nursery, to which they particularly beg leave to call attention.—Exeter Nursery, Exeter, July 3.

EXHIBITION OF ROSES.

G. CLARKE, NURSERYMAN, Streatham-place, Brixton-hill (3½ miles from London), informs his patrons and admirers of ROSES that his unrivalled collection, consisting of above 1400 varieties, comprising all the new varieties from Belgium, France, &c., (extending over 10 acres of ground, will be in full bloom by the 14th of July, free to visitors. Orders taken for plants now in bloom, and executed in November. A good collection of specimen Ericas, Azaleas, Conifers, Evergreens, &c.

PROTECTION OF PLANTS FROM THE HEAT

OF THE SUN.—Use E. F. ARCHER'S HAIR CLOTH, a perfect non-conductor of heat, and admitting light without heat, where a covering is required; it is 2 yards wide, and any length, at 1*s*. 4*d*. per yard, and much cheaper than Bass Mats.
E. F. ARCHER, 451, Oxford-street, London.

TANNED NETTING, for the Protection of Fruit

Trees from Frost, Blight, and Birds, and for the security of Fresh-sown Seeds, either in Gardens or Fields, at 1*d*. per yard; 200 yards for 14*s*., 500 yards for 30*s*, 1000 yards for 50*s*; Wax Netting, for aviaries, &c., at 3*d*. per square yard. Scrim Canvas for wall fruit. Sun Blinds in great varieties; Rick Cloths, with poles, &c. Marquees, Tents, Tarpaulings, &c.—At EDGINGTON and Co.'s, 17, Smithfield-bars, and Old Kent-road, London.

RIPE FRUIT, STRAWBERRIES, AND SEED

BEDS.—NEW TWINE NETTING (Tanned if required). 1 yard wide, 1½*d* per yard; 2 yards wide, 3*d*. per yard; 4 yards wide, 6*d*. per yard; half-inch mesh ditto, 2 yards wide, 5*d*. per yard. The ELASTIC HEXAGON GARDEN NETTING, 76 meshes to the square inch, effectually excludes birds, wasps, &c., from fruit-trees, flower or seed beds, 4½*d* per square yard. Tanned Netting, 2 or 3 yards wide, 1½*d*. per yard; 4 or 6 yards wide, 3*d*. per yard—exactly the same as advertised by others at double the above prices. Coir or Hemp Sheepfolding Net, of superior quality, 4 ft. high, 4*d*. per yard. Lamb Net, 6*d*. per yard. Rabbit Net, 1½*d*. per yard, 4 ft. wide; each Edge Corded, 2*d*. per yard, suitable for fowl fencing. Square Mesh Cricketing Net, fix its full width and length, made of stout cord, 3*d*. per square yard; this is the best article made for fencing, against fowls, cats, &c. The largest, cheapest, and best stock in the world, at W. CULLINGFORD'S, 1, Strathmore-terrace, Shadwell, London. The trade supplied. Orders by post punctually attended to. Fishing Nets of all kinds in Stock.

FOUNTAINS.

MR. SEELEY having printed a List of some Small Designs of FOUNTAINS suitable for Conservatories or small Gardens, will be happy to forward a copy to any gentleman requiring such an ornament.

Nos. 1 to 4, Keppel Row, New Road, Regent's Park, London.

N.B.—Several new designs for Sun-dial pedestals have been lately modelled.

WARRANTED GARDEN TOOLS.

DEANE, DRAY, AND Co.'s STOCK OF GARDEN TOOLS for the season is now complete, and includes every recent approved invention, in addition to their usual large assortment, selected from all the best makers.

DEANE, DRAY, and Co. are London Agents for GIDNEY'S PRUSSIAN HOE, which obtained the First Prize Silver Medal at the Tarvin Grand National Exhibition; also Sole Agents for Lingham's Menographs and Metallic Labels, samples of which may be had on application, post free. They have always on hand a stock of BROWN'S PATENT FUMIGATORS, which have stood the test of three seasons, and continue to give general satisfaction; also Epps' Registered Sulphurator for destroying Mildew upon Grapes, Hops, Roses, Fruit Trees, &c. An Illustrated Priced Catalogue sent per post, free.

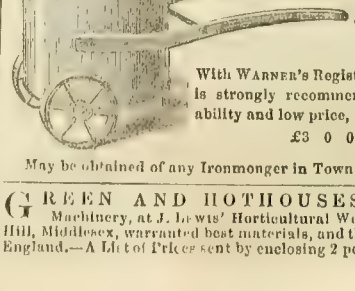
DEANE, DRAY, and Co. (opening to the Monument), London-bridge.

COCHIN CHINA CHICKENS.—Price 25*s*. per

pair. A lemon-coloured Cock, 12 months old, and a very superior Hen, 2*l*. 10*s*. A Malay Cock and Six Hens, 3*l*. 3*s*.—Address to THOMAS PAGE, Chatteris, Cambridgeshire.

SHANGHAI AND COCHIN CHINA CHICKENS

from the first prize birds; the Cock Chickens are 4 months old, weight 4½ lbs.; the Pullets are 2 months old, weight 2 lbs., fine buff colour, heavily feathered legs. W. TURNER, Tulnell-park, Holloway, London.—P.S. Gold Pheasants for sale; also a pair of white Cochin China fowls.



JOHN WARNER AND SONS,

CRESCENT, JEWIN STREET, LONDON,
MANUFACTURERS OF
FIRE ENGINES, GARDEN ENGINES, AND SYRINGES.

No. 12 GALVANISED IRON TUB GARDEN ENGINE,

With WARNER'S Registered Spreader, is strongly recommended for durability and low price, viz.:—

£3 0 0

May be obtained of any Ironmonger in Town or Country.

GREEN AND HOTHOUSES, made by

Machinery, at J. Lewis' Horticultural Works, Stamford Hill, Middlesex, warranted best materials, and the cheapest in England.—A List of Prices sent by enclosing 2 postage stamps.

HARTLEY'S PATENT ROUGH PLATE GLASS,

FOR RIDGE AND FURROW ROOFS, GREENHOUSES, RAILWAY STATIONS, ENGINE SHEDS, MILLS, MARKET-HALLS, AND PUBLIC BUILDINGS GENERALLY.

FOR CONSERVATORIES, PUBLIC BUILDINGS, MANUFACTORIES, SKYLIGHTS, &c., &c.	¼th inch thick.	3-16th inch thick.	¼ inch thick.
PACKED IN CRATES, for cutting up of the sizes as Manufactured :—	s. d.	s. d.	s. d.
30 inches wide and from 40 to 50 long	0 6	0 8	0 10
Or 20 ,, ,, 50 to 70 ,, ...			
IN SQUARES, cut to the sizes ordered :—			
Under 8 by 6	0 4	0 6	0 7
8 by 6 and under 10 by 8	0 4½	0 7	0 8
10 by 8 ,, 14 by 10	0 5	0 7	0 9
14 by 10 ,, 1½ feet super., if the length does not exceed 20 inches	0 5½	0 7	0 9
1½ feet sup. ,, 3 ,, or if above 20, and not above 30 inches long... ..	0 6	0 8	0 10
3 ,, ,, 4 ,, ,, 20 ,, 30 ,, ...	0 6½	0 8	0 10
4 ,, ,, 5 ,, ,, 30 ,, 35 ,, ...	0 7	0 8½	0 10
5 ,, ,, 6 ,, ,, 35 ,, 40 ,, ...	0 7½	0 9	0 10½
6 ,, ,, 8 ,, ,, 40 ,, 45 ,, ...	0 8	0 9½	0 11
8 ,, ,, 10 ,, ,, 45 ,, 55 ,, ...	0 8½	0 10	1 0
10 ,, ,, 12 ,, ,, 55 ,, 70 ,, ...	0 9	0 11	1 1
12 ,, ,, 15 ,, ,, 70 ,, 85 ,, ...	.....	1 0	1 2

PACKED IN BOXES OF 50 FEET EACH:

Ins. Ins.	Ins. Ins.	s. d.
6 by 4 and 6½ by 4½	... ...	10 6
7 by 5 ,, 7½ by 5½	... ...	12 0
8 by 6 ,, 8½ by 6½	... ...	13 0
9 by 7 ,, 9½ by 7½ and 10 by 8	... ...	15 0

NOTE.—Squares are charged according to the superficial contents, except where the length exceeds the restriction above, in which case the higher price is charged irrespective of the contents.

Bending.—1-8th, 6d. ; 3-16ths, 9d.; ¼ inch, 1s. per foot, net.

*** *Irregular shapes are charged as squares.*

When Crates are ordered, the 30-inch widths will be sent, unless otherwise specified.

THE PATENT ROUGH PLATE, one-eighth of an inch thick, and weighing 2 lbs. to the foot, has now become an article of very extensive and increasing consumption.

It is universally admitted to be the best and most suitable Glass for Ridge and Furrow Roofs, Greenhouses, Factories, Workshops,

And all such like purposes, and is a cheap and efficient substitute for Fluted or Obscured Glass, where the object is to intercept the vision without diminishing the light. Its non-transparency, strength, and cost (being no more weight for weight than Common Sheet Glass), render it eminently suitable for the Glazing of Conservatories and Roofs of all kinds; Blinds are unnecessary, and when used in Greenhouses *no scorching occurs.*

Where still greater strength is required the 3-16ths and ¼ inch thick will be found much cheaper than the Common Rough Plate. Samples will be forwarded on application, by applying to

JAMES PHILLIPS AND CO.,

HORTICULTURAL GLASS MERCHANTS, 116, BISHOPSGATE-STREET WITHOUT, LONDON.

GLASS.

THOMAS MILLINGTON'S FOREIGN SHEET GLASS is far superior to any other manufacture, as well as cheaper. In 100-feet boxes packed for immediate delivery.

6 inches by 4 and 6½ by 4½	...	...	...	13s. 0d.
7 ,, 5 and 7½ by 5½	...	...	...	15 0
8 ,, 5 and 8 by 5½	...	...	...	15 0
8 ,, 6 and 8½ by 6½	...	...	...	17 6
9 ,, 7 and 10 by 8	...	...	...	20 0
12 ,, 10 and 13 by 9	...	...	...	20 0

And many other sizes, or cut to order in various thicknesses. Cases containing large Sheets, in 100, 200, and 300 feet, at 21s. per 100 feet.

ROUGH PLATE, perfectly flat, ⅛ in. thick, best manufactured.

In sizes under 15 inches	6d.	per foot.
,, ,, 35 ,, ...	8d.	,,
,, ,, 50 ,, ...	9½d.	,,
,, ,, 75 ,, ...	12d.	,,

Milk Pans, 2s. to 6s. each; Metal Hand Frames, Glass Tiles and Slates; Cucumber, Propagating, and Bee Glasses; Wasp Traps, Glass Shades, and Plate Glass, at 87, Bishopsgate-street Without, London, same side as Eastern Counties Railway.—Established 100 years.

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HETLEY AND CO. are supplying 16-oz. Sheet Glass, of British Manufacture, packed in boxes, containing 100 square feet each, at the following REDUCED PRICES for cash A reduction made on 1000 feet.

Sizes.—Inches.			Inches.			Per foot.	Per 100 feet.
			Under 6	by 4	at	1½d.	is £0 12 6
From 6	by	4	,, 7	,, 5	,,	2d.	,, 0 16 8
7	,,	5	,, 8	,, 6	,,	2½d.	,, 0 18 9
8	,,	6	,, 10	,, 8	,,	2½d.	,, 1 0 10
10	,,	8	,, 12	,, 9	,,	2⅔d.	,, 1 2 11

Larger sizes, not exceeding 40 inches long.

16 oz. from 3d. to 3½d. per square foot, according to size.
21 oz. ,, 3½d. to 5d. ,, ,, ,,
26 oz. ,, 3½d. to 7½d. ,, ,, ,,

PATENT ROUGH PLATE, THICK CROWN GLASS, and PATENT PLATE GLASS for Horticultural purposes, at reduced prices, by the 100 square feet.

GLASS TILES AND SLATES made to any size or pattern, either in Sheet or Rough Plate Glass.

Propagating Glasses, Bee-hive Glasses, Cucumber Tubes, Glass Milk Pans, Glass Water Pipes, and various other articles not hitherto manufactured in glass.

PATENT PLATE GLASS.—The present extremely moderate price of this superior article should cause it to supersede all other inferior window glass in a gentleman's residence. No alteration connected with the sash is required.

GLASS SHADES, as ornamental to, and for the preservation of every description of goods susceptible of injury by exposure. Prices, since the removal of the extise duty, reduced one-half. List of Prices and Estimates forwarded on application to JAMES HETLEY and Co., 35, Soho-square, London.

HOTHOUSES, GREENHOUSES, ETC.

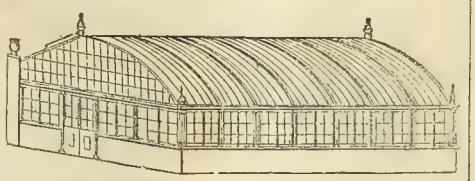
BY HER MAJESTY'S ROYAL LETTERS PATENT.

E. DENCH, PATENT HOTHOUSE WORKS, KING'S ROAD, CHELSEA.—The superior qualities in every respect of these Structures having been proved in all parts of the United Kingdom, has caused a greater demand for them than E. D. could execute; he has been obliged to have perfect and powerful machinery made to meet the numerous orders, and can now execute any amount of work to great perfection, with dispatch, and for quality and price to defy all competition. Patent Hothouses, with excellent glass, 3 feet long by 1 foot wide, every front sash to open, and every top one to slide down, with pulley made of the same materials as the electric telegraph wires, which require no painting; delivered free to Wharf or Railway Station, at 1s. 2d. per foot super., complete, having been fitted, and every portion marked previously, making a Greenhouse 16 ft. 6 inches long, 12 ft. rafter, 400 ft., 23l 6s 8d.; 24 ft. 6 ins. long, do. do., 526 ft., 30l. 13s 8d.; 28 ft. 6 ins. long, 15 ft. rafter, 712 ft., 41l. 10s. 8d. Heating by Hot Water on the most approved and economical principles.

Patent Sashes for Pits and Peach Walls, &c., 7d. and 8d. per foot, super.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER.

WARRANTED BEST MATERIALS AND WORKMANSHIP AT THE LOWEST POSSIBLE PRICES.



J. WEEKS AND CO., King's Road, Chelsea, Horticultural Architects, Hothouse Builders, and Hot-water Apparatus Manufacturers. The Nobility and Gentry about to erect Horticultural buildings, or fix Hot-Water Apparatus, will find, at our Hothouse Works, King's Road, Chelsea, an extensive variety of Hothouses, Greenhouses, Conservatories, Pits, &c., erected, and in full operation, combining all modern improvements, so that a lady or gentleman can select the description of House best adapted for every required purpose.

THE HOT-WATER APPARATUSES (which are efficient and economical), are particularly worthy of attention, and are erected in all the Houses, Pits, &c., for both Top and Bottom Heat, and in constant operation in the Stoves.

The splendid collection of Stove and Greenhouse Plants is in the highest state of cultivation, and for sale at very low prices. Also a fine collection of strong Grape Vines in pots from eyes, all the best sorts.

Plans, Models, and Estimates of Horticultural Buildings; also Catalogues of Plants, Vines, Seeds, &c., forwarded on application.

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HORTICULTURAL BUILDING AND HEATING BY HOT WATER,

AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.



GRAY AND ORMSON, Danvers Street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

G. and O. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders they can with the greatest confidence give the most satisfactory references.

Their Hot-Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating by Hot Water can be made available.

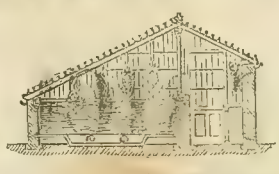
GREENHOUSE & CONSERVATORY BUILDING ESTABLISHMENT,

HOT-WATER APPARATUS MANUFACTORY,
KENSALL-GREEN, HARROW-ROAD, LONDON.

JOHN TAYLOR begs most respectfully to call the attention of the Nobility, Gentry, and Gardeners, to the very superior manner in which he erects all kinds of Greenhouses, Conservatories, Forcing Pits, &c, and all other buildings for Horticultural purposes, combining all the most modern improvements with elegance and utility. His manner of heating Horticultural Buildings, Churches, Chapels, Public Buildings, Entrance Halls, &c., has received the greatest approbation from the Nobility and Gentry by whom he had been extensively engaged.

J. W. THOMSON, HOTHOUSE BUILDER, &c., HAMMERSMITH.

J. W. T. having had full 25 years' experience as a practical HORTICULTURIST, LANDSCAPE GARDENER, and GARDEN ARCHITECT in HER MAJESTY'S ROYAL GARDENS at WINDSOR, KEW, and other places where the most effective and simple modes of constructing, Warming, and Ventilating Horticultural Erections have been adopted, begs to solicit the attention of the nobility and persons interested in Horticulture to his newly-invented plan of moving all lights, top and front, for admitting air, by one action or simultaneously, at very little more expense than by the old and inconvenient mode of cord and pulley system.



Every description of Horticultural Structures designed, erected, and heated by Hot-water, Common Flues, and other modes, on the most economical and improved modern principles.

THE CHEAPEST HOUSE FOR LEAD, GLASS, OIL, AND COLOURS.

WHOLESALE PRICES CHARGED.

H. J. AND W. WALKER, LEAD, GLASS, OIL, and COLOUR MERCHANTS, 125, Queen-street, Portsea, supply in any quantities, at wholesale prices, Crown and Horticultural SHEET GLASS, Patent and Polished Plate, Rough Plate for Conservatories and Greenhouses, Glass Milk Pans, Bee, Cucumber, and Propagating Glasses, and every description of Glass for Horticultural purposes. Ornamental and Stained Glass, Church Quarries, &c. Deep Well, Lift, and Garden Pumps. Plumbers' Brass Work, Brushes, Varnishes, and Colours at London prices.

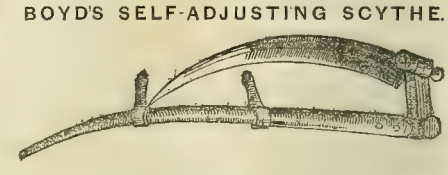
N.B.—Experienced workmen sent to any part of the country

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FARMERS, GARDENERS, FLORISTS, and all who have a Garden, will save a deal of trouble in watering and manuring Gardens or Land, by using GUTTA PERCHA TUBING. Testimonials to its efficiency, economy, durability, and convenience, are being constantly received. Half-inch bore Tubing, for Gardening, 3d. light, 3½d. medium, and 4d. per foot stout, which is the best and more flexible. Copper branch, Stopcocks, and Rose complete, 4s. 6d., 5s. 6d., 6s. 6d., and 10s. 6d. each. Brass or Gutta Percha Unions, and Unions and Stopcocks, to attach to Cisterns or Butts, all sizes.

Price lists sent on application to JAMES SHEATH and COMPANY, at the Patent Gutta Percha and India Rubber Warehouse, 35, Old Street Road, London.

BOYD'S SELF-ADJUSTING SCYTHE.



BOYD'S PATENT SCYTHE and the celebrated STEEL DIGGING FORKS.—BOYD'S Scythe is capable of being adjusted to any angle by the person using it, and never requires the aid of a blacksmith; when out of use it shuts up like a clasp-knife. The *Gardeners' Chronicle* thus comments upon it:—"We gladly state that Mr. BOYD'S Scythe stands well the great test, experience, especially with his late ingenious and very useful improvement."—G. C., 15th May, 1852. The Steel Digging Forks are those celebrated by Mr. Mechi. "When a labourer has once used them, he will never work with any other implement for digging. They effect a saving of nearly 50 per cent. in labour."—Wholesale and Retail at WM. DRAY and Co.'s Agricultural Implement and Machinery Warehouse, Swan-lane, Upper Thames-street, near London-bridge.

EMIGRANTS TO AUSTRALIA, ETC., SUPPLIED.

A PRIZE MEDAL FOR SUPERIOR LOCKS WAS AWARDED TO J. H. BOOBBYER, AT THE GREAT EXHIBITION OF 1851.

THE CELEBRATED STEEL DIGGING FORK, Patent Spades, Daisy Rakes, Scythes, Draining, and other Garden Tools, Mole Traps, 6s. per dozen. Carpenters' and Smiths' Tools, &c. Rubbers for sharpening Scythes, 2s. 6d. per dozen. Patent fumigators for destroying insects on Plants, in greenhouses, &c.: at Messrs. J. H. BOOBBYER and Co.'s (late STURCH and BOOBBYER), Ironmongery, Brass-foundry, Nail and Tool Warehouse, 14, Stanhope-street, Clare-market, London. Established nearly 200 years for the sale of goods from the best Manufactories at the lowest prices. Goods forwarded to any part on the receipt of remittance. Lists sent by post.

BEE HIVES.—A NEW AND EXTENSIVE SELECTION OF THE MOST APPROVED KINDS.—A detailed Catalogue, with Drawings and Prices, sent on receipt of Two Stamps. GEORGE NEIGHBOUR and SON, 127, High Holborn, London.

"In noticing the hives exhibited in the Crystal Palace, first and foremost, in my opinion, stands Mr. Taylor's Eight-Bar Hive, and Messrs. Neighbour and Son's Improved Cottage Hive, both exhibited by Messrs. Neighbour."—*J. H. Payne.*

(See the "Cottage Gardener," Nos. 169, 170.)

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METCALFE AND CO.'S NEW PATTERN TOOTH-BRUSH and SMYRNA SPONGES.—The Tooth-Brush has the important advantage of searching thoroughly into the divisions of the teeth, and cleaning them in the most extraordinary manner, and is famous for the hairs not coming loose.—1s. An Improved Clothes-Brush, that cleans in a third part of the usual time, and incapable of injuring the finest nap. Penetrating Hair-Brushes, with the durable unbleached Russian bristles, which do not soften like common hair. Flesh-Brushes of improved, graduated, and powerful friction. Velvet-Brushes, which act in the most surprising and successful manner. The genuine Smyrna Sponge, with its preserved valuable properties of absorption, vitality, and durability, by means of direct importations, dispensing with all intermediate parties' profits and destructive bleaching, and securing the luxury of a genuine Smyrna Sponge. Only at METCALFE, BINGLEY, and Co.'s Sole Establishment, 130B, Oxford-street, one door from Holles-street, London.

METCALFE'S ALKALINE TOOTH POWDER, 2s. per box.

CAUTION.—Beware of the words "From METCALFE'S," adopted by some houses.

NEW PLANTS SENT OUT THIS SPRING.

ANTIRRHINUM HENDERSONI ... ...)
CHRYSANTHEMUM HENDERSONI ... ... } 2s. 6d. each.
HELIOTROPIUM VOLTAIREANUM NANUM)

A large stock of CHRYSANTHEMUMS (large flowering varieties and Pompons) now ready. Strong Plants from 6s. to 9s. per dozen.

MARY CONWAY, Earl's Court Nursery, Old Brompton, London.

PLANTS OF CABBAGE, SAVOY, KALE, BROCCOLI, CAULIFLOWER, AND CELERY.

JOHN CATTELL, NURSERYMAN and SEEDSMAN, Westerham, Kent, begs respectfully to inform the public, that Plants of his superior true sorts of the above are now ready, and will be forwarded, as usual, to order, on receipt of postage stamps or Post-office order, made payable here, at the under-named prices, basket or mat and package included.

All the sorts of Early Cabbage, Savoy and Kale, including Brussels Sprouts, 4s. 6d. per 1000; all the sorts of Autumn and Spring Broccoli, 5s. 6d. per 1000; all the sorts of Celery, 5s. 6d. per 1000; Cauliflower, Early and Late, and Red Cabbage, 9d. per 100. 6d. per 1000 less when no mat or package is required. Packages of 1000 and upwards delivered free of carriage to the Edenbridge Station of the South-Eastern Railway.

Seed of CATTELL'S Dwarf Barnes, and of his superior Dwarf Reliance Cabbage, may be had in packets, by post, for 12 penny stamps per packet, the former containing 1 ounce, as usual, and the latter half an ounce.

HEATHS, ETC., FOR EXHIBITION.

ERICAS, fine plants, in 6 and 8-inch pots:—Metulæflora (true), 10s. 6d.; Massonii, 15s. to 21s.; persipcua rosea, 5s.; p. nana, 5s.; Parmentieri rosea, 10s. 6d.; tricolor rubra, 7s 6d.; t. Wilsonii, 7s. 6d.; t. Dunbarii, 7s. 6d.; t. major, 10s 6d.; t. dumosa, 7s. 6d.; ampuliacea vittata, 7s. 6d.; jasminiflora nana, 5s.; Cavendishii, 5s.; gemmifera, 7s. 6d.; depressa multiflora, 5s.; ferruginea, 10s 6d.: Hendersonii, 7s. 6d; Hartnelli, 7s. 6d.; dilecta, 7s. 6d.; aristata vittata, 5s.; eximia, 7s. 6d.; Savilleana, 5s.; splendens, 7s 6d.; rubella, 5s.; ventricosa rosea, 5s.; v. superba, 5s.; v. breviflora, 5s.; v. deusa carnea, 5s.; retorta major, 7s. 6d.; Bowiena, 5s.; obbata, 21s.; Juliana, 5s.; denticulata moschata, 5s; speciosa, 5s.

Fine plants of the following, in 48-sized pots, 18s. to 21s. per dozen: Irbyana, Macnabiana rosea, tricolor Leeana, tricolor dumosa, t. Wilsoni, t. rubra; aristata vittata, 9s. per doz.; Bacchus, 9s. per doz.; propendens, Sindryana, vestita fulgida, vestita rosea, Juliana, splendens, elata, Cavendishii, sanguinea, intermedia, Bowieana, physoides, ventricosa (in vars.), aristata major, Shannonii, jasminiflora alba, j. nana, ferruginea, gemmifera, perspicua nana, favoides elegans, mammosa, Cunninghamii, Banksiana, cerinthoides, coronata, Eassoniana, E. purpurea, Vernonii superb, depressa, d. multiflora.

AZALEAS.—Fine bushy plants of all the leading and best varieties, 12s. to 21s. per dozen.

Fine bushy plants of the best CAMELLIAS, not to be equalled in the trade, 30s. to 42s. per dozen.

MISCELLANEOUS PLANTS.

Ceanothus rigidus, 1s. 6d.; C. dentatus, 1s. 6d.; Mitraria coccinea, 1s. 6d.; Berberis Darwinii, 2s. 6d.; Escallonia macrantha, 1s. 6d. to 3s. 6d.: Deutzia gracilis, 1s. 6d.; Cupressus funebris, 1s. 6d. to 5s.; Dielytra spectabilis, 1s. 6d.; Cantua dependens, 1s.; Hoya bella, 1s. 6d.; Cassia corymbosa, 9s per dozen; Epacris miniata grandiflora, fine plants in bloom, 12s. per dozen; Pimelea mirabilis, fine plants in 48 pots, in bloom, 2s. 6d. each; Leschenaultia formosa, 1s. 6d.; Chorozema illicifolium, 2s. 6d.; C. varium superbum, 2s. 6d.; C. rotundifolium, 2s. 6d.; Lawrenceanum, 2s. 6d.; Aphelexis (sorts), 1s. 6d. to 2s. 6d. each.

W. J. EPPS begs to remark that he has a large and splendid stock of young specimens generally, which are well worthy the notice of exhibitors.

Bower Nurseries, Maidstone, July 3.

NEW ORANGE-JELLY TURNIP, FOR AUGUST SOWING.

GEORGE CHIVAS respectfully acquaints noblemen, landed proprietors, and agriculturists generally, that he will EXHIBIT, at STALL 94, at the approaching Show of the Royal Agricultural Society of England, at Lewes, specimens of the past and present year's growth of his ORANGE-JELLY TURNIP, which he introduced last year; and for the heaviest crops of which, from July and August sowings, he offered, in December last, six guineas in prizes, one of which was awarded to Mr. William Beecroft, of Upton, near Chester, weight 22 tons per statute acre; and the other to Mr. Barber, of Halton, Warrington, weight 29 tons per statute acre, which leaves no doubt of its superiority to every other variety for late sowing.

SEED, of the present year's growth, will be ready for delivery after the 20th JULY, price 2s. per lb.; and all orders received at the Show, or forwarded to Chester, previous to that date, will be delivered FREE in London and Birmingham. A full description of the ORANGE-JELLY TURNIP has just been published, to which is annexed a report on 160 varieties of Natural Grasses, and will be forwarded, on application, from Chester, and may be had at the Stall free of charge.

From Bell's Weekly Messenger, May 8, 1852:—"Orange-Jelly Turnip.—We have received from Mr. CHIVAS, the Seedsman, of Chester, a specimen of this Turnip, sown on August 24, and stored December 24. The specimen sent looked as though it had been just pulled from the field, and is one of the handsomest varieties we have seen. We cannot speak to flavour, as we have planted the root for seed."

From the Sussex Express, May 8, 1852:—"CHIVAS' Orange-Jelly Turnip.—We received last week a specimen of this new Turnip from Chester, which is at our offices for inspection. The peculiar merit seems to be for late sowing, and the following trials were made last year, for prizes awarded by the proprietor, Mr. Chivas:—

FOR FIRST PRIZE.	Sown.	Produce.		
Mr. William Beecroft, Upton, Chester, per rood of 44 yards	July 28	5	3	20
E. J. Ford, Esq., Llyngwerne, Machynlleth, per rood of 44 yards	July 29	4	3	21
Mr. John Taylor, Dalton, Preston, Brook, per rood of 44 yards	Aug. 6	4	0	0
Mr. Joseph Acton, Walton, Warrington, per rood of 44 yards	July 30	4	1	11
Prize awarded to Mr William Beecroft.				
FOR PRIZE *No. II.*				
Mr. J. Barber, Halton, Warrington, per rood of 44 yards	Aug. 22	7	3	25½
William Stewart, Esq., Puddington, per rood of 44 yards	Aug. 8	3	1	16
Mr. J. Williams, Pwllheli, per rood of 44 yards	Aug. 14	3	2	0
J. F. Ford, Esq., Llyngwerne, per rood of 44 yards	Aug. 29	1	1	26
Prize awarded to Mr. J. Barber.				

"These trials prove that the weight grown has exceeded 20 tons per acre, and that it surpasses other sorts for weight; from late sowing is highly nutritious, and sufficiently hardy to stand the winter."

CHOICE AND RARE SEEDS, confidently recommended, sold by WILLIAM DENYER, SEEDSMAN and FLORIST, 82, Gracechurch-street, London, near the Spread Eagle at the following prices per paper:—

ANTIRRHINUM or SNAPDRAGON, 6d. Saved by an amateur from a most splendid collection.

BELLIS PERENNIS, or DAISY, very double, 6d. Saved from the new German varieties; brilliant colours, varying from the deepest crimson to white, through all the different shades.

CALCEOLARIA, saved by an amateur from the most splendid show flowers, 1s.

CINERARIA, 1s., saved by a celebrated florist from a most superb collection of named prize flowers.

GAILLARDIA SPLENDIDISSIMA PLENA, 1s. A new and beautiful perennial variety.

PANSY, from the best named flowers, 1s. Saved by Thomson and other eminent growers.

New perpetual Gigantic Emperor double STOCK, 1s.—Colour, rosy crimson. *This is a splendid novelty*, lasting several years.

Autumnal-flowering double STOCKS, 6 best and brightest colours, 2s.

TRITOMA UVARIA, 1s. A hardy perennial, growing from 4 to 5 feet high, producing long spikes of crimson and orange-coloured flowers.

WALLFLOWERS, singular colours, 6 double gigantic varieties, 2s. Saved by a celebrated Continental grower, who has on several occasions gained the first prize for double Wallflowers.

The Gardeners' Chronicle.

SATURDAY, JULY 3, 1852.

MEETINGS FOR THE ENSUING WEEK.

MONDAY, July 5—Entomological.....8 P.M.
SATURDAY, — 10—Horticultural Gardens.....2 P.M.

COUNTRY SHOWS.—Tuesday, July 6: Thirsk and Whitby Amateur.—Friday, July 9: Chichester, Mid-Calder, and Whitehaven Flak.

Now that the VINE MILDEW is reappearing, it may be useful to lay before the public certain statements respecting it, made in the proceedings of the scientific bodies of Paris. They will show in what light our intelligent neighbours, who are so much more interested than ourselves in repelling this unwelcome visitor, regard the practical manner of dealing with it.

M. PRANGÉ (C. R., September 8, 1851), doubts whether the disease is solely caused by the Oidium Tuckeri, or whether the latter is induced by a previously diseased state of the plant. It appears that the disease showed itself last season at an early period in the neighbourhood of Paris. It attacked the Vines when they were in flower, and spread with great rapidity. The Chasselas variety suffered most. In many cases the berries did not attain the size of small Peas, and many of them split. A wrinkled, yellowish grey, inert coating was formed, and as the juices continued to flow into the interior, this non-elastic envelope was burst and the seeds were exposed. The disease also attacks the Vine shoots. Their surfaces exhibit irregular yellowish grey tracings, and sometimes the whole assumes a blackish tinge, with the exception of the extremities of the shoots. The stalks and upper surfaces of the leaves are often similarly affected. The mildew powder, which appears so abundantly on the fruit stalks and leaves, giving the whole plant a melancholy aspect, is soft and unctuous to the touch. From this it is evident that the disease is not confined to the fruit, and that changes are caused in other parts of the plant; but the more superficial cortical layers appear only to be attacked. It is remarkable that this general affection does not obstruct the vegetation of the plant, for the latter pushes as vigorously as if it had been in a healthy state. The consequences of the disease are visible on the fruit, shoots, and leaves; but on the old wood they cannot be detected by the naked eye.

The results of all attempts to remedy the disease having been unsatisfactory, M. PRANGÉ proposes to bury the Vines. He states that, in 1850, a Vine trained in a small garden at Montmartre was attacked by the disease. It was an old Vine, and was buried by layering it in the ground, in March, 1851. The shoots from it continued healthy throughout the season, although all the Vines near it were diseased. The fruit which it bore was likewise perfect; and when the most minute examination was made, no trace of disease could be found in any part of the tree. This is a simple mode, and the operation may be performed in November or in March. All the old stems should be buried, otherwise the sporules of the Oidium, supposed to lodge in the bark of the old wood, might develope themselves, and again invest the young growing parts.

GRISON's method for the prevention and cure of this disease appears to merit particular attention, It is detailed by GUSTAVE HEUTZÉ, Secretary to the Seine-et-Oise Horticultural Society, in the "*Revue Horticole*," for May, 1852.

Horticulturists having so frequently obtained only negative results from the different modes of treating Vines attacked by the Oidium Tuckeri, in the past season, M. GRISON, head gardener of the forcing-houses in the Kitchen-garden of Versailles, was induced to employ a very simple method against this troublesome disease. Convinced that the means he had discovered were more efficacious than all those previously tried, M. GRISON requested the attention of the administration of the department to his proceedings. The prefect, wishing to have the opinion of competent persons, requested the above-mentioned Horticultural Society to appoint a commission to take into consideration the advantages resulting from this new mode of resistance. The commission was unanimous with regard to the excellent effects obtained by the mode of treatment employed by M. GRISON; and they also agreed that this skilful horticulturist was entitled to a reward.

M. GRISON's peculiar method consists in syringing the Vines with hydrosulphate of lime. In order to obtain this liquid, M. GRISON employs 1 lb. of flowers of sulphur and an equal *volume*, or quantity by measure, of fresh-slaked lime. When these substances are intimately mixed, they are put into an iron or glazed-earthenware pot containing five pints of water; the mixture is made to boil for 10 minutes, and kept stirred all the time. The pot is then taken off the fire, and the mixture allowed to settle; when it has done so, about four pints of the clear liquid is bottled for use.

This liquid is not, however, directly applied to the Vines. Before using it, 100 parts of water is added to 1 part of the liquid [or, in other terms, each pint of the liquid is mixed with 12½ gallons of water]. Thus diluted, M. GRISON has ascertained that 1 litre of hydrosulphate will be sufficient for 100 superficial mètres of wall. This is at the rate of one pint for 68 square yards; or 51 feet along a wall 12 feet high.

This method is much more economical than that of employing the flowers of sulphur. The pound of sulphur employed for the preparation of the hydrosulphate of lime does not cost [in France] above 1½*d*. The lime costs almost nothing; and as one pint of the liquid, mixed with 12½ gallons of water, is sufficient to prevent, check, or destroy the Oidium, it follows that for the value of a halfpenny we may secure a considerable extent of Vine-wall from the ravages of the mildew.

The inventor of this very simple mode applied the liquid at three different periods; but he thinks that one syringing before the Vines are in flower, and another when the Grapes are formed, will be sufficient, and that a third syringing may be dispensed with, unless the Oidium should re-appear. But a vigilant inspection of the Vines is necessary; for it is well proved by experience that the mildew is much easier destroyed in the commencement of the attack than it is after it has overrun the whole plant.

When we compare the facility with which the above remedy is applied with the inconveniences which attend the use of dry flowers of sulphur, we must certainly give the preference to the former. We know that before the dry sulphur is scattered on the Vine it is necessary to moisten the foliage; and that frequent repetitions of the operation are required. We know likewise that these powderings injure the beauty and quality of the Grapes; whereas the Vines treated last year by M. GRISON, according to the method above detailed, had a vigorous growth, and produced large bunches and very fine berries.

This new mode of stopping the ravages of the Oidium is known under the denomination of the *procédé Grison*. The French commission of enquiry has thought it right to adopt such designation. No doubt experiments have already been tried with sulphate of lime dissolved in water in the proportion of 1 gramme to the litre, or 1 oz. to 25 quarts; Mr. Tucker has, in England, in 1845, employed 1 part of sulphur, 1 part of lime, and 100 parts of water against the Grape disease. Nevertheless, the means proposed by M. GRISON are all his own in regard to the preparation, and to him the merits of this method should accrue if, as is to be hoped, this year's trial should confirm them by such beneficial results as were obtained by him last season.

Since M. GRISON's preparation can be so easily and cheaply made, it might be tried extensively for the destruction or prevention of mildews which infest various crops. Most kinds of fruit trees are liable to be attacked, and particularly Peaches and Apricots. Kitchen garden crops have of late years suffered much. The application might even be extended to field crops of Turnips and Potatoes; and to the Hop plantations. The expense of the substances is a mere item. At the rate at which sulphur was employed by M. GRISON, 18 lbs. would be sufficient to dress an acre once over; the materials for this extent of surface may be had for less than 5*s*.

A different method has been adopted by M. BERGMAN, gardener to Baron ROTHSCHILD, Paris. When the Vines begin to push, and before, or at all events, immediately the mildew makes its appearance, M. BERGMAN moistens the surface of the hot-water pipes and sprinkles them over with sulphur. The sulphurous vapour was found to destroy the Oidium,

M. TRUFFANT, a very intelligent gardener, who has a market garden forcing establishment at Versailles, states that up to the 25th of April of the present year, his forced Vines were in fine condition. They had been attacked by the mildew as soon as they commenced to vegetate; but a single sprinkling of the hot-water pipes was sufficient to cause its disappearance.

WE learn that in the course of his examination of what is supposed to be OZONE in plants, Mr. SIDNEY has observed the following additional phenomena. It seems that during the last fortnight in many plants the appearance has ceased, especially in those that have flowered, looking as if the ozone, having effected its object, was no longer present; and Mr. SIDNEY thinks that the internal chemistry of the vegetable system may possibly take another direction at this period of growth. The effect on the test papers is said to be *exactly* the same to the eye as when they are inserted in a bottle of prepared and unquestionable ozone; and he has also noticed the bleaching power which is another of its properties, and that with an energy similar to chlorine. Mr. SIDNEY does not, therefore, think that these results are due to anything else contained in the vegetable juices; and if the discolouration were effected by such a cause it would hardly be, as it is, alike in all cases. Two test slips deeply stained came out of young shoots of Laurels, and two from a tender one that had not flowered of a Tom Thumb Geranium. A Tom Thumb that had flowered afforded no result.

It is to be observed that those who try these experiments must be sure their iodide of potassium is pure, and the papers prepared as formerly directed, and they must not be discouraged if they find in some instances no indication. Mr. SIDNEY is quite convinced, we understand, that either ozone, or oxygen tending to act like ozone, is present at certain times in certain parts of plants, and no doubt for peculiar chemical purposes, to which experiments show it is equal in the highest degree. It is curious that while the old wood of the Vine yields the indications abundantly, the observer, after many trials, never found it in any young shoot.

THE AMOUNT OF RAIN WHICH FELL AT CHISWICK IN JUNE, 1852, was 4 inches 69 hundredths. This is more than has fallen in any corresponding month for at least 26 years. Nearly an inch and a half fell on one day, the 9th.

One inch deep of rain is equal to 22,622½ gallons per acre; consequently, the above quantity of $4\frac{69}{100}$ inches which fell last month, was at the rate of 106099.7 gallons per acre, equal to a weight of 473 tons 13 cwt. 21 lbs.; or on 30 acres, about the area of the Horticultural Garden, the enormous quantity of upwards of 14,200 tons. This has not proved too much, owing to the previously very dry state of the ground. But however sufficient the moisture, many things do not grow well, evidently from the coldness of the soil. French Beans, for example, have still a yellowish tinge. The mean temperature of the earth at 2 feet deep, for the last month, has been only 54°, instead of 60°, which it fully averages in good seasons; indeed the ground is quite as warm in May as it has been in June of the present year. *R. T.*

ENTOMOLOGY.

THE SMALL WAX MOTH.

As the wax moths are now in full vigour, it may be useful to some of our apiarian readers to detail the habits of one of the species.

There are two species of moths more especially destructive in the larva state in beehives, namely, the Phalæna cereana of Linnæus (Systema Naturæ, or the Tinea mellonella of his Fauna suecica), the moth of which measures about 1½ inch in the expansion of the fore-wings, and the Galleria alvearia of Fabricius, which only measures about three-quarters of an inch in expanse. These destructive insects are moreover "extensively aided in their mischievous operations by the Tinea sociella and T. colonella of authors, and I suspect also by the Noctua tragopoginis, and even Pyralis farinalis, the two former of which feed on the stores of the industrious bee, spreading desolation in every hive they can find access to." (Haworth, Lep. Brit. 393.) Our observations are more especially devoted to the Galleria alvearia, or smaller wax moth.

Having reason to suspect that some hives, which I received during the past winter, were infested with the wax moth caterpillars, I have paid particular attention to the appearances which they have from time to time presented; and during the past month I have observed a considerable number of the smaller moths on the outside of the hives in question. It must be observed that my apiary is closed in front, with holes only for the alighting boards, and that it opens behind. It required, therefore, some care to discover the moths, because their habits led them to keep on the front side of the hives, which was both the darkest and warmest; and it was only by looking sideways from behind that the fronts of the hives could be seen. In general, two or three of the moths were to be seen at a time; and as their wings were kept in a flutter, like those of the male silk moths, it was evident that the courtship and coupling of these insects took place on the outside of the hive. If, therefore, a sharp look-out were kept, the moths might be easily destroyed and the hives secured for the following year, especially as the moths rarely fly, although it is necessary to be very quick in killing them, by pressing them with the finger, as they run with great agility; and it is a curious circumstance, that the bees themselves, when clustered on the outside of the hive, do not appear to be at all irritated by the near approach of the wax moths, as I have seen them running among the detached bees at the outside of the cluster, without creating any alarm.* I need hardly dwell upon the great advantage of destroying the moths when they make their appearance, so as to prevent future mischief. And in order to ascertain whether the insects have arrived at the winged state, it will be even advisable, from time to time, during the months of May and June (according to the temperature), to draw the hives backwards, so as to be able to see their fronts, and then replace them.

The perfect moth varies in the expansion of its fore wings from 8 to 11 lines; in repose the wings are nearly horizontally incumbent; they are entirely of a very pale brownish ash colour, the fore pair rather darker, and with the head yellow. The palpi are very short, almost concealed by the hairs of the front of the head; the eyes are red bronze, and the antennæ are short. In the shape of the wings and the length of the palpi this insect differs from the other wax moth, and it has accordingly been separated by Hübner under the generic name of Achroia.



After coupling has taken place the female moths contrive to enter the mouth of the hive for the purpose of laying their eggs within and upon the comb. This they adroitly effect by their very rapid mode of walking, which enables them to baffle the endeavours of the guards at the mouth to keep them out. Reaumur even states that he had observed two or three bees chasing one of the moths at the bottom of a hive, which they were unable to catch. I have myself seen one of the moths seated within the hive, at not more than half-an-inch distance from a cluster of bees, without their taking the least notice of it, not even when I disturbed it.

As soon as the eggs are hatched, the young caterpillars commence the construction of silken tubes, which they never quit during their caterpillar state; so long as they find food in front of their heads they lengthen their tube, and according as they increase in size they increase its diameter. Our figure shows the manner in which this tube is formed in the midst of the cells; the mischief is not, however, confined to a single row of cells, as the larva, when it has bored into one cell, nibbles the wax both right and left, and so destroys the cells on each side, into each of which it extends a few fine threads, and so injures three rows of the cells. The silken web of which this tube is formed is not thick, but the diameter of the tube is increased by particles of gnawed wax and by grains of excrement which the larva has the instinct to place on the outside of the tube, so as not to impede its progress backwards or forwards; by means of this tubular gallery the larva is protected from the stings of the bees, which are unable to ascertain on which part of the tube it is, whilst the coating of excrement, &c., renders it impervious to their stings. The rapidity of the operations of these caterpillars is so great that Reaumur observed that in 24 hours one of them had formed a gallery, covered with wax, which traversed five or six cells. Sometimes the caterpillar, instead of confining itself to one layer of the cells, will form its burrow along the bases of the cells, and so make double havoc by destroying the cells on both sides of the comb. It has been stated by some writers that it is upon the honey that these caterpillars subsist, but it is simply the wax itself which serves them for food. This is the more remarkable, because the nourishment of an animal must arise from the decomposition of their food, and chemists do not know any solvent of wax: in fact, the caterpillars carefully avoid the honey-cells, confining themselves to those which are empty, or in which the young bees are undergoing their transformations, and hence, as Swammerdam (who recorded the history of the two wax moths, under the names of the greater and lesser bee-wolf), says, "they are not only destructive to the wax but to the bees themselves, for it buries and kills many of them, but this only happens by chance. I saw one of these little worms whilst it was small, and breaking the cells in which the nymphs of the bees lie, and eating the wax there cover the nymphs also with its excrements, insomuch that they could scarce be known. To this may be added that the worm itself, when in order to get food it creeps everywhere round about the nymphs, compresses and destroys them; this mischief is occasioned chiefly by one that is more grown, the body of which demands somewhat more space." The excrement of the larva likewise proves that it is upon wax that the insect has subsisted, as it possesses much of the character of wax, which has not, in fact, been entirely assimilated. Swammerdam noticed that if the excrement be placed on a thin plate of glass, and put over a burning coal, it melts at first like wax, but afterwards hardens, and like the burnt bee-bread, becomes friable between the fingers; and Reaumur (who instituted some curious experiments, in order to ascertain its nature), kept and reared some of the moths from caterpillars, which had no other food than the excrements of their predecessors, kept in the same glass vessels.

When full-grown the caterpillars form elongated oval cocoons, covered on the outside also with particles of excrement, within which they assume the chrysalis state. I have observed in this chrysalis a character which I have not seen in any other lepidopterous pupa, namely, a double ridge along the back, extending to the extremity of the body, which is armed with several minute horny points. Our figures represent a piece of honey-comb, with the tube of the larva, five cocoons attached together, the chrysalis of the natural size and magnified, and the moth of the natural size, seated on the comb, and also magnified. *J. O. W.*

* This is a circumstance intimately connected with one of the physiological problems of the hive. Do bees know their own brethren, and are they at enmity with the bees of other communities and other insects? My own observations would lead me to doubt their possessing such intelligence; and hence I should be induced to believe that they would not molest an Odynerus, which should choose to make its nest in the interior of a hive, its entrance and exit being unattended by any violence to the bees, on the part of the Odynerus. A little controversy between Mr. Curtis and myself, on this subject, will be found in this work for 1848.

PIMELEA SPECTABILIS.

THIS Pimelea has a free habit of growth, and is a most profuse bloomer. It is easily cultivated, and must certainly be regarded as one of the most ornamental of greenhouse plants. Under proper management large symmetrical specimens may be obtained in a comparatively short time; and if the young wood is sufficiently ripened, each shoot will be terminated by a large cyme of showy blossoms.

In nurseries this species is usually propagated by grafting it on P. decussata; and although it may be grown successfully on its own roots, I prefer grafted plants, and beginners may safely do the same. P. decussata is a very hardy strong growing kind, and unless my experience deceives me, P. spectabilis will exist and make some progress on this stock under circumstances which would be fatal to it on its own roots. Plants intended for specimens should be in a healthy growing state, and not pot-bound. Having obtained such early in March, place them where the temperature may average from 45° to 55° with a circulation of air, and keep the atmosphere somewhat moist. A shift will probably be necessary as soon as growth commences; this should be deferred until the roots are growing, and these should not be allowed to become matted before it is performed. Water very carefully after potting until the roots appear to have struck into the fresh soil, and keep the atmosphere moist, and rather close and warm. As the season advances the temperature may be allowed to average some 5° higher, particularly during clear sunny weather, but the plants should be placed near the glass, in order to induce a short-jointed, stocky habit of growth; and stopping must be attended to as may appear necessary. The lower branches should be pegged down; and any over luxuriant shoot curbed by pinching out the point or bending it downwards. The general stopping should not be performed until the young wood is moderately firm, and then all the stronger shoots should be cut back sufficiently to preserve a compact habit of growth. Plants expected to flower the following season must not be stopped later than July.

A cold frame will be a suitable situation for the plants during summer. If very rapid growth is desired the lights should be kept over them, giving air freely at all times, and maintaining a rather moist atmosphere by frequently sprinkling the plants overhead, and using a very thin shade during the forenoons of sunny days. In the case of healthy vigorous plants, a second shift will be required in June or early in July, but stopping and shifting must not be done at the same time; and it will be better to defer the shift until the plants are in active growth after having been stopped. As soon as they are fairly established after the second potting, keep them freely exposed to light and air; discontinue sprinkling over-head, and endeavour to obtain short, well-matured wood previous to winter. When damp cold weather occurs, remove the plants to a situation near the glass in the greenhouse, and avoid over watering during winter, and turn the plants at least every fortnight, to prevent their becoming one-sided. If a second season's growth is deemed necessary before

allowing them to flower, they may be treated as they were last year, or they may be allowed to flower in the greenhouse; and if good plants were obtained to begin with they should be sufficiently large after the first season's growth to be worth attention as blooming specimens. The blossoms will last longer if shaded from the forenoon's sun.

As soon as the beauty of the flowers is over cut the plants back to about the second joint on the young wood, and cut out altogether any weakly shoots; water rather sparingly, and place them in a shady pit, or part of the greenhouse, until they start into growth, and then shift and encourage a vigorous growth. Old plants will be benefited by occasional waterings with weak clear manure-water; but this should only be applied when they are in active growth, and when the pots are full of roots, and this need not be used until the size of the specimens renders it inconvenient to afford them an annual shift.

Three parts turfy peat and one part light turfy sandy loam form a suitable soil for this Pimelea. The loam and peat should be carefully broken up by the hand, rejecting all but the prime pieces, and add a liberal quantity of silver-sand, the proportion of which should be regulated by the nature of the soil; use enough to keep the latter open and porous. A sprinkling of small potsherds or lumpy pieces of charcoal may also be added with advantage; use clean pots, and secure thorough drainage by placing plenty of potsherds in the bottom; arrange these carefully, and cover with some rough fibry pieces of peat, broken small, so that they can be partially mixed with sand, to prevent them from becoming sour and unhealthy for the roots. *Alpha.*

Home Correspondence.

Hyacinths and hardy Climbers.—I find the Hyacinths which I buy in London in the autumn, and plant out in the borders, flower extremely well the first spring, and after that get worse and worse every season, until at last I am obliged to throw them away: and thus I am under the necessity of renewing my stock every year. If there is any mode of preventing the roots from thus degenerating, or any treatment by which they can be restored to their first state, perhaps some of your correspondents would have the kindness to point it out; for all my neighbours I find to be as ignorant of the remedy as myself. You often recommend climbing plants for particular situations; will you allow me to recall to your notice our native Vicia sylvatica? I have a plant of it growing in the angle of a wall 15 feet high, and covered from top to bottom with its profuse flowers, relieved by graceful and elegant foliage. It excites the admiration of every one who sees it; and is looked upon as a choice and new introduction from abroad. I got the seed out of a wood in the north of England. *T.*

Dielytra spectabilis.—A few weeks ago I sent (in answer to a correspondent) a description of a Dielytra spectabilis, and promised a further account on a second inspection. I saw it again on Thursday last, June 24th, and it is indeed a splendid specimen, 4½ feet in height, by 22 in circumference, with several hundred flowering stems on it. The owner this time was at home, and he assured me it would continue blooming freely for the next two months, and of course would be much larger than at present. The plant has received no more support than I formerly mentioned. My own plant spoken of as having been cut down by the frost is growing freely and promises to bloom well. *T. T., Colchester.*

Improved Mowing Machines.—After Mr. Pettigrew's intelligent article, at p. 405, no doubt there will be great inquiry after mowing machines of the very best construction. There are several in this neighbourhood (Manchester) and all of them profess to have made improvements in Budding's old machine: there are also some who maintain that the old machine, for quality of work, cannot be surpassed. I can affirm what Mr. Pettigrew says, that useful implements have often been cast aside for want of perseverance. For the benefit of the public would it not be as well if these various machines could be tested, the same as agricultural implements usually are? It might be well if the Council of our Manchester Botanic Garden would take the matter up, and give some small premiums to be competed for—plots of ground might be allotted to each mower on the large lawn at their garden—perhaps on the day, or the day before, an exhibition might be as well. Proper rules and regulations might be formed for them to abide by, and the gentlemen of the Council would be the most fitting to judge of the quantity and quality of their work. I know of two or three who wish to try the merits of their machines; Mr. Pettigrew, no doubt, would be willing to send his for the same purpose. *T. Diggles, Higher Broughton.* [An excellent suggestion.]

Hybrid Mimuli.—Many years ago I imposed upon myself the task of raising the Mimulus to the rank of a florist's flower; for this purpose in 1843 I obtained M. Moodii (which was the only tolerable variety then in cultivation), also a few inferior sorts, including M. rivularis, and a small crimson and white North American seedling; since then I have attempted to hybridise with M. moschatus, ringens, cardinalis, and tricolor, but these species refuse to cross with variegatus and rivularis. For several years scarcely any perceptible improvement was visible, and it was only in 1848 that ruberrimus, and a few other pretty seedlings, induced the opinion that great success might be attained; since then the advance has been so marked and rapid that I feel perfectly warranted in asserting that any amateur who pleases to adopt the few short instructions that I am about to offer may feel confident that, at a very trifling cost of labour, he can raise still handsomer seedlings than the beautiful varieties that I have had the pleasure of introducing to the public. As to the treatment of seedlings, the first sowing of seed may be made in pans about the middle of March; so soon as the plants can be conveniently handled prick them out into shallow boxes, at intervals of 1½ inch, where, in 10 or 12 weeks from sowing, they will begin to bloom; the moment that a flower expands, the plant must be potted off or weeded out, according to its merits. Any good thing should at once be seeded into suitable established varieties; the seed must be sown the moment that it is ripe, and the plants be treated the same as the first batch—with this exception, that, in order to economise greenhouse room, a part of the boxes may be placed in a sheltered part of the garden; by adopting this plan I have bloomed 1600 plants in one season, at the expense of a very limited space of greenhouse accommodation. The second crop of seedlings may, with good management, be induced to yield seed for the ensuing spring, whereby a season's work is anticipated. As one pod of seed of any particular cross is amply sufficient, great care ought to be exercised to register every flower that is fertilised. To accomplish this a small metallic paper diary should be ruled in the following form:—

1	Punctata	Y. 2	W. 3	G. 4
2	Brenda	B. 1		
3	Blandina	Y. 2		
4	Picta	B. 1		

The first column shows the number that represents the names which stand in the second column; the other numbers indicate with what variety the plant has been fertilised. The letters give the distinguishing mark. The first line reads thus:—No. 1, or Punctata, is crossed with No. 2, or Brenda, and is marked with yellow silk; ditto with No. 3, or Blandina, and is marked with white silk; ditto with No. 4, or Picta, and is marked with Gentian silk. It is impossible to give any definite advice relative to the crossing of different flowers, experience alone can furnish that information. I may, however, observe that the male plant seems to impart a considerable share of its properties to the seedling. As there is no excuse for not raising really good things, the amateur must not be too easily satisfied with his production. Nothing but decided improvements should be tolerated, and nothing should be reserved for the border that would disgrace the greenhouse. The properties of a good Mimulus are robustness of habit, with a tendency to profuse blooming. The flowers should be large, round in the outline, and of good substance, possessing a short tube, and a wide throat. Three distinct shades of colour ought always to be visible on the light varieties. *A. Clapham, Scarborough.*

Cork Pots.—Much difference of opinion exists both as regards the material and the shape of garden pots. Slate is expensive, and could never be employed (economically at least) except for the larger plants. But slate is, in common with the burnt clay pot, open to a serious objection, viz., its capacity as a conductor of heat. It is not so deficient in this respect as the clay pot, but still the fine roots which go to the sides of the slate are liable to be scorched whenever the slate is heated by the sun. The objection, however, arising from the evaporation (and the consequent cold) produced by the porous clay pot scarcely exists in the case of a slate pot. Wood, as being a bad conductor, is held as having great advantage over both slate and clay. I was led to the consideration of this question by observing that the Portuguese and Spaniards supply the places of clay and slate by making rude pots of cork bark. The bark is either taken off whole, in rings of 6, 8, or 10 inches long, or if this cannot be done, there is a slit down the middle and the bark is taken off in half circles and joined by nails, and a bottom either of board or cork roughly fixed on; the imperfections in the fitting leaving quite space enough for drainage. I have in Portugal, during the hottest season, seen collections of Camellias arrive by the steamers from Oporto in these cork pots, and which were perfectly fresh and vigorous (cork, it being observed, is one of the most imperfect conductors of heat) whereas I am certain that in a clay pot no amount of watering could have prevented the sun from burning up every root as soon as it had once touched the side. I believe that as regards plants in common pots which are to be exposed to the sun, the best preventative of this evil, arising from evaporation and scorching, is to put them in a double pot; this, however, is rather clumsy, and if the plants are not carefully attended to, there is often an accumulation of stagnant water between the first and the second pot. *Dodman.*

Poisoning Plants in the Herbarium.—The following recipe for this purpose has lately been transmitted by the Rev. M. A. Curtis, who received it from Mr. Durand, of Philadelphia, a chemist and botanist. It is an improvement on the usual turpentine mixture, in which the corrosive sublimate is only held in suspension, and an alcoholic solution is in many cases, as, for instance, in fungi, inapplicable, from staining the paper. Mr. Curtis finds the mixture effective, and free from any objectionable qualities; it is, however, very inflammable. Corrosive sublimate, 2 drs.; sulphuric ether, 3 drs. Dissolve and add—alcohol, 3 oz.; spirits of turpentine, 2 oz. *M. J. B.*

Darnel.—Can any correspondent of the *Gardeners' Chronicle* produce evidence in proof or disproof of the poisonous qualities of bread made from the Darnel, Lolium temulentum? Can it possibly be true that this Grass is poisonous?

Scarlet Runners.—In reply to "Birkhurst," I may observe that the economy of sticking Scarlet Runners depends mainly on the supply of wood for the purpose. It would not pay the London market gardeners to "stick," on account of the difficulty of procuring wood at a cheap rate. In the country, where proper wood is in most places easily procured, sticking is much the tidiest plan, and the produce is greater, letting alone the rather ornamental appearance of Scarlet Runners when supported by poles or sticking wood. *The Writer of the Calendar.*

Paulownia imperialis.—This has at last flowered with me, after seven years' expectation, but it has only opened one bloom, though there were a dozen spikes of buds on the tree last autumn. Its flower much resembles a Gloxinia, but is delightfully sweet-scented. It evidently requires a hotter and drier summer than we usually have to bring it into bloom; the weather last September, and my tree having been transplanted and root-pruned, were no doubt the causes of its setting bloom buds. *C. D., Chichester.* [It would be well worth while writing this more in detail, for the purpose you mention.]

Mice in Plantations.—If your correspondent (see p. 405), cannot poison the mice he complains of by laying arsenic in oatmeal, he should sink a few earthenware pans into the soil, about 18 inches deep, leaving the top edge level with the soil, and fill them little more than half full of water: the pans should be well greased between the water and the top. The mice will reach eagerly after the grease, and fall in by dozens. *Thorp Perrow.*——An efficient remedy for your correspondent may be found in procuring a few live weasels to turn out in the plantation; these not only prey upon mice like cats, but pursue them into their holes, and would soon thin the number of the vermin, and eventually exterminate them. But if the proprietor wishes to preserve game this plan will not do, for the game eggs would be destroyed by them, and young leverets are favourite food of weasels. In this case poison must be laid, or wire traps baited with cheese or bacon. *C. D.*—— I would recommend your correspondent to entrap them by open pit-falls. The process is simple, and will be found effectual. With a round backed spade dig a sufficient number of holes about 18 inches deep, 9 inches at the mouth, and from 15 to 18 inches wide at bottom, and make the inside as smooth and free from corners as possible. Bait the pits with a little half-burnt oatmeal or roasted cheese, examine them every morning and remove those that are taken. The best way to do this is to have a little box with a fall-door put into the pit, and by using a short stick in driving them into the opened door they will be easily caught, and may then be put into a larger box and killed as thought most desirable. After the mice go into the pits they cannot get out if the latter have been properly formed. *J. Lockhart Morton, Edinburgh.*

Aphides, and the Potato Disease.—On looking over my store of Potatoes, I found a quantity of them covered with blight (green-fly), and on naming it to Sir John Guise, he wished me to forward some to you, and request you would be kind enough to give your opinion, as to whether you thought it had anything to do with the disease, as I fancy I remember Mr. Smee having referred to something of a similar kind three or four years ago. The particulars are as follows:—Prince of Wales Potatoes dug in October last, greened on the surface ten days; since then they have been laid out on the floor of a granary. Please to observe that none but diseased tubers, such as those sent, are affected with aphis, all sound ones being perfectly free from it. P.S. We find spots of the disease appearing about us. *Craig Pillans, Rendcomb Park, near Cirencester.* [The aphis has no relation to the Potato disease. It has attacked your sprouting Potatoes, as it will, under favourable circumstances, attack anything else. It may be also killed with tobacco-smoke, just as it may be killed upon any other plant. It is probable that the sprouts of the diseased Potatoes contain more sugar than the others, and are therefore preferred by the aphis].

Orchid Shows.—I find I was quite wrong in advocating in your paper the exhibiting at Chiswick of collections of small specimens of rare or beautiful Orchidaceous plants. The Council of the Horticultural Society, it seems, had the same view as I had, or at least were inclined to make the experiment, by offering several lower prizes for collections of smaller-sized plants. It seems, however, that the giants have the day, and that till some new grower, within reach of the Chiswick shows, shall start up, we shall have little more than the same old plants of the great cultivators shown over and over again, increased however in size, and, if it be possible, showing a more successful cultivation. The company at Chiswick is general, and have been taught to associate large and splendid specimens with the idea of an Orchidaceous exhibition, and would look down on the smaller and the rarer specimens having only two or perhaps one cherished flower. When the "well-known actors" quitted the stage their eyes would "be idly bent" on what followed after; however, I do not like to give up the subject, and am willing that the battle should be

adjourned to the monthly meetings of the Horticultural Society, and where the company, it is to be assumed, will consist in a great measure of those who take an especial interest in rarity and variety, and can submit to look at an Aerides or a Vanda with only one or two spikes of flower, or a Cattleya with only one or two breaks, if new or rare. *Dodman.*

Societies.

Royal Botanic, Regent's Park, *June* 30.—At no previous exhibition have we seen so large a display of Pelargoniums as was produced on this occasion, and it is well that it was so; for the show would have lost very much of its interest without them, for Orchids were scarce, and so were Stove and Greenhouse Plants; Heaths were plentiful and good. Fruit, with one or two exceptions, was more remarkable for quantity than quality.

In large collections of Stove and Greenhouse Plants, Mr. Cole, gr. to H. Colyer, Esq., of Dartford, obtained the first prize, with a beautiful group of plants for this season of the year. In addition to large Allamandas, Stephanotis, Dipladenias, Polygalas, and Heaths, all of which were in admirable condition, he had one of the best plants of Roella ciliata that perhaps ever was staged. This as usually grown cannot be considered more than a second-rate plant; but as seen on Wednesday it was truly handsome, the point of every shoot being ornamented by an inverted pale blue bell, with a band of darker blue round the mouth of the throat. The plant itself could not measure less than 3 feet across. Associated with this was also an excellent Rondeletia speciosa.—Mr. May, gr. to Mrs. Lawrence, of Ealing Park, was second with plants remarkable for large size and good cultivation; but many of them were nearly out of bloom. Among those which were in good condition, were Dipladenia urophylla, a distinct kind, which is well worthy of cultivation, on account of the contrast it makes with other kinds. Another uncommon plant in this collection was Abelia floribunda, a shrub with drooping rosy flowers, somewhat resembling those of a Fuchsia, and very handsome. This, we believe, is hardy in Devonshire, where the blooms acquire a brilliancy which is not to be acquired under glass in the neighbourhood of London.

The best group of 20 Stove and Greenhouse Plants came from Mr. Green, gr. to Sir E. Antrobus, Bart. The position in which the group was placed by the judges will furnish some idea of its merits. It contained Rondeletia speciosa still in good flower, though it was shown at the different exhibitions early in the season; Dipladenia crassinoda, and Ixora crocata, the latter scarcely out enough. The gem of Mr. Speed's plants, to which the second prize was awarded, was decidedly Ixora javanica in the shape of a most beautiful specimen some 3 feet high, and loaded from top to bottom with its rich heads of orange-salmon flowers. Among stove plants this is certainly a great acquisition.

Collections of 10 Stove and Greenhouse Plants were furnished by Mr. Taylor, gr. to J. Coster, Esq.; Mr. May, gr. to Miss Traill, of Bromley; and Mr. Watson, gr. to Mrs. Tredwell, of Norwood. Among these we remarked the favourite Ixora javanica, Stephanotis floribunda; Phænocoma proliferum, well bloomed, a rare occurrence; Leschenaultia formosa, some Heaths, Kalosanthes, which are just beginning to make their appearance, and one or two other plants.

Orchids, as we have stated, were scarce. The best collection of 25 varieties was produced by Mr. Franklin, gr. to Mrs. Lawrence. In it we remarked Odontoglossum citrosmum, Saccolabium Blumei, the white and yellow flowered Anguloas (uniflora and Clowesi), Chysis aurea, the Dalhousie Dendrobe, Vanda Batemanni still in good condition, and other plants.—From Mr. Williams, gr. to C. B. Warner, Esq., came the pretty little Dendrobium trisdenium, a finely-blossomed Calanthe masuca, and other species.

Mr. Blake, gr. to J. H. Schröder, Esq., contributed the best collection of 15. Among them was Galeandra Bauëri, a first-rate specimen. From Mr. Wooley, gr. to H.B. Ker, Esq., came among others Peristeria elata, the curious Bolbophyllum Henshalli, and one or two Aerides.

Collections of 6 plants were exhibited by Messrs. Ivison and Green. The latter had a remarkably well-flowered Cattleya crispa; and the same fine Oncidium luridum which Mr. Ivison showed at Chiswick was reproduced on this occasion, still in great perfection.

A large collection of Orchids came from Messrs. Rollisson, who likewise contributed a group of variegated stove plants, as did also Mr. Williams. Messrs. Henderson showed a good plant of Cyrtochilum flavescens.

Tall Cacti.—The following were furnished by Mr. Green: Epiphyllum formosum, Greenii, rubrum cæruleum, grandiflorum, and Green's Hybrid.

Cape Heaths.—By far the best plants were contributed by Mr. Smith, gr. to W. Quilter, Esq., of Norwood, to whom the two principal first prizes were awarded. Mr. May and Mr. Cole likewise sent good plants, as did also Messrs. Rollisson, Fairbairn, Williams, Laybank, Green, and Over. As the best kinds may be expected at Chiswick on the 10th inst., we defer their enumeration.

Roses.—Messrs. Paul produced a collection in pots, and there were several boxes of cut blooms; but they were not seen under the most favourable circumstances, it being as yet too early in the season for them. One Rose-grower informed us that even at this date he was unable to cut 40 blooms fit for exhibition, from one of the most extensive collections in far-famed Rosy Hertfordshire.

Among single specimens the best were Erica Massoni, from Mr. Smith; E. Cavendishii from Mr. Kingborn, and the yellow-flowered Relhania squarrosa from Mr. May, gr. to Mrs. Lawrence.

Of novelty there was little. Mr. Lane sent a variety of the Java Rhododendron, Mr. Blake a Dendrobium with small orange flowers of little beauty; and Messrs. Henderson, Klugia zeylanica, in bad condition. Messrs. Rollisson had a new Java Pitcher-plant, and Musa zebrina with brown blotched leaves; and of uncommon plants, Mr. Ivison sent an example of the Bread-fruit tree in flower.

Among Miscellaneous Subjects were Phlox Mayii variegata, and another kind, from Messrs. Henderson; plants of the white Lilium eximium from Mr. Bray; groups of both hothouse and British Ferns from Messrs. Wooley, Williams, Allchin, Smith, and others. There were also some hardy Alpine and variegated plants.

Pelargoniums.—As we have stated, these were furnished in the greatest profusion, and but for them there must have been a "begarly account of empty bench-s." They were in much better condition than is usually the case at this season. Amateurs, 12 varieties: 1st, Mr. Robinson; 2d, Mr. Stains; 3d, Mr. Black; and 4th, Mr. Lochner. The leading kinds were Eleanor, Cloth of Gold, Enchantress, National, Optimum, Shylock, Magnet, Lavinia, Pulchrum, Flying Dutchman, Rosa, Magnificent, and Little Nelly. Nurserymen: 1st, Mr. Gaines; 2d, Mr. Turner; 3d, Mr. Westwood; 4th, Mr. Bragg; and 5th, Mr. Dobson. In these groups we remarked the following in good condition:—Hine's Exactum, Virgin Queen, Rowena, Electra, Enchantress, Optimum, Nandee, Ajax, Emily, Lavinia, Prince Arthur, Rosalind, Rosamond, Commander, and Painter Improved. Fancies.—Nurserymen, 6 varieties: 1st, Mr. Turner; 2d Mr. Westwood; 3d, Mr. Hunt; and 4th, Mr. Gaines. The first lot of these was what is termed "well done," being very dwarf, with foliage hanging down over the pot, while the flowers were of good quality. Perhaps the most striking among all the groups were Madame Rosati, Beauty Supreme, R. Cobden, Anne, Princess Maria Galitzin, Triumphans, and Anais. Amateurs—1st, Mr. Robinson; 2d, Mr. Miller; 3d, Mr. Stains. Some good Cape kinds were produced by Mr. Parker. As regards new sorts, Optimum was shown in excellent condition, and it is a very fine variety, being large, free in flowering, and good in the petal, with rich dark colours. Another kind was Queen of May, noticed by us at Chiswick. These were shown by Mr. Black, gr. to E. Foster, Esq. Mr. Hoyle, of Reading, had Zaria, an orange rose distinctly spotted on all the petals. The flowers are of very good form, and altogether it is an exceedingly attractive variety, which will be sure to find a ready market. Portia has a free habit and flowers like those of Desdemona. Novelty, sent by Mr. Turner, is a showy crimson, with strongly marked bottom petals. Mr. Gaines sent Earl Spencer. Some certificates were awarded, but on what principle nobody could discover, as it was universally admitted that the best flowers were unrewarded. The judgment in the case of collections was also most remarkable, and proved a source of much dissatisfaction to all interested. We had nearly forgotten to mention that Mr. Ambrose had some pretty fancy varieties, among which Eminent, Dandy, and Madame Sontag were much admired. Mr. Kinghorn sent a variegated-leaved, rich salmon-coloured kind, belonging to the race of Scarlets, which will be useful. He had also Silver King. Messrs. Lee produced their Flower of the Day and Wilmore's Surprise.

Fuchsias.—Well-grown plants of Dr. Smith, Miss Robarts, Pearl of Eng and, Elizabeth, Kossuth, and Sir R. Peel, were shown by Mr. Bray.

There were several exhibitions of Pines, among which some were in good colour, well-laced, and of average size. Amateurs—1st, Mr. Baker, Woolwich; 2d, Mr. Edwards, Holloway. Nurserymen, 24 blooms—1st, Mr. Turner. In these collections we observed several very promising seedlings, especially Arthur, Perfection, Esther, Sarah, Glory, and Koh-i-noor. The following better known kinds were in good condition:—Sappho, Optima, Mrs. Herbert, Mrs. M'Lean, Morning Star, Criterion, Antagonist, Lola Montes, Jenny Lind, Narborough Buck, Huntsman, and Kate.

Pansies.—36 blooms: 1st, Mr. Turner; 2d, Mr. Bragg, who also produced a good dark seedling. Mr. Thomson contributed a good pan of this favourite flower.

Ranunculuses.—One or two nice pans were exhibited. The varieties were not different from those mentioned in former reports.

Fruit was plentiful, more especially Grapes; but most of the white kinds did not appear to be ripe. This was the case with nearly all the Muscats. In the following memoranda we place the exhibitions in the order in which we found them placed by the judges, without intending to express any opinion of our own upon their respective merits.

For collections the first prize was awarded to Mr. Davis, Oak-hill, who had Black Hamburgh and white Muscat Grapes, two dishes of Peaches and Nectarines, a dish of Cherries, and several Pine-apples. The next best was that of Mr. Fleming, gr. to the Duke of Sutherland, Trentham, who sent two Providence Pine-apples, Black Hamburgh Grapes, a white-fleshed and a green-fleshed Melon, with dishes of Peaches, Nectarines, Figs, and May Duke Cherries.

Collections of Six Pine-apples were contributed by Mr. Fleming (1st); Mr. M'Ewen, gr. to the Duke of Norfolk (2d); and a third prize was awarded to Mr. Bray, who showed in the wrong class. Mr. Fleming had a Montserrat, 2 lbs.; a Providence, 7 lbs. 13 oz.; a smooth-leaved Cayenne, 2 lbs. 13 oz.; and a prickly-leaved Cayenne, 3 lbs. 6 oz. Mr. M'Ewen produced some fine examples of similar kinds, the heaviest being 8 lbs. 5 oz. Mr. Bray's were chiefly Queens. The best single Providence was that of Mr. Dods, gr. to Col. Baker, Salisbury, which weighed 8 lbs. 12 oz. Mr. Dods had also a Queen, 6 lbs. 7 oz. Mr. Fleming, and Mr. Jackson, gr. to J. Beaufoy, Esq., were equal 2d. The former had a fine fruit weighing 8 lbs. ½ oz., and the latter one of 7 lbs. 6 oz. A third prize was awarded to Mr. Davis, gr. to J. Dixon, Esq., for the same sort, 7 lbs. weight.

The best Single Queen was that of Mr. Bray, gr. to E. Lousada, Esq., which weighed 4 lbs. 6 oz. The next best came from Mr. Turnbull, who had a fine example of the same sort, and a prize of the same value was awarded to Mr. Jones, gr. to Sir J. Guest, Bart., whose fruit weighed 4 lbs. 9 oz.; this was a Moscow Queen. Mr. Forbes, gr. to the Duke of Bedford, took a 3d prize for a fruit weighing 4 lbs. 1 oz. Certificates were awarded to Mr. M'Ewen and Mr. Constantine. Mr. Forsyth, Gunnersbury, showed a Black Prince, which weighed 4 lbs. 2 oz. This was awarded a 1st prize.

Grapes.—The best collection of 12 lbs. (Black Hamburgh), came from Mr. Mitchell, of Brighton; these were well-grown and coloured. The next best was from Mr. Solomons, of Covent-garden. Mr. Spary, of Brighton, contributed an equally well-grown collection. Mr. Harrison, Weybridge, took a 3d prize for the same sort. The best single dish of this Grape was that of Mr. Taylor, gr. to J. Coster, Esq. Mr. Henderson and Mr. Eaton were equal as the next best, Mr. Davis and Mr. Constance were equal 3d. Muscats were wanting in colour. Mr. Taylor and Mr. Turnbull sent the best fruit of this sort in single dishes. Other white Grapes were contributed by Mr. Mitchell, Apley Castle, Shropshire, who sent some good Muscadines. A 3d prize was awarded to Mr. Williams, gr. to C. B. Warner, Esq., for Sweetwater. Vines in pots were shown by Mr. Jackson; the plants had from 10 to 15 bunches each. Mr. Constantine had three pots, the plants having from 7 to 9 bunches each.

Peaches and Nectarines.—The best collection of four dishes came from Mr. Turnbull, who showed Royal George Peaches and Elruge Nectarines. A 2d prize was awarded to Mr. Monro, and a 3d to Mr. Fleming, whose fruit appeared to have been much injured by carriage. The best 2 dishes were shown by Mr. Snow, gr. to the Earl de Grey, who had Noblesse Peaches and Violette Hative Nectarines. The next best were from Mr. Chapman, gr. to J. B. Glegg, Esq. Mr. Brown, gr. to C. Cartwright, Esq., Northampton, was awarded a bronze medal for large fruit of the Noblesse Peach, and Violette Hative Nectarine, which would probably have received a higher award had they been riper.

Melons.—The best of Hybrid Green-fleshed sorts was that of Mr. Munro, gr. to Mrs. Oddie. The next best was shown by Mr. M'Ewen; and an equally fine fruit of the Trentham Hybrid came from Mr. Fleming. The best scarlet-fleshed was contributed by Mr. Robertson; Mr. M'Ewen showed the Arundel Hybrid.

Cherries.—Some beautiful fruit of Knight's Early Black and White Elton was contributed by Mr. Snow; the next best came from Mr. M'Ewen, who showed May Duke.

Strawberries.—The best four dishes were furnished by Mr. M'Ewen, who had La Lequoise, Myatt's Eleanor, Keens' Seedling, and British Queen. Mr. Lydiard, of Bath, showed the next best, the sorts being British Queen, Kitley's Goliah, Alice Maude, and Keens' Seedling.

Other fruit consisted of early prolific Plums, from Mr. Constantine; and Mr. Ivison, gr. to the Duke of Northumberland, sent samples of Vanilla, Nutmeg, Plantain, and one or two others, for which a large Silver Gilt Medal was awarded.

Microscopical, *June* 23.—G. Jackson, Esq., in the chair. W. Wooler, Esq., was elected a member. A paper, entitled "Further Observations on the Structure of Volvox Globator," by Professor Williamson, of Manchester, was read. The paper went minutely into the detailed structure of this organism, and was especially directed to the support of the author's original view, that the green bodies were the original protoplasms of cells which were developed, and remained attached to the primary cell which enveloped the whole being. Dr. Lankester thought that the discrepancy between Mr. Williamson and Mr. Busk might be accounted for by their having examined either different species of Volvox, or the same at different periods of their development. The Chairman announced that the Council of the Society had made arrangements with Dr. Lankester and Mr. Busk, who were about to edit a new Microscopical Journal, to publish in that journal the Transactions of the Society. These Transactions would be supplied, as heretofore, to the members of the Society gratuitously, but those members who wished, could have the journal in addition to the Transactions, by the payment of 1s. per quarter.

Books Received.

The Botany of the Antarctic Voyage. II. *Flora of New Zealand.* By J. D. Hooker, M.D. 4to. Part 1. Reeve and Co.—At length we may hope for some connected account of the botany of our Australasian Colonies. Dr. Hooker, whose energy and knowledge so eminently qualify him for the task, has now, with the aid of the Lords of the Admiralty, taken up New Zealand, of whose vegetation five parts of the present work will give ample details. It is to be hoped that the Floras of Tasmannia and Australia itself will follow in succession. The work is written in good plain English, with a view to the convenience of colonists, but without, on that account, being rendered in the smallest degree unscientific. Quite the contrary. It contains all the natural orders up to Saxifrageæ; is illustrated by 20 excellent plates, and, as far as it goes, gives the New Zealand colonist the means of knowing all that Europeans can tell them concerning the singular vegetation of their island, which, "although luxuriantly clothed with vegetation, possesses remarkably few kinds of plants; the little island of Tasmannia has nearly twice as many flowering plants, though fewer flowerless ones." Let us add, that the beautiful execution of the work renders it a "library book," even for those who are not interested about natural history.

Plantæ Wrightianæ Texano-neomexicanæ, &c. By Asa Gray. Part 1. 4to. Pp. 146; 10 plates. Published by the Smithsonian Institution of Washington.—A very careful systematical account of a collection formed in Texas and New Mexico, by Mr. Charles Wright, with additions from the discoveries of Dr. Wizlizenus and the late Dr. Gregg. The plates are occupied by new genera, drawn and engraved by Mr. Sprague, in his best style. This first part ends with Composite plants.

The Search for Franklin. Longmans.—A pamphlet by Mr. Petermann, advocating the search for the missing voyagers being conducted along the Asiatic side of the Polar Ocean, by a course taken between Spitzbergen and Nova Zembla, in the direction of New Siberia and Behring's Straits. It is accompanied by a very useful chart of the Polar regions.

The Traveller's Library (Longmans), No. 23: *Brittany and the Bible.* By J. Hope.—A dissertation upon the religious and political state of France as it is, by one who is familiar with his subject.——No. 24: *The Natural History of the Creation.* By T. Lindley Kemp.—An able and very familiar explanation of the principal phenomena of life. We have seldom seen a book in which sound science has been so successfully clothed in plain language.

Murray's Guide to the Gold Diggings. Stewart and Murray.—A pamphlet consisting of letters and descriptions of what is going forward in the gold fields of Australia. The work would have had more claim to confidence, if its title had not been a decoy; neither in matter nor manner can it be named in the same day with those admirable handbooks for travellers which all the world knows under the name of Murray's.

Garden Memoranda.

Horticultural Society's Garden, Turnham Green.—The Orchids in the different houses are now for the most part in full growth, which is encouraged by the maintenance of a moist genial climate. Under this treatment, the huge Lælia superbiens which has blossomed so magnificently for these last two or three years is pushing very vigorously; and judging from past experience and its present appearance, we should say that its flowering next year may again be looked forward to with confidence. In the greenhouse next the Orchid-house, which is gay with the usual summer occupants of such structures, we remarked examples of two kinds of Orange Lilies, to which the Belgians have given the names of croceum and grandiflorum. They form good additions to this class of plants. Speaking of bulbs reminds us of a bed of Gladiolus byzantinus, which is now in blossom in the little flower garden in front of the council room. Its purple flowers, which are produced in abundance, make a good display now, when showy bedding plants are scarce. The small greenhouse, near the carpenter's shop, is at present as gay as a house of that kind could possibly be—a result obtained chiefly by means of Cape and other Pelargoniums. Among scarlet kinds of the latter, were one or two very fine specimens of Tom Thumb. It has been found that old plants of this useful sort flower much better than young ones; and therefore if showy specimens are desired, a few of the best plants in open beds should be potted up in autumn, trimmed in, wintered quietly in any out-of-the-way place, free

from frost, and encouraged to grow in spring. These will render a greenhouse gay all the summer. Rollisson's Unique is a fine purple variety that may be had in bloom nearly all the year round; and we also noticed a good plant of P. lateripes, a white-flowered ivy-leaved kind, which is showy and effective, on account of the contrast it makes with the dark varieties. The most striking subject by far at present in the large conservatory is Brugmansia Knightii in the form of a tree, with a head some 7 feet in diameter, and literally loaded with large white trumpet-shaped flowers that are very fragrant. This of itself is a sight worth travelling many miles to see. B. sanguinea has also been very finely in bloom, but its beauty is now nearly over. The New Zealand Flax (Phormium tenax) is in full blossom, its flower spikes, three in number, being from 7 to 8 feet high; and the Strawberry bearing tree (Benthamia fragifera), will soon be as gay, with large, creamy, saucer-shaped flowers as it usually is in the open air in Devon and Cornwall. It would be unfair to leave this house without mentioning the large plants of Calceolaria integrifolia, or at least some variety of it which ornament the side shelves. These are quite 3 feet across, and such masses of bright deep yellow flowers as to command universal admiration. This Calceolaria, and the scarlet Pelargoniums above alluded to, require nearly the same treatment, and the display they make is such that even of themselves they are capable of rendering a house exceedingly gay. When they reach three years old or so they should be thrown away, and their places supplied by young plants, which are readily obtained in the way we have pointed out. The Rhododendrons in the American garden have blossomed as profusely as could have been expected, but their beauty is now nearly past. We found Lilium giganteum planted out on the banks where it has been all winter, only protected occasionally by a hand-glass. Near it was a fine specimen of the Pampas Grass (Gynerium argenteum), noticed at p. 757, and further on the new Acer villosum and Myrica californica; the latter makes a good hardy evergreen shrub. Several plants of the blue Gum tree (Eucalyptus globulus), whose huge timber attracted so much attention in the Crystal Palace last year, have survived the winter here unharmed, except in the foliage, which has been slightly browned, thus offering an additional proof to the many already advanced of the suitability of numerous Australian plants to our climate. The Roses, standards and others, on either side of the walk leading from the school gate towards the kitchen garden, are beginning to open their flowers freely; and by the exhibition day, on the 10th inst., we expect that they will be in full beauty. They are exceedingly clean, having been well washed by the late heavy rains. An example of the old George the Fourth Rose against a wall, is worthy of notice, on account of its brilliant appearance, its blooms being nearly as good a colour as those of that glorious gem Géant des Batailles. Blairii is also well in flower now, but Ruga will require 10 days or more yet before it is in perfection. The flower-beds on the east side of the arboretum are beginning "to colour," and the different Conifers which have been planted in their neighbourhood are thriving satisfactorily. Among them we remarked Lobb's variety of the Japan Cryptomeria, a very close habited kind; the African Cedar (Abies atlantica), which looks as if it were a cross between a Deodar and a Cedar of Lebanon, and it grows freer than the latter; Cupressus Goveniana (fine bushes), and C. macrocarpa; together with Pinus Nordmanniana, a handsome kind, which grows sufficiently late for the young shoots to escape spring frosts, a point of some importance with Silver Firs, to which this evidently belongs.

In the orchard department, Peaches and Nectarines on the wall progress satisfactorily, as do also Pears. The latter are dropping off very much, but still a good crop will be left. With the exception of Gooseberries, crops of open ground fruit are light. Strawberries are late this year; but not unplentiful. Keens' Seedling is ripe, as is likewise Hooper's Seedling, a large and very prolific kind, but rather acid perhaps; and these are about all among the many sorts existing here, that are as yet (June 28) fit for table. Two or three new French kinds are coming forward; but they are not yet in a condition to report on their merits. Many new Peas, Broccoli, Cabbages, and Lettuces, are under trial in the kitchen garden; but on these we shall have something to say hereafter. Since the occurrence of the late rains, vegetation has progressed favourably, but still the ground is unusually cold, as is evinced by the sickly yellow appearance of French Beans; and Gourds do not as yet move much, whereas, in ordinary seasons, they should be good plants by this time. The Grape mildew has appeared both on walls and under glass; but its progress is stopped by timely applications of sulphur. The latter has also been tried on Potatoes, in order to ascertain whether or not it will have any effect in arresting the disease in that esculent.

We may just mention, by way of conclusion, that the long-expected example of Ewing's glass walls is at last in course of construction. There is, therefore, a chance of seeing it completed by the next fête.

FLORICULTURE.

Tulips.—We paid a visit to the collections growing this season at Slough, when they were at their best. At Mr. Bragg's were 121 rows of well grown flowers; foremost among them was Brown's Polyphemus, true and in fine condition; it is a fourth-row flower with stout stem, bold and erect, the yellow being as pure as unalloyed Californian's latest produce, and the marking as black as a Virginian nigger; the air of Slough evidently suits this sort admirably; Lawrence's Polyphemus, of which the bed contained many specimens, was in better condition than has been generally the case this season; for Tulips, like other things, have their "times and seasons." Duke of Devonshire was abundant and fine; as a showy bed-flower we observed a first-row bizarre, called Gold Cup, a northern flower we believe; Lady Catherine Gordon, from the same quarter, is a delicately feathered rose, which when strong and in good character will be striking; Rose Magnificent was not good, it possesses neither form nor marking; Catalani was fine, as was Goldham's Maria, so far as colour was concerned; we have seldom seen this variety succeed better than during the past season. Byblœmens furnished Modena, a very attractive third-row flower; Euphrates is a first-rate feathered variety, obtained, we learn, from the collection of Dr. Sanders, of Stains; Bijou d'Amateur was better than usual, and fine; Musidora mostly full of colour, a fault to which this sort is very liable; Rutley's Queen was quite a fourth-row flower, with broad petals, and even on the surface, but somewhat narrow at their base; Triomphe Royale, David, and other sterling sorts were amongst the collection which, as a whole, displayed much merit.

At the Royal Nursery we found 180 rows in the best bed, which for general arrangement, growth, and neatness must have proved very acceptable to the many visitors who inspected it. During the few years which Mr. Turner has devoted to the Tulip, much has been accomplished, and good strains of the leading and valuable sorts collected; hence, fewer are to be found of those now considered second-rate or doubtful, than perhaps in any collection grown; that this nursery was once famous for Tulips is proverbial, and, ere long, we expect it will be as rich in this flower as it is in other florist's favourites. In bizarres we remarked in capital condition Strong's King, Hamlet, Pilot, Duke of Devonshire, and Royal Sovereign; in byblœmens—Princess Royal, Pandora, Purple Perfection, Maid of Orleans, and Queen Victoria (Groom): and of roses—Arlette, Midland Beauty, Madame Vestris, Cerise belleform, Persiani, and Flora M'Donald. This establishment also contains a tolerably full collection of the far-famed Chellastons, than which, as a batch, few can equal, none excel them. Although we shall have more to say on the subject of "breaking," we cannot permit the present opportunity to pass by without stating that at Mr. Turner's, as well as at Wace Cottage, the numbers broken this season prove to be very great; this shall form the topic of an article at another time. *J. E.*

Gloucester and Cheltenham Horticultural Society, *June* 15.—This Society had a boisterous and showery day for its exhibition on this occasion; nevertheless the grounds and promenades of the Old Wells were filled with the *élite* of Cheltenham and neighbourhood, and everything "went off" satisfactorily. In miscellaneous collections of 15 Stove and Greenhouse plants, the first prize was awarded to J. M. Yeeles, Esq.; among the more striking plants which he furnished were Aphelexis sesamoides rosea and A. purpurea grandiflora, Erica Cavendishii, and a Leschenaultia. The second group came from H. Brown, Esq., M.P., and contained Stephanotis floribunda, Statice macrophylla, and the Cavendish Heath. G. Reed, Esq., had a third prize for Polygala cordifolia and other well grown plants. In Collections of 12, A. Lawrence, Esq., was placed 1st; C. Shaw, Esq., 2d; and Mr. Hodges 3d; the best plants being Ixora coccinea, Brugmansia Knightii, Hoya bella, &c. In 8 Miscellaneous Plants, the 1st prize was awarded to Mr. Griffin, in whose group Erica pulchella was conspicuous; 2d, A. E. Macdonell, Esq.; 3d, E. Saunders, Esq. There were several collections of fours; 1st, J. Webster, Esq., with admirable plants of Torenia asiatica; Brugmansia Knightii, and Stephanotis floribunda, the latter in fruit as well as in flower; 2, Lord de Saumarez; 3, E. Armitage, Esq.—A nice display of Orchids was produced by Messrs. Veitch, R. S. Holford, C. Shaw, and G. Reed, Esqrs. The first furnished Dendrobium Devonianum, D. densiflorum, Bras ia verrucosa, Saccolabium præmorsum, Sobralia macrantha, &c.; Mr. Holford staged Aerides odoratum, Saccolabium guttatum, Dendrobium cupreum, but *the* plant of the meeting was an Aerides odoratum from Mr. Holford, with more than 30 racemes of flowers on it, all extremely well coloured; this was the best specimen, and deservedly received the highest award. Many collections of Heaths were produced in admirable condition. A splendid bush of Epacris miniata received the specimen prize for Greenhouse Plants; this was sent by Mr. Yeeles. Several Nepenthes were shown by Messrs. Veitch. Calceolarias, Petunias, Verbenas, Pansies, Ranunculuses, and Pinks were all more or less abundant. Of Pelargoniums there was a bank extending the length of one side of a large tent, the fancies occupying the "opposition benches." Mr. Turner, of Slough, contributed 12 in 8 inch pots, 6 fancies, 24 Pinks, and 24 Pansies; to each of these first prizes were awarded. The varieties were 12 Pelargoniums—First of May, Beatrice, Aloizo, Rubens, Narcissus, Magnificent, Magnet, Enchantress, Ajax, Gulielma, Loveliness, and Rosamond; 6 Fancies—Anais, Exquisite, Carlotta Grisi, Defiance, Delight, and Triumphant; 24 Pinks—Narboro' Buck, Rubens, Optima, Winchester Riva', Cilo, Rosalind, Brilliant, Mrs. Herbert, Antagonist, Lucretia, Criterion, Omega, Harriett, Diana, Sappho, Lord J. Russell, Alfred Morrison, Empress, Lola Montes, Hero of Slough, Mrs. Judd, Conquering Hero, Laura, and Charmer; 24 Pansies—Alfred the Great, Diadem, Antonia, Thisbe, Seedling No. 20, Great Britain, France Cycole, Lady Emily, Black Diamond, Lord Hardinge, Royal Visit, Supreme, Adela, Lord Washington, Pompey, Duke of Perth, Cumax, Seedling No. 19, Great Western, Flower of the Day, Gluff, Elegant, Boadicea, and Rubens; other collections were forwarded by Mr. Hudston, Mr Hodges, Messrs. Upton and Son, A. E. Macdonnell, Esq., Mr. Clark, Mr. Cuff, Col. Fiddes, &c. Ornamental baskets of plants—1st, Mr. Hudston; 2d, Messrs. Jung and Schriender; 3d, Mr. Hodges. We can say nothing in praise of fruits; higher prizes might possibly produce better examples, for we can scarcely accept that staged as a sample of Cheltenham fruit-growing, when side by side were collections of the finest vegetables imaginable—Cauliflowers, Peas, Asparagus, Celery, Mushrooms, Kidney Beans, &c., &c., were quite a "sight to behold." Mr. Holder and Mr Dovey were the most successful. The closing exhibition this year is fixed for August 26th. *J. E.*

Newbury Horticultural.—This Society held an exhibition of fruits and flowers on the 18th ult.; but we have only been furnished with a list of the awards without the names of the subjects for which they were given.

Antirrhinum: *J K T.* Primrose Perfection is one of the very best yellow varieties with which we are acquainted, and may be safely added to any collection; for habit of growth, for profusion of bloom, and for quality, few can compare with it; any of the London nurserymen can supply you with it.

Fuchsias: *Alpha.* The dwarf or bedding varieties form pretty objects on rockwork.

Gladioli: *Z.* They cannot be wintered with safety in damp situations. We have received many complaints similar to yours.

Roses: *Thorn.* We have not seen any seedlings this season; it is too early yet. We are as anxious about them as yourself.

Vauxhall: *Beta.* We believe that a little movement is on foot to hold a complimentary Floral meeting in these gardens. To state that the proprietor deserves such a mark of respect, is but to secure the co-operation of those whose desire it is ever to be doing good. Tuesday, the 13th instant, is the day fixed. *J. E.*

SEEDLINGS.

Calceolaria: *R B H B.* Two blooms, collapsed and shrivelled up, from being packed in dry moss.

Gloxinia: *N R.* Too small to become a favourite.

Pansy: *J W.* The wide difference of the ground colour between the lower and side petals at once stamps it as inferior; although smooth on the surface it is scarcely so on the edges, nor is the outline at all passable.

Pelargoniums: *M W.* 1 and 2 had fallen to pieces, and were so mixed that we were unable to make anything of them.—*D B.* A box of loose petals of a pink variety, whose petals are very small; a profuse flowerer, if we may judge from the footstalks, which numbered over 40 in one truss. A fragment of something else also accompanied this, but so withered that we failed to recognise to what it belonged.—*N R.* 1, the veins in the upper petals detract from an otherwise fair flower; 2, we are familiar with this variety, but at the moment we fail to remember what it resembles; 3, upper petals of famous texture and smooth, lower petals a cheerful rosy pink, which are spoiled by the veins of darker colour, and by the colour not terminating sufficiently abrupt at the base of petals; 4, one of the high coloured class, not smooth enough on the edges of the upper petals, as a comparison with No. 2 will testify, nor broad enough in lower petals, as will be evident when side by side with No. 1.

Pinks: *J K.* 1, lacing evenly laid on and colour bright; our standard is broad petals, this has narrow. 2, similar faults as in No. 1; 3, too rough on the edges; 4, a nice looking flower, with good pod and plenty of "stuff;" propagate it freely; 5, worthless; 6, apparently identical with Kirtland's Prince Albert.

Potentillas: *B & B.* All very handsome kinds, and well worthy of cultivation; but decidedly the most striking is No. 21, a deep scarlet crimson measuring upwards of 1½ inch in diameter.

Ranunculus: *L.* A nicely marked flower. We scarcely dare venture to speak of its dissimilarity.

Miscellaneous.

Mr. William Gardiner.—A correspondent has forwarded us the following memorandum respecting this naturalist, whose death was recorded in our last. He was a native of Dundee. His parents were of humble circumstances, and his youth was spent in the privations which are the lot of no small portion of our labouring population. Like most Scotch boys he got some schooling, but the sum and substance of his education was only rudimentary instruction in reading and writing; with an indomitable spirit of perseverance, he was enabled to give himself a good education, as is evinced by his various publications. From his earliest years Mr. Gardiner manifested a great love for flowers; this taste was encouraged by his father—himself no mean botanist—who was in the habit of accompanying him in his rambles after the day's work was over, and from the habit thus acquired may be traced that enthusiasm which afterwards characterised him. In the year 1819, when about 10 years of age, Mr. Gardiner was apprenticed to an umbrella-maker, in whose establishment he remained five years. After the expiration of his apprenticeship he removed to the shop of Mr. G. Robertson, hosier and umbrella-maker, where he remained till 1844. During his leisure hours he visited the various localities in the neighbourhood of the town, examining and collecting their various botanical treasures, and when a holiday occurred, extended his rambles to the Sidlaw Hills, Auchmithie, the Red Head, &c., and by the kindness of his employer he was allowed to extend his excursions to various parts of the Forfarshire and Perthshire Highlands, thus greatly increasing his knowledge of the vegetable kingdom. These excursions he was enabled to make by various individuals employing him to collect plants for them. Amongst others, the Botanical Society of Edinburgh employed him in 1838 to collect Alpine plants for them; and so well pleased were they with the collection made, that he was elected an associate member by the Society. The Botanical Society of London also employed him for a similar object. Being thus so well encouraged, the idea occurred to him that he might make a kind of business by collecting Scottish plants; in this idea he was not mistaken; for from 1841 to the time of his last illness, he continued to make a trade of collecting and selling botanical specimens, many thousands of which he distributed to all parts of the country, as well as to the continent. There are few British botanists whose collections have not been enriched by some of the rarities collected by Mr. Gardiner. In June 1844 Mr. Gardiner made an extensive botanical tour among the mountains of Aberdeen and Perthshire. An account of this journey was published by him in 1845, under the title of "Botanical Rambles in Braemar." This was followed by a small work, published at 3*s.* 6*d.*, entitled "Twenty Lessons on British Mosses," illustrated with real specimens of the plants, instead of engravings. This speedily ran through three editions, and a fourth was in the press at the time of his death. The success of this led to a second series, which

was as speedily bought up. He also published a work of upwards of 300 pages, entitled "The Flora of Forfarshire," giving an account of the localities of all the various plants found in the county. In this latter work he notices some of the original discoveries he himself made—such as the discovery, for the first time in Britain, of the Buxbaumia aphylla; the discovery of the fruit of the Alectoria jubata, and the discovery of a new Sphæria, which, in compliment to Mr. Gardiner, was named by Mr. Berkeley, S. Gardineri. A number of years ago, Mr. Gardiner delivered a series of lectures on botany, to the members of the Dundee Watt Institution. He has left behind him a son, about 7 years of age, his only surviving relative, who is totally unprovided for.

Calendar of Operations.

(For the ensuing week.)

PLANT DEPARTMENT.

DURING the time when house creepers are in an active state, make it a rule to go over them frequently, that they may not grow into a confused state. The same may be said of creepers in pots which require attention, for the same reason, every few days. Any shoots which have done flowering should be cut back, and a crowded growth avoided. A number of hard-wooded plants, which were cut back some weeks since will now have recovered themselves, and be commencing a fresh growth. This is the proper time to shift into larger pots any plants requiring it. Carefully loosen the outside roots with a small pointed stick. After potting, keep the plants closer for a few days, and syringe them daily; but avoid giving any more water to the roots than is sufficient to preserve the old ball moist. To prevent watering so quickly after potting, mind the roots of the plant are well moistened before being potted. The greenhouse plants out of doors will require the canvas or tarpauling being drawn over them during heavy rains. Those still remaining in the house must have abundance of air. Watch narrowly for green-fly, which often does considerable damage to such things as Leschenaultias before it is found; fumigate or wash with weak tobacco-water, wherever there is the least indications of its appearance. Whenever room occurs in the plant houses, take in a few of the mostforward Fuchsias, Japan Lilies, and Gladioli, to assist in keeping up the floral display. Brugmansias and other very vigorous growing plants should be frequently assisted with manure-water; and as they are liable to get infested with insects, keep the syringe well at work to keep them under before they get into bloom. In the Orchid-house a warm moist atmosphere must be maintained to plants in active progress. Such, however, as have made their growth (known by the pseudo-bulbs having attained their full size), should have less water, and be gradually inured to a lower temperature, and a greater degree of dryness. It should, however, be borne in mind, that this progression to a state of rest in all plants should be slow, and take a considerable time to effect. So far as Orchids are concerned, those showing indications of matured growth may be first removed to the cool end of the house, for a few weeks, and afterwards placed in quarters where the temperature and atmospheric moisture will not interfere with the slow progress of the plant towards a state of rest. Dendrobiums, and others of that class, should be grown on till the shoots are of sufficient length. Wash any plants infested with insects with a lather of common brown soap, using a sponge for the purpose; destroy, by every means in your power, beetles and other pests to Orchid-houses.

FORCING DEPARTMENT.

VINERY.—The present state of the weather, may render fires still necessary to the more tender kinds of Grapes; both to keep up the requisite temperature and to insure liberal ventilation. Regulate the growth of the later houses as they advance; and continue to thin the bunches as soon as the berries are sufficiently discernible—remembering, however, that some kinds of Grapes, as the Damascus and West's St. Peter's, often present the appearance of a good set, when afterwards one-half the berries never swell, from imperfect fertilisation; a short time with these kinds should therefore elapse, to see what number of berries really swell, before thinning commences. Figs will be swelling off their second crop; to assist them pinch out the point of each shoot, this will not only assist the present crop, but aid the development of embryo fruit for the first crop next season. Keep the inside borders moist by frequent waterings. Cucumbers in this neighbourhood suffer the present season as they did the last, from some kind of disease resembling gum or canker; so virulent is this, that not one fruit in ten swells off after the plant is attacked; all the remedies tried have had but little effect in either preventing or arresting its progress. Complete the laying of Strawberry runners for next season's crop. For earliness and productiveness none are yet better than Keens' Seedling, Alice Maude is fine but rather insipid; while the Queen is pre-eminent as a late forcer, combining beauty with high flavour.

FLOWER GARDEN AND SHRUBBERY.

The recently planted beds will still require watching, to get the plants in them fairly on the start. The heavy rains of the last month have chilled the ground, and some of the more tender, or badly rooted things, look sickly. As the grounds and shrubberies are much frequented by company at this season, pay the more attention in keeping the greatest neatness and order in every part, where there are hands to admit of it; flowering shrubs, as they go out of bloom, should have the dead flowers, &c., removed, and be slightly cut back. For the same reasons remove the seed pods from Rhododendrons, Tree Pæonies, &c.; these little attentions (where they can be given without infringing on more important matters), will be followed by an increased growth of the plant, and with the greater certainty of their blooming every season. The propagation of Carnations, Picotees, Cloves, &c., should not be longer delayed. As cuttings of the young Grass will succeed at this season, a slight hotbed should be made, on which place a few inches of very sandy compost. Select the weakest Grass for cuttings, and place an air-tight hand-glass over them. The stronger shoots left will answer for layering. The present is a favourable time for putting in cuttings of all the more showy herbaceous plants, selecting for the purpose the small shoots not furnished with bloom. A north border is a suitable place to strike them, and a hand-glass will facilitate their rooting quickly. Pansies for autumn blooming may be treated in the same way. Hedges should be well cut in with the shears, unless when formed of large leaved plants, as Laurel, Turkey Oak, &c., when the knife only should be employed, as the leaves look bad when clipped with the shears. As a deciduous plant for hedges, nothing is better than the Turkey or hybrid Lucombe Oak, and Taxodium sempervirens will be found a most eligible plant for making evergreen hedges, as it grows quickly, bears the knife well, and has an agreeable appearance.

FLORISTS' FLOWERS.

Tulips may now be taken up; allow the skin and roots, after carefully removing the soil, to remain; these can be better taken off when the bulb is dry. Store them away either in cabinets with the drawers properly numbered, or put them in thin paper, allowing them to dry gradually in an airy shady place. Continue to put in cuttings or pipings of Pinks; these root freely on a gentle hotbed, under hand-glasses, or they will succeed in the open border if kept duly shaded. Any one who is desirous to improve the race of this beautiful and fragrant flower should attempt to do something in the way of cross-breeding, after becoming acquainted with the organs of fructification; a little perseverance will ensure success. Push Dahlias on, by watering freely when the weather is dry; also assist them by mulching the ground with decayed stable manure; take care that the plants do not chafe where attached to the blooming-sticks. Take up seedling Ranunculuses, these are often very small and scarcely distinguishable. We have found it the safest and most expeditious plan to put the soil to the depth of two inches, in which they have grown, in a fine wire sieve; by pumping through them and stirring the soil it passes through with the water, leaving the roots; these are afterwards spread on sheets of paper, and gradually dried in the shade.

HARDY FRUIT GARDEN.

Our previous directions should be looked over; the nailing and tying in of the current year's wood should be continued. Many fine trees are in a deplorable state, from the uncongenial state of the weather during last month; pinch out the point of the present year's wood of the Fig before nailing them in. Stop and nail in Vines, and still continue to watch the progress of the green-fly. Where new Strawberry plantations are intended, prepare the ground by deep trenching and well manuring with rotten dung; lay into 3-inch pots a sufficient number of the desired kinds of plants for the purpose; this little trouble will be amply repaid by the quantity and quality of the first year's crop.

STATE OF THE WEATHER NEAR LONDON,

For the week ending July 1, 1852, as observed at the Horticultural Gardens, Chiswick.

June and July.	Moon's Age.	Barometer.		Temperature.					Wind.	Rain.
				Of the Air.			Of the Earth			
		Max.	Min.	Max.	Min.	Mean	1 foot deep.	2 feet deep.		
Friday.. 25	8	30.048	29 904	74	57	65.5	60	57	S.	.01
Satur.. 26	9	29.814	29.703	71	52	61.5	60½	57	S.W	.32
Sunday . 27	10	29.824	29.760	71	51	61.0	60½	57	S.W.	.12
Monday 28	11	29.786	29.761	68	56	62.0	60½	58	S.W.	04
Tues. .. 29	12	29.787	29.715	67	53	60.0	60½	57	S.W	.03
Wed. .. 30	13	29.937	29.814	71	47	59.0	59½	57½	S.W.	00
Thurs.. 1	○	30.107	29.995	72	52	62.0	60	57	S.W.	.00
Average ...		29.900	29.812	70.5	52 5	61.5	60 2	57.2		.52

June 25—Heavy dew; fine; uniformly overcast.
— 26—Rain; heavy showers; slightly overcast.
— 27—Overcast; heavy showers; overcast at night.
— 28—Clouds in strata; fine; slight showers; densely overcast.
— 29—Overcast; cloudy; clear at night; rain.
— 30—Fine, rather windy; fine; clear at night.
July 1—Fine; cloudy; slightly overcast.

Mean temperature of the week, ½ deg. below the average.

STATE OF THE WEATHER AT CHISWICK,

During the last 26 years, for the ensuing week, ending July 10, 1852.

July.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds.								
						N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	
Sunday 4	76.2	53.2	64.7	11	0.78 in.	—	4	2	1	1	10	7	1	
Mon 5	77.9	53.0	65.4	8	0.24	1	1	4	1	4	7	8	—	
Tues. 6	76.8	53.5	64.9	10	0.59	—	1	3	—	4	5	7	5	2
Wed. 7	73.4	54.0	63.7	10	0.45	1	1	3	1	5	8	4	3	4
Thurs. 8	73.3	51.9	62.9	14	0.46	—	—	3	1	1	10	7	4	
Friday 9	72.9	51.3	62.1	9	0.57	3	1	—	—	2	8	8	4	
Satur. 10	74 2	52.5	63 3	7	0.36	1	1	1	1	3	12	3	4	

The highest temperature during the above period occurred on the 5th, 1846—therm. 95 deg.; and the lowest on the 8th, 1850—therm. 39 deg.

Notices to Correspondents.

BEES: *Birkhurst.* You have acted very properly in trying straw caps as well as glasses, but you must not expect either to be taken to until the stock hives are first filled. Up to the present time this season there has been so much against their collecting honey, and the hives you employ so rarely succeed, that there is little chance of your obtaining any honey in either. In another year put some of your swarms in *straw* hives, constructed so as to hold the glasses on the top. The improved cottage hive is perhaps one of the best, and by the use of it or a similar one your present difficulties will vanish, and you will easily obtain that you have for a "few years" sought for in vain. *Y.*

BLIGHT: *Mr. Neville's* blight is Protococcus communis (Lepraria viridis, of authors), and is extremely common on leaves of evergreens in damp situations. It is not a fungus, but a low form of Confervæ.

BRINJALS: *M J B.* Firstly, they must be ripe, which is rarely the case in England, although they become richly coloured; then they must be sliced, or scored and rubbed with salt, to draw out the slimy juice. Lastly, the salt must be washed out, and they are ready for the cook. We never saw a ripe one in an English garden. They will probably come here in the autumn by railway from Marseilles, and if so, will appear in Covent Garden. Enquire for *them* in October. *They* require very little preparation.

DODDARS: *H W F.* We have no idea what ails your specimen, unless it was transplanted last year, and has been unable to bear this dry spring. Wet soil will not do it.

GARDENERS' BENEVOLENT INSTITUTION: *T P S.* Apply to the Secretary, 97, Farringdon-street.

GRAPES: *Sub.* Dutch Black Hamburgh and the common Black Hamburgh are not required to be shown in separate classes at Chiswick. The judges were perfectly aware that the Grapes to which you allude were Dutch Hamburgh.

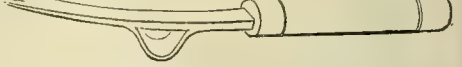
HEATING: *Ignis.* Any country bricklayer can build you a brick flue. Pits so heated are not constructed in any way differently from pits heated otherwise. Loudon's "Encyclopædia of Gardening" will tell you all you want to know on the subject.

HERBACEOUS PLANTS: *W K.* We scarcely know how to answer your inquiry, because such things are so much out of cultivation that you will probably not be able to procure them. The best way is to visit the nurseries and observe what will suit you. *Spring bulbs,* Aconites, Delphiniums, Thalictrums, Adonis vernalis, *Saxifrages, Alyssum, Aubrietia, Arabis,* Gladioli, *Iberis,* autumn bulbs, *Sedum, Sempervivums,* hardy Ferns, *Linaria cymbalaria,* Stenactis, Michaelmas Daisies, Chrysanthemums, Anemones, Astrantias, Hieracium aurantiacum, Statices, *Helianthemums,* are among the most useful procurable plants; those in italics for rockwork.

INSECTS: *R M.* The leaf of the Rhododendron robustum appears to have received an injury of long standing, the small circular injured portion shrivelling up, and separating from the sound part with jagged edges. We do not believe it to have been caused by insects. The little spider was doubtless an intruder. *W.*

KITCHEN GARDENING: *E D and H C.* From what you state there can be no doubt that your garden is in good heart and well drained, and, under proper management, we should think that all kinds of vegetables might be grown in it with success. But you have omitted to mention whether you have any glass, as, without that, you will always find a difficulty in supplying your table through the early summer months. If you have no glass, we would advise you to lay down one or more beds of Asparagus, according to your demands; also a good breadth of Seakale, which should be covered about the beginning of March with flower-pots, tubs, boxes, or anything else that will exclude light; it will be fit for table from the end of March till the end of May. Also sow and plant plenty of Snow's, Southampton, Elletson's Mammoth, and Sprouting Broccoli; Early York, and Fulham or Shilling's Queen Cabbages. Early Horn Carrots sown in January on the south border; also plant early Potatoes close under the south wall. Sow plenty of Carrots, red Beet, Parsnips, Jerusalem Artichokes, Scorzonera, &c., and preserve in sand. But, if you have a frame or two, you can be better supplied, as Cauliflowers may be sown in August and wintered in the frame, when they will come in a month or more before those sown in spring; also one or two lights might be devoted to Horn Carrots and Lettuces, which will be fit for table about May. Peas may be sown on sods, protected till February or March, and then planted out, which will forward them a month. Broad Beans should also be sown, as recommended at p. 790, 1851, and transplanted. A light or two, if at command, may be devoted to Dwarf Kidney Beans sown in February on a little heat, to come in early; also one or two lights can be set apart for Potatoes, or they may be grown on a bed arched over with sticks and protected with mats and straw. All these things will serve to enrich your table at the season you mention.

LAWNS: *A B.* The best implement for eradicating Plantain or other roots from a lawn is that of which the accompanying is a representation. ‡



MICE: *R A H.* You will find some recommendations by a correspondent in another column.

NAMES OF PLANTS: *H R I* Claytonia perfoliata, escaped from some garden.—*T S.* 1, Eucomis punctata; 2, an Hæmanthus of some sort, not determinable by such a fragment.—*Devonian.* It is the commonest of our British Violets. The V. sylvatica of Babington and Continental botanists; the V. canina of Hooker and Arnott.—*Tait.* 10, Tradescantia virginica; 5, Asperula longiflora; 4, Veronica Chamædrys; 6, Lamium maculatum; 7, Sedum glaucum; 1, Linaria cymbalaria; 2, Cerastium tomentosum; 8, Polygonum Bistorta; 13, Scabiosa alpina; 11, Cratægus punctata; 3, Calamintha vulgaris; 9, Solidago virgaurea.

PEACH LEAVES: *Doceo.* They look as if they had been ruined by green-fly, which has now apparently left them. They should be well cleaned with the garden engine, and if any aphides still remain, they should be eradicated by dusting the parts affected with tobacco, ground to powder.‡

POISON FOR ANTS: *D G.* Try the following:—Ferrocyanide of potass, 1 drachm; raspings of quassia, 1 drachm; boil together, and add sugar to make a syrup. The ants will eat this greedily, and repent when too late.

VINEGAR: *An Old Sub.* The time required to convert sugar and water into vinegar, depends upon the temperature at which it is kept, and other circumstances. Six weeks suffice under good management. You cannot prepare spirits from any source without coming under the operation of the excise laws.

VINES: *J E, Cartmel.* We are unable to point out the cause of your ill luck. Setting with a brush is useless, or worse. You should admit warm air freely at the setting time. Your night temperature is far too high—that is clear. No cultivation can be worse than that of keeping Vineries hot at night, unless for a few weeks, when the fruit is ripening off. The plant is Xylophylla angustifolia. Your letter was accidentally overlooked last week.

MISC.: *Cryptoscripta.* Your letter was accidentally overlooked. You can find an account of the granular movements exhibited in Vallisneria, in the "Annales des Sciences," new series, iv., 257; and "Archives de Botanique," ii., 425. See also "Annals of Natural History," xviii., 6. The new edition of the "Vegetable Kingdom" may be looked for about the end of the year. De Vriese's paper on the "Anatomy of the Roots of Orchids" was published at length, we believe, in the "Nederlandsch Kruidkundig Archief." The extract was sent us by a foreign correspondent. Suminski's and Hofmeister's observations on the impregnation of the proembryo or prothallium in Ferns are ably examined by Mr. Henfrey in the last number of the "Annals of Natural History."

PERUVIAN GUANO.

CAUTION TO AGRICULTURISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

ANTONY GIBBS AND SONS, AS THE ONLY IMPORTERS OF PERUVIAN GUANO,

Consider it to be their duty to the Peruvian Government and to the Public again to recommend Farmers and all others who buy to be carefully on their guard.

The character of the parties from whom they purchase will of course be the best security, and, in addition to particular attention to that point, ANTONY GIBBS AND SONS think it well to remind buyers that—

The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 9l. 5s. per ton, less 2½ per cen

Any resales made by dealers a lower price must therefore either leave a loss to them, or the article must be adulterated.

THE LONDON MANURE COMPANY offer the following Manures on the best terms, warranting every article strictly genuine:—Peruvian Guano, Superphosphate of Lime, Nitrate of Soda, Concentrated Urate, Peat Charcoal, Gypsum, Fishery Salt from Cornwall, also a constant supply of Salt for agricultural purposes; Linseed and Rape Cake. Peruvian Guano, warranted the genuine importation of Messrs. A. Gibbs and Sons, at 9l. 10s. per ton, or for 5 tons and upwards, 9l. 5s. in Dock. EDWARD PURSER, Sec.
40, New Bridge-street, Blackfriars, London.

MANURES.—The following Manures are manufactured at Mr. LAWES'S Factory, Deptford Creek:

Turnip Manure, per ton	£7	0	0
Superphosphate of Lime	7	0	0
Sulphuric Acid and Coprolites	5	0	0

Office, 69, King William-street, City, London.

N.B. Peruvian Guano, guaranteed to contain 16 per cent. of Ammonia, 9l. 10s. per ton; and for 5 tons or more, 9l. 5s. per ton, in dock. Sulphate of ammonia, &c.

CHARCOAL AND SEWAGE MANURE.—Promote the Health and Wealth of Town and Country by increasing the use of that valuable manure PEAT CHARCOAL, impregnated with the fertilising matter of LONDON SEWAGE. The ammonia, phosphates, and fæces are absorbed, and the water pressed out bright, palatable, and soft.

Sold at the Charcoal and Sewage Works, Stanley-bridge, Fulham, Middlesex, at 60s. per ton, 4s. per cwt., 2s. 6d. per half cwt.

TURNIP SOWING.

SUPERPHOSPHATE OF LIME, made from bone only, equal in quality, but in superior condition to that manufactured by the undersigned, as reported in the Royal Agricultural Society's Journal, Vol. VI., Part 2. It is also suitable for use with Chandler's Liquid Drill; also Peruvian Guano, Nitrate of Soda, Gypsum, Bone-dust, Sulphuric Acid, and all other Manures of known value.—Apply to MARK FOTHERGILL, 204, Upper Thames-street, London.

TO AGRICULTURISTS.

OWEN'S ANIMALISED CARBON is now for Sale, at 2l. 5s. per ton in bulk.—This Manure has been introduced, with the most beneficial results, at St. Croix and the Mauritius, in the growth of the Sugar Cane, as proved by testimonials from the planters. The powerful fertilising properties of the Carbon have long since been acknowledged in Denmark, where it has been extensively used for agricultural purposes, as no less than 26,000 tons have already been sold. It is ready for immediate use, having no occasion to be ground, is equally as portable and diffusible as bones, and the low price at which it can be sold in this country must always be a paramount recommendation. *A liberal Commission allowed to Dealers or Agents.* For copies of the testimonials of its utility in this country, also for samples, apply to J. OWEN and Co., 3, Roud-lane, London.

Messrs. J. OWEN and Co. are now importing from their Copenhagen Manufactory SUPERPHOSPHATE OF LIME, of the very best description, containing at least 18 per cent. of Neutral Soluble Phosphate of Lime, and capable of furnishing at least 3 per cent. of Ammonia to the Soil. The "Analysis" is made by Professor J. THOMAS WAY, Consulting Chemist to the Royal Agricultural Society. The price, in London, of this powerful Manure, is 7l. per ton, cash, or Banker's Bill on London.

HOSE FOR LIQUID MANURE, FIRE ENGINES, or GARDEN PURPOSES, made of Canvas, lined and coated with Gutta Percha. It is exclusively used by agriculturists, and at the Government Public Works, giving great satisfaction. Also, KASE'S FORCE and SUCTION PUMP, which is the most simple and complete; it will throw 40 gallons per minute, 40 feet high, and it is not at all liable to get out of order. Price 6l.; on wheels and stand, 7l. 7s.
BURGESS and KEY, 103, Newgate-street, London.

STEPHENSON AND PEILL, 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Manufacturers of Copper Cylindrical and Improved Conical Iron BOILERS, and Conservatory and Hothouse Builders, either in wood or iron, respectfully call the attention of the Nobility, Gentry, and Nurserymen to their simple but efficacious method of warming Horticultural and other Buildings by hot water. From the extensive works they have executed, references of the highest respectability can be given, and full particulars furnished on application.

M'CORMICK'S AMERICAN REAPER.

BURGESS AND KEY, Agents, 103, Newgate-street, London.—Extract from Mr. Pusey's Report on the Agricultural Implement Department, Great Exhibition.—"Mr. M'CORMICK'S Reaper, in this trial, worked as it has since worked at Cirencester College, and elsewhere, to the admiration of practical farmers, and therefore received a Council Medal. Mr. Hussey's sometimes became clogged, as in the former trial at Tiptree, and therefore could not possibly obtain that distinction."—Price of Reaper, 25l.

WATERPROOF PATHS.—Those who would enjoy their Gardens during the winter months should construct their walks of PORTLAND CEMENT CONCRETE, which are formed thus:—Screen the gravel of which the path is at present made from the loam which is mixed with it, and to every part of clean gravel add one of sharp river sand. To five parts of such equal mixture add one of Portland Cement, and incorporate the whole well in the dry state before applying the water. It may then be laid on 2 inches thick. Any labourer can mix and spread it. No tool is required beyond the spade, and in 48 hours it becomes as hard as a rock. Vegetation cannot grow through or upon it, and it resists the action of the severest frost. It is necessary, as water does not soak through it, to give a fall from the middle of the path towards the sides.—Manufacturers of the Cement, J. B. WHITE and SONS, Millbank-street, Westminster.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

LEWES MEETING.

TUESDAY, July 13, Professor SIMONDS, of the Royal Veterinary College, will deliver a LECTURE before Members of the Society and their friends, in the County Hall, at 6 P.M.
WEDNESDAY, July 14, the Implement Yard open to the Public from 8 A.M. till 6 P.M., at 2s. 6d.; the Cattle Yard open in the Evening at 5s.
THURSDAY, July 15, the Implement and Cattle Yards (thrown together into one general show) open to the public from 6 A.M. till 6 P.M., at 2s. 6d. The Pavilion Dinner at 4 P.M. Tickets 10s.
FRIDAY, July 16, the General Show of Implements and Cattle, open to the Public from 6 A.M. till 6 P.M., at 1s. General Meeting of the Society in the County Hall, at 10 A.M.

By order of the Council, JAMES HUDSON, Secretary.
London, June 24, 1852.

ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.

PATRON—His Royal Highness PRINCE ALBERT.
PRESIDENT OF COUNCIL—Earl BATHURST.
VICE-PRESIDENT—Earl DUCIE.
PRINCIPAL—Rev. J. S. HAYGARTH, M.A.

The NEXT SESSION will begin on Monday, August 9th. Students are admitted either as Boarders or as Out-Students. The annual fees for Boarders vary from 45 to 80 guineas, according to age and other circumstances. The fee for Out-Students is 40l. per annum. The College Course of Lectures and Practical Instruction is complete in one twelvemonth—though for younger students a longer time is recommended.

There is a department for general as well as for agricultural education.

Prospectuses and information can be had on application to the Principal.
Cirencester, July 3, 1852.

OPEN TO THE UNITED KINGDOM.

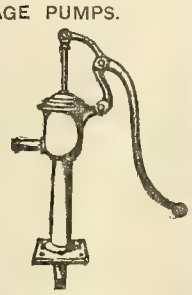
YORKSHIRE AGRICULTURAL SOCIETY.—The Fifteenth Annual Meeting will be held at SHEFFIELD on the 4th and 5th of AUGUST next. (Two days' Show.) The Entry Closes on the 22d of July. Free transit for Stock, both ways, and half rates for Implements, are conceded by the Railways of the district. Prize Sheets for Stock, Implements, or Poultry, with forms of Certificate for each, may be had free by application to M. M. MILBURN, Secretary.
Sowerby, Thirsk.

FARM AND COTTAGE PUMPS.

PATENT CAST-IRON PUMPS, for the use of Farms, Cottages, Manure Tanks, and Shallow Wells.

	£	s.	d.
Patent Pump	1	12	0
Patent Pump, with 15 feet of lead pipe attached, and bolts and nuts ready for fixing	2	8	0

Larger sizes if required.



May be obtained of any Ironmonger or Plumber in Town or Country, or of the Patentees and Manufacturers,

JOHN WARNER & SONS,
8, Crescent, Jewin-street, London.

Every description of Machinery for Raising and Forcing Water, either by Steam, Horse, or Manual power. Fire and Garden Engines, &c.
The usual allowance to the Trade.

The Agricultural Gazette.

SATURDAY, JULY 3, 1852.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY,	July	7—Agricultural Society of England.
THURSDAY,	—	8—Agricultural Imp. Society of Ireland.
WEDNESDAY,	—	14 } Agricultural Society's Meeting
THURSDAY,	—	15 } at Lewes.
THURSDAY,	—	15—Agricultural Imp. Society of Ireland.

THE controversy on the proper depth of DRAINS does not seem even yet to be effectually laid. There are still writers who contend for shallow drains in clay soils—arguing that if 30 inches of any medium be so nearly impervious to water, 60 inches must be at least a double barrier to its passage: there are still those whose sole object in draining is to get rid of the "superabundance of water" in the soil, "for this is the cause of its sterility:" and as long as such opinions are maintained, it is not likely that controversy on the subject will cease.

It is not the *superabundance* of the water in the soil that is the evil, it is its *stagnation* there which causes its sterility. That is the way in which we would enunciate one of the most important theorems in our agricultural EUCLID. And we would demonstrate our proposition by appeals both to experience and to theory—to the former, by reference to the case of the water meadow—and to the latter thus:—Fancy a soil full of water, so that any rain which falls on it just rolls over the surface into the next ditch, without getting *into* the land. The water in such a case will sour the land—it will probably convert what would have been good food for plants into poison for them; but even supposing it should not do this, the plants would soon starve. For you must remember a plant in the soil is much what a man would be who should be chained by the leg to one place in his larder. The larder might be full of food, but as soon as the man had eaten all that was within his reach he would starve, though in the midst of plenty—that is, he would do so if there were not some contrivance in operation for carrying the different dishes by him as he stood, so that he might take a bit here and a bit there as they passed, just as he pleased. Now, in a well-drained soil, the rain-water is just such a contrivance as this. It dissolves out the soluble parts of a soil and carries them by the roots of plants, so that they may take a bit here and a bit there as they choose, and thus they are fed. But if the land be not drained the water soon fills it, and then no more rain will sink in, and the water is stagnant in the land—there is no current through it—the dishes in the larder are lying still on their shelves, and as soon as the poor plant has consumed the food within its reach (*i.e.* supposing it be food and not poison, as under such circumstances much of it will soon become), it must starve, for it cannot go about after its food as most animals can; it is like an animal chained to a spot, it is stationary and must die if food be not brought to it. The use of draining, then, is not to get rid of water—it is to make use of it—it is to induce a current of water *through* the land, that it may feed the roots of the plants by which it flows.

And one of the great questions of the day—for anything which has so important an influence on the nourishment of plants may well be called a great question—relates to the mode in which this current is to be produced. One thing is clear—gravitation is the agent in bringing it to pass—it is the attraction of the earth's mass, for the water which falls upon the soil that causes it to trickle through every available passage towards those exit holes or conduits laid below the surface by which it escapes to a lower level out of the field. Another thing is also plain enough—namely, that as upon this current of water through the soil depends the proper feeding of the plants, it is desirable that the conduits by which it is to escape be entirely below the whole mass of earth in which it is intended that the roots of the plants shall expatiate. And a third thing, which has a most important bearing on the subject, will also, we think, be generally admitted; and this is, that as the attraction of gravitation is the force which impels the passage of the water, so the capillary attraction of the medium itself through which it passes—is commonly the only obstacle to its passage. This hindrance, we say, has to be overcome by gravitation, in order to the maintenance of a current through the land: that is to say, if in any case this capillary attraction is unusually powerful, a greater weight of water above the obstacle will be needed to force it. Well! in clay soils—in all whose particles are fine—this capillary attraction is unusually powerful, and the natural conclusion of the argument is that in such, drains ought to be unusually deep. If a number of very fine glass tubes, open at both ends, be filled with water when in a horizontal position, and then put to stand upright, the water in each will drop out so long as the weight of water above the lower extremity is sufficient to overcome the capillary attraction acting there to retain it; and, as the finer the tube the more powerful is this attraction, so the finer the tube the deeper is it found that the exit hole needs to be below the upper surface of the water which the tube retains. Now, a soil is a mass of such tubes; and the closer it is, the finer they are, the deeper does the exit hole or conduit for the escape of the water need to be below the surface, in order that between the two there may be height enough or weight enough of water, to force all hindrances, and so ensure a current downwards in wet weather.

People may refuse their assent to this *à priori* reasoning—but they surely cannot disbelieve statements of actual experience. And if any one still denies the efficiency of deep drains in clay soils, just let him apply to Mr. PARKES, or Mr. THOMSON, or Mr. HEWITT DAVIS, or any land-drainer acquainted with the wealds of Kent and Sussex, and we are quite sure they will point out many a case perfectly corroborating what we have said.

HOW DOES GEOLOGY ASSIST AGRICULTURE? The case, we imagine, is very simple, and may be easily understood—that is, in a general way—not as to particulars; for, like many other things that we could in no wise dispense with, yet cannot always detect in actual operation upon us;—as our civil law, our armaments, &c.;—geology may be plainly shown to us as being of the utmost importance to the agriculturists as a body, when its private help to ourselves may not be at first sight apparent. Will not a manufacture be aided, processes improved, new combinations introduced, &c., by a full and elaborate, yet generalised and organised, gathering of information respecting the raw materials it has to work? Every one admits that in manufacture, in art, in any branch of industrial pursuit, just as in mathematics, in natural science, in government, we are aided in our operations and investigations by a knowledge of the elements, their laws and variations, with which we have to deal. Nay, we are not considered fit practitioners in any of these pursuits, unless we have been well grounded in the theory, the principles educed from all the hitherto observed facts, of the art or philosophy in which we engage. Agriculture is certainly an art as well as a

business; it also aspires to the rank of a science: and how shall it be able to march abreast of the other sciences, while scorning the very constitution which maintains their strength unfatigued and unexhausted?

And it is most reasonable that agriculture should proceed but lamely when the various members of its body move not in concert to accomplish the steps, but independently, capriciously, or in opposition to each other; when there is nothing mutual in their endeavours; when the practice of one district cannot be compared with that of another, because of the want of knowledge as to the localities themselves—in what they differ, in what harmonise. The practice of farming in England is likely to grow in improvements most quickly when, from accurate understanding of the varying districts, we are enabled to compare or contrast the different modes of husbandry upon different parts having the same kind of soil. Hence, we believe, the main value of geology, which has classified the soils for us, laid down the boundaries of each, and can supply us with the required information as to their respective properties and capabilities. A century and a half ago, treatises had been written by the learned upon the nature of soils and the principles of fertility; but in a strangely conjectural manner. EVELYN'S "Terra," published about the beginning of the 18th century, was one of these, of which the following passage, from an edition of as late a period as the year 1778, is a specimen:—

"Those who have written, *de arte combinatoriâ*, reckon up no fewer than *one hundred and seventy-nine millions one thousand and sixty* different sorts of earths; but of all this enormous number, as of all other good things, it seems they do not acquaint us with above eight or nine eminently useful to our purpose; and truly I can hardly yet arrive at so many. Such as I find naturally and usually *to rise from the pit*, I shall here spread before you (the Council of the Royal Society), in their order. The most beneficial sort of mould or earth, appearing on the surface, is the natural under-turf earth; but for a description of the rest which succeed it in strata or layers till we arrive at the barren and impenetrable rock, I shall refer the critical reader to the old *Geoponic* authors." . . . "My Lord BACON directs to the observation of the rainbow, where its extremity seems to rest *as pointing to a more rocid and fertile mould*; but this, I conceive, may be very fallacious, *it having two horns or bases which are ever opposite*."

Every schoolboy that has heard anything of "simple bodies" in chemistry, and "formations" in geology, can now smile at the doctrines and facts enunciated by the learned member of a scientific society 100 years ago, who was ignorant of the main constituents of soil, and seems to have supposed all the strata of the earth to be alike in character and order of superposition, in every place. With no better data than these, no deeper or broader examinations of the hills and valleys, moors, and marshes of our country, was it possible that the sources of the earth's fertility, and the best methods of preserving or of adding to that fertility, could be determined with any certainty, or that the vast improvements which are now being based upon a knowledge of these points, could be attempted or even dreamed of? It is clear that without geology, agricultural improvers would have all been shooting at random; the mark never could have been attained. We hope to show in a future article what use is being actually made of geological knowledge for the benefit of agriculture.

FARM ACCOUNTS.—No. I.

I HAVE the pleasure of handing you a fair copy of the accounts for the farm during a period of three months. Upon maturely considering the subject, and looking at it in all its bearings, I entertain an opinion that every object will be answered by what I have now done, and save a vast deal of printing and perhaps uninteresting detail, for whatever might subsequently find place in the carrying out the accounts for the other nine months, it can only be a varied number of entries to the same end. Perhaps a few observations on the accounts handed you will sum up everything.

You will observe, I have not given you a copy of a "Labour-book." There are so many, and all answering the same purpose, that I would allow any one to be chosen best suited to the party's mode of farming, so long as one is kept; then from it, and the "Cash-book," the "Day-book" must be weekly entered up, and journalised monthly, as I have shown; which being effected, a "Ledger" has to be prepared and "opened," which must embrace every transaction, as of a separate concern; so that each field, or each engagement, must stand or fall by its own merits, in the same manner that the various speculations of the merchant are brought forward, and showing the profit or loss on each. Now, then, nothing more is required in conducting my accounts to a close, than to debit each field with its proportion of rent, according to the estimated value of the same, with taxes, tithes, &c., and all out-goings; and after harvest, credit the same with the produce, whether consumed by stock, or sold; so with stock, debit it with first cost, attendance, and food, then the difference on the sale of such stock will show the loss or gain.

Finally, at the end of the year, make a valuation of all the property on the farm, which bring forward in a "Balance-sheet," and the real situation of the farmer will be faithfully arrived at.

By the analysation of accounts, as set forth in my system, each mode of cultivation can be tested, and, after a series of years, collated, and the best adopted; but, after all that can be said or done in farming, it is not within human control—seasons vary, and frustrate all our (considered judicious) efforts; and systems, apparently correctly carried out, will often fail. But, notwithstanding all this, accounts faithfully kept, fail not, and must show the source of gain or loss; which, at all events, is some satisfaction, and ought never to be neglected. *W. F., Gay Bowers, Danbury, Essex.*

[We shall in the present article give the Cash-book merely; the Labour-book is not given. In the next article we shall give the Day-book, filled with items from the Cash-book and the Labour-book; in the third article we shall give the Journal, and in the fourth the Ledger.]

Dr. *CASH. *Cr.* 1

1850.		£	s.	d.
Oct. 1.	To cash	1000	0	0
		£1000	0	0

PER CONTRA.

1850.			£	s.	d.
Oct. 4.	By John Jones, for valuation	3.—	449	0	0
6.	Labour account, see Labour-book...	4.—	1	17	0
10.	William Mason, for 50 Ewes ...	4.—	60	0	0
13.	Labour account	4.—	1	19	0
18.	Richard Wright, for Oats	4.—	9	0	0
20.	Labour account	4.—	2	3	9
27.	William Simmonds, for seed Wheat	4.—	10	10	0
27.	Labour account	4.—	1	1	0
31.	Housekeeping	4.—	10	0	9
31.	Balance carried to next month ...		454	9	0
			£1000	0	0

Dr. CASH. *Cr.*

1850.		£	s.	d.
Nov. 1.	To balance brought from last month ...	454	9	6
		£454	9	6

PER CONTRA.

1850.			£	s.	d.
Nov. 3.	By labour account, see labour book ...	6.—	1	19	0
10.	ditto ditto ...	6.—	1	19	0
17.	ditto ditto ...	6.—	1	19	0
24.	ditto ditto ...	6.—	1	19	0
30.	Balance carried to next month ...		446	13	6
			£454	9	6

Dr. CASH. *Cr.*

1850.		£	s.	d.
Dec. 1.	To balance brought from last month ...	446	13	6
		£446	13	6

PER CONTRA.

1850.			£	s.	d.
Dec. 1.	By labour account, see labour book ...	8.—	1	19	0
8.	ditto ditto ...	8.—	1	1	0
15.	ditto ditto ...	8.—	1	1	0
15.	Housekeeping	8.—	10	0	0
22.	Labour account, see labour book ...	8 —	1	1	0
29.	ditto ditto ...	8.—	2	11	0
31.	Balance carried to next month ...		429	0	6
			£446	13	6

2 *Dr.* CASH. PER CONTRA. *Cr.* 2

1851.		£	s.	d.
Jan. 1.	To balance brought from last month ...	429	0	6

* If the party farming keeps an account with a banker, it may be better to head the account with the name of the firm, as in fact it will be debited for all monies deposited with it.

RELATIONS OF LIGHT TO THE LAND.

IT is necessary to add but a very few words to the remarks on this subject which have already been made in the article "Leaf." The main fact is, as there stated, that, under the influence of sunshine, and, in a less degree, of daylight, the leaves of plants emit oxygen gas, retaining, at the same time, the carbon of the carbonic-acid gas, from whose decomposition this oxygen has, directly or indirectly, been derived.

The sunbeam includes three sorts of agent: one, producing the sensation of light; another, producing the sensation of heat; and a third, called actinism, producing a number of chemical phenomena. The light and heat, as well as the actinism of solar light, are, of course, essential to vegetation; but it is the last to which is attributed the special influence of light on those chemical processes into which, for the most part, vegetable life resolves itself. That these three components of the sunbeam are really separate ingredients, so to speak, and not merely different phases of one common agent, appears in the fact that they are separable: they suffer refraction in different degrees on passing through a prism; and the spectrum, or image of the sun, thus produced, when received upon a screen, exhibits in separate places not only the differently-coloured rays of which light consists, but the heat ray, where no light is visible, and the chemical ray, where neither heat nor light can be detected. The position of the last may easily be determined by the use of a properly-prepared screen; as a sheet of paper, saturated with some salt of silver, which is easily acted upon by light. The darkened patch, produced upon such a sheet, denoting the actinism of the ray, will be seen to lie much beyond the position of the coloured spectrum, and to extend comparatively but a little way into it. The detail of this subject, much of which we owe to Mr. Hunt, whose experiments on the effects produced by coloured transparent media on the growth of plants are to be found recorded in the reports of the British Association, is more likely to be of use to the horticulturist than to the farmer. The influence of coloured light upon the growth of plants is a subject well worthy of investigation by those who can bring artificial climates to bear upon their productions. To the farmer the main point alone is important, that, other things being equal, it is upon the quantity of light which his plants receive, whatever the ingredient in the sunbeam to which the result is to be attributed, that the amount of carbon depends, which they can, in a given time, build up in their structures. This principal fact he can make use of by sowing early in the season, so as to obtain the use of a larger quantity of solar light between seed time and harvest; by sowing thinly, so that one plant shall not injuriously stand in the light of another; by mowing a luxuriant Wheat plant in April, or eating it off with sheep, so as to let the solar light in upon the succulent stems of the young plant, which may be blanching under the shade of the overhanging leaf; and lastly, the farmer may learn one additional lesson from this subject, on the evils attending an excessive growth of hedgerow timber. As to the precise course of conduct which it may be his interest to take on all these points, that will be taught him by experience. The science of the subject has vindicated its importance and utility, when it has pointed out to the practical man a matter deserving his attention, and shown him the natural tendencies of things in connection with it. Whether, and in whatever degree, it may be the interest of the farmer to work with or against these tendencies, at all events it cannot be his interest to remain in ignorance of them. *J. C. M., in Blackie's Cyclopedia of Agriculture.*

DIGGINGS BY A FEN-FARMER.—No. IV.

THE southern half of the Great Level of the Fens occupies the northern portion of Cambridgeshire, together with parts of Norfolk, Suffolk, Huntingdon, and Northampton shires.

THE BEDFORD LEVEL consists of 310,000 acres of this tract; and is divided into the North, Middle, and South Levels, the first draining by the river Nene, the two latter by the Ouse.

THE NORTH LEVEL, of about 48,000 acres, was in a most deplorable state previous to the improvement of the Nene outfall. In the year 1770, a great breach in one of the river banks inundated the level, laying the whole of it 7 or 8 feet deep under water. In 1795 again occurred terrible floodings; and in 1799, were still more ruinous devastations. The necessity for improving the outfall rather than the internal works became more apparent, as these destructive calamities increased in spite of precaution and assiduous repair. The artificial drainage of this tract by 30 windmills and one steam-engine was superseded by a complete natural drainage, in consequence of the great improvements in the outfall of the Nene, which were completed in 1831, the head of water in the drains having been considerably lowered. The commencement of "paring and burning" in the Bedford Level seems to have been in this district about the middle of the 17th century. The paring plough here used was called the French plough, and was probably introduced by a colony of French Protestant refugees, who settled here about the year 1650. These French families had been driven into Holland, and thence came to this, their final settlement, brought, most likely, by the report of the Dutch engineers, who were at that time employed in the drainage of the fens; and there is little doubt but that these emigrants introduced the practice of paring and burning in this part of the kingdom, as we know that it was common in France 50 years before that period. The old practice was to pare and burn for Coleseed; take two crops, one of Oats, the other of Wheat, and then lay down Grass seeds for three, or perhaps more, years. Much of the old pasture has been broken up, and now claying and under-draining have been extensively followed. Coleseed, Oats, Wheat, seeds, and Beans cover most of the surface; neat, well-constructed farmsteads are general, and agricultural improvements are being constantly introduced and extended through the district.

THE MIDDLE LEVEL, containing about 150,000 acres, is the largest of the three divisions. The drainage is chiefly by windmills, and therefore precarious in certain seasons; the number of mills is about 150. There are also upwards of 10 public and private steam-engines, draining more than 40,000 acres; but it is expected that the outfall and internal works now in progress will furnish a large portion of the district with a natural drainage, and materially relieve the labours of the mills and steam-engines, besides having laid dry the bed of

Whittlesey Mere, formerly a lake four miles in breadth. The surface is generally peat-earth, from 2 to 5 feet in depth, with good clay under it, forming a very productive soil. In some of the Huntingdonshire fens, however, the boggy soil is of still greater depth. Some parts consist of a gravelly clay; there is also a portion of silty land, and, bordering the highlands, the peat is usually mixed with brown clay, the whole being generally of good quality.

The South Level, with an area of 120,000 acres, is almost entirely drained by steam-engines, which throw their water into the various main drains and natural rivers intersecting the district. There are about 20 engines, some of them very powerful. The greater portion of this Level has a surface of moor resting upon clay; but this is not so commonly applied to the top soil as in other parts of the fens, as it often lies very deep, particularly in those districts but recently steam-drained. Adjacent to the Norfolk and Suffolk high lands, the subsoil is sand; the soil, in the absence of clay, being very weak and poor, though clay has been carted upon it with excellent effect. In some localities there is a mixture of clay and moor; and near the Cambridgeshire high lands, there is some loamy clay resting upon peat. Other districts consist of strong fen land, mixed with brown clay, lying upon moor and gravel; these lands having been drowned for years by floods from the upland clays, which thus deposited a quantity of good warp upon them, forming strong useful land.

The former system of husbandry in these two Levels was that which depends upon the operation of paring and burning; and perhaps it was necessary then to combat one element with another, to apply fire to the land that was choked with water; but modern sagacity has made the fire assist the wind in drying the soil instead of consuming it; and with good drainage and claying, a better mode of tillage has arisen. The rotations at present are somewhat as follows:—Coleseed, with bone manure; Oats; Wheat; half seeds, half Beans; Wheat, or Coleseed, with bones; Wheat; Oats; Wheat; seeds; Wheat. The fallow crop is almost invariably Coleseed, with a few roots on the higher grounds. The Coleseed is a most valuable crop, producing on these vegetable and carbonaceous soils a great bulk of rich food for sheep, the stalks being thick and juicy, and running up to 2, 3, or even 4 feet in height. It is fed off by Lincoln, Leicester, and half-bred sheep. Great numbers of cattle are wintered in the farm-yard, being supplied with oilcake to enrich the manure, at the rate of 3 lbs. to 5 lbs. per head daily; and the animals are sold out as "stores," to be fattened on the grazing lands.

A very large quantity of land in the Middle Level was subject to be drowned by a heavy downfall, and this within comparatively a few years ago; but the improved drainage, and the practice of claying, have advanced the value of the land cent. per cent., and there are many instances of farms being purchased (within the last 70 or 80 years) at 5*l.* per acre, which are now worth from 30*l.* to 50*l.* per acre. Thirty-five years ago, a farm of upwards of 500 acres was bought for 9*l.* per acre, and is now worth more than 35*l.* per acre.

North-east of the Middle Level, a breadth of peaty land stretches between Wisbech, Lynn, and Downham, partitioned into several small districts, unitedly containing about 15,600 acres. Some of these fens are still dependent upon the fickle power of wind for the safety of their cropping; but within a few years some of them have wisely and satisfactorily substituted the steam cylinder for the mill-sail as the prime mover of their drainage machines. As an example of the worth of good drainage and the application of clay, it may be stated that a tract of fen land near Downham, which, before the improvement of the Ouse outfall in 1821, was almost always under water, was offered for sale for 1300*l.*, about 30 years since; it is now drained and well dressed with clay, and produces a clear rent of more than 1300*l.* a year!

West of these fens, and south of Wisbech, are some rich pastures, and fine arable land, that formerly produced Hemp and Flax in considerable quantities.

Marshland, a district of about 30,000 acres, lying between Lynn, Wisbech, and the sea, has generally a surface of marine clay. The whole of it has been a present from the ocean; ranges of bank at a distance from each other, showing the successive advances which industry has made, eager to seize the spoils which so dreaded an enemy relinquished. The country is liable to be inundated by breaches in the outer barrier bank; and history furnishes numerous instances of such a catastrophe, one of the most terrible having occurred in the year 1613. On the 1st of November, late in the night, the sea broke in, through the violence of a north-east wind meeting with a spring tide, the loss of property from the deluge amounting to 37,000*l.* So wide was the devastation of the waves that, besides thousands of cattle and sheep swept away, vast quantities of Grass, hay, and Corn were lost, and hundreds of dwelling-houses utterly destroyed; numbers of people were drowned in their beds. There is now little danger of such an irruption, as the barriers have been extended further seaward, and stronger banks constructed round the more recent inclosures.

The district is chiefly under arable culture, producing large crops of Wheat and Beans. The more common course of management is—1st, a bare fallow, sometimes Coleseed or Turnips; 2d, Wheat; 3d, Beans or Clover; 4th, Wheat. If the fallow be a Turnip crop, the land is sown to; 2d, Oats; 3d, Wheat; 4th Beans; 5th, Wheat. In each parish there is a little fine old pasture land, although a great deal has of late years been converted into arable.

After these hurried notices of the general husbandry and drainage of the great Level, we shall proceed to other subjects of interest connected with the country, and endeavour to show how the land itself originated, and how it has become what it is. *I. A. C.*

APPLICATION OF LIQUID MANURE IN AYRSHIRE.

Canning Park, Mr. Telfer's Farm, near Ayr.—This is a small dairy farm of 40 acres, near the level of the sea, and about a mile and a half west of the town of Ayr. The subsoil is beach gravel with a slight admixture of clay. Water is too abundant. It lies dead within about 20 inches of the surface, and in winter nearer than that. The whole arrangements of the byre, steaming-room, dairy, &c., are so admirable, that any one must be highly gratified by a visit to the establishment. I was almost induced to give a plan of the byre, erected to contain 48 milk cows, the number kept on the farm, and showing the mode of collecting and conveying the liquid manure. No bedding or litter is used here. The cows lie on Cocoa-nut mats. The ventilation is perfect, and the air sweeter than in the majority of the dwelling-houses of human beings.

It will be seen that behind the standings of the cattle there is a long row of perforated plates 18 inches wide; the urine passes through these, and is conveyed in hollow semi-circular channels to the tank, placed at the end of the byre, where it is diluted in the same manner as at Myer Mill farm, with three or four times its own bulk of water in dry weather, and less in wet weather. The cost of the tank did not exceed 30*l.* The engine, of three-horse power, is used to raise the fluid, and also for churning, grinding Oats, chopping hay, pumping water to supply the cattle, &c. The comparatively small extent of land only requires the engine to be occasionally used for irrigation; and, as the surface is flat, and the height to which the liquid manure has to be lifted small, the engine, when in use, is capable of doing the other work of the farm at the same time. The cost of the engine was 60*l.*, and there are two pumps for liquid manure, having 4-inch barrels, and 14-inch stroke, making 25 strokes per minute. The capability of the pumps is therefore about 31¾ gallons per minute or, about 19,000 gallons per day of 10 hours. The quantity of the liquid laid on at each application is about 5000 gallons per acre, so that the whole farm could be covered in 10 days, if required, so far as the power of the pumps is concerned. Iron pipes 3 inches diameter extend from the engine pumps through the fields, laid in the manner already described, and not exceeding in cost the sum of 2*l.* 10*s.* per acre. The hose-pipe is of gutta percha, making a total length of 150 yards, and costing, with the discharge-pipe, about 20*l.* I was informed that the engine is used for irrigation about six hours per week on the average, and therefore the wages of an engine-man and distributor, and the fuel used, would not be due to the irrigation account for more than 31 days out of the 12 months; taking them for that time, the annual amount of working expenses would be about 11*l.* The following appears to be the cost of carrying out the system at Mr. Telfer's farm:—

Tank	£30	0	0
Engine	60	0	0
Iron pipes and hydrants	100	0	0
Distributing hose-pipe, &c.	20	0	0
	£210	0	0
Annual interest on 210*l.*, and wear and tear, at 7½ per cent.	£15	15	0
Wages and fuel...	11	0	0
	£26	15	0

This amount, divided by the number of acres, is only 13*s.* 4½*d.* per acre, when spread over the whole 40 acres of land.

The liquid manure is applied to all kinds of crops upon Mr. Telfer's farm; and though Italian Rye-grass is the favourite, it is also used for Turnips, Mangold Wurzel, and Cabbages, Rhubarb, and fruit.

In summer the cows have a quantity of oilcake, as well as Grass; and in winter they have Turnips or Mangold Wurzel, Bean or Barley meal, and cut hay or Grass; the whole mess being steamed together. Miss Bell, the cousin of Mr. Telfer, manages the dairy, and said, that the hay bought would amount to from 30*l.* to 40*l.*, and she should think the grain to not less than 200*l.* In general terms, the other food is produced upon the farm. As to the produce of Grass, which is the chief article, the first cutting during the present year was in the latter end of March, about 18 inches thick. The second was from 18 inches to 2 feet thick. The third was from 3 feet to 4 feet 6 inches thick. The fourth nearly the same. The fifth was 2 feet thick; and the sixth, in the process of cutting at the time I was there, we measured at 18 inches thick. Taking the mean, where two dimensions are given for the same crop, I find the aggregate depth of Grass, grown and cut off this farm, within seven months, to be not less than 14 feet 3 inches. All this is, however, eaten upon the premises, and the whole marketable produce of the farm is represented by the milk and butter.

As to the quantity and value of these, Miss Bell stated, that the previous week the butter was 114 lbs. and 120 lbs—together, 234 lbs.; sold at 1*s.* per lb. This, she stated, was about the average quantity and price. The amount for butter would therefore be 11*l.* 14*s.* per week, or, per annum, 608*l.* 8*s.* She informed me further, that during about eight months in the year, the cold milk realises about the same amount as the butter. In the summer months, during hot weather, the market value of the milk is only about half that of the butter. From these data, the amount for milk sold per annum is 507*l.* The total receipts for the two articles of milk and butter amount to 1115*l.* 8*s.* per annum. I only need to add, that, previously to the adoption of the present system of farming, these 40 acres of land were barely sufficient to support eight or nine cows, and would have been well let at a rental of 30*s.* an acre. *Mr. Lee's Report to the Board of Health.*

NOTES OF A RECENT TOUR THROUGH GLOUCESTERSHIRE AND NORTH WILTSHIRE.—(No. III.)

A brief notice of Captain Budd's farm and system of husbandry remains to be made. The offices, which are commodious and were built at the joint cost of the landlord and tenant, cover, including the dwelling-house and extensive stack-yard, an area of nearly 7 acres. The live stock consists of 24 half-bred farm horses, and 16 oxen, from 900 to 1000 Southdown ewes, and 300 tegs, wintered; and the summer flock, with the lambs, is usually about 2000. Many pigs are kept, but no cattle, excepting two or three milch cows for the family.

For this farm (exclusively of the rented glebe) of 1060 acres, the tenant pays 1100*l.* rent and 320*l.* tithes; the poor rates, &c., are about 2*s.* in the pound sterling; and the labour costs about 1200*l.* a year.

There are 760 acres arable, 150 meadow and Grasses, and 150 permanent pasture and down-land. The subsoil is chalk; but much of the surface-soil has a very dull unamiable look, apparently more suited to Oats than to Wheat or Barley; yet the high-farming and good ploughing cause it to yield very luxuriant Wheat. A considerable part is Oolite. With the exception of some pasture and meadow fields near the homestead, there are no enclosures, not even for the external boundaries. There is no waste ground whatever; a vast extent of open cultivated land in high tilth and fertility meets the eye.

The rotations are—*The two-course system:* 1, Wheat, manured and well fallowed; 2, Swedes, Globe Turnips, Rape, Vetches, Clover, alternately, so that each comes once in eight years (fed off and then a summer fallow); 3, Wheat; 4, root and green crops, with the due alternations. *Three-course system:* 1, Wheat; 2, Barley or Oats, with mixed Grasses or Vetches; 3, Grasses, &c., fed off by sheep. *Four-course system:* 1, Wheat; 2, Turnips; 3, Barley or Oats; 4, Grasses, fed off.

The first course is considered the most beneficial; and, as there is a dressing for every crop (Clover excepted), the crops are heavy, and the land is fully able to bear Wheat every alternate year.

On the meadow land, a portion of the aftermath is reserved for the ewes and lambs until spring, before they go to the Swedes, and a standing pen in different sheltered places is arranged for the ewes and lambs; abundance of short straw is laid for them on the flinty bed, and hay and Turnips are supplied in the usual way; while the lambs have free access through the hurdles to the tender Grass. The straw, full of ammonia, is scattered over the Grass late in spring, and thus vegetation is stimulated; and the longer straws, which have not penetrated into the ground through the agency of earth-worms, is raked off and applied again for litter. The masses of manure created in this manner by the sheep are enormous. In some fields, they lie in winter under a long rick of straw on the head-land of a field, which they gradually convert into manure.

It is rarely that a tenant farmer sees clearly and acknowledges the inexpediency of reverting to the old system of protection for corn. Captain Budd, no inexperienced man, nor lightly interested, is one of those who would leave the law as it is. This energetic gentleman, at the period of the agrarian riots in ——, mainly preserved by his determination and gallantry the peace of his district, for which he received the thanks of the First Lord of the Treasury. His principle is that the masses should have food as cheap as is consistent with a healthy state of the social system, and that if there be difficulties and short allowance generally, no part of the community should be stinted out of proportion. He would have the burdens and shortcomings which effect the landed interest fairly divided among the three parties—landlords, tenants, and labourers. Suppose a reduction of 25 per cent. to be divided thus, the landlord to abate (of rack rents) from 15 to 20 per cent. (say from 7*s.* per bushel at protection price to 5*s.* at free-trade price, the highest probable for the future), he would then divide the remainder between the other two parties, so that the labourers' wages may be reduced ⅓ or ¼. With steady, unvarying employment, and such extra privileges as Captain Budd allows to his work-people, the labourer could live very well; and the tenant by increased exertion and skill, and the relinquishment of indulgences, such as in other grades of life, with the same amount of capital invested, he would not think of enjoying.

The agriculturist who treats his labourers kindly and fairly will find that they are the most easily satisfied class in the community. Landlords who have let farms at corn rents have little to do in the way of readjustment; many who have let at fixed rents have nobly reduced them. The Duke of Portland, for example, has taken off a third; and to this amount of reduction, no doubt, the land proprietary must, in many instances, lower their

rates of rent. It is a stern necessity, but the staple food of the people should be free from taxation. *D.*

Home Correspondence.

Poultry.—Your correspondent "J. H." is dissatisfied with some remarks I sent you about the prize list for poultry, issued by the Agricultural Society, in which I complained of a higher prize being awarded to the Dorking than to the Spanish fowls. I think any unprejudiced poultry fancier will agree with me in my condemnation of the arrangement of the Agricultural Society's prizes, if they will compare it with the admirable list of prizes just published for the great poultry show at Birmingham in December. I do not however wish the "Spanish breed" to have been awarded the best prize (as I infer), but I "grumble" at the best prize being given to one breed (the Dorking), whilst a smaller prize is to be contended for by three breeds (the Spanish being one). My argument is, that each breed ought to have had a separate prize. As it is, I wish the unfortunate judges joy of their occupation. I am very much mistaken if the council will not give the best proof that their first poultry prize list is not well framed, by having a very different arrangement in any future exhibition. As for "J. H.'s" argument, that this arrangement "is a proper compliment to the county in which the annual meeting is held," I will remind him that the show is open to all England, and that if this argument were to hold good, the higher prize should then be given to "Bolton Greys," should a meeting be held in Yorkshire or Lancashire any other year. My notion is, that the chief object of these meetings is to encourage the best breed of poultry, for the profit of the farmer or cottager. I keep two sorts of poultry, Dorkings and Spanish, and I am convinced from experience there is as much (or more) profit to be made by the Spanish as by the Dorkings, which have one advantage (and one only) over the Spanish, that of being better for the table. The Spanish will during the year lay three eggs to the Dorking's two, and that at a time of year when eggs are scarce and dear. "J. H.," I think, will find that the average weight of the Dorking egg will not be above 2¾ ozs. The average weight of my Spanish eggs will be 3½ ozs.; they often weigh 4 ozs. I conclude, therefore, that "J. H.'s" Spanish fowls are second rate. In beauty of shape and plumage "J. H." "prefers the Spanish breed;" and if he will try one of his Spanish at his table, I think he will own that it is excellent. (The cook and therefore the poulterer deny his dark legs.) I believe your poultry correspondent is Mr. Baily, than whom is no better judge. I should be glad to hear what he thinks of this argument; whether he agrees with "J. H." as to the weight of the Dorking egg; what he thinks of the merits of the Dorking (as a layer) compared with the Spanish, and what is the value of good live birds of each sort comparatively. When I hear of such prices being offered and refused for Spanish fowls as have lately been, I must still believe that there are many who think of them as highly as the "Spanish fancier," and who will be inclined to agree with him, that they deserve to have had as good a place assigned to them in the prize list as the Dorkings hold, and that the Spanish fancier is not "merely proclaiming his own individual partiality" when he presumes to criticise the arrangement made by the Council of the Royal Agricultural Society. *A Spanish Poultry Fancier.*

Small Enclosures and Hedgerow Timber.—Mr. Mechi, in a letter quoted in a recent Number, speaks of "Hedge-rows and timber eating up the poor farmer's crops," and mentions as a grievance, "that these nuisances are measured to him as land, and that he has to pay rent, &c., for them." I wonder it has not occurred to so clear-headed a man as Mr. Mechi, that these nuisances eat up the poor landlords' rent in reality. He, or his agent, may make what measurements they please, but they cannot compel a tenant to pay for what he considers impediments to cultivation. I never look out of my window without seeing a lovely vale whose beauty is entirely occasioned by hedge-row timber growing in small enclosures. I will never be a party to the destruction of this beautiful scenery, but I am quite aware that I must pay for my whistle in the shape of reduced rent, and I am content to do so. *M. P.*

Muscovy Ducks.—I was surprised on reading the Rev. Mr. Dixon's valuable and interesting work on Poultry, to find that he is of the opinion that Muscovy ducks do not take to the water, and if compelled to do so, with great reluctance. Now, there are one or two places in my immediate neighbourhood where these birds are kept, and I have observed, instead of avoiding the water on the approach of a stranger, they immediately take to it as their natural refuge. Their movements on this element, to be sure, are not rapid; but, instead of being clumsy, are very graceful. *F. P., B—.*

Trout Fishing in the Vale of Keswick, Cumberland.—The correctness of our correspondent "L.'s" views as to the preservation of the trout in the lakes of the vale of Derwentwater, Cumberland, during the late drought, whilst so many of the finny tribe have perished in the rivers and streams unconnected with lakes, has been proved by the excellent sport which has been enjoyed by the anglers who have flocked to the water side since the rainy weather. Whilst the river fish in the district have been found to be badly fed, soft and flabby, those issuing from the lakes up the various streams have been got in fine condition, and red fleshed. So long as the lakes contain such an abundant supply of shellfish, perch, and other food, all that is required is to keep down the pike, and to protect the streams during the spawning season, which is now effectually done in the vale of Derwentwater.

A Remedy against Poachers.—Having argued the Game-laws with the Rev. George Wilkins, and finding that his principal objection was in the midnight bandits and common trespassers upon other's land, I think that it would not be fair in me not to try and point out remedies, and which remedies shall be two in number—the first, a most stringent trespass act; the second, garden allotments to every person residing in the country, to be under the immediate eye of the clergyman and the more respectable men of the parish. But before entering upon this, just let us look back to what gardening was about 30 years ago, by way of encouragement to those undertaking allotments. Gentlemen's places then might have been kept very clean, and some things middling well grown. Well, then, begin with the king of fruits—the Pine-apple. A Queen Pine grown in those days to 2½ lbs. was considered enormous; and I myself was a witness, having then lived with three of the first Pine growers round London—Kensington Palace; Wykehouse, Brentford; Ashburton-house, Putney Heath. Even the West India Pines of the present day are far superior to the ordinary English growth, just as far behind at that time as the cottage allotments are now behind the market gardeners' round London. Again, where were the Grape growers? Dowding, at Oak Hill, Barnet, was the first to set the Grape growers to put their houses in order. He came out upon a new system of having only one stem or single Vine up under each rafter, the majority of growers having their wood nearly as thick laid in as a wicker basket. The berries, when lucky enough to have them set, and when ripe, were the size of a Knight's Marrowfat Pea. The kitchen garden things were managed in proportion. As for greenhouses and conservatories, they looked more like a thickly planted Larch wood. The Horticultural Society of London and its managers first led the way. To Dr. Lindley and Sir W. Hooker, at Kew, much praise is due. Have gardeners neglected their places through attending floral exhibitions? Quite the reverse; and even now those gentlemen who do not encourage exhibitions, their places are just as bad as they were 30 years ago. All exhibitors read much; the non-exhibitors do not read any. Then if the above be true, garden allotments want two grand fundamental principles — simple reading what relates to crops, and exhibiting the crops on the ground at a certain time of the year, about the 1st of July; the judges to be gardeners in the neighbourhood, the prizes ought to be in proportion to the number of the allotments; for 10 lots two prizes, 20 lots four prizes, 30 five prizes, and one prize for every 10 allotments afterwards. To avoid the judges having any knowledge of parties, perhaps it would be better to have them from a distance, and *vice versâ*. This, then, would not cause unpleasantness in the villages; and if this were properly arranged, there would be no need of cottagers losing time and carrying their produce to distant exhibitions. The day could be fixed for the exhibitions; the judges, three in number, on the morning of that day would perform their task, and at 12 or 1 o'clock the public would be admitted on the grounds either by paying 3*d.* or 6*d.*; this money to go to the prize fund, or for finding tools for the most deserving; every allotment ought to be numbered, and the names of all should be hung up upon large cards at various parts of the ground; and it would not be amiss to state their general calling. The lots being all numbered the judges' task would be easy; No. so-and-so 1st prize, and which would be put on the large cards, hung up, as is done at our great exhibitions. This plan would far surpass taking things to the exhibitions, as the whole neighbourhood would then see them; there would be no after-saying that those Onions, or Beans, or Turnips, or Cabbages, were borrowed from some one else. And to carry it still further out, each man or woman, or both, should on the afternoon of that day be upon their own allotment. To those, then, who got prizes and recommendations, it would be highly pleasing; to those a little behind it would be a stimulant; and to those that were very bad it would be a lesson far more teaching than speaking would be. But in this last case I think that it ought to be in the power of the judges to reprimand; and if by next year they would not improve, to remove them and fill their ground by some one else. This would be an understood thing, and take off all unpleasantnesss from the gentleman who lets the ground for this benevolent purpose—and at a cheap rate, 4*d.* per rod; it ought never to be less nor more, that is about 53*s.* an acre. Letting land to any one too cheap at all times has its bad effects. This makes persons careless and less industrious. Allotments ought to be fully exposed to the sun, never surrounded with trees excepting to the north, and it would also be cruel to give bad ground. In arranging the ground and allotments, some regulations in the first place ought to be made, such as dividing it into straight paths, and those paths to be made so that persons will crop their grounds in lines always south and north. All crops thrive best this way. Supposing, then, you divide your allotments, beginning first with the smaller ones, five rods. Well, let those be all together, then eight rods, ten next, and so on. By doing it in this way the paths would then be in straight lines each way. Road sand or coal ashes make fine paths. Every allotment ought to have a hole in one corner for weeds, leaves, and dung; and this hole must not be looked upon as a rubbish hole, for it is quite the reverse. Farmers need not fear of a man not doing them justice because he has a small piece of ground. It has been proved that it has made him a better man and a more thinking servant to his master. A very famously conducted allotment I saw at Minster, an ancient village, four miles west of Ramsgate, in Kent, of four acres, all laid out into about 60 allotments; they had been granted promiscuously, according to the size of the family, and without much order. Mr. Buddel, a market gardener, showed me over, and most kindly answered everything I put to him.—Whose land is it? It belongs to the vicar.—How long have these allotments been parted? Ten years.—Was the ground drained? No.—What sort of soil is it? A deep, rich, soft, loamy soil.—Its declivity is to the south, is it not? Yes.—Do the cottagers use that water that runs along the south bottom much? Yes.—What sort of manure do they use? Anything they can get; they save night-soil, parings of ditches, scrapings of roads, ashes, leaves, dead Grass, soot, salt; anything they can get or buy cheap.—Have the allotments been pretty regularly kept these 10 years? Yes.—Have you been obliged to get rid of any? Very few.—What do they do with all their vegetables? Some are not so lucky as others; and those who are lucky sell to the others at a very cheap rate, and so oblige one another.—What price per rod is paid? 4*d.*—Do they say this is high? No; I have never heard a complaint.—Can an allottee have as much land as he likes? No; that depends on the number of his family.—What say the farmers about allotments? They all said that the parson was going to destroy all their labourers when first started.—What say they now? I am a farmer myself, as well as a market gardener, and I have several men belonging to the allotments, and I have found great advantage from their observations upon many things. And instead of squandering their time elsewhere, they are to be found on the bit of land working and conversing together of a summer's evening. And the wives and children have many spare hours which they employ on the ground; and, says Mr. Buddel, it is a great treat for a poor family to go into his garden and dig Potatoes, or cut fresh Cabbages.—Have you any poor? Hardly any.—Does any one near here preserve game? No; not within several miles.—Then, you have no poachers? None belonging to Minster; some come from Margate and Ramsgate, but they get nothing, as every one of us keeps a gun. Such were the answers given to me; and I must say that a more beautiful, cleanly village, and intelligent people, I have not seen anywhere than the village of Minster and the people in it. As this allotment succeeds so well, why not everywhere? This is the sort of way to do away with idleness and bad characters; there is no existence for them in such a place; if there is, they must turn to honest industry. But they are not to be found in such a district; poachers, like smugglers, do away with the temptation; it is then at an end. Poachers and bad characters are only to be found in towns and villages where there is in the immediate neighbourhood plenty of game; and this game is very often a pretence, as they get hardened to their game, until they get banished, their families being kept in the workhouse at the farmers' expense. I have lived in Fulham-fields, as they are called, where thousands of acres are cultivated for the London markets, where hundreds of poor of all sorts live, and did any one ever read of a robbery having been committed there? It is not, then, a benefit altogether conferred upon the labourer; but it is a much greater benefit to the landlord and the farmer, by making their labourers happy and comfortable, and a more thoughtful race of men; that, instead of those men spending their odd hours elsewhere, and very often hearkening to bad advice, and engendering and nursing too often a dislike for their masters, which in time makes them callous; and when a chance takes place, they do not fail to show it, which in the end sends the labourer 50 years behind. And instead of raising his labour, it has always cheapened it; a mechanist or town workmen's strike has always the reverse effect to what they wish it; and it is good for the public it is so, because things get cheaper always afterwards; but a tiller of the soil is different, he cannot get 3*l.* a week, although he has served seven years in quite as useful a trade as the other; and being a stationary people, ought to have a bit of land at a cheap rate for the use of their family. Farmers, after finding that labourers who have allotments act well, are glad to give them an hour or two now and then at extraordinary times; the labourer, on the other hand, having been obliged, would be too proud to oblige his master. Allotments in the country have a similar effect to town Athenæums; they bring neighbours to better understanding with one another, and break down many prejudices. General allotments throughout the country to the labourer would be a lasting link between man and master, and to the great good of society at large. Beer shops would diminish; no home for midnight robbers; empty workhouses (but for the old); parish expenses diminished. A happy and connected and contented people must be the result. Every man having a bit of land would have a much greater respect for property in general, and having this respect a sharp look-out would be kept upon any loose character that might spring up in the neighbourhood. In conclusion, I beg to say that the most easy, simple, and cheap work for cottage allottees is Sir Joseph Paxton's 3*d.* book, containing all that is necessary for a cottager's garden. The above are a few ideas thrown together by myself, as, with the exception of the Isle of Thanet one, I have had no communication from any one, and no doubt the plan is not so perfect as it might have been, but I have done my best for the present. *James Cuthill, Camberwell, London.*

Drainage.—In the *Gazette* of last Saturday I see an inquiry about drains; that is, whether deep or shallow drains are best. In my opinion no fixed rule on this subject can obtain. The sole object of draining is to take away the superabundant water, which is the cause of sterility of the soil; if you can do this it matters not by what depth of drain. In some soils, water standing at the depth of 5 feet or 5½ feet will keep the surface wet. I know this from experience; for on this same farm that I refer to there have been drains cut to the depth of 3 feet, and they never have answered the purpose, for no water can be found till you go down to the depth of 4 feet or 5 feet; 3 feet or 3½ feet drains in such land was only throwing away money. On another farm, where the drains had been cut to the depth of 2 feet and 2½ feet, 30 feet apart, I would say, about 10 years ago they did little or no good at all; the farmer wished more drains cut in the same field, and about the same depth, 2½ feet; but this I could not agree to, but would have them cut to the depth of 3 feet to 3½ feet, 30 feet apart, alternately, the mains being 4 feet. Now, the farmer is a complete convert to deep drains: he says the 4 feet drain is the best, although he and I were at war all the time the drains were cutting; there is one advantage that deep drains have over shallow ones, that is, that deep drains answer the same purpose that shallow ones do, as they take away the superabundant water from the surface, and at the same time take away the water at the extreme depth, which latter is the greatest evil. In the month of March I drained another field, the principal part was to be 3 feet deep, but a 3 feet drain drew no water, so I cut them all 3½ feet deep, and I got plenty of water running in every drain at 30 feet apart. Now, the late tenant of this farm did not think that the field required draining, although the field produced plenty of Couch Grass, that he never could get rooted out, in consequence of its wetness. I am busy with another field just now, and I may say that drains shallower than 3 feet would just be throwing money away. My practice is when I am going to drain a field, the first thing I do is to get pits cut through all the field at various depths, from 2½ to 5 feet, according to my idea of the nature of the locality. I have dried a moderate sized field with two pits, 6 feet deep and 6 feet in diameter, filled with stones to the bottom of a 2½ feet drain, which took away the water from them as it rose to the bottom of the drain. *B. W.*

Societies.

WEST OF ENGLAND AGRICULTURAL SOCIETY, TAUNTON.

The following was the award of

PRIZES FOR IMPLEMENTS.

CLASS, No. I.—Best ploughs for deep ploughing: Mr. Busby.
The best plough for general purposes: Mr. Busby.
The best paring plough, to be worked by two horses: Mr. Comins.
The best subsoil plough, to be worked by not exceeding three horses: Deane, Dray, and Co.
The best turnwrest plough: Mr. Eddy.
The best heavy harrow: Howard's pointed harrow.
The best cultivator: Smith and Ashby.
The best scarifier, to be worked by two horses: Fowler and Fry.
The best iron roller: Wightman and Denning.
CLASS No. II.—Cultivation of crops.
The best corn drill for small occupations in hilly districts: Messrs. Hensman.
The best Turnip manure drill: Mr. Cheek, Halse.
The best economical Turnip and manure drill, for small occupations in hilly districts: Mr. Holmes.
The best general manure distributor: Holmes.
The best horse hoe: Mr. Busby.
CLASS No. III.—Harvesting crops and preparing for market.—The best one-horse cart for general purposes: Mr. Busby.
The best two-horse waggon: Mr. Milford.
The best hay-making machine: Mr. Smith.
The best horse-rake for hay or corn: Mr. Howard; Rendle's American commended, with 1*l.* prize.
The best portable steam-engine, not exceeding four-horse power: The prize to Clayton, Shuttleworth, and Co. Mr. Amos, civil engineer, of London, came down with his dynamometer, for the purpose of testing the power of the different engines. The result in this instance was as follows:—Power, 4 horse; time of getting up the steam, 42.50; the fuel, 20.38; coal per hour, 16½ lbs., equal to horse power per hour, 11.625, consuming coal per day, of 10 hours, 485 lbs.; cost, at 15*s.* per ton, 3*s.* 3*d.* per day, showing it to be the most economical engine exhibited.
The best reaping machine: Messrs. Deane, Dray, and Co.
CLASS No. III. part of Class No. 4.—The best chaff-cutter, worked by hand: Mr. Cornes.
The best corn and pulse bruiser: Mr. Cox, Richmond and Chandler inventors.
The best chaff and litter cutter, worked by horse or steam power: Mr. Charles Cornes.
CLASS No. IV.—Preparation of food for stock.
The best turnip-cutter for sheep: Mr. Carson, for Moody's pattern.
The best corn and pulse bruiser: Mr. Cox, Richmond and Chandler inventors.
CLASS No. V.—Miscellaneous.—The best Churn: Messrs. Young. The best cheese press: Messrs. Young.
The best Apple-mill (crushing pips at the same time): Mr. March.
CLASS No. VI.—Collection of implements for small occupations.—The best and most economical collection of implements suited to tenants occupying arable land, not exceeding 100 acres: Busby, with Dray and Co.

Farmers' Clubs.

EAST BERWICKSHIRE.—At a meeting held on the 12th June, the Right Hon. the Earl of Home, President of the Club, in the chair, it was unanimously resolved, upon the motion of Mr. John Wilson, Farmer, Edington Mains, seconded by David Milne, Esq., that the cordial thanks of the Club be returned to the Editor of the *Gardeners' Chronicle* for his valuable researches into the uses of loam, and the shipment of guano from London to Berwick and other ports in Scotland; and most especially for the good service he has done to the agricultural community by drawing attention to the cargo of the Pandora, which the meeting was that day discussing.

Reviews.

An Essay on the Use and Abuse of Lime as a Manure. By Thomas Morgan. H. White & Sons, Carmarthen.

THIS tract is the result of a prize offered by Lord Cawdor for the best essay on the subject which its title page announces. Mr. Morgan's essay won this premium, and has therefore been published by the Carmarthenshire Agricultural Society, in connection with which the prize had been offered. It is a modestly-written and instructive statement of the mode in which lime acts, and the abuses into which ignorance on this subject is apt to lead the farmer. We shall give two extracts in illustration of the author's style. First, on the modes in which lime acts as a manure:—

"In the first place it does, though to a small extent, enter into the composition of plants, and to this extent it may be considered as necessary food for them; but for this purpose, as we have already seen, the quantity required is very small indeed. Many soils contain more than sufficient for this purpose, and probably one ton per acre would be more than enough to supply this requirement of any soil, under any system of cropping for twenty years. In the second place, lime may convert a part of a soil, which has previously possessed qualities poisonous to vegetation, into a valuable manure, by converting sulphate of iron into gypsum and rust of iron, and possibly by other similar chemical combinations; but I do not think it can have this or any other similar power on all soils, and possibly it may not have it even on the majority of them. No doubt this power can often, with great advantage, be called into requisition on the breaking-up of heaths and moors; but it does not apply to the every-day requirements of our agriculture. In the third place, lime has the power of altering and improving the texture of both sands and clays, thereby increasing the productive powers of each, as well as economising the labour attendant on their cultivation. In the fourth place, it has the property of improving the filtering power of soils, enabling them to retain whatever fertilising matters may be placed in contact with them; and it is to this property, I believe, in the present state of our knowledge, we must attribute its chief value as a manure. We know what great difficulties we encounter in endeavouring to arrest the waste of our manure heaps, and what losses we sustain by the occasional torrents of rain which carry from our hill sides, to the neighbouring streams and rivers, the very essence of those heaps, after our having gone to the expense of their removal to soils from whence we had looked forward for their return to us in more valuable forms. It must therefore be some gratification for us to hope that we have it in our power, simply by the application of lime, of causing the rain-water which falls on our soils, to fix in them such fertilising matters as it would otherwise have carried off to unavailable positions."

On the point here referred to, however, Mr. Way has thrown more light than Mr. Morgan was in possession of at the time when his essay was written.

Again, on the abuses of this manure:—

"Its application to wet undrained soils is undoubtedly an abuse, because in such situations it is entirely thrown away. The rain-water which falls on such soils does not pass through them, but over them; and the water with which they are saturated being stationary, obstructs that free access of air which is found to be essential to the growth of all our ordinary cultivated plants. Again, on poor unproductive clay soils, lime has but little effect until it is followed by ample dressings of animal or vegetable manures. Its power on this kind of land is comparatively dormant, and has proved, in many instances, to be quite insufficient to repay the expense of its application. This is, however, not the case when lime is followed by an abundance of farm-yard manure. I have known the productive powers of poor clay soils increased in this manner to the extent of four or five fold, while the application of lime alone, or of farm-yard manure alone, would have produced very meagre results. For reasons which I have already attempted to explain, it may well be considered an abuse of lime to apply it either immediately before, or immediately after, manures containing ammoniacal salts, such as farm-yard manure or guano. I have myself suffered some loss from having on one occasion under-estimated the evil consequences which attend the action of fresh lime on such manures. I applied lime to a Clover lay on one part of a field, leaving the other part unlimed; I saw no difference in the succeeding crop of Wheat, but the Turnips which followed the Wheat, and to which guano was the only manure applied, were perceptibly better on the unlimed than they were on the limed portion; all the succeeding crops, however, have been much better on the limed than on the unlimed portion. The application of lime in excessive quantities can hardly be considered an abuse in this part of the country, because it rarely, if ever, occurs. Many of the soils of the county of Carmarthen contain scarcely a trace of lime, and in few does it exist in excessive quantities. There are, no doubt, instances of lime having been applied without producing any material effect, simply because there was previously sufficient in the soil for all the purposes required. In such instances it may, with considerable advantage, be superseded by guano, bones, &c.; but I deny the possibility of permanently injuring any soil in this county by its application, provided a sufficient quantity of putrescent manures are made to succeed it; though I do not deny that there may be a probability of the farmer's purse becoming lighter by the experiment."

Letters to Farmers. By James Heywood. Simpkin, Marshall, and Co.

A YOUNG farmer could not have a more instructive correspondent than Mr. Heywood. The letters here collected and published give in simple language a condensed statement of the subjects treated of in detail in the larger works of Johnston and others. The author informs us in his Preface that they are published at the request of the Blyth Farmers' Club—being, in fact, the substance of a series of lectures delivered before the gentlemen of that association.

Miscellaneous.

On Improving Old Pastures, by Sutton and Sons.—Having, as far as possible, eradicated the strong growing weeds and coarse Grasses, and improved the condition of the land, according to its requirements, if any, heavy harrows should be drawn over the old turf early in the spring, to loosen the soil for the admission of seeds of the finest and most nutritive kinds of perennial natural Grasses and Clovers, which, if sown freely, will occupy the numerous small interstices between the plants of Grasses already growing, and thereby prevent the luxuriant growth of coarse Grasses and noxious weeds. It is a good practice to sow these seeds at the same time as the top-dressing is applied, but this is by no means necessary.

Can Corn be Remuneratively Produced at Present Prices?—I am frequently asked this question, and I answer, certainly not, with old rents and old expenses; and I would respectfully advise those landlords who are still receiving high rents on old leases to commute them for a corn rent (based on the present price of Wheat, Barley, and meal) before their tenants' capital becomes absorbed. Landlords certainly can live and keep their establishments at infinitely less cost now than at any former period. I know several large farms held on corn rents, and the tenants do not complain. In fact, it is the only just system by which landlords and tenants can "sail in the same boat, be it fair weather or foul." Such a system, to my certain knowledge, retains a good tenantry, and prevents changes. It has been long and successfully adopted by some of the most noble and wealthy landed proprietors. I am satisfied that if this question of rent is arranged, farmers can have little else to complain of; labour, tithe-rates, seed, and "farmers' clothing and housekeeping," being all in accordance with a low price of food. Commerce and manufactures have done their duty; and by costly steam with intricate machinery, have supplied the farmer's family abundantly, cheaply, and elegantly. No doubt, whatever the price of food may be, the land of this kingdom will continue to be cultivated. No one can seriously suppose for a moment that the large and active population of this kingdom is to be unemployed or unfed. The two main charges of agriculture are rent and labour. A reference to the statistics of agriculture will show the expenses of an arable farm to be on the gross produce of 4½ rents.

Rent	22	per cent.
Horse labour	20	,,
Manual labour	22	,,
Seed	6	,,
Tradesmen's bills	5	,,
Rates and tithes	8	,,
Casualties	5	,,
Interest for capital and farmer's profit	12	,,
Total	100	

No estimate is made of artificial manure, because such ought to pay in increased produce. Now it is self-evident that any disturbing influences in the relative per centages must have a material effect upon the farmer's margin of 12 per cent. If the rent remains undiminished with falling prices, it would absorb the farmer's profit; because the horse-keep is essentially dependent on rent; seeing that in an average of farms, the horses consume one-fifth of the whole produce of the farm. By a corn-rent, landlords would benefit by a rise in prices, of which they would otherwise be deprived. I apprehend nobody expects that corn will long continue at the present low prices. Such an expectation would be contrary to all our historic evidence of fluctuations. Landlords should consider that at least one-fifth of every farm is required for the keep of farm-horses, and that another tenth at least is occupied by fences, buildings, roads, ditches, &c. Now it is quite clear that the farmer is entitled to a considerable reduction on the rent of this portion, or he cannot meet the times, if prices are to be permanently reduced. *Mr. Mechi's Second Paper.*

What kind of Plant is Lucern?—Lucern is a long-lived plant of the Clover family, but far more nourishing and productive, on soil suited to it: it will flourish for 10 or 12 years, if properly treated. What is the best soil for Lucern?—The best soil for Lucern is a very deep, calcareous loam, resting on an undersoil of lime-stone gravel, or free chalk. The roots penetrate to a great depth, if they are not stopped by a hard substance, such as clay. The quality of the undersoil, then, is important in the case of Lucern?—The quality of the undersoil is highly important in the case of Lucern, for

the roots of this plant soon perish when they reach a wet clayey bottom ; they require a free and sound undersoil. What depth of upper soil is needful for Lucern, in order that it may fully succeed ?—Two or three feet depth of good surface soil is necessary for the perfection of Lucern, but a lesser depth of it with a good deep undersoil will suffice. How should ground be prepared for Lucern ?—Ground should be trenched deeply with a spade for Lucern. If a ley field be broken up for it, the turf should be laid at the bottom of the trench. Couch, and indeed all weeds, should be carefully collected and burnt, and manure should be mixed with the soil for the support of the growing plants, until it becomes necessary to give them top dressings. What is the season for sowing the seed ?—The beginning of April is the time for sowing Lucern seed. How should it be sown ? —The seed may be sown in drills 12 or 14 inches apart, or broadcast, if care be taken not to crowd the plants. Should Lucern be sown alone, or with Barley ?—Lucern may be sown with Barley, as Clover is, provided the Barley be not thickly sown ; or it may be sown more safely with Flax seed. Would not the pulling of the Flax crop loosen the roots of Lucern, or drag them out of the ground ?—Unless the Flax crop be drawn out of the ground very violently, and with great carelessness, no injury will be done to the young plants of Lucern. When will Lucern be fit for cutting from the time of sowing ?—Lucern will be fit for cutting very early in the year after that in which it has been sown. Two cuttings may be expected in this second year, fully equal in bulk to the produce of a good Clover crop throughout any entire season. In the third year it will yield three cuttings, and afterwards four, or perhaps five in the year, if always mown before the blossoms fully appear. Would a rood of Lucern maintain a milch cow during the summer half-year ?—A rood of prime Lucern would probably support a moderately-sized cow from the middle or end of April to the first of November, without other food. The addition of some field Beet leaves along with the Lucern, towards autumn, would insure her, however, against any stint of food. Every perch of it may be mown once in every five or six weeks, for six months, as its growth is much more rapid than that of Clover ; in short, on land perfectly suited to it, no crop, for soiling, equals it, except Sainfoin, which is very like it in many particulars, and is much cultivated on the chalk soils of England. What is the most economical manner of using Lucern ?—The most economical manner of using Lucern is to give it green, as soiling, to all kinds of live stock. Milch cows thrive well on it, but as it is apt to fill greedy cattle with wind, if they eat it in too juicy a state, it should be cut a few hours, and exposed to sunshine, before it is given to them. May not Lucern be saved for hay ?—Lucern hay is capital food for horses or cows, but it is very uneconomical not to keep a cow or two to eat Lucern in its green state. *From Groombridge's Elementary Catechism.*

Quantities of Seed to the Acre, by Sutton and Sons.—The quantity of seed sown per acre varies greatly in different localities ; but the following table may be a guide to gentlemen ordering seeds. It is a good general rule, that seeds sown late in the season, and all kinds of seeds sown on poor land, should be sown rather thicker than usual.

	Per acre.—lbs.		Per acre.—lbs.
Swedish Turnips	... 2 to 3	Lucerne	... 16 to 30
Other Turnips	... 2	Furze, for feed	... 8
Rape	... 4	Chicory	... 4
Mustard	... 14 to 21	Italian Rye Grass, 2 bushels.	
Mangold Wurzel	... 3 to 4	Vetches, 3 bushels.	
Carrot	... 5 to 6	Buck Wheat, 3 to 4 pecks.	
Parsnip	... 5 to 6	Sainfoin, common, 3 to 4 bshls.	
Cow Cabbage, to transplant	1	— giant, 4 to 5 bushels.	
Kohl Rabi, ditto	... 1	Linseed, for Flax, 9 pecks.	
Ditto, drilled	... 4	— for seed, 3 to 4 pecks.	
Trifolium incarnatum	20 to 24	Maize, dibbled, 2 pecks.	

Calendar of Operations

JUNE.

LAMMERMUIR SHEEP FARM, JUNE 28.—There has been a complete change in the weather since our last report. At that time very little rain had fallen for two months ; with easterly winds prevailing, the average temperature was low, and, as the consequence of all, our pastures were dry and parched. During the past month, however, we have had an unusual quantity of rain, scarcely a day passing without it, more or less. The thermometer has also been low, rarely rising above 62°, and more frequently falling below 50°. As might be expected, our moors are as completely soaked as they usually are in November, the surface drains being sometimes insufficient to carry off the water. Dry warm weather being most favourable for sheep, we need scarcely add that the Lammermuir flocks are neither looking so well as we could have wished, or indeed expected to have seen them at this date. This is not so observable in wedders, which we are still inclined to think are above an average in condition ; but among ewes and lambs the effects are very marked. At the beginning of June lambs had that fresh coat, plump look, and "swaggering gait," which are sure indications of their doing well ; but, with this continued wet their skins are now bleached-looking, they are less playful, and too many of them are exhibiting that enlargement of abdomen which is quite out of proportion to, and never accompanied by any relative increase of condition or growth of frame. Let us not be misunderstood, however, as if we now considered them below an average in quality. We are probably calling them worse than they really are ; for, as nobody ever saw sheep looking well during rainy weather, and as we have seldom seen ours quite dry during the last month, it is very probable that a week of sunshine and heat would restore them, in a great measure, to their former healthy look, and of course, to our previous good estimate, as they have abundance of Grass now to push them forward. Having some years ago paid smartly for commencing shearing in a wet and cold season, before there was any decided appearance of a favourable change of weather, we have ever since been very cautious in depriving sheep of their fleeces before the last week of June, rather preferring to lose a few lbs. of wool than to go out some morning after a cold easterly storm of wind and rain, and find several carcases lying where we left living sheep the evening before. It is from having such a remembrance that, with the exception of the rams, none of our sheep are shorn. We purpose, however, commencing washing operations to-day, and hope to have our sheep shearing finished in the course of 10 days. The sheep are washed by swimming them four or five times through a deep pool about 20 yards broad—through which there should be a gentle current—and not, as in Lowland districts, singly, each sheep passing through several hands before being turned off. Indeed, in grazing districts, where there are few hands, and the flocks are large, the latter method is impracticable ; while experience has shown, that by simply swimming them, the wool is rendered as white and free from impurities, as by the most careful hand-washing. Three or four days are allowed to intervene between washing and shearing. It would certainly be an advantage could more time be given for the yolk to return into the wool, but, as with us, there are so many earth banks where sheep are sure to avail themselves of the luxury of rubbing, the owner has no choice but to secure the fleece before it is filled with sand or peat mould. Everything being ready, the shepherds from a few grazings conveniently situated, meet on a set day at one of the farm steadings. In this way a large flock can be got over in a short time, as seldom fewer than a dozen men assemble, and each is expected to finish about 50 sheep. Roughly indeed ; but in high districts it is found to be much safer to want a little wool, than to leave them with no other protection than a bare skin. While the men should be supplied with abundance of substantial food, we strongly deprecate the practice of giving them spirits, which is only encouraging a vicious habit, and the not unfrequent consequence, where this is done, being that the fleece is abused, and what is worse, the sheep so much cut as to cause death. Our Turnip sowing was completed on the 5th, and we expect to commence thinning in a few days. Notwithstanding the cold and wet, the Oat crop is looking well, though there is little appearance of an early harvest. *A Lammermuir Farmer.*

Notices to Correspondents.

SHEEP : *R V.* The present is a good time for dipping Sheep for the tick. Buy Bigg's Composition and dip the sheep in it.

WATERPROOFING CLOTH : *Z.* Dissolve 3 lbs. of alum in water, and 2 lbs. of sugar of lead in a separate jar. Then mix the two ; let the mixed solution stand, and pour off the clear liquor. Dissolve 1 lb. of glue in water, making a weak solution, and add it to the other solution. Let the whole be at a temperature of about 180° or 190°, and put in the cloth and let it remain for 10 minutes. Then take it out, and throw it into clear running water. Enough material is named for 30 yards of cloth, and enough water must be used to soak that quantity.

Markets.

COVENT GARDEN, JULY 3.

Vegetables and fruit are plentiful. The supply of English Pine-apples is remarkably good, but the prices are getting lower ; the same may be said of Hothouse Grapes. Strawberries are improving in quality. A very few dessert Apples may still be obtained. Oranges are plentifully supplied, and very good. Nuts are nearly the same as last quoted. Large quantities of French Cherries continue to be supplied some of them bringing only 3d. per lb. Young Carrots, Beans, and Artichokes also continue to be supplied from France. New Potatoes are coming in very plentifully. Peas are improving. Mushrooms are dearer. Cut flowers consist of Heaths, Epacrises, Pelargoniums, Mignonette, Roses, Azaleas, Lily of the Valley, &c.

FRUIT.

Pine-apples, per lb., 4s to 8s	Lemons, per doz., 1s to 2s
Grapes, hothouse, p. lb., 3s to 8s	Oranges, per doz., 1s to 1s 6d
Peaches, per doz., 10s to 24s	— per 100, 3s 6d to 10s
Nectarines, per doz., 10s to 24s	— Seville, per doz., 1s to 3s
Melons, each, 2s to 6s	Nuts, Barcelona, per bush, 20s to 22s
Cherries, per lb., 4d to 3s	— Brazil, per bushel, 12s to 14s
Strawberries, p. pott., 6d to 1s 6d	
Almonds, per peck, 5s	
— sweet, per lb., 2s to 3s	

VEGETABLES.

Cabbages, per doz., 6d to 1s 3d	Garlic, per lb., 8d to 1s
French Beans, p. 100, 1s to 2s	Lettuce, Cab., per score 4d to 1s
Cauliflowers, per dozen, 2s to 6s	— Cos, p. score, 3d to 1s
Asparagus, p. bundle, 1s to 4s	Radishes, per doz., 8d to 1s
Greens, per doz., 1s to 1s 6d	— Turnip, 9d to 1s 6d
Rhubarb, p. bundle, 3d to 4d	Small Salads, p. pun., 2d to 3d
Potatoes, per ton, 45s to 80s	Horse Radish, p. bundle, 1s to 4s
— per cwt., 2s to 5s	Mushrooms, p. pott., 9d to 1s 6d
— per bush., 1s 6d to 2s 6d	— per punnet, 6d to 9d
— New (border), do., 3d to 6d	Sorrel, per hf. sieve, 6d to 1s
Turnips, per doz., 3s to 6s	Artichokes, Jerus., do., 9d to 1s
Cucumbers, each, 2d to 6d	Fennel, per bunch, 2d to 3d
Celery, per bundle, 1s to 1s 6d	Savory, per bunch, 2d to 3d
Carrots, p. bun., 7d to 1s	Thyme, per bunch, 2d to 3d
Spinach, per sieve, 9d to 1s 3d	Parsley, p. doz. bnchs., 2s to 3s
Onions, per bunch, 2d to 8d	Mint, per bunch, 2d to 4d
— Spanish, p. doz., 1s 3d to 3s	Basil, green, p. bunch, 6d
Beet, per doz., 1s to 2s	Marjoram, do., 3d to 6d
Leeks, per bunch, 4d to 6d	Watercresses, per 12 bunches, 9d to 1s
Shallots, per bunch, 4d	

HAY.—Per Load of 36 Trusses.

SMITHFIELD, July 1.

Prime Meadow Hay	78s to 84s	Clover	... 85s to 100s
Inferior do.	... 68 72	New do.	... ... 60 70
Rowen	... ... 70 —	Straw	... ... 28 32
New Hay	... ... 55 70		J. COOPER.

A dull trade.

CUMBERLAND MARKET, July 1.

Prime Meadow Hay	84s to 90s	Inferior Clover	... 84s to 90s
Interior do.	... 70 76	New do.	... ... — —
New Hay	... ... 65 —	Straw	... ... 29 33
Old Clover	... .. 95 100		JOSHUA BAKER.

HOPS.—BOROUGH MARKET, July 2.

Messrs. Pattenden and Smith report that the accounts received from Kent, Sussex, and Farnham speak more favourably of the coming crop, the bine for the most part being free from vermin, and in a very growing state. Prices remain unaltered, with a very short supply. Duty not named.

WOOL.

BRADFORD, THURSDAY, July 1.—The demand for the best class of English Wool during the current week has been active, and the supply in the hands of the trade here being extremely limited, prices have ranged decidedly in favour of the sellers. The rates which are now established to some extent among growers for the new clip render operations by staplers here a work of both difficulty and hazard, inasmuch as it would appear impossible, without a considerable alteration for the better in the general state of trade, to realise cost price upon their purchases. Exceptional cases certainly exist where the supply is likely to be comparatively limited, and the demand continuously good, and this is chiefly evidenced in the best class of Yorkshire Wool, for which, although ranging at high rates, the demand seems to be strictly legitimate, and thus based, the probability exists that present prices will be firmly maintained. Other descriptions of bright-haired wool are in active request, and command full rates. Noils and brokes are a ready sale, at late prices.

SMITHFIELD.—MONDAY, June 28.

We have a large supply of Beasts, and the weather being rather unfavourable for slaughtering, trade is slow at a reduction of 2d. per 8 lbs from Monday last. There are a few more Sheep than on that day, and in most cases prices are lower ; however, almost all are disposed of. There is a good demand for Lambs, and late quotations are fully supported. Calves are a very heavy trade, and, although a few chance ones (being scarce) make 3s. 8d., it must be considered at extreme quotation. From Germany and Holland there are 670 Beasts, 3010 Sheep, 283 Calves, and 70 Pigs ; from Spain 620 Sheep ; from France, 20 Pigs ; from Scotland, 450 Beasts from Norfolk and Suffolk, 1900 ; and 600 from the northern and midland counties.

Per st. of 8lbs.—	s	d	s	d
Best Scots, Herefords, &c.	... 3	8	to 3	10
Best Short-horns	3	4	— 3	6
2d quality Beasts	2	8	— 3	2
Best Downs and Half-breds	... 0	0	— 0	0
Do. Shorn	... 3	8	— 3	10

Per st. of 8lbs.—	s	d	s	d
Best Long-wools	0	0	to 0	0
Do. Shorn	... 3	4	— 3	6
Ewes & 2d quality	0	0	— 0	0
Do. Shorn	... 2	8	— 3	8
Lambs	 4		4 — 5	6
Calves	 2		4 — 3	8
Pigs	 2		8 — 3	6

Beasts, 3977 ; Sheep and Lambs, 31,370 ; Calves, 421 ; Pigs, 620.

FRIDAY, July 2.

We have not a very plentiful supply of good Beasts ; these are therefore readily sold, but trade is dull for middling kinds. Sheep trade is no better than on Monday. There is a considerable demand for Lamb, the average quality is very inferior ; however, all kinds are rather dearer. Trade is more cheerful for Calves, but only in few instances is more money obtained. From Germany and Holland we have 233 Beasts, 1340 Sheep, and 371 Calves ; from Norfolk and Suffolk, 250 Beasts ; 50 from the northern and midland, and 124 Milch Cows from the home counties.

Per st. of 8lbs.—	s	d	s	d
Best Scots, Herefords, &c.	... 3	8	to 3	10
Best Short-horns	3	4	— 3	6
2d quality Beasts	2	8	— 3	0
Best Downs and Half-breds	... 0	0	— 0	0
Do. Shorn	... 3	8	— 3	10

Per st. of 8lbs.—	s	d	s	d
Best Long-wools	0	0	to 0	0
Do. Shorn	... 3	4	— 3	6
Ewes & 2d quality		...		
Do. Shorn	... 2	8	— 3	0
Lambs	 4		6 — 5	2
Calves	 2		6 — 3	10
Pigs	 2		8 — 3	6

Beasts, 777 ; Sheep and Lambs, 12,220 ; Calves, 732 ; Pigs, 450.

MARK LANE.

MONDAY, June 28.—Although the supply of Wheat from the neighbouring counties to this morning's market was unusually small, factors were unable to obtain the prices of this day se'nnight, and the bulk of the samples remained unsold towards the close. Foreign met a retail demand, and where sales were effected, rather lower prices were generally accepted.—Flour is unaltered in value ; the sale is very limited.—The price of Barley remains as last week.—Beans and Peas are 1s. per qr. dearer.—The Oat trade is slow, but we observe no alteration in price.

PER IMPERIAL QUARTER.	s.	s.		s.	s.
Wheat, Essex, Kent, & Suffolk	... White	45—47	Red	.....	40—41
— — fine selected runs	...ditto	46—49	Red	.....	41—43
— — Talavera	.....	45—50			
— Norfolk	.....	39—41	Red	.....	—
— Foreign	.....	36—52			
Barley, grind. & distil., 26s to 29s	...Chev.	30—35	Malting	.	29—31
— Foreign ...grinding and distilling		21—28	Malting	.	—
Oats, Essex, and Suffolk	.....	20—21			
— Scotch and Lincolnshire	...Potato	21—24	Feed	.....	20—22
— Irish	.....	Potato 20—23	Feed	.....	19—22
— Foreign .....Poland and Brew		18—20	Feed	.....	16—19
Rye	.....	—	Foreign	.	—
Rye-meal, foreign	.....	—			
Beans, Mazagan.....27s to 32s	.....Tick	28—33	Harrow	.	28—33
— Pigeon .....28s — 36s	...Winds.	—	Longpod		—
— Foreign	.....Small	23—34	Egyptian		26—28
Peas, white, Essex and Kent	.....Boilers	38—40	Suffolk	..	38—42
— Maple.....32s to 35s	.....Grey	31—33	Foreign	.	30—40
Maize	.....	White			—
Flour, best marks delivered	...per sack	37—40	Yellow	...	
— Suffolk	.....	ditto 25—32	Norfolk	.	25—32
— Foreign	..... per barrel	17—23	Per sack		28—34

ARRIVALS IN THE PORT OF LONDON LAST WEEK.

	Wheat.	Barley.	Malt.	Oats.	Beans.	Peas.
Flour, 15269 sks						
— 20241 brls	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.
English	4060	127	2786	640	316	106
Irish	—	190	50	4965	5	—
Foreign	10502	6443	—	20639	971	134

FRIDAY, July 2.—The arrivals of grain this week, both English and foreign, have been moderate, and good of American barrel Flour. Notwithstanding a moderate inquiry for foreign Wheat, trade was dull, and sales were exceedingly limited at Monday's prices ; the value of English is unaltered from that day. In floating cargoes of Ghirka and Marianople Wheat, an extensive business was transacted yesterday at 39s. to 40s., cost, freight, and insurance for Irish account.—Flour is heavy, and extensive sales could only be effected at some reduction from our quotations.—In spring corn there is little doing, and prices remain as on Monday.

ARRIVALS THIS WEEK.

	Wheat.	Barley.	Oats.	Flour.
	Qrs.	Qrs.	Qrs.	
English ...	1790	—	810	1780 sacks
Irish	—	—	1230	
Foreign ...	6590	1810	6640	10,740 brls.

IMPERIAL AVERAGES.

	Wheat.		Barley.		Oats		Rye.		Beans.		Peas.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
May 22.....	40	6	27	10	20	1	30	5	31	6	30	9
— 29.....	40	5	27	11	20	1	30	0	31	7	27	2
June 5.....	40	7	27	5	20	8	30	6	31	6	31	0
— 12.....	40	11	27	6	20	0	29	8	31	10	31	2
— 19.....	40	9	27	5	20	2	30	7	32	0	31	9
— 26.....	40	10	27	6	20	0	31	0	32	4	31	9
Aggreg. Aver.	40	8	27	7	20	2	30	4	31	9	30	7

Duties on Foreign Grain, 1s. per qr.

FLUCTUATIONS IN THE LAST SIX WEEK'S AVERAGES.

PRICES.	MAY 22.	MAY 29.	JUNE 5.	JUNE 12.	JUNE 19.	JUNE 26.
40s 11d	...	...	...		...	...
40 10	...	...	...	...	...	
40 9	...	...	...	...		...
40 7	...	...		...	...	...
40 6	—	...	...	...	...	...
40 5	...		...	...	...	...

LIVERPOOL, FRIDAY, June 25.—Of English and Irish produce we have again to report very scanty supplies ; and those from abroad into this port since Monday last are light compared with the large arrivals noted on Tuesday. Our market this morning lost much of the animation previously observable, yet, with a moderate demand for Wheat of most descriptions, the full prices of Tuesday last were steadily maintained. Flour was saleable to a fair extent on the same terms. A moderate demand for grinding Barley, as well as Peas, at previous rates ; and Egyptian Beans found more free buyers at 3d. to 6d. per qr. advance. Oats and Oatmeal continue dull of sale, at prices almost nominally the same as before. Having several Irish buyers, and a more general demand for shipment in moderate quantities, yellow Indian Corn brought to-day 6d. per qr. more money ; white descriptions, however, were still obtainable at 28. 6d. to 29s.

Sales by Auction.

SPECIMEN PLANTS.

MR. J. C. STEVENS will sell by Auction, at his Great Room, 38, King-street, Covent-garden, on TUESDAY, July 6, at 12 for 1 o'clock, the COLLECTION of SPECIMEN STOVE AND GREENHOUSE PLANTS, removed from Sidcup, Foot's Cray, Kent, the property of George Stanley, Gardener to the late Henry Berens, Esq —May be viewed the morning of Sale and Catalogues had.

ORCHIDS.

VALUABLE SELECTION, AND WELL DESERVING ATTENTION.

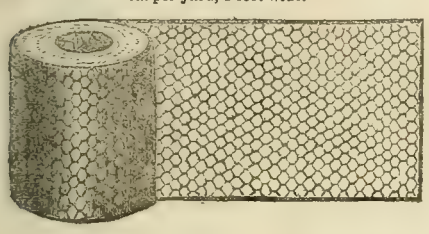
MR. J. C. STEVENS will sell by Auction, at his Great Room, 38, King-street Covent-garden, on MONDAY, July 12, at 12 for 1 o'clock, the Second Portion of ORCHIDS, removed from Messrs. Loddiges' Nursery at Hackney, which will include some of the rarest and finest plants in the collection.—May be viewed on the morning of sale and Catalogues had of Messrs. Loddiges; and of Mr. J. C. Stevens, 38, King-street, Covent-garden, London.

CHEW STOKE, SOMERSET.

TO BE LET, at a moderate rent, from Christmas next, HERRINGS-GREEN FARM, containing about 94 acres of useful Land, eligibly situated nine miles from Bristol. The Proprietor is prepared to enter into an arrangement for possession to be had at Michaelmas next, and to assist liberally in improvement by drainage.—Apply to Mr. Jebbard, Cheltenham.—July 3.

GALVANISED WIRE GAME NETTING.—

7*d.* per yard, 2 feet wide.



	Galvanised.	Japanned Iron.
2-inch mesh, light, 24 inches wide ...	7*d.* per yd.	5*d.* per yd.
2-inch " strong " ...	9 "	6½ "
2-inch " extra strong " ...	12 "	9 "
1½-inch " light " ...	8 "	6 "
1½-inch " strong " ...	10 "	8 "
1½-inch " extra strong " ...	14 "	11 "

All the above can be made any width at proportionate prices. If the upper half is a coarse mesh, it will reduce the prices one-fourth. Galvanised sparrow-proof netting for Pheasantries, 3*d.* per square foot. Patterns forwarded post free.

Manufactured by BARNARD and BISHOP, Market-place, Norwich, and delivered free of expense in London, Peterborough, Hull, or Newcastle.

CHEAP AND DURABLE ROOFING.

BY HER MAJESTY'S



ROYAL LETTERS PATENT.

F. M'NEILL and Co., of Lamb's-buildings, Bunhill-row, London, the Manufacturers and only Patentees of THE ASPHALTED FELT FOR ROOFING Houses, Farm Buildings, Shedding, Workshops, and for Garden purposes, to protect Plants from Frost.

At the Great National Agricultural Shows, it is this Felt which has been exhibited and obtained two Silver Medal Prizes, and is the Felt solely patronised and adopted by

Her Majesty's Woods and Forests,
Honourable Board of Ordnance,
Honourable East India Company,
Honourable Commissioners of Customs,
Her Majesty's Estate, Isle of Wight,
Royal Botanic Gardens, Regent's Park,

And on the Estates of the Dukes of Sutherland, Norfolk, Rutland, Newcastle, Northumberland, Buccleuch (at Richmond), and late Earl Spencer, and most of the Nobility and Gentry, and at the Royal Agricultural Society's House, Hanover-sq

It is half the price of any other description of roofing, and effects a great saving of Timber in the construction of Roofs. Made to any length by 32 inches wide.

Price One Penny per Square Foot.

*** Samples, with Directions for its Use, and Testimonials of seven years' experience, with references to Noblemen, Gentlemen, Architects, and Builders, sent free to any part of the town or country, and orders by post executed.

☞ The Public is cautioned that the only Works in London or Great Britain where the above Roofing is made, are

F. M'NEILL and CO.'S

Patent Felt Manufactory, Lamb's-buildings, Bunhill-row, London, where Roofs covered with the Felt may be seen.

The new Vice-Chancellor's Courts, at the entrance of Westminster Hall, were roofed with F. M'Neill and Co.'s Felt about two years since, under the Surveyorship of Chas. Barry, Esq., R.A. Her Majesty's Commissioners of Woods and Forests are so satisfied with the result that they have ordered the Committee Rooms at the Houses of Parliament to be roofed with their Felt. Quantity altogether used, 24,000 feet.

Note.—Consumers sending direct to the Factory can be supplied in lengths best suited to their Roofs, so that they pay for no more than they require.

Every information afforded on the construction of Roofs, or any proposed particular application of the Felt.

THE EARLY PROROGATION of PARLIAMENT.—SEWELL and CO. respectfully inform the nobility and gentry, leaving London, that they have determined on submitting all their immense summer stock of Fancy Goods, comprising: a rich and costly assortment of Silks, French and English printed Muslins, Barèges, Foulards, and all the distinguished novelties for Ladies' made-up dresses, adapted for Opera and Ball costumes, Shawls, Mantles, Fancy Lace, and Ribbons. The early termination of the summer season, occasioned by the dissolution of Parliament, has induced Sewell and Co. to make a great sacrifice in their stock. All their goods are re-marked, and will be submitted this and following weeks. Sewell and Co. would especially invite ladies to call at COMPTON HOUSE before they leave town. 44, 45, 46, Old Compton street, 46, 47, Frith-street, Soho, London.

A NEW BEDSTEAD, portable without detaching any of its parts, packs in a sponge bath, is admirably adapted for summer use, on account of its extreme coolness, and which can be changed in one moment from a bed to a lounge or sofa for the sitting-room, may be seen at

COTTAM and HALLEN'S, 76, Oxford-street,

where also is on view a great variety of Metallic Bedsteads, fitted with and without the Patent Rheocline, &c &c., together with a large assortment of the Patent Radiating and other Stoves, and every other description of Ironmongery.

THE ZOOLOGICAL GARDENS, REGENT'S PARK, are open to Visitors daily. The Collection now contains upwards of 1500 specimens, including the Hippopotamus (presented by H.H. the Viceroy of Egypt), Elephants, Rhinoceros, Giraffes, and young Leucoryx, Elands, Bonte-boks, Camels, Zebras, Lions, Tigers, Jaguars, Bears, Ostriches, and the Apteryx presented by the Lieutenant-Governor of New Zealand. All Visitors are now admitted to Mr. Gould's collection of Humming Birds without any extra charge.

The Band of the 1st Life Guards will perform, by permission of Col. Hall, on every Saturday, at Four o'Clock, until further notice.—Admission, One Shilling; on MONDAYS, Sixpence.

PROTECTION FROM THE RAIN, WITHOUT DETRIMENT TO HEALTH.—BERDOE'S well-known LIGHT OVER-COAT, the Waterproof Pallium, resists any amount of rain, WITHOUT OBSTRUCTING FREE VENTILATION (the fatal objection to all other waterproofs), and, from its lightness and respectability, is adapted for general use at ALL times, and has long been reputed one of the most convenient, economical, and valuable garments ever invented. Price 45*s.* and 50*s.* A very large stock for selection also of CAPES, SHOOTING JACKETS, LEGGINGS, &c., &c. CLOAKS, MANTLES, HABITS, &c, for Ladies.—W. BERDOE, Tailor, &c., 96, New Bond-street; and 69, Cornhill, London (only).

SOUND AND WHITE TEETH are not only indispensably requisite to a pleasing exterior in male and female, but they are peculiarly appreciated through life as a blessing highly conducive to the purposes of health and longevity. The great esteem in which the public have long held

ROWLANDS' ODONTO, or Pearl Dentifrice,

precludes the necessity here of entering into a minute detail of its merits, and the singular advantages it so eminently possesses over the usual powders sold for the teeth. It is sufficient to observe that Rowlands' Odonto is a pure preparation of the most efficient Eastern Herbs, which not only has the property of rendering the above beautiful organs of the mouth dazzlingly white, but it strengthens their organic structure, and fulfils the pleasing task of rendering the breath sweet and pure. It should never (in particular) be forgotten, that when used in early life, it effectually prevents all aches in the Teeth and Gums—effaces all spots and discolourations whatsoever—eradicates scurvy—and, in a word, soon realises the chief attribute of Health and Beauty—A FINE SET OF PEARLY TEETH!

Price 2*s.* 9*d.* per box.

*** Beware of Spurious Imitations. The genuine article has the words "Rowlands' Odonto" on the Label, and "A. Rowland and Sons, 20, Hatton Garden," engraved on the Government Stamp affixed on each box. Sold by them, and by Chemists and Perfumers.

MANUFACTURERS BY SPECIAL



APPOINTMENT TO THE QUEEN.

Obtained the Prize Medal, Great Exhibition, 1851.

NEW FRENCH CHOCOLATES.—Chocolats de la Reine Victoria, du Prince Albert, and other varieties à la Française. Important directions are enclosed in each package.

Chocolats Pastilles, Chocolat de Voyage, and FRY and SONS' other Bon Bons, are delicious and nutritious condiments. They confidently recommend these Chocolates as combining the results of the most refined foreign taste, that richness and delicacy of flavour, with that peculiar softness on the palate which is rarely to be met with. Sold by Tea Dealers, Grocers, and Confectioners, of whom FRYS' Churchman's and other Cake Chocolates, their Patent Soluble, Homœopathic, and other Cocoas may be obtained.

Their elegant French Chocolates are particularly adapted for presents. See their Pamphlet, "containing full directions for preparing these articles for the table, an account of the Cocoa tree, Liebig's analyses of Cocoa, showing its adaptation for human food, &c. &c.," to be obtained gratis where Fry and Sons' articles are sold; or on application, personally or by letter, at 12, Union-street, Bristol.

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Parties intending to compete must signify the same in writing, enclosing Subscription, at least seven days previous to the Exhibition.

This Class to be subject to the same Rules and Regulations which govern the other Classes; and parties intending to compete, who are not members of the Society, can have a Copy of such Rules and Regulations on applying to the Secretaries. GEORGE BELT, ROBERT CLAY } Secretaries.

Newcastle, July 10.

NEW MIMULI raised by R. CLAPHAM, Esq., of Scarboro'—SCARBRO DEFIANCE, QUEEN VICTORIA, VENUS, and YELLOW PICTA.

ROBERT SIM can now supply Flowering Plants of the above unique and very handsome varieties, at 15s. per set of four.

Nursery, Foot's Cray, Kent, July 10.

CHOICE AND RARE SEEDS, confidently recommended, sold by WILLIAM DENYER, SEEDSMAN and FLORIST, 82, Gracechurch-street, London, near the Spread Eagle, at the following prices per paper:—

ANTIRRHINUM or SNAPDRAGON, 6d. Saved by an amateur from a most splendid collection.

BELLIS PERENNIS, or DAISY, very double, 6d. Saved from the new German varieties; brilliant colours, varying from the deepest crimson to white, though all the different shades.

CALCEOLARIA, saved by an amateur from the most splendid show flowers, 1s.

CINERARIA, 1s., saved by a celebrated florist from a most superb collection of named rize flowers.

GAILLARDIA SPLENDIDISSIMA PLENA, 1s. A new and beautiful perennial variety

PANSY, from the best named flowers, 1s. Saved by Thomson and other eminent growers

New perpetual Gigantic Imperor double STOCK, 1s.—Colour, rosy crimson. *This is a rapid novelty, lasting several years.*

Autumnal-flowering double STOCKS, 6 best and brightest colours, 2s.

TRITOMA UVARIA, 1 A hardy perennial, growing from 4 to 5 feet high, producing long spikes of crimson and orange-coloured flowers.

WALLFLOWERS, similar colours, 6 double gigantic varieties, 2s. Saved by a celebrated Continental grower, who has on several occasions gined the first prize for double Wallflowers.

ROSES.—The collection at Sawbridgeworth is now in bloom. Trains per Eastern Counties Railway run daily. The most convenient morning train is the Express at 11 h. 30 m. to Harlow station, about one mile from the Nurseries.—THOS. RIVERS.

EXHIBITION OF ROSES.

A. PAUL AND SON respectfully invite admirers of this flower to an inspection of the Collection at the Cheshunt Nurseries, which are now in full bloom. As every novelty obtainable has been added, the collection will prove unusually interesting this season.

Trains of the Eastern Counties Railway leave Shoreditch for Waltham or Cheshunt as follows:—7, 9, 9.30, 10.40, 12.30, 1.40, 2.30, 3.20, 4, 4.20, 5, 5.20, 6.20, 7.20, 9, 10.30, returning almost hourly till dark.—Nurseries, Cheshunt, Herts, July 10.

ROSES.

EDWARD DENYER, NURSERYMAN, Loughborough-road, Brixton, three miles from London, informs his kind Patrons in general, that his unrivalled collection of ROSES is now in bloom, and free to the inspection of all visitors (Sundays excepted). Orders taken at this time, and executed in November next. Fruit and Ornamental Trees, &c. &c., also may be seen in great varieties; a select collection of Geraniums, Fuchsias, &c. &c., are now in bloom.

E. D. informs his friends he has no Seed-shop in London.

THE BEST TWO TURNIPS FOR LATE SOWING.—These Turnips are of very quick growth, will thrive well on poor soil, are as solid and nutritive as Swedes, and will keep in the field or in clamps till May.

	per lb.	per gall.
SUTTON'S PURPLE-TOPPED YELLOW HYBRID	1 0	6 0
SUTTON'S EARLY SIX WEEKS TURNIP	0 10	5 0

CARRIAGE FREE BY RAIL *for quantities not less than two gallons.*

RIVERS'S STUBBLE SWEDE.—We have some of this now on hand, received direct from Mr. Rivers, price 1s. 6d. per pound, and a fine crop of seed now growing for next year's sale.

The following have been received from some of the largest Turnip growers in the kingdom, and leading Members of the Royal Agricultural Society:

From Hambledon, near Henley-on-Thames.—Your Hybrid Turnips and Swedes are particularly true and fine. You may mention my name to any one you please.

From Meonstoke Rectory, Hants.—My Turnip crops are the admiration of all the farmers round, especially the Swedes and your Purple-topped Hybrid.

From Eynsham, near Oxford.—I was much pleased with your Early Six-weeks Turnips, and shall be a customer again next season.

From Brecon.—I am happy to tell you my Turnips are really splendid.

JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

NEW WHITE BROCCOLI—"DILCOCK'S BRIDE."

BAINBRIDGE AND HEWISON beg to announce that they have purchased of Mr. Dilcock the entire stock of the above, which is a Broccoli of the highest merit, surpassing every other (even the far-famed "Mammoth"), as the following will testify. It has been sold in the York market at 1s. per head.

"York Horticultural Society, June 18, 1852.

"In reply to your inquiries I find 'Dilcock's Bride Broccoli' was awarded first and third prizes 1850, first, second, and third, 1851, and first, second, and third in the present year. It ought to be grown by every gentleman's gardener, especially where any are grown for competition. Market gardeners also will find it to their profit to possess it.—Yours truly,

"R. DEMPSEY, Hon. Secretary."

The Seed will be sent out in the autumn in sealed packets at 2s. 6d. each, containing about 1300 Seeds, and may be had of themselves, or their agents who will be appointed.

B. and H. will treat liberally with respectable houses who wish to become agents, and an early application is desirable, as the number appointed will be limited.

Hope Nursery, York, July 10.

TURNIP SEEDS DIRECT FROM THE GROWERS.

SUTTON AND SONS have now on hand a very limited stock of each of the leading kinds of TURNIP SEEDS of the growth of 1851, which they are delivering CARRIAGE FREE BY RAILWAY to almost all parts of the kingdom, at the lowest market prices. This year's crop will be ready for delivery very shortly.

Orders, or applications for prices, to be addressed to JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

RIVERS'S LARGE YELLOW STONE TURNIP SEED. Price 1s. per lb.—This is a remarkably quick-growing yellow flesh Turnip. It is superior to all other kinds of yellow Turnip in planting well, is very hardy and nutritious, and may be sown as late as the middle of August, with a prospect of a fair crop.

Orders to the amount of 10s carriage paid to London. Post-office Orders are requested of unknown correspondents.

Address to JOHN RIVERS, Seedsman, Sawbridgeworth, Herts.

SKIRVING'S IMPROVED TURNIP SEEDS,
FOR AUTUMN SOWING.

WILLIAM SKIRVING begs to recommend to Turnip growers the following kinds, which he has proved by long experience to be the best adapted for autumn sowing, viz.:

SKIRVING'S HYBRID, or Purple Top Yellow Bullock, a Turnip of excellent quality, which if sowed this month produces a large crop for feeding before using the Swede.

SKIRVING'S HARDY GREEN GLOBE, the best of the Norfolk kinds for giving a large crop and long keeping, price of the above 9d. per lb., and for the last sowing Skirving's Improved Scarlabrick (or Liverpool early Orange Yellow) Turnip. A Turnip of very excellent quality and rapid growth; the best of all known Turnips; for sowing early in Spring, or late in Autumn; price 1s. per lb.

A remittance or reference is requested from unknown correspondents.—Queen Square, Liverpool, July, 1852.

BRITISH QUEEN STRAWBERRIES.—The invitation from Mr. RUBERGALL, steward of ROBERT GUNTER, Esq., of Kensington, to Mr. HAMILTON, of Hammersmith Gate, to competition with a hundred British Queen Strawberries, was decided on Friday last, by the umpires, unanimously in favour of Mr. HAMILTON.

IMPROVED GRASS CUTTING & ROLLING MACHINE.



UNDER ROYAL PATRONAGE.

ALEXANDER SHANKS AND SON, MACHINE MAKERS, Arbroath, Forfarshire, respectfully solicit notice to their Improved GRASS CUTTING AND ROLLING MACHINE FOR LAWNS, the complete success of which, and its acknowledged excellence and superiority over all other machines of the kind, have now been fully confirmed. Testimonials and further particulars will be immediately franked on application.

AGENTS for London: Messrs. W. Dodds and Co., 102, Leadenhall-street; Messrs. J. and C. Lee, Nurserymen and Seedsmen, Hammersmith; Hertford: Mr. George Folkard, Ironmonger; Liverpool: Messrs. Charles D. Young and Co., Castle Buildings, Derby-square; Sheffield: Mr. J. Law, Curator of the Botanic Gardens; Chester: Messrs. F. and J. Dickson, Nurserymen and Seedsmen; Glasgow: Messrs. Chas. D. Young and Co., 32, St. Enoch-square; Edinburgh: Messrs. Chas. D. Young and Co., 48, North Bridge; Perth: Messrs. Dickson and Turnbull, Nurserymen and Seedsmen.

BOYD'S SELF-ADJUSTING SCYTHE.



BOYD'S PATENT SCYTHE and the celebrated STEEL DIGGING FORK. BOYD'S Scythe is capable of being adjusted to any angle by the person using it, and never requires the aid of a blacksmith; when out of use it shuts up like a clasp-knife. The *Gardeners' Chronicle* thus comments upon it:—"We gladly state that Mr. BOYD'S Scythe stands well the great test, experience, especially with his late ingenious and very useful improvement."—G. C., 15th May, 1852. The Steel Digging Forks are those celebrated by Mr. Mechi. "When a labourer has once used them, he will never work with any other implement for digging. They effect a saving of nearly 50 per cent. in labour."—Wholesale and Retail at WM. DRAY and Co.'s Agricultural Implement and Machinery Warehouse, Swan-lane, Upper Thames-street, near London-bridge.

COCHIN CHINA FOWLS.—A Gentleman having some beautiful Cinnamon and Buff Hens from prize birds, perfect in every respect, is willing, an account of absence, to sell some Eggs at 8s. the 12, and some Young Birds very moderate; also some Spanish Eggs at 5s. the 12, and a few Young Birds, all quite pure bred. Address, H. M., Post-office, Richmond, Surrey.

WHITE COCHIN CHINA FOWLS' EGGS, from pure White Birds, well feathered, to be disposed of, at 24s. per dozen; also some White Cochin China Chickens.

Address, ALFRED SALTER, William-street, Hammersmith Turnpike, London.

RIPE FRUIT, STRAWBERRIES, AND SEED BEDS.—NEW TWINE NETTING (Tanned if required) 1 yard wide, 1½d per yard; 2 yards wide, 3d. per yard; 4 yards wide, 6d. per yard; half-inch mesh ditto, 2 yards wide, 5d. per yard. The ELASTIC HEXAGON GARDEN NETTING, 76 meshes to the square inch, effectually excludes birds, wasps, &c., from fruit-trees, flower or seed-beds, 4½d per square yard. Tanned Netting, 2 or 3 yards wide, 1½d. per yard; 4 or 6 yards wide, 3d. per yard—exactly the same as advertised by others at double the above prices. Coir or Hemp Sheepfolding Net, of superior quality, 4 ft. high, 4d. per yard. Lamb Net, 6d. per yard. Rabbit Net, 1½d. per yard, 4 ft. wide; each Edge Corded, 2d. per yard, suitable for fowl fencing. Square Mesh Cricketing Net, fix its full width and length, made of stout cord, 3d. per square yard; this is the best article made for fencing, against fowls, cats, &c. The largest, cheapest, and best stock in the world, at W. CULLINGFORD'S, 1, Strathmore-terrace, Shadwell, London. The trade supplied. Orders by post punctually attended to. Fishing Nets of all kinds in Stock.

PROTECTION OF PLANTS FROM THE HEAT OF THE SUN.—Use E. F. ARCHER'S HAIR CLOTH, a perfect non-conductor of heat, and admitting light without heat, where a covering is required; it is 2 yards wide, and any length, at 1s. 4d. per yard, and much cheaper than Bass Mats.

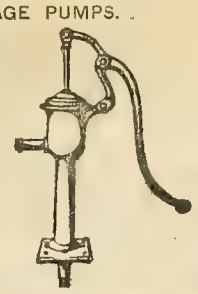
E. F. ARCHER, 451, Oxford-street, London.

BAKER'S PHEASANTRY, Beaufort-street, King's Road, Chelsea, by special appointment to her MAJESTY and H. R. H. PRINCE ALBERT.—ORNAMENTAL WATER FOWL, consisting of black and white Swans, Egyptian, Canada, Chinn, barnacle, brent, and laughing Geese, Shieldrakes, Pintail, Widgeon, summer and winter Teal, Gadwall, Labrador, Shovellers, gold-eyed and dun Divers, Carolina Ducks, &c., domesticated and pinioned; also Spanish, Cochin China, Malay, Poland, Surrey, and Dorking Fowls; white, Japan, pied, and common Pea-fowl, and pure China Pigs; and at 3, Half-moon Passage, Gracechurch-street, London.

FARM AND COTTAGE PUMPS.

PATENT CAST-IRON PUMPS, for the use of Farms, Cottages, Manure Tanks, and Shallow Wells.

	£	s.	d.
Patent Pump	1	12	0
Patent Pump, with 15 feet of lead pipe attached, and bolts and nuts ready for fixing	2	8	0



Larger sizes if required.

May be obtained of any Ironmonger or Plumber in Town or Country, or of the Patentees and Manufacturers,

JOHN WARNER & SONS,
8, Crescent, Jewin-street, London.

Every description of Machinery for Raising and Forcing Water, either by Steam, Horse, or Manual power. Fire and Garden Engines, &c.
The usual allowance to the Trade.

GLASS FOR CONSERVATORIES,
GREENHOUSES, PIT FRAMES, &c.

JAMES PHILLIPS AND CO. beg to hand their prices of SHEET GLASS for cash:

Cut to order in Panes not above 40 inches long.	Packed in Boxes of 100 feet each.	£	s.	d.
16 oz. ... ... 3d. to 3½d.	6 by 4, 6½ by 4½ ...	0	13	0
21 do. ... ... 3¼d. to 5d.	7 by 5, 7½ by 5½ ...	0	15	0
26 do. ... ... 5d. to 7½d.	8 by 5, 8 by 5½ ...	0	15	0
In Crates of 300 ft., 16 oz., 2½d. perfoot.	8 by 6, 8½ by 6 ...	0	17	6
	9 by 7, 10 by 8 ...	1	0	0

HARTLEY'S PATENT ROUGH PLATE GLASS for Conservatories, Public Buildings, Manufactories, Skylights, &c. ⅛ inch thick. Packed in boxes of 50 feet each.
6 by 4 and 6½ by 4½ ...10s. 6d. | 7 by 5 and 7½ by 5½ ...12s. 0d.
8 by 6 and 8½ by 6½ ...13s. 6d. | 9 by 7 and 10 by 8 ...15s. 0d.

FOREIGN SHEET GLASS, of very superior quality, packed in cases of 200 feet, and in sizes varying from 36 by 26 to 44 by 30 inches, at 38s. 40s, to 42s per case.
HARTLEY'S PATENT QUARRY GLASS.
GLASS MILK PANS, the same size as the foreign ones, but superior in colour, make, and quality, at 2s each, or 21s. per dozen, as recommended by Captain Stanley Carr.
GLASS CHURN THERMOMETERS, for regulating the Temperature of Cream.
LORD CAMOY'S MILK SYPHONS, LACTOMETERS, GLASS CREAM POTS, &c &c.
CUCUMBER TUBES, PROPAGATING AND BEE GLASSES, TILES AND SLATES, WASP TRAPS, PLATE, CROWN, AND ORNAMENTAL GLASS, SHADES FOR ORNAMENTS, FERN SHADES, And every Article in the Trade.
HORTICULTURAL GLASS WAREHOUSE, 116, Bishopsgate-street Without, London.

GLASS.

THOMAS MILLINGTON'S FOREIGN SHEET GLASS is far superior to any other manufacture, as well as cheaper. In 100-feet boxes packed for immediate delivery.

						£	s.	d.
6 inches	by 4 and	6½	by 4½	...	...	13s. 0d.		
7 ,,	5 and	7½	by 5½	...	...	15	0	
8 ,,	5 and	8	by 5½	...	...	15	0	
8 ,,	6 and	8½	by 6½	...	...	17	6	
9 ,,	7 and	10	by 8	...	...	20	0	
12 ,,	10 and	13	by 9	...	...	20	0	

And many other sizes, or cut to order in various thicknesses.
Cases containing large Sheets, in 100, 200, and 300 feet, at 21s. per 100 feet.
ROUGH PLATE, perfectly flat, ⅛ in. thick, best manufactured.

In sizes under 15 inches		6d.	per foot.
,, ,,	35 ,, ...	8d.	,,
,, ,,	50 ,, ...	9½d.	,,
,, ,,	75 ,, ...	12d.	,,

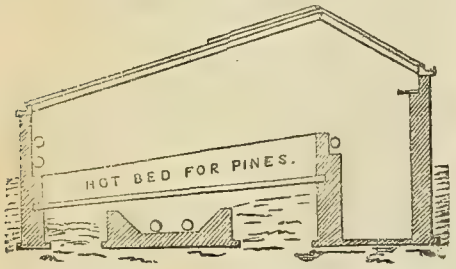
Milk Pans, 2s. to 6s. each; Metal Hand Frames, Glass Tiles and Slates; Cucumber, Propagating, and Bee Glasses; Wasp Traps, Glass Shades, and Plate Glass, at 87, Bishopsgate-street Without, London, same side as Eastern Counties Railway.—Established 100 years.

GLASS FOR CONSERVATORIES, ETC.

HETLEY AND Co. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2d. to 3d. per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices and Estimates forwarded on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLATES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to JAMES HETLEY and Co. 35, Soho-square, London.
See *Gardeners' Chronicle* first Saturday in each month.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER.

WARRANTED BEST MATERIALS AND WORKMANSHIP AT THE LOWEST POSSIBLE PRICES.



J. WEEKS AND CO., King's Road, Chelsea, Horticultural Architects, Hothouse Builders, and Hot-water Apparatus Manufacturers. The Nobility and Gentry about to erect Horticultural buildings, or fix Hot-Water Apparatus, will find, at our Hothouse Works, King's Road, Chelsea, an extensive variety of Hothouses, Greenhouses, Conservatories, Pits, &c., erected, and in full operation, combining all modern improvements, so that a lady or gentleman can select the description of House best adapted for every required purpose.

THE HOT-WATER APPARATUSES (which are efficient and economical), are particularly worthy of attention, and are erected in all the Houses, Pits, &c., for both Top and Bottom Heat, and in constant operation in the Stoves.

The splendid collection of Stove and Greenhouse Plants is in the highest state of cultivation, and for sale at very low prices. Also a fine collection of strong Grape Vines in pots from eyes, all the best sorts.

Plans, Models, and Estimates of Horticultural Buildings; also Catalogues of Plants, Vines, Seeds, &c., forwarded on application.
J. WEEKS AND CO., KING'S ROAD, CHELSEA, LONDON.

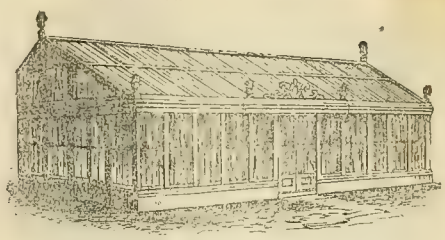
HOTHOUSES, GREENHOUSES, ETC.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

E. DENCH, PATENT HOTHOUSE WORKS, KING'S ROAD, CHELSEA.—The superior qualities in every respect of these Structures having been proved in all parts of the United Kingdom, has caused a greater demand for them than E. D. could execute; he has been obliged to have perfect and powerful machinery made to meet the numerous orders, and can now execute any amount of work to great perfection, with dispatch, and for quality and price to defy all competition. Patent Hothouses, with excellent glass, 3 feet long by 1 foot wide, every front sash to open, and every top one to slide down, with pulley made of the same materials as the electric telegraph wires, which require no painting; delivered free to Wharf or Railway Station, at 1s. 2d. per foot super., complete, having been fitted, and every portion marked previously, making a Greenhouse 16 ft. 6 inches long, 12 ft. rafter, 400 ft., 23l 6s 8d.; 24 ft. 6 ins. long, do. do., 526 ft., 30l. 13s. 8d.; 28 ft. 6 ins. long, 15 ft. rafter, 712 ft., 41l. 10s. 8d. Heating by Hot Water on the most approved and economical principles.

Patent Sashes for Pits and Peach Walls, &c., 7d. and 8d. per foot, super.

HOTHOUSES AND CONSERVATORIES.

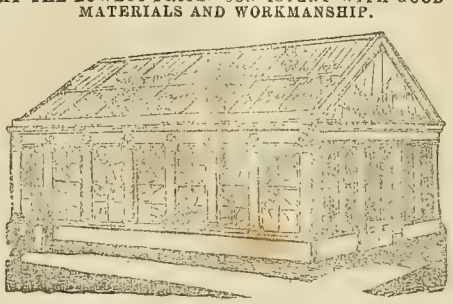


JAMES WATTS, HOTHOUSE BUILDER, CLAREMONT-PLACE, OLD KENT-ROAD, has 200 CUCUMBER and MELON BOXES and LIGHTS of all sizes, ready for immediate use, and of well-seasoned materials, packed and sent to all parts of the Kingdom.

HOTHOUSES, CONSERVATORIES, &c., made and fixed complete at a considerable reduction, and Garden Lights of every description. References may be had to the Nobility, Gentry, and the Trade, in most of the counties of England.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER,

AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.



GRAY AND ORMSON, Danvers Street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

G. and O. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders they can with the greatest confidence give the most satisfactory references.

Their Hot-Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating by Hot Water can be made available.

GREEN AND HOTHOUSES, made by Machinery, at J. LEWIS' Horticultural Works, Stamford Hill, Middlesex, warranted best materials, and the cheapest in England.—A List of Prices sent by enclosing 2 postage stamps

JOHN WARNER AND SONS,
CRESCENT, JEWIN STREET, LONDON,
MANUFACTURERS OF
FIRE ENGINES, GARDEN ENGINES, AND SYRINGES.



No. 12 GALVANISED IRON TUB GARDEN ENGINE,

With WARNER'S Registered Spreader, is strongly recommended for durability and low price, viz.:—
£3 0 0

May be obtained of any Ironmonger in Town or Country.

THE ROYAL EXHIBITION.—A valuable newly-invented, very small, powerful, waistcoat-pocket Glass the size of a Walnut, to discern minute objects at a distance of 4 to 5 miles, which is found to be invaluable for YACHTING, and to SPORTSMEN, GENTLEMEN, and GAMEKEEPERS.

TELESCOPES.—A new and most important INVENTION in TELESCOPES, possessing such extraordinary powers that some—3½ inches, with an extra eye-piece—will show distinctly Jupiter's Moon, Saturn's Ring, and the Double Stars. They supersede every other kind, and are of all sizes—for the waistcoat-pocket, Shooting, Military purposes, &c. Opera and Race-course Glasses with wonderful powers; a minute object can be clearly seen from ten to twelve miles distant.—Invaluable Acoustic Instruments for relief of extreme Deafness.

MESSRS. S. AND B. SOLOMONS, OPTICIANS AND AURISTS, 39, Albemarle-street, opposite the York Hotel, London.

FOR WATERING GARDENS, DISTRIBUTING LIQUID MANURE, BREWERS' USE, ETC.
PATENT VULCANISED INDIA-RUBBER HOSE-PIPES.



JAMES LYNE HANCOCK, (SOLE LICENSEE AND) MANUFACTURER, GOSWELL ROAD, LONDON.

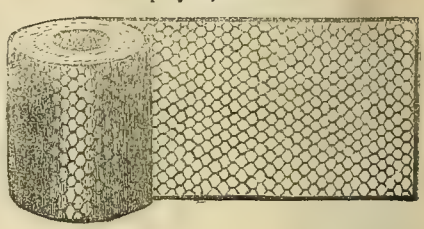
These Pipes are well adapted for Watering Gardens, conveying Liquid Manure, racking Beer and Cider, for portable Gas Lamps, and all purposes where a perfectly sound Waterproof and Flexible Pipe is required. They are particularly suitable for Fire Engines, and are found exceedingly useful in Dwelling-houses for conveying Hot or Cold Water to Baths, &c.

Hose Reels for winding-up and wheeling away long lengths of the Vulcanised Rubber Garden Hose, are now manufactured by J. L. HANCOCK, of light and cheap wicker work.

N.B.—Vulcanised India Rubber Garden Hose, fitted up with Roses, Jets, and Branches complete, with union joints ready to attach to pumps or water cisterns.

All Letters or Orders addressed to J. L. HANCOCK, Goswell Mews, Goswell Road, London, will meet with immediate attention.

GALVANISED WIRE GAME NETTING.—
7d. per yard, 2 feet wide.

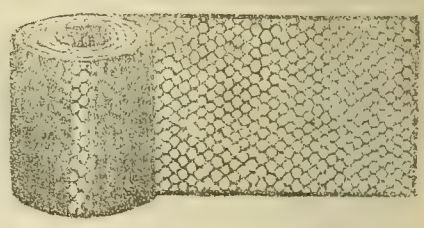


	Galvanised.	Japanned Iron.
2-inch mesh, light, 24 inches wide ...	7d. per yd.	5d. per yd.
2-inch ,, strong ,, ...	9 ,,	6½ ,,
2-inch ,, extra strong ,, ...	12 ,,	9 ,,
1½-inch ,, light ,, ...	8 ,,	6 ,,
1½-inch ,, strong ,, ...	10 ,,	8 ,,
1½-inch ,, extra strong ,, ...	14 ,,	11 ,,

All the above can be made any width at proportionate prices. If the upper half is a coarse mesh, it will reduce the prices one-fourth. Galvanised sparrow-proof netting for Pheasantries, 3d. per square foot. Patterns forwarded post free.

Manufactured by BARNARD and BISHOP, Market-place, Norwich, and delivered free of expense in London, Peterborough, Hull, or Newcastle.

CHEAP WIRE GAME AND POULTRY NETTING, 5d. per running yard.



GALVANISED ditto, 7d. per running yard, 2 feet wide.

	Galvanised.	Not Galvanised.
24 in. wide, 2 in. mesh, 7d. per yard. ...		5d. per yard.
30 in. ,, 2 in. ,, 9d. ,, ...		6½d. ,,
36 in. ,, 2 in. ,, 10½d. ,, ...		7½d. ,,
48 in. ,, 2 in. ,, 1s. 2d. ,, ...		10d. ,,

Sparrow Proof Netting, Galvanised, 3d. per square foot, made to any size for the same proportionate price. This article was shown at the "Great Exhibition," where it was so much admired for its light and durable appearance, and acknowledged to be the cheapest and best article of the kind ever offered. Extra strong Wire Sheep Netting, 3 feet high, 1s. 6d. and 2s 3d. per yard. Also every description of Flower Trainers, Dahlia Rods, Garden Arches, Bordering, Flower Stands, Tying Wire, Trellis Work, Invisible Wire Fencing, Hurdles, and every description of Wire Work for Horticultural purposes.—Illustrated Catalogue of Patterns forwarded, post-free, on application to T. H. FOX, City of London Wire Work and Iron Fence Manufactory, 44 Skinner-street, and 6 and 8, Snow-hill, London.

FOR PORT PHILLIP direct. Passage 20l., including a liberal Dietary. The remarkably fast sailing first class ship, BRIGHTMAN, 600 tons burden; J. F. CHAPMAN, Commander; lying at the Jetty, London Dock. This fine ship has lofty and well ventilated 'tween decks, and carries an experienced Surgeon; and a gentleman, with his family, proceeds in the ship, who will afford Passengers the latest information from the Gold Fields. The poop cabins are adapted for the comfortable accommodation of a limited party of Cabin Passengers.—For Dietal Scales, Terms, &c., apply to the Owners, Messrs. R. and H. SOUTTER, 49, Lower Shadwell; to the Captain, on board; or to LACHLANS and MACLEOD, 62, Cornhill, London.

THE ZOOLOGICAL GARDENS, REGENT'S PARK, are open to Visitors daily. The Collection now contains upwards of 1500 specimens, including the Hippopotamus (presented by H. the Viceroy of Egypt), Elephants, Rhinoceros, Giraffes, a young Leucoryx, Elands, Bonte-boks, Camels, Zebras, Lions, Tigers, Jaguars, Bears, Ostriches, and the Apteryx presented by the Lieutenant-Governor of New Zealand. All Visitors are admitted to Mr. Gould's collection of Humming Birds without any extra charge.

The Band of the 1st Life Guards will perform, by permission of Col. HALL, on every Saturday, at four o'Clock, until further notice.—Admission, ONE SHILLING on MONDAYS, SIXPENCE

NEW PELARGONIUMS.

CHARLES TURNER begs to announce that he has the entire stock of Foster's and Hoyle's beautiful Seedling PELARGONIUMS. Particulars of price, and time of sending out, will appear in future advertisements.
Royal Nursery, Slough.

SCARCE AND BEAUTIFUL FLOWER SEEDS.

EMPEROR STOCK, a perennial species, and hardy; 1400 seeds, 1s.

CINERARIA and CALCEOLARIA, selected from collections of Plants that were admitted by all persons who saw them to be the finest they had ever seen; 250 seeds of the former, and 500 of the latter, 1s. each paper.

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SWEET WILLIAM, in 100 varieties; 10,000 seeds, 1s.

Payment may be made in postage stamps.
JEYES and Co., Nurseries, Northampton.

NEW PLANTS INTRODUCED BY MR. FORTUNE.

STANDISH AND NOBLE beg to announce that they possess all the highly interesting plants introduced by Mr. Fortune, and mentioned by him in his recent popular work on China. Many of them are now on sale. Of the others, due notice will be given, as they are ready to send out. Every particular may be obtained by applying to the Advertisers.—Bagshot, July 10.

EDWARD GEORGE HENDERSON AND SON Wellington-road Nursery, St. John's Wood, London, are now prepared to forward, by post, CINERARIA SEED saved from the best formed flowers, such as Cerito, Lady Hume Campbell, Adela Villiers, Pauline, Rosy Morn, Marianne, David Copperfield, Effie Deans, Carlotta Grisi, Prima Donna, &c.

E. G. H. and SON also beg to say, that the varieties of Calceolarias from which the seed is saved can now be seen in full bloom at the Nursery. Early orders are requisite to insure this seed, which will be sent out in July, at 5s. per packet.

NEW CATALOGUE OF PLANTS.

A. VAN GEERT, NURSERYMAN, Ghent, Belgium, begs to inform the Trade and Amateurs that his new CATALOGUE OF PLANTS is just published, and may be had on application to his Agent, Mr. R. SILBERRAD, 5, Harpane, Great Tower-street, London.

CHOICE CINERARIA AND CALCEOLARIA SEED.

JOHN HENCHMAN begs to inform his friends that he has ready a few Packets of SEED, saved with great care from his well known and choice collection of Cinerarias and Calceolarias, at 2s. 6d. each.—Edmonton, July 10.

EXHIBITION OF ROSES.

G. CLARKE, NURSERYMAN, Streatham-place, Brixton-hill (3¾ miles from London), informs his patrons and admirers of ROSES that his unrivalled collection, consisting of above 1400 varieties, comprising all the new varieties from Belgium, France, &c., extending over 10 acres of ground, will be in full bloom by the 14th of July, free to visitors. Orders taken for plants now in bloom, and executed in November. A good collection of specimen Ericas, Azaleas, Conifers, Evergreens, &c.

PLANTS OF CABBAGE, SAVOY, KALE, BROCCOLI, CAULIFLOWER, AND CELERY.

JOHN CATTELL, NURSERYMAN and SEEDSMAN, Westerham, Kent, begs respectfully to inform the public, that Plants of his superior true sorts of the above are now ready, and will be forwarded, as usual, to order, on receipt of postage stamps or Post-office order, made payable here, at the under-named prices, basket or mat and package included.

All the sorts of Early Cabbage, Savoy and Kale, including Brussels Sprouts, 4s. 6d. per 1000; all the sorts of Autumn and Spring Broccoli, 5s. 6d. per 1000; all the sorts of Celery, 5s. 6d. per 1000; Cauliflower, Early and Late, and Red Cabbage, 9d. per 100. 6d. per 1000 less when no mat or package is required. Packages of 1000 and upwards delivered free of carriage to the Edenbridge Station of the South-Eastern Railway.

Seed of CATTELL'S Dwarf Barnes, and of his superior Dwarf Reliance Cabbage, may be had in packets, by post, for 12 penny stamps per packet, the former containing 1 ounce, as usual, and the latter half an ounce.

The Gardeners' Chronicle.

SATURDAY, JULY 10, 1852.

MEETINGS FOR THE ENSUING WEEK.

TUESDAY, July 13—Zoological .....9 P.M.
WEDNESDAY, — 14—Literary Fund .....3 P.M.
COUNTY SHOWS—Tuesday, July 3: South Devon and Wolverhampton.—Wednesday, July 14, and Thursday, July 15: Lewes Horticultural.

How is it that AQUATIC PLANTS are seldom or never brought under the influence of HYBRIDISM? They are objects of great beauty, are and always must be much in request, and appear to be just as submissive to man as other plants. Their constitutions may certainly be affected by crossing, quite as much as a Rhododendron. Yet, while the tender crimson species of Indian Rhododendron are brought to act upon the hardy pale faces of the United States, the delicate white Water Lily of our rivers is left to wild nature in the presence of the most glowing tints possessed by her tropical kindred.

It may be said that there are physical difficulties in the way of crossing Water Lilies. We grant it. The yellow Nuphars are not likely to breed with the white and blue and crimson Nymphæas, and perhaps Victoria may refuse all alliance with either. But then it is the same everywhere; a Currant will not breed with a Gooseberry, nor an Apple with a Pear. Nevertheless, Gooseberries find kindred blood among Gooseberries, and Currants among Currants: and, why may it not also happen to the Nymphæas themselves? This sort of crossing is certainly possible. It has been done.

Some years since mules were obtained in the Horticultural Garden between the tender blue Nymphæa of the Cape of Good Hope and the hardy white one of England. But owing to neglect they were allowed to perish, and that experiment came to nothing.

At this moment there is actually flowering at Chatsworth a mule produced by crossing *Nymphæa rubra* with *N. Lotus*.

Seeds were obtained in the autumn of 1850, and from them in the following summer Sir JOSEPH PAXTON had the gratification of finding himself in the possession of a most beautiful hybrid, which he named Devoniensis, after the duke, his patron. In leaf and flower it has a great advantage in point of size and robustness of growth over either of its parents; but its most valuable property is its continuing to flower the whole of the season without intermission. The parent plant produced its first flower as early as the 12th of April, 1851, and continued to flower until the middle of October, when it was removed, with a fine succession of flower-buds still upon the plant, to its winter quarters. During this period it often had two expanded flowers and five buds in different stages of development. It produces its flowers quite as freely as *N. dentata;* and its beautiful colour (which is not quite so deep as its parent), together with its large size, which has often been as much as 8 inches in diameter, together with its fine leaves, which have been seldom less than 13 to 17 inches across, renders it one of the best Nymphæas in cultivation.

Let us hope that this example will not be thrown away. The season has come; the Nymphæas are all in flower, or nearly so; and there can be no difficulty in operating to any extent upon the white Nymphæa, which we should take for the mother of the brood that it is hoped will come.

We to-day lay before our readers further Continental observations on the VINE MILDEW.

M. F. E. GUERIN-MENEVILLE observed, in the south of France, an Oidium which rendered the fields of Saintfoin as white as if they had been dusted over with flour. On examining this Oidium he could discover no decided difference between it and that which attacks the Vine. Yet he states as a remarkable fact that these fields of Saintfoin so excessively mildewed were surrounded with double rows of fine healthy Vines, loaded with fruit, which exhibited no symptom of disease.

M. BONJEAN, chemist, Chambéry (in the C. R., September 15, 1851), reports that the disease has appeared in several parts of Savoy, after the unfavourable weather experienced in the end of June. The Vines of Italy, Switzerland, and France have been attacked by it; and likewise those throughout the whole of the Duchy of Parma, where it has even extended its ravages to other kinds of fruits. It is stated that the disease has chiefly attacked the Vines against walls and trellises, the low Vines being generally free from it. The diseased bunches are usually those that are the most sheltered, or those that are hid under the foliage; such as are well exposed to air and light are mostly safe.

According to M. BONJEAN, the mildew envelopes the berry with a close net-work, paralyses the air vessels, or closes them hermetically, thus stopping their double function of inhalation and exhalation, so that the berry, containing a very acid juice, becomes wrinkled, dried up, and veritably in a state of asphyxia.

With reference to this opinion, M. FOURCAULT remarked that the asphyxia here described was evidently analogous to that which he could produce at will in birds and beasts by means of various impermeable sticking substances applied to the skin. He adds, that he agrees with M. BONJEAN in attributing the Grape disease to atmospheric vicissitudes, which have exercised an injurious influence on the whole plant, and especially on the fruit. He is of opinion that in consequence of this disturbing influence, the altered secretions by the skin give rise to or form a propagating medium for the mildew; and that this unctuous coating is mechanically opposed to the double phenomenon of inhalation and exhalation, of endosmose and exosmose, so indispensable to the vital movement. In the first stage of the disease, when the mildew begins to appear, it would be advisable to endeavour to remove it by washing and syringing, the advantages of which are clearly shown both by facts and induction. In experimenting with some animals which had cutaneous asphyxia, brought on by the application of impermeable plasters, M. FOURCAULT was sometimes able to recover the animals after they were almost dead, and had lost 36° of their internal temperature, the means employed being merely the removal of the adhesive substances from the skin.

On the 29th of September, 1851, M. PAYEN laid before the Academy of Sciences two bunches of Grapes, cut from the same branch. The one which was situated lowest had reached full maturity, and was free from disease; but the other, situated at the top, was found covered with the Oidium Tuckeri; the skins of all its berries were cracked at an early stage of their growth, so that the fruit remained small and green.

The circumstance of healthy and diseased bunches existing on the same Vine is very general. Many gardeners have remarked numerous instances of the fact, that, bunches growing so low as to be in contact with the soil were healthy, whereas most of those higher situated were affected with the disease.

M. GENSOUL (C. R., October 13, 1851) having employed camphor for the destruction of an Acarus which he found, on examining his Vines growing against a wall, is of opinion that this substance will prove efficacious as regards the mildew. He had in his greenhouse a fine collection of Cacti; but many of them were infested with insects and fungi. All means had failed to clear the plants of these parasites. Spirits of wine saturated with camphor were then employed, in the idea that the effects of camphor on the insects would be similar to that of strychnine on the higher animals. He first tried the lotion on some common plants, fearing the effects of the spirits of wine; but he had the satisfaction of observing that the plants were safely and completely cleaned wherever the lotion was applied. It was then employed for the other plants, and in a few seconds all insects and mildew were destroyed, without injuring the plants. As camphorated spirits of wine are too expensive for being employed on a large scale, strongly camphorated water may be used instead. This may be prepared by dissolving some camphor in warm spirits of wine, and then throwing the solution into tepid water.

In the "Comptes Rendus" December 1st, 1851, the principal varieties of Vines are noticed in regard to their aptitude for resisting the disease, in a communication by M. BOUCHARDAT. The following general results are extracted from a table comprehending upwards of 2000 observations made among the collection of Vines in the Luxembourg.

It appears that there are certain groups of which all the varieties have been strongly attacked by the disease; others have been comparatively spared; but it is remarkable that the natural groups, formed on important characters, such as those of the Muscats, Chasselas, Teinturiers, have been attacked in a uniform manner; whilst the less natural groups, such as those of the Pineaux, Gouais, Savignons, present some remarkable anomalies.

All the varieties belonging to the extensive group of Muscats are very strongly attacked. The group of the Chasselas, so rich in varieties, does not afford a single fortunate exception; from whatever country they may have been derived, not one has been spared. The varieties comprised in the important group of Malvasias, which have come from all the Vine countries of Europe, are all attacked. The Teinturiers are cultivated in perhaps the greatest number of localities; the varieties of these in the Luxembourg are much diseased. The Folles blanches, which afford the brandies of Charentes, have been severely attacked. The Aramons, and the Terets-bourets, constituting some of the most productive new sorts of Vines in the south of France, have not escaped. The greater part of the Clairettes, and Picpouilles, whether of French or other origin, have been severely attacked. Among the groups of varieties cultivated in the middle of France there are several in which every individual variety is affected. The Gamais have suffered much, especially the Liverdun, Plant de la dôle, and Gros Plant.

We now come to the Vines which furnish the most distinguished wines of France. Among these the Pineaux occupy the first rank. They yield the fine wines of Burgundy and Champagne, and contribute to heighten the quality of the wines of many celebrated vineyards. Almost every variety of this group has been severely attacked. The *Franc Pineau noir*, from Burgundy, Champagne, or other provinces, has suffered much; but the plant designated *Pineau Noir de Bourgogne* [the true old Black Burgundy] is comparatively free from disease. Some of the varieties which furnish the principal wines of Bordeaux have been partially spared. The Carmenet has resisted the attack. The Sauvignons and the Cots have been but partially affected; these are much cultivated in the Gironde and in some other parts of France; and they afford a wine of a good ordinary quality. Most of the varieties which yield the esteemed wines of the Pyrenees or of the Mediterranean have been severely attacked. Those of the region which have been comparatively spared are the Terets and the Novaros. The Hermitage Vines, Grosse and Petite Sirrah, Grosse and Petite Roussane, have been much affected; the Marsanne is comparatively free, as is likewise the Grosse Serine de la Côte-Rôtie. L'Ower du Rhine [Olwer ?] has suffered but little. The Riesling, on the contrary, has been seriously attacked; and this is the case with the greater part of the numerous

varieties in the collection of the Luxembourg, from Hungary, Spain, and Italy. Amongst the varieties of these that have suffered the least may be mentioned the Dolcets, du Piëmont, the Rosza Szölö, and the Voros Szölö. But it is only in the collection received from America that varieties entirely free from disease are to be found; and unfortunately they are the least valuable.

M. BOUCHARDAT concludes that the disease of the Vine is not caused by an Acarus; that the hypothesis according to which the origin of the evil is attributed to the Oidium Tuckeri, is that which best agrees with facts. The renovation of the Vines, as it is practised in many vineyards in the department of Marne, is the most proper mode of culture for preventing the disease; and the mode of layering recommended by M. PRANGÉ will doubtless give good results. The French Vines which have been least affected belong to the group of Cots and to that of the Sauvignons.

TORENIA ASIATICA.

THE characteristics which distinguish this fine plant are abundance of flowers at nearly all seasons of the year, elegant growth, and easy cultivation. For the decoration of a cool stove, or a warm greenhouse, during nine months of the year, it is scarcely surpassed by anything which even our richest collections possess.

I find that old plants which have bloomed are seldom of much value a second season, and therefore a sufficient stock of young plants should be kept up. These may be propagated at two seasons, spring and midsummer. In selecting cuttings choose short-jointed pieces of young wood, such as exhibit a tendency to produce flowers, as these will form handsomer specimens, and bloom earlier than if long-jointed pieces, having no inclination to blossom, are used. The first lot of cuttings should be got in as early in spring as is convenient—say February, or early in March; they should be planted in a thoroughly drained pot, filled with sandy, peaty, soil, covered with a glass and placed in a bottom heat of from 75° to 85°. When sufficiently rooted, which will probably be in the course of a month, pot singly in 5-inch pots, and place them in a close moist temperature till they have become established. A rather close warm temperature will be necessary during the summer months, and the plants should be placed near the glass, where air can be freely admitted on all favourable occasions. During very bright sunny weather it will be of service to the plants to afford them a thin shade for a few hours about mid-day. If properly attended to, with pot room, &c., they should be handsome plants in 10-inch pots before winter. A temperature of from 50° to 55° will be sufficiently high from the middle of November till the middle of January, and water must be carefully supplied while the plants are comparatively inactive. Towards the end of January, or as early as a growing temperature of from 60° to 65° can be maintained, shift the plants into their flowering pots. The size of these must be regulated by the taste and convenience of the cultivator. The plant is a vigorous grower, and will fill a 15-inch pot; or if well supplied with manure-water, very fine specimens may be obtained in 12-inch pots. These will commence flowering early in spring, and will continue to grow and flower for months.

A second lot of cuttings should be got in about midsummer, and managed so as to have them established in 5-inch pots previous to winter. In March they should be placed in a warm growing temperature, shifted into larger pots, and encouraged to make active growth. If all goes on well they will be ready for shifting into 12-inch pots about the beginning of August, and will flower freely during autumn, and with a temperature of from 60° to 65°, and a situation near the glass, they will go on growing and flowering most of the winter, but at this season the flowers will not be so highly coloured, nor so freely produced as when they have more light. I have already stated that plants which have flowered are not equal to young plants, therefore, if there is a stock of the latter, the old ones may be thrown to the rubbish-heap, as soon as their beauty is over. In the case of a scarcity of young plants, however, the old ones may be cut back rather closely after they have done flowering, and kept in a rather cool place until they have commenced growth, taking care not to over water them; and if top-dressed or potted, and supplied with clear weak manure water, they will make useful specimens a second season; treated in this way, however, they are seldom so fine as when grown from cuttings, and more space is required for their accommodation during winter, when room is generally but limited.

I have said nothing about training, as very little of that is required, but some little support must be afforded. I prefer a low spreading wire frame, such as when covered will give the plant the appearance of a dense low bush growing without any artificial prop. If the expense of the frame is objected to, a young Larch, thickly set with branches, will form a very good substitute; and but for the trouble of fixing the shoots to the branches, this is preferable to any other means of support.

For soil use two parts rich turfy peat, two parts light turfy loam, broken up into small pieces, rejecting all inert soil, and a sufficient quantity of sharp silver sand to keep the mixture perfectly porous. If a small proportion of thoroughly decomposed cow-dung can be added, it will be useful in promoting vigorous growth: but this should be passed through a fine sieve, and mixed with the sand previous to use, as it is very apt to induce worms, when it is employed in a rough state. *Alpha.*

MEMORANDUM OF A LUMINOUS APPEARANCE ON THE COMMON MARIGOLD.

THIS observation was made on the 4th of August, 1842, at 8 o'clock in the evening. The attending circumstances were, that there had been a week of very warm and bright weather; that the flowers faced the South, and were on a dry and inclined part of a flower garden. The facts were few, and are as follows: my attention was invited to the phenomenon by another person, and on turning my back to the declining light of the sky, I saw emanations of gold-coloured lambent light playing about from the rays of the flowers. This lambency gave a degree of uncertainty to the appearance, which, but for the testimony of three other observers, would have almost led me to have thought it a visual deception, caused by the bright colours of the flowers, but as the light was more visible when partially shaded from the day-light, this objection was done away with. The character of the emanation was this: it flashed from raylet to raylet of some flowers so quickly as to become a corona of light; from others, more slowly, so as to show that it was not a circular, general stream, but a succession of emissions from various points; and as the hour got late these were more isolated and less intense. These particulars led me to think the effect to be electric, as it seemed to accumulate and then discharge itself. To test this circumstance I watered over the principal plant, with a view to ascertain whether the water, being a good conductor of electricity, would carry off the electric matter, so as to suppress its luminous discharges; but I found that it had no such effect, and that immediately after the effusion the light continued to be emitted, but something more feebly, much in the manner which decaying wood or fish have their phosphorescence affected by water being thrown on them. This led me to conclude that the light was phosphorescent, and not electric.

There was a peculiarity attending the phenomenon which, if true, seems to be anomalous, and would tend to confuse any theory of this light, and even to lessen the conviction of its being a true light; inducing, on the contrary, a belief that the apparent scintillations depended on the action of light orange colour on the eye, and was the result of tiring the nerve of sight on a bright object. It is well, however, to state everything either positively or doubtfully observed, and the effect alluded to was, that as the daylight decayed, and after a certain reduction in the daylight, the luminousness became less visible, as if indeed it required a certain amount of light to see these coruscations. Now this, as far as my knowledge of the visibleness of light goes, is anomalous and contradictory; but I record my very uncertain observation, that other observers may have all the decided and the possible facts before them. It seems pretty certain, however, that it could not be colour, from the tiring of the optic nerve on the orange red flower, because if it was so, it should be the complementary colour of the florets which should appear, which would probably be somewhere near pea-green. It may have been, that the actual flashes died away with declining daylight, although I think that letting the light fall on the flowers by withdrawing my shadow did at the later hours make the luminosity more visible. This memorandum does not profess to be more than a notice of one fact towards the history of luminosity in plants; I shall, therefore, just allude to other notices, which are on record on the subject.

The light obtained from Fraxinella was the result, it is said, of bringing a fighted candle near the plant when some resinous emanation took fire. The seed-vessels of this plant are eminently resinous and aromatic in consequence, and this statement may be examined without difficulty by experiment. The next relation I remember is, that the Indian Cress (Tropæolum majus), on being shaken, emits flashes. In the case of the Marigold, motion did not produce any additional emanation, and I have often in the evening shook and agitated the Indian Cress without any effect. I am indebted to Dr. Power for an extract taken from the "Language of Flowers," which states that certain flowers during the months of July and August emit these flashes; and another quotation from the "Edinburgh Philosophical Journal," vol. iii. p. 415, which says the Tuberose emits from its fading flowers these flashes during an electric state of the atmosphere. The statement is made quite general by some writers, that all orange flowers exhibit this phenomenon.

We know that the phosphorescent light of some substances depends for its production on exposure to sunlight; and whether this be the re-emission of absorbed light, or a certain state, enabling the phosphorents to emit light *per se*, is not perhaps determined; but the plants seem to require the same stimulant. The observer, who proceeds to repeat this observation, will do well to choose very double Marigolds, and when these are selected, even the withering flowers will display the result; the double Marigolds do not appear to close their eyes of light against this scrutiny, while the single or slightly-multiplied crown of florets is more true to its natural characteristic so beautifully recorded by Shakspeare:—

> "It goes to sleep with the sun,
> And with him rises weeping."

The following observations connected with this subject were furnished to me by a friend in 1843, and may be worth recording. They were met with in Goethe's "Theory of Colours."

"The appearance in question is to be ascribed to the necessary conditions of vision, which are as follows. The impressions derived from objects remain in the organ itself and last for some time, even when the external cause is removed. Thus, if in the morning, on waking, when the eye is very susceptible, we look intently at the bars of a window relieved against the dawning sky, and then shut our eyes or look towards a totally dark place, we shall see a dark cross on a light ground before us for some time. If, while the image of these window bars lasts, we look upon a light grey surface, the crosses will then appear light and the panes dark. The intensity of the impression depends on the degree of brightness which the object possesses, the sun's image lasting longest, and so on. The retina appears stimulated to produce the opposite colour, and in looking at brightly coloured objects, the effect is more apparent. The chromatic circle will show what colour will be evoked by this contrast; thus, yellow demands purple; orange, blue; red, green; and *vice versâ*."

Goethe goes on to say, "A phenomenon which has before excited attention among the observers of nature is to be attributed, I am persuaded, to the same cause. It has been stated that certain flowers, towards evening in summer, coruscate, become phosphorescent, or emit a momentary light. On the 19th June, 1799, late in the evening, when the twilight was deepening into a clear night, as I was walking up and down the garden with a friend, we very distinctly observed a flame-like appearance near the oriental Poppy, the flowers of which are remarkable for their powerful red colour. We approached the place, and looked attentively at the flowers, but could perceive nothing further, till at last, by passing and repassing repeatedly, while we looked sideways on them, we succeeded in renewing the appearance as often as we pleased. It proved to be a physiological phenomenon, and the apparent coruscation was nothing but the spectrum of the flower, in the compensatory blue green colour. In looking directly at the flower, the image is not produced, but it appears immediately as the direction of the eye is altered. Again, by looking sideways on the object, a double image is seen for a moment, for the spectrum then appears near and on the real object. The twilight accounts for the eye being in a perfect state of repose, and thus very susceptible, and the colour of the Poppy is sufficiently powerful in the summer twilight of the longest days, to act with full effect, and produce a compensatory image. Those who wish to take the most effectual means of observing the appearance in nature, should fix their eyes on the bright flowers selected for the purpose, and, immediately after, look on the gravel path. This will be seen studded with spots of the opposite colour. The experiment is practicable on a cloudy day, and even in the brightest sunshine. The Pæonies produce beautiful green, Marigolds vivid blue spectra." Many other facts and experiments of a similar nature are detailed. *Richard Dowden.* [An imperfect abstract of this paper was formerly printed among the proceedings of the British Association, but we now give it entire.]

Home Correspondence.

Fortune's Chinese Roses.—About 1847 I received from the Horticultural Society seven species of climbing Roses, which had been sent by Mr. Fortune from China; and as they do not appear to have been generally cultivated, I think a short account of them may be acceptable. They have all flourished and flowered with me, and present some peculiarities. I enumerate them in the order of their flowering. 1. Fortune's Climbing yellow, or rather buff; a Rose nearly as rampant as the old Ayrshire, quite hardy, and covered from the middle of May with hundreds of large loose flowers, of every shade, between a rich reddish-buff and a full coppery-pink. It rambles with me over a low wall, covering it on both sides, about 20 feet wide, and 5 feet high. It forms a very picturesque and conspicuous object, and attracted much attention in my garden this spring—its profuse bloom showing at a great distance. It should be treated like an Ayrshire; but does not bloom freely till three or four years old. 2. A double white rose, unnamed; not very like any Rose known to me, but resembling a hybrid between R. multiflora and a white Provins; the individual flowers resembling the Rose Unique in size, form, and colour, having a few dull red outer petals like that variety. It is very fragrant, blooms profusely in loose clusters of four or five flowers, bearing a profusion of flowers, and lasts a long time in bloom. The growth is rampant, much like that of R. multiflora. It is perfectly hardy, and a very great acquisition for training over gateways, roofs, or outbuildings. It is almost too rampant for a trellis. 3. R. multiflora; single white; a profuse bloomer, like Wells' Garland, with the fragrance of R. moschata; well adapted for the piers of garden gates, where it is extremely picturesque and not so rampant as either of the former, growing only from 8 to 10 feet high. 4 Rosa Fortuniana; a thorny Banksia with flowers almost as large, and somewhat like Lamarque. Its foliage is most brilliant, but it requires a great deal of room, growing from 20 to 25 feet high, and not flowering till it is large; the flowers are produced in clusters of three or four; but hitherto seldom more than one has expanded perfectly. It is more hardy than the Banksia; but flowering early, or rather coming into bud very early, it requires a wall and favourable aspect. It is well worthy a place suited to R. Banksiæ. 5. Rosa anemoneflora; a very remark-

able Rose, which, after looking hopelessly sickly for two or three years, is this year in great luxuriance, and covered with large loose heads of flowers; the heads are about the size of those of R. moschata; the individual flowers about the size of R. Banksiæ alba. It grows only from 6 to 8 feet high. Flowers white and double, with narrow petals, like a double Anemone, slightly tinged outside with pink. 6. Rosa multiflora; a very deep crimson variety, which I cannot distinguish from the old crimson multiflora. It is more tender than any of the foregoing. 7. Rosa bracteata (var. minor); this appears to be a small variety of the Macartney Rose; it grows only from 4 to 5 feet high, and is a complete miniature Macartney. All the four first are specially adapted for ornamental gardening, while the individual beauty and fragrance of No. 2, which blooms earlier than any Rose of similar qualities, render it worth growing. The three last are little more than curiosities, except where R. multiflora will succeed. *J. R., Sevenoaks.*

Out-door Grapes.—I was glad to see, at p. 373, due praise given to the method of Vine culture, so well advocated by the late Mr. Clement Hoare of Southampton, in his works on the Grape Vine. And I willingly add my testimony to the simplicity and success of the plan; and strongly advise any who are planting young Vines to follow his directions. I should never have been led to take so much pleasure in growing Vines, had not my attention been drawn by a friend to Mr. Hoare's system, to whose memory, therefore, I accord my grateful thanks. *T. A.*

Plantains on Lawns.—I was delighted to see, at p. 424, something about pulling up Plantains on a lawn, for this is exactly the department of gardening to which I feel myself competent; and during the recent warm weather, in the sweat of my brow, I have cut up hundreds of them with a knife, making the lawn look as if it had had the small-pox. You have done me a great unkindness in only giving a portrait of the instrument you recommend for eradicating these troublesome weeds, without mentioning its name, or where it is to be obtained. Be so good as to tell me whether the Plantain springs up again from the same root when the crown has been removed. I have been contented to cut off the top, without digging up the whole root; and the pertinacity with which, notwithstanding my exertions, the Plantain maintains its hold on the lawn, makes me think this must be the case. *Proserpine, Burton-on-Trent.* [Any country blacksmith would make it from the figure. It is not sold, that we know of. Plantains cut over will spring again.]

Ammoniacal Manures productive of Blight-fungi?—It may tend somewhat towards the elucidation of the question you propose in your leading article, at p. 403, to consider as a type the mildew in the Potato, since the injury inflicted on it has been greater and more universal than on any other plant; and as in Ireland the tillage of the land in every respect stands in strong contrast with that of England and Scotland, I will offer towards it such remarks on its prevalence in that country as occur to me. In our bogs and weaker lands, which are very generally in the hands of our poorer farmers, the leaves do not perish quite so rapidly, the stems retain their verdure and succulence much longer, and the tubers are much less affected than in the stronger lands; indeed, in the bogs, possibly from their antiseptic quality, the tubers are generally sound, even when in the cultivation of our stronger farmers, who manure higher. As these weaker lands have less power to hold ammonia, as they are in hands less able to supply them with ammoniacal manures, and as the bogs are of carbonic rather than of ammoniacal constituents, this fact would appear favourable to the hypothesis, that excess of ammonia is favourable to the production, or rather increase, of fungi. But when we consider the immense and disproportionate extent of land, that previous to the noted appearance of the disease was under Potatoes, and the very low quality of the manure employed in the neighbourhood of bogs, that consisting in the greater part of turf-mould—from the very few cattle house-fed, and when so fed receiving very little nitrogenous food, indeed very little else than straw, for even Turnips for cattle food are yet but partially and to a small amount used—oil cake and corn food are not thought of, so far from it, that the use of them would be ridiculed by nearly every one; that she is notoriously a low farming country, and yet that Ireland has sustained to the full as much loss from the prevalence of mildew in the Potato as any richer feeding or higher manuring country; we must hesitate to attribute the increased development of fungi to high manuring, or an artificial excess of ammonia. And when we further consider that in every country in the world, under every shade and mode of cultivation, from the highest to the lowest, from the oldest tilled lands in Europe to the virgin soils of America, this very large and sudden development of mildew, this universal disposition to favour the growth of fungi, we must very much doubt that a cultivation confined to a few favoured spots could have influenced it. It is certainly very humiliating in the advanced state of human knowledge, and it ought to be usefully so, that in a mere material action so long before our eyes, the secondary cause or causes should yet remain hidden from us, the primary great cause being alone seen in the will that at some periods of the world's existence some peculiar epidemics should prevail to baffle the researches of human intelligence. Although to superior cultivation cannot under these considerations be attributed the present excessive and general prevalence of mildew, yet we cannot doubt that the growth of fungi is encouraged by a moist and stifling atmosphere and ammoniacal manures; or, that the most effectual starvers of them would be a tillage that would give a freer passage of air to plants, and a depth and working of the land that would enable it to absorb and retain organic matters, while it gave to plants an increased amount of inorganic ones. We long pursued a faulty cultivation of Turnips in sowing them broad cast; there are few men now who are not convinced of the superiority of a drilled crop. The requirements for space exist as much in our grain as in our root crops; my experiments for 30 years past have satisfied me of this. If men were more ready to search for truth than to laugh at those who look for it, Mr. Smith would find more admirers. *G., Granard, July 5.*

The Weather, more especially as regards the wetness of last Month.—The mean temperature of June has been more than 3° below the average of the corresponding month in the previous nine years; while the fall of rain exceeds any amount on record for June. The quantity registered at Chiswick appears to have been 4·69 inches, but in Sussex it varied from 7·04 to 7·83 inches, at the following places, viz., Uckfield 7·04, Buxted-park 7·60, Lewes 7·83; the continued heavy rains and floods have been very injurious to vegetation generally. Many thousand acres of Grass are almost spoiled; the greater part of the Bean crop is destroyed, and in many places thrown into the yard for manure; the Peas are also much injured by the excessive moisture and deficiency of sun and wind. A large portion of the stone fruit has fallen from the trees. The crop of Cherries and Strawberries will be comparatively small and without flavour. I regret to add that I have to-day seen several specimens of the Potato disease. The past season is generally considered to have been unusually dry; but to prove how easily we may be mistaken in these matters, I shall insert the average monthly fall of rain for the past six months respectively during the last nine years, compared with the actual amount fallen in the corresponding months of 1852.

	Average of 9 years. Inches.	Amount fallen in 1852. Inches.
January	2 53	5 56
February	2 19	1·42
March	1 49	·47
April	2 09	·48
May	2 01	2 61
June	1·63	7·04
Total	11·94	17 58

To prove also that the large quantity of rain in June this year is not by any means necessary to maintain the average, I will deduct the amount in the present instance, and to the previous five months add the average for June in nine previous years—

The average fall of rain from Jan. 1 to June 30 in 9 years. Inches.	The fall of rain from Jan. 1 to May 31, 1852. Inches.
11 94	10·54
Average for June...	1·63
	12·17

From this statement it is quite apparent that, exclusive of the late very heavy rains the quantity fallen during the past six months has been slightly in excess instead of deficient, and shows most satisfactorily that a few weeks of dry or wet weather does not materially affect the average fall of rain throughout the various seasons. *C. Leeson Prince, M.R.C.S., Uckfield, Sussex, July 6.*

Corrugated Galvanised Iron.—Will any of your subscribers inform me what is their experience with regard to the durability of this iron for making a "covered way;" the sides being made in trellis work. The architects and builders in this neighbourhood say it will only last 15 years if painted. *Wilfordiensis, July 2.*

Wood Engraving (see p. 408).—"A Treatise on Wood Engraving, historical and practical, with upwards of 300 illustrations engraved on wood by John Jackson," published by Charles Knight and Co., 1839—price of the copy I have, 2*l.* 12*s.* 6*d.*—is a beautiful work, and supplies every information on the subject. *A Subscriber.* [But it will not teach a man how to engrave on wood, which is what we understood "A. B. C." to wish to know.]

Hyacinths (see p. 421).—I have much pleasure in giving Tau "(τ)" my experience in Hyacinth growing. By the plan I pursue, not only do the parent plants degenerate but little, but with patience the offsets may be brought to great perfection. Always plant in *dry* white sand (oven dried if necessary), it is immaterial whether early in September or the middle of November. I have tried both with the same bulbs, and could not perceive any difference, either in the appearance above ground or the flower. As soon as the beauty of the flower is gone break off the flower-stalks, and then wait patiently till the leaves get yellowish. You may then take them up, still leaving the leaves till the roots are dry, then carefully remove both leaves and roots and store in wicker-baskets in an airy place. I suppose I got the above plan from some of Loudon's invaluable works, and have applied it (and surely it is simple enough) to most other bulbs with perfect success. *Subscriber, Bath.*

Ill Effects of fumes of Sulphur on Vines affected with Red Spider.—As a warning for the inexperienced who may be induced to try sulphur for the destruction of red spider, I beg to state that all the leaves in my house have perished from its fumes, the Grapes having scarcely begun to colour; and if any one will instruct me how to treat them, with a view to have Grapes next season, I shall be obliged to them. I am afraid that the wood will not ripen. I have shaded the house, and I am keeping the floor moist and cool, until they have begun to push, when I shall admit sunshine, and remove the scorched leaves; am I right? The spider got ahead when the Grapes were in flower, and I have failed to destroy it, at first by washing with pure water, and then by a weak solution of tobacco water and sulphur, washing the flues with hot lime and sulphur, and making hot lime to fall to powder in the house, with flower of sulphur spread over it so that it melted; and now, although I have destroyed the leaves, the spiders are not killed. *D. D.*

Ceanothuses.—At p. 357 I remark that a correspondent recommends Ceanothus dentatus rigidus and papillosus for wall plants; but we have no wall to our flower-garden here, and consequently Ceanothuses are obliged to stand the weather like other plants. The flower-garden is very large, and unfortunately open to the north-west wind, from which our plants suffer at times, although C. thyrsifolius, a fine evergreen bush, has stood well in an open quarter, and is now in full flower. A plant of dentatus is also covered with purple flowers; rigidus blossomed early in spring; papillosus has not yet flowered here; but all are in perfect health. When I first saw Mr. Mason's article above alluded to, I had another prepared, recommending them to be grown in the open quarter as evergreen shrubs; for the time, however, I was led to abandon the idea; but seeing that I have now two kinds in bloom, they have become greater favourites; and there cannot be any doubt about their hardiness, seeing that they have stood three winters in an open quarter in the north of Yorkshire. Papillosus seems to be a shy bloomer and rigidus a free bloomer. Has your correspondent mistaken the former for the latter? *Thorp Perrow.*

Water Pipes.—Can any of your readers inform me on the following subjects: It is required that a perpendicular pipe, with a fall of 4 feet, should discharge such a quantity of water into a well communicating with two pipes of 5½-inch bore each, as will be carried off by them without their being overloaded. The two 5½-inch pipes having only a fall of a quarter of an inch per yard, what bore ought the perpendicular 4-feet pipe to have for this purpose? *G. P., Llandilo.*

Wilmore's Surprise Pelargonium.—In your volume for 1850, p. 515, you have given figures of this bedding Pelargonium, with its history and description. It was found near some Hollyhocks, and was supposed to be an accidental mule between those plants and some unknown Pelargonium. A few weeks afterwards I sent you some account of a P. Diadematum rubescens, which produced a shoot with flowers perfectly double. All the cuttings from this shoot flowered in 1851, two of them went back to the parent form, and the rest had single flowers, which were prized for their size and showy colour, [and I called it Diadematum monstrosum; under that name it was distributed to Sir William Middleton's friends and others who called, and I think I sent it to Kew, and to the Horticultural Society's Garden, and to some nurseries. Messrs. Lee, of Hammersmith, exhibited Wilmore's Surprise at the Regent's-park show the other day, in very good bloom, where I first saw it, and it turns out to be identical with my plant Monstrosum. It is an excellent plant for a bed, and deserves all that has been said about it: but I write more particularly to remind you that I pledged my word in these pages that my plant should not come into competition with Mr. Wilmore's Surprise in the market; therefore, on a point of honour, I have to request that no one will offer my sport for sale under either of the names, until Messrs. Lee dispose of their stock of it. The name Monstrosum must be cancelled, not having priority. My plants showed one very singular feature, which you did not notice: the ribs of the stipule run out in fringes, and in many instances the middle rib or fringe expands into a perfect leaf, but very much smaller in all the parts; this is the only instance I recollect of seeing a stipule forming, or running into a leaf. *D. Beaton.*

The Grape Mildew.—If Mr. Graham (see p. 357) had stood beside a youth of 17, two years ago, when syringing a Vinery with sulphur and water, he would not have thought himself the first who had discovered the good effects of this application as a cure for mildew. Mr. Graham, was, however, right, of course, in publishing the fact. I had syringed and then dusted the mildewed parts of Peach-trees, &c., and I thought sulphur mixed with water and syringed over the trees might have as good an effect. I tried it, and it answered beyond my expectation. We have had mildew on the Vines where I am now living: we applied the same remedy and with equal success. It is an excellent cure, and every gardener ought to know it. If a grain of sulphur falls on the infected part it is sure to kill the fungus. Two ounces of sulphur are sufficient for four gallons of water; the sulphur being rather difficult to dissolve, the best way is to rub the small lumps which form on the top of the water between the fingers in the water; let it stand two or three days, stirring it two or three times a day, and while syringing it will require one person to stir it up. An infusion of Elder leaves is also a very good thing for mildew. *R. Lloyd, at Mr. Cuthill's, Denmark-hill, Camberwell.*

Societies.

Entomological, *June 7.*—J. O. Westwood, Esq., President, in the chair. Amongst the donations was a perfect specimen of Morpho Cypris, one of the rarest and certainly the most magnificent butterfly hitherto known in collections, presented by Mr. T. J. Stevens, from Bogota; also a portrait of the Italian Entomologist, Signor Passerini, presented by the Rev. F. W. Hope.

The President announced the publication of a new Part of the Transactions; and also that the annual excursion of the members would take place on the 26th inst. at Mickleham. Mr. Edwin Shepherd exhibited specimens illustrating the natural history of Trochilium culiciforme and its parasites; likewise a fine specimen of Notodonta trepida, from Darenth-wood. Mr. Augustus Shepherd exhibited a fine specimen of Notodonta carmelita, from Keswick, Cumberland; and Mr. S. Stevens another from West Wickham, Kent. Mr. Hunter had also reared it from Black Park, Bucks. Mr. Waring exhibited specimens of Tortrix Turionana, which he had reared. The following memoirs were read:—Descriptions of new exotic Lamellicorn beetles, belonging to the family Trogidæ, by J. O. Westwood; a note on the insect which destroys the cork of wine bottles, by Mr. Atkinson; a note on the history of Monodontomerus nitidus, correcting one of the misstatements made by Mr. Newport in his memoir on that insect recently published in the Transactions of the Linnæan Society, by Mr. F. Smith; a paper by Mr. Bates on the Megacephalæ of the Amazonian region of South America, with descriptions of their habits, and of the larvæ of several species; a notice of M. Goureau's memoir on the larva of Sericoris antiquana, which feeds on the stems of Stachys arvensis, by Mr. Douglas; a notice by Mr. Bush, now resident in Canada West, of a plan for collecting moths, which is stated to be far preferable to that of sugaring the stumps of trees, as adopted in this country, namely, by dipping cloths in soap-suds which have stood in the hottest sun till the fluid has become sour; as many as 70 moths had been observed at one time on a small piece of cloth thus treated. Mr. Hunter stated that plaster of Paris mixed with oatmeal had proved an excellent method of destroying the common black beetle (Blatta orientalis) in kitchens. Various new and interesting Lepidoptera, especially belonging to the minute families, were exhibited by Mr. Douglas and other members.

ENTOMOLOGICAL, *July* 5.—J. O. WESTWOOD, Esq., President, in the chair. Mr. Douglas presented specimens of Apate bambusæ, a small Coleopterous insect, which had destroyed a package of Chinese fans made of Bamboo, in the London-docks; being the same species which had also destroyed a beautifully carved Bamboo case, exhibited by Mr. Bowring at a former meeting. He also presented cocoons of very beautiful white silk from the North of China, which the president considered as being of the variety named Tsatlee by the Chinese silk-growers. He also exhibited a box of Lepidopterous insects, captured at Mickleham, during the annual excursion of the members on the 26th ult., comprising several rare species, also specimens of Tinea prælatella, and its very remarkable cocoon found on Geum urbanum, and of Lithocolletes scabiosella, reared from Scabiosa columbaria.—Mr. Samuel Stevens also exhibited a very large cased larva of an unknown species of Coleophora, and a specimen of the very rare Heliophobus leucophæus, also from Mickleham.—Mr. Hogan presented specimens of the rare Diglossa mersa, and exhibited a Lepidopterous pupa, found in his breeding cage, from which a number of elongated fungoid filaments had been produced.—Mr. Frederick Grant exhibited a box of Coleoptera; and Mr. Gregson a number of Lepidoptera recently captured; amongst the latter were many of great rarity, including Ceratopacha fluctuosa, Hadena rectilinea, Gastropacha ilicifolia, and Crymodes Templi, all taken in Yorkshire and Lancashire. Of the last-named species there was a fine series generally taken on removing the immense heaps of iron stone near iron mines in October, into which the moths creep for shelter, and hybernate, one specimen having been found in February.—Mr. Westwood exhibited several rare species of Paussidæ, and also specimens of Lophyrus Pini, with its caterpillar and cocoon, reared from Pinus austriaca. Mr. Douglas read a notice from an Italian journal, of the discovery of the use of a plant called Centinode,* for feeding silk-worms, instead of Mulberry-leaves.—A note was read from Mr. Thwaites, of the Botanic Garden, Ceylon, on the powers of Cerapterus Westermanni, to make a caustic explosion like the bombardier beetle.—A letter was also read from Mr. Edgar Layard, on the destruction of Bamboo fences in Ceylon by various insects, including a species of weevil, a saw-fly, and white ant.—Mr. Wilkinson exhibited specimens of Elachista albifrontella and its pupa, and also a series of specimens of Œnophila van flavum, the little moth, the larva of which is destructive to the corks of wine-bottles, but which had entirely fed on the fungus in wine-cellars, and not on cork, having also made cases of particles of the fungus.—A series of notes on the habits of various insects, by Mr. W. Varney, was read, and descriptions of various Indian bees and wasps, by Mr. F. Smith.

BOTANICAL OF EDINBURGH, *June* 10.—The President in the chair. Mr. Brand sent a specimen of an adulteration of green Tea, said to be composed chiefly of the excrement of the silk-worm. Mr. M'Nab called the attention of the society to "a magnificent specimen of the Lilium giganteum of Wallich, or L. cordifolium of Don's Flora Nepalensis, now flowering for the first time in Britain, in the Comely Bank Nurseries, from seed originally sent home by Major Madden, collected in the damp shady woods of Kemaon. The plant at Comely Bank is now 9 feet 6 inches high, and in flower. Major Madden has just informed me that this gigantic Lily grows between 7000 to 9000 feet of elevation, in deep black vegetable soil, and averaging from 5 to 8 feet in height, the bulbs being always found on the surface of the soil." The following papers were read:—1. On a supposed new species of Eleocharis. By C. C. Babington, M.A. 2. Analysis of the fluid (known as Gram oil) from the leaves of Gram (Cicer arietinum). By T. Anderson, Esq. This paper consisted of an analysis made by Mr. Russell Aldridge:—"On evaporation it yielded a black residue which would not dissolve in cold water, but did so readily when heated; and on cooling it became turbid, showing the presence of oxidizable extractive. To a small portion of the fluid added chloride of calcium, and obtained a precipitate of oxalate of lime, showing the presence of oxalic acid; it was then filtered, and to a portion of the filtrate potash was added, no precipitate was obtained, therefore no tartaric acid. To the remainder of the filtrate added ammonia, which gave no precipitate when cold; but upon boiling it a slight one was obtained, showing a trace of citric acid. The remainder of the original solution was evaporated down, and the residue taken up with alcohol, a small quantity of gummy matter separated; on evaporating the alcoholic fluid down it left some sugar; the residue was then placed in a platinum capsule and subjected to red heat, the ashes (which were of a brown colour), were then taken up with water, and a few drops of hydrochloric acid added, which gave to the fluid a yellow colour, showing the presence of oxide of iron. It was then filtered, and carbonate of ammonia added, which gave a distinct trace of lime, filtered again, and to the filtrate added phosphate of soda, which gave a trace of magnesia. Potash and soda were present in minute quantities. The results thus are:—Oxalic and citric acids, copious traces; oxidizable extractive, gum, sugar, lime, magnesia, iron, potash, and soda.—3. Notice relative to the transmission of foreign seeds in soil, by Mr. M'Nab. The author of this paper stated that he had been long in the belief that the transmission of fruits and seeds in a fit state for germination, would be better accomplished by being packed in soil than by any other known method. This experiment was fully tested by himself during 1834, when he brought over the seeds of many of the rarer American Oaks and other trees in boxes filled with soil, while portions of the same kinds of seeds packed, both in brown paper and cloth bags, were in many instances totally useless. The method he adopted for the American tree seeds was as follows:—He purchased several strong deal boxes about 14 inches in diameter, and made of ¾-inch wood. He afterwards procured a quantity of soil taken from a depth of 8 or 10 inches under the surface, so as to possess only a natural dampness. A layer of the soil 2 inches deep was placed on the bottom of the boxes, above which a layer of seeds was distributed; another layer of soil and then seed, and so on till the boxes were full; the whole was pressed very firmly down, when the lids were nailed on, allowing no possible room to shake about. When they reached Edinburgh, December, 1834, the seeds and soil were sown over the surface of shallow pans and boxes. During the following spring they grew freely, while those brought home in the paper and cloth bags, comparatively few of the varieties grew, the Acorns being, without an exception, perforated with insects. The kinds which grew were from four to five weeks later of vegetating than those brought home in soil. Acorns brought home in a box of sphagnum moss, after the superfluous moisture had been wrung from it, were equally successful with those in soil. During the summer of 1851, Mr. M'Nab induced his brother, Dr. M'Nab of Kingston, Jamaica, to send a box of West Indian fruits and seeds, to be put up as described, and which he despatched during the month of August, containing seeds of the following:—Granadilla, Gourds, Forbidden fruit, Shaddocks, Sweet sop, Soar sop, Cherimoyer, Sapota, Guava, Lignum vitæ, Papaw, Alligator Pear, Mango, Ochra, Fustic, &c. The box reached Edinburgh last October; shortly afterwards the seeds and soil were sown over the surface of boxes prepared with drainage and soil for the purpose. During the month of January the surface of the boxes became covered with innumerable specimens of Cucurbitaceous and other herbaceous plants; when about three inches high they were removed, and again the surface became covered with Ochra, Papaw trees, &c.; and now the different species of Anona, Citrus, Lignum vitæ, besides several of the stronger hardwooded sorts are making their appearance. Two of the boxes were exhibited to the meeting, and the luxuriant growth of seedling plants which they contained bore unmistakeable evidence of the success of the mode recommended by Mr. M'Nab.—4. On a variety of the Orchis mascula (O. speciosa, Host), found in the county of Wicklow. By Mr. D. Moore, Glasnevin. Mr. Babington expressed an opinion that the supposed Orchis speciosa is nothing more than a very luxuriant state of the O. mascula. A few days since he found two specimens, exactly corresponding with the Wicklow plant, in the wooded part of the Devil's Ditch, in the county of Cambridge. They possess the remarkable size of Mr. Moore's plant, and the rather acuter segments of the perianth, such as he finds on his specimens. The true O. speciosa (which is itself only a variety of the O. mascula), has very much more attenuated segments of perianth.—Mr. Stark exhibited a new adaptation of the simple microscope suited for field examination of the minute parts of plants, especially for Algæ and other Cryptogams. Besides the lens, supported on a stalk for holding in the hand and giving a power of 60 or 70, there is attached a circular glass field for laying the object on, which, if in a moist state, may be covered by another circular disc of thin glass; by a spring and screw attached the focus can be conveniently regulated. The whole is very portable, going into a neat case about 4 inches by 1 in measure.—J. Anderson, Esq., was elected a Fellow.

* Can any of our readers furnish the botanical name of this plant?

Notices of Books.

Nereis Boreali-Americana, or Contributions to a History of the Marine Algæ of North America. By W. H. Harvey, M.D. Part I. *Melanospermeæ.* Washington. Published by the Smithsonian Institution, January, 1852. 4to, pp. 150, tab. lith. col. xii.

THIS admirable treatise, of which two other parts are promised, published under a separate form in England, forms a portion of the third volume of the "Smithsonian Contributions to Knowledge." The Smithsonian Institution originated in the will of an Englishman of the name of Smithson (an offshoot, it is believed, of the Percy-Smithsons, Dukes of Northumberland), who left all his property, about 100,000*l.*, to the Government of the United States, in trust, to found an Institution at Washington "for the increase and diffusion of knowledge amongst men." The Government accepted the trust, funded the money for several years, till the capital was nearly doubled, and then appointed a commission to devise the Institution, together with proper rules and regulations for carrying out with the best effect the benevolent wishes of the donor. A large sum has been expended in erecting a Gothic building for a library, museum, and lecture-rooms. The library itself is now forming, and lectures on scientific and literary subjects are delivered during the session of Congress. Dr. Harvey himself lectured on the subject of Algæ in 1850, for which purpose he was expressly invited over from Ireland. There is a publishing fund of about 6000 dollars per annum, which is applied to the publication of original treatises under the title above mentioned. Three volumes have already appeared, and copies are forwarded by the Institution to the public libraries of London, Oxford, Cambridge, &c., and indeed to all large libraries in America and Europe, some 150 in Europe only. The Institution is now under the management of Professor Joseph Henry, formerly of Princeton College, New Jersey, a distinguished American physical philosopher, and a very amiable person. Professor Bailey, with the liberality and real love of science which is so universal in American naturalists, persuaded Dr. Harvey to undertake the present work, and himself contributed materials, as did many other collectors in America; and Dr. Harvey has received some additional matter since the publication of this first Part, especially a valuable collection from California. We may judge how widely the appreciation of scientific matters is spreading in the United States, from the fact that the Institution prints 1500 copies for circulation in America alone.

We have given the above details at length, because they are interesting in themselves, and are probably new to a large portion of our readers. Of the execution of the work it is needless for us to say much, as the several publications which have already proceeded from the pen and pencil of the author give a sufficient guarantee for the accuracy of detail and perfect knowledge of species and synonymes by which they are characterised. To the general reader the Introduction presents a mass of information of the highest interest, especially in those parts which are founded on the author's personal observation. The following extract relative to the geographical distribution of Algæ on the shores of the United States, gives an interesting specimen of what is to be found in it:—

"In comparing the marine vegetation of the opposite shores of the Northern Atlantic, a great resemblance is observed between the ordinary sea-weeds that clothe the rocks on the eastern and western sides—with this difference, that the species do not reach so high a latitude on the American side as on the European. The reason of this will be readily understood by inspecting a physical map of the Atlantic, on which Humboldt's isothermal lines, or lines of mean annual temperature, are laid down. For there it will at once be seen that there is a very considerable bending of the isothermal lines in favour of the continent of Europe. Thus the same line that runs through New York in lat. 41° strikes the shores of Europe in the north of Ireland, lat. 54°; and though there is less difference in mean temperature in the southern parts of the continent than in the northern, still there is a marked difference throughout.

"With respect to vegetation, *Laminaria longicruris* is common on the American shore, at least as far south as Cape Cod (lat. 42°), while on the European it has not been found south of Norway, save some stray, water-worn stems occasionally cast on the north of Ireland or Scotland.

"*Rhodymenia cristata*, so very abundant in Boston Harbour (42° 30'), where it enters largely into the composition of *seaweed pictures*, is rarely found in Europe, south of Iceland, and the northern parts of Norway; its most southern limit being in the Frith of Forth (56°), where it has been found but once or twice.

"Probably one-half of the species of Algæ of the east coast of North America are identical with those of Europe, a very large portion, when we contrast it with the strongly-marked difference between the marine animals of the two shores; the Testacea, and to a great extent even the fishes, of the two continents being dissimilar. The European species on the same length

of coast are greatly the more numerous, which appears to be owing to the prevalence of sands nearly destitute of Algæ along so great a length of the American shore, and particularly along that portion which from its latitude ought to produce the greatest variety of Algæ, were the local circumstances favourable to their growth. This comparative poverty is observable even in the common littoral Fuci or Rock Kelp. In northern Europe, besides several rarer kinds, six species (namely, *Fucus serratus, vesiculosus, nodosus, canaliculatus, Halidrys siliquosa*, and *Himanthalia lorea*), are extremely common, four of them at least being found on every coast. In America *Fucus vesiculosus* and *nodosus* alone are commonly dispersed; *F. serratus* and *canaliculatus* have not been detected, and the *Halidrys* and *Himanthalia* rest on very uncertain evidence; so that of the six common European kinds, only two are certainly found in America. This deficiency in *Fucaceæ* is in great degree made up for in *Laminariaceæ*, of which family several are peculiar to the American shore, the most remarkable of which is the *Agarum*, or sea Colander."

We are sorry that we have not room for the whole passage. That portion, too, which relates to the Mer de Sargasse is highly interesting. We must, however, finish with one or two short extracts, recommending the work to every lover of Algæ, as also to all who wish to have a library furnished with the most important works in every branch of literature:—

"Among the myriads of Algæ feeders I may mention the turtles, whose *green fat*, so prized by aldermanic palate, may possibly be coloured by the unctuous green juices of the *Caulerpæ*, on which they browse. These plants, of which there are numerous examples on the Florida Keys, grow either on sandy shores or amongst coral, into which their widely-extended fibrous roots often penetrate for a considerable distance, branching in all directions, and forming a compact cushion in the sand, reminding one strongly of the much-divided roots of sea-shore Grasses, that bind together the loose sands of our climes."

The curious fact with which we conclude our notice belongs rather to the subject of Mycology than Algæ:—

"A remarkable instance of the action of a minute vegetable on a chemical solution was pointed out to me by Prof. Bache as occurring in the vessels of sulphate of copper kept in the electrotyping department of the Coast Survey Office at Washington. It invests the vats containing sulphate of copper, and proves very destructive. It decomposes the salt and assimilates the sulphuric acid, rejecting (as indigestible!) the copper which is deposited round its threads in a metallic form. It sometimes appears in great quantities, and is very troublesome, but the vats had been cleaned a few days before I visited them, so that I lost the opportunity of examining more minutely this curious little plant."

The circumstance is the more remarkable, if it be indeed the mycelium of some mould, which is the case with all species of *Hygrocrocis*, since sulphate of copper is supposed to be a certain remedy against dry rot.

FLORICULTURE.

Dahlia growers and exhibitors will remember the exhibition of this favourite autumn flower, held at Cremorne Gardens, on the 20th August, 1850, inasmuch as its early fixture took everybody by surprise; nevertheless, the result was perfectly satisfactory; for by a little well directed energy in the shape of regular evening syringings and periodical ground waterings, all was accomplished which florists could desire. We take this opportunity of announcing that another early Dahlia show will take place this year in these gardens, and we trust that by timely application of the simple means just adverted to, growers will coax their plants along, so as to produce a good head of flower. As an inducement to set about the task with vigour, we have much pleasure in stating that 50*l.* will be placed at the disposal of a committee, to be awarded in prizes for Dahlias, Verbenas, Hollyhocks, &c.; the day is to be August the 19th, when we entertain no doubt Mr. Simpson's liberal offer will induce a brilliant show. A schedule is, we believe, in course of preparation, and will soon make its appearance in our advertising columns; but let growers in the meantime be up and doing, that they may be ready for the coming trial when the day shall have arrived. *J. E.*

National Floricultural Society, *July* 1.—E. Foster, Esq., President, in the chair. Full as was the meeting on the 17th of June, this one considerably surpassed it; seedlings were most profuse, numbering more than 100, and of members more than 50 were present. Antirrhinums were furnished by Mr. Jon, Mr. Bragg, Mr. J. Edwards, and Messrs. Garaway, of Bristol. A First-class Certificate was awarded to Mossetum (Garaway), two spikes being produced: tube whitish, throat yellow, lip and cup regularly striped, a remarkably bold flower of fine form. Mr. Jon's flowers were mostly of dull colour, and Mr. Bragg's of average merit. A nice collection might have been formed from the Calceolarias staged by Mr. Barnes: Queen Victoria and Camden Hero were among the best sorts.—An Erica named Multiflora splendida came from Mr. Epps; it is a free flowerer, but it wants novelty.—Of Fuchsias, from Mr. Turner, Lady Montague received a Label of Commendation; sepals and tube pink, corolla rosy purple.—J. Willmore sent Captain Brook, a dark variety in the way of Elegans insignis, and not distinct enough to merit reward.—Cut flowers of Glory (Banks), were staged by Mr. G. Smith; this flower received a First Class Certificate as to merit sent.—Pelargoniums were well supplied: Mr. Black, gr. to E. Foster, Esq., exhibited National, Queen of May, Eleanor, Cloth of Gold, and Optimum.—Mr. Turner sent Novelty, Scarlet King, and a semi-double sort, the exact counterpart of the Willmore Surprise.—W. Hocken, Esq., showed Empress.—G. W. Hoyle, Esq., Portia and Zenia.—Mr. W. P. Ayres, hybrid bedding sorts, Sidonia, Variegatum, and Painted Lady.—Fancy sorts of 1851: Nil Desperandum, Miniature, and Autumnum.—Of 1852: Fearless, Niobe, Sir J. Paxton, Psyche, Flash, Elegance, Masterpiece, Geraldine, Aramis, and Queen of Crimsons.—Mr. G. Smith, Hornsey-road, had a pink flowering bedding sort, named Prince of Wales.—Grand Sultan came from Mr. Malyon, of Camberwell, and yearlings and two-year-old, cut flowers, from Mr. Hoyle, and Mr. Black, of Clewer. Of these, Novelty (Turner) received a Label of Commendation; lower petals rosy pink, splashed and veined with maroon, upper petals deep maroon margined with rose; form tolerable, habit good, and an excellent trusser. A Certificate of Merit was awarded to Cloth of Gold (Foster), lower petals salmon scarlet slightly veined, upper petals almost black, margined with scarlet crimson; good habit and a free bloomer, colours somewhat inclined to sport, and the substance is not first-rate; very attractive on account of its bright colours. Zaria (Hoyle) obtained a Certificate of Merit; lower petals salmon pink, distinctly blotched with deep crimson, upper petals somewhat similar in colour, and nearly covered with deep orange crimson blotch, habit not very strong.—Label of Commendation to the bedding sort from Mr. Ayres, named Variegatum; ground white, veined, and blotched with pink. If it should maintain its variegated foliage, there can be no doubt that it will prove a favourite for bedding purposes.—Certificate of Merit to Nil Desperandum (Ayres), lower petals white with purple blotch, upper petals shaded purple crimson, of dwarf and compact habit.—Autumnum (Ayres) was much admired, on account of its decorative properties. It is in the way of Hero of Surrey.—Masterpiece (Ayres) possesses many desirable points.—Of Pinks, Pansies, and Petunias, there were numerous contributions from Mr. Turner, J. Norman, Esq., Messrs. Scholefield and Son, Mr. Salter, Mr. G. Rogers, Mr. Wyness, gr. to her Majesty at Buckingham-palace, Mr. Bragg, and Mr. J. Edwards. A Certificate of Merit was granted to Pink Esther (Turner), light purple, fine petal and good pod; a similar award was made to Pink Perfection (Turner), purple, full and smooth in the petal. First-class Certificate to Pink Colchester Cardinal (Norman), purple, fine bold broad petal, large, smooth, and full; pod good: by far the best of its class. Certificate of Merit to Pink Koh-i-noor (Bragg), pale purplish rose; full, desirable on account of its distinct colour; petal passable. Some Ranunculuses were furnished by Mr. Willmore, of Birmingham. A collection of 24 varieties of Verbenas came from Mr. G. Smith; others were submitted by Mr. Hamp and Mr. Wyness; although possessing some merit, they were not considered sufficiently good to receive any award. Roses were furnished by Mr. Wilkinson, of Ealing-common. Isaac Anderson, Esq., of Maryfield, near Edinburgh, sent a Veronica, a hybrid between V. angustifolia (?) and V. speciosa, the former being the female parent; the spike comes in all its florets a bright pink or rich carmine, but, as in V. Andersonii, the florets first expanded undergo a transition from carmine to white, so that while the lower part of the spike has changed into the latter, the upper part retains the brilliancy of the former colour, the one blending into the other with all that softened delicacy of shading which lends its highest charm to Andersonii, from which, however, the present is perfectly distinct. It was named variegata.

Dahlias: *J P. Six selfs:* Duke of Wellington, Fearless, Richard Cobden, Sir R. Whittington, Sir F. Bathurst, and Sir C. Napier. Six *tipped:* Malvina, Barmaid, Dr. Frampton, Gem, Princess Radziville, and Queen of Dahlias.

Heaths, &c: *J C.* See our Calendar of Operations; what you require is treated of there.

Pansies: *J P. White:* Swansdown, Blanche, and White Sergeant. *Yellow:* Nonsuch, Adela, and Ophir. *Dark:* Africanus, Flower of the Day, St. Andrew, Duke of Perth, Pompey, and Sambo. *Yellow ground:* Alfred the Great, Chieftain, Duke of Norfolk, Lord Walsingham, Marquis of Bath, Sir J. Cathcart, Sir J. Paxton, Monarch, Rising Sun, Great Britain (Parker), Cliffe, Supreme, and Thisbe. *White ground:* Aurora, Almanzor, Caroline, Mrs. Beck, Mrs. M. Hamilton, Penelope, Queen of England, Royal Visit (Dickson), Marchioness of Bath, National, and Marian.

Pelargoniums: *J H.* There is only one variety of the old-fashioned golden-chain Pelargonium, and the two leaves sent are of that variety; but the plant is potted in loam instead of peat, and that makes the difference in the appearance of the leaves. In pots, this Pelargonium requires rough peat; but, in a border, any light soil will do for it.

SEEDLING FLOWERS.

Antirrhinum: *G S.* 1, not nearly so high coloured as some we have seen this season; it will not do; 2, for contrast sake the tube should be white; yours is not so, and in other points of merit it is also deficient.

Calceolarias: *A T.* Seedlings, some of them improvements, are every year "thick as Blackberries;" but to maintain their position, more, much more, must be accomplished Mr. Constantine has carried off the palm for cultivation this season, the sorts being all seedlings of his own. Baron Eden, shown by Mr. Gaines, is the only perpetuated variety with which we are familiar; it was exhibited some two seasons ago.

Epiphyllums: *T R P.* Both in the way of Ackermanni, and exceedingly brilliant and handsome.

Foxglove: *Major F.* Large and very pretty; colour blush lilac, mouth well expanded, lower portion of the tube regularly dotted with purplish crimson, each dot surrounded by uniform circles of white, the ground colour being of the same tint inside and outside. Cannot you send us a spike?

Pansies: *W D.* If uniformity of ground colour be a desideratum, then your flower is a long way behind; few varieties maintain their true character at this advanced period of the season.—*Z.* It is useless to send us blooms out of condition, and to write that "*they will come better*;" our remarks are confined to the specimens as transmitted, without regard to what they may or may not become.—*W C.* Novelty, so far as we could make out from the specimens received, is a mottled and belted sort; deficient in florists' properties. Master Richard, a yellow self, the lower petal being many shades darker than the other four, and therefore of no value.

Pelargonium: *Major F.* Madam Blaze; upper petals nicely rounded, of medium texture and surface, colour deep crimson, with faint and indistinct margin of carmine, lower petals smooth on the surface and edges, of bright carmine, forming a good shaped small flower; we should have liked the base of the petals white or similar to the body colour.—*W R and Co.* Very distinct from Virgin Queen; the upper petals are more maroon, and have less edging than the Queen; lower petals bush white, inclining to pink; flower below average size; of its form we can scarcely venture a word, being much withered. "Surprise" is apparently identical with Rowena.—*J C.* Sow your seed at once, and get it up without loss of time, the stock will have flowered by this time next year; if sown in spring, they will not flower till the summer following, thus a twelvemonth is lost, to say nothing of the increased room the plants will need, and then not one of a thousand may prove of value.

Petunias: *J H* Of your seedlings, 2 is much the best; but both are inferior to purple sorts already in cultivation.

Pinks: *J K.* A very pretty border flower, rosy lilac, with a deep crimson centre.—*A L.* 1, too thin; seven petals must be considered a poor flower; as it has many good properties you should get seed from it; 2, a nice flower, equal to most sorts out; 3, ditto, ditto; 4, of average merit; want of variety forms the greatest drawback with our "ancient friends."

Miscellaneous.

Large Strawberries.—Mr. Beach, of Isleworth, has favoured us with specimens of his British Queen Strawberries, examples of which excited so much attention in the Crystal Palace last year. We found them to weigh as nearly as possible 1¼ oz. each, and to measure 5 inches in circumference.

Sale of Plants.—A collection of specimen stove and greenhouse plants, formerly the property of the late H. Berens, Esq., of Sidcup, Footscray, Kent, but kindly bequeathed by that gentleman to Mr. Stanly, his gardener, was sold the other day by Mr. Stevens. There were in all 100 lots of such plants as Mr. Stanly has been in the habit of producing at the great metropolitan exhibitions; they fetched from 10*s.* to 3*l.* per lot; and in one instance (that of a fine Erica Hartnelli) as much as 5*l.* 10*s.*

The Dark Purple Hellebore (Helleborus atrorubens).—Although very far from a novelty, this curious plant is hardly known in the gardens of this country. That now under notice was kept in a greenhouse in the garden of the Horticultural Society, where it had been received from Mr. Van Houtte. It is, however, perfectly hardy, flowering in March and April in a border among shrubs. The skirts of a clump of Rhododendrons suit it perfectly. It was first made known to botanists by Waldstein and Kitaibel, who give a very bad figure of it in their great work on the plants of Hungary, in which they state that it is found wild in woods and thickets in Croatia, in great abundance near Korenicza. Although a native of such a country, in which the winter's cold and the summer's heat are far beyond anything experienced in these islands, the plant is much more beautiful in a greenhouse than in the open air. It is only in the former, indeed, that its peculiar and rather striking tints become developed. The leaves are liable to considerable difference of form, being five-parted, or even nine-parted, but they never assume the lobed condition of the other purple species H. purpurascens, nor are the lobes united half-way up; on the contrary, with the exception of the side divisions, they are distinct almost to the very base. The stem is about 18 inches high, and produces its branches by two or three series of forkings. The flower-buds are a deep black purple; the expanded flowers are of a peculiar violet purple, except at the edges and centre, both which are green; but in a few days the violet flies off, and leaves nothing behind except a dingy green tinted with dull purple. No such brilliancy as is found in our figure is produced in the open air, as far as we have remarked. The plant is, however, perfectly hardy. The Honourable W. F. Strangways, who has paid much attention to the species of this genus, has favoured us with the following useful memorandum respecting them. "Since I find that Hellebores are attracting some notice as fine hardy herbaceous plants, fit for undergrowth in woods and shrubberies, the following synopsis may perhaps be acceptable:—

A. *Suffruticosi, with biennial stems.*

H. argutifolius, H. lividus } three-leaved.
H. fœtidus palmate-leaved.

B. *Herbaceous, with annual stems.*

H. niger, two or three varieties, abchasicus, olympicus, orientalis, atrorubens } with coloured flowers.
H. cupreus, purpurascens, intermedius } with dusky flowers.
H. viridis, laxus, pallidus, odorus, angustifolius, graveolens } with green flowers.

H. Bocconi, and perhaps another species—doubtful—in Italy. H. fœtidus is a native of Wales; H. viridis, of Dorsetshire; H. argutifolius and lividus, of Corsica; H. niger, of the Alps; H. abchasicus, orientalis, and olympicus, of the Levant. The rest, of Hungary. All, except lividus, of the easiest culture in shady situations." *Paxton's Flower Garden for June.*

The Battle of the Bees.—A curious circumstance occurred a few days back at Guilleville, Eure-et-Loire. A small farmer had in a field about 250 beehives, containing a vast number of bees. He sent a man with a cart, drawn by five horses, to remove some earth from the wall near which the hives were placed. The carter having occasion to go to the farm-house, tied the horses to a tree. Almost immediately after a multitude of bees, either irritated at the shaking of their hives by the removal of the earth from the wall, or excited by the electricity with which the atmosphere happened to be charged, issued from their hives, as if in obedience to a given signal, and with great fury attacked the horses. In an instant the poor animals were entirely covered with bees from head to foot; even their nostrils were filled with them. When the carter returned he found one of the horses lying dead on the ground, and the others rolling about furiously. His cries attracted several persons; one of them attempted to drive away the bees, but they attacked him, and he had to plunge into a pond, and even to place his head under water for a few seconds, in order to escape from them. The curé of Guilleville also attempted to approach the horses, but he too was put to flight by the enraged insects. At length two fire engines were sent for, and by pumping on the bees a great number were killed on the horses, or put to flight. The horses, however, were so much injured that they died in an hour. The value of the bees destroyed was 1500f., and of the horses 2500f. A

few days before bees from the same hives killed 17 goslings. *Economist, June* 26.

Influence of the Flowering of the Victoria regia on Temperature.—Hitherto the Victoria regia has been admired by botanists and horticulturists chiefly on account of its flowers and colossal leaves. From a notice, however, inserted in the *Neue Allgemeine Deutsche Garten und Blumen Zeitung*, by M. Edward Otto, director of the Hamburg Botanic Garden, it appears that this majestic Water-Lily has another claim to the notice of the scientific world, in consequence of the remarkable property which its flowers possess of giving out a large amount of heat at the instant when the anthers burst for the discharge of the pollen. We are aware that this phenomenon had previously been observed in the spadixes of several large Arads. The following are the particulars of its observation in the flowers of the Victoria regia:—Professor Lehmann believed that a sensible increase of temperature accompanied the expansion of the flowers of Nymphæa alba. Supposing, with reason, that this phenomenon, if it should really exist, would be much more sensible within the very large corollas of the American Water-Lilies, he engaged M. Otto to take advantage of the flowering of the Victoria regia in his hothouses, and make the experiment. The result, as will be seen, confirmed the previous opinions of the Professor, in a most remarkable manner. In the first observation, which took place at 7 o'clock in the evening, the temperature of the hothouse was 70$\frac{8}{10}$ deg. Fahrenheit; that of the aquarium 68$\frac{5}{10}$ deg. The bulb of a small thermometer was placed in the centre of the stamens of a flower newly opened; and after a few minutes it indicated 80$\frac{357}{100}$ deg. But, unfortunately, the pressure round the basin, owing to the crowding of visitors, and others, curious to witness the phenomenon, was so great, that it became impossible to continue the experiment. Some time after, another trial was made with more success. The temperature of the surrounding air was 72$\frac{5}{10}$ deg. Fahr.; that of the water on which the flower reposed 69$\frac{688}{1000}$ deg.; the thermometer placed among the stamens as before, rose in 15 minutes to 105$\frac{12}{100}$ deg.; that is, upwards of 35° above the temperature of the medium in which the flowering took place. This is the first trial; and, certainly, botanists will not fail to make new observations with regard to a fact so interesting in vegetable physiology. In extending their researches to other species, perhaps it will be discovered that the phenomenon of plants giving out heat at certain periods of their lives, is not so rare as we have hitherto supposed. Who can tell whether it is not the general law? It may have escaped observation, in consequence of its being only very sensible in flowers of a certain size, and when the flowering takes place in a calm atmosphere. After all that we have heard of the Victoria regia, it appears to be easily cultivated; at all events, M. Otto's gardeners were completely successful with it. One of the leaves of their specimen measured 6 feet 6$\frac{3}{4}$ in., with a border upwards of an inch high, forming actually a sort of boat. This leaf supported, without giving way in the least, a child five and a half years old. On another occasion, after being covered with a thin board, it supported a weight of 110 lbs. 5 ozs. safely above the surface of the water. *Revue Horticole, May*, 1852.

Calendar of Operations.

(For the ensuing week.)

PLANT DEPARTMENT.

CONSERVATORY.—Some management is required to keep up the display in this and similar structures during the next few months, as the present high temperature will soon bring to a close the blooming season with most greenhouse plants. If, however, our previous directions have been acted upon, gardeners will be now getting into a forward state plants sufficient to make a good display for a considerable time; for the above purpose the stock of Balsams and pot annuals should be looked to, and if another shift is necessary, let it be done at once; for potting the above and other quick growing plants, the compost should be both porous and rich, that a clean vigorous growth may be obtained. After the last shift, weak manure-water may be given rather frequently, to assist the above ends. Neriums will be showing bloom, which will be the finer if the pots are placed in feeders and kept well supplied with water. Fuchsias, Kalosanths, scarlet Pelargoniums, Lilium longiflorum and eximium, and the various other plants we have recommended in former Calendars, should be introduced as they get into bloom. In addition a number of plants from the stove may be safely allowed to bloom in the conservatory for the next two months, and if a few Palms can be added, they will form an interesting feature at this season. Another difficulty will be felt in keeping these houses sufficiently cool to be enjoyable; to assist in keeping down the temperature, well sprinkle every part of the interior each morning and night, and this, if practicable, may be repeated during the day; the canvas shading may likewise be damped during very hot weather by the garden-engine, which will have the effect of lowering the internal air considerably. Greenhouse plants standing out of doors should have their pots protected from the direct action of the sun, either by being plunged or inserted into other pots. In all plant structures attention must be paid to counteract the effects of the present extreme heat by frequently flooding the pathways, and syringing every part of the interior several times daily. The plants themselves will require well syringing; but let this be done late in the evening and early in the morning, to prevent any injury which might arise to delicate-leaved plants from the sun's rays acting on imperfectly dried foliage.

FORCING DEPARTMENT.

VINERY.—We must refer to our previous directions, in respect to houses in which the fruit is gathered. Ripe Grapes requiring to be kept, must be shaded during hot sun, to prevent their becoming shrivelled. The change from the cloudy sky and low temperature of June to the present extreme heat, will render the directions we have already given, under the head "Plant Department," in providing a supply of moisture, equally applicable to forcing-houses of all descriptions, wherein fruit is swelling; a slight shading must be applied wherever indications of scorching or burning appears on the foliage. The Cannon Hall Muscat, Sweetwater, and the Frontignans, having tender leaves, are the most liable to burn, either from bad glass, or imperfect ventilation; and when either exists, should be watched, as an injury done to the foliage not only affects the present crop, but the succeeding one as well. Air must be given in abundance by night as well as day; and the necessary stopping of lateral growths and thinning of the fruit in the last house proceeded with. Cultivators must keep a watch for mildew, and try the plan adopted in France, and detailed in last week's Paper, to test its efficacy. PINERY.—Still continue to supply fruit swelling with water, and syringe frequently, but not in bright sunshine, unless the shading is immediately put on; the young plants should be growing fast, and will require liberal waterings, and, in addition to air in large quantities by day, the temperature will allow for them to have a good portion by night. And during hot weather, forced fruits of all descriptions will be benefited by the practice.

FLOWER GARDEN AND SHRUBBERY.

A complete stirring of the flower garden beds, to break up the hard crusty surface, caused by the late heavy rains, should be made before the plants get much larger. Proceed with pegging down, or tying growing plants as they advance, till they occupy their allotted space, when more freedom may be allowed them, but even then, in well-arranged flower gardens, each bed should be perfectly symmetrical as a whole, although forming only a part of the general design; remove weeds as they appear, and pay the greatest attention to neatness and order, without which the richest display of flowers looks unsatisfactory. Advantage should be taken of examining the walks during heavy rains, to see the drains are sufficient to carry off the water, and additional drains and grates put down where necessary. In addition to the plants named last week for ornamental garden hedges, we strongly recommend Cupressus Goveniana for embellishing architectural gardens; it appears to bear the knife well, while its quick growth, upright habit, and beautiful light green foliage, are strong claims for its adoption on terraces or parterres in the Italian style, where it is likely to supersede the upright Cypress and Irish Yew, being, as we think, hardier than the former, and of quicker growth than the latter.

HARDY FRUIT GARDEN.

Birds have of late years become so numerous, that it requires netting in abundance to preserve fruit from their ravages. As the fruit is gathered from the earlier Cherries remove the netting, which may serve for protecting later crops. If there are any traces of fly on the trees, let them be again well washed with the engine. Look over the Peaches and Nectarines, and in tying in the young wood see that the fruit is not too thick, allowing a few extra for stoning in the Peach and Nectarine. The nailing in the current wood; washing and stopping those shoots not required for fruiting, are the principal things to be attended to in this department.

KITCHEN GARDEN.

Take advantage of fine weather to eradicate such weeds as have sprung up during the last rains, and which the wet state of the ground has allowed time to grow. The present state of the atmosphere is likely to bring on various forms of mildew. We have seen two or three cases of disease among the Potatoes; and garden and field Beans are in many places partially destroyed by blight. Directly ground can be got in readiness, the main crop of Broccoli, Brussels Sprouts, and winter greens of all kinds should be planted, if the weather is dry; only partially fill up the hole in planting, to allow for watering them in dry weather; or plant them with a large trowel-spade; the dibber, or setting stick we would discard, if possible, from all gardens. The last crop of Peas should be sown directly, selecting an early sort for the purpose. The same rule will apply to Beans. Frequently hoe between advancing crops. Cauliflowers planted in shallow holes or trenches may be slightly filled up, but not sufficiently to prevent their taking good soakings of water in dry weather. Asparagus and Seakale, making rapid growth, will be benefited by a good sprinkling of salt, and frequent soakings of liquid manure. To have fine crowns next spring, attention to these matters should be paid to them now. We generally sprinkle a little salt along the Celery trenches before earthing them up; it both kills slugs and worms, and accelerates the growth of the plants. Plant out a good supply of Endive, and make further sowings. Continue the regular sowings of Lettuce and other salad plants. The first Celery may have a slight earthing up, first removing all suckers. Let every attention be given towards maintaining a clean and well regulated appearance among the growing crops.

STATE OF THE WEATHER NEAR LONDON,

For the week ending July 5, 1852, as observed at the Horticultural Gardens, Chiswick.

July.	Moon's Age.	Barometer.		Temperature. Of the Air.			Of the Earth.		Wind.	Rain.
		Max.	Min.	Max.	Min.	Mean	1 foot deep.	2 feet deep.		
Friday .. 2	15	30.131	30.099	73	50	61.5	60	57	S.W.	.00
Satur. .. 3	16	30.158	30.117	80	51	65.5	60½	58½	S.	.00
Sunday . 4	17	30.077	29.913	94	57	75.5	62	59	S.	.00
Monday . 5	18	29.912	29.819	97	60	78.5	65	62	S.	.00
Tues. .. 6	19	29.868	29.838	90	61	75.5	67	62	E.	.00
Wed. .. 7	20	30.006	29.914	90	49	69.5	67½	65	E.	.00
Thurs. .. 8	21	30.026	30.016	87	51	69.0	66	63½	E.	.00
Average ..		30.025	29.969	87.3	54.1	70.7	64.0	61.0		.00

July 2—Overcast; cloudy and fine; slightly overcast.
— 3—Fine; very fine; clear at night.
— 4—Very fine, very hot; clear.
— 5—Small white clouds; excessively hot; thermometer higher than it has been for at least 50 years; clear, with lightning at night.
— 6—Very hot; clear at night.
— 7—Cloudless; slight dry haze; very hot and dry; clear.
— 8—Dry haze; sultry; cloudy; very hot; clear.
Mean temperature of the week, 6½ deg. above the average

STATE OF THE WEATHER AT CHISWICK,

During the last 26 years, for the ensuing week, ending July 17, 1852.

July.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 11	74.6	52.7	63.6	6	0.71 in.	3	1	3	1	4	5	6	5
Mon 12	74.5	52.5	63.5	10	1.10	1	2	3	1	3	8	9	1
Tues. 13	74.9	52.5	63.7	10	0.60	1	2	3	1	1	15	4	1
Wed. 14	76.3	52.1	64.4	9	1.46	1	1	2	2	3	7	10	1
Thurs. 15	75.0	51.6	63.3	13	0.15	1	3	3	1	3	10	5	1
Friday 16	76.2	51.5	63.8	6	0.46	2	3	2	1	2	15	6	1
Satur. 17	76.4	53.0	65.7	8	1.22	2	4	2	1	2	6	4	3

The highest temperature during the above period occurred on the 17th, 1834—therm. 94 deg.; and the lowest on the 15th, 1848 and 1851—therm. 41 deg.

Notices to Correspondents.

BEES: *Honey.* There is no danger to be apprehended from the small quantity of honey which your bees can obtain from a single plant of Euphorbia splendens.

BOOKS: *Bulbul.* The "Tree Rose," or Rivers' "Rose Amateurs' Guide."

CYPRESSES: *Ballandyne.* You probably pruned your old tree when the sap was in full flow. October is a safe month; or even midsummer, when the new branches are half grown. Cut your Rhododendrons down in the winter, and get them to make fresh wood; they will then flower. The question of "kinds" can only be answered *satisfactorily* by the great growers. You should tell them what you want, and ascertain the price, if the selection is left to them. The crosses with catawbiense and maximum are the best; those with caucasicum the worst, unless you have a climate free from spring frosts, in which case the Caucasian breed is charming.

DOORS: *R G T.* White Deal, if good, is excellent for inside doors; but we can hardly conceive anything to equal Spanish Mahogany for the same purpose. Perhaps the best plan would be to replace with others those pieces that are so much warped. *S.*

EMIGRATION: *J S.* The most suitable part of Australia for you is perhaps Port Phillip.

FRAXINELLAS: They always manage themselves. Give them light soil, and let them alone. They will flower abundantly when they are old enough.

FRUIT TREES: *Const Sub.* Against a wall, though only 6½ feet high, your Pear trees, 14 or 15 years old, ought to bear well. You may rest assured it is not owing to the lowness of the wall that your trees produce only at the extremities. They will bear all over if you now lose no time in checking the shoots, *first*, on the upper part of the trees; and, after several days, take the points off those that are situated lower; and always in summer check the *uppermost shoots*, and the *strongest shoots*, earlier than the others. By so doing the sap will become more equally distributed, and the branches will ultimately bear close to the stem.‖

GLASS: *Ananassa.* If you have ventilation enough, and in the right place, so that the air plays among the leaves and keeps them in motion, you will not suffer from scorching. If otherwise, you must either shade or unglaze your house and substitute horticultural rough plate glass. But why not pull off the sashes altogether when the sun is roasting your plants.—*G L.* You will find the merits of Hartley's patent rough plate fully pointed out in our former volumes.

GRAPES: *Old Sub.* and *W S.* The disease affecting your Grapes is sometimes termed *blotting*, for which there is no specific remedy. A portion of the tissue gives way under the skin, a depression is formed, and ultimately a blotch. All you can do is to keep the house well aired, and use means to maintain a healthy foliage. By so doing, although the disease cannot be remedied in the present season, its occurrence may be prevented in future.‖

INSECTS: *J B, Richmond.* The insects found on the underside of the young branches of your Pear trees are female scale insects (Coccus sp.), the young of which are now hatching by thousands. You must, therefore, extirpate them at once by hand picking, or by washing the bark with hot water (140°).—*Criz, Jun.* The thread-like insects are not the young of earth-worm, but a particular and rather uncommon species of Filaria (thread-worms), found in damp ground, of whose habits but little is known.—*E R T.* The insect found under a brick in the floor of a stable is a rare kind of spider (Dysdera erythrina), which does not spin webs. It is not injurious.—*M.* Your Parsnips are attacked at the roots by a species of aphis, which we believe to be undescribed. It is only by pulling up the drooping plants, and destroying the insects, that the remainder of the crop can be saved. They should also be watered with manure-water, to cause them to grow as freely and quickly as possible. *W.*

MILDEW: *J W.* Nothing is known of M. Grison's plan for destroying this pest, beyond what is stated at p. 419. There has not yet been time to try it in this country.

NAMES OF PLANTS: *P B.* Not knowing the habit of your Epidendrum, we have been unable to arrive at a certain conclusion respecting it. It seems to be new, but very near E. inversum.—*Davie.* Apparently a flower of Vicia sylvatica.—*Eliza* Deutzia scabra.—*R H P.* Dendrobium moschatum.

POTATOES: *S S.* The world is divided in opinion about pulling up the haulm; if the Potatoes are almost ripe, you had better remove it. If they are still young, you will lose one way what you gain in another.

QUINCES: *C D B D.* It is impossible to say what is the reason of a small Quince always bearing *flowers* and never *fruit*.

WAGES: *A Z.* You must consult a lawyer. In this, as in many other things, law is settled by *custom*.

WALKS: *T C P.* We will give you the result of the experiments when we next report upon the garden. We have ourselves nothing to add to what we have already said, except that if gravel walks are painted with gas tar, and well sanded afterwards, no weeds will grow nor worms come through.

YEW HEDGE: *Y E W.* August is perhaps the best time for severely cutting in an old neglected Yew hedge, which has been allowed to run up into trees.‡

MISC: *T A.* Decayed Sedges will, no doubt, afford good material for the formation of a flower garden. You can cross two Thistles, and obtain a hybrid in the manner you propose. As to trout breeding, consult a good pamphlet by Piscarius, on the "Artificial Production of Fish," just published by Reeve and Co.

PERUVIAN GUANO.

CAUTION TO AGRICULTURISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

ANTONY GIBBS AND SONS, AS THE ONLY IMPORTERS OF PERUVIAN GUANO,

Consider it to be their duty to the Peruvian Government and to the Public again to recommend Farmers and all others who buy to be carefully on their guard.

The character of the parties from whom they purchase will of course be the best security, and, in addition to particular attention to that point, ANTONY GIBBS AND SONS think it well to remind buyers that—

The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 9l. 5s. per ton, less 2½ per cent.

Any resales made by dealers at a lower price must therefore either leave a loss to them, or the article must be adulterated.

THE LONDON MANURE COMPANY offer the following Manures on the best terms, warranting every article strictly genuine:—Peruvian Guano, Superphosphate of Lime, Nitrate of Soda, Concentrated Urate, Peat Charcoal, Gypsum, Fishery Salt from Cornwall, also a constant supply of Salt for agricultural purposes; Linseed and Rape Cake. Peruvian Guano, warranted the genuine importation of Messrs. A. Gibbs and Sons, at 9l. 10s. per ton, or for 5 tons and upwards, 9l. 5s. in Dock. EDWARD PURSER, Sec.

40, New Bridge-street, Blackfriars, London.

MANURES.—The following Manures are manufactured at Mr. LAWES's Factory, Deptford Creek:

Turnip Manure, per ton	...	...	£7 0 0
Superphosphate of Lime	...	...	7 0 0
Sulphuric Acid and Coprolites	...	...	5 0 0

Office, 69, King William-street, City, London.

N.B. Peruvian Guano, guaranteed to contain 16 per cent. of Ammonia, 9l. 10s. per ton; and for 5 tons or more, 9l. 5s. per ton, in dock. Sulphate of ammonia, &c.

CHARCOAL AND SEWAGE MANURE.—Promote the Health and Wealth of Town and Country by increasing the use of that valuable manure PEAT CHARCOAL, impregnated with the fertilising matter of LONDON SEWAGE. The ammonia, phosphates, and fæces are absorbed, and the water pressed out bright, palatable, and soft.

Sold at the Charcoal and Sewage Works, Stanley-bridge, Fulham, Middlesex, at 60s. per ton, 4s. per cwt., 2s. 6d. per half cwt.

THE ECONOMIC PORTABLE MANURE COMPANY manufacture, and have always for sale, the following MANURES:—Patent Manure, 5l. 5s. per ton; highly concentrated Fæcal Manures, 3l. 10s. per ton; Superphosphate of Lime, 5l 2s. 6d. per ton; Turnip Manure, 4l. 10s. per ton; Gypsum, 1l. 5s. per ton.

Orders and applications for agencies to be addressed to WILLIAM DODDS and Co., Managers, 102, Leadenhall-street, London.

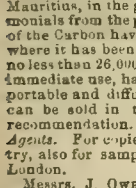
TURNIP SOWING.

SUPERPHOSPHATE OF LIME, made from bone only, equal in quality, but in superior condition to that manufactured by the undersigned, as reported in the Royal Agricultural Society's Journal, Vol VI., Part 2. It is also suitable for use with Chandler's Liquid Drill; also Peruvian Guano, Nitrate of Soda, Gypsum, Bone-dust, Sulphuric Acid, and all other Manures of known value.—Apply to MARK FOTHERGILL, 20i, Upper Thames-street, London.

TO AGRICULTURISTS.

OWEN'S ANIMALISED CARBON is now for Sale, at 2l. 5s. per ton in bulk.—This Manure has been introduced, with the most beneficial results, at St. Croix and the Mauritius, in the growth of the Sugar Cane, as proved by testimonials from the planters. The powerful fertilising properties of the Carbon have long since been acknowledged in Denmark, where it has been extensively used for agricultural purposes, as no less than 26,000 tons have already been sold. It is ready for immediate use, having no occasion to be ground, is equally as portable and diffusible as bones, and the low price at which it can be sold in this country must always be a paramount recommendation. *A liberal Commission allowed to Dealers or Agents.* For copies of the testimonials of its utility in this country, also for samples, apply to J. OWEN and Co., 3, Rood-lane, London.

Messrs. J. OWEN and Co. are now importing from their Copenhagen Manufactory SUPERPHOSPHATE OF LIME, of the very best description, containing at least 18 per cent. of Neutral Soluble Phosphate of Lime, and capable of furnishing at least 3 per cent. of Ammonia to the Soil. The "Analysis" is made by Professor J. THOMAS WAY, Consulting Chemist to the Royal Agricultural Society. The price, in London, of this powerful Manure, is 7l. per ton, cash, or Banker's Bill on London.



LIQUID MANURE conveyed over LAND by

FREEMAN ROE,

HYDRAULIC ENGINEER, 70, STRAND, LONDON.

Farms supplied with water by the

HYDRAULIC RAM.

WELLS SUNK AND BORING DONE IN ALL PARTS OF TOWN OR COUNTRY.

ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.

PATRON—His Royal Highness PRINCE ALBERT.

PRESIDENT OF COUNCIL—Earl BATHURST.

VICE-PRESIDENT—Earl DUCIE.

PRINCIPAL—Rev. J. S. HAYGARTH, M.A.

The NEXT SESSION will begin on Monday, August 9th. Students are admitted either as Boarders or as Out-Students. The annual fees for Boarders vary from 45 to 80 guineas, according to age and other circumstances. The fee for Out-Students is 40l. per annum. The College Course of Lectures and Practical Instruction is complete in one twelvemonth—though for younger students a longer time is recommended.

There is a department for general as well as for agricultural education.

Prospectuses and information can be had on application to the Principal.

Cirencester, July 10, 1852.

CATTLE SHOW OF THE ROYAL AGRICULTURAL IMPROVEMENT SOCIETY OF IRELAND. The time for Entering Stock and Implements for the Society's SHOW at GALWAY, which will be held on the 17th and 18th August next, closes on 26th July, current. Such Stock and Implements as are duly entered for Exhibition, will be conveyed, freely, to Galway, by the Irish Railway and Steam-boat Companies. All Persons wishing to obtain Copies of the Premium Sheet and Printed Forms of Entry, will be furnished with same, in course of Post, on application to R. H. KIRWAN, Local Secretary, Galway; or to

THOMAS HARKNESS, Secretary.

Society Rooms, 41, Upper Sackville-street, Dublin.

WATERPROOF PATHS.—Those who would enjoy their Gardens during the winter months should construct their walks of PORTLAND CEMENT CONCRETE, which are formed thus:—Screen the gravel of which the path is at present made from the loam which is mixed with it, and to every part of clean gravel add one of sharp river sand. To five parts of such equal mixture add one of Portland Cement, and incorporate the whole well in the dry state before applying the water. It may then be laid on 2 inches thick. Any labourer can mix and spread it. No tool is required beyond the spade, and in 48 hours it becomes as hard as a rock. Vegetation cannot grow through or upon it, and it resists the action of the severest frost. It is necessary, as water does not soak through it, to give a fall from the middle of the path towards the sides.—Manufacturers of the Cement, J. B. WHITE and SONS Millbank-street, Westminster.

EMIGRANTS TO AUSTRALIA, ETC., SUPPLIED. A PRIZE MEDAL FOR SUPERIOR LOCKS WAS AWARDED TO J. H. BOOBBYER, AT THE GREAT EXHIBITION OF 1851.

THE CELEBRATED STEEL DIGGING FORK, Patent Spades, Daisy Rakes, Scythes, Draining, and other Garden Tools, Mole Traps, 6s. per dozen. Carpenters' and Smiths' Tools, &c. Rubbers for sharpening Scythes, 2s. 6d. per dozen. Patent fumigators for destroying insects on Plants, in greenhouses, &c: at Messrs. J. H. BOOBBYER and Co's (late STURCH and BOOBBYER), Ironmongery, Brassfoundry, Nail and Tool Warehouse, 14, Stanhope-street, Clare-market, London. Established nearly 200 years for the sale of goods from the best Manufactories at the lowest prices. Goods forwarded to any part on the receipt of remittance. Lists sent by post.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

LEWES MEETING.

TUESDAY, July 13. Professor SIMONDS, of the Royal Veterinary College, will deliver a LECTURE before Members of the Society and their friends, in the County Hall, at 6 P.M.

WEDNESDAY, July 14, the Implement Yard open to the Public from 8 A.M. till 6 P.M., at 2s. 6d.; the Cattle Yard open in the Evening at 5s.

THURSDAY, July 15, the Implement and Cattle Yards (thrown together into one general show) open to the public from 6 A.M. till 6 P.M., at 2s. 6d. The Pavilion Dinner at 4 P.M. Tickets 10s.

FRIDAY, July 16, the General Show of Implements and Cattle, open to the Public from 6 A.M. till 6 P.M., at 1s. General Meeting of the Society in the County Hall, at 10 A.M.

By order of the Council, JAMES HUDSON, Secretary.

London, July 10, 1852.

The Agricultural Gazette.

SATURDAY, JULY 10, 1852.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY, July 14 } Agricultural Society's Meeting
THURSDAY, — 15 } at Lewes.
THURSDAY, — 22—Agricultural Imp. Society of Ireland.

It is our unpleasant duty to draw public attention to the following MANURE case, which deserves to be made more extensively known, than through the columns of a local newspaper.

It appears from the *Sherborne Journal*, that a quantity of superphosphate of lime was lately purchased by Mr. FRY, a tenant upon the DEAN of WINDSOR'S estate, at Butleigh, of an agent to the West of England Manure Company at Ilminster. The price charged was 7l. 5s. per ton. Circumstances, which need not be explained, led to this substance being submitted to Prof. WAY for analysis. The following was the result, given in the words of that able chemist:—

"The sample of superphosphate of lime is, as you supposed, a very inferior article, and I am afraid from its composition that its inferiority cannot be mercifully imputed to the mere ignorance of the maker. A good superphosphate should contain 12 or 15 per cent. if not more of soluble phosphate—the sample in question does not contain 1 per cent. Moreover the total proportion of phosphate of lime is so much smaller than it should be that I cannot help believing that some of the gypsum was put in as such—not produced by the ordinary action of sulphuric acid. In fact, I believe that it is a mechanical mixture of ground bones and gypsum, but I cannot assert this positively. Anyhow it is a bad sample of superphosphate. I should not value it at more than 2l. or 2l. 10s. per ton, because it can only be worth the bone it contains. Its analysis gave,

	Per cent.
Moisture	16.09
Organic matter and ammoniacal salts	14 56
Sand, &c.	11.30
Biphosphate of lime (equal to neutral phosphate rendered soluble 0 61)	0.41
Neutral phosphate of lime, insoluble	13.00
Hydrated sulphate of lime (gypsum)	37.27
Alkaline salts, with some carbonate of lime	7.37
	100.00

Nitrogen 1.51 per cent., equal to ammonia 1.83 per cent."

In what light are we to view this transaction? Here is what is called a *manure company* vending at 7l. 5s. an article which cannot at the utmost be worth more than 2l. 10s.; and what is worse, the only material of any value which it contains is almost entirely in a state which destroys its utility. Superphosphate of lime owes its great importance to the large quantity it contains of *soluble* phosphate, of which the roots of plants like the Turnip can make immediate use. Good samples contain from 12 to 15 per cent. of it. But the parcel in question did not contain much above one-half per cent. So that this "manure company" has the conscience to sell for 7l. 5s., what to the farmer is worth next to nothing. The best superphosphate, containing 15 per cent. of soluble phosphate, is advertised by persons of the highest respectability at 7l. per ton; the West of England Manure Company charges 7l. 5s. for a half per cent.; the real comparative value of such "superphospate" being, if the rule of three is applicable to manure-makers and their dealings, just *four shillings and tenpence.*

What makes this matter even more scandalous is that Mr. FRY, who was cheated, actually paid 5s. above the market price, in full confidence that he was thus securing a genuine article. We do not know what kind of verdict a jury would give Mr. FRY as compensation for the injury thus inflicted upon him; but we earnestly trust that he will ascertain. Manure-frauds have, we are happy to say, already received a check, from the general refusal of the buyers who have been taken in to pay for the rubbish palmed upon them. A few actions at law for compensation on account of loss of crop, would probably render spurious manure-making too dangerous a trade to be carried on with profit.

We ought to add, that we owe our knowledge of the case now recorded to R. S. GRABURN, Esq., of Ilfracombe, by whom the facts were communicated to the *Sherborne Journal*; and we venture, in the name of the whole body of the agricultural interest, to offer him most hearty thanks for his public-spirited conduct on this occasion.

WE have had the EXAMINATION PAPERS of the Royal Agricultural College at the late sessional examination of the students placed in our hands, and any one must perceive from them that the course of study which they indicate has been eminently adapted to the various objects of a liberal agricultural education. The questions and answers in the department of practical agriculture are given in another page; some of the answers to the other papers we hope hereafter to obtain; meanwhile, that our readers may judge of the kind of examination for which the students at the College have to qualify themselves while within its walls, we extract the following questions. The following are among those put to the students in chemistry:

How do you detect the adulteration of flour with Pea or Bean-meal?

Describe the chemical changes which take place in the steeping of Flax.

What is the general composition of milk?

How do you determine the relative feeding value of different samples of oil-cake?

What are the chemical changes which Barley undergoes in the process of germination?

What is the general composition and the relative feeding value of malt and Barley?

Mention the general characters of stiff clay soils, and describe the means of improving them.

Mention some of the principles which ought to guide the farmer in the management of home-made manure.

What are the adulterations more generally occurring in Peruvian guano, and how can they be detected?

The following are among the questions put to students in the veterinary department:—

Explain the general system of management of horses in health; including the construction of the stable, ventilation, drainage, light; feeding and exercise.

What care is requisite in the feeding of fatting animals, to preserve as healthy a state of the system as may be possible.

Describe the disease of pleuro-pneumonia in cattle, its symptoms and treatment.

In the natural history department we extract the following:—

Explain the theory of springs, rivulets, and rivers, and state what rocks would have to be reached for a well on the College Farm, as also on a farm situate on the inferior oolite.

Give an account of the geology of the lias, having reference to its rocks, fossil contents, agricultural and economic characteristics.

Show how superficial drifts may improve or deteriorate land overspread by them.

Point out the theories of the elevation of the Cotteswolds and the Malverns.

How does the study of fossils assist in the discrimination of rocks?

Give an account of the natural history of the Turnip flea (*Haltica nemorum*) and point out plans for checking its ravages.

We will conclude by selecting two or three from the list of questions in surveying and engineering:—

It is required to find trigonometrically the distance of two points, A and B, from a third point C; the distance between A and B being 500 yards, the bearing of B from A being 180° 35′, of C from A 270° 35′, and of C from B 295° 10′?

It is required to find the area of a triangular field from the following dimensions: base, 960 links; perpendicular, at 300 links from one end, 420 links. It is also required to cut off, parallel to its base, a part equal to one-half its area,—What would be the perpendicular distance from the base line to the line which would cut off the required area?

Explain the principles of the valuation of land and

other property. Also, required the value of an estate of 500 acres of land, which lets at 42*s.* per acre net rental, supposing it to pay 3*l.* 10*s.* per cent. per annum on the money invested,—what number of years' purchase would the land be worth?

Suppose a man capable of raising 60 lbs. by his own strength, what weight could four men raise at a crane, the two winches being 2 feet 6 inches long, two small wheels 6 inches diameter, large wheels 3 feet diameter, and barrel for chain 1 foot diameter. Also, what additional weight could they raise by the aid of three moveable pulleys?

Required the expense of cultivating an acre of ground by the spade, to be dug 1 foot 3 inches deep; a labourer being capable of digging 12 cubic yards per day, and the price of labour 1*s.* 8*d.* per day. Also, the number of labourers it would require to do the whole in 14 days?

In Lord Bathurst's pond there are about 6 million gallons of water, how long would it take five horses to pump it to a height of 50 feet, supposing each horse capable of pumping 70,000 gallons 1 foot high per hour, and to work six hours per day. Also, how many acres of land would it irrigate at 18,000 gallons per acre?

Explain the relative value of the sewerage of towns for agricultural purposes; also the comparative cost of transmitting it into the country in a fluid state, and by converting into a solid manure.

No one can deny that the ability to answer questions such as these must imply the possession of knowledge most useful to the farmer; and the practical tendency of most of them is proof that at the Cirencester institution the main objects of an agricultural education, professional skill and ability, is kept full in view by the professors at the head of the different departments of study.

The practice of giving artificial food (except in very sparing quantities) is almost universally condemned in the west. The experience of Scotch farmers, from the time of Sir J. Sinclair to the present day, is also much opposed to the giving of excessive quantities of artificial food to fattening stock. It will not do to argue this matter strictly on the ammonia theory. There are a set of principles which come into play here which render the practices of Scotch and English farmers quite different. In this, as in many other questions, the circumstances which demand this sacrifice of the consuming value of the Turnips in the south do not exist in the north. There is still much force in Sir J. Sinclair's defence of the Scotch farmers, which he wrote many years ago, and which also applies to the western parts of England. "Were they (the farmers), then, upon Mr. Young's and Mr. Hill's plan, to provide hay or oilcake, they might be justly accused of deviating from the great principle which runs through every part of Scotch farming to which the graziers' prices and the high rents of Grass inclosures, would soon oblige them to return." In fact, rents go up too high in Scotland to admit of the system of giving great quantities of oilcake taking a deep hold of its agriculture; the same may be said in regard to the west of England.

The arable lands in the west of England must yield as high rentals as the adjoining lands in pasturage, for sooner or later the balance will be maintained. The amount of manual labour is necessarily less in the north and west than the east; the Wheat follows more naturally the green crops, the expenditure for labour is small, but it increases greatly where Wheat is sown after seeds. We cannot here go into details on this subject. In the average of Scotch farming the manual labour does not amount to 15*s.* per acre; in the north and west the fertility of the land is more easily maintained, and can be more cheaply wrought. We believe these two elements must be taken into account before we can fully understand why the arable lands of the eastern counties are more cheaply let than those of the north and west.

We cannot altogether ascribe this, as Mr. Caird has done, to a difference in their staple products, when he says, "The great corn-growing counties of the east coast are thus shown to yield an average rent of 23*s.* 8*d.* per acre; the more mixed husbandry of the midland counties, and the grazing, green crop, and dairy of the west, 31*s.* 5*d.* This striking difference, being not less than 30 per cent., is explained chiefly by the different value of their staple produce. The difference in rent does not arise from a greater fertility of the soil, as may be seen by comparing the produce of Wheat."

There is a much greater tendency to rely on corn crops in the west and north, and pay high rents, than is generally believed. We were very much surprised to find Mr. Acland, in his graphic report of the Farming of Somersetshire, at a loss on this subject; had he given the amount of rental, the comparison would have been complete.

"It appears that the largest proportion of animal food produced on any Somersetshire farm is at the rate of 7 score to an acre of Grass and green crops; and that in the only two cases in the table in which so high an amount is reached, a considerable portion is due to dairy produce.

"On the other hand, it appears that in certain cases in Lincolnshire and Norfolk, and in one case (there are not many such) in Devonshire, the amount of animal food—all fit for the butcher—produced for every acre of Grass and green crops, is not less than eight or nine score.

"I think it must be admitted that, unless this contrast is capable of some explanation which I do not perceive, it points to some deficiency in the farming of Somerset—for it can hardly be accounted for by any want of natural fertility in the soil.

"It will be noticed that the consumption of oil-cake forms a prominent feature in the management of the farms selected from the other counties, while in none of the Somersetshire farms quoted in the table is it used to any extent worth mentioning.

"I am confident that the amount of animal food produced, and labour employed on the average farms in Somerset, when compared with the analogous facts in the case of the average farming of Lincolnshire and Norfolk, would afford a still greater contrast than that which has been already exhibited.

"I have it on the authority of several respectable farmers, that the amount of money paid in wages on mixed farms is commonly nearer 10*s.* than 20*s.* per acre. The cases in which it exceeds 20*s.* are quite exceptional.

"It is admitted that the climate of the south-west of England, especially on and near the hills, is not so favourable to the growth of corn as that of the eastern counties; and, on the other hand, that it is more favourable to the growth of Grass. If the farmers in Somersetshire do not keep pace with the arable farmers of the east, in the production of stock, to what means will they look to increase the returns of the land?" *R.*

ROYAL AGRICULTURAL COLLEGE.

SESSIONAL EXAMINATION.—PRACTICAL AGRICULTURE.

Chiefly with regard to such matters as have been brought before the attention of the students since the beginning of February.

1. Describe the connection of the various sciences of Chemistry, Geology, Botany, Veterinary Medicine and Surgery, Surveying and Civil Engineering, with the study of Practical Agriculture.

2. Describe the acts of husbandry during the present session, in Nos. (3 and 5) 11, 27, 29, 35, 38, and give a two years' Dr. and Cr. account of any one of them.

3. Give an account of the cropping of the R. A. College Farm, either stating the gross number of acres in Wheat, Barley, Oats, Turnips sown and to be sown, seeds, Saintfoin, &c.; or else taking each field in order, and stating how it is cropped at present.

4. Enumerate the whole or a part of the implements in use on the R. A. College Farm, and value them as nearly as you can.

5. What has been the treatment of the cows and of the young stock during the present session?

6. Give a statement of the way in which the sheep have been treated during this session, including those which have been sold during that period. Describe also the experiment which was tried as to the advantages of feeding sheep in sheds or in the open air.

7. Do you consider that sheep, or beasts, are in general the most profitable stock to fatten? Do not attempt this question unless you can support your opinion by reasons.

8. You are entering on a farm of good light soil—250 acres of arable, 50 acres good pasture. What live and dead stock would you require, and about what ought it to cost you? What rotation would you observe?

9. What circumstances are there affecting a farm, but not in any way connected with the richness or poverty of its soil, which, nevertheless, have a material effect on its real value?

10. Describe the various methods of applying farmyard and artificial manures.

11. How would you rear a heifer calf, from her birth to the time of her first calving, at three years old?

12. Enumerate the artificial pasture crops in common use; describe the method of growing Saintfoin and its advantages.

13. You may assume that in certain localities a few acres of Carrots may be grown with advantage, as a crop to be sold off the land. Why could not this be done everywhere, and to a large extent? Give the general objections urged against selling a part or the whole of any crop which is calculated for the support of stock. How far and in what cases are these objections well founded? And how and in what degree may they be removed?

14. You have 50 ewe and 50 wether lambs; you wish to rear the former for breeding from—the latter you wish to convert into mutton at the earliest possible period; what is your course with the two lots?

15. What is the best method of assigning a money value to a Turnip crop which is to be fed off by sheep?

16. What account books does a farmer require? Distinguish between a mere account of gross receipts and payments, and such an account as shall enable a farmer, if his payments exceed his receipts, to determine by what portions of his farm or stock he is losing money. *Cirencester, June* 19.

ANSWERS TO THE ABOVE QUESTIONS "COLLECTED AND CONDENSED FROM THE STUDENTS' REPLIES."

1. Chemistry enables a farmer to examine and to test the value of manures, of cattle-food, and of soils. It gives *principles* for the application of manures to the soil, and acts as an unerring friend in many matters connected with practical agriculture. Geology is useful in certain kinds of drainage, in well-sinking, in seeking for sand, clay, and various minerals employed in agriculture. Botany points out the kind of plants best suited for various soils and climates, for specific purposes. Veterinary medicine and surgery are highly useful in preserving the health of our common domestic animals. A scientific knowledge of medicine and pathology enables one to treat diseases by safe rules, and not as a matter of chance. Surgery and anatomy guide one in the treatment of all internal and external wounds. An acquaintance with the position of the various bones, nerves, muscles, veins, arteries, and all the vital network of animals, enables one to perform operations with a probability of doing good—without the danger of doing harm—which is inevitable where persons act by mere chance. Surveying and civil engineering are of every-day use to a farmer in measuring land and piece-work of all kinds. Land surveying is useful in measuring for the application of manures, the rate of sowing seed, and the letting of Turnips, and of mowing by the acre, &c. Civil engineering enables one to take levels for the purpose of draining, or for conveying water in any way for driving machinery, or for irrigation, &c. It gives directions for making roads, erecting embankments, forming ponds, building walls, making gates; it gives the principles of scientific instruction in the manufacture of implements, in the computation of the value of materials, and the standard value of manual, horse, and mechanical, power.

2. Nos. 3 and 5 (now one field). On one part winter Beans were drilled. These have been horse and hand hoed. On another part, Flax was sown last March. The ground was scarified, harrowed, and rolled previous to the seed being sown. The Flax was harrowed and rolled after being sown. Since then the crop has been partly weeded. The other part of this field is in Carrots. These were drilled in March, in rows 18 inches apart; the preparation of the land consisted in scarifying, rolling, and harrowing, previous to being sown. The Carrots have since been hoed between the rows, and are now all singled out about a foot from plant to plant along the rows. No. 11 has been ploughed twice since last harvest. It has all been scarified once, and some parts several times. It has been harrowed, and rolled, and ridged up for Turnips. Part of the Turnips are dunged, and part are dressed with artificial manures. The Turnips in No. 11 have been rolled since they were sown. No. 27, ploughed once after Turnips, then harrowed, and drilled with Wheat last spring. The Wheat was rolled once after being sown, and was also hand and horse hoed. No. 29 has been ploughed twice, in preparation for Turnips, after Beans. No. 35 has been ploughed, harrowed, rolled, and drilled, with Barley, after Turnips. Seeds are sown with the Barley. No. 38 has been ploughed once and some parts twice; it has all been scarified, harrowed, rolled, and ridged with Turnips. The Turnips are sown with artificial manures. A Dr. and Cr. account of No. 27 would show a profit; of No. 38, a loss; of No. 11, about an average of the two, or of the whole of the fields mentioned. The account will stand about thus: for—

No. 11.—Dr. per Acre.

1850—51.	£	s.	d.
To one ploughing for Wheat	0	9	0
Seed and drilling	0	9	6
5 harrowings, at 6*d.*	0	2	6
2 rollings, at 6*d.*	0	1	0
1 hoeing	0	3	0
Harvesting and preparing for and taking to market	1	0	0
Rent, &c.	1	15	0
Total Dr. one year for Wheat	4	0	0

No. 11.—Dr. per Acre for Turnip crop.

1851—52.	£	s.	d.
To 2 ploughings	0	18	0
2 scarifyings	0	4	0
6 harrowings and rolling	0	3	0
Manure	2	10	0
Seed	0	2	0
Hoeing and storing crop	0	15	0
Rent, &c.	1	15	0
Dr. for Turnips	6	7	0
Total, two years	£10	7	0

No. 11.—Cr. per Acre, Wheat Crop.

1851.	£	s.	d.
By 30 Bushels of Wheat, at 5*s.*	7	10	0
Wheat straw not taken into the credit account, unless more manure had been debited to the Turnip crop.			
No. 11.—Cr. per Acre, Turnip Crop.			
1852.			
By the probable value of Turnip crop	4	0	0
The Turnips would most likely pay much more if sold off the ground, but less if consumed upon the ground by stock; yet the manurial value of the Turnips so consumed may reasonably be calculated to make the crop actually worth 4*l.*			
	11	10	0
No. 11. Dr. per acre for two years brought forward ...	10	7	0
Apparent gain	£1	3	0

Here we show that the Wheat crop paid 3*l.* 10*s.* more than it cost, but that the Turnip crop cost 2*l.* 7*s.* more than it will realise.

3. Upon the College farm there are 116 acres of Wheat, 96 acres of Barley, 54 acres of Oats, 14 acres of Beans, and 8 acres of Flax; 80 acres of Saintfoin, 125 acres of root crops, 100 acres of seeds for mowing, and nearly 100 acres in pasture.

4. The principal implements are ploughs, harrows, rollers, carts, sowing machines, scarifiers, and a reaping

machine. The value of all the implements (exclusive of the engine and machinery) may amount to nearly 500*l.* The chief items of that sum could be made up by 12 carts, 120*l.*; 9 ploughs, 4-horse hoes, 6 sets of harrows, 80*l.*; rollers, 40*l.*; drill, 30*l.*; reaper, 18*l.*; miscellaneous articles, 100*l.*

5. The cows were fed upon straw, chaff-cavings, and roots, while the roots lasted. When the roots were finished, they lived upon hay until the Grass was ready to receive them. The young breeding stock were treated in a similar manner. The young calves were allowed to suck their mothers for a few weeks after being calved. They were then taught to drink skim-milk and Linseed jelly from a pail. They have Grass now, and a daily allowance of skim-milk still carried out to the field to them.

6. The breeding ewes were fed upon Turnips and hay previous to lambing. They were kept in a yard at night, as the lambing season commenced. They were turned out to the field in lots, after being lambed. Those ewes which had two lambs each, were allowed a few Oats in the lambing season. When the Turnips were finished, Grass was ready to receive the ewes and lambs, some of which were turned upon old Saintfoin, and some were folded upon young seeds. The lambs were weaned a short time ago, and are now living upon old Saintfoin. The ewes are fed chiefly upon Clover. The lambs have been shut from water, to prevent them scouring. The udders of the ewes have been drawn out from time to time. The fattening sheep which were upon Turnips at the commencement of the session were all sold off for the butcher; they had corn and Clover-chaff, along with roots They were nearly all shorn before they were sold. The experiment of feeding sheep in the field, and under cover, turned out in favour of the field lot by a pound of mutton a week, during the time the experiment lasted, which was about 19 weeks. The comparative expense and difference of the two lots were certainly very great, when the cost of attendance upon the house-fed lot in feeding, cleaning, drawing the food, &c., is taken into account, to say nothing of house-rent.

7. From all we know, sheep have paid much better for some time past than beasts. The same quantity of food produces as much, or even more, mutton than beef, whilst mutton has brought a penny a pound more than beef. The expense of carriage is saved on the sheep's food, when contrasted with that drawn home to beasts; the carriage of manure is saved; the expense of attendance is lessened; the cost of house-room is saved. The most immediate example of this, in support of our opinion, that mutton is more profitable than beef, may be cited here. For instance, one full-grown store beast is always supposed to consume as much, or even more, food than six full-grown store sheep. Six sheep produce more pounds of meat in a given time than one beast. Here, on this farm, 12 beasts consumed more food than 72 sheep. Each beast on an average eat 97 lbs. of roots per day, 12 lbs. of chaff, and 7 lbs. of meal; each sheep consumed but 1 lb. of meal a day, 1 lb. of chaff, and 17 lbs. of roots. The proportionate value of the food consumed by a beast and a sheep stands in money value (assuming a standard value on the food consumed by both) nearly as seven to one. Further, the beasts increased in live weight in a week at the rate, on an average, of less than 12 lbs. each. The sheep increased at the rate of 2 lbs. each per week. Some of the beasts increased 18 lbs. per week each. Some of the sheep 3 lbs. each per week. Thus showing that the comparative difference of both kinds of animals is much the same. The whole of the beasts fattened on the farm made less than 12 lbs. each per week. The whole of the sheep, amounting to upwards of 300, made nearly 2 lbs. of mutton each per week. The capital invested in the beasts and sheep was in proportion as 13 to 1.

8. We would require about seven horses for a farm of 300 acres. If a sheep farm of light soil, one sheep or more per acre; or beasts in proportion of rather more value. The dead stock or implements would cost from 150*l.* to 200*l.* or more. The live and dead stock, including implements only in the dead stock, would cost from 1000*l.* to 1300*l.*, divided thus: implements, nearly 15*s.* per acre, 225*l.*; horses, sheep, beasts, and pigs—live stock—at 3*l.* per acre, 900*l.*; total, 1125*l.* If, as is usual, the ingoing tenant had to pay for the acts of husbandry to the outgoing tenant or the landlord, this would amount to about 1*l.* per acre, or 300*l.* The labour for six months, until some of the farm-stock could be sold, would probably amount to 200*l.* If any corn or hay were valued to us, that would have to be paid for; but, as a matter of course, could be disposed of to make a quick return. It would, however, be apparently essential that we should have sufficient capital to pay the live and dead stock, and half a year's labour in advance, on hand, when entering upon a farm. We should thus require 1425*l.* at the lowest calculation. The rent would be due at the end of six months; and the current expenses for the first six months of a new tenant are almost invariably more than the receipts. [This in reply to the last part of the question.] The rotation of cropping would be ruled very much by natural climate, by seasons, and prices of the various kinds of produce. We should probably adopt the four-course system, with exceptions, such as taking a crop of Peas or Beans, after Wheat or Barley, instead of repeating Clover too frequently. It appears, that although Rye-grass is a good auxiliary to sow along with Clover, that the succeeding crop of Wheat is not usually so good after it as after Clover. Therefore, it is, we presume, that the most experienced farmers still prefer sowing broad Clover, even at the risk of occasional failure. On calcareous soils we should sow Saintfoin, in regular rotation, instead of the common Clovers, which derive so much of their nourishment from the upper soil. We would make Turnips succeed Saintfoin, by breast-ploughing and burning, to get a good supply of ashes, which are of great value for root crops.

9. Climate, roads, markets, water, coals, steep or level land, buildings, the cost of labour, the amount of taxes, have always a most material influence upon the value of land, irrespective of prices, or rent, to a tenant.

10. Farm-yard manure is applied sometimes in autumn, sometimes in spring, in a long or green state, or in a rotten or fermented state. It is sometimes spread abroad upon the flat surface of the land; is frequently applied in hollows formed by ridges, so that the whole may be covered by the ridging plough.

11. A heifer calf should never be allowed to go back in condition from the time of being dropped until she calves; neither should she be kept so well when young as to be allowed to fall off afterwards. First, she should be kept upon new milk from her mother, for a few weeks, then weaned, and fed upon skim-milk, or Linseed jelly, with roots and hay chaff in winter, or with Grass in summer. If well kept the first year, there is not much danger of her afterwards, if allowed a fair allowance of healthy food during summer and winter.

12. The most common pasture crops—of permanent pasture—are composed of about 10 different kinds of Grasses. For one or more years, broad Clover is sown alone very frequently, with Barley. White and broad Clover, and Rye-grass are sown as a mixture; the most common proportions being broad or red Clover 12 lbs., white 4 lbs., and Rye-grass half a bushel per acre. Sometimes Rib-grass, yellow or hop Clover, &c., is sown along with any of these kinds enumerated; but where there is a good prospect of broad Clover and white, or Rye-grass succeeding, these are the most valuable. Saintfoin is sown either in the husk or shell in which the seed is enveloped, or the seed only. It is sown with either Barley, Wheat, or Oats in the spring. If sown with the husk, about four bushels per acre are applied usually by the drill; if the seed only, 60 lbs. is used, either sown by hand or drilled. Some persons prefer mixing Saintfoin seed along with the corn, and drilling altogether; some drill the seed in a transverse direction to the rows of corn. There appears to be no decided advantage in either way. The great point is to cover all the seed, and be early in the season—not later than March, if possible. Saintfoin will thrive better drilled in rows, if the intervals are kept clean, than if sown broadcast; but if the intervals are not kept clean, broadcast sowing is equally good, if not a superior method. Saintfoin is peculiarly adapted for calcareous soils, and all such as have a loose subsoil. The plant requires much lime; it sends its roots deep into the subsoil also in search of manurial food and moisture. It lives and thrives well in dry seasons on calcareous soils, when the other common Grasses die, or yield no food, for want of moisture. It acts as an astringent medicine and food for sheep; it is the best plant known for weaning lambs upon.

13. A few acres of Carrots may be grown to advantage near a town, or where carriage is cheap, when the produce may be sold to good advantage. In remote, isolated districts, where sales cannot be effected, the reverse holds good. When roots, or any other produce is sold off the land, the manure resulting from their consumption is lost. These objections would be well founded if a return were not made in the shape of artificial manure. They may be removed by keeping up the fertility of the land by either purchasing cattle food, dung, or artificial manures.

14. The 50 ewe lambs should be kept in moderate condition after being weaned. They need not be fattened; they should live upon the poorest pastures and worst food about a farm, so long as they could always be kept advancing or from going back. The wether lambs should be well fed from the time they are dropped until ready for the butcher; they should be allowed the best of food, in as great plenty as they could consume it without waste.

15. The usual way of assigning a money value to a Turnip crop is, to calculate the number of sheep it would keep per acre. Sheep are frequently reckoned at 4*d.* per head per week, on Turnips or Vetches alone. It so happens that a lot of sheep sometimes consumes 10 acres or so of Turnips, and are worth less than when put upon the Turnips; yet that does not affect this question, as, in all ordinary cases, an acre of Turnips that would maintain a hundred sheep for a fortnight instead of a week would certainly be worth the most.

16. A daily journal of every transaction in full. A ledger and cash-book. The ledger accounts should show the heads, or portions of his farm or stock upon which he loses. For instance, distinguishing between the Dr and Cr. account of cattle and sheep, or either of these two, and pigs, &c. We should first say cattle Dr. to original capital invested, Dr. to food bought or food consumed upon the farm, always estimating it either by the rent of Grass consumed, if Grass; or by the rent and other expenses of production, if Turnips, Vetches, or hay, &c. We should then see how much the cattle cost. Next, by a contra account, we should see how much they sold for, and the remaining value left. It is also import nt that the *manurial* value of the various kinds of stock should be reckoned. By proceeding in the same way with sheep, we could compare one kind of stock against another. A hundred beasts, say at 10*l.* per acre, kept upon a farm for a year, the account might stand thus:

100 beasts Dr. to purchase	£1000
To grazing for six months, 150 acres at 3*l.* ...	450
To food for winter feeding, at 5*s.* each per week for six months	650
To interest on capital employed	30
To labour, &c.	50
Total debit of beasts	£2180

The creditor side of the beast account would show what amount of sales were made, and what value of stock was left in hand. The sheep account comes under the same formula as that for beasts; the difference according to the money invested, the food consumed, the money realised by sales, and the value of the remaining stock, would at once be an evidence of the profit or loss on either. Everyone knows the value of root crops now for stock, as necessary to keep up the fertility of the land. Everyone knows, as it were, that these crops do not pay of themselves directly—but still they are essential; they are necessary for farming successfully, even though grown at a loss. But this does not change the necessity of knowing how much root crops cost, and how much the return from their consumption may be. Although root crops, say, are imperative in their demand upon a farm rotation, the relative number of live stock of various kinds is quite optional in the farmer's hands. Then, without some account, how is it to be ascertained which kind of stock pays best? Accounts do not change *the past*, but they frequently have a most material influence upon the future. Hence their necessity. We have as yet no reliable standards for estimating the number of lbs. of meat a ton of fair average Swedes, or what not, would produce. The season, the soil, the manure, the size of the animal, the breed, the situation, and the mode of feeding, all have such a particular influence upon this matter, that the intricacy of the subject only has prevented its true solution. Many a so-called practical farmer would gape at you with surprise, if asked how many lbs. of meat he expected his pastures, his hay, or his Turnip crop would produce in a season! He would also seem astonished at any one who entertained the idea for a moment of keeping an account, to ascertain the answer to such a question. There is no doubt but we have much to learn yet, and very much in the way of farm accounts. One thing which seems to be deserving of constant notice is, in valuation, to estimate everything at its true, its marketable worth. There are many fallacious modes of valuing both stock, crops, and implements, by not attending to the true but the imaginary value.

PAUPERISM.

When human beings are unable to procure the common necessaries of life, without aid from their more favoured fellow-men, they may be said to be in a state of pauperism. This condition arises in civilised countries from old age and infirmities producing inability to labour, visitations of Providence, vicious indulgences, and from the excess of labour above the demand for it. To feed the hungry, clothe the naked, relieve the sick, and shelter the houseless poor, is a sacred obligation which neither individual members of any Christian country who have the means of supplying the wants of others, nor "the powers ordained of God," as rulers over rich and poor, can neglect without violation of their responsibilities. As long as this law of Jehovah stands on the Divine statute book—"The poor shall never cease out of the land; therefore I command thee, saying, thou shalt open thine hand wide unto thy brother, to thy poor, and to the needy in the land"—so long will the sacred duty of providing for the sick and needy rest upon us. If, under the highly privileged circumstances in which the favoured people of God were placed—under a direct theocracy—poor were to abound, it cannot be expected that our nation, which is subordinately ruled by human authority, should ever be exempt from them. Indeed, the Gospel dispensation clearly assumes such an imperfection in society; "the poor ye have always with you" are our Saviour's words.

No human legislation, indeed, can enforce the fulfilment of the sacred law of charity in its genuine spirit, nor reach the human heart, but it can compel those who possess the means, but may not have the disposition, to contribute towards the relief of the indigent, as a matter of social necessity. The aggregate number of poor in the United Kingdom is of appalling magnitude; and we have no grounds for thinking that with the great augmentation of wealth, especially in England, there has been a proportionate advancement in the condition of the labouring classes. Unhappily the extreme points of luxurious wealth at the summit of the social scale, and of poverty at its base, are not less remote now than they have been at any former period; yet the poor are benefited considerably by the increase of national and individual wealth and the progressive extension of commerce, because the requirements of progressing luxury create new and increasing demands for labour. The moral and physical wants of the labouring classes are more inquired into, more brought into public notice and relieved, in a rich country than in a poor one. The relative conditions of the poor in England and in Ireland demonstrate this fact. The English poor are better fed, better clothed, and better lodged than the corresponding class in Ireland. Indeed it may be said that the English labourers suffer more from comparative (as regards the upper classes of their countrymen) than from the positive want of the necessaries of life. They have butcher's meat occasionally, good wheaten bread,

and generally tea and sugar every day, whereas the Irish and Scotch are accustomed to subsist on Potatoes, porridge, oaten bread, with buttermilk and sometimes fish. When the poor of England are compared with those of many continental countries, too, in which the most loathsome exhibitions of wretchedness are rife in the streets and highways, where half-naked idlers lounge away their days in listlessness or mendicancy; then, indeed, England may look proudly around her, while the philanthropist rejoices at what has been accomplished for her poor by the agency of the Poor-laws. If we revert to their origin in the reign of Henry VIII.,* we find that an Act was then passed of extreme severity against vagrants who infested England during its transition state after the dissolution of the feudal system, and the new dispositions which had been made of landed property; and as a remedy against their daring importunities, the officers of towns were empowered to collect alms for keeping "sturdy vagabonds and vagrant beggars" to labour, and directing "every preacher, parson, vicar, and curate, to exhort, move, stir, and provoke people to be liberal for the relief of the impotent, and for keeping and setting to work the said sturdy vagabonds." In the true temper of the ferocious monarch and his rude age, the penalties were that "a sturdy beggar is to be whipped for the first offence; his right ear cropped for the second; and if he again offend, to be sent to the quarter sessions, there to be indicted for wandering, loitering, and idleness; and if convicted, he shall suffer execution, as a felon and enemy of the commonwealth." In the reign of his daughter Elizabeth, among other statutes bearing upon what may be termed pauperism, the celebrated Act of Bacon and Cecil (43d Elizabeth) authorised the overseers of the poor to levy in their respective parishes "such sums as should be necessary to support the aged and infirm parishioners, and for setting to work all persons having no ordinary and daily trade to get their living by." By this law sturdy beggars (then about an eighth of the population) were compelled to work. According to the Apostolic rule—"if any would not work, neither should they eat." No work, no bread. Of course we assume the capability of working. It is a law of universal application; but, let bread, on the Communist principle, be insured to the working man, and he immediately desires to cease from labour, and live on the industry of others.

The law of Elizabeth became necessary at a period when, by a sudden and violent alienation, the church property had been transferred from charitable purposes to lay impropriators, without any obligation on these to assist the necessitous poor. If the same Act had been then introduced into Ireland the vagrant mendicancy and pauperism generally, which have oppressed that country so grievously, would have been in a great measure obviated. The duties as well as the rights of property would have been better exercised by the landowners of Irish property at that time, and by the succeeding ones, who, by the large confiscations of land during the reigns of James I., Charles I., the Commonwealth, the reigns of Charles II., William III., and the lesser forfeitures under the penal laws afterwards, became possessors of land to great extent. *M. D.*

(To be continued.)

FARM ACCOUNTS.—No. II.

[THE following is the Day Book for three months, filled with the items of the Labour and Cash Books.]

OCT., 1850. DAY BOOK, 1850.—Page 1.

		Fol. of Journ.	£	s.	d.
4.	John Jones, *Cr.*				
	By valuation of farm stock, &c., as per inventory	1.	236	15	0
	2 cows, at 9*l.* each	1.	18	0	0
	Sundry sows and pigs	1.	10	0	0
	Manure, 150 loads, at 3*s.*	1.	22	10	0
	Hay, 6 tons Clover, at 60*s.*	1.	18	0	0
	Do. 7 do. Grass, at 40*s.*	1.	14	0	0
	Church field, Clover hay, 10 acres, at 8*s.* 6*d.* per acre	1.	4	5	0
	Path field, fallow, 8 acres, 6 ploughings, 18*l.*				
	" 2 harrowings, 16*s.*	1.	18	16	0
	Wood field, fallow, 12 acres, 6 ploughings, 27*l.*				
	" 2 harrowings, 1*l.* 4*s.*	1.	28	4	0
	Ditto, 150 loads manure, carting and spreading &c.	1.	27	10	0
	Seed, sowing and hoeing	1.	9	0	0
	One year's rent on 20 acres of fallow	1.	22	0	0
	Straw left on farm from last crops	1.	20	0	0
			£449	0	0
5.	William Mason, *Cr.*				
	By 50 ewes, at 24*s.* each	2.	60	0	0

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		£	s.	d.
	Pond field, *Dr.*			
	To 120 loads manure, at 3*s.*	2.	18	0	0
	Carting ditto	2.	4	0	0
	2 ploughs, 2 days at 8*s.*	2.	1	12	0
	Labour, as per labour account	2.	1	14	0
		£25	6	0	
6.	Richard Wright, *Cr.*				
	By 10 qrs. Oats for horses, at 18*s.*	3.	9	0	0
6.	Cows, pigs, &c., *Dr.*				
	To labour—boy, 6 days at 6*d.*	2.	0	3	0
13.	Pond field, *Dr.*				
	To 2 ploughs 2 days, at 8*s.*	2.	1	12	0
	Harrowing and rolling ditto	2.	2	0	0
	Drilling ditto	2.	0	15	0
	Steeding up furrows	2	0	8	0
	Labour—see labour book	2.	0	18	0
		£5	13	0	
13.	Stable field, *Dr.*				
	To labour—2 men haulming 6 days	3.	0	18	0

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13.	Cows, pigs, &c., *Dr.*			
	To labour—boy 6 days	2.	0	3	0
8.	John Simmons, *Cr.*			
	By 5 qrs. seed Wheat, at 42*s.*	3.	10	10	0

OCTOBER, 1850.—Page 3.

		£	s.	d.
20.	Pond field, *Dr.*			
	To steeding up and drawing water furrows, 1 day	2.	0	8	0
	Seed Wheat, 2 qrs. at 42*s.*	3.	4	4	0
	Labour—see labour book	2.	0	9	0
		£5	1	0	
20.	Dairy field, *Dr.*				
	To 2 ploughs, 5½ days each, at 8*s.*	2.	4	8	0
	Labour—see labour book	3.	0	16	6
		£5	4	6	
20.	Stable field, *Dr.*				
	To labour (haulming)—see labour book	3.	0	15	0
20.	Cows, pigs, &c., *Dr.*				
	To labour—boy, 6 days	3.	0	3	0
27.	Dairy field, *Dr.*				
	To 2 ploughs, 1 day	2.	0	18	0
	2 teams, 3 days harrowing, rolling, &c.	2.	2	8	0
	2 days drilling, harrowing, &c.	2.	2	0	0
	Labour—see labour book	3.	0	18	0
	Seed Wheat, 3 qrs., at 42*s.*	3.	6	6	0
		£12	8	0	
27.	Cows, pigs, &c., *Dr.*				
	To labour—boy	2.	0	3	0

NOVEMBER, 1850.—Page 4.

		£	s.	d.
3.	Stable field, *Dr.*			
	To 1 plough, 6 days, at 8*s.*	4.	2	8	0
	Labour—see labour book	5.	0	9	0
		£2	17	0	
3.	Manure, *Dr.*				
	To 1 team, 3 days making bottom	4.	1	4	0
	Labour—see labour book	5.	0	4	6
		£1	8	6	
3.	Sheep, *Dr.*				
	To 1 team, 2 days carting Turnips, &c.	5.	0	16	0
	Labour—see labour book	5.	0	3	0
		£0	19	0	
3.	Cows, pigs, &c., *Dr.*				
	To carting Turnips, &c.	5.	0	8	0
	Labour—see labour book	6.	0	1	6
	Ditto, boy, a week	6.	0	3	0
		£0	12	6	
3.	Stable field, *Dr.*				
	To 2 men hedging, ditching, &c., 6 days at 1*s.* 6*d.* per day	5.	0	18	0
10.	Stable field, *Dr.*				
	To sundries, see last week	4, 5.	2	17	0
10.	Manures, *Dr.*				
	To sundries, do.	4, 5.	1	8	6
10.	Sheep, *Dr.*				
	To do. do.	5.	0	19	0

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		£	s.	d.
10.	Cows, pigs, &c., *Dr.*			
	To sundries, see last week	5, 6.	0	12	6
10.	Stable field, *Dr.*				
	To labour, see do.	5.	0	18	0
17.	Stable field, *Dr.*				
	To sundries, do.	4, 5.	2	17	0
17.	Manure, *Dr.*				
	To sundries, do.	4, 5.	1	8	6
17.	Sheep, *Dr.*				
	To sundries, do.	5.	0	19	0
17.	Cows, pigs, &c., *Dr.*				
	To sundries, do.	5, 6.	0	12	6
17.	Stable field, *Dr.*				
	To labour, &c., see last week	5.	0	18	0
24.	Stable field, *Dr.*				
	To sundries, do.	4, 5.	2	17	0
24.	Manure, *Dr.*				
	To do. do.	4, 5.	1	8	6
24.	Sheep, *Dr.*				
	To do. do.	5.	0	19	0
24.	Cows, pigs, &c., *Dr.*				
	To do. do.	5, 6.	0	12	6

NOVEMBER, 1850.—Page 6.

		£	s.	d.
24.	Stable field, *Dr.*			
	To labour, &c., see last week	5.	0	18	0
	DECEMBER.			
1.	Stable field, *Dr.*			
	To sundries, do.	6, 7.	2	17	0
1.	Manure, *Dr.*				
	To do. do.	6, 7.	1	8	6
1.	Sheep, *Dr.*				
	To do. do.	6, 7.	0	19	0
1.	Cows, pigs, &c., *Dr.*				
	To do. do.	7, 7.	0	12	6
1.	Stable field, *Dr.*				
	To labour, &c., do.	7.	0	18	0
8.	Manure, *Dr.*				
	To cart and 3 horses, 6 days, at 12*s.* per day	6.	3	12	0
	Labour—see labour book	7.	0	9	0
		£4	1	0	
8.	Sheep, *Dr.*				
	To carting Turnips, 1 horse and cart 4 days, at 4*s.*	6.	0	16	0
	Labour, &c.—see labour book	7.	0	6	0
		£1	2	0	
8.	Cows, pigs, &c., *Dr.*				
	To carting Turnips, 1 horse and cart 2 days	7.	0	8	0
	Labour, &c., see labour book	7.	0	3	0
	Boys, a week	7.	0	3	0
		£0	14	0	

DECEMBER.—Page 7.

		£	s.	d.
15.	Manure, *Dr.*			
	To sundries, see last week	6, 7.	4	1	0
15	Sheep, *Dr.*				
	To do. do.	6, 7.	1	2	0
15.	Cows, pigs, &c., *Dr.*				
	To do. do.	7, 7.	0	14	0
22.	Manure, *Dr.*				
	To do. do.	6, 7.	4	1	0
22.	Sheep, *Dr.*				
	To do. do.	6, 7.	1	2	0
22.	Cows, pigs, &c., *Dr.*				
	To do. do.	7, 7.	0	14	0
29.	Manure, *Dr.*				
	To do. do.	6, 7.	4	1	0
29.	Sheep, *Dr.*				
	To do. do.	6, 7.	1	2	0
29.	Cows, pigs &c., *Dr.*				
	To do. do.	7, 7.	0	14	0
29.	Peter Thompson, *Cr.*				
	By 30 loads of chalk, at 6*s.* per load	8.	9	0	0
29.	To Stable field, *Dr.*				
	120 rods land draining, at 3*s.* per rod, see labour book	8.	1	10	0

APPLICATION OF LIQUID MANURE IN AYRSHIRE.

MR. RALSTON'S FARM AT LEG, IN AYRSHIRE.—At this farm the cattle-steadings are fortunately at a much higher latitude than some of the land. I did not ascertain the size of the whole farm, but the public road divides it into two parts. Travelling northward from Maybole towards Ayr, the road winds along almost parallel to the seashore; sometimes at a distance of 500 or 600 yards, and at other times not more than 300. On coming to Mr. Ralston's farm, the buildings and part of the land are on the right hand, while on the left he holds about 40 acres sloping rapidly down towards the beach. It is to these 40 acres that the system of liquid manure fertilisation has been applied. There is no steam-engine at present. Mr. Ralston may ultimately erect one for the higher parts of the farm, but the irrigation is now carried on by gravitation, and with a pressure varying from about 25 to 70 feet. The higher part of the ground is always dressed while the tanks are full. The liquid used is the urine, &c., from the cattle byres, all carefully collected in proper drains, and then conveyed by an earthenware pipe for a distance of about 200 yards, where it is received successively in three circular tanks of brick-work, 18 feet each diameter and 12 feet deep. The aggregate capacity is rather more than 57,000 gallons. The cost was about 12*l.* each, and the earthenware conveying pipe, and laying, about 25*l.* From these tanks, iron pipes of 3 inches diameter, are laid through the 40 acres, at a cost of 2*s.* a yard, and the outlay, in pipage and hydrants, was rather less than 2*l.* 10*s.* per acre. The mode of distribution is by flexible hose-pipe and jet, the same as at Myer Mill farm, and Canning Park. The distributing pipes would not exceed 30*l.*, and as a man and boy, at 18*s.* a week wages, would cover the 40 acres in four days, the amount per annum for eight dressings will be only about 3*l.* 10*s.* The capital account, and working expenses in this case, will stand thus:—

		£	s.	d.
Feeding pipe from byres to tanks		£25	0	0
Tanks		36	0	0
Iron pipes and hydrants		100	0	0
Distribution apparatus		30	0	0
		£191	0	0
Annual interest on 191*l.*, and wear and tear, 7½ per cent.		£14	6	6
Annual wages		3	10	0
		£7	16	6

This divided by the number of acres irrigated, is only equal to 8*s.* 11*d.* per acre; or not more than the cost and application of a ton and a half of solid manure, but producing effects three times greater than an annual top-dressing of 20 tons of such manure.

Mr. Ralston has only occupied the farm three years, and the whole of the arrangements for the application of liquid manure have been made during his brief occupancy. The previous tenant of the farm never had more than 12 stacks in a year. Mr. Ralston had 80 stacks off the same land last year.

Another fact, which I should have been almost ready to doubt, had I not seen it myself, was the mowing of two successive crops of Grass, at the same time, in the same field. The field contains, probably, 10 acres. About one-fourth from the bottom 9 inches thick of Grass was being cut—three-fourths of the field having been cut and lead. Near the top, a second mowing was going down, about 6 inches thick. This was during the present month of October.

NEW ARK, THE MARQUIS OF AILSA'S PROPERTY, NEAR AYR.—At this place about 30 acres have been brought under irrigation recently, in a similar manner to that at Mr. Ralston's farm, by gravitation. I notice it briefly, because the field-pipes from the tanks are all of earthenware, glazed, and made of fire-clay. The work was contracted for, and the contractor was bound to maintain the pipes for 12 months. They were said to have been tested, but gave way, principally at the joints, and never could be got tight under only 30 feet of pressure. The contractor, however, has relaid the whole, and at present they are at work.

It will be interesting and important to know the re-

sult of the experiment—the causes of failure in the pipes first laid down—and the means adopted to prevent fracture and leakage in those now in use. The land here is very similar to that at Mr. Ralston's farm, and a similar result from the application of liquid manure is fully anticipated. *Mr. Lee's Report to the Board of Health.*

Home Correspondence.

Canning Park, Mr. Telfer's Farm, near Ayr; (Mr Lee's Report to the Board of Health).—In common, I have no doubt, with many of your readers, I have been much struck with the account given of this farm in your *Gazette* of July 3. There are some statements in it which quite puzzle me. In the first place it is hard to understand how 46 cows are to produce 1115*l.* 8*s.* per annum. Upwards of 23*l.* each! I have been under the impression that if a cow made 10*l.* by her butter, and 50*s.* by skim-milk consumed by pigs, she gave her owner no just cause for complaint. If it had been shown in this report of Mr. Telfer's farm that he sold the milk from these 48 cows, without making a portion of it into butter, I could have imagined how he arrived at the grand total of 23*l.* and upwards from each cow; but it appears from their own showing that their cows do not make an extravagant quantity of butter, indeed, a bare 5 lbs. each per week. Allowing then that they make all the year round 240 lbs. of butter a week, this, at 1*s.* per pound, is 12*l.* a week, or for the year 624*l.* After the milk has been skimmed for butter, I imagine there may be left two gallons of skim milk from each cow to be sold per day. I take it that this is a fair quantity to allow, taking into consideration that a cow is dry four or six weeks in the year. But I grant that she yields two gallons of milk per day for 365 days. Skim milk is usually sold at 2*d.* a gallon. The milk will therefore amount to 6*l.* 1*s.* 8*d.* each cow. It has been shown before that each cow makes 13*l.* by butter; the grand total for each cow is, according to my calculation, rather more than 16*l.*, and not upwards of 23*l.* In the second place, how they manage to make 40*l.* worth of hay sufficient *dry* food for 48 cows, is another puzzle! No other dry food is mentioned. "In winter the cows have Turnips or Mangold, Beans or Barley-meal, and cut hay and Grass; the whole mess steamed together." I have no doubt this report admits of an explanation. I write in no spirit of unbelief. But keeping cows, and thinking they do *well* if they yield me 14*l.* each per annum, I cannot help feeling a little "riled," as the Americans say, at another person making upwards of 23*l.* each. *A Bucks Dairy Farmer.*

Hydropathic Treatment of Cattle.—Notwithstanding the intimate connection which comparative anatomy points out as existing between the structure and diseases of man and the inferior animals, veterinary practitioners seldom think of benefiting by the experience and deep research that have been bestowed on human disease to assist them in the treatment of similar cases in the brute creation. The science of hydropathy has of late years effected many wonderful cures, particularly that branch of it which excites to increased action the perspiratory apparatus to act as a febrifuge in fevers and inflammatory diseases. Yet I have never met with any man who ever thought of applying the same remedies to animals affected with colds, influenza, &c., which he has heard of as being so successful in human disease. Experiments ought constantly to be tried, or experience will be but slowly acquired. Having a short time since a valuable cow attacked with a very violent attack of influenza, accompanied with loss of appetite, constipation, suppression of the urine, and great debility; and having in vain tried all the more common remedies, such as purgatives and diuretics and repeated blisterings, I was induced, by the advice of a gentleman, to try the wet sheet. Having given up all hopes of recovery I agreed to do so, without, I must confess, much faith in the experiment, which was thus performed. Two large calico sheets, wrung out in cold water, so as not to drip, were placed on the cow, taking care to cover carefully the breast, back, and belly; in fact the whole of the body save the head and limbs. Several horse-cloths and a number of sacks were then thrown on, and the cow left in this state for two hours, unable from the weight of the clothing to rise, and apparently much too comfortable to attempt it. The skin became during this time very hot, and a violent perspiration broke out, which of course carried off much of the heat of the blood, besides removing it from the lungs and heart, &c., where it had before gathered, and from its unhealthy nature much increased the disease. At the end of the two hours, the clothes were thrown off, and the cow well rubbed with brushes till quite dry, when one thick horse-cloth was secured on the body, and the animal left for the night. The next day the bowels acted, and a large quantity of water was removed; and this change I certainly attribute in a great measure to the sweating. The wet sheet was repeated every two days, and proper medicines administered for three or four times, till the animal was quite recovered. I have since cured a calf suffering from influenza by the same means; and having been so successful, I feel desirous that others should become acquainted with this simple and valuable remedy; for I believe more animals die from influenza, or the effects of influenza improperly treated, than from any other disease. *C.*

Poultry—I have read with much pleasure the common sense remarks of "J. H.," in your last Paper, respecting poultry. The Royal Agricultural Society is taking a step in the right direction, and which is calculated to make poultry shows useful. Hitherto they have done little or nothing towards helping the farmer and cottager to improve their breed of poultry. But this I conceive to be the very object of their institution, and not to encourage a few amateurs in supplying some choice specimens, which, since every care is taken to prevent the eggs from circulating, serve no purpose whatsoever, except that of bringing honour and glory to the possessors in the way of prizes. *Utilitarian.*

Drummond's Churn.—I also, like "Verus," purchased a Drummond's churn (calculated to hold 12 quarts of cream), being attracted by its appearance in the Crystal Palace, and the promises of its performance. My first trial, in May last, was with 11 quarts of cream: after churning for four hours consecutively, without any appearance of butter, I transferred the cream to my old barrel-churn, and obtained the butter in 20 minutes. Fancying I might have made a mistake in my method of using the churn, I wrote to a neighbouring friend who also had one, though much larger; I have his letter, with the results of his trials, but I do not feel justified in publishing them without his leave, which I have no doubt I could easily obtain. I may, however, state they are not satisfactory. I again tried my churn in June (first week) with six quarts of cream, taking two hours and 30 minutes to produce butter; but so soft and bad as to be unfit for use in two days. Since then I have abandoned its use. *Cymro.* [Any who may obtain experience ought to communicate it.]

Flax.—It may be useful to your readers to know that, with enterprise, Gloucestershire may yet take her share of the manufacturing interest, which it has begun lately on the top of our hills. T. B. Browne, Esq., whose attention to Flax culture in this county is well known, and with a wish to promote all that is possible for the agricultural interest and employment of the people, has added to the growth of Flax a manufactory for the weaving of the produce; as an earnest that such is not being done by halves, a huge boiler, weighing fifteen tons, was conveyed from the Cheltenham railway station to the top of Hampen Hill by his eight Suffolks; many persons came to witness its transit, not believing it possible that such a ponderous affair could ever be drawn up so steep a hill; none of our country horses could have performed such a task; one of these Suffolks took the prize at Windsor last year, and we believe that several of his colts are going to Lewes this season, where I wish him success. I understand that Mr. Browne is about erecting an engine of considerable power, in lieu of that he now works. *A Subscriber.*

Draining.—The liability of drains to become choked with roots must be well known to many, yet it is not improbable that economy in immediate outlay has sometimes the effect of inducing the construction of conduits in a way which, though cheap at first, becomes costly in the end. In the present case it is intended to substitute earthen pipes, glazed inside, and cemented into one another for the present mode of draining. Cast-iron pipes would perhaps offer a greater security, but they would be more expensive.—The writer was much obliged by the information lately obtained in regard of Spanish and Cochin China fowls. Unless, however, there is very conclusive reasons for considering a fifth claw a sure mark of impurity in a Cochin China fowl, he thinks there may be an error in this opinion. He has a brood of seven young birds, all with yellow legs, and feathered down to the toes, one of which has five claws on each foot, but it does not appear to acquire feathers on its body faster than others of the breed, as it probably would do if it were a hybrid. *Haddingtonshire, June* 28.

Important fact in Draining.—The flow of water in a drain for carrying off the waste discharge of an hydraulic ram having been interrupted, the drain was opened to ascertain the cause of the obstruction, when it was discovered to be in parts of its course completely filled with roots of trees. The roots had taken the shape of the drain, and formed a solid mass impervious to water. The drain is made of tiles, with the convex part downwards, and covered with flags. The top is 9 or 10 feet from the surface; and the superincumbent soil, though sandy, is tolerably fine. The roots are chiefly those of Poplars and Elms. The drain was laid about 9 years ago. *Haddingtonshire, June* 28.

Salting in damp Hay and Grass.—Damp hay or even Grass may be stacked with layers of straw, or of old hay, sprinkled with salt, to prevent heating, and to draw out the juice from the damp Grass, which is then absorbed by the straw. Mouldy hay, put together with salt, from 8 lbs. to 25 lbs. per ton, was better relished by the cattle, and did them more good, than sound hay stacked without salt, of which many instances are recorded (Johnson on Salt, p. 105, &c.) An excellent farmer at Landrake in Cornwall, many years ago, stacked damp hay with salt, which came out almost a paste when the rick was opened, but the cattle devoured it greedily. In Germany they even cure fresh cut Grass by pitting with salt, 1 lb. to the cwt.; it comes out quite a paste, and is said to go further, in food, than the same quantity of Grass made into hay. The advantage of dry straw, to absorb the juice drawn out by the salt, is twofold—first, in preventing the souring of the Grass—and second, in rendering the straw itself nourishing and palatable, by the juice thus absorbed. The proportion of straw may vary from one-eighth to one-fourth; and the salt from 1 lb. to 3 lb. per cwt., according to the dampness of the new hay. If old dry hay is used, instead of straw, it must be in larger proportion, because less absorbent. And where neither can be had, chaff or young Furze might do; or even bran, if salted enough to prevent fermentation. *J. Prideaux.*

Mr. Mechi on Irrigation.—I think there can be but few of the readers of the *Gazette* who are not both interested and instructed with the bold and useful operations from time to time recorded by your correspondent Mr. Mechi. His recent communication on irrigation is a wide step in the right direction; and we have no doubt, when the result of his experience is before the public, it will show the attractive power on the credit side of his balance-sheets. Since it has become a recognised fact that plants can only obtain the elements of their existence in a fluid form, it seems but just to infer that the application of manure as a liquid should be the most direct and uniform mode of distribution, and the best calculated to promote a rapid vegetation: so far, we think, Mr. Mechi is safe. There is, however, one point where we think Mr. Mechi may be too sanguine respecting the advantages to be derived from his subterranean pipes. If we understood Mr. M., he conceives, from artificial watering in dry weather, he will be able to modify the influence of a dry season so far as to afford him a control over (say) his Turnip crop. Is the principle here involved correct? Without expressing any sympathy with your correspondent Mr. Donald, on his sugar question, we were much pleased with the following remarks. "The arguments of many seem to show that clay, when drained, absorbs and retains water, where formerly it contained little or none, and that in consequence the crops are comparatively safe during drought" This is what we conceive to be near the truth, believing, as we do, that whatever tends to lessen the law of cohesion in clay soils, must tend to increase their capacity for absorbing and retaining not only water but every element necessary for vegetable production; however, we presume deep draining and deep cultivation are the primary steps to accomplish a proper manipulation of clay soils. When those results are obtained we have much faith in the idea that capillary attraction will be the most natural, and much safer than any system of artificial watering to meet the requirements of vegetation in dry weather. *P. Mitchell.*

Reviews.

The Hare with many Friends." Remarks on the Monopoly of Guano. By T. W. Buller. Ridgway; pp. 44. (A Pamphlet).

Correspondence respecting the Guano Islands of Lobos de Tierra and Lobos de Fuera. 1833—1852 (Parliamentary Papers—Lords; June, 1852).

The blue-book, which was laid before the House of Lords the other day, by command of her Majesty, confirms in every particular the accuracy of the statements we made three weeks ago concerning the territorial rights of Peru. It is now officially declared that the Lobos islands do not belong to this country, but do belong to Peru; and, therefore, any attempt to obtain guano from them without permission from Peru would be an act of piracy. So much ignorance upon the subject was universally prevalent a short time ago among farmers and ship-owners, that it was indispensable to show them the true state of the case, however unpalatable the truth might prove to be, especially to those who, from their position and means of obtaining information, had no excuse for misleading the public in so serious a matter.

We are glad to see that Captain Buller, in his new pamphlet, has materially altered his tone. It is true that he still expresses a doubt about the guano islands belonging to Peru, but he does so feebly, and is evidently beating a retreat; for he can now find no better reason for doubting the sovereignty of Peru than that the assertion of the rights of that Government "comes generally from very interested and very suspicious quarters." We should not have thought that Colonel Wilson, Lord Palmerston, Sir Herbert Jenner Fust, Lord Stanley, and Lord Derby, could by any kind of twisted reasoning have been brought within the designation of "interested and suspicious" parties.

The main purpose of the gallant Captain's pamphlet is to point out the necessity of negociating with Peru for better terms than we now possess, and the desirableness of looking out for guano in other parts of the world. Here we cordially agree with him, and if we felt it to be within our province to go into a strictly political question, we should say that the importance of guano is such as to render it imperative upon the British Government to ascertain whether by treaty, the right of English seamen to dig guano, in Peru, cannot be acquired. But that question we leave to other hands.

With regard to searching for the substance in other parts of the globe, that too is a reasonable and practicable operation which should never be lost sight of. All that is required, in order to enable guano to accumulate, is the presence of multitudes of sea fowl, and the absence of storms of rain. Perhaps no region is, upon the whole, so favourably situated in these respects as Peru itself. But there are other places where similar conditions exist, although in a less degree. Captain Buller points out many such places, especially Cape Blanco and the Bay of Arguin on the west coast of Africa; and a glance at Mr. Keith Johnson's rain map will show in what localities the search could be prosecuted with the greatest chance of success. From this it would appear that guano deposits may exist on the coast of Guatimala, on all the coast line from the south of Patagonia to some

degrees north of the mouth of the River Plate, the northern shores of the Persian Gulf and the Red Sea; the south-west of Australia, and perhaps some of the South Sea Islands south of the Tropic of Capricorn. With regard to Cape Blanco and Arguin Bay we have no information sufficient to show whether they are within the influence of the Sahara or rainless district of Africa, or not.

Since writing thus far we observe that the Council of the Royal Agricultural Society have resolved—"that a prize of 1000*l.*, and the Gold Medal of the Society, be offered for the discovery of a manure equal in fertilising properties to the Peruvian guano, and of which an unlimited supply can be furnished to the English farmer at a rate not exceeding 5*l.* per ton."

Miscellaneous.

Guano.—Among the communications of your correspondents on this important subject I am surprised to find no allusion to the sources of supply which are indicated in Flinders' narrative of his surveys of the coasts of New Holland, in his Majesty's ship Investigator, at the beginning of this century. Captain Flinders mentions several enormous deposits on some islands on those shores, but as he had no suspicion of the value of the article, his notices of it are, of course, incidental and brief. Those parties who are complaining of the Admiralty for not sending cruisers to search for guano islands—as if it were a duty of Government to provide spectacles for people who will not open their own eyes—might do well to refer to the large edition of Flinders' Voyage, and there find the information which an Admiralty of former days has already stored up. *Times.*

Notices to Correspondents.

AFTERMATH: *B O F.* You have written 150 cwt. Do you mean 150 lbs.? Such a quantity of guano per acre, along with wet weather, might force a second crop to cut in September. We do not know a book on hawks.

DEEP DRAINING: *Erratum.* In the paper on deep draining, page 412, col *c*, there is a mistake in speaking of the widths between the drains. The drains are stated to be from 10 to 12 *feet* apart, whereas it should have been 10 to 12 *yards*.

GUTTA PERCHA: *Stub.* We do not know if it has been used for *drawing* water; it will stand pressure from within, and would no doubt also stand pressure from without. Perhaps, however, some correspondent may give us his experience.

MARL: *J B.* No doubt it is a good application to the chalky soils; but marl is a wide word, and may mean any sort of calcareous earth. Of some much too much could not be applied; 50 cubic yards per acre of a stiff marl is probably a sufficient dressing at once, but that, in the absence of the dunghcap, will not maintain fertility. You must grow green crops and use guano, if you have no dung. Plough in a crop of white Mustard; that and guano will do.

Markets.

COVENT GARDEN, JULY 10.

Vegetables and fruit are plentiful. The supply of English Pine-apples is remarkably good, and the same may be said of Hothouse Grapes. Strawberries are abundant. A very few dessert Apples may still be obtained. Oranges are plentifully supplied, and very good. Nuts are nearly the same as last quoted. Large quantities of French Cherries continue to be supplied. Young Carrots, Beans, and Artichokes also continue to be brought from France. Potatoes are very plentiful, owing to the growers being anxious to sell off their early crops speedily, to avoid the consequences of disease. Peas are improving. Mushrooms are dearer. Cut flowers consist of Heaths, Pelargoniums, Mignonette, Roses, Lily of the Valley, &c.

FRUIT.

Pine-apples, per lb., 4s to 8s	Lemons, per doz., 1s to 2s
Grapes, hothouse, p. lb., 3s to 8s	Oranges, per doz., 1s to 1s 6d
Peaches, per doz., 10s to 24s	— per 100, 3s 6d to 10s
Nectarines, per doz., 10s to 24s	— Seville, per doz., 1s to 3s
Melons, each, 2s to 6s	Nuts, Barcelona, per bush, 20s to 22s
Cherries, per lb., 4d to 8d	— Brazil, per bushel, 12s to 14s
Strawberries, p. pott., 6d to 1s6d	
Almonds, per peck, 5s	
— sweet, per lb., 2s to 3s	

VEGETABLES.

Cabbages, per doz., 6d to 1s 3d	Garlic, per lb., 8d to 1s
French Beans, p. 100, 1s to 2s	Lettuce, Cab., per score 4d to 1s
Cauliflowers, per dozen, 2s to 6s	— Cos, p. score, 3d to 1s
Asparagus, p. bundle, 1s to 4s	Radishes, per doz, 8d to 1s
Greens, per doz., 1s to 1s 6d	— Turnip, 9d to 1s 6d
Rhubarb, p. bundle, 3d to 4d	Small Salads, p. pun., 2d to 3d
Potatoes, per ton, 60s to 130s	Horse Radish, p. bundle, 1s to 4s
— per cwt., 3s 6d to 7s	Mushrooms, p. pott., 9d to 1s6d
— per bush., 1s 6d to 2s 6d	— per punnet, 6d to 9d
Turnips, per doz., 3s to 6s	Sorrel, per hf. sieve, 6d to 1s
Cucumbers, each, 2d to 6d	Artichokes Jerus., do., 9d to 1s
Celery, per bundle, 1s to 1s 6d	Fennel, per bunch, 2d to 3d
Carrots, p. bun., 7d to 1s	Savory, per bunch, 2d to 3d
Spinach, per sieve, 9d to 1s 3d	Thyme, per bunch, 2d to 3d
Onions, per bunch, 2d to 8d	Parsley, p. doz bnchs., 2s to 3s
— Spanish, p. doz., 1s 3d to 3s	Mint, per bunch, 2d to 4d
Beet, per doz., 1s to 2s	Basil, green, p. bunch, 6d
Leeks, per bunch, 4d to 6d	Marjoram, do., 3d to 6d
Shallots, per bunch, 4d	Watercresses, per 12 bunches, 9d to 1s

HAY.—Per Load of 36 Trusses.

SMITHFIELD, July 8.

Prime Meadow Hay	78s to 85s	Clover ...	88s to 100s
Inferior do.	68 74	New do. ...	60 70
Rowen ...	70 —	Straw ...	30 34
New Hay ...	55 70		J. COOPER.

A quick trade.

WHITECHAPEL July 8.

Fine old Hay	75s to 80s	Old Clover...	95s to 100s
New Hay ...	— —	Inferior do.	86 90
Inferior do....	58 63	New Clover	— —
Straw ...	— —	Inferior do.	60 70

HOPS.—BOROUGH MARKET, July 9

Messrs. Pattenden and Smith report that the market continues firm for all Hops with colour and quality, with but very few on offer. The accounts received from the plantations generally are favourable to the coming crop. Duty estimated at about 180,000*l.*

WOOL.

BRADFORD, THURSDAY, July 8.—Few transactions have taken place in the Wool market. Those entered into were at firm rates, the turn being still in favour of the sellers. In the country prices are ranging very high, and it becomes a question whether the state of this market will admit of their being realised again to a profit. Noils and brokes are a good sale at full prices. The business of the section appears to have nearly absorbed the whole of the attention of all parties, and both wool dealers and buyers have been watching the course of the future representations. The transactions have consequently been limited, and prices are unchanged during the week.

SMITHFIELD.—MONDAY, July 5.

The supply of Beasts is considerable for the time of year; trade is very slow, and lower prices are submitted to. Sheep are plentiful enough; the weather being very hot, big fat ones are unselling; sizeable Downs and Half-breds are not much lower. There is a large demand for good Lambs, at fully late rates. We have a large supply of Calves, owing to which, and the hot weather, prices are lower, and several remain unsold From Germany and Holland there are 990 Beasts, 4850 Sheep, 400 Calves, and 120 Pigs; from Scotland, 520 Beasts; from Norfolk and Suffolk, 900; and 1100 from the northern and midland counties.

Per st. of 8lbs.—s	d	s	d	Per st. of 8lbs.—s	d	s	d
Best Scots, Herefords, &c. ...	3	6 to 3	10	Best Long-wools .	0	0 to 0	0
Best Short-horns	3	4 — 3	6	Do. Shorn ...	3	2 — 3	6
2d quality Beasts	2	6 — 3	0	Ewes & 2d quality	0	0 — 0	0
Best Downs and Half-breds ...	0	0 — 0	0	Do. Shorn	2	4 — 2	10
Do. Shorn	3	8 — 3	10	Lambs ...	...	4 6 — 5	4
				Calves ...	...	2 6 — 3	4
				Pigs ...	...	2 4 — 2	4

Beasts, 3868; Sheep and Lambs, 23,470; Calves, 501; Pigs, 500.

FRIDAY, July 9.

The supply of Beasts is large, and buyers are very scarce. The hot weather causes a decreased consumption, and a consequent reduction in price. We are well supplied with Sheep and Lambs. Trade is very slow for the former, at barely Monday's rates, but brisk for the latter at, in some instances, rather higher prices. Calves are very plentiful, and prices are still very low. From Germany and Holland we have 367 Beasts, 1860 Sheep, and 428 Calves; from Scotland, 60 Beasts; 300 from the northern and midland, and 130 Milch Cows from the home counties.

Per st. of 8lbs —s	d	s	d	Per st. of 8lbs.—s	d	s	d
Best Scots, Herefords, &c. ...	3	6 to 3	8	Best Long-wools .	0	0 to 0	0
Best Short-horns	3	2 — 3	6	Do. Shorn ...	3	4 — 3	8
2d quality Beasts	2	4 — 2	10	Ewes & 2d quality ...			
Best Downs and Half-breds ...	0	0 — 0	0	Do. Shorn ...	2	8 — 3	0
Do. Shorn ...	3	8 — 4	0	Lambs	4	6 — 5	2
				Calves	2	0 — 3	4
				Pigs	2	4 — 3	4

Beasts, 939; Sheep and Lambs, 14,600; Calves, 757; Pigs, 480.

MARK LANE.

MONDAY, July 5.—There was scarcely any Wheat from Essex by land carriage samples this morning; the supply from Kent was moderate, but the weather since Friday has been fine, and continuing very hot, the sale for all descriptions was extremely difficult and limited; we reduce our quotations 1s. per qr.—We did not hear of any transactions in Flour, and prices must be considered nominal.—There is a fair demand for Barley at last week's prices.—Beans and Peas are unaltered in value.—Oats are a slow sale at the rates of this day se'nnight.

PER IMPERIAL QUARTER.	s.	s.		s.	s.
Wheat, Essex, Kent, & Suffolk...White	44	—46	Red	39	—40
— — fine selected runs.. ditto	45	—48	Red	40	—42
— — Talavera	44	—49			
— Norfolk	38	—40	Red		—
— Foreign	35	—51			
Barley, grind. & distil., 26s to 29s...Chev	30	—35	Malting .	29	—31
— Foreign ...grinding and distilling	24	—28	Malting .		—
Oats, Essex, and Suffolk.....	20	—21			
— Scotch and Lincolnshire...Potato	21	—24	Feed	20	—22
— Irish .....Potato	20	—23	Feed	19	—22
— Foreign .....Poland and Brew	18	—20	Feed.....	16	—19
Rye		—	Foreign .		—
Rye-meal, foreign		—			
Beans, Mazagan.....27s to 32s.....Tick	28	—33	Harrow .	28	—33
— Pigeon .....28s — 36s...Winds.		—	Longpod		—
— Foreign .....Small	23	—34	Egyptian	26	—28
Peas, white, Essex and Kent.....Boilers	38	—40	Suffolk...	38	-42
— Maple.....32s to 35s.....Grey	31	—33	Foreign .	30	—40
Maize .....White		—			—
Flour, best marks delivered ...per sack	37	—40	Yellow...		
— Suffolk .....ditto	25	—32	Norfolk .	25	—32
— Foreign..... per barrel	17	—23	Per sack	28	—34

FRIDAY, July 9.—The arrivals of English grain this week have been moderate, but of foreign good. To-day's market was thinly attended, and although in some instances, where it was required to clear cargoes of Wheat, sellers would have accepted a decline of 1s. to 2s. per qr., sales were impossible. —In Flour there is nothing doing.—Barley, Beans, and Peas remain unaltered in value.—The Oat trade is slow, and in order to effect sales it is necessary to submit to a reduction of 6d. to 1s. per qr.

ARRIVALS THIS WEEK.

	Wheat.	Barley.	Oats.	Flour.
	Qrs.	Qrs.	Qrs.	
English ...	2670	—	1180	2560 sacks
Irish	—	360	1520	
Foreign ...	9410	5180	21320	580 sacks

IMPERIAL AVERAGES.

	Wheat.		Barley.		Oats		Rye.		Beans.		Peas.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
May 29.....	40	5	27	11	20	1	30	0	31	7	27	2
June 5.....	40	7	27	5	20	8	30	6	31	6	21	0
— 12.....	40	11	27	6	20	0	29	8	31	10	31	2
— 19.....	40	9	27	5	20	2	30	7	32	0	31	9
— 26.....	40	10	27	6	20	0	31	0	32	4	31	9
July 3.....	41	4	27	5	19	10	32	4	33	1	33	2
Aggreg. Aver.	40	10	27	6	20	1	30	8	32	1	31	0

Duties on Foreign Grain, 1s. per qr.

FLUCTUATIONS IN THE LAST SIX WEEK'S AVERAGES.

PRICES.	MAY 29.	JUNE 5.	JUNE 12.	JUNE 19	JUNE 26.	JULY 3.
41s 4d	...	...	...	...	...	...
40 11	...	...		...	...	...
40 10	...	...	...	...		...
40 9	...	...	...		...	...
40 7	...		...	...	...	...
40 5		...	...	...	...	...

LIVERPOOL, TUESDAY, July 6.—There has been a moderate business done in corn since our last market day, with a slight advance for fine white American. At to-day's market the demand was of a very retail decyription. All articles were in small demand, with but little change in prices.——FRIDAY, July 2.—The arrivals since Tuesday from Ireland and coastwise are light, but from abroad they are to a fair extent. At this morning's market there was a fair attendance of town and country dealers. Wheat met a limited demand for consumption, but the weather being wet and unsettled a considerable business was done on speculation, at in some instances, an advance of 1d. per 70 lbs. Flour was held at full prices, but the demand was not active. Oats and Oatmeal were quite neglected. Barley, Beans, and Peas met a retail sale, at late rates. Indian Corn was in fair request. American yellow brought 34s., and white 28s. to 28s. 6d., per 480 lbs.

GUTTA PERCHA TUBING FOR WATERING GARDENS, ETC.



TESTIMONIAL.

From Mr. J. Farrah, Gardener to Boswell Middleton Jalland, Esq., of Holderness House, near Hull.

"I have had 400 feet of your Gutta Percha Tubing (in lengths of 100 feet each, with union joint) *in use for the last twelve months for watering these gardens, and I find it to answer better than anything I have ever yet tried.* The pressure of he water is very considerable, but this has not the slighrest effect on the Tubing. I consider this Tubing to be a *most valuable invention for Gardeners*, inasmuch as it enables us to water our gardens in about one-half the time, and with one-half the labour formerly required."

FOR SUCTIONS OF PUMPS AND CONVEYANCE OF WATER.

The value of Gutta Percha Tubing for the conveyance of water is no longer a matter of doubt. Experience has proved its adaptation and superiority to metal pipes, and the important consideration that it is entirely free from those corrosive properties which have proved so highly injurious in the use of lead pipes. The Gutta Percha Company have received the following—

TESTIMONIALS.

From C. Hacker, Esq., Surveyor to his Grace the Duke of Bedford, Woburn Park.

"Office of Works, Woburn Park, Jan. 10th, 1852.

"Gentlemen,—In answer to your inquiries respecting the Gutta Percha Tubing for pump suctions (after two years' trial), I find that the water has not affected it in the least, although it will eat lead through in two years; we have adopted it largely, both on account of being cheaper than lead, much easier fixed, and a more perfect job."

From Sir Raymond Jarvis, Bart., of Ventnor, Isle of Wight.

"Ventnor, March 10, 1852.

"Gentlemen,—In reply to your letter, received this morning, respecting the Gutta Percha Tubing for Pump service, I can state, with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years; and I am informed that it is to be adopted generally in the houses that are being erected here—building going on to a considerable extent.

"I am, Gentlemen, your obedient servant,

"R. JARVIS.

"P.S. The only difficulty experienced was in fixing the tube to the pump barrel. The plumber employed being averse to the job, did not properly secure it, and air got into the tube; otherwise, carefully arranged, there is no question it supersedes lead or any kind of metal pipes. R. J."

From William Bird Herapath, Esq., M.R.C.S., Surgeon to St. Peter's and Queen Elizabeth's Hospital, Bristol.

"September. 1850.

"I have used Gutta Percha as a lining to a cistern, with tubing of the same material, to conduct the water into my dispensary; they answer admirably. At first some disagreeable flavour was communicated to the water, but it soon disappeared.

"My plumber readily learnt the mode of managing it from your printed directions."

Every variety of Gutta Percha Goods may be had. Manufactured by the Gutta Percha Company, Patentees, London; and sold at the Wholesale City Depot of Messrs. BURGESS and KEY, 103, Newgate-street, who will forward Lists of Prices on application.

ANTHONY'S PATENT AMERICAN CHURN makes Butter in 10 minutes. It obtained the award of the Great Exhibition Medal, and also a prize at every one of the numerous Agricultural meetings at which it has been shown. It is now acknowledged to be the best Churn ever produced. 2000 have been sold in one year.

A few capital Rick Cloths for sale at cheap prices.

BURGESS and KEY, 103, Newgate-street, London.

M'CORMICK'S AMERICAN REAPER.

BURGESS AND KEY, Agents, 103, Newgate-street, London.—Extract from Mr. Pusey's Report on the Agricultural Implement Department, Great Exhibition.—"Mr. M'CORMICK'S Reaper, in this trial, worked as it has since worked at Cirencester College, and elsewhere, to the admiration of practical farmers, and therefore received a Council Medal. Mr. Hussey's sometimes became clogged, as in the former trial at Tiptree, and therefore could not possibly obtain that distinction."—Price of Reaper, 25*l.*

WINTON'S PARKES' NEW STEEL DIGGING FORKS never bend, strain, or break, but retain their sharp points to the last, requiring no repair. Mr. Mechi says, "They answer admirably in breaking our heavy clays, and mixing the soil in an extraordinary manner, and facilitate labour quite 20 per cent."

Early orders are requested, as the demand is very great. They are executed in the rotation in which they are given.

BURGESS and KEY, Agents, 103, Newgate-street, London.

Priced Lists sent on application.

HOSE FOR LIQUID MANURE, FIRE ENGINES, OR GARDEN PURPOSES, made of Canvas, lined and coated with Gutta Percha. It is exclusively used by agriculturists, and at the Government Public Works, giving great satisfaction. Also, KASE'S FORCE and SUCTION PUMP, which is the most simple and complete; it will throw 40 gallons per minute, 40 feet high, and it is not at all liable to get out of order. Price 6*l.*; on wheels and stand, 7*l.* 7*s.*

BURGESS and KEY, 103, Newgate-street, London.

COLLEGE OF AGRICULTURE, CHEMISTRY, AND GENERAL SCIENCE, Kennington, near London.

Principals.

A. NESBIT, Author of Works on Mensuration, Arithmetic, Surveying, &c ; and
J. C. NESBIT, F.G.S., F.C.S, &c.

Professors, &c.

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ASSISTANT CHEMIST ..... Mr. E. Lane.
NATURAL PHILOSOPHY, SURVEYING, CIVIL ENGINEERING, and MATHEMATICS ... } T. M. Cregan, Esq., C.E.
BOTANY and ZOOLOGY ..... { C. Johnson, Esq., Professor of Botany, Guy's Hospital.
ENGLISH LITERATURE and ELOCUTION..... } James Wigan, Esq.
CLASSICS and MODERN LANGUAGES..... } Able Assistant Masters.

Messrs. Nesbit take under their charge about Thirty Students, resident or non-resident, who obtain every advantage which vicinity to London affords for scientific education.

The routine of study comprises every branch requisite to prepare youth for Agriculture, Civil Engineering, Mining, &c. ; for the Naval and Military Services, and the Universities.

The students have every facility for acquiring a thorough knowledge of Analytical Chemistry, and of the Assaying of Gold and Silver.

Between four and five acres of land are appropriated for the exercise and recreation of the pupils.

Assays of Minerals, Analyses of Soils, Manures, &c., are accurately performed. Gentlemen may also be accommodated with private laboratories, entirely at their own disposal.

The highest references, with the terms and other particulars, may be had on application.

IRON HURDLES, FENCING, ETC.

STEPHENSON and PEILL, 61, Gracechurch-street, London, and 17, New Park-street, Southwark, beg to inform their friends and the public generally they are now manufacturing Iron Hurdles, at the following low prices :—For sheep, 6 ft. long 3 ft. high, 5 bars, 3s. 2d. each ; and for cattle, 6 ft. long, 3 ft. 3 in. high, 5 bars, 3s. 6d. each.

CARSON'S ORIGINAL ANTI-CORROSION PAINT, especially patronised by the British and other Governments, the Hon. East India Company, the principal Dock Companies, most public bodies, and by the Nobility, Gentry, and Clergy, for out-door work at their country seats. The Anti-Corrosion is particularly recommended as the most durable out-door Paint ever invented, for the preservation of every description of Iron, Wood, Stone, Brick, Compo, Cement, &c., work, as has been proved by the practical test of upwards of 60 years, and by the numerous (between 500 and 600) testimonials in its favour, and which, from the rank and station in society of those who have given them, have never yet been equalled by anything of the kind hitherto brought before the public notice.

Lists of Colours, with Prices, together with a Copy of the Testimonials, will be sent on application to Walter Carson and Son, No. 9, Great Winchester-street, Old Broad-street, Royal Exchange, London.—No Agents. All orders are particularly requested to be sent direct.

METCALFE and Co.'s NEW PATTERN TOOTH-BRUSH and SMYRNA SPONGES.—The Tooth-Brush has the important advantage of searching thoroughly into the divisions of the teeth, and cleaning them in the most extraordinary manner, and is famous for the hairs not coming loose.—1s. An Improved Clothes-Brush, that cleans in a third part of the usual time, and incapable of injuring the finest nap. Penetrating Hair-Brushes, with the durable unbleached Russian bristles, which do not soften like common hair. Flesh-Brushes of improved, graduated, and powerful friction. Velvet-Brushes, which act in the most surprising and successful manner. The genuine Smyrna Sponge, with its preserved valuable properties of absorption, vitality, and durability, by means of direct importations, dispensing with all intermediate parties' profits and destructive bleaching, and securing the luxury of a genuine Smyrna Sponge. Only at Metcalfe Bingley, and Co.'s Sole Establishment, 130 B, Oxford-street, one door from Holles-street, London.

METCALFE'S ALKALINE TOOTH POWDER, 2s. per box.

Caution. — Beware of the words "From Metcalfe's," adopted by some houses.

"WHERE SHALL WE GO THIS MORNING ?" Such is usually the query over the breakfast table with visitors to London. Let us answer the question. If you can admire the most beautiful specimens of Papier Mache manufacture which are produced in this country, displayed in the most attractive forms—if you want a handsome or useful Dressing Case, Work Box, or Writing Desk—if you need any requisite for the work table or toilet—or if you desire to see one of the most elegant emporiums in London, then you will go to MECHI'S, 4, LEADENHALL-STREET, near the India House, in whose Show-rooms you may lounge away an hour very pleasantly.

DO YOU WANT LUXURIANT HAIR, WHISKERS, &c ?—Emily Dean's ORINILENE has been pronounced by thousands to be the only preparation that can be relied upon for the Restoration of the Hair in Baldness from any cause, preventing the hair falling off, strengthening weak Hair, and checking Greyness, and for the production of Whiskers, Moustachios, Eyebrows, &c., in a few weeks with certainty. It is elegantly scented, and sufficient for three months' use; will be sent, post free, on receipt of 24 postage stamps, by Miss Dean, 48, Liverpool-street, King's Cross, London.—Testimonials :—Dr. Thomson says, "It is a beautiful preparation, and the only one I can recommend."—"I perfectly restored my Hair after seven years' baldness." Major Hern.

RUPTURES EFFECTUALLY CURED WITHOUT A TRUSS.

DR. BARKER continues to supply the afflicted with his celebrated Remedy for this alarming complaint, the great success of which, for many years past, renders any further comment unnecessary. It is easy and painless in use, causing no inconvenience or confinement, and is applicable to every variety of single and double Rupture, however bad or of long standing, in male or female of any age. The remedy, with full instructions for use, will be sent post free to any part of the Kingdom, on receipt of 7s in postage stamps, or Post-office order, by Dr. Alfred Barker, 48, Liverpool-street, King's Cross, London, where he may be consulted daily, from 10 till 1 and 4 till 8 o'clock (Sundays excepted).

A NEW BEDSTEAD, portable without detaching any of its parts, price 7s 6d, a sponge bath, is admirably adapted for summer use, on account of its extreme coolness, and which can be changed in one moment from a bed to a lounge or sofa for the sitting-room, may be seen at

GOTTAM and BALLEN'S 76 Oxford-street,

where also is on view a great variety of Metallic Bedsteads, fitted with and without the Patent Rhodium, &c. &c., together with a large assortment of the Patent Radiating and other Stoves, and every other description of Ironmongery.

INSTRUCTION IN FARMING. — A favourable opportunity is now open for a young gentleman to receive INSTRUCTIONS upon the SCOTCH PRINCIPLE of FARMING, in the neighbourhood of Southampton, and where every attention would be paid to his comfort.—For terms and further information, apply to Mr. John Holms, 56, Bread-street Cheapside, London.

THE SUMMER SUN AND DUST are sources of serious inconvenience to persons of delicate complexion. On the drive, the promenade, the aquatic excursion, Ladies should ever be provided with

ROWLANDS' KALYDOR,

which will be found greatly refreshing to the complexion, dispelling the cloud of languor and relaxation, allaying all irritability and heat, and immediately affording the pleasing sensation attendant on restored elasticity and healthful state of the skin, Freckles, Tan, Spots, Pimples, and Discolorations are completely eradicated by the Kalydor, and give place to a delicately clear and fair Complexion. In cases of Sunburn, or Stings of Insects, its virtues have long been acknowledged.—Price 4s. 6d. and 8s. 6d. per bottle

As a protector and restorer of the Hair, ROWLANDS' MACASSAR OIL will be found alike efficacious, guarding it from the injurious operation of the sun and dust.

*** It is highly necessary, on purchasing, to see that the word "Rowlands'" precedes the name of the article on the wrapper of each, as spurious imitations are abroad.

Sold by A. Rowland and Sons, 20, Hatton-garden, London ; and by Chemists and Perfumers.

VALUABLE REMEDIES FOR THE AFFLICTED.

DR. ROBERTS'S CELEBRATED OINTMENT, called the POOR MAN'S FRIEND, is confidently recommended to the Public as an unfailing remedy for Wounds of every description, a certain cure for Ulcerated Sore Legs, if of 20 years' standing ; Cuts, Burns, Scalds, Bruises, Chilblains, Scorbutic Eruptions and Pimples on the Face, Sore and Inflamed Eyes, Sore Heads, Sore Breasts, Piles, Fistula, and Cancerous Humours, and is a specific for those afflicting Eruptions that sometimes follow vaccination. Sold in pots at 1s. 1½d. and 2s. 9d. each.

Also his PILULÆ ANTISCROPHULÆ, confirmed by more than 40 years' experience to be, without exception, one of the best alterative medicines ever compounded for purifying the Blood, and assisting nature in all her operations. Hence they are used in Scrofulas, Scorbutic Complaints, Glandular Swellings, particularly those of the Neck, &c. They form a mild and superior Family Aperient, that may be taken at all times without confinement or change of diet. Sold in Boxes, at 1s. 1½d., 2s. 9d., 4s. 6d., 11s., and 22s

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AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 29.—1852.] SATURDAY, JULY 17. [Price 6*d*.

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NATIONAL CARNATION AND PICOTEE SOCIETY.—The ANNUAL EXHIBITION of the above Society will be held on WEDNESDAY, July 28, at the CORN EXCHANGE, NORWICH. All Flowers for competition must be staged by Half-past Ten o'clock. Members, or Friends introduced by them, will be allowed a private inspection from Twelve till Half-past One; after which the public will be admitted, on payment of 1*s*. each. The doors will close at Four o'clock.—Prizes will be offered at the above Exhibition for Hollyhocks, Verbenas, Roses, &c., particulars of which may be had of the Secretary. Day tickets at the price of a single fare will be issued by the Norfolk Railway, from all stations on their line, and by the Eastern Union Railway, from all stations between Ipswich, Bury, and Norwich.

Jeremiah J. Colman, Hon. Secretary, Stoke Holy Cross, Norwich.

WOODLANDS NURSERY, MARESFIELD, NEAR UCKFIELD, SUSSEX.

WILLIAM WOOD AND SON'S extensive and superb Collection of ROSES, comprising nearly 2000 varieties, and extending over many acres of ground, is now in fine bloom, and will continue in perfection during the Rose season. A coach leaves Tunbridge Wells (distant 13 miles from the Nursery) every day at 11 o'clock A.M. (Sundays excepted), passing through Maresfield; also daily from Lewes at 12 o'clock noon, distant 11 miles from the Nursery.

Hayward's Heath, a station on the London and Brighton Railway, is 12 miles from the Nursery, where conveyances may be obtained.—July 17.

TO HEATH GROWERS.

J. JENNER, successor to the late Mr. Broadbridge, Priory Nursery, Priory Grove, South Lambeth, Surrey, near London, begs to inform his friends and the public in general that he has about 30 dozen of Spring-flowering HEATHS, such as hyemalis, spring gracilis, hybrida, ventricosa superb, &c., which he would dispose of at a bargain, as he intends giving up the growing of them.

HERTFORD ROSE NURSERIES.

E. P. FRANCIS'S extensive collection of ROSES is now in full bloom. An early inspection is solicited. Morning and Evening are the best times for viewing Roses in perfection. Trains direct to Hertford.—July 17.

GOOD DRUMHEADS FOR CATTLE, by Thomas Welland, at the Surrey-gardens, near Godalming, Surrey, at 3*s*. 9*d*. per 1000, crates included; and delivered free to the Godalming-station.

CABBAGE SEED.

JOHN BUTCHER begs to announce that he is now sending out his celebrated Early Dwarf Shakspeare and Warwickshire CABBAGES (with printed directions for sowing), the best two varieties for general cropping; the seed sent out in sealed packets 6*d*. and 1*s*. each, free by post; they will not run to seed before Cabbaging.—To be obtained of J. Butcher, Nurseryman, Stratford-on-Avon; Mr. G. Knight, Seedsman, Wolverhampton. London Agents—Dawe, Cottrell, and Benham (successors to F. Warner), 3, Laurence Pountney-lane, Cannon-street; and 36, Moorgate-street, London.

Stratford-on-Avon, July 17.

TO GENTLEMEN, FLORISTS, AND OTHERS.

TO BE DISPOSED OF, about 400 pots of the Choicest SHOW CARNATIONS and PICOTEES in cultivation; now in full bloom, at Mr. Parker's, Florist, Mayfield road, Dalston, near London.

SKIRVING'S IMPROVED TURNIP SEEDS, FOR AUTUMN SOWING.

WILLIAM SKIRVING begs to recommend to turnip growers the following kinds, which he has proved by long experience to be the best adapted for autumn sowing, viz.:

SKIRVING'S HYBRID, or Purple Top Yellow Bullock, a Turnip of excellent quality, which if sowed this month produces a large crop for feeding before using the Swede.

SKIRVING'S HARDY GREEN GLOBE, the best of the Norfolk kinds for giving a large crop and long keeping, price of the above 9*d*. per lb., and for the last sowing Skirving's Improved Scarlebrick (or Liverpool early Orange Yellow) Turnip. A Turnip of very excellent quality and rapid growth; the best of all known Turnips; for sowing early in Spring, or late in Autumn; price 1*s*. per lb.

A remittance or reference is requested from unknown correspondents.—Queen Square, Liverpool, July, 1852.

PROTECTION OF PLANTS FROM THE HEAT OF THE SUN.—Use E. F. ARCHER'S HAIR CLOTH, a perfect non-conductor of heat, and admitting light without heat, where a covering is required; it is 2 yards wide, and any length, at 1*s*. 4*d*. per yard, and much cheaper than Bass Mats. E. F. Archer, 451, Oxford-street, London.

NEW AND CHOICE FUCHSIAS, VERBENAS, AND PETUNIAS OF THIS SEASON.

HENRY WALTON, Florist, &c., Edge-end, Marsden, near Burnley, Lancashire, begs to offer the following new Fuchsias, now ready, at 21*s*. per dozen, or 2*s*. 6*d*. each; viz.:—Banks, Ariel, Diadem, Gaiety, Cortona, Nonsuch, Joan of Arc, Nil Desperandum, Honey Bell, Leader, Henderson's Darling, Pendula, Gem of the Season, Globosa perfecta, Pet, Exquisite, Splendissima, Commodore, Hendersonii, Turner's Standard, Verrio, Story's Aurora, Agnes, Peculiarity, Epps' Standard of Perfection, and Novelty.

Petunias ready the first week in August, at 1*s*. each:—Smith's White Giant, Ajax, Mary Ann, and Joan of Arc.

Verbenas ready the first week in August, at 1*s*. each:—Smith's Purple Rival, National, Monsieur Jullien, Eliza Cook, Standard, Ariel Miss Jane, Virginius, Alba magna, Koh-i-noor, Orlanda, Delight, and Turner's Ormsby Beauty. A Descriptive List of the above may be had for one stamp.

Also a good selection of Lilliputienne and show Chrysanthemums, ready for their blooming pots, 6*s*. and 9*s*. per dozen; or 50 for 1*l*., H. W.'s selection; Purchaser's selection of 50, 25*s*. Early orders are requested, as they will be executed in rotation, as received. It is respectfully requested that all orders be accompanied with a Post-office order, payable at Marsden, Lancashire.

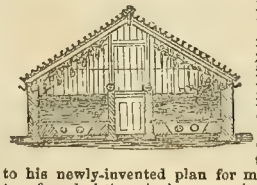
Also the following New Plants:—Antirrhinum Hendersonii, 2*s*. 6*d*.; Heliotropium Voltaireanum nana, Henderson's, 2*s*. 6*d*.; and Chrysanthemum Hendersonii, 2*s*. 6*d*. Also the following new Mimulus, raised by R. Clapham, Esq., of Scarborough:—Queen Victoria, Yellow Picta, Venus, and Scarborough Defiance, post free, 10*s*. the set of four.

RIPE FRUIT, STRAWBERRIES, AND SEED BEDS.—NEW TWINE NETTING (Tanned if required) 1 yard wide, 1½*d*. per yard; 2 yards wide, 3*d*. per yard; 4 yards wide, 6*d*. per yard; half-inch mesh ditto. 2 yards wide, 5*d*. per yard. The ELASTIC HEXAGON GARDEN NETTING, 76 meshes to the square inch, effectually excludes birds, wasps, &c., from fruit-trees, flower or seed-beds, 4½*d* per square yard. Tanned Netting, 2 or 3 yards wide, 1½*d*. per yard; 4 or 6 yards wide, 3*d*. per yard—exactly the same as advertised by others at double the above prices. Coir or Hemp Sheepfolding Net, of superior quality, 4 ft. high, 4*d*. per yard. Lamb Net, 6*d*. per yard. Rabbit Net, 1½*d*. per yard, 4 ft. wide; each Edge Corded, 2*d*. per yard, suitable for fowl fencing. Square Mesh Cricketing Net, fix its full width and length, made of stout cord, 3*d*. per square yard; this is the best article made for fencing, against fowls, cats, &c. The largest, cheapest, and best stock in the world, at W. Cullingford's, 1, Strathmore-terrace, Shadwell, London. The trade supplied. Orders by post punctually attended to. Fishing Nets of all kinds in Stock.

TANNED NETTING, for the Protection of Fruit Trees from Frost, Blight, and Birds, and for the security of Fresh-sown Seeds, either in Gardens or Fields, at 1*d*. per yard; 200 yards for 14*s*., 500 yards for 30*s*., 1000 yards for 50*s*.; Wax Netting, for aviaries, &c., at 3*d*. per square yard. Scrim Canvas for wall fruit. Sun Blinds in great variety; Rick Cloths, with poles, &c. Marquees, Tents, Tarpaulings, &c.—At Edgington and Co.'s, 17, Smithfield-bars, and Old Kent-road, London.

J. W. THOMSON, Landscape Gardener, Hothouse Designer and Builder, Hammersmith.

Every kind of Horticultural Structure designed, erected, and heated by Hot-water, Common Flues, and other modes, on the most economical and improved modern principles. Testimonials and references from noblemen and gentlemen who have kindly patronised, for more than 15 years past, J. W. THOMSON'S modern and simple mode of Constructing, Building, Warming, and Ventilating Garden Structures. He begs to draw particular attention to his newly-invented plan for moving all Lights, front and top, for admitting air, by one action or simultaneously, at very little more expense than by the old and inconvenient mode of cords and pulleys. This simple plan can be applied, at a moderate cost, to houses already ventilated by the old and troublesome cord and pulley system.



GREEN AND HOTHOUSES, made by Machinery, at J. Lewis' Horticultural Works, Stamford Hill, Middlesex, warranted best materials, and the cheapest in England.—A List of Prices sent by enclosing 2 postage stamps.

HOTHOUSES, GREENHOUSES, ETC.

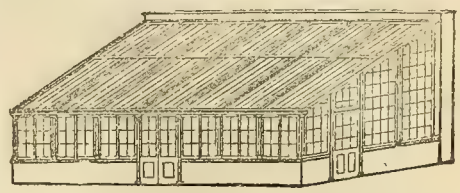
BY HER MAJESTY'S ROYAL LETTERS PATENT.

E. DENCH, PATENT HOTHOUSE WORKS, King's Road, Chelsea.—The superior qualities in every respect of these Structures having been proved in all parts of the United Kingdom, has caused a greater demand for them than E. D. could execute; he has been obliged to have perfect and powerful machinery made to meet the numerous orders, and can now execute any amount of work to great perfection, with dispatch, and for quality and price to defy all competition. Patent Hothouses, with excellent glass, 3 feet long by 1 foot wide, every front sash to open, and every top one to slide down, with pulley made of the same materials as the electric telegraph wires, which require no painting; delivered free to Wharf or Railway Station, at 1*s*. 2*d*. per foot super., complete, having been fitted, and every portion marked previously, making a Greenhouse 16 ft. 6 inches long, 12 ft. rafter, 400 ft., 23*l*. 6*s*. 8*d*.; 24 ft. 6 ins. long, do. do., 528 ft., 30*l*. 13*s*. 8*d*.; 28 ft. 6 ins. long, 15 ft. rafter, 712 ft., 41*l*. 10*s*. 8*d*. Heating by Hot Water on the most approved and economical principles.

Patent Sashes for Pits and Peach Walls, &c., 7*d*. and 8*d*. per foot, super.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER.

WARRANTED BEST MATERIALS AND WORKMANSHIP AT THE LOWEST POSSIBLE PRICES.



J. WEEKS AND CO., King's Road, Chelsea, Horticultural Architects, Hothouse Builders, and Hot-water Apparatus Manufacturers. The Nobility and Gentry about to erect Horticultural buildings, or fix Hot-Water Apparatus, will find, at our Hothouse Works, King's Road, Chelsea, an extensive variety of Hothouses, Greenhouses, Conservatories, Pits, &c., erected, and in full operation, combining all modern improvements, so that a lady or gentleman can select the description of House best adapted for every required purpose.

THE HOT-WATER APPARATUSES (which are efficient and economical), are particularly worthy of attention, and are erected in all the Houses, Pits, &c., for both Top and Bottom Heat, and in constant operation in the Stoves.

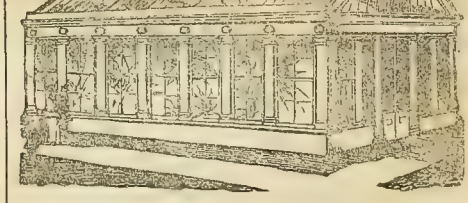
The splendid collection of Stove and Greenhouse Plants is in the highest state of cultivation, and for sale at very low prices. Also a fine collection of strong Grape Vines in pots from eyes, all the best sorts.

Plans, Models, and Estimates of Horticultural Buildings; also Catalogues of Plants, Vines, Seeds, &c., forwarded on application.

J. WEEKS AND CO., King's Road, Chelsea, London.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER,

AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.



GRAY AND ORMSON, Danvers Street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

G. and O. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders they can with the greatest confidence give the most satisfactory references.

Their Hot-Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating by Hot Water can be made available.

GLASS FOR CONSERVATORIES, ETC.

HETLEY AND Co. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2*d*. to 3*d*. per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices and Estimates forwarded on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLATES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to James Hetley and Co., 35, Soho-square, London.

See *Gardeners' Chronicle* first Saturday in each month.

GLASS.

THOMAS MILLINGTON'S FOREIGN SHEET GLASS is far superior to any other manufacture, as well as cheaper. In 100-feet boxes packed for immediate delivery.

6 inches by 4 and 6½ by 4½	...	...	...	13*s*.	0*d*.
7 ,, 5 and 7½ by 5½	...	...	...	15	0
8 ,, 5 and 8 by 5½	...	...	...	15	0
8 ,, 6 and 8½ by 6½	...	...	...	17	6
9 ,, 7 and 10 by 8	...	...	...	20	0
12 ,, 10 and 13 by 9	...	...	...	20	0

And many other sizes, or cut to order in various thicknesses. Cases containing large Sheets, in 100, 200, and 300 feet, at 21*s*. per 100 feet.

ROUGH PLATE, perfectly flat, ⅛ in. thick, best manufactured

In sizes under 15 inches	.....	6*d*.	per foot.
,, ,, 35 ,,	.....	8*d*.	,,
,, ,, 50 ,,	.....	9½*d*.	,,
,, ,, 75 ,,	.....	12*d*.	,,

Milk Pans, 2*s*. to 6*s*. each; Metal Hand Frames, Glass Tile and Slates; Cucumber, Propagating, and Bee Glasses; Wasp Traps, Glass Shades, and Plate Glass, at 87, Bishopsgate street Without, London, same side as Eastern Counties Railway.—Established 100 years.

HORTICULTURAL SOCIETY OF LONDON.

EXHIBITION AT THE GARDEN, JULY 10, 1852.

AWARD OF THE JUDGES.

THE LARGE GOLD MEDAL.

1 To Mr. May, Gardener to Mrs Lawrence, F.H.S., for a collection of 20 Stove and Greenhouse Plants
2 To Mr. Franklin, Gardener to Mrs. Lawrence, F.H.S., for 20 species of Exotic Orchids.

THE GOLD KNIGHTIAN MEDAL.

1 To Mr. Cole, Gardener to H. Colyer, Esq., of Dartford, for a collection of 20 Stove and Greenhouse Plants
2 To Mr. Green, Gardener to Sir E. Antrobus, Bart., F.H.S., for a collection of 15 Stove and Greenhouse Plants
3 To Mr. May, for a collection of 6 Stove and Greenhouse Plants, in 20-inch pots
4 To Mr. Williams, Gardener to C. B. Warner, Esq., F.H.S., for 20 species of Exotic Orchids

THE GOLD BANKSIAN MEDAL.

1 To Messrs. Fraser, of Lea Bridge Road, Essex, for a collection of 20 Stove and Greenhouse Plants
2 To Mr. Speed, of Edmonton, for a collection of 15 Stove and Greenhouse Plants
3 To Mr. Watson, Gardener to Mrs. Tredwell, of St. John's Lodge, Norwood, for a collection of 6 Stove and Greenhouse Plants, in 20-inch pots
4 To Messrs. Rollisson, of Tooting, for 15 species of Exotic Orchids
5 To Mr. Carson, Gardener to W. F. G. Farmer, Esq., F.H.S., for 10 species of Exotic Orchids
6 To Mr. Cole, for 10 varieties of Cape Heath
7 To Mr. Epps, of Maidstone, for the same
8 To Mr. Robinson, Gardener to J. Simpson, Esq., of Thames Bank, Pimlico, for 12 varieties of Pelargonium, in 8-inch pots
9 To Mr. Turner, of Slough, for the same.

THE LARGE SILVER-GILT MEDAL.

1 To Mr. Taylor, Gardener to J. Coster, Esq., of Streatham, for a collection of 20 Stove and Greenhouse Plants
2 To Mr. Carson, for a collection of 15 Stove and Greenhouse Plants
3 To Mr. Over, Gardener to W. McMullen, Esq., of Clapham, for a collection of 6 Stove and Greenhouse Plants, in 13 inch pots
4 To Mr. Woolley, Gardener to H. B. Ker, Esq., of Cheshunt, for 10 species of Exotic Orchids
5 To Mr. Ivison, Gardener to the Duke of Northumberland, F.H.S., Syon, for 6 species of Exotic Orchids
6 To Messrs. Lee, of Hammersmith, for a collection of variegated Stove and Greenhouse Plants.
7 To Mr. Smith, Gardener to W. Quilter, Esq., of Norwood, for 10 varieties of Cape Heath.
8 To Messrs. Fraser, for the same
9 To Mr. Laybank, Gardener to T. Maudslay, Esq., of Norwood, for 10 varieties of Cape Heath, in 11-inch pots
10 To Mr. Clarke, of Streatham-place, Brixton, for the same
11 To Mr. Stains, of Middlesex-place, New-road, for 12 varieties of Pelargonium, in 8-inch pots
12 To Mr. Gaines, of Battersea, for the same
13 To Mr. Bonham, Gardener to Mrs. Mudderford, of Staines, for 6 varieties of Pelargonium in 11-inch pots
14 To Mr. Westwood, of Acton-lane, for the same
15 To Mr. Miller, Gardener to R. Mosley, Esq., of Pine-apple-place, Maida-hill, for 6 varieties of Fancy Pelargonium, in 8-inch pots
16 To Mr. Turner, of Slough, for the same

THE CERTIFICATE OF EXCELLENCE.

1 To Mr. Doda, Gardener to Colonel Baker, Salisbury, for a collection of 15 Stove and Greenhouse Plants
2 To Mr. Watson, for a collection of 6 Stove and Greenhouse Plants, in 13-inch pots
3 To the same, for 10 varieties of Cape Heath, in 11-inch pots
4 To Mr. Green, for 6 species of Exotic Orchids
5 To the same, for a collection of Helichrysums
6 To Messrs. Rollisson, for 6 varieties of Achimenes
7 To the same, for a collection of Variegated Stove and Greenhouse Plants
8 To the same, for 10 varieties of Cape Heath
9 To Mr. Woolley, for a collection of Hothouse Ferns
10 To Mr. Smith, for a single specimen of Erica retorta major
11 To Mr. Cole, for Medinilla Sieboldi
12 To Mr. May, for 10 varieties of Cape Heath
13 To Messrs. Pamplin, for 10 varieties of Cape Heaths, in 11-inch pots
14 To Mr. Taylor, for 6 varieties of Cape Heath, in 8-inch pots
15 To the same, for Muscat Grapes
16 To Mr. Pestridge, Gardener to W. Newnham, Esq., of Englefield-green, Egham, for 6 varieties of Fuchsia
17 To Messrs. Paul, of Cheshunt, for 50 varieties of cut Roses
18 To Mr. Parker, Gardener to J. M. Strachan, Esq., F.H.S., for 12 varieties of Pelargonium in 8-inch pots
19 To the same, for 6 varieties of Pelargonium, in 11-inch pots
20 To Mr. Westwood, for 12 varieties of Pelargonium, in 8-in. pots
21 To Mr. Robinson, for 6 varieties of Fancy Pelargonium, in 8-inch pots
22 To Mr. Gaines, for the same
23 To Mrs. Conway, of Earl's Court, Brompton, for 6 varieties of Scarlet Pelargonium, in 8-inch pots
24 To Mr. Jones, Gardener to Sir J. Guest, Bart., F.H.S., for a Queen Pine-apple, weighing 5 lbs. 1 oz.
25 To Mr. Doda, Gardener to Colonel Baker, F.H.S., for a Prickly Cayenne Pine-apple, weighing 5 lbs. 14 oz.
26 To Mr. Turnbull, Gardener to the Duke of Marlborough, at Blenheim, for a Providence Pine-apple, weighing 6 lbs. 4 oz.
27 To Mr. Davis, of Oak Hill, for a Providence Pine-apple, weighing 7 lbs. 2 oz.
28 To Mr. Allport, Gardener to H. Akroyd, Esq., of Doddington Park, Nantwich, for Black Hamburgh Grapes
29 To the same, for Black Frontignan Grapes
30 To Mr. Lushey, Gardener to J. Hill, Esq., of Streatham, for Black Prince Grapes
31 To Mr. Rust, Gardener to J. Maclaren, Esq., F.H.S., for White Muscadine Grapes

THE LARGE SILVER MEDAL.

1 To Messrs. Pamplin, for a collection of 15 Stove and Greenhouse Plants
2 To Mr. Kinghorn, Gardener to the Earl of Kilmorey, F.H.S., for a collection of 6 Stove and Greenhouse Plants, in 13-inch pots
3 To Mr. Godfrey, Gardener to J. Lister, Esq., of Tottenham, for 6 varieties of Achimenes
4 To Mr. Taylor, for a collection of Helichrysums
5 To Mr. Over, for 6 varieties of Kalosanths
6 To Mr. Williams, for a collection of Hothouse Ferns
7 To Messrs. Henderson, of Pine-apple-place, for a collection of variegated Stove and Greenhouse Plants
8 To Mr. Green, for a single specimen of Erica Savileana
9 To Messrs. Veitch, for Dracæna indivisa
10 To Messrs. Standish and Noble, for Abies Jezoensis
11 To Mr. Fairbairn, for 10 varieties of Cape Heath
12 To Mr Jarvis, Gardener to J. Buck, Esq., of Croydon, for 10 varieties of Cape Heath, in 11-inch pots
13 To Mr. Speed, for 6 varieties of Cape Heath, in 8-inch pots
14 To Mr. Franklin, for 6 varieties of Fuchsia
15 To Mr. Parker, for 6 species of Cape Pelargonium
16 To Messrs. Lane, for 50 varieties of cut Roses
17 To Mr. Terry, Gardener to Lady Puller, of Youngsbury, Herts, for 25 varieties of cut Roses
18 To Mr. Stains, for 6 varieties of Fancy Pelargonium, in 8 inch pots
19 To Mr. Westwood, for the same
20 To Mr. Salter of Hammersmith, for 6 varieties of Scarlet Pelargoniums, in 8-inch pots
21 To Mr. Bray, Gardener to E. Lousada, Esq., of Peak House, Sidmouth, Devon, for a Queen Pine-apple, weighing 4 lbs. 12 oz.
22 To the same, for an Enville Pine-apple, weighing 7 lbs. 10 oz.
23 To Mr. Price, Gardener to W. Thompson, Esq., for a Providence Pine-apple, weighing 6 lbs.
24 To Mr. Butcher, Gardener to W. Leaf, Esq., F.H.S., for Black Hamburgh Grapes
25 To Mr. Harrison, of Oatlands Palace Gardens, Weybridge, for the same
26 To Mr. Martin, Gardener to Sir H. Fleetwood, F.H.S., for Black Prince Grapes
27 To Mr. Tillyard, Gardener to Lord Southampton, F.H.S., for White Muscadine Grapes
28 To the same, for 6 Elruge Nectarines.
29 To Mr. Turnbull, for Muscat Grapes
30 To Mr. Campbell, Gardener to J. B. Pease, Esq., of North Lodge, Darlington, for White Frontignan Grapes
31 To Mr. Brown, Gardener to W. C. Cartwright, Esq., of Aynhoe Park, Northampton, for 6 Peaches
32 To Mr. Davis, of Oak Hill, for 6 Elruge Nectarines

THE SILVER KNIGHTIAN MEDAL.

1 To Mr. Hamp, Gardener to J. Thorne, Esq., of South Lambeth, for a collection of 6 Stove and Greenhouse Plants, in 13-inch pots
2 To Mr. Godfrey, Gardener to R. Dawson, Esq., of Tottenham, for 6 varieties of Achimenes
3 To Mr. Ivison, for Nelumbium speciosum
4 To the same, for a set of Miscellaneous Plants
5 To the same, for Black Hamburgh Grapes
6 To Mr. Turner, of Holloway, for 12 Alpines
7 To Mr. Constantine, Gardener to C. Mills, Esq., of Hillingdon, for a single specimen of Lisianthus Russellianus
8 To Messrs. Henderson, for Araucaria Cookii
9 To Messrs. Standish and Noble, for Cephalotaxus Fortuni
10 To Mr. Roser, Gardener to J. Bradbury, Esq., F.H.S., for 6 varieties of Cape Heath, in 8-inch pots
11 To Messrs. Fraser, for 6 varieties of Fuchsia
12 To Mr. Watson, for 6 species of Cape Pelargonium
13 To Mr. Francis, of Hertford, for 50 varieties of cut Roses
14 To A. Rowland, Esq., F.H.S., for 25 varieties of cut Roses
15 To Mr. Bragg, of Slough, for 12 varieties of Pelargoniums, in 8-inch pots
16 To Mr. Turner, for 24 varieties of Pinks, in boxes
17 To Mr. Forbes, Gardener to the Duke of Bedford, F.H.S., at Woburn, for a Queen Pine-apple, weighing 4 lbs. 4 oz.
18 To Mr. Eaden, of New Road, Shacklewell, for Black Hamburgh Grapes
19 To Mr. Turnbull, for Black Prince Grapes
20 To Mr. Williams, for White Muscadine Grapes
21 To Mr. Henderson, Gardener to Sir G. Beaumont, Bart., for Grizzly Frontignan Grapes
22 To Mr. Snow, Gardener to the Earl de Grey, F.H.S., for six Violette Hâtive Peaches
23 To the same, for Black Tartarian Cherries
24 To the same, for Elton Cherries
25 To Mr. Collinson, Gardener to the Marquess of Westminster, at Eaton Hall, Cheshire, for six Elruge Nectarines
26 To the same, for an Egyptian Green-fleshed Melon
27 To Mr. Meyers, of Brentford, for Black Tartarian Cherries
28 To Mr. Marcham, Gardener to J. Smith, Esq., F.H.S., for British Queen Strawberries
29 To Mr. Beach, Sen., of Isleworth, for British Queen Strawberries
30 To Mr. Beach, Jun., for British Queen Strawberries, in pots
31 To Mr. Lydiard, of Bath Easton, Bath, for a Victory of Bath Melon
32 To Mr. Gadd, of Bletchworth Castle, Dorking, for George the Fourth's Scarlet-fleshed Melon.

THE SILVER BANKSIAN MEDAL.

1 To Mr. Woolley, for 6 varieties of Achimenes
2 To Messrs. Pamplin, for Erica obbata umbellata
3 To Mr. Williams, for a set of miscellaneous plants
4 To Messrs. Fraser, for a single specimen of Kalosanthes coccinea
5 To Messrs. Lane, for Achimenes Margaretta
6 To Mr. Ivison, for specimens of Vanilla fruit
7 To Mr. Over, for 6 varieties of Cape Heaths, in 8-inch pots
8 To Mr. Bray, Gardener to Baron Goldsmid, F.H.S., for 6 varieties of Fuchsia
9 To S. Bennett, Esq., of Bath, for 25 varieties of cut Roses
10 To Mr. Hunt, of Sale-street, Paddington, for 12 varieties of Pelargonium, in 8-inch pots
11 To Mr. Baker, of Woolwich, for 24 varieties of Pinks in boxes
12 To Mr. Bragg, of Slough, for the same
13 To Mr. Mitchell, Gardener to J. C. Charlton, Esq., of Apley Castle, Salop, for White Muscadine Grapes
14 To Mr. Eastham, Gardener to A. Toy, Esq., of Acton, for 6 Noblesse Peaches
15 To Mr. Brown, for 6 Nectarines
16 To Mr. Judd, Gardener to Earl Spencer, K.G., F.H.S., for White Genoa and Marseilles Figs
17 To Mr. Gainsford, of Brentford, for Black Tartarian Cherries
18 To Mr. Hargen, Gardener to R. W. Edgell, Esq., of Milton-place, Egham, for British Queen Strawberries
19 To Mr. Lack, of Turnham Green, for the same
20 To Mr. Grant, Gardener to G. H. Sims, Esq., of Bathwick Hill, near Bath, for a Victory of Bath Melon.

THE CERTIFICATE OF MERIT.

1 To Mr. Munro, Gardener to the Earl of Clarendon, The Grove, Watford, for 6 varieties of Achimenes
2 To Messrs. Henderson, for Phlox Mayii variegata and P. Thompsoni
3 To Mr. Ivison, for a single specimen of Erica metulæflora bicolor
4 To Mr. Carson, for Epidendrum sp. nova
5 To Messrs. Rollisson, for Æchmea miniata
6 To Messrs. Veitch, for Columnia bartsiæfolia
7 To the same, for Leptosiphon sp. nova
8 To Mr. Jones, of Brentford, for Black Tartarian Cherries
9 To Mr. Elliott, Gardener to Mrs. Boothby, of Twyford Abbey, Acton, for British Queen Strawberries
10 To Mr. Lydiard, for the same.

GUTTA PERCHA TUBING FOR WATERING GARDENS, ETC.



TESTIMONIAL.

From Mr. J. Farrah, Gardener to Boswell Middleton Jalland, Esq., of Holderness House, near Hull.

"I have had 400 feet of your Gutta Percha Tubing (in lengths of 100 feet each, with union joint) *in use for the last twelve months for watering these gardens, and I find it to answer better than anything I have ever yet tried.* The pressure of the water is very considerable, but this has not the slightest effect on the Tubing. I consider this Tubing to be a *most valuable invention for Gardeners*, inasmuch as it enables us to water our gardens in about one-half the time, and with one-half the labour formerly required."

FOR SUCTIONS OF PUMPS AND CONVEYANCE OF WATER.

The value of Gutta Percha Tubing for the conveyance of water is no longer a matter of doubt. Experience has proved its adaptation and superiority to metal pipes, and the important consideration that it is entirely free from those corrosive properties which have proved so highly injurious in the use of lead pipes. The Gutta Percha Company have received the following—

TESTIMONIALS.

From C. Hacker, Esq., Surveyor to his Grace the Duke of Bedford, Woburn Park.

"Office of Works, Woburn Park, Jan. 10th, 1852.

"Gentlemen,—In answer to your inquiries respecting the Gutta Percha Tubing for pump suctions (after two years' trial), I find that the water has not affected it in the least, although it will eat lead through in two years; we have adopted it largely, both on account of being cheaper than lead, much easier fixed, and a more perfect job."

From Sir Raymond Jarvis, Bart., of Ventnor, Isle of Wight.

"Ventnor, March 10, 1852.

"Gentlemen,—In reply to your letter, received this morning, respecting the Gutta Percha Tubing for Pump service, I can state, with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years; and I am informed that it is to be adopted generally in the houses that are being erected here—building going on to a considerable extent.

"I am, Gentlemen, your obedient servant,
"R. JARVIS.

"P.S. The only difficulty experienced was in fixing the tube to the pump barrel. The plumber employed being averse to the job, did not properly secure it, and air got into the tube; otherwise, carefully arranged, there is no question it supersedes lead or any kind of metal pipes. R. J."

From William Bird Herapath, Esq., M.R.C.S., Surgeon to St. Peter's and Queen Elizabeth's Hospital, Bristol.

"September, 1850.

"I have used Gutta Percha as a lining to a cistern, with tubing of the same material, to conduct the water into my dispensary; they answer admirably. At first some disagreeable flavour was communicated to the water, but it soon disappeared.

"My plumber readily learnt the mode of managing it from your printed directions."

Every variety of Gutta Percha Goods may be had. Manufactured by the Gutta Percha Company, Patentees, London; and sold at the Wholesale City Depot of Messrs. BURGESS and KEY, 103, Newgate-street, who will forward Lists of Prices on application.

ANTHONY'S PATENT AMERICAN CHURN makes Butter in 10 minutes. It obtained the award of the Great Exhibition Medal, and also a prize at every one of the numerous Agricultural meetings at which it has been shown. It is now acknowledged to be the best Churn ever produced. 2000 have been sold in one year.

A few capital Rick Cloths for sale at cheap prices.

BURGESS and KEY, 103, Newgate-street, London.

M'CORMICK'S AMERICAN REAPER.

BURGESS AND KEY, Agents, 103, Newgate-street, London.—Extract from Mr. Pusey's Report on the Agricultural Implement Department, Great Exhibition.—"Mr. M'CORMICK'S Reaper, in this trial, worked as it has since worked at Cirencester College, and elsewhere, to the admiration of practical farmers, and therefore received a Council Medal. Mr. Hussey's sometimes became clogged, as in the former trial at Tiptree, and therefore could not possibly obtain that distinction."—Price of Reaper, 25*l.*

WINTON'S PARKES' NEW STEEL DIGGING FORKS never bend, strain, or break, but retain their sharp points to the last, requiring no repair. Mr. Mechi says, "They answer admirably in breaking our heavy clays, and mixing the soil in an extraordinary manner, and facilitate labour quite 20 per cent."

Early orders are requested, as the demand is very great. They are executed in the rotation in which they are given.

BURGESS and KEY, Agents, 103, Newgate-street, London.
Priced Lists sent on application.

HOSE FOR LIQUID MANURE, FIRE ENGINES, or GARDEN PURPOSES, made of Canvas, lined and coated with Gutta Percha. It is exclusively used by agriculturists, and at the Government Public Works, giving great satisfaction. Also, KASE'S FORCE and SUCTION PUMP, which is the most simple and complete; it will throw 40 gallons per minute 40 feet high, and it is not at all liable to get out of order. Price 6*l.*; on wheels and stand, 7*l.* 7*s.*

BURGESS and KEY, 103, Newgate-street, London.

ROYAL SOUTH LONDON FLORICULTURAL SOCIETY. Under the Patronage of Her Most Gracious Majesty the Queen.—The Fourth EXHIBITION of the season will be held at the Royal SURREY ZOOLOGICAL GARDENS, on WEDNESDAY, JULY 21 (open to all Exhibitors), when prizes will be awarded for the following productions, viz., Stove, Greenhouse, and Specimen Plants, Cape Heaths, Fuchsias, Roses, Carnations, Picotees, Verbenas, Cut Flowers, Fruit, and Honey. The following extra prizes, offered by Members, will also be awarded, viz., by Mr. E Denyer, of Bristol, to amateurs, two prizes for 12 Roses (cut blooms); by Mr. C. Turner, to Amateurs, for 6 Carnations, varieties sent out by him, small silver Victoria medal; for 6 Picotees, ditto, small silver Victoria medal; and for six yellow-ground Picotees, small silver Linnæan medal; by subscription, to amateurs, for 12 varieties of Verbenas, single trusses, a silver cup, value five guineas; and by W. T. Iliff, Esq., as an open prize, for 30 cut specimens of British Plants in flower, with name and place of growth, small silver Linnæan medal. The Committee will meet at the Horns Tavern, Kennington, on the following days, for awarding first-class certificates for Seedling Florists' Flowers, for such as are deserving the same, viz., Thursday, July 15, August 19, September 2, October 14, November 11, and December 9, in addition to the exhibitions. List of Prizes, and the Rules of the Exhibitions, may be had of

JOHN TAYLOR NEVILLE, Secretary.

Ebenezer House, Peckham, Surrey.

EXHIBITION OF ROSES.

A. PAUL AND SON respectfully invite admirers of this flower to an inspection of the Collection at the Cheshunt Nurseries, which are now in full bloom. As every novelty obtainable has been added, the collection will prove unusually interesting this season.

Trains of the Eastern Counties Railway leave Shoreditch for Waltham or Cheshunt as follows:—7, 9, 9.30, 10 40, 12.30, 1.40, 2.30, 3 20 4, 4 20, 5, 5.20, 6 20, 7.20, 9, 10.30, returning almost hourly till dark.—Nurseries, Cheshunt, Herts, July 17.

ROSES.

EDWARD DENYER, NURSERYMAN, Loughborough-road, Brixton, three miles from London, informs his kind Patrons in general, that his unrivalled collection of ROSES is now in bloom, and free to the inspection of all visitors (Sundays excepted). Orders taken at this time, and executed in November next. Fruit and Ornamental Trees, &c. &c., also may be seen in great varieties; a select collection of Geraniums, Fuchsias, &c. &c., are now in bloom.

E. D. informs his friends he has no Seed-shop in London.

EXHIBITION OF ROSES.

G. CLARKE, NURSERYMAN, Streatham-place, Brixton-hill (3¼ miles from London), informs his patrons and admirers of ROSES that his unrivalled collection, consisting of above 1400 varieties, comprising all the new varieties from Belgium, France, &c., extending over 10 acres of ground, will be in full bloom by the 14th of July, free to visitors. Orders taken for plants now in bloom, and executed in November. A good collection of specimen Ericas, Azaleas, Conifers, Evergreens, &c.

NEW CATALOGUE OF PLANTS.

A. VAN GEERT, NURSERYMAN, Ghent, Belgium, begs to inform the Trade and Amateurs that his new CATALOGUE OF PLANTS is just published, and may be had on application to his Agent, Mr. R. SILBERRAD, 5, Harp-lane, Great Tower-street, London.

CHOICE CINERARIA AND CALCEOLARIA SEED.

JOHN HENCHMAN begs to inform his friends that he has ready a few Packets of SEED, saved with great care from his well known and choice collection of Cinerarias and Calceolarias, at 2s. 6d. each.—Edmonton, July 17.

NEW PELARGONIUMS.

CHARLES TURNER begs to announce that he has the entire stock of Foster's and Hoyle's beautiful Seedling PELARGONIUMS. Particulars of price, and time of sending out, will appear in future advertisements.

Royal Nursery, Slough.

SCARCE AND BEAUTIFUL FLOWER SEEDS.

EMPEROR STOCK, a perennial species, and hardy; 1400 seeds, 1s.

CINERARIA and CALCEOLARIA, selected from collections of Plants that were admitted by all persons who saw them to be the finest they had ever seen; 250 seeds of the former, and 500 of the latter, 1s. each paper.

MYOSOTIS AZORICA, a bed of this on an eastern or northern aspect is very beautiful; 200 seeds, 1s.

CALENDRINIA UMBELLATA, one of the neatest growing and most brilliant flowering of all bedding plants; 1500 seeds, 1s.

SWEET WILLIAM, in 100 varieties; 10,000 seeds, 1s.

Payment may be made in postage stamps.

JEYES and Co., Nurseries, Northampton.

NEW PLANTS INTRODUCED BY MR. FORTUNE.

STANDISH AND NOBLE beg to announce that they possess all the highly interesting plants introduced by Mr. Fortune, and mentioned by him in his recent popular work on China. Many of them are now on sale. Of the others, due notice will be given, as they are ready to send out. Every particular may be obtained by applying to the Advertisers.—Bagshot, July 17.

EDWARD GEORGE HENDERSON AND SON Wellington-road Nursery, St John's Wood, London, are now prepared to forward, by post, CINERARIA SEED, saved from the best formed flowers, such as Cerito, Lady Hume Campbell, Adela Villiers, Pauline, Rosy Morn, Marianne, David Copperfield, Effie Deans, Carlotta Grisi, Prima Donna, &c.

E. G. H. and Son also beg to say, that the varieties of Calceolarias from which the seed is saved can now be seen in full bloom at the Nursery. Early orders are requisite to insure this seed, which will be sent out in July, at 5s. per packet.

PLANTS OF CABBAGE, SAVOY, KALE, BROCCOLI, CAULIFLOWER, AND CELERY.

JOHN CATTELL, NURSERYMAN and SEEDSMAN, Westerham, Kent, begs respectfully to inform the public, that Plants of his superior true sorts of the above are now ready, and will be forwarded, as usual, to order, on receipt of postage stamps or Post-office order, made payable here, at the under named prices, basket or mat and package included.

All the sorts of Early Cabbage, Savoy and Kale, including Brussels Sprouts, 4s. 6d. per 1000; all the sorts of Autumn and Spring Broccoli, 5s. 6d. per 1000; all the sorts of Celery, 5s. 6d. per 1000; Cauliflower, Early and Late, and Red Cabbage, 9d. per 100, 6d. per 1000 less when no mat or package is required. Packages of 1000 and upwards delivered free of carriage to the Edenbridge Station of the South-Eastern Railway.

Seed of CATTELL'S Dwarf Barnes, and of his superior Dwarf Reliance Cabbages, may be had in packets, by post, for 12 penny stamps each packet, the former containing 1 ounce, as usual, and the latter half an ounce.

ROSES.

MESSRS. LANE AND SON'S splendid and extensive collection of Roses is now in full bloom. The Nurseries, comprising many acres, are within half-a-mile of the Berkhampstead station, on the London and North-western Railway.

ROSES! ROSES!—Any person having PROVINS OR CABBAGE ROSE BLOOM, may find a Sale by applying to TAYLOR and SON, Perfume Distillers, King's-road, Chelsea, near London.

RIVERS' LARGE YELLOW STONE TURNIP SEED (the growth of the present season). Price 1s. per lb. This Turnip had its origin in 1842 with the Stubble Swede; and has been repeatedly tested with other kinds of Yellow Turnip, in which its superiority was very apparent—in its sweetness of flavour, and in its vigour of growth. For the last three years, on various soils, it has yielded from 12 to 16 tons per acre, when sown in the early part of August; and it has the advantage of keeping in clamps quite late in the spring.

RIVERS' Stubble Swede, price 1s 6d. per lb. Orders to the amount of 10s paid to London.—Sawbridgeworth, Herts.

The Gardeners' Chronicle.

SATURDAY, JULY 17, 1852.

MEETINGS FOR THE ENSUING WEEK.

TUESDAY, July 20—Horticultural ..... 3 P.M.
WEDNESDAY, — 21—Royal South London ..... 1 P.M.
SATURDAY, — 24—Royal Botanic ..... 3½ P.M.

COUNTRY SHOWS.—Tuesday, July 20: Bath.—Thursday, July 22: Aylesbury and Newbury.—Friday, July 23: Wallingford and Banbury.

IN 1844 the question of the TRANSMUTATION OF CORN was raised in this Journal, at p. 555 of the volume for that year, and at p. 779 it was further alluded to. Thereupon ensued many communications on both sides the question, and from time to time the subject has been occasionally revived; but it must be owned that it nevertheless remains just where it was, so far as anything like proof is concerned. Belief has opposed itself to unbelief, credulity to incredulity, and assertion to counter-assertion; but of evidence derived from well-conducted experiments, we have had nothing. For ourselves, without by any means encouraging the belief in the change of Oats into Rye, or in any similar transmutations, we have also asserted, from the first, that no naturalist acquainted with certain facts which have become known of late years could venture absolutely to deny the possibility of such changes. Writing in 1844 we said that "in Orchidaceous plants forms just as different as Wheat, Barley, Rye, and Oats, have been proved by the most rigorous evidence to be accidental variations of one common form, brought about no one knows how, but before our eyes, and rendered permanent by equally mysterious agency." "Then," says Reason, "if these inconceivable changes have been proved to occur among Orchidaceous plants, why should they not also occur among corn-plants? for it is not likely that such vagaries will be confined to one little group in the vegetable kingdom; it is far more rational to believe them to be a part of the general system of the creation." (1844, p. 555.) And again, in reply to a correspondent, it was added, "as we have repeatedly stated, we think that no man should undertake to affirm *ex cathedrâ*, what is possible or impossible in nature." (1845, p. 401.)

Some have thought these views objectionable, believing that we already possess that amount of knowledge of natural phenomena which justifies our deciding dogmatically upon such general questions as the change of one plant into another. It has been even held that scepticism in such matters tends to unsettle men's minds, and to induce disbelief in all by which science holds fast. We do not concur in that opinion; we see no harm in reviving even Lord MONBODDO's belief in human tails; the more knowledge advances the more easily false theory and idle hypothesis are disposed of; rational discussion can do no harm among men of intelligence—on the contrary, it is thus only that truth is to be finally elicited.

A most curious and able dissertation upon the ORIGIN OF WHEAT, which we have just read, completely justifies the views we have held, for although it does not show that Oats change into Rye, as many believe, and offers no support to some other speculations of the same kind, nevertheless demonstrates, beyond all further question, that Wheat is itself a transmutation of a kind of wild Grass. Mons. ESPRIT FABRE, of Agde, well known to botanists as an acute observer and patient experimentalist, has made the discovery, which has been introduced to public notice by Professor DUNAL of Montpellier, in a pamphlet, from which we condense the following statement.

The ancients imagined that the native country of Wheat was the valley of Enna in Sicily, where it is said that the fables of CERES and TRIPTOLEMUS originated. In fact there grows in Sicily, in great abundance, a wild Grass, called by botanists *Ægilops ovata*, the grain of which is much like that of starved Wheat, but whose floral organs are of a very different character, and whose ears naturally fall to pieces by a separation of the joints when ripe. This kind of grain is said to have borne the name of *Blé du diable;* the plant which produced it was even called by CÆSALPINUS *Triticum sylvestre*. Nevertheless naturalists appear, with one accord, to have treated the notion of Wheat coming from *Ægilops ovata* as an absurdity, with the exception of two French observers, whose experiments arrived at no known result.

About the year 1824 the late M. REQUIEN, a zealous French botanist, residing at Avignon, observed in the neighbourhood of that city a, to him, new kind of *Ægilops*, which he called *triticoides*, because of its resemblance to Wheat; and Signor BERTOLONI, who introduced it into his Italian Flora, states that it has also been found in Sicily by Professors GUSSONE and TENORE. There is also in the South of France another *Ægilops* called *triaristata*, supposed to be a distinct species. Thus, according to botanists, there are three different kinds of this genus in the South of Europe, and these have been each the subject of M. ESPRIT FABRE's experiments.

The first point established by this observer was that both *Ægilops ovata* and *triaristata* would produce what REQUIEN called *triticoides*. It would therefore seem that the three supposed species were all forms of the same species. In fact, the very same ear which yields either *ovata* or *triaristata*, also yields *triticoides*. Nevertheless, M. FABRE calls them perfectly distinct from each other, and is of opinion that when *Æ. ovata* runs to *triticoides*, it gives rise to the small grained smooth Wheats which the French call *Seissette* and *Touzelle;* while, on the other hand, when *Æ. triaristata* runs into *triticoides*, it gives birth to the coarser Wheats with downy ears, known in Lower Languedoc under the name of *Fourmen* and *Pétanielle*, among which Egyptian Wheat is included. Be that as it may, and M. FABRE offers the statement merely as an hypothesis, it is certain that *Ægilops triticoides*, when once produced, if raised from seed year after year, goes on changing till at last it becomes mere Wheat. This is clearly shown by the following concise narrative of what the French naturalist testifies to having witnessed as occurring to the *Æ. triticoides*, derived from *Æ. ovata*.

First year of cultivation; 1839. A few grains ripened here and there among the spikelets, which still preserved the brittle character of *Ægilops*. The return was about five-fold of close-packed concave corn, which was very velvety at the upper end. The beards of the glumes, which are most abundant and remarkable in *Ægilops*, had begun to alter and disappear. The plants looked exactly like Touzelle Wheat.

Second year; 1840. The spikelets of this sowing had become more numerous, and each contained two grains; the ears were less brittle; the grain was less concave and velvety, and much more floury than in the previous year. The beards of the glumes were further diminished.

Third sowing; 1841. The changes already described became more evident; as many as three grains appeared in some of the spikelets; the plants became more and more like Wheat.

Fourth sowing; crop of 1842. Much injured by rust; the beards had so much disappeared that the ears had quite the appearance of beardless Touzelle Wheat.

Fifth sowing; 1843. The plants were now a yard high, and exactly like Wheat; none of the glumes had more than one beard, with, perhaps, the rudiments of another. The spikelets contained each from two to three grains. The ears had become less brittle. The corn was so large that it protruded beyond the chaff; the crop was 180-fold in one case, and 450-fold in another.

Sixth sowing; 1844. Changes still went on, but slowly. The ears continued brittle, one of the great peculiarities of *Ægilops*.

Seventh sowing; 1845. The plants were very much like Wheat. Beards were further diminished. Each spikelet contained from four to five flowers, of which three were fertile, as in good Wheat. These were really Wheat.

Up to this time the experiments had been conducted in a walled enclosure, where no other Grass was permitted to grow, and far from any other grain crop. The corn was always sown in the autumn, ripening in the years above indicated. But M. FABRE now transferred his experiment to the open field, sowing his Ægilops Wheat broadcast. In this way he cropped a field near the road from Marseillan, completely surrounded by Vines, and far from any Wheat field. For four consecutive years he persevered in his trial, obtaining every year Wheat like that of the neighbouring farms, and six-fold or eight-fold according to the season.

In 1850 the straw was stiff and full; the ears nearly smooth, and composed of from eight to 12 spikelets, each containing two or three fertile flowers, and consequently yielding from two to three grains of

corn, which were very floury, and scarcely at all concave. The crop was however very short this year, owing to excessive dryness, which greatly injured all the cereal crops.

Thus "during the 12 consecutive years," remarks M. FABRE, "in which I have pursued the cultivation of *Æ. triticoides*, I have found it gradually improving, and becoming real Wheat; but I have never seen an instance of its running back to the *Æ. ovata* from which it sprung."

We refrain from comment till another week, when we hope to show the great importance of these capital experiments in their bearing upon horticulture and agriculture, as well as upon natural history itself.

THE magnificent weather of Saturday last enabled the HORTICULTURAL SOCIETY to bring to a brilliant close a season of exhibitions which, during their long career, have never been equalled. The number of visitors was 8820, and it was long before they exchanged the coolness and massive shades of Chiswick House for the more open and sunny lawn in the Society's Garden. The show was, we think, the best which July has ever produced, and not by any means deficient in novelties of importance. Messrs. VEITCH sent flowers of the New Zealand *Dracæna indivisa*, a plant now 17 feet high, with the habit of a Yucca, and apparently hardy; and along with it a couple of pretty annuals—the one a yellow *Leptosiphon*, the other a *Collinsia bartsiæfolia* resembling *C. bicolor*. Messrs. STANDISH and NOBLE produced the beautiful Jezoe Spruce, with rich light green foliage, and two very distinct forms of FORTUNE'S *Cephalotaxus*. A little *Medinilla* (*Sieboldii*), from Mr. COLYER'S garden, attracted much attention; as also did some collections of variegated plants from Messrs. LEE and ROLLISSONS.

Fruit growers are evidently behind plant growers, as becomes more and more evident each year. For although some of the exhibitors always stand on the highest point to which gardening can reach, yet it must be owned that numbers still continue to cluster helplessly about the lower rounds of the horticultural ladder. As for ripening, that would not seem to enter into consideration at all, at least among Grapes, which, in many cases, look as if they were shown for the express purpose of setting the teeth on edge. In classifying the whites we could find no better names to express their appearance than Verdigris-green, Grass-green, and Asparagus-green. What a contrast was presented between the verjuice bunches of CONSTANTINE, MARTIN, CAMPBELL, DAVIS, and SUMMERBY, well grown as they were, and the admirable Chasselas from Lord SOUTHAMPTON'S garden.

Let us add, while our critical humour lasts, that among flowers it would be a great improvement if nurserymen would take the trouble to name their plants with some regard for accuracy; or, at least, if they would not produce the most trifling varieties, if varieties at all, of well known plants, with new names that can be intended for no other purpose than to sell them by. What an absurdity, for instance, to decorate a light-coloured Stanhopea Devoniensis with the label Stanhopea Rollissonii!! The world does not approve of being thus misled; and unless the practice is put a stop to it may become necessary for us to make, in the interest of the public, some observations upon the subject, which will not be agreeable to the parties concerned.

It is understood that the Society's Exhibition Committee will assemble immediately, to consider what alterations in the schedule are required for next year. Let us therefore recommend exhibitors to send in their proposals without a day's delay. Among other things, the propriety of limiting the size of pots, must, we think, necessarily prove a subject of discussion; for it is clear that if pots or tubs of unlimited magnitude are still allowed, new tables must be constructed, and new tents made to cover them.

We have only to remark further, that the days of exhibition in all future years remain permanently fixed for the second Saturdays in May, June, and July.

WE are indebted to a correspondent for the following extract from a letter of a wine-grower at Montpellier, proprietor of some of the best St. George Vineyards.

"We have had some serious inundations in this part of France, which have done a good deal of injury; but *this* is as nothing compared with what is now affecting us, and is becoming general throughout the country. Towards Nimes all the Vines are lost by the Oidium disease; at Lunel they are half destroyed, and the evil increases. I have been into above 30 Vineyards without finding one that was not attacked."

We may add that our own accounts from St. George are most unfavourable, as indeed they are from all parts.

MONSTROUS FLOWERS.

FEW things in botany are more instructive than those strange anomalies which occur in almost every natural order of plants, and are commonly known under the name of monsters. It is by the attentive study of such subjects that many obscure points of structure and affinity have been cleared up. The one about to be mentioned is not entirely new, a somewhat similar anomaly having been noticed many years since in the Introduction to the "Natural System of Botany" and in the "Penny Encyclopædia," though it does not appear to be perfectly identical. The principal figure represents a single spray gathered from a Golden Drop Plum tree on the 24th of June. The flowers are arranged in an imperfect umbel, approaching somewhat to the nature of a raceme. The divisions of the calyx are either six or seven, except in the terminal flower, where there are five. These are sometimes arranged in one circle, as in the magnified flower; but sometimes one appears to belong to an outer row, calling to mind the double calyx of Rosaceæ. There is, however, nothing regular about them, and in one instance a single sepal is partially changed into a petal. The position of the sepals, with reference to the axis, was quite deranged; without, however, exhibiting any constant deviation. In the magnified figure, in which the shaded ring marks the position of the axis, it will be observed that there is no sepal opposite to it. The petals are mostly of the same number as the divisions of the calyx, but occasionally



there is a supernumerary petal, from the conversion of some stamen. The pistils and ovaries are either two or three in each flower, bearing no definite relation, as regards position, to the divisions of the calyx, but not in the least adnate with its tube. They are arranged at the base round an imaginary axis, with the placentæ similarly directed, and bearing towards the apex two collateral dependent ovules. The position of the ovaries was in every case very slightly irregular, as represented in the figure, one or two of them being gently twisted.

Here, then, is an evident tendency towards the Rosaceous type, indicated by an obscure effort to produce an outer row of sepals, and a constant and more evident multiplication of the ovaries, after the type of many Roseworts, insomuch that the spray might at first sight be supposed to belong to some Spiræa, rather than to a Plum. In the instance before alluded to, the multiplication of sepals was more striking, and the ovaries, instead of being arranged as in the present instance, arose irregularly from the tube of the calyx. In a monstrous Pear blossom gathered at the same time with our Plum, the arrangement of the calyx lobes was equally anomalous. The stamens, in this case, exhibited every stage of change from a perfect stamen and anther to a normal petal. Nothing could be more clear than the elongation of the claw of the petal to form the stamen, and the complication of the limb above and below into the anther, the suture arising from its inverted edge.

I have just examined a quantity of blossoms of the Portugal Laurel (Prunus lusitanica), scarcely one of which is in a normal condition. Many exhibit one or more sepals detached from the others, which are multiplied in number, the stamens are here and there converted into petals with a long filiform claw, and in one instance two pistils are present. It appears probable, from other instances which have fallen under our notice, that the present wet weather, following so long a drought, may be extremely productive of such anomalies. *M. J. B.*

THE GLOXINIA.

ALL the varieties of this interesting genus are easily cultivated. What they require is a moist warm temperature during their growing season and when in flower; most of them remain long in perfection if guarded from damp. Gloxinias especially deserve the attention of those who require a supply of gay, and variously-coloured flowers throughout the year, as with proper accommodation it is easy to have them in blossom during nine months out of the 12.

Their propagation is exceedingly simple. The pots should be filled half their depth with potsherds or charcoal, the other half with light sandy peat, covered lightly with silver sand. This arrangement will answer for either of the ordinary modes of increasing this plant. Leaves cut through the main ribs, laid upon the surface of the sand and kept in contact therewith by means of a few small pebbles, will form small tubers in course of a month or six weeks, if kept properly moistened, and placed in a sharp bottom heat of from 80° to 85°. Cuttings formed of the leaf stalk, having part of the leaf attached, with or without a bud at the base, will also form tubers in the course of a few weeks; and cuttings of the stems taken off when they have become moderately firm, root freely, and form useful flowering plants the second season. The cuttings should be potted singly in small pots as soon as they are rooted and have commenced growing; but if late in the season before they are ready to be separated, it will be better to let them remain over winter in the cutting pot. If potted, keep them in a warm moist situation, and encourage active growth. When the energies of the plants seem exhausted, gradually discontinue water, and allow them a season of rest in a dry temperature of about 50°.

At any time in spring, where a heat of about 60°, with a close moist atmosphere, is at command, turn the young plants carefully out of the soil in which they have been wintered, and repot them in small pots; water sparingly until growth has commenced, and then keep the soil properly moistened, and maintain a humid atmosphere by a free use of the syringe. Attend to shifting, as this may be necessary to afford space for the roots; one moderately large shift will be sufficient, and this should not be delayed until the roots have become matted, as in that case the plants would probably receive a check, and it is difficult to get them into free growth a second time. When the flowers begin to appear, give air more freely but not rashly, and gradually harden them for being placed while in flower in a temperature of about 55° or 60°, where they will remain as long in beauty. As the flowers are impatient of damp, avoid watering over-head, and take care not to have a stagnant atmosphere at night. When the flowering is over gradually withhold water, and let the plants go quietly to rest. The bulbs should have attained a considerable size by the end of the second season, and will form handsome specimens the following year. If a succession of blooming plants is desired this will be easily secured, with a good stock, by starting a few, at intervals of six or eight weeks, from January till August. Care must be taken, however, to expose them as freely as possible to light, otherwise those grown early in spring and late in autumn will form but poor attenuated specimens.

A soil composed of two parts rich fibry peat, one part leaf soil, and one part light turfy sandy loam, freely mixed with sharp silver sand, will suit the Gloxinia perfectly. If the loam is not of the character described, it had better not be used; as strong tenacious loam is not suitable for such tender-rooted plants, its place may be supplied by an extra proportion of leaf-soil, and a small quantity of thoroughly decomposed cow-dung. In potting be careful to have the pots properly drained, and cover the draining materials with a thin stratum of rough pieces of peat. *Alpha.*

Home Correspondence.

Blight.—I know not what reports are reaching you, but fungoid life is frightfully rampant here—1st. An Azalea (the first case I noticed) has turned brown, as if scalded. 2d. Grapes in the Vinery, a dead brown, looking and smelling as if boiled. 3d. Gooseberries, one tree in particular on a west wall, the whole of the fruit has turned whitey-brown and fallen off in 24 hours, the leaves now apparently dying; the fruit smelling exactly like Apples after having been pressed for cyder, and looking nearly the colour of the pressed pulp, which here they call pumice. 4th. Plums, which are most abundant and looked luxuriant, turn a little bluish in spots, then shrink, turn brown, and fall off, all in 48 hours; a very great promise of crop has disappeared in no time. 5th. The leaves of the tree Pæony exhibit the same phenomenon, looking exactly as if scalded in spots; shrivelled and brown. 6th. Strawberry leaves are covered with black spots, and go off without fruiting. 7th. Traces of the same injury on Roses, Peaches, and Apricots, but confined to the leaves. 8th. Succulent plants, such as Begonia fuchsioides, go off exactly in the same way—large branches shrivelling and dying at once. Melons not yet affected. Cucumbers more free from disease than for the last two or three years. Roses very unhealthy, losing their leaves in great quantities. Thermometer to-day (Friday, July 9) 91° in the shade on a north wall. Monday (5th) 90°; intervening days not quite so hot. Potatoes as yet apparently safe. *John Rogers, Seven Oaks.*

Willmore's Surprise Pelargonium.—We trust you will allow us to thank Mr. Beaton for the kind mention he made last week of Mrs. Willmore's Surprise Pelargonium. We should not, however, have intruded on your columns, but that they offer an opportunity of giving publicity to a disgraceful trick that has been practised on us. In February last the front lights of the greenhouse, in which the Willmore's Surprise was growing, were pushed aside and five plants stolen, which we have as yet been unable to trace, although an active officer has been employed. We have not given over the search, and if any of your readers will kindly assist us by

looking closely among suspicious collections for this very remarkable plant, they may do us and the public generally the service of checking, in some degree, a dishonest practice from which all are liable to suffer who possess valuable plants in glass structures. We shall give every attention to any communication that may reach us on the subject. *J. and C. Lee, Hammersmith.*

Potato Disease.—I looked rather anxiously into your columns of last Saturday for some account of the Potato disease. The fields of Potatoes in South Essex present a picture of decay on all sides, and the farmers are fast clearing their fields, to save what they can of what they consider to be a lost crop. *A. B.*

Peas with Eatable Pods. — I purchased from a respectable seedsman some Peas called "sugar Peas, eatable pods." On trying these (using them in a young state, before the Peas are more than half swelled) I find the pods sweet and palatable enough when eaten like Artichokes, but with a most undeniable sheet of parchment in the middle. I shall be glad to know whether I have got a wrong sort, or whether the above result is as much as I was to expect. *P. C.* [You are supplied with a spurious sort.]

Corrugated Galvanised Iron.—Allow me to inform "Wilfordiensis" that the durability of galvanised iron depends on the iron being corrugated and fitted first and galvanised afterwards. It is acted upon in large towns by soot and sulphurous vapours. I have a boat and water closet of plain iron (built in 1846), which being painted whilst the scale was free from rust, and India rubber mixed in the paint to allow for expansion, are now perfectly sound. *H. Smith*, 12, *Rufford's-row, Islington.*

Cooling Drinks.—If any of your readers would disclose some of the many recipes for making cooling drinks, cups, &c., this broiling weather, they would confer a great favour on one who is ignorant on that subject; and perhaps you would have no objection to publish this and any replies you may receive to it. *E. F. L.*

Ceanothuses (see p. 437).—I beg to inform your Yorkshire correspondent that I have not mistaken papillosus for rigidus. I have been acquainted with both varieties since 1848, and as their specific characters are so very distinct, it would be difficult to commit the mistake in question. I have enclosed a specimen of rigidus, which I think will convince you that I am right, and it will also serve to confirm my former statement as to its flowering in the autumn. *G. W. Mason, Foreman, Northgate Nursery, Chichester.* [It is rigidus.]

Pear Rust.—Being a subscriber to the *Chronicle* since the beginning of 1844, from which I have derived much instruction, and seeing that the study of the diseases of plants is at present to be the order of the day, I take the liberty of sending two leaves of Pear-trees, affected with a disease which is called rust in this place, the immediate cause of which I am unable to assign; whether it be the work of a Cryptogam, of an insect, or of the absorption of a rusty matter from the soil. The fact is, that only a part of my garden is attacked by it, and that is where the soil is the most stiff, and of a ferruginous character. I perceived the same disease two or three years ago, but on a smaller scale; and attributing it to the nature of the soil, I lifted up my young trees, took out the stiff soil, and replaced it by road scrapings, by which means I got rid of it, at least till the present time. As aforesaid, a part of my garden only is affected by it, and regardless of sorts or of stock, it affects every young tree, be it of a delicate or of a robust variety, be it grafted on the Pear or on the Quince stock, be it trained against a wall or in the form of a pyramid. Even the bark of the young twigs is blotched by it. You will observe that the affected leaves are covered with a greasy, honey-like matter, which adheres to the finger, and yields a sweet taste to the tongue. The larger leaf (Triomphe de Jodoigne) shows a beginning of the disease, the smaller one has been diseased for these two or three weeks past. *Ch. Van Geert, Nurseryman, Antwerp, Belgium.* [The disease is caused by the appearance of a minute orange-red fungus, called Dothidea colliculosa

Silk-worm food—the Centinode Plant.—In reply to your query (p. 438, July 10th) I may mention that the *Diario Mercantile* of Venice, as cited in the French Papers, reports that on a recent visit of the Duke and Duchess of Montpensier, they received the royal and imperial commissioner of agriculture, who presented to them a certain Teresa Ramor who had raised, and produced silk from silk-worms in 16 days, nourishing them with quite a different leaf to that of the Mulberry. It goes on to say "This is the perfect realisation of the discovery of Anna Rizzi, who could bring up, even in winter, silk-worms, giving them the leaves of the Grass classed by Linnæus under the name of Polygonum Centinodia." This Grass, according to the "Adriatico" of Venice, if even given at the same time as the leaves of the Mulberry, is preferred by the silk worms. *James White, Kennington.* [This Centinode is identical with the common Polygonum aviculare, called in this country Knot-grass.]

Manuring Fruit Trees.—The Dutch, who are admirable gardeners, had in the Great Exhibition an instrument called "Earth-borer," for manuring fruit trees without digging the ground. A circle of holes is bored round the tree, at 2 feet distance from the tree, and a foot from each other. Taking the tree at a foot diameter at the surface of the soil, the circle will be 5 feet diameter and 15 feet circumference; and if the holes are 3 inches diameter and a foot apart = 15 inches, there will be about 12 holes; more or less according to the diameter of the tree. They are 18 inches deep (where there is enough depth of soil), and slanting towards the centre; are filled with liquid manure, diluted more or less in dry weather, and stronger as the weather is wetter. For the time of application, Dr. Lindley tells us (*Gardeners' Chronicle*, Feb. 21, 1852), "For fruit, the proper time for using liquid manure is when the fruit is beginning to swell, and has acquired, by means of its own green surface, a power of suction capable of opposing that of the leaves. At that time, liquid manure may be applied freely; and continued, from time to time, as long as the fruit is growing. But at the first sign of ripening, or even earlier, it should be wholly withheld. If liquid manure is applied to a plant when the flowers are growing, the vigour which it communicates to them must also be communicated to the leaves; but when leaves are growing unusually fast, there is sometimes a danger that they may rob the branches of the sap required for the nutrition of the fruit; and if that happens, the latter falls off. And we all know that when ripening has once begun, even water spoils the quality of fruit, although it augments the size, as is sufficiently shown by the Strawberries prepared for the London market by daily irrigation—great additional size is obtained, but it is at the expense of flavour. And any injury which mere water may produce, will certainly not be diminished by water holding ammoniacal and saline substances in solution." I am not aware that this information has yet made its way into our orchards, finding no allusion to it in any of our books on orchard management, nor at our agricultural meetings. The time is just coming for putting it to the test, and it remains with the fruit growers to see what profit they can make of it. They need, in these times, all they can get, and this method has the recommendation of requiring little outlay, if any. *J. Prideaux.*

Vine Mildew.—Mr. Fry states that he cannot agree with me that sulphur in a dry state does not effectually destroy mildew. I have only to observe, in reply, that my statement was made after more than one careful examination of the mildew under a compound microscope on a leaf which had been purposely powdered with sulphur three days before, when I found it fresh and brilliant, and a great many tufts of the Oidium untouched by the sulphur, although to the naked eye they appeared to be covered. If, however, Mr. Fry considers his plan the best, and his success has been so complete, while thousands have failed, of course he would be much to blame to exchange old lamps for new. I entirely agree with him as to the benefit arising from the fumes of sulphur during high temperature, but there is nothing in my plan to preclude arriving at this point; on the contrary, a little sunshine is sufficient to raise these fumes to a degree that will tarnish silver in the pocket. With regard to the success of my own plan of syringing with sulphur and water, I can speak at present with much confidence, for not a single particle of mildew has reappeared on the leaves which were syringed a month ago, and, what I certainly did not anticipate, the whole of the young foliage, with the exception of two leaves, was perfectly clear and healthy, when pruned off a few days since; but here and there a berry is affected (not having been developed at the time of the syringing), which, as I do not like to be bigoted, I have dusted with sulphur, which adheres to the mildew itself, on account of its being glutinous, but not to the under portions, which I hold to be a defect; as where it adheres, it acts as a preventive, which we all know is better than a cure. That mildews which grow naturally on decaying substances are nurtured by humidity, is a matter of fact, as they are hardly known in dry climates: but to apply the same rule to parasites is contrary to all experience. Mildew only attacks the Turnip and Pea crops during seasons of drought, and it is not uncommon to see them restored to comparative health by a few heavy driving showers; and I have known Grapes, out of doors, cured of mildew by the same means, the species being the same on all, whatever difference of opinion may exist on the subject; and lest it may be considered a modern pest, like the Potato fungus, I may observe that it was very prevalent (on the Pea), in the time of Theophrastus. Certain causes adverse to the health and robustness of plants, no doubt induces the growth of parasitic fungi to an unusual extent, from the spores which are present in most of them, and in after years these still become developed, even in more genial seasons, in consequence of predisposition. Sulphur appears to be the specific antidote to mildew, perhaps as much from its fumes as anything; but, in addition, I apply a force in miniature, which bears down the fairy groves, and entombs them at the same time, not less effectually than the giants of the primæval forests were borne down by a torrent of mighty waters. *F. J. Graham, Cranford, June* 28.

Plantains. — If I knew that "Proserpine" had an elder sister, I would so call myself in answer to your correspondent, who writes so plaintively about Plantains. As it is, I hope she will not think me presumptuous for answering her under the name I assume when I tell her I have for many years practised the art of extirpating Plantain and other weeds from Grass. I always use a miniature Dock drawer with two prongs—(excuse me for saying two are better than three)—and a little round piece of wood behind as a fulcrum. The fork is about 2 inches long; then there is a cross piece of iron to hold the nails and fasten the fulcrum, and a socket of about 2 inches above that to receive the handle, which is of wood, and 3 feet long. I suppose "Proserpine" knows salt will kill Plantains. It leaves, though, a sad brown mark, which often does not recover all the summer. *Ceres.*

Societies.

Horticultural, *July* 10: Garden Exhibition.—If any one portion of this excellent July exhibition can be said to have attracted more attention than another, it was the fruit, of which there was a good display. Pine-apples were numerous, and generally handsome; but, certainly, were not remarkable for weight. Black Grapes were for the most part ripe and well coloured, if we except Judson's Richmond Villa, which was red; but as much cannot be said of white sorts, more especially the Muscats, which, although some of them might be ripe, were all, with the exception of Mr. Taylor's, more or less green. Peaches and Nectarines were good; and there were some beautiful dishes of Cherries and Strawberries. Melons were not so plentiful as we have seen them.

Pine-apples.—Mr. Jones, gr., to Sir J. Guest, Bart., sent a finely swelled Queen, weighing 5 lbs. 1 oz.; Mr. Bray, gr. to E. Lousada, Esq., another, 4 lbs. 12 oz.; and Mr. Forbes, gr. to the Duke of Bedford, at Woburn, a third, which weighed 4 lbs. 4 oz. Other Queens came from Mr. Watson, gr. to Mrs. Tredwell, of Norwood; Mr. Higgs, gr. to J. H. Barchard, Esq.; Mr. Bundy, gr. to Lord Dynevor; Mr. Price, gr. to W. Thompson, Esq.; and Mr. Harrison, of Oatlands Palace Gardens, Weybridge. From Mr. Dods, gr. to Col. Baker, Salisbury, came a Prickly Cayenne, weighing 5 lbs. 14 oz.; and Mr. Bray had an Enville, with a cockscomb crown, 7 lbs. 10 oz. A Black Antigua was produced by Mr. Bundy; and Mr. Davis, gr. to J. Dickson, Esq., of Knutsford, had a Black Jamaica. A few Providences were shown. Mr. Turnbull, gr. to the Duke of Marlborough, at Blenheim, sent one 6 lbs. 4 oz.; and another 6 lbs. came from Mr. Price. The heaviest came from Mr. Davis, of Oak Hill, but it was not very well formed; it weighed 7 lbs. 2 oz. Mr. Bray also sent tolerably good fruit of this kind of Pine-apple.

Grapes.—Among private growers, excellent Black Hamburghs were contributed by Mr. Allport, gr. to H. Akroyd, Esq., Doddington Park, Nantwich, and very good fruit of the same sort came from Mr. Butcher, gr. to W. Leaf, Esq., of Streatham, and Mr. Ivison, gr. to the Duke of Northumberland, at Sion. In the Market Gardeners' Class, Mr. Harrison, of Oatlands, and Mr. Eden, of Shacklewell, were placed highest, both productions being excellent of their kind. Other examples of Black Hamburgh were communicated by Mr. Pestridge, gr. to W. Newnham, Esq.; Mr. Harrison, gr. to A. Donovan, Esq.; Mr. Mitchell, gr., Apley Castle, Salop; Mr. Ivison; Mr. Martin, gr. to Sir H. Fleetwood, Bart.; Mr. Monro, gr. to the Earl of Clarendon; Mr. Henderson, gr. to Sir G. Beaumont, Bart.; and Mr. Bigbie, gr. to G. Carrington, Esq. These were all fair specimens of good Grape growing. Other Black Grapes consisted of Black Prince from Mr. Lushey, gr. to J. Hill, Esq., of Streatham, ham; Mr. Martin; Mr. Turnbull; Mr. Atkinson, gr. to Lady Molyneux; and Mr. Hill, gr. to R. Sneyd, Esq. The best of these were from Mr. Lushey, which were fine both in bunch, berry, and colour. Beautiful white Muscadines came from Mr. Rust, gr. to J. Maclaren, Esq., and Mr. Tilyard, gr. to Lord Southampton; and very good examples were also furnished by Mr. Williams, gr. to C. B. Warner, Esq., and Mr. Mitchell, gr. at Apley Castle. Mr. Wood, gr. to C. R. S. Murray, Esq., Mr. Ivison and Mr. Tilyard also showed Muscadines. Among Muscats, the ripest, though not the largest, examples were contributed by Mr. Taylor, gr. to J. Coster, Esq., and Mr. Turnbull. Much the largest fruit, both in bunch and berry, was sent by Mr. Davey, gr. to Mrs. Smith, of Colney Hatch, but not being well coloured, they failed in gaining a prize. Mr. Constantine, gr. to C. Mills, Esq., also furnished well-grown Muscats, as did likewise Mr. Martin, and Mr. Summerby, gr. to Major Martin. —In the Market Gardeners' class, Mr. Mitchell, of Brighton, communicated bunches of this kind of Grape, but they were not considered by the judges worthy of reward. Black Frontignans, of unusually fine growth, came from Mr. Allport, and fair specimens of the white kind from Mr. Campbell, gr. to J. B. Pease, Esq. The Grizzly variety was shown by Mr. Henderson, gr. to Sir George Beaumont, Bart.

Peaches.—Mr. Brown gr. to W. C. Cartwright, Esq., produced some extraordinary large fruit of Téton de Venus, in excellent condition; indeed a dish of such Peaches is rarely to be met with. Very fine Noblesse came from Mr. Eartham, gr. to A. Toy, Esq. Violette Hâtive beautifully coloured, but not unusually large, were exhibited by Mr. Snow, gr. to Earl de Grey; and scarcely inferior were some Royal George from Mr. Tilyard. Dishes of this latter variety also came from Mr. Cox, gr. to J. Taylor, Esq.; Mr. Hill, gr. to R. Sneyd; Mr. Monro, gr. to Mrs. Oddie; Mr. Davis, gr. to J. Dixon, Esq.; and Mr. Monro, gr. to Lord Clarendon. Mr. Busby, gr. to S. Crawley, Esq., sent Noblesse; and Mr. Martin and Mr. Henderson the same variety. Mr. Errington, gr. to Sir Philip de Malpas Grey Egerton, Bart.; and Mr. Judd, gr. to Earl Spencer, produced Galande. Mr. Turner, Williams's Seedling; and Mr. Turnbull, Early Purple.—The only exhibition in the Nurserymen's Class came from Mr. Wilson, of Warwick.

Nectarines, apparently Murray, large and very fine, were shown by Mr. Tilyard. Mr. Collinson, gr. to the Marquis of Westminster, sent Elruge, as did also Mr. Brown. Violette Hâtive came from Mr. Busby;

Elruge, white Nectarine, and Downton, from Mr. Monro, gr. to Mrs. Oddie; Elruge from Messrs. Henderson, Martin, Turnbull, and Judd; Temple Nectarine from Mr. Turner; and Scarlet Newington from Mr. Hill.—The only exhibition in the Market Gardeners' Class was that of Mr. Davis, of Oak Hill, who produced an excellent dish of Elruge.

FIGS.—Mr. Judd, gr. to Earl Spencer, at Althorpe, sent fair specimens of White Genoa and Blue Marseilles.

CHERRIES.—Black Tartarian, large, glossy, and beautiful, came from Mr. Snow, gr. to Earl de Grey. Harris's Blackheart, and Knight's Early Black, were sent by Mr. Bray, gr. to E. Lousada, Esq.; and Mr. Hill, gr. to R. Sneyd, Esq. Black Circassian, beautifully ripened, were contributed by Mr. Meyers, Mr. Gainsford, and Mr. Jones, all of Brentford. Mr. Meyers had also a dish of May Duke. Excellent Eltons came from Mr. Snow.

STRAWBERRIES.—Out of 22 dishes only two were Keens' Seedling, fully justifying the remark we made in May, viz., that the British Queen chiefly, and a few other large kinds, are fast driving this still indispensable variety, at least for early forcing, from our exhibition tables. British Queens, very large, beautifully ripened and coloured, were shown by Mr. Marcham, gr. to J. Smith, Esq., of Hanwell; Mr. Hargen, gr. to R. W. Edgell, Esq., of Egham; Mr. Elliott, gr. to Mrs. Boothby, Twyford Abbey, Acton; and by Mr. Pestridge, Mr. Busby, Mr. Mitchell, and Mr. Cox, gr. to J. Taylor, Esq. In the Market Gardener's class, Mr. Beach, of Isleworth, had the best examples of this variety; and very good fruit also came from Mr. Lack, of Turnham-green, and Mr. Lydiard, of Bath. Dishes of Keens' Seedling were contributed by Mr. May, gr. to J. Whatney, Esq., and Mr. Lydiard; the latter also sent Myatt's Surprise and Kitley's Goliath. Myatt's Surprise, Prolific, and Hooper's Seedling came from Mr. Mitchell, gr., Apley Castle; the Bicton White by Mr. Martin, Princess Alice Maude by Mr. May and Mr. Munro, and Princess Alice Maude and Bicton by Mr. Rowe, gr. to Mrs. Nicholl, of Watford, and Mr. Lydiard. Mr. Beach produced British Queens in pots, with fruit almost as large as on plants growing in the open ground.

MELONS were generally well-flavoured. The best, in this respect, were Egyptian green-fleshed from Mr. Collinson, and Victory of Bath from Mr. Grant and Mr. Lydiard. Among scarlet-fleshed sorts the best flavoured was George the Fourth, from Mr. Gadd, of Betchworth, Dorking. Other sorts were the Trentham Hybrid, Cabul green-fleshed, Bromham Hall (four fruits of it), King's green-fleshed, Hybrid green-fleshed, and Hybrid scarlet-fleshed.

Of other fruits Mr. Ivison had one Nutmeg, and Vanilla (perfectly ripe and very fine), with a branch of the Date Palm now setting fruit at Syon; Mr. Williams, gr. to C. B. Warner, Esq., Citrons, Oranges, and Lemons; and Mr. R. Warner, of Hoddesdon, one of Mr. Rivers's dwarf Pear trees, in fruit, in a pot.

In collections of 20 STOVE and GREENHOUSE PLANTS the first prize was awarded to Mr. May, gr. to Mrs. Lawrence, of Ealing Park, for the following, viz :—

Kalosanthes miniata	Polygala acuminata
,, coccinea	Aphelexis purpurea grandiflora
Ixora crocata	Tristania neriifolia
Gloriosa superba	Allamanda cathartica
Relhania squarrosa	Phænocoma proliferum
Clerodendron Kæmpferi	Clerodendron squamatum
Erica Irbyana	Crowea saligna
,, juliana	Dipladenia uropbylla
,, Parmentieri rosea	Rondeletia speciosa
Vinca alba	
Epacris grandiflora	

In this exhibition by far the most effective plants were the two Kalosanths, more especially K. coccinea, which was large and exceedingly brilliant and showy, the end of every branch terminating in a cluster of glowing scarlet blossoms. The next most striking plant was Allamanda cathartica, which was trained over a wire trellis nearly 6 feet high, and well flowered. The Clerodendrons, both of which were excellent specimens, served to enliven the back-ground with their large scarlet panicles. The Crowea was not sufficiently in bloom. Dipladenia urophylla, though not so handsome as the more common kinds D. crassinoda and splendens, nevertheless makes a good exhibition plant, and is sure to become a favourite. The Epacris and the Tristania were both large specimens, and were placed at the top of the stage. The Relhania is seldom met with, and is not much admired. It has clear yellow Aster-like flowers, which are not unhandsome; but the foliage is too grey for it ever to become a first class plant.

Mr. Cole, gr. to H. Colyer, Esq., of Dartford, was placed second. His plants were :—

Allamanda cathartica	Erica ferruginea
Do. do.	Phænocoma proliferum
Roella ciliata	Leschenaultia formosa
Vinca rosea	Erica Shannoni
,, oculata	,, metulæflora
Ixora coccinea	Kalosanthes coccinea
,, crocata	,, miniata
Dipladenia splendens	Stephanotis floribunda
Clerodendron Kæmpferi	Aphelexis purpurea macrantha
,, paniculatum	Æchmea fulgens

The Allamandas and Stephanotis were uncommonly good; the latter was, perhaps a little too closely tied, which gave it a somewhat stiff appearance. Dipladenia splendens was a large plant and finely flowered, a rare occurrence with this noble species. It is a more robust grower, and requires more house-room than D. crassinoda, which is decidedly the more suitable of the two for persons having only limited space. The latter has also the advantage of being more brilliant in colour and in blossoming more profusely. Erica Shannoni and ferruginea were two of the handsomest plants of the kind which could possibly grace any collection. They were both more than 4 feet across, and about as much high, and loaded with blossoms; E. metulæflora wanted brilliancy of colouring; Clerodendron Kæmpferi had two fine spikes of flowers, but C. paniculatum was scarcely in perfection. Kalosanthes coccinea was insufficiently in bloom, and Roella ciliata, which was so beautiful a fortnight ago, was considerably past its best. Phænocoma proliferum flowers so sparingly that it seems scarcely worth growing, more especially for purposes of exhibition.

A third group was furnished by Messrs. Fraser, in which were—

Clerodendron fallax	Kalosanthes miniata
Dipladenia crassinoda	,, coccinea
Boronia polygalifolia	Pimelea hispida
Allamanda Schottii	,, drosmæfolia
,, cathartica	Pavetta caffra
Ixora coccinea	Sollya linearis
,, javanica	Vinca alba
Erica eximia	Roella ciliata
,, ampullacea	Tristania neriifolia
,, juliana	Turnera elegans

The most remarkable plants in this exhibition were Allamanda Schottii, which was large and well flowered; Kalosanthes miniata, about 18 inches high, and one mass of lovely blossom; and Ixora coccinea. The latter was, however, too much sticked. The Tristania was also a fine bush, whose natural habit was not spoiled by pruning or too much tying.

A fourth collection of 20 came from Mr. Taylor, gr. to J. Coster, Esq., of Streatham. It contained :

Leschenaultia Baxteri	Polygala acuminata
Erica eximia	Leschenaultia formosa
,, Aitoni turgida	Epacris miniata
,, juliana	Rondeletia speciosa
Kalosanthes miniata	Aphelexis spectabilis
,, coccinea	Roella ciliata
Phænocoma proliferum	Crowea saligna
Ixora coccinea	Dipladenia crassinoda
,, javanica	Sollya linearis
,, alba	Boronia serrulata

The best plants in this collection were the Java and other Ixoras and Kalosanthes miniata. The Crowea was well grown; but it was not sufficiently advanced in bloom.

In collections of 15 STOVE and GREENHOUSE PLANTS the first prize was awarded to Mr. Green, gr. to Sir E. Antrobus, Bart., of Cheam, in whose group were :—

Leschenaultia Baxteri	Allamanda cathartica
Æschynanthus pulcher	Erica Masoni
Dipladenia crassinoda	,, tricolor coronata
Aphelexis purpurea macrantha	,, retorta major
Tetratheca verticillata	Ixora coccinea
Leschenaultia formosa	,, crocata
Rondeletia speciosa	Kalosanthes coccinea.
Allamanda grandiflora	

Mr. Green's Kalosanth was one of the best plants of the kind at the whole exhibition. It was beautifully flowered, highly symmetrical, and deservedly attracted universal attention. The Ixora coccinea was badly coloured, and the Tetratheca verticillata rather thin. The Rondeletia and Cape Heaths were all excellent examples of good cultivation.

Mr. Speed, of Edmonton, produced—

Vinca rosea	Polygala acuminata
,, oculata	Ixora coccinea
Allamanda cathartica	,, javanica
,, Schottii	Schubertia graveolens
Leschenaultia formosa	Æschynanthus pulcher
Erica jasminiflora	Dipladenia crassinoda
Kalosanthes coccinea	Kalosanthes miniata.

These were all good plants, clean and neat. The Schubertia, a comparatively new, white-flowered stove plant, formed a good substitute for Stephanotis, but it is not so handsome as that fine plant. The Java Ixora was scarcely so handsome as we had seen it on a former occasion. It had lost much of its brilliancy.

Mr. Carson, gr. to W. F. G. Farmer, Esq., contributed—

Ixora coccinea	Franciscea acuminata
Leschenaultia formosa	Epacris miniata
Dipladenia crassinoda	Rondeletia speciosa
Echites atropurpurea	Polygala cordifolia
Leschenaultia Baxteri	Aphelexis macrantha purpurea
Allamanda cathartica	Crowea saligna
,, grandiflora	Pimelea linifolia.
Kalosanthes miniata	

In this group perhaps the most remarkable plant was the dark purple or rather deep chocolate coloured Echites, whose blossoms formed a good contrast with those of more common colours with which it was associated. The others were all creditable specimens of good plant-growing.

Mr. Dods, gr. to Col. Baker, sent—

Erica tricolor elegans	Sollya linearis
,, jasminiflora	Kalosanthes coccinea
,, tricolor superba	Dipladenia crassinoda
Vinca alba	Ixora coccinea
,, rosea	Aphelexis humilis rosea
Clerodendron Kæmpferi	Rondeletia speciosa
,, ,, paniculatum	Allamanda cathartica

Clerodendron Kæmpferi in the above list had an extraordinary large panicle of scarlet blossoms. It could not measure less than 2 feet in length, and we should think quite 18 inches across at the base. With the exception of the Sollya the other plants were in fair condition.

Mr. Pamplin sent—

Erica tricolor elegans	Clerodendron paniculatum
,, princeps	Indigofera decora
,, Bergiana	Leschenaultia formosa
Allamanda grandiflora	Tetratheca verticillata
,, ,, cathartica	Roella ciliata
Vinca oculata	Rhynchospermum jasminoides
,, alba	

The plants in this group which attracted most attention were the sweet-scented Jasmine-flowered Rhynchospermum and Indigofera decora. The latter being among the earliest of Mr. Fortune's introductions from China, has now become pretty well known; but still it is not so often met with as it deserves to be; it is certainly one of the most useful hardy greenhouse plants we possess.

Collections of six STOVE and GREENHOUSE PLANTS, in 20-inch pots, were contributed by Messrs. May, Cole, and Watson. Mr. May had the white Crinum, Clerodendron fallax, Allamanda cathartica, the white Vinca, Kalosanthes coccinea, and the white variety of Erica inflata. These were all large, finely-managed plants.—Mr. Cole sent Dipladenia splendens, thin, but well-flowered, Allamanda cathartica, Erica retorta major and ampullacea, Polygala acuminata, and Ixora coccinea. These were accidentally overlooked by the judges; but we understand that Mr. Cole's complaint respecting the oversight will meet with attention.—Mr. Watson produced Erica ventricosa breviflora, Clerodendron Kæmpferi, Stephanotis floribunda, Clerodendron paniculatum, Allamanda Schottii, and Leschenaultia formosa. The Allamanda had 10 flowers on it, the Stephanotis was a large fine plant; but its blossoms were much faded. Groups of six in 13-inch pots came from Messrs. Over, Watson, Kinghorn, and Hamp. Among these we remarked Rondeletia speciosa, Tetratheca verticillata, Dipladenia splendens, and other good plants.

HELICHRYSUMS were exhibited by Mr. Green and Mr. Taylor. The varieties consisted of Aphelexis sesamoides, s. purpurea, s. superba, s. rosea, humilis, macrantha purpurea, spectabilis, and its large-flowered variety.

KALOSANTHS.—The following were shown by Mr. Over, viz., grandiflora, coccinea, c. superba, nitida, miniata, and grandiflora.

ORCHIDS.—These, as may be expected, were not near so good as they were in May and June. Mr. Franklin, gr. to Mrs. Lawrence, had the following :

Epidendrum radiatum	Aerides affine
,, verrucosum	Odontoglossum Lawrenceanum
Dendrobium Dalhousieanum	Oncidium roseum
Sobralia macrantha	,, luridum guttatum
Vanda Roxburghi	Brassia Wrayæ
,, Batemanni	Cycnoches sp. nova
Phalænopsis grandiflora	Saccolabium Blumei
,, amabilis	Anguloa Clowesi
Aerides purpurascens	Chysis aurea.
,, quinquevulnera	

Among these the greatest novelty was the Cycnoches, which was a very interesting form of this singular genus. Odontoglossum Lawrenceanum did not appear to be different from O. Insleayi.

Mr. Williams, gr. to C. B. Warner, Esq., produced—

Coelogyne speciosa	Burlingtonia venusta
Barkeria spectabilis	Calanthe Masuca
Oncidium Papilio	Miltonia spectabilis
,, Lanceanum	Aerides affine
,, flexuosum	Epidendrum cinnabarinum
,, guttatum	,, crassifolium
Cattleya Loddigesii	,, macrochilum
,, violacea	Dendrobium chrysanthum
Phaius albus	Phalænopsis grandiflora
Cypripedium barbatum	Cymbidium aloefolium

The Calanthe Masuca, which had had eight fine spikes of violet blossoms on it, was, unfortunately, rather past, but it showed what a fine thing this rather uncommon species may be induced to become under good management.

A collection of 15 ORCHIDS was shown by Messrs. Rollisson, of Tooting. It contained—

Oncidium Wentworthianum	Cattleya Aclandiæ
,, trulliferum	Aerides quinquevulnera
,, Lanceanum	Dendrochilum filiforme
Peristeria cerina	Dendrobium sanguinolentum
,, elata	Miltonia spectabilis
Vanda suavis	Epidendrum macrochilum
Stanhopea tigrina	album
,, Devonensis	Cycnoches Loddigesii

The Aerides quinquevulnera had five fine flower-spikes, which were not, however, much more than half expanded. Oncidium trulliferum is seldom met with, and the same may be said of Cattleya Aclandiæ, which is exceedingly handsome, but unfortunately it seldom produces many flowers, and this was a poor specimen. Dendrobium sanguinolentum was a large and fine plant.

Groups of 10 ORCHIDS were furnished by Mr. Carson and by Mr. Wooley. Mr. Carson produced—

Oncidium Lanceanum	Miltonia spectabilis
Dendrochilum filiforme	Cycnoches barbatum
Epidendrum vitellinum	Aerides roseum
Phaius albus	Phalænopsis grandiflora
Angræcum caudatum	Cattleya crispa

By far the most striking plant in this collection was Oncidium Lanceanum, an admirable specimen, with multitudes of flower-spikes richly clothed with brown and yellow blossoms, whose violet-purple lip finely contrasted with the other parts of the flower. Mr. Wooley sent—

Phaius albus	Dendrobium moschatum
,, bicolor	Epidendrum cinnabarinum
Aerides affine	Peristeria elata
,, odoratum	Oncidium pulvinatum
Oncidium luridum guttatum	Sobralia macrantha

Among these the Oncid was best flowered, and a very handsome plant it is when in good condition, its graceful flower spikes keeping long in perfection.

Collections of six ORCHIDS were produced by Mr. Ivison, gr. to the Duke of Northumberland, at Sion; and Mr. Green, gr. to Sir E. Antrobus, Bart. Among these were Vanda tricolor, Cycnoches chlorochilum, Oncidium ampliatum majus and luridum, Miltonia spectabilis, the singular-looking Coryanthes speciosa, Aerides odoratum, Stanhopea saccata, and Gongora maculata.

Oncidium luridum was shown by Mr. Ivison as a single specimen.

Cape Heaths were numerous, well flowered, and otherwise in capital condition. Collections of 10 were exhibited by Messrs. Cole, Smith, May, Epps, Fraser, Rollisson, and Fairbairn. Plants in 11-inch pots came from Messrs. Laybank, Watson, Jarvis, Clarke, and Pamplin; and in 8-inch pots from Messrs. Taylor, Speed, Roser, and Over. In the different groups were examples of inflata alba, retorta major, Rollisson's variety of tricolor, infundibuliformis, Parmentieri rosea, Holford's tricolor, Irbyana, the larger varieties of ampullacea and jubata, gemmifera, ferruginea, juliana, Cavendishiana, Candolleana, jasminiflora alba, tricolor elegans, Savileana, eximia, sanguinolenta, obbata, metulæflora, and depressa.

Roses (cut) were shown in abundance, and, notwithstanding the heat of the weather they maintained their freshness well throughout the day. Collections of 50 varieties were produced by Messrs. Paul, Lane, and Francis; and of 25 varieties by Messrs. Terry, Rowland, and Bennett. Mr. Curtis, of Bristol, had a splendid exhibition of the beautiful English Rose Devoniensis, and Mr. Francis also sent a box full of the same variety faced with blooms of the glorious Géant des Batailles, which has, however, as yet lost all its colour this summer, owing to the brightness and warmth of the weather. Mr. Laing, of Twickenham, likewise contributed an interesting collection. Among the different exhibitions we remarked excellent blooms of *Moss:* Crested; Lanei, fine rosy crimson. *Provins or Cabbage:* Madame Henriette, large rosy pink; Cristata, bright rose. *Gallica:* Bizarre Marbré, mottled crimson; Boule de Nanteuil, reddish crimson; Kean, brilliant carmine; grandissima, bright crimson; Latitie, mottled crimson; Shakspeare, shaded deep crimson; Triomphe de Jaussens, bright crimson. *Alba:* Duc de Luxembourg, white, with a blush centre. *Hybrid China:* Brennus, bright carmine; General Jacquimot, large shaded lake; Lady Stuart, blush. *Hybrid Bourbon:* Chénédolé, dark crimson; Comtesse Molé, pink; Comtesse de Lacepède, blush; Coupe d' Hébé, pink; Great Western, red; Paul Perras, pink; Paul Ricaut, deep carmine. *Damask:* Isméne, white; Madame Zoutman, creamy white. *Hybrid Perpetual:* Amandine, pink; Baronne Hallez, fine crimson; Baronne Prevost, very large pink; Dr. Marx, rosy carmine; Caroline de Sausal, beautiful blush; Clementine Seringe, large shaded blush; Cornet, bright pink; Duchess of Sutherland, beautiful blush; Earl Talbot, deep rosy pink; Géant des Batailles; General Negrier, blush; Jacques Lafitte, pale carmine; Comte de Paris, pale crimson; Madame Trudeaux, beautiful carmine; Miss Pepin, large delicate pink; Queen, rose; Robin Hood, rosy pink; Soleil d' Austerliz, carmine; William Jesse, crimson, tinged with lilac; Comte Robrinsky, bright crimson. *Bourbon:* Souvenir de la Malmaison, creamy white, with a blush centre; Acidalie, French white; Bouquet de Flore, rose; Souchet, deep crimson; Dupetit Thouars, ditto; Leveson Gower, carmine; Paul Joseph, purplish crimson. *Tea:* Devoniensis, creamy white; Niphetos, pale lemon; Bougère, rose; Elise Sauvage, yellow; Saffranot, fawn. *Noisette:* Lamarque, pale lemon; Aimée Vibert; and Solfaterre, sulphur.

Single Specimens.—The best consisted of a magnificent Erica retorta major, from Mr. Smith; an excellent Lisianthus Russellianus (which we were surprised to find placed by the judges third), covered with handsome blossoms, from Mr. Constantine; Erica Savileana from Mr. Green; Kalosanthes coccinea, a fine plant, from Messrs. Fraser; and Erica metulæflora bicolor from Mr. Ivison.—Mr. Cole had a small plant of the Willow-leaved Ixora, and Mr. M'Leod, gr. to Sir J. Crewe, Bart., sent Stephanotis floribunda, both in flower and fruit. It was trained against a large flat circular wire trellis.

New Plants.—Under this head were produced Medinilla Siebolbii, a neat medium-sized species from Mr. Cole; a branched flower-spike, bearing multitudes of small white blossoms, of the great New Zealand Dracæna indivisa, from Messrs. Veitch; Abies jezoensis and two forms of Cephalotaxus Fortuni from Messrs. Standish and Noble; Araucaria Cookii from Messrs. Henderson; the pretty white Achimenes Margarettæ from Messrs. Lane; an Epidendrum from Mr. Carson; Achimea miniata from Messrs. Rollisson; and Colvinia bartsiæfolia and a Lepto-siphon from Messrs. Veitch. The Colvinia is a fine thing; as is the Lepto-siphon, although not well adapted for exhibition.

Among Miscellaneous Single Plants came a tubful of Nelumbium speciosum, in flower, from Mr. Ivison; Erica obbata umbellata, a good variety, from Messrs. Pamplin; Phlox Thompsoni and the ever-flowering and beautiful P. Mayii variegata, from Messrs. Henderson, of Pine Apple-place.—Mr. Ivison furnished a miscellaneous set of plants, which were exceedingly interesting, owing to their variety and very different habit; among them were Humea elegans, very large; a Hibiscus, a cross between H. sinensis and H. liliiflorus; Ipomœa Learii (very fine) Crinum americanum, Calathea zebrina, finely in flower; Rhapis flabelliformis, a dwarf Palm in flower; Hedysarum gyrans, the moving plant; Mussænda frondosa, with white bracts and orange blossoms; Calathum bicolor; Curcuma Roscoeana and C. cordata (turmeric plants); Æschmea fulgens, Croton pictum; Dracæna ferrea, one of the dragon's blood trees; and Clerodendron squamatum.—Tender variegated plants were produced by Messrs. Lee, of Hammersmith, Messrs. Rollisson, of Tooting, Messrs. Henderson, of Pine Apple-place, and Mr. Williams, gr. to C. B. Warner, Esq. The taste for these things is evidently increasing, as well it may, for the beauty of their foliage yields a continual charm, the value of which becomes especially apparent in winter, when few blossoms grace either the stove or the greenhouse.—Messrs. Lee had 86 sorts. Among the most remarkable were the variegated Pandanus or Screw Pine, the leaves of which are of the liveliest green, with broad longitudinal white stripes; Dracæna maculata, with dark-green leaves, of fine form, spotted with pale green; D. terminalis, with long lanceolate leaves striped with purple, green, and crimson, has hitherto been considered the most attractive, but it is now surpassed by D. nobilis, which was adorned in the same gay livery, and with a broader and more noble form of leaf. Hydrangea japonica variegata was conspicuous for the brightness and breadth of its white margin. A well-shaped plant of the favourite Croton pictum was shown in its gayest colours. The new Maranta vittata and M. rosea-lineata were very robust, the former having pale green leaves with a double row of white stripes extending from the midrib towards the edges, and the latter dark green with narrow rosy lines. Caladium bicolor was conspicuous for leaves of light green with a large crimson blotch in the centre. Dioscorea discolor, a new creeper with leaves like an Aristolochia, had a rich purple under the leaf, occasionally staining through the olive-green of the upper side. Two variegated examples of Hoya carnosa, the one with a silver margin, and the other a gold blotch in the centre of the leaf. Pavetta borbonica, with its finest veinings; for shape, colour, and substance of leaf, combined with a noble habit, this plant has few equals. Elæodendron venosum was beautifully marbled with dark and light green.

Messrs. Rollisson, of Tooting again showed their beautiful Cissus discolor; Anæctochilus setaceus and xanthophyllus, Cheirostylis marmorea, Maranta eximia and albo-lineata, Caladium versicolor, Pandanus Javanicus variegatus, Dracæna nobilis and maculata, and some other kinds, of which we gave an account in former reports.

Hothouse Ferns were shown, intermixed with Orchids, by Messrs. Wooley and Williams. The sorts did not appear to be very different from what were previously mentioned by us in our report of the June meeting.

Of other kinds of plants Mr. Turner, of Holloway, had a small group of Alpines; and some interesting things were furnished by Mr. Booth from Carclew, the seat of Sir Charles Lemon, Bart. They consisted of branches of Benthamia fragifera, in flower, which, if they had been fresh, would have served to have given some idea of the beautiful appearance of this fine tree when grown in the mild and damp climate of Cornwall. The largest specimens at Carclew are stated to be from 15 feet to 18 feet high, and this season they are finer than ever they have been, every branch from top to bottom being thickly covered with large creamy white flowers; along with these came a bunch of Ozothamnus thyrsoideus, a neat dwarf shrub for the open border; also Habrothamnus fasciculatus, said to be perfectly hardy there, and to flower beautifully in the shrubbery. From the little bit furnished it was evident that the flowers are larger, and of a deeper colour than we usually see them. The rest consisted of Cineraria discolor, which forms a shrub from 6 feet to 8 feet high, and flowers abundantly: and Bletia hyacinthina, from a plant that has been growing in the open garden for the last 15 or 16 years.

Several exhibitions of Achimenes were produced, but we did not observe among them anything very new or remarkable.

Pelargoniums were plentiful and good for this season of the year. In collections of 12 varieties in 8 inch pots, by private growers, Mr. Robinson was first, with Pearl, Christine, Alderman, Rowena, Salamander, Old Story, Alonzo, Conspicuum, Nectar Cup, Ajax, Star, and Monteith; 2, Mr. R. Stains, with Corinne, Emily, Virgin Queen, Constance, Conspicuum, Magnificent, Ajax, Mont Blanc, Cuyp, Alonzo, Star, and Nandee; 3, Mr. Parker, with Minna, Centurion, Nandee, Paragon, Conspicuum, Norah, Alderman, Narcissus, Christabel, Star, Generalissimo, Corinne; Dealers' Class, 1, Mr. Turner, with Lavinia, Monteith, Mochana, Plantaganet, Ajax, Magnet (in fine colour), Alderman, Nandee, Star, Beatrice, Rowena (fine), and Corinne; 2, Mr. Gaines, with Star, Ajax, Peerless, Conspicuum, Nonsuch, Beauty of Montpellier, Nandee, Grenadier, Governor, Pictum, Centurion, and May Queen, bold and showy; 3, Mr. Westwood, with Aspasia, Brilliant, Lalla Rookh, Virgin Queen (good), Norah, Vivid, Star, Beauty of Montpellier, Conspicuum, Centurion, Armada improved (?), and Floral Beauty; 4, Mr. Bragg, with Boule de Feu, Conspicuum, May Queen, Village Maid, Ajax, Narcissus, Alonzo, Fair Maid of Perth, Pulchellum, Centurion, Constance, and Rowena; 5, Mr. Hunt, with Salamander, Magnificent, Lalla Rookh, Orion, Alonzo, Ajax, Camilla, Armada, Ariel, Armada Superb, Forget-me-Not, and Norah.—Six Pelargoniums in 11-inch pots, private growers: 1, Mr. Bonham, with Star, Negress, Grenadier, Centurion, Rosamond, and Forget-me-Not; 2, Mr. Parker, with Lord Stanley, Ocellatum, Lalla Rookh, Cupid, Belle of the Village, and Flavia. Dealer's Class: 1, Mr. Westwood, with Orion, Camilla, Lady Somerville, Matilda, Conspicuum, and Virgin Queen. Fancies, private growers: 1, Mr. Miller, with Fairy Queen, Duchesse d'Aumale, Lady Hume Campbell, Princesse Maria Galitzin, Richard Cobden, and Triumphant; 2, Mr. Robinson, with Abraria, Queen Superb, Princess Maria Galitzin, Delicatum, Gipsey Queen, and Prima Donna; 3, Mr. Staines, with Delicatum, Reine des Française, Village Maid, Bouquet tout fait, Alboni, and Princess Maria Galitzin. Dealers' Class: 1, Mr. Turner, with fresh and beautiful plants of Madame Rosati, Beauté, Clementine, Alboni, Delicatum, and Perfection; 2, Mr. Gaines; 3, Mr. Westwood. Six Scarlets were shown by Mrs. Conway (1); and by Mr. J. Salter (2). We were disappointed that there was not stronger competition with so useful and brilliant a flower as the Scarlet Pelargonium. Mr. Parker and Mr. Watson showed collections of Cape kinds, some of which were much admired.

Fuchsias, well grown and flowered, were produced by Messrs. Pestridge, Franklin, Fraser, Bray, and Salter. With the exception of Mr. Salter's plants, which were in the form of parasols, they were mostly pyramidal plants trained to simple stems. Among the kinds shown were Pearl of England, Don Giovanni, Dr. Gross, Chevalier, Exoniensis, Star, Alpha, Madame Sontag, Fair Rosamond, and Voltigeur.

Pinks were admirably contributed and in abundance, many of the flowers fully equalling the best we have ever seen. Prizes were awarded to Mr. Turner, 1; Mr. Bragg, 2; and to Mr. Baker, of Woolwich, 1, as a private grower. A collection of 24 blooms from Mr. Bragg, being entirely seedlings, were rewarded with a Certificate. Turner's Optima was "well done," there being 12 blooms staged.—Of Carnations and Picotees we cannot say a word in praise; we regret that flowers so popular should be so poorly represented; better things might have been expected from a dealer, than for the judges to have to disqualify his three collections, not only for want of compliance with the rules, but for the palpable misnomers by which the two twenty-fours and one twelve were distinguished.

Of Seedling Pelargoniums, Silver King and Attraction from Mr. Kinghorn were alone contributed. A Verbena from Mrs. Conway, named Drummondii, was attractive.

Although unconnected with the exhibition, we may mention that Mr. Ewing's glass walls, which were up, though in a very incomplete state, excited universal attention. They looked exceedingly well, and we were glad to find that the opinions of the gardeners were very much in their favour.

Review.

Exhibition of the Works of all Nations, 1851. *Reports by the Juries.* Pp. cxx., and 367 in double columns; large 8vo.

Nor the least remarkable of the results of the Exhibition of all Nations is the long series of Reports by the Juries, a copy of which has reached us just as we are about to go to press. The elaborate catalogues which have already appeared, and sketches from time to time made public in the form of newspaper articles, Lectures, Companions, Guides, and the like, give but a faint shadow of the great experiment of 1851. In the pages now before us we have the substance in all its solidity and integrity. As a record of the state of knowledge and skill in these our days the reports are invaluable, imperfect as many of them necessarily must be. The names, indeed, of the writers guarantee the justness of the conclusions at which the juries arrived, as is amply shown by the following enumeration of some of the more important reports and their authors, viz:—Mineral Products, M. Dufresnoy, pp. 35; Alimentary Substances, Dr. Hooker, pp. 16; Raw Manufacturing Materials, Professors E. Solly and Owen, pp. 100; Civil Engineering, Mr. Brunel, pp. 3; Naval Architecture, Ordnance, &c., Baron Dupin, pp. 16; Agricultural Implements, Mr. Pusey, pp. 18; Philosophical Instruments, Mr. Glaisher, pp. 80; Printing and Stationery, Messrs. Firmin Didot, Whittingham, and T. de la Rue, pp. 58; Glass, Lord de Mauley, pp. 16; Ceramic Manufactures, the Duke of Argyll, pp. 5; Miscellaneous Manufactures, not elsewhere reported on, Professor Hofman and Mr. Warren de la Rue, pp. 79; Sculpture, &c., Mr. Panizzi, pp. 7, with a supplementary report of 54 pages by Mr. Redgrave; Mineral Substances in a manufactured state as used for construction or decoration, Professor Ansted, pp. 36.

To the many subjects of interest in our own peculiar field which are embraced in these reports, we shall immediately commence drawing the attention of our readers, who we suspect are hardly yet aware how vast was the field of human knowledge upon which the Great Exhibition threw its brilliant light.

FLORICULTURE.

Ipswich Horticultural Society.—The second exhibition of the season was held on the 30th ult., in the grounds of Christ Church Park. The chief attraction was Roses, with which competition ran high, there being three special prizes offered for collections of 24 varieties open to all England. The 1st of these, a Silver Cup, value five guineas, was awarded to Mr. Barnes, nurseryman, Stowmarket.

Maidstone Horticultural Society.—The first exhibition for the present season was held on the 24th ult., in the grounds adjoining Rocky Hill-terrace, when the fineness of the weather and the expected excellence of the show, drew together the largest company that has ever attended a display of a similar character in Maidstone. The grounds in which the marquees were placed command an interesting view of the town. Among other exhibitions, beautiful collections of stove and greenhouse plants were shown by Mr. Cole, Mr. Epps, and Mr. Frost, gardener to E. L. Betts, Esq. These filled a stage 100 feet in

length. There were also some excellent plants produced by J. A. Wigan, Esq., and Mrs. Whatman. Not the least interesting feature of the show were four collections of Ferns. Among fruit was a Pine exhibited by G. Bentham, Esq.; Peaches by R. Tassell, Esq.; and Grapes by J. D. S. Douglas, Esq., and E. L. Betts, Esq. Many prizes were awarded, but we have only been furnished with a list of them, without the names of the subjects for which they were given. The amount taken for admission to the grounds was nearly 95*l.*

DAHLIAS: *Tyro.* Of no value for purposes of exhibition. You may plant now and expect flowers, and with attention to mulching, the tubers may be so far perfected that they would serve for propagating from next season; more than this we are afraid to promise.

FUCHSIAS: *Delta.* Mr. Banks is, so far as we know, a private grower; his seedlings, in the raising of which he has been very fortunate, are just now exciting considerable attention.

TULIPS: *Enquirer.* The present is a favourable time for removing the decayed roots and stems from the bulbs. The freer they are from all extraneous matters the less will they be subject to attacks of green-fly.

SEEDLING FLOWERS.

ANTIRRHINUMS: *E W.* Shrivelled, past recovery; you should have sent a spike packed in damp Moss.

CARNATIONS: *Sub.* A monstrosity, possessing no beauty, and unworthy of attention.—*L A M.* A beautiful purple flake, so far as colour is concerned, but petals not half wide enough to constitute a show flower, nor are they sufficiently smooth to "pass muster."

FUCHSIA: *W G B* Worthless, compared with flowers of the same character already in cultivation.

GLOXINIA: *B and B.* Pure white, but too small to compete successfully with other light sorts in cultivation.

PANSIES: *W N.* Of no value.—*R P., Kilnarnock.* A flower of good general character; deep yellow ground, with uniform broad belting of bronzy purple; eye displayed, surface and edges smooth.

PETUNIAS: *Anon.* Worthless; in aiming at size you have lost sight of other requisites; the best we have seen this season was a seedling at the Cheltenham show on the 15th June; but not being named we can give you no further information respecting it.

POTENTILLAS: *W W.* Picta is not so bright as one we lately saw at the Wellington-road Nursery. Vivid is deep crimson, and Alpha bright and bold; much of the value of these things depends on their habit.

ROSES: *W W.* From Oriflame Gallica, a deep carmine purple, remarkably full and deliciously fragrant. From Great Western, somewhat darker than its parent, but otherwise very similar. Governor, a globular and very powerfully scented variety, much fuller than the old China. From Julie de Loynes (Bourbon), a pretty free flowering cream-coloured sort, with stout petals. From William Jesse; this is a magnificent flower, full, smooth, fragrant, and large. Moss Minima, from De Meux, is really a Moss Rose in miniature, and has all the fragrance of the common Moss. The Tea variety had fallen to pieces. Unique, from Splendens Sweet Briar, is a large-sized full flower, of a true rose pink colour. From Aurora (Hybrid China), globular and full; colour poor, fragrance rich. From BlushNoisette, petals very thin and papery; profuse flowerer, the two stems having 21 blossoms in their various stages.

Miscellaneous.

Sale of Orchids.—Messrs. Loddiges' second sale of these plants took place at Stevens's, on Monday last. The highest price obtained on the occasion was 16*l.* 16*s.* for a fine plant of Vanda suavis. Good specimens of Cymbidium eburneum fetched 15*l.* and 19*l.* each; Saccolabium præmorsum, 14*l.*; Aerides roseum, 11*l.* 11*s.*; A. crispum, 10*l.*; A. odoratum purpurascens, 7*l.* 10*s.*; Vanda teres, 11*l.*; Lælia anceps, 10*l.*; Vanda Batemanni, 10*l.* 10*s.*; the Dalhousie Dendrobe, 9*l.* 10*s.*; D. anosmum, ditto; Saccolabium furcatum, 9*l.*; Angræcum eburneum, 9*l.*; Miltonia candida, 11*l.*; Oncidium oblongatum, 6*l.* 5*s.*; O. spilopterum, 5*l.*; other lots, of which there were in all 150, fetched from 10*s.* to 4*l.* each.

Ginger Wine.—In answer to a correspondent, who asks for a formula for ginger wine, we insert the following from "Robinson's Art of Making British Wines:"—Boil 65 gallons of river water, 1½ cwt. of the best loaf sugar, and 5 lbs. of the best race ginger, bruised, half an hour; then add the whites of 10 eggs, beaten to a froth with 2 ozs. of dissolved isinglass, stir it well in, and boil 20 minutes longer, skimming it the whole time. Then add the thin rinds of 50 lemons, boiling them 10 minutes more. Cut 28 lbs. of good Malaga raisins in half, take away the stones and stalks, and put them with the juice of the lemons strained, into the hogshead. Strain the hot liquor into a cooler, and when it has stood 2 hours and is settled, draw it off the lees clear, and put it into the cask; filter the thick and fill up with it. Leave the bung out, and when at the proper temperature, stir 3 quarts of thick fresh ale yeast well into it; put on the bung lightly, and let it ferment 6 or 7 days, filling up with liquor as it works over. When the fermentation has ceased, pour in 6 quarts of French brandy, and 8 ozs. of the best isinglass, dissolved in a gallon of the wine; then secure the bung effectually, and paste paper over it, &c., &c. Keep it two years in a cool cellar, then bottle it, using the best corks, and sealing them, and when it is 4 years old commence using it. *Pharmaceutical Journal.*

Enormous Plank.—There was lately at the Bridgewater Canal-yard, Chester-road, Manchester, an enormous plank, which had been brought from Liverpool by the canal. Its dimensions were—length, 144 feet; breadth, 20 inches; and thickness, 6 inches throughout. It was of a species of wood known as gum wood, or African Oak, and was imported from Africa into Liverpool during last summer. The tree from which this plank has been sawn must have been of a gigantic height, probably not much less than 300 feet. *Daily Paper.*

Protect your Trees from Mice.—The best, cheapest, safest, surest protection is arsenic. It only costs a few cents or shillings, perhaps, a pound. Mix with a quart of meal, two teaspoonfuls of arsenic, scent it, if convenient, with a drop of oil of rhodium. Place it on chips, under flat stones or boards, near the tree, or bore holes in blocks, and put it in where nothing but mice can get at it. Renew the bait occasionally through the winter, and the mice will not eat your trees, for they shall surely die. *American Gardeners' Chronicle.*

Calendar of Operations.

(For the ensuing week.)

PLANT DEPARTMENT.

ALTHOUGH we do not recommend the propagation of plants in private gardens requiring much care to bring up, as such can be more cheaply purchased at the nurseries, yet there are some things of which a stock of home-raised plants should yearly be made. Among these, the propagation of Pelargoniums and other soft-wooded plants will claim attention at the present time. As soon, therefore, as the kinds of Pelargoniums desired to propagate, are out of bloom, cuttings should be taken off, and inserted singly in thumb pots, plunged in a cold frame; shade them slightly by day, and draw the sashes down each night, except it rain heavily. The old plants, after having their shoots cut back to two or three eyes each, should be placed in an open place to break before they are potted. Cuttings of other soft-wooded plants will require to be kept somewhat closer, until they commence growing; but it will be found that cuttings of the above description make much stronger and healthier plants when struck in as cool a temperature as is consistent with the development of roots. Remove from the conservatory or show house those plants which show by their faded blooms that they are past their best; their presence longer would detract from the freshness essential to beauty and good order. Achimenes, Gloxinias, &c., out of bloom, may be removed to a pit to ripen their bulbs; but only sufficient for a stock next season need be kept. Cleroden-drons, &c, in the same way may be transferred to Vineries, or any where to obtain a dry cool temperature for the same purpose. At no period of the year do Heaths and hard-wooded plants in general require more care than at the present time, more particularly such as have only recently been potted; to keep the old ball sufficiently moist to preserve the plant in health under the present high temperature, without getting the new soil in a sour state, requires great nicety in watering, supposing the plants under glass; and those placed out of doors should be narrowly watched, to preserve the same ends. At this season all the air possible should be given to greenhouse and most stove plants, keeping it on all night.

FORCING DEPARTMENT.

PINERY.—The plants selected in the spring, for autumn and winter fruiting, will be now showing fruit, and if they are provided with a pit to themselves will require (supposing the bottom heat steady), but little attention for some time, except slight shading, plenty of air, and a liberal allowance of water. As the syringe is plied pretty freely at this season, confine its use to the surface of the bed and walls of the house; and on no account let the plants while in bloom be wetted; some Pines, having large flowers, as the Jamaica, &c., frequently cut up with black spots in their middle, although they are apparently sound outside; this arises from a small quantity of water passing through the bloom to the fruit cells, and causing them to decay. Let succession plants have abundance of air day and night, to encourage a stocky growth; where it is intended to plant out the fruiting stock for next year, a sufficient quantity of loam, peat, and sand, if the loam is heavy, should be in readiness for use, as directly the present crop is cut the stumps should be cleared out, and either all or part of the soil removed, according as it may appear exhausted. VINERY.—Finish off the thinning of late Grapes, keeping former directions in view respecting the bunches being well tied out and thinned. In hot weather the red spider will at times increase so fast as to be kept down with difficulty, especially if the Grapes are ripe, or nearly so; recourse must be had to sulphur on the walls, hot-water pipes, &c., as before advised; and the sulphurator will be found effective in bad cases by throwing a cloud of fine dust over the infested foliage, for which purpose the sulphur should be previously well dried. Proceed to pot Strawberries for forcing, as the runners fill their pots with roots; pot them in 6 or 7 inch pots, using rich loam of medium texture, and well rotten dung; drain well.

FLOWER GARDEN AND SHRUBBERY.

Baskets, vases, &c., will require an occasional regulating; those having plants in them requiring to be tied out should be examined for the purpose, afterwards they may be allowed to grow in a freer style. Convolvuluses, Maurandyas, Lophospermums, &c., after being pegged over the surface of the soil, should be left to grow over the sides of the vase, or to ramble through the more formal plants which fill up the centre. Baskets, cases, or other contrivances containing plants in bloom, will require frequent attention to keep them gay; remove everything in the shape of decayed blooms or leaves, and take advantage, when a number of fresh plants are wanted, to effect a change in the arrangement, which will be found more pleasing than adhering to one plan; for the same reason, plants under verandahs, or arranged for effect near the house, when undergoing revision for the purpose of adding fresh plants, will be more interesting when variety in arrangement, or in the kind of plants, is introduced as often as they are changed. Continue to tie up and train plants still advancing in growth, as Hollyhocks, Dahlias, &c., or high winds will disfigure them. Remove the decayed bloom from Roses, as they fade; the Perpetuals should, at the same time, be slightly cut back; and manure-water given in dry weather, to encourage them to a second bloom. Propagation must now be commenced in earnest, taking those things first which require the longest time to become established plants—as Pelargoniums, Lantanas, and the like: and the rest in due time.

KITCHEN GARDEN.

Follow up the planting-out of winter Broccoli, &c., as recommended last week, as ground can be got in readiness. As the Potato disease has fairly commenced, an extra stock of the above should be planted in every vacant space, to act as a substitute. Swedes are a valuable vegetable in the spring when blanched, and an increased breadth of Turnips should be sown, as likewise a crop of horn Carrots to draw young. Gardeners should impress the necessity of cottiers and others providing themselves with any description of winter greens which may be procurable, and planting every nook they have with them, interlining the Potatoes as well. Attend to advancing crops as previously directed.

STATE OF THE WEATHER NEAR LONDON,

For the week ending July 15, 1852, as observed at the Horticultural Gardens Chiswick.

July.	Moon's Age.	Barometer.		Temperature.					Wind.	Rain.
				Of the Air			Of the Earth			
		Max.	Min.	Max.	Min.	Mean	1 foot deep.	2 feet deep.		
Friday .. 9	25	30.020	29.995	92	51	73.0	65½	62	E.	.00
Satur. ..10	26	30.117	30.034	87	53	7.00	67	65	N E.	.00
Sunday . 11	24	30.127	30.070	81	57	69.0	67	64½	S.E.	.00
Monday 12	25	30.100	30.049	79	56	67.5	67	64	E.	.00
Tues. .. 13	26	30.060	30.026	81	59	70.0	67	64	E.	.00
Wed. .. 14	27	29.993	29.923	81	60	70 5	67	65	E.	.20
Thurs.. 15	28	29.939	29.898	87	53	70.0	67	64	S.	.00
Average ...		30.051	29.999	84.0	56 0	70.0	66.8	64.1		.20

July 9—Dry haze; very hot; clear at night.
— 10—Very fine; hot and dry; clear.
— 11—Very fine; hot; clear; hazy at night.
— 12—Overcast; dry haze; sultry; hazy.
— 13—Dry easterly haze; fine; much lightning with distant thunder at night; rain.
— 14—Thunder occasionally; uniformly overcast; very hot; lightning at night.
— 15—Heavy dew; slight haze; excessively hot and close; clear.
Mean temperature of the week, 6¼ deg. above the average.

STATE OF THE WEATHER AT CHISWICK,

During the last 26 years, for the ensuing week, ending July 24, 1852.

July.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds.							
						N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 18	73.7	53.0	63.4	12	0.60 in.	—	1	1	—	5	9	7	4
Mon 19	71.6	52.3	61.9	15	0.60	1	1	1	1	6	7	7	2
Tues. 20	71.2	52.1	61 6	1.	1.47	1	1	2	—	1	12	8	1
Wed. 21	72.0	52.2	62.0	10	0.54	2	—	1	1	3	8	8	3
Thurs. 22	72.2	53.7	62.9	19	1.37	2	—	3	2	1	3	9	4
Friday 23	72.4	53.3	62 9	12	0 70	1	3	4	1	2	5	5	5
Satur. 24	73 0	52.3	62.6	9	1 16	—	7	3	1	3	7	3	2

The highest temperature during the above period occurred on the 21st, 1835, 22d and 23d, 1844—therm. 89 deg.; and the lowest on the 18th, 1851—therm. 39 deg.

Notices to Correspondents.

BOOKS: *W J.* A foreign language is not at all necessary to "a first-rate gardener." Study English, and books in that language on arithmetic, land surveying, elementary mathematics, mechanics, hydraulics, vegetable physiology, and botany. That will give you enough to do, without running after French and German.

CHERRIES: *Z G L.* We would recommend the following sorts:—Elton, Downton, Bigarreau Napoléon, Knight's Early Black, Florence, Reine Hortense, Werder's Early Heart, Late Duke, Royal Duke. The "Guide to the Orchard and Kitchen Garden," will probably suit you.‖

DISEASED LEAVES: *Sub.* They seem to be scorched by the fierce sun; the ground has been so cold that the roots could not supply sap fast enough to replace what is lost by evaporation.

DISEASES: *Hortulanus.* Your leaves convey no information concerning the disease which has attacked them. They look as if the roots had absorbed something noxious. We should not imagine, from the evidence, that the injury is important.

FILTERS: *Water.* There are many kinds of filters. One of the best is that of which a woodcut representation is given in our advertising columns, p. 399, 1851.

GRAPES: *C T Y, &c.* They are affected by the disease called "bletting," which is very prevalent this year, and of which some account will be found in our last week's No., at p. 440.

GREENHOUSE: *A Subscriber.* The pipes may be conveyed as far as you describe, without the heat of the water being lost, provided they are well packed in flannel, or felt, or charcoal-dust, or charred sawdust, and pass through a brick tunnel which *is perfectly dry.* But they should not be less than 4 inches in diameter.

INSECTS: *T M'M.* The insects which have deteriorated your samples of Lentils from the North of France, to the extent of 10 per cent., are the common Pea weevil, Bruchus pisi. A crop raised from this sample would be certainly likely to be infested with them.—*C D B D.* The blotches on the leaves of the Dock are caused by the interior of the leaves having been eaten by the larvæ of a small two-winged fly, most probably of the genus Tephritis. The hard oval chestnut-coloured bodies are the pupæ. The flies will shortly appear. *W.*

MANURE: *M W K.* If dish-wash, with other greasy substances from the kitchen, is put into the cistern with the chamber-slops, it will help to make good liquid manure to irrigate the garden, as soon as the whole has become well fermented.

MELON LEAVES: *X Y Z.* They look as if they had been attacked by thrips, but we could find none on them. The fierce sun may possibly have assisted in producing the mischief. You should use a light shade in the middle of the day.‡

NAMES OF PLANTS: *R R.* We believe it to be a leaf of the Hickory nut, Carya alba.—*P.* Very young specimen of Briza minor. Saw your planks after the log has been squared, and for some time left out of the sun.—*C F.* Ballota nigra.—*G P M.* 4 and 5, varieties of Helianthemum vulgare; 9, Cheiranthus ochroleucus; 1, Geranium sylvaticum; 2, Galega officinalis; 3, Polemonium cœruleum; 6, Pulmonaria davurica; 8, Nepeta parviflora; 7, Pyrethrum roseum.—*S E C.* 8, Arrhenatherum avenaceum; 10, Agrostis alba, and 11, A. vulgaris, both varieties of the same species; 2, Phleum pratense, a small state; 12, Lolium perenne. The rest are right.—*A Subscriber.* Taxodium sempervirens is a very fine evergreen coniferous tree from California and Northern Mexico.—*J C.* Collomia grandiflora.—*M W.* If a perennial, it is Linaria genistifolia.—*W S.* Sedum acre, or common Stonecrop.—*T R.* Sparganium ramosum, Scrophularia nodosa.

PAULOWNIA IMPERIALIS: *J A.* It is a native of Japan.

STRAWBERRIES: *Irish Sub.* We are unable to say why your Strawberries, which were covered with flowers, have borne very little fruit. It is a common complaint this year. What you have sent, however, look like female Hautbois, and if so they require males to set them.‡

VINE MILDEW: *H.* Is it not sulphurous acid, instead o sulphuric? a very different substance.

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TO AGRICULTURISTS.

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The Agricultural Gazette.

SATURDAY, JULY 17, 1852.

MEETING FOR THE ENSUING WEEK.

THURSDAY, July 22—Agricultural Imp. Society of Ireland.

THE political, it would appear, still very generally outweigh the practical interests of agriculture in the minds of those who usually assert the latter by their attendance at the Annual Meeting of the English Agricultural Society; for it is to the occurrence of the county elections in the same week with the Lewes meeting, that we suppose we must attribute the scanty attendance upon the latter. There is certainly no loss, either in the number or the merit of the usual objects of attraction. The catalogues form as bulky a volume as ever, and the specimens in the implement, and, we believe, the live-stock department also, are as deserving of examination; but hitherto (Wednesday), the attendance has been remarkably small, and the little town of Lewes is by no means overcrowded.

In reference to the implement part of the show, to which alone the public is admitted before Thursday, we give the following *numbers* as having been exhibited at the Society's shows in latter years:—

Date.	Place.	No. of Implements.
1841	Liverpool	312
1842	Derby	455
1843	Bristol	508
1844	Southampton	948
1845	Shrewsbury	942
1846	Newcastle	735
1847	Northampton	1321
1848	York	1508
1849	Norwich	1700
1850	Exeter	Considerable decrease
1851	Crystal Palace	Not shown at Windsor
1852	Lewes	1742

We might add a table showing what makers have successively outstripped each other, have alternately shared honours, or retained their position of eminence or inferiority. But as champion implements have frequently been beaten in competition by the identical implements which they had previously outdone, merely owing to the varying opinions of different judges, there would be little instruction in such a comparison. The decision of the Society's judges can never be regarded as fixing the absolute and unalterable merit and value of the different implements; it is simply the opinion of men more or less qualified to judge, drawn from trials more or less hasty and incomplete. The worth of their adjudication will depend upon their capability and opportunities for comparing; and the prize awarded is too often valuable merely to the exhibitor, from the name and fame it confers upon his goods. More of the trials, which are the most useful to the agricultural public, have been instituted upon machines by dynamometers, rather than mere observation. The power required to effect a certain result has been accurately ascertained; and form one unquestionable ground of judgment: this is especially the case with threshing and dressing machines. In general, however, the makers seem to rely more upon the discernment of purchasers who have had long experience of their inventions in the field, than upon the changeful choice of the appointed judges. The main advantage of the show to farmers is that they can not only inspect those contrivances which for the time have received the approbation of several engineers and gentlemen, but judge for themselves as to the relative merits of modifications introduced into machines with whose practical operation they are thoroughly acquainted. The object of our report of course is to furnish non-visitors with materials by which to form an idea of the exhibition, and convey to them as much as possible of the information they might have gained by personal examination. Now, the show-yard, with its long rows of stands, and its innumerable diversities of agricultural machinery, has been often described; and all the better implements and vehicles and machines yet produced, are well known from their multiplication throughout the country, from their presence in the Crystal Palace, and from the minute descriptions they have received in the columns of this and other newspapers; so that the chief inquiry likely to be asked of us now is not "What is there in the Lewes Implement Show of 1852?" but "What is there which has never been seen before?" Our slight notices shall be, therefore, restricted as much as possible to the novelties of the present exhibition: we shall aim not so much to illustrate the present condition of our agricultural mechanics, as to state the advances which have been made during the past year.

For all this, and for remarks descriptive of the cattle and other live stock exhibited, we refer the reader to another page.

PAUPERISM.

THE tardy application of a Poor-law to Ireland has been attended with severe and irritating effects, from the previous unpreparedness of the body politic to undergo the remedial operations. If alteratives had been first administered in a mild and gradual manner, corrective of the incipient or existing maladies, they would probably have produced salutary effects. Unfortunately the delay of the sanative measures in the various desperate and long-standing cases of Irish pauperism, obliged the state physicians, when called into consultation, at the crisis of the disorder, to prescribe and act with so much boldness and precipitancy, and with such imperfect knowledge of Hibernian pauperism, and of the treatment proper for it, that they were induced to substitute much extravagant though well-meant experimental empiricism for the regular and more effective practice pursued in England. But we shall first confine our remarks to the subject of pauperism in England, which, notwithstanding the many privations and bitter wants which so many of the poor endure, with little chance of providing, by their many years of severe toil, for the infirmities of old age, contrasts favourably with the condition of the same class, when the 43d Elizabeth was enacted, and in subsequent periods also.

"There bee," says the author of a pamphlet published in 1610, "within a mile and half of my house (in the golden vale of Herefordshire), every way, 500 poor habitations, whose greatest means consist in spinning Flaxe, Hempe, and hurdes. They dispose the seasons of the yeare in this manner—I will begin with May, June and July (the merriest months for beggars), which yield the best increase for their support, to raise multitudes, whey curdes, buttermilk, and such belly provision abounding in the neighbourhood, serves their turne; as wountes, moles hunt after wormes, the ground being dewable, so these idlers live intolerablie by other meanes, and neglect their painsful labours, by oppressing the neighbourhood. August, September, and October, with that permission which the Lord hath allowed the poorer sorte to gather the eares of corne, they do much harme. I have seen 300 leazers or gleaners in one gentleman's corne field at once; his servants gathering and stoaking the bound sheaves, the sheaves lying on the ground like dead carcases in an overthrown battell, they following the spoyle, not like soldiers (which scorn to rifle), but like theaves desirous to steale, so this army holdes pillaging Wheate, Rye, Barley, Pease, and Oates, and graine, which never grew in Canaan nor Egypt, and altogether out of the allowance of leasing."

The political vicissitudes during the period when England was ruled by the Stuarts and the Commonwealth prevented attention to the subject of pauperism, and it does not appear that there had been any departure from the leading principle of the 43d Elizabeth until the last century, when classes of the poor not originally contemplated by it were included. From that period, however, the poor rates increased with prodigious rapidity, amounting to 4,017,871*l.* at the commencement of the present century, and amounting in the severe year 1818 to 7,870,801*l.* With due allowance for the increase of population, which had augmented from 8,872,980 in 1801 to 14,531,957 in 1831, the ratio of increase of poor rates was yet so disproportionably high that it became necessary for the Government to appoint a commission in 1834 for the purpose of making "a diligent and full inquiry into the practical operation of the laws for the relief of the poor, and into the manner in which those laws were administered." The Act "for the amendment and better administration of the laws relative to the poor in England and Wales" received the Royal assent in the same year. In that year the amount of money expended in the relief of the poor was 6,317,255*l.* From that date to the end of 1847 there was a decrease, but in the year 1848 the sum expended rose to 6,180,764*l.* There has been, however a decrease again in 1849 and 1850, the last amoun being 5,395,022*l.* for an increased population.

The sum levied indeed every year under the genera head of poor rates, has always been much more than the sum *bonâ fide* applied to the relief of the poor. For instance, in the year 1850 the sum levied was

7,270,493*l.*, being an excess of 1,875,471*l.* over the sum entered in the column for the relief of the poor. This excess has been expended in defraying law charges, constables' expenses, fees under the Registration Act, vaccinations, surveys, valuations, and payments towards the county or borough rates, this last item being 1,321,035*l.** The amendment in the Poor Law Act to which we have referred, was called for, not only from consideration of the vast expense thrown on the ratepayers (who in England are the occupiers,† not the landlords), and the maladministration of the funds, by which a demoralizing tendency was given to the existing law.

Inasmuch as there was an additional allowance for the maintenance of every child in a family without regard to legitimacy, it held out not only a premium to improvident and premature marriages, but to concubinage generally. The more mouths, the more the allowance from the parish pay-table. The poor who wilfully induced a state of poverty on themselves insolently demanded as a right, as a sort of freehold privilege, that gratuitous relief which in no other country in the world would have been conceded to them. Bread-money they claimed with the utmost boldness even when they were too idle to earn it. A dissolute woman would unblushingly demand a capitation bounty in the form of weekly support for each illegitimate child she bore. When such an abandoned character was created an heiress by the selfish policy of parish guardians, who were ready to pay a good round sum to any man of *another* parish who would marry her and remove her from her own where she was a burden and disgrace, it was time to free the Poor-law from such abuses and to revert to its original intentions, and, without abandoning the principle of supporting the impotent poor and all real objects of charity, to withhold encouragement from the idle and the dissolute. There was another objectionable point also in the old law. The rate-payers, to save their pockets as much as possible, were induced to employ married men with families at a much higher rate of wages than unmarried ones. Here was a direct bounty on early marriages. *M. D.*

(To be continued.)

Home Correspondence.

Northumberland.—It is of the utmost importance to the agriculturists and the community at large to inquire into statements made with regard to particular localities, when the accounts appear at variance with the generally received opinions. The price of farming produce cannot be raised by complaints of the small yield of the soil, due exertions not being made to bring it into proper cultivation, according to the known rules of husbandry. A tradesman might as well urge poverty as an excuse for assistance, when it was well understood that idleness and inattention to business were the causes of the loss of his customers. An assertion made at a public meeting, and remaining uncontradicted, may fairly be made a subject of notice; for this reason the tillage of Northumberland is again alluded to, in order, if possible, to induce some practical men to relieve the northerns from the accusation of being bad farmers. Northumberland has been classed amongst corn-growing counties, and from the stiff nature of the soil, it has been justly so numbered. What must have been the surprise of the public to hear that land well adapted to produce Wheat should only send to market 18 bushels to the acre? There must be some mistake, and probably the error has originated in some young inexperienced hand making the calculation, who has not understood the proper method of averaging land, and has mixed good, bad, and indifferent altogether; taking much as capable of growing Wheat, which might as well be expected to produce Melons and Cucumbers under its present management. The *Agricultural Gazette* should make diligent inquiries, by means of a "Commissioner," when such marvellous assertions are put forth, which, if correct, the Northumbrians require the schoolmaster amongst them. *Falcon.*

Disease in Pigs.—Will you be kind enough to insert the following account of the loss of five store pigs out of 12 of the Berkshire breed, aged 10 months; they were fed on grains, Barley-meal, and wash, with an allowance two or three times a day of Dutch Clover, and occasionally a barrow of Grass cut from the brow of a ditch. July 2d, two P.M.; the first pig was found dead in the farm-yard, with the abdomen very much distended; the second pig died about 8 P.M., the abdomen was also very much distended. The bailiff then gave the remainder, 10, a portion of Epsom salts and sulphur; nothing more the matter was seen until July 3d, about 2 P.M., when another pig died, and another at 5, and another at 6 P.M., which I witnessed before and after death. There appeared to be very little symptoms of approaching dissolution until within half an hour of death, when the eyes began to sink and fall back in their orbits; they tried to vomit, but seemed unable, when convulsions and death took place in a few minutes. The *post mortem* examination showed distention of the stomach, and also congestion, with an unusual quantity of grassy particles, a few grains, and very little fluid of any kind; with sour and very offensive smell. The gall bladder in each case was very full. The stomachs were discoloured in patches, and the villous coating was very much softened; the other viscera appeared quite healthy, except the brain, which was much congested. Should you have any similar cases in your despatches, I would feel much obliged by a reply; or should any gentlemen or farmer like to reply through your valuable paper, for the benefit of others, I would esteem it a favour. *Subscriber.*

* The expenses of public prosecutions for petty larcenies swells this item enormously. We have the authority of one of Her Majesty's judges for saying that it costs a county 20*l.* for the most trivial prosecution. If a poor wretch is detected in stealing a goose or fowl, an attorney immediately pounces on him, and the county has to pay extravagantly for the prosecution.

† The *owners* of houses, however, whose rateable value does not exceed 6*l.*, may be assessed by a resolution of vestry instead of the occupiers (13 and 14 Vict. c. 99).

Societies.

MEETING OF THE ROYAL AGRICULTURAL SOCIETY OF ENGLAND, AT LEWES.

TUESDAY, *July* 13.—The only proceedings connected with the Society, to which the public have been admitted, has been the Lecture delivered by Professor SYMONDS, of which the following is a report. It was delivered in the county hall, before a very scanty audience.

PROFESSOR SIMONDS' LECTURE "ON THE DISEASES OF SHEEP OCCASIONED BY PARASITIC ANIMALS."

At 6 o'clock, there being present in the County Hall about 10 persons beside reporters, the chair was taken by the Hon. ROBERT CLIVE, and subsequently vacated for CHARLES LAWRENCE, Esq., of Cirencester.

The Lecturer commenced by observing, that there are certain creatures that live upon other animals, and these are therefore called Parasitic—the term being applied generally without reference to the kind of creature or the part upon which it is found. Many diseases may be clearly traced to these insects; many other diseases are aggravated by them; and there are some cases in which we are not cognisant of the malady until the parasite has been long present: as, for instance, in the disease of sheep called Gid or Turnsy (from the an mal turning about in his walk). This is occasioned by a parasite in the sheep's brain, but which effects no mischief until grown to a considerable size.

The diseases to which I shall more particularly refer are those commonly called Husk or Hose, in calves and lambs; Scab, in sheep; and Gid or Turnsy, in sheep.

Young animals are more prone to fall the victims of parasitic disease than mature animals are, because their powers of resistance are less, and they are more exposed to predisposing causes; for many diseases depending upon parasites attack animals when debilitated, so the inclement exposure and hard treatment of young animals render them susceptible.

Hose or Husk, or, more properly speaking, Bronchitis—an affection of the lining membrane of the respiratory organs, which attacks calves and lambs at an early age—does not arise from ordinary causes; because then only a few of the herd would be affected, but the great extent of the malady points out a special cause. The indications are a hurried breathing, impaired appetite, variable state of the alimentary canal, continued cough without the discharge from the nostril as in other coughs; and, by disturbing and moving the animal, this husky cough is made worse. As the parasites build up the disease and maintain it, nothing but their destruction or expulsion will give relief. *Post-mortem* examinations after this disease show that the windpipe is filled with worms, which from their thread-like form are called Filaria. In all domesticated animals these may be met with; but each animal has its special and peculiar worm—just as skin diseases, produced by parasites, are caused by different insects upon different animals, the scab on sheep not being able to produce scab on an ox or a horse. Some have thought that these parasites are oviparous, the ova existing in myriads even in a single individual; but, from microscopic observations, I am satisfied that they are viviparous. The Filaria of the calf is white, from 2 to 4 inches long, and is male and female. I may here say that there is no necessity to account for their existence by a doctrine of fortuitous creation; means are always employed by the Creator for the multiplication of his creatures.

Now, as to the readiest means for dislodging these worms from the windpipe, and even the air cells of the animal's lungs I may mention that there are certain medicinal agents which are discharged through the glands, though sometimes these are not wholly separated. Thus, oil of turpentine is principally passed off through the kidneys, as it stimulates the urinary secretion; but a certain portion of it is carried off by the respiratory organs, hence the patient's breath always smells of the turpentine. Oil of turpentine is the most effectual remedy, as, being partly passed through the parts affected, it renders the worm uneasy. It should not be exhibited in large doses; half an ounce to an ounce is sufficient for a calf, and it should be blended with a little common linseed oil, to promote a healthy state of the digestive system. But we must not depend entirely upon this remedy; there are other agents which invigorate, as tonics. Su phate of iron is one of the best tonics, and we should alternate this with the turpentine, so as to husband the resources of the animal. In all dangerous cases apply to a veterinary surgeon, but a good deal may be safely done by the proprietor of the cattle himself, in applying simple remedies as quickly as possible. Another common agent for removing any internal parasites is common salt. Thus, the rot in sheep (which is occasioned by a parasite in the liver, called Bistoma hepaticum), never occurs upon salt marshes; no matter what the amount of moisture may be, provided salt be present. However, I should recommend that animals, when affected with bronchitis, should have turpentine, generous and nutritious diet, shelter from inclement weather, and tonic agents, to husband their resources.

There are also local remedies, as impregnating the atmosphere the animal is breathing, so as to render it deleterious to the worms; but the fumes of burning tar, sulphur, &c., which farmers commonly use, are valueless. Chlorine gas, however, is destructive to parasitic life, and may be employed by the veterinary surgeon. The animal should be driven into a close-boarded shed, the gas generated there in the usual manner; and the individual who administers it should remain in with the animal as long as he can bear it, and then come away, bringing his apparatus with him.

The surgical operation of opening the trachea may be said to be altogether valueless, as my own experience testifies; and when the air cells of the lungs are blocked up with parasites, no good can result from merely opening the windpipe, that they may have a freer way of escape.

The next disease I shall notice is the scab in sheep, produced by a parasite of the mite kind, called Acarus. English veterinary surgeons have long disputed this as the cause of scab continental surgeons the same; but scab depends upon an acarus, just as in the human subject, it depends upon the insect called Acarus scabiei. I should like to see the term scab expunged from our books, and some other simple explanatory term substituted.

Some few years ago I made observations upon skin diseases, and found that many different diseases are commonly classed as identical, the fact being that true mange in the horse, true scab in the sheep, and true itch in human subjects, are very rare. The mange in horses is produced by the Acarus equi, there being both male and female insects. I took some of them, and placed upon the skin of a healthy horse, in every case inducing the disease. It is well known that mange is exceedingly contagious. These acari, however, when placed upon sheep, oxen, goats, &c., failed to cause disease, because the acari affecting different animals are themselves distinct in kind. I afterwards directed my attention to scab; and, though long known abroad, yet the living acarus had never been found upon sheep in England, until last year. Had the wool been searched, instead of the eruptions on the skin, these creatures might have been discovered long before. German works state that the disease of scab may be induced by means of the insects, although I have not myself tried it.

This disease inflicts great loss upon the flock proprietor, for not only the flesh of the animals wastes, but the quality of the wool is greatly deteriorated. The latter effect may be easily understood. The quality of the wool is in proportion to the quantity of unctuous matter called yelk, an oily secretion exuded from the follicles of the skin; and the acari, by irritating the skin, alter both the quantity and quality of this yelk; for though the eruptions are only in certain parts of the skin, yet one part when irritated very quickly affects all the rest. In scab, eruptions or pimples appear early upon the back and loins. Now, parasites in the human subject locate themselves upon particular parts; thus, the head louse is of a different kind to the louse inhabiting the hairless part of the body. And, by comparison, we may account for the preference of the acari to particular parts of the sheep. As the disease progresses, the skin becomes thickened and covered with scales or scabs, and the sheep is worn down by irritation.

As to the best means of getting rid of the disease, of course this will consist in the destruction of the parasite; but many cases resist the ordinary means employed. In most agricultural counties there are individuals professing to have specifics for curing this malady, and many of the remedies have their value; but I would advise you to be cautious in using them. Remedies for curing by one dressing commonly consist of a vegetable infusion, supposed to be unprejudicial to animal life—the general notion being that only mineral solutions are dangerous, whereas an infusion of Tobacco (not commonly used), will destroy sheep by merely saturating their fleece. Old as it is, I believe mercurial ointment to be the very best remedy; though you must not use too much nor of too great a strength; as when the skin is excoriated and cracked, the mercury is liable to be absorbed and destroy the animal.

I now pass on to notice Gid in Sheep, produced by a peculiar parasite in the brain. It is not until this creature has grown for some time, and has encroached upon the brain, that we know of it; when the sheep turns round in his attempts to walk, falls, struggles, walks forward again, and continually turns to one side. This parasite is one of the Hydatids, in form like a bladder filled with water. There are many of these creatures in different parts of the body—one in the brain, another sort attached to the intestines, liver, &c.; another in the substance of the organs of the body; another constitutes measles in young pigs—small white spots in their flesh when killed. Such meat cannot be fit for food, and as Irish pigs are more liable to it than our own, some inquiry should be instituted, for the sake of the public health. Hogg, the Ettrick Shepherd, it is said, once punished a giddy sheep that annoyed his flock by pushing a needle up its nostrils, and unwittingly cured the complaint by puncturing the hydatid. We cannot recommend surgical operations, however, because the hydatidis in no certain portion of the brain, and it may be deep in the substance of the brain. By examining one of these creatures we find that its transparent walls have white projections with sucking discs, so that a simple puncturing of the bladder, if it could be done, would not suffice.

In the heads of sheep are frequently found larvæ or bots, like bots in horses' stomachs. Some people think these the cause of gid; but they are harmless, being merely the ova of flies, passed up the sheep's nostril, hatched into larvæ, growing for a year or more, and then escaping into the mouth when changing into their pupa or chrysalis form. While no part of an animal is free from parasites, they are most frequent in those parts connected with the air. Thus certain worms in the intestines are often the cause of diarrhœa. These are the tape-worm, folded tape-worm, round-worm, thread-worm, and the hairheaded-worm. The latter, or Tricocephalus affinis, is the most predominant. It has an immensely long neck; it is oviparous, and its anatomy is very interesting. When these worms are present, they are with difficulty discharged; if changed to dry food, the animal is but temporarily relieved, purgings again come on. The ordinary astringent agents, chalk, catechu, gentian, opium, &c., are only temporary, and do not get rid of the evil. What is true of the parasites in the calf's windpipe is true also of these—administer doses of turpentine, &c. There are some other diseases into which I cannot now enter. It is in vain to expect a cure without striking at the root of the evil; we have yet much to learn, but we have fully established the fact that many diseases depend upon parasites. The different parasites infesting domesticated animals, and the parts in which they lie, are enumerated in the following description:—

OESTRUS (the BOT).—Oes rus equi (the spotted-winged horse bot), O. hæmorrhoidalis (the fundament bot), O. veterious (the red bot), larvæ in the stomach; O. bovis (the gad fly), O. tarandi (the reindeer gad fly), under the skin of the back, &c.; O. ovis (the sheep bot), larvæ in the maxillary sinuses.

HYDATIS (the HYDATID).—Hydatis cænurus cerebralis (the many-headed hydatid), brain; H. cysticus vel tenuicollis (the bladder-tailed or long-necked hydatid), surface of intestines, lungs, liver, &c.; H. acephalocystis (the headless hydatid), muscles in substance of lungs, &c.

FASCIOLA HEPATICA (the LIVER FLUKE), the gall bladder and ducts.

VERMES (WORMS).—Tenia solium (the tape-worm), small intestines; T. plicata (the folded tape-worm) cæcum. Ascaris lumbricoides (the round-worm), jejunum and ileum; A. vermicularis (the thread-worm), rectum, arteries, tumours, &c.; A. v. tricocephalus (the hairheaded-worm), cæcum. Strongylus gigas (the larger strongle), kidneys; S. ularia (the smaller strongle), bronchi and eye. Acari scabiei (mange insects), Pediculi (lice), Pulices (fleas), Ricini (ticks), the integument.

The company had increased at the close of the lecture to about fourfold what it was at the commencement, but not amounting to more than 40 people.

WEDNESDAY, *July* 14.—The doors of the implement-yard were opened at 8 o'clock this morning, but very few entered during the first few hours, and the attendance has been very small all day. There are upwards of 100 exhibitors present, and the number of implements is larger than it has been at any meeting hitherto. Among the more striking features of the show is the large number of reaping-machines and steam-engines, and the comparatively small number of tile-making machines. Taking the articles in alphabetical order there are 7 Barley hummellers, 8 Bean splitters, 13 carts, 24 chaff-cutters, 5 cheese presses, 10 churns, 9 clod-crushers, 20 corn-dressing machines, 23 cultivators or scarifiers, 17 drills, 4 fire-engines, 3 Flax machines, 2 flour-mills, 19 grinding-mills, 3 Gorse-bruisers, 19 harrows, 5 haymaking machines, 5 hay-racks, 17 horse-hoes, 10 horse-powers, 12 horse-rakes, 23 corn-crushers, 6 tile-making machines, 3 manure distributors, 4 mowing machines, 11 oilcake breakers, 37 ploughs, 12 pumps, 13 reaping machines, 7 rick-stands, 13

rollers, 2 sowing machines, 14 steam-engines, 4 steam apparatuses, 2 straw-shakers, 11 subsoil pulverisers, 23 threshing machines, 14 Turnip-cutters, 6 weighing-machines—besides a great variety of other implements, including barrows, draining-tools, dynamometers, fencing, forms, garden implements, gates, gutta percha tubes, hand-dibbles, harness, hurdles, mangers, mangles, models, pails, sack-holders, scythes, seeds, tree and plant guards, trucks, watering-machines, wheels and axles, whippletrees, wire netting, and many other articles not capable of being classed with these.

The judges, therefore, have had no easy task; indeed their awards have not yet been completed. The following is the premium list, so far as it is yet known.

AWARD OF THE JUDGES OF IMPLEMENTS.

KIND OF IMPLEMENT.	PRIZE.	EXHIBITORS.
For the Plough best adapted for general purposes	£7	Ransome and Co.
Plough best adapted for deep ploughing	7	William Bushby
One-way or Turn-wrest Plough	7	Ransome and Co.
Paring Plough	5	Thomas Glover
Subsoil Pulveriser	5	J. Gray and Co.
Drill for general purposes	10	R. Hornsby and Son
Steerage Corn and Turnip Drill	10	R. Hornsby and Son
Drill for small occupations	5	R. Garrett and Son
Most Economical Small-occupation Seed and Manure Drill for flat or ridged work	5	R. Garrett and Son
Turnip Drill on the flat	10	R. Hornsby and Son
Turnip Drill on the ridge	10	R. Hornsby and Son
Drop Drill, for depositing seed and manure	10	R. Garrett and Son
Manure Distributor	5	R. Garrett and Son
Portable Steam-engine, not exceeding 6-horse power, applicable to threshing or other agricultural purposes	40	Not yet Awarded.
Second-best Ditto ditto	20	
Fixed Steam-engine, not exceeding 8-horse power, applicable to threshing or other agricultural purposes	20	
Second-best Ditto ditto	10	
Portable Threshing Machine, not exceeding 2-horse power, for small occupations	10	
Portable Threshing Machine, not exceeding 6 horse power, for larger occupations	20	R. Garrett and Son
Portable Threshing Machine, not exceeding 6-horse power, with shaker and riddle: to be driven by steam	20	Clayton and Son
Fixed Threshing Machine, not exceeding 6-horse power, with straw-shaker, riddle, and winnower, that will best prepare the corn for the finishing dressing machine: to be driven by steam	20	R. Garrett and Son
Corn-dressing Machine	10	Hornsby and Son
Grinding-mill for breaking agricultural produce into fine meal	10	Mr. Hurwood
Linseed and Corn-crusher	5	Mr. Stanley
Chaff-cutter, to be worked by horse or steam power	10	[ler Richmond & Chandler
Chaff cutter, to be worked by hand power	5	Mr. Cornes
Turnip-cutter	5	Not yet Awarded.
Oilcake-breaker for every variety of cake	5	
One-horse Cart for general purposes	10	William Bushby
Light Waggon for general purposes	Equal merit.	Mr. Crosskill / W. Ball
Machine for making Draining Tiles or Pipes for agricultural purposes	20	Thomas Scragg
Instruments for hand-use in Drainage	3	Mapplebeck & Lowe
Heavy Harrow	5	William Williams
Light Harrow	5	J. and F. Howard
Cultivator, Grubber, or Scarifier	10	Ransome and Co.
Pair-horse Scarifier	5	Charles Hart
Horse Hoe on the flat	10	Garrett and Son
Horse Hoe on the ridge	5	J. and F. Howard
Horse Rake	5	J. and F. Howard
Horse Dibbler or Seed-depositor, not being a drill	10	[Andrewes Barrett, Exall, and
Gorse-bruiser	5	
Most Economical Steam Apparatus for general purposes	5	W. P. Stanley
Dynamometer, especially applicable to the traction of ploughs	5	
Plough to fill in the soil cast out of drains, with not more than four horses, two and two abreast (offered by R. Slaney, Esq., M.P.)	10	Not sufficient merit.

MISCELLANEOUS.

KIND OF IMPLEMENT.	AWARD.	EXHIBITORS.
Reaping Machine	Silver Medal	R. Garrett & Son
Improvement in Plough Wheels	Ditto	J. & F. Howard
Weil Machinery	Ditto	Tasker & Fowle
Digging Forks and Farm Tools	Ditto	Burgess & Key.

The following articles were highly commended:—Norwegian Harrow, exhibited by Mr. Kearsley; American Digging Forks and Farm Tools, exhibited by Messrs. Mapplebeck and Lowe; Improving Implement, exhibited by Mr. Read; Eccentric Lever Hinges for Gates exhibited by Mr. H. A. Thompson.

The following articles were commended:—Haymaking Machine, exhibited by Messrs. Smith and Ashby; Sack Holder, exhibited by Mr. Gooch; Odometre, exhibited by Messrs. Cottam and Haden; Gravel Screen, exhibited by Mr. John Smith, Uxbridge; Hurdle, exhibited by Messrs. Hill and Co; Root Washer, exhibited by Mr. Crosskill; Garden Engine, exhibited by Mr. Read; American Churn, exhibited by Burgess and Key; Gate, exhibited by Messrs. Hill and Co.; Hames, exhibited by Mr. H. A. Thompson; Patent Trussed Iron Whippletrees, exhibited by Messrs. Ransomes and Co.

B. T. Brandreth Gibbs, Hon. Director of the Show.

The first exhibitor as we enter the yard is Mr. Crosskill. He shows his clod-crusher; a Belgian roller consisting of as many as nine narrow cylinders on a round axle; a Norwegian harrow with longer and sharper teeth than usual (an implement, by the way, which appears to be losing its position in the esteem of the farmer); a Hussey's reaping machine, in which, as is well known, the cutting apparatus consists of a series of small V shaped knives, riveted to the cranked blade, which is set in motion by the simple gearwork of the travelling wheel. The blade passes rapidly backwards and forwards, inside a kind of sheath or guard, on which projecting V bosses protect the knives from injury, while the knives press the corn on either side of the bosses, and effect a sure cutting action, like scissors or shears. The knives have bevilled edges, and require but once sharpening on a grindstone for a whole season; this form of blade is decidedly better than the flat sided blade, as it is not liable to get injured by stones, the wedge-like form of blade forcing its way, while a flat edge must cut through or be gapped and injured; the sickle-edge knife is yet more objectionable for working through the guards and against stones or dirt. Mr. Hussey's principle of cutting enabled him with this machine to do away with reels or fliers (as used in his first machines), and consequently better adapt it for cutting "laid" as well as standing crops, and to travel across "ridge and furrow" on grain or green cropped land.

We may mention here that it was a Hussey's machine which gained the prize for Messrs. Garrett. The trial, at which we were not present, was, we believe, not considered generally satisfactory, and certainly insufficient to justify the existing excitement on the subject of reaping machines in this country.

Other reaping-machines to which we shall hereafter refer, were shown by other exhibitors. Mr. Crosskill also showed carts, waggons, and axles—a patent sweeping-machine—specimens of four railway threshing machine steam engines, flour mills, &c. He also exhibited Captain Carr's ingenious Archimedian root-washer, in which the roots are delivered into a hopper, and pass thence into an inclined cylinder, having two chambers, in the first of which they are confined and washed by turning the handle in one direction; and, when thoroughly cleaned, by turning the handle the other way round, they pass into the second chamber, which is constructed in the form of a spiral, along which they pass until they drop into a spout outside. Two sizes of the Archimedian washer are made; one for Potatoes only, price 4*l*. 10s., and this, the largest size, for washing Potatoes, Turnips, Carrots, &c., 5*l*.

Some of the enormous and unwieldy turnwrest ploughs of Kent and Sussex were exhibited in adjoining stands.

Messrs. M'Neill exhibited specimens of their patent asphalted felt for roofing; also a portable rickstand, consisting of a wooden framework resting on earthenware pillars about 30 inches long, and 7 in diameter. A long bolt goes through the centre of them, which is for the purpose of tying on a piece of wood as a footing for them on the ground and a cap at the top: the footing-piece is 2 feet long, 7 inches wide, and 2½ thick, of strong yellow fir, and charred and dipped in creosote and Stockholm tar to preserve it in the ground. The cap is 14 or 15 inches square, of 2 or 2½ inches in elm. The rickstand can be easily taken to pieces and removed to any other spot. The cost is as follows:—7 glazed earthenware pillars, with iron bolts, nuts, and washers, 3*s*. 2*d*. each, 1*l*. 2*s*. 2*d*.; 24 smaller bolts, for bolting on the top framework to the cap, 2*d*. each, 4*s*.; 7 elm caps, 8*d*. each, 4*s*. 8*d*.; Carpenter's labour, framing, 7*s*.; Footings, dipped in creosote, 4*s*. 2*d*.; total, 2*l*. 2*s*.

Messrs. Clayton, Shuttleworth and Co. of Lincoln, who, probably, make more locomotive steam engines for agricultural purposes than any other firm, exhibited several of 3, 4, 5, and 6-horse power respectively. The following is a description of the last:—It has a tubular boiler, of plates 5-16ths of an inch thick, and tube-plates 5-8ths of an inch thick; quality, best Thornycroft, excepting the fire-box, which has a copper tube plate, and the remainder of the plates are Lowmoor. It has had (since last exhibited) a water-way introduced through the centre of the fire, which greatly economises the consumption of fuel, and renders it more easily to be cleaned of dirt and sediment, which may accumulate from the use of dirty water; the cylinder is 8¼ inches diameter, and 12 inches stroke; the crank-shaft is made of Lowmoor wrought iron, 2¾ inches diameter, and makes 115 revolutions per minute; diameter of fly-wheel, which serves as a driving pulley, is 5 feet, and weighs 5 cwt. It will occupy about 45 minutes, and consumes 40 lbs. of coals, to raise steam to a pressure of 45 lbs. upon the square inch; consumption of coals per hour when in full work is 36 lbs. It is fitted with an improved governor, and the boiler is covered with hair felt, and cased over. Price 195*l*.; if with copper tube plate, 6*l*. extra.

At the next stand the Rev. S. Smith, of Lois-Weedon near Towcester, exhibited the implements adapted to his alternate Wheat-fallow system of culture. They consist of a combined system of presser, drill, and roller acting at the proper intervals, for the due carrying out of his plans.

Messrs. Hornsby and Son exhibited their usual admirable series of sowing machines, for many of which, as will be seen on examining the premium list, they have carried away prizes. Among the improvements added during the past year may be mentioned an ingenious movement for the purpose of preserving the horizontality of the seed-box when employed on hill-sides, a ball and socket joint being employed instead of a hinge joint at the rack-work, by which the box is thrown forward or backwards, to allow of its having lateral as well as to and fro motion given to it. Messrs. Hornsby are competitors for the steam-engine premium—we do not yet know with what success. Their drills, and those of Messrs. Garrett, are certainly models of ingenuity and workmanship.

Mr. Mason, of Ipswich, exhibited a reaping-machine, in which the corn was to be cut by a succession of revolving radial knives, not by oscillating knives, as in Hussey's and M'Cormick's: it had not been subjected to trial.

Mr. Glover's paring plough, and Mr. Bentall's broad-share plough, seen in neighbouring stands, have both been often described. An ingenious apparatus for lifting water with a self-acting tipping apparatus, was shown by Messrs. Tasker and Fowle, of Andover. When the bucket comes out of the well, the self-acting catch-dogs empty the water from the bucket into the cistern; requiring no assistance whatever from the person working the machinery, who has only to reverse turning the handle when the water is out of the bucket to bring up another.

At stand 19 Mr. Cambridge exhibited an ingenious shaker. The shaker is composed of a number of drums of square section, each revolving at a different speed, by which the straw is more opened and better shaken than by any other process yet known. As the drum works, of course there is the abrupt presentation of surfaces at different distances from the axis of motion, and that is all that is necessary to the production of a most efficient shaking apparatus. The intervals between the drums are sufficient to allow of the escape of the corn.

Mr. White, of 266, High Holborn, exhibited a very efficient Gorse crusher, requiring, however, great power to work it. He also showed an exceedingly ingenious hand chaff-machine, a "chaff-box," in fact, with a revolving fork, by which the contents of the box were brought forward between every operation with the knife, by an exceedingly ingenious piece of apparatus.

Messrs. Howard, of Bedford, exhibited their usual fine display of ploughs and harrows; the former with that very long and prolonged mould-board which seems to be characteristic of Mr. Howard's make.

Mr. James Howard, of Bedford, showed a reaping-machine, more like the original Bell's reaping-machine than those American modifications of it which have now overrun the country. In addition to this, it had a travelling canvas delivering the corn into a cradle, by which it was to be periodically placed in bundles upon the stubble.

Mr. Nicholson, of Newark, and several others, exhibited Barley hummellers, most of which appear to depend for their action upon the rapid revolution of radial knives amongst the awned Barley. The hummeller we saw at Taunton was not visible at Lewes; we prefer it greatly to those which were exhibited. It consists of one or more long boards placed horizontally in a vertical plane, and made to oscillate rapidly between fixed boards parallel with it, and about an inch from it; both it and the others being studded with nails, amongst which the Barley falls, and by which, of course, it is roughly enough treated to deprive it of all awn before it reaches the hopper beneath.

Messrs. Mapplebeck and Lowe, of Birmingham, exhibited a modification of Smith's web-harrow, consisting of a number of iron links, about 4 inches square, linked together, and thus presenting greater angularity to the clods than the circular groits do in the original form of the implement.

Amongst the most important form of clod-crushers exhibited, was that shown by Mr. Bennett, of 34, London-road, Liverpool, invented by Dr. Z. Sillar, of Rainford-hall, improved and manufactured by the exhibitor. Made in two pieces for convenience in turning, with strong iron ends and centre stay. The serrated rings are fixed on external shafts, and the four roller ends are the only parts that run on the centre axle, which is turned, and the ends bored out and bushed with brass, so as very materially to reduce the friction. Each alternate ring rises at two parts of each revolution, and effectually cuts out all clods, &c., so that it is quite self-cleaning. The weight of the roller is thrown to the outside of the cylinder, which is so constructed that any clod which will enter the teeth at once passes through, as the entrance is in every instance the smallest. It is applicable to all the purposes for which the best rollers are now used, whilst it requires less horse power, and does its work more effectually than any. Price 16*l*. 16*s*. Every ring or wheel hangs on four bars, parallel with the axle, these bars passing through large slots in the substance of the ring, so that the latter has much independent motion upon them, and is thus able to clear itself from earth, &c.

Another clod-crusher, exhibited by Messrs. Gibson and Richardson, of Newcastle-on-Tyne, stands close to this one, and acting upon a different principle. It has two parallel axles, each of which carries a number of narrow wheels, those on the one axle working between those on the other, and every wheel working independently of the other.

Mr. Cornes, of Barbridge, Nantwich, exhibited several sizes of his well-known chaff cutter.

Messrs. Garrett, of Leiston works, exhibited a large number of his well-known drilling machines, for some of which he carried off the prizes. His broadcast manure distributor is an ingenious implement. The manure is delivered by a revolving barrel, which is kept clear, so as to ensure an even and regular delivery by means of a series of self-acting levers, which rise and fall and adjust themselves to the prongs of the barrels as they convey the manure from the box in its transit to the delivering spout.

Mr. Garrett received a silver medal for Hussey's reaping-machine.

Mr. Smith, of Uxbridge, Middlesex, exhibited an ingenious shaker, consisting of a framework of spars

with a sort of saw edge to them, by which the rapid oscillation to and fro and up and down given to this framework, caused whatever was laid on it to move only one way, and ultimately off to the ground, the loose corn falling meanwhile between the spars into a hopper for its reception.

Messrs. Burgess and Key exhibited, among other things, their patent oscillating Turnip-cutter, which we last year described among the implements shown in the exhibition.

In Messrs. Barrett and Exall's stand were exhibited a number of steam-engines and threshing-machines, with their well-known elegant safety horse-wheel.

Messrs. Ransome exhibited a large number of ploughs, scarifiers, steam-engines, threshing-machines, chaff-cutters, &c.

The largest collection of implements in the yard was shown by Mr. H. H. Thompson, of Lewes, whose collection included no fewer than 269 articles.

We must conclude our hurried glance at the Lewes implement show by a reference to Capt. Kæmmerer's sowing machine, of which the following description is given: It may be worked by hand as well as by horse power. The seed-cups, instead of working in a heap of seed, and thereby increasing the friction, are supplied from the seed chambers, with just sufficient seed to fill them. The form of the cups is also much improved; and whilst the delivery of the seed into the drills is as certain as mechanism can make it, not a single grain of seed is wasted. Instead of the lobster-jointed tins at present attached to drills, the seed is delivered by tubes attached to the seed-hoppers; by changing these tubes the number of drills within the range of the machine may be lessened or increased; and by a simple contrivance the quantity of seed made to pass down each tube is precisely the same. For sowing by the *side of hills* the tubes are so attached to the hoppers that the former will always preserve a vertical position, and the consequence is that whatever incline the machine may present the seed-tubes preserve a straight line. For the seed-barrel now used for sowing by *broadcast*, a board is substituted studded with small pegs; the seed falls on the board, and by means of the pegs (regulated according to the size of the seed) it is distributed over the land with a regularity which could never be attained by hand. The dibbling is effected, not by holes as at present, but by the deposit of the seed at fixed distances in the line previously cut by the coulters, which are precisely the same in this as in the machines now in general use. The advantages of this machine are—1. Every description of corn or seed may be sown by the same machine. 2. Every variety of sowing may be performed broadcast or in drills, or by dibbling. 3. Simple means are provided of altering the widths apart of drills to any required extent, and of changing the distances for depositing the seeds. 4. Exactness in regulating the quantity of seeds sown, thus effecting a large saving in seeds, and obtaining better results. 5. Great simplicity of construction, and fewness of parts. 6. Saving in weight, the large 6-feet machine weighing only 3½ cwt. with the coulters. And 7. Being very simple in construction, the cost is only one-half the machines now used.

We will only add that it exhibits remarkable ingenuity in the numberless contrivances which are contained within it—an ingenuity indeed, such as needs for its field, so it appeared to us, something far nicer and more exact than a machine for rough usage in farm work.

THURSDAY, *July* 15.—The doors of the cattle yard were thrown open to the public at six o'clock this morning. The following is the Award of the Judges:—

LIST OF PRIZES FOR CATTLE, &c.

SHORT HORNS.

Judges.—Messrs. John Grey, Wm. Smith, and Thos. Short.

Class I. Bulls not exceeding five years old, calved previously to the 1st of January, 1850.—1st prize, 40*l.* to Mr. Thos. Chrisp, of Hawkhill, near Alnwick; 2d, 20*l.* to Mr. F. H. Fawkes, of Farnley, near Ottley, Yorkshire.

Class II. Bulls calved since the 1st of January, 1850, and more than one year old—1st prize, 25*l.* to Mr. John Booth, of Killerby, near Catterick, Yorkshire; 2nd, 15*l.* to Mr. John Kirkham, of Hagnaby, near Spilsby.

Class III. Cows in-milk or in-calf, not exceeding three years old.—1st prize, 20*l.* to Mr. Charles Towneley, of Towneley Park, near Burnley; 2d, 10*l.* to Mr. Charles Towneley.

Class IV. Heifers in-milk or in-calf, not exceeding three years old.—1st prize, 15*l.* to Mr. Richard Booth, of Warlaby, near Northallerton; 2d, 10*l.* to Mr. Charles Towneley, of Towneley Park, near Burnley.

Class V. Yearling Heifers.—1st prize, 10*l.* to Mr. Charles Towneley, of Towneley Park, near Burnley; 2d, 5*l.* to Mr. Richard Booth, of Warlaby, near Northallerton.

HEREFORDS.

Judges.—Messrs. H. Chamberlain, H. Trethewy, and J. E. Jones.

Class I. Bulls, not exceeding five years old, calved previously to the 1st of January, 1850.—1st prize, 40*l.* to Mr. Edward Price, of the Courthouse, near Pembridge, Hereford; 2d, 20*l.* to the Right Hon. the Earl of Radnor, of Coleshill, Berks.

Class II. Bulls calved since the 1st of January, 1850, and more than one year old.—1st prize, 25*l.* to Mr. George Brown, of Avebury, near Marlborough; 2d, 15*l.* to the Right Hon. Lord Berwick, of Cronkhill, Shrewsbury.

Class III. Cows in-milk or in-calf.—1st prize, 20*l.* to the Right Hon. Lord Berwick, of Cronkhill, Shrewsbury; 2d, 10*l.* to Mr. Philip Turner, of the Leen, near Leominster.

Class IV. Heifers in-milk or in-calf, not exceeding three years old.—1st prize, 15*l.* to the Right Hon. Lord Berwick, of Cronkhill, Shrewsbury; 2d, 10*l.* to the Right Hon. Lord Berwick.

Class V. Yearling Heifers—1st prize, 10*l.* to Mr. Walter Mayberry, of Penlan, near Brecon; 2d, 5*l.* to the Right Hon. Lord Berwick, of Cronkhill, Shrewsbury.

SUSSEX BREED.

Judges.—Messrs. E. L. Franklin, Wm. Cox, and John Williams.

Class I. Bulls, not exceeding five years old, calved previously to the 1st of January, 1850.—1st prize, 20*l.* to Mr. Arnold Denman, of Stoneham, Malling, near Lewes; 2d, 10*l.* to Mr. Wm. otting, of Westmeston, near Hurstperpoint.

Class II. Bulls calved since the 1st of January, 1850, and more than one year old.—The prize, 10*l.* to Mr. Josiah Pitcher, of Westham, near Eastbourne.

Class III. Cows in-milk or in-calf.—1st prize, 10*l.* to Messrs. Arthur and Thomas Barton, of Bexhill, near Battle; 2d, 5*l.* to Mr. Henry Catt, of West Firle, near Lewes.

Class IV. Heifers in-milk or in-calf, not exceeding three years old.—The prize, 10*l.* to Mr. Arnold Denman, of Stoneham, Malling, near Lewes.

Class V. Yearling Heifers.—The prize, 5*l.* to Mr. James Gorringe, of Selmeston, near Lewes.

DEVONS.

Judges.—Messrs. Thomas Hartshorne, Thomas Townsend, and Edward Pope.

Class I. Bulls, not exceeding five years old, calved previously to the 1st of January, 1850.—1st Prize, 40*l.* to Mr. Samuel Farthing, of Stowey Court, near Bridgewater; 2d, 20*l.* to Mr. T. B. Morle, of Cannington Park, near Bridgewater.

Class II. Bulls calved since the 1st of January, 1850, and more than one year old.—1st prize, 25*l.* to Mr. James Hole, of Knowle House, near Dunster, Somerset; 2d, 15*l.* to the Right Hon. the Earl of Leicester, of Holkham, Norfolk.

Class III. Cows in-milk or in-calf.—1st prize, 20*l.* to Mr. Samuel Farthing, of Stowey Court, near Bridgewater; 2d, 10*l.* to Mr. James Quartly, of Molland, near South Molton.

Class IV. Heifers in-milk or in-calf, not exceeding three years old.—1st prize, 15*l.* to Mr. Samuel Farthing, of Stowey Court, near Bridgewater; 2d, 10*l.* to Mr. James Quartly, of Molland, near South Molton.

Class V. Yearling Heifers.—1st prize, 10*l.* to Mr. George Turner, of Barton, near Exeter; 2d, 5*l.* to Mr. Wm. Baker, of Bishops Nympton, near South Molton.

OTHER BREEDS.

Judges.—Messrs. Henry Chamberlain, Henry Trethewy, and J. E. Jones.

Class I. Bulls, not exceeding five years old, calved previously to the 1st of January, 1850.—The prize, 10*l.* to Capt. Inge, of Thorpe Constantine, near Tamworth.

Class II. Bulls calved since the 1st of January, 1850, and more than one year old.—The prize, 10*l.* to Mr. J. G. Watkins, of Woodfield, near Droitwich.

Class III. Cows in-milk or in-calf.—The prize, 10*l* to Capt. Inge, of Thorpe Constantine, Tamworth.

Class IV. Heifers in-calf or in-milk, not exceeding three years old.—The prize, 5*l.* to Mr. Wm. Tod, of Elphinstone Tower, Tranent, Haddington, Scotland.

Class V. Yearling Heifers.—No entry.

HORSES.

Judges.—Messrs. Wm. Greaves, Thos. Capon, and W. T. Karkeek.

Class I. Stallions for Agricultural purposes, foaled previously to the 1st of January, 185 .—1st prize, 30*l.* to Mr. Wm. Stearn, of Elmsett Hall, Hadleigh, Suffolk; 2d, 15*l.* to Mr. Samuel Clayden, Linton, Cambridge.

Class II. Stallions for Agricultural purposes, foaled since the 1st of January, 1850.—1st prize, 20*l.* to Mr. Thos. Catlin, of Butley, near Woodbridge, Suffolk; 2d, 10*l.* to Mr. Wm. Wilson, of Ashbocking, near Ipswich.

Class III. Roadster Stallions.—The prize, 15*l.* to Mr. John Baxter, of Wiggenhall, St. Peter's, near Lynn.

Class IV. Mares and Foals for Agricultural purposes.—1st prize, 20*l.* to Mr. N. G. Barthropp, of Cretingham Rookery, near Woodbridge; 2d, 10*l.* to Mr. Frederick Barlow, of Hasketon, near Woodbridge.

Class V. Fillies, two years old, for Agricultural purposes.—1st prize, 15*l.* to Mr. Samuel Wrench, of Great Holand, near Colchester; 2d, 5*l.* to the same.

LEICESTER SHEEP.

Judges.—Messrs. Wm. Bartholomew, N. C. Stone, and Wm. Tindall.

Class I. Shearling Rams.—1st prize, 30*l.* to Mr. Wm. Sanday, of Holmepierrepont, Notts; 2d, 15*l.* to the same.

Class II. Rams of any other age.—1st prize, 30*l.* to Mr. Wm. Sanday, of Holmepierrepont, Notts; 2d, 15*l.* to the same.

Class III. Shearling Ewes, of the same flock.—1st prize, 20*l.* to Mr. Wm. Sanday, of Holmepierrepont, Notts; 2d, 10*l.* to the same.

SOUTHDOWN, OR OTHER SHORT-WOOLLED SHEEP.

Judges.—Messrs. Hart, Henry Fooks, and Peter Purves.

Class I. Shearling Rams.—1st prize, 30*l.* to Mr. Jonas Webb, of Babraham, Cambridge; 2d, 15*l.* to the same.

Class II. Rams of any other age.—1st prize, 30*l.* to the Right Hon. the Earl of Chichester; 2d, 15*l.* to Mr. Wm. Sainsbury, of West Lavington.

Class III. Shearling Ewes of the same flock.—1st prize, 20*l.* to the Right Hon. the Earl of Chichester; 2d, 10*l.* to his Grace the Duke of Richmond.

LONG-WOOLLED SHEEP (NOT LEICESTERS).

Judges.—Messrs. John Abbott, Hugh Aylmer, and P. Richardson.

Class I. Shearling Ram.—1st prize, 20*l.* to Mr. Wm. Lane, of Eastington, near Northleach; 2d, 10*l.* to Mr. Wm. Garne, of Aldsworth, near Northleach.

Class II. Rams of any other age.—1st prize, 20*l.* to Mr. Wm. Lane, of Eastington, near Northleach; 2d, 10*l.* to Mr. Robert Beman, of Moreton-in-the-Marsh.

Class III. Shearling Ewes of the same flock.—1st prize, 10*l.* to Mr. Wm. Lane, of Eastington, near Northleach; 2d, 5*l.* to the same.

ROMNEY MARSH, OR KENTISH SHEEP.

Judges.—Messrs. John Abbott, Hugh Aylmer, and P. Richardson.

Class I. Rams of any age.—1st prize, 20*l.* to Sir Edward C. Dering, Bart., of Surrenden Dering, near Ashford; 2d, 10*l.* to the same.

Class II. Four-toothed Ewes with their Lambs.—The prize, 10*l.* to Sir Edward C. Dering, Bart., of Surrenden Dering, near Ashford.

Class III. Ewes of any age.—The prize, 10*l.* to Mr. Walter W. Daws, of Ewhurst, near Hurstgreen.

PIGS.

Judges.—Messrs. Wm. Hesseltine, John Clayden, and John Clarke.

Class I. Boars of a large breed.—1st prize, 15*l.* to Mr. Henry Blandford, of Sandridge, near Melksham; 2d, 5*l.* to Mr. Moses Cartwright, of Stanton Hill, near Burton-on-Trent.

Class II. Boars of a small breed.—1st prize, 15*l.* to Mr. Samuel Druce, jun., of Eynsham, Oxon; 2d, 5*l.* to Mr. Timothy Town, of Keighly, Yorks.

Class III. Breeding Sows of a large breed.—The prize, 10*l.* to Mr. Wm. Abbott, of Woodhouse, Carr, near Leeds.

Class IV. Breeding Sows of a small breed.—The prize, 10*l.* to Mr. Mark Stainsby, jun., of Lady Pitt Lane, Leeds.

Class V. Breeding Sow-Pigs of a large breed, of the same litter, above four and under eight months old.—The prize, 10*l.* to Mr. Samuel Munro, of Salford, Lancaster.

Class VI. Breeding Sow-Pigs of a small breed, of the same litter, above four and under eight months old. The prize 10*l.* to Mr. John Moon, of Lapford, Crediton.

Veterinary Inspector—Professor Simonds.

COMMENDATIONS.

SHORT HORNS.—Mr. Booth's cow, Mr. Kirkham's heifer, the Right Hon. Lord Feversham's bull, the Right Hon. Lord Berner's heifer, Mr. Towneley's heifer, Mr. Kirkham's heifer.

HEREFORDS.—Mr. Perry's bull, Mr. Walker's bull, the Executors of the late Rev. J. R. Smythies' cow, Mr. Maybery's heifer, Mr. Cradock's bull, Mr. James' cow, the Executors of the late Rev. J. R. Smythies' heifer.

DEVONS.—Classes 4 and 5 generally; Mr. Turner's heifer, Mr. Anstey's bull, the Earl of Leicester's cow, Mr. Hole's heifer.

SUSSEX CATTLE.—Mr. Chatfield's bull, Mr. Child's bull.

CATTLE OF ANY BREED.—Mr. Webb's bull, Mr. Tod's bull, Mr. Boswell's bull, Mr. Badham's bull.

HORSES.—Mr. Seymour's stallion, Mr. Addington's mare and foal, Mr. Browning's stallion, Mr. Watson's mare and foal, the Hon. and Rev. J. Norton's filly, Mr. Barthroupp's filly.

SHEEP LEICESTERS).—Mr. Sanday's ram, Mr. Pawlett's ram, Mr. Sanday's ram, ditto ditto, Mr. Pawlett's ram, ditto ditto.

SHORT WOOLLED.—Mr. Webb's ram, ditto ditto, Mr. Robinson's ram, Mr. Sainbury's ram, Mr. Rigden's pen of ewes, Mr. Lugar's pen of ewes, Mr. Sainbury's ram, his Grace the Duke of Richmond's ram, Mr. Ellman's pen of ewes.

ROMNEY MARSH SHEEP.—Sir Edward Dering's ram, ditto ditto.

PIGS.—Mr. Hewer's boar, Mr. Hainworth's boar, Mr. Moon's boar, Mr. Hillman's sow, Mr. Druce's (jun) sow, Mr. Mangle's sow, Mr. Moon's sow, Mr. Taylor's boar, Mr. Umber's boar, Mr. Gorringe's boar, Mr. Ludlam's boar, Mr. Hillman's sow, Mr. Tuley's sow, Mr. Druce's (jun.) sow, Mr. Barber's sow, the Rev. E. Elmhirst's sow, Mr. Munro's sow, Mr. Barber's pen of sows, Mr. Fooke's pen of sows, Sir John Conroy's, Bart., pen of pigs.

T. B. BRANDRETH GIBBS, Hon. Director of the Show.

CATTLE.

The show is marked by a decrease in numbers, and by general want of merit in the bulls' classes. We regret to see the absurd practice of high feeding carried to an almost unprecedented extent. If some of the young classes had been in course of preparation for Baker-street, we could have congratulated their breeders upon the very forward state of the animals. When we consider that the stock exhibited are for showing breeding rather than fatness, the practice cannot be too strongly condemned. Knowing how many evils such extravagant feeding brings with it, we will mention some:—The animal being unduly raised up and afterwards reduced, must tend to injure its constitution; the milking properties are undoubtedly impaired; and in some cases a small sickly calf, in some premature birth, and in too many cases no birth at all, are the effects of such fattening. There are many breeders who, from sad experience, can testify to the truth of our remark. Take the case of "the Lady of Breweth;" a heifer exhibited as a yearling at Norwich, as a two-year-old at Exeter, and taking prizes in Ireland, Scotland, and northern England. If this and many others from the present Show were to be taken to the "Bull-breeding Farm," described in the *Agricultural Gazette* some time ago, its enterprising manager might be disappointed of his "annual sale." No doubt this practice of overfeeding deters some of the most eminent breeders from entering the Society's lists as competitors, and most frequently permits inferior or second-rate animals to carry off the palm.

SHORT-HORNS.—Class I. *Bulls not exceeding five years old.*—The first prize was carried off by Mr. Crisp's dark red bull Phœnix, aged 4 years and 4 months; girth, 8 feet 5 inches; length, 5 feet 10 inches. A large, useful beast; but nothing grander. We should have preferred seeing the first prize given to Mr. Fowkes's bull, which took the second. This is a fine, straight, well-formed, heavy-fleshed beast; quality good. We may mention a slight defect behind the shoulder. Age, 3 years, 5 months; girth, 8 feet 2 inches; length, 5 feet 6 inches.

Class II. *Bulls more than one year old.*—No. 13, Lord Feversham; rich colour and of superior merit; head and fore-quarter very good, with excellent quality; droops a little in his hind-quarters. 14, Mr. Stratton; thick, useful beast; quality not first-rate. 17, Mr. Kirkham, second prize; a strong useful white bull; rather long in the space; hind-quarters might have been better; age, 2 years 2 months; girth, 7 feet 6½ inches; length, 5 feet 6½ inches. 18, Mr. Booth, first prize; a little compact beast; fore-quarters not very good; quality very good; a remarkably fine touch; age, 2 years 1 month; girth, 5 ft. 7 ins.; length, 5 ft.

Class III. *Cows in milk or in calf.*—In this class are some very good animals. Mr. Towneley takes first and second prizes, with his celebrated "Buttercup" and "Alice." For quality and symmetry nothing can excel the latter. They are both too well known to require comment. "Alice" girths more than any beast in the yard, viz., 8 feet 9 inches; her length is 5 feet 8 inches. Messrs. Booth and Kirkham show first-rate animals in this class. Mr. Tod also shows two good animals, which deserve commendation; but they are too low in condition to take the prize from the fat ones. All cattle should be shown just in this state.

Class IV. *Heifers in milk or in calf, not exceeding 3 years old.*—This is a class of good animals. 45, Mr. Towneley; second prize; a very nice little beast, good quality; this is the only one in this class in milk. 49, Mr. Booth's white heifer, first prize, head and fore-quarters very good, flesh hard, drooping rump; age, 2 years, 5 months; girth, 7 feet 6 inches; length, 5 feet 3 inches. 48, Mr. John Kirkham; and 51, Lord Berners, are two very good animals; the girth of the latter is 7 feet 7 inches; the length, 5 feet 1 inch.

Class V. *Yearling Heifers.*—64, Mr. Towneley; first prize; head and shoulders good, first-rate hair and quality, plait rather defective; altogether a very good animal. 59, Mr. R. Booth, head and fore-quarters good, ribs well sprung, but, like the one in No. 49, Class IV., rather too hard in flesh. 55, Mr. Towneley, one of the handsomest and most symmetrical in the short-horned classes. We hear she is descended from that celebrated breeder's stock (Mr. Bates), and of the Duchess family, so well known. Her girth is 7 feet 2½ inches; length, 5 feet 3 inches.

HEREFORDS.—Class I. *Bulls calved previously to the 1st of January, 1850, and not exceeding 5 years old.*—65, Mr. Edward Price; head, fore-quarters, and quality good;

flank heavy, hind-quarters short, twist ill-formed and coarse, hind legs crooked ; 8 feet 8 inches girth, 5 feet 10 inches in length; first prize. 71, Lord Radnor, second prize ; a fair, useful beast. 72, Mr. John Walker ; a beautiful beast ; fore-quarters good.

Class II. *Bulls calved since the 1st of January, 1850, and more than 1 year old.*—74, Mr. G. Brown ; a nice straight beast ; girth 6 feet 9 inches ; length 5 feet. 73, Lord Berwick ; nothing remarkable about him.

Class III. *Cows in milk or in calf.*—77, Lord Berwick ; a well-formed short-legged cow ; we suppose, from its quality and symmetry, it may have had a cross of the short-horn ; first prize. 80, Mr. P. Turner ; second prize ; a nice head and fore-quarters, drooping hind-quarters. 82, Mr. W. James ; a very useful beast, with good hind-quarters.

Class IV. *Heifers in milk or in calf.*—83, Mr. Maybery ; fore-quarter and quality good, ribs well sprung, rump drooping. 84, Lord Berwick ; first prize ; rather small, but very compact, the same style as No. 77. 85, Lord Berwick ; second prize; beautiful head and fore-quarters, deep wide chest, altogether a first-rate animal.

Class V. *Yearling Heifers.*—This class consists of five very creditable animals. 91, Lord Berwick, second prize, is rather small, but very neat.

Devons.—Class I. *Bulls calved before January, 1850, and not exceeding 5 years old.*—97, Mr. Farthing ; first prize; a nice, square, well-made bull, deep fore-quarters, and good flank ; girth, 8 ft. 1 in. ; length, 5 ft. 2½ in. 98, Mr. Morle ; second prize ; equal to, if not better than 97 ; shoulder rather plain, but it is a good bull.

Class II. *Bulls calved since Jan.* 1850.—106, Mr. Hale; first prize; head and quality good; altogether a compact little beast. 108, Earl of Leicester; second prize; not very striking in appearance.

Class III. *Cows in milk or in calf.*—115, Mr. Farthing; first prize; a very fine, stylish cow; better hind-quarters; superior to the general run of Devons. 114, Lord Dacre; useful little cow; looks like a milker. 112, Mr. Quartley; second prize; rather inclined to be patchy.

Class IV.—In this class there are some few useful things; nothing very remarkable.

Sussex Breed.—Class I. *Bulls calved before Jan.*, 1850.—141, Mr. Botting, second prize ; a very nice, straight beast ; he might have been better behind the shoulder ; hind-quarters remarkably good, with nice quality ; girth, 7 feet 8½ inches ; length, 5 feet 7 inches. 135, Mr. Denman, first prize ; rather a useful bull ; rumps narrow.

Class II. *Bulls calved since Jan.*, 1850.—Nothing very remarkable in this class.

Class III. *Cows in milk or in calf.*—This class consists of 22 cows, among which are found some good animals, such as 157 and 158, Mr. Barton ; 159, Mr. Cane ; 160 and 161, Mr. Catt ; 170, Mr. R. Smith ; and 177, Mr. Tilden Smith.

Classes IV. and V. contain nothing remarkable.

SHEEP.

As the tabular form of stating information is the most concise, we again adopt it.

At Northampton,	1847,	45 exhibitors of sheep, from	23	counties.
— York	,, 1848,	45 ,, ,,	18	,,
— Norwich	,, 1849,	35 ,, ,,	16	,,
— Exeter	,, 1850,	41 ,, ,,	19	,,
— Windsor	,, 1851,	65 ,, ,,	32	,,

At Lewes, 1852, the sheep have been furnished from different localities, as follows :—

Counties.	Exhibitors.	Counties.	Exhibitors.
Sussex	13	Worcestershire	1
Kent	2	Essex	1
Lincolnshire	1	Wiltshire	1
Bedfordshire	1	Oxfordshire	2
Devonshire	2	Suffolk	1
Northamptonshire ...	1	Cambridgeshire	1
Nottinghamshire... ...	1	Staffordshire	1
Leicestershire	1	Surrey	1
Norfolk	3	Gloucestershire	3
Total Counties, 18;		Total Exhibitors, 37.	

The subjoined table shows the fluctuation in numbers of sheep shown.

It is not to be expected that the show this year should equal in magnitude the gathering of last year, when extraordinary efforts were put forth to astonish foreign visitors with an unequalled and overwhelming show of stock ; still the present numbers of sheep plainly indicate that the enterprise of the breeders does not flag ; neither the total of sheep shown, the total of exhibitors, nor of counties contributing, falling far behind the corresponding numbers of previous years.

The show of Leicesters is not only smaller by one-half than it has been for five years before, but is decidedly inferior in quality—there being fewer first-class specimens than we ever before noticed at one of the Society's meetings.

In the Leicesters, Class I., *Shearling Rams,* our notes were jotted as follows :—313, high loin, narrow frame ; 314, good chine and plates, loin and thighs fair, wool light. Two rather small animals bred by Mr. Abraham, of Lincolnshire. 315, commended ; 316, 317, 318, commended, Mr. E. Pawlett, near Biggleswade ; larger, longer frames, not depth enough. 319, Mr. G. Turner, of Devon ; small, straight back, good curly wool. 320, ditto ; narrow, bad thighs, light wool. 322, ditto ; not symmetrical enough. 323, Mr. Pawlett ; small, narrow fore-quarter, not deep enough. 325, Mr. Turner ; long, good breast, narrow hind-quarter and bad thighs. 326 and 327, Mr. Barford, Northamptonshire ; wool recently shorn to show form ; small, fat sheep, with rather narrow rumps ; Grass-fed only. 328, Mr. Sanday, Nottinghamshire ; good chine, plates, and neck. 329, ditto ; first prize ; broad frame, good plates, wide full fore-quarter, high rump. 330, ditto ; second prize ; high sheep, but not broad enough. 331, ditto ; commended ; chine and plates broad and full, loin wide, chest scarcely deep enough. 332, ditto ; highly commended, deeper chested, broad and good. 333, 334, 335, 336, Mr. Spencer, of Hinckley ; long-legged, long-backed, narrow animals, with light wool. 337, Lord Walsingham ; large frame, narrow before shoulder, and drooping chine, heavier wool.

Class II. *Rams of any other age.*—349, Mr. Abraham ; good, straight, broad, deep ; good chest and fore-quarter ; thick neck, and thick well-set staple. 350, ditto ; broad, wide, and good fore-quarter. Both these sheep are very fat. 351, 352, highly commended. 353, 354, 355, Mr. Pawlett ; long frames, good chines and fore-quarters, but narrow loins and square rumps ; thin light wool. 356, Mr. Sanday, deficient loin. 357, ditto ; large broad frame, good out-springing chine, wide loin. 358, ditto ; second prize ; small. 359, ditto ; highly commended ; small, but with broad chine and good back. 360, ditto ; first prize ; a good animal. 361, Mr. Spencer ; frame of a good breadth, flesh loose. 363, ditto ; good plates and rump. 364, ditto ; large frame, level back, good high rump, good deep plates, but oblique shoulder.

Class III. *Shearling Ewes.*—Pen No. 368, Mr. Abraham, defective rumps and necks. 369 and 370, Mr. Turner ; some better shapes, loins not sufficiently wide, bad thighs. 371, Mr. Sanday ; first prize ; straight, broad, and good, countenances good, excellent rumps, chines and plates wide and full, thighs thick and good, offal fine, and with a fair quantity of wool. 372, ditto ; second prize ; of the same character, but inferior to pen 371. 373 and 374, Mr. Watkins, of Worcestershire ; defective necks and loins, some good thighs.

The Southdowns, while surpassing their usual number, displayed a more than average excellence in form and quality, with the exception of the features of grey-haired faces and hanging bellies, which were too predominant.

Class I. *Shearling Rams.*—376, Mr. Waters, of Sussex ; small sheep, not good behind the shoulder. 378, Mr. Boys, Sussex ; unlevel back. 379, Mr. Rigden, Sussex ; narrow loin and rump. 380, ditto, good sheep, but too long and narrow. 381, ditto, long and narrow frame, low behind shoulder, defective fore-quarter. 382, 383, 384, 385, Mr. Ellman, of Sussex ; certainly rather good animals, their principal failing being want of depth, narrow rumps, and shoulders unsymmetrical. 386, Sir J. T. Tyrrell, Bart., M.P. ; a poor, thin, bad animal, neck thin and bad, chine nipped up, and fore-quarter wretchedly formed. 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, commended, Mr. Sainsbury, Wiltshire ; some good sheep, both large and small, not generally symmetrical enough to win prizes. 398, ditto, is a pretty little thing. 399, 400. Mr. Gillett, Oxfordshire ; larger frames, with a greater quantity of freer and more open wool. 401, commended. 402, 403, 404, the Duke of Richmond, too narrow and oblique behind the shoulders, necks not good. 406, 407, Mr. Hayward, Sussex ; good sheep, but not quite wide enough. 408, 409, Mr. Lugar, Suffolk ; good broad animals, but backs not straight enough, and chines not sufficiently outspringing. 410, 411, Lord Walsingham ; bad rumps and necks, bone not fine enough. 413, Mr. R. Overman, Norfolk ; a pretty little sheep, but not broad enough. 414, 415, Sir J. T. Tyrrell, M.P. ; two mean, thin-scragged, narrow-girthed things ; 416, Mr. Jonas Webb ; neat little animal, with straight back. 417, ditto ; first prize ; large frame, thick neck, good thighs, full and wide fore-quarter, belly rather too low. 418, ditto ; rather too small, loin narrow, and neck thin. 419, ditto ; pretty and very symmetrical. 420, 421, 522, 423 ; second prize. 424, 425, ditto ; good frames, chines, and rumps ; offal fine and wool good.

Class II. *Rams of any other age.*— 426, 427, Mr. Boys, Sussex ; neither fore-quarters nor rumps good. 428, Mr. Rigden, Sussex ; a good sheep, with good back, but shoulder rather high, and rump not wide enough. 429, ditto ; defective behind the shoulder. 430, ditto ; good wide back, chine, and loin. 432, Mr. Ellman, Sussex, large frame, but not level or compact enough. 433, 434, 435, highly commended. 436, Mr. Robinson, Staffordshire ; straight backs, but narrow chines, and not wide or regular enough. 437, 438, 439, second prize. 440, 441, highly commended. 442, Mr. Sainsbury, Wilts ; some large, broad, deep, and well-formed animals. 437, is a large, straight, wide, and good sheep, but with a bad swelling upon its breast. 439 has a large frame, straight good back, wide full chine, fore-quarter, and loin ; good rump, fine bone, wool close. 443, Mr. Gillett, Oxfordshire ; a large animal, straight and broad, but with open fleece. 444, 445, 446, Mr. H. Overman, Norfolk ; neat, compact, and good sheep, but somewhat deficient behind the shoulder. 448, Mr. Emery, of Steyning ; uneven back, not symmetrical. 449, ditto ; straight back—a neat animal. 452, Lord Walsingham ; good, but with narrow loin, and low behind the shoulder. 453, the Earl of Chichester ; first prize ; straight, broad sheep, with fine fore-quarter, and good thighs.

Class III. *Shearling Ewes.*—454 and 455, Mr. Rigden, Sussex ; broad, but not all with good backs. 454, highly commended ; have small heads and good chines. 456, commended. 457, 458, Mr. Ellman, Sussex, some good ewes ; some with poor fore-quarters ; in two pens ; the ewes are not large enough. 456, commended, are rather larger, but the rumps are defective. 459, Mr. Gillett, Oxfordshire ; great frames, good rumps, backs, and loins ; very good ewes, wool long and open. 460, Duke of Richmond ; second prize ; good size, good backs, wide loins and chines, fine heads and fine bone, wool fine and close. 462, Sir J. V. Shelley, Sussex ; small, thick animals, good thighs, small heads, straight backs, but chines not sufficiently widened out. 464, Mr. Hayward, Sussex ; pretty little ewes, but rather falling off towards the rump, not as straight as they should be. 465, Mr. Lugar, Suffolk ; highly commended ; large, broad, straight, compact, and beautiful animals, with full chines, loins, thighs, and chests. 466, 467, Lord Walsingham ; large, good ewes, but not symmetrical enough ; defective behind the shoulder. 468, Mr. R. Overman, Norfolk ; very handsome, good backs ; altogether but little inferior to the prize ewes. 469, Earl of Chichester ; first prize ; large, thick, compact, with beautiful chines and chests, good loins and rumps, fine heads, and fine bone. 470, Messrs. Hallett, Sussex ; little narrow things, with thin necks and some wretched chines.

The Long-Wools this year are a small number of very large and superior animals.—Class I., *Shearling Rams.*—471, Mr. Druce, Oxfordshire ; frame rather too narrow, chine too oblique, loin rather high. 473, Mr. Lane, Gloucestershire ; a long, large sheep. 475, ditto ; too long on the legs, neck not thick enough, not sufficient breadth of loin. 476, ditto ; first prize ; a fine and magnificent animal, with very broad back and fore-quarter, beautiful back, good prominent chest, deep carcass, exceedingly good plates and flanks ; good curly wool. 477, Mr. Garne, Gloucestershire ; a good sheep, but somewhat too tapering at each end ; wool light. 478, ditto ; large sheep, but with narrow flanks and falling rump ; not deep enough. 479, ditto ; 2d prize ; large, long, and broad ; a failing in front of the shoulder, chine not well filled out, fore-quarter and chest broad, deep, and prominent ; loin good, rump and plates good ; not quite enough wool.

Class II. *Rams of any other age.*—480, Mr. Lane ; rather small ; not good before the shoulder. 481, ditto ; 1st prize ; a very fine animal ; large, long, and broad ; very wide chine, and full plates ; deep full chest, broad loins, good back, good legs ; good countenance, fine bone ; a fair quantity of nice wool. 482, Mr. Beman, Gloucestershire ; 2d prize ; a magnificent sheep, well loaded ; heavy plates and thighs, heavy rump, and

	North-ampton, 1847.	York, 1848.	Norwich, 1849.	Exeter, 1850	Windsor, 1851.	Lewes, 1852.
Leicesters	73 Rams, 12 pens of Ewes.	113 Rams, 16 pens of Ewes.	88 Rams, 14 pens of Ewes.	65 Rams, 14 pens of Ewes.	121 Rams, 15 pens of Ewes.	Class I.—Shearling Rams 30 ,, II.—Rams of any age 18 Rams ..... 48 ,, III.—Shearling Ewes, pens 7
Southdowns	61 Rams, 11 pens of Ewes.	42 Rams, 4 pens of Ewes.	62 Rams, 17 pens of Ewes.	73 Rams, 7 pens of Ewes.	112 Rams, 21 pens of Ewes.	Class I.—Shearling Rams 49 ,, II.—Rams of any age 25 Rams ..... 74 ,, III.—Shearling Ewes, pens 11
Long-Wools	26 Rams, 3 pens of Ewes.	32 Rams, 5 pens of Ewes.	24 Rams, 5 pens of Ewes.	27 Rams, 3 pens of Ewes.	21 Rams, 5 pens of Ewes.	Class I.—Shearling Rams 9 ,, II.—Rams of any other age ..... 3 Rams ..... 12 ,, III.—Shearling Ewes, pens 3
					Mountain Sheep. 13 Rams, 6 pens of Ewes.	Romney Marsh or Kentish Sheep. Class I.—Rams of any age 17 ,, II.—Four-toothed Ewes with Lambs, pens ..... 5 ,, III.—Ewes of any age, pens 3
Totals of all breeds	159 Rams, 27 pens of Ewes.	192 Rams, 27 of which were shown for the Local prizes. 27 pens of Ewes, 7 of which were shown for the Local prizes.	171 Rams, 41 pens of Ewes.	165 Rams, 21 pens of Ewes.	279 Rams, 46 pens of Ewes.	Total Rams, 151 ; And 31 pens of Ewes.

remarkably fine breast, though not quite good enough in the chine and shoulder ; wool rather light.

Class III. *Shearling Ewes.*—483, Mr. Lane ; 2d prize ; not quite broad enough ; shoulders and fore-quarter not first-rate ; countenances not so good as in first prize pen ; a fair quantity of wool. 484, ditto ; 1st prize ; large and broad, wide chines and loins, good rumps and thighs, chests, and fore-quarters ; good wool. 485, Mr. Dorrien, Sussex ; Merino and Romney Ewes ; small, with long necks ; low behind the shoulder, having nipped up chines, narrow bad chests, bad rumps.

As the ROMNEY MARSH OR KENTISH SHEEP have been this year honoured with a division of the show-yard and the premiums to themselves, we may just premise a few words respecting them. This long-woolled and highly-valuable breed has existed from time immemorial in Romney Marsh and its neighbouring lowlands on the southern shore of Kent and Sussex ; and the long-woolled flocks on the French coast, and the more valuable Flemish breeds, owe many of their good qualities to crosses with the Kentish sheep. These sheep are suited to the exceedingly rich marsh pastures, and are supposed to be almost the only large breed capable, from their close-set fleece, of enduring the cold and exposure of such a district, situated as it is in the very teeth of the fierce Channel gales. Great produce in wool and thickness in stocking are two of the good points of this breed. In symmetry and feeding properties, it has been much improved by the introduction of Leicester blood. The Romney Marsh sheep used to be distinguished by thickness and length of head, a long and thick neck and carcass, a wide loin, a large belly, narrow fore-quarter, large bone, and long and coarse wool. Though recently improved with Leicester blood, it must be confessed that they have but little changed from this character, and still retain their native hardihood. The wool is of exceedingly good quality, being very long and fine ; the fleeces of the young sheep are about 5 lbs. in weight ; those of the ewes, 6 lbs. ; and of the fattening wethers, 8 or 9 lbs. each. The Marsh graziers put out the keeping of their flocks to the upland Turnip farmers, between August and April, so that, during that season, the Weald and a greater portion of Kent is stocked with this breed.

The KENTISH RAMS in Class I, *Rams of any age*, are certainly superior to the show of Kentish ewes, and this is all that can be said ; their general character is very defective. 489, Sir Edward C. Dering, Kent ; first prize ; is a sheep of fair general frame, we suspect a cross here. 487, ditto, second prize, is a useful sheep, but still defective in good points usually sought for in every fatting animal. 488, ditto ; commended ; of similar character. 494, ditto ; commended ; of similar character, but small. The rest of the Class are unworthy of notice, excepting Sir E. Dering's lot : we observed only narrow backs, ribs not springing, and thus leaving flat sides, and large unweildy bodies ; wool thick set,

Class II. *Four-toothed Ewes with their Lambs.*—503, Sir E. Dering (prize) ; a pen of more than average merit, but the defects are characteristic. The remainder of the class, really and entirely bad as animals may be ; neither correct in frame nor noble in appearance.

Class III. *Ewes of any age.*—509, Mr. Dawes, Sussex (prize) ; fair countenance, bad necks, chines, and loins, fair chests and legs, bad in every other respect : anything but what sheep ought to be. The class denotes a bad breed of sheep, long, narrow, uneven, with hatchet chines and backs, and large bellies. Doubtless this exposure at the Society's Show will tend to the improvement of this breed, by attracting the attention of breeders to the contrast which exists between the Kentish and Leicester, or Gloucester sheep.

[Want of space compels us to defer the report of Horses and Pigs till next week.]

PAVILION DINNER.—Preparations had been made for 1000 persons, but the guests did not amount to one-half that number. Earl Ducie (who is certainly, both by his agricultural practical skill and scientific knowledge, the fittest nobleman in England to be the President of the English Agricultural Society), occupied the chair ; and the Earl of Chichester, the vice-chair. Earl Ducie entered into various remarks upon the Show, &c., complaining of the extreme fatness of some of the animals. The Show draws the best purchasers, and if they get disappointed with these animals, they will cease to come. It is difficult to overcome olden customs, but we may gradually lead the public to show animals in a more natural state. Let us ask the Council to provide a store stock class ; purchasers would go to that class, and where the money was, the breeders would quickly follow. —Lord Palmerston thought we might perhaps discover a substitute for guano a few yards from our own dwellings. Dirt had been defined as "a thing in its wrong place ;" and the country might cleanse the towns, and the towns fertilise the country ; the health of the towns'-people and the finances of the farmers might thus be improved. Lord Ducie proposed the health of the president-elect, Lord Ashburton.

TABLE SHOWING THE PROGRESS OF THE PRIZE RAMS IN SIZE.

	York, 1848.				Norwich, 1849.				Windsor, 1851.				Lewes, 1852.			
	Age.	Girth.	Length.	Height.	Age.	Girth.	Length.	Height.	Age.	Girth.	Length.	Height	Age.	Girth.	Length.	Height.
LEICESTERS.																
Class I.	Months.	Ft. In.	Ft. In.	Ft. In	Months.	Ft. In.	Ft. In.	Ft. In.	Months.	Ft. in.	Ft. in.	Ft. in.	Months.	Ft. in.	Ft. in.	Ft. in.
1st Prize	14	4 6½	3 7½	2 6¾	16	4 10	3 10	2 6½	...	...	...	...	16	4 7	3 6	2 5
2d do.	16½	4 4	3 6½	2 5½	16	...	...	...	...	...	...	...	16	4 6½	3 8	2 5⅝
Class II.																
1st Prize	27	5 2	3 9	2 5½	28	5 2	3 9½	2 6½	...	...	...	...	40	5 2½	3 7½	2 3⅝
2d do.	23	5 0	3 6½	2 7	40	5 6	3 10	2 6	...	...	...	...	28	4 10½	3 6	2 4½
SOUTHDOWNS.																
Class I.																
1st Prize	16	4 1	3 7	2 3½	16	4 4½	3 10½	2 4½	17	4 3⅝	3 9	2 3	17	4 3½	3 8½	2 2⅝
2d do.	16	3 8½	3 7½	2 2½	16	4 1	3 8	2 2	16	4 3½	3 8	2 2½	16	4 4	3 8½	2 4½
3d do.	...	...	...	...	...	...	...	...	16	4 2	3 6	2 2½				
Class II.																
1st Prize	...	...	...	...	...	...	...	...	...	...	...	...	40	4 8½	3 10½	2 3½
2d do.	29	4 6	4 1	2 4	39	4 6	3 10	2 5½	...	...	...	...	29	4 6	3 10½	2 3½
3d do.	...	...	...	...	...	...	...	...	29	4 9½	3 7½	2 2				
LONGWOOLS.																
Class I.																
1st Prize	16	5 1	3 8½	2 6½	16	5 2	4 1	2 7	16	5 1	4 1½	2 8½	16	5 6	3 11	2 7
2d do.	16	4 8½	3 6	2 6	16	4 10	4 0	2 7½	16	4 11	4 1½	2 8	16	5 3½	4 1½	2 8
Class II.																
1st Prize	40	5 7	4 0½	2 9½	64	5 6	4 4	2 9	40	5 10½	4 2	2 8½	40	5 11	4 5½	2 9
2d do.	52	5 7½	4 1½	2 8½	52	5 10	4 5	2 10	40	5 7¼	4 3¼	2 9¼	40	5 11	4 3⅝	2 8¼

Of the Kentish or Romney Marsh Rams, the ages and measurements are :—

1st Prize ... 39½ months old ... girth, 4 ft. 6 in. ... length, 3 ft. 11 in. ... height, 2 ft. 4½ inches.
2d Prize ... 51 months old ... girth, 4 ft. 8 in. ... length, 4 ft. 2 in. ... height, 2 ft. 5½ inches.

Miscellaneous.

"Best Peruvian Guano!"—On one of our northern rivers there is a loamy promontory often visited by an extensive vendor of guano among farmers fond of "cheap bargains." His repeated draughts upon this "bank" are so notorious that it is now known (and has been laid down upon a chart) as "Ichaboe Point!" *Gateshead Observer.*

Markets.

COVENT GARDEN, JULY 17.

Vegetables and fruit are plentiful. The supply of English Pine-apples is remarkably good, and the same may be said of Hothouse Grapes. Strawberries are abundant. A very few dessert Apples may still be obtained. Oranges are nearly over. Nuts are about the same as last quoted. A few Tomatoes continue to be brought from France. Potatoes are very plentiful, owing to the growers being anxious to sell off their early crops speedily, to avoid the consequences of disease Peas are plentiful. West India Pine-apples are abundant. Mushrooms are dearer. Cut flowers consist of Heaths, Pelargoniums, Mignonette, Roses, Bignonia venusta, and Pinks.

FRUIT.

Pine-apples, per lb., 3s to 5s
Grapes, hothouse, p. lb., 2s to 5s
Peaches, per doz., 6s to 12s
Nectarines, per doz., 6s to 12s
Melons, each, 2s to 6s
Cherries, per lb., 2d to 6d
Strawberries, p. pott., 6d to 1s6d
Almonds, per peck, 5s
— sweet, per lb., 2s to 3s
Lemons, per doz., 1s to 2s
Oranges, per doz., 1s to 1s 6d
— per 100, 3s 6d to 10s
— Seville, per doz., 1s to 3s
Nuts, Barcelona, per bush, 20s to 22s
— Brazil, per bushel, 12s to 14s

VEGETABLES.

Cabbages, per doz., 6d to 1s 3d
French Beans, p. 100, 1s to 2s
Peas, per sieve, 1s to 4s
Cauliflowers, per doz., 1s to 3s
Asparagus, p. bundle, 1s to 4s
Greens, per doz., 1s to 1s 6d
Rhubarb, p. bundle, 3d to 4d
Potatoes, per ton, 60s to 130s
— per cwt., 3s 6d to 7s
— per bush., 1s 6d to 2s 6d
Turnips, per doz., 3s to 6s
Cucumbers, each, 4d to 6d
Vegetable Marrow, p. doz. 1s to 2s
Celery, per bundle, 1s to 1s 6d
Carrots, p. doz., 3s to 5s
Spinach, per sieve, 1s to 2s
Onions, per bunch, 2d to 8d
— Spanish, p. doz., 1s 3d to 3s
Beet, per doz., 1s to 2s
Leeks, per bunch, 2d to 3d
Shallots, per bunch, 3d
Garlic, per lb., 8d to 1s
Lettuce, Cab., per score 4d to 1s
— Cos, p. score, 3d to 1s
Radishes, per doz., 8d to 1s
— Turnip, 9d to 1s 6d
Small Salads, p. pun., 2d to 3d
Horse Radish, p. bundle, 1s to 4s
Mushrooms, p. pott., 1s 6d to 2s
— per punnet, 9d to 1s
Sorrel, per hf. sieve, 6d to 1s
Artichokes per doz., 1s 6d to 2s
Fennel, per bunch, 2d to 3d
Savory, per bunch, 2d to 3d
Thyme, per bunch, 2d to 3d
Parsley, p. doz bnchs., 2s to 3s
Mint, per bunch, 2d to 4d
Basil, green, p. bunch, 6d
Marjoram, do., 3d to 6d
Water cresses, p. 12 bun, 9d to 1s

HAY.—Per Load of 36 Trusses.

CUMBERLAND MARKET, July 15.

Prime Meadow Hay	84s to 92s	Inferior Clover	...	78s	to	83s
Inferior do.	... 70 78	New do.	...	65		80
New Hay	... 60 72	Straw	...	33		36
Old Clover	... 94 100					

JOSHUA BAKER.

WHITECHAPEL, July 15.

Fine old Hay	... 76s to 84s		Old Clover	...	100s to 105s	
New Hay	... 63	70	Inferior do.	...	75	84
Inferior do.	... 50	60	New Clover	...	70	80
Straw	... 30	35	Inferior do.	...	50	63

WOOL.

BRADFORD, THURSDAY, July 15.—There is no change of moment to report in the state of the English wool market. The inquiry for good wool continues to be active, and late rates are well sustained. Farmers are unwilling sellers, except at a considerable advance, which the position of the worsted trade generally does not admit of being conceded, and consequently only a limited supply of the new clip has thus far found its way to this market. Short wools and noils being comparatively scarce, realise a ready sale at full rates.

COAL MARKET.—FRIDAY, July 16

Hollywell, 14s. ; Eden Main, 14s 9d. ; Tanfield Moor, 12s. ; Wallsend Haswell, 16s. ; Wallsend Hetton, 16s. ; Wallsend Lambton, 15s. 6d. ; Wallsend Stewarts, 15s. 9d.—Ships at market, 249.

SMITHFIELD.—MONDAY, July 12.

Our supply of Beasts is quite as good as of late ; the demand is somewhat more limited, and, in consequence, it is difficult to maintain last Monday's quotations. However, choice things can scarcely be called lower. The number of Sheep is about the same as last week ; the morning being rather cooler, there is a more cheerful trade, at a little more money. Lambs are still much in demand, at fully late rates. Good Calves are rather dearer. From Germany and Holland there are 1088 Beasts, 2730 Sheep, 230 Calves, and 30 Pigs ; from Scotland, 280 Beasts ; from Norfolk and Suffolk, 700 ; and 1500 from the northern and midland counties.

Per st. of 8lbs.—s	d	s	d	Per st. of 8lbs.—s	d	s	d
Best Scots, Here-fords, &c.	... 3	8 to 3	10	Best Long-wools .	0	0 to 0	0
Best Short-horns	3	6 — 3	8	Do. Shorn	... 3	6 — 3	8
2d quality Beasts	2	8 — 3	2	Ewes & 2d quality	0	0 — 0	0
Best Downs and Half-breds	... 0	0 — 0	0	Do. Shorn	 3	0 — 3	4
Do. Shorn	 3	10 — 4	0	Lambs	 4	6 — 5	2
				Calves	 2	8 — 3	10
				Pigs	 2	8 — 3	8

Beasts, 3721 ; Sheep and Lambs, 28,650 ; Calves, 366 ; Pigs, 450

FRIDAY, July 16.

We have a large supply of Beasts, and the demand is small, owing to the continued hot weather ; a considerable portion are of inferior quality. These are lower, and several remain unsold ; but a few choice ones make nearly as much as on Monday last. The number of Sheep and Lambs is very large ; trade is consequently slow, and prices for all kinds are rather lower. The number of Calves is unusually large ; trade is very dull, at lower rates. From Germany and Holland we have 302 Beasts, 1300 Sheep, and 456 Calves ; from Spain, 28 Beasts ; from Norfolk and Suffolk, 100 ; 200 from the northern and midland, and 110 Milch Cows from the home counties.

MARK LANE.

MONDAY, July 12.—The supply of Wheat from Essex and Kent this morning was again very small ; the sale nevertheless proceeded slowly at a decline of 1s. per qr. upon the prices of this day se'nnight. The arrivals of foreign being considerable, no progress could be made with sales, even at a similar decline.—We did not hear of any transactions in Flour.—Barley is a slow sale at 1s. per qr. decline.—There being some arrivals of foreign Beans and white Peas, these articles meet less inquiry.—Oats are dull, at a decline of 1s. per qr.

PER IMPERIAL QUARTER.	s. s.		s. s.
Wheat, Essex, Kent, & Suffolk...White	43—45	Red	38—39
— — fine selected runs...ditto	44—47	Red	39—41
— — Talavera	43—48		
— Norfolk	37—39	Red	—
— Foreign	35—51		
Barley, grind. & distil., 25s to 28s...Chev	29—34	Malting .	28—30
— Foreign ...grinding and distilling	26—28	Malting .	—
Oats, Essex, and Suffolk	19—20		
— Scotch and Lincolnshire...Potato	20—23	Feed	19—21
— Irish ...Potato	19—22	Feed	18—21
— Foreign ...Poland and Brew	19—20	Feed	15—18
Rye	—	Foreign .	—
Rye-meal, foreign	—		
Beans, Mazagan.....27s to 32s.....Tick	28—33	Harrow .	28—33
— Pigeon .....28s — 36s...Winds.	—	Longpod	—
— Foreign .....Small	23—34	Egyptian	26—28
Peas, white, Essex and Kent.....Boilers	38—40	Suffolk...	38—42
— Maple.....32s to 35s.....Grey	31—33	Foreign .	30—40
Maize .....White	—		—
Flour, best marks delivered ...per sack	37—40	Yellow...	
— Suffolk .....ditto	25—32	Norfolk .	25—32
— Foreign..... per barrel	17—23	Per sack	28—34

FRIDAY, July 16.—The arrivals of grain and Flour this week have been moderate, and the attendance at market unusually small. A slight decline upon Wheat would have been acceded to had there been buyers, but both business and prices for all articles are entirely nominal.

IMPERIAL AVERAGES.

	Wheat.		Barley.		Oats		Rye.		Beans.		Peas.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
June 5	40	7	27	5	20	8	30	6	31	6	31	0
— 12	40	11	27	6	20	0	29	8	31	10	31	2
— 19	40	9	27	5	20	2	30	7	32	0	31	9
— 26	40	10	27	6	20	0	31	0	32	4	31	9
July 3	41	4	27	5	19	10	32	4	33	1	33	2
— 10	41	5	28	3	19	9	32	6	34	0	33	3
Aggreg. Aver.	41	0	27	7	20	1	31	1	32	1	32	0

Duties on Foreign Grain, 1s. per qr.

FLUCTUATIONS IN THE LAST SIX WEEK'S AVERAGES.

PRICES.	JUNE 5.	JUNE 12.	JUNE 19.	JUNE 26.	JULY 3.	JULY 10.
41s 5d	...	...	...	...	...	
41 4	...	...	...	...		...
40 11	...		...	...	...	...
40 10	...	...	...		...	...
40 9	...			...	...	...
40 7 —		...	...	...	...	...

LIVERPOOL, TUESDAY, July 13.—The principal import since last Tuesday is 6279 qrs. of Wheat and 21,275 barrels of Flour from the United States ; of other articles of the grain trade, the arrivals have been unimportant. At to-day's market transactions were confined to the immediate wants of millers, and were limited in extent. There was a decline from the quotations of last Tuesday of 2d to 3d. per bushel on Wheat, 3d. to 6d. per barrel on Flour, ½d. per bushel on Oats, and 6d. per load on Oatmeal. Barley, Beans, and Peas were unaltered in value.

HARTLEY'S PATENT ROUGH PLATE GLASS,

FOR RIDGE AND FURROW ROOFS, GREENHOUSES, RAILWAY STATIONS, ENGINE SHEDS, MILLS MARKET-HALLS, AND PUBLIC BUILDINGS GENERALLY.

For Conservatories; Public Buildings, Manufactories, Skylights, &c., &c.	⅛th inch thick.	3-16th inch thick.	¼ inch thick.
	s. d.	s. d.	s. d.
Packed in Crates, for cutting up of the sizes as Manufactured:—			
3 inches wide and from 40 to 50 long	0 6	0 8	0 10
Or 20 ,, ,, 50 to 70 ,, ...			
In Squares, cut to the sizes ordered:—			
Under 8 by 6	0 4	0 6	0 7
8 by 6 and under 10 by 8	0 4½	0 7	0 8
10 by 8 ,, 14 by 10	0 5	0 7	0 9
14 by 10 ,, 1½ feet super., if the length does not exceed 20 inches	0 5½	0 7	0 9
1½ feet sup. ,, 3 ,, or if above 20, and not above 30 inches long... ..	0 6	0 8	0 10
3 ,, ,, 4 ,, ,, 20 ,, 30 ,, ...	0 6¼	0 8	0 10
4 ,, ,, 5 ,, ,, 30 ,, 35 ,, ...	0 7	0 8½	0 10
5 ,, ,, 6 ,, ,, 35 ,, 40 ,, ...	0 7½	0 9	0 10½
6 ,, ,, 8 ,, ,, 40 ,, 45 ,, ...	0 8	0 9½	0 11
8 ,, ,, 10 ,, ,, 45 ,, 55 ,, ...	0 8½	0 10	1 0
10 ,, ,, 12 ,, ,, 55 ,, 70 ,, ...	0 9	0 11	1 1
12 ,, ,, 15 ,, ,, 70 ,, 85 ,, ...	.....	1 0	1 2

Packed in Boxes of 50 Feet Each:

Ins.	Ins.	Ins.	Ins.	s.	d.
6 by 4 and 6½ by 4½				10	6
7 by 5 ,, 7½ by 5½				12	0
8 by 6 ,, 8½ by 6½				13	0
9 by 7 ,, 9½ by 7½ and 10 by 8				15	0

Note.—Squares are charged according to the superficial contents, except where the length exceeds the restriction above, in which case the higher price is charged irrespective of the contents.

Beading.—1-8*th*, 6*d.*; 3-16*ths*, 9*d.*; ½ *inch*, 1*s. per foot, net.*

*** *Irregular shapes are charged as squares.*

When Crates are ordered, the 30-inch widths will be sent, unless otherwise specified.

THE PATENT ROUGH PLATE, one-eighth of an inch thick, and weighing 2 lbs. to the foot, has now become an article of very extensive and increasing consumption.

It is universally admitted to be the best and most suitable Glass for Ridge and Furrow Roofs, Greenhouses, Factories, Workshops,

And all such like purposes, and is a cheap and efficient substitute for Fluted or Obscured Glass, where the object is to intercept the vision without diminishing the light. Its non-transparency, strength, and cost (being no more weight for weight than Common Sheet Glass), render it eminently suitable for the Glazing of Conservatories and Roofs of all kinds; Blinds are unnecessary, and when used in Greenhouses *no scorching occurs.*

Where still greater strength is required the 3-16ths and ¼ inch thick will be found much cheaper than the Common Rough Plate. Samples will be forwarded on application, by applying to

JAMES PHILLIPS AND CO.,

HORTICULTURAL GLASS MERCHANTS, 116, BISHOPSGATE-STREET WITHOUT, LONDON.

EWING'S PATENT GLASS WALLS.—The following are the Agents, and on application to whom drawings may be seen, and all other information obtained:—Messrs. Knight and Perry, Nurserymen, &c., Chelsea; Messrs. Henderson and Co., Nurserymen, Pine-apple-place, London; Messrs. Whitley and Osborn, Nurserymen, &c., Fulham, London; Mr. Glendinning, Nurseryman, &c., Chiswick, London; Messrs. Veitch and Son, Nurserymen, Exeter; Messrs. Dickson, Nurserymen, Chester; Messrs. Lawson and Sons, Nurserymen, Edinburgh; Messrs. Dickson and Turnbull, Nurserymen, Perth; Mr. M'Intosh, F.R.S., Gardener to the Duke of Buccleuch, Dalkeith; Mr. Fleming, F.H.S., Gardener to the Duke of Sutherland, Trentham, Staffordshire; Mr. Ewing, Gardener, Bodorgan, Anglesea; Messrs. Pilkington and Co., Plate, Crown, and Sheet Glass Works, St. Helen's, Lancashire.

These Walls can, when desired, be made wide enough for a person to enter, by which they become elegant hothouses or the best principle. Existing Walls covered with Glass and Iron.

THE CHEAPEST HOUSE FOR LEAD, GLASS, OIL, AND COLOURS.

WHOLESALE PRICES CHARGED.

H. J. AND W. WALKER, Lead, Glass, Oil, and Colour Merchants, 125, Queen-street, Portsea, supply in any quantities, at wholesale prices, Crown and Horticultural SHEET GLASS, Patent and Polished Plate, Rough Plate for Conservatories and Greenhouses, Glass Milk Pans, Bee, Cucumber, and Propagating Glasses, and every description of Glass for Horticultural purposes. Ornamental and Stained Glass, Church Quarries, &c. Deep Well, Lift, and Garden Pumps, Plumbers' Brass Work, Brushes, Varnishes, and Colours at London prices.

N.B.—Experienced workmen sent to any part of the country.

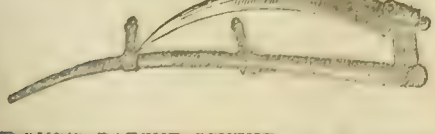
EMIGRANTS TO AUSTRALIA, ETC., SUPPLIED.

A PRIZE MEDAL FOR SUPERIOR LOCKS WAS AWARDED TO J. H. BOOBBYER, AT THE GREAT EXHIBITION OF 1851.

THE CELEBRATED STEEL DIGGING FORK, Patent Spades, Daisy Rakes, Scythes, Draining, and other Garden Tools. Mole Traps, 6*s.* per dozen. Carpenters' and Smiths' Tools, &c. Rubbers for sharpening Scythes, 2*s.* 6*d.* per dozen. Patent fumigators for destroying insects on Plants, in greenhouses, &c: at Messrs. J. H. Boobbyer and Co.'s (late Stubch and Boobbyer), Ironmongery, Brass-foundry, Nail and Tool Warehouse, 14, Stanhope-street, Clare-market, London. Established nearly 200 years for the sale of goods from the best Manufactories at the lowest prices. Goods forwarded to any part on the receipt of remittance. List sent by post.

STEPHENSON and PEILL, 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Manufacturers of Copper Cylindrical and Improved Conical Iron BOILERS, and Conservatory and Hothouse Builders, either in wood or iron, respectfully call the attention of the Nobility, Gentry, and Nurserymen to their simple but efficacious method of warming Horticultural and other Buildings by hot water. From the extensive works they have executed, references of the highest respectability can be given, and full particulars furnished on application.

BOYD'S SELF-ADJUSTING SCYTHE.

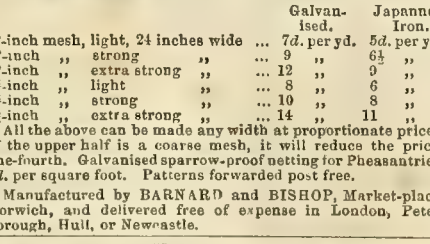


BOYD'S PATENT SCYTHE and the celebrated STEEL DIGGING FORKS.—Boyd's Scythe is capable of being adjusted to any angle by the person using it, and never requires the aid of a blacksmith; when out of use it shuts up like a clasp-knife. The *Gardeners' Chronicle* thus comments upon it:—"We gladly state that Mr. Boyd's scythe stands well the great test, experience, especially with his late ingenious and very useful improvement"—*G. C.*, 15th May, 1852. The Steel Digging Forks are those celebrated by Sir. Mechi. "When a labourer has once used them, he will never work with any other implement for digging. They effect a saving of nearly 50 per cent. in labour."—Wholesale and Retail at ... Agricultural Implement and Machinery ... Warehouse, 3, Swan-lane, Upper Thames-street, near London-bridge.

IMPROVED MOWING MACHINE.—Two articles have appeared in the Gardeners' Chronicle of dates 26 ult. and 3d inst, detailing the merits of "Budding's" Lawn Mower, and suggesting a comparative trial of the various machines. "Budding's" 22 inch Mower, embracing the latest improvements, is said to cut Cheetham Hill Lawn in 35 hours. ALEX. SHANKS and SON'S 20-inch MACHINE will do the very same Work in 12 Hours, and in a manner not to be surpassed.

William Dodds and Co., 102, Leadenhall-street, London, Agents for A. Shanks and Son.

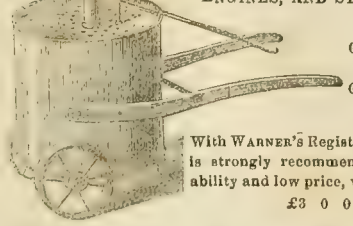
GALVANISED WIRE GAME NETTING.—7*d.* per yard, 2 feet wide.



	Galvanised.	Japanned Iron.
2-inch mesh, light, 24 inches wide ...	7*d.* per yd.	5*d.* per yd.
2-inch ,, strong ,, ...	9 ,,	6½ ,,
2-inch ,, extra strong ,, ...	12 ,,	9 ,,
1½-inch ,, light ,, ...	8 ,,	6 ,,
1½-inch ,, strong ,, ...	10 ,,	8 ,,
1½-inch ,, extra strong ,, ...	14 ,,	11 ,,

All the above can be made any width at proportionate prices. If the upper half is a coarse mesh, it will reduce the prices one-fourth. Galvanised sparrow-proof netting for Pheasantries, 3*d.* per square foot. Patterns forwarded post free.

Manufactured by BARNARD and BISHOP, Market-place, Norwich, and delivered free of expense in London, Peterborough, Hull, or Newcastle.



JOHN WARNER AND SONS,

Crescent, Jewin Street, London,

MANUFACTURERS OF

FIRE ENGINES, GARDEN ENGINES, AND SYRINGES.

No. 12 GALVANISED IRON TUB GARDEN ENGINE,

With Warner's Registered Spreader, is strongly recommended for durability and low price, viz.:—

£3 0 0

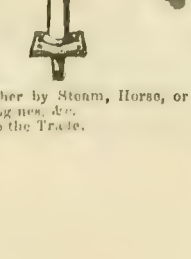
May be obtained of any Ironmonger in Town or Country.

FARM AND COTTAGE PUMPS.

PATENT CAST-IRON PUMPS, for the use of Farms, Cottages, Manure Tanks, and Shallow Wells.

	£	s.	d.
Patent Pump	1	12	0
Patent Pump, with 15 feet of lead pipe attached, and bolts and nuts ready for fixing	2	8	0

Larger sizes if required.



May be obtained of any Ironmonger or Plumber in Town or Country, or of the Patentees and Manufacturers,

JOHN WARNER & SONS,

8, Crescent, Jewin-street, London.

Every description of Machinery for Raising and Forcing Water, either by Steam, Horse, or Manual power. Fire and Garden Engines, &c.

The usual allowance to the Trade.

NOTICE OF REMOVAL FROM 28, CORNHILL.

DAWE, COTTRELL, and BENHAM, Seedsmen and Florists (Successors to M. Frederick Warner), beg most respectfully to intimate to their friends and the public generally, that they have removed their retail department to No. 36 Moorgate-street, City, where they hope to meet with the same patronage so liberally bestowed upon their predecessor, assuring their kind friends that none but the best and most approved stocks of Agricultural, Horticultural, and Garden Seeds will be sent out from their Establishment.

The Wholesale Department No. 3, Laurence Pountney-lane, Cannon-street, London.

DEANE'S WARRANTED GARDEN TOOLS.—Horticulturists, and all interested in Gardening Pursuits, are invited to examine DEANE, DRAY, and CO.'s extensive Stock of GARDENING and PRUNING IMPLEMENTS, best London-made Garden Engines and Syringes, Colebrook-dale Garden Seats and Chairs.

Averuncators	Garden Scrapers	Mowing Machines
Axes	Gidney's Prussian Hoe	Pickaxes
Bagging Hooks	Grape Gatherers & Scissors	Potato Forks
Bills	Gravel Rakes and Sieves	Pruning Bills
Borders, various patterns	Greenhouse Doors and Frames	,, Knives, various
Botanical Boxes	Hammers	,, Saws
Boyd's Patent Scythe	Hand-glass Frames	,, Scissors
Brown's Patent Fumigator	Hay-Knives	,, Shears
Cases of Pruning Instruments	Horticultural Hammers & Hatchets	Rakes in great variety
Daisy Rakes	Hoes of every pattern	Reaping Hooks
Dibbles	Hotbed Handles	Scythes
Draining Tools	Ladies' Set of Tools	Scythe Stones
Edging Irons and Shears	Labels, various patterns, in Zinc, Porcelain, &c.	Shears, various
Flower Scissors	Lines and Reels	Sickles
,, Stands in Wires & Iron	Marking Ink	Sickle Saws
Fumigators	Matlocks	Spades and Shovels
Galvanic Borders and Plant Protectors	Menographs	Spuds
Garden Chairs and Seats	Metallic Wire	Switch Hooks
,, Loops	Milton Hatchets	Thistle Hooks
,, Rollers	Mole Traps	Transplanting Tools
		Trowels
		Turfing Irons
		Wall Nails
		Watering pots
		Weed Hooks
		Wheelbarrows
		Youths' Set of Tools

DEANE, DRAY, and CO. are sole Agents for LINGHAM'S PERMANENT LABELS, samples of which, with their Illustrated List of Horticultural Tools, can be sent, post paid, to any part of the United Kingdom. Also, Wholesale and Retail Agents for SAYNOR'S celebrated PRUNING KNIVES, used exclusively by the first Gardeners in the United Kingdom.—DEANE, DRAY, & CO. (Opening to the Monument), London-bridge.

FOR SALE.—WARD'S CASES, GAS WATER BOILERS with Fire-clay Burners for Greenhouses, and an Iron SAILING BOAT.—Apply to H. Smith, 12, Rufford's row, Islington, London.

TANNED GARDEN NETTING, for protecting Strawberries and wall-fruit from birds, or as a fence for fowls, pigeons, &c., in any length, from JOHN KING FARLOW'S Fishing Tackle and Net Manufactory, 5, Crooked-lane, London-bridge, at 1½*d.* one yard, 3*d.* two, or 6*d.* four yards wide. All orders over 20*s.*, accompanied with post-office order, or stamps, carriage free.

WATERPROOF PATHS.—Those who would enjoy their Gardens during the winter months should construct their walks of PORTLAND CEMENT CONCRETE, which are formed thus:—Screen the gravel of which the path is at present made from the loam which is mixed with it, and to every part of clean gravel add one of sharp river sand. To five parts of such equal mixture add one of Portland Cement, and incorporate the whole well in the dry state before applying the water. It may then be laid on 2 inches thick. Any labourer can mix and spread it. No tool is required beyond the spade, and in 48 hours it becomes as hard as a rock. Vegetation cannot grow through or upon it, and it resists the action of the severest frost. It is necessary, as water does not soak through it, to give a fall from the middle of the path towards the sides.—Manufacturers of the Cement, J. B. White and Sons, Millbank-street, Westminster.

IMPORTANT TO FARMERS.

HARVEY'S PURGING DRINKS FOR COWS, 1*s.* each. Plain directions for the treatment of most diseases Cows are subject to, will be given with each Drink. They will be found a safe and effectual remedy. Compounded by R. Harvey, Veterinary Surgeon, Cheadle, Staffordshire.—Sold wholesale by Messrs. T. Marsden and Sons, Cheapside, London; and Messrs. Barclay and Sons, 95, Farringdon-street, London; and may be had from any respectable Chemist in the Kingdom.

OPEN TO THE UNITED KINGDOM.

YORKSHIRE AGRICULTURAL SOCIETY.—The Fifteenth Annual Meeting will be held at Sheffield, on the 4th and 5th of August next. (Two days' Show.) The Entry Closes on the 22d of July. Free transit for Stock, both ways, and half rates for Implements, are conceded by the Railways of the district. Prize Sheets for Stock, Implements, or Poultry, with forms of Certificate for each, may be had free by application to M. M. Milburn, Secretary.

Sowerby, Thirsk.

LIGHTNING CONDUCTORS.

R. S. NEWALL and CO., Patentees of the Copper Rope Lightning Conductor, beg to inform the Nobility, Clergy, &c., that they supply Lightning Conductors with the point, and all clips complete for fixing, at 1*s.* the foot, whatever the altitude of the building to be protected.

R. S. NEWALL AND CO'S PATENT COPPER ROPE CONDUCTOR is being used by Architects, Engineers, and scientific men, in all parts of the kingdom.

Office and Warehouse, 130, Strand, London.

THE ZOOLOGICAL GARDENS, REGENT'S PARK, are open to Visitors daily. The Collection now contains upwards of 1500 specimens, including a fine Chimpanzee, the Hippopotamus (presented by H. H. the Viceroy of Egypt), Elephants, Rhinoceros, Giraffes, and young Leucoryx, Elands, Bonte-boks, Camels, Zebras, Lions, Tigers, Jaguars, Bears, Ostriches, and the Aptéryx presented by the Lieutenant-Governor of New Zealand. All Visitors are now admitted to Mr. Gould's collection of Humming Birds without any extra charge.

The Band of the 1st Life Guards will perform, by permission of Col. Hall, on every Saturday, at Four o'Clock, until further notice.—Admission, One Shilling; on Mondays, Sixpence.

THE VOYAGE TO AUSTRALIA.—An entirely new Moving Panorama, "The Voyage to Australia, and a Visit to her Gold Fields," painted from sketches made upon the spot by J. S. Prout; the Marine Subjects by J. S. Rollins, and the Natural History by C. Wigall, Members of the New Society of Painters in Water Colours; will shortly be opened at 349, Regent-street, next the Polytechnic.

July, 1852.

CHAMBERS'S EDUCATIONAL COURSE.

Already Published, strongly bound in dark-coloured Cloth:—

DIRECTORIES.

	s.	d.
Infant Treatment under Two Years of Age	1	3
Infant Education from Two to Six Years of Age ...	2	0

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First Book of Reading	0	1½
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Simple Lessons in Reading	0	10
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Moral Class-Book	1	6
Introduction to Composition	0	6
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Introduction to Arithmetic	1	0
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Algebra	3	6
Key to Algebra	2	6
Plane Geometry	2	6
Key to Plane Geometry	2	0
Solid and Spherical Geometry	2	6
Practical Mathematics, Two Parts, each	3	6
Key to Practical Mathematics	3	6
Mathematical Tables	3	6

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Political Economy	2	0
Introduction to the Sciences	1	0
Laws of Matter and Motion	0	10
Mechanics	0	10
Hydrostatics, Hydraulics, and Pneumatics	0	10
Acoustics	1	0
Optics	1	0
Astronomy	1	0
Electricity	1	0
Meteorology	1	0
Natural Philosophy, Vol. I., containing Laws of Matter and Motion, Mechanics, Hydrostatics, &c., Acoustics	3	0
Natural Philosophy, Vol. II., containing Optics, Astronomy, Electricity, Meteorology	3	0
Chemistry. By George Wilson, M.D., F.R.S.E., &c. ...	3	0
Animal Physiology	1	6
Zoology	4	0
Vegetable Physiology	1	6
Geology	2	6

HISTORY.

Ancient History	3	0
History of Greece	2	6
History of Rome	2	6
History of the British Empire	2	6
Exemplary and Instructive Biography	2	6

WRITING AND DRAWING.

	s.	d.
Writing—Plain, Current-hand, and Ornamental; in 15 prepared Copy-books (post size), each	0	6
First Book of Drawing	1	6
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Drawing-books—consisting of a series of Progressive Lessons in Drawing and Perspective, with General Instructions; in 18 Books, each	1	6

*** Books I. to X. are published.

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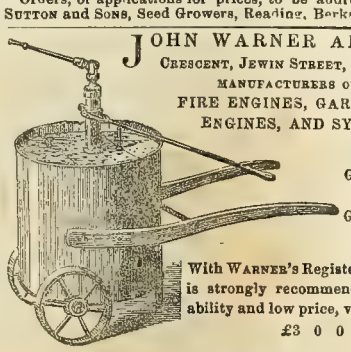
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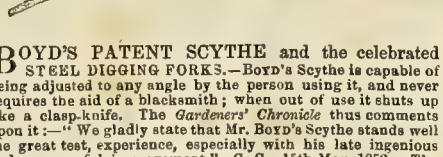
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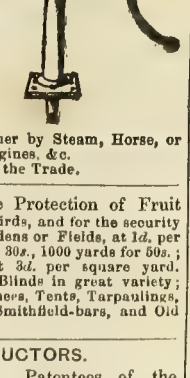


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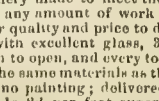
Milk Pans, 2*s.* to 6*s.* each; Metal Hand Frames, Glass Tiles and Slates; Cucumber, Propagating, and Bee Glasses; Wasp Traps, Glass Shades, and Plate Glass, at 87, Bishopsgate-street Without, London, same side as Eastern Counties Railway.—Established 100 years.

GLASS FOR CONSERVATORIES, ETC.

HETLEY AND Co. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2*d.* to 3*d.* per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices and Estimates forwarded on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLATES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to JAMES HETLEY and Co., 35, Soho-square, London.

See *Gardeners' Chronicle* first Saturday in each month.

HOTHOUSES, GREENHOUSES, ETC.

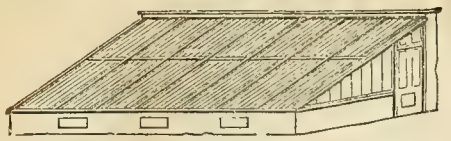
BY HER MAJESTY'S  ROYAL LETTERS PATENT.

E. DENCH, PATENT HOTHOUSE WORKS, KING'S ROAD, CHELSEA.—The superior qualities in every respect of these Structures having been proved in all parts of the United Kingdom, has caused a greater demand for them than E. D. could execute; he has been obliged to have perfect and powerful machinery made to meet the numerous orders, and can now execute any amount of work to great perfection, with dispatch, and for quality and price to defy all competition. Patent Hothouses, with excellent glass, 3 feet long by 1 foot wide, every front sash to open, and every top one to slide down, with pulley made of the same materials as the electric telegraph wires, which require no painting; delivered free to Wharf or Railway Station, at 1*s.* 2*d.* per foot super., complete, having been fitted, and every portion marked previously, making a Greenhouse 16 ft. 6 inches long, 12 ft. rafter, 400 ft., 23*l.* 6*s.* 8*d.*; 24 ft. 6 ins. long, do. do., 528 ft., 30*l.* 13*s.* 8*d.*; 28 ft. 6 ins. long, 15 ft. rafter, 712 ft., 41*l.* 10*s.* 8*d.* Heating by Hot Water on the most approved and economical principles.

Patent Sashes for Pits and Peach Walls, &c., 7*d.* and 8*d.* per foot, super.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER.

WARRANTED BEST MATERIALS AND WORKMANSHIP AT THE LOWEST POSSIBLE PRICES.



J. WEEKS AND CO., King's Road, Chelsea, Horticultural Architects, Hothouse Builders, and Hot-water Apparatus Manufacturers. The Nobility and Gentry about to erect Horticultural buildings, or fix Hot-Water Apparatus, will find, at our Hothouse Works, King's Road, Chelsea, an extensive variety of Hothouses, Greenhouses, Conservatories, Pits, &c., erected, and in full operation, combining all modern improvements, so that a lady or gentleman can select the description of House best adapted for every required purpose.

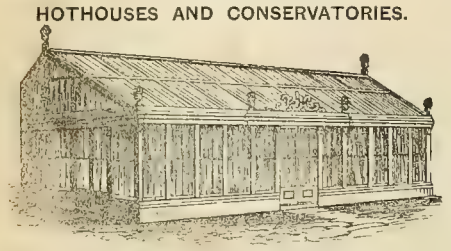
THE HOT-WATER APPARATUSES (which are efficient and economical), are particularly worthy of attention, and are erected in all the Houses, Pits, &c., for both Top and Bottom Heat, and in constant operation in the Stoves.

The splendid collection of Stove and Greenhouse Plants is in the highest state of cultivation, and for sale at very low prices. Also a fine collection of strong Grape Vines in pots from eyes, all the best sorts.

Plans, Models, and Estimates of Horticultural Buildings; also Catalogues of Plants, Vines, Seeds, &c., forwarded on application.

J. WEEKS AND CO., KING'S ROAD, CHELSEA, LONDON.

HOTHOUSES AND CONSERVATORIES.



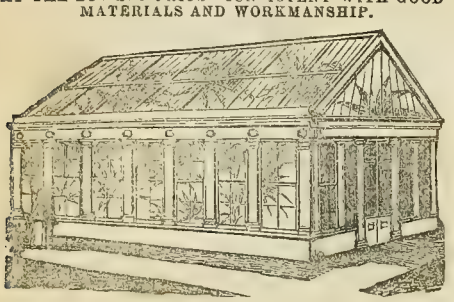
JAMES WATTS, HOTHOUSE BUILDER, CLAREMONT-PLACE, OLD KENT-ROAD, has 200 CUCUMBER and MELON BOXES and LIGHTS of all sizes, ready for immediate use, and of well-seasoned materials, packed and sent to all parts of the Kingdom.

HOTHOUSES, CONSERVATORIES, &c., made and fixed complete at a considerable reduction, and Garden Lights of every description. References may be had to the Nobility, Gentry, and the Trade, in most of the counties of England.

GREEN AND HOTHOUSES, made by Machinery, at J. LEWIS' Horticultural Works, Stamford Hill, Middlesex, warranted best materials, and the cheapest in England.—A List of Prices sent by enclosing 2 postage stamps.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER,

AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.

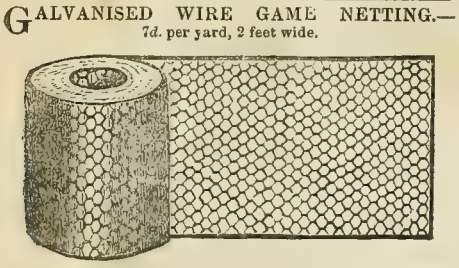


GRAY AND ORMSON, Danvers Street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

G. and O have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders they can with the greatest confidence give the most satisfactory references.

Their Hot-Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating by Hot Water can be made available.

GALVANISED WIRE GAME NETTING.—7*d.* per yard, 2 feet wide.



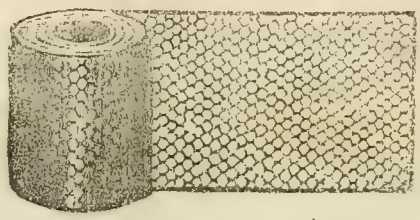
		Galvanised.	Japanned Iron.
2-inch mesh, light, 24 inches wide	...	7*d.* per yd.	5*d.* per yd.
2-inch " strong "	...	9 "	6½ "
2-inch " extra strong "	...	12 "	9 "
1½-inch " light "	...	8 "	6 "
1½-inch " strong "	...	10 "	8 "
1½-inch " extra strong "	...	14 "	11 "

All the above can be made any width at proportionate prices. If the upper half is a coarse mesh, it will reduce the prices one-fourth. Galvanised sparrow-proof netting for Pheasantries, 3*d.* per square foot. Patterns forwarded post free.

Manufactured by BARNARD and BISHOP, Market-place, Norwich, and delivered free of expense in London, Peterborough, Hull, or Newcastle.

BAKER'S PHEASANTRY, Beaufort-street, King's Road, Chelsea, by special appointment to her MAJESTY and H. R. H. PRINCE ALBERT.—ORNAMENTAL WATER FOWL, consisting of black and white Swans, Egyptian, Canada, China, barnacle, brent, and laughing Geese, Shieldrakes, Pintail, Widgeon, summer and winter Teal, Gadwall, Labrador, Shovellers, gold-eyed and dun Divers, Carolina Ducks, &c., domesticated and pinioned; also Spanish, Cochin China, Malay, Poland, Surrey, and Dorking Fowls; white, Japan, pied, and common Pea-fowl, and pure China Pigs; and at 3, Half-moon Passage, Gracechurch-street, London.

CHEAP WIRE GAME AND POULTRY NETTING, 5*d.* per running yard.

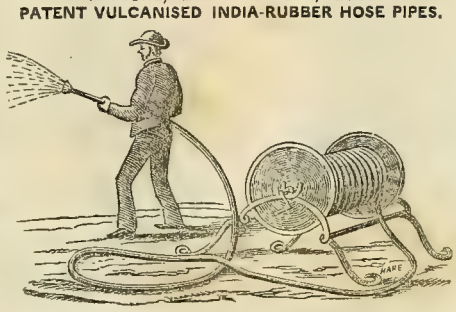


GALVANISED ditto, 7*d.* per running yard, 2 feet wide.

	Galvanised.	Not Galvanised.
24 in. wide, 2 in. mesh, 7*d.* per yard.	...	5*d.* per yard.
30 in. " 2 in. " 9*d.* "	...	6½*d.* "
36 in. " 2 in. " 10½*d.* "	...	7½*d.* "
48 in. " 2 in. " 1*s.* 2*d.* "	...	10*d.* "

Sparrow Proof Netting, Galvanised, 3*d.* per square foot, made to any size for the same proportionate price. This article was shown at the "Great Exhibition," where it was so much admired for its light and durable appearance, and acknowledged to be the cheapest and best article of the kind ever offered. Extra strong Wire Sheep Netting, 3 feet high, 1*s.* 6*d.* and 2*s* 3*d.* per yard. Also every description of Flower Trainers, Dahlia Rods, Garden Arches, Bordering, Flower Stands, Tying Wire, Trellis Work, Invisible Wire Fencing, Hurdles, and every description of Wire Work for Horticultural purposes.—Illustrated Catalogues of Patterns forwarded, post-free, on application to T. H. FOX, City of London Wire Work and Iron Fence Manufactory, 44, Skinner-street, and 6 and 8, Snow-hill, London.

FOR WATERING GARDENS, DISTRIBUTING LIQUID MANURE, BREWERS' USE, ETC.
PATENT VULCANISED INDIA-RUBBER HOSE PIPES.



JAMES LYNE HANCOCK, (SOLE LICENSEE AND) MANUFACTURER, GOSWELL ROAD, LONDON.

These Pipes are well adapted for Watering Gardens, conveying Liquid Manure, racking Beer and Cider, for portable Gas Lamps, and all purposes where a perfectly sound Waterproof and Flexible Pipe is required. They are particularly suitable for Fire Engines, and are found exceedingly useful in Dwelling-houses for conveying Hot or Cold Water to Baths, &c.

Hose Reels for winding-up and wheeling away long lengths of the Vulcanised Rubber Garden Hose, are now manufactured by J. L. HANCOCK, of light and cheap wicker work.

N.B.—Vulcanised India Rubber Garden Hose, fitted up with Roses, Jets, and Branches complete, with union joints ready to attach to pumps or water cisterns.

All Letters or Orders addressed to J. L. HANCOCK, Goswell Mews, Goswell Road, London, will meet with immediate attention.

WATERPROOF PATHS.—Those who would enjoy their Gardens during the winter months should construct their walks of PORTLAND CEMENT CONCRETE, which are formed thus:—Screen the gravel of which the path is at present made from the loam which is mixed with it, and to every part of clean gravel add one of sharp river sand. To five parts of such equal mixture add one of Portland Cement, and incorporate the whole well in the dry state before applying the water. It may then be laid on 2 inches thick. Any labourer can mix and spread it. No tool is required beyond the spade, and in 48 hours it becomes as hard as a rock. Vegetation cannot grow through or upon it, and it resists the action of the severest frost. It is necessary, as water does not soak through it, to give a fall from the middle of the path towards the sides.—Manufacturers of the Cement, J. B. WHITE and SONS, Millbank-street, Westminster.

THE ZOOLOGICAL GARDENS, REGENT'S PARK, are open to Visitors daily. The Collection now contains upwards of 1500 specimens, including two fine Chimpanzees, the Hippopotamus (presented by H.H. the Viceroy of Egypt), Elephants, Rhinoceros, Giraffes, and young Leucoryx, Elands, Bonte-boks, Camels, Zebras, Lions, Tigers, Jaguars, Bears, Ostriches, and the Apteryx presented by the Lieutenant-Governor of New Zealand. All Visitors are now admitted to Mr. Gould's collection of Humming Birds without any extra charge.

The Band of the 1st Life Guards will perform, by permission of Col. HALL, on every Saturday, at Four o'Clock, until further notice.—Admission, ONE SHILLING; on MONDAYS, SIXPENCE.

THE ROYAL EXHIBITION.—A valuable newly-invented, very small, powerful, waistcoat-pocket Glass the size of a Walnut, to discern minute objects at a distance of 4 to 5 miles, which is found to be invaluable for YACHTING, and to SPORTSMEN, GENTLEMEN, and GAMEKEEPERS.

TELESCOPES.—A new and most important INVENTION in TELESCOPES, possessing such extraordinary powers that some—3½ inches, with an extra eye-piece—will show distinctly Jupiter's Moon, Saturn's Ring, and the Double Stars. They supersede every other kind, and are of all sizes—for the waistcoat-pocket, Shooting, Military purposes, &c. Opera and Race-course Glasses with wonderful powers; a minute object can be clearly seen from 10 to 12 miles distant.—Invaluable Acoustic Instruments for relief of extreme Deafness.

MESSRS. S. AND B. SOLOMONS, OPTICIANS and ADRISTS, 39, Albemarle-street, opposite the York Hotel, London.

PATENT SILICIOUS STONE COMPANY.—Provisionally registered. Capital 50,000*l.*, in 5000 shares of 10*l.* each. Deposit of 1*s.* per share, to be paid on allotment, and 2*l.* 9*s.* on the complete registration of the Company. Future calls, not exceeding 2*l.* 10*s.* per share, to be made at intervals of not less than three months.

PROVISIONAL COMMITTEE.

Professor D. T. Ansted, F.R.S., 17, Manchester-street, London.
James Beadel, Esq., Gresham-street, London.
Peter Bruff, Esq., C.E., Ipswich.
J. C. Cobbold, Esq., M.P., Ipswich.
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Solicitors.—Messrs. Palmer, France, and Palmer, Bedford-row, London.
Bankers.—Sir J. W. Lubbock, Bart., and Co., London.
Secretary.—W. Thompson, Esq.
Temporary Offices, 71, Cornhill, London.

The object of this Company is the working of the Patents taken out by Mr. Frederick Ransome, of Ipswich, "for improvements in the manufacture of Artificial Stone, &c." The Patents were secured some time since, and the Patentee has subsequently devoted his energies in developing its powers and overcoming the mechanical and chemical difficulties attending the introduction of a new manufacture. He has fully succeeded in attaining these objects, and it is now found necessary to enlarge very materially the scale of production.

The process of manufacture is exceedingly simple, consisting in the solution of flint in caustic alkali at high temperature; the solution thus obtained producing a glutinous compound, which can be moulded with sand into any required form, and made to receive the most delicate impressions. In this state it is burnt in a kiln, the result being a Siliceous Stone, equal to the best sandstones, and indestructible by atmospheric changes. It is a peculiar advantage of this material that no shrinkage occurs during the drying and baking, and no warping or unequal contraction. It can be produced of any colour, and made to represent granites, marbles, &c.

The principal applications hitherto used in the arts, have been in the execution of architectural decorations, such as inlaid and ornamental pavements, ashlar for facing buildings, mouldings, chimney pieces, terrace walks, monuments, &c., and in the manufacture of filters. In all these applications, the results have been eminently successful, and show a steadily increasing demand.

The Patent Stone has received the approval of the most scientific and practical men of the day, and the Patentee is able to refer to specimens which have been subjected in exposed situations to the action of frost and other atmospheric changes, during a period of several years, without exhibiting the slightest appearance of decay. The "Telford Medal" of the Institution of Civil Engineers, and the "Prize Medal of the Great Exhibition of 1851," have been awarded in testimony of its merits.

The Patents extend over the whole of the United Kingdom, and the exclusive license which it is proposed shall be granted to the Company, can be purchased on very favourable terms, the particulars of which may be ascertained on inquiry at the Office.

Judging from the cost of manufacture of the material at Ipswich, and the price obtained, a profit of at least 25 per cent. per annum may be confidently anticipated upon the whole of the capital proposed to be invested. The limited extent of the present works, and the cost of the transit, have hitherto prevented the full development of the Patent, but orders to a considerable extent have been already executed, and many others are now in course of completion. Several large contracts are also now under consideration.

Applications for Shares may be addressed to the Secretary, or to A. B. COOK, Esq., Stockbroker, Sun Chambers, Threadneedle-street, London. Prospectuses, containing full testimonials, with forms of application for Shares, may be obtained, and specimens of the Stone seen at the Office, 71, Cornhill, London, from 11 till 3 daily.

SHOWER BATHS, AND TOILETTE WARE.—WILLIAM S. BURTON has ONE LARGE SHOW-ROOM devoted exclusively to the DISPLAY of BATHS, and TOILETTE WARE. The stock of each is at once the largest, newest, and most varied ever submitted to the public, and marked at prices proportionate with those that have tended to make his establishment the most distinguished in this country. Portable Showers, 7*s.*; Pillar Showers, 3*l.* to 5*l.* 15*s.*; Nursery, 11*s.* 6*d.* to 30*s*; Sponging, 14*s.* to 30*s.*; Hip, 12*s.* 6*d.* to 29*s.* A large Assortment of Hot and Cold Plunge, Vapour, and Camp Shower Baths. Toilette Ware in great variety, from 15*s.* 6*d.* to 40*s.* the set of three.

TEA URNS, of LONDON MAKE ONLY.—The largest assortment of really London-made TEA-URNS (including all the recent novelties, many of which are registered), in the world, is on Sale at WILLIAM S. BURTON'S, from 27*s.* to 6 guineas.

THE BEST SHOW of IRON BEDSTEADS in the KINGDOM is WILLIAM S. BURTON'S. He has added to his Show Rooms TWO VERY LARGE ONES, which are devoted to the exclusive SHOW of Iron and Brass Bedsteads and Children's Cots (with appropriate Bedding and Mattresses). Common Iron Bedsteads, from 12*s.* 6*d*; Portable Folding Bedsteads, from 12*s.* 6*d.*; Patent Iron Bedsteads, fitted with dovetail joints and patent sacking, from 1 *s.* 6*d.*; and Cots, from 20*s.* each. Handsome ornamental Iron and Brass Bedsteads in great variety, from 3*l.* 5*s.* to 31*l.*

WILLIAM S. BURTON has TEN LARGE SHOW ROOMS (all communicating), exclusive of the shop, devoted solely to the show of GENERAL FURNISHING IRONMONGERY (including Cutlery, Nickel Silver, Plated and Japanned Wares), so arranged and classified that purchasers may easily and at once make their selections.

Catalogues, with Engravings, sent (per post) free. The money returned for every article not approved of.

39, OXFORD-STREET (corner of Newman-street); Nos. 1 and 2, NEWMAN-STREET; and 4 and 5, PERRY'S-PLACE.

METCALFE AND Co.'s NEW PATTERN TOOTH-BRUSH and SMYRNA SPONGES.—The Tooth-Brush has the important advantage of searching thoroughly into the divisions of the teeth, and cleaning them in the most extraordinary manner, and is famous for the hairs not coming loose.—1*s.* An Improved Clothes-Brush, that cleans in a third part of the usual time, and incapable of injuring the finest nap. Penetrating Hair-Brushes, with the durable unbleached Russian bristles, which do not soften like common hair. Flesh-Brushes of improved, graduated, and powerful friction. Velvet-Brushes, which act in the most surprising and successful manner. The genuine Smyrna Sponge, with its preserved valuable properties of absorption, vitality, and durability, by means of direct importations, dispensing with all intermediate parties' profits and destructive bleaching, and securing the luxury of a genuine Smyrna Sponge. Only at METCALFE, BINGLEY, and Co.'s Sole Establishment, 130 B, Oxford-street, one door from Holles-street, London.

METCALFE'S ALKALINE TOOTH POWDER, 2*s.* per box.

CAUTION.—Beware of the words "From METCALFE'S," adopted by some houses.

NATIONAL CARNATION AND PICOTEE SOCIETY.—The ANNUAL EXHIBITION of the above Society will be held on WEDNESDAY, July 28, at the CORN EXCHANGE, NORWICH. All Flowers for competition must be staged by Half-past Ten o'clock. Members, or Friends introduced by them, will be allowed a private inspection from Twelve till Half-past One; after which the public will be admitted, on payment of 1s. each. The doors will close at Four o'clock.—Prizes will be offered at the above Exhibition for Hollyhocks, Verbenas, Roses, &c., particulars of which may be had of the Secretary. Day tickets at the price of a single fare will be issued by the Norfolk Railway, from all stations on their line, and by the Eastern Union Railway, from all stations between Ipswich, Bury, and Norwich.

JEREMIAH J. COLMAN, Hon. Secretary, Stoke Holy Cross, Norwich.

NEW PELARGONIUMS.

JOHN DOBSON respectfully announces that his new, first-rate, and distinct SHOW VARIETIES OF PELARGONIUMS will be ready to send out the first week in October, in strong plants, in 4-inch pots—COMMANDER, VULCAN, HARRIOT, JUPITER, PASHA, SPOT, and GERTRUDE.

Full descriptions and prices will shortly be ready, and may be had on application. All orders will be executed in strict rotation.—Woodlands Nursery, Isleworth, Middlesex.

NEW PLANTS INTRODUCED BY MR. FORTUNE.

STANDISH AND NOBLE beg to announce that they possess all the highly interesting plants introduced by Mr. Fortune, and mentioned by him in his recent popular work on China. Many of them are now on sale. Of the others, due notice will be given, as they are ready to send out. Every particular may be obtained by applying to the Advertisers.—Bagshot, July 24.

TO FLORISTS, AMATEURS, ETC.

L. VAN HOUTTE, FLORIST, Ghent, offers CALCEOLARIA SEED, saved from a superb collection, warranted to comprise all his finest and newest varieties, at 5s. per sealed packet. To be had in London of Mr. J. CARTER, 238, High Holborn.

NEW ACHIMENES.—The splendid new and distinct Achimenes "MARGARETTÆ" (pure white), introduced by G. W. Skinner, Esq., from Guatemala can now be had by post, price 5s. per blooming plant. This fine variety obtained a prize for new and rare plants at the Horticultural Show on the 10th instant.

H. LANE and SON, Nurseries, Great Berkhampstead, Herts.

RIVERS' LARGE YELLOW STONE TURNIP SEED (the growth of the present season). Price 1s. per lb. This Turnip had its origin in 1842 with the Stubble Swede; and has been repeatedly tested with other kinds of Yellow Turnip, in which its superiority was very apparent—in its sweetness of flavour, and in its vigour of growth. For the last three years, on various soils, it has yielded from 12 to 16 tons per acre, when sown in the early part of August; and it has the advantage of keeping in clamps quite late in the spring.

RIVERS' Stubble Swede, price 1s. 6d. per lb. Orders to the amount of 10s paid to London.—Sawbridgeworth, Herts.

WOODLANDS NURSERY, MARESFIELD, NEAR UCKFIELD, SUSSEX.

WILLIAM WOOD AND SON'S extensive and superb Collection of ROSES, comprising nearly 2000 varieties, and extending over many acres of ground, is now in fine bloom, and will continue in perfection during the Rose season. A coach leaves Tunbridge Wells (distant 13 miles from the Nursery) every day at 11 o'clock A.M. (Sundays excepted), passing through Maresfield; also daily from Lewes at 12 o'clock noon, distant 11 miles from the Nursery.

Hayward's Heath, a station on the London and Brighton Railway, is 12 miles from the Nursery, where conveyances may be obtained.—July 24.

SKIRVING'S IMPROVED TURNIP SEEDS, FOR AUTUMN SOWING.

WILLIAM SKIRVING begs to recommend to Turnip growers the following kinds, which he has proved by long experience to be the best adapted for autumn sowing, viz.:

SKIRVING'S HYBRID, or Purple Top Yellow Bullock, a Turnip of excellent quality, which if sown this month produces a large crop for feeding before using the Swede. Price 9d. per lb.

SKIRVING'S HARDY GREEN GLOBE, the best of the Norfolk kinds for giving a large crop and long keeping. Price 9d. per lb.

For the last sowing SKIRVING'S IMPROVED SCARISBRICK (or LIVERPOOL EARLY ORANGE YELLOW). A Turnip of very excellent quality and rapid growth; the best of all known Turnips for sowing early in Spring, or late in Autumn. Price 1s. per lb.

A remittance or reference is requested from unknown correspondents.—Queen Square, Liverpool, July, 1852.

MESSRS. J. AND H. BROWN offer the following new and choice Plants, which they will forward to any part:—

	s.	d.
12 Orchidea choice species and good plants, including Stanhopeas, Dendrobiums, Epidendrums, Oncidiums, &c., for	30	0
50 Choice Greenhouse Plants, one of a sort, by name (this collection is highly recommended for new greenhouses, &c.)	40	0
24 Choice Ericas, one of a sort, by name	16	0
12 New Azaleas Indicas, one of a sort	25	0
12 Camellias, choice sorts, set with buds	30	0
Some large Camellias, Orange Trees, and Azaleas for sale.		
24 Fine new Fuchsias, do., do.	10	0
12 Fine new Gloxinias, do., do.	10	0
12 Fine new Achimenes, do., do.	10	0
Passifloras and Jasminums, Stove and Greenhouse species, each	1	6
Gardenia florida, radicans, and Fortunii, per doz.	18	0
12 Tea-scented Roses, one of a sort, by name, in pots	9	0
12 Climbing do., choice sorts, in pots	9	0
Rosa Devoniensis, on their own roots, in pots, fine for beds per dozen	9	0
Miniature or Fairy Roses, 4 sorts, fine for edgings, per dozen	6	0
12 Bedding Roses in pots, one of a sort, for beds	10	6
Cloth of Gold and Yellow Noisette Roses, per dozen	10	0
12 Choice Chrysanthemums, new sorts, by name	6	0
12 New Dwarf Pompon Chrysanthemums, do., do.	8	0
12 New Perennial German Phloxes, one of a sort	8	0
New Geraniums, show and fancy, at reduced prices.		
New Verbenas and Petunias, per dozen	6	0
12 Fine beautiful varieties in collections, suitable for Greenhouses, Greenhouse, and basket-work, each	10	0
Choice Vines, strong plants, from canes, in pots, per doz.	15	0
Cinerarias, Cinerarias, Primula, Pansy, Cyclamen, Auricula, and Polyanthus Seed, by post, each packet 1s.		
Catalogues of Stove and Greenhouse Plants, Roses, &c.		

Ashton Nursery, Stoke Newington, London, July 24.

EXHIBITION OF ROSES.

G. CLARKE, NURSERYMAN, Streatham-place, Brixton-hill (3½ miles from London), informs his patrons and admirers of ROSES that his unrivalled collection, consisting of above 1400 varieties, comprising all the new varieties from Belgium, France, &c., extending over 10 acres of ground is now in full bloom, and is free to visitors. Orders taken for plants now in bloom, and executed in November. A good collection of specimen Ericas, Azaleas, Conifers, Evergreens, &c.

FLOWERS FOR HER MOST GRACIOUS MAJESTY THE QUEEN.—During her Majesty's short visit at Plymouth, Mr. WILLIAM E. RENDLE, of Plymouth, as Florist to the Queen, presented some very elegant Bouquets of Flowers, through Colonel the Honourable C. B. Phipps. Her Majesty, through him, expressed much satisfaction, stating, at the same time, she was much obliged for his attention.

The Gardeners' Chronicle.

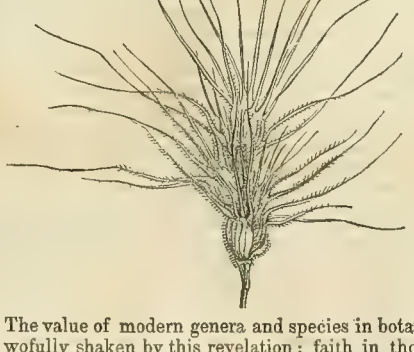
SATURDAY, JULY 24, 1852.

MEETINGS FOR THE ENSUING WEEK.

TUESDAY, July 27—Zoological.....9 P.M.
THURSDAY, — 29—National Floricultural.....3 P.M.

COUNTRY SHOWS.—Tuesday, July 27: Northampton Carnation, and Handsworth and Lozells Horticultural.—Wednesday, July 28: Norwich Carnation and Picotee, and Buckingham Horticultural.—Thursday, July 29: Oxfordshire and Bath Horticultural.

No fact in natural history more pregnant with consequences has been elicited than that TRANSFORMATION to which we last week drew the attention of the public. That a miserable Grass, of which the following is a portrait, should in no more than 12 generations become such an important article of food as Wheat, would have been incredible, in the absence of the direct and positive testimony that has been produced by M. FABRE. So unlike are the alpha and omega of this experiment, that botanists, with one consent, have placed them in distinct genera, and yet the plants are shown, by the plainest evidence, not only to belong to the same genus, but even to the same species.



The value of modern genera and species in botany is wofully shaken by this revelation; faith in those lower classes of botanical distinctions, which have been said to represent permanent natural differences, is gone; and it is to be hoped that refinements in classification, as they have been absurdly called, have received their *coup de grace*. The ingenious gentlemen who have believed that 20 species of Aconite are confounded under Napellus, half-a-hundred Willows under Salix caprea, and as many species of Rubus under R. corylifolius, may burn their books, for their trifling distinctions can hardly continue to find admirers after the proof that an Ægilops and Wheat are the same species. For our own part, we console ourselves with the belief that botany will be thus restored to the condition of an intelligible science; and we congratulate those who, like BENTHAM, HOOKER, and others, have for a quarter of a century carried on an unsuccessful war with hair-splitting contemporaries, upon the final triumph of their principles.

Passing by this point of view, we may also suggest that other unsuspected instances of the same kind are very likely to occur. We are ignorant of the origin of Rye; but Rye is less different from Wheat than is Ægilops, and may very well be another Ægilopian form. So again of Barley, the wild state of which just as uncertain; we may now expect that some clever experimenter will trace it to an origin as surprizing as that of Wheat. But these are matters of mere scientific interest. Let us see to what practical inferences M. FABRE'S discovery may lead.

This gentleman found that a kind of wild Grass (*Ægilops ovata*) was subject to what gardeners call "a sport" (*Æ. triticoides*). Of that sport he sowed the seeds, and he found that while on the one hand there was no disposition to return to its original form, there was on the other a decided tendency to sport still more. Of that tendency he availed himself with admirable patience. Year by year the change went on—but slowly. Little by little one part altered or another. The wretched, hungry grain grew plumper; the flour in it increased; its size augmented. The starved ears soon formed other spikelets; the spikelets at first containing but two flowers at last became capable of yielding four or five. The straw stiffened, the leaves widened, the ears lengthened, the corn softened and augmented, till at last Wheat itself stood revealed, and of such quality that it was not excelled on the neighbouring farms. All this too, he it observed, was done on a large scale; it was no obscure laboratory experiment, but the result of a farming operation, carried on in the open fields. Men must be blind indeed who cannot see to what this points. We shall leave our agricultural friends to reflect upon the prospects that are opened to them; it is for them to double the length of their ears of corn, and augment their grain—to go on, in short, in crowds, in the track that a few only of the most intelligent are following now. We must limit our horizon to the boundary of a garden.

If any men know the importance of "sports," they are gardeners. Half the most striking of the flowers and fruit have been thus obtained. A poor ugly dwarf Larkspur sports by chance to double; the seeds of the sport are saved carefully and sown; three-fourths of the seedlings are single, but a few are double; the first are thrown away, the best of the second are saved for seed, and the second crop of seedlings comes truer. So comes the race of double Larkspurs. A double Larkspur next sports to a stripe, that is to say, bands of red or of violet appear upon the pale ground of the petals of a few flowers; these flowers are marked, the seed is saved, and so begins the breed of what are called Uniques, at one time the pride of the flower garden, though now discarded for newer favourites. In the same way, first came Camellias, Chrysanthemums, and a host of others. The old purple Chrysanthemum accidentally sported to buff: the buff branch was struck, proved true to its new nature, and became the ancestor of a race of other buffs. The colour of a red Camellia "breaks;" red streaks appear in the flowers of a sporting branch; that branch is separated from its more tranquil mother, and clapped upon a stout stock; on goes the sportive branch, retains its tendency, produces striped flowers all the better for the new blood infused into them, and the tendency is fixed; skilful gardeners cut it limb from limb, and every mutilated morsel starts into life another variegation.

It is the same with vegetables; a wild Carrot accidentally found in cultivated ground, refuses to run to seed, but employs itself in building up a root stouter than any Carrot had before. The watchful eyes of a gardener remark the change; the changeling, still a sport, flowers at last; its precious seeds are saved, and committed to still richer ground. Nine-tenths of the seedlings run back to the wild form—your Carrot is but an intractable gentleman after all—but a very few prove obedient to the will of man, shake off their savage habits, refuse to flower till the second year, meantime spend their autumn and winter in the further enlargement of their roots, then rise up into blossom invigorated by six months' additional preparation, and yield more seeds, in which the fixity of character, or if you will the habit of domestication, is still more firmly implanted. And thus begins the race of Carrots.

Nectarines, Pears, Peaches, Plums, and other valuable fruits, must be supposed to have in numerous instances derived their origin from similar circumstances; they were far more the children of accident than design, and we see to what they have come.

Gardeners, then, should keep a watchful eye upon every tendency to sport, which they may remark among the plants entrusted to their care. The sports, however unpromising, should be made the subject of repeated experiment; year after year seeds should be saved, seed-beds "rogued," and attempts made to secure fixity of character. If they end in nothing, as they often will, such experiments have the advantage of also costing nothing; but if they lead to a good result a permanent gain is secured. We see no reason why Gourds should not be bred into Melons; at least we know to our cost that Melons are easily bred into Gourds. There is nothing impossible in the Miller's Burgundy Grape transforming into a sort with berries as big as Muscats; or in a Leek gaining a bulb as solid and round as a Tripoli Onion; or in a Raspberry bearing berries as fine as a British Queen Strawberry; such changes are far more likely to happen than the transformation of Ægilops into Triticum; what they want for their accomplishment is time, patience, and an intelligent knowledge of the nature of the plants, and a fixed residence; with all which gardeners as a body are better provided than any other class of society. To them we earnestly recommend the steady pursuit of

M. FABRE's experiments. If any one should succeed in the course of a dozen years in giving a Raspberry the dimensions of a Mammoth Strawberry, he will deserve to be placed by the side of the great inventor of the Crystal Palace.

WILL any gentleman who complains that GLASS BURNS THE LEAVES of his greenhouse plants, take the trouble to cast an eye just now upon his Rhododendrons in the open bed? He will there find ten times more mischief caused by the unobstructed sun than ever came of the worst sheet-glass. A week ago, this kind of injury had gone so far as to raise a doubt whether the plants affected would ever get over it. But they have recovered, and the symptoms are already disappearing; they proved, in the meanwhile, that a concentration of solar rays is by no means necessary, in order to produce burning.

What at first sight appears paradoxical is, that the oldest, and strongest, and hardest leaves were alone affected; while the young ones, tender, thin, and half-formed, bore the fierce sunbeams uninjured. Yet so it was everywhere. The old leaves resisted stoutly and were burnt; the young ones bowed before the heat, and escaped. The fact is certain; it was uniform; we verified it over and over again, in different places, under different circumstances, and in different plants; the strong perished, the weak survived. What, then, was the cause of a phenomenon which, to say the least of it, was unexpected? In the absence of a better explanation we venture to propose the following.

The old leaves of an evergreen plant at this time of year, although hard, deep green, and seemingly full of health, are nevertheless approaching their natural death. Sun or no sun, in a few weeks the branch casts them off as incumbrances. This arises from their having lost all power of growth; the stem increases in diameter as the new sap rushes through it, but the leaves are unable to increase at the same rate; consequently, that which is growing casts off that which is standing still; just as in the political world, old, though apparently healthy, institutions are perpetually falling beneath the expansive force of a progress which they are unable to accompany. One of the circumstances attendant upon this "green old age" of the leaf is, that it no longer evaporates in any considerable degree, and so offers no counteraction to the heating effects of the sunbeams. In the youth of the leaf, on the contrary, evaporation goes on with great force, of which a low temperature is the necesssary accompaniment; and thus, we presume, the burning influence of the sun is mitigated.

If this explanation is right, then it will be more than ever certain, that the burning of young Vine leaves in Vineries, of which gardeners so much complain, is due to cold and not to heat, as we endeavoured to prove on a former occasion.

RUSSELLIA JUNCEA.

THIS graceful and beautiful plant, though long introduced to this country, deserves more attention than it has hitherto received. Its remarkably elegant habit of growth, and its bright scarlet flowers, with which, under proper management, it is covered during two months of the year, render it an object of great beauty. It is easily cultivated, requiring merely a temperature of from 60° to 70° while growing, with plenty of pot room, a liberal allowance of water, and as much light as can possibly be afforded it.

It is readily propagated by cuttings in the ordinary way, or more speedily by layering a promising shoot, which will emit roots and be ready for separation from the parent in the course of a few weeks. If the young plants are ready to pot singly early in June, it will be easy to grow them during the season to form good plants in 7-inch pots, and these may be increased to any reasonable size the following season. Winter in a light airy situation, where the temperature may average from 50° to 55°, and carefully supply them with water at that season.

Early in March the temperature should be increased to about 60°, in order to induce active growth, and the plants shifted into larger pots if necessary. Maintain a damp atmosphere, and see that the soil is kept in a properly moist state. In exciting the plants into growth at that early season, when it will be impossible to afford them sufficient light and air, the young shoots will doubtless be infested with aphis, which must be destroyed as soon as they make their appearance; but if placed near the glass in a situation where air can be admitted whenever the weather will permit, and a healthy root action induced by judicious potting and watering, their growth will be healthy, and one or two applications of tobacco smoke will be sufficient to keep them clean.

The plants should be ready for putting into their flowering pots in May, and they should not be allowed a large shift, as they will flower more profusely if not overpotted—12-inch pots may be considered sufficiently large for this season. The day temperature may be allowed to range from 70° to 80°, with bright weather, and the increase of light which May affords, but 60° or 65° should not be exceeded at night; and recollect that unless the wood is ripened by strong light, and a free circulation of air, flowers will be produced but sparingly, and will probably fall off before attaining perfection. If gradually hardened, the plants may be removed to a situation in the conservatory or greenhouse where they will not be exposed to cold drying currents of air, and where they will remain in full beauty for some two months, and be higher coloured than if they were retained in the stove. The best method of training the Russellia is by means of a circular wire trellis, put over the plant after the final potting, and the shoots drawn through and allowed to hang down in their own natural and graceful manner. The principal shoots may be kept tied to light stakes until the specimens are shifted into their flowering-pots. After flowering, the plants may be slightly cut back, and removed to a cool, airy situation in the stove, or a close part of the greenhouse, and should be rather sparingly supplied with water during the autumn and winter, when they will be nearly inactive. If large plants are desired, shift into 15 or 18-inch pots in March, and treat them as to temperature, &c., as recommended for last season, and large handsome specimens will be the result.

The Russellia will grow in any rich porous soil. I use turfy peat and loam in about equal proportions, adding a sufficient proportion of silver-sand to render the mass porous. Plants that are not intended to be kept over the winter have about one-sixth of thoroughly decomposed cow-dung added to their soil for the last potting. This would be injurious to plants to be wintered in it, as it harbours worms, but the plants enjoy it while in active growth, make stronger wood, and produce more flowers than those in peat and loam only; and as they are to be thrown to the rubbish-heap after flowering, worms will seldom do much injury by stopping the drainage and hardly make their appearance in the short time from potting to throwing away. Younger plants intended for further service will be benefited by frequent waterings with clear weak manure-water during the time they are making growth. *Alpha.*

ON WEEDS.—No. III.

ON WALKS, COURT-YARDS, AND HARD SURFACES OF ALL KINDS.—This subject is one to which much attention has been directed; scientific men of high standing and repute have instituted experiments for the destruction of weeds on such surfaces; and others, also, to prevent their growth. Gardeners, too, of eminence in their profession have directed their inventive faculties to attain this "consummation" so "devoutly to be wished." It appears to me that each plan may have some merit, when applied upon a small scale, depending always upon the proximity of the destroying agent, its price, the facilities for transport, the high or low wages, and the scarcity or abundance of labour in the locality. And be it remembered that there are some deeply rooting perennial weeds on which the action of strong solutions of the most poisonous ingredients would probably take little or no effect at a depth of from 4 to 5 inches below the surface; and that even the commonest plants have the power of selecting and appropriating their peculiar food. A crop of weeds, therefore, may be, generally speaking, destroyed by saline applications; but some of them will flourish with greater luxuriance, when supplied with salts of soda or potash. The growth of Plantago coronopus and Polygonum aviculare is mentioned as being much promoted by the use of common salt—see *Gardeners' Chronicle* for 1845, page 642; and that of a slimy moss induced by heavy dressings of salt; see *ibid.* for 1841, page 846. Upon this fact, which is vouched for by the writer in the most decided manner, Dr. Lindley observes, "No doubt the salt, by attracting moisture from the air, favoured the growth of mosses and other Cryptogamic plants, which would have, when young, the appearance described. Sulphate of copper will kill them."

In addition to the recommendation, Prof. Henslow succeeded in destroying weeds by the use of a solution of corrosive sublimate, and he also attests the efficacy of blue vitriol (sulphate of copper) and green vitriol (sulphate of iron). The corrosive sublimate is admitted to "destroy all vegetation," and the sulphate of copper and iron are said to have no permanent action, "encouraging the subsequent growth of many sorts of plants, and so promoting the vegetation of weeds, rather than destroying it." The action of common salt, is precisely of the same nature; and if we take into consideration the cost of these materials when used upon a large scale, the danger of using them, on account of injury to turf and Box edgings, and couple this with their transitory action, I do not think (however well directed such experiments may have been) that they are so economical as labour applied with perseverance, and guided by the dictates of common sense.

If there be exceptions to this conclusion, they are the small gardens in the neighbourhood of large towns, where labour is dear, and the applications I have spoken of more easily procured. The seats of country gentlemen are generally removed from chemical works, and there are few parishes in which there is not a surplus of labour. The parents of large families are very glad to get their boys employed either at weeding or bird keeping, before they are strong enough for other work, and they may be transferred as they grow, while attendance in a good night school affords opportunity for acquiring useful knowledge, and checking those loose and immoral habits which youthful idleness too often engenders.

The utter prevention of the growth of weeds on walks is impossible, because the seeds are borne by the winds constantly from great distances. To form a surface upon which they cannot grow, and which shall be free from disagreeable smell; not calculated to injure the dresses of ladies, and retain the warm colour of good gravel, with its firmness and stability, is yet a desideratum. Dr. Lindley announced some time ago that he is experimenting with gas-tar for this purpose, and therefore it would be premature to pronounce judgment as to how it may answer. But while I have no doubt it will prevent the growth of weeds, it does not appear to me likely to be adopted on a large scale, on account of its expense and disagreeable odour.

Having briefly passed in review the measures of prevention and antidote which have been suggested, and collected evidence from authorities (which cannot be disputed) that the remedies are not of universal adaptation, while the issue of the precautionary measure has yet to be told; I will conclude this essay by advising those who make new walks to remove from them constantly every weed before it attains to a flowering state; for the shedding of the seeds of many, such for instance as Poa annua and Groundsel, supervenes so quickly after that period, that it is difficult to know where one ends and the other commences.

It has been said that constantly cutting off the tops of weeds will in time destroy them; and eventually it will do so, on the principle that the leaves, although formed at first at the expense of the parent plant, do afterwards, like grateful children, assist in nourishing and supporting their parent, and consequently, if successive families of them are produced, and as often cut off, the resources of the plant will in the end be exhausted; it will languish and die. But this is a far more tedious way of getting rid of them than uprooting them at once. The Dandelion and Couch Grass, with a strange tenacity of life, will bear these successive cuttings with impunity for a long time; the former of these will spring up again if cut 3 inches out of the ground.

Next in order of annoyance to the perennial weeds, such as Couch Grass, Dandelions, Coltsfoot, Docks, Nettles, and Thistles, which can only be got rid of by perfect extraction, comes the class of annuals, and of them the Meadow Grass is the most troublesome; the short time in which it grows, flowers, seeds, and reproduces itself, and the number of crops produced in one season is almost incredible. In the heat of summer, and amidst the rage of wintry winds, it

> "Dies—and flings,
> Its seeds abroad in solitude."

and so of many more of these annual productions which I could enumerate.

Let me, in conclusion, earnestly impress upon those who are forming new walks the importance of constant and vigilant weeding, not permitting a crop at any time to become large. Let none be led away by the doctrine of "equivocal generation," but believe that every plant proceeds from a germ, over which he has control, but which, if he allows it to be carried abroad, will surely rise up in judgment against the folly and negligence of those who fostered its parent. The task of weeding foul walks certainly appears a formidable one; and the rough onslaught might, I think, be made with advantage by anything that would destroy the vegetation *pro tempore.* Remembering always this important and well-attested fact, that "*Resurgam*" is the motto of every weed that has lived to accomplish the great purpose of Nature—the formation of seed; and bearing equally in mind that the strongest solutions of the most potent destroyers lose their deleterious effects, and become mere mild tonics, when sufficiently weakened by dilution. It is said that he who makes two blades of Grass grow where only one grew before deserves well of his country. What shall we, then, do for the man who shall prevent the single blade from making its unwelcome appearance on our walks?

I would not repress experiment, and I feel that we are all indebted to those who have means and the disposition to experimentalise. *H. Bailey, Nuneham, Oxford*

TRADE MEMORANDA.

WHO is R. C. Bradley, of 10, Belvidere-place, Southwark-bridge-road, London, who is "completing alterations in his houses at Gotha Cottage, Whitton, Middlesex?" Is he any connection of James Watson, of 4, Edge-terrace, Kensington Gravel-pits? or of the Rev. J. Blomfield, who, we believe, is known to some of the nursery trade?

Home Correspondence.

What is a Footstalk?—I am induced to ask this question, owing to the decision of the judges at the Lewes Horticultural Show, held on the 14th inst. A Silver Cup was offered by the Brighton Railway Company, for the best 48 Roses on "single footstalks." I have always understood the word footstalk to mean that part of the plant which supports the flower or flowers, according to whether the habit of the Rose was to produce its flowers singly or in clusters. On returning to the exhibition tents, I was surprised to find my stand and another marked "disqualified, too many blooms;" and on inquiring of the secretary, I was informed that single footstalks meant single blooms. I felt it my duty to enter a protest against this decision, from a conviction (backed by the fact that three out of four who brought Roses understood the requirements as I did), that the judges' decision was wrong. Let me also remark, that

12 out of the 48 flowers to which the cup was awarded, had buds surrounding them! Consequently, unless the judges can show that the part joining the side-flowers to the main one changes its nature when the blossoms expand, acting on their own interpretation of the words, "single footstalks," all the stands ought to have been disqualified. Your decision will be esteemed a favour.

William Paul, Nurseries, Cheshunt, Herts.——A silver cup value 10 guineas was given at the Lewes show by the Directors of the London and Brighton Railway Company, to nurserymen, for the best 48 varieties of Roses on single footstalks, shown in stands. Class 79 in the schedule states, "Roses on single footstalks, 48 varieties." For this prize there were three competitors, or rather three 48's set up; and although my stand was one among them, I must say that they were as fine a lot of Roses as I ever saw. On my return to the show, after the judges had awarded the prizes, I found to my astonishment cards written "Disqualified, too many blooms," and placed to my Roses, and also to Mr. Paul's, and on the other stand stood the silver cup. Now there was not one variety among my 48, and I can say the same of Mr. Paul's, but what was on a "single footstalk;" many of the varieties contained two and some three finely blown blooms, and in the 48 that had the prize, there were not less than a dozen with flower-buds and shoots to them, so that if it were a single bloom on a single footstalk the judges meant to stick to, they did not adhere to it to the letter. A protest was immediately entered against the decision, but all the satisfaction given was, that whether the judges were right or wrong, they had awarded the prize, and he that got it was entitled to it. Disqualifying the 48 did not rest with them. Mr. Paul and myself put up two other stands each, and they were also served in the same manner. I think it right to send you these particulars, as it may be the means of preventing others from being duped as Mr. Paul and myself have been. It may happen, that at future country meetings of the Royal Agricultural Society, flower shows may be got up in the neighbourhood. I would therefore advise parties intending to exhibit, to ascertain beforehand how their productions are to be judged, and also whether the judges are to be disinterested parties. *John Cattell, Westerham.* [We cannot tell whether the judges acted consistently with their regulations: but this is certain, that a *footstalk* is what bears *a* flower; what bears many flowers is a *branch.* Exhibitors should not complain of terms being used strictly. We have other letters on the same subject, to all of which we say, it is no fault of the judges if you don't understand the meaning of words.]

Cooling Drinks.—In reply to the seasonable inquiry for cooling drinks (p. 453 *a*), I beg to mention that there is a 6*d.* pamphlet, published by D. Francis, containing receipts for 30 cooling summer drinks, and a similar one for 30 winter drinks, both which I think he would do well to advertise, with the respective lists, in your columns; though two or three of his receipts would bear amendment. *J. Prideaux.*——One of the most simple, wholesome, and delicious drinks is as follows. It is used by a family near me constantly in summer: Cream of tartar 1 oz., three-quarters of a pound of lump sugar, or less of moist, half the rind of a lemon cut thin, 1 gallon of boiling water poured on it; when cold it is fit to drink. Corked and bottled it will keep three days. Any flavouring can be added. I prefer it plain like the above. *H. G., Bognor.*——*Lemonade*: 1 oz. of citric acid, 1 lb. of loaf-sugar, half-a-pint of water; boil till clear, and when cold add a few drops of essence of lemon. Put one tablespoonful in a tumbler of cold water; a little sherry will improve it. *G. K., London.*——1st, Gooseberry wine is a grateful and pleasant drink in the shape of half a tumbler-full filled up with cold spring water. 2d. Pour seven quarts of boiling water on 2 ozs. of cream of tartar; juice and parings of two Lemons; stir it and cover close. When cold sweeten to the taste, and add a gill (quartern) of rum. Bottle in quart bottles. This will keep the year round. To make this into an effervescing draught put a little carbonate of soda into the glass; then pour the above on it. 3d. The following is cheap, cooling, and not to be despised. To 10 quarts of water put a bottle of stout or porter; 1 lb. of brown sugar; a spoonful of powdered ginger (if approved). Mix all together, and after standing a few hours bottle in quart bottles; in two or three days it will be fit for use. This is a good substitute for table-beer, which soon turns sour. *C. T.*——*Imperial:* To 1 oz. of cream of tartar add the juice and rind of three Lemons, and six quarts of boiling water; let it stand till cold. This may be made in a larger quantity, and set to work with a little barm (yeast), when it will keep for a length of time. *Beer Cup:* Infuse a handful of balm leaves (or Borage), and add a large wine-glassful of the liquor to one pint of beer, two glassfuls of sherry, and three pints of spring water iced; sweeten to taste. *Sherry Cobbler:* Two large glassfuls of sherry poured upon a slice of Lemon and sugar, the tumbler filled up with pounded ice. This compound must be imbibed through a straw, when its soothing effects will be found to exceed expectation. *H. E. D.*——In Soyer's "Modern Housewife" there are several receipts for them. *Cool Cup:* a drink made of cider, water, ice, sugar, and sliced lemon, is said to be very good. *Cardinal*, made of sliced Pine-apple (West Indian will do for home use), sifted sugar in layers, hock, and ice, and allowed to stand for some hours, is excellent. *M.*

Badly coloured Grapes.—In a house 35 feet long, by 14 feet wide, the Vines 25 years old, forcing commenced on the 1st of February, and the Vines produced a very large crop of black Hamburgh Grapes, bunches and pips large and full; they are now ripe, but without colour, except red, and they appear as if they had been watered with dirty water; all stained and streaky as if they were by the side of a dusty high road, without the slightest bloom, but shine as if glazed. Pray inform me what is the matter, and whether there is any remedy. *Crix, July* 20. [We must refer this inquiry to our Vine-growing correspondents].

Rose Rust.—I forward for your inspection some leaves of Roses in a very bad condition, having planted a Rosery with dwarf Perpetuals, &c., in beds (in good strong loam, with plenty of stable manure), 12 months ago last spring; they all bloomed beautifully the first year, and this season they all formed their buds well, and some of them, such as Madame Laffay, William Jesse, and Duchess of Sutherland, expanded their flowers, but numbers of the others never opened. La Reine is now covered with buds, but not one will come to perfection, and the foliage is affected in the way you find the leaves sent; indeed, some are so far denuded of foliage that they are quite killed. If you can furnish any information as to the cause, you will greatly oblige *J. C. L. A., July* 20. [The disease is the Rose rust. The cause very uncertain].

Cultivation of the Strawberry.—Mr. Beach, the now well-known Strawberry grower, of Worton, Isleworth, having astonished every one last year, at Chiswick and in the Crystal Palace, with his extremely large fruit of first-rate flavour, granted me the favour of again seeing his grounds this year. By the 14th of July he had picked a great many, but for all that the crop surprised me, more especially the rows running parallel with the lowest part of the ridges. Walking amongst them was quite impossible without crushing ounces at every step, and I am not certain that Mr. Beach's Queens are not altogether different from those of others, as I myself have often found my beds sport. Upon this point, however, Mr. Beach is silent; the colour was very fine all round, with no white points. I remarked that Mr. B. is enlarging his pond at the top of his grounds: when finished, it will be about 60 to 70 yards long, 20 to 30 yards wide, and from 6 to 8 feet deep, where the beautiful clear soft springs, to the amount of 20, are continually flowing into it, rising no doubt from the high grounds above where the late Sir Joseph Banks lived. The portion of his grounds mentioned by me last year as being under Osiers, has been made into ridges, which are now occupied by a fine crop of Ash-leaved Kidney Potatoes all ready to dig up; and the moment the Potatoes are off, the ridges are to be planted with Strawberries, in rows 2 feet 6 inches apart, and 1 foot 6 inches asunder in the rows. These new ridges are not made so high in the middle by 1 foot as the old ones, which are 3 feet high, Mr. B. having found that the rows at the lowest part of the ridge had always produced not only the largest fruit but by far the heaviest crop. An important mistake which I made last year is that of this ground the longest square runs south, consequently the ridges must run east. Mr. Beach's Queen Strawberries are all, even the smallest, put into 1, 2, 3, and 4 lb. punnets, for the gathering of which his women receive a halfpenny a punnet, and even at this rate they make 20*s.* a-week, between Strawberries and other fruits, such as Raspberries, Gooseberries, Currants, &c. It may be worthy of mention, that his Pear and Apple trees are loaded with fruit, while we on the Surrey side have hardly any. One very important thing which I noticed was, that all his Strawberries, except the Queens, were mulched with straw. I asked the reason why the Queens formed an exception? He said that the early ones had shorter fruit stalks, and were ripe before the runners covered the ground; but that the Queens coming in late covered the ground with runners by the time the fruit was ripe. Another thing I observed was, that whole ridges of Strawberries were lying as it were dead ripe, what many growers would have had gathered days before—this again is a point greatly in favour of colour and flavour; we are generally too fast in picking all sorts of fruits, and your remarks in regard to the fruits exhibited at Chiswick fully prove this. I hope that not only myself, but all other growers, may benefit by Mr. Beach's experience, which has been acquired at no ordinary amount of expense, coupled with great industry and perseverance. *James Cuthill, Camberwell.*

Pelargonium Diadematum rubescens.—This plant sported last year, as described by Mr. Beaton, in a bed at Dropmore; very little notice, however, was taken of it, knowing that was only a chance production and not likely to be permanent; this year it has flowered and still maintains its character, as has also another plant, both being exactly like the variety I saw at Chiswick, on the 10th, called Willmore's Surprise. I have not had a cutting or plant from any one, as we have bedded the Diadematum rubescens here for years, being one of the very best for that purpose. My plants are from two to three years old, having been potted up out of the beds twice or thrice, which can be seen by the cutting. *Philip Frost, Dropmore.*

Potato Crop.—Since our last report the weather has proved more propitious and encouraging to the Potato crop; and such as were apparently uninfected a month ago yet show no indications of actual blight, while those which are really blotched on the leaves prove shrivelled, and the disease is, as it were, starved by the heat and drought, bidding fair for the preservation of the tubers, though the latter may be expected to be of but little use, being of necessity diminutive in size. While the weather continues hot and dry better results than were heretofore anticipated may be expected; but should damp and cold again occur, the fungus may reappear as formidably as before, causing disease in the tubers as appalling as in former years. *Hardy and Son, Maldon.*

Monstrous Clover.—The enclosed specimen of Trifolium repens, in which small leaves occupy the place of florets, was gathered by me this day (July 19). Having never, that I remember, seen or heard of a similar instance in this plant, and having observed the like anomaly in other plants occasionally noticed in your columns, in editorial and other articles, I beg to send the specimen to you. *Silvio.* [The specimen is one of very frequent occurrence, and a capital instance it is of the production of leaves instead of floral organs.]

Showing Roses in a Cut State.—The judges at a late flower show in this county (Somerset), have been somewhat puzzled as to whom the prize should be awarded in the following case: A prize was offered for cut specimens of Roses, the words of the schedule being—"For the best collection, number unlimited, but not less than 18 varieties." Two collections were exhibited; one of 32 varieties, the other of 24. The latter contained 18 Roses rather superior to any 18 in the collection of 32; but the remaining 6 were scarcely equal to any 6 of the larger collection, the whole of which were but little inferior to the best 18 of the smaller exhibition. The favour of your opinion is asked as to which should have had the prize, with your reason for the decision, should it be convenient to give it. *Silvio.* [We think 32 should have had the prize: for it is clear that the collections were very nearly alike in quality; and in such a case number should turn the scale, because it is more difficult to produce 32 good than 24.]

Sulphur in Vineries.—If burnt sulphur produces fumes of sulphurous acid, it cannot fail to produce serious mischief in Vineries, by corroding and destroying the epidermis of the leaf. Perhaps this is universally known among Grape growers, but never having seen it mentioned, and seeing a great deal about the different methods of applying sulphur to the leaves of the Vine, for the purpose of destroying the mildew, my object in writing to you is to submit to your consideration whether a little caution on the subject of applying the fumes of sulphur might not be of use; as I think some of the gardeners who have applied to you seem to have injured their plants in this way. *H.* [We think it probable. Sulphur should never be burnt in a Vinery. If volatilised by being placed on heated pipes or flues, it will do no harm.]

Societies.

Horticultural, *July* 20.—In consequence of a sufficient number of Fellows not being present on this occasion, a quorum was not formed. Some interesting subjects were, however, presented for exhibition, and foremost among them may be mentioned a collection of Gloxinias from Mr. Glendinning, of the Chiswick Nursery. They consisted of Teuchlerii, Wortleyana, Maria Van Houtte, Mrs. Griffiths, rubra, grandiflora, Baron Rozel, and the following new kinds: Albert Courtin, Souvenir de Bordeaux, Newelliana, and Huntleyana. Of these, the best were decidedly the two first mentioned, and the two last; but all of them were good. Mrs. Lawrence, of Ealing-park, produced a handsomely flowered Epacris miniata, Saccolabium Blumei and another [species, and the variety of Aerides suavissimum called flavidum.—Mr. Watson, gr. to Mrs. Tredwell, of St. John's Lodge, Norwood, had Clerodendron fœtidum; and Mr. Ingram sent from the Royal Gardens, Frogmore, a very pretty hybrid Achimenes, with large handsome leaves and deep orange-scarlet flowers, lined up the centre of the petals with minute round black dots. It was stated to have been raised between A. oculata and A. picta. Bunches of the white Cornichon Grape, a large very fleshy variety, of second-rate value, also came from the same establishment. As this now exists in many collections of this country, it may be as well to explain that it is very difficult to ripen, acquiring perfect maturity only in the long hot summers of Sicily, and similar parts of the Mediterranean. When ripe, it is bright amber-coloured.—Messrs. Veitch contributed 12 specimens of the early sweet-kernelled Kaisha Apricot, of which some account is given at p. 487, 1850. It is by far the earliest Apricot of good quality in this country.—Mr. Fleming, gr. to the Duke of Sutherland, at Trentham, produced a beautiful Moscow Queen Pine-apple, weighing 5¼ lbs.—From Mr. Cuthill, of Denmark-hill, Camberwell, came examples of the Lapstone Kidney Potato, which, though a late sort, was nearly ripe. They had been treated according to the plan published in his pamphlet on the Potato.—Specimens of capital glass milk pans, as cheap as any foreign ones, were furnished by Mr. Phillips, of Bishopsgate-street.—From the Society's Garden came a double white variety of Platycodon sinense, the golden Lachenalia (L. aurea), a variety of Kalosanthes coccinea, Oncidium planilabre, and Cattleya crispa, one of the many varieties of Erica tricolor; the graceful looking Bæckia patula, Ligustrum japonicum, and two Lilies; one a variety of the large white L. longiflorum, the other a new Californian kind, with small reflexed orange blossoms spotted with black and tinged at the ends of the petals with reddish brown. Along with these also came Myatt's Eliza, Eleanor, and old Pine Strawberries; Neapolitan Cabbage and white Paris Cos Lettuces, two

first-rate varieties which do not readily run to seed; and the Auvergne Pea, a prolific kind, easily distinguished by the curved form of its pods.

BOTANICAL OF EDINBURGH, *July* 8.—The President in the chair. Viola stricta, sent for the Society's Herbarium, was exhibited from Mr. T. R. Polwhele, accompanied by the following note:—"I beg to send you a specimen of Viola stricta found by me in White Fen, near Cambridge, last Tuesday. The corolla spur is decidedly blunt and green, and the stipules oblong lanceolate. I do not know whether it is abundant, because at the time I thought it was the Viola stagnina, and did not take any more notice of it, and since that I have not had an opportunity of going for it." Professor Balfour exhibited specimens in flower of a whitish Rhododendron, sent by the Earl of Home. It seems to be allied to R. anthopogon, and may perhaps be a variety of that species. In a note from the Earl of Home, it was stated that the seeds had been received from the hills of Bokhara. His brother, Major Bell, got this from a brother officer, who made a tour to that country, and sent it home between the years 1837 and 1842. Professor Balfour exhibited the following donations to the Museum of Economic Botany at the Botanic Garden, viz:—From Mr. J. Fulton, Glasgow, large specimens of Rye, the produce of what has been termed a "stolen" crop. It was produced during the period intervening between the removal of the grain and putting in of the succeeding green crop. It was sown on 22d September, 1851, and cut on 11th June, 1852, when it measured 6 feet 6 inches in length, and weighed, in its green state, 40 tons per acre, the soil being of an inferior description. The following paper was read:—"On the presence of fluorine in the stems of Gramineæ, Equisetaceæ, and other plants, with some observations on the sources from which vegetables derive this element. By G. Wilson, M.D." The author commenced by stating, that the earliest observer of the presence of fluorine in plants, was Will of Giessen, who found traces of it in Barley, the straw and grain of which were analysed together. The author reported to the Botanical Society, some four years ago, the results of his earlier researches into the distribution of this element, throughout the vegetable kingdom, which were not very numerous or very encouraging. One reason of this was the small extent to which fluorine occurs in plants; another, and practically as serious a reason, was the difficulty of separating and recognising fluorine, when accompanied by silica. The presence of this body in a plant, besides greatly complicating the investigation, rendered the employment of platina vessels essential, and thus limited the amount of material which could be subjected to examination, besides making it difficult or impossible to observe the progress of an analysis. The author then stated that in the course of some recent investigations into the presence of fluorine in siliceous rocks, he had succeeded in devising a process which was also applicable to plants, and could be carried on in the ordinary glass vessels of the laboratory. The process in the case of plants was as follows:—The plant under examination was burned to ashes as completely as possible. The ashes were then mixed in the cold with oil of vitriol, so as to secure the decomposition of the salts of volatile acids present. The mixture was then transferred to a retort or flask, provided with a bent tube dipping into water, and the liquid raised to the boiling point, when fluorine, if present, was evolved in combination with the silicon of the silica, as the gaseous fluoride of silicon, which dissolved in the water, with separation of some gelatinous silica. The resulting solution was neutralised with ammonia and evaporated to complete dryness, when the whole of the silicon passed into the condition of insoluble silica, and water dissolved the fluoride of ammonium. The author has in the meanwhile applied this process almost solely to the stems and trunks of plants. The following were the results obtained:—

TABLE OF PLANTS examined for Fluorine. The numbers represent grains of ashes, except in the case of Tabasheer and Wood Opal. The blanks imply that the weight was not known:—

Ashes in Grains.	Name of Plant.	
200	Horsetail (Equisetum limosum) ...	Distinct etching.
	Common Bamboo (Bambusa arundinacea)	"
	Charcoal (derived chiefly from Oak, and to a smaller extent from Birch)	"
	Coal	"
	Barley straw	"
	Hay (Rye-grass)	"
35	Equisetum variegatum	Faint etching.
19	" hyemale	"
255	" palustre	"
	Tussac Grass (Dactylis cæspitosa)	"
99	Elymus arenarius	"
495	Sugar-cane (Saccharum officinarum)	"
1040	African Teak	"
	Smilax latifolia	No etching.
	Common Rosemary (Rosmarinus officinalis)	"
235	Nepaul Bamboo (Bambusa Nepalensis)	"
	Common Fern (Polypodium vulgare)	"
537	Tree Fern	"
24	Phalaris arundinacea	"
240	Malacca Cane	"
50	Cocoa-nut-shell	"
127	Indian Teak (Tectona grandis) ..	"
80	Tabasheer	"
1680	Wood Opal	"

On this table the author remarked that the siliceous stems which he had found to abound most in fluorine, were exactly those which contained most silica. In particular, deep etchings were procured from the Equisetaceæ (horse-tails), and from the Gramineæ (Grasses), especially the common Bamboo. The last was known to contain silica in such abundance that it collected within the joints in white masses, nearly pure, and had long, under the name of Tabasheer, been an object of interest to natural philosophers. The horse-tails were scarcely less remarkable for the amount of silica contained in their stems, which had led to the employment of one of them (Dutch rush, Equisetum hyemale), in polishing wood and metals. The African Teak, which like the Bamboo is known sometimes to secrete silica, was also found to contain fluorine, though much less largely than the plants named; whilst the strongly siliceous stems of Barley and Rye-grass also yielded the element in marked quantity. The Sugar-cane, however, gave less striking results than might have been expected, and the same remark applied to the Malacca-cane. The specimens of silicified wood and one of Tabasheer gave no evidence of the presence of fluorine. So far, however, as the plants named in the preceding table are concerned, the author does not wish it to be inferred from the negative results which are detailed, that the plants in question are totally devoid of fluorine. With larger quantities of their ashes, positive results would, in all probability, be obtained. The author's general conclusions were as follows:—1st. That fluorine occurs in a large number of plants. 2d. That it occurs in marked quantity in the siliceous stems of the Gramineæ and Equisetaceæ. 3d. That the quantity present is in all cases very small; for although exact quantitative results were not obtained, it is well known that a fraction of a grain of a fluoride will yield, with oil of vitriol, a quantity of hydrofluoric acid sufficient to etch glass deeply, so that the proportion of fluorine present even in the plant ashes which contain it most abundantly does not probably amount to more than a fraction per cent. of their weight. The proportion of fluorine appears to be variable, for different specimens of the same plant did not yield concordant results. In this, however, there is nothing anomalous, for some Bamboos yield Tabasheer largely, whilst others are found to contain none. It seems not unlikely that soluble fluorides ascending the siliceous stem of a plant, on their way to the seeds or fruits in which they finally accumulate, may be arrested by the silica, and converted into insoluble fluosilicates (fluorides of silicon and of metal), and a Bamboo, for example, secreting Tabasheer may effect this change where one less rich in silica cannot determine it. The slow or quick drying of a stem may also affect the fixation of fluorides in the stems or trunks of plants. 5. The sources of the fluorine found in plants may be regarded as pre-eminently two, (1) simple fluorides, such as that of calcium, which are soluble in water, and through this medium are carried into the tissues of plants; and (2) compounds of fluorides with other salts, of which the most important is probably the combination of phosphate of lime with fluoride of calcium. This occurs in the mineral kingdom in apatite and phosphorite, and in the animal kingdom in bones, shells, and corals, as well as in blood, milk, and other fluids. A recent discovery of the author's, communicated to the Royal Society of Edinburgh, has shown that fluorides are much more widely distributed than is generally imagined, and that the trap rocks near Edinburgh, and in the neighbourhood of the Clyde, as well as the granites of Aberdeenshire, and the ashes of coal, contain fluorides, so that the soils resulting from the disintegration of those rocks cannot fail to possess fluorides also. All plants, accordingly, may be expected to exhibit evidence of their presence, in the following portions of their tissues or fluids:—1. In the ascending sap, simple fluorides. 2. In the descending sap, in association with the albuminous vegetable principles, and in the seeds or fruits, in a similar state of association, fluorides along with phosphates. 3. In the stems, especially when siliceous, and hardened, fluorides in combination with silica. The investigation is still in progress.

Review.

Labour stands on Golden Feet. Groombridge. 18mo, pp. 162.—This is a good translation of one of Zschokke's best tales. It is the history of the rise from poverty to independence of a foreign workman; and although in some respects inapplicable to English social relations, nevertheless is pregnant with truths which are truths everywhere. Take the advice of old Veit to his son as an example:—

"'Labour stands on golden feet,' says the proverb, but not every one knows how to plant them. Do thou learn! Many of our handicraftsmen at home have no desire or inducement, nor any taste to improve in business. Therefore we must go abroad to look and learn. To travel with advantage, thou must see nothing on the road without finding out the why and the wherefore of it. He who travels otherwise, has gone through the world as if in sleep; has seen green trees, painted houses, and two-legged men, that are to be seen at home! I have known journeymen handicraftsmen who knew nothing more about great towns than just their curiosities—the cathedral at Strasburg, and the long-tongued figure at Basle. As a man's disposition may often be inferred from the features of his face, so are the features of every town and country significant. These are the true characteristics for every journeyman handicraftsman to observe; they enable him to judge of what he has to expect. If thou findest in a town many public-houses, wine, beer, or brandy shops, depend upon it the journeymen are jolly fellows; but on pay-day there are sad faces, and seldom peace at home. If thou comest to a town where dung-heaps lie in the streets, don't much expect to find work from the masters there. The burghers there are only respectable peasants in perriwigs. When the bells are ringing too often, and saints' days and holidays have no end, provide thyself with small change: thou wilt need it for beggars. If pompous carriages roll along the roads by day, but there are no lanterns in the streets at night, the town is like a would-be fine lady, that under a silk robe hides a torn petticoat. Where the old folks work at home, while the young gentlemen on a week day make pleasure-parties with the burghers' daughters, thou mayst predict bankruptcies. Because there are many churches and tall steeples in a place, do not expect much, or very remarkable piety there as a necessary consequence; nor from the rich clothing of the folks expect to find people of property amongst them; nor from many insignia of merit, think that the wearers are therefore worthy men. Such and similar things are signboards, which are by no means confined to public-houses. Where proud monuments meet thee, 'to the honour' of this person or that, do not believe that they are to commemorate the departed; they tell rather of the vanity of those who erected them. If thou dost not find the peasant at work in his fields by sunrise, be assured that many sit long after sunset in the evening, over their beer and brandy. If the country folks are coarse and uncourteous, the ox in the stall has given better instruction than the public teacher; if they cringe, however, but sneer maliciously behind thy back, be sure there is an evil spirit in the place—some tyrannical village emperor. It will not be necessary for thee to go round the walls of a town, nor to climb up the steeple, to see how large it is. It is certainly small, if the folks have many greetings when they meet, and their hat brims are worn. If the grass grows in the street go thy way. It will be difficult to get work from any master there, for trade is still. Where there are no laws, thou art unprotected; rely, in case of need, on thine own right hand. Where there are too many laws, and at every step thou stumblest on a 'proclamation,' take thy departure early. Lawyers and policemen are looking out for thee at all corners. If thou comest into a country where not every little town has its own gallows, but, on the contrary, its own school-houses and its poor-house; where not every village has broad common lands, but, on the contrary, good fat fields; where the road-sides are not beset with beggars, but planted with fruit trees; where lawyers, doctors, and publicans, complain of hard times—there, Veit, my boy, take thy rest; the people have their heads and their hearts in the right place. If between splendid palaces thou seest houses crumbling with age, the windows broken or blocked up, and many tumble-down huts—there cross thyself, and pass on. I have now said enough: not that I have told thee all. But thou knowest now, or nearly, what I mean by the 'true tokens' in a place. Take my counsel! Wherever thou comest, ask much, but answer little. Feign to be more ignorant than thou art, and folks will willingly instruct thee. Praise all that is praiseworthy, but do not blame all that is blameable; so thou wilt win all hearts, if that is of any consequence to thee. Throughout the journey, be pious, industrious, frugal; modest, desirous of knowing, reserved; ready to oblige, persevering, and of good courage. So wilt thou one day return to thy parents, a thorough man, upright, skilful, valuable, both in deed and deliberation."

Garden Memoranda.

WACE COTTAGE, HOLLOWAY.—The propagation of Pinks, Picotees, and Carnations, by pipings, is at present being vigorously prosecuted here. Fifty 10-inch handlights are already full, each covering 64 pipings; these were arranged on a hotbed of some 30 inches high, on which are 6 inches of finely sifted and sandy compost enclosed by a 4-inch skirting of deal, and covered by an awning of white calico; many of the early lots were in a forward state, though they have not been put in above 14 days. The small Grass, and such as would be difficult to layer, is that which is selected for the purpose; of the merits of pipings, those who profess to be learned in such matters speak in high terms. The general increase in the pots and of those planted in neatly arranged and well kept beds justify us in laying it at more than 10-fold. The leading Pelargoniums are grown here for the sake of furnishing cut flowers. A stock of Chrysanthemums is cultivated according to Mr. Taylor's system, with the view of obtaining blooms for exhibition. We wish quality of plant had been better studied; it seems a sacrifice of time and material to find a collection of over one hundred 24-sized pots, each containing a long and strong ill-grown plant, which is merely destined to produce a few single specimen blooms. Among some Camellias which had made fair growth, we noticed Jackson's Countess of Ellesmere, which is one of the best light varieties. Among scarlet Pelargoniums, were the Amazon (Low), which has been lately so prominently advertised in our columns, and Defiance (Henderson), both just bursting into flower, as was also White Unique; Primrose Perfection Antirrhinum (Edwards), has been beautifully in flower. It is certainly one of the best of its colour, and is sure to become

a favourite. We were shown a one-light box full of seedlings, potted in 3-inch pots, for blooming in the autumn. From these something good is expected. In a bed of Verbenas, which were planted under standard Tea Roses, we remarked St. Margaret, which, though old, is still one of the best; and, among newer kinds, M. Jullien, brilliant crimson; Marianne, lilac, with a rosy eye, a famous trusser; alba magna, a good white; Koh-i-noor, a large bold trusser, with individual pips larger than those of any variety with which we are acquainted; Virginia, deep rose, and dwarf in habit; National, rosy carmine with a white eye, and Orlando, a good purple. A large plot of ground is allotted to Dahlias, which are intermixed with standard Roses, according to the plan laid down by Mr. Edwards in our columns some months ago. The system is worth attention, especially in suburban gardens, where want of room often renders this kind of planting necessary. The varieties were chiefly Bourbons and Hybrid Perpetuals. In another portion of the garden were beds, each containing three rows of Roses in as many varieties; and as some sorts had failed in whole rows, while others had succeeded and were blooming well, we have thought it might be of advantage to our suburban readers to have the state of the beds placed before them. They were planted with half standards, the middle row being higher than either of the two side ones. The first bed contained Madame Aimée, blush; Madame Angslina, white; and Amandine; of these the latter was the most effective. The second bed had Géant des Batailles, Duchess of Montpensier, rosy blush; and Souchet. The Duchess was exceedingly gay, but Souchet does not succeed at all well, while the bright sun had here, as elsewhere this summer, driven all the colour out of the petals of the glorious Géant. A third bed consisted of Acidalie, Edward Jesse, and Souvenir de la Malmaison. With the exception of the first, the other two varieties have flowered well, and been very gay, more especially the latter, of which an American writer states that if he was compelled to choose only one from the many varieties of Roses now in cultivation, this would be his selection, so highly is this variety esteemed by our transatlantic brethren. In a fourth bed we found Baronne Prevost and Augustine Mouchelet, both of which have blossomed well. Mrs. Elliot, Lady Alice Peel, and William Jesse, made up a fifth bed, which was gay enough, except Lady Alice, which being an early sort was out of bloom. A sixth bed comprised Leveson Gower, Cymedor, and Reine des Fleurs. Of these the first could not be induced to blossom. Lastly, we remarked Robin Hood and La Reine, the latter being healthy, bold, and prolific of flowers, which open later than those of any of the foregoing varieties. The Persian Yellow has also been tried, but it will not bloom at Wace Cottage, which being only about three miles from St. Paul's, must still be considered to be within the murky air of our great metropolis. We may mention, however, that on the little lawn in front of the cottage the Deodar, and one or two other Conifers, were doing pretty well.

Egham Nursery.—On calling here the other day, I found a noble plant of Yucca gloriosa, or Adam's Needle, in full bloom. Often have I spoken to our respected nurseryman respecting the size of the plant, and its age; but long has he, with myself and others, conjectured when it would bloom. At last, however, we are gladdened with a glorious spectacle, every flower being well expanded. The plant and flower-stalk together measure 10 feet in height, the panicle being furnished with nearly 700 cream-coloured scentless blossoms. The present plant is an offset from the parent one, which flowered 22 years ago. It has stood undisturbed, unprotected, and has braved our changeable climate for many winters. *W. Whale, Englefield Green.*

FLORICULTURE.

Carnations and Picotees.—We are in expectation that although the present may be termed a late season, it will prove a good one for these favourites, which we hope to see exhibited everywhere in true character, and not in a condition that the varieties can scarcely be recognised in the blooms produced, as they were at Chiswick on the 10th inst. The show was, however, too early for them, and they had, no doubt, been excited into bloom prematurely. The opening day was at the Surrey on Wednesday last, and the annual National meets at Norwich (see advertisement in another page), on the 28th—a day, we imagine, which will prove to be the very height of the bloom, and we trust intending exhibitors will take a supply of spare flowers with them, in order that something like an effect may be produced for the gratification of visitors. While exhibitions are rife, however, do not neglect the art of propagation, a task tedious at the best, and, with a full collection, one which demands unceasing energy and attention. It is necessary that a light gritty compost be at hand, mellow and sweet; that provision be made for a supply of hooked pegs, with which to secure the prepared layer in the soil; and that a thin-bladed sharp knife be at command; a pointed double-edged blade is well adapted for expedition, and it is less likely to cause waste, or to damage the Grass. Subjoined is a full report of what took place at the Surrey. *J. E.*

Royal South London Floricultural Society, *July* 21.—There was a good exhibition of miscellaneous plants on this occasion, and a fair display of florists' flowers. Fuchsias were contributed by Mr. Mocken 1, and Mr. Hook 2. Dealers: Messrs. Hill and Stevens 1, Mr. Haybow 2, and Mr. Pawsey 3. The leading sorts were Kossuth, Pearl of England, Nil Desperandum, Don Giovanni, Compton Hero, Elegantissima, One in the Ring, Dr. Smith, Lord Nelson, and Hebe. Cut Roses were gay and fragrant; the collections of Messrs. Paul 1, Mr. Francis 2, and Mr. Clarke 3, contained among others Robin Hood, Standard of Marengo, Gloire de Colmar, Baronne Prevost, Dr. Marx, Kean, Geant des Batailles, Auguste Mée, Madame Pepin, Niphetos, Cloth of Gold, Baronne Hallez, La Reine, Lady A. Peel, Duchess of Sutherland, Devoniensis, Cherean, Dupetit Thouars, Madame Laffay, Reine des Fleurs, Mrs. Elliot, Queen Victoria (Paul), and Lady F. Waldegrave; Mr. Wilkinson was also a contributor, but not for competition. A prize offered to Amateurs by Mr. Denyer was awarded to Mr. J. Edwards, of Holloway, for Duc de Valmy, Robin Hood, Madame Andot, La Reine, Devigne, Eugene Desgaches, Napoleon, Blanchfleur, Boule de Nanteuil, Gloire de Couline, Charles Duval, and General Jacqueminot. Among Hollyhocks, which were contributed by Mr. Bragg and Messrs. Paul, we noticed General Bem, Spectabilis, Magnum Bonum, Miss Forbes, Black Prince, Robert Burns, Susannah, Charles Baron, Meteor, Watford Surprise. Scarlet Pelargoniums were furnished by Mrs. Conway, and about 40 Balsams by Messrs. Smith. Verbenas were abundant, Mr. G. Smith and Mr. Stewart representing the Dealers, while Mr. Lochner, as an Amateur, won the Silver Cup, value 5*l.*, with King, Miss Jane, St. Margaret, Napoleon Bonaparte, Lady of the Lake, Exquisite, Model of Perfection, Purple Queen, National, Marianne, Enchantress, and Standard. Mr. Long, of Watford, was first for the Society's Verbena prize, with Marianne, Laura, Napoleon Bonaparte, St. Margaret, Exquisite, Koh-i-Noor, Alba Magna, Model of Perfection, Shylock, Miss Jane, Defiance, and National. Of Carnations and Picotees there was an average number, but although some fine specimens were observable, taken as a whole the quality could not be generally termed first-rate. In the Private Grower's Class, for 12 white ground Picotees, the 1st prize was awarded to Mr. May, of Sonning, for Audrey, Iphigenia, Prince of Wales, Beatrice, Fanny, Portia, Juliet, Prince Arthur, Mrs. Norman, Jupiter, Venus, and Rosamond; 2d, Mr. J. Edwards, of Holloway, with Prince Arthur, Sebastian, Heroine, Constance, Mary, Queen Victoria (Green), Gannymede, Mrs. Bevan, Lady H. Moore, Portia, Lady Chesterfield, and Beatrice; 3d, Mr. C. P. Lochner, Paddington, with L'Elegant, Mrs. Norman, Gannymede, Lord Nelson, Alfred, Ann Page, Prince of Wales, Mrs. Barnard, Constance, Queen Victoria (Green), Surprise, and Venus. 12 Carnations: 1st, Mr. Lochner, with Flora's Garland, Duncan, William IV., Twyford Perfection, Queen Victoria, Mayor of Oldham, Edgar, Prince Albert, S.B.; Rainbow, Prince Albert (Hale), Count Pauline, and Prince Albert (Pux'ey); 2d, Mr. May, with Flavia, Lorenzo, Owen Glendower, Cardinal Wolsey, Prince Arthur, Beauty of Woodhouse, Edgar, Cavalier, Poins, Rosetta, Squire Trow, and Omnium Primum; 3d, Mr. Newhall, with Beauty of Woodhouse, Fanny Gardener, Justice Shallow, Lorenzo, William IV., Flora's Garland, Owen Glendower, Admiral Curzon, Vivid, Mayor of Oldham, Sarah Payne, and Squire Trow; 4th, Mr. Edwards, with Ariel, Bardolph, Prince Albert (Puxley), Prince Albert (Hale), Sir H. Hardinge, Sarah Payne, Justice Shallow, Premier, Sir H. Smith, Sir J. Reynolds, Squire Trow, and Queen Victoria. Dealers: 12 Picotees: 1st, Mr. Turner, with Attraction, Prince of Wales, Jupiter, Prince Albert, Mrs. Norman, Gannymede, Audrey, Circe, Jessica, Alice, Witch, and Grace Darling; 2d, Mr. Ward, with L'Elegant, Sebastian, Duchess of Bedford, Mrs. Barnard, Delicata, Princess Royal, Mrs. Norman, Henry, Queen Victoria (Green), Juliet, Rosa, and King James. 12 Carnations: Equal 1st, Mr. Turner and Mr. Ward; the former produced Flora's Garland, Owen Glendower, Princess Royal, Justice Shallow, Prince Albert (Puxley), Mar's Beauty of Woodhouse, Madame Sontag, Admiral Curzon, Lorenzo, Glory, and Falconbridge; Mr. Ward's flowers were, Prince Albert (Hale), Mayor of Oldham, Flora's Garland, Rainbow, Lorenzo, Sarah Payne, Black Diamond, Lord Rancliffe, Milton, Queen Victoria, Beauty of Woodhouse, and Count Pauline; 3d, Mr. Bragg, with Flora's Garland, Prince Albert (Hale), Twyford Perfection, Dido, Duncan, Ariel, Count Pauline, Lord Rancliffe, Princess Charlotte, Prince Albert (Puxley), Queen Victoria, and Sarah Payne. The extra prize offered by Mr. Turner for varieties he had "let out" of Carnations and Picotees were both awarded to Mr. May, for sorts mostly his own production, such as Constance, Juliet, Portia, Cardinal Wolsey, Owen Glendower, Poins, Romeo, Rosetta, and Caliban, &c. The prize offered by Mr. Turner for 6 yellow ground Picotees was won by Mr. Lochner, with Mount Etna, Fairy, George III., Euphemia, Duc D'Alençon, and Queen (Martin). Among seedlings, Norman's Lord Derby, C.B., was alone of any merit. A Certificate was granted to a Picotee, but on what ground no one could understand. The Society appears to be losing its standing among seedling raisers, a circumstance to be attributed in a great measure to a regulation which prohibits their production in collections; such restrictions are calculated to damage the interest of the Society, which, just now, we believe, is not over famous for unanimity. The company was numerous, and the day most propitious.

Erratum.—In our report of the Horticultural Society's Exhibition at Chiswick, page 454, col. *b*, line 20 from bottom, for "Mr. Dode, gardener to Col. Baker, Salisbury," *read* "Mr. Dods, gardener to Sir John Cathcart, Bart."

SEEDLING FLOWERS.

Carnation: *L.* Colours dull, and not fairly distributed.
Foxglove: *Anon.* Colour blush white, with deep spots of maroon; apparently of good size.
Pelargoniums: *E. L.* Next week.
Petunias: *A X.* A handsomely-striped variety; but in no way superior to many of similar character already in cultivation.
Tulips: *J S, Cheetham Hill.* Next week.

Miscellaneous.

Clary Wine.—To a gallon of water put three pounds of sugar, boil the sugar and water, and skim it well; when cool add some yeast, but the yeast had better be mixed with a small quantity of the liquor, and when it works nicely it may be mixed with the larger, and the Clary flowers added, which should be nicely picked, and gathered when quite dry, one pint and a half of Clary flowers to each gallon. When the wine ceases to hiss, stop it up for four months, at the end of which time rack it off, empty the dregs, and return the wine into the cask, adding a good quantity of brandy; stop it up, and after six or eight weeks, bottle it. N.B.—If the flowers cannot be all obtained at once, they may be added after the wine is put into the cask.

Araucaria Cookii.—In the "Botanical Magazine," t. 4635, are the following remarks upon this plant, in addition to those made in the "Journal of the Horticultural Society" (see our volume for last year:—"To Capt. Cook, the great circumnavigator, in his second voyage, is due the first discovery of this Araucaria, in the little islands off New Caledonia, and subsequently on the main island:—'On one of the western small isles was an elevation like a tower; and over a low neck of land, within the isle, were seen many other elevations resembling the masts of a fleet of ships;' and again, a few days after, 'as we drew near Cape Coronation, we saw in a valley to the south of it a vast number of those elevated objects before mentioned, and some low land under the fore land was covered with them. We could not agree in our opinions of what they were. I supposed them to be a singular sort of trees, being too numerous to resemble anything else; and a great deal of smoke kept rising all the day from amongst those near the Cape. Our philosophers were of opinion that this was the smoke of some internal and perpetual fire. My representing to them that there was no smoke here in the morning would have been of no avail, had not this internal fire gone out before night, and no more smoke been seen after. They were still more positive that the elevations were pillars of basaltes, like those which compose the Giant's Causeway in Ireland.' On nearing the island, a few days later, 'every one was satisfied they were trees, except our philosophers, who still maintained they were basaltes.' To the commander 'they had much the appearance of tall Pines, which occasioned my giving that name to the island.' 'I was, however, determined not to leave the coast till I knew what trees these were which had been the subject of our speculation, especially as they appeared to be of a sort useful to shipping, and had not been seen anywhere but in the southern part of this land.' At length Capt. Cook landed, accompanied by the botanists. 'We found the tall trees to be a kind of Spruce Pine, very proper for spars, of which we were in want. We were now no longer at a loss to know of what trees the natives made their canoes. On this little isle were some which measured 20 inches diameter, and between 60 and 70 feet in length, and would have done well for a foremast to the Resolution had one been wanting. Since trees of this size are to be found on so small a spot, it is reasonable to expect to find some much larger on the main and larger isles; and if appearances did not deceive us, we can assert it. If I except New Zealand, I, at this time, knew of no island in the South Pacific Ocean where a ship could supply herself with a mast or a yard, were she ever so much distressed for want of one. My carpenter, who was a mast-maker as well as shipwright, was of opinion that these trees would make exceedingly good masts. The wood is white, close-grained, tough, and light. Turpentine had exuded out of most of the trunks, and the sun had inspissated it into a rosin, which was found sticking to them, and lying about the roots. These trees shoot out their branches like all other Pines, with this difference, that the branches of these are much smaller and shorter; so that the knots become nothing when the tree is wrought for use. I took notice that the largest of them had the smallest and shortest branches, and were crowned as it were at the top by a spreading branch like a bush' (probably occasioned by their having been formerly densely crowded, and the tallest having most liberty at the top). 'This was what led some on board into the extravagant notion of their being basaltes: indeed, no one could think of finding such trees here.' There cannot be a doubt that this resemblance to columns of basalt induced the elder Forster to call this tree Cupressus columnaris, though he has fallen into an error in considering the Norfolk Island Pine (Araucaria excelsa) to be the same, as we infer from his giving 'Norfolk Island' as a second habitat for it; notwithstanding that Captain Cook, in his voyage, declared it to be different. 'This' (the Norfolk Island Pine) 'is a sort between that which grows in New Zealand, and that in New Caledonia; the foliage differing something from both, and the wood not so heavy as the former, nor so light and close-grained as the latter.'—Of the New Caledonian Pine no perfect cones were found by the 'philosophers' of Captain Cook's voyage; but a fine apex of a branch and young cone were brought home, and are preserved in the Banksian Herbarium, and figured in Mr. Lambert's splendid work, under an impression that the species was identical with that of Norfolk Island, and on the same plate with the perfect cone of the latter species. Why, under these circumstances, Mr. Lambert did not adopt Forster's name of columnaris we cannot conceive: we think it only justice to the latter author to restore it to that particular species for which it was intended, and to which it is so very appropriate; we would otherwise gladly have adopted Mr. Brown's excellent one; for assuredly nearly all the particulars we know of this interesting Pine are derived from the narrative of the illustrious navigator. Singular enough, as Dr. Lindley quotes from Mr. Moore's letter, 'the first tree of this, noticed by Captain Cook (in 1774) as 'elevated like a tower,' still stands (1850), and is in a flourishing condition. Its appearance now is exactly that of a well-proportioned factory chimney of great height.' The species is no doubt equally tender with the Norfolk Island Pine. The remarks on the nomenclature of plants made at p. 60 of the last number of this work * explain why we cannot acquiesce in the

* It is a rule, no doubt, among some botanists to insist upon the retention of the first specific name that is published, however erroneous may have been its reference to a particular genus; the second name being held to be unchangeable, whatever may happen to the first. But we dispute the propriety of this plan, and refuse to acknowledge any sufficient authority for the practice, which is sometimes impossible, very generally inconvenient, and not unfrequently absurd. Nothing is more common than for an unskilful botanist to refer a plant to a wrong genus. Another succeeds him, places it in its right genus, but with a new specific name, the first being undiscoverable on account of the original blunder with which it was associated. Then comes in a third gentleman, who takes upon himself to cancel half the first genuine name in favour of half the previous inaccurate name, and thus introduces a third name into the overburthened pages of science. For example:

name imposed upon the present Conifer by our highly valued friend Sir W. Hooker. Acting upon what we think the erroneous principle of preserving under all circumstances the specific name first given by authors to a plant, however grave may have been the errors by which that name was accompanied, our able contemporary would abolish the name of Araucaria Cookii, and substitute that of A. columnaris. Let us examine the circumstances which are said to justify this measure. The plant in question was supposed by Forster, the first botanist who saw it, to be a Cupressus, and he called it columnaris, which, had it been a Cypress, would have been a characteristic name. But it proved to have no claim to stand in the genus where it was placed, and he afterwards published it as Dombeya columnaris, under which name he so mixed up the present plant and the Norfolk Island Pine, that there is no certainty what he meant. When Mr. Robert Brown referred to Araucaria that plant which the late Mr. Lambert had published, in his splendid monograph of Pines, under the name of Dombeya excelsa, he decided, and we think rightly, that he was not called upon to go back to the name of columnaris, applied to Dombeya, a cancelled genus; and he preferred the well-known, though more modern, name of excelsa. At the same time he would seem to have been aware that Forster had confounded two different species, and to have named the New Caledonian Pine A. Cookii, as we learn from a statement made by the late David Don in the Linnean Transactions. That name, A. Cookii, was adopted in Endlicher's 'Synopsis Coniferarum,' and was received in the Journal of the Horticultural Society. Nevertheless it is exchanged in the 'Botanical Magazine' for the obsolete columnaris, upon the ground of posteriority of publication, although the name columnaris was given to a Cupressus or Dombeya, not to an Araucaria, although all the Araucarias are columnar, and the name is therefore inappropriate, and most especially although the revival of Forster's obsolete name can only tend to increase that rampant confusion among the names of plants, of which every one complains with so much truth." *Paxton's Flower Garden, Vol. III., p. 77.*

Cheap Barometers.—We are at length able to give our personal testimony in favour of the excellence of Brown's Registered Barometer (advertised by Mr. Baker at p. 79, 1851), as a good indicator of changes in the weather. We have had one in our study for many months, and although it cost only 10s. 6*d.* we find it quite as accurate and sensitive as one of the 5-guinea instruments sold by the philosophical instrument makers, or as Dent's best Aneroid.

Calendar of Operations.

(For the ensuing week.)

PLANT DEPARTMENT.

We have previously adverted to the advantage derived from giving plants some kind of rest after blooming, to restore their exhausted energies, and to enable them to make a vigorous start when the new growth commences. At this season of the year greenhouse plants done blooming should have a comparatively cool temperature; and no structure presents so many advantages for the purpose as a house with a north aspect. We may state further, that for growing delicate leaved plants through the summer, houses having a north or north-east aspect are preferable; while for the purpose of retarding plants, or for preserving them in bloom, they are indispensable. Such plants, therefore, as Epacrises Leschenaultias, Pimeleas, Aphelexis, and others of similar habit, which have been kept for late bloom and are now over, should be placed in a house of the above description, or in deep frames with the sashes turned towards the north, having first picked off the old remaining blooms; here, by gently syringing once or twice daily, the plants may remain till a new growth commences, when any pruning they may require may be given them, and they may afterwards be placed in more favourable positions for ripening their wood. Camellias, whenever the young wood appears getting ripe, may be removed to the open air; they thrive best in the shade, and a situation shaded from the mid-day sun, and sheltered from high winds, should be secured for them; be careful to place them on a dry bottom, to prevent the possibility of worms getting into the pots. Chinese Azaleas, which are equally forward in their growth, and have formed their next season's flower buds, may likewise be turned out; unlike Camellias, the latter require full exposure to sun and air; and should be placed in an open situation, that their wood may become thoroughly matured: it will however perhaps be necessary to place them for a week or two in a partially shaded situation, to harden their foliage sufficiently to bear the full sun, or the sudden change from a house to bright sunshine might cause their leaves to turn brown and burn. Orange trees, when too full of bloom, should have the flowers thinned out. They are always in request either for drying or distilling. The young fruit, when too thickly set, should likewise have a thinning, as a few will be sufficient to remain. To procure dark glossy foliage, water with clear soot water.

FORCING DEPARTMENT.

PINERY.—The greater part of the crop in the fruiting house will be cut, and advantage should be taken of this to get the house in order for another season's supply; any fruit therefore remaining, supposing there is a house devoted to autumn and winter fruit, may be transferred there, or placed at one end of the house they at present occupy; remove any decayed portion of the material giving bottom heat, replacing it by fresh, sufficient to maintain the necessary heat till the regulation for the winter in November. The heating apparatus should be examined, to see that it is in good working order, and the requisite cleaning, repairing, and painting, given to the house, before filling it with the plants. If the house admits of the plants being turned out into a bed of earth, the compost should be well mixed, and should be placed in the house some days, to become slightly heated before the plants are placed in it; water and syringe as before. The Fig house will require close watching, as the second crop will scarcely be over, which prevents the free application of water as a preventive or check to the red spider—the engine however may be used directly after each gathering of the ripe fruit, throwing the house open, to dry the remaining fruit; carry out our last week's directions in other respects, to keep this pest to forcing houses in check. Figs should now be liberally supplied with liquid manure.

FLOWER GARDEN AND SHRUBBERY.

We must again direct attention to former "Calendars." Let nothing be allowed to grow out of place, but attend to the wants of growing plants, by giving them their proper supports and training at this season; this will take up a considerable portion of time; the next thing requiring consideration will be the propagation of stock for another year. In commencing with Pelargoniums employed for bedding purposes, raised beds of sandy soil will serve to strike the scarlets and their allies, while the fancies and other kinds with a delicate habit, will be better in pots, or, where large quantities are required, in a frame under glass: under any circumstances they will require protection from heavy rains. There is a class, of which Sidonia is one, which strikes with difficulty by cuttings of the shoots, and is best propagated by root-cuttings; prepare cuttings of the thickest roots about an inch and a half in length, which should be inserted in shallow pans, and plunged in a frame: the oldest plants should be selected for the purpose. Herbaceous plants and hardy bulbs, now in full beauty, should be kept in order by tying up loose growths, and keeping the ground free from weeds. Novelties should have their colour, habit, and time of flowering marked down, as a guide for future arrangements. Finish the propagation of any choice things not yet in, and commence the laying Cloves, Carnations, mule Pinks, &c., of which there is rarely an overstock. The cutting-in of Laurels, and other loose-growing shrubs, should be proceeded with as time permits; and strict attention in keeping the lawns and gravel walks in neat order enforced.

FLORISTS' FLOWERS.

Ranunculus roots should be taken up forthwith; should any remain in the ground they would inevitably strike fresh root after the first heavy rain; let them be gradually dried in the shade. Plant out rooted Pink pipings on well prepared beds; examine them occasionally, to see whether they are uprooted by the worms. Layer Carnations and Picotees, at the same time look carefully after the blooms: when grown in pots, it is advisable to remove them under an awning, here they can be examined at leisure; layer, &c., out of the broiling heat of the sun. Do not forget fertilisation—progression is the order of the day; nothing should be left to chance, therefore to ensure success let the seedlings be well bred on both sides. Dahlias will require abundance of water, disbud and thin out as the habit and constitution of the plant require it.

KITCHEN GARDEN.

Use all diligence in filling up vacant pieces of ground, as they come into use, with Broccolies, Borecoles, Brussels-sprouts, Coleworts, &c.; and where ground is scarce, crops likely to come off soon should be interlined, for the purpose of establishing as large a breadth of the above useful vegetables as can be done. Potatoes are everywhere going diseased, and the present is the only time to mitigate their loss by providing such substitutes as we have named. Liberal waterings twice or thrice a week in dry weather will be required by Peas, Cauliflowers, Spinach, Artichokes, Lettuce, &c., rendering them not only better in quality, but making them last longer in perfection. Hoe frequently between young crops, and plant out a good supply of Endive, Cauliflowers, Walcheren Broccoli, and Cabbage for the autumn. Sow Lettuce, Onions to stand over, and Radishes. A good breadth of Spinach should be sown without delay. For the northern counties the "Flanders" should be substituted for the round-leaved, but it is time enough for the former more south. Well soak all seeds before sowing, and slightly shade the ground afterwards. Sow immediately Wheeler's Imperial and other approved kinds of Cabbage for the principal spring crop. Sow thinly on good but not rich land, and in an open situation, which are points to be kept in view in sowing all seeds of this class. The earliest Celery may be forwarded by small additions of earth. Water the rest freely. Herbs for drying should be cut before they get into bloom, and should be dried under a shed. Sow small quantities of Basil, Chervil, and Marjoram, required for use in a green state.

A publishes in 1840 a certain QUERCUS *lignea*; B finds the plant in 1842, recognises it to be a Juglans, not a Quercus, and gives it to the world as JUGLANS *lamellata*; then up rises C, and coolly changes B's name into JUGLANS *lignea*, upon the ground that *lignea* has a right of priority over *lamellata*. The first admissible name was in such a case *Juglans lamellata*, and to that alone, as a whole, the right of priority attaches. Naturalists cannot concede to any one a right to interfere in the name which may be given by the first author whose entire designation is admitted to be in itself unobjectionable. For the same reason, when several new genera are founded at the expense of some old one, no one can be held to be bound to preserve all the old specific names which he may find. The new names may be wholly new, and need not be half old and half new. All naturalists of experience will preserve ancient and specific names for modern genera when it is desirable, but no one can be bound to do so. It is a mistake to quote the authority of Linnæus in this matter, for his practice was precisely that for which we contend. For example: his Rheum *Rhabarbarum* had been previously called Rhabarbarum *sinense* by Ammann; his Butomus *umbellatus* was the Juncus *floridus* of his predecessors; his Baccharis *halimifo'ia* was the Senecio *virginianus*, &c., of Ray, and the Argyrocome *virginiana* of Petiver; his Othonna *pectinata* was the Jacobæa *absinthites* of Plukenet; and so on in hundreds of instances.

STATE OF THE WEATHER NEAR LONDON,

For the week ending July 22, 1852, as observed at the Horticultural Gardens, Chiswick.

July.	Moon's Age.	Barometer.		Temperature.					Wind.	Rain.
				Of the Air.			Of the Earth.			
		Max.	Min.	Max.	Min.	Mean	1 foot deep.	2 feet deep.		
Friday ..16	29	29.916	29.747	87	62	74.5	67½	63½	E.	1.60
Satur. ..17	☽	29.811	29.738	73	52	62.5	68	65	S.W.	.01
Sunday . 18	1	29.890	29.820	79	50	64.5	66	64	W.	.00
Monday 19	2	30.003	29.945	77	55	66.5	66	64	S.W.	.00
Tues. .. 20	3	30.034	29.973	74	54	64.0	66	63	S.W.	.01
Wed. .. 21	4	29.873	29.942	77	51	64.0	65	64	S.W.	.90
Thurs.. 22	5	30.128	29.971	78	44	61.0	65½	63	W.	.09
Average ..		29.965	29.876	77.8	52.7	65.3	66.3	63.8		1.62

July 16—Slight haze; very hot; lightning almost continuous, with thunder; very heavy rain and some hail at night.
— 17—Rain; cloudy and warm; clear.
— 18—Very fine; masses of white clouds; clear at night.
— 19—Very fine; cloudy; clear.
— 20—Overcast; cloudy at night; slight rain.
— 21—Light clouds; very fine; clear at night.
— 22—Fine; very fine; clear, star light; cold at night.
Mean temperature of the week, 2 deg. above the average.

STATE OF THE WEATHER AT CHISWICK,

During the last 26 years, for the ensuing week, ending July 31, 1852.

July.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds.								
						N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	
Sunday 25	73.4	51.8	62.6	8	0.22 in.	2	0	2	1	2	6	7	1	
Mon 26	75.5	53.7	64.6	12	0.70	2	1	3	2	3	7	5	6	
Tues. 27	74.5	52.4	63.4	10	0.56	1	3	3	1	2	7	6	3	
Wed. 28	76.4	54.4	65.4	12	0.32	2	1	2	2	1	9	6	4	
Thurs. 29	75.5	50.4	62.9	12	0.31	1	2	4	1	2	9	4	3	
Friday 30	73.9	52.1	63.5	14	0.88	3	3	3	1	1	7	7	5	
Satur. 31	74.1	51.5	62.8	11	0.66	2	3	2	—	3	7	7	7	

The highest temperature during the above period occurred on the 25th, 1844—therm. 92 deg.; and the lowest on the 29th, 1828 and 1845—therm. 42 deg.

Notices to Correspondents.

BACK NUMBERS OF THE GARDENERS' CHRONICLE: The publisher begs to say that the following may be had. Any subscriber who will forward postage stamps equivalent to as many numbers as are required, will have them sent free by post. The volumes for 1847, 1848, 1849, 1850, and 1851 are now ready, price 30*s.* The volumes of former years are out of print.

1841—1, 8, 13, 14, 15, 16, 17, 18, 20, 22, 23, 24, 26, 27, 28, 29, 30, 31, 32, 34, 45. 46, 47, 48, 51.

1842—1, 2, 4, 6, 8, 10, 11, 13, 14, 15, 16, 17, 18, 19, 20, 24, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 41, 42, 43, 45, 50, 51, 52, 53.

1843—9, 10, 11, 12, 13, 14, 16, 17, 18, 20, 22, 23, 24, 25, 26, 27, 28, 29. 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52.

1844—All except 46.

1845—1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 17, 18, 19, 20, 23, 25, 27, 28, 31, 39, 40, 41, 42, 44, 45, 48, 49, 50, 51, 52.

1846—4, 5, 6, 10. 11, 12, 13, 14, 15, 16, 17, 18, 20, 23, 24, 25, 26, 27, 28, 29, 30, 34, 37, 41, 42, 43, 46, 49, 51.

1847—1, 2, 3, 4, 5, 6, 8, 13, 14, 19, 21, 22, 27, 32, 33, 36, 37, 41, 42, 43, 44, 46, 47, 48, 51.

1848—1, 2, 3, 4, 5, 6 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 30, 32, 33, 34, 36, 37, 38, 39, 40, 41, 42, 44, 48, 49, 51. 52, 53.

1849—All except 46, 47. 48, 49, 51.

1850—1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25, 26, 27, 28, 29, 30, 31, 33, 34, 35, 38, 39, 40, 48, 50, 52.

1851—All except 24, 27, 49, 52.

1852—All.

BOOKS: *J E., Woodford.* Morton's "Encyclopædia of Agriculture," Low's "Agriculture." Loudon's "Encyclopædia of Gardening," and Lindley's "Theory of Horticulture."

CLARY WINE: *M A S.* See another column.

FROGS: *M D.* Why do you want to kill the frogs and toads? Let them alone. Toads are your best friends; if you have too many out of doors put them into your frames and pits.

INSECTS: *J F.* Your Cotoneaster is infested with many individuals of a female coccus, of which the minute young are now escaping by thousands. The latter will attach themselves to the young shoots, which they will suck to death. The females should be picked off immediately and destroyed. —*G O.* The curious caterpillar forwarded by you is that of the common Puss moth, Cerura vinula. It is a harmless species. It had doubtless fallen into the drain. *W.*

MELONS: *Well-wisher.* The best time to cut them is in the cool of the evening, when quite ripe.

NAMES OF FRUITS: *A Correspondent.* The Strawberry, so far as we could judge from it in the decaying state, appeared to be Swainstone Seedling, called also by some Royal Pine.‖

NAMES OF PLANTS: *O S S.* It seems to be a fragment of Bromus mollis.—*C H.* Lycopodium clavatum, and Poterium Sanguisorba.—*Diss.* Apocynum androsæmifolium.—*R D.* Lomaria spicant, *S.*—*A Kentish Man.* We believe it is Cassinia leptophylla. Many such Australian plants are undoubtedly hardy; yet people will not believe it.—*A J M.* Dendrobium Gibsoni, Miltonia Cloweaii, and Aerides suavissimum.—*Rougham.* Pentstemon breviflorus.—*R Draper.* Your letter contained only one plant, and that was Arenaria verna—*A Lady.* 1, Aira cæspitosa; 2, Agrostis canina; 3, Lolium perenne; 4, apparently a bit of Poa aquatica; 5, Briza minor; 6, Holcus mollis; 7, Cynosurus cristatus; 8, Avena flavescens; 9, lost; 10, Festuca pratensis; 11, Bromus sterilis; 12, Dactylis glomerata.

RASPBERRIES: *A X.* Apparently a great bearer; but beyond that we can say nothing, as the box and fruit were both smashed to pieces in coming through the post.‡—*J F W.* We regret that your seedling Raspberry had lost all its aroma when received. A rich perfume, like that of the Old Red Antwerp, escaped when the box was opened; but the fruit itself was too far gone.‖

TANKS: *Silvio.* Provided the water in your tank for aquatics is kept in motion, it is immaterial whether the motion is rapid or not. The tank should not be less than 2 feet deep. Ten gallons a day is but a small quantity to remove, but it may suffice.

THORNS: *R D L B.* They are attacked by a legion of the fungus called Æcidium cancellatum. Why they are attacked no one knows.

MISC: *An Original Sub.* The subscription is 26*s.* per annum, *if paid in advance.*

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CAUTION TO AGRICULTURISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

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The NEXT SESSION will begin on Monday, August 9th. Students are admitted either as Boarders or as Out-Students. The annual fees for Boarders vary from 45 to 80 guineas, according to age and other circumstances. The fee for Out-Students is 40l. per annum. The College Course of Lectures and Practical Instruction is complete in one twelvemonth—though for younger students a longer time is recommended.

There is a department for general as well as for agricultural education.

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Cirencester, July 24, 1852.

The Agricultural Gazette.

SATURDAY, JULY 24, 1852.

MEETING FOR THE ENSUING WEEK.

THURSDAY, July 29—Agricultural Imp. Society of Ireland.

It is really of importance that the men who grow hundreds of acres of Wheat annually should take some note of what is being done by the farmer of a single field. The author of "A WORD IN SEASON" has, in a ninth edition of his pamphlet, given the result of another crop of Wheat, strikingly confirmatory of all that he has already offered for the instruction and encouragement of the corn-grower.

"The following is a detailed account of outlay and profit, for the 4-acre crop of 1851:—

	£	s.	d.
Paid for ploughing (6s., the half portion of each of the 4 acres)	1	4	0
Harrowing, levelling, and clearing the foul stubble (10s. ditto)	2	0	0
Pressing the channels for the seed (1s.) ...	0	4	0
Dropping the seed into the channels, by hand (5s.)	1	0	0
Four pecks and 1 gallon of seed, 5s. per bushel	0	5	7½
Rolling (6d.)	0	2	0
Hoeing between the rows (3s.), scarifying the intervals (3s.), bird-keeping (4s.) ...	2	0	0
Reaping (9s.), carrying to barn and unloading (6s.)	3	0	0
Thrashing and winnowing 20¼ qrs. (at 2s. 11¼d.)	3	0	0½
Rates and taxes (4s. 8d.) and interest on 20l. for outlay, implements, &c.	1	18	8
Total outlay ...	£14	14	6
Twenty quarters and a half of clean Wheat (exclusive of tail)	35	17	6
Eight tons of straw (40s.)	16	0	0
Gross produce ...	51	17	6
Deduct outlay ...	14	14	6
Total amount of profit to proprietor ...	£37	3	0

"The 4 acres from which this crop of Wheat was taken, were, what is usually deemed, exhausted. They had never known a bare fallow in the memory of man. Fours years before I took them from my tenant, they had been manured for Swedes, which were eaten off the land. They had had no dressing for the three following crops, the rotation ending with a heavy crop of Wheat sown broadcast. And in this state, the stubble standing, I entered upon them in October 1850. I then simply ploughed the land an inch deeper than it had ever been ploughed before; cleaned and levelled it; and so, without further preparation, got in my seed. In the following month, when the plant came up, I sent in my spademen, and trenched the intervals for the succeeding crop."

The subsequent remarks of the author well deserve attention. Practical men are, after all, discontented with a mere statement of fact; they require the theory as well as the result—reasonable argument as well as bare testimony—before they can fully accord their faith. The following are the facts. One half of the four acres in Wheat, the other half fallow—the land exhausted—no manure—little more than a peck of seed to each half-acre—and yet the field yielded 20½ quarters. "I would assure him, however," says the writer, "that he will find no mystery or wonder in it at all. For, when I said I had *no* manure for my Wheat, I spoke incorrectly. I have manure in abundance; organic and inorganic manure for an endless succession of Wheat crops from the same four acres of land. For, what *is* manure? The farmer knows from experience that manure is that which, in some way or other, restores fertility to his exhausted land, and gives him good crops. But, did he ever ask himself, what there was in the straw and the dung to do this? Let him go to some 'cunning' man, able and willing to teach, and he will learn that his home made manure contains, not only organic food for his plant, but a variety of mineral or inorganic substances, out of which, after undergoing certain mysterious combinations in the soil, and so becoming fitted for assimilation by the plant, the straw and the grain of the Wheat are made up. Let him ask further, and the same clever man of cultivated common sense will tell him that the clay or loamy subsoil of his Wheat land contains the very same mineral or inorganic bodies, and therefore the very same elements of fertility, with that manure which he carries from his yard, or buys in the market.

"Here, then, is the cherished object I have in view in bringing up the subsoil to the surface. Buried below, out of the reach of the atmosphere, the cold clay bottom and the hard bound pan of loamy gravel are worse than valueless. But, lay bare to the light of day a few inches by degrees. To do more than that at the outset would be a wasteful and injurious expense. Begin with two shallow spits deep. Raise, in short, just so much of the subsoil as can be pierced through by the winter's frost and burnt by the summer's sun, and you open a mine of mineral wealth that is practically inexhaustible.

"'Allowing a certain and considerable yearly diminution of the mineral elements of fertility in the land, we have yet, so to speak, an almost infinite supply of these bodies in the soil itself:' thus speaks Professor WAY. But he adds a problem to be solved, '*provided* we might economically avail ourselves of it. The item of expense is, after all, the turning-point.'

"Now, as, upon the plan I propose, we have only the working of half the acre for the one year's crop—as the working of half is only half the expense, the point, I submit, is turned."

So much for the mineral constituents of the crop, but what of the organic parts of the plants—the characteristic and essential portion of the vegetable world? The organic part was not wanting, of that the result was sufficient proof; but that this is no exceptional case let the following statement of what is universally true, and wherever soil and air exist, at work, bear witness. It is the grand distinction between the relation of experience and the verdict of science that the one may be exceptional and peculiar, while the other is necessarily general. We might fasten down any of the sticklers for practical knowledge of their business to the consideration of the mere veracity of the witnesses in this case, and of the mere facts to which they bear their testimony: but we desire to show the reasonableness as well as the certainty of the results that have been obtained; because from a knowledge of the causes to which they are owing this important corollary springs that the 4-acre field of Lois-Weedon, Northamptonshire, may be copied in all its particulars, on almost any farm in the country. There is no peculiarity of soil or climate to which its crops are owing—the peculiarity is one of management alone. "Having provided for the mineral food of the plant; having trenched the intervals, brought up the subsoil, and laid it open to the solvents of the atmosphere during a winter and summer fallow, the organic elements of fertility will come of themselves. The very process by which I gain the one supplies the other. Carbon and nitrogen are wanted; and the atmosphere contains them both in the forms

of carbonic acid and ammonia; and with every shower of rain, every descent of the dew, every fall of snow, nay, with every breath of inter-penetrating air, they are brought down into the porous soil and there retained, either for future use, or to be taken up by degrees by the growing plant.

"For, not only do the pulverised clay and friable loam hold these bodies when they have them, but here again has the science of the chemist done good service to the farmer. It has been proved by Professor WAY, that soils of this nature and in this condition attract and court their entrance into their bosom. He has shown in what this property consists; and I am permitted to give, in his own words, the results of his late interesting experiments in the matter of ammonia, in all their freshness. 'Clay possesses in a high degree the power of abstracting ammonia from the air, so much so, that if air, saturated with carbonate of ammonia, be made to pass through a tube containing clay in very small fragments, it will issue from the opposite end quite free from ammoniacal vapour; whereas a similar tube filled with sand will present no obstacle to the passage of the ammonia. In like manner a soil containing any moderate amount of clay, such as a good loam, will have the same effect. The power of the clay to abstract ammonia from the air is due to the presence in it of small quantities of a double silicate of alumina and lime, or a corresponding soda salt. The ammonia so fixed exists henceforth in the soil in the state of silicate, which is dissolved in small quantity by water, and furnishes perhaps both silica and ammonia to the Wheat plant. It is my present belief that this silicate of ammonia is the true and only form in which nature designs the ammonia to be offered to the plant, except perhaps as the carbonate derived from this silicate. The effect, or, at all events, *one* great effect of cultivation is, therefore, to increase the supply of ammonia to the soil; and inasmuch as this ammonia is only absorbed by virtue of the avidity of the aluminous double silicate for it, no further preparation is required to fit it for the food of plants; and that grossness and too great luxuriance which sometimes follows the application of ammoniacal salts to Wheat, and which is probably due to those plants imbibing crude instead of prepared food, is avoided.'

"I will not weaken the force of this most important statement by any observations of my own; but will merely add, in conclusion, that all that is wanted to secure the full benefit of this supply of organic food for the Wheat crop is, to give to each well-separated plant fair play, by letting in upon it the sun and the air; to afford its roots width and depth to feed in, and to keep the surface of the soil open and free from weeds. Do this, and, be assured, Nature will do the rest."

So says the author of "A Word in Season to the Corn-grower." We believe that he is a sufficiently intelligent man—with experience enough of the business of the corn-grower—and with knowledge enough of the natural agencies affecting the corn-grower to give him a claim upon the attention of the corn-growers of this country. They will, we believe, find it their interest to study the simple recital of what has been doing in a field situated in the parish of Lois-Weedon, Northamptonshire: and we are mistaken if it does not awaken many a mind to the importance of *tillage* as one main source of fertility. We should hope that there would be few large farms in the country on which one field at any rate has not been set aside during the ensuing autumn for a trial of the fallow cultivation of the Wheat crop.

ON SOILING AND PASTURING HORSES AND CATTLE.

THE following are the reports which have been given in on this subject, to the East of Berwickshire Farmers' Club. The first was from Mr. Calder, Fairneyside:—I beg to state that for upwards of 20 years I have practised soiling with Grass and Tares consumed by cattle and horses, the latter being kept in the stable, while out of the yoke at mid-day, to be free from the annoyance of flies and heat of the sun. It is well known that a number of excellent Grasses and other plants which, when young, form a most palatable food, are, if once allowed to become ripe, as is often the case when pastured, rejected by the stock, and only consumed when compelled by severe hunger, while the same Grasses, when cut green, will be eaten with avidity. It is advantageous to begin sowing early in June, to give as much green food as possible; the first cutting may not be so heavy, but any want at this time is fully compensated for from a large second crop, which is generally ready for cutting when the first crop is getting too ripe for soiling. My Tares (winter excepted) are generally consumed after the first cutting of Grass is done, along with the second crop. Some make objections to soiling on the ground of expense, and that stock do not thrive so well as when pastured, but the great saving of food will far more than counterbalance such expense. From my experience, I find that cattle will improve more when properly fed in the curtains, than when pastured, exposed to the summer heat and flies, besides trampling their food in all weathers and otherwise spoiling it. Having the horses always at hand is of great advantage, besides saving the labour of travelling to and from their pasture. Experience has led me to the following conclusions:—1st, That land of good quality, properly planted with red Clover and Grass seeds, will keep, when soiled, at least double the quantity of stock as when pastured. 2d, That with a fair supply of straw, a large quantity of valuable manure can be made, green food causing a large quantity of urine to be produced by the stock. 3d, That the succeeding crop of Oats from such land will be found equal, if not better, after two such green crops being cut, than when the same land is pastured.

Mr. Allan, Billie Mains, gave in the following report:—As requested, I beg to offer a few observations on the comparative results between soiling and pasturing of cattle. My experience is short, only being of two years' standing. It was not with the intention of fattening cattle for the butcher I thus experimented; my only view was, to ascertain whether or not I could profitably keep a larger number of cattle on my farm by this mode of management, in good growing condition during the summer up to the time we generally lay our stock on Turnips, my sole aim being to prepare my cattle for winter feeding. I had in bygone years found great difficulty during the months of August and September in keeping my stock, when pasturing, in good order. During those two months, I invariably found my cattle lost what condition they had formerly gained in June and July. It was for these reasons, therefore, I introduced my present system of soiling into my farm management. It may be argued by some that cattle will not fall away on pasture during the months of August and September. This, I grant, may be the case on rich old Grass lands, but on farms managed in the five-break rotation (as my farm is, and chiefly stocked with sheep), thereby causing cattle to be grazed on one-year-old and two-year-old Grass, I think I may confidently aver, that those cattle will not improve to the satisfaction of the farmer in the months of August and September, unless his fields have been very thinly stocked indeed all the summer. In June, last year, I put up 20 year-old cattle on cut Grass, and they having a good supply of water, did very well. They were thus kept during the months of June and July. I may mention that two acres of Grass served for this purpose. The first week of August I commenced them with Tares, and continued feeding them so up to the month of October. From the time they were first put on Tares, I daily observed they made great improvement, not only in their growth but also in their condition generally, especially during the month of September. Those who intend feeding in this manner will find it of great advantage to have a few acres of early Tares to succeed the Grass, for if stock are put on this food before the bloom is off, they will find the consumption nearly double what it would be when the pod is fairly formed, and beginning to fill. Such I found to be the result of my trial. In August, my cattle ate nearly double the quantity they did in September: this arose from my Tares being all sown in spring. In September, however, as I have stated before, the cattle showed great tendency to fatten, and certainly improved wonderfully. This arose from the Tares approaching to a state of ripeness and maturity. The season was by this time fast approaching for a change from Tares to Turnips. I thought those cattle would, when laid on that food, go on improving as they had formerly done, but in this I was disappointed. I found that for a fortnight or three weeks my cattle made little or no improvement; thus showing the very important fact that Tares are well calculated for the growth, fattening, and feeding of cattle. The Tares used for this purpose were raised with 2 cwt. of Peruvian guano, on a piece of light moor land, after having been grazed for one year—the crop of Tares standing in place of the second year's Grass, thus making the field of much greater value than it would otherwise have been. The land may be considered worth 15*s.* per acre. I may mention, in conclusion, that, by adopting this system, I kept those 20 cattle on my farm over and above my regular stock; and being well pleased with the result, intend, and have made arrangements for carrying out the same practice this season. The breadth of land sown in Tares was about 10 acres. One acre was kept for seed, which left 9 acres for soiling. In addition to these 20 cattle, 25 pigs were kept, 12 work-horses during the harvest, as also a riding pony all the summer. I have learned from a butcher who slaughtered some cattle last year which had been fed on Tares, with an allowance of 4 lbs. of oilcake, that not only did they kill to his expectations, but also that the beef was of the best quality.

(To be continued.)

PAUPERISM.

BY the amended Poor-law no able-bodied men are relieved except in the poorhouse; unless they enter it—the test of their destitution—they have no legal claim to relief; married couples, if upwards of 60 years old, cannot now be separated in the union house as was formerly the case, and is still the rule with those who are under that age, for the convenience of classification[1] superintendence, and room. This amendment is a great boon in most cases to the aged married poor, who, as the union houses have not accommodation for such a class, generally receive out-door relief, and therefore are not removed from the domestic roof. The support and education of children in the poorhouses is one of the best and most humane features in their new character, and the provision made for the relief of all the inmates, whether in health or sickness, is another excellence. Various amendments and alterations, principally in matters of detail, were made in the last parliamentary session. The general language of the existing law to all who are in absolute want is "No individual shall starve." No inquiries are made as to the cause of destitution, whether it arises from idleness, misconduct, or unavoidable calamities. And whereas formerly he was relieved without regard to the causes of his pauperism or his character, he is now subjected to very searching inquiries and relieved accordingly, but some relief is granted in every case of destitution.

As regards vagrants, in particular men, their clothes and persons are searched when they present themselves at the workhouses, by which fraudulent destitution may be detected. From a report of Mr. Grenville Tigott, Poor-law inspector, it appears that the treatment of vagrants in unions became changed in 1849 from what it had been a year or two previously. In 1847 every casual applicant was admitted, and received at least two meals in the workhouse: in the latter year none but those suffering under sickness or evident destitution, or women with young children, were admitted. By this regulation the idle and dissolute vagabonds from the metropolis and large towns, who used to wander systematically from union to union, begging and robbing as they went, were refused the food and night's lodging on which they used to speculate. By clearing the union houses of such characters the real destitute wayfarers are accomodated with decency, and without being associated for the night with the professional beggar and runaway profligates. Mr. Kemp, the master of the Wrexham workhouse, furnished a very interesting and practical report at the same period, stating that tramps had been supplied at this poorhouse with supper and lodgings without any return being asked in work; but the breakfast was withheld until some labour was performed, and sometimes the tramps might depart before breakfast if they did not choose to do any work. The numbers increased so that the guardians were led to impose a labour test, by which the vagrants were not allowed to depart until they had worked three hours and a half after the breakfast hour. This restriction soon became known *on the road*, and the number of vagrant applicants diminished, after several had been sent to gaol for refusing to work. But they re-appeared as before, and after some farther experiments as to the labour test and the hour for breakfast, and the discovery that the tramps eventually accommodated themselves to each rule of the board and infested the house as before, it was determined to refuse all relief to systematic vagrant idlers. On some of their persons were found lists of the union houses in different counties, which these professional rogues considered the most accommodating and deserving of their patronage.

And in order to prove the reality of his pauperism, the poorhouse (which is practically a labour test) while it affords an asylum to the necessitous, has been very wisely re-introduced into the new law. If when pleading destitution able-bodied applicants refuse to enter the union house, it may be fairly assumed that they have the means of living out of it. By this test the fictitiousness of destitution may be easily ascertained in the rural districts, where the number of applications is ordinarily limited; but in towns and manufacturing districts it is often beset with difficulties, from the sudden vicissitudes by which the operative classes in such localities are so frequently affected without any absolute fault of theirs, which compel them to seek relief from poor-rates.

Without a stringent labour test, how would it be possible to distinguish between legitimate objects of charity and the classes who often strike for wages, and refuse to return to their employments except under the pressure of stern want—men who contrive to procure subsistence through the means of combination funds during their insubordination and wilful idleness; these have no just claim to sympathy or pecuniary aid from poor-rates; they have their mills to return to when, like the prodigal in the parable, they begin to be in want, and come to a sense of their true condition. On the stoppage of a mill or any manufactory, or an unforeseen calamity, such as that which has recently occurred at Holmfirth in Yorkshire, by which the means of employment ceases, to the impoverishment of numerous families which had previously supported themselves by industry, it is just that the discharged workmen should have some relief; and for such a contingency the Poor-law Commissioners have, we believe, discretionary power to make an order, by which the local guardians may afford relief.

To wanton waste and habitual improvidence during their periods of full employment, much of the occasional pauperism of the mill operatives is attributable. The men frequently spend the surplus of their wages in beer-shops, instead of depositing what they could easily spare by economy from their earnings in savings' banks for casualties, or contributing to the funds of friendly societies, which, when rightly managed, are highly beneficial to the working classes. In short, to relieve the rate-paying portion of the community a rigid test is indispensable, else an intolerable infliction might take effect wherever the relief of the able-bodied is in any measure imposed on the capital and industry of the country. It is to be noticed, too, that all persons able to do so, are compellable by the law to support or assist in supporting their indigent fathers and grandfathers, mothers and grandmothers, children and grandchildren,

as the case may be, though too many are allowed to escape from the obligation.

The following facts tend to exemplify the extravagance which leads so frequently to pauperism among the operatives in the manufacturing community. The amount of wages received by workmen in iron works and other factories is very considerable, and yet no men evince less economy or foresight than they. Many of them earn very high wages, and yet they are too frequently discontented and ready to "strike" on the smallest reduction of wages. And they only save the weekly sums which each member of the combination union is obliged to pay to its committee of management. Is it reasonable, is it even tolerable that such persons as these should have a right to parochial assistance—men whose pauperism is of their own obstinate and wilful creation? Surely not, without such a stringent test as would recall them to their senses, from a state of groundless and unreasonable mutiny. *M. D.*

(To be continued.)

ROTATION OF CROPS.

EXPERIENCE has established beyond a doubt two points; that a close repetition of the same crop on the same ground is attended with a progressive deterioration of return, and that the intervention of one or more crops whose constituents are in different proportions will, after certain intervals of time, having a relation to soil and to the plants cultivated, restore the capability to the soil of reproducing the original crop; and this has led in agriculture to the alternation of crops in such courses as have practically been found suitable to the soil under tillage, and to the crops it is desirable to produce.

The *modus operandi* in plants by which this deterioration is caused, and this restoration is effected, is still involved in obscurity. No theory has hitherto been advanced which can command general assent; an inquiry into it is therefore well worth making, even though we can do little to elucidate it.

Much reliance was some time past placed on the counter motions in the soil effected by the alternate mechanical actions of the larger and the more fibrous roots of plants, the former opening it to the more ready spread of the latter, while the latter allowed it again to collapse to restore a befitting closeness. Thus the alternation of crops effected a beneficial action on the texture of soils. These actions are now, however, much less relied on, for our later analyses of plants have led us to ascribe to their different composition the effects we have observed to result from their alternation. This difference in their composition is supposed by some to be effected by the roots of different plants extracting different nutritive substances from the soil, each plant selecting those which were exactly suited for its assimilation, leaving in the soil those nutritive substances (nutritive to other plants), which were not suitable to it. By others an opposite theory is maintained; it is, that the roots of all plants imbibe soluble matter of every kind from the soil, and thus necessarily absorb a number of substances not suitable to their individual assimilation, and which are, therefore, expelled by the roots and returned to the soil as their excrements. Thus by each plant either absorbing only those substances which afforded it nutriment, or returning to the soil those which it could not assimilate, the soil, though deprived of the substances required for the nutrition of one plant, was still in condition to afford nutriment to another capable of assimilating different substances.

Either of these views explains a means of operating in plants by which the soil is fitted to give a succession of different crops rather than a succession of the same crop; but by neither can a repetition of the same crop, at however distant a period, without deterioration, be explained; for the substances of which it has deprived the soil are not returned to it, and two successive crops of Wheat might as well be taken, were it not for atmospheric action, and which action may be induced without alternation, as two crops of Wheat with an interval of ten years. According to these views, an alternate system is only one of more complete exhaustion.

Recently it has been advanced—not, however, that we are aware on any competent authority—that roots of plants descending to different depths in the soil draw their food from different areas. As this opinion seems to have been put forth in ignorance of the great depths to which nearly all the plants push their roots under favourable circumstances, it may be dismissed with a few short observations. The soluble matters available as nutriment to plants are found more abundantly in the upper or active soil, and it may safely be averred that there are no plants cultivated for food whose roots do not descend to, if not into, the subsoil; all these plants must, therefore, derive their nutriment from the same area. The cereal crops, allowed to perfect their seed, are esteemed the most exhausting of our cultivated plants; yet these descend into the soil, under favourable circumstances, according to Mr. M'Arthur, some 6 feet, to as great a depth probably as the crops that are held to be ameliorating; that they all descend till either obstructed by rocks or an impenetrable or corrosive subsoil, or by an excess of water, or till they obtain a supply of water equal to their demands. Neither can we entertain more favourably the view that attributes to an inferior creation powers of discrimination not possessed by the superior; to give to plants the property of selecting, by their roots, from the soil those nutritive substances which exactly suited their capabilities of assimilation, and to refuse those which were not, were to endue them with a something above the instinct of animals, beyond the reason of man; this were so contrary to the known gradational existence of powers that prevail through all being, as to become thereby an absurdity; and it is also disproved by various experiments, for they have never been known to refuse any soluble matters offered to them, their roots have drank in freely, even to the destruction of the plants, metallic and vegetable poisons, colouring matters, and even alcohol, which the inferior animals generally refuse. But we must subscribe to the opinion of De Candolle that the roots of plants imbibe soluble matters of every kind from the soil, and thus necessarily absorb a number of substances which are not adapted to the purposes of nutrition, and must subsequently be expelled, but whether by the roots, as he supposes, or by other organs, we have some doubts.

The experiments of Macaire-Princep appear to sustain this theory of De Candolle, and they certainly do bear him out in proving that many plants are capable of emitting extractive matter from their roots; but Liebig makes a distinction, which we think very apt, between the substances supposed to be expelled through the roots by De Candolle, and those proved to be expelled by Macaire-Princep, the former as excretions or substances separated as "incapable of being employed in the nutrition of the plant" and ejected previous to or in the act of elaboration; the latter as excrements, or substances "formed in a vegetable organism during the process of nutrition" and ejected after having been elaborated. The first, he observes, "were undigested matters, which, although not adapted for the nutrition of one plant, might yet be indispensable to another," the last, as "produced in consequence of the formation of woody fibre, starch, albumen, gum, acids, &c., cannot again serve in any other plants to form the same constituents of vegetables." They can only in one form serve for the nutrition of vegetables in becoming converted "into a substance which supplies the place of humus, by being a constant source of carbonic acid."

The theory of De Candolle of the return to the soil, by the roots of plants, of substances derived from the soil, not adapted to the purposes of nutrition, is not therefore sustained by the experiments of Macaire-Princep; "for," as Liebig says, "they leave it quite undecided whether the substances were extracted from the soil or formed by the plant itself, from food received from another source. It is certain that the gummy and resinous excrements observed by Macaire-Princep could not have been contained in the soil; and as we know that the carbon of a soil is not diminished by culture, but, on the contrary, increased, we must conclude that all excrements which contain carbon must be formed from the food obtained by plants from the atmosphere. Now these excrements are compounds, produced in consequence of the transformations of the food, and of the new forms which it assumes by entering into the composition of the various organs."

We therefore are still without proof that the substances imbibed by the roots of a plant, and not adapted to its nutrition, are returned by the roots to the soil. And indeed the return of such undigested substances by the roots is rather too roundabout a way for nature, who delights in the most simple means of effecting her objects; it does in truth account readily for the favourable effects of the alternation of crops, but it is rather using the sword of an Alexander.

The roots of a plant, in taking up water from the soil, must necessarily imbibe with it such substances as are found in solution in it. This water, with these substances, is carried up, agreeable to the hypothesis of most phytologists, through the plants to the leaves, where elaboration commences. By the bye, this elaboration is not well defined, but this elaboration must be limited to so much only of this water and its soluble contents as can be appropriated by the amount and intensity of those external substances and influences capable of entering into combination with them, as are there found existing in the atmosphere of the plant. The whole of this water and of these substances that are not so appropriated, and which have in their progress through the plant resisted all those powerful attractions they have encountered to combine with similar matters, are now placed under the most favourable conditions for volatilisation.

It is true, there is a scant possibility of the water escaping by evaporation and leaving behind it these substances, as in our ordinary uses of evaporation, but, in the leaf agitated by every breath of wind, with a solution so weak, without an existing nucleus of crystallisation for these substances—for if they are left they must instantly be carried down with the descending fluids—we must conclude that the evaporation of the water will effect the volatilisation of these substances. In favour of this view, there are many instances we may refer to of what we term solid substances becoming so volatilised. In the writings of Liebig, he says, "A liquid during evaporation communicates the power of assuming the same state in a greater or less degree to *all* substances dissolved in it, although they do not of themselves possess that property. Boracic acid is a substance which is completely fixed in the fire; it suffers no change of weight appreciable by the most delicate balance when exposed to a white heat, and therefore it is not volatile; yet its solution in water cannot be evaporated by the gentlest heat, without the escape of a sensible quantity of the acid with the steam. . . . The experiments instituted under Lavoisier's guidance by the *Direction des Poudres et Saltpetres*, have proved that during the evaporation of the saltpetre ley, the salt volatilises with the water. . . . It is known also, that in sea storms, leaves of plants in the direction of the wind are covered with crystals of salt, even at the distance of from 20 to 30 miles from the sea. . . . By the continual evaporation of the sea, its salts are spread over the whole surface of the earth. . . . This volatilisation is a source of considerable loss in salt works, especially where the proportion of *salt in the water is not large.* This has been completely proved at the salt works of Narrheim, by the very intelligent director of the establishment, M. Wilhelmi. He hung a plate of glass between two evaporating houses, which were about 1200 paces distant from each other, and found in the morning, after the drying of the dew, that the glass was covered with crystals of salt on one or the other side, according to the direction of the wind."

Now, these volatilisations take place at ordinary temperatures.

It still remains to consider Liebig's opinions in this connection; but as we have perhaps already sufficiently exercised the patience of our readers, and as we have certainly occupied sufficient space in this day's *Gazette*, we will postpone it to another day. *G.*

Home Correspondence.

Stack-making.—From the number of stacks, even in the same yard, which are devoid of symmetry and uniformity—from the number that require to be propped, and from those which actually tumble down—it may be inferred that stack-making is at present a process of no inconsiderable difficulty. With a view to render it a very easy one, to remedy all the foregoing defects, and to produce other advantages, I beg to suggest the following simple expedient. In the centre of the posts on which the stack is to be raised fix an upright iron rod of moderate dimensions, attach to it horizontally a small wooden one by means of a hole or ring at one end, the other being very visibly marked with three or four divisions in feet. The iron rod denotes and preserves the centre of the stack during its entire construction; and the wooden one, being made to act as a moveable radius, by being touched every now and then with the fork, defines the circumference. In this manner, the stack ought to be made with almost mathematical exactness. On its completion, the rods will be withdrawn. If the iron one had been made to rest on a piece of plank, by raising the latter, the rod would get a start of two or three feet, which would facilitate its removal. By the proposed simple expedient, successful stack-making is reduced to a certainty; the most unskilful cannot go wrong, while labour will be economised by being proceeded with with confidence and decision. The stacks being made by rigid rule, their contents will be always accurately known. The settling which takes place will be uniform, and not end, as in the intuitive system, in the stacks being capsized, or in their being left "all a nodding." Should any one try and approve of the method suggested, perhaps he would have the grace to acknowledge the same. There might be advantage in the radius rod being so attached, by means of a spring, that it would hold on the iron rod at whatever point it was placed. It might thus be less liable to incommode the stack-maker. "Economy is the life of the army," it must be the soul of agriculture. *J. Bentham, Major.*

Bad Taste in Butter.—I am sorry that I have not been able to obtain much information respecting the unpalateableness of butter during the last two or three months. The only reason that I have heard assigned for it is, that when the cows are first turned out, owing to the shortness of the Grass, they eat too freely of the Dandelion, and afterwards of the wild Ranunculus. During the latter end of April and May the butter is generally strong in this neighbourhood. *Warwickshire.*

Coloured Tiles.—"An Amateur Tile-maker," says: "As it is a matter considerably affecting the picturesqueness of our cottage scenery, I hope I shall not be taxing your Paper beyond its province when I ask if you or some correspondent could inform me what is the proper mixture to apply to plain tiles in their green state, that when burnt their flaring redness may be permanently subdued." Allow me to answer your correspondent. It is now understood that the effect of colour is best produced by balancing prismatically the three primary colours. Now, in England, our green is too raw—too blue, our sky too neutral (not blue enough); the only corrective to this state of things is to have a larger amount of yellow and red. A roof of red tiles and red walls is, perhaps, too much, as the walls and roof are not then so well defined; but for a dairy no roof is so good as thatch, which, with red brick walls, the latter having diagonal black bricks (always found in every kiln), will make his dairy, in proper hands, a picture. It is extraordinary what a love the uneducated (in taste) have for white, which every artist abhors. Where in Italian, Dutch, French, or even English artists, will you find it represented in the country? Except where there is excess of shade, it is quite out of place. *A Constant Reader.*

Drummond's Churn. — Like your correspondents "Verus" and "Cymro," I got one of Drummond's churns, and when it arrived from the manufacturers (Messrs. C. W. Young and Co.), I sent it to a small dairy farm, where it was used three times in succession, but no butter could be obtained from the cream in any case, under three hours and a half. In fact so annoyed was I at the inefficiency, as I then thought, of the

churn that it was discarded, and the old barrel churn brought into use again. Since then (about three months ago), it has been put past as useless; and before complaining to the manufacturers I resolved to make one fair trial myself, which trial I beg to inform you has been most satisfactory. I obtained butter of good quality in 30 minutes. At the exhibition I thought highly of the churn, and I can assure you the mortification I experienced at its incompetency in the first trials was great; for I had recommended the churn to several of my friends. I should advise parties having those churns to give them another trial, if not by their own hands, under their immediate superintendence, going gently for a short time at first, and then as fast almost as the handle can be turned; and possibly they may, like me, come to the conclusion, that the Drummond churn is a most valuable acquisition to the dairy. *Henry Reid, Wokingham, Bucks, July* 14.

——My experience of this churn agrees very nearly with that of your other correspondents. By working the plungers with great velocity, my dairymaid has obtained butter in about 20 minutes, but the labour is so severe that two persons are required, the one to relieve the other, and the butter so made is not good, and will not keep. On the whole, after giving this churn a fair trial for some weeks, I have come to the conclusion that it has no advantages over the common old-fashioned churn; and although I acquit the parties who have manufactured the Drummond churn of all intention to deceive, yet I think they cannot be considered as free from blame in not having fully ascertained its merits before introducing it to the public with such extravagant terms of commendation. *Verus.*

Deep Drains.—Why will not a drain 3½ feet deep suffice on a stiff, tenacious soil? The controversy as to porous soils has long ceased; but now, when so much capital is being employed on strong land, it becomes most important, if possible, that this vexed question should be determined. All the contradictory illustrations and theories cannot be right. It is not long since we were told that no descending water did mischief; that is, that no quantity of rain was injurious, until having penetrated and disposed of all its virtue, it ascended again, by capillary attraction, towards the surface cold, starving, stagnant, and consequently noxious. Now, why will not a drain 3 feet deep arrest it in its ascent, and prevent it approaching nearer the surface; and who can affirm that water confined to a level 3 feet below that surface can do any injury to what is there growing? The illustration was this. Fill a cask, standing on its end, full of earth; let a pipe drain discharge through two bung-holes in the centre; saturate the mass with water at the top; the water will descend first to the bottom, then ascend by capillary attraction, be caught by the pipe and pass at each bung. You say, "Fancy a soil full of water, so that any rain which falls on it just rolls over the surface into the next ditch, without getting into the land." This is a picture of land altogether undrained, but totally inapplicable to land well drained with 3 feet or 3½ feet drains. "Another thing," you say, "is also plain enough, viz., that as upon this current of water through the soil depends the proper feeding of the plants, it is desirable that the conduits by which it is to escape be entirely below the whole mass of earth in which it is intended the roots of the plants shall expatiate." Now, what grain expatiates to the depth of two feet and a half? and if not, is it not sufficient to provide a vent at 3 feet? How few farmers stir the soil 9 inches deep, how many, not 7; how many, not 5; nay, there are farmers who think old Clover sward is deep enough for Wheat when ploughed 3 or 4 inches, or just scratched as it were. The third point insisted on in your leader, in No. 27, is somewhat scientific; but if the illustration of the barrel standing on its end, in a preceding part of this communication be a sound one, it entirely disposes of the theory you have there propounded; and nought therein contained can be taken to prove that a 3½ feet or even a 3 feet drain, in retentive soils, is inadequate, and a waste of money. *An Inquirer.*

Liquid Manure: Telfer's Farm, near Ayr.—Your correspondent, "A Bucks Dairy Farmer," asks for information as to the revenue from butter and milk on the above farm in so kind a spirit that I am induced to supply it as far as my limited means will enable me. You will perceive, by my report to the General Board of Health, that my information as to the quantities and prices of butter and milk were derived from Miss Bell, cousin of Mr. Telfer. She is a most intelligent lady; and Mr. Telfer, who is a merchant in Ayr as well as a farmer, has confirmed the accuracy of what I have stated. There is no mistake as to the facts therefore. I think your correspondent is in error as to the use of the terms "skim milk is usually sold at 2*d.* per gallon;" consequently, the conclusions drawn from such premises are wrong. Cows on dairy farms in Scotland are generally milked thrice a-day, and one milking or meal out of the three is set up for cream; the other two-thirds are sent to market, and the price is 5*d.* per Scotch pint, equal to six pints imperial measure. Canning-park Farm is only a short mile-and-a-half from Ayr, a town of from 40,000 to 50,000 inhabitants, and that the milk is of excellent quality I am able to speak from personal experience. These circumstances will account for the difference between the value of milk at Ayr and in your correspondent's neighbourhood; and after deducting one-third of the milk for butter, or even half, I think he will be able to make up the sum total given in my report. The second point with which your correspondent is puzzled, is the statement that not more than "40*l.* worth of hay" was bought last year. How they manage to make this sufficient dry food is the puzzle to him. By looking again he will see that the hay is not given as dry food, but is cut and steamed with other food in winter. He will also find in the report mention of "not less than 200*l.*" worth of grain as being purchased in the year, besides a quantity of oilcake. This has all to be added to the produce of the farm—to the Turnips, Mangolds, and 14 feet 3 inches thick of Grass, grown under the influence of liquid manures. Although your correspondent may not be able to make so much of his milk as Mr. Telfer, I hope he will cease to be, as he says, "riled" at it; and I can promise him that, within a very short time after he shall have adopted the systematic application of liquid manures for the production of Italian Rye-grass and roots, his cows will yield him more than 14*l.* each per annum. P.S. It may be satisfactory to your readers to know that, though some 6000 or 7000 copies of that report have been circulated within as many months, not one fact stated has been called in question, and its accuracy has been attested by nearly all whose premises were visited. *William Lee, 9, Duke street, Westminster, July* 15.

Societies.

MEETING AT LEWES.

We now publish the complete award of the Judges of Implements:—

For the plough best adapted for general purposes, 7*l.*, Messrs. Ransome and Co.

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Drill for general purposes, 10*l.*, Messrs. R. Hornsby and Son.

Steerage corn and Turnip drill, 10*l.*, Messrs. R. Hornsby and Son.

Drill for small occupations, 5*l.*, Messrs. Garrett and Son.

Best and most economical small occupation seed and manure drill for flat or ridged work, 5*l.*, Messrs. R. Garrett and Son.

Turnip drill on the flat, 10*l.*, Messrs. R. Hornsby and Son.

Turnip drill on the ridge, 10*l.*, Messrs. R. Hornsby and Son.

Drop drill for depositing seed and manure, 10*l.*, Messrs. R. Garrett and Son.

Manure distributor, 5*l.*, Messrs. R. Garrett and Son.

Portable steam engine, not exceeding 6-horse power, applicable to threshing or other agricultural purposes, 40*l.*, Messrs. R. Hornsby and Son; second best ditto, 20*l.*, Messrs. Barrett, Exall, and Andrewes.

Fixed steam engine, not exceeding 8-horse power, applicable to threshing or other agricultural purposes, 20*l.*, Messrs. Barrett, Exall, and Andrewes; second best ditto, 10*l.*, Messrs. Ransome.

Portable threshing machine, not exceeding 2-horse power, for small occupations, 10*l.*, Messrs. R. Garrett and Son.

Portable threshing machine, not exceeding 6-horse power, for larger occupations 20*l.*, Messrs. Garrett and Son.

Portable threshing machine, not exceeding 6-horse power, with shaker and riddle to be driven by steam, 20*l.*, Messrs. Clayton and Co.

Fixed threshing machine, not exceeding 6-horse power, with straw-shaker, riddle, and winnower, that will best prepare the corn for the finishing dressing machine, to be driven by steam, 20*l.*, Messrs. Garrett and Son.

Corn-dressing machine, 10*l.*, Messrs. Hornsby and Son.

Grinding mill for breaking agricultural produce into fine meal, 10*l.*, Mr. Harwood.

Linseed and corn crusher, 5*l.*, Mr. Stanley.

Chaff-cutter, to be worked by horse or steam power, 10*l.*, Messrs. Richmond and Chandler.

Chaff-cutter, to be worked by hand power, 5*l.*, Mr. Cornes.

Turnip-cutter, 5*l.*, Mr. Samuelson.

Oilcake breaker for every variety of cake, 5*l.*, Mr. Hornsby.

One-horse cart for general purposes, 10*l.*, Mr. Wm. Busby.

Light waggon for general purposes, equal merit—Mr. Crosskill and Mr. W. Ball.

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Instruments for hand use in drainage, 3*l.*, Messrs. Mapleback and Lowe.

Heavy harrow, 5*l.*, Mr. W. Williams.

Light harrow, 5*l.*, Messrs. J. and F. Howard.

Cultivator, grubber, or scarifier, 10*l.*, Messrs. Ransome and Co.

Pair-horse scarifier, 5*l.*, Mr. Charles Hart.

Horse-hoe on the flat, 10*l.*, Messrs. Garrett and Son.

Horse-hoe on the ridge, 5*l.*, Messrs. J. and F. Howard.

Horse-rake, 5*l.*, Messrs. J. and F. Howard.

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Gorse bruiser, 5*l.*, Messrs. Barrett, Exall, and Andrewes.

Best and most economical steaming apparatus for general purposes, 5*l.*, Mr. W. P. Stanley.

Dynamometer, especially applicable to the traction of ploughs, 5*l.*, Mr. Bentall.

Reaping machine, silver medal, Messrs. R. Garrett and Son.

Improvement in plough wheels, silver medal, Messrs. J. and F. Howard.

Well machinery, silver medal, Messrs. Tasker and Fowle.

Digging forks and farm tools, silver medal, Messrs. Burgess and Key.

Patent double mill for hand power, silver medal, Messrs. Ransome and Co.

It may, perhaps, be advisable to mention that the award to Mr. Garrett for his reaping machine appeared to depend—firstly, on its general portability, and secondly, on an improvement in the oscillating knife. This is generally sharpened by bevilling both below and above the blade; and Mr. Garrett's improvement consists in sharpening by grinding on the upper surface of the blade alone, so that the under surface cuts close upon the iron bed or sheathe through which it oscillates. Of course, this enables it to cut more perfectly.

HORSES.

We think the show of horses exceedingly good, to a certain extent, and approve of its being chiefly confined to horses for agricultural purposes, but to our mind it is by no means extensive enough, nor does it include a sufficient variety of the cart-horse. We are well aware of the objections made by owners of first-class horses to their exhibition so soon after a long and harassing season; for it must be borne in mind that horses of first-class characters have much more work to do during the season than inferior animals, and consequently do not come into fair competition with the latter in a show of this kind. The same observation would apply to colts foaled since the 1st of January, 1850; we were shown one that had served upwards of 100 mares last season. For the purpose therefore of equalising the conditions of competition, it would be better if the Society's meeting could be held in the first week of August. Harvest seldom commences so early. Nearly all the horses exhibited were of the Suffolk breed. We should have been much better pleased to have seen the Cleveland Bays, the Clydesdale, and Lincolnshire horses in competition with them. Our impression is that the Suffolk Punch, valuable as he is, is not the best cart-horse the country can produce; and unless he is beaten at these exhibitions, the taste of the country is for the present directed to him. We hope that next year a greater variety of cart-horses will be brought forward. The show of roadster stallions is very indifferent as to number, and the animals are by no means of a first-class character—they are just useful horses and no more.

We give a hasty notice of the horses, as they impressed themselves upon us in passing down the stalls.

Class I. *Stallions for Agricultural Purposes, foaled previously to January* 1, 1850.—No. 227, Mr. E. Browning, of Bulmer, Suffolk, a chestnut horse, standing 17 hands 2 inches high; he is a fine looking animal, but rather too long in his general frame, his legs are long, but good, neck too thick, good head. 228, Mr. Barthropp, of Cretingham, Suffolk, a light-chestnut horse, with fine fore-end and capital looks, beautiful quarters and good legs, but rather short, finely-formed body; good chest, and handsome neck and head—a handsome horse. 230, Mr. Barlow, of Hasketon, Suffolk, a very useful bay colt, with black legs. 232, Mr. Coape, of Hendon, Middlesex, a very useful grey horse for farmers' service. 236, Mr. Webb, of Calcot, Berks, a deep-chestnut horse, with good form, but rather short legs, and one blemished or splinty. 237, Mr. Baldock, of Bingham, Nottinghamshire, a good brown cart-horse, with white legs. 238, Mr. Catlin, of Butley, Suffolk, a powerful Suffolk horse, in little room, legs strong. 240, Mr. Stearn, of Elmsett-hall, Suffolk; first prize; a capital colt, legs first rate, perhaps a little too bending in thigh, his rump rather high, otherwise his form is all that can be desired. 241, Mr. Plowman, of Stonham, Suffolk, a capital colt and well-formed, legs not equal to 240. 249, Mr. Watson, of Easington, Chilton, Oxfordshire, a good colt, but rather "leggy." 250, Mr. Wilson, of Ashbocking, Suffolk, a good frame, his legs overdone. 251, Mr. Claydon, of Linton, Cambridgeshire; second prize; a capital colt, his equal seldom seen. 252, Mr. Sumner, of Groombridge, Kent, a black horse, tall and thin.

Class II. *Stallions for Agricultural Purposes, foaled since January* 1, 1850.—No. 261, Mr. Catlin, of Butley, Suffolk; first prize; a beautiful little colt. 266, Mr. Crisp, of Gedgrave, Suffolk, a well-formed chestnut colt, with short powerful legs. 270, Mr. Wilson, of Ashbocking, Suffolk; second prize; a pleasant-looking useful horse.

Class III. *Roadster Stallions.*—No. 272, Mr. Hardwick, of Hangleton, Sussex; a tall, narrow-made, brown colt. 273, Mr. Baxter, of Wiggenhall, Norfolk; prize; a chesnut, with good carcass. 277, Mr. Adams, of Waltham, Essex; a useful thorough-bred.

Class IV. *Mares and Foals for Agricultural Purposes.*—No. 278, Mr. Barthopp; first prize; a capital chestnut mare, with a very good filly foal. 280, Mr. Barlow; second prize; a beautiful chestnut mare, with a rather small colt foal. 292, Mr. Watson, of Easington, Oxfordshire; commended; a fine useful chestnut mare, small colt foal.

Class V. *Fillies two years old.*—No. 294, Hon. and Rev. J. Norton, Duningsley-park, Surrey; commended; a well-formed roan filly, very good. 295, Mr. Barthopp; commended; a beautifully grown chestnut mare, with good legs. 297, Mr. S. Wrinch, of Great Holland, Essex; first prize; a very beautiful chestnut filly—one of the finest we have ever seen. 298, Mr. S. Wrinch; second prize; a very good chestnut filly, legs too bending. 306, Mr. Catlin, of Butley, Suffolk; a good-framed filly, with short good legs.

PIGS.

Of pigs the show was exceedingly good, and very numerous; and the judges must have had no ordinary difficulty in deciding their merits. Prizes are offered for two breeds only—the large and the small breed. The task was to determine the character as well as merit of the animals, they being shown in such classes as their respective exhibitors thought most likely to conduce to their own advantage. Hence the breeds were much mingled in the classes; and no doubt some disappointment has arisen as to the decisions. The difference of breeds is sometimes a very difficult point to ascertain; and we think the judges acted wisely in endeavouring to define the breeds and award the prizes accordingly. We never saw such a splendid show of these useful animals at any of the previous meetings; and we rejoice to behold the various breeds steadily progressing.

This class of animals has probably been improved to a greater extent than any other since the establishment of the Royal Agricultural Society, and the number and quality of the animals shown this season has exceeded the average of former years. We think the improvement in every breed is decidedly manifest, and we rejoice that "poor piggy" attains such high reputation; and when we think of the immense importance such improvements are to this pork-consuming country, we should attach blame to ourselves if we did not attempt to place such continually before the public. Some

inferior animals were certainly exhibited, but the contrast was so great that the most vain of exhibitors must stand convinced of his folly and be led to adopt a better breed. We believe our readers will readily excuse our making a rather long report of the classes exhibited at Lewes. We remark as shortly as possible upon all noticeable animals, and as they struck us at the time we looked over them.

CLASS I.—BOARS OF A LARGE BREED.

511. Mr. R. Boys, Eastbourne, 25 months old Sussex black boar, a rather coarse fleshed animal, long and thin, with hanging ears.
512. Mr. J. B. Veal, Ringmer, a black boar, of fair frame and better quality.
514. Mr. W. Cullford, Hayling Island, Hants, black boar, fair frame, rump down, ears erect.
515. Mr. H. Blandford, Sandridge, Wilts, a beautiful black Berkshire boar, a large, long, and deep frame, straight back, rump up, hair rather strong, quality good, and great substance. First prize.
517. Mr. S. Umbers, a white boar, of fair size, but "flabby" flesh.
518. Mr. W. Hewer, Sevenhampton, a good young pig. Highly commended.
519. Do. do. a good heavy black pig.
520. Mr. W. S. Merlton, Brighton, a useful coarse pig.
521. Mr. E. Bowley, Siddington House, near Cirencester, useful pig, tail down.
522. Do. Do. a prettily formed pig, of fair quality.
523. Mr. W. Hainworth, Hitchen, a large white pig, large frame, of good quality, apparently a cross from a small breed. Highly commended.
524, 525, 526. Mr. W. Ludham, Bradford, three prettily formed little pigs.
527. Mr. M. Cartwright, Stanton Hill, a good white pig, deep and well formed, but with ears erect, denoting a cross from small breed. Second prize.
529. The Rev. E. Elmhirst, Shawell, a good old pig, of cross breed.
530. Mr. M. Portal, M.P., Laverstoke House, a somewhat coarse black pig, long and thin.
531. M. J. Cat, Southover, long but not wide, rather coarse, but in character rather more in accordance with class.
532. Mr. G. E. Taylor, Oatlands, a long white pig, deep, but thin back.
533. Do. do. a white pig, rather coarse in flesh and bone.

CLASS II.—BOARS OF SMALL BREED.

535. Mr. R. Boys, Eastbourne, a black pig, rather deep frame, but tail down.
536. Mr. G. Molineaux, Lewes, a rather short black pig, of good quality, deep frame, but bad rump.
537. Mr. G. Graham, Yardley, a white pig, nice frame, short rump, and tail down.
538. Mr. S. Umbers, Wappenburg, a very pretty white pig, of good quality, good frame. Commended.
540. Mr. S. Druce, Eynsham, a very good black pig, with fine square frame and good rump, back very good. First prize.
541. Do. do. a good black pig, with deep wide frame.
542. Mr. J. Gorringe, Selmeston, a very good old pig, wide frame, capital rump. Commended.
543, 544. Mr. G. Mangles, Givendale, two useful pigs.
546. Mr. G. D. Badham, Sparrow's-nest, a useful but rather coarse black pig.
552. Mr. W. Ludham, Bradford, a good old white pig. Commended.
562. Mr. J. Moon, Lapford, a beautiful black pig, of good quality. Highly commended.
563. Mr. C. Jesty, Holywell, a prettily formed black pig, but small.
569. Mr. G. E. Taylor, Oatlands, a good white pig, short hind legs, short rump.
570. Do. do. a useful black pig, tail down, rump bad.
571. Mr. T. Town, Keighley, a good pig, deep and well formed frame, flesh of good quality, and good rump. Second prize.

CLASS III.—SOWS OF A LARGE BREED.

574. Mr. J. Helman, jun., Lewes, a large white sow of uncommon length, good frame. Commended.
575. Do. Do. a large white sow, of very deep frame, of great length, and good quality. Highly commended.
576. Mr. M. Stainsby, Leeds, a good young white sow, fore-quarter defective.
577. Do. do. a large white sow, of deep frame.
578. Mr. J. Taley, Keighley, a large sow, very deep in frame, and good shoulders. Commended.
579. Mr. H. Blandford, Sandridge, a capital black sow, of small breed.
580. The Right Hon. Lord Dacre, Glynde, a large black sow, of good frame, as the small breed.
581. Mr. J. Carlton, Beeston, a large white sow, long and deep frame.
582. Mr. G. Townshend, Sapcote Fields, a large and good black sow, denoting a cross, and rearing 13 white pigs.
584. Mr. W. Abbott, of Woodhouse Carr, a very fine large white sow, bringing up 11 white pigs, her frame broad and deep. First prize.
586. Mr. M. Cartwright, Stanton Hill, a good sow of peculiar colour, and bringing up 6 brawny pigs.
587. Mr. G. C. Taylor, Oatlands, a useful white sow, fine hair.
588, 589. A reflection upon the exhibitor.

CLASS IV.—BREEDING SOWS OF SMALL BREED.

591. Mr. M. Stainsby, jun., Leeds, a beautiful black sow, frame almost perfect, perhaps the rump somewhat too short. First prize.
599. Mr. S. Druce, jun., Eynsham, a very good black sow, wide and deep frame, and fine quality of flesh. Commended.
600. Do. do. a very compact and beautiful frame, deep throughout, fine quality of flesh, and fine hair. Highly commended.
601. Mr. G. Mangles, Givendale, a capital old black sow, with deep wide frame, and beautiful quality. Highly commended.
602. Mr. W. Mills Barber, Langley Broom, a good black sow, rather coarse flesh.
607. Mr. W. Ludham, Bradford, a small white sow, of good frame and quality.
610. Mr. H. S. Hayward, of Folkington, good sow, but too small.
611. Do. do. good young white sow, fine hair and deep frame.
612. The Right Hon. Earl Radnor, Coleshill, good and pretty frame.
614. Mr. W. Abbot, Woodhouse Carr, a blue and white sow, a broad and deep frame, rather short.
615. Mr. W. M. Barber, Langley Broom, a fine haired white sow, good quality of flesh.
616. The Rev. E. Elmhirst, of Shawell, a very good sow, with 9 little porkers all fat, and forming a fine group. Commended.
620. Mr. J. Moon, Lapford, a well formed black sow, very compact frame, and good quality of flesh. Highly commended.
621. Mr. S. Monro, Salford, a good white sow, deep frame and well formed, legs rather short. Commended.
626. Sir J. Conroy, Arborfield Hall, a good black sow, straight back, tail down.
631. Mr. S. Tremenhere, Treveneth, a long blue and white sow, with 7 pigs, very fair animals, but a cross.
633. Mr. W. Adams, Leighton Cottage, a very useful little white sow.

CLASS V.—BREEDING SOW PIGS OF A LARGE BREED, Above 4 and under 8 months old.

635. Mr. J. Tuley, Keighley, 3 good sows, white, and long frames.
637. Mr. H. Blandford, Sandridge, 3 very pretty black sows.
638. Mr. E. Bowley, Siddington House, near Cirencester, 3 good framed sows, and match well.
639. Mr. W. M. Barber, Langley Broom, 3 extraordinary sows, fed to excess, colour white, and apparently a cross from the small breed. Commended.
640. Do. do. 3 capital sows, good frames, black, and match well.
642. Mr. S. Monro, Salford, 3 very good white sows, long and good frames, with fine hair, and accord with the class. First prize.

CLASS VI.—BREEDING SOW PIGS OF SMALL BREEDS, Above 4 and under 8 months old.

643. Mr. R. Boys, Eastbourne, 3 good sows, with compact frames.
649. Mr. H. S. Hayward, Folkington, 3 prettily formed white sow pigs.
651. Mr. R. Fooks, Milton Abbas, 3 prettily formed but delicate-looking white sow pigs. Commended.
652. Mr. J. Moon, Lapford, 3 very good black sow pigs, with deep capital frames. First prize.
653. Sir J. Conroy, Bt., Arborfield Hall, 3 good black sow pigs, not quite a match.
654. Do. do. 3 very good black sow pigs, good frames, and match well.

POULTRY.

Although the show of poultry at Lewes would appear small to any one accustomed to the display of the midland counties, yet if it be considered as a first attempt, its friends and patrons have good reason to be contented.

The prize lists require much alteration, and greater publicity should be given to the meeting by means of advertisements. So far as cattle and implements are concerned, the Journal of the Society doubtless gives all the notice required, because most of the contributors are subscribers, but of the poultry exhibitors, or rather those who would exhibit, few see the publication in question; and we are therefore warranted in supposing that greater publicity will extend the exhibition far beyond its present limits.

A society boasting of royal patronage must not allow itself to remain behind. Due notice being given of the next meeting, and the prize lists being extensively circulated, the competition cannot fail to be such as to delight the amateur, and to reward with signal success the courtesy shown by all the gentlemen holding office, and the desire they express to benefit by the advice of those who have had more experience in poultry shows.

Although the time of year is against the exhibition of birds in full feather, as after their natural duties of the spring, they are moulting and out of condition, yet the specimens shown were such as to remove entirely the fears of those who dreaded lest it should result in perfect failure; and, on the other hand, the beautiful chickens of the year rewarded with prizes, in both the Dorking and Cochin classes, show how large the field is that is open to societies in offering prizes. But the duties of the judges will be rendered much plainer and easier when the chickens and adults are classed separately.

It must not be forgotten that the utility of these shows is twofold; it not only enables amateurs to enter into friendly competition, but it also gives the holder of land the opportunity of judging for himself, and selecting the most profitable breed. There may be three classes of profit for poultry, thus divided: breeding for fancy, eggs, and for the table, either London market or otherwise. The first will be always precarious, as fancy, like fashion, often changes; the second is a certain profit; and the third, the most neglected, is perhaps the most remunerative of the three. There exists everywhere a market for good poultry, and where it does not, the fact that good poultry is to be had will always create a demand.

But if there be no no local market, London affords a good and certain one at highly remunerative prices for chickens, from the middle of March to the middle of July.

It is a common thing for good young fat fowls during that period to average from 4*s*. to 6*s*. per dozen.

The care and trouble necessary to rear and fatten them will be amply repaid, and that which among agriculturists has hitherto been disregarded, may still take its position among them as one of the helps.

We know that, while it is easy to produce plenty of fowls of the year in September, it is comparatively difficult to do so in June; and therefore as the R.A.S.E. wishes to point out the most profitable breed to the farmer, and as the time of year is unfavourable to adult birds, it will attain its end by giving prizes for chickens of the year, and thereby offering a premium for early maturity.

The arrangements for the exhibition were perfect, and the pens were erected under the superintendence of Messrs. Mapplebeck and Lowe, of Birmingham. We could not help feeling it was a pity this should not be the proper season for a poultry show. The length of day—the advantages of having no other roof than the clouds, the genial weather, and the delight of treading on Grass instead of saw-dust, conspired to raise the wish.

Mr. T. T. Parker, of Sutton Grange, St. Helen's, Lancaster, took the first prize of 5*l*. for Dorkings; and Mr. Blandford, of Sandridge, near Melksham the second, with a beautiful pen of early chickens.

This speaks well for the properties of this valuable breed; as those bred in Lancashire and Wiltshire, so far from losing any of those qualities which have bee supposed by some to be peculiar to one or two counties, have returned to their native soil to carry off the honours, and to prove how well they acclimatise. The third prize was awarded to Mr. Lenry, of Slaugham.

In the Cochin China class, the two prizes were carried off by Mr. Higgs, of Hill-lodge, near Southampton.

This gentleman exhibited two pens of beautiful chickens. There was in pen No. 637, belonging to Mr. E. George, of Chaldon, near Croydon, Surrey, a young cock of unusual merit; and his position would have been different had he been properly matched, but he was placed with a crooked and deformed mate, reminding us somewhat of the rake and his bride at the altar, in Hogarth's celebrated picture. This class fully proved both the early maturity and the premature loss of every vestige of beauty in this breed of fowls.

The lovers of Spanish poultry were doomed to disappointment, as none of the "celebrities" exhibited; and those who did are possessed of very poor specimens. There were three very beautiful bantams belonging to Mr. Leigh, of Turnham-green, which took a first prize.

The Hamburgh, both pencilled and spangled, were well represented in quality, though deficient in numbers; and prizes were gained by Mr. Joseph Tuley, of Matchless House, near Keighly, Yorkshire.

Mr. G. C. Adkins, of Birmingham, also took a prize for some excellent Poland fowls sent for exhibition in condition that called forth the admiration of the judges.

Mr. T. T. Parker was again successful in geese. This gentleman exhibited three, 14 weeks old, that weighed 40 lbs. Mr. Lowe and the Earl of March were successful competitors for the prizes in ducks.

It was a satisfactory though small show. Doubts were entertained as to the practicability of having one at this season of the year, but they must now be dispelled by the beautiful condition of the chickens exhibited at Lewes, and the show being held in the open air, and at a genial period of the year, the birds do not suffer from confinement.

We will conclude with one more remark. Now, that Poultry Shows are become common, it cannot fail to strike every one that the same names are met with among the successful. We infer from this that poultry points are now known, and that careful breeding will ensure success, while climate and position are become of secondary importance.

Success is the reward of painstaking, and poultry-keeping may be made a profitable pursuit.

The judges were, the Hon. and Rev. S. W. Sawley, of Escrick Rectory, near York; T. B. Wright, Esq., of Great Barr, near Birmingham; and Mr. Baily, of Mount-street, London.

Miscellaneous.

Improvement in Making Butter.—M. Chalambel proposes to introduce a modification in the process of making butter, by which the latter will be improved in quality and rendered capable of being longer kept in a fresh state. If butter contained only the fat or oily part of milk, it would but slowly undergo changes from contact with the air. But it retains a certain quantity of caseine, or cheese, which exists in the cream. This caseine, transformed by fermentation, gives rise to butyric acid, to which rancid butter owes its disagreeable taste. Washing does not effectually remove this cause of alteration, for water cannot act upon the butter, nor can it separate the caseine which becomes insoluble under the influence of acids developed in the cream. A more complete purification may, however, be effected if we saturate or neutralise these acids; the caseine will then be rendered soluble, and consequently the butter will only retain it in very small quantities, in a state in which it may be almost entirely removed by washing. M. Chalambel proposes to operate as follows:—When the cream is put in the churn, pour in, by little and little, and working the churn at the same time, a quantity of milk of lime sufficient to destroy all acidity; churn till the butter separates, but not till it forms into lumps, as is usually done; strain off the butter-milk, and put cold water in its stead along with the butter in the churn; continue churning till the butter is sufficiently collected, then take it out and make it up in lumps or rolls in the usual way. The butter which has been made according to this method has always proved better, and kept much longer fresh, than that obtained by the usual mode of proceeding. The butter-milk was free from all acrid taste, and was much relished by those persons who used it, and by animals. It had also lost its laxative properties. Washing with lime-water has also restored butter previously so much tainted that it could not be used except for melting. Any other alkaline wash may be substituted for lime water. *Comptes Rendus, October*, 1851.

A Challenge.—We regret that the original reaper (purchased by Wm. Dray and Co. of the inventor, Mr. Hussey, and which has never been beaten in England at any public trial) was disqualified from testing its capabilities, on account of some informality in the description of it forwarded to the Royal Agricultural Society; and, therefore, we do not wonder at the proprietors issuing the following challenge, aware of the importance to the farmer of having the best machine:—"W. Dray and Co., proprietors of the original reaper, challenge all England with this machine against that or any other for 50*l*., and the expenses of the trial." Even the machine manufactured by this firm, and exhibited by our townsman, Mr. Thompson, cut remarkably well, although taken untried from his manufactory; and had

it had a second trial allowed it, would have probably been the most successful of any exhibited. Mr. Thompson is so sanguine of this fact that he, too, has issued a challenge similar to that of the Messrs. Dray. For the benefit of the agricultural community we shall be glad to see the challenge accepted. *Sussex Agricultural Express, July* 19.

Notices to Correspondents.

ALLOTMENTS: *A G.* We have about 28 allotment tenants, and give about 2*l.* in prizes. Requiring from each tenant the names of the five best cultivators, we divide the 2*l.* among the *three* who have the largest number of votes in the proportion indicated by the poll.

BROADCAST SOWING MACHINE: *A B.* One hole open will sow about 4 lbs. of Turnip seed per acre, if it be with your machine as with ours. We do not understand your question about the Clover.

EGG HATCHING: *X.* Can any one give us the address of the inventor of another egg-hatching apparatus? Not Mr. Cantelo's.

FINGERS AND TOES: *Hortus, Glasgow.* You will see either in this Number or next of this Journal that so learned a body as the Highland Society confess their ignorance of the subject by opening a set of questions about it. They say that frequent cropping, the absence of lime, of bone-dust, &c., tend to produce the disease. And good cultivation, on the other hand, will cure it.

SEWERAGE: *J Bolton.* We are unable to answer the question regarding size of pipe from experience. You should procure the Minutes of the Board of Health on the subject. They contain a great deal of detailed information descriptive of cases in which sewerage has been applied in the manner you propose. The bottom of your cistern need not be more than a few feet above the highest part of the land to be irrigated, provided that be near it. We do not know the pump to which you refer. To our readers we may mention that the subject of the application of sewerage is one on which we receive a good many communications; and if any of them have any experience on the subject, a statement of the same would be generally useful.

SHEEP: *T Smith.* There is a Smithfield stone of mutton in every imperial stone of the live weight of a full-grown, ripe, well-bred sheep.

STEEL MILLS: *X.* They are not equal to stones for making flour. Look at the award of the judges at Lewes.

WEIGHT OF A RICK OF HAY: *Anon.* Calculate the number of cubic yards up to the eaves of the rick, and you may consider that there is one ton in every 9 to 12 cubic yards, according to the age and height of the rick.

WOOD ASHES: *G Templar.* You will not injure the value by adding dung; but you might injure dung by mixing the two; that is to say, caustic ashes will decompose salts of ammonia, causing the ammonia to assume a more volatile form than it naturally possesses. Its influence on *recent* urine is not injurious, and the sawdust and woodashes may be safely used to absorb the liquid.

Markets.

COVENT GARDEN, JULY 24.

The supply of Fruit, both from under glass and from the open garden, has been very good, with the exception of Melons, which are scarce, and Strawberries, which are nearly over. Some excellent Greengage and other Plums have arrived from France, and also some Apricots, but many of the latter are not first-rate in quality. They have been fetching from 4*s.* to 5*s.* a punnet. Tomatoes likewise continue to be imported. Potatoes are very plentiful, as are also Peas. West India Pine-apples are abundant. Mushrooms are dear. Cut flowers consist of Heaths, Pelargoniums, Mignonette, Roses, Bignonia venusta, and Pinks.

FRUIT.

Pine-apples, per lb., 4s to 6s	Almonds, per peck, 5s
Grapes, hothouse, p. lb., 2s to 5s	— sweet, per lb., 2s to 3s
Peaches, per doz., 8s to 15s	Lemons, per doz., 1s to 2s
Nectarines, per doz., 8s to 15s	Oranges, per doz., 1s to 1s 6d
Figs, per doz., 4s to 8s	— per 100, 3s 6d to 10s
Melons, each, 2s to 6s	— Seville, per doz., 1s to 3s
Cherries, per lb., 2d to 6d	Nuts, Barcelona, per bush, 20s to 22s
Gooseberries, per half sieve, 2s 6d to 3s	— Brazil, per bushel, 12s to 14s
Currants, do., 2s to 3s 6d	
Strawberries, p. pott., 6d to 1s 6d	

VEGETABLES.

Cabbages, per doz., 6d to 1s 3d	Shallots, per bunch, 3d
French Beans, p. hf. sieve, 2s to 4s	Garlic, per lb., 8d to 1s
Peas, per sieve, 1s to 4s	Lettuce, Cab., per score 4d to 1s
Cauliflowers, per doz., 4s to 6s	— Cos, p. score, 3d to 1s
Asparagus, p. bundle, 1s to 4s	Radishes, per doz., 8d to 1s
Greens, per doz., 1s to 1s 6d	— Turnip, 9d to 1s 6d
Rhubarb, p. bundle, 3d to 4d	Small Salads, p. pun., 2d to 3d
Potatoes, per ton, 60s to 130s	Horse Radish, p. bundle, 1s to 1s
— per cwt., 3s 6d to 7s	Mushrooms, p. pott., 1s to 1s 6d
— per bush., 1s 6d to 2s 6d	— per punnet, 9d to 1s
Turnips, per doz., 3s to 6s	Sorrel, per hf. sieve, 6d to 1s
Cucumbers, each, 4d to 6d	Artichokes, per doz., 1s 6d to 2s
Vegetable Marrow, p doz, 1s to 2s	Fennel, per bunch, 2d to 3d
Celery, per bundle, 1s to 1s 6d	Savory, per bunch, 2d to 3d
Carrots, p. doz., 3s to 5s	Thyme, per bunch, 2d to 3d
Spinach, per sieve, 1s to 2s	Parsley, p. doz. buchs., 2s to 3s
Onions, per bund, 2d to 8d	Mint, per bunch, 2d to 3d
— Spanish, p. doz. 1s 3d to 3s	Basil, green, p. buach, 4d
Beet, per doz., 1s to 2s	Marjoram, do., 3d to 6d
Leeks, per bunch, 2d to 3d	Watercresses, p. 12 bun, 9d to 1s

HAY.—Per Load of 36 Trusses.

SMITHFIELD, July 22.

Prime Meadow Hay	80s to 88s	Clover	90s to 100s
Inferior do. ...	70 76	New do.	70 84
Rowen	66 —	Straw	32 36
New Hay	60 80		J. COOPER.

The supply short and trade brisk.

CUMBERLAND MARKET, July 22.

Prime Meadow Hay	84s to 90s	Inferior Clover	... 80s to 83s
Inferior do. ...	... 70 78	New do. ...	... 60 80
New Hay ...	... 60 75	Straw ...	... 33 36
Old Clover ...	... 95 100		JOSHUA BAKER.

WHITECHAPEL, July 22.

Fine old Hay	... 76s to 84s	Old Clover...	...100s to 105s
Inferior do.	... 70 75	New Clover	... 75 84
New Hay ...	... 65 70	Inferior do.	... 55 65
Inferior do ...	... 50 60	Straw ...	... 30 36

WOOL.

BRADFORD, THURSDAY, July 22.—Now that the elections in this district are over, there is more attention paid by the spinners to their wants in combing wool, and more lookers-on than for some time past; and had the prices sought been more commensurate with the spinners' requirements, a fair business might have been done; as it is, the transactions must continue limited, for the prices paid in the country are such that the staplers cannot offer anything here to cover prime cost that will induce the spinners to buy. It is therefore imperatively requisite that greater caution should be manifested among the grower and dealer. Noils and broiles, from the small supply making, are producing firm prices.

COAL MARKET.—FRIDAY, July 23.

Eden Main, 14*s.* 3*d.*; Tanfield Moor, 12*s.* 3*d.*; Wallsend Braddyl's, 15*s.*; Wallsend Harton, 15*s.* 9*d.*; Wallsend Haswell, 15*s.* 9*i.*; Wallsend Hetton, 15*s.* 6*d.*; Wallsend Stewarts, 15*s.* 6*d.*—Ships at market, 221.

SMITHFIELD.—MONDAY, July 19.

We have a large supply of Beasts; trade is, however, cheerful for the best qualities, and prices for them are fully as good as on Monday last. It is difficult to get a clearance of middling descriptions. The number of Sheep is rather smaller, and the demand larger; consequently choicest kinds are somewhat dearer. However, on the average there is not much difference. Good Lambs are still quite as dear, but the majority of the supply are of middling quality. Trade is a little more cheerful for Calves, but only in few instances is any more money obtained. From Germany and Holland there are 1200 Beasts, 4370 Sheep, 224 Calves, and 30 Pigs; from Scotland, 160 Beasts; from Norfolk and Suffolk, 500; and 1700 from the northern and midland counties.

Per st. of 8lbs.—s d	s d	Per st. of 8lbs.—s d	s d
Best Scots, Here-		Best Long-wools . 3	6 to 3 8
fords, &c. ... 3 8	to 3 10	Do. Shorn ... 0	0 — 0 0
Best Short-horns 3 6	— 3 8	Ewes & 2d quality 3	0 — 3 4
2d quality Beasts 2 8	— 3 2	Do. Shorn 0	0 — 0 0
Best Downs and		Lambs 4	6 — 5 2
Half-breds ... 3 10	— 4 0	Calves 2	8 — 3 10
Do. Shorn 0	0 — 0 0	Pigs 2	8 — 3 8

Beasts, 3743; Sheep and Lambs, 28,140; Calves, 355; Pigs, 167.

FRIDAY, July 23.

Although the number of Beasts is by no means large, it is more than equal to the demand. A few choice ones are making about the same as on Monday last, but on the average prices are nearly 2d. per 8 lbs. lower. Sheep and Lambs are not so plentiful as on Friday last, and good ones are readily sold, but second-rate, forming the majority, are lower. The number of Calves is large; notwithstanding, late rates are fully supported. Our foreign supply consists of 232 Beasts, 1000 Sheep, 434 Calves, and 20 Pigs. The number of Milch Cows is 127.

Per st. of 8lbs.—s d	s d	Per st. of 8lbs.—s d	s d
Best Scots, Here-		Best Long-wools . 3	4 to 3 8
fords, &c. ... 3 6	to 3 10	Do. Shorn ...	...
Best Short-horns 3 4	— 3 6	Ewes & 2d quality 2	8 — 3 2
2d quality Beasts 2 6	— 3 0	Do. Shorn ... 0	0 — 0 0
Best Downs and		Lambs 4	6 — 5 2
Half-breds ... 3 8	— 4 0	Calves 2	8 — 3 10
Do. Shorn ... 0	0 — 0 0	Pigs 2	8 — 3 8

Beasts, 779; Sheep and Lambs, 13,950; Calves, 715; Pigs, 225

MARK LANE.

MONDAY, July 19.—The supply of Wheat from Essex and Kent to this morning's market was again very small, and barely realised the prices of this day se'nnight. We did not hear of any business worth notice in foreign Wheat, although sales in some instances would have been forced at a decline of 1*s.* per qr., had there been buyers. Flour is quite neglected.—For Barley there is a retail trade only, at 6*d.* per qr. decline.—Beans and hog Peas are unaltered in value. White Peas can only be sold at a considerable reduction.—Oats are dull, and to effect sales it is necessary to submit to a decline of 6*d.* per qr. upon all but the finest qualities.

PER IMPERIAL QUARTER.	s. s.		s. s.
Wheat, Essex, Kent, & Suffolk...White	43—45	Red	38—39
— — fine selected runs...ditto	44—47	Red	39—41
— — Talavera	43—48		
— Norfolk	37—39	Red	—
— Foreign	34—48		
Barley, grind. & distil., 25s to 28s...Chev.	29—34	Malting .	28—30
— Foreign ...grinding and distilling	20—28	Malting .	—
Oats, Essex, and Suffolk	18—19		
— Scotch and Lincolnshire...Potato	20—22	Feed	18—20
— Irish ..... Potato	18—21	Feed	18—20
— Foreign .....Poland and Brew	18—19	Feed	15—18
Rye	—	Foreign .	—
Rye-meal, foreign	—		
Beans, Mazagan.....27s to 31s.....Tick	28—32	Harrow .	28—32
— Pigeon .....28s — 35s...Winds.	—	Longpod	—
— Foreign .....Small	23—34	Egyptian	26—28
Peas, white, Essex and Kent.....Boilers	34—35	Suffolk...	35—36
— Maple.....32s to 35s.....Grey	31—33	Foreign .	29—36
Maize ..... White	—	Fellow...	—
Flour, best marks delivered ...per sack	37—40		
— Suffolk .....ditto	25—32	Norfolk .	25—32
— Foreign..... per barrel	17—23	Per sack	28—34

ARRIVALS IN THE PORT OF LONDON LAST WEEK.

	Wheat.	Barley.	Malt.	Oats.	Beans.	Peas.
Flour, 8437 sks						
— 6062 brls	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.
English	2110	—	2150	460	421	75
Irish	—	100	64	1700	—	—
Foreign	8663	4148	—	17032	1466	1314

FRIDAY, July 23.—The supplies of grain of all sorts have been moderate this week, but good of American Flour. This day's market was very badly attended, and business in Wheat of a most limited character. Prices must be considered entirely nominal. In Spring Corn but very few transactions have occurred, and the value of all sorts remains as on Monday. But few sales of floating cargoes have been made this week.

IMPERIAL AVERAGES.

	Wheat.	Barley.	Oats	Rye.	Beans.	Peas.
	s. d.	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*
June 12.....	40 11	27 6	20 0	29 8	31 10	31 2
— 19.....	40 9	27 5	20 2	30 7	32 0	31 9
— 26.....	40 10	27 6	20 0	31 0	32 4	31 9
July 3.....	41 4	27 5	19 10	32 4	33 1	33 2
— 10.....	41 5	28 3	19 9	32 6	34 0	33 8
— 17.....	41 0	27 0	19 11	30 1	34 5	30 11
Aggreg. Aver.	41 0	27 6	19 11	31 0	32 11	32 0

Duties on Foreign Grain, 1*s.* per qr.

FLUCTUATIONS IN THE LAST SIX WEEK'S AVERAGES.

PRICES.	JUNE 12.	JUNE 19.	JUNE 26.	JULY 3	JULY 10.	JULY 17.
41*s* 5*d*	...	...	...	...	...	...
41 4	...	...	...	...	...	...
41 0	...	...	...	...	...	
40 11	...	...	...	...	...	
40 10	...	...		...	...	...
40 9	...	...	...	...	...	...

LIVERPOOL, TUESDAY, July 20.—The imports of grain and Flour this week are not large, but fully equal to the moderate demand from millers and dealers. There was a good attendance at our Corn Exchange this morning, whose purchases of Wheat and Flour caused a better business than for several market days. Wheat recovered the small decline of Friday, and well conditioned Flour supported the rates of this day se'nnight. Indian Corn was in small supply, and fully as dear. Oats, Barley, Beans, and Peas were unaltered in value. ——FRIDAY, July 16.—At this morning's market the transactions were limited in any article, and the inclination of price was in the buyer's favour. No decline in price of any consequence is apprehended in either Wheat or Flour, allowing the weather to be ever so favourable, as it is well understood that millers and dealers are holding smaller stocks than usual at this period of the season; they seem determined to buy only upon the hand to mouth system.

GUTTA PERCHA TUBING FOR WATERING GARDENS, ETC.



TESTIMONIAL.

From Mr. J. Farrah, Gardener to Boswell Middleton Jalland, Esq., of Holderness House, near Hull.

"I have had 400 feet of your Gutta Percha Tubing (in lengths of 100 feet each, with union joint) *in use for the last twelve months for watering these gardens, and I find it to answer better than anything I have ever yet tried.* The pressure of the water is very considerable, but this has not the slightest effect on the Tubing. I consider this Tubing to be a *most valuable invention for Gardeners*, inasmuch as it enables us to water our gardens in about one-half the time, and with one-half the labour formerly required."

FOR SUCTIONS OF PUMPS AND CONVEYANCE OF WATER.

The value of Gutta Percha Tubing for the conveyance of water is no longer a matter of doubt. Experience has proved its adaptation and superiority to metal pipes, and the important consideration that it is entirely free from those corrosive properties which have proved so highly injurious in the use of lead pipes. The Gutta Percha Company have received the following—

TESTIMONIALS.

From C. Hacker, Esq., Surveyor to his Grace the Duke of Bedford, Woburn Park.

"Office of Works, Woburn Park, Jan. 10th, 1852.

"Gentlemen,—In answer to your inquiries respecting the Gutta Percha Tubing for pump suctions (after two years' trial), I find that the water has not affected it in the least, although it will eat lead through in two years; we have adopted it largely, both on account of being cheaper than lead, much easier fixed, and a more perfect job."

From Sir Raymond Jarvis, Bart, of Ventnor, Isle of Wight.

"Ventnor, March 10, 1852.

"Gentlemen,—In reply to your letter, received this morning, respecting the Gutta Percha Tubing for Pump service, I can state, with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years; and I am informed that it is to be adopted generally in the houses that are being erected here—building going on to a considerable extent.

"I am, Gentlemen, your obedient servant,

"R. JARVIS.

"P.S. The only difficulty experienced was in fixing the tube to the pump barrel. The plumber employed being averse to the job, did not properly secure it, and air got into the tube; otherwise, carefully arranged, there is no question it supersedes lead or any kind of metal pipes. R. J."

From William Bird Herapath, Esq., M.R.C.S., Surgeon to St. Peter's and Queen Elizabeth's Hospitals, Bristol.

"September, 1850.

"I have used Gutta Percha as a lining to a cistern, with tubing of the same material, to conduct the water into my dispensary; they answer admirably. At first some disagreeable flavour was communicated to the water, but it soon disappeared.

"My plumber readily learnt the mode of managing it from your printed directions."

Every variety of Gutta Percha Goods may be had. Manufactured by the Gutta Percha Company, Patentees, London; and sold at the Wholesale City Depot of Messrs. BURGESS and KEY, 103, Newgate-street, who will forward Lists of Prices on application.

ANTHONY'S PATENT AMERICAN CHURN makes Butter in 10 minutes. It obtained the award of the Great Exhibition Medal, and also a prize at every one of the numerous Agricultural meetings at which it has been shown. It is now acknowledged to be the best Churn ever produced. 2000 have been sold in one year.

A few capital Rick Cloths for sale at cheap prices.

BURGESS and KEY, 103, Newgate-street, London.

M'CORMICK'S AMERICAN REAPER.

BURGESS AND KEY, Agents, 103, Newgate-street, London.—Extract from Mr. Pusey's Report on the Agricultural Implement Department, Great Exhibition.—"Mr. M'CORMICK'S Reaper, in this trial, worked as it has since worked at Cirencester College, and elsewhere, to the admiration of practical farmers, and therefore received a Council Medal. Mr. Hussey's sometimes became clogged, as in the former trial at Tiptree, and therefore could not possibly obtain that distinction."—Price of Reaper, 25*l.*

WINTON'S PARKES' NEW STEEL DIGGING FORKS never bend, strain, or break, but retain their sharp points to the last, requiring no repair. Mr. Mechi says, "They answer admirably in breaking our heavy clays, and mixing the soil in an extraordinary manner, and facilitate labour quite 20 per cent."

Early orders are requested, as the demand is very great. They are executed in the rotation in which they are given.

BURGESS and KEY, Agents, 103, Newgate-street, London.

Priced Lists sent on application.

HOSE FOR LIQUID MANURE, FIRE ENGINES, or GARDEN PURPOSES, made of Canvas, lined and coated with Gutta Percha. It is exclusively used by agriculturists, and at the Government Public Works, giving great satisfaction. Also, KASE'S FORCE and SUCTION PUMP, which is the most simple and complete; it will throw 40 gallons per minute, 40 feet high, and it is not at all liable to get out of order. Price 6*l.*; on wheels and stand, 7*l.* 7*s.*

BURGESS and KEY, 103, Newgate-street, London.

ROYAL AGRICULTURAL SOCIETY.
LEWES MEETING.

MAPPLEBECK AND LOWE have selected all the new and useful MACHINERY (in addition to their own manufacture), exhibited at Lewes, and the whole will be ON VIEW at their Implement Stores in a few days.

MIDLAND COUNTIES AGRICULTURAL IMPLEMENT REPOSITORY, BIRMINGHAM.

EMIGRANTS TO AUSTRALIA, ETC., SUPPLIED.
A PRIZE MEDAL FOR SUPERIOR LOCKS WAS AWARDED TO J. H. BOOBBYER, AT THE GREAT EXHIBITION OF 1851.

THE CELEBRATED STEEL DIGGING FORK, Patent Spades, Daisy Rakes, Scythes, Draining, and other Garden Tools. Mole Traps, 6s. per dozen. Carpenters' and Smiths' Tools, &c. Rubbers for sharpening Scythes, 2s. 6d. per dozen. Patent fumigators for de-troying insects on Plants, in greenhouses, &c : at Messrs. J. H. BOOBBYER and Co.'s (late STURCH and BOOBBYER), Ironmongery, Brass-foundry, Nail and Tool Warehouse, 14, Stanhope-street, Clare-market, London. Established nearly 200 years for the sale of goods from the best Manufactories at the lowest prices. Goods forwarded to any part on the receipt of remittance. Lists sent by post.

WINTON'S PARKES' NEW STEEL DIGGING FORKS AND DRAINING TOOLS.—Silver Medal at Lewes Show was awarded to BURGESS and KEY, 103, Newgate-street, London, for these celebrated FORKS. It would be endless to quote the unlimited approbation expressed by the leading agriculturists, farmers, nurserymen and others, from the nobleman to the labourer; but all who have used them concur in Mr. MECHI's remark, "That they facilitate labour quite 20 per cent." Early orders are requested. Price lists sent on application.

TANNED GARDEN NETTING, for protecting Strawberries and wall-fruit from birds, or as a fence for fowls, pigeons, &c., in any length, from JOHN KING FARLOW'S Fishing Tackle and Net Manufactory, 5, Crooked-lane, London-bridge, at 1½d. one yard, 3d. two, or 6d. four yards wide. All orders over 20s., accompanied with post-office order, or stamps, carriage free.

SALT AND CO.'S EAST INDIA PALE ALES.—As a general rule, SALT AND CO. have been content to let their Ales speak for themselves, but the agitation which has been going on for the last few weeks in the shape of what may be called the strychnine controversy, has placed them in a position which seems now to call for a few remarks.

It was perhaps not to be wondered at that the public should be a little startled on the first intimation that they were drinking poison every day without knowing it; but that a report so vague, so groundless, and so manifestly absurd, as that on which the charge of using strychnine in the manufacture of Pale Ales was founded, should have more than a merely temporary effect, appeared to them perfectly incredible. At any rate, a simple denial of the imputation was, in their opinion, all that the occasion required. Such denial they gave, together with the other brewers of Burton, by publishing a declaration to the effect, that nothing besides Malt, Hops, and Water had ever been used in the composition of their Ales; and they have all along considered it beneath the proper dignity of a respectable house to do more than this. They have been compelled, however, in self-defence, to go somewhat beyond their own conviction on this point, by the extraordinary manner in which some others in the trade have so pressed their own particular Ales upon the notice of the public, as to convey the idea, that no others are genuine. It is, therefore, alike due to themselves and their friends, to make the fact known, that whenever a fair opportunity has offered of submitting their Ales to the test of analysis, they have sought to avail themselves of it; though in one instance alone has this privilege been afforded them; namely, in the case of Mr. Pepper, Professor of Chemistry at the Royal Polytechnic Institution, whose certificate they subjoin; indeed, such has been the spirit in which some of these analyses has been conducted, as to make it evident, that the object was rather to serve private interests than to satisfy the public mind. Still, even this might have been done without making invidious comparisons, calculated to damage the fair name of others.

SALT and Co. now take leave of the subject, in the full persuasion that they will eventually lose nothing in general estimation by the comparative silence they have maintained during this long and, as it appears to them, frivolous controversy. Were it needful, they could produce ample testimony to the purity of their Ales, as well from the medical profession as from private individuals; but they prefer taking the higher ground of conscious rectitude, and a character of 50 years' standing.

Their Ales may be had, as usual, either direct from the Brewery, Burton-on-Trent, or from any of their Agents, in casks of 18 gallons and upwards.

LONDON STORES, 22, HUNGERFORD-WHARF.
LIVERPOOL STORES, 52 HENRY-STREET.
MANCHESTER STORES, 37, BROWN-STREET.
WOLVERHAMPTON, DUDLEY-ROAD.
DUBLIN, 42, FLEET-STREET.

(Copy.)

MR. PEPPER'S CERTIFICATE.

This is to certify I have examined a great many samples of the Bitter Beer brewed by the firm of Messrs. SALT and Co., and I cannot discover, by chemical analysis, strychnine or nux; or any other matter but that procurable from Malt, Hops, and Water.

(signed) J. H. PEPPER, F.C.S., A.C.E.,
Professor of Chemistry, Royal Polytechnic Institution.

To Messrs. Thos. SALT and Co., Brewers, Burton-on-Trent.

THE SUMMER SUN AND DUST are sources of serious inconvenience to persons of delicate complexion. On the drive, the promenade, the aquatic excursion, Ladies should ever be provided with

ROWLANDS' KALYDOR,

which will be found greatly refreshing to the complexion, dispelling the cloud of langour and relaxation, allaying all cutaneous heat, and immediately affording the pleasing sensation attendant on restored elasticity and healthful state of the skin. Freckles, Tan, Spots, Pimples, and Discolorations are completely eradicated by the Kalydor, and give place to a delicately clear and fair Complexion. In cases of Sunburn, or Stings of Insects, its virtues have long been known and acknowledged.—Price 4s. 6d. and 8s. 6d. per bottle.

As a protector and restorer of the Hair, ROWLANDS' MACASSAR OIL will be found unrivalled, preserving it from the injurious operation of the sun and dust.

Sold by the Proprietors, A. ROWLAND and SONS, 20, Hatton-garden, London, and by Chemists and Perfumers.

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THE COMFORT OF A FIXED WATER-CLOSET, for 1l.—Places in gardens converted into comfortable Watercloset by the PATENT HERMETICALLY SEALED PAN, with its self-acting valve, entirely preventing the return of cold air or effluvia. Indispensable in this hot weather. Price 1l. Any carpenter can fix it in two hours. Sold only by the Patentees, FIFE AND Co., 26, Tavistock-street, Covent-garden, London. Also Patent Hermetically Sealed Inodorous Commodes, for the sick room. Price 1l. 4s., 2l. 6s., and 3l. Thousands have been supplied within the last eight years with uniform approval.—A Prospectus, with engravings, forwarded, by enclosing a postage-stamp.

RUPTURES.

MR. TOD, SURGEON, inventor of a new Truss and Author of an Essay on Hernia, may be consulted every day, from 9 till 12 A.M., and from 6 till 9 P.M., at 5, Upper Fitzroy-street, Fitzroy-square. The above Essay should be read by all persons afflicted with Hernia. Sold by the Author; and by Mr. RENSHAW, 356, Strand, London. Price 2d. "We have seen this truss in use. It is an exceedingly simple, clever instrument, and may be worn with extreme ease and the best possible effect."—*Lancet*, July 4, 1846.

A NEW BEDSTEAD, portable without detaching any of its parts, packs in a sponge bath, is admirably adapted for summer use, on account of its extreme coolness, and which can be changed in one moment from a bed to a lounge or sofa for the sitting-room, may be seen at
COTTAM and HALLEN'S, 76, Oxford-street,
where also is on view a great variety of Metallic Bedsteads, fitted with and without the Patent Rheocline, &c. &c., together with a large assortment of the Patent Radiating and other Stoves, and every other description of Ironmongery.

THE BEST IS THE CHEAPEST.

The best CONGOU TEA	per lb.,	3s.	8d.
The best IMPERIAL SOUCHONG TEA	,,	4	0
The best MOYUNE GUNPOWDER TEA	,,	5	0
The best PLANTATION COFFEE ...	,,	1	0
The best MOCHA COFFEE	,,	1	4

Tea or Coffee to the value of 40s. sent CARRIAGE FREE to any part of England, by
PHILLIPS AND COMPANY, TEA MERCHANTS,
No. 8, KING WILLIAM-STREET, CITY, LONDON.

DO YOU WANT LUXURIANT HAIR, WHISKERS, &c.?—MISS ELLEN GRAHAM, 14, Handcourt, Holborn, London, will send, post free, on receipt of 24 postage stamps, her celebrated NIOUKRENE (elegantly scented, and sufficient for three months' use), for reproducing the hair in baldness, from whatever cause, preventing the hair fabing off strengthening weak hair, and checking greyness, &c. It is also guaranteed to produce Whiskers, Moustachios, &c., in three or four weeks with the greatest certainty.—"My hair has become thicker and darker by using your Nioukrene."—Mr. Merry, Eton. "My hair now curls beautifully and looks very glossy."—Miss Main. "I have now a full pair of whiskers. Send me another pot."—Major Hutton.

VALUABLE REMEDIES FOR THE AFFLICTED.

DR. ROBERTS'S CELEBRATED OINTMENT, called the POOR MAN'S FRIEND, is confidently recommended to the Public as an unfailing remedy for Wounds of every description, a certain cure for Ulcerated Sore Legs, if of 20 years' standing; Cuts, Burns, Scalds, Bruises, Chilblains, Scorbutic Eruptions and Pimples on the Face, Sore and Inflamed Eyes, Sore Heads, Sore Breasts, Piles, Fistula, and Cancerous Humours, and is a specific for those afflicting Eruptions that sometimes follow vaccination. Sold in pots at 1s. 1½d. and 2s. 9d. each.

Also his PILULÆ ANTISCROPHULÆ, confirmed by more than 40 years' experience to be, without exception, one of the best alterative medicines ever compounded for purifying the Blood, and assisting nature in all her operations. Hence they are used in Scrofulas, Scorbutic Complaints, Glandular Swellings, particularly those of the Neck, &c. They form a mild and superior Family Aperient, that may be taken at all times without confinement or change of diet. Sold in Boxes, at 1s. 1½d., 2s. 9d., 4s. 6d., 11s., and 22s

Sold Wholesale by the Proprietors, BEACH and BARNICOTT, at their Dispensary, Bridport; by the London houses. Retail by all respectable Medicine Vendors in the United Kingdom.

OBSERVE.—No Medicine sold under the above name can possibly be genuine, unless "BEACH and BARNICOTT, late Dr. Roberts, Bridport," is engraved on the Government Stamp affixed to each package.

GRATIS! GRATIS! GRATIS!

FOR THE PUBLIC GOOD AND THE SUPPRESSION OF QUACKERY. Just published, 96 pages, EVERY MAN HIS OWN DOCTOR. By ALFRED BARKER, M.D. Sent gratuitously by the Author, on receipt of two postage-stamps to prepay it.—Address Dr. ALFRED BARKER, 48 Liverpool-street, King's-cross, London. OPINIONS OF THE PRESS.—"Written in a popular style, and containing the mode of treatment in most of the diseases that flesh is heir to."—*Herald*. "Nothing but an intense desire to benefit his fellow-creatures could have induced the author to undertake the expense of publishing this work for gratuitous circulation."—*Chronicle*.

VINAIGRE DE BORDEAUX.
"College of Chemistry, Liverpool,

"DEAR SIRS,—The Cask of FRENCH WINE VINEGAR came safely to hand. I have submitted it to analysis, and find it to be perfectly pure, i.e., it only contains those matters which are in all fermented Grape juice. It is very much liked in my house, being a most agreeable acid. The reason of my sending to you for Vinegar was on account of the dreadful mixtures sold here under that name. Some of the samples I examined contained sugar, oil of vitriol, and arsenic.

"Yours truly,
"SHERIDAN MUSPRATT, F.R.S.E., Dr. Phil, &c., &c.
"To Messrs. W. and S. KENT and SONS, Upton-on-Severn."

&c. See also the Report on Vinegar of the Analytical Sanitary Commission, in the *Lancet* of the 17th January last, copies of which, and the names of the retailers throughout the Kingdom, may be had from the Importers.

N.B. Stores in London, Liverpool, Hull, and Gloucester.

THE FOLLOWING WORKS ALWAYS ON SALE, AT THE OFFICE OF THIS PAPER.

Price 3d., or 5s. for 25 copies for distribution among Cottage Tenantry, delivered anywhere in London, on a Post-office order being sent to the Publisher, JAMES MATTHEWS, at the Office of the *Gardeners' Chronicle*. In consequence of the new postal arrangements, parties in the country who desire it can have copies sent by post; six stamps, in addition to the cost of the numbers, will pass 10 copies free by post. The cost of a single copy, free by post, is 7d.

THE COTTAGER'S CALENDAR OF GARDEN OPERATIONS.
By SIR JOSEPH PAXTON.

Reprinted from the GARDENERS' CHRONICLE; above 72,000 have already been sold.

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NEW PELARGONIUMS.

JOHN DOBSON respectfully announces that his new, first-rate, and distinct SHOW VARIETIES OF PELARGONIUMS will be ready to send out the first week in October, in strong plants, in 4-inch pots—COMMANDER, VULCAN, HARRIOT, JUPITER, PASHA, SPOT, and GERTRUDE.

Full descriptions and prices will shortly be ready, and may be had on application. All orders will be executed in strict rotation.—Woodlands Nursery, Isleworth, Middlesex.

CUTHILL'S PRINCE OF WALES AND BLACK PRINCE STRAWBERRIES.—

Plants of the above very late and very early sorts will be sent out August 21*d.* The Prince of Wales will be 1*l.* per 100, the Black Prince 5*s.* per 100, box included.

True Lapstone Kidney Potato at 10*s.* per bushel.

J. C.'s Potato Pamphlet, &c. &c., 2*s.*, or by post 2*s.* 4*d.*; also his Market Gardening Round London, 1*s.* 6*d.*, or by post 1*s.* 8*d.*

Denmark-hill, Camberwell, London.

NEW AND CHOICE FUCHSIAS, VERBENAS, AND PETUNIAS OF THIS SEASON.

HENRY WALTON, FLORIST, &c., Edge-end, Marsden, near Burnley, Lancashire, begs to offer the following new FUCHSIAS, now ready, at 21*s.* per dozen, or 2*s.* 6*d.* each; viz.:—Banks, Ariel, Diadem, Gaiety, Cortona, Nonsuch, Joan of Arc, Nil Desperandum, Honey Bell, Leader, Henderson's Darling, Pendula, Gem of the Season, Globosa perfecta, Pet, Exquisite, Splendissima, Commodore, Hendersonii, Turner's Standard, Verrio, Story's Aurora, Agnes, Peculiarity, Epps' Standard of Perfection, and Novelty.

PETUNIAS ready the first week in August, at 1*s.* each:—Smith's White Giant, Ajax, Mary Ann, and Joan of Arc.

VERBENAS ready the first week in August, at 1*s.* each:—Smith's Purple Rival, National, Monsieur Jullien, Eliza Cook, Standard, Ariel Miss Jane, Virginius, Alba magna, Koh-i-noor, Orlanda, Delight, and Turner's Ormsby Beauty. A Descriptive List of the above may be had for one stamp.

Also a good selection of Lilies, Picotees and show Chrysanthemums, ready for their blooms in pots, 3*s.* and 9*s.* per dozen; or 50 for 1*l.*, H. W.'s selection; Purchaser's selection of 50, 25*s.* Early orders are requested, as they will be executed in rotation, as received. It is respectfully requested that all orders be accompanied with a Post-office order, payable at Marsden, Lancashire.

Also the following New Plants:—Antirrhinum Hendersonii, 2*s.* 6*d.*; Heliotropium Voltaireanum nana, Henderson's, 2*s.* 6*d.*; and Chrysanthemum Hendersonii, 2*s.* 6*d.* Also the following new Mimulus, raised by R. Clapham, Esq., of Scarborough:—Queen Victoria, Yellow Picta, Venus, and Scarborough Defiance, post free, 10*s.* the set of four.

NOTICE OF REMOVAL FROM 28, CORNHILL.

DAWE, COTTRELL, AND BENHAM, SEEDSMEN AND FLORISTS (Successors to Mr. Frederick Warner), beg most respectfully to intimate to their friends and the public generally, that they have removed their retail department to No. 36, Moorgate-street, City, where they hope to meet with the same patronage so liberally bestowed upon their predecessor, assuring their kind friends that none but the best and most approved stocks of Agricultural, Horticultural, and Garden Seeds will be sent out from their Establishment.

The Wholesale Department No. 3, Laurence Pountney-lane, Cannon-street, London.

DEANE'S WARRANTED GARDEN TOOLS.—

Horticulturists, and all interested in Gardening Pursuits, are invited to examine DEANE, DRAY, AND CO.'s extensive Stock of GARDENING and PRUNING IMPLEMENTS, best London-made Garden Engines and Syringes, Colebrook-dale Garden Seats and Chairs.

Averuncators	Garden Scrapers	Mowing Machines
Axes	Gidney's Prussian Hoe	Pickaxes
Bagging Hooks	Grape Gatherers & Scissors	Potato Forks
Bills	Gravel Rakes and Sieves	Pruning Bills
Borders, various patterns	Greenhouse Doors and Frames	,, Knives, various
Botanical Boxes	Hammers	,, Saws
Boyd's Patent Scythe	Hand-glass Frames	,, Scissors
Brown's Patent Fumigator	Hay Knives	,, Shears
Cases of Pruning Instruments	Horticultural Hammers & Hatchets	Rakes in great variety
Daisy Rakes	Hoes of every pattern	Reaping Hooks
Dibbles	Hotbed Handles	Scythes
Draining Tools	Ladies' Set of Tools	Scythe Stones
Edging Irons and Shears	Labels, various patterns, in Zinc, Porcelain, &c.	Shears, various
Flower Scissors	Lines and Reels	Sickles
,, Stands in Wires & Iron	Marking Ink	Sickle Saws
Fumigators	Mattocks	Spades and Shovels
Galvanic Borders and Plant Protectors	Menographs	Spuds
Garden Chairs and Seats	Metallic Wire	Switch Hooks
,, Loops	Milton Hatchets	Thistle Hooks
,, Rollers	Mole Traps	Transplanting Tools
		Trowels
		Turfing Irons
		Wall Nails
		Watering pots
		Weed Hooks
		Wheelbarrows
		Youths' Set of Tools

DEANE, DRAY, AND CO. are sole Agents for LINGHAM'S PERMANENT LABELS, samples of which, with their Illustrated List of Horticultural Tools, can be sent, post paid, to any part of the United Kingdom. Also, Wholesale and Retail Agents for SAYNOR'S celebrated PRUNING KNIVES, used exclusively by the first Gardeners in the United Kingdom.—DEANE, DRAY, & CO. (Opening to the Monument), London-bridge.

TILEY'S EARLY MARROW CABBAGE SEED

has proved its superiority over all others for the last three years.

In consequence of numerous inquiries, EDWARD TILEY begs to inform the nobility, gentry, public, &c., that he has now Seed of the above Cabbage. The numerous testimonials received of the same will speak for its very superior quality; and E. T. begs to take this opportunity of thanking all persons who have so kindly forwarded him such high testimonials in favour, and re-ordered Seed of the same.

N.B. It is the finest flavoured, the quickest grower, and most hardy Cabbage ever yet sent out.

Sold in packets of 1 oz., 2*s.* 6*d.*; ½ oz., 1*s.* 6*d.* The fine old Bath Cos Lettuce Seed, 1*s.* per packet. This is also the best kind ever grown.

Any quantity of the above Seeds sent postage free on receipt of a Post-office Order or penny postage stamp. A remittance must accompany any order from unknown correspondents.

EDWARD TILEY, Nurseryman, Seedsman, and Florist, 14, Abbey Churchyard, Bath, Somerset.

TANNED GARDEN NETTING, for protecting

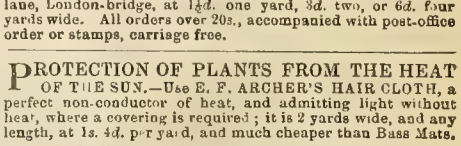
Strawberries and wall-fruit from birds, or as a fence for fowls, pigeons, &c., in any length, from JOHN KINGFARLOW'S Fishing Tackle and Net Manufactory, 5, Crooked-lane, London-bridge, at 1½*d.* one yard, 3*d.* two, or 6*d.* four yards wide. All orders over 20*s.*, accompanied with post-office order or stamps, carriage free.

PROTECTION OF PLANTS FROM THE HEAT

OF THE SUN.—Use E. F. ARCHER'S HAIR CLOTH, a perfect non-conductor of heat, and admitting light without heat, where a covering is required; it is 2 yards wide, and any length, at 1*s.* 4*d.* per yard, and much cheaper than Bass Mats.

E. F. ARCHER, 451, Oxford-street, London.

BOYD'S SELF-ADJUSTING SCYTHE.



BOYD'S PATENT SCYTHE and the celebrated STEEL DIGGING FORKS. Boyd's Scythe is capable of being adjusted to any angle by the person using it, and never requires the aid of a blacksmith; when out of use it shuts up like a clasp-knife. The *Gardeners' Chronicle* thus comments upon it:—"We gladly state that Mr. BOYD'S Scythe stands well the great test, experience, especially with his late ingenious and very useful improvement."—G. C., 15th May, 1852. The Steel Digging Forks are those celebrated by Mr. Mechi. "When a labourer has once used them, he will never work with any other implement for digging. They effect a saving of nearly 50 per cent. in labour."—Wholesale and Retail at WM. DRAY and Co.'s Agricultural Implement and Machinery Warehouse, Swan-lane, Upper Thames-street, near London-bridge.

FARM AND COTTAGE PUMPS.



PATENT CAST-IRON PUMPS, for the use of Farms, Cottages, Manure Tanks, and Shallow Wells.

	£	*s.*	*d.*
Patent Pump	1	15	0
Patent Pump, with 15 feet of lead pipe attached, and bolts and nuts ready for fixing	2	10	0

Larger sizes if required.

May be obtained of any Ironmonger or Plumber in Town or Country, or of the Patentees and Manufacturers,

JOHN WARNER & SONS,

8, Crescent, Jewin-street, London.

Every description of Machinery for Raising and Forcing Water, either by Steam, Horse, or Manual power. Fire and Garden Engines, &c.

The usual allowance to the Trade.

EMIGRANTS TO AUSTRALIA, ETC., SUPPLIED.

A PRIZE MEDAL FOR SUPERIOR LOCKS WAS AWARDED TO J. H. BOOBBYER, AT THE GREAT EXHIBITION OF 1851.

THE CELEBRATED STEEL DIGGING FORK, Patent Spades, Daisy Rakes, Scythes, Draining, and other Garden Tools, Mole Traps, 6*s.* per dozen. Carpenters' and Smiths' Tools, &c. Rubbers for sharpening Scythes, 2*s.* 6*d.* per dozen. Patent fumigators for destroying insects on Plants, in greenhouses, &c: at Messrs. J. H. BOOBBYER and Co.'s (late STURCH and BOOBBYER), Ironmongery, Brass-foundry, Nail and Tool Warehouse, 14, Stanhope-street, Clare-market, London. Established nearly 200 years for the sale of goods from the best Manufactories at the lowest prices. Goods forwarded to any part on the receipt of remittance. Lists sent by post.

WINTON'S PARKES' NEW STEEL DIGGING

FORKS AND DRAINING TOOLS.—Silver Medal at Lewes Show was awarded to BURGESS and KEY, 103, Newgate-street, London, for these celebrated FORKS. It would be endless to quote the unlimited approbation expressed by the leading agriculturists, farmers, nurserymen and others, from the nobleman to the labourer; but all who have used them concur in Mr. Mechi's remark, "That they facilitate labour quite 20 per cent." Early orders are requested. Price lists sent on application.

HARTLEY'S PATENT ROUGH PLATE GLASS,

FOR RIDGE AND FURROW ROOFS, GREENHOUSES, RAILWAY STATIONS, ENGINE SHEDS, MILLS, MARKET-HALLS, AND PUBLIC BUILDINGS GENERALLY.

FOR CONSERVATORIES, PUBLIC BUILDINGS, MANUFACTORIES, SKYLIGHTS, &c., &c.	⅛th inch thick.	3-16th inch thick.	¼ inch thick.
	s. d.	s. d.	s. d.
PACKED IN CRATES, for cutting up of the sizes as Manufactured :—			
30 inches wide and from 40 to 50 long	0 6	0 8	0 10
Or 20 ,, ,, 50 to 70 ,, ...			
IN SQUARES, cut to the sizes ordered :—			
Under 8 by 6	0 4	0 6	0 7
8 by 6 and under 10 by 8	0 4½	0 7	0 8
10 by 8 ,, 14 by 10	0 5	0 7	0 9
14 by 10 ,, 1½ feet super., if the length does not exceed 20 inches	0 5½	0 7	0 9
1½ feet sup. ,, 3 ,, or if above 20, and not above 30 inches long	0 6	0 8	0 10
3 ,, ,, 4 ,, ,, 20 ,, 30 ,, ...	0 6½	0 8	0 10
4 ,, ,, 5 ,, ,, 30 ,, 35 ,, ...	0 7	0 8½	0 10
5 ,, ,, 6 ,, ,, 35 ,, 40 ,, ...	0 7½	0 9	0 10½
6 ,, ,, 8 ,, ,, 40 ,, 45 ,, ...	0 8	0 9½	0 11
8 ,, ,, 10 ,, ,, 45 ,, 55 ,, ...	0 8½	0 10	1 0
10 ,, ,, 12 ,, ,, 55 ,, 70 ,, ...	0 9	0 11	1 1
12 ,, ,, 15 ,, ,, 70 ,, 85 ,, ...	.....	1 0	1 2

PACKED IN BOXES OF 50 FEET EACH:

Ins. Ins.	Ins. Ins.	s. d.
6 by 4 and 6¼ by 4½		10 6
7 by 5 ,, 7½ by 5½		12 0
8 by 6 ,, 8¼ by 6½		13 0
9 by 7 ,, 9½ by 7½ and 10 by 8		15 0

NOTE.—Squares are charged according to the superficial contents, except where the length exceeds the restriction above, in which case the higher price is charged irrespective of the contents.

Bending.—1-8th, 6d. ; 3-16ths, 9d. ; ¼ inch, 1s. per foot, net.

*** *Irregular shapes are charged as squares.*

When Crates are ordered, the 30-inch widths will be sent, unless otherwise specified.

THE PATENT ROUGH PLATE, one-eighth of an inch thick, and weighing 2 lbs. to the foot, has now become an article of very extensive and increasing consumption.

It is universally admitted to be the best and most suitable Glass for Ridge and Furrow Roofs, Greenhouses, Factories, Workshops,

And all such like purposes, and is a cheap and efficient substitute for Fluted or Obscured Glass, where the object is to intercept the vision without diminishing the light. Its non-transparency, strength, and cost (being no more weight for weight than Common Sheet Glass), render it eminently suitable for the Glazing of Conservatories and Roofs of all kinds; Blinds are unnecessary, and when used in Greenhouses *no scorching occurs.*

Where still greater strength is required the 3-16ths and ¼ inch thick will be found much cheaper than the Common Rough Plate. Samples will be forwarded on application, by applying to

JAMES PHILLIPS AND CO.,

HORTICULTURAL GLASS MERCHANTS, 116, BISHOPSGATE-STREET WITHOUT, LONDON.

GLASS.

THOMAS MILLINGTON'S FOREIGN SHEET GLASS is far superior to any other manufacture, as well as cheaper. In 100-feet boxes packed for immediate delivery.

6 inches by 4 and 6½ by 4½	13s. 0d.
7 ,, 5 and 7½ by 5½	15 0
8 ,, 5 and 8 by 5½	15 0
8 ,, 6 and 8½ by 6½	17 6
9 ,, 7 and 10 by 8	20 0
12 ,, 10 and 13 by 9	20 0

And many other sizes, or cut to order in various thicknesses.

Cases containing large Sheets, in 100, 200, and 300 feet, at 21s. per 100 feet.

ROUGH PLATE, perfectly flat, ⅛ in. thick, best manufactured.

In sizes under 15 inches	6d.	per foot.
,, ,, 35 ,, ...	8d.	,,
,, ,, 50 ,, ...	9½d.	,,
,, ,, 75 ,, ...	12d.	,,

Milk Pans, 2s. to 6s. each; Metal Hand Frames, Glass Tiles and Slates; Cucumber, Propagating, and Bee Glasses; Wasp Traps, Glass Shades, and Plate Glass, at 87, Bishopsgate-street Without, London, same side as Eastern Counties Railway.—Established 100 years.

GLASS FOR CONSERVATORIES, ETC.

HETLEY AND Co. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2d. to 3d. per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices and Estimates forwarded on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLATES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to JAMES HETLEY and Co., 35, Soho-square, London.

See *Gardeners' Chronicle* first Saturday in each month.

THE CHEAPEST HOUSE FOR LEAD, GLASS, OIL AND COLOURS.

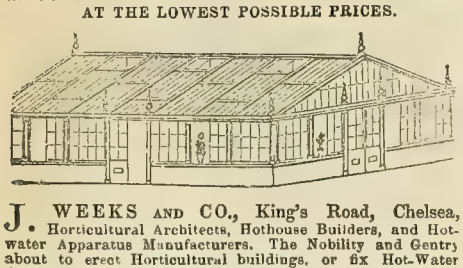
WHOLESALE PRICES CHARGED.

H. J. AND W. WALKER, LEAD, GLASS, OIL, and COLOUR MERCHANTS, 125, Queen-street, Portsea, supply in any quantities, at wholesale prices, Crown and Horticultural SHEET GLASS, Patent and Polished Plate, Rough Plate for Conservatories and Greenhouses, Glass Milk Pans, Bee, Cucumber, and Propagating Glasses, and every description of Glass for Horticultural purposes. Ornamental and Stained Glass, Church Quarries, &c. Deep Well, Lift, and Garden Pumps. Plumbers' Brass Work, Brushes, Varnishes, and Colours at London prices.

N. B.—Experienced workmen sent to any part of the country.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER.

WARRANTED BEST MATERIALS AND WORKMANSHIP AT THE LOWEST POSSIBLE PRICES.



J. WEEKS AND CO., King's Road, Chelsea, Horticultural Architects, Hothouse Builders, and Hot-water Apparatus Manufacturers. The Nobility and Gentry about to erect Horticultural buildings, or fix Hot-Water Apparatus, will find, at our Hothouse Works, King's Road, Chelsea, an extensive variety of Hothouses, Greenhouses, Conservatories, Pits, &c., erected, and in full operation, combining all modern improvements, so that a lady or gentleman can select the description of House best adapted for every required purpose.

THE HOT-WATER APPARATUSES (which are efficient and economical), are particularly worthy of attention, and are erected in all the Houses, Pits, &c., for both Top and Bottom Heat, and in constant operation in the Stoves.

The splendid collection of Stove and Greenhouse Plants is in the highest state of cultivation, and for sale at very low prices. Also a fine collection of strong Grape Vines in pots from eyes, all the best sorts.

Plans, Models, and Estimates of Horticultural Buildings; also Catalogues of Plants, Vines, Seeds, &c., forwarded on application.

J. WEEKS AND CO., KING'S ROAD, CHELSEA, LONDON.

HOTHOUSES, GREENHOUSES, ETC.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

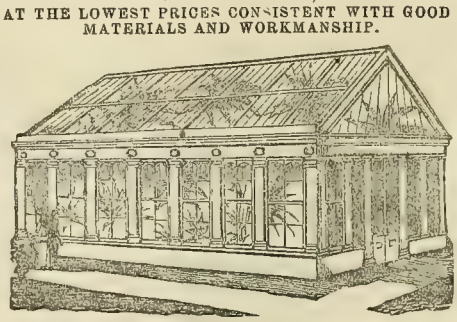
E. DENCH, PATENT HOTHOUSE WORKS, KING'S ROAD, CHELSEA.—The superior qualities in every respect of these Structures having been proved in all parts of the United Kingdom, has caused a greater demand for them than E. D. could execute; he has been obliged to have perfect and powerful machinery made to meet the numerous orders, and can now execute any amount of work to great perfection, with dispatch, and for quality and price to defy all competition. Patent Hothouses, with excellent glass, 3 feet long by 1 foot wide, every front sash to open, and every top one to slide down, with pulley made of the same materials as the electric telegraph wires, which require no painting; delivered free to Wharf or Railway Station, at 1s. 2d. per foot super., complete, having been fitted, and every portion marked previously, making a Greenhouse 16 ft. 6 inches long, 12 ft. rafter, 400 ft., 23l. 6s. 8d.; 24 ft. 6 ins. long, do. do., 526 ft., 30l. 13s. 8d.; 28 ft. 6 ins. long, 15 ft. rafter, 712 ft., 41l. 10s. 8d. Heating by Hot Water on the most approved and economical principles.

Patent Sashes for Pits and Peach Walls, &c., 7d. and 8d. per foot, super.

GREEN AND HOTHOUSES, made by Machinery, at J. LEWIS' Horticultural Works, Stamford Hill, Middlesex, warranted best materials, and the cheapest in England.—A List of Prices sent by enclosing 2 postage stamps

HORTICULTURAL BUILDING AND HEATING BY HOT WATER,

AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.



GRAY AND ORMSON, Danvers Street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

G. and O. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders they can with the greatest confidence give the most satisfactory references.

Their Hot-Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating by Hot Water can be made available.

"CHEAP BAROMETERS" (MADE BY MR. BAKER)

HENRY BAKER, OPTICIAN, &c., 90, Hatton Garden, London, begs the readers of this Paper to refer to a paragraph under the above heading, at page 472 *a*, and to inform them that he has made a great improvement in cheap Barometers since 1851. He is supplying a handsome Rosewood Barometer, with a good sized Tube, for 12s. 6d., and which is worth at least 7s. 6d. more than the one of his manufacture in the Editor's possession, spoken so highly of.

GROUSE SHOOTING.—TO SPORTSMEN.—The great success attending the use of "POCOCK'S PATENT PORTABLE KITE AND HAWK" last year has been confirmed by nearly 100 testimonials. The apparatus effectually tames the birds, and enables the sportsman to come within shot.—"POCOCK'S Patent" (inventor of the Kite Carriage), sold only by GEORGE GILBERT (late 55, Parliament-street), 13, Soho-square, London.

LINSEED CAKE, Foreign and English, Rape Cake, Peruvian Guano, Gypsum, Salt, Peat Charcoal, and all other Manures of known value, on sale.—Apply to MARK FOTHERGILL 204 A, Upper Thames-street, London.

ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.

PATRON—His Royal Highness PRINCE ALBERT.
PRESIDENT OF COUNCIL—Earl BATHURST.
VICE-PRESIDENT—Earl DUCIE.
PRINCIPAL—Rev. J. S. HAYGARTH, M.A.

The NEXT SESSION will begin on Monday, August 9th. Students are admitted either as Boarders or as Out-Students. The annual fees for Boarders vary from 45 to 80 guineas, according to age and other circumstances. The fee for Out-Students is 40l. per annum. The College Course of Lectures and Practical Instruction is complete in one twelvemonth—though for younger students a longer time is recommended.

There is a department for general as well as for agricultural education.

Prospectuses and information can be had on application to the Principal.

Cirencester, July 31, 1852.

COLLEGE OF AGRICULTURE, CHEMISTRY, AND GENERAL SCIENCE, KENNINGTON, NEAR LONDON.

PRINCIPALS.

A. NESBIT, Author of Works on Mensuration, Arithmetic, Surveying, &c.; and
J. C. NESBIT, F.G.S., F.C.S, &c.

PROFESSORS, &c.

CHEMISTRY, GEOLOGY, AND AGRICULTURE	Mr. J. C. NESBIT, F.G.S.
ASSISTANT CHEMIST	Mr. E. LANE.
NATURAL PHILOSOPHY, SURVEYING, CIVIL ENGINEERING, AND MATHEMATICS ...	T. M. CREGAN, Esq., C.E.
BOTANY AND ZOOLOGY	C. JOHNSON, Esq., Professor of Botany, Guy's Hospital.
ENGLISH LITERATURE AND ELOCUTION.....	JAMES WIGAN, Esq.
CLASSICS AND MODERN LANGUAGES.....	ABLE ASSISTANT MASTERS.

Messrs. NESBIT take under their charge about Thirty Students, resident or non-resident, who obtain every advantage which vicinity to London affords for scientific education.

The routine of study comprises every branch requisite to prepare youth for Agriculture, Civil Engineering, Mining, &c.; for the Naval and Military Services, and the Universities.

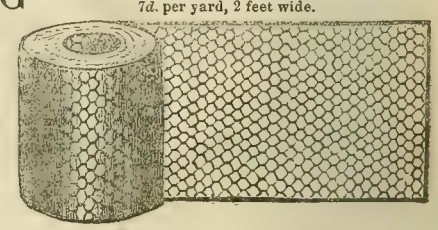
The students have every facility for acquiring a thorough knowledge of Analytical Chemistry, and of the Assaying of Gold and Silver.

Between four and five acres of land are appropriated for the exercise and recreation of the pupils.

Assays of Minerals, Analyses of Soils, Manures, &c., are accurately performed. Gentlemen may also be accommodated with private laboratories, entirely at their own disposal.

The highest references, with the terms and other particulars, may be had on application.

GALVANISED WIRE GAME NETTING.—7d. per yard, 2 feet wide.



	Galvanised.	Japanned Iron.
2-inch mesh, light, 24 inches wide ...	7d. per yd.	5d. per yd.
2-inch ,, strong ,, ...	9 ,,	6½ ,,
2-inch ,, extra strong ,, ...	12 ,,	9 ,,
1⅝-inch ,, light ,, ...	8 ,,	6 ,,
1⅝-inch ,, strong ,, ...	10 ,,	8 ,,
1⅝-inch ,, extra strong ,, ...	14 ,,	11 ,,

All the above can be made any width at proportionate prices. If the upper half is a coarse mesh, it will reduce the prices one-fourth. Galvanised sparrow-proof netting for Pheasantries, 3d. per square foot. Patterns forwarded post free.

Manufactured by BARNARD and BISHOP, Market-place, Norwich, and delivered free of expense in London, Peterborough, Hull, or Newcastle.

CHEAP AND DURABLE ROOFING.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

F. M'NEILL AND Co., of Lamb's-buildings, Bunhill-row, London, the Manufacturers and only Patentees of THE ASPHALTED FELT FOR ROOFING

Houses, Farm Buildings, Shedding, Workshops, and for Garden purposes, to protect Plants from Frost.

At the Great National Agricultural Shows, it is this Felt which has been exhibited and obtained TWO SILVER MEDAL PRIZES, and is the Felt SOLELY patronised and adopted by

HER MAJESTY'S WOODS AND FORESTS,
HONOURABLE BOARD OF ORDNANCE,
HONOURABLE EAST INDIA COMPANY,
HONOURABLE COMMISSIONERS OF CUSTOMS,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANIC GARDENS, REGENT'S PARK,

And on the Estates of the Dukes of Sutherland, Norfolk, Rutland, Newcastle, Northumberland, Buccleuch (at Richmond), and late Earl Spencer, and most of the Nobility and Gentry, and at the ROYAL AGRICULTURAL SOCIETY'S HOUSE, Hanover-sq.

It is half the price of any other description of roofing, and effects a great saving of Timber in the construction of Roofs. Made to any length by 32 inches wide.

PRICE ONE PENNY PER SQUARE FOOT.

*** Samples, with Directions for its Use, and Testimonials of seven years' experience, with references to Noblemen, Gentlemen, Architects, and Builders, sent free to any part of the town or country, and orders by post executed.

☞ The Public is cautioned that the only Works in London or Great Britain where the above Roofing is made, are

F. M'NEILL AND CO.'S

Patent Felt Manufactory, Lamb's-buildings, Bunhill-row, London, where Roofs covered with the Felt may be seen.

The new Vice-Chancellor's Courts, at the entrance of Westminster Hall, were roofed with F. M'NEILL and Co.'s Felt about two years since, under the Surveyorship of Chas. Barry, Esq., R.A. Her Majesty's Commissioners of Woods and Forests are so satisfied with the result that they have ordered the Committee Rooms at the Houses of Parliament to be roofed with their Felt. Quantity altogether used, 24,000 feet.

NOTE.—Consumers sending direct to the Factory can be supplied in lengths best suited to their Roofs, so that they pay for no more than they require.

Every information afforded on the construction of Roofs, or any proposed particular application of the Felt.

HORTICULTURAL GARDENS, ESTABLISHED IN 1818, EDWARDE'S PLACE, KENSINGTON, LONDON.

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The "Beauties of Surrey," in one volume, handsomely bound, 6s. 6d.; the "Beauties of Middlesex," 7s. 6d. They contain a particular description of the principal seats of the nobility and gentry in each county, and comprise all that is interesting in the history, architecture, and internal adornments of the mansions, villas, &c., and in the gardens, parks, and pleasure ground scenery.

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All communications for Plans, &c., Plants, or other select Nursery Stock, will receive immediate attention. It is also necessary to state, that as the works are printed for the Author, they are to be had of him alone, by Post-office orders, made payable at Kensington. A register of the qualifications of Gardeners, &c., is kept, for the purpose of filling up respectable situations.

SUPERB DOUBLE HOLLYHOCKS.
SAFFRON WALDEN.

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Saffron Walden Nursery, July 31.

WILLIAM JACKSON begs to return his respectful and grateful thanks to the Subscribers to the Royal Gardeners' Benevolent Institution, by whose kind assistance he obtained his election.

H. WALTON, FLORIST, &c., Edge End, Marsden, near Burnley, Lancashire, begs to offer choice CINERARIA SEED, warranted saved from the newest and best kinds out, in packets, post free, at 1s., 1s. 6d., and 2s. 6d. each; also fine strong blooming plants, from 1 foot to 18 inches high, of all the new Fuchsias of last year, at 9s. and 10s. per dozen.—All orders to be accompanied with a Post-office Order, payable at Marsden, Lancashire.

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CAMELLIA STOCKS, fine strong plants, ready for working, 75s. per 100, or 15l. for 500.

Also all the leading Camellias, well set with flower-buds, 1 foot to 4 feet, 18s. to 60s. per doz. A few dozens of large plants, covered with buds, from 10s. 6d. to 42s. each.

Cupressus funebris, nice plants (own roots), 18s. to 36s. per doz.; Cupressus ericoides, 18s. per doz.; C. japonicus, 3s. 6d. each.

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JOHN SCOTT, Merriott Nurseries, Crewkerne, Somerset.

The Gardeners' Chronicle.

SATURDAY, JULY 31, 1852.

MEETINGS FOR THE ENSUING WEEK.

THURSDAY, Aug. 5—National Floricultural .....3 P.M.
FRIDAY — 6—Botanical.....8 P.M.

COGNATE SHOWS.—Wednesday, Aug. 4: Derby, and Hull.—Wednesday, Aug. 4, and Thursday, Aug. 5: York Hort cultural.—Thursday, Aug. 5: Ireland Royal Horticultural.—Friday, Aug 6: Turriff.

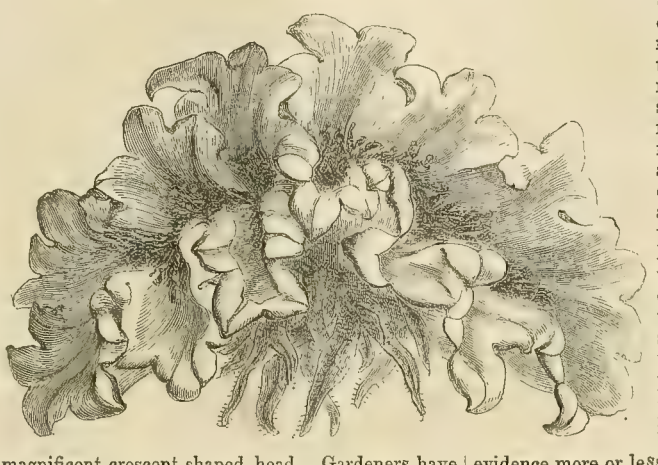
WE are not a little surprised to find so many of our correspondents unacquainted with the meaning of what is technically, we should rather say familiarly, called a SPORT in natural history, and by one of which Wheat has been bred from Ægilops. Perhaps the best definition of a sport would be *mutatio per saltum*, or, in plain English, a sudden change of one thing into another, different in some very striking respect; as when a Peach tree produces a smooth fruit (a Nectarine) among its own downy brood. These sudden changes seem to be essentially different in their nature from the gradual alterations which cultivation brings about in all plants; they are violent transformations produced by unknown causes, and in which there is a natural tendency to preserve the altered condition. Some examples, and their known results, will we trust make this plainer.

The annual Clarkia pulchella bears naturally a purple flower. Unexpectedly, among other seedlings, a plant appeared in which the flowers were pure white—a vegetable Albino. That was a sport. The seed was saved and sown; the produce consisted of many purple and many white flowering individuals. The purples which had lost the new tendency were removed, and seed again saved from the pure whites; the next batch of seedlings was much more white than purple; the next batch was all white, and thus the original sport was fixed.

When the Provins Rose produced a branch on which the flowers were buried among those glandular expansions of the calyx and its footstalk which we call mossiness, and thus the first Moss Rose was born, that again was a sport.

When some Celosia suddenly formed its flowers upon a thickened, flattened (fasciated) stalk, and they became more crowded than usual, we had a cockscomb; and that again was a sport. The plant thus changed, by whatever cause, had gained a constitutional tendency to grow in the cockscomb or fasciated manner; by repeatedly saving seed from the most fasciated, and the dwarfest seedlings, that which was at first a mere tendency or predisposition, became as fixed a constitutional character as was acquired by the greyhound, when he first became a new variety of some other kind of dog. This fasciated character was at first a mere monstrosity, such as we see around us here and there, in a great variety of plants, in which no one has yet thought of fixing the habit. If it has a tendency to disappear under neglect, as those who buy cheap seeds know that it has, so, on the other hand, it has also a tendency to increase under skilful management; as was shown by Mr. ANDREW KNIGHT, when he, by one single effort, brought a Cockscomb plant to measure 18 inches across, and only 7 inches high.*

An analogous change is that which is here represented, and which is not at all uncommon in the Canterbury Bell, whose flowering stem becomes fasciated, and the flowers run together into a



magnificent crescent-shaped head. Gardeners have never thought it worth while to attempt to fix this striking character, and yet it might probably be secured as easily as the Cockscomb.

Fortes gignuntur fortibus. And in like manner feeble come from the feeble, and changed from the changing. Such would seem to be the law of nature. We see it manifested in our own species, in our domesticated animals, in our cultivated plants; and no one can say where it will end. If the Broccoli and Cauliflower were bred from fasciated Cabbages, as they certainly must have been, for they are merely Cockscombs of an esculent quality, who can venture to declare that a thousand other fasciated monsters shall not arise around us, with habits to be rendered as unchangeable as theirs?

Let us not be misunderstood. In speaking thus we by no means advocate the possibility of a vegetable transmutation similar to that of a transmutation of metals. Speculations of that kind have never found favour in our eyes. All we have contended for, all that we still contend for, and we will add what has now been conclusively demonstrated, is, that the organs of plants are naturally subject to transformations, for which neither pseudo-botanists nor botanists themselves are prepared; that we may expect to find what are called species and genera proved to be mere forms of what have been erroneously supposed to be other species and genera; and that although there is no probability that Rye ever came from the seeds of the Oat, yet that it is in the highest degree probable that Rye itself is an unsuspected form of some other Grass.

As to the purely scientific view in which this subject must be regarded, we cannot do better than use the words of one of our able correspondents, with which we close our remarks for the present.

"What M. FABRE's most interesting experiments and observations prove is, that those are right who assert that we should never establish as a species a cultivated plant of which we are ignorant of the wild form, and that botanists were wrong in distinguishing generically the cultivated Wheat and Ægilops which are now proved to be identical. That Wheat is an abnormal state of some plant till now not identified might be perceived from the fact that it does not become wild—if left to itself it disappears. Not that (as in the case of many abnormal states of plants) it does not produce fertile seeds, nor does it (as it is with others) return to its original state; but deprive it of that cultivation which has brought it to the abnormal state, and it dies off—it becomes choked or destroyed by external agents which it is too weak to resist, or it does not multiply in a ratio sufficient to counterbalance the numerous causes of destruction always assailing wild plants. We cannot consider either that this discovery *necessarily* invalidates those characters by which the genera Ægilops and Triticum (as taken from wild species, such as T. maritimum, &c.) are separated, any more than the existence of a Peloria in Linaria invalidates the character derived from the distinction between regular and irregular flowers. The articulation or dehiscence of a pod in Leguminosæ is often a most important character. But place the pod in other circumstances: let it ripen underground, and it loses its articulation or dehiscence without invalidating the general character or yet removing the plant into genera with inarticulate or indehiscent pods.

"In proving that a plant, whether cultivated or not, is but a modification of one apparently so different, that we had placed it in a distinct genus, we show, not that we can turn one genus into another, but that we were wrong in distinguishing two plants essentially the same; an error of judgment on the part of many of even the most distinguished botanists, daily committed and daily detected in some instance or another of more or less importance. We must always bear in mind that a genus has no real definite existence in nature, but is an arbitrary grouping of species which we consider as more or less resembling each other; and that if a species has real existence, there is no positive test which we can apply to the specific identity of two individuals whose individual parentage we cannot trace to one individual; but specific identity or diversity can only be deduced from circumstantial evidence more or less convincing, and which individual botanists have more or less capacity for duly weighing and appreciating.

"The Peach is another instance of a cultivated plant unknown in its wild state (for I believe it has never been *proved* that the Almond is the Peach nearer to the wild state), which, though it germinates most readily and freely in a cultivated state, does not become wild in the countries where it is most grown, and shows no tendency to return to its wild form. Till its wild state has been ascertained, the species Amygdalus Persica or the genus Persica must be considered as hypothetical."

IT can be matter of surprise to no one who has observed the effect of marked atmospheric changes, that the present year should abound in different forms of disease as regards the vegetable kingdom. Not only are such diseases as depend on the presence of fungi more than usually prevalent, but those also which consist in decay of the tissues, whether more or less partial, as in the Bean rot, and a curious necrosis of the stalks of Wheat, which has been observed in some parts of England, in neither of which the slightest trace of fungus, except occasionally as an after-growth, is visible. There can be no doubt that in proportion as cultivation improves, and greater luxuriance is induced in consequence of the use of artificial manure, plants will be more and more liable to malady. Not a single Rose, with the exception of R. microphylla, is ever attacked with mildew in our garden, for the simple reason that the soil is poor, and little manure applied; the difference is most manifest when the Pea crop is grown within those limits which are highly manured, and when it occupies an external plot which receives little attention beyond the mere stirring of the ground, and the needful destruction of weeds. It is quite certain that with agricultural plants produce cannot exceed a certain limit, so long as the old varieties are cultivated. If the ground is too thickly covered, disease of some kind is sure to ensue.

The great object is now to improve our varieties of grain. The Bristol Red Wheat, for instance, though, from a deficiency of gluten, it must be considered an inferior kind, produces so much more per acre that it is in many parts of England extensively grown, the produce being such as to compensate many times for a slight diminution of value per

* This was in 1820. A drawing of this specimen hangs in the library of the Horticultural Society. The manner in which the experiment was conducted is described in the *Hort. Trans.*, vol. iv. p. 521.

quarter. Six quarters per acre is no uncommon produce, and the yield is often considerably greater. The object then should be to obtain improved varieties, which may yield a still greater produce from such a plant and may be likely to insure a healthy condition of the crop; and our remarks are just as applicable to other kinds of grain as to Wheat. When such varieties as are more productive, from the greater size of the grain or greater length of spike, have been submitted to cultivation, it will soon appear how far it may be safe to force vegetation by strong manure; though we suspect that a more diligent preparation of the land, and a more constant and effectual destruction of noxious weeds, are quite as necessary elements in the question as that of high manuring. *M. J. B.*

FORTUNE'S YELLOW OR SALMON-COLOURED ROSE.

In a "Sketch of a Visit to China in search of New Plants," published in the 1st Vol. of the Journal of the Horticultural Society, I noticed the discovery and introduction of a very beautiful yellow or salmon-coloured Rose. I had been much struck with the effects produced by it in the gardens of Northern China, where it was greatly prized; and I had no doubt it would succeed equally well in this country. But from some cause—probably ignorance as to its habits or to the treatment required—my favourite Wang-jan-Ve, as the Chinese call it, was "cried down." It had been planted in situations where it was either starved or burned up, and in return for such unkind treatment the pretty exotic obstinately refused to produce any but poor miserable flowers. Then the learned in such matters pronounced it quite unworthy of a place in our gardens amongst English Roses; and I believe, in many instances, it was either allowed to die, or was dug up and thrown away.

Thus five or six years have elapsed since the introduction of this fine climber, and it has never been seen in its proper garb until this summer. Your correspondent "J. R., Sevenoaks," (p. 436), seems to have been as successful with it as the Chinese about Ningpo and Shanghae. With him it is "a Rose nearly as rampant as the old Ayrshire, quite hardy, and covered from the middle of May with hundreds of large loose flowers, of every shade, between a rich reddish buff and a full coppery pink." Messrs. Standish and Noble, of Bagshot, have been equally successful. In a letter lately received, they say: "We have had your salmon-coloured Rose in great beauty this year; the old plants in the open ground (standards) were one mass of bloom, the heads of each being more than 4 feet through."

Such are the results in two places this year, and I dare say your correspondent "J. R." and Messrs. Standish and Noble, would inform you that no great amount of skill was necessary in order to bring the Rose into this state. It is perfectly hardy, scrambling over old walls like an Ayrshire, but it requires a rich soil and plenty of room to grow. The Chinese say that night-soil is one of the best manures to give it. Only fancy a wall completely covered with many hundred flowers, of various hues—yellowish, salmon, and bronze-like, and then say what Rose we have in the gardens of this country so striking, and how great would have been the pity if an introduction of this kind had been lost through the blighting influence of such ignorance and prejudice as have been shown by the person to whose care it was first entrusted. *R. F.*

SILKWORMS,

CHEMICALLY AND PHYSIOLOGICALLY CONSIDERED.

By M. EUGENE PELIGOT (Comptes Rendus, Nov., 1851.)

Some extracts from the above memoir will probably be interesting to those who persevere in rearing small quanties of silkworms in this country, with more or less success. They have been reared, on a small scale, near London, with only two per cent. of deaths; in their natural climate of China, the mortality is said to be only one per cent.; whilst in some of the large establishments in France, it is occasionally as much as 50 per cent.; and when their rearing was attempted on a large scale in this country, or in Ireland, it proved a complete failure, owing, probably, to an imperfect knowledge of some simple, but nevertheless essential points of management. M. Peligot's observations will be followed by a few remarks on the causes of failure in silkworm rearing in this country; and an endeavour will be made to point out the mode by which those causes might be avoided in future.

In order to obtain comparable results, M. Peligot considered it necessary to take the weights of the leaves, worms, litter, &c., in a dry state. In order to estimate the dry weight of the fresh leaves given to the worms, a portion of leaves similar in every respect to that distributed was daily reserved for drying. The quantity of water in the leaves is so variable that it was impossible to proceed otherwise. The leaves employed contained from 17 to 32 per cent. of solid matter. The drying of the worms was necessary in order to ascertain their growth with reference to a given weight of leaves. It was found that the quantity of dry matter which the worms contain is constant during the whole period of their growth. The food, &c., contained in the intestinal canal being previously removed, the quantity of dry matter in both large and small worms is 14 per cent. of their weight. When they are mature, and after they have given out a large quantity of their solid and liquid secretions, the proportion of solid matter is increased to 20 per cent.

The following table exhibits a summary of results, furnished by 1000 parts by weight of fresh leaves:—

	1849	1850.	1851.
Leaves dried (at 230° Fah.)	292	271	266
Worms dried (to 14 per cent. of solid matters)	26	23	21
Litter, or refuse of leaves left by the worms	134	134	124
Excretions	119	98	103

By giving these results in another form, it appears that the worms have left as litter 45, 49, and 46 per cent. of the leaves distributed to them in the respective years; and that 100 parts by weight of leaves in the dry state produces 8 to 9 parts by weight, dry, of worms, and 40, 36, and 38 of excretions. In acquiring a dry weight represented by 100, the worms reject 450, 426, and 490 of residue of leaves, or excrements, so that the nutritive portion which the worms assimilate is only about the sixth part of the weight of the leaves which they actually eat, the other five being returned as excrements, or expended in supplying the respiration of the worms.

It is well known that the worms empty themselves when they attain maturity. The intestines are cleared of excretions and the remains of leaves not digested. They then lose, in a few hours, from 8 to 10 per cent. of their weight. But the diminution of weight does not stop at this. When the worm has chosen a convenient place for making its cocoon, and attached its first threads as fastenings, it expels again some solid excretions, of a green or white colour, and which contain a large quantity of uric acid. Some time after they discharge a colourless liquid, limpid as water, but which gives a decidedly alkaline reaction. This sort of urine is not ammoniacal, as has hitherto been stated; *it is a solution of carbonate of potash*, containing 1½ per cent. of that salt; the quantity of the solution varies from 15 to 20 per cent. of the actual weight of the worm. What purpose does this serve? Entomologists will doubtless answer the question.

With the view of determining the loss of weight consequent on the privation of food for a period more or less prolonged, two worms were put to fast in their last age, but still eating with avidity at the time the experiment was commenced with them. They weighed each 29 grains, and had only attained two-thirds of their growth, for those from amongst which they had been taken weighed at the time of their commencing to spin, from 41 to 46 grains. Nevertheless, at the end of five days' fasting, these two worms blanched, as if they had been mature, and commenced their cocoons; out of these male moths issued at the usual time. They were very small, as were likewise their cocoons. The moths weighed only from 2 to 3 grains, whereas the usual weight is from 6 to 7 grains. The silk in each cocoon weighed about three-fourths of a grain, instead of 2½ grains, which was the average weight of silk in the other cocoons.

In a practical point of view this experiment shows that a rearer, in case of a scarcity of leaves, may still obtain some produce from worms nearly mature, although he cannot complete their feeding. The produce, however small, will still be in proportion to the quantity of leaves consumed. M. Peligot remarks that it would be interesting, as affording a scientific fact, to rear some worms from such starved parents, in order to ascertain how far the consequent diminutiveness may be hereditary; and what influence it might have on the quality of the silk.

It was found that 1000 grains of worms produced 534 grains of cocoons. In determining the quantity of silk in cocoons, M. Peligot came to the important conclusion that *the weight of silk is far from being in proportion to that of the worms or of the moths*: in other words, that the heavy and light cocoons of the same brood and variety of worm contain about the same quantity of silk. The difference is owing to the different weights of the moth. For the males the weight is between 4¾ and 6$\frac{3}{10}$ grains, while the females usually weigh more than double, the excess in weight being due to the eggs which they then contain.

Now, as it is probable that the female moths have come from the heaviest worms, which have consequently consumed a proportionably larger quantity of leaves, it follows that if we could distinguish the males and females when the worms first come out, or even after they have finished their moultings, it would be advantageous to destroy the females, excepting such as ought to be preserved for supplying the necessary quantity of eggs, and give exclusive attention to the rearing of males, because these consume less food, and yet furnish an equal quantity of silk. Unfortunately no one has yet been able to distinguish the sexes of silkworms; but it is possible to do so in the chrysalid and moth state, the females being much heavier than the males.

I have had occasion, remarks M. Peligot, to open a great number of mature worms, and to remove their silk reservoirs or lobes, with the view of studying comparatively the silk, and the crude matter from which it is produced; and I have discovered that the weight of the two lobes, dried, is less than that of the silk produced by the worm, the silk undergoing the same process of drying as the lobes or reservoirs; whilst the latter weighed on an average 1$\frac{56}{100}$ grain, the silk produced was 2½ grains; or, in other terms, the silk produced was 60 per cent. heavier than the substance contained in the silk reservoirs. Probably the secretion of silk goes on within the worm whilst the latter is engaged in forming its cocoon. On an average, the silkworms yield from 5 to 6 per cent. of their weight in silk.‖

VERONICA SPECIOSA.

A FINELY grown and bloomed specimen of this Speedwell was shown at the June exhibition of the Horticultural Society, at Chiswick, in 1844, from which a high estimate of its value was formed by many growers. Subsequent experience, however, has not confirmed the opinion then formed of it, and, as usual in such cases, it speedily fell into unmerited disrepute. Although not comparable as regards effect with many plants common in collections, its easy culture, fine robust habit, and profuse blooming tendency, merit for it a larger share of attention than it receives. I must confess, however, that it never was a favourite of mine, and it would not have formed the subject of this article had not one of your readers requested to be furnished with directions for its culture.

Like New Zealand plants generally, it merely requires protection from severe frost, being all but hardy in this climate. It has stood the winter in many parts of the country with no farther protection than the shelter of a wall, and in many instances it thrives very well planted against a south wall, but in most parts of the country it cannot be successfully cultivated except under glass. It is readily propagated by cuttings of the firm young wood, planted in light sandy soil, covered with a bell-glass, and placed in a shady situation where the temperature may be about 60°. The cuttings should not be put in later than June, so as to have them nice established plants in 5-inch pots previous to winter. Place them on a front shelf of the greenhouse, and do not over water during the winter months.

To secure large specimens without loss of time, place the young plants in a growing temperature of from 45° to 55° in March. As soon as they commence growth shift into pots two sizes larger than those they are in; pinch out the points of the shoots, and peg down the main branches, so as to secure a compact bushy form of growth. Syringe over-head frequently in fine weather, and maintain a rather moist atmosphere, but admit air freely on all favourable occasions, and keep the plants near the glass, affording them all the light possible, and supplying them liberally with water at the root, when in active growth. A cold frame will be the most suitable situation for them during summer, and if this is screened from the mid-day sun it will be all the better. A second shift will probably be necessary early in May, and if the plants are in a healthy thriving state they will stand a large shift: indeed, with ordinary management, they will fill 15-inch pots before winter. It will, however, be advisable to regulate the size of the pots for this shift by the object in view; if it is desirable to have specimens in flower in autumn 12-inch pots will be sufficiently large, and this will be a proper size for plants to flower in winter, or early the following spring, while 15-inch pots may be allowed plants intended to flower about May or any time during the following summer. Keep them rather close after giving them a large shift, and water carefully till the roots strike into the fresh soil. During the summer they will require merely the ordinary routine of watering, syringing, stopping, and staking; but the habit of growth is so good that very little training will be requisite. If any of the plants are intended for autumn flowering they should not be stopped later than June, and it will be well to decide respecting the time at which each plant will be most acceptable in bloom, and discontinue stopping, so as to have the last growth well matured; this will require from two to three months, according to circumstances—a season's experience will be the best guide in this matter. The plants should be freely exposed to light at all times, and especially when the wood expected to produce flowers is being formed and matured. Soft ill-ripened wood will never flower abundantly; and it is also necessary to keep the plants near the glass while in blossom, as the flowers are destitute of colour when placed in a shady part of the house. Large plants to be kept over the winter for flowering in spring should be placed in a light airy situation in the greenhouse, and carefully watered during the dull months.

After flowering, the plants may be cut back and grown for farther use, as they will last for several years, and if liberally supplied with weak clear manure water, they will be hardly inferior to young plants. They may also be turned out of their pots every other year, and have the balls reduced considerably, so as to allow for giving them some fresh soil, without getting them into over large pots; but I prefer young plants, and I think they are less trouble, and occupy less space, and they generally make handsomer specimens than old plants do.

Rich sandy turfy loam should form the staple of the compost for this Veronica; a fourth part of rich turfy peat, or leaf-soil, may be added, but the loam will answer perfectly well alone. It should be broken carefully with the hand, rejecting all inert soil, mix with sharp silver sand, lumps of charcoal or small potsherds, and used in a rather rough state. Use plenty of draining materials for the pots, and cover with a thin layer of the turfy pieces of the soil. Those who wish to grow Veronica speciosa out of doors should give it a place on a south or west wall, in a fresh light porous thoroughly drained soil, and if it does not succeed the lost trouble will not be much. *Alpha.*

Home Correspondence.

Out-door Grapes.—Perceiving in your columns two ters by way of recommendation of the late Clement oare's system of treating the Vine out of doors, I g to add my testimony to the vast superiority of the thod so well treated of in Mr. Hoare's work over the l spur system; as it will enable the cultivator to oduce Grapes much finer, to a certainty, in less space, d consequently in greater abundance. During the esent month of unparalleled solar heat, my Grapes ve bloomed and set very well; and with an ordinary tumn, I expect some superior fruit to any previous ason. Your readers would confer a boon upon the mbler classes by giving them an opportunity of rusing "Hoare on the Vine." We have had a copy esented to our Religious and Useful Knowledge ciety, by a gentleman who has adopted the system th considerable success. Many, if not all, the prin- al towns should be supplied with one or more copies, some of the more influential inhabitants. The stem is the easiest learnt of all the lessons on pruning ave read. Your correspondent, at page 437, writes ore particularly to those who are planting young nes: that is very good, certainly, but I would as ongly advise those who have old ones to bring them der the system forthwith, by avoiding that unscientific ethod of cutting off the leaves to let in the direct rays the sun to spoil (not ripen) the fruit; and to let the ung wood of the present year grow its greatest length til 1st September, so as to gain substance for bearing xt year, when all the old wood should be "out of sight d out of mind;" except, of course, that from which e young wood of this year springs, but even some of e latter must be cut out in October. *B. V., orthampton.*

Peas with Eatable Pods.—Your correspondent "P. C." ee p. 453), may have been supplied with a spurious rt of Pea with eatable pods, but I have constantly ten them on the Continent, and had the curiosity to tness their preparation in the kitchen. They must ve the parchment lining, of which he speaks, removed, hich is always done by breaking the top of the pod wardly, and it peals off without further trouble; but any one attempts to cook and eat them without that ocess, they will have anything but an agreeable dish. ie pod is as sweet and as tender as the Pea, when that done. *F. P. S.*

The Cloth of Gold Rose has flowered here this season excellent style, and has been greatly admired by all ho had the opportunity of seeing it. It was planted ree years ago, but it did not flower until this season. 'ith the exception of a good soaking of liquid manure rly in March, it got no manure last winter. There is good collection of Roses here, but the Cloth of Gold ems to throw them all into the shade. I had the plea- re of seeing it in flower, early in May, in the Hon. . F. Colley's garden, in this county (Kildare); in this ise it was on a south wall. *A. Matthew, Moore Abbey, 'onastereven, July* 21.

Coup de Soleil in Plants, &c.—The blight of which our correspondent "J. R., Sevenoaks," adduces so any examples at p. 452, is more the result of the xcessive heat to which plants have been exposed than ything else, and I am quite convinced that plants have ffered as much from *coup de soleil* as animals; and e have, unfortunately, too many instances of lives lost r the summer of 1852 to be soon forgotten. In this eighbourhood, more especially upon poor sandy, avelly, or shallow soils, and in confined situations, uit of all kinds suffered materially, having the appear- nce of being scalded or scorched, and in many gardens reat quantities dropped off. In one market-garden, ot far from this, Peas, Raspberries, Gooseberries, urrants, especially black, were so completely scorched n the south side of the plants, that the fruit was quite seless, and the leaves could be rubbed up like snuff. 'all-fruit in the same garden, where not covered by ie foliage, was scorched as if burnt by a hot iron, nd is now completely useless; while in some cases ie wood of the trees is much injured also. In ny own immediate neighbourhood, the old mature aves of Rhododendrons, Azaleas, Magnolias, Laurels, c., were scorched to pieces, and that too in places where ey were not, and had not been, suffering from the want f water. The young shoots and foliage upon the ame plants were shrivelled up, so all chance of bloom, xcept from autumn growth, is quite out of the question. n flower garlens, Calceolarias, though perfectly healthy efore, have been dying off ever since, and some of the eds are quite empty. Roses were "baked" in the bud, nd Verbenas, especially the dark-coloured varieties, nd every flower scorched off them; even Camellias nd Azaleas, though shaded by coarse canvas, but nder sheet glass, had the leaves very much scorched. n the water, the leaves of Nymphæa alba were scorched scores of places. It is rather singular, however, hat in an adjoining pond where, through the water eing shallower, many of the leaves stood almost erect, nly those which laid flat upon the surface were njured. How is this to be accounted for? That etarded vegetation after a season of unparalleled dulness hould suffer from such excessive heat and brilliant sun- ight as it was so suddenly exposed to, is not to be ondered at; for here in the shade the thermometer egistered 95°, and in the sun as much as 140°. It is ather singular, that upon my own premises, on the cold lay subsoil, not a plant was injured, not even under lass, while all around on the staple soil, or rather sand nd gravel of Blackheath, the injury was manifest on all sides. Perhaps the most remarkable instance of *coup de soleil*, was in the case of a young specimen of Pinus excelsa which was transplanted last autumn; it had been carefully attended, having made shoots several inches long, but in one day it was as completely shrivelled up as if it had not had a root for months. At the same time an Evergreen Oak in the same garden, transplanted last autumn, and some 15 feet high, had the main stem split several feet in length, and large enough to put your arm through. *W. P. Ayres, Brooklands Nursery, Blackheath.*

Cuthill's Black Prince Strawberry.—I find this to be an excellent variety, both for the open ground and for forcing, and I must say that I am somewhat disappointed at not having seen it more common at our horticultural exhibitions this season. I have had great credit from my employers and others for growing it in pots; they pronounced it to be excellent in flavour, good in colour, and of fair size; and I certainly think it ought to have a place in every collection. My method of growing it differs little from that pursued in cultivating the Keens' Seedling. I lay the first runners in small thumb pots, in which I allow them to remain until the pot becomes well filled with roots; after that I pot into 5-inch pots, which I consider sufficiently large, as this variety is not a strong growing kind; the principal point to be attained in managing this, as in all other varieties, is to get a strong and a well-ripened crown before our friend Frost pays us a visit; if this is done I'll warrant every success. The compost I use for the Black Prince is four parts light sandy loam and one part good old Mushroom dung, mixed well together. I had one long shelf filled with this variety this season; they were ripe in the beginning of April, and were the admiration of all who saw them. *Joseph Meredith, Cleifden, Maidenhead, Berks.*

Cut Roses at the Lewes Show.—Your very proper definition (see p. 469), of what a single footstalk is, would have required no remarks from me, had a reflection not been cast on the censors giving the cup to Roses with buds. Now, the 48 blooms exhibited by Mr. Mitchell certainly had a small, very small, bud or two attached to them, which required some nicety to discern. They were not Roses, neither were they bunches of Noisettes, which were shown in the other stands. There were 48 fine Roses, the number to be exhibited, according to the schedule. In the way some define single footstalks, in future they had better cut off the heads of standards altogether, and show them. Several of the bunches had three and four full-blown Roses, besides buds, which cannot be a disqualification any more than leaves. Six censors were present, all of whom were consulted, and they all came to the same conclusion; and to make assurance doubly sure, the high constable, who framed the schedule, was asked if two Roses shown where only one was required, would disqualify? He distinctly said, "Certainly, yes; 48 Roses, and no more, are allowed to be shown." I hope after this, Mr. Paul and Mr. Cattell will be satisfied. *John Keynes, one of the Censors, Salisbury.*

Grape Shanking.—In the following attempt to elucidate some of the causes of Grape shanking, I have stated only bare facts, leaving your readers to draw what inferences from them they please. Certain it is that no satisfactory elucidation of the causes which produce shanking in Grapes has yet (at least as far as I am aware) been arrived at. Any fact tending to throw light on the subject may therefore possibly be worthy of publication. A gentleman in the county of ——, with a very imperfect knowledge of gardening, either practically or theoretically, built some new forcing houses. Of course the Vineries formed a prominent portion, and as it is with them only I have to do, the others may as well be lost sight of. Now, although the gentleman in question employed a good gardener, for his establishment was considerable, he determined to form the Vine border on his own plan, and compose it of materials compounded under his especial care. As a preliminary, the ground was excavated some 5 feet in depth, and to a proportionate width from the houses; and as an outlet for the drainage was difficult, and would involve too much outlay, compensation was provided by constructing two large dead wells. The soil composing the border was for the most part the parings and scouring of ditches, principally of a stiff clayey nature, and very deficient in vegetable matter, decomposing or otherwise. This precious mixture was accumulated in the place excavated for the purpose to the depth of nearly 6 feet, and no efficient drainage was placed at the bottom; the water being supposed to find its way into the dead wells without any artificial means for conducting it, beyond a few cross drains. Under these conditions young Vines were planted, and for a season or two all progressed satisfactorily; but that something was wrong soon became apparent. Growth became tardy; half of every bunch of fruit was invariably shanked. In a word, I was informed that in no instance had a perfect bunch been produced. Every year matters became worse, many of the Vines died, and were replaced by others; but with no better success. At length the proprietor, satisfied with the result of his experiment, consented to a sweeping reform. The border was newly made, and new Vines planted, under proper directions. The result of that I am not able to detail at this moment. Another instance. In the present year a Vinery, with an excellent crop of Grapes, when about half-grown, was allowed to suffer from cold damp stagnant air, during a season of sunless and rainy days. So damp, indeed, were they that mildew (not the Vine mildew properly so called) in many instances cemented the berries in masses. Recourse was now had to gentle fires, and in a few days the weather changed. Vegetation again progressed, but scarcely a bunch is without strong evidence that something has gone wrong. Shanking is perceptible to an alarming extent. In some instances nearly half the bunch is spoiled. Turn we now to an apparently inexplicable instance of shanking. I was walking through the magnificent Vineries at the Royal Gardens, Frogmore, when the Vines bore their first crop of fruit. And magnificent, indeed, were both bunches and individual berries. Nothing could be finer; but I observed many shanked and vinegar berries. How was this to be accounted for? From the style and character of the arrangements, imperfection in the borders could not be at the root of the matter. I hear from a gentleman's gardener in a large establishment in the west, that he has this season suffered from the malady, for the first time in his practice; for the cause of which he can offer no explanation. *Crayon.*

Hyacinths.—I am much obliged to your "Bath Subscriber" (see p. 437), for his answer to my inquiry respecting the Hyacinth. The treatment, however, which has answered with him, does not succeed with me, though it is recommended as effectual both by Miller and Loudon. There is certainly something peculiar in the management of the Hyacinth, which is not understood by us amateur gardeners, nor indeed by the nurserymen in general; for they all tell me that they import their roots and do not raise them. Is this owing to climate, soil, or treatment? Any one who could point out the mode of preventing the plant from degenerating after its first flowering, would confer a great benefit on the gardening community, for the expense of annually procuring new roots is considerable; and yet, at the same time, there is no flower equal to the Hyacinth for making the early spring garden gay and lively. Early flowers, as we all know, are like friends of youthful days, greeted with a warmth of feeling which later friends seldom excite. My particular object is to learn how I may retain, in their integrity, what I have at present got, without annually introducing a fresh stock. My subject of complaint is one that has excited attention from the very commencement of cultivation:

> "Vidi lecta diu et multo spectata labore,
> Degenerare tamen, ni vis humana quotannis
> Maxima quæque manu legeret; sic omnia fatis
> In pejus ruere ac retro sublapsa referri."

If modern science can in this instance, at least, remedy an evil of such ancient standing, I am sure there are very many who would feel much gratified by being instructed in it. τ. [Consult our columns for 1842, page 107].

Arsenic Works.—An experimental arsenic works has lately been erected within 150 yards of my garden. Many of the trees in it have entirely lost their leaves, but are making fresh shoots, and many plants have withered up suddenly, as if burnt, while others are spotted over with white deposit. The Peach and Nectarine trees, however, suffered most, some appearing almost dead; and I send a few leaves of different plants, begging that you will favour me with your opinion whether the appearances are caused by the deposits from the works, or whether, as one person only has asserted, they are caused by blight. *C. A. B.* [The idea of "blight" causing such appearances is too absurd. They are probably caused by the works. You should have the white deposit analysed.]

Glass Walls.—The inquiries respecting the practical details relating to these walls being more numerous than I can sufficiently reply to privately, I shall be glad to be allowed to answer through the *Gardeners' Chronicle* such as the following questions. Do I find the trees in any way burnt by the sun?—I do not; and with good glass, and the perfect system of ventilation applied to the glass walls, it is impossible that anything of the sort can happen—indeed, the foliage and growth of the Peach trees in luxuriance in the wall have exceeded anything I have almost ever seen. This I attribute, in a great measure, to the trees having the entire advantage of light, with free circulation of air, the foliage at the same time being completely protected from cold dry winds and storms. Do I find the trees attacked by red spider?—I do not; I have not seen the least symptom of that insect on one of the Plum trees. Green-fly made its appearance, but it was immediately destroyed by fumigation, and nothing can be more simple than the destruction of insects in a glass wall, which possesses a great advantage in this respect over the common brick or stone wall. I am frequently asked if by opening the sashes the glass gets much broken?—I have not had a single square damaged since the wall was erected. The whole of the lights are firmly and quietly opened by a simple mechanical contrivance, by which either side of the wall can be immediately ventilated and the trees, when desired, as fully exposed almost as though they were growing unprotected on a stone wall. Another great advantage is this, that by having ventilation on both sides of the wall the trees can always be protected from winds by keeping the lights to the windward shut, and, if necessary, those to the leeward can be opened. I need hardly say that I shall be glad to adopt any suggestion from any of your practical correspondents, if it can be successfully carried out. *C. Ewing, Bodorgan, July* 27.

Lady-birds v. *American Blight.*—A market gardener the other day, with much surprise, asked me the cause of his Apple trees being now entirely clear of American blight (Aphis lanigera), whereas only a fortnight ago their stems and branches were literally covered with it. I have taken the liberty of naming the circumstance,

thinking your readers would probably be interested in knowing that the larva of the lady-bird (coccinella), as well as the insect in its perfect state, is the cause; and that they are now so generally prevalent that they are not only extirpating the Aphis lanigera but all the species of aphides—consequently, not only has the horticulturist, but also the Hop grower, reason to rejoice. I may venture to prognosticate that any failure in their crops this year will not have to be attributed to the fly or Hop blight, as it is termed. *Joshua Major, Knosthorpe, near Leeds.*

Potato Disease.—I trust the editor of the *Mark Lane Express* will not be disappointed in his hope that the disease in the Potato is fast wearing out. In our neighbourhood it is vastly more virulent than at any former period; those crops that were most luxuriant being, as usual, most affected in tuber, the "Ash-leaf Kidney" being in low damp situations and rich gardens all but annihilated. I have seen three bushels dug without being able to discover a sound Potato; while the later varieties have not yet formed their tubers, and, consequently, are a lost crop. Parties here are offering to speculate, by getting the growers to promise Potatoes at 10*l.* per ton next spring, but nobody will take the bait. I heard that one grower of four acres said he would not be able to get half a ton for his whole crop. Many who 10 days ago fancied their crops were safe, are now lamenting over dead stalks and rotten tubers, or no tubers at all. I think it rather a fortunate circumstance (if anything can be fortunate belonging to it), that it has exhibited itself much earlier this year than in former years, as there is yet time to crop the ground with Turnips, Rape, Cabbage, &c., thereby helping the loss out a little. It would be difficult to enumerate all plants that are diseased and affected by spots, not unlike those on the foliage of the Potato. Many Beech-trees a fortnight back had the appearance of autumn, but the young shoots are beginning to come out green; Lilacs are spotted as if they had been watered with boiling-water; the Ash is slightly touched, Thorns very much; Oak and Maple the same; as are also Currants and Gooseberries; Parsnips appear to be attacked with the same sort of fungus as the Potato; it, too, extends to the root. In fact, I think it would be difficult to find any tribe of plants that is not more or less affected; but whether from planetory influence or imported disease, I think, is not yet ascertained; certain it is, that heat and moisture, accompanied by excess of electricity, are exceedingly favourable to its rapid development; and with regard to the Potato disease, I have certainly found nothing yet that has a greater chance of success than the advice I gave some years back in the Royal Agricultural Society's Journal, viz., to plant high and dry, with plenty of room, and such varieties as come early to maturity; those who have followed this rule will have some chance this year; those who have planted in very rich ground, late in the season and close in the rows, so as to deprive of air, and late varieties, will have little trouble in collecting their crop, while many (in this locality at least) who have planted early varieties on the same terms, have fair crops, but they are all rotten. *H. Cox, Longford.*——Permit me to trouble you again about the Potato disease, which you call Botrytis. In this neighbourhood the disease is very general: in my parish I observe it more or less in every garden; but at present I rejoice to be able to state that it is neither in my garden nor fields, except to a very small extent on one wet spot of not more than two yards square. I repeat what I have so often before stated, namely, that the disease attacks the root first, and that it does not ascend to the haulm until the roots are nearly or quite destroyed, and I have particularly observed this for the last five or six years. It is worse than useless to mow off or pull up the haulm, as by those operations the healthy tubers are stopped from growing larger and the diseased ones are not in the least benefited. The appearance on the haulm, by some persons called Botrytis, and by others said to be the effects of an insect which they call the Potato midge, is nothing more than decay caused by the disease in the roots; it is, therefore, not the cause of the disease, but the effect of the cause. As I have repeatedly stated before, no remedy has hitherto been discovered for the disease; but I maintain that it may be prevented, and prevention is better than cure. We have in this neighbourhood many acres of Beans affected in precisely the same manner as the Potatoes are, and the prevention for each for the future may be precisely the same, namely—let the land, if it requires it, be thoroughly drained, not a quarter drained, or half drained, but thoroughly drained; but this cannot be accomplished in any land, unless the drains be made nearly or quite 5 feet deep, or in all cases more than 4 feet deep; and in addition to thorough draining, let the land be deeply and thoroughly cultivated, whether the operation be performed by the plough or spade or fork; and with reference to Potatoes, I would advise the early planting of early kinds. Should these precautions be adopted, no one need fear the Potato disease; or, I will add, if he take care not to put in fresh manure when the Potatoes are planted; but whatever manure be put into the ground, it should be done the year before. By early planting I think February and March the best months, or better than any time in the previous year. Whoever in the spring will take the trouble to examine the roots of either Potatoes or Beans, and if he does so from time to time, he will discover the beginning of disease as soon as it makes its appearance, and long before it is perceptible on the stalks or leaves; but the latter will appear to be beautifully vigorous and healthy until the roots are nearly or completely destroyed; the stalks and leaves or haulm will then sometimes all die away in two or three days, or even in one day. *G. Wilkins, Wix.* [We print this at the instance of the writer, who thinks he ought to be heard: but we must add that we differ from him in every fact, as he calls them, upon which his assumptions are founded. A little knowledge of natural history would be of great use to him.]——As disease has made its appearance this year again, no time should be lost in pulling up the haulm as a certain preventative. I have tried it for two years, and have not had so many bad tubers as would fill my hat, whereas many in this neighbourhood who left the haulm scarcely had any sound. *J. Rust, Enfield.*

Tobacco Paper.—I believe I was the first who recommended Clark's preparation for destroying mealy bug. Allow me now to bear testimony to his excellent tobacco paper for fumigating; it is not half the price of tobacco, and it is equally effective. *J. Rust, Enfield.*

Societies.

Royal Horticultural of Cornwall, *July* 6.—At this second show for the year the following prizes were awarded:—Finest Pine-apple, Queen, Mr. J. Vivian. Best Grapes, White Sweetwater, Dutch Sweetwater, Black Hamburgh, White Frontignan, Wilmot's Muscat, Victoria, Muscat Lunel, Mr. Friend. Best bunch, Mr. Vivian. Best Melon, Green Flesh, Rev. T. Phillpotts. Best pound of Cherries, May Duke, Rev. Canon Rogers. Best quart of Gooseberries, Crown Bob, ditto. Best quart of White Currants, White Dutch, ditto. Best quart of Black, Black Naples, ditto. Best quart of Raspberries, Red Antwerp, Rev. T. Phillpots. Best quart of Strawberries, British Queen, ditto. Best Ornamental Plant, in flower, Dipladenia nobilis, Mr. Williams. Best 12 Stove and Greenhouse Plants, 2d prize, Clerodendron squamatum, Justicia carnea, Ardisia crenulata, Tetratheca verticillata, Rondeletia speciosa, Cyrtoceras reflexum, Achimenes longiflora, &c., Mr. Friend. Best 6: Clerodendron squamatum, Dipladenia crassinoda, Achimenes longiflora major, Erica viridiflora, &c., Mr. Friend. Best specimen Stove Plant, Torenia asiatica, Rev. T. Phillpotts. Best Greenhouse Specimen, Erica viridiflora, Mr. Friend. Best 6 Orchids: Aerides odoratum, Oncidium flexuosum, Calanthe veratrifolia, Vanda teres, Sobralia macrantha, Renanthera coccinea, Rev. T. Phillpotts. Best specimen of ditto, Saccolabium guttatum, Rev. T. Phillpotts. Best 6 Gloxinias, Gesneras, Achimenes, or Sinningias: Achimenes patens, A. longiflora alba, A. longiflora major, A. venusta, A. picta; Gloxinia Victoria, Mr. Friend. Best 6 Pelargoniums: Belle of the Village, Rolla, Aspasia, Desirable, Elegans, Centurion, Mr. J. Jennings. Best 4 ditto: Prince of Orange, Belle of the Village, Elegans, Beck's Nonsuch, Mr. Friend. Best specimen: Centurion, Mr. M. H. Williams. Best Collection of Cut Flowers: Gipsy Bride, Emily, Gulielma, Pretender, Forget-Me-Not, Elegans, Brilliant, Nonsuch, Magnificent, Governor, Crusader, Mr. Jennings. Best 6 Fuchsias: Crimson expanse, Scarlet Turban, Prince Arthur, Gem of the West, Gem of the South, Beauty of Leeds, Mr. Friend. Best Bulbous Plants: Gladiolus insignis, Lilium eximium, L. longiflorum, Pancratium odoratum, Mr. Friend. Best 6 Roses in Pots: Géant des Batailles, Bourbon Queen, Caroline de Jersey, Roi de Belges, Louis Philippe, William Jesse, Mr. Friend. Best 6 Pinks: Lola Montes, Harriet, Alfred Morrison, Winchester, Sappho, Rubens, Mr. W. Woolcock; 2d best: Brilliant, Whipper-in, King of Purples, Miss Susan, Jenny Lind, Royal Forester, Mr. W. M. Tweedy. *Cornwall Gazette.*

Review.

Life of the Rev. William Kirby. By John Freeman. 8vo. Longmans. Pp. 506; with a portrait and one plate.

Dear old friend, and is it thy fate to suffer literary martyrdom? A life without an event, except an honourable fit of soldiering, to be inflated into a space that the history of an empire would barely fill! Five hundred pages of nothing to be the epitaph of the naturalist whose whole life was spent in collecting positive facts, until failing strength and enfeebled intellect closed the way against further progress! Well might the philosopher exclaim, "Save me from my friends."

A man like Kirby should have had no biography, beyond what would have satisfied the columns of an encyclopædia. He had a father and a mother; he went to Cambridge, where, having no taste for mathematics, for his vocation lay among more interesting matters, he failed; he married; he studied entomology, and gained the highest honours therein; was a good country parson, one of the finest of characters; distinguished himself for piety as well as science, and died. That was his life. It could not have been more; it might have been much less. It is therefore painful to find him made the subject of doctrinal disquisitions, and mixed up with Calvinism, Socinianism, and Heaven knows what besides, while, after all, the reader is left in doubt as to what the point is upon which his reputation is founded. There is but one man who could have written a life of Kirby, if it ought to be written, and that is William Spence.

We would not, however, be understood to say that Mr. Freeman has not done his work pretty well—after a fashion. On the contrary, we admit that, like other bookmakers, he has disproved the proposition *ex nihilo nihil fit.* In what way let the following passage, one of the most interesting we can find, attest. Speaking of the celebrated "Monographia Apum," Mr. Freeman remarks:—

"Even had the Monograph proved defective in some of its parts, the encomiums bestowed upon its author would not necessarily have been misapplied; for the work was taken in hand under great disadvantages, and, as more than one eminent entomologist observed, Mr. Kirby had selected a most difficult genus to work upon. It will not, perhaps, be uninteresting to show briefly how far the experience of fifty years tends to confirm, or otherwise, the opinion expressed on the first publication of this Monograph. Fortunately we are able to speak of this not only from general impressions, but from the testimony of one who has studied with great diligence, for many years, our native bees,—for a great part of the time with the Monograph in his hand, and the identical bees from which Mr. Kirby's descriptions were taken, daily before him: Mr. Frederick Smith, of the British Museum, after fifteen years of observation in the study and in the field, published the result of his investigations in the 'Zoologist,' (vol. v. p. 1661.) He there drew up a table exhibiting the number of genera and species which had been added from discoveries since the publication of Mr. Kirby's work, and also the number of species which had been described by Mr. Kirby as distinct, but which upon farther inquiry were proved to be different sexes of the same. It was a singular coincidence that when this paper was published, in 1847, the new species discovered, and those which were struck out, exactly corresponded; this charm has, however, since been broken, as, by Mr. Smith's Catalogue, published by the Trustees of the British Museum in 1851, there were 223 species; and since the publication of this catalogue one species of the genus Ammobates, I have been informed by him, has been discovered as British.

"The Table referred to shows that only two genera, Macropis and Anthrocopa, have been added to the list; and in these only one representative in each has been discovered.

"With respect to Mr. Kirby's enumeration of species, a considerable alteration, especially in the genera Andrena, Nomada, and Bombus, has taken place. Mr. Kirby had himself expressed his fear that in two of his subdivisions of genuine Apes (Nomada and Bombus), he had not been so successful in uniting the sexes as in other families; and it is precisely in these that the greatest amount of change has taken place. Mr. Smith, after quoting the passage referred to, says, 'greatly indeed are we indebted to that illustrious author for the state of comparative perfection to which he reduced the genus . . . . . He has left little for succeeding observers to do, excepting as far as their observations may enable them to give to some individuals their legitimate partners, to describe the species not then discovered, and to correct such errors as were committed solely from the want of such information as time and subsequent discoveries now enable us to rectify.' (Zoologist, vol. ii. p. 541.)

"Mr. Kirby, it must be borne in mind, described some of his bees from individual specimens which were sent him by his friends, or from single bees taken at a distance from their homes; whereas Mr. Smith's observations have been made by taking them out of their nests in a mass, and not unfrequently by breeding them. It was only by such means that the sexes could be properly united.

"There were some bees named in Mr. Kirby's cabinet as new species, with reference to a MS. Some of these, Mr. Smith, without having seen the MS. itself, has described. Mr. Kirby's descriptions were on blank pages of his own interleaved copy of the 'Monograph.' There are also a few places in which observations are made respecting the union of some bees to their partners, instead of leaving them as species.

"The descriptions of the bees themselves are so clear and faultless, that Mr. Smith found little difficulty in determining which of Mr. Kirby's species they were which he had discovered to be inmates of the same dwelling: the work itself, even in this part, supplying the materials by which, in the hands of a careful and accurate commentator, this branch of the science has been advanced to its present state of perfection.

"The publication of the 'Monographia Apum,' and the circumstances arising out of it, although forming undoubtedly the most important feature of this period of Mr. Kirby's life, did not absorb the whole of his thought and attention; so neither do they present themselves as the only matters worthy of notice in taking a retrospective view of the manner in which his capacious mind employed itself."

Garden Memoranda.

Horticultural Society's Garden, Turnham-Green.—In our report of the last *fête* in the garden, held on the 10th inst., we mentioned that the example of Mr. Ewing's patent glass walls, so long expected, had arrived, and was put up, though it was then in a very incomplete state. It is now finished, with the exception of painting, which is in progress, and it will very soon be ready for the trees. Its appearance is so exceedingly light and elegant that it commands universal admiration. As regards its construction, it consists of a line of cast iron uprights, 10 feet high and 7 feet apart, firmly secured to the ground, so that no displacement is possible, and furnished with cross-bars to keep the sides from collapsing or falling outwards; the edges of these uprights are pierced with holes, through which galvanised iron wires are stretched horizontally, whereon to train the trees. At the distance of a foot from both faces of the trellis a perpendicular sash of glass is erected, and the whole is housed in with a glass coping, so contrived as to throw water off into gutters prepared for its removal. In fact, the glass wall, as it appears in the garden, is an erect glass case 10 feet high, about 3 feet thick, and 118 feet long. It is placed in the middle of the experimental ground, half being on one side of the walk, which crosses this department, and the other half on the other side, both

pieces being joined together by means of an arch thrown over the walk. The upright sashes are glazed with 21 oz. sheet glass, three panes in the length, and are set in two grooves, half of them being in an outer one, in which they are fixed, and half in an inner one, in which they are drawn forward or pushed back by means of a screw and handle, so as at once to open or shut half the number of sashes, one moving behind the other. The top or coping, which is glazed with rough plate glass, can be opened outwards in two halves if required, so that ample means of ventilation are secured. The general working of the contrivance, and its suitability to the purposes to which it may be employed, will of course form a subject of comment in future reports; but in the meantime we may mention that it is the general opinion that it cannot fail to answer, and we are sure that nothing of similar character can possibly look handsomer. While speaking of new methods for promoting the perfection of fruit-growing which cheap glass has effected, we may state, in passing, that the tree covered by Cottam and Hallen's Peach-frame appears to be somewhat more luxuriant than its neighbours on the same wall, but the fruit is as yet no larger than that on trees unprotected. The trees on the Peach wall are altogether exceedingly clean and healthy, and are producing a good crop. It may be worthy of notice that a tree of the Shanghae Peach, worked on a Peach stock, planted immediately behind the open fire-place and chimney-flue belonging to the small room adjoining the fruit room, is clothed with foliage of the most healthy description; whereas the leaves on a tree of the same variety, to which no artificial heat is ever afforded, are yellow and sickly, an appearance which trees on the Peach stock always exhibit on the open wall, after a few years' growth. On the Pear wall fruit is pretty abundant, notwithstanding what has dropped in consequence of late spring frosts; and in some trees the good effects of rejecting straw screens laid on the top of the wall during that trying season is especially evident, in the shape of a heavier crop being along the top than in the middle and lower portions of the tree. The treastwood on this wall has already been twice stopped, always beginning at the top with the operation, and proceeding downwards, which has a tendency to better equalise the flow of sap, than when the more common method of commencing at the bottom and going upwards is pursued. The same plan is followed in laying in the wood of Peach-trees. In the portion of the orchard renewed in 1850, and planted with Pears, to be trained on Espaliers, all the side shoots have been a little fore-shortened, with a view to increase the number of roots by inducing an abundance of healthy foliage. Mildew has been found to be very troublesome this season, both in Vineries and on the open wall, where Vines are kept for the sake of maintaining the collection, and it has only been subdued by the most liberal use of sulphur. In the ornamental department, Smith's "transplant shades" have been tried, but they have been found inferior for all the purposes for which they are intended to common flower-pots, while they do not possess the advantages which the flower-pot possesses of being otherwise useful. As regards insect destroyers, Manley's Vegetable Dilutium has proved effective in killing mealy bug without injuring the foliage; but, like most other applications of the sort, three or four trials must be made before the end is accomplished. His blight wash eradicates green-fly; but not better than gas-water. A fine specimen of the sweet scented yellow blossomed Mount Etna Broom (Spartium Etnense), is now in full flower on the conservative wall, the plants on which are receiving a general summer trimming and regulating. The seed pods are being removed from the Rhododendrons in the arboretum and elsewhere, which gives them a clean and neat appearance, as well as promotes their better flowering next year. The late heavy rains, which have slightly damaged the gaiety of flower clumps, have rendered walks firm and hard, and the Grass beautifully green, so that altogether the ornamental part of the garden looks uncommonly well. We understand that at Messrs. Veitch's interesting Fitz Roya patagonica and Saxe-Gothaea conspicua are to be added to the finer kinds of Conifers now existing on the east side, near the Duke of Devonshire's road, where the flower-beds are at present very effective; the different masses of yellow, scarlet, white, blue, and red, contrasting well together, and being as a whole exceedingly striking. The various plants of Yucca recurva, with which the American garden has been furnished, are nearly all in full blossom; a result possibly brought about by their having been but comparatively recently removed. We need scarcely say that they contribute a considerable share of present interest to this at all times delightful spot. In another part of the garden we remarked nice specimens of the blue-flowered Chinese Platycodon, and a white variety, both, we believe, hardy plants, which should be in every collection. The blossoms of the blue are measure at least 3 inches across, and they are almost as fine in colour as the tender Russell Lisianth itself. They like a dry situation for their roots in winter. Another plant, which is not so common in borders as it should be, is Morina longifolia, which in the general aspect of a Thistle adds fine spikes of white and red flowers that are by no means unattractive. Knight's tall Marrow has proved one of the best Peas in the kitchen garden this season, being very prolific; and though sown on the 20th of March, still affording young and tender Peas. It has kept producing new pods in succession all the summer. Woodford's Green Marrow will be found useful on account of its colour; being very dwarf it occupies little room, and it is a great bearer. Out of some 30 varieties of Lettuce, growing in parallel rows, Snow's compact green Cos, the black-seeded green Cos, the Bath Cos, and Rendle's new Crystal Cos, have already all run to seed, while not one of the white Paris Cos, sown at the same time, has started; and in addition to this desirable qualification it is a crisp, tender, and good kind. As regards Cabbage Lettuces, none are better than the Neapolitan, to which, however, a few prefer the Malta. The Titicaca Maize mentioned at p. 279 as being likely to prove hardier and better adapted to this country than other sorts of Indian corn, is progressing favourably. A few of the more forward stalks are already in flower, which must be considered satisfactory. Inquiry having been made through our columns a short time ago as to whether, from the examples of Portland cement and asphalte walks laid down in the garden by way of experiment three years ago, we could speak of their utility, we have to report as follows:—1. Portland cement 1½ inch thick, laid on concrete 3 inches thick, very good. 2. Portland cement and smiths' ashes 1½ inch thick, on concrete 3 inches thick, gray in colour and very satisfactory. 3. Asphalte composed of three parts sand and one part ashes, made quite thick with hot gas-tar, laid on the old walk 3 inches thick, very good. 4. Asphalte composed of hot gas-tar and sand, only 3 inches thick, not quite so good. 5. Asphalte composed of cold gas-tar, sand, and ashes 3 inches thick, not so good as No. 4. 6. Hot gas-tar spread over the old walk, sifted over with sand and well rolled; no weeds have grown on this, but by rights it should have had another dressing the following year. 7. This was done in a similar way with cold gas-tar, but it is not so good. 8. Road-sand and cinders. The last is very bad and full of moss; but no weeds have grown on any of the others.

FLORICULTURE.

THE ANNUAL NATIONAL CARNATION AND PICOTEE EXHIBITION was held this year at Norwich, on the 28th inst., and was well attended. There was a fine display, but owing to the season the bloom was certainly below the average; some sorts have been more affected than others, but, as a whole, few localities can boast of a clean and healthy growth. Derby, Nottingham, and Leicester have each been named for the meeting of 1853, the choice being left to suit the convenience of the town most at leisure on the occasion. The awards at the present meeting were as follows.—Dealers: 12 dissimilar varieties of Carnations—1st, Mr. Turner, of the Royal Nursery, Slough, with Morgan May (Puxley), C.B., Bardolph, Lorenzo, Christopher Sly (May), Flora's Garland, Owen Glendower, Admiral Curzon, Lord Milton, Bolingbroke, Falconbridge, General Monk, and Prince Albert (Hale). 2d, Mr. Bragg, of Slough, with Harriet, Bardolph, Sarah Payne, Fireball, Lord Rancliffe, Twyford Perfection, Admiral Curzon, Lady Ely, Prince Albert, Flora's Garland, Duncan, and Lord Milton. A third collection was contributed by Messrs. Youell, of Yarmouth, in which were good examples of South London, Sarah Payne, Twyford Perfection, &c.; 12 White-ground Picotees: 1st, Mr. Turner, of Slough, with Julia, Mrs. Norman, Miss Puxley, Ophelia, Prince of Wales, Marianne, Bridesmaid, Duke of Rutland, Christabel, Venus, Mrs. Barnard, and Lady Macbeth; 2d, Messrs. Youell, with Heroine, Seedling, Cornelius, Lady H. Moore, Gem, Lady Smith, Alfred, Isabella, Vespasian, Juliet, Venus, and Lady A. Peel; 3d, Mr. Bragg. Private growers: 9 Carnations—1st, M. May, Esq., Sonning, with King John (B F.), Owen Glendower, Friar Lawrence (B F.), Bardolph, Bertram, Christopher Sly (S F.), Jacques (P.F.), Cromwell (S.F.), Hamlet (H.P.B); 2d, C. Lochner, Esq., with Lord Rancliffe, Flora's Garland, William 4th, Prince de Nassau, Bolingbroke, Ariel, Sarah Payne, Lovely Ann, and Lord Milton; 3d, Rev. C. Fellowes, with Prince Albert (Hale), Princess Royal, Justice Shallow, Sarah Payne, Owen Glendower, Prince Arthur, Virginia, Brutus, and Sir J. Reynolds; 4th, Mr. J. Edwards, Holloway, with Prince Albert (Hale), Prince Albert (Puxley), Flora's Garland, Sarah Payne, Justice Shallow, Admiral Curzon, Queen Victoria, Lady Gardener, and Lord Milton. Rev. J. Burroughes, J. J. Colman, Esq., and Mr W. Barker, were also exhibitors. Private growers: 9 white ground Picotees: 1st, Mr. Lochner, with Mrs. Norman, Alfred, Ganymede, Juliet, Queen Victoria (Green), Lord Nelson Venus ex, Lady H. Moore, and Christabel; 2d, Mr. May, with Lavinia, Mrs. Norman, Alfred, Princess Royal, Fimbria, Lady Macbeth ex ex, Seedling No. 4, Venus, and Mrs. Barnard ex; 3d, Rev. C. Fellowes, with Duke of Rutland, Venus, and seedlings of various degrees of merit; 4th, Mr. J. Edwards, with Queen Victoria (Green), Alfred, Princess Royal, Mrs. Norman, Lord Nelson, Sebastian, Prince of Wales, Venus, and Lilacea. The Rev. J. Burroughes, and J. J. Colman, Esq., were exhibitors in this class. Six yellow ground Picotees: 1st, Mr. P. Lochner, with Queen Victoria, Fairy, Queen of Yellows, George III., Duchess of Normanby, and Euphemia; 2d, Mr. Turner, with Champion, Euphemia, Princess Alice, Queen of Yellows, Queen Victoria, and Mount Etna; 3d, Mr. J. Edwards, with Malvolio, Prince of Orange, Euphemia, Malay Chief, Conrad, and Princess Alice. Of Verbenas, which were numerous and fine, the Rev. J. Burroughes had King, Reine Hortense, Napoleon Bonaparte, St. Margaret, Perfection, National, British Queen, Miss Jane, Exquisite, Laura, White Perfection, Defiance, Magnificent, Ormsby Beauty, and Marianne, &c. Hollyhocks: both spikes and cut blooms were shown in considerable numbers, and in fine condition. The 1st and 2d prizes given to Amateurs, for 6 spikes, were awarded to G. Holmes, Esq., Norwich, for neat and closely-bloomed specimens. In the first lot were Meteor, bright red; Delicata, Commander-in-Chief, Rosea grandiflora, Comet, and Abd-el-Kader: the second best consisted of Figaro, salmon, quite new in colour, Charles Baron, Model of Perfection, Fenella, light shaded, new, and very striking; and Queen of Beauties. Mr. Chater, of Saffron Walden, took the 1st prize for 12 spikes, with Ophir, pale yellow; C. Baron, Walden Gem, fine; Saffrano, new and fine; Raphael, blush, with purple at the base; Meteor, fine; Magnum Bonum, Rosy Queen, Formosa, Spectabilis, Susannah, and Joan of Arc. Mr Chater also sent a large collection of cut flowers comprised of the popular varieties. In cut blooms of 12 varieties, by Amateurs, the 1st prize was awarded to J. J. Colman, Esq., for Comet, Mr. Dundas, Susannah, Charles Turner, Spectabilis, Queen, Formosa, Rosea grandiflora, Caroline, Obscura, Rubens, and Walden Gem; 2d, to Mr. Holmes, for Comet, Walden Gem, C. Baron, Enchantress, Meteor, Formosa, Figaro, Rosea grandiflora, Obscura, Bella Donna, and Model. Mr. Bircham, of Hedenham, exhibited some beautifully grown spikes and cut blooms, not for competition. Among these were some new varieties, of very fine quality; foremost amongst which were Pourpre de Tyre, a new shade of purple, very close in the spike, and individual flowers very good, close and compact; Primrose Model of Perfection, a peculiar shade of yellow, large and fine; Penelope, good, but rather too much guard petal; and Queen of Denmark, orange yellow, of a new and desirable shade; it was awarded a First Class Certificate. Amongst cut blooms from Mr. Bircham, were Prince of Orange, buff yellow, with orange at the base; and new Black Prince, quite black, and much finer than the old variety under the same name. Lastly, there was a large collection of cut blooms from Mr. Turner and Mr. Bragg.—Mr. Bradley, gr. to — Peto Esq., M.P., sent a group of finely grown Stove and Greenhouse plants. Some good Fuchsias were staged by Mr. Bird; and among Roses were: Standard of Mareugo, Souvenir de la Malmaison, Géant des Batailles, Boule de Nantueil, Mrs. Bosanquet, &c.—In addition to Roses a nice stand of Dahlia blooms was also sent by the Rev. C. Fellowes; and Mr. J. Edwards had Duke of Wellington, George Glenny, Sir F. Bathurst, Malvina ex., Magnificent, Mrs. Barnard, Lizzy, &c.—We now close our report with a brief enumeration of the Seedling Picotees; for of Carnations there were none: a First Class Certificate was unanimously granted to Haidee, which is the flower hitherto shown as Fellowes' 51; a light purple of remarkably bold and clean petal, not over full; edges as smooth as most varieties, although not yet perfection in that respect, and the colour well laid on; this was staged by Mr Fellowes in his prize collection: Bridesmaid (Matthews) was similarly rewarded; it is of the same class, light purple, and in every respect on an equality with the foregoing, with perhaps the improvement of a smoother edge; for symmetry it would be difficult to surpass these two varieties. A First Class Certificate was granted to Lady Macbeth (May), heavy red; and when we assert it to be an improvement on Mrs. Norman, all will feel sure that its merits must be great; except a better tone of white, we know not what more could be desired. Turner's Miss Puxley was similarly rewarded; this is of the rose-coloured class, and although far from perfection it is an addition to a class at present select. Lady Page Wood (Costar) is a full flower, with medium purple edge, and although not considered first class, it may be grown with advantage. *J. E.*

CARNATIONS AND PICOTEES: *J W, jun.* The less that is said respecting the exhibitions in question the better. There can be no doubt that the censors acted justly in regard to them.

RANUNCULUS: *Anon.* We regret to say we are unable to give you any information respecting the Ranunculus about which you inquire. It is not in the trade, that we know of.

ROSES: *Rosa.* Cut off the decayed flower stems; give the Perpetuals an occasional surface stirring, and water and mulch, and in the event of drought a vigorous growth will follow, from which you may expect autumn flowers. *J. E.*

SEEDLING FLOWERS.

CARNATIONS: *J S and Son.* Very fine rose flake; colour brilliant carmine rose fairly distributed over the petal; the white, if not quite pure, is as much so as most other flowers in its class; edges smooth, texture good, size medium; the petals are nicely rounded, although small, and furnish a good-formed flower, free from confusion.—*B T.* Sports, such as you describe, are an every season's occurrence, and cannot be prevented. It is the nature of these flowers to "run" and "sport."

FUCHSIAS: *L and Co.* 1, tube and sepals crimson, corolla purple—no improvement; 2, sepals reflexed, so as to display to disadvantage their want of colour; the green tips are objectionable; 3, unequal to Hebe; 4, a good flower but for the narrowness of its sepals.

LARKSPURS: *D W.* 2, sky blue; 6 and 7, dark blue; 11, almost white. All very beautiful, and apparently profuse bloomers.

PELARGONIUMS: *E L.* A flower possessing very fine colours, with surface, edges, and substance surpassing most of our best show flowers; lower petals of the deepest rosy pink, approaching carmine, the base of the petals and edges, as they approach the shoulder, bright peach; upper petals similarly coloured and shaded, and having a small spot of purplish crimson inclined to ray outwards from the base; the truss contained seven well expanded and full blown pips. The shape is not very good, but that may improve.

PICOTEES: *J S and Son.* 3, colour red, light edge, white pure, with admirable surface and fine texture; the marking is regularly laid on, very similar in quality to Marris' Prince Albert, by no means so heavy as Mrs. Norman. Petals of medium size, and passively smooth on the edges; round, inclined to fulness; call it "Ann." 1, 1851, is in every respect a nice variety, except the marking on the edges, which is not solid enough; the colour is cheerful, and the white very pure. *J. E.*

Miscellaneous.

The Currants in Greece.—A blight has attacked the Vines and Currant-bushes throughout Achaia, Elis, Corinth, and other provinces, not sparing, it is said, Zante and Cephalonia. The green fruit is no sooner touched by the blight than it turns gray, becomes enveloped with a matter, which at a short distance gives it the appearance of a burnt cinder, and is viscid like rotten fruit; whilst the Vine withers, dries up, and dies. The cultivators are in despair, and the Government, alarmed at the consequences which may ensue, has appointed a commission to visit the different points, and report on the means to be adopted. The loss of the crop of Currants would be a most serious injury, as that fruit is annually exported to the amount of from six to seven millions of francs. *North British Agriculturist.*

Influence of the Salts of Iron on Vegetation. By M. Lassaigne.—When salts of iron get access to soils which do not decompose them, and so, becoming dissolved, enter the plants, they act injuriously. They do no injury when they are decomposed by lime and siliceous compounds; the carbonate of the protoxide of iron is taken up without injury to the plants. A small addition of an iron salt causes no alteration in an ordinary soil; iron salts have no influence on the green colour of the leaves. The injurious effects of the salts of the protoxide of iron, and of the peroxide, consist in an astriction which they exercise on the radicles; and if a small addition of iron to water with which plants are watered be of use, this does not depend on an absorption, but on an action on the tissues of the plant itself. When iron salts have been found efficacious in destroying injurious plants, this effect depends on the radicles being pervious to the solution of iron; absorption causes the destruction of the plant. If salts, especially of the protoxide of iron, be added to soils the plants of which in their ordinary vegetation always contain a certain amount of iron, the amount of iron in their ashes is not raised above the usual normal and variable quantity which is generally contained in the ashes of the plants. *Comptes Rendus*, xxxiv., p. 587; *Chemical Gazette.*

On the Preservation of the Fecundated Eggs of Fishes. By M. Coste.—I communicated to the academy, at a previous meeting, the result of an experiment tending to prove that it was possible to preserve the eggs of salmon and trout out of the water a sufficient time to transport them to great distances, and to make them hatch in places where it was desired to introduce these fish. The following fact shows that these eggs can be preserved during more than two months without losing the power of development. If this fact be confirmed, we shall possess the means of procuring species living in distant parts of the globe and acclimatising them in regions which they have never yet inhabited. This result, obtained by MM. Berthot and Detzem, is evidently of great importance; the following are the means adopted by these gentlemen:—Eggs of salmon artificially fecundated were placed in a deal box, in layers alternating with damp sand. The box was then placed for two months in a cold room, the temperature of which, however, was sufficiently high to preserve them from freezing. At the expiration of this time the eggs were shrivelled, and before taking them out of the box they were placed in water, so that they might become moistened through the sand with which they were covered; for when this precaution is neglected, they perish. Some of these eggs were sent to me by MM. Berthot and Detzem. I placed them in my apparatus, where they have since hatched. The experiment has therefore succeeded. *Comptes Rendus, April* 5, 1852, p. 507; *Annals of Natural History.*

On a New Plastic Material for forming various Objects. By Professor Purkinje.—Five parts of sifted whiting are mixed with a solution of 1 part of glue. When the whiting is worked up into a paste with the glue, a proportionate quantity of Venetian turpentine is added to it, by which the brittleness of the paste is destroyed. In order to prevent its clinging to the hands whilst the Venetian turpentine is being worked into the paste, a small quantity of Linseed-oil is added from time to time. The mass may also be coloured by kneading in any colour that may be desired. It may be pressed into shapes, and used for the production of bas-reliefs and other figures, such as animals, &c. It may also be worked by hand into models, during which operation the hands must be rubbed with Linseed-oil; the mass must also be kept warm during the process. When it cools and dries, which takes place in a few hours, it becomes as hard as stone, and may then be employed for the multiplication of these forms. *Gewerbebl. aus Wurtemb.*, 1852, p. 45; *Chemical Gazette.*

Grape Blight.—The *Monitore dei Comuni* of Turin quotes a letter from Novara of the 12th, from which it appears that an experienced agriculturist of that province, M. Antonio Gamba, has found a remedy for the Grape blight. Attributing the formation of the Cryptogamous plant which causes it to a stoppage in the circulation of the sap, he made an incision close to the root in the trunk of a Vine attacked with the malady, in order to give a vent to the diseased humours. The blight, it is said, disappeared almost instantaneously, and the same effect has been subsequently obtained upon every Vine that has been subjected to the operation.

Calendar of Operations.

(For the ensuing week.)

PLANT DEPARTMENT.

In keeping up a stock of plants there must necessarily be, besides those depended on for the principal show of bloom, younger branches of the same family, who are growing onwards, to supersede their seniors, whenever old age or decay shall consign the latter to the rubbish-heap. We previously adverted to the rapidity with which even difficult plants may be grown; any plants, therefore, in pots, which it is desirable should be grown quick, and to aid which purpose have been put into a kind of rest after their spring growth, may now have a shift according to their habits and condition; it will not, however, be advisable to give them so large a shift, comparatively, at this season as might have been ventured upon in the spring, as whatever wood the plant makes after the present shift must be ripened, unless in the case of such free flowering plants as bloom on the current growing wood. As this shift will have to carry the plant through the winter months, the drainage of the pots should be ample. After a few days a free open situation should be selected for the newly-potted plants, that the new growth may be made under favourable conditions for its maturation. The greatest care must be taken where valuable, tender-rooted plants are out of doors; the heavy drenching rains we have recently had will (unless they have been well protected) have placed their roots in an unfavourable state, and no time should be lost in removing such under the cover of glass. The more hardy plants left out should be examined frequently, to see the water passes freely through the pots. ORCHIDS.—A number of Orchids will by this have made their growth, and may be removed gradually to a drier and cooler atmosphere (see page 424). Those which still continue growing must have the syringe two or three times daily, and a humid air maintained by well watering every vacant part of the interior. At the same time plants growing on blocks, or suspended in baskets, should be frequently soaked, to effect the complete moistening of the growing material. Some young plants which it is desirable to lose no time with, may again have a shift provided as potted above. They have had a short rest since the spring growth was completed.

FORCING DEPARTMENT.

PINERY.—Whenever the house for next season's fruiting is ready, the plants had better be transferred there at once; the more forward plants should be selected, and have their final shift before removal. When it is desirable to have fruit early, say in April and May, the fruiting pot should not be over large, as it will be necessary to get the plants into rest early. As a rule they should have their pots well filled with roots by the middle of September, and while growing allow them all the light you can command, and a proportionate quantity of air. The best Pines for very early forcing are the Black Antigua, common Queen, and the Providence; to assist them a few Jamaicas may be started in October, as they take a couple of months longer to ripen than the above. The plants for the summer crop may remain for a week or two, unless there are reasons for potting them immediately. They may have a larger shift than recommended for the above, and should be kept longer growing in the autumn.

FLOWER GARDEN AND SHRUBBERY.

The flower-garden will be now in its greatest beauty, and every means must be taken to keep turf, gravel, and edgings of all kinds in the neatest order, that no drawback to the complete keeping of the whole may occur; dead flowers should be picked off daily, and stray growths reduced within proper limits. Trailing and climbing plants should be frequently gone over, to keep them neatly trained and secure from rough winds; for the same purpose examine Hollyhocks, Dahlias, and other tall growing plants. Remove the dead flowers from Roses, and encourage the production of autumn blooms in the Perpetuals, by watering with liquid manure, and mulching the surface of the ground, where practicable. Continue the propagation of plants for next season, in which dispatch with the more delicate Pelargoniums should be urged, to get them established before winter.

FLORISTS' FLOWERS.

DAHLIAS.—Fork the ground slightly, and mulch the surface with very rotten manure; water plentifully every evening when the weather is dry; take care that the laterals are well staked out, and use every means to entrap earwigs and other vermin which injure the flowers. PINKS.—Look over the faded blooms, extract the petals from the pods (we believe that it will be a capital seed season, our own giving abundant promise). Should wet set in these decayed petals will act prejudicially, by retaining moisture round the lower part, which will cause rottenness and consequent destruction. PANSIES.—Rooted cuttings for making up the autumnal beds will now be ready, or nearly so. It will, therefore, be necessary to make the beds requisite for their reception. In doing this it is absolutely necessary that wireworms should be caught, therefore the compost should have repeated turnings; for these pernicious insects are as destructive amongst young Pansies as they are to Carnation layers. Throw out the soil from the Tulip bed on the paths, so that the soil may sweeten previously to being returned. Some florists adopt the plan, with considerable success, of sowing Mustard seed on it, which, after having vegetated, is mixed with the soil: this is believed to be the means of banishing wireworms from the bed.

HARDY FRUIT GARDEN.

The summer pruning and nailing in of the current year's wood will require following up; the late rains have caused an increased growth of midsummer wood, which must be suffered to remain for a short time; from the same cause it is probable some of the foreright shoots stopped earlier may again break; where the above is the case it will be better to wait for a week or two, till the growth becomes less active, before stopping or cutting back is resorted to. Those trees which had their breast-wood loosely tied in may now have the shoots cut back to two or three eyes, beginning with the least vigorous trees first, as they will be least liable to start, and allowing the stronger growing kinds to remain as they are till growth is so far on the decline that all danger of their again breaking is over, which would prevent the formation of fruit-buds from the remaining eyes. Where time will permit Currants, Gooseberries, and Raspberries, will be benefited by the remaining wood of the present year's growth being thinned, leaving only sufficient to furnish next season's crop A portion of the Gooseberry and Currant bushes should be matted up, or protected in some way from the ravages of wasps and birds, for autumn use.

KITCHEN GARDEN.

Clear away haulm stumps and the refuse of crops directly they are over, and if the ground is not wanted dig it over, to remain till wanted. At this season, however, there is seldom ground to spare; for it should be remembered, that the supply for several months of the next winter and spring will depend on the diligence now made use of, in planting out as large a supply of those kinds of vegetables most likely to be in demand as can possibly be found room for. To assist the above, Potatoes and other crops, soon coming off, may be interlined with any of the kinds of Broccolies or winter greens; and where the above are not sufficient, a quantity may be planted at 1 foot apart, to wait for ground as it comes in, by the removal of other crops, when the whole of the above may be again planted at proper distances, or every other row and each alternate plant of the remainder removed to vacant ground. The above will answer well where ground is limited, more particularly with those kinds coming into use in spring. Pay strict attention to the requirement of growing crops.

STATE OF THE WEATHER NEAR LONDON,

For the week ending July 29, 1852, as observed at the Horticultural Gardens Chiswick.

July.	Moon's Age.	Barometer. Max.	Barometer. Min.	Temperature. Of the Air. Max.	Min.	Mean	Of the Earth. 1 foot deep.	2 feet deep.	Wind.	Rain.
Friday ..23	6	30.138	30.052	70	52	65.5	65	62½	E.	.00
Satur. ..24	7	29.951	29.842	78	57	67.5	65½	63½	E.	.00
Sunday . 25	8	29.733	29.656	74	58	66.0	65½	62½	W.	.36
Monday 26	9	29.708	29.640	77	59	68.0	65	62½	S.W.	.10
Tues. .. 27	10	29.993	29.862	79	52	65.5	65½	63	E	.00
Wed. .. 28	11	30.054	30.025	77	59	68.0	65	63½	N.E.	.00
Thurs... 29	12	30.054	30.034	74	47	60.5	65	63½	N.E.	.00
Average .		29.948	29.873	76.8	54.8	65.8	65.2	63.0		.46

July 23—Very fine; overcast at night.
— 24—Very fine; cloudy.
— 25—Overcast; rain; distant thunder; heavy rain; overcast.
— 26—Overcast, cloudy and fine; dark clouds; shower—5-6 P.M.
— 27—Slight haze; fine; very fine; clear.
— 28—Very fine throughout; densely overcast at night.
— 29—Very fine; clear and cool at night.
Mean temperature of the week, 2½ deg. above the average

STATE OF THE WEATHER AT CHISWICK,

During the last 26 years, for the ensuing week, ending Aug 7, 1852.

August.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 1	75.5	51.7	63.6	12	1.23 in.	1	2	5	2	3	6	6	1
Mon 2	75.0	53.6	64.3	13	0.65	1	3	2	—	7	8	3	2
Tues. 3	74.3	51.7	63.0	14	1.03	3	3	2	1	1	10	4	1
Wed. 4	75.6	52.5	64.0	14	0.55	1	2	2	3	3	10	4	1
Thurs. 5	73.7	53.4	63.5	12	0.43	—	1	2	4	2	3	9	3
Friday 6	72.5	52.2	62.4	10	0.58	—	5	2	1	2	6	7	2
Satur. 7	74.6	51.2	62.9	6	0.57	—	3	2	—	4	15	2	—

The highest temperature during the above period occurred on the 1st 1849—therm. 92 deg.; and the lowest on the 3d, 1847—therm. 38 deg.

Notices to Correspondents.

ANSWERS TO CORRESPONDENTS: *H T.* We would willingly comply with your request if we could, but there are often insuperable difficulties in the way; we should also fill our columns with matter of how trifling and uninteresting a nature you can hardly form an idea. Whenever the subject calls for it we *do* what you suggest, by transferring inquiries to Home Correspondence, and answering them there. Rose rust is the too well known Uredo Rosæ, the cause of whose appearance is buried in obscurity.

BAROMETERS: *Sub.* See an advertisement in another column of to-day's paper.

BEES: *H M* will thank some of our correspondents to inform her what to do with her bees. Instead of flying away in a swarm in the usual manner, they cluster about the stand above and below, and after remaining in that state a few days, they are discovered to have made a perfect comb under the stand. The hive is a double straw hive, with a glass in the upper one for them to go into, but which they obstinately decline doing. What is she to do?

BOOKS: *C D.* The pamphlet is in 4to, without title-page, but with the cross heading "Courte Introduction au Travail de M. Esprit Fabre d'Agde sur la Métamorphose de deux Ægilops en Triticum; par M. Félix Dunal, Doyen de la Faculté des Sciences, Membre de la Société d'Agriculture de l'Herault." Then at p. 5, "Des Ægilops du Midi de la France, et de leur Transformation; par M. Esprit Fabre d'Agde," &c. In all there are 20 pp. of letter-press, and three lithographic plates. The pamphlet is evidently a part of some French "Transactions," but we do not know of what. We owe our copy to the kindness of Prof. Dunal.—*H H.* The new edition of the "Vegetable Kingdom" is about to go to press.—*L m n.* Dr. Lindley refuses to hold himself responsible for the bad colouring of the later issues of "Ladies' Botany."

CONIFEROUS SEEDS: *W Johnston.* Gather the cones when perfectly ripe. Keep them afterwards in a *dry* and *well-ventilated* place until they can be sown. A box in the hold of a ship is the worst of all possible places.

FLORAL SOCIETY: *S Walters.* A floral society confines itself to "florists' flowers;" a horticultural society may or may not do so; it generally includes them, at least to some extent.

GRAPES: *J W D.* They are attacked by mildew, for which the only remedy is sulphur, but it should have been applied the moment the disease made its appearance; nevertheless, persevere in dusting the leaves, branches, and fruit with flowers of sulphur, and you will probably even yet be able to kill the fungus.‡

INSECTS: *W M (Messrs. Lee).* The minute white eggs fixed on slender footstalks at the edge of the Rose-leaf, are those of the golden-eyes lace-winged fly Chrysopa perla, the larvæ hatched from which feed upon aphides, and should therefore be preserved See *Gard. Chron.*, 1848, p 389, for figures.

MUTUAL INSTRUCTION SOCIETIES: *W Ward.* We wish we could think that your plan would answer. But experience says, no. All such plans sound well, but fail from two causes—a want of lasting energy in the promoters, and the jealousies, squabbles, and indifference of those whose interests the association intends to serve.

NAMES OF INSECTS: A German correspondent in Hamburgh asks for the entomological names of the following common garden insects, viz., Cockroach (Blatta orientalis), Thrips (Thrips Physapus, but there are other species), Mealy-bug (Coccus Adonidum), Scale (Cocci of various kinds), Woodlouse (Oniscus asellus), Wireworm (Elater lineatus). May we beg him and other German correspondents to use in future the usual round characters in their letters, instead of German characters, which few English can read without difficulty.

NAMES OF PLANTS: *J A B.* 1, Hemionitis palmata; 2, Gymnogramma chrysophylla; 3, G. calomelanos. *S.—C L N.* 1, Utricularia vulgaris; 2, Comarum palustre.—*F W.* We believe the leaves belong to Acer negundo.—*J A B.* We must trouble you to say where your Grass comes from. We do not recognise it. It is quite young.—*Nepeta.* Two varieties of Nepeta micrantha.—*A B C.* Orobanche minor and Sedum rupestre.—*J W G.* Lastrea Filix-mas. *S.*—*Sub.* Achillea Ptarmica, or Sneezewort.—*Z.* Cerinthe major.—*Lady D.* Salisburia adiantifolia, the Ging-Ko tree.—*Young Gardener.* 1, Trachelium cæruleum; 2, Colutea cruenta; 3, Symphytum officinale.—*Enquirer.* A Cuscuta, of the habits of which you will find a full account in our volume for 1844, page 625.

PINE-APPLES: *Mr M Sandfield.* Neither fruiting nor succession Pines have required artificial heat within this last month to carry on their culture, even allowing for liberal admissions of air. The deficiency of size, flavour, &c., in your fruit cannot therefore be attributed to the want of artificial heat, and is, doubtless, owing to some other cause.‡

STRAWBERRIES: *Sub.* Cuthill's Black Prince, Keens' Seedling, British Queen, and the Elton.‡—*J B.* The large white Strawberry to which you allude is probably the Round White Carolina. It exists in the garden of the Horticultural Society, at Chiswick. The Prolific or Conical Hautbois is, on the whole, the best. According to your description, you have not got it; doubtless you have instead the large flat Hautbois.‖

*** As usual, many communications have been received too late, and others are unavoidably detained till the necessary inquiries can be made.

PERUVIAN GUANO.

CAUTION TO AGRICULTURISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

ANTONY GIBBS AND SONS, AS THE ONLY IMPORTERS OF PERUVIAN GUANO,

Consider it to be their duty to the Peruvian Government and to the Public again to recommend Farmers and all others who buy to be carefully on their guard.

The character of the parties from whom they purchase will of course be the best security, and, in addition to particular attention to that point, ANTONY GIBBS AND SONS think it well to remind buyers that—

The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 9l. 5s. per ton, less 2½ per cent.

Any resales made by dealers at a lower price must therefore either leave a loss to them, or the article must be adulterated.

THE LONDON MANURE COMPANY offer the following Manures on the best terms, warranting every article strictly genuine:—Peruvian Guano, Superphosphate of Lime, Nitrate of Soda, Concentrated Urate, Peat Charcoal, Gypsum, Fishery Salt from Cornwall, also a constant supply of Salt for agricultural purposes; Linseed and Rape Cake. Peruvian Guano, warranted the genuine importation of Messrs. A. Gibbs and Sons, at 9l. 10s. per ton, or for 5 tons and upwards, 9l. 5s. in Dock. EDWARD PURSER, Sec.
40, New Bridge-street, Blackfriars, London.

MANURES.—The following Manures are manufactured at Mr. LAWES'S Factory, Deptford Creek:

Turnip Manure, per ton	£7	0	0
Superphosphate of Lime	7	0	0
Sulphuric Acid and Coprolites	5	0	0

Office, 69, King William-street, City, London.
N.B. Peruvian Guano, guaranteed to contain 16 per cent. of Ammonia, 9l. 10s. per ton; and for 5 tons or more, 9l. 5s. per ton, in dock. Sulphate of ammonia, &c.

CHARCOAL AND SEWAGE MANURE.—Promote the Health and Wealth of Town and Country by increasing the use of that valuable manure PEAT CHARCOAL, impregnated with the fertilising matter of LONDON SEWAGE. The ammonia, phosphates, and fæces are absorbed, and the water pressed out bright, palatable, and soft.
Sold at the Charcoal and Sewage Works, Stanley-bridge, Fulham, Middlesex, at 60s. per ton, 4s. per cwt., 2s. 6d. per half cwt.

TO AGRICULTURISTS.

OWEN'S ANIMALISED CARBON is now for Sale, at 2l. 5s. per ton in bulk.—This Manure has been introduced, with the most beneficial results, at St. Croix and the Mauritius, in the growth of the Sugar Cane, as proved by testimonials from the planters. The powerful fertilising properties of the Carbon have long since been acknowledged in Denmark, where it has been extensively used for agricultural purposes, as no less than 26,000 tons have already been sold. It is ready for immediate use, having no occasion to be ground, is equally as portable and diffusible as bones, and the low price at which it can be sold in this country must always be a paramount recommendation. *A liberal Commission allowed to Dealers or Agents.* For copies of the testimonials of its utility in this country, also for samples, apply to J. OWEN and Co., 3, Rood-lane, London.
Messrs. J. OWEN and Co. are now importing from their Copenhagen Manufactory SUPERPHOSPHATE OF LIME, of the very best description, containing at least 18 per cent. of Neutral Soluble Phosphate of Lime, and capable of furnishing at least 3 per cent. of Ammonia to the Soil. The "Analysis" is made by Professor J. THOMAS WAY, Consulting Chemist to the Royal Agricultural Society. The price, in London, of this powerful Manure, is 7l. per ton, cash, or Banker's Bill on London.

STEPHENSON AND PEILL, 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Manufacturers of Copper Cylindrical and Improved Conical Iron BOILERS, and Conservatory and Hothouse Builders, either in wood or iron, respectfully call the attention of the Nobility, Gentry, and Nurserymen to their simple but efficacious method of warming Horticultural and other Buildings by hot water. From the extensive works they have executed, references of the highest respectability can be given, and full particulars furnished on application.

The Agricultural Gazette.

SATURDAY, JULY 31, 1852.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY, Aug. 4 } Highland Society's Meeting at
THURSDAY, — 5 } Perth.
WEDNESDAY, — 11—Agricultural Society of England.
THURSDAY, — 12—Agricultural Imp. Society of Ireland.

We have received from Mr. THOMAS LANG, the manager we presume of the WEST OF ENGLAND MANURE COMPANY'S Works, a long extract from the *Sherborne Journal*, intended to exculpate that company from the charges to which it was exposed by the revelations of Mr. GRABURN, in our Journal of the 10th inst. Our columns are occupied by more important matters than long-winded exculpations of manure dealers; we can, therefore, do no more than pick out the essential parts of what our correspondent has to allege in defence of the company. Firstly, he produces a Mr. IMPEY, by whom it appears that the superphosphate in question was sold; and Mr. IMPEY, after premising that he cannot contradict Mr. GRABURN'S statement, tells a long story of how he has formerly dealt in Birmingham, and then in London, and then at Ilminster; how the second city furnished him rubbish, and how the manure from the third in *almost* every instance gave satisfaction. He also states that he thinks Professor WAY *must have made some mistake in his analysis* (!), and so forth.

Then comes Mr. LANG, who gives an analysis by Prof. WAY of some manure supplied to him by the West of England Company on the 1st of July, and another from Mr. HERAPATH of the same date, and a third analysis of some stuff supplied by another manure-making firm, and a fourth of some West of England ammonio-phosphate manure furnished to Mr. CROCKER, who says he is pleased to find it so favourably spoken of, but who thinks that for all that "the neighbourhood is greatly indebted to Mr. GRABURN for his straightforward conduct." We suspect that the public will agree as to this with Mr. CROCKER.

What all this parade of authority has to do with Mr. GRABURN'S case we fail to perceive. It strikes us that an analysis of ammonio-phosphate sold to Mr. CROCKER in July throws something less than light upon the superphosphate sold to Mr. FRY some time in May. To be sure the Company say that they don't profess to make superphosphate, but it is not denied that their own agent sold something under that name. They also declare that they "have striven to make a good manure," and that since this subject has been made public they have received large orders—from parties whose names are not given.

Upon all this we have only to remark, that if the West of England buyers of manure are satisfied with such an explanation, we have no right to be dissatisfied. We can only congratulate them upon the easiness of their tempers, and upon their finances being in so flourishing a state as to render the real value of their purchases a matter of no moment.

SOME months ago, while waiting for the clearing of the storm that arose in the agricultural world on the appearance of Mr. MECHI'S last publication, we received a letter from a correspondent to the following effect:—"So you are at length forced to discard your agricultural prophet, and, from your silence while he is being thus attacked, we must suppose ourselves to have been misled by all your assurances hitherto of his soundness as an agricultural guide."

Now this was neither a positively nor a logically accurate statement—the facts were not correctly stated nor were the inferences accurately drawn. We had no where assured our readers of Mr. MECHI'S infallibility; and if we had, an advocate might well wait the clearing of a disorderly court before commencing his address, without any doubt arising of his regard for the interests of his client. But this writer was proceeding upon an altogether erroneous assumption, if he supposed that there was any such relationship as that of advocate and client existing in the case.

It is now more than eight years ago that we one day received from a city correspondent, with a signature till then unknown in agricultural literature, so extraordinary a statement of what had been done upon land he had recently purchased in the county of Essex, that we did not venture to publish it before submitting it to known correspondents in the neighbourhood of the operations he described. And it is to this, the first of a lengthened series of publications which have long since made Mr. MECHI'S name known wherever agricultural writings are read, that we would most confidently refer for the grounds on which his reputation will rest. In this letter, after stating with characteristic energy and enthusiasm, the amount and mode of the expenditure which had been incurred, and arguing with characteristic confidence the certainty of a profitable return, he says:—

"In a moral and social point of view these improvements have acted beneficially. They have excited the energy of the tenant and his labourers, stimulating them to think, compare, and improve. They have awakened the attention and curiosity of the neighbouring farmers, who are watching the result, and already have they caused many undertakings in drainage which otherwise would not have been thought of. Had I invested my money in the funds there would have been an end of the matter, but now I have the satisfaction of having fulfilled a public duty (without injury to myself), by calling into action temporarily and permanently a considerable amount of labour. I conceive *that* to be the highest order of charity, which, by providing employment to the willing labourer, confers a favour unseen, and leaves uncompromised (his most valuable privilege), his self dependance. If every one who has the means follows my example, when requisite, there will be little need to complain of the want of employment for our peasantry or our capital."

There is no need that we satisfy ourselves about the profits accruing to Mr. MECHI from every detail of every operation, or even from the general result of all, that he has carried on at Tiptree-hall, before admitting the conclusion to which in the very commencement of them he had arrived; that the scale on which these operations have been performed, and the publicity which he has succeeded in giving them, have been of national utility—usefulness both to farmer and to labourer; to the one, by that stimulated thought, discussion, and action, to which he refers; and to the other, by the increased activity in which they have resulted. Mr. MECHI'S exuberant energy, independently of any aim at profit, is quite enough to account for his perseverance at Tiptree; but let us not forget the benevolent feeling in which we are persuaded his proceedings originated. It was in acknowledgment of this, as well as to do honour to the other features of his character, that so large and distinguished an assembly met last week under his roof, at that annual reunion whose proceedings are now among the most interesting agricultural features of July.

We regret we have not room for more than a scanty statement of what took place at the meeting last week. A larger number than usual were drawn together by curiosity regarding the new system of liquid manuring which Mr. MECHI has adopted, and which was shown in actual operation. The rival reaping machines, too, were exhibited at work, and HUSSEY'S again carried the day over M'CORMICK'S form of the implement. The usual round of the farm was made, and the crops generally admired. The company then assembled in one of the farm buildings, and after luncheon various addresses were delivered; his Excellency the American Ambassador, Earl FORTESCUE, Mr. CHADWICK, Mr. MECHI, and others being among the speakers. To some of the sentiments there expressed we shall next week endeavour to direct the attention of our readers.

THE aim of our remarks lately on GEOLOGICAL SCIENCE has been to insist upon its obvious importance to the science of agriculture; a knowledge of the soils, their nature, properties, contents, action upon each other, &c., being no less needful to the progress of the art of farming—no less valuable to cultivators—than a knowledge of the strength, &c., of materials is to builders, of metals to founders, of woods and glues to carpenters, of oils and varnishes to painters, or of human physiology to medical men. The inquiry now before us will be—In what way is Geology assisting us at the present time?

Consider our past and present county reports. As the distribution of soils depends upon the geological beds beneath, no agricultural maps (such as those appended to the reports of the Board of Agriculture, which only exhibit, and that imperfectly and on a very small scale, the variations of the surface, and neglect those of the substrata contained in the detrital deposits and in the still deeper solid strata) could exhibit the true agricultural relations of a county, district, or even estate. One of the chief objects of such reports was, therefore, in a great measure lost; for the farmer, reading of practices with which he was previously unacquainted, could not at once profit by the example, as he would be unable to identify his own soil with any of those described to him; and this because of the indefiniteness of the terms employed—this deficiency, again, arising from the want of a standard of reference and comparison. Hence the surveys of the Board of Agriculture, of half a century ago, while valuable as records of the state and manner of farming at that period (assisting the historian and the political economist in estimating the rent, produce, labour, &c., of the land at that time, and perhaps being of advantage to the present cultivators, who thus learn what has been done successfully and what has failed upon the very spot of ground they till), are not of the comprehensive value they would have been, had they clearly and correctly described their soils by determining to what great general classes they belong. By the help of geology we are enabled to pronounce, in many cases, to what soils those reports attribute certain qualities, &c., because every county has now marked out upon the map, more or less minutely, its strata and local deposits; but this is a tiresome process, and the names of places and the terms of character and quality employed often leave us at fault.

Take, as an example, YOUNG'S "Agricultural Survey of Lincolnshire," in 1799. On his "Map of the Soil of Lincolnshire" he has painted two long and narrow stripes of green north and south of Lincoln, to denote "Lincoln Heath;" and from the Humber, slanting to the south-east, is a band of blue, marking the "Wolds." The eastern side and south-eastern corner of the county, together with a patch at the north-west extremity, are coloured yellow, indicating the "rich tract;" and the remainder is filled up with pink, and called "miscellaneous." The map, therefore, and its "explanations" teach us but little about the actual nature of the soils; we only see by the drains, &c., that the "rich tract" includes most of the fens and marshes; and, by the direction of the water-courses, we perceive that the "Heath" and "Wolds" are ranges of high ground. As to the character of the great "miscellaneous" division, we are completely in the dark. How shall the farmer of a distant part of the kingdom discover precisely upon what kind of soil the husbandry assigned to special places named in the map has been successful or otherwise? Per-

haps the letter-press will fully elucidate the meaning of these different divisions, and describe in unmistakeable language the various soils comprised in each. Let us turn to the head, "Soils." We gather from reading this section — much less than we should have done from one simple geological section—as follows:—this country includes all the sorts of land to be found in the whole kingdom, except granite, schistus, white Hertfordshire chalks, and pure blowing sand. Part of the "rich tract" is "a brown dark loam of admirable texture;" part is "a rich tract of salt marsh;" part, "a strong soil called the *Clays*, and it is stiff;" part is "an argillaceous warp, an alluvion of the sea," &c. Some of the "Heath" has "reddish sands;" some is "limestone;" generally it is "a good sandy loam, but with clay enough in it to be slippery with wet, on a bed of limestone 9 to 18 inches in depth."

The "Wold" soil is "a sandy loam, on a chalk bottom; the quality varying from poor sand, producing heath, to rich, deep, fertile loams, that yield capital crops of Barley and Wheat, and some even Beans." Of the "miscellaneous" portion, we have a mass of notes characterising a great variety of soils, as "strong clay," "loam on stone," "beautiful pasture land," "reddish sand;" "a vale of soils too various for description, but not good in its general feature;" "a rising tract of good land;" "a narrow ridge let at about 16*s.*;" "the variations of soil are nearly all longitudinal in the direction of north and south;" "in one part they have black sandy loams, warp land, brown sands, and rich loams, soapy and tenacious;" in another are "various good soils;" and so on. Most of the phrases here used might be applied to the soils of any county, and are spoken of lands that, in some essential particulars, are totally different from those they are intended to describe.

But take a good geological map of this country, and it is immediately observable that 10 or 11 different orders of strata, together with several sorts of widely-scattered detritus, and a considerable variety of alluvial deposits, form the respective bases upon which the surface soils repose. The usual characteristics of the soils found on these great beds being generally known, this map gives us a key to the whole matter; we can judge of the superstructure by the character and proportions of the foundation. Farmers in the north, in central England, in the south, can say, "the land along that hill range, or lying in that flat valley, resembles this that I occupy; and I know of other estates not far off which rest upon other strata like those in Lincolnshire." And when they read a description of the soils upon each of these geological beds, they do not wonder, as with the old kind of report, whether the land spoken of is at all like their own, but perceive at once the points in which land generally synonymous with deviates from their own.

Geology has provided us with a nomenclature universally understood, in place of the local designations which are of little value in a scientific point of view. Look at the farm reports in the Agricultural Society's Journal, at those which have occupied such prominent places in the columns of the daily press; they all start in their descriptions with a sketch of the geological strata and superjacent deposits. This, like Greek and Latin names in botany, like standard weights and quantities employed in statistics, is a language that all can comprehend, and expresses to us at first sight what is the character of the district we are to read of.

Geology has saved both labour, time, and money in teaching us whereabouts we may probably meet with marls and fossil manures. We now know in what strata or local deposits such materials are not likely to be; and the ranges in which they may be confidently expected. Whereas the old-fashioned works on agriculture advise everybody to search well under their ground, as perchance they may be rewarded for their trial. Is not this plainly akin to the blind-eyes' search for coal and ore, which now belongs to the list of imperfections and ignorances of the past? We can do better now than burrow into mountain limestone hoping for coal, when every foot we lower takes us deeper from the fuel; better than bore an artesian well on the outcrop side of a porous hill range, when every turn of the augur sinks it further from the stratum that is charged with springs. Some of the well-known strata of the chalk formation are actually denominated "the phosphoric strata;" let us look there for fertilising manures. Marls and enriching clays abound in the great accumulations of drift which overspread so large a portion of England's surface; let us examine those parts of these deposits which we are taught possess in greatest abundance such substances as we want.

When we insist upon the advantages of good geological maps, &c., we must not be understood to mean simply those in common use among scientific men, but maps such as are constructed with the special object of assisting agriculturists. For, as Mr. Trimmer tells us in his essay in the Agricultural Society's Journal, Vol. XII., "it is of more consequence to the farmer to know whether, in a given district, the strata consist of clay, sand, or limestone, than whether they contain certain fishes, reptiles, or mammals, and particular genera and species of shells;" the latter information being all that is denoted in our usual geological maps. We require maps, therefore, which mark the mineral character of the different rocks, including those deposits of most recent origin.

In order that the full advantages which geology is able to confer should be obtained by us, there is no other course to pursue than to make ourselves acquainted with the science, while we cultivate the earth of which it treats. We believe that, in the words of the geologist we have just alluded to, comparatively little progress has been made in the practical application of geology to agriculture, "chiefly because farmers have not been geologists, and geologists in general have been ignorant of farming. Wherever a step has been gained, it has been by the union of the two kinds of knowledge in one individual. The yeoman and land surveyor of Oxfordshire who ranks as the father of English geology was also the first to apply it to agricultural questions." Let us follow his example.

ROYAL AGRICULTURAL COLLEGE.

SESSIONAL EXAMINATION IN CHEMISTRY.

1. Describe the preparation and properties of starch.
2. How do you detect the adulteration of flour with Peas or Bean-meal?
3. Describe the principal chemical actions involved in the process of baking.
4. Is brown bread more nutritious than white bread? Give also the reason for your decision.
5. What kind of substance is cellulose?
6. Describe the chemical changes which take place in the steeping of Flax.
7. What are the more prominent characters of albuminous or protein compounds?
8. What is the general composition of milk?
9. What is the composition of butter, and what changes does it undergo in becoming rancid?
10. How do you determine the relative feeding value of different samples of oilcake?
11. What are the chemical changes which Barley undergoes in the process of germination?
12. What is the general composition and the relative feeding value of malt and Barley?
13. What inorganic matters enter into the composition of the ashes of our cultivated plants?
14. Mention the general characters of stiff clay soils, and describe the means of improving them.
15. Under what circumstances is paring and burning likely to be attended with good results, and in what cases will it do harm instead of good?
16. What changes do farm-yard manure undergo in keeping?
17. Mention some of the principles which ought to guide the farmer in the management of home-made manure.
18. What are the best means of preventing the loss of ammonia in dung-heaps?
19. On what constituents of artificial manures do their fertilising and commercial value depend?
20. What are the adulterations more generally occurring in Peruvian guano, and how can they be detected?

Cirencester, June 17.

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1. Starch is prepared from several different kinds of plants: in some it exists in the seed, in others in the root, where it exists in sacs; in order, then, to extract it, it is required that these sacs be ruptured. If prepared from the Potato, the following is the method—crush up the Potato, and boil it in water for some time, next strain it through a piece of fine muslin. The starch will pass through, and the fibre be left upon the filter; by washing with water and alcohol the impurities passed through along with it may be separated. Starch is also prepared from Wheat flour: this may be done on a small scale by making the flour into a kind of dough, and gently kneading it on a filter, when the starch will pass through and the gluten will remain behind. The gluten being in such close apposition with the starch, makes it difficult of separation. On a large scale the flour is mixed with moderately warm water, the flour being previously placed in a pit, where it is allowed to remain until fermentation is being set up; after this, the gluten having become slightly decomposed, it may be separated by washing with water, and the starch obtained. Starch is also obtained from the Sago Palm, as sago; from Maranta arundinacea, as arrow-root. As to the properties of starch, it is insoluble in water and alcohol, where it appears as a gelatinous substance; it possesses an insipid taste: with free iodine in a cold solution it is precipitated as iodide of starch, which has a blue colour. On heating to a high temperature, on an addition of dilute IO_3, it is converted into dextrine, an isomeric substance; but it is distinguished from it by giving with iodine a violet colour. If more acid be added, or this primary change be allowed to go on, it is converted into sugar (Grape). On addition of NO_5, oxalic acid is produced. It combines with salts of lime and lead. Emolin is another kind of starch, extracted from Dahlia roots, &c.; it is not converted into dextrine by IO_3, but into sugar. Starch occurs as granules in trade: that made from the Potato has an oblong shape, and is about three times as large as the granules of Wheat starch, which are round. The starch prepared from Indian Corn is even smaller. Potatoes contain about 20 per cent. of starch, and Wheat 70 to 80 per cent. Lichen starch is another variety—it is obtained from Iceland Moss and Irish Moss. It differs by giving a yellowish-brown precipitate with iodine, and on cooling from a water solution becomes a gelatinous mass. Emolin is deposited under similar circumstances as granules. Starch is used to stiffen linen, and as dextrine to glaze paper.

2. Pea and Bean-meal is detected in flour by boiling the flour for some time with water, filtering, allowing the liquid to cool, and adding acetic acid, when it Bean or Pea-meal be used, a muddiness of legumine will be perceptible.

3. Water or milk is added to the flour, and the whole intimately mixed, forming dough; some yeast is added, and the dough-pot placed before the fire, to allow the dough to rise; fermentation is thus set up, the gluten acting upon the starch; the dough is now kneaded, which further oxidises the gluten; it is next made in loaves and placed in the oven for a time; the process of fermentation goes on, converting starch into sugar and sugar into CO_2 and alcohol; the action of the fire causes a crust to be formed, which prevents the escape of CO_2 and which therefore makes the bread light, by its attempting to get out, and thus filling it with small cavities, which are seen when cutting through a loaf of bread.

4. Brown bread is made from coarse flour—flour which has not had its bran or husk entirely separated. Now the gluten of Wheat exists as a layer inside the husk, and by stripping it off is removed along with it, and thus it is that bran is much richer in protein compounds than flour; indeed the finer the flour is, the more white it is made, the less gluten it contains; it is thus, then, that brown bread is more nutritious than white.

5. The stems of plants are made up of a number of cells; the wall or case of these cells is termed cellulose; they may be separated almost pure by digesting, for instance, first, with water, this removes some of the juices; next with alcohol and ether, this removes matter not previously removed by water; next add caustic potash, and that which remains on the filter is almost pure cellulose.

6. When Flax is steeped in water the albuminous matter, which closely invests and unites the fibres together, is dissolved out by putrefaction taking place. By steeping in hot water, and under pressure of steam, the process is facilitated, and still more so by digesting with dilute carbonate of potash, which is the new method.

7. Albuminous matters or protein compounds contain nitrogen, sulphur, and phosphorus, as well as carbon, hydrogen, and oxygen; these exist more largely in animal matter than in vegetable; they are, when dry, horny looking substances of a brown colour, when ground they are white; they are insoluble in water, and soluble in caustic potash; they are precipitated on addition of an acid (acetic); they are the chief cause of putrefaction in substances, not putrefying themselves when dry, but in contact with a ferment readily undergoing changes. During putrefaction they give off ammonia, sulphuretted and phosphuretted hydrogen. Protein compounds occur in flesh and blood as fibrin, in milk as casein, in Beans and Peas as legumin, &c. They all contain nitrogen, and it is from such substances alone that flesh can be built up; they are called flesh-forming principles on that account. The various varieties of protein compounds are distinguished by their several properties, such as albumen coagulates on boiling, &c.

8. Milk is a white looking liquid; if heated, or an acid be added, it becomes almost solid, separating into two parts, the one of which is caseine, which is solid, and the other whey, which is liquid: it contains salts and extractive matter and sugar. If milk be allowed to stand it will separate into two parts; the upper, being lighter, floats, and is of a darker colour; this is the cream, which is made up of fat globules enclosed in an envelope supposed to be caseine; the lower part contains the caseine and smaller fat globules, &c. The colour of milk is due to these matters, which are minutely dispersed throughout it, and this is the reason why skimmed milk has a lighter colour than new. Water, then, caseine, fatty matters, extractive matters, and salts, with sugar and phosphate of lime, are the chief constituents of milk. In churning, the fatty globules become oxidised and break.

9. Butter is made up of fat, water, albuminous matters, and lactic acid, as well as capric and caproic acids; the lactic acid acts upon albuminous matter, causes fermentation, and produces that rancid taste which occurs in old, ill-made butter. Butyric ether also occurs; this can be washed out by H O. The other acids are neutralised by caustic magnesia. Salt is added to butter to preserve it, and as it occurs commercially, forms one of its constituents.

10. The relative values of feeding stuffs, such as oil-cake, are ascertained by a nitrogen combustion. Multiply nitrogen by 6¼, this gives protein compounds, by washing or digesting with ether and alcohol, the fat, or oil, may be extracted and ascertained. Rape-cake is richer in protein compounds than linseed-cake, yet it does not feed so well, owing to the oil it contains being rancid. The quantity of phosphate, when required for a young animal, are matters of importance. Burn to find the amount of ash. Test for phosphoric acid after separating the silica, which should not exist in sufficiency to intertere with the phosphoric acid being thrown down at once by ammonia. Add some perchloride and acetate of ammonia or soda; boil, filter, dissolve in hydrochloric acid, and add tartaric acid so long as any precipitate is given with ammonia. Next add sulphate of magnesia and ammonia; filter, wash, drive off ammoniacal salts by heat, and calculate for the phosphoric acid as biphosphate of magnesia. To determine, then, the value of a feeding stuff, the water, protein compounds, oil, or fatty matters and PO_5 may be ascertained. *R. L. Fell.* [The remaining answers next week.]

THE NO-BEARD OF POLAND FOWLS.

"But is this law? Aye marry is i!"

It has been said—indeed I have myself "seen it in a book"—that the golden and silver Polands should not have beards—that the beard is a "monstrous appendage," and that all Polands possessed of one "should be sent to the fatting coop." How many of my fellow worldlings are ready to believe and to receive a thing as true and substantiated, on no better authority than that "they have seen it in a book!"

No proof, however, has yet been adduced (nor can it be) that the beard of Polands is really "monstrous." It is, so far, a mere matter of dislike to one or two individuals. Woe be unto beards! from that of the he-goat and "bearded pard" to that of the trim "lady-killer" on the smart chin of a modern beau. "Away to the fatting coop" says our author.

> "'An Marcus dixit? ita est,'
> Did Marcus say 'twas fact? then fact it is,
> No truth so valid as one word of his."

The very best authorities, however, as Messrs. Vivian, Baker, &c.—men of great experience, observation, and knowledge—tell me that no really good and true-bred gold or silver Poland is without the beard. Mr. Baker being recently asked by a friend of mine, how it happened that a few persons condemned the beard of Polands, significantly replied, "Ah, because they know nothing about it." This gentleman, whose experience and knowledge will hardly be doubted, writes me that on the continent (as in Holland, France, &c.) all the best and really pure Polands have beards, and emphatically states his opinion that they should have.

My own observation and experience quite confirm this. I have recently had Polands from the continent, Ireland, and other parts, and in all cases the beardless fowls were miserably inferior to the bearded ones—inferior both in carriage, plumage, and shape itself; their top-knots being comparatively small, their necks thin and spare, their gait and deportment wanting in the pomp and circumstance of a fine and true Poland. Nay, so evident were these deficiencies, that, in every instance, I could at once select a bearded from a beardless Poland, where the throat itself was not visible.

Possessing at present both the bearded and the beardless sorts, I am impartial in my opinion; but from observation and reflection I feel convinced that the beard of gold and silver Polands is a natural—aye, and (in them) a really becoming appendage; it entirely comports with the *tout ensemble* of the Poland—it is in keeping with his magnificent top-knot—with his large, full, thick, and long neck—his long, flowing hackles, and with his general dashing and *debonnaire* deportment.

It is very highly probable that the beardless Poland is a crossed and mongrel bird, originally produced between the Poland and the spangled Hamburgh fowl; and in colour of plumage there is much similarity. A thorough-bred bearded Poland ever produces bearded progeny; out of 40 chickens reared this year all are bearded. On looking over the chickens bred from beardless silver Polands I find that not a few of the cocks have the double or rose comb of the silver spangled Hamburgh. I have but just seen this, and surely it is "confirmation strong" of the opinion just expressed, that beardless Polands are a mongrel breed. Unfortunately the really excellent and clever author alluded to, himself oft acts as judge at our poultry shows, and has inoculated other judges with his dislike of beards; but these very judges were compelled to give the premiums to bearded Polands at the last Birmingham show. Why? Because, as they confessed, they were so immeasurably superior to the

"Shaven and shorn,
And all forlorn"

beardless ones.—Though this communication, I fear, is too long, yet for the sake of others let me observe, that I have this year crossed the bearded with the beardless Polands, cock with hen and hen with cock, and the result is, in by far the greatest majority of cases, that I have spoiled all; most of them still have some beard, but ruined in all other points—as in small top-knots, thin necks, &c.; but in a very few cases there is the smooth face, with a tolerably large top-knot, and the full neck. *F. R. Horner, M.D., Hull, July* 17.

ROTHAMSTED AND THE CRITIC "R."

(*Continued from page* 410.)

We have thus far shown, then, that the views developed in our papers on the subject of the manures required by the Turnip, when grown in our rotations, are, for the most part, *exactly the reverse* of those which "R." has chosen to attribute to them; and in now proceeding to call attention to some points of interest and importance, in connection with this subject, it will be seen, as in the case of the previous subject of discussion, that the facts and opinions which he brings against the views he has himself invented and put forth as our own, however well adapted they may be to refute the views attributed to us, they are just in that degree in accordance with those views which we really have maintained.

We have maintained, that speaking of the Turnip as a *rotation crop*, that is strictly in its relation to the other crops of our rotations, a characteristic effect is that of converting a large amount of organic substance, containing both nitrogen and carbon, of which the bulk of our farm-yard manure consists, into food for stock; at the same time assimilating a variable amount of nitrogen and carbon from natural sources, and that in the consumption of this food a much larger proportion of its nitrogen than of its carbon remains as manure for future crops. So far, then, as the value of the consumed Turnips depends upon the amount of nitrogen which they yield as manure, it is obvious that a main object in the cultivation of the root would be to accumulate as much as possible of this substance from natural sources; and that whenever we only obtain any given *increased* amount of nitrogen in the produce by means of a *larger* quantity first supplied in manure, in that degree will the value of the crop *as a means of nitrogenous manure* be lessened. Let it be granted, indeed, that under certain circumstances it will still be profitable and advantageous to obtain an additional 100 lbs. of nitrogen in Turnips, by means of 150 or 200 (or any amount beyond the 100 of the increased produce) supplied in Peruvian guano or any other manure, and it will be evident, that, so far as the produce due to such nitrogenous supply is concerned, the crop is not to be valued as a means of accumulating ammonia as manure; indeed, in such a case, the value of the crop for *rotation purposes* will depend upon that portion of the produce which has been obtained independently of the nitrogenous manure, the amount of which will in its turn depend upon the adaptation of soil and climate to the favourable growth of the crop.

Now, in giving a caution in our papers against an "*excess*" of nitrogen in the manures for the Turnip, it has been strictly in relation to the manurial as well as the feeding value of the crop, and it is in regard to this point that we have endeavoured to draw the attention of the discriminating reader to the characteristic or general effects of ammonia as a manure for the Turnip in our rotations; and, as the whole tenor of our paper on Turnip Culture shows, it is when considering the question in this point of view that we caution the farmer against an "excess" of it in his Turnip manure. The first object and most legitimate sphere of chemistry as an aid to agriculture, indeed, is by no means, as some appear to have expected, to put forth specific prescriptions for specific circumstances of detail in the practice of the farmer, especially when these involve any common principle. It is the most general principles themselves, as the guides and starting points of further progress, that should be the *first* object of scientific inquiry to eliminate; and this being accomplished, it surely must, in the meantime, to some degree devolve upon those who *intelligently* exercise the *art*, to adapt and apply any recognised principle according to the *local and varying* circumstances which surround them. But to return to the question of the nitrogen-collecting functions of the Turnip in our rotations. Let us see what are the opinions of "R" on this subject which he brings forward as opposed to our own.

"*Agricultural Gazette*, July 26, 1851.—In practice the Turnip is a plant which gives a beautiful example of the states in which it is able, and which it is not able to appropriate its nitrogen and carbon from the atmosphere. It is both a nitrogen consuming and a nitrogen collecting plant; *and by overlooking this circumstance much useless refinement in theory has arisen.*"

Now, in the scientific facts here enunciated, we most pre-eminently concur; indeed, some sentences which have already been quoted from our papers emphatically draw attention to the fact, that the Turnip "is both a nitrogen consuming and a nitrogen collecting plant," according to the circumstances under which it is grown, whilst those given below—which, when disingenuously taken in an absolute and arbitrary sense, can thus be misrepresented as depreciating the effects of ammonia as a manure for the Turnip in our rotations—derive the greater part of their meaning from the fact that the Turnip is "both a nitrogen consuming and a nitrogen collecting plant;" it is nevertheless clear, from the context and tenor of the article of "R.," from which the above quotation is taken, that the disparaging imputation of the latter part of the sentence is directed against ourselves.

See our paper on "Turnip Culture," Jour. R. A. S. E., Vol. 8, p. 532:—

"The *excess* of nitrogenous manure, however, is seen greatly to enhance the leaf-forming tendencies of the plant, which, it is true, may probably aid carbonic acid accumulation from the atmosphere, but, at the same time, gives a less profitable appropriation of the sources within the soil; and we shall afterwards see it to be by no means clear, that there is with a large production of leaf, a proportional *gain* of nitrogen from the atmosphere."

"Turnip Culture," p. 553:—

"If, then, the powers of reliance upon the normal supplies of nitrogen, here observed, are to be fully developed and turned to economical account, it is more especially by means of an artificial provision of the other constituents that this object will be attained."

"We think, then, that in these facts we have a beautiful illustration of some of the physical and physiological characters upon which depend, materially at least, the economic value of the Turnip, in rotation with corn."

And, lastly, p. 564:—

"An *excess* of nitrogen in the soil produces too large a proportion of leaf and too little tendency to form bulb. It is true that a crop of Turnips having a large production of leaf will give a larger amount of manure to the land. * * * But, since the manure obtained in such a case previously existed in the soil, the economy of the crop, even as far as its manuring influence is concerned, may be doubted. In fact, so far as our experiments on this subject enable us to judge, we believe that when the supply of nitrogen to the soil is very great, the amount of it collected from the atmosphere is less, and a part of the benefit of the crop would be lost."

In these sentences the importance of a due supply of nitrogen in the manure for the Turnip is clearly enough taken for granted; but the attention of the farmer is directed to the fact, that by an "EXCESS" of it, he may so far render the Turnip a nitrogen consuming, rather than a nitrogen collecting plant, as to lessen the value of the crop in rotation—that is, as a means of accumulating ammonia from natural sources. But, it may be asked, even supposing that the nitrogen accumulating functions of the crop be thus lessened, may it not be that its feeding value is more than equivalently increased? To some points of this question on which our experimental evidence more particularly bears, we shall recur further on; but, in the meantime, we will ask the attention of the reader a little further to the subject of the nitrogen-collecting functions of the Turnip crop. *J. B. Lawes.*

ON SOILING AND PASTURING HORSES AND CATTLE.

(*Continued from page* 474.)

Mr. Cockburn, Harelaw, reported as follows:—I am sorry to state that the experience which I have had in the summer soiling of cattle has been limited to such a short period, and confined to too small a scale, to afford any satisfactory evidence on the subject. However, in the hope of hearing rather than of giving instruction on the matter, which appears to become more important every season, I shall shortly state the particulars of what has been practised, trusting that some one will be able to point out the many deficiencies. For the last two seasons I have been in the habit of soiling, during the summer months, seven or eight cattle and about as many calves; and although unable to give, for the want of good grazing for cattle on my farm, a comparative statement of the different merits of the two systems, still I can vouch for obtaining good remuneration for the trouble and expense incurred in the management of the former. The supply of food which the cattle receive consists of either Tares or Grass newly cut every day, whichever affords an ample supply at the time. In addition to this, the feeding cattle receive daily 2 lbs. of oilcake, increased to 3 lbs. or 4 lbs. as they become ready for marketing. The calves are treated in the same manner, getting, however, only 1 lb. of oilcake or Linseed. I have found the plan of soiling calves infinitely superior to the old system pursued in leaving them to roam upon pastures often too closely cropped. The only argument which can be urged against this practice is, that by getting the calves into too good condition, they appear more liable to quarter ill or black quarter; and I have found oilcake not always, as is sometimes said, an antidote against this fatal disorder. One old man is found perfectly capable of cutting, bringing home, and supplying the food to 16 animals, for which he receives at the rate of 6*s.* per week. In feeding cattle for the fat market, as has been done for the last two years, I have found the greatest objection to consist in the difficulty of competing with animals fed on the rich and verdant herbage of England, the supply of cattle fed there during the summer and autumn months being so abundant as to invariably render prices comparatively lower than the rate of those at which we generally sell our Turnip-fed cattle. Accordingly, I mean to pursue a somewhat different practice this season, by commencing the feeding of the animals with summer soiling instead of terminating with it, thereby preparing the cattle for the Christmas market. Which plan may be most profitable must depend upon circumstances, and may require the experience of several years to verify. Respecting the summer soiling of horses, however much inclined to follow out such a system, as tending greatly to the benefit of the animals and also to the economising of food, I have been hitherto deterred from doing so, because the arrangement of the steading would oblige me to put too many together in the yards, thereby incurring great danger of accidents. As to giving green food to horses confined in the stable during summer, I object to it, on account of heat rendering the atmosphere too close and deleterious to give them a proper chance of doing well. I have, however, sometimes pursued this plan with a single animal which has been thriving badly, and found it to be highly beneficial.

Mr. Hardie, Redhall, gave in the following report:—At the request of the secretary of the East of Berwickshire Farmers' Club, I most willingly offer a few remarks on what has come under my observation during the long course of upwards of 40 years, as to the comparative merits of pasturing and soiling. In the year 1811, I began to farm on my own responsibility, and from that time till now I have been in the practice of soiling—in other words, of cutting green food and consuming it by cattle, either under cover or in yards. In the part of the country in which I then resided (Kinrossshire) soiling was very little practised; but in Fifeshire, where I was first taught, it was in general use—and I continued the practice, doing a little in keeping cattle. So favourably was the practice received, that it has now become very generally adopted. The horses were kept in the same manner during the summer, but the want of straw for litter prevents the extension of the practice in that quarter. I afterwards removed to the neighbourhood of Stirling, where the soil was more fertile, and where there was a better supply of Grass and straw. I continued this system, not only with the horses, but also with the cattle, and was enabled to produce more stock on an equal extent of ground—and, as I thought, with manifest advantage—than if I had pastured them. In that district when work horses are kept, they are constantly fed on cut Grass and Tares in their season. Since 1836, the year when I entered Redhall, I have practised this system to a large extent—having a good supply of straw for the summer, without which it cannot be adopted. I shall instance what I did last summer. After top-dressing the young Grass with a compound of fish refuse and Berwick-street dung, I added two cwt. of guano, and on the part which I wished to be first ready for cutting I added about 40 bushels of soot. On about six acres of this I fed for a long period 30 cattle with seven horses, a considerable part of which had been cut three times. The winter Tares came in between the first two crops (about 1½ acre), but they did not yield the benefit which I expected—the Tares, in order to get a crop of Turnips, being cut rather green and soft, though bulky crop. It is necessary to have a succession of soft juicy Grasses, as the cattle, particularly, will not thrive so well when the Grass becomes dried approaching to ripeness. I shall now state what I consider a few of the benefits resulting from soiling as compared with pasturing. 1st. It enables the farmer to keep a larger number of stock on the farm. 2d. It provides a large quantity of dung in summer—I have frequently, even in this small farm, been able to dung about 50 acres at the end of harvest. 3d. The straw is more thoroughly converted into manure, which is more valuable than when it is made by being exposed to rain water, and gives the farmer a greater command of dung, which enables him to give dung to almost every crop, thereby increasing the produce considerably, supplying abundance of straw for Turnip feeding in winter and soiling in summer. 4th. I have always found the fields so managed and top-dressed producing—even though cut three times—the best crop of Oats the succeeding year, and much more free from weeds. The first consideration is to have the Grass early ready for cutting, and this is attained by top-dressing as already mentioned. This year I had a full supply of Rye-grass and Clover by the 20th of May, thus enabling me to feed the cattle on Grass and Turnips at the same time, and bringing them gradually from the one to the other. My greatest difficulty is to get plenty of red Clover to grow. I am afraid we farmers are as often deceived with the Clover seeds as with guano, and that both are very much adulterated. I do not here pretend to say what the real profit might be supposed to be by soiling to a considerable extent in preference to pasturing, but I am convinced by long experience that it would be in favour of soiling, so much so as to induce me to adopt it to a greater extent. I think, however, that it is more suitable for keeping cattle than for fattening. Young cattle may grow well on this system, but you cannot get prime fat without adding cake or

bruised grain ; it is also necessary to be very particular in feeding, to give but little at a time and often, rendering it necessary to have a careful person to attend to the cattle. It has been found that milch cows give nearly the same quality of milk when kept on cut Grass, but the butter is much inferior and white, without that fine rich yellow which distinguishes that made when the cows graze on good old pasture. I regret it will not be in my power to attend the meeting of the Club on Saturday, when I would be happy to answer any question that might occur to any of those present ; but I may state this farther, that I got when in the west country a cesspool and pump for the liquid manure flowing from our byres (the cattle being tied up), but it never paid the trouble and expense—and I was forced to give it up. Guano and other solids seem to force the growth much better. But I find that even there we may be out of our reckoning, as three weeks ago I bought 2 tons of guano from Berwick, part of which I applied immediately to Grass, and it seems to do nothing—while some got at the same price (9*l.* 10*s.*), and same name, "Peruvian," is doing remarkably well. This requires investigation.

Mr. Milne, after expressing his sense of the value of the reports just read, particularly of Mr. Hardie's, as the result of 40 years' experience, referred to the practice followed in Ayrshire of sowing Italian Rye-grass for the purpose of soiling—a practice which did not seem to be generally pursued here. He had himself last year sown 2 or 3 acres of Rye-grass, instead of limiting himself to Tares and Clover, and he thought the plan a very beneficial one. The Rye-grass yielded three or four crops in the course of the season. *North British Agriculturist.*

Home Correspondence.

Parlour Fire, bright and smokeless, from Water Gas.—Although there is no direct prospect of realising the old proverb "setting the Thames on fire," a portion of its water has been actually used for making a most cheerful and pleasant fire, in a common parlour chimney grate ; and is patented by Deffries, the gas engineer, whose cooking, working, and warm bath stoves were so conspicuous at the Great Exhibition. Instead of coals, the grate is filled (or rather fitted) with thin sheets of platinum, overlapping each other like roof-tiles ; and the gas brought in at the back, and passing out between the plates is set on fire ; when the platinum becomes rapidly heated, giving a brighter and warmer radiation than a coal fire, and free from smoke, smell, or dust. And as it can be lighted instantly, so it may be lowered to any degree, or quite extinguished, while not actually wanted, by turning the cock like a gas-light. The platinum does not consume, though so brightly heated ; so that the same fitting will last many years ; and may be made to shift from grate to grate with perfect ease. Coal-gas will answer the purpose, but requires some chimney draught, or considerable ventilation; but water gas is not only comparatively free from carbon and sulphur, and burning, therefore, without smell or carbonic acid, but is expected to be produced cheaper, as low as 1*s.* per 1000 cubic feet. Although giving little light itself, it produces greater heat than coal-gas, and will heat the platinum proportionately brighter. If therefore it can be produced for 2*s.* 6*d.* (not to say 1*s.*) per 1000 cubic feet, and the consumption is equal to 4 Argands, *i.e.* 20 feet per hour, then 1000 cubic feet will last 50 hours, or 3-5ths of a penny per hour cost. A coal-fire was computed by Dr. Arnott to consume about 8 times as much fuel as his stove, to produce equal warmth in the room; and taking a good Arnott to consume ½ ton of coke in three winter months (day and night) at 1*l.* per ton = 10*s.*, and a good coal-fire 8 times as much, 4*l.*; or say 3*l.* for 18 hours a day, is 1*l.* per month, 8*d.* per day, or 8-18ths = 4-9ths of a penny per hour, the gas would cost more than the coal in proportion of 3-5ths to 4-9ths, or 16 per cent.; and I suspect the estimate is too much against the coal, and that the difference would be above 20 per cent. with the gas at 2*s.* 6*d.* per 1000 cubic feet. But the coal-fire takes wood as well as time to light, makes smut and dust to clean, and requires attention to keep bright and steady, whilst the gas-fire can be lighted as instantly, and regulated by the cock as easily and exactly as any other gas-light, and on these accounts 9-10ths of my laboratory work is done with gas, though coal-gas, and at 5*s.* per 1000 cubic feet. The impediment is the first cost of the platinum, which will increase if such an additional demand becomes extensive. But a substitute will doubtless be found, perhaps in some alloy of gold, of which the recent supply is so fast overrunning the demand. *J. Prideaux.*

Lime, its peculiar affinity for, and specific action upon, certain products of vegetable decay.—It has been justly remarked that agricultural experiments are seldom conducted with sufficient precision. Since the period when Liebig's first volume was published, a great improvement has, however, taken place in the analytic laboratory, and the action of lime is more correctly understood than it was in the years 1839-40. In Vol. XIV., of the 'Penny Cyclopædia," under the article "Manure," we read that, "Lime newly burnt has a peculiar effect upon all organic matter, which it burns or dissolves by taking from it a portion of the water, and of the carbonic acid it contains. On humus, which is the result of animal and vegetable decay in the earth, it has a peculiar effect, rendering it soluble in water, and thus fit to enter the minute fibres of the roots of plants." Much more to the same purport follows equally unsatisfactory, but enough has been quoted to authorise the remarks that I now offer to those readers who favour the cause of agricultural chemistry. Some years ago an article or essay on "Lime and its Uses" appeared in the *British Farmers' Magazine* (since discontinued). Its author was Mr. Rowlandson, of Liverpool, a gentleman who subsequently has added to his deserved fame, by several valuable contributions to the leading agricultural periodicals. To that article I was indebted for all the knowledge I possess of that specific agency of lime, which it is my present object to elucidate. The theory advanced induced me to bring the experiments described by the writer to the severest chemical tests, and reiterated proofs obtained at various times, as occasions presented themselves, during a course of more than seven years, enables me to affirm the correctness of Mr. Rowlandson's observations. It is said in the extract above given, "that lime renders humus soluble in water." Now, what is the fact, and what is the real energy of quick and fresh-slaked lime upon humic matters, solid, or in the condition of liquid manure ? Mr. Rowlandson proved, by unimpeachable experiments, that such matters are at all times not only attracted by lime from all their combinations with other alkaline bases, but permanently fixed, as in the solid form, little, if at all, soluble in water. In order to prove the validity of a theory which tended mainly to interpret the remedial operation of lime when employed to reclaim peat-bogs or turbaries, I undertook the series of experiments, which I then felt, and still believe it a duty to communicate to the public, through the media best adapted to the object in view. Assuming the common dark fluid which drains to waste from a dung-hill as a type of humus in solution, I tried the effect of lime upon it, both in the dry state of powdery hydrate, or as a saturated lime-water ; and in every instance, however varied, the result was always the same, the colouring matter being discharged and precipitated in the form of dingy grey flocks. These processes with manure drainage (which, in fact, was the fluid operated upon by Mr. Rowlandson, and led to the promulgation of his theory), have conferred much importance upon lime, and enabled it to assume a new position in agriculture ; I therefore recommend the student to undertake the simple processes I now proceed to describe, the results of which will, I think, be equally conclusive and satisfactory. The brown drainage that I have assumed as the type of all natural liquid manures, is a product of fermentation ; and when fresh, may contain a portion of free volatile alkali (carbonate of ammonia), which, however, rapidly escapes, leaving the water charged with a neutral salt, that may be styled humo-ulmate of ammonia. If decayed wood, leaf-mould, heath or moor-soil (called peat), old spit dung, horse droppings, or sheep dung, are digested in soft water, holding caustic ammonia, potash, or soda, each in separate and distinct glazed vessels, these results will be humates or ulmates, with appropriate alkaline bases, according to the peculiar affinity of each. The colour of the fluids will be brown, more or less dark, according to the quality of the extractive matter. After standing at rest till quite cool, the liquor should be pressed off, through linen, into separate glasses, then left to deposit its sediment ; and when quite clear, the intensity of colour will indicate the specific agency of the particular alkali that has been employed. The experiments, like a peal of bells, are susceptible of a great variety of changes ; and thus the combining alkaline bases may be made to act upon all the products of vegetable decay, producing humate, ulmate, &c. &c., of potassa, soda, and ammonia, interchangeably as the case may be. But in every instance the liquids will be real chemical solutions, decomposable by quick-lime and its hydrate. This fact it is which ought to be impressed upon every cultivator who has recourse to putrescent manures, because it is certain that lime will invariably attract and fix the humic matter in whatever state of combination it may exist. Thus, if a very small quantity of lime in powder, or as cream of lime, be added to any of the alkaline solutions and well mixed up, the colours will be discharged, and a flocculous deposit formed. Strong lime-water will produce the like effects, and with this advantage—that the flocks deposited will be seen to separate, and fall from a clear and pellucid brown fluid operated upon by a clear solution of lime altogether void of colour. As a converse, let any of the humous substances be treated with dry powdered lime, or strong lime-water, in the first instance, and it will be seen that no colour can be extracted by boiling water or by alkaline additions. The more the experiments are varied the better, as proof conclusive will thus be established of the paramount affinity of lime for humous or peaty extractives. It is also suggested that some light may thus dawn upon the mysterious, attractive, and fixing power of loams for the ammonia and colouring matter of manures, as detailed in the experiments of Mr. Way and others. *J. T.*

Liquid Manure: Mr. A. B. Telfer's Farm, near Ayr.—I have observed the remarks going on between Mr. Wm. Lee and a "Bucks Dairy Farmer." I am inclined to think more favourably of the remarks of the "Bucks Dairy Farmer," notwithstanding all the assurances Mr. Lee gives us as to the correctness of his statements ; and as he in his postscript mentions that "6000 to 7000 copies of the report have been circulated within as many months, and not one fact stated has been called in question," I beg most respectfully to call in question the statement, that cows on dairy farms in Scotland are generally milked thrice a day. I have been at, and am acquainted with, some of the first and largest dairy farmers in Ayrshire, in the neighbourhoods of Ayr, Kilmarnock, Irvine, Kilmaurs, Dreghorn, Kilwinning, Stewarton, &c., and in eight cases out of 10 you will find that the cows are not milked oftener than twice a day. I also call in question the statement that "Canning Park farm is only a short mile and a half from Ayr, a town of from 40,000 to 50,000 inhabitants." The town of Ayr does not contain 40,000 to 50,000 inhabitants. The population of the town of Ayr, by itself, is about 15,000, and with Newton and Wallacetown attached, 7000 more, or 22,000 in all at the very utmost. This is very different from 40,000 to 50,000. If Mr. Lee's arithmetical calculations are as numerically correct as his statements as to the population of the town of Ayr, his remarks should not be allowed to pass unmolested. *M. B., Manchester, a native of Ayrshire, July 27.* [The points here referred to are of comparatively little importance. The main point is the possibility of obtaining so large a yearly return from cows. In Ayrshire and Galloway farmers very often let their cows to a "Bower," who manages the dairy, for from 8*l.* to 10*l.* a-head, the farm supplying a specified quantity of food for each cow ; and in Gloucestershire 3 to 3½ cwt. of cheese per annum is considered a fair yearly return from a cow.]

Societies.

HIGHLAND AND AGRICULTURAL, *July* 6.—*New Members.*—One hundred and four gentlemen, 64 of whom are tenant farmers, were admitted as members.

Perth Show.—The SECRETARY stated that nearly 1200 head of stock, besides poultry and dairy produce to a large extent, had been entered for competition ; while the number of implements would exceed that at any former show, if that at Glasgow in 1850 be excepted.—The Show in 1854 was then fixed to be at Berwick.

Agricultural Statistics.—Sir JOHN M'NEILL said, a deputation of the members of the Society had waited upon Mr. Henley, the President of the Board of Trade, with the view of urging the immediate attention of Government to the subject. The Hon. Mr. Charteris, in his letter to the Society, detailing a result of the deputation to Mr. Henley, said, "We urged the adoption of the scheme set forth in the memorial of the Highland Society, and Mr. Henley appeared disposed to entertain it favourably, but the whole question turns upon the cost. When we pressed him to sanction an experimental trial of the scheme in two or three counties of Scotland, he, as I expected, immediately requested some information as to its probable cost, which we were unable to give him, and without which he declines to move in the matter. If, therefore, the directors wish the experiment to be tried, they must be prepared with some rough estimate as to its expense, without which it is evidently useless to expect that the consent of the Government will be given ;" and what he (Sir John) had now to propose was to authorise the directors to prepare such an estimate. The three counties which, after mature consideration, they resolved to select were Roxburgh, Haddington, and Sutherland, which they believed fully to represent all the different circumstances with which they have to deal in collecting the statistics of the country as a whole. He thought it would be highly honourable to the Society if they should be the first in this country to demonstrate the practicability of obtaining correct agricultural statistics. He did not know of any one act carried out by the Society which would confer a greater boon on the country than the success of such an undertaking as this. In the public department (the Poor-law board) with which he happened to be connected, he had frequently felt the want of such returns ; and he had no doubt whatever that, in other departments of this country, the same want had been experienced.

Papers, &c., in Competition for Premiums.—Mr. MAKGILL, of Kemback, stated, that the directors had awarded a piece of plate of the value of 25*l.* to Mr. James Usher, to mark the manner in which they appreciated the ingenuity and perseverance displayed, and the outlay and trouble incurred by him in his effort to apply steam to the cultivation of the soil. His plough, though not coming up to the requirements of the Society, nor entitled to the full premium offered for a thoroughly successful implement, nevertheless possessed very considerable merit ; and when it was considered that Mr. Usher was not himself a mechanic, it was probable that the machine was susceptible of great improvement. At all events, Mr. Usher had, by means of his invention, been the first to establish the practicability of applying the locomotive power of steam to the cultivation of the land, and the directors considered that he was well entitled to the thanks of the agriculturists for his spirited attempt. Mr. Makgill further stated, that the Society's committee had inspected a very ingenious process of ploughing, by the application of water power, the invention of Messrs. Fisken, Gellyburn, Perthshire. The machinery having been entirely constructed by the inventors themselves, was necessarily of a rude character, and the directors had allowed them a sum of 25*l.*, to be employed in improving and developing their scheme.

Chemical Department.—Dr. ANDERSON said he had the honour to report to the Society the steady progress of the laboratory, and though there was little of a remarkable or important kind to refer to, he was glad to say, that the ordinary business of the laboratory had proceeded during the previous six months in a manner which had been satisfactory to himself, and he trusted

would be so to the Society also. The different investigations which had been submitted to him by the committee had made great progress (although not so much as he had wished and expected), owing to the large number of articles which had been sent to the laboratory for analysis, and which it was obvious must, from the necessity of supplying the required information without delay, be examined as soon as possible, and in preference to any other substances. Some of the investigations were completed, and would soon be published. That on the important subject of finger and toe, as far as the laboratory was concerned, had been for some time completed, and ready for publication. It had, however, been withheld partly because Dr. Balfour was anxious to have an opportunity of extending the botanical part of it, and partly because it was found desirable to obtain a large amount of practical information bearing on the subject. For this purpose a schedule of queries had been published, and extensively circulated among practical men, and he was anxious to call the attention of the Society to this, as it was desirable that replies to these queries should be obtained from as many persons as possible.* The other investigations were in active progress, and would, he trusted, soon be ready for publication. During the past half-year an unusually large number of substances had been sent to the laboratory for analysis, including manure of all sorts, soils, water, &c.; and the laboratory had been the means of detecting several serious cases of adulteration, and of affording protection from the consequences to a number of purchasers of adulterated manures. The number of such analyses amounted to about 200, and upwards of 400 letters had been written on the business of the laboratory.

1. What is the variety of Turnip affected?
2. What is the nature of the soil and course of cropping for the last seven years, and the rotation of cropping previously?
3. State the date of sowing, and the weather for two weeks before and after.
4. State the kinds and quantities of manures applied, time and mode of manuring, and condition of farm-yard dung.
5. State the date of first appearance of disease, and previous state of weather.
6. State extent of disease; if partial, can any reason be assigned?
7. Have insects been observed on the plant?
8. Has Turnip been frequently cultivated on the same soil? State, if you can, how often, and at what intervals, and whether the land has recently lain any time in pasture.
9. If lime has been used, state how long since; to what crop; in what quantity; how applied; and the results.
10. Is the disease more prevalent where light manures have been applied, and has street dung had any effect on it?
11. Is the disease affected by the nature of the preceding crop?
12. Has the substitution of a Potato or other green crop in the previous rotation rendered the land less liable to disease?
13. Is the land drained; and if so, in what manner?
14. Has the field been recently subsoiled or deep ploughed, and what is the average depth you plough for a green crop?
15. Have you observed any effect produced on the disease, either by working the land when rather wet in winter, or by working it much during dry weather in spring?
16. Have you observed any effect produced by rolling down the drills after sowing?
17. Have you observed any effect from applying the dung to the stubble in autumn instead of in the drill?
18. Have you observed the disease affected by hand or by hoe thinning, or by thinning early, or when the plant is strong?
19. Have you experienced any benefit from top-dressing the plants after being thinned?
20. Have you observed any difference on the land which has been cut for hay and on land pastured, or on land pastured with sheep, and land pastured with cattle?
21. What variety of Turnips has been most subject to disease? and whether does it prevail most among early or late sown Turnips?
22. State any other observations on finger and toe that may occur to you.

Farmers' Clubs.

CROYDON, *May* 29: *Farm Valuation.*—Mr. CHURCHER (West Wickham) said. In the first place, I will briefly mention that everything in and on the land that is valued and paid for on entering, should be so on quitting; this, I think, everyone will agree to; it is a subject of great importance as to the mode of valuing land (especially arable), so as to keep it in a good state of cultivation, both for the landlord, the tenant, and the prosperity of the country. I think a lease for 21 years is the best letting or taking, subject to leave at the end of the first seven or fourteen years by either party giving two years' notice, when a lease is not granted to hold under a three years' agreement to quit; and I would have the following as a basis:—

1st. In valuing, all the hay, straw, and haulm that is grown in the last year of the tenancy, to be valued at a market price. All the manure made in the last year, and all manure brought on the land, in lieu of hay, straw, or green crops, taken off with sheep-folding, and making of fallows, to be valued at full price. All dressings, half-dressings, half-fallows, seeds (where there is a plant), leys, and underwood to be valued at their full value.

2d. Pasture land not to be paid for in taking or leaving.

3d. All the corn, chaff, cavil to belong to the outgoing tenant, with the use of the barns, and joint use of the rick-yard, to the 1st of June, nine months after the end of the term.

4th. The valuation to be paid for as soon as concluded, or on giving up possession; if not paid for then, interest to be paid on the valuation at 5 per cent. from the time of giving up possession.

5th. In case the tenant should become a bankrupt, the lease or agreement to be cancelled, and everything to be valued and paid for the same as at the end of the term.

6th. Corn or Linseed-cake fed on the land the last year to be paid for at one-third of the cost price, if no crop is taken after; if one crop is taken off, then one-sixth of the cost price.

7th. Tenants not to sow more than two white crops in succession; Tares, Beans, or Peas not to be considered a white crop.

8th. If Tares, Rye, or other green crops are fed off before the 25th of June, the fallow to be valued the same as clean fallow; but where cut or folded off the land, not to be allowed rent and taxes.

9th. Landlords to put the house and buildings in good repair, and tenant to keep them so, by being found rough timber and materials within five miles of the buildings, by giving three months' notice in writing to the landlord. In case of fire, tempest, or natural decay (not through the tenant's neglect), the landlord to rebuild forthwith.

10th. The landlord to have the liberty to come on the premises when he pleases, or send his servants to inspect the state of repairs, and if any is wanted, to give three months' notice (in writing) that such must be done forthwith.

11th. Hares and rabbits to belong to the tenant; if not, landlord to pay the damage done by them. (Hear.)

12th. Buildings erected by the tenant at his own cost, the landlord to have the liberty to take them at a fair valuation, or not, at his option; if not taken, the tenant to have the liberty to move them during the time he holds possession of the barns.

13th. Tenant not to make less than 10 acres of clean allow out of every 100 and not more than 20 acres out every 100 during the last year, such fallow to be sown with root crops where it is necessary.

14th. Tenant to have the liberty to carry and sell off the land hay, straw, green crops, and root crops, by bringing back one waggon load of good dung for every 72 trusses of straw, or 36 trusses of hay, every half an acre of green crops, and every quarter of an acre of root crops, or for the tenant to spend as much money on artificial manures for dressing as he sells the hay, &c., for in the same year.

15th. The tenant to give fourteen days' notice to the landlord before cutting any underwood: none to be cut under eight years' growth, or above 16 years.

16th. Draining and chalking land best left to private arrangement; but I will merely suggest tenants to pay half and landlords half the expenses, and the tenant to pay 4 per cent. on the capital expended by his landlord. Such an arrangement would, I think, be fair for both parties; but if the tenant should leave in less than seven years, he should be paid one-half his outlay.

Under such a system I think the valuations of the majority of arable land would be about 600*l.* for 100 acres; and half the valuation to belong to the landlord and half to the tenant. This would secure the landlord, and enable the tenant to have more capital and less lying dead; or, on the other hand, all the capital might belong to the landlord, and the tenant pay a higher rent, amounting to 4 per cent.; or all the capital might belong to the tenant, and he would then pay a lower rent in proportion; but I think half the valuation to belong to each party would be the best. The landlord would secure a tenant with capital, and the tenant would have an interest in the land, and would keep it in good cultivation, and by so doing the produce would be increased; and when possession was given up, the valuation would be more for each party, and if the land was in worse condition the tenant would have less to receive, thus spending his own capital. But in many valuations, where the tenant holds under half a year's notice, or under lease with only one year's notice to quit, at the end of seven or fourteen years, and the labour on manure and feeding price for the straw and hay is paid for, it often falls with great injustice to a tenant on leaving; for if he leaves double the quantity of manure, hay, and straw, he is not paid for his improvement. On the other hand, if a tenant takes a farm with 600 cart-loads of manure on it, and only pays the labour on it, and on leaving there should be only 300 cart-loads with being paid the labour on it, there is an injustice done to the landlord. This mode of letting and valuing I think is therefore bad, and that it discourages good farming. There is one thing seems very preposterous to me, at many public meetings—the advising tenant-farmers to farm higher, and use more capital, when the Government have passed measures to take that capital from them, and transfer it to other quarters. If the landlords were to tell the tenant farmers at such meetings, that, as their produce was now selling at one-third less price, they would grant them fair covenants to farm under, and reduce their rents one-third, I think that would be much more encouragement to tenant-farmers, and not detrimental to landlords in the main; or else it is like taking a man and chucking him over a bridge, and saying, "I wish you good luck." Mr. Richards (solicitor), said that landlords were very fortunate now if they got 3 per cent. on any large purchase of land. In the west of England, a man could take as good a farm for 2000*l.* as he could here for 5000*l.*, and generally speaking, he thought the man of moderate capital understood his business better than the tenant with a large one. The former was a practical man, but the man with 5000*l.* or 10,000*l.* liked to enjoy himself, and employed a good bailiff. In Surrey, Kent, and Sussex, it had been the custom to have a large valuation, and the first thing to be done was to get rid of it. How was that to be done? Every tenant who left a farm was entitled to the same valuation as he paid on entering. You went in according to the custom of the country; the two valuers called in differed, and you were at the mercy of the third man, who too often decided by dividing the difference between the parties, so that one or other suffered considerably. Any alteration would find very strong opponents in the valuers; for were it effected, a portion of their occupation was gone. It was impossible now to leave a farm without employing a valuer; not so in other counties. Here the out-going tenant tells his valuer he put on so much this year, and so much the year before; and when they went into half-dressings and half-fallows, the former, he would not say designedly, fancied he had put on, say 30 loads of manure. He had not taken any great account, perhaps, not thinking he was going to leave, and he fixed on this as what he thinks near the thing. Then John or Thomas was called in, and the farmer says, "Do you recollect how many loads we put on Broad Oaks or some other field—it must have been 20 loads?" John, of course, says, "yes, it wur." The farmer went on, "and we ploughed that twenty-acre piece, when we finished this headland, three times?" John thinks that's about it; the man gives way to his master, and down it goes as three times ploughing. He knew an instance where the man would not give way; these things were not wilfully done, but men fell into mistakes, especially when they did not mean to leave.—Mr. Churcher: But my agreement requires a two years' notice.—Mr. Richards: That was a matter of private arrangement entirely. The landlord always appeared to him to let as advantageously to the tenant as possible; and he thought it would be the greatest benefit to these counties to get rid of the valuations altogether. Of course the landlord would have to pay every outgoing tenant for everything he had done on his farm according to his lease, for it was quite immaterial to the tenant whether he received it from the incoming tenant or his landlord. The landlord would know the amount of capital he had paid for that valuation, and he would find 20 tenants with 2000*l.* more easily than one with treble that amount. He would then charge the incoming tenant with so much for rent, including the valuation. It was like letting a farm tithe free; if there was no tithe, the rent was higher, and if there was no valuation to pay, the tenant must pay so much more rent. If a landlord bought up his valuations, and let his farms at an increase, say even of 4 per cent., the interest on that capital would pay him better than that invested in the land, because no landlord could buy land to pay 3½ per cent.; and no tenant could object to pay 4 per cent. on the valuation, in addition to the rent now paid. It would answer his purpose to pay even 5 per cent., because if he were enabled to apply the capital he would sink in the valuation to the purchase of stock; he would expect to get, and would get, more than 4 or 5 per cent. It was quite as much to the advantage of the landlords as the tenants to get rid of these valuations altogether. You would thus get rid of a great deal of suspicion and, not to say fraud, of a great deal of unpleasant feeling. When a man saw a good yard full of rotten dung, and stacks of straw, he didn't object to pay for it; but he did object to pay for half-dressings and half-fallows which he could not see. If a man said he had put on 20 loads of rotten dung per acre, and he had sown seeds, and those seeds had missed, how was the valuer to know whether the dung had been put in or not. There was nothing to show whether the land had been properly cultivated or not. It was the same with Turnips, and how often did they miss? What was there then for the valuer to see to value? He must go entirely by the statement of the outgoing tenant. It was a very, very common case for seed to miss, and the result must often be that the tenant paid for the cultivation of a good crop of Turnips, and, perhaps, there was not a ton per acre. If the incoming tenant paid at all, let him pay for the roots—let him pay for what he could see. The question required the consideration of both parties; and as to covenants generally they must be guided by the locality. He would not enter into those suggested by Mr. Churcher, but he was sure the present system was a complete bar to getting good tenants.

Miscellaneous.

The Royal Agricultural Society's Show at Galway.—We are glad to learn that the forthcoming show, in the capital of the Western province, is likely to realise the most sanguine expectations that have been formed regarding it, and that we may look forward with certainty to a great and successful agricultural gathering in Galway. The entries already made afford an earnest of what may be reasonably calculated on; and among these it is satisfactory to find that several English and Scotch farmers and manufacturers will be in the list of candidates for the Society's prizes. This can afford no room for jealousy on the part of our own people. On the contrary, it is rather a source of satisfaction, as bringing prominently under the notice of our Irish agriculturists what is doing on the other side of the Channel, where they are, in many respects, so far ahead of us. From the introduction of some of the fine English and Scotch cattle and implements, we cannot fail to derive signal advantage; and hence we cordially welcome those visits of our enterprising neighbours. But there is a further point of view from which we can see the great advantages which may, in fact which must, result from the visit of English and Scotch farmers

* We append the list of questions, that any one possessed of information on the subject may add it to the general fund,—whether in our own columns or elsewhere.

to this country at the present time. There is now considerable interest manifested, especially among Scottish agriculturists to become better acquainted with the capabilities of the Irish soil, with a view of procuring farms and settling in this country. The high rents of Scotland, and the inferior character of the land, especially as compared with that of Ireland, show the extended field which exists in the latter country for agricultural enterprise, of which Scottish farmers are in future likely to take advantage. For the growth of green crops and Grass, we possess facilities unrivalled, and this is just the class of produce which at present affords the best returns. Besides, in some of the most fertile districts, extensive tracts of land may be had without an occupant, or any obstacle being interposed to immediate possession being taken. These circumstances are auspicious for the advent of some enterprising farmers, possessing the necessary capital and skill to turn our rich and varied resources to account, and set an example to the district in which they might be located. Such a movement as this we believe the Galway show will do much to promote ; as many parties who have for some time past intended to come over will take advantage of that opportunity, when they expect to come in contact with the proprietors and farmers of the country, and thereby acquire information for their future guidance. A further arrangement, which must add considerably to the interest of the forthcoming show in Galway, is that for the discussion of practical subjects connected with the objects of the meeting, in which the leading agriculturists present will take part. This practice has been adopted for some time past at the English and Scotch shows, but this will be the first occasion on which it will have been effectively carried out in Ireland. While noticing these arrangements of the Society we wish to call attention to the Society's Journal, the second number of which has just appeared. This periodical is to appear monthly, being supplied gratuitously to members of the Society; and at an annual subscription of 5s., post free, to the public. It is calculated to render essential service to the cause of agricultural improvement, and, in an essential manner, to the Society itself, by presenting additional inducements to parties to become members of it. Its editor has been long accustomed to write on agricultural subjects, and is conversant with the husbandry of the British Isles ; and, from his zeal and perseverance in the good cause, we must say we should feel equally surprised as chagrined did he not succeed in his worthy endeavour to establish in Ireland, and under the patronage of the Royal Agricultural Society, a Journal of rural economy of high standing and utility. *Dublin Advocate.*

Mode of Harrowing in Denmark.—One practice in their husbandry I am at a loss to judge of—whether to consider it a saving of labour and fatigue to the labourer only, or a saving of labour, that is of money, to the employer also. I saw it on a large farm in a field in which 16 horses were at work harrowing. There were only four men working the 16 horses. Two horses were in each harrow, and the harrows, and all the equipments, were of the same size and form as with us, and the field was flat. The peculiarity was, that the harrowing was circular, the harrows working round and round the driver. He stood in the centre, like a horse-breaker lounging a young horse, and, with the long reins in his hand, kept the one pair of horses, and their harrows, along side of, but a little behind, the other pair and their harrows. When he had reduced the clods to his mind, he took up a new centre on a line with the old. This was certainly a saving of labour, or of the fatigue of walking up and down, lengthwise and crosswise, over the whole field. It appeared a saving of labour also for the employer. Four men could scarcely work sixteen horses in our way of harrowing, each pair with two harrows. It occurred to me that the tines of the harrows must leave little circular furrows in the mould which might hold rain water, and keep the land wet; and I went to visit the field again a few days afterwards. But the mould had been reduced as fine as in a garden bed, or in a well-prepared Turnip field, in which the rake or the harrow makes no marks with its teeth; and it was water-furrowed in beds, as in our practice, and sown with rape. The practice of harrowing in a circle is universal in Holstein and Sleswick. *Laing's Denmark.*

Calendar of Operations.

JULY.

DORSET FARM, *July* 26.—We have now to report very favourably as regards both weather and crops. We have had a very fine season for getting in the Turnips, where they were sown early ; but where deferred to the latter part of June, as in many cases they were, the wet weather we had then was against sowing ; and hay-making interfered with it. And a further consequence of this will be, that there will be Turnip hoeing and harvest both together ; and hands do not seem so numerous as of late. We have got ours all hoed twice, except 8 or 9 acres after Vetches, and the fine warm weather that we have had makes them grow fast. We have begun to eat off Rape, as a preparation for Wheat ; and we have part of the same in Turnips, that will soon be fit to eat. Grass has been abundant through the summer, and every kind of stock has done well. As for corn crops, we never have seen them better. Wheat stands up well, though generally heavy, and Barley is far above average ; it is very thick, and some of it is laid, but the land has been so dry that it has not suffered at all from this. Oats are very heavy and thick on the ground, and the young Grasses are coming up well among the Barley. Instead of broad Clover (T. pratense), we sow Cow-grass (T. medium), which grows with us very luxuriantly, but is not liked nearly so well by sheep ; and could we find how to prevent Clover sickness, there would be little inducement to sow Cow-grass. We are to sow a piece of Trifolium incarnatum after Oats, which we do as soon as the crop is off ; the ground being clean, requires no ploughing, but is gone over with the heavy drags twice on a place, or until there be a fine light mould for the seed, then the seed is sown and harrowed in with light harrows and rolled. We had good feed on 10 acres of it this spring, and have it now in Turnips well advanced, which will be eat off, and then put in Wheat. I am sorry to say that the Potato disease is more prevalent than it has been for some years in this place. They looked very promising a fortnight ago ; indeed far above an average, and we were led to expect a very heavy crop. As it is, quantity will not be so bad, but we fear they will not keep so well in store. Harvest will be general with us in about 10 days. Our Barley seems to be coming before the Wheat ; it was sown early, and as it is very heavy, we believe it would have been more laid had it not been for early sowing, which makes it stiffer in the straw. Hay-making is generally finished and has been all made well ; and although the crops are not quite so heavy as last year, having been fed off to a later period, owing to shortness of keep in the spring, yet the quality is better and the quantity very good. *G. S.*

Notices to Correspondents.

FERNS : *B A.* They grow on land that is worthless as well as on what is improvable ; but generally they indicate inferior quality. Any soil that has depth may be cultivated.

GOAT, &c. : *A HJ.* Choose the largest size and the darkest colour. A kid may be had for half-a-crown. They are numerous in some districts in Ireland. We are unacquainted with the rules of the rabbit exhibitions. Perhaps some correspondent will inform you if they are accessible to any but members.

STALL-FEEDING, &c. : *A B.* It is perfectly possible to stop the smell of ammonia by using some acid or some salt containing an acid, on union with which it will itself become a fixed salt. Sulphuric or hydrochloric acids, sulphate of iron, sulphate of lime (gypsum) will answer the purpose ; the last, if the ammonia be in solution as it is in putrid urine.—Mr. Blacker's tract on Small Farms ; Mr. O. O. Roberts' tracts on Agricultural Economy as the remedy for Agricultural Distress, would probably suit your purpose.

TANKS : *An Old Subscriber.* It is well to have two tanks, and allow the putrefaction of the urine before it is applied to the land.

Markets.

COVENT GARDEN, JULY 31.

The supply both of Fruit and Vegetables has been very good, except Strawberries, which are all but over. Excellent Greengage and other Plums continue to be imported from France, and also Apricots, but many of the latter are not first-rate in quality, Tomatoes likewise continue to be supplied. Potatoes are plentiful, as are also Peas. West India Pine-apples are abundant. Mushrooms are dear. Cut flowers consist of Heaths, Pelargoniums, Mignonette, Roses, Bignonia venusta, and Pinks.

FRUIT.

Pine-apples, per lb., 4s to 6s	Almonds, per peck, 5s
Grapes, hothouse, p. lb., 2s to 5s	— sweet, per lb., 2s to 3s
Peaches, per doz., 8s to 15s	Lemons, per doz., 1s to 2s
Nectarines, per doz., 8s to 15s	Oranges, per doz., 1s to 1s 6d
Figs, per doz., 4s to 8s	— per 100, 3s 6d to 10s
Melons, each, 2s to 6s	— Seville, per doz., 1s to 3s
Cherries, per lb., 2d to 6d	Nuts, Barcelona, per bush, 20s to 22s
Gooseberries, per half sieve, 2s 6d to 3s	— Brazil, per bushel, 12s to 14s
Currants, do., 2s to 3s 6d	
Strawberries, p. pott., 6d to 1s 6d	

VEGETABLES.

Cabbages, per doz., 6d to 1s 3d	Shallots, per bunch, 3d
French Beans, p. hf. sieve, 2s to 4s	Garlic, per lb., 8d to 1s
Peas, per sieve, 1s to 4s	Lettuce, Cab., per score 4d to 1s
Cauliflowers, per doz., 4s to 6s	— Cos, p. score, 3d to 1s
Asparagus, p. bundle, 1s to 4s	Radishes, per doz., 8d to 1s
Greens, per doz., 1s to 1s 6d	— Turnip, 9d to 1s 6d
Rhubarb, p. bundle, 3d to 4d	Small Salads, p. pun., 2d to 3d
Potatoes, per ton, 60s to 130s	Horse Radish, p. bundle, 1s to 4s
— per cwt., 2s 6d to 7s	Mushrooms, p. pott., 1s to 1s 6d
— per bush., 1s 6d to 2s 6d	— per punnet, 9d to 1s
Turnips, per doz., 3s to 6s	Sorrel, per hf. sieve, 6d to 1s
Cucumbers, each, 4d to 6d	Artichokes, per doz., 1s 6d to 2s
Vegetable Marrow, p. doz., 1s to 2s	Fennel, per bunch, 2d to 3d
Celery, per bundle, 1s to 1s 6d	Savory, per bunch, 2d to 3d
Carrots, p. doz., 3s to 5s	Thyme, per bunch, 2d to 3d
Spinach, per sieve, 1s to 2s	Parsley, p. doz. bnchs., 2s to 3s
Onions, per bunch, 2d to 8d	Mint, per bunch, 2d to 3d
— Spanish, p. doz., 1s 3d to 3s	Basil, green, p. bunch, 4d
Beet, per doz., 1s to 2s	Marjoram, do., 3d to 6d
Leeks, per bunch, 2d to 3d	Watercresses, p. 12 bun, 9d to 1s

HOPS.—BOROUGH MARKET, July 30.

Messrs. Pattenden and Smith report that the market for Hops is firm. Duty, 185,000*l.*

HAY.—Per Load of 36 Trusses.

SMITHFIELD, July 29.

Prime Meadow Hay	80s to 90s	Clover ...	... 90s to 100s
Inferior do.	... 68 75	New do. ...	... 70 85
Rowen ...	... 66 —	Straw ...	... 32 36
New Hay ...	... 60 76		E. J. DAVIS.

A brisk trade.

CUMBERLAND MARKET, July 29.

Prime Meadow Hay	88s to 92s	Inferior Clover	... 75s to 88s
Inferior do. ...	... 70 80	New do. ...	... 65 80
New Hay ...	... 60 76	Straw ...	... 32 36
Old Clover ...	.. 95 100		JOSHUA BAKER.

WHITECHAPEL, July 29.

Fine old Hay	... 80s to 85s	Old Clover...	...100s to 108s
Inferior do.	... — —	New Clover	... 75 84
New Hay ...	... 65 72	Inferior do.	... 55 70
Inferior do....	... 50 63	Straw ...	... 32 36

SMITHFIELD.—MONDAY, July 26.

We have an increased supply of Beasts, and a limited demand ; prices, consequently, on the average are no better. A few choicest things are readily sold ; otherwise trade is in a sluggish condition. Sheep and Lambs are rather more plentiful, but there is a cheerful trade for them. The former are making about the same as of late, and choice Lambs are rather dearer ; but, a large proportion being of inferior quality, are with difficulty disposed of. The number of Calves is large, and Friday's prices cannot be maintained. From Germany and Holland there are 1104 Beasts, 3700 Sheep, 290 Calves, and 70 Pigs ; from Spain, 390 Sheep ; from Scotland, 70 Beasts ; and 2400 from the northern and midland counties.

Per st. of 8lbs.—s d	s d	Per st. of 8lbs.—s d	s d
Best Scots, Here-		Best Long-wools .	3 4 to 3 8
fords, &c. ...	3 6 to 3 10	Do. Shorn ...	0 0 — 0 0
Best Short-horns	3 4 — 3 6	Ewes & 2d quality	2 8 — 3 2
2d quality Beasts	2 4 — 3 0	Do. Shorn	0 0 — 0 0
Best Downs and		Lambs	4 8 — 5 4
Half-breds ...	3 8 — 4 0	Calves	2 8 — 3 8
Do. Shorn	0 0 — 0 0	Pigs	2 8 — 3 8

Beasts, 4078 ; Sheep and Lambs, 33,890 ; Calves, 450 ; Pigs, 360.

FRIDAY, July 30.

The supply of Beasts is not very large, but quite equal to the demand ; inferior qualities are about 2d. per 8 lbs. lower than on Monday, and only in few instances do the best make as much as on that day. We have a large number of Sheep and Lambs on offer ; trade is very slow, and prices on the average are lower. The number of Calves is great ; however, a large proportion are very middling in quality, consequently choicest kinds are quite as dear as of late. Our foreign supply consists of 289 Beasts, 2520 Sheep, 384 Calves, and 10 Pigs ; from Scotland, 20 Beasts ; from Norfolk and Suffolk, 50 ; 200 from the northern and midland, and 115 Milch Cows from the home counties.

Per st. of 8lbs.—s d	s d	Per st. of 8lbs.—s d	s d
Best Scots, Here-		Best Long-wools .	3 4 to 3 6
fords, &c. ...	3 6 to 3 8	Do. Shorn ...	...
Best Short-horns	3 2 — 3 4	Ewes & 2d quality	2 8 — 3 0
2d quality Beasts	2 2 — 2 10	Do. Shorn ...	0 0 — 0 0
Best Downs and		Lambs	4 6 — 5 2
Half-breds ...	3 8 — 3 10	Calves	2 8 — 3 8
Do. Shorn ...	0 0 — 0 0	Pigs	2 8 — 3 8

Beasts, 796 ; Sheep and Lambs, 10,020 ; Calves, 715 ; Pigs, 330.

WOOL.

BRADFORD, THURSDAY, July 29.—There is no material alteration to report in the state of the English wool market. The demand during the past week for the better classes has continued active, and late quotations are well supported. It is, however, quite impossible at present to realise on a general average such prices as can leave a profit upon the rates recently paid to the growers. Short wool and noils are a good sale at late prices.

MARK LANE.

MONDAY, July 26.—The neighbourhood of London having been visited yesterday by heavy thunderstorms, and the supply of Wheat from Essex and Kent being small, it was readily purchased by the millers at the full prices of this day se'nnight ; the day however proving fine, very little business was transacted in foreign Wheat, and that only at some decline from last week's quotations.—Barley moves off slowly at a reduction of 1s. per qr. from the prices of Monday last.—Beans and Peas are each 1s. per qr. cheaper.—The Oat trade is slow, and sales can only be proceeded with at an abatement of 6d. to 1s. per qr.—Some few parcels of new Rapeseed appeared at market, and the best samples have been sold at 24*l.* per last.

PER IMPERIAL QUARTER.	s. s.		s. s.
Wheat, Essex, Kent, & Suffolk...White	43—45	Red	38—39
— — fine selected runs...ditto	44—47	Red	39—41
— — Talavera	43—48		
— Norfolk	37—39	Red	—
— Foreign	34—48		
Barley, grind. & distil., 24s to 27s...Chev.	—	Malting .	—
— Foreign ...grinding and distilling	20—26	Malting .	—
Oats, Essex, and Suffolk	18—19		
— Scotch and Lincolnshire...Potato	18—22	Feed	17—19
— Irish ..... Potato	17—20	Feed	17—19
— Foreign .....Poland and Brew	18—19	Feed	15—18
Rye	—	Foreign .	—
Rye-meal, foreign	—		
Beans, Mazagan.....27s to 30s.....Tick	28—31	Harrow .	28—31
— Pigeon .....28s — 34s...Winds.	—	Longpod	—
— Foreign ..... Small	23—34	Egyptian	26—28
Peas, white, Essex and Kent.....Boilers	33—34	Suffolk...	34—35
— Maple.....31s to 34s.....Grey	30—32	Foreign .	28—36
Maize ..... White	—	Yellow...	—
Flour, best marks delivered ...per sack	37—40		
— Suffolk ..... ditto	25—32	Norfolk .	25—32
— Foreign..... per barrel	17—23	Per sack	28—34

ARRIVALS IN THE PORT OF LONDON LAST WEEK.

	Wheat.	Barley.	Malt.	Oats.	Beans.	Peas.
Flour, 6922 sks						
— 21957 brls	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.
English	1998	—	2357	260	172	10
Irish	—	—	15	5077	—	—
Foreign	11449	8266	—	19179	83	878

FRIDAY, July 30.—The arrivals of English corn this week have been moderate, but those from the Continent considerable. Monday's prices for English Wheat are fully supported ; in ordinary foreign, sales to some extent have been forced at a slight decline, the finest qualities however command the prices of that day. For floating cargoes of Polish Odessa there are buyers at 30s. to 32s., but owners hold generally for 33s. to 34s.—Barley and Oats are heavy, and 1s. per qr. cheaper.—Beans and Peas are unsaleable, and prices entirely nominal. Flour is quite neglected.

ARRIVALS THIS WEEK.

	Wheat.	Barley.	Oats.	Flour.
	Qrs.	Qrs.	Qrs.	
English ...	2670	210	3120	1540 sacks
Irish	—	—	3930	
Foreign ...	28220	11810	31560	2260 sacks

IMPERIAL AVERAGES.

	WHEAT.		BARLEY.		OATS		RYE.		BEANS.		PEAS.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
June 19.....	40	9	27	5	20	2	30	7	32	0	31	9
— 26.....	40	10	27	6	20	0	31	0	32	4	31	9
July 3.....	41	4	27	5	19	10	32	4	33	1	33	2
— 10.....	41	5	28	3	19	9	32	6	34	0	33	3
— 17.....	41	0	27	0	19	11	30	1	34	5	30	11
— 24.....	40	7	28	2	19	9	28	9	33	10	34	5
Aggreg. Aver.	41	0	27	7	19	11	30	10	33	3	32	7

Duties on Foreign Grain, 1s. per qr.

FLUCTUATIONS IN THE LAST SIX WEEK'S AVERAGES.

PRICES.	JUNE 19.	JUNE 26.	JULY 3	JULY 10.	JULY 17.	JULY 24.
41s 5d	...	...	...		...	...
41 4	...	...		...	...	...
41 0	...	...	...	...		...
40 10	...		...	...	...	...
40 9	—	...	...	...	...	...
40 7	...	...	...	...	...	

LIVERPOOL, TUESDAY, July 27.—The arrivals from Ireland and coastwise continue quite insignificant. At this morning's market there was a moderate attendance of town and country buyers, but the weather being extremely fine, they showed little disposition to make purchases except for the supply of their immediate wants. Wheat and Flour met with a slow sale, at barely the currency of this day week. Oats and Oatmeal were 1d. per 45 lbs. and 3d. per load lower. Barley and Peas were neglected, and nominally unchanged in value ; but Beans were 6d. to 9d. per qr. cheaper. Fine yellow Indian Corn commanded late rates. —— FRIDAY, July 23.—At our market to-day there was a more slender attendance than usual, and we note only a moderate business in Wheat, with little or no difference from the rates of Tuesday. The sale of any description of Flour is very slow to-day, and prices nominally unchanged. Egyptian Beans declined 1s. per qr., at which there was a better sale ; and Oats, at a reduction of 1d. per 45 lbs., met a somewhat improved demand. Oatmeal a dragging retail sale, at almost nominal rates. Only one small parcel of yellow Indian Corn remaining on our market, sold at 31s. 6d. per 480 lbs. ; white sells very slowly at previous rates.

Just published, considerably enlarged, price 5s. 6d., the Third Edition of

RURAL CHEMISTRY:

AN ELEMENTARY INTRODUCTION TO THE STUDY OF THE SCIENCE IN ITS RELATION TO AGRICULTURE.

BY EDWARD SOLLY, F.R.S, F.L.S., F.G.S.,

Honorary Member of the Royal Agricultural Society of England, Professor of Chemistry to the Horticultural Society of London, Lecturer on Chemistry in the Honourable East India Company's Military Seminary at Addiscombe, &c., &c.

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"In accordance with numerous suggestions, very considerable additions have been made to this little book, in preparing it for a new edition; several important practical matters, not treated of in any former editions, having been introduced. Brief descriptions of the more important of the domestic arts, such as Wine and Vinegar Making, Brewing, the Manufacture of Spirits, Baking, Cheese-making, Cookery, &c, have been added, together with some account of the Scientific Principles involved in those arts. Numerous recent analyses of agricultural crops have likewise been given, and the whole has been carefully revised and corrected."

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— transmutation of ..... 501 *a*
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SALISBURY DAHLIA AND HOLLYHOCK EXHIBITION.—The grand Annual Exhibition of the above Society will take place in the Palace Garden of the Right Rev. the Lord Bishop, on Tuesday, the 31st day of August next. In addition to the usual prizes a Silver Cup, value Five Guineas, will be given by JOHN KEYNES, for 12 blooms of Dahlias sent out by him at any time.

Full particulars on application to JOHN KEYNES, Hon. Secretary, Salisbury.—August 7

NYMPHÆA GIGANTEA, ALIAS VICTORIA FITZROYANA.

STANDISH AND NOBLE having received a few tubers of this fine aquatic, from Northern Australia, in good condition, can offer them at from 7 to 15 guineas each. The flowers are of a beautiful blue colour, a foot in diameter, and the leaves are from 18 inches to 2 feet across. Altogether, it is little inferior to the magnificent Victoria Regia; and it has the additional value of requiring only the temperature of a greenhouse.

*** A new Catalogue of select and hardy Plants can be had by inclosing a 2*d.* postage stamp.—Bagshot, August 7, 1852.

FEATHER GRASS (STIPA PINNATA) WANTED—State quantity and price for cash.—Direct to Z. Z., Office of this Paper.

BEACH'S QUEEN STRAWBERRY PLANTS.—Having taken several Prizes these two years with QUEEN'S STRAWBERRIES, thousands of them weighing upwards of 2 oz, many of them I exhibited last year in the Crystal Palace upwards of 3 oz, and this year, at Chiswick, they gained two Knightian Medals on July 10th; and also on the 14th inst. the Head Prize at the great show at Lewes. See also Dr. Lindley's opinion of them in the *Gardeners' Chronicle* of the 10th of July, and likewise Mr. Cuthill's account of my place in the same journal of last Saturday. Strong, healthy, and fine plants are now ready to be sent out at 5*s.* per 100, box included.—Post-office Orders on Hounslow to Mr. THOMAS BEACH, Market Gardener, Worton, Isleworth, near London.

NICHOLSON'S AJAX, AND NICHOLSON'S RUBY SEEDLING STRAWBERRIES.

WILLIAM NICHOLSON begs to say that he intends offering for sale his TWO NEW SEEDLING STRAWBERRY PLANTS, the fruit of which has gained a notoriety for its great size and fine flavour. Strong and well-rooted Plants will be ready by the 1st of September next, and can be forwarded to any part of the Kingdom. Orders will be thankfully received and punctually attended to on receiving a remittance by Post-office order or otherwise, for the quantity required, at the following prices, viz.:—2*l.* for 100 Plants, 1*l.* 5*s.* for 50 ditto, and 15*s.* for 25 ditto. Early applications are requested, as only a limited number of Plants can be supplied this season. Eggleschiffe, near Yarm, Yorkshire, August 7.

TESTIMONIAL from Mr. CUTHILL, Camberwell.—"Dear Sir, The Ruby Strawberry,' a few of the Plants of which you sent me last year, is of a fine flavour, when thoroughly ripe, and about a fortnight later than Keens'; it is a most prolific bearer. The Ajax Strawberry is also a first-rate one, and is just what we want: the nine that you sent me last year, after two days' travelling, weighed 16 oz. I am, Dear Sir, yours truly, JAMES CUTHILL, Camberwell, June 28."

Various other first-rate Testimonials can be supplied by Mr. NICHOLSON on application.

NEW AND CHOICE SEEDS FOR PRESENT AND AUTUMN SOWING.

JOHN CATTELL has now ready to send out the following seeds, post free, at per packet, as annexed:—

CALCEOLARIA, saved from a very fine collection, and carefully impregnated, 2*s.* 6*d.*

Directions for sowing, &c., will accompany each packet.

The produce from the Calceolaria seed J. C. has hitherto sent out having given such universal satisfaction, and the many testimonials he has received in praise of its excellence enable him to recommend this with the greatest confidence.

CINERARIA, from newest and finest varieties, 2*s.* 6*d.*

GERANIUM, from new florist varieties sent out last autumn, 2*s.* 6*d.*; 18 seeds.

Do. older first-rate varieties, 1*s.*; 18 seeds.

Do. from new fancy varieties sent out last autumn, 2*s.* 6*d.*; 18 seeds.

Do. older first-rate varieties, 1*s.*; 18 seeds.

Do. saved from scarce varieties, 1*s.*

SCHIZANTHUS RETUSUS, 6*d.*

Do. Do. ALBUS, 6*d.*

Twenty-five sorts of fine showy hardy Annuals, for flowering the open ground in spring, 4*s.*; larger packets, 6*s.*

Twelve sorts of fine showy half hardy Annuals, for early flowering in the greenhouse, 2*s.*; larger packets, 4*s.* 6*d.*

Orders from unknown correspondents to be accompanied with remittance.—Westerham, Kent.

JOHN HENCHMAN has still on Sale a few packets of his Choice CINERARIA, CALCEOLARIA, and PANSY SEED, each at 2*s.* 6*d.* per packet.—Edmonton, August 7.

CHOICE CHRYSANTHEMUMS.

CHANDLER AND SONS, NURSERYMEN, Wandsworth-road, Surrey, have now a fine stock of bushy Chrysanthemums, of the best sorts, now fit for shifting into large pots for flowering, at 12*s.* per dozen; a good collection of the dwarf Chinese varieties at 12*s.* per dozen; if more than a dozen taken the price would be less.—August 7.

CUTHILL'S PRINCE OF WALES AND BLACK PRINCE STRAWBERRY PLANTS.

THE PRINCE OF WALES was raised in 1849; it is the latest we have in this country—still in bearing, August 1. The flavour is excellent; a scarlet cone-shaped fruit, about the size of a Keen; throws its bloom well up, foliage light green, and, like its royal relative (the Black Prince), an enormous bearer. If planted on a northern aspect, it will bear up to September. Price 1*l.* per 100, or 10*s.* 6*d.* for 50 (a few plants extra allowed to the Trade).

Also the celebrated BLACK PRINCE, the earliest in England: this year they were picked in the open ground, at 8*s.* per lb., by me. See also Mr. Meredith's account of its forcing qualities at the Duke of Sutherland's.

CUTHILL'S Pamphlet on the Potato, Asparagus, Seakale, Rhubarb, Strawberry, Melon, Cucumber, &c., 2*s.*, or by post 2*s.* 4*d.* Also his "Market Gardening round London," 1*s.* 6*d.*, or by post 1*s.* 8*d.* The true Lapstone Kidney 8*s.* per bushel. Post-office orders on Camberwell-green.

JAMES CUTHILL, Camberwell, London.

STRAWBERRY PLANTS.—The under-mentioned first-rate varieties, which have all been thoroughly proved to the satisfaction of their growers, are now ready for sending out.

TROLLOP'S VICTORIA.—This is one of the finest Strawberries ever yet sent out; it has been exhibited at numerous exhibitions last season and this, and proved superior to all others for its superb quality, and, as an early forcer, is not equalled; 1*l.* per 100, or 3*s.* per dozen plants

CREMONT'S PERPETUAL OR DOUBLE BEARING STRAWBERRY; 1*l.* per hundred, or 3*s.* per dozen.

MYATT'S SURPRISE, extra fine	... ...	10*s.* 0*d.* per 100.
PRINCE ARTHUR, ditto	... ...	7 6 ,,
BLACK PRINCE, a first-rate early variety	...	5 0 ,,
PROLIFIC, very fine and early	... ...	5 0 ,,
ELEANOR, the best and latest scarlet bearing Strawberry, many of the fruit growing to 2½ oz., very firm, and first-rate for travelling	...	5 0 ,,
BRITISH QUEEN (true)	... ...	3 6 ,,
BRITANNIA (very fine)	... ...	5 0 ,,
STIRLING CASTLE STRAWBERRY (fine)		5 0 ,,
ELIZA	... ...	5 0 ,,
GLOBE	... ...	5 0 ,,
ALICE MAUDE	... ...	3 6 ,,
"GOLIATH"	... ...	3 6 ,,

The above are strong well-rooted plants, and such as will ensure satisfaction. Fine plants can be had for potting, if required, which were pricked off for the purpose early in the spring.

N.B. Those Strawberries at 3*s.* per dozen will be sent postage and package free.

FINE ANTIRRHINUMS, all saved from striped and spotted varieties, such as will give every satisfaction and bloom early next spring. 5*s.* per hundred.

SWEET WILLIAMS, 48 superb varieties, 3*s* per hundred.

SEEDLING HOLLYHOCKS, extra fine, saved from all the best varieties in cultivation, and such as will give satisfaction, 1*l.* per hundred, or 3*s.* per dozen. (One hundred of these superb Hollyhocks were planted out in a bed last autumn, and 86 of them proved to be double flowers and equal to the varieties they were saved from).

A remittance must accompany the order, either by penny postage stamps or a post-office order, on receipt of which the whole or any quantity of the above will be sent hamper and package free.

EDWARD TILEY, Nurseryman, Seedsman, and Florist, 14, Abbey Churchyard, Bath, Somerset.

RIVERS' LARGE YELLOW STONE TURNIP SEED (the growth of the present season). Price 1*s.* per lb. This Turnip had its origin in 1842 with the Stubble Swede; and has been repeatedly tested with other kinds of Yellow Turnip, in which its superiority was very apparent—in its sweetness of flavour, and in its vigour of growth. For the last three years, on various soils, it has yielded from 12 to 16 tons per acre, when sown in the early part of August; and it has the advantage of keeping in clamps quite late in the spring.

RIVERS' Stubble Swede, price 1*s* 6*d.* per lb. Orders to the amount of 1*s* paid to London.—Sawbridgeworth, Herts.

PROTECTION OF PLANTS FROM THE HEAT OF THE SUN.—Use E. F. ARCHER'S HAIR CLOTH, a perfect non-conductor of heat, and admitting light without heat, where a covering is required; it is 2 yards wide, and any length, at 1*s.* 4*d.* per yard, and much cheaper than Bass Mats.

E. F. ARCHER, 451, Oxford-street, London.

EMIGRANTS TO AUSTRALIA, ETC., SUPPLIED.

A PRIZE MEDAL FOR SUPERIOR LOCKS WAS AWARDED TO J. H. BOOBBYER, AT THE GREAT EXHIBITION OF 1851.

THE CELEBRATED STEEL DIGGING FORK, Patent Spades, Daisy Rakes, Scythes, Draining, and other Garden Tools. Mole Traps, 6*s.* per dozen. Carpenters' and Smiths' Tools, &c. Rubbers for sharpening Scythes, 2*s.* 6*d.* per dozen. Patent fumigators for destroying insects on Plants, in greenhouses, &c.: at Messrs. J. H. BOOBBYER and Co.'s (late STURCH and BOOBBYER), Ironmongery, Brassfoundry, Nail and Tool Warehouse, 14, Stanhope-street, Clare-market, London. Established nearly 200 years for the sale of goods from the best Manufactories at the lowest prices. Goods forwarded to any part on the receipt of remittance. Lists sent by post.

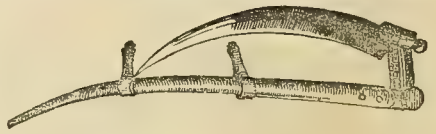
IMPROVED GRASS CUTTING & ROLLING MACHINE.

UNDER ROYAL PATRONAGE.

ALEXANDER SHANKS AND SON, MACHINE MAKERS, Arbroath, Forfarshire, respectfully solicit notice to their Improved GRASS CUTTING AND ROLLING MACHINE FOR LAWNS, the complete success of which, and its acknowledged excellence and superiority over all other machines of the kind, have now been fully confirmed. Testimonials and further particulars will be immediately franked on application.

AGENTS for London: Messrs. W. Dodds and Co., 102, Leadenhall-street; Messrs. J. and C. Lee, Nurserymen and Seedsmen, Hammersmith; Hertford: Mr. George Folkard, Ironmonger; Liverpool: Messrs. Charles D. Young and Co., Castle Buildings, Derby-square; Sheffield: Mr. J. Law. Curator of the Botanic Gardens; Chester: Messrs. F. and J. Dickson, Nurserymen and Seedsmen; Glasgow: Messrs. Chas. D. Young and Co., 32, St. Enoch-square; Edinburgh: Messrs. Chas. D. Young and Co., 48, North Bridge; Perth: Messrs. Dickson and Turnbull, Nurserymen and Seedsmen.

BOYD'S SELF-ADJUSTING SCYTHE.



BOYD'S PATENT SCYTHE and the celebrated STEEL DIGGING FORKS.—BOYD'S Scythe is capable of being adjusted to any angle by the person using it, and never requires the aid of a blacksmith; when out of use it shuts up like a clasp-knife. The *Gardeners' Chronicle* thus comments upon it:—"We gladly state that Mr. BOYD'S scythe stands well the great test, experience, especially with his late ingenious and very useful improvement."—G. C., 15th May, 1852. The Steel Digging Forks are those celebrated by Mr. Mechi: "When a labourer has once used them, he will never work with any other implement for digging. They effect a saving of nearly 50 per cent. in labour."—Wholesale and Retail at WM. DRAY and Co.'s Agricultural Implement and Machinery Warehouse, Swan-lane, Upper Thames-street, near London-bridge.

BAKER'S PHEASANTRY, Beaufort-street, King's Road, Chelsea, by special appointment to her MAJESTY and H. R. H. PRINCE ALBERT.—ORNAMENTAL WATER FOWL, consisting of black and white Swans, Egyptian, Canada, China, barnacle, brent, and laughing Geese, Shieldrakes, Pintail, Widgeon, summer and winter Teal, Gadwall, Labrador, Shovellers, gold-eyed and dun Divers, Carolina Ducks, &c., domesticated and pinioned; also Spanish, Cochin China, Malay, Poland, Surrey, and Dorking Fowls; white, Japan, pied, and common Pea-fowl, and pure China Pigs; and at 3, Half-moon Passage, Gracechurch-street, London.

COCHIN CHINA CHICKENS.—A few pairs, from three to four months old, well feathered on the legs, and of the purest breed. Price 15*s.* per pair.—Address to THOMAS PAGE, Chatteris, Cambridgeshire.

TANNED GARDEN NETTING, for protecting Strawberries and wall-fruit from birds, or as a fence fowls, pigeons, &c., in any length, from JOHN KING FARLOW'S Fishing Tackle and Net Manufactory, 5, Crooked-lane, London-bridge, at 1½*d.* one yard, 3*d.* two, or 6*d.* four yards wide. All orders over 20*s.*, accompanied with post-office order or stamps, carriage free.

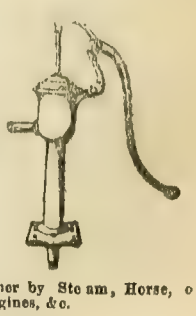
TANNED NETTING, for the Protection of Fruit Trees from Frost, Blight, and Birds, and for the security of Fresh-sown Seeds, either in Gardens or Fields, at 1*d.* per yard; 200 yards for 14*s.*, 500 yards for 30*s.*, 1000 yards for 50*s.*; Wax Netting, for aviaries, &c., at 3*d.* per square yard. Scrim Canvas for wall fruit. Sun Blinds in great variety; Rick Cloths, with poles, &c. Marquees, Tents, Tarpaulings, &c.—At EDGINGTON and Co.'s, 17, Smithfield-bars, and Old Kent-road, London.

FARM AND COTTAGE PUMPS.

PATENT CAST-IRON PUMPS, for the use of Farms, Cottages, Manure Tanks, and Shallow Wells.

	£	*s.*	*d.*
Patent Pump	1	15	0
Patent Pump, with 15 feet of lead pipe attached, and bolts and nuts ready for fixing	2	10	0

Larger sizes if required.



May be obtained of any Ironmonger or Plumber in Town or Country, or of the Patentees and Manufacturers,

JOHN WARNER & SONS,

8, Crescent, Jewin-street, London.

Every description of Machinery for Raising and Forcing Water, either by Steam, Horse, or Manual power. Fire and Garden Engines, &c.

The usual allowance to the Trade.

HORTICULTURAL SOCIETY OF LONDON.

EXHIBITIONS IN REGENT STREET.

THE COUNCIL OF THE HORTICULTURAL SOCIETY HEREBY GIVE NOTICE, that, with a view to the further encouragement of good cultivation at all seasons and in all branches of Gardening, Medals and Certificates of Merit will be given at the General Meetings of the Society in Regent-street, during the years 1852 and 1853, according to the following Schedule, and under the Regulations thereto annexed:—

1852.

OCTOBER 19. *Third Tuesday* ... ... Meeting at 3 P.M.
- The best collections of Hardy Annuals (cut flowers), each sort named correctly ... ... SB. C.
- Table Pears, correctly named, in collections of six, two specimens of each sort to be produced SB. C.
- Green Peas, named correctly ... ... C.

NOVEMBER 2. *First Tuesday.* ... ... Meeting at 2 P.M.
- Chrysanthemums (shown in sixes, in pots not exceeding 11 inches in inside diameter) ... SK. SB.
- Alpine Strawberries ... ... SB. C.
- Celery (shown in three heads) ... ... C.

DECEMBER 7. *First Tuesday.* ... ... Meeting at 2 P.M.
- Autumn-flowering Heaths (shown in sixes, in pots not more than 11 inches in inside diameter) SK. SB.
- Table Pears, as in October .. .. SB. C.
- The best lot of forced Vegetables ... ... SB. C.

1853.

JANUARY 18. *Third Tuesday.* ... ... Meeting at 2 P.M.
- The best collection of Hardy Winter-flowering Plants (cut flowers admissible) ... ... SB. C.
- English Grapes ... ... SB. C.
- The best and most varied Salad ... ... SB. C.

FEBRUARY 15. *Third Tuesday* ... ... Meeting at 2 P.M.
- Camellias (shown in trees, in pots not exceeding 15 inches in inside diameter) ... ... SK. SB.
- Table Pears, as in October ... ... SB. C.
- Lettuces (shown in sixes) ... ... SB. C.

MARCH 1. *First Tuesday.* ... ... Meeting at 3 P.M.
- Chinese Primulas (shown in pairs in 9-inch pots) SB. C.
- Himalayan Primulas, in pots ... ... SB. C.
- Strawberries (one dish only shown by each Exhibitor) ... ... SB. C.
- New Grapes ... ... SK. SB.

MARCH 15. *Third Tuesday.* ... ... Meeting at 3 P.M.
- Hybrid Rhododendrons (one pot only to be shown by each Exhibitor) ... ... SK. SB.
- Strawberries in pots, in threes ... ... SB. C.
- The best and most varied Salad ... ... SB. C.

APRIL 5. *First Tuesday.* ... ... Meeting at 3 P.M.
- Hyacinths (shown in pots in sixes) ... ... SB. C.
- Fruits or Vegetables, preserved whole by private persons for family use, without sugar or vinegar (shown in bottles of white glass, one bottle of each kind), accompanied by a written account of the manner in which they have been prepared ... ... SB. C.
- Forced Peas ... ... SB. C.

APRIL 19. *Third Tuesday.* ... ... Meeting at 3 P.M.
- Cyclamens, in pots ... ... SB. C.
- Cherries (one dish only to be shown by each Exhibitor) ... ... SB. C.
- Cauliflowers, in sixes ... ... SB. C.

MAY 24. *Fourth Tuesday.* ... ... Meeting at 3 P.M.
- The two best collections of Vegetables ... ... SK. SB.

JUNE 28. *Fourth Tuesday.* ... ... Meeting at 3 P.M.
- The two best collections of Vegetables ... ... SK. SB.

JULY 26. *Fourth Tuesday.* ... ... Meeting at 3 P.M.
- The two best collections of Vegetables ... ... SK. SB.

SK.—Silver Knightian Medal.
SB.—Silver Banksian do.
C.—Certificate of Merit.

1. The Medals and Certificates of Merit are on no account to be increased beyond those named in this schedule. They are to be given for fine cultivation, and not for mere novelty, which is to be a secondary consideration with the judges, unless attended by great excellence.

2. Prizes may be withheld if the objects exhibited for competition do not, in the opinion of the judges, deserve them.

3. Although those subjects of exhibition which are thus specially indicated are what the Council are most desirous of receiving, nevertheless other objects are also admissible, and additional prizes may even be given for them; *provided they possess very conspicuous merit.* The Silver Knightian Medal will be the highest additional reward which the judges can bestow, without the special sanction of the Council.

4. In a future year other kinds of produce will be selected for special competition.

5. Cut flowers are not admissible, except when it is expressly so stated.

6. Dishes or baskets for fruit and vegetables must be furnished by the Exhibitors, if they are present or live near London. The Society will only find dishes for what comes from a considerable distance.

7. Fruit must be perfectly ripe and perfectly coloured, or it will be disqualified.

8. Vegetables must be produced in the state in which they are offered for sale in the best class of shops, and properly prepared for the cook.

9. Foreign fruit and vegetables are admissible, but not in competition with produce of home growth.

10. Everything must be in the room three hours before the meeting, and ready for inspection by the Judges two hours before the meeting. If anything received later is allowed to be exhibited, it will be liable to exclusion from competition.

11. Exhibitors, and Exhibitors only, can receive passes to enable them to return to the meeting-room after the Prizes shall have been adjudicated. Two hours before the meeting they must quit the room, in order that the Judges may be undisturbed.

GLASS FOR CONSERVATORIES,
GREENHOUSES, PIT FRAMES, &c.

JAMES PHILLIPS AND CO. beg to hand their prices of SHEET GLASS for cash:

Cut to order in Panes not above 40 inches long.	Packed in Boxes of 100 feet each. £. s. d.
16 oz. ... ... 3d. to 3½d.	6 by 4, 6½ by 4½ ... 0 13 0
21 do. ... ... 3¼d. to 5d.	7 by 5, 7½ by 5½ ... 0 15 0
26 do. ... ... 5d. to 7½d.	8 by 5, 8 by 5½ ... 0 15 0
In Crates of 300 ft., 16 oz., 2½d. per foot.	8 by 6, 8½ by 6 ... 0 17 6
	9 by 7, 10 by 8 ... 1 0 0

HARTLEY'S PATENT ROUGH PLATE GLASS for Conservatories, Public Buildings, Manufactories, Skylights, &c., ⅜ inch thick. Packed in boxes of 50 feet each.

6 by 4 and 6½ by 4½...10s. 6d. | 7 by 5 and 7½ by 5½...12s. 0d.
8 by 6 and 8½ by 6½...13s. 6d. | 9 by 7 and 10 by 8 ...15s. 0d.

FOREIGN SHEET GLASS, of very superior quality, packed in cases of 200 feet, and in sizes varying from 36 by 26 to 44 by 30 inches, at 38s., 40s, to 42s. per case.

HARTLEY'S PATENT QUARRY GLASS.

GLASS MILK PANS,

The same size as the foreign ones, but superior in colour, make, and quality, at 2s. each, or 21s. per dozen, as recommended by Captain Stanley Carr.

GLASS CHURN THERMOMETERS, for regulating the Temperature of Cream.

LORD CAMOY'S MILK SYPHONS, LACTOMETERS, GLASS CREAM POTS, &c. &c.

CUCUMBER TUBES, PROPAGATING AND BEE GLASSES, TILES AND SLATES, WASP TRAPS, PLATE, CROWN, AND ORNAMENTAL GLASS, SHADES FOR ORNAMENTS, FERN SHADES, And every Article in the Trade.

HORTICULTURAL GLASS WAREHOUSE, 116, Bishopsgate-street Without, London.

GLASS FOR CONSERVATORIES, GREENHOUSES, PIT FRAMES, ETC.

HETLEY AND CO. are supplying 16-oz. Sheet Glass of British Manufacture, packed in boxes, containing 10 square feet each, at the following REDUCED PRICES for cash. A reduction made on 1000 feet.

Sizes.—Inches.			Inches.		Per foot.	Per 100 feet.
		Under	6 by 4	at	1½d.	is £0 12 6
From 6 by 4	,,	7 ,,	5	,,	2d.	,, 0 16 8
7 ,, 5	,,	8 ,,	6	,,	2¼d.	,, 0 18 9
8 ,, 6	,,	10 ,,	8	,,	2½d.	,, 1 0 10
10 ,, 8	,,	12 ,,	9	,,	2¾d.	,, 1 2 11

Larger sizes, not exceeding 40 inches long.
16 oz. from 3d. to 3¼d. per square foot, according to size.
21 oz. ,, 3¼d. to 5d. ,, ,, ,,
26 oz. ,, 3¾d. to 7½d. ,, ,, ,,

PATENT ROUGH PLATE, THICK CROWN GLASS, and PATENT PLATE GLASS for Horticultural purposes, at reduced prices, by the 100 square feet.

GLASS TILES AND SLATES made to any size or pattern, either in Sheet or Rough Plate Glass.

Propagating Glasses, Bee-hive Glasses, Cucumber Tubes, Glass Milk Pans, Glass Water Pipes, and various other articles not hitherto manufactured in glass.

PATENT PLATE GLASS.—The present extremely moderate price of this superior article should cause it to supersede all other inferior window glass in a gentleman's residence. No alteration connected with the sash is required.

GLASS SHADES, as ornamental to, and for the preservation of every description of goods susceptible of injury by exposure. Prices, since the removal of the excise duty reduced one-half. List of Prices and Estimates forwarded on application to JAMES HETLEY and Co., 35, Soho-square, London.

GLASS.

THOMAS MILLINGTON'S FOREIGN SHEET GLASS is far superior to any other manufacture, as well as cheaper. In 100-feet boxes packed for immediate delivery.

6 inches by 4	and	6½ by 4½	... ...	... 13s. 0d.
7 ,,		5 and 7½ by 5½	... ...	... 15 0
8 ,,		5 and 8 by 5½	... ...	... 15 0
8 ,,		6 and 8½ by 6½	... ...	... 17 6
9 ,,		7 and 10 by 8	... ...	... 20 0
12 ,,		10 and 13 by 9	... ...	... 20 0

And many other sizes, or cut to order in various thicknesses. Cases containing large Sheets, in 100, 200, and 300 feet, at 21s. per 100 feet.

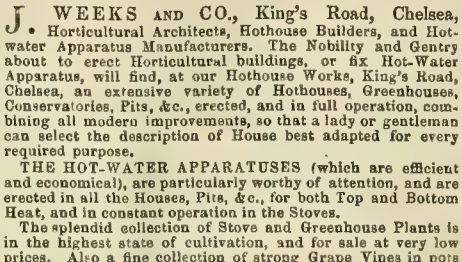
ROUGH PLATE, perfectly flat, ⅛ in. thick, best manufactured.
In sizes under 15 inches ..... 6d. per foot.
,, ,, 35 ,, ... 8d. ,,
,, ,, 50 ,, ... 9½d. ,,
,, ,, 75 ,, ... 12d. ,,

Milk Pans, 2s. to 6s. each; Metal Hand Frames, Glass Tiles and Slates; Cucumber, Propagating, and Bee Glasses; Wasp Traps, Glass Shades, and Plate Glass, at 87, Bishopsgate-street Without, London, same side as Eastern Counties Railway.—Established 100 years.

GREEN AND HOTHOUSES, made by Machinery, at J. LEWIS' Horticultural Works, Stamford Hill, Middlesex, warranted best materials, and the cheapest in England.—A List of Prices sent by enclosing 2 postage stamps.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER.

WARRANTED BEST MATERIALS AND WORKMANSHIP, AT THE LOWEST POSSIBLE PRICES.



J. WEEKS AND CO., King's Road, Chelsea, Horticultural Architects, Hothouse Builders, and Hot-water Apparatus Manufacturers. The Nobility and Gentry about to erect Horticultural buildings, or fix Hot-Water Apparatus, will find, at our Hothouse Works, King's Road, Chelsea, an extensive variety of Hothouses, Greenhouses, Conservatories, Pits, &c., erected, and in full operation, combining all modern improvements, so that a lady or gentleman can select the description of House best adapted for every required purpose.

THE HOT-WATER APPARATUSES (which are efficient and economical), are particularly worthy of attention, and are erected in all the Houses, Pits, &c., for both Top and Bottom Heat, and in constant operation in the Stoves.

The splendid collection of Stove and Greenhouse Plants is in the highest state of cultivation, and for sale at very low prices. Also a fine collection of strong Grape Vines in pots from eyes, all the best sorts.

Plans, Models, and Estimates of Horticultural Buildings; also Catalogues of Plants, Vines, Seeds, &c., forwarded on application.
J. WEEKS AND CO., KING'S ROAD, CHELSEA, LONDON.

HOTHOUSES, GREENHOUSES, ETC.

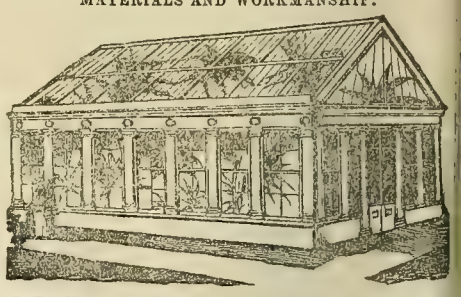
BY HER MAJESTY'S ROYAL LETTERS PATENT.

E. DENCH, PATENT HOTHOUSE WORKS, King's Road, Chelsea.—The superior qualities in every respect of these Structures having been proved in all parts of the United Kingdom, has caused a greater demand for them than E. D. could execute; he has been obliged to have perfect and powerful machinery made to meet the numerous orders, and can now execute any amount of work to great perfection, with dispatch, and for quality and price to defy all competition. Patent Hothouses, with excellent glass, 3 feet long by 1 foot wide, every front sash to open, and every top one to slide down, with pulley made of the same materials as the electric telegraph wires, which require no painting; delivered free to Wharf or Railway Station, at 1s. 2d. per foot super., complete, having been fitted, and every portion marked previously, making a Greenhouse 16 ft. 6 inches long, 12 ft. rafter, 400 ft., 23l. 6s. 8d.; 24 ft. 6 ins. long, do. do., 526 ft., 30l. 13s. 8d.; 28 ft. 6 ins. long, 15 ft. rafter, 712 ft., 41l. 10s. 8d. Heating by Hot Water on the most approved and economical principles.

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HORTICULTURAL BUILDING AND HEATING BY HOT WATER,

AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.



GRAY AND ORMSON, Danvers Street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

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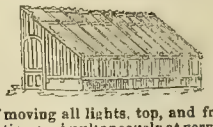
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JOHN TAYLOR begs most respectfully to call the attention of the Nobility, Gentry, and Gardeners, to the very superior manner in which he erects all kinds of Greenhouses, Conservatories, Forcing Pits, &c., and all other buildings for Horticultural purposes, combining all the most modern improvements with elegance and utility. His manner of heating Horticultural Buildings, Churches, Chapels, Public Buildings, Entrance Halls, &c., has received the greatest approbation from the Nobility and Gentry by whom he has been extensively engaged.

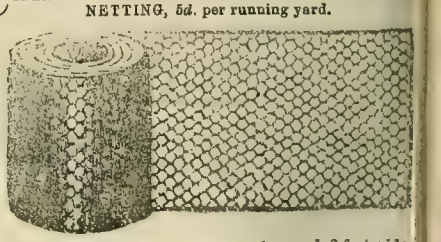
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J. W. T. having had full 25 years' experience as a practical HORTICULTURIST, LANDSCAPE GARDENER, and GARDEN ARCHITECT in HER MAJESTY'S ROYAL GARDENS at WINDSOR, KEW, and other places where the most effective and simple modes of construcing, Warming, and Ventilating Horticultural Erections have been adopted, begs to solicit the attention of the nobility and persons interested in Horticulture, to his newly-invented plan of moving all lights, top, and front, for admitting air, by one action or simultaneously at very little more expense than by the old and inconvenient mode of cord and pulley system.



Every description of Horticultural Structures designed, erected, and heated by Hot-water, Common Flues, and other modes on the most economical and improved modern principles.

CHEAP WIRE GAME AND POULTRY NETTING, 6d. per running yard.



GALVANISED ditto, 7d. per running yard, 2 feet wide.

	Galvanised.	Not Galvanised
24 in. wide, 2 in. mesh,	7d. per yard.	5d. per yard
30 in. ,, 2 in. ,,	9d. ,,	6½d. ,,
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Sparrow Proof Netting, Galvanised, 3d. per square foot, made to any size for the same proportionate price. This article was shown at the "Great Exhibition," where it was much admired for its light and durable appearance, and acknowledged to be the cheapest and best article of the kind ever offered. Extra strong Wire Sheep Netting, 3 feet high, 1s. 6d. and 2s 3d. per yard. Also every description of Flower Trainers, Dahlia Rods, Garden Arches, Bordering, Flower Stands, Tying Wire, Trellis Work, Invisible Wire Fence, Hurdles, and every description of Wire Work for Horticultural purposes.—Illustrated Catalogues of Patterns forwarded, post free, on application to T. H. FOX, City of London Wire Work and Iron Fence Manufactory, 44, Skinner-street, and 6 and 7 Snow-hill, London.

HOLLYHOCKS.

A. PAUL AND SON respectfully invite Admirers of this favourite flower to an inspection of their unrivalled collection, which is now in full bloom.
Nurseries, Cheshunt, Herts, Aug. 7.

CALCEOLARIA, 1st Quality, 5s. 0d. per packet.
" 2d " 2 6 "
CINERARIA ... ... 2 6 "

EDWARD GEORGE HENDERSON AND SON, Wellington Nursery, St. John's Wood, London, are now prepared to forward by post SEED of the above choice Flowers, saved from first-rate varieties.

SUPERB DOUBLE HOLLYHOCKS.
SAFFRON WALDEN.

WILLIAM CHATER respectfully informs the Public that his unequalled collection of this magnificent Flower is now in bloom, free to the inspection of all visitors on any day excepting Sundays.
Saffron Walden Nursery, Aug. 7.

SWAINSONIA OSBORNII.

OSBORN AND SONS, Fulham Nursery, near London, have now plants to offer of the above. For description see the "Gardeners' Magazine of Botany" for May last. Price 7s. 6d. each, with the usual discount to the trade.

TO THE TRADE.

CAMELLIA STOCKS, fine strong plants, ready for working, 75s. per 100, or 15l. for 500.
Also all the leading Camellias, well set with flower-buds, 1 foot to 4 feet, 18s. to 60s. per doz. A few dozens of large plants, covered with buds, from 10s. 6d. to 42s. each.
Cupressus funebris, nice plants (own roots), 18s. to 36s. per doz; Cupressus ericoides, 18s. per doz.; C. japonicus, 3s. 6d. each.
The Advertiser also begs to offer his new Gloxinia, "Floribunda," a splendid dark flower, and the most profuse bloomer of the genus, at 10s. 6d. each; or, where three are taken, one added. First orders will have the strongest plants.
JOHN SCOTT, Merriott Nurseries, Crewkerne, Somerset.

TILEY'S EARLY MARROW CABBAGE SEED has proved its superiority over all others for the last three years.
In consequence of numerous inquiries, EDWARD TILEY begs to inform the nobility, gentry, public, &c., that he has now Seed of the above Cabbage. The numerous testimonials received of the same will speak for its very superior quality; and E. T. begs to take this opportunity of thanking all persons who have so kindly forwarded him such high testimonials in favour, and re-ordered Seed of the same.
N.B. It is the finest flavoured, the quickest grower, and most hardy Cabbage ever yet sent out.
Sold in packets of 1 oz., 2s. 6d.; ¼ oz., 1s. 6d. The fine old Bath Cos Lettuce Seed, 1s. per packet. This is also the best kind ever grown.
Any quantity of the above Seeds sent postage free on receipt of a Post-office Order or penny postage stamp. A remittance must accompany any order from unknown correspondents.
EDWARD TILEY, Nurseryman, Seedsman, and Florist, 14, Abbey Churchyard, Bath, Somerset.

THE NEW AND BEAUTIFULLY VARIEGATED-LEAVED PLANT
CISSUS DISCOLOR (BLUME.)

WILLIAM ROLLISSON AND SONS beg leave to inform the nobility, gentry, and the trade, that they intend sending out, on and after the 27th of September, their new and beautifully variegated-leaved climbing plant, CISSUS DISCOLOR, of Blume, which has been so universally admired this summer at the Chiswick and Regent's Park Exhibitions. Price 21s. per plant. The usual allowance to the trade if two or more plants are ordered.—Tooting Nursery, near London.

The Gardeners' Chronicle.

SATURDAY, AUGUST 7, 1852.

THE intention which the HORTICULTURAL SOCIETY announces in another column is one which we have no doubt will meet with general satisfaction. It is proposed to offer monthly premiums for articles of cultivation which find no place in the great metropolitan exhibitions, and thus to encourage classes of productions which, if not so brilliant, are at least as useful as the gorgeous specimens seen at Chiswick in May, June, and July.

That these garden exhibitions are too exclusive has been long felt; they are resplendent beyond description, and we trust will always continue so; but they are such as few but the wealthy can contend in. Above all things the produce of the kitchen garden is omitted on such occasions; and necessarily: for no harmony can be established between materials prepared for the kitchen and the exquisite decorations of the conservatory. To take vegetables to Chiswick would be like introducing sauce-pans and gridirons into a drawing-room.

The proper place for exhibitions of vegetables is the Society's House in Regent-street, and thither they are now invited—in general collections in May, June, and July; in particular kinds at other times. Every other meeting has its allotted variety; Green Peas in October, Celery in November, forced Vegetables in December, Salads in January, Lettuces in February, and so on. The exhibitions of May, June, and July are limited to vegetables exclusively, shown in collections. In these months flowers and fruit are found elsewhere: and since foreign produce is declared admissible, though not in competition with English produce, it may be expected that the shows will possess great interest.

Another new feature in the Regent-street meetings will be seen to consist in some particular class of flowers or fruit being also selected for competition on each occasion. Late Annuals and Pears are invited in October, Chrysanthemums and Alpine Strawberries in November, hardy winter flowering plants and Grapes in January; Hyacinths and preserved fruits, Cyclamens, and Cherries in April. In this manner everything which the summer exhibitions cannot take will find a place by degrees, for it is understood that the subjects of exhibition will be changed more or less every year. Another advantage will be, that the eternal Orchids, stove and greenhouse plants, Pine-apples and the like, which one is weary of seeing, being excluded from the meetings in Regent-street, will be the more interesting at Chiswick. Not that they are absolutely excluded; but as it is announced that no rewards will be given to any that do not possess *very extraordinary merit*, there can be no doubt that such things will generally be absent, and that what do appear will be really worth looking at.

The difficulty which the Society has to encounter is want of space in its house in Regent-street; for it is possible that the good spirit of emulation may overwhelm it with contributions. To guard against that contingency it will be indispensable to narrow the admission of visitors who are not Fellows of the Society; and we understand that measures are under consideration which will effect that end with as little inconvenience as possible.

How is it that PÆONIES have never had the benefit of the hybridiser's care? It is difficult to understand why one of the hardiest, handsomest, and most cultivable of all spring flowers, comprehending several distinct races, which would certainly mix freely, should hitherto have engaged no one's attention. We have whites, purples, and yellows, shrubby and herbaceous Pæonies, early and late, tall and dwarf; yet they have been as much neglected as if they were no better than Buttercups. Why should not the sweet Chinese late sorts be crossed with the scentless European early sorts? Why not the WITTMANN Pæony be bred on till its pale yellow gains the brilliancy of Escholtzia? Why cannot our cottage garden herbs be converted into shrubs?

That the last is possible is clearly shown by the following experiment, for which we are indebted to a friend.

"I must mention an attempt made by me to obtain a large double crimson garden Pæony shrubby, instead of herbaceous. The common garden Pæony has its fine duplication made for it out of anthers. Its female part is undisturbed. I touched this with dust of the Moutan papaveracea; plenty of seeds formed, and when sown in a pot came up plentifully. When of right age, I sowed them out in a border. Their foliage was very various—none like garden Pæonies. So I had great expectations. At three years old they flowered—all dull red, small, single, wild-looking flowers. In disappointment I took them up all but two, which showed a little like inclination to shrubbiness. The roots were as various as the foliage, some only long fangs like Moutan, some tubers like garden Pæonies, and others, the greatest number, something between fangs and tubers. From the variations in foliage and roots of the seedlings, and from the particular that the garden (old crimson double) Pæony has no anthers, I believe the hybridisation took place; but no shrubbiness resulted. Can it be that the male being the shrub, and the female herbaceous, the mules must be the latter? It may throw some light on the philosophy of these things, in raising the suspicion that in mules between an herbaceous and a frutescent plant of relation near enough to be hybridised together, the mule will be herbaceous or fruticose, according as its female parent is the one or the other."

That this was a failure is true; but in one respect it was success, for it proved that shrubby and herbaceous Pæonies will breed together, which is all of which we wanted proof; and it certainly ought to lead the way to further attempts, in a somewhat different direction.

ALTHOUGH the abolition of duty on corn renders the POTATO CROP of far less importance than it once was, nevertheless it must always excite much interest, if it does not even affect the price of grain. That it is this year in a very precarious state has already been reported from many English districts. The Isle of Wight seems still, as in 1845, to enjoy an unfortunate pre-eminence in this respect; it was at that time the advanced post of disease arising from the eastward, and it will be seen from a letter in another column to offer now every kind of evil omen.

Ireland, too, is by no means behind in this misfortune, as the following extracts from DUNNE and AUCHINLECK's report to the *Advocate* newspaper of the 4th inst. show:—

Johnstown, Naas, August 1: Potatoes are going rapidly, much more so than the last two seasons; they are going fast since the last heavy rain and lightning.—*Thomastown*, July 31: Potatoes are a melancholy subject. Where early planted, if they keep, a great quantity will be had; but on high lying undrained lands, there will be nothing. Since 1846 it has not appeared so bad.—*Rostrevor*, July 31: disease has made its appearance throughout Armagh, but up to the present no very serious harm has been done; farmers much alarmed.—*Clonlisk, Roscrea*, July 31: Potatoes checked in their growth; our market well supplied with good ones, and a slight mixture of black.—*Kilmeaden, Waterford*, July 31: crop decidedly much injured, particularly along the coast.—A report from Dungarvon: "Potatoes are decaying rapidly, and farmers are doubtful will they hold till harvest is gathered."—*New Ross*, July 31: in my opinion, this will be one of the worst years, with regard to the Potato disease, that we have had since 1846. Last week we had the Potatoes pretty fair for using, but this week they are gone.—*Mullingar*, August 1: the supply yesterday abundant, very good ones retailed at from 5d. to 6d. per stone; but the disease was evident on almost every parcel.—*Tipperary*, July 31: disease is making strides, and more than half the crop is gone.—*Cork*, July 31: opinion is very conflicting as to the extent of the disease. I incline to the belief that a large proportion will remain good.—*Clonmel*, July 31: disease has appeared of a very serious character.—*Killucan*, July 31: disease extending rapidly; has now attacked the tubers; blight exists to a greater extent than any season since 1846.—*Redcross, Wicklow*, July 31: crop very much injured.—*Malahide*, August 2: early planted diseased to from one-fourth to one-fifth; late planted from one-third to one-fourth.—*Roscrea*, August 2: some fields withered, but generally speaking green and luxuriant. At a distance of three miles disease is general on every side, particularly in the Queen's County.—*Rathdowney*, August 2: a very decided manifestation of disease; the Scotch Pinkeye, in almost every field, evidences rapid decay.—*Enniskerry*, July 31: rumours have been prevalent, but I have not seen a single diseased Potato; have heard that Potatoes are getting bad about Wicklow.—*Clonmel*, August 2: the disease more violent than last year or previous year.—*Duleek*, August 2: all fields damaged, as bad as any year since the disease appeared.—*Limerick*, August 2: in general the leaves a good deal withered; but very few of the roots touched. Never saw the blight so extensive.—*Enniscorthy*, August 2: disease rapidly increasing, particularly amongst the early sown; even now fully one-third injured.—*Limerick*, August 2: accounts very discouraging.—*Carrick-on-Shannon*, August 2: crops, so far as the stalk, greatly affected.—*Carrickfergus*, August 2: crop diseased, but not so much as last year.—*Newbridge*, August 2: Potatoes are becoming universally and rapidly diseased.—*Navan*, August 2: crop considerably failed.—*Moorfield*, August 2: Potatoes very much damaged.—*Cork*, August 2: Potatoes getting black, and disease increasing daily.—*Kildare*, August 2: crop not worse these eight years; in fact they are of little use.—*Shinrone*, August 2: crop almost a total failure for miles round.

The Irish returns of corn crops appear satisfactory.

TETRATHECA VERTICILLATA.

WHEN well cultivated, this must be acknowledged to be a real acquisition. It was introduced to this country about the year 1845; and notwithstanding that it is one of the prettiest of summer flowering plants we have, it is but seldom met with, except in great collections. It has a somewhat delicate habit, but it is by no means difficult to manage. A thoroughly porous soil, through which water will pass freely, is indispensable for it, as is careful watering at all seasons, especially when in a state of rest; and the young wood should be well ripened before winter, or damp will be almost sure to attack and kill it.

Cuttings of firm pieces of the young wood, planted in light, peaty, sandy soil, and treated in the ordinary way, root in a few weeks, when they should be potted singly, and placed in a rather close place until established. Propagation should be proceeded with as early in the season as convenient, in order to have plants of some size, with well matured wood, previous to winter. If they are well exposed to sun and air during autumn there will be little difficulty in wintering them safely in a close corner of the greenhouse; but if the wood is not properly ripened an airy part of a pit or house, where the temperature may average about 45°, should be afforded them. Give no more water at this season than what is sufficient to preserve the soil in a healthy state; and if damp makes its appearance, remove the affected parts immediately. I need hardly say that water should be applied early in the day, taking care to wet the foliage as little as possible, and means should be used to expel the damp before evening.

To produce very large specimens it is necessary to grow them one season previous to blooming them. If that is the object in view, they need not be excited by artificial means early in the spring, but may be allowed to remain in a cool situation until growth is induced, without any aid from fire heat; for the plant grows rapidly when properly managed, and will probably attain sufficient size during the summer months; and the wood will be firmer and less apt to damp off in winter than if produced early in the season, with little sun and air. A cold frame, kept rather close and placed where the force of the midday sun is somewhat subdued, will be a most suitable situation during summer. Attend to potting as necessary, but avoid large shifts, and endeavour to have the pots moderately filled with roots

previous to winter. About the middle of August remove the plants to the greenhouse, and gradually expose them to the full force of the sun's rays and a free circulation of air. The greatest care will be necessary to prevent damp in winter; but if the specimens are tied out, so as to have the branches rather thin, and the directions for last winter's management attended to, they will probably reach spring unharmed. Those unaccustomed to the plant will do well, however, to afford it a temperature of about 45°, especially during damp weather. In March place the specimens in a gentle growing heat of about 55°, where air can be freely admitted whenever the weather will permit; and keep the atmosphere rather moist, to induce the plants to break freely. When growth commences give a liberal shift, say from a 9-inch to a 12-inch pot, stop the shoots rather closely, and cut out any weakly ones, and peg or tie down the main branches, so as to secure a close dwarf habit. Keep the atmosphere rather close, and water carefully until the plants get fully established; keep them near the glass, and allow a free circulation of air, merely avoiding cold currents, which, when allowed to pass over the plants, are very injurious, and probably are the cause of half the disappointments experienced in the culture of this plant. The plants may be removed to the greenhouse early in May (taking care to prevent their receiving any check by the removal), where they may remain during their flowering season, or be taken to the conservatory or any cool situation where they can be shaded for a few hours in the middle of bright days.

My practice is to throw away the plants after flowering, at least large specimens, as they seldom turn out satisfactorily when kept for further use. Cuttings rooted early in spring, and grown as rapidly as possible during summer, make useful little flowering specimens the following summer; and if cut back and grown after flowering, will be as easily wintered as plants that have not flowered, and will make good specimens the following season.

Rich turfy peat and sandy turfy loam, in about equal proportions, with a liberal admixture of sharp sand and small potsherds or charcoal, will form a suitable compost for the growth of this plant. The peat and loam should be broken up carefully with the hand, rejecting all but the best, and intimately mixed with the sand. Success will greatly depend upon efficient drainage and judicious potting. Use plenty of draining materials, and cover with rough pieces of peat, which lasts longer than loam, and does not harbour worms as Moss does. Never pot unless the ball and soil are in a healthy moist state, and water carefully after potting, till the roots lay hold of the fresh soil, but liberally when the plants are in active growth. *Alpha.*

SILKWORMS.

(*Continued from page 484.*)

What appears to be the greatest causes of failure in rearing silkworms in the United Kingdom are—

1st, *Bad ventilation*, in consequence of which the worms become damp, diseased, and successively die off in great numbers at each moulting.

2d, *Want of sufficient food, owing to the too early hatching of the eggs.* When too great a demand is made on the Mulberry tree, when it commences to break into leaf, its power of vegetation is paralysed, so that it cannot afford an ample supply till too late in the season for being available for feeding the worms.

The effects of bad ventilation are well exemplified by M. Guérin Méneville (C. R., February, 1852). For several years he had remarked that the rearing of silkworms by peasants in the part of their house which was used as a kitchen, and generally on the ground-floor, was almost constantly successful. On the contrary, when the rearing was carried on in barns, in rooms not inhabited, and more especially where there was no fire for cooking, the worms were always attacked by various diseases. At first he could not satisfy himself as to the cause of this difference, and in order to ascertain it completely, he took the trouble to visit a great number of small nurseries of silkworms in different villages. His investigations led him to conclude, that the success of peasants in rearing the silkworms in ground-floor apartments used as kitchens, was owing to kindling fires once a day for cooking, and the necessity of frequently opening the doors, for many of these apartments were used as a kitchen, and at night as a bed-room. M. Guérin Méneville considered ventilation by fires so beneficial, that he recommended its adoption in all cocooneries; and he thinks that small rearers would do well to erect fire-places in other parts of their houses where silkworms are kept, and maintain sufficient fire to put the vitiated air in motion, or destroy it by combustion.

It is very questionable whether any system of ventilation effects the object so well as a clear open fire. Heat may be more equally distributed by pipes than by open fires; and a uniform circulation of air can be maintained by entirely mechanical means; but none of these inventions produce such exhilarating sensations as are derived from a blazing open fire. It neutralises a dense London fog. In many cases the use of an open fire is attended with various inconveniences; but its importance as a purifier of the air should not be lost sight of. M. Méneville relates a remarkable fact connected with this subject, and in reference to silkworms, which may be here usefully detailed.

For many successive years a cultivator at Var reared to great perfection a vast number of silkworms in a sheep cot. His floor was the ground; it had only one door, two or three small loop holes for windows, and a low tiled roof. This cultivator kept the door shut, and covered with a double cloth. He stuffed the loop-holes with straw, so that all was dark within the cot, which was more like a cave than anything else. In order to obtain some light, he kept a fire in the middle, and often raised a flame with Pine branches. This kind of fuel produced much smoke, which escaped through the openings between the tiles, for these were not bedded in mortar nor pointed. M. de Villeneuve, who examined the place, remarked that the temperature was very high near the fire; but that this did not injuriously affect the worms, for they were there thriving as well as those in other parts of this singular cocoonery. It is evident that the favourable results obtained in it were owing to the ventilation caused by the action of the fire.

Now, if the man had been asked why he kindled a fire, and why he so carefully closed the door and other openings in the walls, perhaps he could have given no other answer than that he did so because by such proceedings he had always been successful. On reflecting upon the circumstances it will be found that there was no occasion for any other opening for the admission of air besides those of the open tiled roof, through which the fresh air could enter, as through a sieve—not in a current, as through an open window. Cold draughts were thus avoided; and by means of the fire a tolerable uniformity of temperature could be maintained; or at all events the temperature, in consequence of the fire, must have been higher inside than out. Then the silkworms, it must be recollected, are not warm-blooded, consequently their temperature is much the same, on an average, as that of the medium in which they exist. If their bodies are cooled down to 55° at night, and if the temperature of the air become suddenly moist and high, then moisture will be deposited upon the surfaces of the worms till such time as their temperature corresponds with that of the atmosphere, or nearly so. When the worms are cold and damp they are almost torpid, and loathe their food; disease and putrefaction usually ensue. But when first affected by damp, let them be placed at a moderate distance from an open fire till their bodies are heated above the temperature of the surrounding air; they will soon become dry, and commence to feed with great avidity. This is stated from experience. Prevention, however, is better than cure; and the man who had a thriving cocoonery in the sheep-cot doubtless guarded against any settlement of damp on the bodies of his silkworms by keeping them at an average higher temperature than that of the external air, by means of the fire he kept up. From what has been stated, the remedy against the great source of failure from damp will be sufficiently obvious. It is fire-heat, judiciously applied.

The other great cause of failure, namely, want of sufficient food, owing to the too early hatching of the eggs, can be very easily overcome. It would not answer to attempt to force the trees early into leaf, to suit the hatching of the eggs; but the hatching can be retarded at very little expense, to suit the leafing of the trees. There are ice-houses; or the eggs could be sent to the north side of some high mountain, to a spot where the sun never shines, and there kept till June, or so long as may be deemed expedient, with reference to the leafing of the Mulberry. In conclusion, it will be obvious that there is no great difficulty in successfully rearing silkworms in the United Kingdom. Various kinds of the Mulberry, the Maclura aurantiaca, and the Broussonetia papyrifera could be planted for a supply of food.||

ON THE VARIEGATION OF FLOWERS.

Our gardens contain a vast number of plants with variegated flowers; but I am not aware that hitherto any attempt has been made to determine the circumstances under which such variegation is produced. Some observations which I had occasion to make have led to the conclusion that nature in this case follows a uniform course. In ten examples of variegation which were produced under my own observation, the course was always as follows. The original plant with flowers whole coloured, gave, in the first instance, a variety with flowers entirely white; afterwards, variegations were produced from this white variety on its returning towards the coloured type.

Thus, under the influence of circumstances which we cannot as yet perfectly comprehend, a variety entirely white is produced without transition, that is to say without passing from the coloured state to colourless or white, by successive gradations of tint. This pure white variety usually gives in the first sowing a greater or less proportion of plants with flowers like those of the coloured type; but in subsequent sowings, care being always taken to select seeds from the pure white productions, this race becomes fixed to a certain degree; and, after passing through several more generations, it is in most cases completely fixed. Hitherto the variegations have not been produced in the first period, although from each sowing a great number of plants have produced whole coloured flowers like the original. It is only among the white varieties not completely fixed that the variegations make their appearance; at first they exhibit narrow pencillings, the coloured portion being only one-tenth, and sometimes only one-twentieth of the whole surface; but then, in the following generation, flowers whole coloured become abundant, whilst amongst those that are variegated, the coloured portions begin to predominate. Among the first sowings there are generally a number of plants entirely white. From the manifest disposition to return to the original colour, it is necessary, in order to obtain permanent variegations, to select for seed such plants as have the white ground considerably the more predominant.

I have already stated that I have myself seen ten examples of variegated flowers proceed from the white variety. I ought to add that, since my attention was drawn to this subject by the flowering of the Convolvulus tricolor panaché (which was seen at our establishment for the first time about ten years ago), I have never been able to observe a single instance of variegation coming directly from the coloured original. The contrary, however, takes place with regard to dottings; these come directly from the coloured type. I ought likewise to state that whole yellow plays the same part as white with respect to dotting.

Among the varieties to which I have alluded, seven are already so completely fixed that it is now possible to reproduce them with certainty from seed. They are, in the order in which they have been obtained, variegated Gomphrena globosa; Antirrhinum majus, two varieties, one having a white ground, the other a yellow; Convolvulus tricolor; Nemophila insignis; Portulaca grandiflora, flowers white striped with rose; and Delphinium Ajacis. This last variegated sort was produced by a plant with very pale lilac flowers in returning towards another with bright violet, from which it had originally sprung.

Other three varieties have been but recently obtained, and we have not yet attempted to fix them. They are the Clarkia pulchella, Browallia erecta, and Commelina tuberosa. In short, we have only been unsuccessful in fixing one sort, namely, the Zinnia elegans. Among the sowings of the white-flowered variety of this, there appeared almost every year some petals variegated with purplish violet, the colour of the original species; but when we sowed the seeds which were saved from these variegated flowers, we only obtained self or whole colours, and, contrary to what usually takes place, they were mostly white. *M. Vilmorin, Flore des Serres et des Jardins de l'Europe.*

Home Correspondence.

Melon Growing.—I grow excellent Melons in boxes 12 inches square and 18 inches deep, placed over hot water pipes in front of a Pine pit. The boxes stand in the centre of each light, 6 inches from the glass. The plants are trained upon a light made trellis 10 inches wide. Vines occupy the rafters on each side, and it is evident that the Pines beneath enjoy the shade. I find that Melons grown in boxes come to maturity much sooner, and possess higher flavour, than those grown in frames. The Trentham Hybrid is admirably adapted for box culture, being a free setter and of first-rate quality. I have cut fruit off it weighing 3 lbs. two months after planting. To ensure fine fruit and high flavour it is advisable to leave only a couple of fruit on a plant. This plant may prove serviceable where horse litter is scarce, as a box of the above dimensions takes up but little room. *J. Jones, Bodrhyddan, North Wales.*

The Culture of the Vine a Helpmate to the Culture of the Mind.—Under this title you published in 1850 a series of eight papers "for cottagers," to which your readers, especially those who have not Hoare's work, would do well to refer their neighbours. That at page 773 contains the pith of his weekly calendarial register, and the quaint amusing form in which they are given will be found an incentive to the perusal of the whole. It is gratifying to find so many brother Vine-dressers following the simple system of Clement Hoare, but I am so anxious to exhibit it in words which cannot be mistaken, as I fear the last three or four lines of "B.V's." letter may be, that I venture, as the originator of the correspondence, to ask you to allow me, by way of "reply"—for I conclude that we must not trespass longer on your columns—to observe, that if carefully read (page 373) my letter will be found to comprehend very briefly the whole system as applied to an established Vine, excepting the distances of the rods from each other. Will you allow me to supply the omission. Provision should be made in the current year for a strong young shoot to be nailed up the wall at every 28 inches when the winter pruning is given; that is to say, in Vines already accommodated to Hoare's system, the centre of the "intervals" of which I spoke, will be 28 inches apart. To make it more clear, in my "tiers" the old rods and the young rods are, in succession, 14 inches apart. If, in addition to this I state, that the shoots which have grown from the old rods were stopped about the 10th of June, leaving at least one joint beyond the Grapes they are bearing. If I further mention that any laterals, *alias* side-shoots, *alias* summer-shoots, are not to be torn off, but pinched off beyond their first joint, no one who has read the last three letters in the *Chronicle* need be worried any longer as to a system for the management of the Vine against his house or garden wall. Let not, however, the cultivator be disappointed if his Vine will not always bring forth shoots just where he wants them; he must occasionally borrow from a more distant source, and twist about his shoots in strange ways. The growing wood may be led away anywhere, provided it has enough sun and air, but the more the Vine is bent about, the more fruitful does it become. As Hoare says, "much will occur to exercise the ingenuity of the cultivator." I have sometimes at the winter pruning, for want of vigorous shoots in the proper places, folded up the bearing branches of the

past season and tied them to their rod, so as to have a line (though a broken one) of young wood all the way up. For those who may wish to know the minutiæ of the measurement, let me observe that on each side of the old rod an average of 10 inches will be wanted for the Grape-bearing shoots. Hoare says, "the young rod must have a clear space of 4 inches on each side of it;" therefore 4+10+10+4=28 (or 10+8+10); this will be found (contrary to expectation) an ample measurement. Indeed for the Black Cluster, the Malaga, and other small Grapes, 24 or 26 inches seem enough. *G. W., August* 4.

Allamanda cathartica.—The natural habit of this plant is so completely overcome by cultivation, at least in the specimens exhibited at Chiswick, that I suspect few persons are aware of its extreme beauty when allowed to grow freely. Having grown a plant in my Orchidaceous house, I have been much surprised to find its habit almost precisely similar to that of Nerium Oleander—the same tendency to branch in threes and fours, and to produce large heads of flowers, expanding in long succession at the end of every shoot; the difference being chiefly in the rather longer growth and more pendulous habit of the Allamanda. The plant in question is about three years old, and has been planted out about two years and a half upon a slate shelf, in a pit formed of loose bricks. It has grown and branched freely, but has not flowered until this spring, with the exception of two or three heads produced late last autumn. This spring it has put out large heads at the extremity of every shoot, each head consisting of two branches or spikes, bearing in succession from 10 to 15 flowers, five flowers being frequently open at once upon each head. As soon as these heads were formed, two or three shoots were thrown out immediately below the head, precisely as in the Oleander, which after growing 18 inches or 2 feet, terminated in fresh heads of flower. I have now 15 or 16 principal heads, and at least twice as many secondary ones; and I suspect that the plant, if cultivated in this manner, would ultimately become one mass of bloom, as almost every shoot produces a flower. I need hardly add it is planted in very rich soil, and abundantly supplied with water. It is a very clean plant, singularly free from insects, and well adapted to shade an Orchid-house. I am induced to send you this statement because I have never seen Allamanda when grown naturally, as at Kew and Liège, produce more than two or three heads of flower. It clearly requires abundant moisture and rich manure, as well as great heat. The flowers with me are 3½ to 4 inches in diameter, and very fragrant. When gathered they fade rapidly and can only be enjoyed in the stove. *J. R.*

Transmutation of Ægilops.—Your announcement of M. Esprit Fabre's discovery is certainly startling, and, if confirmed, will indeed go a long way to give the *coup-de-grace* (as you remark) to our faith in the value even of generic distinctions. Indeed, if we are to receive the results of M. Fabre's experiments as undoubted facts, in arriving at which there could have been no latent sources of error, all our *à priori* incredulity as to the probability of the old stories of Oats having become Rye, &c., is at once removed, and our considered settled notions respecting the permanence of specific distinctions "wofully shaken." Truly this discovery will afford a triumph to the talented author of the "Vestiges of the Natural History of Creation." The case is in fact so novel, and partakes so of the marvellous, that everything belonging to it must interest all true lovers of science, and all scientific lovers of the truth. It is therefore most desirable that the new Wheat plant of M. Fabre should be carefully compared with the old form, in order to settle their identity (if they be identical), or otherwise to show in what particulars they differ from each other, and this examination should extend to every part of the plant, and the microscope should be called in to assist in the investigation. Seeds of the new Wheat should be sent to this country and sown on the best and worst Wheat soils, the former to ascertain if it admits of further development, the latter to induce it to revert back to its normal condition of *Æ. ovata*. It would also be most interesting to your botanical readers if you could show them side by side, in a cut, drawings of the original *Æ. ovata*, the *Æ. ovata var. triticoides*, the fully developed Wheat plant of M. Fabre, and the old denizen, together with magnified sketches of the floral organs. We should then be able to see and judge for ourselves of the extent of the mutation which appears to have taken place between the alpha of the "Sicilian weed" and the omega of our noblest cereal. It would be further interesting to state what was considered to be the essential generic character of *Ægilops* and Triticum respectively, that we may see by what changes the one has glided into the other. Perhaps the strangest part of M. Fabre's experience is, that in no instance had he observed a retrogression from the nascent Wheat back to its vile ancestral type. It would, moreover, be important to ascertain how hardy the new plant is—whether it would bear, for instance, the climate of the north and east of England; also how hardy *Æ. ovata* is. Your readers would be glad also to know where Professor Dunal's pamphlet and also where specimens of *Æ. ovata* (its normal and abnormal phases) could be procured. The subject is one of surpassing interest. *W. Marshall, Isly.* [M. Fabre's pamphlet contains figures of all the objects which our correspondent wishes to see, but we cannot incur the expense of reproducing them. About the facts there is no doubt. We have purposely avoided treating the question in a merely botanical point of view; we may, however, observe that doubts about the soundness of the generic distinctions of Triticum and Ægilops were expressed many years ago by Palisot de Beauvois.]

Birds.—A friend's coachman some time since, when cleaning the carriage, observed a magpie with something dangling from its beak; it was a large snake; it laid it on a horizontal bough of a tree, pecked it on the head, ate a portion of the neck and back, and then flew away. A flight of swallows appeared on the 3d of April on the river Teme, near Powick-bridge; they disappeared, and were not again seen until the 21st; they are unusually scarce this year as well as the the cuckco, and hardly a nightingale to be heard. A gentleman from Worcester was shooting near the wier at Bevere, on the 5d of September, he saw five swifts hawking over a pool; he fancied they were a late hatch, and shot one, which proved to be an old bird; Gilbert White mentions one being seen in Rutlandshire very late, but I believe not so late as the 3d of September. I saw a carrion crow perched on a branch of a tree over a large pool of considerable depth, it splashed into the water, and flew away with a toad in its beak. *F. D., Pershore.*

Cooling Drinks.—I have read over the receipts for these, given at p. 469, with pleasure, but I find one fault in them, they are not in the reach of "all," and are for a class that ought not, nor do not suffer thirst created by hard labour under a nearly vertical sun. I would recommend milk set in the evening in a cool dairy, and deprived of its morning's cream. Let a jug of this, and a jug of pure water, drawn from a clear spring, when the dew is on it at daybreak, be set through the day in a cool cellar, and when thirsty a drink taken, half and half mixed together; this will refresh more than any other that I know. There is no acidity in it—all is wholesome; and the most delicate stomach will feel no heaviness or unpleasantness after it. Drinking in the day after the sun has risen is prejudicial. Major Denham, the celebrated African traveller, says: "Frequent drinking after the sun has risen should always be avoided; it causes the same sickness, drooping, and thirst in the animal that may be observed in the vegetable kingdom. Plants may be completely saturated with water at night, and will preserve their freshness for the whole of the following day, yet if slightly watered in the morning how different is their appearance! So is it with man. During the whole of our desert travelling, on going to rest I always drank as much water as I could, and frequently until the same hour on the following night never ventured to put the cup to my lips; yet I suffered less from the heat and thirst than my companions, who usually drank during the day." *J. B. Warren, Warren's Grove.*

Wheat Mildew.—I was informed last year that some Wheat crops in Hertfordshire were greatly injured by a white mildew, and I took some pains to ascertain the species, but without success. This year, however, I have perceived a species of Oidium on the sheaths and leaves of Wheat which, I have little doubt, would agree with the mildew referred to. It cannot be distinguished from the species which infests the Vine and so many other plants, except in colour; but instead of being pure white, it is dirty white, and grows in small compact oblong patches, which felt together very closely, as the common species on shoots of Peach and Rose-trees. I should have considered this species as the Oidium monilioides of Nees Von Esenbeck, which affects the Grasses, but that a few years since I noticed in a field of Wheat all the blades of soft Grass growing amongst it to be affected by that species, while the Wheat itself remained quite free. The species above recorded, therefore, may be called Oidium tritici. I am happy to say that although I have specimens on which it is growing from the base to the chaff, it does not appear to have done serious damage hitherto; and I only mention the occurrence for the sake of recording its existence, as it is possible, at some future time, we may hear more about it than may be desired. The Bean crops have been ploughed in in this neighbourhood, but they were not injured by fungi at all, but in consequence of winter planting, and the severe weather they had to encounter. With regard to the action of climate on grain crops, I may observe that I have this year tried to grow some Egyptian Wheat of the finest quality, and notwithstanding it was in a warm sheltered spot, every floret is abortive. *F. J. Graham, Cranford.*

White Water Lily.—I have sent you a flower and leaf of a Water Lily we have, which we believe to be a seedling; it makes a compact, dense mass of leaves, is rather later in blossoming, and, owing to the quantity of foliage, does not appear so free in flowering; as you will perceive, it is smaller in leaf and bloom than the common sort. *G. Paul, Nurseries, Cheshunt.*

Guano.—I have been much pleased with your praiseworthy attempts to protect the public against imposition from adulterated manures. Observing some bags lying at the Llantrisant station, South Wales line, and one of them broken, I took a sample of their contents, which I enclose. The station master informed me that he had received letters from Messrs. Robinson, of London, from whom the manure came. He showed me an order of the agent appointed for this district as follows:—"Please deliver all guano which may come to Cowbridge-road station to Mr. Thomas David, of Aberthin. (Signed) D. Llewellyn." As the agent calls this guano, it strikes me that fraud is attempted; perhaps you can throw some light on the subject. There are 13 bags now at the station. *Edward Scott Barber, C. E., and County Surveyor for Glamorgan, Llantrisant, Pontypridd, Glamorgan.* [We do not perceive indications of this sample containing any guano whatever. It is very like a mixture of ground logwood and other rubbish. The buyer should have it analysed before he pays for it.]

Berberis Darwinii.—I cannot but regard this novel introduction as one of the nicest evergreen shrubs in the country, and likely to become a universal favourite. Any dressy, hardy shrubs, which never assume a coarse habit, and which flower freely for months, are of infinite service to the decorator of grounds, whose flower or shrubbery borders are but too apt to appear monotonous through lack of variety. Americans and Roses are the two principal groups; indeed, these withdrawn, the modern shrub border would be poor indeed. Amongst the peculiarities which this elegant evergreen possesses is the property of carrying the most beautiful and glossy dark green foliage, nearly all the year; perhaps I ought to have said the whole year. It possesses the most graceful habit imaginable; an airy elegance seems to be its character through every period, and it appears peculiarly adapted for trailing purposes; the plant being inclined to adapt itself to flat surfaces with the utmost facility. One feature, and that no mean one, remains to be noticed; and that is, the property of flowering twice in the season, if not through the whole spring and summer. Such, at least, is the habit of the plant I possess; but I may remark, that such habit has been induced by pinching or stopping the points, in order to produce a closer growth, and to gain cuttings. Two or three suckers came up in succession during April and May; these were stopped when a foot long, and the axillary shoots from these are now hanging laden with their golden cups. The tint of the foliage is akin to that of Escallonia macrantha; but that is barely hardy, or what a valuable shrub! Now, this property of being so readily controllable as to its floral habits, is a character of much value, properly acted upon. All such shrubs should be kept classified in the mind of the cultivator, and acted upon at set periods, if possible. I think it not improbable that it may be fit to group with Forsythia and Weigela, as a moderate spring forcer; and would, in that event, be of much service in the spring bouquet. I can even fancy it encircling a flower-basket; its dark glossy green-and-gold would look well round a pile of scarlet Geraniums, scarlet Lobelias, or even the Salvia patens. What a beautiful trellis plant, too, as a division in gardening affairs! *Robert Errington, Oulton-park, Aug.* 4.

Gutta Percha Pipes.—I got a quantity of coated gutta percha pipes for watering the garden with, but the coating is beginning to wear off and to let the water through. Will any of your readers be so good as inform me in what way I can repair them? *Inquirer.*

Leaf-burning.—With reference to your observations at p. 468 on the subject of the old leaves of the Rhododendron only having suffered lately from the sun's rays, I beg to inform you that in my garden the young leaves have suffered more than the old. I send you two specimens of young leaves and one of old, and shall be happy to show you the plants themselves, if you think it worth while to pursue the subject and set the matter right. *John Smart, Bridgen-hall, Enfield, July* 29. [There is nothing to set right. We described what we observed; you describe what you observed. There was no doubt a difference in the circumstances—that's all.]

Sulphur which has been precipitated from some chemical solution, usually sold as "milk of sulphur," is in a far more minute state of division than the "flowers of sulphur" obtained by sublimation, and if sulphur in this form be stirred up in water it will remain in a state of suspension for a considerable time, and may be applied to plants by means of a syringe with the greatest facility. I feel sure that those of your readers who have been in the habit of endeavouring to mingle "flowers of sulphur" with water, will find it a great improvement to adopt the form of sulphur called "milk," which is almost as cheap. *D. C. Whalley, Great Wenham, Ipswich.*

Salt v. *Weeds.*—Since I first applied salt for destroying weeds on walks, roads, yards, &c., nothing has occurred to prevent its still further application, but about half the quantity appears to be sufficient this year for walks previously operated upon. For a kitchen garden of 3 or 4 acres, I doubt not that 1 ton of salt per year will be sufficient after the first season. We pay 1*l.* per ton for it here delivered at the gardens, and a man will readily distribute this quantity in a day, so that some idea of its economy, as compared with the best and cheapest method of keeping weeds off walks may be gleaned. If 1*l.* 2*s.* per annum will keep 3 acres of kitchen garden quite clean, what will be the amount for 30 acres of kitchen garden and pleasure grounds? Answer.—11*l.* Our kitchen garden is edged with baked, blue, border tiles, consequently salt does not injure them. The parterre has stone edgings and walks of gravel, therefore salt does not injure them; on the contrary, it improves their appearance by destroying all the minute mosses which soon present themselves on stone, &c., and gives them a clean light appearance. In conclusion, allow me to propose a thin sheet of either hard stone or blue-tile edging for the sides of Grass lawns, where salt may then be freely employed without disfigurement of the edge; in the end this would yield good interest, by curtailing the constant clipping and relaying of Box. A word of caution to those who have not been in the habit of using salt, may perhaps be requisite. It should never be scattered on ground above the roots of trees or shrubs, or where it is likely

to be washed on them, or disfigurement and death will certainly be the result. *W. Brown, Merevale, July* 26.

——Mr. Bailey still appears to think that nothing is so efficacious in cleaning walks as hand weeding: in this, however, I beg to differ from him. Having long applied hand labour for the purpose, but without the effect I desired, I abandoned it, and employed salt to do what I was otherwise unable to accomplish; since that time I have not only effected a considerable saving, but the walks in every respect are in better order. The salt is applied twice a year, viz., in April and August, and in dry weather, by which means I am enabled effectually to keep the weeds in check. Still I am of opinion that dry salt is not so efficacious as boiling brine. Being at Trentham the other day I was struck with the marked difference in the walks now, and some few years ago; for I may say that previous to Mr. Fleming using his salting machine they were generally full of weeds of various kinds, more especially Moss, which was very difficult to eradicate. Now they are in as fine condition as any walks in England. The annual expense of cleaning walks here, previous to my using salt, was 58*l.* 16*s.*, it is now only 12*l.*: still I do not employ one pair of hands less, and I find even yet that at times more are necessary to keep the garden in perfect order. *Coburg.*

Bees.—I have had two stocks of bees behave in precisely the manner described by your correspondent "H. M.," at p. 488. About the end of May a glass was placed upon each of the hives and covered, to exclude the light; but though they contained pieces of guide-comb as a decoy to the bees, and the latter gave unmistakeable signs of requiring more room, they would not work in them, and in one case actually carried away the guide-comb with which they had been supplied. In the first week of June the bees "hung out" surprisingly, covering the whole front of the skep and clustering on the lower part of the board on which it was placed; this they continued to do for nearly a month, when finding they would neither swarm nor work I removed the glasses and substituted two straw caps, each furnished with a pane of glass to enable me to watch their proceedings. The bees immediately returned to their hives and began to work, and the caps are now nearly full of comb, much of it sealed, and I can perceive honey in a considerable portion of the remainder. I regret not having done this at an earlier period, and fear it is too late for "H. M." to pursue the same plan with much advantage, unless situated near a heath, or at some other place which will afford late pasturage. Still it is worth a trial, and I should recommend your correspondent to replace the glass with a small straw cap (the smaller the better in moderation) which can be removed either when it is full or when food is found to fail, and suffer them to return to the large skep, which no doubt is rich enough to support all its inmates for the winter; and as the heat of the weather will by that time have moderated, they will be able to remain comfortably in their hive. Bees generally in this neighbourhood have not swarmed, which is I presume to be attributed to the cold and ungenial spring. *G. D., Suffolk.*—My bees still will not come up into my straw cap or glass, although the boxes are full of honey. I left two untouched last year, and only one has swarmed this; but they refuse to come upstairs, and give me any honey quietly. Now, I want to have some honey, but I am quite willing to divide the honours with them; and if they will not give it me, how am I to take it? I last year bought a long iron honey knife to cut out comb with, stupified the bees, and slid my knife close to the side of the box, and tried to cut out the side close fat comb, but in vain, it would not stir; and though I tried in several places on the outside of the comb, I could not disengage without smashing it, spoiling the honey, and smothering a vast number of bees. Really, during the time I have kept bees, some five or six years, I can by no means agree with old Virgil—

Sic vos, non vobis mellificatis apes!

Northwood.

Potato Disease.—On my return here (Isle of Wight), after being absent for nearly three weeks, I have found illustrated by fact the accounts contained in the *Times* of the re-appearance of the Potato disease. It has very generally shown itself in the leaves of all the Potatoes about here, but in the case of the late crop, that is, the one which would be dug up at Michaelmas, leaves, haulm, and Potatoes are affected to a great extent; the leaves and haulm being perfectly dead, and the Potato not half grown. The earlier crop has apparently escaped with much less injury, and a fair quantity will be obtained: in the other instance, however, probably two-thirds will be the largest proportion; but even these will only have arrived at a half state of maturity, and therefore it is questionable how far they may keep free from deterioration. The comparison between the effect on these two crops is very marked; for in a field, one portion of which was planted with the early crop and another part with the late kind, the line is as distinct to the eye as if the one part was standing Grass and the other hay. The results I have mentioned seem to be irrespective of aspect or exposure to wind and sun, for they are the same on high ground, on the edge of the cliff, without any shelter, and in more inland localities where the growth has been protected by hedges and orchards. The opinion of the people about here as to the cause of disease is a blight or small insect which is visible on the under part of the leaf. From my own observation I perceive that the first effect takes place on the upper part of the leaf, and where it is most exposed, that is, not on the fibre of the leaf, but on the more embossed parts of it. It is, in its first stage, of a dark chocolate colour, and afterwards penetrates to the under part of the leaf, and then becomes of a lighter hue; it then reaches the fibre of the leaf, and by that course attains the haulm, the exterior of which evidently rots first; for in some instances where the leaves and outer part of the stalk has been entirely destroyed, the interior of the haulm has been green and full of sap. I should also state that in those instances where the root immediately attached to the Potato has shown symptoms of the disease, it has almost always exhibited a fine white fungus. *F. R. B.*——That extraordinary phenomenon the Potato disease, is again spreading over the country. No precautions are proof against its attacks. Last year my seed was saved with greater care than usual, kept cool on a barn floor, turned over frequently, and planted before there was any appearance of growing. The land was well-drained Wheat stubble thrown up rough in the winter; a slight dressing of manure spread broadcast in February, and the whole again dug over on to the Potatoes, as the setting proceeded. Last year, under similar treatment, a remarkably fine crop was obtained; this year I shall lose half my crop. There is something so anomalous in this scourge, it is quite impossible to guard against its ravages. Soil, situation, early or late planting, make little difference. I shall not again attempt to suggest a preventive, believing that the disease is incurable, and will have its own way, in spite of every exertion to stay its progress. Nevertheless, observations on the freaks of the plague may be useful and interesting. Blight of every description has been most prevalent this year; fruit-trees, Roses, &c., showing the power of the enemy, some being stripped of their leaves as bare as in winter. Are these signs of the cholera again approaching our shores? *Falcon, Cheltenham.*

Lincolnshire Spinach.—Pray what is that vegetable the Lincolnshire people eat, cooked as Spinach, and by them called Mercury? *F. D.* [Chenopodium Bonus Henricus.]

Temperature.—Does not Mr. Ayres make some trifling mistake when he says that the thermometer last week was 95° in the shade, and 140° in the sun? The highest I ever heard of in England was 19th of July, 1826; it was then 91° in the shade. *F. D.* [We saw it 95° the other day at 3 P.M., over Grass, and under shade.]

Reviews.

Versuch einer Geschichte, &c. An Inquiry into the History of the Vegetable Kingdom. By Dr. F. Unger. Vienna; 1852. 8vo, pp. 364.

In this work, Prof. Unger has collected and methodically arranged the general results authorised by the existing state of geological and botanical science, relating to the state of vegetation at different periods of the earth's existence. He has divided his work into five sections, preceded by an introduction occupying some 50 pages, and devoted to a consideration of the manner in which plants are spread over the surface of the globe, and of the causes which have led, and still lead, to their distribution. Amongst the latter, attention is particularly drawn to the effects of climate and water, to those produced by different animals, and especially by man, who changes the character of the vegetation of the new countries to which he goes, by destroying forests, introducing new plants, draining the land, establishing manufactures, and by various other means, the alterations produced by which are quite as important, if not so immediately observable, as those which are effected in the former ways. The value to a geologist of a knowledge of the kind of vegetation which existed in times now long passed, as a help to a more perfect acquaintance with the nature of the earth's surface, is there pointed out, as are also the means by which such a knowledge may be acquired.

In the first section, the manner in which plants have been preserved in the crust of the earth, and the effects of mechanical and chemical agents upon them are explained, and attention is also drawn to the undoubted fact, that many plants which formerly existed have so entirely disappeared, that no traces whatever of them can now be discovered. After mentioning examples of the way in which plants have been preserved, such as petrifaction and incrustation, the author dwells at some length upon the coal formations. With respect to the way in which coal fields originated, many different opinions have been current. According to one view, the plants which compose a coal field were brought together by the agency of water, and after a longer or shorter period of time formed masses of various size. This opinion, with slight modifications, was adopted by Count Casp. Sternberg, Boué, and Constant Prévost. According to another view, the plants composing a coal field grew where they are now found, and their assemblage into such vast masses as actually exist is attributed to a process similar to that which takes place in the formation of turf. Each view is supported by a variety of ascertained facts, which are examined by the author in detail. In support of the first of these two opinions, the author notices the quantity of vegetable substances floated down the immense rivers of the new world, the sinking of forest-covered land beneath the ocean, and the mighty irruptions of water, by which whole forests have been laid low. He then states his reasons, which cannot, for want of space, be inserted here, for rejecting this opinion, as well as another advanced by M. Parrot, and according to which the origin of coal fields is to be ascribed to the deposit of matter on plants growing at the bottom of the ocean. Professor Unger gives his adherence to the second of the two opinions above mentioned, which is also participated in by Beroldingen, De Luc, Link, Leonhard, Ad. Brongniart, E. de Beaumont, and others; and in support of it the author refers to the general resemblance which exists between a coal field and turf, to the structure which is similar in both, to their chemical properties and composition, and to their geological positions; and infers that coal in its widest sense resembles turf in the arrangement and properties of its constituent parts, and that the formation of both must be attributed to similar causes; operating, however, in dissimilar temperatures—the temperature in which coal was formed being higher than that in which turf has been and is being produced.

The first section of the work before us concludes with a notice of the impressions of leaves and other parts of plants found in different rocks, and with a full account of the occurrence of plants in amber, and of the geographical distribution and nature of this substance.

In the second section, the author points out the means possessed of determining and acquiring a systematic knowledge of fossil plants, and the method of making the best use of those means. In particular, he draws attention to leaves, stems, wood, and fronds of Ferns, and their relative value, for the purpose of distinguishing species, genera, and families; and he then devotes a few pages to the subject of nomenclature. In the third section, Professor Unger endeavours to ascertain the nature of the ancient Flora, points out how such an inquiry should be conducted, and compares them with Floras of modern times. In the fourth section, continuing the subject of the last, the author compares the ancient Flora of the land with that of the water; examines the vegetation of the tropics, and shows that it predominated; notices the influence of differences in elevation, the prevalence of forest vegetation, and the special character of the Flora of ancient times. In the 5th and last section, he follows the development of vegetation according to the geological epochs, and concludes with an inquiry into the origin of plants and of their different types, and with a glimpse at the future.

Such are shortly the contents of this interesting book; from which we should have been glad to make extracts for the instruction of our readers, had we not been compelled, by our limited space, to confine our notice to a general statement of the kind of information to be derived from a perusal and study of the work itself.

Books, &c., Received.

The Waverly Novels: Library Edition. Vol. III., "The Antiquary;" Vol. IV., "Rob Roy," are the continuations of this beautiful edition, in which every authentic piece that can illustrate the history of the novels, is faithfully presented to the reader.

Hints to Railway Travellers and Country Visitors to London. 12mo. Bradbury and Evans.—A useful enough little aid to the stranger, and one to be relied on.

Fourth Annual Report of the Eastern Archipelago Company. A pamphlet.—The case of the directors, as stated by themselves, in answer to the charges publicly brought against them.

On Throat Deafness. By Jas. Yearsley, M.R.C.S. Churchill.—A pamphlet.

The Case of M. Libri. Bentley. 8vo. A pamphlet.—A conclusive vindication of this distinguished bibliographer from the scandalous attempt made in Paris to ruin his reputation.

The Artificial Production of Fish. By Piscarius. Reeve and Co. A pamphlet.—Good practical instructions how to restock our ponds and rivers with fresh-water fish. We are surprised, however, to find no mention of Mr. Boccius, and his operations in a similar direction.

The Art of Dining. Murray's Railway Reading.—This alteration of some amusing articles in the "Quarterly Review" is one of the best of Mr. Murray's happily selected series. Everybody who knows what good cookery is will have read it already, as a matter of course; and we seriously recommend those who know nothing of the joys of eating to make this the subject of immediate study.

Falconry in the Valley of the Indus. By R. F. Burton. Small 8vo; pp. 107. Van Voorst.—To falconers this little work will be acceptable, to the general reader it is entertaining, and to literary critics it is a warning to remember the old proverb, "Ware the cat but the glove." Lieut. Burton writes well, good humouredly, and with all the zeal of a thorough sportsman, who might be mistaken for a Scindian if the spirit of an Englishman were not conspicuous in every page.

Walks after Wild Flowers, or the Botany of the Bohereens. By R. Dowden. 12mo. Van Voorst.—Between two and three hundred pages of amusing Irish gossip about a few of the more common natural orders of wild plants. It is the work of an invalid, and is addressed to those who are also valetudinarians. Some of the etymological bits will probably be new to most readers; such as the derivation of the French word *brusque* from the Irish *brusna*, a faggot.

Electricity and the Electric Telegraph, to which is added the Chemistry of the Stars, an argument touching the stars and their inhabitants. By Dr. Geo. Wilson.—*Lord Bacon.* By T. B. Macaulay. Vols. 25 and 26 of Longmans' "Travellers' Library."—Both capital additions to this useful series.

Garden Memoranda.

Messrs. Weeks' Nursery, King's Road, Chelsea.—It will be remembered that the Royal Water Lily (Victoria Regia), was cultivated here last year with great success in a heated open pond, in which in the course of the season it produced between 50 and 60 flowers. The pond received no protection during last winter, and the plant died, either from having been bitten and eaten by the gold and silver fish with which the pond is furnished, and in which they breed and thrive amazingly, or from some unknown cause. During the winter the pond was enlarged considerably, and in clearing out the mud at the bottom it was found to be full of ripe seeds of the Victoria, which were freed from the soil by washing through sieves. These were sown in 5-inch pots, and placed in a small pond in the Orchid-house, where they have germinated and produced a great number of plants. One of the seedlings now occupies the centre of the pond, surrounded by Nymphæa cærulea, rubra, dentata, stellata and others; together with Limnocharis Humboldtii, Aponogeton distachyon, Nuphar lutea, and other interesting aquatics. Of these, N. dentata is now in flower, and we believe the blue Water Lily has also been in blossom this summer. The appearance of the rockwork round the pond has also been improved by forming a kind of rustic cave in one side of it, and otherwise altering the rest for the better. Ferns, Alpines, and other plants have been planted here and there on the rockwork, which has now altogether a good effect. The new stove climber Rhaphistemma pulchellum is just now beautifully in flower in the Orchid house. Its habit and manner of flowering resemble those of Stephanotis floribunda, the blossoms on first appearing being white, but afterwards changing to a fine lemon colour. They are sweet-scented, and being produced in great profusion are very attractive. The foliage is also good, and altogether the plant must be considered an acquisition.

Miss Stapleton's, Greys Court, near Henley on Thames.—A large plant of the New Zealand Flax (Phormium tenax), is now in flower here. It has been growing at Greys Court upwards of 30 years, but it has never been known to flower before the present season. It has thrown up a flower stem many feet in height, furnished with blossoms of a darkish brown colour. It will be remembered that this Flax also flowered in the Horticultural Society's great conservatory this year.

FLORICULTURE.

Cinerarias: *H H.* Treat your batch of seedlings as you would established plants; but to save room, always important in greenhouses, they may be allowed to flower in 5-inch pots; this will also promote an early bloom, and furnish flowers at a time when they are most wanted.

Norwich Show. In the report of this meeting, at p. 487, we omitted to state that, in Verbenas, Mr. Lochner was 1st, and Mr. Burroughes 2d. Messrs. Colman, Youell, Mackie, and Stewart were also large exhibitors of this favourite flower.

Pelargoniums: *W S, Dublin.* Certainly not Ajax, which is a dark variety whose lower petals are rosy purple, and upper ones very dark purple, with an even and narrow margin of vivid crimson. The flower you send has bright pink lower petals, with white base and dark upper petals; we are unable to name it, as it had fallen to pieces before it reached us.—*Sub.* Having dried your plants off as you describe, cut them all well back, leaving about three or four eyes to the shoots of last season's growth; in 10 or 14 days you will observe fresh growths from most of the joints, give a little water then, which may be increased as the new shoots progress; when about 2 or 3 inches long, the plants must be shaken clean from the soil, the roots well trimmed in, and then repotted into two sizes smaller pots with fresh compost; keep close for a few days, and then treat them in the usual way until potting time again arrives; have an eye to regulating the new growths, so as to have a handsome plant.

SEEDLING FLOWERS.

Antirrhinum: *R B.* Yellow and white, striped with purple; not equal to many now in cultivation.

Dahlias: *C J P.* A large flower with wide and open petals, which are deep orange tipped with salmon pink; the after blooms may, when a little subdued, become freer from coarseness and more symmetrical. Your early and vigorous treatment has doubtless produced the numerous florets which crowd the bases of the petals.

Cobæas: *M M G.* A worthless sport unworthy of endeavouring to perpetuate.—*T W.* We have reason to believe that the Mr. Banks whom you mention is not the raiser of the Fuchsias in question.—*J H.* Much bruised; but apparently a good variety; white at the tube, and sepals tolerably pure. Corolla purplish crimson.

Loxonias: *R B.* Of your seedlings 1 is much the best. Throat purplish blue, with a white margin, outside white. A large and showy flower. The rest are not so good as many others. —*W T B* A very fine flower. Colour creamy white, blotched inside the under part of the throat with crimson; well worth preserving.

Hollyhocks: *R B.* Dr. Simpson, buff, salmon towards the base of the petals; a flower of average merit, but coarse. Mr. Lund, guard and other petals rosy-crimson edged with white; in its present state rough and "pockety," but not unattractive. The rest are worthless.

Salvias: *J L.* One of the most striking we have seen, and apparently an improvement on Feu du Roi; habit dwarf and good.

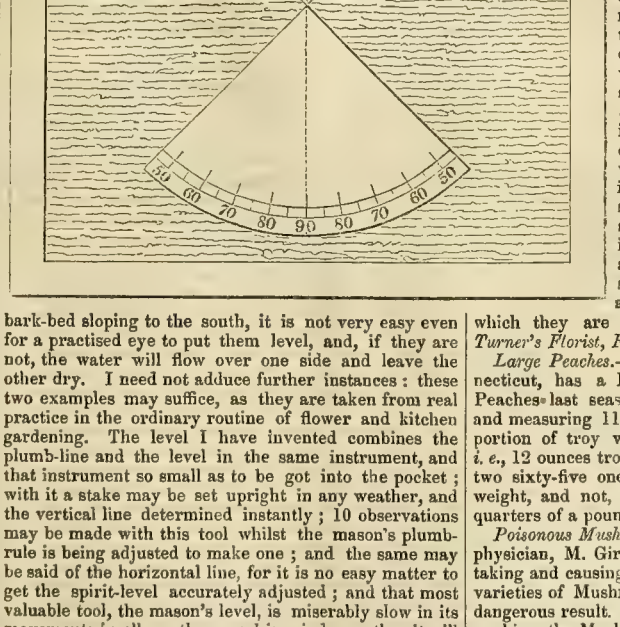
Tonia: *P.* A curious sport, in which the purple of the flowers is discharged (except in the throat), and its place occupied by green. Such changes are, however, not uncommon.

Verbena: *J D W.* Nothing new. We have one from your quality very similar.

Rose: *C G W.* A neat, small, Hybrid Perpetual, and very fragrant.

Miscellaneous.

A New Level. By A. Forsyth, St. Mary's Church, Torquay.—I need not say one word on the importance of the plumb-rule and level; they are essentially necessary in ground-work, and indeed in all the operations of horticulture they play a prominent part. Persons employed in other branches of industry have implements peculiar to their trades; the cooper would not be able to do his work with the cabinet-maker's tools, and the mason would be puzzled to keep his work right with the surveyor's swing level and graduated staff. In the various divisions of labour, therefore, every class clings to its particular character of tools, and as new branches are introduced fresh implements must be had. Having been accustomed to gardening from my infancy, I may take some credit at this time for knowing what tools may be required for the ordinary operations of horticulture; and, not to tire the reader with a useless list, I will confine my observations to the point at issue, and state what difficulties I have experienced in getting things true to the horizontal and the vertical lines. For example, we shall suppose that 5000 stakes of various sizes from 4½ feet to 10 feet in length, are to be inserted in the ground by the gardener in one month, viz. the month of May, as props for Hollyhocks, Dahlias, Roses, &c.; these stakes, being neatly planed and painted, are stuck up quite naked, a forest of green sticks, and they are contiguous to the main-lines of walks, where highly educated parties are constantly passing: now, I would ask, could a handy man, with rule of thumb, do this neatly? He could not. This is no fancied case; I have tried it with good workmen, I have tried it myself; it could not be done. I had to get the plummet, and stand by the pole, and first set it right from south to north, and then from east to west, and this in windy weather is not a very straightforward job. Again, in plunging Pine-apple pots in a



bark-bed sloping to the south, it is not very easy even for a practised eye to put them level, and, if they are not, the water will flow over one side and leave the other dry. I need not adduce further instances: these two examples may suffice, as they are taken from real practice in the ordinary routine of flower and kitchen gardening. The level I have invented combines the plumb-line and the level in the same instrument, and that instrument so small as to be got into the pocket; with it a stake may be set upright in any weather, and the vertical line determined instantly; 10 observations may be made with this tool whilst the mason's plumb-rule is being adjusted to make one; and the same may be said of the horizontal line, for it is no easy matter to get the spirit-level accurately adjusted; and that most valuable tool, the mason's level, is miserably slow in its movements in all weathers, and in windy weather it will not give a true line at all, whereas this little implement not only tells instantly when the bed is level on which it lies, but tells how far it is from that point in case the bed be an inclined plane, thereby giving a regular fall to drains, &c., where inclined planes are wanted. The level is constructed upon the principle of the hour-glass, and, by a particular character of sand, the lines are given very fine. The accompanying sketch will give an accurate idea of the dial of the contrivance. No scale is needed, as the sketch is the full size of the instrument. The first was made three years ago; the subject has been carefully digested since, and it is to be hoped that it will prove a most valuable implement in the ordinary operations of horticulture, long after the inventor has been forgotten. In appearance the instrument is something like a half brick. Its dimensions are 3½ inches $\times 3\frac{1}{2} \times 1\frac{1}{2}$. The diagram represents the face of it, in which two cavities are cut out so as to form each a quadrant of a circle, as appears by the degrees marked. Some fine sand, like that used for hour-glasses, is enclosed in these cavities by glazing in front. The sand falls from the upper part through a small hole into the lower, as in the common hour-glass. The particles of sand fall so continuously that they form in appearance a tolerably fine line. If the instrument be placed upon anything that is truly horizontal the sand will fall, as a plummet would, from the small hole in the centre, to 90°. But should the instrument be placed upon anything that is not level, the particles of sand will still fall perpendicularly, in accordance with the law of gravitation; but the apparently continuous line of falling sand will not be direct from the centre to 90°; it will deviate from the latter point in proportion as the object on which it may be placed deviates from being level. If it should be placed on the slope of a rafter making an angle of 20° with the ground, then the sand will fall from the centre to 20° from the point at 90°. Again, if the instrument be placed with its side against an upright post or stake, the sand will be seen falling in a line from the centre to 90°; if the post be not perfectly upright, then the perpendicular stream of sand will be seen to fall on points more or less distant from the line at 90°, according as the post is more or less out of the perpendicular. In using this level for draining purposes, or for other inclined planes, such as setting a Melon-frame up to the sun so that its roof may be of the same pitch as an adjoining Pine-pit, first put the level upon the rafter of the Pine-pit or other inclined plane to be copied, and mark the sand-line, which we shall suppose to indicate 75°; then put the level on the rafter of the Melon-frame, and prop the frame until the sand line indicates the same angle. And so of drains or other inclined surfaces, putting the level on a piece of wood with parallel edges (a common straight edge). The level, if made of our Devonshire madrepore marble, is expensive; but, for ordinary purposes, the instrument does very well made of Oak or other well-seasoned wood. *Journal of the Horticultural Society.*

Fuchsia gracilis.—The following is a speedy way of increasing this useful Fuchsia; on the approach of an anticipated cold and dreary winter, I covered my beds of hardy Fuchsias as usual. On removing the turf-sods in the succeeding April, to my surprise I found that all the shoots of F. gracilis, which had been cut and laid on the stools previously to the sods, had taken root, and were divisible into plants, some hundreds in number. Many of these entire shoots, however, I potted at once, while a portion of the remainder was laid on the ground till the following spring, when they were treated similar to the others. On the arrival of a more genial season, I was compensated by a multitude of the most gorgeous specimens of this attractive species, which continued to display its handsome blossoms the whole of the ensuing season. The shoots, it should be observed, were 3 feet in length (the summer's growth in our dry soil), and of course admitted of being planted immediately, without waiting the ordinary period of obtaining plants. In this way the trouble of striking was saved, together with considerable attention, usually required in the period during which cuttings are attaining a necessary degree of strength and height, to render them available for the different purposes to which they are commonly applied. *W. Whale, in Turner's Florist, Fruitist, and Garden Miscellany.*

Large Peaches.—Mr. Powers, of New-London, Connecticut, has a Lemon cling-stone tree, which bore Peaches last season weighing 12 ounces, troy weight, and measuring 11 inches in circumference. The proportion of troy weight to avoirdupois is as 17 to 14, *i. e.*, 12 ounces troy weight is equal to 13 ounces and two sixty-five one-hundredth drachms of avoirdupois weight, and not, as is generally supposed, just three-quarters of a pound. *American Gardeners' Chronicle.*

Poisonous Mushrooms.—Some time since a Belgian physician, M. Girard, created much sensation by partaking and causing his family to partake of poisonous varieties of Mushrooms in large quantities, without any dangerous result. His safeguard consisted in frequently washing the Mushrooms in question with hot vinegar and salt, by which the poisonous principle seemed to be removed. Some doubts have been cast, however, on the truth of the Belgian doctor's inferences by a botanist and a physician of Bordeaux, M. Desmarti and M. Corne, who have proved that a variety of Mushroom called poisonous is not necessarily poisonous for every locality—that climate and soil in fact modify the nature of Mushrooms to an extraordinary extent. For example, the Amanita rubra of Lamarck is mentioned by all authors as a violent poison, nevertheless the inhabitants of Bordeaux and its neighbourhood eat this fungus with impunity, submitting it to no further preparation than mere roasting on coals; indeed, this particular kind of Mushroom is considered as a luxury in the neighbourhood of Bordeaux. Whilst thus establishing the modifying influence on Mushrooms of soil and climate, the Bordeaux physician and botanist prove the safeguard of M. Girard—namely, frequent washing with hot vinegar and salt—to be no safeguard if the Mushrooms acted on be really poisonous. For the purpose of demonstrating this, they took a specimen of poisonous Agaricus laccatus, and macerated it for 10 hours in vinegar and salt. They then cooked it, and having administered the cooked results to an animal, death rapidly ensued. There cannot be a doubt, therefore, that it would be highly unsafe to rely on the process recommended by M. Girard. *Morning Chronicle.*

The Neighbourhood of Simon's Town (Cape of Good Hope) consists of a ridge of rugged mountains which are chiefly composed of sandstone, and present, especially during the dry season, the time of our visit,

a barren and unmviting appearance. Like many similar localities, however, it is very productive, and, on account of its climate, by far richer than the vicinity of Cape Town. Proteaceæ are particularly abundant. The Protea cynaroides, Linn., may be seen in the greatest perfection, producing heads frequently more than 8 inches in diameter. It is, however, less frequent than its congener, the Protea grandiflora, Thunb., which indeed is so common that it imparts a bluish hue to some places, and thus forms a peculiar feature in the landscape. The colonists call it Wagenboom, and employ its wood to make felloes, a purpose for which, on account of its toughness, it is admirably adapted. The Wagenboom is from 8 to 14 feet high, and supplies, like several other Proteaceæ, the principal fuel of Simon's Town. We can hardly reconcile ourselves with the idea that any one should be so inconsiderate as to cut down plants which we esteem so highly, and on whose structure and cultivation so many learned treatises have been written. I must confess that when witnessing the proceeding for the first time my feelings were almost akin to those of a soldier in a certain comedy, who, on entering France, discovers to his surprise that even the children speak French, a language which hitherto he had considered merely as an accomplishment of adults. I was much struck with the Myrica cordifolia, Linn., which covers whole tracts of the downs, and appears at first sight to be about 2 or 3 feet high; on a closer inspection, however, it becomes evident that what seems to be little bushes are only the branches of subterranean trees! I succeded in freeing several from the sand—not a very difficult operation—and found regular stems creeping a few inches below the surface, and attaining in some instances as much as 60 feet in length. The plant performs, therefore, the same office at the Cape as several Carices in Northen Europe—that of keeping down the loose shifting sand. Another plant, which both man and nature have applied to the same purpose, is the Paarde Vygen (Mesembryanthemum elude, Linn.). On the road between Simon's Town and Wynberg whole acres are planted with it. The vernacular name of the latter, I may add, has occasionally been confounded with that of an allied species, the M. acinaciforme, Linn. The plant called Hottentots' Vygen or Paarde Vygen (Hottentots' Fig or Horse-fig) is the M. elude, Linn., while that termed Zyre Vygen (Sour Fig) is the M. acinaciforme, Linn., and not *vice versâ*, as some authors have it. *Berthold Seemann, in Hooker's Journal of Botany.*

Calendar of Operations.

(For the ensuing week.)

PLANT DEPARTMENT.

It will be much to the advantage of the inmates of plant houses to reduce the shading after this time considerably, to enable the plants to ripen their summer's growth, allowing more air to keep down the temperature, and to check any tendency to a second growth which may show itself, and which can only take place at the expense of next season's bloom. We have previously intimated where a second growth is desirable, as in the case of young plants growing into specimens; but wherever a perfect show of bloom is expected, every means should be taken to prevent it. Brugmansias, Clerodendrons, and other large soft-leaved plants, should be frequently washed to keep down red spider, and be well supplied with liquid manure, to keep them in a vigorous state of health, which adds so much to their beauty. Ixoras, which have been cut down for next year's blooming, should have their shoots neatly staked out as they advance, and will require being placed in more light, and to be kept somewhat drier, that the gradual ripening of the wood may be assisted. Remove Achimenes, Gloxinias, Tuberoses, and plants of the same habit, from the conservatory when on the wane, and replenish from the reserve houses to keep up the display. Passifloras, and in fact the greater part of conservatory climbers, will be growing fast, and will require frequent training. Thin out weak and over strong shoots, and reserve only sufficient to produce the desired effect; the blooms will be considerably finer, and the plants themselves more capable of producing well-matured wood when these little attentions are performed regularly. Various stove climbers, as Combretum, Quisqualis, Allamandas, &c., will bloom for a considerable portion of the summer, if the shoots on which the flowers are borne are slightly cut in when the blooms decay; as anything which prolongs the period of beauty with these favourites is valuable, the above should be constantly practised. Epacrises, winter-flowering Heaths, and other things requiring to have their wood ripened early, may now be placed in a sunny exposure; as the wood is already formed, nothing remains but to get it well ripened; and although water must be given equal to the plants' demand, a dry air and warm atmosphere are essential to the perfect ripening of the wood, and consequent formation of bloom buds. The different varieties of Epiphyllum (if their growth is sufficiently advanced) should have the same treatment; give a shift to Chinese Primulas, Cinerarias, and Chrysanthemums. Salvias, and other autumn flowering plants, should be placed in their blooming pots, if not done previously. Now the houses are partially empty have the interiors painted, and all necessary repairs done to the roof, heating apparatus, &c.

FORCING DEPARTMENT.

Vinery.—Whenever the leaves in the earliest forced Vinery turn brown, and the wood appears ripe, the sashes may be removed, and the Vines exposed to the full influence of the weather; beyond stopping extra growths, no attempt to prune them should be made for some time to come, and the leaves should be permitted to fall off naturally. As each house is exposed, advantage should be taken to repair and paint the sashes and frame work, that when forcing again commences, everything may be in good working order. The successional crops will require fires occasionally to dry up damp, remove decayed berries, and keep the houses dry and airy, except where fruit is still swelling, where a more moist and growing temperature must for a time longer be maintained; continue after this to pinch out lateral shoots as they appear; leaves formed after this time will be useless. Vines in pots for next season's fruiting, supposing them to be stopped at the required length, should be gradually divested of their lateral shoots, beginning at the bottom, and proceeding by a few at a time upwards; the supply of water may likewise be reduced in proportion, when required; however, it should be of a stimulating nature, to aid the formation of fruitful buds for next season's crop. Peach-house.—Follow our previous direction (see p. 408) with regard to summer pruning the trees, immediately the fruit in the later houses is cleared. By thinning the wood at this time, leaving only what is required for the succeeding crop, it has the advantage of full exposure to light and air, and will be found more prolific of well-formed fruit buds than when the whole is left to be cut away in the winter, besides the facilities it affords for keeping down insects; unless the inside borders are dry in the extreme, no more water need be given. Pay every attention to the last crop of Melons, which are now advancing fast; the great enemy to Melons at this season is red spider, and the greatest care is requisite to prevent its attacks. The Dampsha and other late kinds should be kept rather thinner of wood than was necessary for the earlier crops, that light may have free access to all parts of the foliage, and the crop should be lighter, that the plant's energies may not be too severely taxed at a season when the natural stimulants to vegetation are on the decline. Strawberries for forcing should be potted forthwith, that full time to perfect their growth may be allowed them. After they have taken to their new shift, place them in a southern aspect and open exposure, and at the same time place them thin; they will thrive the better for not being plunged for some time yet, but must be regularly supplied with water.

FLOWER GARDEN AND SHRUBBERY.

Where bedding-out on a large scale is practised, the propagation and preservation of the annual supply of plants becomes an important part of the gardener's duty. That the result may answer the expectation at planting time, a careful calculation of the number required, and the means there is of preserving them through the winter, should be made. The next thing to consider is the kinds which require immediate attention, to get them established before winter; those which may be deferred a month or so longer; and, again, what can be propagated in sufficient numbers in the spring, provided a few store pots of each are kept for the purpose. In the first class we may place nearly all the varieties of fancy and bedding-out Geraniums (except scarlets and their allies, which may wait a short time longer), Crassulas, Lantanas, Aloysias, Mesembryanthemums, Hydrangeas, and plants of similar habits, which require to be established and have their wood matured before winter. Next may follow Heliotropes, Salvias, Calceolarias, Alonsoas, Anagallis, Verbenas, Petunias, and Lobelias, &c., of which four latter, if pit or house-room is an object, a few store pots only of each kind need be kept, as, with the assistance of a little heat in the spring, a stock is soon obtained, and spring struck plants, if nicely grown, generally start better than older plants. The new plants which have been planted out under "trial" should likewise have their distinctive features noted down (how many possess such we dare not say), with their colour and habit, to ascertain if in any certain class a better colour or habit is obtained. The number of new plants is so great that an annual trial is necessary to keep what are really acquisitions.

KITCHEN GARDEN.

Every day shows the hopelessness of trusting to the Potato as a root crop, and the necessity of growing increased breadths of Parsnips, Carrots, Artichokes, and whatever may reasonably become a substitute. Our former directions for planting largely the different kinds of winter greens, &c., should be acted on whenever the opportunity of vacant ground occurs. In sowing crops at this season, which do not come into perfection till spring, and which are expected to grow more or less through the winter, the ground should not only be well manured, but trenched to a considerable depth; that the rains and snows of winter may pass quickly beyond the reach of their roots, and that a comparative dryness and warmth may be thus maintained around the roots of growing plants. Those who have observed how quickly snow thaws on well-drained land, owing to its higher temperature, will at once understand how important the above conditions are to crops which are expected to make way in the depth of winter. These remarks will apply to Spinach, of which a good plot of the true Flanders for winter use may now be sown; as may two or three kinds of hardy Cos and Cabbage Lettuce; the latter will be useful for transferring to frames in February. Endive should be sown for February and March consumption, and Tripoli Onions for early spring. Still continue planting out Cauliflower and Walcheren Broccoli; before earthing up the main crop of Celery, remove a few of the lower leaves and any suckers which may be found; tie up slightly with matting, and well water the trenches with liquid manure, in which a small quantity of salt has been dissolved; this will kill slugs and worms, and assist the plant to a quick growth. When the plants become dry, the earthing up may be liberal, taking care, however, not to reach the heart of the plant. Cardoons may be treated in the same way; water freely Peas, Artichokes, Cauliflowers, and succulent-leaved plants.

STATE OF THE WEATHER NEAR LONDON,

For the week ending Aug. 5, 1852, as observed at the Horticultural Gardens, Chiswick.

July and August.	Moon's Age.	Barometer.		Temperature.					Wind.	Rain.
				Of the Air.			Of the Earth.			
		Max.	Min.	Max.	Min.	Mean	1 foot deep.	2 feet deep.		
Friday ..30	13	30.070	30.038	76	46	61.0	64½	62	W.	.00
Satur. ..31	14	30.072	30.038	81	54	67.5	66	64	W.	.00
Sunday . 1	15	30.037	29.937	82	52	67.0	65½	62	S.W.	.00
Monday 2	16	29.861	29.662	81	49	65.0	65	63½	W.	.00
Tues. .. 3	17	29.464	29.268	71	47	59.0	65	62½		.03
Wed. .. 4	18	29.419	29.348	72	46	59.0	63	62	S.W.	.01
Thurs.. 5	19	29.458	29.439	74	47	60.5	63	62	S.	.04
Average		29.768	29.674	76.7	48.7	62.7	64.7	62.7		.08

July 30—Very fine throughout; clear at night.
— 31—Heavy dew; very fine; cloudy.
August 1—Very fine; slight dry haze; uniformly overcast.
— 2—Very fine throughout; densely clouded at night.
— 3—Partially overcast; very fine; slight shower; cloudy.
— 4—Very fine; slight shower at noon; low white clouds and deep blue sky in intervals; clear
— 5—Very fine; cloudy and fine; showers; slightly overcast.
Mean temperature of the week, ½ deg. below the average.

STATE OF THE WEATHER AT CHISWICK,

During the last 26 years, for the ensuing week, ending Aug 14, 1852.

August.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds.							
						N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 8	75.5	49.7	62.6	9	0.40 in.	2	4	2	1	4	10	4	—
Mon 9	75.5	51.6	63.6	9	1.06	1	4	1	1	5	10	5	—
Tues. 10	75.3	53.2	64.2	12	0.36	1	2	2	1	2	13	5	1
Wed. 11	75.1	51.7	63.4	13	0.34	1	—	2	—	4	12	6	1
Thurs. 12	75.1	51.5	63.3	11	0.21	2	1	1	1	5	7	5	4
Friday 13	72.2	52.6	62.4	12	1.14	—	2	2	2	3	11	2	4
Satur 14	72.1	50.8	61.4	7	0.61	—	6	5	1	2	7	4	1

The highest temperature during the above period occurred on the 10th, 1842—therm. 93 deg.; and the lowest on the 13th, 1839—therm. 32 deg.

Notices to Correspondents.

Books: *T E.* Babington's "Manual," and Hooker's "British Flora."

Bottling Fruit: *Admirer.* The following is an excellent mode: Fill the bottles quite full with fruit not quite ripe; place them, with the corks put lightly into them, in a copper with cold water up to the necks, and gradually raise the temperature of the water to 160°, and not exceeding 170° Fahr. Keep them at this temperature half an hour; then take each out separately, and fill it up with boiling water from a kettle to within an inch of the cork; drive in the cork firmly, tie it over, and dip it immediately into bottle wax, and lay the bottle down on its side, to keep the cork always damp. To prevent fermentation, turn each bottle half round twice or thrice a week for two or three weeks; after that they will need no further care. The corks should be soaked in water two or three days before being used.

Gaultheria Shallon: *Diss.* This plant can be raised from seed grown in this country; the seed should be treated exactly like that of Rhododendrons.

Hedgehogs: *R D.* They will kill cockroaches. Their food is very various; by preference they are carnivorous, but in certain circumstances they will readily eat vegetable substances. ‡

Liquid Manure: *J P.* Guano soaked in water and the clear liquor poured off, the sediment being again treated with water, will answer your purpose. As regards ants, see p. 424 of this year's volume.

Melons: *A Constant Reader.* We believe that the bodies taken out of your Cantaloupe Melon are seeds in a state of premature germination.

Names of Plants: *V R.* 1, Agrostis vulgaris; 2, A. alba; 3, Filago germanica.—*J O.* 1, Epidendrum altissimum; 2, Clematis flammula; 3, Polypodium crenatum.—*A Reader.* Nidularia campanulata.—*E M.* Ononis arvensis and Symphytum officinale.—*Erzeroum.* 518, Astragalus ponticus; now in flower in the Horticultural Society's Garden.—*L N R.* Geranium pratense.—*Gulnare.* Escallonia rosea. — *Young Gardener.* Apparently a leaf of Senecio Persasites—*R S.* Achillea Ptarmica, with double flowers.—*J W R.* We are unacquainted with Ilex Tarago. The leaf seems to belong to Anagyris indica.—*C E S.* Brunsfelsia americana.—*C A B.* Trapa bicornis.—*J C.* 2 is Campanula carpatica certainly; 1 is indeterminable.

Potatoes: *D S.* The lump on your stem is a tuber, produced above ground instead of under ground. Such produce is extremely common when Potatoes are not earthed up.

Rabbit Fence: *Canavensis* will thank some of our correspondents to oblige him by stating, from actual experiment, what height of wire trellis will suffice to keep out rabbits and hares effectually. He knows a wooden paling 3 feet high will not.

Red Spider: *Northwood.* Syringe well and often with clean water, and it will probably disappear, or use milk of sulphur, as mentioned in another page of to-day's Paper. ‡

Strawberries: *Gallicus.* The varieties mentioned in last week's Paper, p. 488, will possibly be found to suit you. ‡

Sun-heat: *A. R.* The highest point to which the thermometer has reached *in the sun* at Chiswick within the last 26 years is 128° Fahr. This occurred on the 4th of July, 1838, and was indicated by a blackened thermometer, placed about a foot above the surface of the lawn. Against a wall facing the south, or nearly close to the naked soil of a border, the thermometer rises much higher than it does above the lawn; and exceeds 136°, the degree you mention. If you refer to "Daniell's Meteorological Essays," p. 439, you will find that in 1821, on the 20th of August, and three following days, the thermometer in the sun rose to 144°. The bulb was thinly covered with black wool, and placed about an inch above the soil of a border. ‖

Vine Leaves: *M M.* Your plant is starved to death; perhaps it has no roots, perhaps it has no food; at all events it is starved.

Vines: *J S J W.* It is all mismanagement of some sort. Grapes will always colour, if they have air enough and heat enough, unless they shank, which they never do, if the border is not cold and damp. Your losing all your Vegetable Marrows is also your own fault, although no one can tell what you have done with them. As to calling Cherry trees 20 to 30 years old "trees of great age and past bearing," we do not understand you; perhaps you meant to say 120 to 130 years.

Misc: *Sub.* We have no knowledge of the gentleman in question.—*T T.* You can have the Index for 1849. Enclose two postage stamps.

ROYAL AGRICULTURAL COLLEGE CIRENCESTER.
PATRON—His Royal Highness PRINCE ALBERT.
PRESIDENT OF COUNCIL—Earl BATHURST.
VICE-PRESIDENT—Earl DUCIE.
PRINCIPAL—Rev. J. S. HAYGARTH, M.A.
The NEXT SESSION will begin on Monday, August 9th. Students are admitted either as Boarders or as Out-Students. The annual fees for Boarders vary from 45 to 80 guineas, according to age and other circumstances. The fee for Out-Students is 40l. per annum. The College Course of Lectures and Practical Instruction is complete in one twelvemonth—though for younger students a longer time is recommended.
There is a department for general as well as for agricultural education.
Prospectuses and information can be had on application to the Principal.
Cirencester, August 7, 1852.

LEWES AGRICULTURAL SHOW.—LOST, from the Crown Inn, Lewes, a Metallic Paper Memorandum Book, in brown covers with clasp, India rubber band and pencil, with the name and address, "*James Crowe, Andoversford*" inside the cover, and containing various memorandums and orders. Whosoever will return, or give such information as may lead to the recovery of the same, shall be handsomely rewarded.—Address JAMES CROWE, Hampen, Andoversford, Gloucestershire.

PERUVIAN GUANO.
CAUTION TO AGRICULTURISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,
ANTONY GIBBS AND SONS, AS THE ONLY IMPORTERS OF PERUVIAN GUANO,
Consider it to be their duty to the Peruvian Government and to the public again to recommend Farmers and all others who buy to be carefully on their guard.
The character of the parties from whom they purchase will of course be the best security, and, in addition to particular attention to that point, ANTONY GIBBS AND SONS think it well to remind buyers that—
The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 9l. 5s. per ton, less 2½ per cent.
Any resales made by dealers at a lower price must therefore either leave a loss to them, or the article must be adulterated.

CHARCOAL AND SEWAGE MANURE.—Promote the Health and Wealth of Town and Country by increasing the use of that valuable manure PEAT CHARCOAL, impregnated with the fertilising matter of LONDON SEWAGE. The ammonia, phosphates, and fæces are absorbed, and the water pressed out bright, palatable, and soft.
Sold at the Charcoal and Sewage Works, Stanley-bridge, Fulham, Middlesex, at 60s. per ton, 4s. per cwt., 2s. 6d. per half cwt.

THE ECONOMIC PORTABLE MANURE COMPANY manufacture, and have always for sale, the following MANURES:—Patent Manure, 5l 5s. per ton; highly concentrated Fæcal Manures, 3l. 10s. per ton; Superphosphate of Lime, 5l. 2s. 6d. per ton; Turnip Manure, 4l. 10s. per ton; Gypsum, 1l. 5s. per ton.
Orders and applications for agencies to be addressed to WILLIAM DODDS and Co., Managers, 102, Leadenhall-street, London.

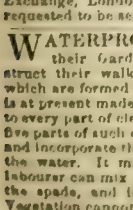
THE LONDON MANURE COMPANY offer the following Manures on the best terms, warranting every article strictly genuine:—Peruvian Guano, Superphosphate of Lime, Nitrate of Soda, Concentrated Urate, Peat Charcoal, Guano, Fishery Salt from Cornwall, also a constant supply of Salt for agricultural purposes; Linseed and Rape Cake. Peruvian Guano, warranted the genuine importation of Messrs. Antony Gibbs and Sons, at 9l. 10s. per ton, or for 5 tons and upwards, 9l. 5s. in Dock. EDWARD PURSER, Sec.
40, New Bridge-street, Blackfriars, London.

MANURES.—The following Manures are manufactured at Mr. LAWES'S Factory, Deptford Creek:

Turnip Manure, per ton	£7	0	0
Superphosphate of Lime	7	0	0
Sulphuric Acid and Coprolites	5	0	0

Office, 69, King William-street, City, London.
N.B. Peruvian Guano, guaranteed to contain 16 per cent. of Ammonia, 9l. 10s. per ton; and for 5 tons or more, 9l. 5s. per ton, in dock. Sulphate of ammonia, &c.

LINSEED CAKE, Foreign and English, Rape Cake, Peruvian Guano, Gypsum, Salt, Peat Charcoal, and all other Manures of known value, on sale.—Apply to MARK FOTHERGILL 204 A, Upper Thames-street, London.



LIQUID MANURE conveyed over LAND by
FREEMAN ROE,
HYDRAULIC ENGINEER, 70, STRAND, LONDON.
Farms supplied with water by the
HYDRAULIC RAM.
WELLS SUNK AND BORING DONE IN ALL PARTS OF TOWN OR COUNTRY.

CARSON'S ORIGINAL ANTI-CORROSION PAINT, especially patronised by the British and other Governments, the Hon. East India Company, the principal Dock Companies, most public bodies, and by the Nobility, Gentry, and Clergy, for out-door work at their country seats. The Anti-Corrosion is particularly recommended as the most durable out-door Paint ever invented, for the preservation of every description of Iron, Wood, Stone, Brick, Compo, Cement, &c., work, as has been proved by the practical test of upwards of 60 years, and by the numerous (between 500 and 600) testimonials in its favour, and which, from the rank and station in society of those who have given them, have never yet been equalled by anything of the kind hitherto brought before the public notice
Lists of Colours, with Prices, together with a Copy of the Testimonials, will be sent on application to WALTER CARSON and SON, No. 9, Great Winchester-street, Old Broad-street, Royal Exchange, London.—No Agents. All orders are particularly requested to be sent direct.

WATERPROOF PATHS.—Those who would enjoy their Gardens during the winter months should construct their walks of PORTLAND CEMENT CONCRETE, which are formed thus:—Screen the gravel of which the path is at present made from the loam which is mixed with it, and to every part of clean gravel add one of sharp river sand. To five parts of such equal mixture add one of Portland Cement, and incorporate the whole well in the dry state before applying the water. It may then be laid on 2 inches thick. Any labourer can mix and spread it. No tool is required beyond the spade, and in 48 hours it becomes as hard as a rock. Vegetation cannot grow through or upon it, and it resists the action of the severest frost. It is necessary, as water does not soak through it, to give a fall from the middle of the path towards the sides.—Manufacturers of the Cement, J. B. WHITE and Sons, Millbank-street, Westminster.

IRON HURDLES, FENCING, ETC.
STEPHENSON AND PEILL, 61, Gracechurch-street, London, and 17, New Park-street, Southwark, beg to inform their friends and the public generally they are now manufacturing Iron Hurdles, at the following low prices:—For sheep, 6 ft. long 3 ft. high, 5 bars, 3s. 2d. each; and for cattle, 6 ft. long, 3 ft. 3 in. high, 5 bars, 3s. 6d. each.

The Agricultural Gazette.

SATURDAY, AUGUST 7, 1852.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY,	Aug.	11	Agricultural Society of England.
THURSDAY,	—	12	Agricultural Imp. Society of Ireland.
TUESDAY,	—	17	Meeting of the Agri. Improvement Society of Ireland at Galway.
WEDNESDAY,	—	18	
THURSDAY,	—	19	

We have, from time to time, and especially of late, drawn attention to the very important question of facilitating the TRANSFER OF LAND; and, amongst many other persons, have been tempted to ask the reason why land should not pass from hand to hand with much more rapidity and simplicity than is the case at present. An able article in the "Law Review," for the present month, has again induced us to bring the subject forward; and, convinced as we are of the urgent necessity of having something done which will render dealings in land less troublesome and expensive than they now are, we make no apology for laying the substance of that article before our readers.

A short outline of the different natures and methods employed in the transfer of land and stock, will, perhaps, be of use to those who may be unacquainted with such matters. Land and stock have some points of agreement and some of disagreement. They are both the subjects of ownership; in land the rights of ownership are exercisable over something visible, tangible, and capable of being divided into parts, the exact boundaries of which must be ascertained; in stock the rights of ownership are exercisable over something invisible, not tangible, but wholly ideal and totally incapable of division into parts having exact boundaries, or into any parts less ideal than itself. When we speak of a transfer of land, we do not mean that so many acres are passed from one person to another, but that the rights of ownership over those acres are renounced by one person in favour of another; and so, when we speak of a transfer of stock, we mean that certain rights of ownership are renounced by one in favour of another person. That which is transferred is the same in both cases, it is merely a complex right; and inattention to this plain but important truth has, in our opinion, caused no little confusion of ideas, and has afforded shelter for objections which are wholly without foundation. How else are we to account for the often-raised objection that land and stock are such very different things, that the principles regulating the transfer of the one are not in the nature of things applicable to the transfer of the other? No doubt land and stock are different, and, as we shall shortly show, their difference does necessitate *a* difference in the mode of their transfer, but it does not necessitate the difference which exists, nor does it render the application of the same principles to the transfer of both impossible.

Again, ownership, whether in land or stock, is, according to the law of England, of two kinds, which may exist in different persons or may coexist in one and the same person; the ownership of a trustee is an example of one kind, the ownership of the person for whom he is trustee is an example of the other kind. Each kind of ownership is capable of transfer independently of the other; and in order that a person may be what is called an absolute owner, both kinds of ownership must coexist in himself. No one knowing that a person has the one kind of ownership can, without more, know whether he has the other kind or not; each kind is dis inct from the other, and when land is concerned each generally has to form a distinct subject of inquiry, but when stock is concerned such is not the case. Do our readers ask why should this be so? upon what principle is this distinction founded? if they do, we for our part must confess our inability to answer them; unless, indeed, they are satisfied with being told that stock is a thing of modern days, and is not subject to the same technical rules as land.

Having now explained what is meant by a "transfer," whether of land or of stock, and having noticed sufficiently for our present purpose the nature of ownership, we will proceed to show the way in which what is called absolute ownership is transferred when exercisable over stock and land.

Stock is a debt owing by the State to certain persons whose names appear in the books of the Bank of England; those persons, and those alone, whether both kinds of ownership do or do not coexist in them, have the power of transferring the stock to which they are apparently entitled; if they wish to sell their stock they can (unless under certain circumstances to be mentioned presently) do so; and nobody asks, and nobody cares, whether they are absolute owners or not. Supposing them to be so, nothing remains for explanation. Supposing them not to be so—supposing them, that is, to be trustees, and to have only one of the kinds of ownership before mentioned, and that the other kind is in persons whose names do not appear in the Bank books, still those whose names do appear in them can sell, and possibly cheat the others for whom they are trustees; to prevent this, those whose names do not appear may, if they please, put what is called a "stop" upon the stock: in other words, give the Bank notice not to sell the stock without their consent. Such are the means taken to prevent cheating on the part of the trustees—means apparently inadequate, but working in practice perfectly well: every now and then, no doubt, a trustee of stock secretly sells out and pockets the money, to the loss of the person for whom he is trustee; such a case, however, seldom occurs—and it is found that in the great majority of cases persons having the stock of others standing in their own names are honest, and that no great risk is incurred by those who, being prudent in the choice of their trustees, trust them with money in the funds.

Our readers will observe that the great features in the transfer of stock are that a person who wishes to buy deals with the registered owner, and with him alone; that the nature of his ownership is not inquired into; that in the absence of any "stop" the consent of those for whom he may happen to be trustee is not required to make a valid sale; and that if the trustee sells without or against their consent, the purchaser's title cannot be thereby drawn in question, and the trustee alone is answerable for his own misconduct.

Now, let us compare this with the mode in which land is at present conveyed. When a person wishes to sell an estate, the first thing to ascertain is the nature of his ownership, and this cannot be done by inspecting any public register, for none such exists; it must be done by examining the seller's title deeds—in the case of stock there are no title deeds to be examined. It is this examination which causes the great bulk of the expense of money and time attending a modern conveyance; and as no purchaser is ever satisfied with the last examination, although made, perhaps, within a very short period before his own purchase, and by the most cautious and shrewd lawyers of the day, the expense is constantly recurring.

Again, this examination extends to both the kinds of ownership before mentioned, and it is, unless there is a special reason to the contrary, necessary for the purchaser to discover all the persons interested in the property, and to obtain their consent to the sale. It may happen that some will not consent, that others, being under legal disabilities, cannot consent, and then, perhaps, the purchase is given up and the time and money expended in ascertaining the persons who ought to join in the sale are wasted. It is very true that at the present time clauses are introduced into deeds affecting land, which have the effect of rendering some of these inquiries unnecessary; but those very clauses show the existence of the evil they are designed to destroy, and are themselves objectionable, as they increase the length of the instrument in which they are inserted. From this outline, in which of course all details are intentionally excluded, it will be observed that the great features in the transfer of land are, that a person who wishes to buy has to deal with all who are interested in the property; that the nature of their ownership has to be inquired into; that in the absence of any reason to the contrary, the consent of those for whom the ostensible seller may happen to be trustee is required to make a valid sale; and that if the trustee sells without or against their consent the purchaser's title can be drawn in question, and if he has notice (which he is very often deemed to have, though in fact he had none), that the ostensible seller is a trustee, the purchaser may be liable for the misconduct of the seller.

Now, with the writer of the article before referred to, we ask, why should not land, like stock, stand in the names of persons easily discoverable? Why should persons who wish to buy land be compelled to make all sorts of inquiries which the purchaser of stock never thinks of making? Why, in the absence of any special reason, should the consent of all persons interested be required in a sale of land and not in a sale of stock? Surely there can be no more danger of fraud in the one case than in the other; there can be no reason why the fact of having the land of others in their power should make men less honest or trustworthy than experience shows them to be when the stock of others is in their control; and yet that this would be the case is insisted by the opponents of any change in the present mode of conveyancing.

That land can be transferred as easily and quickly

as stock we do not say or think; land requires to be identified, stock does not; a good map or set of maps would render the identification of land comparatively easy, but still there must always be some delay and expense in accurately showing the limits of the property sold, and from which the transfer of stock of course is free. The existence of leases and of rights of way in the case of land is another reason why its transfer should not be so easy as that of stock; but what we more particularly insist upon now is that there is, so far as we can see, no reason why every person who wishes to buy land should be compelled, for his own safety, to investigate the title to it, which would not also, if fairly carried out, go to show some necessity for investigating the title to stock; or, in other words, that there is no reason which would not, if fairly carried out, be suicidal, by proving too much.

Were this a legal journal, or were the details of a plan for facilitating the transfer of land fit subjects for these columns, we should probably call our readers' attention to this important subject oftener than we do; as it is, however, we can only refer to it in a general way; but we would urge upon them the necessity of most anxiously considering it; and if, instead of running after protection, they would in earnest put their shoulders to the wheel and obtain from the present or any other Government some measure which should render land more readily marketable, they would do the country great good, and relieve the agricultural interest from one of its greatest burdens.

The returns, in another page, to our circular, on the Present Appearance of the Crops, offer matter both for congratulation and for concern. We are glad, however, to say that we have much greater reason to rejoice than lament on the prospect of this year's crops. Though it be true that the Potato disease has made an earlier and more general appearance in Ireland, and in most of the southern counties of England, than of late years it has done, yet all other green crops are better than usual; and, taking the country generally, we believe that a better promise of grain of all sorts, excepting Beans and Peas, was never before seen upon its surface. The following tables will present the truth on this subject in a more tangible form than can be given it by words:—

Returns regarding the Wheat crop.	Over Average	Average	Under Average	Total Returns
Returns from Scotland ..	28	11	1	40
,, ,, England ..	72	56	8	136
,, ,, Ireland ..	13	60	8	81
Total returns	113	127	17	257

In the first column are placed all such cases as are described in the words "very good," "splendid," "over average," &c.; in the third, all cases in which any disparaging adjective has been used by the reporter; and the second includes the remaining instance, in which the crop is reported to be as usual. According to this statement, in rather more than 43 per cent. of the instances reported, Wheat crop is over an average; in 50 per cent., the crop is an average one; and in rather less than 7 per cent. of the instances is it under average. Compare this with last year's report, in which 20 per cent. were under average, and less than 16 per cent. were over average.

The following is the general statement for England, Scotland, and Ireland, of all the grain crops specified in the circular:—

	Over Average.	Average.	Under Average.
Wheat, 257 reports	113	127	17
Barley, 244 reports	75	154	15
Oats, 270 reports	99	153	18
Beans, 175 reports	14	78	83
Peas, 141 reports	9	42	90

We believe that if we should be favoured with a good harvest-time, the Wheat crop of the present year will prove one of the most productive that has been known—the Barley will be a heavy crop of perhaps hardly average quality—and the Oat crop will be a full average as regards both quantity and quality. The Beans and Peas will no doubt be a poor crop, worse even than the table represents them; for the Irish returns are included in that table, and these crops are by no means so extensively grown in Ireland as in England and Scotland. In the north, the Bean crop appears not to have been materially injured; but of 110 returns from the different English counties, no fewer than 75 are stated as being under average; and in some of the southern counties the crop has suffered very seriously indeed.

As regards the green crop returns, they generally state the promise of a first-rate produce of cattle food; and we should not wonder at store stock rising in price through the autumn on this account. Only 20 of the reporters, out of 276, speak in any degree disparagingly of the Turnip crop; and none of these are in Scotland. The returns regarding the Potato crop show an earlier and more general appearance of the disease than has been known since 1846; a quarter of the cases reported in Scotland, rather more than one-half of the English cases, and nearly 9-10ths of the Irish, exhibit traces of the disease. And in most of the southern counties of England and Ireland it has made great progress. Comparing August 1, 1851, with July 29, 1852, we have the following result:—

	Total	Per centage. Healthy.	Diseased.
Irish reports in 1851	79	75.5	24 5
Irish reports in 1852	95	11 50	88.50

And the virulence of the attack seems to be in proportion to its earliness and its extent.

As regards the period of the harvest—it appears to be generally from a week to 10 days earlier than last year, which was a remarkably late season.

One capital distinction between the occupations of tradesman and farmer lies in the annual character of almost every act performed by the latter. The returns from an investment in the land are not realised until at least 12 months—often several years—have elapsed: while, during that time, the shopkeeper will have obtained from the monthly or even weekly reinvestment of his receipts repeated accumulations of interest. And it is this, probably, that would most strike the mind of any active energetic man who should engage with equal earnestness in both pursuits. Accordingly this is one of the points to which Mr. Mechi referred in the course of his address the other day at Tiptree Hall. Anything which shall shorten the time between the outlay and the return, without diminishing the latter, is so much clear gain to the owner of the investment. Now, although undoubtedly the chief improvements in agriculture have been owing to the shortening of such intervals—as, for instance, that between the birth and maturity of our stock—yet the principal investment on the farm, that which precedes a seed time, is almost as dilatory as ever: we can do but little to hasten our harvests.

There is, however, one point, often forgotten, connected with agricultural returns, on which the accelerating process referred to may easily be brought to bear. If, for the moment, we put our grain crops out of consideration, the returns from the land are of two kinds; for one of which, namely, the meat manufactured, we have to wait the conclusion of the fattening process; but the other, namely, the manure, is made every day, and might every day be reinvested in the land. Hitherto that, as well as the meat, has to remain useless, and the former certainly in a deteriorating state, for months, before it can be made use of. But Mr. Mechi, applying "the principles of his commercial life to agriculture," has adopted the system, so far as it is applicable on the farm, of repeated outlay and quick returns. Talking of London manure, he said, "The oxen that went to London on Friday must be back here in the shape of manure on Monday, and he wanted it turned into beef on the Tuesday, to go to market again on the following Friday." Well, this is just an enthusiastic way of putting the truth, that, by the use of manure in the liquid form, vegetable and animal growth may be more immediately connected than they hitherto have been. Lord Palmerston's definition of dirt—a thing in its wrong place—applies most exactly to this subject. The very atoms present in the manure, swept out of any cattle stall this 7th day of August, will, in the majority of instances, remain in the dung-heap—if, indeed, they do not escape into the air—until the spring of 1853; they will then be built up in the structure of a Turnip plant, to be consumed during the winter of 1853-4, and taken to market in the shape of beef or mutton nearly two years hence. They *might* be applied by irrigation a few days hence to a growing crop of Italian Rye-grass, to be cut a few weeks hence, given to a half-fat ox or sheep, and taken to market as meat in the course of a couple of months. Mr. Mechi's statement is not so extravagant as it seems; and there can be little doubt that it is by the shortening of the intervals in this way between outlay and return that agricultural profits are to be maintained.

Whether the process by which the acceleration of returns in this particular case has hitherto been cheap enough to yield a profit is another consideration. That it will ultimately be made so we have little doubt; and in the meantime those who are risking their property in the first attempts to solve so important a problem deserve the best thanks of the farmer.

ROYAL AGRICULTURAL COLLEGE.

SESSIONAL EXAMINATION IN CHEMISTRY.

(*Concluded from page 490.*)

No. 11. Around the germ of Barley diastase is formed; its composition has not been chemically ascertained any more than that it contains nitrogen, and acts as a ferment. This is inferred from Barley giving out ammonia at one stage of its change. This substance acts upon the starchy matters of the seed, converting them into sugar. Upon these facts the process called malting depends. Malt then differs from Barley in containing less starch and more sugar.

12. The trials made in the feeding of animals with Barley and malt have as yet been in direct opposition to science, so to speak. Animals have not, as a rule, done so well; this might arise, not from the superiority of the one over the other, but from the manner in which such experiments as have yet been known have been conducted. The kind of animal, the prejudice of the experimenter, and a hundred other circumstances, would tend to alter the result. Barley contains starch chiefly; this, before it can be converted into fat, requires that it be made into sugar. This requires the action of the stomach, and which, should it not be in a fit state for bringing about such a result, might not appropriate as much as it would do had the Barley been given as malt. In feeding on malt, we have the starch, most of it, converted into sugar; this, then, only requires a slight amount of action of the stomach and digestive apparatus to assimilate it and produce fat. Apart from these considerations, it must be remembered that malt loses 8 per cent. of its weight, and costs some 2*s.* 3*d.* to 2*s.* 6*d.* a quarter to convert Barley into malt. It may therefore be determined, that as yet the relative feeding properties of the two have not been fairly tested, and that it stands to reason that giving malt along with other food rich in sugar, such as Mangold Wurzels, the sugar existing in excess would not be appropriated, and thereby the beneficial action of the malt would not be developed. For Barley, it is considered that soaking in water for 24 hours assists its feeding action.

13. The inorganic matters found in plants are the following: potash, soda, silicic acid, lime, sulphuric acid, manganese occurs in bark of trees, carbonic acid, iron, chlorine, phosphoric acid.

14. Any soil containing more than 50 per cent. of alumina is called a clay. They are tenacious, cold, and wet, naturally and usually unfertile; but by improvements yield a continuous return of considerable value, and possess a less tendency to exhaustion than any other kind of soil. The other general characters will be touched upon in speaking of the improvements, which are the following—draining, subsoiling, burning, liming, mixing, ploughing, rough digging, fallowing, and long dung. Draining stands first: this arises from the natural character of the soil; it is stiff, impervious, and possessed of great powers of retaining moisture. By draining, the excess of moisture which naturally accumulates in the subsoil is drawn away, and the air naturally follows the water; cracks and fissures are formed, the carbonic acid of the water and air, its oxygen, and all climatal influences are thus brought into play. The soil is thus rendered friable, its chemical constituents become altered and broken down, forming new compounds serviceable for plants; their roots strike deeper into the soil in search of food, and fertility is brought about and developed. Sometimes, too, matters of a deleterious character are removed by the drains, and the clay, by having its water removed, has a greater tendency to absorb gases. Subsoiling is beneficially had recourse to where the subsoil differs in character to the clay, and, even if not, does good by causing an extra amount of exposure of the soil to the atmospheric influences. Burning acts by altering the physical character of the clay by liberating potash and causing a tendency to greater absorption of ammonia. Liming alters the soil physically, and assists after burning in liberating the potash. Mixing may create a physical change, and at the same time the substance applied may itself possess substances useful as food for plants. Ploughing acts by exposing the soil to the atmospheric influences, rough digging similarly; fallowing, in an extended degree, by both; it also destroys weeds, insects, &c. Long dung renders clay porous, admits air, frost, &c., into clay soils.

15. Paring and burning are attended by good results when combinations of potash exist in the soil, as with silica, &c., where organic matters are in excess, as peaty soil, when they alter its physical character; and when the soil is especially foul and overrun by insects. If the soil be a light sand instead of clay, if it be clean, if a soil does not require any physical change so as to lighten it, if no potash combinations occur, if it be deficient in vegetable matter, then burning and paring are not good.

16. Farm-yard manure, by keeping, putrifies; sulphate of ammonia and ammonia are driven off; potash is carried away by the drainage, which is generally imperfect; the organic matter is reduced; carbonic acid and phosphuretted hydrogen are given off, and the mineral matter is more concentrated. It was considered by Liebig that well rotted manure owed its extra fertilising effects to this excess of mineral matters—a matter doubted by some. The remaining matters are more soluble.

17. The principle ought to be to keep in all fertilising substances, to procure the manure in the most concentrated form (unless required for clay, or where a mechanical action is required), and as free of water as possible, and allow fermentation to go on as regularly as possible, and by compression to exclude the air. By box-feeding, compression, exclusion of the air, keeping out rain, keeping up regular fermentation, prevention of sweeping winds, no loss by liquid matters flowing away of alkalies, &c., and a more intimate mixture of the dung and urine with the straw takes place. When the manure is produced, the heap should be made large—wide at the base and narrow at the top; it should be compressed, drainage furnished at the base, the liquid collected in a tank, and either used as such or again pumped up over the heap. The preserving of ammonia will be touched upon in the next question.

18. Common methods of retaining ammonia:—1st, Road-scrapings, charcoal, clay burnt, clay unburnt, sawdust, and peat soil. These act by their powers of absorbing ammonia, by keeping out rain and air, and keeping up regular fermentation. 2d, Sulphate of iron, sulphate of magnesia, sulphate of lime, chloride of sodium.—Sulphate of iron acts as a fixer by free sulphate of ammonia, and as a deodoriser by forming sulphuret of iron with the sulphuretted hydrogen given off. Sulphate of magnesia acts by forming a double salt of magnesia and ammonia, and by uniting with phosphoric acid. Sulphate of lime is considered to form sulphate of ammonia and carbonate of lime. It only does this when soluble, to which state it is not easily reduced, and reverts again to carbonate of ammonia and sulphate of lime. When dried, its action is doubtful as a fixer of ammonia; it may unite with the phosphoric acid. Chloride of sodium acts by stopping fermentation. Acid fixers—sulphuric and muriatic acids—act by entering into combination with ammonia; the latter, as it may be procured cheap near soda manufactories, is the cheapest, and quite as effectual.

19. Artificial manures owe their fertilising effects to ammonia which they contain, and to phosphoric acid and potash. The value, of course, depends upon the quantity of these matters they contain; they possess little physical action.

20. Peruvian guano adulterations used are sand, loam, quicklime, and gypsum. To detect the first, burn and dissolve in muriatic acid; if more than 1 per cent. of silica remain sand has been used. For the loam: if the ash is coloured red, loam has been used. For quicklime: after dissolving the ash in muriatic acid, separate silica and precipitate alumina and iron, should it be present; to the filtrate add oxalate of ammonia; if more than a trace of lime is precipitated, lime has been used to adulterate. Gypsum may be indirectly detected by a precipitate of chloride of barium. *E. L. Fell.*

STATE OF THE CROPS, JULY 29, 1852.

[The following Returns are in reply to a Circular asking for Appearance of the Crops in the neighbourhood to which it was sent.]

COUNTIES.	WHEAT.	BARLEY.	OATS.	BEANS.	PEAS.	GREEN CROPS	POTATOES.	HARVEST TIME.	NAME AND ADDRESS.
SCOTLAND.									
...OSS	Fair average	Short and light	Very short and light	.....	.....	Good—hay failed	Healthy	End of Aug.	Thomas P. Dode, Dingwall [Ross
...VERNESS	Over average	Excellent	Fair	Short	Good	Very promising	Some blanks	Middle of Aug.	Ken. Murray, Lockshin, East
...BERDEEN	Good	Average	Light	Average	Light	Very promising	Very promising	End of Aug.	J. Mackenzie, M.D., Edenach
...DRAY	.....	Average	Good	.....	.....	Very luxuriant	Good & healthy	End of Aug.	J. Macdonald, Huntley
	Average	Full average	Average	.....	.....	Very promising	Very fine	End of Aug.	J. Hamilton, Forres
	Generally light	Fine crop	Fine crop	.....	.....	Very good	Healthy as yet	Near Sept.	S. Grigor, Forres
...RTH	About average	Unequal	Full average	.....	.....	Very luxuriant	Promising	End of Aug.	A. Robertson, Elgin
	Full average	Good crop	Various—good	Improving	Improving	Looking well	Improved lately	End of Aug.	P. Edie, Abernyth (Strathearn)
	Full crop	Full crop	Full crop	Promising	Promising	Good	Good	End of Aug.	D. Todd, Perth [Gowrie
	Very well	Good	Fair crop	Bulky	Bulky	Very good	Look well	Middle of Aug.	C. Playfair, Errol—Carse of
...ORFAR	Most splendid	Fair	Fine	Moderate	.....	Fine	No disease as yet	End of Aug.	A. Bell, Ferryden, Montrose
	Excellent	Very fine	Good	Good	Good	Excellent	Very fine	Beginning Sept.	D. D. Black, Brechin
	Very full	Very full	Generally good	Excellent	Excellent	Very promising	Excellent	Early	R. Colvill, by Chance Inn
	Over average	Over average	Good	.....	.....	Excellent	Disease in garden	Middle of Aug.	R. Findlay, Kirriemuir
...IRLING	Much over average	Over average	Over average	Average	Average	Fine	Good and sound	Aug. 23.	R. M'Naughton, Stirling
	Good	Over average	Under average	Partly blighted	.....	Good and improving	Not generally good	Aug. 23	——, Carse
...FE	Over average	Over average	Average	Good	Good	Excellent	Good	Aug. 20	R. Russell, Kilwhiss, Cupar
	Over average	Very bulky	Under average	Average	Full average	Very forward	Sound as yet	Aug. 20	J. Baxton, Drumrod
	Above average	Full average	Average	Average	.....	Very fine	Fine	Middle of Aug.	W. Veitch, Kingborn
	Much over average	Full average	Average	About average	.....	Promising	Symptoms of disease	Sept. 1	J. Barclay, Randerstown
	Splendid	Average	Average	Average	Average	Luxuriant	Strong & healthy as yet	Aug. 25	D. Tennant, St. Andrew's
...ENFREW	Full average	Full average	Good average	Average	.....	Looking well	Doubtful	End of Aug.	G. Boyd, Renfrew
...NARK	Full crop (lodged)	Average	Full average	Good	Good	Luxuriant	Disease showing	Middle of Aug.	D. Gairdner, Hamilton
...D-LOTHIAN	Good	Good	Good	Fair	.....	Very promising	Various	Beginning Sept	J. Finnie, Swanston [trict)
	.....	.....	Excellent	.....	.....	Very luxuriant	Healthy & strong	Beginning Sept	L. A. Haing, Stow (Hill dis-
	Full crop	Never bulkier	Full average	Tall—thin-podded	.....	Very promising	Disease in garden	Aug. 20	J. Melvin, Ratho
...ST LOTHIAN	Over average	Over average	Average	Average	.....	Good	Good	Middle of Aug.	J. Brodie, Abbey Mains
	Over average	Much over average	Average	Average	.....	Turnips fine	Various	Middle of Aug.	G. Hope, Fenton Barns
...R	Sound and over average	.....	Very promising	Average	.....	Early and abundant	Good and sound as yet	Aug. 20	A. Ralston, Dunduff
	Abundant—well set	.....	Deficient	Full crop (blight)	.....	Abundant, leafy	Full crop	Aug. 20	J. Dykes, Kilmarnock
...LKIRK	Full average	Full average	Full average	.....	Look well	Promising	Good	Sept. 1	J. Stalker, Galashiels
...RWICK	Average	Over average	Average	Average	Average	Over average	Good; symptoms of disease	End of Aug.	G. Logan, Greenlaw
	Over average	Over average (lodged)	Over average	Average	.....	Very forward	Symptoms of disease	3d week in Aug.	J. Wilson, Ayton
	Over average	Full average	Average	Bulky; over average	Bulky	Average	Average	End of Aug.	T. Hood, Cockburnspath [high)
	.....	.....	Very promising	.....	Good	Very forward	No disease as yet	End of Aug.	A. T. Wilson, Dunse (800 feet
...XBURGH	Good	Very good	Average	Good	Good	Good	Average	Aug. 20	P. Brodie, Clavilaw, Selkirk
	.....	Full average	Over average	.....	.....	Very good	No disease as yet	Beginning Sept.	J. Grieve, Hawick
	Over average	Over average	Full average	Over average	Above average	Above average	Slightly diseased	Aug. 23	J. Thomson, St. Boswell's
	Full average	Full average	Average	Average	Average	Good	Slightly diseased	End of Aug.	J. Scott, Melrose
...MFRIES	Very great crop	Very great crop	Very great crop	Very good	.....	Very good (Anbury)	Instances of taint	End of Aug.	W. Thomson, Dumfries
	.....	Good	Very good	.....	.....	Very good	Good	End of Aug.	J. Little, Langholm
	Average	Over average	Full average	.....	.....	Good & forward	Healthy	End of Aug.	Alex. Jardine, Mouswald
...IGTON	Fair average	.....	Good average	Average	.....		Rumours of disease	Aug. 20	A. H. M'Lean, Stranraer
	Excellent crop	.....	Very fine	Bulky & healthy	.....	Most luxuriant	Looking well	Aug. 20	J. Gibson, Glenluce
	Full average	.....	Over average	Good average	.....	Full average (Anbury)	Disease appearing	Beginning Sept.	E. Davidson, Auchnese
ENGLAND.									
...ORTHUMBERLAND	Capital	Exceedingly good	Fair	Generally good	Good	Backward	Good & healthy	September	W. Glover, Newcastle
	Full average	Great	Full average	Bulky—blighted	Moderate	Promising	Good	End of Aug.	J. Grey, Dilston
	Very good	Large crop	Heavy crop	Thin—improved	.....	Promising	Indication of disease	End of Aug.	——, Alnwick
...MBERLAND	Splendid	Very good	Excellent	Good	Good	Very good	Very good	2d week in Sept.	M. Kimbley, Keswick
	Remarkably good	Very good	Very good	.....	.....	Capital	Signs of disease	End of Aug.	T. Wilson, Penrith
	Very excellent	Very heavy	Very heavy	.....	.....	Various	Very great	End of Aug.	S. Rigg, Abbey-house
...STMORELAND	Very good	Very heavy	Average	.....	.....	Superior	Promising	Aug. 25	J. Crossly, Kirkby Thore
	Very good	Average	Good	.....	.....	Very good	Good	Middle of Aug.	J. Robinson, Warcop
	Over average	Over average	Over average	Over average	.....	Good	Diseased	Aug. 26	W. Turner, Kendal
	Very good	Very good	Very good	Promising	.....	Very good	Diseased in garden	1st week in Sept.	W. Key, Kirby Lonsdale
...RHAM	Very good	Good	Various	Promising	Good	Good	Promising	End of Aug.	G. Bell, Durham
	Over average	Very good	Very good	Very good	Very good	Very good	Very good	End of Aug.	R. B. Dixon, Darlington
	Over average	Average	Average	.....	Good	Very good	Blight appearing	End of Aug.	T. Howard, Leyburn
...RKSHIRE	Very good	Fair (lodged)	Light	Under average	.....	Promising	Healthy as yet	Middle of Aug.	M. M. Milburn, Thirsk
	Most promising	Good	Good	Exceeds last year	Good	Good	As yet healthy	Middle of Aug.	H. Briggs, Wakefield
	Full average	Average	Under average	Average	Average	Very promising	Full average	Aug 20.	R. J. Turner, Richmond
	Good	Good	Fair	Injured by hail	.....	Very promising	Promising	Middle of Aug.	P. Stevenson, Rainton
	Full average	Not average	Average	Average	.....	Most promising	Healthy	Middle of Aug.	F. W. Tyas, Doncaster
	Splendid, except where blighted	Average	Good	Good	Good	Excellent	Good hitherto	Middle of Aug.	J. Oldroyd, Barnsley
	Very good	Good	Very good	Not good	.....	Never better	Various	Middle of Aug.	F. Twining, Wigan
...NCASHIRE	Much over average	.....	Good	Good	.....	Excellent	Various	Aug. 20	E. Evans, Wigan
	Good	Very good	Good	.....	.....	Very good	Good	Middle of Aug.	G. Drewry, Holker
	Excellent	.....	Abundant	Excellent	.....	Good	Sound	Aug. 20	M. Saul, Garstang
...ESHIRE	Very promising	Good	Very good	.....	.....	Late and poor	Disease showing	End of Aug.	H. Tipping, Warrington
	Average	Quite average	Various	.....	.....	Very promising	Symptoms of disease	Middle of Aug.	W. Pann, Tarvin
	Excellent	Average	Good	.....	.....	Luxuriant	Signs of disease	Middle of Aug.	R. Owen, Tarporley
...RBY	Far over average	Over average	Excellent	.....	.....	Over average	First-rate	Middle of Aug.	A. J. Bernays, Derby
...TTS	Thin—good ear	Average	Not good	Not good	Not good	Promising	Promising	Aug. 5	J. Buckley, Normanton-hill
	Average	Good	Very good	Very poor	Various	Promising	Splendid	Aug. 10	J. Young, Newark
...NCOLN	Average—blight	Not average	Various	Good	Various	Most luxuriant	Diseased	Middle of Aug.	W. B. Wingate, Spilsby
	Extra good	Extra good	Good	Indifferent	Indifferent	Good	Look well	Aug. 20	J. Willerton, Scamblesby
	Over average	.....	Average	Under average	Average	Average	Good	Middle of Aug.	J. A. Clarke, Long Sutton
	Very good	Good	Good	Not very well	Very moderate	Very good	Promising	End of Aug.	T. Pickett, Scamblesby
	Good	Average	Under average	Average	.....	Good	Look well	Aug. 12	F. Sowerby, Aylesbury
	Bulky—partly mildewed	.....	Very light	.....	Fair	Various	Disease increasing	Aug. 12	T. Aitken, Deeping Fen
	Good average	Good average	Full average	Blighted	No complaint	Very good	Never diseased	Aug. 12	E. Bowen, Ludlow [country
...ROPSHIRE	Very good	Very heavy	Various	Various	Light	Full average	Very good	Beginning Aug	A Traveller through the
	Very good	Good	.....	Good	Good	Good	Good	Beginning Aug.	J. Powell, Shiffnall
	As good as can be	Good	Good	Bad	Too bulky	Very good	Disease showing	Beginning Aug.	——, Gonsal
	Good	Average	Average	Very bad	Average	Healthy	Good	Aug. 16	R. Davis, Little Wenlock
	Average	Under average	Average	.....	.....	Very promising	Disease in places	Middle of Aug.	W. Minor, Market Drayton
...FFORDSHIRE	Very good	Good	Various	.....	.....	Good	Very good	End of Aug.	J. Johnson, Tunstall
	Very good	Good	Very good	Fair	Good	Promising	Various	Aug. 16	J. Aston, Ashley, N. Stafford.
	Good	.....	Good	.....	.....	Good	Little disease	End of Aug.	E. Cole, Tarnhurst
...ICESTERSHIRE	Very good (lodged,	Not very good	Not very good	Partly blighted	Pretty good	Very good	Very good	Middle of Aug.	Thos. Spencer, Knossington
	Over average	Average	Average	Much under average	Under average	Very promising	Average	Aug. 10	G. Townshend, Hinckley
	Very fine	Generally good	Average	Very good	Average	Very fine	No disease	Middle of Aug.	J. H. Stallard, Leicester
...TLAND	Good	Good	Good	Blighted	Good	Good	Good	Aug. 20	W. Fancourt, Empingham
...REFORD	Good	Good	.....	Short	Average	Good	Slightly blighted	Middle of Aug.	J. Mathews, Blakemore
...ORCESTER	Very good	Good	Good	Very indifferent	Bad	Turnip good	Partly diseased	1st week in Aug	F. Woodward, J.P., Pershore
	Fine	Good	Fair	Good	Partial	Promising	Many diseased	Aug. 9	R. Smith, Droitwich
	Very heavy (lodged)	Heavy—poor quality	Full crop	Various	Various	Good	Diseased	1st week in Aug	——, Doddenham
	Remarkably fine	Excellent	Very promising	Indifferent	Indifferent	Good	Very much blighted	2d week in Aug.	H. Hudson, Wick, Pershore

STATE OF THE CROPS—*continued.*

COUNTIES.	WHEAT.	BARLEY.	OATS.	BEANS.	PEAS.	GREEN CROPS	POTATOES.	HARVEST TIME.	NAME AND ADDRESS.
ENGLAND.									
WARWICKSHIRE	Good	Good	Good	Doubtful	Not good	Good plant	Partly diseased	Aug. 10	J. H. Burbery, Kenilworth
	Average	Average	Average	Very poor	Two-thirds aver.	Generally good	Promising	Aug. 9	W. Gibbs, Stratford-on-Avon
	Very good (lodged)	Light	Light	Very poor	Very poor	Late and irregular	Diseased badly	Aug. 12	W. Aitcheson, Berkeswell
	Scarcely any	Good	Good	Average	Average	Good	Partly blighted	Aug. 2	J. Burbury, Wootton Grange
NORTHAMPTON.....	Fine	Heavy	Light in the fens	Not average	Average	Healthy	Tolerably healthy	1st or 2d week in Aug.	J. Whitwell, Peterborough
	Abundant	Good	Under average	Very deficient	Over average	Very promising	Disease appearing	Middle of Aug.	P. Love, Naseby
	Very good	Good	Good	Partial crop	Good	Very good	Good crop	Aug. 10	W. Gray, Courteen-hall
HUNTINGDON	Very fine	Very fine	Fine	Various	Very good	Decidedly good	Not much diseased	Aug. 9	P. Purves, Brampton
	Over average	Over average	Under average	Ud or average	Not average	Very good	Diseased in places	Aug. 10	R. Beart, Godmanchester
CAMBRIDGE.....	Good	Good	Not good	Middling	.....	Good	Partly diseased	Aug. 10	J. Fryer, Isle of Ely
	Good (lodged)	Average	Various	Average	.....	Never better	Average	Middle of Aug.	A. S. Ruston, Chatteris
	Average (mildewed)	Good	Good	Not average	Average	Good	Disease appearing	Aug. 8	Page Howard, Granchester
NORFOLK	Promising	Heavy	Good	.....	Partly good	Never better	Going	Aug. 25	W. Cubitt, North Walsham
	Good	Good	Various	Very bad	Middling	Promising	Generally diseased	Aug. 22	T. Brown, Downham
	Very good	Generally good	Very promising	.....	Promising	Never better	Looking well	Aug. 11	Jos. J. Hill, Briston
SUFFOLK	Rather under average	Various	Under average	Very bad	Average	Very good	Going	Aug. 9	R. Garrett, Leiston
MONMOUTH	Over average	Various	.....	Failure	Fine	Promising	Going rapidly	July 30	Thos. Dyke, Monmouth
	Average	Average	Tolerably good	Failure	Good	Very promising	Diseased in garden	Middle of Aug.	J. Scales, Ragland
	Fair average	Full crop	Various	.....	.....	Very promising	Worse than last year	Aug. 12	G. R. Greenhow Relph, Uske
	Never better	Very good	Very good	.....	Fair	Various	Early sorts diseased	Middle of Aug.	W. H. Little, Llanvain Grang[Marsh
GLOUCESTER	Too bulky	Very good	Very good	Not half a crop	Fine	Good	Going	Beginning Aug.	R. Beman, Moreton-in-the
	Excellent	Uneven	Average	Various	Abundant	Average	Generally good	Aug. 10	J. F. Peacey, Winchcomb
	Promising	Various	Fair	Various	Average	Generally good	Good	Aug. 9	S. Taylor, Gloucester
	Good crop	Good	Good	Winter sort blighted	Under average	Very good	Going	Middle of Aug.	F. Kearsey, Tarlton
	Much straw	Good	Generally good	Half a crop	Much blighted	Very little	Uncertain	Aug. 9	R. Vallentine, Cirencester
	Good	Average	Average	Bad	Middling	Good	Diseased	Aug. 10	John Hunt, Almondsbury
	Blighted in places	Good	Good	Much blighted	Very good	Good	Much diseased	Aug. 9.	A. Tuckett, Liston
OXFORDSHIRE	Promising	Good	Good	Partially blighted	Fair	Average	Disease appearing	Beginning Aug.	S. Collier, Witney
BUCKS	Abundant	Very good	.....	Much blighted	Promising	Luxuriant	Healthy	Aug. 9	W. G. Duncan, Bradwell
	Over average	Average	Average	Partly blighted	Average	Irregular	Partly diseased	Middle of Aug.	Alex. Fraser, Claydon
BEDFORD	Over average	Heavy crop	Very good	Various	Good	Good	Diseased in places	Beginning Aug.	Thomas Bennett, Woburn
	Not average	Bulky—inferior	Very good	Bad	Bad	Good	Blighted	Aug. 6	W. Lavander, Biddenham
HERTFORDSHIRE ...	Very good	Very good	Very good	Bad	.....	Very good	.....	Middle of Aug.	J. B. Lawes, Rothamsted
	Over average	Over average	Over average	All blighted	Indifferent	Very fine	Diseased	Middle of Aug.	C. F. Humbert, Watford
	Full average	Abundant	Very good	Bad	Very moderate	Looking well	Not good	Middle of Aug.	——, St. Alban's
ESSEX	Portion blighted	Good	Good	Partial	Indifferent	Good	Partly blighted	Aug. 4	W. Fisher Hobbs, Colchester
	Good	Very good	Heavy	Bad	Indifferent	Good	Some diseased	.....	R. Baker, Writtle
	Abundant	Full average	Good	Not average	Middling	Good	Some diseased	Aug. 7	J. J. Mechi, Kelvedon
	Good	Very good	Average	Various	Average	Average	Very bad	Aug. 5	S. Malpas, Harwich
	Full average	Full average	Full average	Defective	Generally good	Very good	Partly blighted	Aug. 9	A. Barfield, Dunmow
	Good	Good	Good	Blighted	Blighted	Indifferent	Short crop	Aug. 12	C. Hall, near Romford
SOMERSET	Short—various	Good—late	Good—late	Sadly blighted	.....	Various	Much diseased	Late	H. Cottrell, Congresbury
	Very good	Good	Good	Blighted	Not average	Late, but fair	Diseased	Aug. 9	R. S. Graburn, Glastonbury
	Very good	Good	Very good	Blighted	Blighted	Fair	Much diseased	End of Aug.	C. P. Collyer, Dulverton
WILTS	Good (lodged)	Good (lodged)	Good (lodged)	Not average	Average	Good	Diseased	Middle of Aug.	George Brown, Marlborough
	Good	Good	Fair	Various	Middling	Abundant	Very bad	Aug. 10	J. Spencer, Bowood
	Good average	Uneven	Good	Various	Bulky—blighted	Promising	Partly diseased	Aug. 9	T. Arkell, Swindon
	Partially good	Partially good	Good	Much blighted	Good	Good	A general blight	Aug. 1	G. R. Hulbert, Bradford
BERKS.....	Over average	Over average	Over average	Under average	Average	Progressing	Much blighted	Aug. 9	John Adnams, Thatcham
	Full average	Under average	Good	Various	.....	Promising	Fine crop	Aug. 12	E. W. Moore, Coleshill
	Large crop—blight	Good	Good	Nearly average	Good	Good	Blighted	Aug. 6	J. Williams, Abingdon
MIDDLESEX	Good (lodged)	Good	Good	Not good	Much blighted	Good	Diseased in places	Aug. 12	——, near Uxbridge
SURREY	Over average	Never better	Good	Generally blighted	Good	Good	Blight showing	Aug. 6	J. M. Paine, Farnham
	Average	Good	Very good	Mean	Deficient	Various	Good	Middle of Aug.	J. Smeed, Margate
KENT	Rather below average	Quite average	Average	Under average	Not half a crop	Pretty good	Disease showing	Middle of Aug.	M. Sandford, Dover
	Below average	Over average	Very good	Much blighted	Under average	Average	Diseased	1st week in Aug.	R. Matson, Wingham
SUSSEX	Over average	Average	Over average	Very poor	Very poor	Various	Partly blighted	Middle of Aug.	J. Brotherston, Robertsbridge
	Good average	Good	Very good	Failure	Indifferent	Very promising	Sligh ly blighted	Beginning Aug.	(I. E. Sadler, Chichester
HAMPSHIRE	Good—blight	Heavy (lodged)	Good	Indifferent	Under average	Promising	Not diseased yet	Beginning Aug.	J. T. Twynam, Stockbridge
	Average	Average	Partial	Much blighted	Average	Various	Disease showing	Middle of Aug.	J. W. Clark, Romsey
	Good average	Average	Average	Very bad	Average	Not good	All diseased	1st week in Aug.	J. Eames, Lymington
	Good	Good	Good	Various	Partly blight	Promising	Diseased	1st week in Aug.	W. C. Spooner, Southampton
	Superior	Good	Good	Injured	Various	Promising	Diseased	Aug. 4	S. Cheetham, Totton
	Good (lodged)	Good	Good	Much injured	Average	Average	Diseased	Aug. 9	H. Raynbird, Andover Road
DORSET	Over average	Over average	Over average	Deficient	Deficient	Promising	Partly diseased	Aug. 2	J. Blundell, Bursledon
	Average	Over average	Good	.....	Bad	Good	All diseased	Aug. 12	W. Voss, Corfe Castle
	Good	Good	Good	Good	Good	Very good	Much diseased	Aug. 4	G. Singer, Dorchester
DEVON.....	Good—blight	Good	Good	Partial	Partial	Good	Diseased	Aug. 15	John Furmedge, Beaminster
	Thin but good	Heavy	Thin—good	Blighted	.....	Good	Partly diseased	Beginning Aug.	G. Langdon, Barnstaple
	Most promising	Promising	Promising	Blighted	.....	Late—good	Diseased	... ..	G. W. Fowler, Dartmoor
	Full average	Very good	Fair average	Bad crop	Under average	Very promising	Diseased	Aug. 2	G. Turner, Exeter
	Fair average	Good	Very good	Blighted	.....	Uncertain	Much blighted	Middle of Aug.	Thos. Michelmore, Totnes
	Over average	Average	.....	.....	.....	Promising	Much blighted	Middle of Aug.	S. Cornish, Kingsbridge
	Good	Fair	Unequal	.....	.....	Deficient	Much blighted	Aug. 9	John Benson, Tavistock
CORNWALL	Good	Good	Good	Poor	.....	Backward	Much blighted	Middle of Aug.	J. Wills, Launceston
	Full average	Not so good	Very good	.....	.....	Not forward	Diseased	Middle of Aug.	W. F. Karkeek, Truro
	Full average	Over average	Average	.....	.....	Very promising	Diseased	Aug. 9	John Michell, Feock
WALES.									
CAERNARVON.....	Good	Good	Good	Good	Good	Good	Good & healthy	End of Aug.	John Williams, Conway
DENBIGH	About average (lodged)	Average	Average	.....	.....	Fair	Good as yet	Middle of Aug.	E. H. Griffiths, Plasnewydd
	Full crop	Full crop	Light	Poor	Full crop	Very good	Very good	Middle of Aug.	John Girdwood, Chirk
CARMARTHEN.....	Very good	Very good	Very good	.....	Very fine	Various	Slightly blighted	Middle of Aug.	John Burnell, Llanelly
	Excellent	Excellent	Good	Blighted	.....	Promising	Disease appearing	Middle of Aug.	T. W. Lawford, Llandilo
IRELAND.									
DONEGAL	.....	Good	Good	Partially blighted	.....	Looking well	Blight increasing	Sept. 1	Thos. T. Atkinson, Ballyshannon
	Good	Fine & forward	Very fine	.....	.....	Very good	Blight showing	.....	H. T. Sinclair, Lifford
	Looks well	Generally good	Good	Looks well	Good	Generally good	Blighted generally	Last week in Aug	John O'Donnell, Ballyshannon
	Average crop	.....	Abundant	Good	.....	Backward	Abundant, but blighted	Aug. 12	Charles Boyce, Stranorlan
LONDONDERRY	Very fine	Very good	Very good	Good	.....	Never finer	Appearance of disease	Aug. 20	Samuel Orr, Coleraine
	Looks well	Average	Splendid	.....	.....	Very good	Never looked better	Middle of Sept.	James J. Clark, Maghera
	Good	Good	Good	Average	Fair	Good	Very good	In 14 days	John Moore, Newton
	Good	Average	Very fine	.....	.....	Looks well	Fine—blighted	Sept. 1	Charles Pollock, Magherafelt
ANTRIM	.....	.....	Very good	Good	Promising	Excellent	Leaves diseased	Sept. 1	John Burniston, Randalstown
	.....	Very good	Over average	.....	.....	Good	Partially diseased	1st week in Sept.	John Lamb, Devis View
	Average	Very good	Over average	Good	.....	Looking well	Fine—blighted	1st week in Sept.	Archibald M'Kinlay, Bush Mills
	Good	.....	Excellent	.....	.....	Looking well	Diseased	End of Aug.	R. Rolls, Haughton, Lisburn
TYRONE	Good	Good	Good	Good	Good	Very good	Excellent	End of Aug.	W. Paterson, Newton Stewart
	Good	.....	.....	.....	.....	Good	Blighted	.....	James Knox, Strabane [town
	Looks well	.....	Very good	.....	.....	Healthy	Abundant	Last week in Aug	W.E. Atwell, Rectory, Stewarts-
	Good	Good	Generally good	Average	Various	Average	Diseased	End of Aug.	Robert Finch, Stewartstown
FERMANAGH	Looks well	.....	Good	.....	.....	Very good	Look well	1st week in Sept	James Buchanan, Ornagh
	.....	.....	Fine	.....	.....	Very good	Appearance of blight	Not till late	John Patterson, Clemoss
	Looks well	Very good	Most abundant	Slightly blighted	Very good	Most excellent	Blight appearing	Middle of Aug.	Andrew Mair, Linaskea

STATE OF THE CROPS—*continued.*

COUNTIES.	WHEAT.	BARLEY.	OATS.	BEANS.	PEAS.	GREEN CROPS	POTATOES.	HARVEST TIME.	NAME AND ADDRESS.
IRELAND.									
MONAGHAN	.....	.....	Luxuriant	.....	.....	Promising	Blighted	.....	Geo. B. Coulter, Castleblayney
	.....	.....	Excellent	Good	.....	Late	Much diseased	.....	James Marrow, Ballibay
ARMAGH	Good	Good	Good	.....	.....	Good, but late	Very doubtful	Aug. 20	W. Boyd Cavanacan
	Good	.....	Good	.....	.....	Looking well	A fair crop	About Aug. 26	R. B. Hardy, Tanderagee
DOWN	Average	Average	Good	Good	Average	Promising	Diseased	Sept. 1	Robert M'Cleery, Portaferry
	Very good	Good	Excellent	.....	.....	Very good	Diseased	1st week in Sept.	W. E. Boyd, Dromara
	Looks well	.....	Over average	Under average	Fair	Good	Blighted	End of Aug.	Robert M'Donnell, Clantagh
	Average	.....	Looks well	Average	.....	Late	Blighted	1st week in Sept.	John M'Kee, Comber
	Promising	.....	Over average	Promising	.....	Good, but late	Blighting rapidly	Late	John Andrews, Comber
	Average	Good	Good	Good	Fair	Prosperous	Failure	Sept. 1	Thomas Gracey, Portaferry
	Average	Good	Average	Average	.....	Under average	Diseased	2d week in Sept.	Rev. S. Simms, Loughbridge
MAYO	Good	Good	Excellent	.....	.....	Pretty fair	Very good	End of Aug.	W. B. Stoney, Clk., Castlebar
	Fair	Good	Excellent	.....	.....	Fair	Blight appearing	Sept.	George Hitcham, Westpoint
	Indifferent	Looks bad	Average	.....	.....	Very good	Diseased	Sept. 1	A. S. Perkins, Killala
	.....	.....	Good	.....	.....	Good	Good	Middle of Sept.	James Knott, Battlefield
LEITRIM	.....	.....	Promising	.....	.....	Late	Blighted	Middle of Sept.	J. Lindsay, Manor Hamilton
CAVAN	Average	Good	Good	.....	Average	Under average	Bad	1st week in Sept.	Isaiah Gibson, Bailliebore'
	.....	Average	Average	.....	.....	Good	Blighted	About Aug. 25	T. Albert Nesbitt, Killycar
LOUTH	Bad	Good	Good	Good	.....	Very good	Damaged	Middle of Sept.	Wm. M'Culloch, Dundalk
LONGFORD	Various	.....	Promises well	.....	.....	Not good	Diseased	Early in Sept.	T. M. Goodiff, Granard
	.....	.....	Good	.....	.....	Good	Diseased	.....	E. Morgan, Edgeworthstown
ROSCOMMON	.....	.....	Full crop	.....	.....	Late	Diseased	End of Sept.	D. Boyd, Carrick-on-Shannon
WESTMEATH	Good	Good	Very good	.....	.....	Good	Doubtful	End of Aug.	George Bagnell, Drummond
	Good	Good	Good	.....	Good	Good	Blight appearing	Sept. 1	Robert Bagnell, Tyrrell's Pass
	Good	.....	Over average	Very good	.....	Very good	Diseased	Aug. 20	Walter Newburn, Mullingar
GALWAY	.....	Good	Very good	.....	.....	Very good	Very good	.....	James Ellis, Letterfeach
	Average	Good	Very good	Good	Good	Very good	Partial blight	Aug. 15	R. R. Seymour, Banagher
	Luxuriant	Small breadth	Over average	.....	.....	Doing well	Slight blight	Aug. 25	J. Sheil, jun., Kilbegnet
KING'S COUNTY	Light crop	Pretty good	Very good	.....	.....	Late—good	Blight spreading	Aug.	E. Benley, M.D., Clare
DUBLIN	Full average	Looks well	Never better	Blighted	.....	Excellent	Blighting rapidly	End of Aug.	J. Donaghly, Glasnevin
KILDARE	Promising	Good	Good	.....	.....	Promising	Leaves withering	End of Aug.	Gordon Lamb, Castledermot
CLARE	Good	Good	Very good	.....	.....	Improved	Fast dying	Sept. 5	R. Morray, Midtown Malbey
	Good	Good	Very good	Good	Good	Very promising	Very little blight	End of Aug.	D. J. Wilson, Six-mile-bridge
	Average	Very good	Good	.....	.....	Various	Diseased leaf	Aug. 20	W. Digan, Killaloe
	Average	Good	Good	.....	Fair	Uneven	Blight spreading	Aug. 20	H. Franks, Gortna [Fergus
	Good	Good	Good	Good	.....	Generally good	Diseased	Aug. 25	E. Bennett, Newmarket-on-
TIPPERARY	Remarkably fine	Fair	Very good	.....	.....	Good	Blight spreading	End of Aug.	J. Fennell, Upper Cabir Abbey
	Good	Good	Very good	Good	.....	Generally good	Blight very partial	Aug. 12	W. P. Worrall, Clannee
	Good	Good	Good	.....	Good	Various	Very much blighted	Aug. 21	J. Murphy, Clonmel
	Very good	Very good	Very good	.....	.....	Very promising	Very doubtful	Middle of Aug.	W. Ryall, Cashel
QUEEN'S COUNTY	Good	Good	Very good	.....	Middling	Promising	Showing some blight	Aug. 20	R. Dunne, Stradbally
	Very good	Good	Prime	.....	.....	Average	Showing blight	End of Aug.	Thos. Roe, Coolfion
CARLOW	Partly damaged	Good	Average	Good	.....	Promising	Stalks blighted	Middle of Aug.	P. B. Mosse, Rutland House
	.....	.....	Surpassingly great	.....	.....	Various	Very fine	Late	John De Reuzy, Clonegal
WICKLOW	Average	Fair	Good	Good	Good	Good	Stalks withered	End of Aug.	John Dickson, Tinakelly
	Promising	Very good	Never better	Good	Good	Very good	Disease in places	End of Aug.	John Daly, Enniskerry
WEXFORD	Slightly injured	Very fine	Good	.....	.....	Good	Much injured	Aug. 20	Thomas Rudd, Ferns
	Various	Very good	Very good	.....	Look well	Look well	Partly injured	End of Aug.	John Deane, New Ross
	Slightly injured	Good	Good	Blighted	Rather good	Looking well	Entire crop gone	Middle of Aug.	S. Glasscott, J.P., Carnolin
	Various	Uneven—improved	Various	Inferior	Very fair	Backward	Never worse since 1846.	End of Aug.	E. Carroll, Castlebridge
	Partly injured	Good	Various	.....	.....	Late sown; good	Very badly blighted	Aug. 10	Alex. Preston, Enniscorthy
	Damaged	Good	Average	.....	Tolerable	Very backward	Very much diseased	Aug. 27	G Gordon, Ballycarney
KILKENNY	Very fine	Average	Very good	.....	Good	Promising	Blighted very much	Aug. 30	Dawson A. Milward, Tullogh
	Fair crop	Various	Average	.....	Under average	Average	Much hurt	Aug. 17	M. Murphy, Goresbridge
	Average	Good	Very good	.....	.....	Average	Slightly blighted	Aug. 15	——, Bagnalstown
	Promising	Good	Very good	Good	.....	Good	Partly diseased	Middle of Aug.	W. Somerville, Cas lecomer
	Good	.....	Good	.....	.....	Fair	Stalks blighted	Aug. 15	J. Richardson, Ballyne
	Never better	Never so good	Never better	.....	.....	Very promising	Getting worse	Aug. 15	P Grace, Freshford [wire
LIMERICK	Very good	Very good	Very good	.....	.....	Very good	Getting black	Aug. 20	R. D. Bolton, Massory, Bally-
	.....	Very good	Very good	.....	.....	Very good	Blighting	.....	G. Gubbins, Bruff
WATERFORD	Blighted	Very fine	Very fine	.....	.....	Fair	Blighted July 1	End of Aug.	E. Kennedy, Kilmac Thomas
	Average	Good	Good	Very fine	Good	Promising	Blighted very early	End of Aug.	R. T. Barron, Kilmac Thomas
	Various	Very good	Good	.....	.....	Various	Much blighted	Aug. 16	G. Hill, Cappoquin [Kenmare
KERRY	Good	Very good	Very good	.....	.....	Indifferent	Speckled	Sept. 1	J. O'Sullivan, P.P. and V.G.,
	Good	Very good	Very good	Very good	.....	Abundant	Very good	Aug. 15	J. Creagh, Tarbet
	Pretty well	Pretty good	Very good	.....	.....	Deficient—good	Disease spreading	Middle of Aug.	E. M. Dill, M.D., Killoghlin
CORK	Good	Very good	Very good	.....	.....	Very good	Blighted	End of Aug.	R. Hudson, J.P., Youghal
	Good	Thin	Good	.....	.....	Good	Injured	End of Aug.	T. C. Cole, J.P., Innishannon
	Good	Good	Very good	.....	.....	Good	Diseased	Aug. 25	D. Barclay, Blarney
	Promising	Promising	Very fine	.....	.....	Good	Much blighted	Beginning Sept.	J. Y Kingstoney, Bantry
	Good	Very good	Very good	.....	.....	Very good	Diseased	Aug. 20	D. M'Gallivey, Clonakilty
	Good	Good	Fair	.....	.....	Good	Partly blighted	Sept. 1	S. Piddell, M.D., Kildorrerey
	Good	Good (lodged)	Fine crop	.....	.....	Promising	Everywhere blighted	Sept. 1	D. Clanchy, J.P., Charleville
	Average	Good	Good	.....	.....	Look well	Blighted	Aug. 24	Henry Longfield, Doneraile
	Good	Good	Good	.....	.....	Average	Very much diseased	Aug. 25	F. A. Twinam, Kanturk
	Good	Good	Good	.....	.....	Good	Very much diseased	Aug. 25	Thomas Jenkins, Kinsale

Home Correspondence.

A Word in Season.—I think the author of "A Word in Season" rides his hobby a leetle too fast; according to his statement 1 inch of fresh soil is sufficient to produce five quarters of Wheat, after Wheat, for the land could not have derived much benefit from the diggings between the Wheat—which double-digging, by-the-bye, is not charged for in the statement; and which, at the price of wages here, would eat a big hole in his profits. And does he mean to state that clay exposed to one winter's frost will be in a fit state to grow a good crop the succeeding year? Because I find that where I have fetched up clay in levelling a field, after draining it, at the end of three years, and autumn ploughed, aided by both farm-yard and artificial manure, it is not so good as the other portions of the field by a very long way. Then, again, I am inclined to quarrel with the thin sowing, for this reason; three years ago I drained a field and ploughed it full 3 inches deeper than it had been ploughed before, cleaned it thoroughly, and worked it well, and sowed two pecks per acre, with one of Newington's dibblers; in the spring I kept the cultivator well at work, the end was, that I had a magnificent looking crop of Wheat, the ears as large as three ordinary ones, and the knowing ones calculated the yield at six pecks a stook of 12 sheaves. I was not a little proud of my crop, but the threshing took the conceit out of me, lots of chaff and little corn, so I blamed the sort of Wheat. Next year, not to be beat off my hobby, I tried a kind that yielded well, both on my own farm and those of my neighbours; again I had the finest ears in the parish, and as rank a crop as could stand, and again the threshing told the same tale—plenty of chaff and very little corn. The land is of a fair average kind, rather strong perhaps, but by sowing, either by drill or broadcast, I can manage to grow my five quarters per acre. Now, to a farmer, I don't see the advantage of the system; for horses must be kept, and other crops grown, and, by judicious management, the same quantity per acre grown. The author may be willing to pay 40*s.* per ton for straw, but as I can buy at 25*s.* or 30*s.*, I should not; besides, on most farms straw is not a marketable article, and therefore, I think, ought not to be charged; it must be consumed. And there is not much profit now-a-days in feeding stock; it leaves little enough, after deducting Turnip, cake, and corn, without charging for their bedding; and how much manure does the author of "A Word in Season" make from a ton of straw? In what does the advantage of the system consist? Is it in the trenching? if so, I don't see how that can so materially affect the first crop. If it is in the inch of fresh soil that will not produce five quarters, though a good thing, no doubt; it cannot be in the frosts, because for the last two winters we have not had enough, even in the north, to temper land that was ploughed deep in autumn, let alone double trenching. I have read the book, and still I cannot see the great advantage of it; so I suppose I must sign myself, *Numskull, July* 29.

Liquid Manure: Mr Telfer's farm, near Ayr.—I am very much obliged to Mr. Lee for so kindly replying to my questions about this farm. I am not at all "riled" now at the idea of Mr. Telfer's cows producing 23*l.* odd each per annum to their spirited owner; on the contrary, I am surprised that they do so badly, considering the advantages he has. It is no uncommon thing for a milkman to make 30*l.* a year by his cow. Mr. Lee is very earnest on the subject of liquid manure (and with good reason, for he has seen, and so have I, the wonderful effects of it), but I want something more than a promise, I want proof, that "by adopting the systematic application of liquid manure for the production of Italian Rye-grass and roots," my cows will yield me more than 14*l.* each a year. I am not one of those old-fashioned folks who disbelieve in all new systems; on the contrary, I am rather an experimentalist (for a butterman), but I cannot for the life of me see how all the steam-engines and liquid manure pipes in the universe can get me a better price for my butter than I get without them; for I can perceive nothing in Mr. Lee's account of Mr. Telfer's farm to lead me to suppose that Mr. Telfer's cows would produce more butter than mine, if their milk was all set for butter. I should have no fear in backing my cows against Mr. Telfer's, for the sake of seeing which lot made the most and best butter from a given quantity, or rather from a given value, of food; the butter to be sold in Newgate-market. Mr. Telfer's system answers his purpose very well: he requires a great quantity of milk, and I dare say "the slightest taste in life," of Turnip does not come amiss to the palates of the good housewives of Ayr; but woe betide my unhappy flats of butter if my Newgate-market salesman discovered the least flavour of that very valuable esculent—the Turnip. There is a great objection in my humble opinion to the steam-engine stirring up liquid and solid manures deposited in a tank in the vicinity of cows. The stench that is created by such a proceeding is beyond anything. Cows to produce wholesome milk should never breathe disagreeable smells. I do not know what the flavour of Mr. Telfer's yard is, but I understand the stink of Tiptree-hall the other day, when

the hospitable and enterprising owner of it gave his agreeable party, was such, that the guests could hardly do justice to the viands so liberally and so tastefully set before them. Besides, which is of more consequence, I heard that the unhappy animals on the boards seemed to have a manifest dislike to the flavour which pervaded the air consequent upon the "routing up of the solids and liquids" by this great steam power. *A Bucks Dairy Farmer.*

Artificial Incubators.—In page 478 of the *Gazette*, you ask for the address of the inventor of an egg-hatching apparatus, not Mr. Cantelo's. Joseph Newton, gardener to John Harvey, Esq., Biggleswade, Beds., the author of "Newton's Practical Experience in Breeding Poultry, and Experiments in Artificial Incubation," advertised last week in the *Chronicle*, has invented and improved his apparatus; he has hatched chickens, wild ducks, guinea fowls, turkeys, and likewise small birds. The poultry were shown at Birmingham, 1851. A notice was sent to *Kidd's Own Journal*, June 12, 1852, page 381, to show that his plan of artificial incubation did not change the nature of the fowl for breeding. It is not contact heat, but the tank system, so arranged as to be adapted to horticulture or poultry rearing at one cost, and can be useful for one or the two purposes at one time. It only requires attention once in 10 hours, as the temperature is regulated by a balance thermometer. An apparatus for incubation of 200 eggs will cost only about 8*l*. The apparatus may be seen by a notice to me. *Joseph Newton.*

Review.

An Essay on the Farming of Northamptonshire. By John L. Baker, C.E., Surveyor and Estate Agent. J. B. Nicholls and Son, 25, Parliament-street, London.

We have several county reports lying on our table—to some of which we ought, before this, to have directed the attention of our readers. Among them are essays on the Agriculture of Somersetshire, West Cumberland, and Lincolnshire, presenting probably as much agricultural and geological variety as the whole island furnishes. Fen and wold, mountain pasture, and rich grazing lands, clay and sand and chalk, are among the soils cultivated in these counties—and cheese, butter, corn, and live stock of all breeds are among their produce. The experience of their farmers includes facts numerous enough and various enough to instruct both the practical and the scientific: and we hope hereafter to call attention to some of them. Meanwhile it is to a short and instructive report on the Agriculture of Northampton, a county including, perhaps, less variety of soil and of practice than any of those named above, that we would at present refer.

It presents a geological report of the county, and a statement of the farm practice on each of its geological divisions. Some of the isolated facts of agricultural interest stated in its pages we shall hereafter extract for our columns; the work itself, and especially the useful chapter on the improvements still needed in the county, we can commend to the attention of our readers.

Miscellaneous.

Mr. Mechi's Farm.—The most brilliant and marking event, however, of the week was the annual gathering, held on Wednesday last, at Tiptree-hall, the farm of Mr. Mechi, the great agricultural propagandist, who usefully applies the art of advertisement, acquired at his London warehouse, in disseminating throughout England, and, we may add, throughout Europe and America, the new principles of cultivation exemplified at his Essex farm. A host of celebrities, political and diplomatic, scientific and literary, were assembled to compare the merits of rival reaping-machines, disintegrators, and drills; to admire the rich Wheat-crops waving on soil which, but a few years since, was half water-logged clay, half sandy barren heath; to note the manifest superiority (not only in fatness and physical health, but also in briskness and intelligence) of pigs kept in clean boarded sheds, over their fellow swine, wallowing in filthy sties; and, above all, to contemplate the steam-heart, and the iron arteries, with which, at the suggestion of the sanitary reformers, Mr. Mechi has recently completed what may now be called the circulating system of his farm. No one, indeed (as we heard Mr. F. O. Ward remark), could listen to the throb of the central engine, and watch the liquid manure (the nutrient life's blood of the farm) spouting from remote capillaries, and showered down on distant crops, without feeling that a new epoch is dawning, equally pregnant of good to town and to country, equally important to sanitary and to agricultural progress. To our minds, indeed, the most remarkable feature of this very remarkable congress, was the presence of the leading sanitary reformers, the Chadwicks, the Wards, the Ebringtons, &c., at a festival so purely agricultural; as, on the other hand, the attendance of Mr. Mechi and the agricultural reformers gave a special significance to the late sanitary banquet in London. It is impossible not to see that each of these two grand parties, sanitary and agricultural, feels it has some lesson to learn, and some aid to seek, from the other; that the two great movements of material amelioration, in town and country, which have hitherto run separate though collateral, courses, must henceforth merge into' one; that the purification of our cities, and the fertilisation of our fields, are but different aspects of the same problem, different parts of the same process, different results of the same organisation; and that (we are still quoting Mr. Ward's impressive language), as sanitary reform is but the cultivation of healthier crops of men, so agricultural progress is but the improved *hygiène* of growing crops and cattle; while both reforms require for their achievement the construction of a vast tubular net-work, arterial and venous, beneath every town and over the whole surface of the country. This mighty work presents to the national energy and enterprise a new field, still vaster in conception, and more incalculably fruitful of advantages to mankind, than even the great railway movement, of which it is the logical complement. For while the railway system has quadrupled the facilities for transporting the products of the soil from place to place, this new tubular organisation will, at no distant period, quadruple the products themselves to be transported.

The following epigram was appropriately circulated during the demolition of some very fine sewage-fed Strawberries after dinner:—

> Time was, 'tis said, ere England's woes began,
> When every rood of ground maintained i's man;
> Your sewage save, says Fow,* and 't will be found
> That every man maintains his rood of ground.

—*From the Leader.*

Calendar of Operations.

AUGUST.

East Somerset, *August* 3.—The harvest this year promises to be early and abundant, and no sooner has the hay been gathered in (which was unusually late) than the corn claims our attention; indeed in some districts they have begun cutting Wheat three weeks since. The fine sunny weather we have enjoyed has contributed to the rapid ripening of the corn; and the late occasional showers have been beneficial to the Turnips, without, except in a few cases, materially injuring the former by any beating down; and the after Clovers and Grass have also fetched up lately. As there is little more to relate yet concerning farming operations or details, I enclose a weather diary, kept during the last two months; which, though not being so scientific or correct as the regular meteorological newspaper calendars, nor containing the state of the glass, or depth of rain, &c., is a plain journal of dry and wet days for June and July; showing the large proportion of wet in the former month here, over the latter, and proving what I stated in a former paper, as to the frequent occurrence of rain in June. *H. E.* [The following is the abstract of the diary:—June, 15 wet days, 15 fine days; July, 4 wet days, 27 fine days.]

Notices to Correspondents.

Crops: *Mr. Saul* wishes to correct his report. Lancashire: Garstang—harvest will be general before the middle of August.—*Dr. Bailey* writes from King's County, that the Potato blight is more general than it has been since 1848; fields rapidly turning black, and tubers very much affected in some districts.

Folding: *H.* It is impossible to say how much space should be given 200 sheep on a field without seeing the crop.

Harness: *F C.* Cart harness for one horse will cost from 4*l.* to 5*l.* 10*s.* Mr. D. Scott, of Glasgow, obtained a prize at a late meeting of the Highland Society.

Milk Pans: *S S.* We regard those exhibited lately to the Horticultural Society by Messrs. Phillips and Co., of Bishopsgate-street to be in all respects equal to the best foreign ones.

Pigs: *Exeter.* One of Richardson's shilling hand-books.—W. S. Orr and Co.—referred to the hog.

Markets.

COVENT GARDEN, Aug. 7.

The supply of Fruit both from under glass and from the open garden has been very good, with the exception of Strawberries and Oranges, which are nearly over. Melons are more plentiful. Some excellent Greengage and other Plums have arrived from France, and also some Apricots, Jargonelle Pears, and Apples. Tomatoes likewise continue to be imported. Potatoes are very plentiful, as are also Peas. West India Pine-apples are scarce, owing to the non-arrival of the last shipment. Mushrooms are cheaper. Cut flowers consist of Heaths, Pelargoniums, Mignonette, Roses, Bignonia venusta, and Pinks.

FRUIT.

Pine-apples, per lb., 4s to 6s	Strawberries, p. pott., 6d to 1s 6d
Grapes, hothouse, p. lb., 2s to 5s	Almonds, per peck, 5s
Peaches, per doz., 8s to 15s	— sweet, per lb., 2s to 3s
Nectarines, per doz., 8s to 15s	Lemons, per doz., 1s to 2s
Figs, per doz., 4s to 8s	Oranges, per doz., 1s to 1s 6d
Melons, each, 2s to 6s	— per 100, 3s 6d to 10s
Cherries, per lb., 2d to 6d	— Seville, per doz., 1s to 3s
— wall, do., 1s 6d to 3s	Nuts, Barcelona, per bush, 20s to 22s
Gooseberries, per half sieve, 2s 6d to 3s	— Brazil, per bushel, 12s to 14s
Currants, do., 2s to 3s 6d	

VEGETABLES.

Cabbages, per doz., 6d to 1s 3d	Garlic, per lb., 8d to 1s
French Beans, p. hf. sieve, 2s to 3s	Lettuce, Cab., per score 4d to 1s
Peas, per sieve, 2s to 5s	— Cos, p. score, 9d to 1s 6d
Cauliflowers, per doz., 4s to 6s	Radishes, per doz., 8d to 1s
Greens, per doz., 1s to 1s 6d	— Turnip, 9d to 1s 6d
Rhubarb, p. bundle, 3d to 4d	Small Salads, p. pun., 2d to 3d
Potatoes, per ton, 60s to 130s	Horse Radish, p. bundle, 1s to 4s
— per cwt., 3s 6d to 7s	Mushrooms, p. pott., 6d to 1s
— per bush., 1s 6d to 2s 6d	— per punnet, 9d to 1s
Turnips, per doz., 3s to 4s	Sorrel, per hf. sieve, 6d to 1s
Cucumbers, each, 4d to 6d	Artichokes, per doz., 1s 6d to 2s
Veget. Marrow, p. doz, 6d to 1s 6d	Fennel, per bunch, 2d to 3d
Celery, per bundle, 1s to 1s 6d	Savory, per bunch, 2d to 3d
Carrots, p. doz., 3s to 5s	Thyme, per bunch, 2d to 3d
Spinach, per sieve, 1s to 2s	Parsley, p. doz. bnchs., 2s to 3s
Onions, per bunch, 2d to 8d	Mint, per bunch, 2d to 3d
— Spanish, p. doz., 1s 3d to 3s	Basil, green, p. bunch, 4d
Beet, per doz., 1s to 2s	Marjoram, do., 3d to 6d
Leeks, per bunch, 2d to 3d	Watercresses, p. 12 bun, 9d to 1s
Shallots, per bunch, 3d	

HOPS.—Borough Market, Aug. 6.

Messrs. Pattenden and Smith report that the demand for Hops is steady at late prices. The coming crop is thought very favourably of, except that in places mould has made its appearance. Duty nominally estimated at from 185,000*l.* to 200,000*l.*

HAY.—Per Load of 36 Trusses.

Smithfield, Aug. 5.

Prime Meadow Hay	78s to 85s	Clover ...	... 90s to 100s
Inferior do.	... 65 72	New do. ...	... 70 84
Rowen ...	... 66 —	Straw ...	... 28 35
New Hay ...	... 60 76		E. J. Davis.

A large supply and heavy trade.

Cumberland Market, Aug. 5.

Prime Meadow Hay	84s to 90s	Inferior Clover	... 73s to 90s
Inferior do. ...	... 65 75	New do. ...	... 65 80
New Hay ...	... 60 72	Straw ...	... 33 36
Old Clover ...	.. 95 100		Joshua Baker.

* F. O. Ward.

COAL MARKET.—Friday, Aug. 6.

Holywell, 13s. 9d.; Cowper Hartley, 14s.; Wallsend Ridde 13s. 3d.; Wallsend Haswell, 15s. 6d.; Wallsend Hetto 15s. 6d.; Wallsend Stewarts, 15s. 6d.; Wallsend Adelaic Tees, 15s. 6d.—Ships at market, 100.

SMITHFIELD.—Monday, Aug. 2.

The number of Beasts is very large, and the continued h weather caused a slow trade. The majority of the supply is inferior quality, and consequently there is not so much redu which caused the choicest kinds. Several Beasts remain unsol The supply of Sheep and Lambs is about the same as Monday last. The demand is scarcely so good, and it is dif cult to maintain the quotations of that day. Trade is ve slow for Calves, at reduced prices. From Germany a Holland there are 1623 Beasts, 5380 Sheep, 298 Calves, a 160 Pigs; from Spain, 49 Beasts; from Scotland, 160; and 25 from the northern and midland counties.

Per st. of 8lbs.—	s	d	s	d
Best Scots, Here-fords, &c. ...	3	6	3	8
Best Short-horns	3	2	3	4
2d quality Beasts	2	4	2	10
Best Downs and Half-breds ...	3	8	4	0
Do. Shorn	0	0	0	0

Per st. of 8lbs.—	s	d	s
Best Long-wools .	3	4	to 3
Do. Shorn ...	0	0	— 0
Ewes & 2d quality	2	8	— 3
Do. Shorn	0	0	— 0
Lambs	4	4	— 5
Calves	2	8	— 3
Pigs	2	4	— 3

Beasts, 4620; Sheep and Lambs, 33,060; Calves, 412; Pigs, 47

Friday, Aug. 6.

We have a fair supply of Beasts, and rather a mo cheerful trade. Monday's prices are fully supported, and in few instances exceeded. The number of Sheep and Lambs smaller than of late, and the weather being cooler buyers a more plentiful for Sheep, but for Lambs trade is very slow quotations for both remain unaltered. Although the numbe of Calves is large, there is a demand for them, and choice descriptions are rather dearer. From Germany and Holla we have 318 Beasts, 1750 Sheep, 412 Calves, and 50 Pig 300 Beasts from the northern and midland, and 116 Milch Cow from the home counties.

WOOL.

Bradford, Thursday, Aug. 5.—The transactions in th English wool market during the current week have been of limited character, and this may be ascribed to the fact th staplers are compelled to hold for higher prices than spinne feel justified in the present condition of their trade in co ceding. The farmers are still obtaining full prices for the new wool, and are firm holders unless these can be obtaine Short wool and noils, being produced now in limited quantit are a good sale at full prices.

MARK LANE.

Monday, Aug. 2.—The supply of Wheat from Essex an Kent this morning, as also of samples per railroad, was co siderably larger than for many weeks past, as is usual on th eve of harvest, and was disposed of on the terms of this da se'nnight; foreign was generally held with increased firmnes which caused sales to be of a retail character, at our quot tions.—Flour is a slow sale at barely former rates.—The were a few samples of new Kentish Barley at Market, quali various, and none fine.—Barley, Beans, Peas, and Oats mu be quoted fully 1s. per qr. lower than this day week.

Per Imperial Quarter.	s.	s.		s.
Wheat, Essex, Kent, & Suffolk... White	43	45	Red	38
— — fine selected runs... ditto	44	47	Red	39
— — Talavera	43	48		
— Norfolk	37	39	Red	—
— Foreign.....	34	48		
Barley, grind. & distil., 24s to 27s... Chev.	—		Malting .	—
— Foreign ...grinding and distilling	19	25	Malting .	—
Oats, Essex, and Suffolk.....	18	19		
— Scotch and Lincolnshire...Potato	18	22	Feed.....	17
— Irish .....Potato	17	20	Feed.....	17
— Foreign .....Poland and Brew	17	19	Feed.....	14
Rye	—		Foreign .	—
Rye-meal, foreign	—			
Beans, Mazagan.....27s to 30s.....Tick	28	31	Harrow .	28
— Pigeon .....28s — 34s...Winds.	—		Longpod	—
— Foreign .....Small	22	33	Egyptian	25
Peas, white, Essex and Kent.....Boilers	32	33	Suffolk...	33
— Maple.....31s to 34s.....Grey	30	32	Foreign .	26
Maize ..... White	—		Yellow...	—
Flour, best marks delivered ...per sack	37	40		
— Suffolk .....ditto	25	32	Norfolk .	25
— Foreign..... per barrel	17	21	Per sack	28

Friday, Aug 6.—With the exception of foreign Barley, which we have a good supply, the arrivals, both of Englis and foreign grain and Flour, this week have been moderat The market was tolerably well attended; nevertheless n advance could be established on Essex Wheat, althoug Lincolnshire and foreign, where sales were effected, obtaine 1s. per qr. more than on Monday. In Wheat afloat and fro the Mediterranean, a considerable business has been tran acted; the prices last paid are 33s. to 34s. for P.O., but now 1 to 2s. per qr. more are demanded. Spring corn of all descri tions is held very firmly, at the extreme prices of Monday.

Imperial Averages.

	Wheat.		Barley.		Oats		Rye.		Beans.		Pea
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s. d
June 26.....	40	10	27	6	20	0	31	0	32	4	31
July 3.....	41	4	27	5	19	10	32	4	33	1	33
— 10.....	41	5	28	3	19	9	32	6	34	0	33
— 17.....	41	0	27	0	19	11	30	1	34	5	30 1
— 24.....	40	7	28	2	19	9	28	9	33	10	34
— 31.....	40	0	27	8	20	6	29	11	34	2	33
Aggreg. Aver.	40	10	27	8	19	11	30	9	33	8	32 1

Duties on Foreign Grain, 1s. per qr.

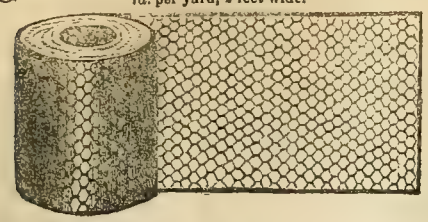
Fluctuations in the last Six Week's Averages.

Prices.	June 26.	July 3	July 10.	July 17.	July 24	July 3
41s 5d	...	...	...	...	...	...
41 4	...	...	...	...	...	...
41 0	...	...	...	...	...	...
40 10	—	...	...	...	...	...
40 7	...	...	...	...	...	...
40 0	...	...	...	...	...	...

Liverpool, Tuesday, Aug. 3.—The arrivals of grain, Flou and Oatmeal into this port during the week continue ligh while the imports from abroad include a moderate supply Wheat and Indian Corn, and a few parcels of Barley, Oat and Peas. At the opening of our market this morning a firm feeling was manifested by holders of Wheat, and rather high prices were required, millers generally refusing to pay a advance, and a moderate business was transacted at the rat of this day se'nnight. Flour met an improved inquiry, goo brands realising a trifling advance. Oats moved off slowly the decline of Friday, and Oatmeal was much neglected, thoug offered 3d. per load cheaper. Barley, Beans, and Peas witho material change. Indian Corn was steady, and slightly in proved in value.—Friday, July 30.—At our Corn Exchan this morning the business was moderate. The prices Tuesday, however, were obtained for both Wheat and Flou Oats and Oatmeal were neglected. Barley 2d. per bush lower. No change in the value of Beans and Peas. India Corn is scarce, no American yellow at present on the market white corn was 6d. per qr. dearer.

GALVANISED WIRE GAME NETTING.—

7*d.* per yard, 2 feet wide.



	Galvanised.	Japanned Iron.
2-inch mesh, light, 24 inches wide ...	7*d.* per yd.	5*d.* per yd.
2-inch " strong " ...	9 "	6½ "
2-inch " extra strong " ...	12 "	9 "
1⅝-inch " light " ...	8 "	6 "
1⅝-inch " strong " ...	10 "	8 "
1⅝-inch " extra strong " ...	14 "	11 "

All the above can be made any width at proportionate prices. If the upper half is a coarse mesh, it will reduce the prices one-fourth. Galvanised sparrow-proof netting for Pheasantries, 3*d.* per square foot. Patterns forwarded post free.

Manufactured by BARNARD and BISHOP, Market-place, Norwich, and delivered free of expense in London, Peterborough, Hull, or Newcastle.

A NEW BEDSTEAD, portable without detaching any of its parts, packs in a sponge bath, is admirably adapted for summer use, on account of its extreme coolness, and which can be changed in one moment from a bed to a lounge or sofa for the sitting-room, may be seen at

COTTAM and HALLEN'S, 76, Oxford-street,

where also is on view a great variety of Metallic Bedsteads, fitted with and without the Patent Rheocline, &c. &c., together with a large assortment of the Patent Radiating and other Stoves, and every other description of Ironmongery.

THE BEST IS THE CHEAPEST.

The best CONGOU TEA	per lb.,	3*s.* 8*d.*
The best IMPERIAL SOUCHONG TEA	"	4 0
The best MOYUNE GUNPOWDER TEA	"	5 0
The best PLANTATION COFFEE ...	"	1 0
The best MOCHA COFFEE ...	"	1 4

Tea or Coffee to the value of 40*s.* sent CARRIAGE FREE to any part of England, by

PHILLIPS AND COMPANY, TEA MERCHANTS,
No. 8, KING WILLIAM-STREET, CITY, LONDON.

METCALFE AND Co.'s NEW PATTERN TOOTH-BRUSH and SMYRNA SPONGES.—The Tooth-Brush has the important advantage of searching thoroughly into the divisions of the teeth, and cleaning them in the most extraordinary manner, and is famous for the hairs not coming loose.—1*s.* An Improved Clothes-Brush, that cleans in a third part of the usual time, and incapable of injuring the finest nap. Penetrating Hair-Brushes, with the durable unbleached Russian bristles, which do not soften like common hair. Flesh-Brushes of improved, graduated, and powerful friction. Velvet-Brushes, which act in the most surprising and successful manner. The genuine Smyrna Sponge, with its preserved valuable properties of absorption, vitality, and durability, by means of direct importations, dispensing with all intermediate parties' profits and destructive bleaching, and securing the luxury of a genuine Smyrna Sponge. Only at METCALFE, BINGLEY, and Co.'s Sole Establishment, 130 B, Oxford-street, one door from Holles-street, London.

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CAUTION.—Beware of the words "From METCALFE'S," adopted by some houses.

SHOWER BATHS, AND TOILETTE WARE.—WILLIAM S. BURTON has ONE LARGE SHOW-ROOM devoted exclusively to the DISPLAY of BATHS, and TOILETTE WARE. The stock of each is at once the largest, newest, and most varied ever submitted to the public, and marked at prices proportionate with those that have tended to make his establishment the most distinguished in this country. Portable Showers, 7*s.*; Pillar Showers, 3*l.* to 5*l.* 15*s.*; Nursery, 11*s.* 6*d.* to 30*s*; Sponging, 14*s.* to 30*s.*; Hip, 12*s.* 6*d.* to 29*s.* A large Assortment of Hot and Cold Plunge, Vapour, and Camp Shower Baths. Toilette Ware in great variety, from 15*s.* 6*d.* to 40*s.* the set of three.

TEA URNS, of LONDON MAKE ONLY.—The largest assortment of really London-made TEA-URNS (including all the recent novelties, many of which are registered), in the world, is on Sale at WILLIAM S. BURTON'S, from 27*s.* to 6 guineas.

THE BEST SHOW of IRON BEDSTEADS in the KINGDOM is WILLIAM S. BURTON'S. He has added to his Show Rooms TWO VERY LARGE ONES, which are devoted to the exclusive SHOW of Iron and Brass Bedsteads and Children's Cots (with appropriate Bedding and Mattresses). Common Iron Bedsteads, from 12*s.* 6*d.*; Portable Folding Bedsteads, from 12*s.* 6*d.*; Patent Iron Bedsteads, fitted with dovetail joints and patent sacking, from 1 *s.* 6*d.*; and Cots, from 20*s.* each. Handsome ornamental Iron and Brass Bedsteads in great variety, from 3*l.* 5*s.* to 31*l.*

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SOUND AND WHITE TEETH are not only indispensably requisite to a pleasing exterior in male and female, but they are peculiarly appreciated through life as a blessing highly conducive to the purposes of health and longevity. The great esteem in which the public have long held

ROWLANDS' ODONTO, or PEARL DENTIFRICE,

precludes the necessity here of entering into a minute detail of its merits, and the singular advantages it so eminently possesses over the usual powders sold for the teeth. It is sufficient to observe that ROWLANDS' ODONTO is a pure preparation of the most efficient EASTERN HERBS, which not only has the property of rendering the above beautiful organs of the mouth dazzlingly white, but it strengthens their organic structure, and fulfils the pleasing task of rendering the breath sweet and pure. It should never (in particular) be forgotten, that when used in early life, it effectually prevents all aches in the Teeth and Gums—effaces all spots and discolorations whatsoever—gradually cures scurvy—and, in a word, soon realises the chief attribute of Health and Beauty—A FINE SET OF PEARLY TEETH!

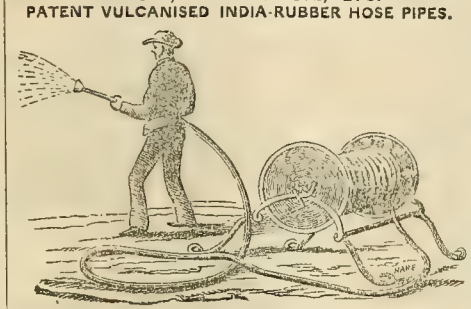
Price 2*s.* 9*d.* per box.

*** BEWARE OF SPURIOUS IMITATIONS. The genuine article has the words "ROWLANDS' ODONTO" on the Label, and "A. ROWLAND and SONS, 20, Hatton Garden," engraved on the Government Stamp affixed on each box. Sold by them, and by Chemists and Perfumers.

WINTON'S PARKES' NEW STEEL DIGGING FORKS AND DRAINING TOOLS.—Silver Medal at Lewes Show was awarded to BURGESS and KEY, 103, Newgate-street, London, for these celebrated FORKS. It would be endless to quote the unlimited approbation expressed by the leading agriculturists, farmers, nurserymen and others, from the nobleman to the labourer; but all who have used them concur in Mr. MECHI's remark, "That they facilitate labour quite 20 per cent." Early orders are requested. Price lists sent on application.

HOT-WATER PIPES.—To be Sold, 70 yards of 4-inch Hot-Water Pipe, with Saddle-Boiler and Furnace, complete; they are equal to new, having been only once used. Price 8*l.*—Apply to W. TURNER, Tufnell-park-road, Holloway, London.

FOR WATERING GARDENS, DISTRIBUTING LIQUID MANURE, BREWERS' USE, ETC.
PATENT VULCANISED INDIA-RUBBER HOSE PIPES.



JAMES LYNE HANCOCK, (SOLE LICENSEE AND) MANUFACTURER, GOSWELL ROAD, LONDON.

These Pipes are well adapted for Watering Gardens, conveying Liquid Manure, racking Beer and Cider, for portable Gas Lamps, and all purposes where a perfectly sound Waterproof and Flexible Pipe is required. They are particularly suitable for Fire Engines, and are found exceedingly useful in Dwelling-houses for conveying Hot or Cold Water to Baths, &c.

Hose Reels for winding-up and wheeling away long lengths of the Vulcanised Rubber Garden Hose, are now manufactured by J. L. HANCOCK, of light and cheap wicker work.

N.B.—Vulcanised India Rubber Garden Hose, fitted up with Roses, Jets, and Branches complete, with union joints ready to attach to pumps or water cisterns.

All Letters or Orders addressed to J. L. HANCOCK, Goswell Mews, Goswell Road, London, will meet with immediate attention.

HEAL & SON'S ILLUSTRATED CATALOGUE OF BEDSTEADS, sent free by post, contains designs and prices of upwards of ONE HUNDRED different Bedsteads, in Iron, Brass, Japanned Wood, Polished Birch, Mahogany, Rosewood and Walnut-tree Woods; also their Priced List of Bedding; and their New Warerooms enable them to keep one of each design fixed for inspection. They have also, in addition to their usual stock, a great variety of the best designs of PARISIAN BEDSTEADS, both in Wood and Iron, which they have just imported.

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TABLE AND DESSERT KNIVES, IN CASES.

MECHI, CUTLER, 4, Leadenhall-street, has an excellent variety of perfectly new Patterns in Ivory, Pearl, and Agate DESSERT KNIVES in CASES, and every description of Table Knives, excellent in quality and reasonable in price. Also a variety of Knife Sharpener, several new patterns, Wharncliffe Penknives, Scissors, Razors, Strops, Paste, and Shaving Brushes, &c. His Razor-strops and Paste are well worth the attention of those who find shaving difficult.

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Yorkshire agricultural meeting ..... 523 *c*

SALISBURY DAHLIA AND HOLLYHOCK EXHIBITION.—The grand Annual Exhibition of the above Society will take place in the Palace Garden of the Right Rev. the Lord Bishop, on Tuesday, the 31st day of August next. In addition to the usual prizes a Silver Cup, value Five Guineas, will be given by JOHN KEYNES, for 12 blooms of Dahlias sent out by him at any time.

Full particulars on application to JOHN KEYNES, Hon. Secretary, Salisbury.—August 14.

GRAND FLORAL AND MUSICAL FÊTE, at COLNE PARK, ESSEX, near the Chapel Station of the Eastern Union Railway, on FRIDAY, AUGUST the 27TH.

EXTRA PRIZES (OPEN TO ALL ENGLAND) will be awarded for the best 36 dissimilar DAHLIA BLOOMS, 2*l*.; second best, 1*l*. 10*s*.; third best, 1*l*. For the best 24 dissimilar HOLLYHOCK SPIKES, 2*l*.; second best, 1*l*. 10*s*.; third best, 1*l*.

Entrance fee: Subscribers, 2*s*. 6*d*., Non-Subscribers, 5*s*.

Exhibitors must forward the entrance fee to the Secretary one day at least before the Show day.

Halstead, Aug. 14. G. P. ARDEN, Hon. Sec.

ASHFORD HORTICULTURAL SOCIETY.—A GRAND HORTICULTURAL FETE, DAHLIA and FRUIT SHOW (OPEN TO ALL ENGLAND), will take place on FRIDAY, SEPTEMBER 3D, in the Horticultural Grounds adjoining the Railway Station, Ashford. The celebrated Band of the Royal Artillery, Woolwich, will attend.

Schedules of Prizes may be had on application to FINLAY FRASER, Sec.—South-Eastern Nursery, Ashford, Aug. 14.

THE GRAND LONDON DAHLIA, HOLLYHOCK, AND ROSE EXHIBITION will take place at Notting-hill, on TUESDAY, 24th of August, 1852.—Full particulars on application to the Committee, at the Mitre Tavern, Notting-hill.—August 14.

PLANT LOVERS who wish to enrich and beautify their collections at a cheap rate, and yet with good plants, may accomplish their wishes by application to WILLIAM MASTERS, EXOTIC NURSERY, CANTERBURY, as the following list will attest:—

12 Plants of Succulents, of distinct kinds, 9*s*., 18*s*., 30*s*.
12 Ferns, 12*s*., 18*s*., 24*s*.
12 Orchids, 18*s*. to 30*s*.
12 Heaths, 9*s*., 12*s*., 18*s*., 24*s*.
12 Fancy Geraniums, 12*s*.
12 Greenhouse Plants, 9*s*. to 18*s*.
12 Stove Plants, 12*s*. to 30*s*.
12 New Sikkim Rhododendrons, 42*s*.
12 Camellias set with flower-buds, 30*s*.
12 Azaleas, 12*s*., 18*s*., 24*s*.
12 China Plants, introduced by Fortune, 21*s*.

Orders are respectfully solicited, and will be punctually attended to.

BEACH'S QUEEN STRAWBERRY PLANTS.—Having taken several Prizes these two years with QUEEN'S STRAWBERRIES, thousands of them weighing upwards of 2 oz., many of them I exhibited last year in the Crystal Palace upwards of 3 oz., and this year, at Chiswick, they gained two Knightian Medals on July 10th; and also on the 14th inst. the Head Prize at the Great Show at Lewes. See also Dr. Lindley's opinion of them in the *Gardeners' Chronicle* of the 10th of July, and likewise Mr. Cuthill's account of my place in the same Journal of the 24th of July. Strong, healthy, and fine plants are now ready to be sent out at 5*s*. per 100, box included.—Post-office Orders on Hounslow to Mr THOMAS BEACH, Market Gardener, Worton, Isleworth, near London.

CUTHILL'S PRINCE OF WALES AND BLACK PRINCE STRAWBERRY PLANTS.

THE PRINCE OF WALES was raised in 1849; it is the latest we have in this country—still in bearing, August 1. The flavour is excellent; a scarlet cone-shaped fruit, about the size of a Keen; throws its bloom well up foliage light green, and, like its royal relative the Black Prince, an enormous bearer. If planted on a northern aspect, it will bear up to September. Price 1*l*. per 100, or 10*s*. 6*d*. for 50 (a few plants extra allowed to the Trade).

Also the celebrated BLACK PRINCE, the earliest in England: this year they were picked in the open ground, at 8*s*. per lb., by me. See also Mr. Meredith's account of its forcing qualities at the Duke of Sutherland's. Will be ready for delivery on the 23d instant.

CUTHILL'S Pamphlet on the Potato, Asparagus, Seakale, Rhubarb, Strawberry, Melon, Cucumber, &c., 2*s*., or by post 2*s*. 4*d*. Also his "Market Gardening round London," 1*s*. 6*d*. or by post 1*s*. 8*d*. The true Lapstone Kidney 8*s*. per bushel. Post-office orders on Camberwell-green.

JAMES CUTHILL, Camberwell, London.

NYMPHÆA GIGANTEA, ALIAS VICTORIA FITZROYANA.

STANDISH AND NOBLE having received a few tubers of this fine aquatic, from Northern Australia, in good condition, can offer them at from 7 to 15 guineas each. The flowers are of a beautiful blue colour, a foot in diameter, and the leaves are from 18 inches to 2 feet across. Altogether, it is little inferior to the magnificent Victoria Regia; and it has the additional value of requiring only the temperature of a greenhouse.

*** A new Catalogue of select and hardy Plants can be had by inclosing a 2*d*. postage stamp.—Bagshot, August 14.

AVERSCHAFFELT, NURSERYMAN, Ghent, Belgium, begs to announce that he will send out on the 15th September next, his fine new CAMELLIA, "GENERAL DROUOT," on the following conditions:—

	£	*s*.	*d*.
Plants, 3 feet high, with branches	1	12	0
Do., 2 do., do.	1	4	0
Do., young grafted plants, with two to three bases	0	8	0

N.B. His New General Catalogue of Plants will be ready in a few days.

MESSRS. J. AND H. BROWN offer the following new and choice Plants, which they will forward to any part:—

	s.	*d*.
12 Orchidea, choice species and good plants, including Stanhopeas, Dendrobiums, Epidendrums, Oncidiums, &c., for	30	0
50 Choice Greenhouse Plants, one of a sort, by name (his collection is highly recommended for new greenhouses, &c.)	40	0
50 Choice fragrant flowering Stove Plants and Climbers	45	0
24 Choice Ericas, one of a sort, by name	16	0
12 New Azalea Indicas, one of a sort ... 12*s*. to	25	0
12 Camellias, choice sorts, set with buds	30	0
Some large Camellias, Orange Trees, and Azaleas for sale.		
24 Fine new Fuchsias, do., do.	10	0
12 Fine new Gloxinias, do., do.	10	0
12 Fine new Achimenes, do., do.	10	0
Passifloras and Jasminums, Stove and Greenhouse species, each	1	6
Gardenia florida, radicans, and Fortunii, per doz. ...	18	0
12 Tea-scented Roses, one of a sort, by name, in pots ...	9	0
12 Climbing do., choice sorts, in pots	6	0
Rosa Devoniensis, on their own roots, in pots, for beds, per dozen	9	0
Miniature or Fairy Roses, 4 sorts, fine for edgings, per dozen	6	0
12 Bourbon Roses in pots, one of a sort, for beds ...	10	6
Cloth of Gold and Yellow Noisette Roses, per dozen ...	10	0
12 Choice Chrysanthemums, new sorts, by name	6	0
12 New Dwarf Pompon Chrysanthemums, do., do. ...	8	0
12 New Perennial German Phloxes, one of a sort ...	8	0
New Geraniums, show and fancy, at reduced prices.		
New Verbenas and Petunias, per dozen	6	0
12 Ferns, beautiful varieties, suitable for Glass Cases, Greenhouse, Stove, and hardy rock-work, each selection	10	0
Choice Vines, strong plants, from eyes, in pots, per doz.	15	0
Fine Strawberry Plants of all the leading kinds at the advertised prices.		
Calceolaria, Cineraria, Primula, Pansy, Cyclamen, Auricula and Geranium Seed, by post, each packet, 1*s*.		
Catalogues of Stove and Greenhouse Plants, Roses, &c. Albion Nursery, Stoke Newington, London, Aug. 14.		

CHOICE CALCEOLARIA SEED, ETC.

GEORGE WHEELER, NURSERYMAN, Warminster, Wilts, begs to announce that he is now sending out the following SEEDS:—

CALCEOLARIA, saved from his large, choice, and beautiful collection of free blooming and fine spotted varieties, from 2*s*. 6*d*., to 5*s*. per packet.

PANSY, all from choice show flowers, 1*s*. to 2*s*. 6*d*. per packet.

CINERARIA, from a fine collection, 1*s*. to 2*s*. 6*d*. per packet.

CHINESE LARKSPUR, saved from a beautiful collection of various colours, from pure white, skyblue, variegated, &c., to dark blue, 1*s*. per packet.

ANTIRRHINUM, produced by beautifully striped and tricolored kinds, 1*s*. per packet.

Remittances accompanying the orders will ensure the delivery of the above postage free.

G. W. also begs to offer the under-mentioned desirable kinds of Strawberries—Victoria (Trollop's), a highly approved, prolific, early kind, and an excellent forcer, 20*s*. per 100, or 3*s*. per dozen; Black Prince (Cuthill's), very early, good bearer, and a good forcer, 3*s*. 6*d*. per 100; Eleanor (Myatt's), large, late, and excellent, 3*s*. 6*d*. per 100; Stirling Castle Pine, a large, late, good bearing, and hardy kind, somewhat of the British Queen flavour, 5*s*. per 100. Older esteemed kinds from 2*s*. 6*d*. to 3*s*. 6*d* per 100.

SEEDS SUITABLE FOR PRESENT SOWING.

	s.	*d*.
PARAGON CABBAGE, very superior flavour, the earliest sort grown, per paper	0	6
BATH COS LETTUCE, black seed, fine sort, per paper	0	6
MOGUL CABBAGE LETTUCE, very large, new sort from Holland, a desirable kind, per paper	1	0
ONION, large sort from Madeira, mild in flavour, stands the winter, per paper	1	0
SPINACH, New Gigantic, very productive and hardy, per quart	2	0
TURNIP, Early Snowball, per oz.	0	3
CALCEOLARIA, saved by an Amateur from splendid show flowers, per paper	1	0
PANSY, saved by Thomson from the best show flowers, per paper	1	0
STOCKS, Autumnal, six beautiful double varieties ...	2	0
SCARLET INTERMEDIATE STOCK, very large and double, per paper	0	6
TRITOMA UVARIA, a splendid novelty, per paper ...	1	0
PRIMULA SINENSIS FIMBRIATA, various shades of colours, per paper	1	0

The above may be had of WM. DENYER, Seedsman and Florist, 82, Gracechurch-street, London.

A FEW FRIENDS to the Family of Mr. JAMES CARTON, once Gardener at Syon House, and now wholly destitute, having formed a small purse, io 2*l*. 3*s*. may emigrate with his family to Australia, sufficient for the American, in order to enable them to complete the Subscriptions will be received by JOHN [illegible] never [illegible] Wace Cottage, Holloway, London. [illegible]tor

DUTCH FLOWER BULBS.

J. CARTER, SEEDSMAN AND FLORIST, No. 238, High Holborn, London, begs to announce the arrival of his first supply of DUTCH BULBS. Hyacinths, Narcissus, Tulips, Crocuses, &c., for early forcing, may be had immediately. His extensive Catalogue, comprising many new varieties, is in the press, and will be forwarded gratis, and prepaid, on application.

THE MONTH OF AUGUST, being a good time to plant Strawberries for the following season, those who value clean good fruit are invited to read MR. COTTINGHAM'S LETTER, published with this, and to purchase ROBERTS'S STRAWBERRY TILES, which should be placed round the plants when the beds are laid out, as he recommends in his Treatise on the "Culture of Strawberries;" and if they do not answer his representations, he will return the money paid for them.—Letters addressed to him at the Tile Works, Upnor, near Rochester, will be immediately attended to, and his Treatise returned for six postage stamps.

Copy of a Letter sent to the "Observer" Newspaper 27th July, 1852.

"Delce Lane Strawberry Gardens, Rochester.

"Sir,—As a large grower of Strawberries for many years, I have much pleasure in adding my testimony to the remarks published some time since in your Paper on the use of Roberts's Strawberry Tiles. I was induced to try a thousand of them this season, and found that with the tiles the Strawberries were ripe a fortnight sooner than without them, the flavour much improved, and fruit perfectly clean and free from dirt, which I consider a great recommendation. As I made the trial with some prejudice against the invention, I think it but an act of justice to the inventor to give the public the benefit of my experience, which must be my apology for trespassing on your columns.—I am, sir, your obedient servant,

"S. COTTINGHAM."

"To the Editor of the *Observer*, newspaper."

HOLLYHOCKS saved from Rubida, Rosea Grandiflora, Aurantia, Queen, Model of Perfection, Black Prince, Sulphurea Perfecta, 20*s*. per 100, a portion of each kind, or separate; 80 out of every 100 of these kinds come true from seed, and in many instances superior to the originals.

Strawberry Plants, all the approved kinds, 2*s*. 6*d*. to 5*s*. per 100, strong plants, true to name.

DILLISTONE and Co.'s Nurseries, Sturmer Halstead.—Aug 14.

CAMELLIA NURSERY, GHENT, BELGIUM.

JOSEPH BAUMANN offers to the Trade—

	£	*s*.	*d*.
100 Camellias, fine varieties, without flower buds, 1 foot high, 1 year old	2	10	0
100 Camellias, fine varieties, without flower buds, 1 foot high, 2 years old	3	10	0
100 Camellias, fine varieties, from 1 to 2 feet high, 4*l*. 10*s*. to	6	0	0
100 Camellias, fine varieties, from 2 to 3 feet high, 8*l*. to	10	0	0
100 Camellias, fine varieties, from 3 to 4 feet high, 12*l*. to	16	0	0
100 Camellias, fine varieties, with flower buds, 1 foot high ... ... 5*l* to	6	0	0
100 Camellias, fine varieties, with flower buds, from 1 to 2 feet high ... ... 8*l*. to	10	0	0
100 Camellias, fine varieties, with flower buds, from 2 to 3 feet high ... ... 12*l* to	16	0	0
100 Camellias, fine varieties, with flower buds, from 3 to 4 feet high ... ... 18*l*. to	20	0	0
100 Deutzia gracilis ... ... 2*l*. to	4	0	0

CAMELLIAS, AZALEAS, ETC., WITH FLOWER-BUDS.

A. VAN GEERT, NURSERYMAN and PROVIDER to several Courts of Europe, Ghent, Belgium, begs to offer fine—

CAMELLIAS, well set with flower-buds, of the leading varieties at 6*l*. per 100 and upwards.

CAMELLIA STOCKS, ready for grafting, at 25*s*. per 100.

INDIAN AZALEAS, of the leading free flowering varieties, with flower-buds, at 1*s*. each and upwards.

GHENT HARDY AZALEAS, with flower-buds, of the best sorts, 1*s*. 3*d* each and upwards.

LILIUM LANCIFOLIUM ALBUM and RUBRUM, flowering roots, 1*s*. each.

ASCLEPIAS TUBEROSA, strong flowering roots, 30*s*. per 100.

A collection of 30 fine new varieties of Hardy Hybrid GHENT RHODODENDRONS, late flowering, 3*l*.

A. V. G.'s new Catalogue of Plants, just published, may be had on application to his Agent, Mr. R. SILBERRAD, 5, Harp-lane, Great Tower-street, London.

A reference from unknown correspondents.

RIVERS' LARGE YELLOW STONE TURNIP SEED (the growth of the present season). Price 1*s*. per lb. This Turnip had its origin in 842 with the Stubble Swede; and has been repeatedly tested with other kinds of Yellow Turnip, in which its superiority was very apparent—in its sweetness of flavour, and in its vigour of growth. For the last three years, on various soils, it has yielded from 12 to 16 tons per acre, when sown in the early part of August; and it has the advantage of keeping in clamps quite late in the spring.

RIVERS' Stubble Swede, price 1*s*. 6*d*. per lb. Orders to the amount of 10*s* paid to London.—Sawbridgeworth, Herts.

PROTECTION OF PLANTS FROM THE HEAT OF THE SUN.—Use E. F. ARCHER'S HAIR CLOTH, a perfect non-conductor of heat, and admitting light without heat, where a covering is required; it is 2 yards wide, and any length, at 1*s*. 4*d*. per yard, and much cheaper than Bass Mats.

E. F. ARCHER, 151, Oxford street, London.

HORTICULTURAL SOCIETY OF LONDON.

EXHIBITIONS IN REGENT STREET.

THE COUNCIL OF THE HORTICULTURAL SOCIETY HEREBY GIVE NOTICE, that, with a view to the further encouragement of good cultivation at all seasons and in all branches of Gardening, Medals and Certificates of Merit will be given at the General Meetings of the Society in Regent-street, during the years 1852 and 1853, according to the following Schedule, and under the Regulations thereto annexed:—

1852.

OCTOBER 19. *Third Tuesday.* ... ... Meeting at 3 P.M.
The best collections of Hardy Annuals (cut flowers), each sort named correctly ... ... SB. C.
Table Pears, correctly named, in collections of six, two specimens of each sort to be produced SB. C.
Green Peas, named correctly ... ... C.

NOVEMBER 2. *First Tuesday.* ... ... Meeting at 2 P.M.
Chrysanthemums (shown in sixes, in pots not exceeding 11 inches in inside diameter) ... SK. SB.
Alpine Strawberries ... ... SB. C.
Grapes (shown in three heads) ... ... C.

DECEMBER 7. *First Tuesday.* ... ... Meeting at 2 P.M.
Specimen Heaths (shown in sixes, in pots not exceeding 11 inches in inside diameter) SK. SB.
Table Pears in October ... ... SB. C.
The best forced Vegetables ... ... SB. C.

1853.

JANUARY 18. *Third Tuesday.* ... ... Meeting at 2 P.M.
The best collection of Hardy Winter-flowering Plants (cut flowers admissible) ... ... SB. C.
English Grapes ... ... SB. C.
The best and most varied Salad ... ... SB. C.

FEBRUARY 15. *Third Tuesday.* ... ... Meeting at 2 P.M.
Camellias (shown in threes, in pots not exceeding 15 inches in inside diameter) ... ... SK. SB.
Table Pears, as in October ... ... SB. C.
Lettuces (shown in sixes) ... ... SB. C.

MARCH 1. *First Tuesday.* ... ... Meeting at 3 P.M.
Chinese Primulas (shown in pairs in 9-inch pots) SB. C.
Himalayan Primulas, in pots ... ... SB. C.
Strawberries (one dish only shown by each Exhibitor) ... ... SB. C.
New Grapes ... ... SK. SB.

MARCH 15. *Third Tuesday.* ... ... Meeting at 3 P.M.
Hybrid Rhododendrons (one pot only to be shown by each Exhibitor) ... ... SK. SB.
Strawberries in pots, in threes ... ... SB. C.
The best and most varied Salad ... ... SB. C.

APRIL 5. *First Tuesday.* ... ... Meeting at 3 P.M.
Hyacinths (shown in pots in sixes) ... ... SB. C.
Fruits or Vegetables, preserved whole by private persons for family use, without sugar or vinegar (shown in bottles of white glass, one bottle of each kind), accompanied by a written account of the manner in which they have been prepared ... ... SB. C.
Forced Peas ... ... SB. C.

APRIL 19. *Third Tuesday.* ... ... Meeting at 3 P.M.
Cyclamens, in pots ... ... SB. C.
Cherries (one dish only to be shown by each Exhibitor) ... ... SB. C.
Cauliflowers, in sixes ... ... SB. C.

MAY 24. *Fourth Tuesday.* ... ... Meeting at 3 P.M.
The two best collections of Vegetables ... ... SK. SB.

JUNE 28. *Fourth Tuesday.* ... ... Meeting at 3 P.M.
The two best collections of Vegetables ... ... SK. SB.

JULY 26. *Fourth Tuesday.* ... ... Meeting at 3 P.M.
The two best collections of Vegetables ... ... SK. SB.

SK.—Silver Knightian Medal.
SB.—Silver Banksian do.
C.—Certificate of Merit.

1. The Medals and Certificates of Merit are on no account to be increased beyond those named in this schedule. They are to be given for fine cultivation, and not for mere novelty, which is to be a secondary consideration with the judges, unless attended by great excellence.

2. Prizes may be withheld if the objects exhibited for competition do not, in the opinion of the judges, deserve them.

3. Although those subjects of exhibition which are thus specially indicated are what the Council are most desirous of receiving, nevertheless other objects are also admissible, and additional prizes may even be given for them; *provided they possess very conspicuous merit.* The Silver Knightian Medal will be the highest additional reward which the judges can bestow, without the special sanction of the Council.

4. In a future year other kinds of produce will be selected for special competition.

5. Cut flowers are not admissible, except when it is expressly so stated.

6. Dishes or baskets for fruit and vegetables must be furnished by the Exhibitors, if they are present or live near London. The Society will only find dishes for what comes from a considerable distance.

7. Fruit must be perfectly ripe and perfectly coloured, or it will be disqualified.

8. Vegetables must be produced in the state in which they are offered for sale in the best class of shops, and properly prepared for the cook.

9. Foreign fruit and vegetables are admissible, but not in competition with produce of home growth.

10. Everything must be in the room three hours before the meeting, and ready for inspection by the Judges two hours before the meeting. If anything received later is allowed to be exhibited, it will be liable to exclusion from competition.

11. Exhibitors, and Exhibitors only, can receive passes to enable them to return to the meeting-room after the Prizes shall have been adjudicated. Two hours before the meeting they must quit the room, in order that the Judges may be undisturbed.

HARTLEY'S PATENT ROUGH PLATE GLASS,

FOR RIDGE AND FURROW ROOFS, GREENHOUSES, RAILWAY STATIONS, ENGINE SHEDS, MILLS, MARKET-HALLS, AND PUBLIC BUILDINGS GENERALLY.

FOR CONSERVATORIES, PUBLIC BUILDINGS, MANUFACTORIES, SKYLIGHTS, &c., &c.	One-eighth inch thick.	3-16th inch thick.	¼ inch thick.
	s. d.	s. d.	s. d.
PACKED IN CRATES, for cutting up of the sizes as Manufactured:— 30 inches wide and from 40 to 50 long ... ... Or 20 ,, ,, 50 to 70 ,, ...	0 6	0 8	0 10
IN SQUARES, cut to the sizes ordered:— Under 8 by 6	0 4	0 6	0 7
8 by 6 and under 10 by 8	0 4½	0 7	0 8
10 by 8 ,, 14 by 10	0 5	0 7	0 9
14 by 10 ,, 1½ feet super., if the length does not exceed 20 inches	0 5½	0 7	0 9
1½ feet sup. ,, 3 ,, or if above 20, and not above 30 inches long	0 6	0 8	0 10
3 ,, ,, 4 ,, ,, 20 ,, 30 ,, ...	0 6½	0 8	0 10
4 ,, ,, 5 ,, ,, 30 ,, 35 ,, ...	0 7	0 8½	0 10
5 ,, ,, 6 ,, ,, 35 ,, 40 ,, ...	0 7½	0 9	0 10½
6 ,, ,, 8 ,, ,, 40 ,, 45 ,, ...	0 8	0 9½	0 11
8 ,, ,, 10 ,, ,, 45 ,, 55 ,, ...	0 8½	0 10	1 0
10 ,, ,, 12 ,, ,, 55 ,, 70 ,, ...	0 9	0 11	1 1
12 ,, ,, 15 ,, ,, 70 ,, 85 ,, ...	.....	1 0	1 2

PACKED IN BOXES OF 50 FEET EACH.

Ins.	Ins.	Ins.	Ins.	s.	d.
6 by 4 and 6½ by 4½	...	...	...	10	6
7 by 5 and 7½ by 5½	...	...	...	12	0
8 by 6 and 8½ by 6½	...	...	...	13	0
9 by 7 and 9½ by 7½ and 10 by 8	...	...	...	15	0

NOTE.—Squares are charged according to the superficial contents, except where the length exceeds the restriction above, in which case the higher price is charged irrespective of the contents.

Bending.—1-8*th*, 6*d.*; 3-16*ths*, 9*d.*; ¼ *inch*, 1*s. per foot, net.*

*** *Irregular shapes are charged as squares.*

When Crates are ordered, the 30-inch widths will be sent, unless otherwise specified.

THE PATENT ROUGH PLATE, one-eighth of an inch thick, and weighing 2 lbs. to the foot, has now become an article of very extensive and increasing consumption.

It is universally admitted to be the best and most suitable Glass for Ridge and Furrow Roofs, Greenhouses, Factories, Workshops,

And all such like purposes, and is a cheap and efficient substitute for Fluted or Obscured Glass, where the object is to intercept the vision without diminishing the light. Its non-transparency, strength, and cost (being no more weight for weight than Common Sheet Glass), render it eminently suitable for the Glazing of Conservatories and Roofs of all kinds; Blinds are unnecessary, and when used in Greenhouses *no scorching occurs.*

Where still greater strength is required the 3-16ths and ¼ inch thick will be found much cheaper than the Common Rough Plate. Samples will be forwarded on application, by applying to

JAMES PHILLIPS AND CO.,
HORTICULTURAL GLASS MERCHANTS, 116, BISHOPSGATE STREET WITHOUT, LONDON.

GLASS.

THOMAS MILLINGTON'S FOREIGN SHEET GLASS is far superior to any other manufacture, as well as cheaper. In 100-feet boxes packed for immediate delivery.

6 inches by 4 and 6½ by 4½	...	...	...	13*s.* 0*d.*
7 ,, 5 and 7½ by 5½	...	...	...	15 0
8 ,, 5 and 8 by 5½	...	...	...	15 0
8 ,, 6 and 8½ by 6½	...	...	...	17 6
9 ,, 7 and 10 by 8	...	...	...	20 0
12 ,, 10 and 13 by 9	...	...	...	20 0

And many other sizes, or cut to order in various thicknesses. Cases containing large Sheets, in 100, 200, and 300 feet, at 21*s.* per 100 feet.

ROUGH PLATE, perfectly flat, ⅛ in. thick, best manufactured.
In sizes under 15 inches ..... 6*d.* per foot.
,, ,, 35 ,, ... 8*d.* ,,
,, ,, 50 ,, ... 9½*d.* ,,
,, ,, 75 ,, ... 12*d.* ,,

Milk Pans, 2*s.* to 6*s.* each; Metal Hand Frames, Glass Tiles and Slates; Cucumber, Propagating, and Bee Glasses; Wasp Traps, Glass Shades, and Plate Glass, at 87, Bishopsgate-street Without, London, same side as Eastern Counties Railway.—Established 100 years.

EWING'S PATENT GLASS WALLS.—The following are the Agents, and on application to whom drawings may be seen, and all other information obtained:—Messrs. Knight and Perry, Nurserymen, &c., Chelsea; Messrs. Henderson and Co., Nurserymen, Pine-apple-place, London; Messrs. Whitley and Osborn, Nurserymen, &c., Fulham, London; Mr. Glendinning, Nurseryman, &c., Chiswick, London; Messrs. Veitch and Son, Nurserymen, Exeter; Messrs. Dickson, Nurserymen, Chester; Messrs. Lawson and Sons, Nurserymen, Edinburgh; Messrs. Dickson and Turnbull, Nurserymen, Perth; Mr. M'Intosh, F.R.S., Gardener to the Duke of Buccleuch, Dalkeith; Mr. Fleming, F.H.S., Gardener to the Duke of Sutherland, Trentham, Stafford-shire; Mr. Ewing, Gardener, Bodorgan, Anglesea; Messrs. Pilkington and Co., Plate, Crown, and Sheet Glass Works, St. Helen's, Lancashire.

These Walls can, when desired, be made wide enough for a person to enter, by which they become elegant hothouses on the best principle. Existing Walls covered with Glass and Iron

GREEN AND HOTHOUSES, made by Machinery, at J. LEWIS' Horticultural Works, Stamford Hill, Middlesex, warranted best materials, and the cheapest in England.—A List of Prices sent by enclosing 2 postage stamps.

GLASS FOR CONSERVATORIES, ETC.

HETLEY AND Co. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2*d.* to 8*d.* per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices and Estimates forwarded on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLATES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to JAMES HETLEY and Co., 35, Soho-square, London.

See *Gardeners' Chronicle* first Saturday in each month.

THE CHEAPEST HOUSE FOR LEAD, GLASS, OIL, AND COLOURS.

WHOLESALE PRICES CHARGED.

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BY HER MAJESTY'S ROYAL LETTERS PATENT.

E. DENCH, PATENT HOTHOUSE WORKS, KING'S ROAD, CHELSEA.—The superior qualities in every respect of these Structures having been proved in all parts of the United Kingdom, has caused a greater demand for them than E. D. could execute; he has been obliged to have perfect and powerful machinery made to meet the numerous orders, and can now execute any amount of work to great perfection, with dispatch, and for quality and price to defy all competition. Patent Hothouses, with excellent glass, 8 feet long by 1 foot wide, every front sash to open, and every top one to slide down, with pulley made of the same materials as the electric telegraph wires, which require no painting; delivered free to Wharf or Railway Station, at 1*s.* 2*d.* per foot super., complete, having been fitted, and every portion marked previously, making a Greenhouse 16 ft. 6 inches long, 12 ft. rafter, 400 ft., 23*l.* 6*s.* 8*d.*; 24 ft. 6 ins. long, do. do., 526 ft., 30*l.* 13*s.* 8*d.*; 28 ft. 6 ins. long, 15 ft. rafter, 712 ft., 41*l.* 10*s.* 8*d.* Heating by Hot Water on the most approved and economical principles.

Patent Sashes for Pits and Peach Walls, &c., 7*d.* and 8*d.* per foot, super.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER.

WARRANTED BEST MATERIALS AND WORKMANSHIP, AT THE LOWEST POSSIBLE PRICES.



J. WEEKS AND CO., King's Road, Chelsea, Horticultural Architects, Hothouse Builders, and Hot-water Apparatus Manufacturers. The Nobility and Gentry about to erect Horticultural buildings, or fix Hot-Water Apparatus, will find, at our Hothouse Works, King's Road, Chelsea, an extensive variety of Hothouses, Greenhouses, Conservatories, Pits, &c., erected, and in full operation, combining all modern improvements, so that a lady or gentleman can select the description of House best adapted for every required purpose.

THE HOT-WATER APPARATUSES (which are efficient and economical), are particularly worthy of attention, and are erected in all the Houses, Pits, &c., for both Top and Bottom Heat, and in constant operation in the Stoves.

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HORTICULTURAL BUILDING AND HEATING BY HOT WATER,

AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.



GRAY AND ORMSON, Danvers Street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

G. and O. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders they can with the greatest confidence give the most satisfactory references.

Their Hot-Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating by Hot Water can be made available.

JOHN HENCHMAN has still on Sale a few packets of his Choice CINERARIA, CALCEOLARIA, and PANSY SEED, each at 2s. 6d. per packet.—Edmonton, August 14.

THE NEW AND BEAUTIFULLY VARIEGATED-LEAVED PLANT,

CISSUS DISCOLOR (BLUME.)

WILLIAM ROLLISSON AND SONS beg leave to inform the nobility, gentry, and the trade, that they intend sending out, on and after the 27th of September, their new and beautifully variegated-leaved climbing plant, CISSUS DISCOLOR, of Blume, which has been so universally admired this summer at the Chiswick and Regent's Park Exhibitions. Price 21s. per plant. The usual allowance to the trade if two or more plants are ordered.—Tooting Nursery, near London.

NEW AND CHOICE SEEDS FOR PRESENT AND AUTUMN SOWING.

JOHN CATTELL has now ready to send out the following Seeds, post free, at per packet, as annexed:—

CALCEOLARIA, saved from a very fine collection, and carefully impregnated, 2s. 6d.

Directions for sowing, &c., will accompany each packet.

The produce from the Calceolaria seed J. C. has hitherto sent out having given such universal satisfaction, and the many testimonials he has received in praise of its excellence enables him to recommend this with the greatest confidence.

CINERARIA, from newest and finest varieties, 2s. 6d.

GERANIUM, from new florist varieties sent out last autumn, 2s. 6d.; 18 seeds.

Do. older first-rate varieties, 1s.; 18 seeds.

Do. from new fancy varieties sent out last autumn, 2s. 6d.; 18 seeds.

Do. older first-rate varieties, 1s.; 18 seeds.

Do. saved from scented varieties, 1s.

SCHIZANTHUS RETUSUS, 6d.

Do. Do. ALBUS, 6d.

Twenty-five sorts of fine showy hardy Annuals, for flowering in the open ground in spring, 4s.; larger packets, 6s.

Twelve sorts of fine showy half-hardy Annuals, for early flowering in the greenhouse, 3s.; larger packets, 4s. 6d.

Orders from unknown correspondents to be accompanied with a remittance.—Westerham, Kent.

STRAWBERRY PLANTS.—The under-mentioned first-rate varieties, which have all been thoroughly proved to the satisfaction of their growers, are now ready for sending out.

TROLLOP'S VICTORIA.—This is one of the finest Strawberries ever yet sent out; it has been exhibited at numerous exhibitions last season and this, and proved superior to all others for its superb quality, and, as an early forcer, is not equalled; 1l. per 100, or 3s. per dozen plants.

CREMONT'S PERPETUAL OR DOUBLE BEARING STRAWBERRY; 1l. per hundred, or 3s. per dozen.

MYATT'S SURPRISE, extra fine	10s.	0d.	per 100.
PRINCE ARTHUR, ditto	7	6	,,
BLACK PRINCE, a first-rate early variety ...	5	0	,,
PROLIFIC, very fine and early	5	0	,,
ELEANOR, the best and latest bearing Strawberry, many of the fruit growing to 2½ oz., very firm, and first-rate for travelling ...	5	0	,,
BRITISH QUEEN (true)	3	6	,,
BRITANNIA (very fine)	5	0	,,
STIRLING CASTLE STRAWBERRY (fine)	5	0	,,
ELIZA	5	0	,,
GLOBE	5	0	,,
ALICE MAUDE	3	6	,,
"GOLIATH"	3	6	,,

The above are strong well-rooted plants, and such as will ensure satisfaction. Fine plants can be had for potting, if required, which were pricked off for the purpose early in the spring.

N.B. Those Strawberries at 3s. per dozen will be sent postage and package free.

FINE ANTIRRHINUMS, all saved from striped and spotted varieties, such as will give every satisfaction and bloom early next spring, 5s. per hundred.

SWEET WILLIAMS, 48 superb varieties, 3s per hundred.

SEEDLING HOLLYHOCKS, extra fine, saved from all the best varieties in cultivation, and such as will give satisfaction, 1l. per hundred, or 3s. per dozen. (One hundred of these superb Hollyhocks were planted out in a bed last autumn, and 86 of them proved to be double flowers and equal to the varieties they were saved from).

A remittance must accompany the order, either by penny postage stamps or a post-office order, on receipt of which the whole or any quantity of the above will be sent hamper and package free

EDWARD TILEY, Nurseryman, Seedsman, and Florist, 14, Abbey Churchyard, Bath, Somerset.

The Gardeners' Chronicle.

SATURDAY, AUGUST 14, 1852.

WE are now about to see what GARDENING can do UNDER GLASS on a grand scale. Hitherto imperfect triumphs over nature, and of the smallest dimensions, have been enough to satisfy the ambition of man. To a few square yards of earth, screened by a veil of glass, and called a greenhouse, or hothouse, or perhaps conservatory, assisted by some lengths of pipes for water or of flues for smoke, we have trusted for a view of the flora of every latitude, and for watching at our leisure the phenomena of a vegetation too delicate for the rude climate of our northern station. We are now to see what gardening can do when unrestricted by cost and unconfined by such narrow space as it has previously been cramped in. Sir JOSEPH PAXTON has begun the experiment of a park under glass. The Crystal Palace at Sydenham, in which the great Conservatory at Kew would make an aviary, has been commenced in earnest; the plans are decided upon; the workmen are there; levels are made; roads are cutting, mounds are rising, a forest of iron is again invading the ground, and, if the directors of the operation are not mistaken, nine months will bring the whole to a completion.

The place that has been selected for this experiment is a hill-side on the borders of Kent and Surrey, close to Norwood, and looking to the south. Than the situation nothing can be more beautiful; from the summit of the hill the eye ranges over a fertile valley, richly wooded and winding along till it fades into the horizon. Though near London, there is not a symptom of its neighbourhood; the trees are as healthy, the foliage as verdant, the Grass as clean as in Derbyshire; nor is there any probability of the vicinity being discoverable for years to come—for the hill turns its back to the metropolis, with all Dulwich and Herne Hill between. It is just below the ridge of this hill that the new Crystal Palace is to be placed, with its three transepts at right angles to the ridge; the principal transept will be 100 feet higher than the old one, and thus the building will become a landmark for miles around. The great fault of the old building was its insufficient elevation, and the long unbroken line of its walls. The new situation removes the first of these defects, and the other is effectually cured, not only by the new transepts, but by throwing out two vast wings from the extreme ends of the building and at right angles to it; so that the whole will form a kind of court with three sides, the garden side remaining open. The area of this court is to be an enormous parterre enriched with statuary and fountains. Away from it, right down the hill, stretches a long broad walk, terminated by a circular basin, and having on either side a richly decorated garden abounding with pieces of water intermingled with shrubberies, and alive with fountains. The other portion of the ground, forming the park, will, we presume, be converted into a pleasure ground, where visitors may enjoy themselves as they best like.

The interior of the Palace will form a garden of some 13 or 14 acres, in which the Palms of the tropics are to contrast with the Orange and Myrtle of milder regions; and the visitor is to stroll among groves of Camellias and Chinese Azaleas.

Well might Mr. LAING, the chairman, exclaim at the ceremony of raising the first pillar of this pile, that "although he had at first felt inclined to reproach the Legislature with indifference to the wishes of the people, when the old Crystal Palace was refused a resting place in Hyde-park; yet experience had taught him that it was better that the people should be left to carry out its own idea." He might, without impropriety, have even thanked those whose opposition he had so greatly deprecated. The truth is, that for all purposes of a great public garden, Hyde-park was the worst site that could have been chosen. A level piece of ground on the edge of a great ugly public road, close to a crowded neighbourhood, exposed to the smoky vapours of London as long as a puff of easterly wind can be felt; inaccessible except by roads that a few hundred carriages render impassable; and what is worse than all, fixed in a royal park where there could not by any possibility have been that freedom of action which is so desirable in all great operations, difficulty after difficulty would have arisen, and, although skill and perseverance, aided by a friendly Legislature, might have overcome them all, yet it is certain that under no circumstances could that success have been achieved which may be looked for confidently in the pure air, beautiful scenery, and sequestered though freely accessible situation of Sydenham.

No one can regard this enterprise from a horticultural point of view, without extreme interest. Skill, taste, and unlimited means may now put forth their strength as they never could before; there is not a problem in heating or ventilating that may not here be solved; all the disputed questions connected with the perfectly healthy growth of free vegetation under glass, may be settled by direct experiment, and the public may learn here, although from works on a large scale, what it is possible to do on a small one.

Although the construction of fountains is not strictly a horticultural question, belonging rather to the engineer, yet it is so generally associated with gardening, that we may be permitted to add a word upon the subject in this place. It is unfortunately notorious that we have not one single instance near London of what deserves the name of a fountain. In or near this great metropolis, there is not a square, nor a park, nor a garden, in which a fountain is even attempted; and yet, few things in their way contribute more to salubrity or personal comfort, or exercise a more agreeable influence on the mind. Fountains are perhaps, next to sculpture, the best evidences of refined taste. As a substitute for them, we have a squirt or two in St. James's Park, and a couple of turncocks' jets in Trafalgar-square—and that is all. The Crystal Palace at Sydenham, will, we trust, render the perpetration of such absurdities impossible in future. It is well known that Sir JOSEPH PAXTON is the only man in this country who combines with the taste of a landscape gardener an intimate practical knowledge of the mode of constructing fountains on a large scale. The "Emperor" and the dancing fountains at Chatsworth are familiar records of his power. At Sydenham we are to see what his unfettered skill can do in this way. Waterworks are to be a great feature of the place; we are to have plenty of fountains everywhere always, and on grand days others are to be set in action. Jets are talked of 250 feet high. We are to have the *grandes eaux* of Versailles, without the trouble of going to Paris in search of them.

Let all these things be executed in the spirit in which they have been conceived, and London will possess one more point of attraction in which the world will in vain attempt to rival her, created too by money freely granted by freemen, instead of proceeding from forced contributions torn by the mighty from the reluctant hands of the feeble.

FOOD in its prepared state, although not classed among the main objects of this journal, is, nevertheless, one to which we so often draw attention, that we make no apology for bringing under the public notice a short paragraph in Dr. HOOKER's report upon the subjects examined by the jury of food in the Great Exhibition of all nations.

"A more simple, economical, and efficient form of portable concentrated food than the American MEAT BISCUIT OF GAIL BORDEN, has never been brought before the public. The inventor combines the best Wheat flour with the nutriment of the finest beef, and presents them for use as food in the form of a dry, inodorous, flat brittle cake, which will keep, when dry, for an unlimited period. It only requires hot water and seasoning to the taste to produce a first-rate, agreeably-flavoured, highly-nutritious soup, somewhat of the consistence of sago. One pound of the biscuit contains the nutritive matter (fat excepted) of 5 lbs. of prime beef, mixed with half a pound of the best Wheat flour. One ounce of the biscuit grated, and boiled in a pint of water, forms a rich nutritious soup. It is averred by the inventor, and he is supported by authority satisfactory to the jury, that 10 lbs. of this substance, with a proper allowance of water, afford, both in bulk and nutriment, food sufficient to support the physical and mental powers of a healthy working man for a month. The jury further believe it to be as portable and unchangeable as the inventor declares." "Chemical analysis shows the proportion of meat to starch to vary in different samples, but that in all cases the meat is perfectly sound and free from putridity, and the starch unaltered. On an average it contains 4·9 per cent. of nitrogen, or 31·85 per cent. of flesh-forming principles. A Council Medal is awarded to this excellent preparation."

The authority alluded to in this paragraph has been given by one of the gentlemen who delivered lectures last spring before the Society of Arts upon some of the more striking points in the Great Exhibition. It was proved to the satisfaction of the jury that this biscuit had been used in the American navy, and found to sustain the strength of the men to whom it had been given, in a remarkable degree. Statements were made and corroborated, that it would keep perfectly well without change, under disadvantageous circumstances. Colonel SUMNER, an officer in the United States Dragoons, who had seen it used during field operations, said he was sure he could live upon it for months, and retain his health and strength. The inventor, he said, names five ounces a-day as the quantity for the support of a man; but he (Colonel SUMNER) could not use more than four ounces, made into soup, with nothing whatever added to it.

The patentee gives the following account of its preparation: "The meat biscuit is manufactured in Texas, because the prairies of that state abound in neat cattle of the finest quality, at so low a price as to justify its manufacture into this concentrated form of food, and thus save an immense expense in the transportation of useless bulk and weight of meat into countries where it is scarce and dear. The manufacture is carried on by means of the best machinery and apparatus, got up at great expense; and every process is conducted with the strictest regard to cleanliness, as abundantly testified to by hundreds who have visited the establishment. The process of manufacture is this: The beef, fresh from the slaughter, after being finely cut up by a powerful cutting machine, is boiled in a large quantity of water some 16 hours. The fat is then removed, and the liquid, which by a simple process of filtering is separated from the meat, is evaporated to a uniform degree of density, ascertained by a syrup gauge. This extract, resembling thick sugar house syrup, is then mixed and kneaded with the finest of flour, rolled and cut into biscuit by the usual machinery, and baked in an oven or kiln, so constructed as to give a uniform heat. The biscuit, resembling in colour light sugar cake, is not however ready for making into soup, &c., until ground or pulverised, which process also renders it more convenient for packing into casks or canisters."

One of the few Council or Great Medals awarded by the juries having been unanimously given to

Mr. Gail Borden, the inventor of this substance, that circumstance alone would have led us to regard it with no small interest. But we happen to have so much personal knowledge of the admirable quality of the article, that we should hardly be justified in not drawing attention to it in this special manner. The instructions sold with the canisters mention many ways in which it may be advantageously employed, and we can confirm the exact truth of these statements. A lady of our acquaintance was so delighted with the biscuit powder, that she actually set down the following as her own opinion of it :—

"Borden's patent meat biscuit powder is excellent for common soup, and particularly convenient for soup wanted in haste, for you require only sufficient time to fry and well boil your vegetables and spice in the quantity of water necessary for the soup; in the meantime the biscuit powder, an ounce or two table-spoonfuls to every pint of water, must be moistened with cold water as for arrow-root, but some minutes before wanted; then the prepared stock must be strained on the biscuit powder, and carefully mixed and boiled for half an hour, and the soup is ready for table. Two ounces, not quite four pennyworth of the biscuit powder, will make a quart of excellent soup, for which a pound and a half of beef at least would be necessary for the same quantity of soup made in the usual way."

It is not, however, as mere food that we esteem it so highly, great as its advantages may be to unfortunate housekeepers suddenly called upon to produce soup at an hour's notice; it is more especially valuable as a food for invalids, especially where the stomach rejects all ordinary substances. We can say, of our own knowledge, that it has all the advantages of the lightest and purest fæcula, combined with the strengthening action of animal substances; and being itself quite insipid, it can be so readily flavoured that the most fastidious person may learn how to make it to his taste.

For the benefit of our country readers we may add (since it has hardly ever been advertised), that it may be had of the agents, at 137, Leadenhall-street.

ERIOSTEMONS.

Most of these handsome greenhouse shrubs have a compact habit of growth and flower profusely, and if placed in a rather shady part of a cool house they remain as long in perfection as most plants. Persons about to commence their culture had better select plants for themselves, or in ordering them state that only good plants will be received or paid for. Plants of the Eriostemon, to be worth the attention of beginners, must be well rooted, strong, and dwarf, with a good leading shoot.

Having obtained good young plants early in March, place them in a light airy situation, where the temperature may range from 45° to 55°, according to the amount of sun-light. Stop and tie out the principal shoots, except the leading one, which, if the pyramidal form of training is to be adopted, (and it is most suitable for the Eriostemon,) must be kept tied to a stake; and moisten the plants over-head on the mornings of fine days, to induce them to break freely.

As soon as growth commences examine the roots, and if they are plentiful and healthy, give a liberal shift at once—say into pots two sizes larger—and keep the atmosphere rather close and moist, until the roots can strike into the fresh soil. When the plants are established, after potting and growing freely, admit air on every favourable occasion, but avoid cold currents, which would discolour the foliage and check the circulation of the sap. If the plants start into strong vigorous growth the temperature may be allowed to range as high as 60°, with plenty of air, and full exposure to sun-light, and 50° at night; but weakly growing plants will be better in a temperature 10° lower. Remove them to a cold frame in May, or as early as the state of the weather will allow of doing so, without their sustaining a check from the change. Afford them some slight shelter from the mid-day sun: supply them freely, but carefully, with water, and maintain a rather moist atmosphere by syringing overhead on the mornings and evenings of bright days, and admit air freely at all times. Turn the weakest side of the plants to the light, and if any of them form callosities upon the stem or old wood, which they frequently do when kept in a moist atmosphere, discontinue syringing, and give more air, or remove such plants to the greenhouse. Any of the specimens that may appear to have filled their pots with roots should be examined and shifted if necessary; but as it is desirable to have the pots moderately filled with roots previous to winter, the extent of the shift should be regulated by the season and the vigour of the plant. Watering over-head should be discontinued by the middle of August, and the plants should be freely exposed to sun and air after this season, to ripen the wood and prepare them for winter. A light airy situation in the greenhouse, careful watering, and occasionally turning round, to prevent any tendency to one-sidedness, is all that they will require during winter. If this treatment is continued for two or three seasons, and if all goes on favourably, the result will be magnificent specimens, or if moderate-sized flowering plants should be as useful as specimens fit for an exhibition table, these will be obtained by keeping the plants in the closest end of the greenhouse after the first season; and this treatment will probably suit the purpose of beginners best, as the specimens will last longer, and more time may be required to produce first-rate examples.

The only suitable soil for the Eriostemon is rich turfy peat, which should be in the best possible condition as respects age; one-sixth of light sandy loam will improve the compost, if the peat is of a poor sandy nature. The peat should be broken up into pieces not larger than a hazel nut (rejecting all except the prime), and mixed with one-fourth silver sand, and a quantity of clean small potsherds or charcoal. It should be in a properly moist state when used. Thoroughly drain the pots, and put a thin layer of clean rough fibry peat over the drainage, to prevent the water from carrying down the fine particles of the soil and stopping the drainage. *Alpha.*

ENTOMOLOGY.

The Psylla of the Box.

Amongst the various effects produced by the attacks of insects upon trees and vegetables, none are more remarkable than the changes in the growth and development of the leaves and buds caused by the disturbance of the ordinary conditions of the vegetable economy. In some cases this occurs in the hardest woody structures, such as the roots of the Oak, where galls as large as a man's fist are formed by a wingless species of Cynips, or in the woody shoots of the Pear, of which we gave a most striking example in our Number of December 1, 1849. In other cases the effect produced is the development of an abnormal structure, which puts on the complete appearance of a fruit, as in the far-famed Apples of the Dead Sea (which "turn to ashes on the lips;" in other words, on biting them the mouth is filled with the powder which they contain after the insects have completed their transformations); or in the better known Oak Apple; and in other cases the attack is followed by the distortion of the young leaves, causing them to assume the appearance of flower-buds.

In the present article we propose to give the history of an insect which produces effects of the last mentioned kind, and which may often be observed during the summer months on the common Box trees in our gardens.



The accompanying woodcut represents a twig of Box, the centre shoot of which presents the ordinary mode of growth of the plant, whilst the three lateral shoots exhibit the effects of the attacks of the larvæ of Psylla Buxi, a minute four-winged homopterous insect, belonging to the family Psyllidæ (Chermes Buxi Linnæus, Psylla Buxi Geoffroy). The leaves of these lateral shoots are curled into a cup-shaped form, overlapping each other, the growth of the shoot being retarded, and the development of the terminal leaves entirely prevented, so that the interior of these little balls is more or less hollow. On opening one of these balls, about the beginning of June, a quantity of white powdery grains will be found, amongst which is a variable number of minute flattened green insects, of an oblong form, with short slender antennæ and six legs; in addition to which, are others of a larger size, and somewhat broader form, with flat semi-transparent lobes on the sides of the body (see fig. † of the natural size and magnified); these as well as the smaller ones often having attached to the extremity of the body a long white filament like a short bit of thick coarse white thread (or rather, as Réaumur observes, a bit of ill-made vermicelli), particles of which of various shapes are also to be observed on the leaves of the Box, as well as hanging about the ball of leaves (see fig. ‡). The smaller insects are the larvæ, and the larger ones the active pupæ of the psylla; the flat lobes at the sides of the latter are the cases within which the future wings of the psylla are developed, and the white filaments and grains are nothing else than the excrement of the insects. The close relationship of these psyllidæ to the aphides, the excrement of which constitutes the well-known honey-dew, enables us to account for the circumstance that this excrement, instead of being of a disgusting nature, when placed upon the tongue melts like gum, with an agreeable sweetish taste; and Reaumur suggests that if collected (which could easily be done, from its great quantity), it would most probably prove an excellent medicinal remedy. It is in fact a kind of manna. Th great inactivity of the larvæ, which of course find a their sustenance within their hollow ball of leaves, is th cause of this matter forming such long filaments; for, c compelling them to crawl away, the white filament easily detached from the extremity of the body Th instrument by which these insects obtain their nourish ment, and at the same time cause the alteratio in the growth of the leaves, is a short jointed rostru attached to the underside of the body, so far back as t be close to the fore-legs: within this rostrum are sever very delicate threads which the insect has the power protruding to a great length, and of which the poin are thrust into the substance of the leaf, so that it sometimes difficult for the insect to withdraw them o being disturbed. The operation of puncturing the le is doubtless attended with the introduction of a certai amount of fluid, which acts as an irritant upon th adjacent vessels and causes the abnormal growth abov described. The precise nature, however, of the actio which takes place in this and other analogous cases ha yet to be discovered.

After remaining a few days in the pupa state th insect assumes the winged state; the wings, which ha previously been enclosed in the flattened horizonta lobes, being now carried in a slanting direction lik the roof of a house; and the insect, instead of being on of the slowest in its ambulatory movements, having no acquired the power not only of flying but of leapin with great activity to a considerable distance. Th perfect insect measures rather more than a quarter o an inch in the expansion of its fore wings. It is a beautiful green colour, with several reddish-brow marks on the thorax. The fore wings are of a pal buff colour with green veins, and the hind wings ar quite transparent; the antennæ are yellowish, with th tips dusky. The female has a horny ovipositor at th extremity of the body, with which in all probability sh forms small slits in the twigs, in order to deposit he eggs, which are not hatched till May in the followin year. The place, however, in which the eggs are placed has not yet been observed, but the strong horny texture of the instrument for oviposition seems t indicate the habit, similar to that of the Cicadæ o saw-flies. *J. O. W.*

SALADS.

Mustard, Rape, and Cress.—Mr. Chapman o Vauxhall is a large grower of these; he sows a house-o them every other day. The price of Rape is only abou a shilling a bushel, which is cheaper than Mustard When young the Rape-plant is more hardy and les liable to damp off than Mustard; it is also smooth in th stem, and much whiter. Rape is not quite so hot i the mouth as Mustard. Sometimes when the grower run out of Rape seeds they are obliged to employ Mustard, but of this the greengrocers soon complain their customers telling them that it was not Mustard at all which they sold them; showing that the London people prefer Rape to Mustard. Both are sown on old tan, made smooth and level on the floors of Vineries and other empty houses. The tan is well watered and nothing whatever is put upon the seeds except a mat, which is merely to keep them moist. They soon vegetate, and, when the plants are about 2 inches high, the mats are removed during the day to make the seed leaves beautifully green; but they are put on at night to hasten growth. When about 4 or 5 inches high the crop is cut, each handful being at once put into a punnet 2 inches deep and 5 inches or so in diameter. It is sold cheap and is in good request, being considered a fine purifier of the blood, as well as an ornament among other salads.

Cress is sown and treated as the above; but it requires to be kept moist and more excluded from the air, on account of its being a smaller seed with much less water in it than Mustard or Rape.

American Cress.—This is much admired by many as a breakfast salad, the young centre leaves only being used; it requires sowing once a fortnight during the spring, as it soon runs to seed, and twice or thrice in autumn, for winter supply. Viscount Midleton, with whom I lived, would have it every mornin; he said that he considered it preferable to Watercress as a purifier of the blood. Where there is much demand for it, I see no reason why it should not be sown thick, and cut off like Mustard. The seeds are cheap enough. Frames can easily be put over it during winter, or a covering of straw would make it always accessible in that season when too many food ingredients cannot possibly be produced.

Corn Salad or Lamb Lettuce.—This humble but excellent herb is scarcely known in the London markets. It forms a good ingredient in a salad, and it is a powerful purifier of the blood. Being a native of Britain, it is very hardy, and if sown in July, August, and September, a good succession of it will be kept up during winter. Frames might be filled with it late in autumn, or it might be covered with straw in the open ground in case of frost or snow. These would keep off the weather, and render it more easy to get at; sow it in beds or rows, thin out to about 5 or 6 inches apart, and it might even be sown thickly, like Rape, Mustard, or Cress; and, treated in this way, the grower could at all times have it at command. I have never blanched it, but I see no reason why it should not blanch. All those herbs must, however, be asked for before they become common. A demand must be created for them. Market gardeners will not grow what they cannot sell;

or they would break down, as I did 12 years ago, with that most valuable of winter salads, blanched Chicory leaves. *James Cuthill, Camberwell.*

ON ERGOT OF RYE.

By M. L. R. Tulasne.

From the time that botanists have been agreed as to the vegetable nature of the ergot of Grasses, almost all distinguish in it two things: on the one side a fungous homogeneous solid mass (Sclerotium, D. C.; Nosocarya, Fée), and on the other a filamentous and sporiferous part, which is especially abundant towards the top of the ergot (Sphacelia, Lév, Fée; Ergotætia, Quekett). It is supposed that the latter constitutes the parasitic fungus, while the body of the ergot is considered a monstrosity of the ovule (Léveillé*), a pathological production (Phœbus, Mougeot, &c.), or a grain in a state of hypertrophy (Fée) without any question as to its real nature and destination. Its enormous size with respect to the Sphacelia should seem, however, worthy to have claimed more attention, and ought to have excited a suspicion that the most important functions did not belong to the sphacelus. The discovery of the sporiferous portion of the ergot was undoubtedly a considerable step towards the knowledge of this singular vegetable, to which its poisonous and medical properties give a double interest; but it does not appear at the present moment that this discovery sufficiently authorised its removal from the number of Sclerotia, amongst which M. de Candolle had properly placed it. In fact, the ergot of Rye, which I shall consider as the type, is formed, as the greater part of Sclerotia, of a very dense tissue consisting of polygonal cells united intimately with one another, and gorged with an oily fluid. An attentive study of its development shows, moreover, that it grows exactly like a Sclerotium, that is to say, in the midst of a filamentous tissue, which infests the young flower, and especially its ovary. A circumstance, however, is peculiar to it, that it has a rough resemblance to the grain of Rye. The reason of this is that it is developed in the unimpregnated ovule of that plant; for, although extremely dilated by the entophyte and rendered difficult of recognition, the integuments of the ovule increase without completely losing the form which they would have assumed if they had grown into a true grain, imitating in this respect the ovaries of Wheat in which Tilletia caries (Bunt) has replaced the seed. That which was first called by Léveillé, Sphacelia, and then Sacculus, by Fée, in the ergot, is nothing more than the accumulation which is made towards its summit (and most frequently as much round, as within the still existent extremity of the ovary) of the threads of the mycelium, of which it forms an integral part, and of conidia† (sporidia of authors) which spring from it; but as these threads and conidia are more or less abundant on all parts of the ergot, the pretended Sphacelia is not an acrogenous production, as was imagined, and it would be wrong to assign to it precise limits.

If there is nothing in the ergot of Rye but a Sclerotium, with the mycelium which has produced it, and the conidia scattered upon the threads of the latter, there is no need to make of these two elements a particular entity, nor to give them a collective and special name (Sphacelia, Lév., Fée); for, united to the Sclerotium itself (pseudostroma, Fée), they do not yet constitute a perfect plant (as the Sphacelidium, Fée), but are only, properly speaking, organs of vegetation. The fungus which is destined to grow from all this apparatus (that to which it must be referred as to its ultimate end) is an elegant Sphæria, and probably that which has received from M. Fries the name of Cordyliceps‡ purpurea. This plant was for the first time described at the beginning of the present century by Schumacher, who found it, as he says, on corrupted grains of cereals. It has been observed recently by M. Roussel on Sclerotium clavus, growing on Bromus sylvaticus and Arundo calamagrostis, and by Messrs. Petit and Bemberger, quoted by Desmazières on some undetermined Grass; finally, according to M. Mérat, who thought he had found in it a new species of Onygena (Onygena cæspitosa s. affinis Mér., msc. in suopte herb). M. Bunéril had met with it on the ergot of Rye. Notwithstanding, the origin of this Cordyliceps does not seem to have opened the eyes of botanists hitherto to the real nature of the ergot of Grasses; and though this origin could no longer be regarded as accidental, I have strived to assure myself by a direct experiment, that the final production of the ergot of Rye was really what the preceding observations indicated. With this intention, then, I planted a certain number this summer, which commenced vegetating two months ago, and I have now specimens which produce many individuals of Cordyliceps, of which I have seen the growth, and followed daily the development.

If, after these explanations, other proofs of the real nature of the ergot of Rye were judged necessary, I should appeal, as a term of comparison, to Cordyliceps typhina, Fries, whose stoma proceeds from a filamentous mycelium, exactly analogous to that of Sclerotium clavus, D. C., and which is equally covered with numberless acrogenous conidia, before giving birth to the aggregated perithecia, whose intimate structure does not differ from that of Cordyliceps purpurea, Fr.

It follows, then, from all that has been stated, that the ergot of Grasses, if submitted, like other plants, to the influence of cosmical conditions, is not, as M. Fries supposed, incapable of propagation by seed, since it possesses at least two sorts; the one the conidia, which precede and accompany the development of the Sclerotium, and which I have often seen germinating and elongated into threads, like the conidia of Erysiphe (fecundating organs and spores, Léveillé*), or as the spores, properly so called, of Mushrooms; and the others are the sporidia of the Cordyliceps, in which resides probably the most perfect faculty of propagation, and of which a great portion is not matured or disseminated, till towards the time of flowering of the Rye.† The examination which I have made of the ergot of Scirpus Bæothryon, and Heleocharis multicaulis, and its conidia, gives me ground for thinking, in opposition to the generally received opinion, that the ergot of Grasses, and that of Cyperaceæ, do not belong to the same vegetable species. There is room also for inquiring whether we are justified in believing that either of the two is always identically of the same nature, or whether it may not comprise more than one distinct production. *Comptes Rendus, Dec.* 8, 1851.

* See Ann. d. Sc. Nat 2. ser. N. 20, p 218. Although M. Léveillé has mistaken the nature of the ergot of Grasses, his opinion "that Sclerotia are fungi arrested in their development, or rather a condensed mycelium which Nature employs for the preservation of species," gives an additional degree of certainty to the facts mentioned in this notice.

† See, as regards this word, my note on the reproductive apparatus of fungi (Comptes Rendus des Séances de l'Ac. d. Sc. t. xxxii., Mars 31, 1851.)

‡ Fries writes in general, doubtless by way of abbreviation, Cordyceps, but both are hybrid words, for which Claviceps should, perhaps, be substituted.

* See Ann. d. S. N. 3 ser. t. xv. pp. 119, 120, 178. M. Léveillé appears to be mistaken as to the value which I attributed to the moniliform reproductive cells of the mycelium of Erysiphe, for I have regarded them merely as conidia. See my note on the reproductive apparatus of fungi, quoted above.

† Thus in spring the Sycamores are already covered with young leaves, when the Rhytisma acerinum emits into the air its linear sporidia.

Home Correspondence.

Old Tan a Remedy for the Potato Disease.—Owing to the prevalence of disease, I am again induced to recommend planting in old tan, which has proved the best and only remedy I have yet met with; and, as a proof of my success, I grew nearly 60 bushels on this principle, and scarcely a bad Potato was to be found, although planted on heavy clay soil. They were the admiration of all who saw them; while others planted in the same garden without tan were entirely destroyed. As a further proof of the excellence of this remedy, I was resolved last year, by way of experiment, to try them on the same ground without tan, and the result was that nearly half were bad. I write this after three years' experience, which has proved most satisfactory. I usually had the ground thrown up in ridges about November, and I allowed it to remain in that condition until the first week in February, when the sides were chopped slightly down, and about 3 inches of old tan put in between the rows; the sets were planted whole, and covered with tan and a portion of soil. There is likewise another advantage, viz., when the Potatoes are dug they leave the ground so clean that they require no rubbing, which assists their keeping. *E. Bennett, gr. to Sir Offley Wakeman, Bart., Perdeswell.*

Roses, &c., this year.—Souvenir de la Malmaison in ordinary summers never opens well on our red marl soils, it gets decayed at the edges before it is nearly expanded; this year, however, it shows itself to be a most splendid fellow; as a rule in small collections on a clayey soil it is not worth growing. Madame Desprez is untouched by insects, and can hardly be kept in order, so rampant and full of splendid flowers is it. Aimée Vibert will not stand this dry, hot weather; in a moist summer it flowers all the year. As a rule, I find "summer" Roses suffer more in our red marls than autumn. Scotch and other briars fade very soon. The Berberis aquifolium is wonderfully full of berries, which make it very ornamental. The Leycesteria formosa I have never seen make such shoots as this Chinese-like summer. Veronica Lindleyana is now, July 24th, in flower again, having been in that state out of doors in December last. The Nuphar lutea does not do so well this year; the water is less in motion than usual, seemingly. *Horticolus, August* 2.

Transmutation of Oats.—I followed the directions which appeared in your columns some years ago, for conducting the experiment for effecting a transmutation of Oats into other grain, very exactly; and to the best of my recollection I continued the process on some part of my crop for an additional year, but still nothing but Oats made their appearance; and as I understood that the alleged "transmutation" was generally admitted to be a delusion, I did not trouble you with any recital of my failure. *D. C. Whalley, Great Wenham, Ipswich.* [No doubt all other experiments equally failed, and therefore were not reported on.]

Manetti Rose Stocks.—Having heard it stated as the opinion of Messrs. Lane that Roses worked upon the Manetti stock die off after three or four years, it would be an act of kindness if some of your correspondents would give the results of their experience as confirmatory or otherwise of the above. *Subscriber, Bath.*

Hartley's Rough Plate Glass.—My rough plate (bought of Phillips and Co.), has proved itself invaluable. During that trying week of June, when the thermometer was at 86° in the shade, I had no sort of protection, and many of my Vines being in pots, were close to the glass, and not one leaf was affected; whereas I know of persons who lost their crops of Grapes, from having roofs of crown glass unprotected. *Arthur Moore, Walpole Rectory, Lynn, July* 27.

The double blue Hepatica with white flowers.—The following may be added to the many "sports" mentioned from time to time in your columns, for it is not met with every day. A plant of the double blue Hepatica produced very dark blue flowers in the spring of the present year; a second crop of blossoms is now on the plant. I have enclosed one of them for your inspection, and, with the exception of the outer petals, which are slightly tinged with blue, the rest of the flower may pass for a good double white Hepatica, a flower that is often sought after but seldom found. Could anything be done to prevent the flowers becoming blue in the spring of next year? *Peter Mackenzie.*

Leaf burning.—Nearly all the cases of burning in Rhododendron leaves that have come under my notice, have been traceable to imperfect root action and general debility, induced by unsuitable soil and drought. Plants suffered this spring from these causes in May, before growth commenced. After a good soaking with water, the foliage improved much, and became partially restored, but still there were the marks of the burns. In favourable situations, as regards soil and moisture, burning has seldom occurred. *W. C. E.* [We do not agree; for it was very bad in very favourable places among very healthy established plants.]

Melon Growing, up rafters, is practised by me with as much success as it is by Mr. Jones (see p. 500); and I can confidently recommend the plan, but if his Trentham Hybrid is the same as Fleming's Hybrid, growers will find it necessary to fix a net or bag to catch the fruit, as this kind and the Ispahan fall greener than many other sorts. Most of the Melons are ripe and fit for table when they drop into the bag; but the two I have named will fall and break to pieces if nothing is provided to catch them before they look ripe enough to cut. *Joseph Newton, Ickwell, Biggleswade.*

Violet Glass is very useful for causing more speedy vegetation in seeds and the quicker striking of cuttings, but would it be better than clear or patent rough plate glass for a garden frame for general purposes? and would Cucumbers do as well or better under it during their whole growth? *Tirydail.* [We prefer white light, the natural light which Providence has given us.]

Rain in June and July.—The following remarks relative to the rain that fell in the months of June and July appear worthy of observation. In June, rain, more or less, fell on 24 days of the month—the amount collected in the gauge was 4.15 inches. In July, on the contrary, rain fell on only six days; yet the enormous amount of 4.82 inches was collected in the gauge. The rain was distributed in the following remarkable manner:—

		Inch.	
July	13	.09	Thunder shower at night.
,,	16	1.93	Violent thunder storm, with large hail, evening.
,,	17	.02	Showers A.M.
,,	25	1.80	Thunder storm, with very heavy rain, P.M.
,,	26	.73	Heavy rain, 2—7 P.M.
,,	31	.25	Thunder and rain, evening.

These heavy rains seem, nevertheless, to have been partial: at Chiswick, for instance, but 2.28 inches appear to have fallen; and at Tunbridge Wells, I understand, that no thunder storm has taken place during the month, and that the only rain fallen has been showers on the 17th and 31st. The paragraph that has been going the round of the Papers predicting extraordinary falls of rain as likely to attend the occurrence of two full moons in July, has certainly, as to this neighbourhood, been correct; but whether the one phenomenon was in reality at all the result of the other, appears to me exceedingly doubtful; it, nevertheless, claims the attention of meteorologists. *C. B. N. P., Stevenage, Herts.*——I see by the weather report in your columns that no more than 36-hundredths of an inch of rain fell at Chiswick on Sunday, July 25th. At this place (which in a straight line is not more than 15 or 16 miles distant from Chiswick) the fall of rain in about 40 minutes, between the hours of 12 and 1 on that day, amounted to 1 inch and 8-twentieths; and from noon on Sunday to noon on Monday we had the unusual quantity of 2 inches and 15-twentieths. *J. B. Whiting, The Deepdene.*

Cooling Drinks.—The following receipt for ginger wine will be found economical, and ready for use in six weeks, and therefore better than that given by a correspondent a few weeks ago. When diluted with about two-thirds of water it is a very grateful and cooling beverage. The wine sparkles and froths on the top, similar to Champagne. "Put into a furnace the white of one egg, well beat, 4 lbs. of loaf sugar, and 1 gallon of water; mix well, and when it boils skim until clear; then add the rind of two lemons (pared very thin), and 2 oz. of best white ginger, bruised. Boil for a quarter of an hour; remove from the furnace, and put into a vessel to cool; when cold, add the clear juice of the lemon. To every 8 gallons of wine add two table spoonfuls of yeast, and then tun, and let it remain in cask or bottle six weeks. It will keep several years, and does not require to be brandied." *C. Pocklington, Boston.*

Adulteration of Sulphur.—A correspondent in your last (p. 501 *c*), recommends precipitated sulphur for mixing with water, in preference to the sublimed "flowers of sulphur;" but has not cautioned your readers that much of the "cheap" milk of sulphur is more than half gypsum, being precipitated with sulphuric acid instead of muriatic; and this kind is best looking as well as cheapest. The fraud is, however, easily detected, by burning off the sulphur in an iron spoon; the pure sulphur will burn entirely away, while the gypsum will remain fixed, however much the heat may be increased. The genuine precipitated sulphur

is entitled to his recommendation; but not so the "cheap." *J. Prideaux, Plymouth.*

Scarlet Runners.—As the Potato seems to be doomed to destruction, and substitutes for it are necessarily sought for, nothing more prominently offers itself at this season than the Scarlet Runner; our treatment of it may perhaps, therefore, be acceptable. The plants ought to be sticked in double rows 6 feet apart, and where sticks are not attainable, light iron hurdles, with only two bars, and strings attached from top to bottom to climb upon, will answer and look neat; or in default of the hurdles, two poles or splints, nailed to here and there a stake, will be found sufficient support. As soon as any Beans attain the length of 3 or 4 inches, every two or three days such should be gathered, and none allowed to hang for seed, as is the common practice; only one on a plant thus left will partially stop its growth If these observations are attended to, four times the quantity of Beans may be obtained during the season than by the general plan of saving some for seed. The same observations apply equally to Peas, &c. *Hardy and Son, Maldon.*

The Castor Oil Plant (Palma Christi).—The following is a brief description of two varieties of the Palma Christi which I have raised from seed, sown last March in a moderate heat. These plants (as now growing in the open air in the pleasure-grounds of Hartley Grange, near Winchfield, Hants) have a very graceful and ornamental appearance. The first variety, called the Ricinus rutilans, may be described as a handsome plant growing to about the height of 6 feet, and having a stem of a green colour, with a maroon shade, and covered with a whitish bloom. This stem bears a luxuriant head-foliage of 8 or 10 leaves, in shape nearly circular, and averaging about 20 inches in diameter, the leaves having footstalks of from 8 to 10 inches in length. In colour, these leaves when about half grown, are of a dark green, with an extremely rich ruby tint, the central fibre partaking of the latter colour only; but the shades become lighter as the plant advances in growth. The second variety, called the Ricinus major, differs but little from the other in general appearance, but has rather more foliage, and is of a lighter green, with white fibres in the leaves. I enclose a sketch of a leaf from the first-named plant, taken from actual measurement; it is therefore a correct copy as regards size and shape. *John Ratty.* [The sketch measured 20 inches in diameter the one way, and 22 inches the other. Shape round and handsome.]

Diseased Grapes.—I am anxious to know whether there is at present any peculiar disease among Grapes. The whole crop in one of my houses presents the appearance of being mildewed, and my gardener tells me he is at a loss to explain it. He has tried washing the bunches with sulphur and water, and has also been very careful to keep the house well aired and dry. The disease, however, is not checked. For some weeks the temperature during the day has been 75°, and at night about 70°; but he has lately been keeping it both day and night at about 75°. The Vines are in full bearing, and the bunches are now being thinned out. They promise an abundant crop. In the next house, where the fruit is ripe, nothing of the sort has been observed. *S. H. N.* [We presume your Grapes are attacked by mildew, for which, as we have often stated, sulphur is a certain remedy, provided it is diligently applied the moment the fungus makes its appearance. Persevere in dusting both the leaves, wood, and fruit, with flowers of sulphur; and if the disease has not advanced very far indeed, we have no doubt you will be able to conquer it.]

Rivers' Dwarf Fruit Trees.—I shall be doing your readers a service if I can induce them to introduce a few of those charming little trees into their gardens. I purchased a selection from Mr. Rivers three years ago, including Pears, Apples, Cherries, and Plums. The Plums I do not find to answer well with me; but the soil is unsuited for them, being a poor hungry gravel. The Cherries are beautiful little bushes about 30 inches high, and the same across. I was unfortunate with the Apples, as a hare got into the garden the first winter I had them, and barked every tree but one. I had to cut them over, and they have hardly got into bearing yet. The one, however, which was spared, although a perfect pigmy, has borne a dish of beautiful Sturmer Pippins every year since I have had it. It is to the Pears I would particularly direct attention. Any one, with a piece of ground to spare the size of a moderate room, may have an orchard of the finest French Pears containing 30 or 40 trees, and by a little care in the selection, so arranged as to have a supply of properly ripened fruit for each month in the season. A plot of ground, 16 feet square, would very well contain 25 of these miniature trees, and with a little attention to their management, and a little protection when flowering (for which purpose I generally employ an old copy of the *Times*, and a couple of pins), there would be almost a certainty of a full crop every year. I have at present in full bearing Louise Bonne of Jersey, Easter Beurré, Beurré Langelier, and Beurré Diel. The trees are from 3 feet to 4 feet high, and from 18 inches to 30 inches across. The Beurré Diel has three dozen of fine fruit upon it; the fruit is far superior in flavour to that grown against a wall, and very little inferior in size. I purchased the trees in February, and had a fair crop on some of them in the autumn following. The Louise Bonne had a fine crop, and it has every year yielded from 6 lbs. to 8 lbs. of most beautiful fruit; it is not, however, so great a bearer as Easter Beurré, or Beurré Diel. *J. Girdwood, Chirk, N. W.*

Bees.—No art or skill can force bees to do what they do not wish. I have never found them work readily in such a confined space as that mentioned at p. 502, and would therefore recommend your correspondent not to trust to glasses for all his honey, but merely for a slight instalment of it early in the spring. My management is as simple as it is effectual, and on those accounts I would recommend it to the serious notice of every apiarian. Among many hives, I will particularise the treatment of E, which was a late swarm of the preceding year. In the spring it thrived, and upon the hive appearing crowded, I placed a small cap upon it; in a fortnight it was filled, and taken with 3 lbs. of honey in it. The swarming was of course delayed by the cap. The hive upon this seemed too small for its occupants, the bees crowding outside, and even commencing to build underneath the floor-board, and I put another hive (called nadiring) underneath the stock hive. Into this they swarmed on June 1, and when they had, in a fortnight's time, nearly filled the lower one with combs, I separated them and placed them on different stools, as being two distinct hives. Immediately subsequent to this I nadired each of them, and the bees, after a day or two's explorance, began working in them. The swarm at the present time consists of two hives both full of honey; the upper one of which, and therefore the oldest, I shall take in a few days. To the stock hive, E, I added a third hive, not as I wished at the bottom, but as the hives were too heavy to be easily lifted, I placed it between the two. All three are now filled, and the two upper ones I shall deprive of all their honey this month. Each of the three hives to be taken holds at a very moderate computation 25 lbs., so that 75 lbs. of honey will be really the produce of one stock hive, besides the swarm. My hives are broader than they are deep; a hole at the top, 4 inches in diameter, and have one window 6 inches by 4 inches; are made of straw, and are all of exactly similar dimensions. Their price is 2*s*. *John Lloyd, Dinas.*

Large Gooseberry.—I have been favoured by Mr. J. Holland, of Middleton, near Manchester, with a fruit of the largest and heaviest yellow Gooseberry ever grown in England. This berry formed one of three, with which Mr. Holland has been most successful at the shows of the week in his locality; its length is 2¾ inches, diameter 1¾ inches, weight 32 dwts. 2 grains. He gained a first prize with it at Middleton; a first at Manchester, when it weighed 31 dwts. 13 grains; and a first at Blackley, where its weight was 31 dwts. 12 grains. The variety is named Catherine. *J. Edwards, Wace Cottage, Holloway.*

Societies.

Entomological, *August* 2.—J. O. Westwood, Esq., F.L.S., President, in the chair. Amongst the donations announced as received since the last meeting, was the "Biography of the Rev. W. Kirby," late Hon. President of the Society, presented by the Rev. J. Freeman, the author; and a fine copy of the "Diptera Scandinaviæ," in 11 volumes, presented by Professor Zetterstedt, of Lund. The whole of the fine entomological library and collections of the late Dr. Bromfield, the former consisting of choice and finely bound copies of many of the most expensive works, recently presented to the Society by Miss Bromfield, was also exhibited, and an especial vote of thanks ordered to be given for the same. Amongst the exhibitions were specimens of the new British Hypera tigrina, one of the Curculionidæ, together with the cocoons from which it had been reared by Mr. F. Clark; also three species of case bearing moths (Coleophoræ), one of them found feeding on the Pear. Mr. Sam. Stevens exhibited many rare moths, including bred specimens of Graphiphora ditrapezium, from Leith Hill, Heliothis dipsacea, from the neighbourhood of Southampton, and Acosmetia caliginosa, from the New Forest. The President exhibited two curious monstrous specimens of the queen and male of the common hive bee. Mr. F. Smith exhibited a specimen of the common Tinea sarcitella, reared from a larva feeding on the corks of wine bottles by Mr. Filkin, and another reared by himself from the nest of Bombus Raiellus, where its larva fed on wax. Also a new British Bombus (B. nivalis of Zetterstedt), sent from Shetland by Mr. John White; also a series of specimens from Yorkshire of the rare Pompilus variegatus, with its male, now for the first time captured, and a specimen of Batrisus venustus, one of the rarer Pselaphidæ taken in the nest of the common ant, Myrmica rubra. The President read descriptions of three new species of Paussidæ from Port Natal, in the collection of Herr Dohrn, President of the Entomological Society of Stettin. Mr. Wing exhibited the cover of a champagne case which had been perforated with very large burrows by an insect (probably the larva of the goat moth or one of the large Cerambycidæ or Lucanus cervus). Mr. Waring exhibited reared specimens of Penthina capreana, Tortrix viburnana, &c. A series of notes was read by Mr. F. Smith, on the development of various insects, namely, Osmia parietina from a mass of cocoons found under a stone, some of the specimens having apparently been two or three years in undergoing their changes, Saperda populnea, reared from young swollen shoots of Aspen with its parasite Tachina nitidula, Attelabus curculionoides, Ptilinus pectinicornis and its parasite, Scolytus destructor and parasite, and Hylæus hyalinatus, the working instead of parasitic habits of the genus being confirmed. The completion of Mr. Warner's notes on the habits of various insects was also read.

Reviews.

History and Monography of Truffles (Histoire et Monographie des Champignons Hypogés, par Louis-René Tulasne en collaboration pour l'Iconographie analytique avec Charles Tulasne, D. M.) Paris, 1851. Fol.: pp. xx. and 222. tab. pic. ix., et analyticis xii.

This is beyond all doubt one of the most excellent and beautiful books which ever issued from the press. No pains have been spared to collect materials from every available quarter; every source of information has been most diligently investigated; every described species scrutinised and collated; due credit has been given to all previous writers, and not a particle of selfishness has interfered with the just claims of published nomenclature. The drawings, and especially the analyses, are beyond all praise; and the whole is combined with a tact and judgment which must establish the fame of the author, whose amiable disposition we know is in just keeping with his abilities, as a botanist of the first-class.

Few objects indeed are more interesting than the subterraneous productions which he has so ably illustrated. Their structure is extremely various and beautiful; their mode of growth very peculiar; their affinities highly instructive; and many of them are articles of considerable importance, as forming objects of commerce which frequently bear a high price, either in consequence of their rarity, or their delicious flavour. They are widely distributed over the globe. Some ascend as far north as Upsal, while several species not as yet properly studied occur in Australia. *Gautieria graveolens* was found by Liebmann in Costa Rica; *Hydnangium Stephensii* and *Rhizopogon rubescens* occur in the southern states of North America; and we have lately had a packet from Fries, consisting of about a dozen species collected in Ukraine, most of which are identical with those from Western Europe. Their presence appears in general to depend more on the mineralogical characters of the soil than on particular temperature; limestone districts being certainly most favourable to their growth.

Subterraneous species occur in all the principal groups of fungi, and the old notion of the close affinity of all hypogæous species, has been completely exploded by the observations of Vittadini, Klotzsch, Berkeley, Broome, &c., and more especially and more completely by our author. It is quite beyond the purpose of our journal to enter into any minute criticism of the work; some of the more general matter is, however, so interesting, that we shall take the opportunity of making a short abstract of some of the more popular information.

The Truffles which appear in the English and French markets, though very similar in outward appearance (with the exception of that which is often sold at Bath, and which has a totally different structure), belong to several species of very different qualities. The richly-scented Truffle, so abundant in the Paris market, is the *Tuber melanosporum*, a species which has not at present been found in England. A vast quantity of *T. æstivum* is, however, consumed in France, to which species belong far the greater quantity of the Truffles, under whatsoever name, which are sold in English markets.

The black esculent Truffles are by nature gregarious; they are found every year in the same spots, which are therefore called Truffle grounds. These occur exclusively in calcareous, or calcareous and argillaceous soil; at least those of Poitou, Touraine, Provence, &c., which have been visited by our author, are of that character. They occur both on plains and declivities, and generally on ground shaded more or less by trees, but, as it appears, never in ground planted exclusively with Conifers. It is, however, by no means a fact that they never grow in the open fields. The spots in which they occur are frequently destitute of vegetation; but this is by no means constant, as they are sometimes found on lawns where we have seen them cut through by the scythe. Truffle layers are mostly circular, in which circumstance they resemble the mode of growth of so many other fungi. This is especially evident near Apt, where the circular furrows left by the Truffle hunters, or by the sows which they employ, are as distinct as those of a fairy ring. The centre remains sterile, while the circle itself continually increases in diameter. Though they usually grow in uncultivated spots, they occur in some districts in cultivated fields on the borders of woods; and it is in such spots, especially under the shade of Poplars, that the Piedmont Truffle, which is esteemed before all others, finds its favourite place of growth.

Much has been written on the cultivation of Truffles, but at present experiments made in confirmation of published statements have not been attended with success. The only fact which is certain is that their production can easily be effected in certain calcareous soils, even where they may not have been observed before. The plan consists simply in sowing acorns on the soil, and when the Oaks have attained the age of 10 or 12 years Truffles begin to appear. The extensive Truffle layers of Loudon in Vienne were actually produced in this manner. They consisted a few years since of naked uncultivated plains where Truffles were unknown. The plantations must not be too thick; they are cut down for the first time when they are about 12 years' growth, and then at intervals of from 7 to 9 years. They continue fertile for about 25 or 30 years, when at length scarcely any Truffles are produced.

Our authors have had good opportunities of observing the mycelium of Truffles, of which they have given

beautiful figures; but they have not been able to confirm the observation as to its luminous properties communicated by an anonymous correspondent to our journal.

From the facility with which the mycelium is developed in specimens which have been brought from a distance, M. Tulasne conceives that it might not be impossible to transplant the more valuable species into Truffle-layers, where the more common sorts only occur. It would be well worth the pains of some of our Wiltshire or south country proprietors to import some freshly-collected black Truffles from the south of France. It does not necessarily follow that because they are accustomed to warmer summers than our own, that they might not succeed perfectly with us; and in case they did so, their growth would be extremely lucrative, and might make the importation of foreign species at a high price quite unnecessary.

Truffles always bear a high price in our markets, and as much mystery as possible is thrown by the collectors in general over the whole matter. The truth is, that they are far more generally diffused in calcareous districts than is usually supposed, and a little tact, more especially if aided by a good Truffle dog, will soon prove their abundance on many estates where their presence has never been suspected. It is true that the English Truffles are not to be compared with the black Truffle of France, but they are quite equal to a large portion of what appear in the French markets, and would amply repay the pains of any one who might be induced to take up the employment in the autumnal months.

One of the most curious facts as regards structure which has been noticed during the course of Monsieur Tulasne's investigations, is the production of the spores, which in certain genera are essentially naked, within a little sac; the same fact was observed by Mr. Thwaites, and is illustrative of what takes place amongst certain of the minute *Myxogastres*, where the spores are generally naked. In two genera, however, *Enerthenema* and *Badhamia*, where they grow in little clusters, there is originally a little sac surrounding the group, which is, however, a mere covering, as the spores themselves are developed on a sporophore, and not indifferently in the grumous contents of the sac, as is the case in the true Truffles. The production of a sac as an exceptional case in one or two species of *Hymenogaster* where the spores are usually free, is of great physiological interest, and bears upon many questions which arise in the investigation of the true affinities of fungi.

Our author has been at great expense in the production of his work; and even if every copy be sold—and 100 only have been published—the expenses can scarcely be covered. We will answer for it that no one will repent who purchases the work, in which much popular as well as scientific matter will be found, both treated with equal perspicuity and tact, and in a style which cannot fail to give satisfaction.

Griffith's Posthumous Papers—Icones Plantarum 'Asiaticarum, Part III., *folio; Notulæ ad plantas Asiaticas*, Part III., 8vo. Calcutta, 1851.

The present issue of the late Mr. Griffith's papers is confined to Monocotyledonous plants, beginning with Grasses and ending with Gingerworts. A considerable part of both is occupied with Orchids. The East India Company has intended to do justice by this series of publications to one of the most meritorious and industrious of its servants, and at the same time to render substantial service to the public by making universally known the researches of a botanist of great experience and acuteness, whose life was sacrificed to his zeal for science. We, in common with all naturalists, feel deeply indebted to the Court of Directors for the liberality displayed on this and so many other occasions; but in proportion to our gratitude for the good intentions thus manifested is our dissatisfaction at the manner in which the commands of the Company have been obeyed. To be plain, the editorial duties continue to be performed in a manner perfectly disgraceful; the typographical blunders are countless, and render the letter-press incomprehensible; not the slightest pains have been taken to separate important from unimportant matters; the plates, vilely lithographed, do not correspond with the descriptions either in sequence or numeration; and to crown all, drawings of American and European plants, such as Ornithidium coccineum, Oncidium altissimum, Listera ovata (from Kew Gardens!), a set of species from the Jardin des Plantes (!), are pushed in among figures of Asiatic vegetation.

It is greatly to be hoped that the remainder of the work may be confided to more able editorial hands.

Garden Memoranda.

Dalvey, near Forres, the Seat of N. Macleod, Esq.—It may be interesting to know that the Royal Water Lily (Victoria Regia) is now blossoming beautifully at Dalvey, in Morayshire, in a ridge and furrow-roofed stove aquarium. The tank in which it is growing is 15 feet in width by 16 feet in length, and it is 3 feet in depth. The water is heated by a double row of cast-iron pipes, 2½ inches in the bore, running round the tank. The plant was raised from some seeds sent from Kew on the 1st of November, 1851; four of them were sown immediately on their arrival, and immersed in a small tub placed directly above the heating-tank of an Orchid house, where a temperature of about 90° Fahr. could be obtained. The first seed germinated on the 25th of the month in which they were sown; and a second on the 9th of December, the latter being the plant now in flower. It was tedious work nursing it in its young state, through the dreary months of winter. It grew very rapidly for the first fortnight, but for two months after that its progress was very discouraging, as it did not appear to get either larger or stronger during that time; by the middle of April, however, owing to repeated transplanting and liberal treatment, it had increased marvellously; it was eventually removed from its nursing quarters and transferred to the tank on the 24th of May, 1852. The largest leaf at that time was 11 inches in diameter; on the 14th of June it was 2½ feet; and to-day (August 7th) the largest leaf is 4 feet 4 inches in diameter, and there are five flower buds on the plant in different stages of development, besides the flower that is fully expanded. The red and blue Nymphæas, and some other water-plants, have also blossomed in tubs in the same house with the Victoria, whose flowering so far north is a matter of some interest.

FLORICULTURE.

Midland Horticultural Society, *Derby, August* 4.—A spirited competition existed on this occasion, and York, Leeds, Wakefield, Middleton, Birmingham, Leicester, Edinburgh, Nottingham, Northampton, and Stamford, each contributed something to the general gathering. Through untoward circumstances Middlesex was unrepresented. The requirements were a "Town's" collection of 12 dissimilar varieties of Carnations, and a like number of Picotees, to be shown in boxes of the Horticultural Society's (of London) dimensions:—Carnations: 1st, Derby, with Seedling, S.B., Flora's Garland, Premier, Firebrand, Lorenzo, Lord Milton, Admiral Curzon, Magnificent, Cradley Pet, Squire Meynell, and Princess (Seedling); 2d, Birmingham, with Premier, Lord Rancliffe, Briseis, Admiral Curzon, Ariel, Miss Thornton, Pollington, Lydia, Black Diamond, Lord Lewisham, Lady Rhodes, and Lovely Ann; 3d, Nottingham, with Taylor's Lucia, Hale's Albert (Seedling), Lady Peel, Earl of Leicester, Falconbridge, Admiral Curzon, Lord Byron, Lord Milton, Lady Gardiner, Firebrand, and Oberon; 4th, Leeds, with Lord Milton, Magnificent, Great Northern, Rainbow, Firebrand, Ariel, William the Fourth, Lady Ely, Rose Helen, Admiral Curzon, Paul Pry, and Justice Shallow; 5th, York, with Miss Thornton, Lord Rancliffe, William the Fourth, Admiral Curzon, Ariel, Knostrop Pet, Lydia, Briton Splendid, Rainbow, Squire Meynell, and Brilliant; 6th, Wakefield, with Seedling No. 2, Beauty of Brighouse, Admiral Curzon, Lady of the Manor, Hepworth's Leader, Lord Rancliffe, Nulli Secundus, Seedling, Lord Milton, Seedling, Squire Meynell, Patriot; 7th, Leicester, with True Briton, Duke of Rutland, Prudence, Earl of Leicester, Gladiator, Briseis, Black Diamond, Squire Meynell, Lorenzo, Hamlet, Queen of Purples, and Princess Royal. A fine stand from Edinburgh was disqualified, containing a self-petal. Twelve dissimilar Picotees: 1st, Derby, with Mrs. Norman, Duke of Rutland, Ganymede, Green's Queen, Mrs. Barnard, Venus, Alfred, Ophelia, Bayley's Seedling, Mary, Prince of Wales, and Isabella; 2d, Birmingham, with Audrey, Prince of Wales, Alfred, Green's Queen, Elizabeth, Mrs. Brown, Duchess, Delicata, Venus, Amethyst, Mrs. Barnard, and King James; 3d, York, with Alfred, Green's Queen, Lady Franklin, Miss Rosa, Red Rover, Mrs. Wood, Elizabeth, Portia, Delicata, Mary Ann, Mrs. Barnard, and King James; 4th, Nottingham, with Princess Royal, Elizabeth, Juliet, Green's Queen, Gem, Lord Nelson, Prince of Wales, Duke of Rutland, Enchantress, Isabella, Alfred, and Mrs. Barnard; 5th, Leeds, with Mrs. Barnard, Elizabeth, Lady of the Lake, Prince of Wales, Regina, Ann Schofield, Alfred, Christabelle, Cerise Blanche, Mrs. Norman, Duke of Rutland, and King James; 6th, Leicester, with Prince of Wales, Duke of Rutland, Nina, King James, Venus, Christabelle, Lord Nelson, Youell's Gem, Bates, Seedling, Mrs. Norman, Prince Albert, and Jenny Lind. Society's Prizes for Florist's subjects.—Fuchsias, in sixes: Mr. Bayley, with Voltigeur, Brilliant, Scarletina reflexa, Fair Rosamond, Purity, and Elizabeth (Kendall); 2d, Mr. Sleigh, with Sir Robert Peel, One in the Ring, King of Crimsons, Dr. Smith, Pearl of England, and Exoniensis; Fancy Pelargoniums, in sixes: Mr. Barlow, gr. to Mr. W. Hirst, with Anais, Fairy Queen, Reine des Francais, Magnificum, Queen Victoria, and Beauty of Winchester. Verbenas, twelves: Mr. Cooling, with Oculata, Captivation, St. Margarets, Fanny Forrester, Emperor of China, Jenny Lind, Princess Royal, Helen, Cardinal, and Crimson Perfection. Petunias, threes: Mr. Cooling, with Anne, Mary, and Fine Dark; 2d, Mr. Bayley, with Sir J. Paxton, and two seedlings. Roses (best twelve cut bunches): 1st, Mr. Allestree, with Jacques Lafitte, Souvenir de la Malmaison, Earl Talbot, Reine des Fleurs, Duchesse de Montpensier, General Cavaignac, Madame Verdier, Dupetit Thouars, Geant des Battailles, and Paul Joseph; 2d, Mr. Frettingham; Rose-, best twelve single blooms: (an extra prize offered by members of the committee), Mr. Allestree, with Baronne Prevost, Souvenir de la Malmaison, Devoniensis, General Cavaignac, Duchesse de Montpensier, Dupetit Thouars, Madame Trudeaux, Geant des Battailles, and Reine des Fleurs. Carnations, in sixes: 1st, Mr. Dodwell, with Flora's Garland, Premier, Lorenzo, Cradley Pet, Admiral Curzon, and Lord Milton; 2d, Mr. Fisher, with Black Diamond, Prince Arthur, Lord Milton, Premier, Admiral Curzon, and Hero of Middlesex; 3d, Mr. Bayley, with five seedlings and Lord Milton; 4th Mr. Merrywether, with True Briton, Jenny Lind, Lord Milton, Premier, Lady Ely, Admiral Curzon; 5th, Mr. W. Parkinson, with Seedling, Squire Trow, Seedling, Lady Gardiner, William IV., and Brutus. Picotees, in sixes: 1st, Mr. Dodwell, with Mrs. Norman, Alfred, Prince of Wales, Venus, Mrs. Barnard, and Green's Queen; 2d, Mr. Bayley, with Elizabeth, Venus, Duke of Rutland, Mrs. Turner, Mrs. Barnard, and Seedling No. 7; 3d, Mr. Fisher, with Prince of Wales, Mrs. Barnard, Alfred, Venus, Elizabeth, and Gem; 4th, Mr. Merrywether with Elizabeth, Alfred, Lady Franklin, Mr. Barnard, Green's Queen, and Mrs. Wood; 5th, Mr. W. Parkinson, with Princess Alice, Prince of Wales, Isabella, Youell's Gem, Mrs. Barnard, and Northampton Bride. Single Blooms, in Classes—Carnations, Scarlet Bizarres: 1st, Admiral Curzon; 2d, Admiral Curzon; 3d, Seedling; 4th, Sir Joseph Paxton; 5th, Duke of Sutherland, Mr. Dodwell; 6th, Splendid, Mr. Merrywether. Crimson Bizarres: 1st, Lord Milton: 2d, Lord Milton; 3d, Lord Milton; 4th, Black Diamond; 5th, Black Diamond; 6th, Black Diamond, Mr. Dodwell. Pink Bizarres: 1st, Princess; 2d, Seedling; 3d, Lady of the Lake; 4th, Princess; 5th, Falconbridge; 6th, Lady of the Lake, Mr. Dodwell. Purple Flakes: 1st, Premier, Mr. Fisher; 2d, Perfection; 3d, Premier; 4th, Beauty of Woodhouse; 5th, Premier, Mr. Dodwell; 6th, Miss Thornton, Mr. Merrywether. Scarlet Flakes: 1st, William the Fourth, Mr. Dodwell; 2d, Seedling, Mr. Bayley; 3d, Firebrand, Mr. Dodwell; 4th, Cradley Pet, Mr. Dodwell; 5th, William the Fourth, Mr. Merrywether; 6th, Cradley Pet, Mr. Dodwell. Rose flakes: 1st, Seedling, Mr. Bayley; 2d, Magnificent, Mr. Dodwell; 3d, Lady Ely, Mr. Merrywether; 4th, Seedling, Mr. Bayley; 5th, Lorenzo, Mr. Dodwell; 6th, Lovely Ann, Mr. Dodwell. Picotees—heavy edged red: 1st, Julio Romano; 2d, Mrs. Norman; 3d, Prince of Wales; 4th, Mrs. Norman; 5th, Elizabeth; 6th, Prince of Wales, Mr. Dodwell. Light edged red: 1st, Prince of Wales, Mr. Parkinson; 2d, Gem, Mr. Dodwell; 3d, Gem, Mr. Dodwell; 4th, Gem, Mr. Parkinson; 5th, Gem, Mr. Dodwell; 6th, ditto, ditto. Heavy edged purple: 1st, Alfred, Mr. Merrywether; 2d, Alfred, Mr. Dodwell; 3d, Lady Harriet Moore, Mr. Dodwell; 4th, Alfred, Mr. Dodwell; 5th, Alfred, Mr. Merrywether; 6th, Lord Nelson, Mr. Dodwell. Light edged purple: 1st, Ophelia, Mr. Dodwell; 2d, Lady Franklin, Mr. Merrywether; 3d, Ophelia, Mr. Dodwell; 4th, Alfred, Mr. Fisher; 5th, Lorina, Mr. Dodwell; 6th, Willoughby, Mr. Dodwell. Heavy edged rose: 1st, Venus, Mr. Dodwell; 2d, Venus, Mr. Fisher; 3d, Queen Victoria; 4th, Venus; 5th, Grace Darling; and 6th, Seedling, Mr. Dodwell. Light edged rose: 1st, Mrs. Barnard, Mr. Dodwell; 2d, Mrs. Barnard, Mr. Fisher; 3d, Mrs. Barnard, Mr. Dodwell; 4th, Mrs. Barnard, Mr. Dodwell; 5th, Mrs. Barnard, Mr. Dodwell; 6th, Mrs. Barnard, Mr. Parkinson. Best Carnation of any class: Admiral Curzon, exhibited by Mr. Dodwell. Best Picotee: Mrs. Norman, exhibited by Mr. Dodwell.

Dahlia Show: *Inquirer*. We learn that the contemplated Exhibition at Cremorne Gardens is postponed to some future day.

Schedule of Prizes received for an Exhibition at Vauxhall-gardens, Birmingham, on Monday, August 30. Ditto of the Wilts Horticultural Exhibition, to be held at Salisbury on the 31st inst.

SEEDLING FLOWERS.

Chrysanthemums: *C*. Mr. Taylor's system of culture has already been given in our columns; for the work itself we must refer you to the author.

Cinerarias: We have no faith in chance seedlings; that such are abundant we are not surprised; nevertheless, in the absence of others, take care of some of the best of them; you will find a similar case to yours noticed in last week's number.

Dahlias: *S G*. Spoiled past recovery before it reached us.—*Sub*. A coarse yellow variety of no merit.—*C J P*. Four blooms—colour, pale buff and bright purple mottled; thoroughly double and very deep; centre prominent and well-formed; outline symmetrical; petals smooth on the edges and cupped, but as they radiate from the centre towards a well-rounded shoulder they become reflexed, and show the bright purple to advantage. The true character of this variety will easily be changed by extra shading, when it will become almost a 1 mon-coloured self; even as the season advances such a change will naturally take place. We like the flower much for its novelty.

Hollyhocks: *D and Co*. 1. Of fine general character; is it different from rosea grandiflora? 2. Guard petals much too wide for the size of the centre. 3. A nice, smooth, and well proportioned flower; if the habit is good it is one of the best. 4. Too flat, which is palpably evident when compared with the symmetrical outline of No. 3.—*Amator*. Next week.

Pansy: *D and Co*. A cheerful and well-formed flower; endeavour to propagate it, by all means.

Pelargoniums: *T C and Co*. Pretty enough, but wanting in many points considered essential to perfection in this class of plants.—*J G*. Your flowers had all dropped before your package reached us.

Verbenas: A, not near so good as sorts out; B, very similar to several in the pink-coloured class, and with no great pretensions to form; C, a watery coloured lavender, of little merit.

Miscellaneous.

Heavy Spade v. *Light Fork*.—Little stands have been made about the farm by manufacturers, who take advantage of the agricultural gathering at Tiptree to display such tools and implements as are thought worth displaying. The stand is made over a patch of the hardest soil, a spade is taken, and it is found that with much effort it is simply impossible to dig with it efficiently in soil so hard. The man then takes a light fork, weighing two pounds less than the agricultural fork commonly put into the hands of labourers. Its five narrow prongs are of cast steel, and it is completed of one solid piece without joint or weld. With this fork the man proceeds to dig with wonderful facility the heavy stony soil. The prongs of such forks yield place to the stones, and bend round them, loosening the soil, springing instantly, when withdrawn, into their original form. A match was on one occasion tried between two workmen, one of [whom used the old-fashioned, rigid, and broad-bladed fork, the other used one of these light implements (Winton's Parkes's they are called) with narrow tines of elastic steel. The man with the light fork earned four shillings while the other was earning two shillings and threepence, and the heavy fork after the match required an outlay of sixpence for repairs. The savings in repairs and renovation pay for the light fork several times in the course of a year, and in labour the saving is so great, that a man using this fork is said to lift—by the saving of two pounds on each effort—five tons less in the course of a day's work than his old-fashioned neighbour. Some of these forks are made still lighter for the use of children, who can earn good day wages by the use of them at twelve-inch trenching. These forks were regarded as playthings by the men when they were first brought to Tiptree, but it was soon found that whoever could get one of them to use was saved 20 per cent. of labour, and was able to perform his work more thoroughly than it could otherwise be done. Thus it appears that there is room for Young Agriculture to display its brains, even upon a pitchfork. *Dickens's Household Words*.

On Cornus mascula. By Dr. X. Landerer.—This tree is frequently found in the east, either cultivated in gardens or growing spontaneously. The fruit is called *Κρανια*, and in consequence of its agreeable and acidulous taste is much esteemed by the Turks, and the juice is preserved in different ways, and used for making scherbets, which are recommended as very refreshing and wholesome beverages. This fruit is also considered to be styptic, and at the time the cholera morbus raged at Constantinople, it was the only fruit allowed to be eaten, having been sold in the streets and bazaars for that purpose. The syrup made from the fruit is used in the same way as syrup of Raspberry is used in Germany. The unripe fruit is preserved in vinegar, and eaten like Olives or Tomatoes. The Cornus mascula was known to the ancients, and Homer states that the celebrated enchantress Circe gave the fruit to the followers of Ulysses. Pliny also mentions the plant, and says that the flowers are beneficial in diarrhœa.

They are still used for this purpose in the east. *Pharmaceutical Journal.*

Best kind of Wood for Blocks or Baskets for Orchids.—It has been proved, from many years' experience, that blocks or baskets made of the roots of Elder (Sambucus nigra), answer exceedingly well for the growth of Orchids. The roots should be dried, the bark being taken off, to prevent the lodging of insects, and cut to the requisite lengths. Their rough knobby surface is well adapted for Orchid cultivation. Although it may be difficult to obtain Elder roots sufficiently large, it is, however, advisable to use them if possible, because they are of all soft woods the most durable, whilst, at the same time, their porosity retains the necessary humidity. The Cattleya Mossiæ, Dendrobium aggregatum and Jenkinsii, grown on blocks made of Elder roots, very soon covered them with their spongioles, and vegetated with great vigour throughout the winter. *Flore des Serres et des Jardins de l'Europe.*

Botanic Gardens, Cape Town.—During my stay at Cape Town I paid several visits to the Botanic Garden. This institution occupies a space of ground formerly known as the "Government Garden." Considering that it was only established a few years ago, and possesses limited pecuniary means, it has already made some progress, containing a good many plants, two little hothouses, and a library. It is now, however, retrograding, chiefly through the mismanagement of the commissioners, a body of men who, with a few exceptions, seem to be quite incapable of exercising the supreme direction, and who, by a series of measures, have brought not only ridicule upon themselves, but the whole institution. Those who could fully understand the nature and object of a Botanic Garden were desirous that their power should be restricted, like that of the Commissioners of Woods and Forests in England, to the mere financial matters, and a general control over the whole; and that Mr. Zeyher should be charged with the chief direction. That such would have been by far the wisest plan, and that no one was better qualified to fill the post than he who has devoted 28 years of his life to the Flora of Southern Africa, requires no demonstration. But although Mr. Zeyher was attached, until lately, as botanist to the establishment, yet he was so situated that he could not attempt any alteration or improvement without meeting an ill-timed opposition both from the head-gardener and the commissioners. At last, to crown all their blunders, the majority of the latter body passed a resolution that the garden could do without a botanist. Dr. Pappe, one of the board, was so indignant at this measure that he entered a protest, and instantly severed all ties with the institution. The garden has thus lost two of its brightest ornaments; and as the number of subscribers is rapidly decreasing, and the want of funds is every day more experienced, it is evident that, unless the Government puts a stop to the proceedings by appointing a scientific person, and vesting in him the chief direction, this establishment, which, if conducted properly, might have been productive of much good, both to the colony and botany in general, must soon fall to the ground, or, at least, fail to accomplish the object for which it was originally designed. *Berthold Seemann, in Hooker's Journal of Botany.*

Calendar of Operations.

(For the ensuing week.)

PLANT DEPARTMENT.

The present heavy rains will render it necessary to remove to glass shelters of some kind the more delicate rooted plants; and unless, in a short time, the weather becomes dryer, all the more valuable greenhouse plants out of doors will require housing; for the ordinary canvas screens afford but poor protection to plants from such rains as we have experienced lately. In our last Calendar we advised "shading" of all kinds to be reduced, to afford assistance for ripening the summer growth by an increased amount of light; we need scarcely point out that an abundance of air, day and night, should accompany the above, and, as an additional means of effecting a slow but progressive and effectual ripening of the summer wood, the atmospheric moisture of plant-houses should be gradually reduced as heat and the length of days decline, that the progression to a dry atmosphere may coincide with the ripening of the wood. We wish to lay particular stress, at this season, on the importance of well matured wood to plants intended to bloom in perfection, while they will be found to bear the vicissitudes of winter with impunity, compared with plants whose wood is soft and imperfectly ripened. The supply of water will much depend on the state of growth and habit of the plant; it should, however, be remembered, that many plants are now actively forming roots, and will require water in considerable quantities, especially when subjected to a somewhat drier medium to grow in. The stock of hardy shrubs in pots for next season's forcing, if their growth is perfected, may be laid on their sides, facing the south; this will assist to ripen their wood, and prevent their making autumn shoots. After a short time, remove them to the shade of a north wall for the winter.

FORCING DEPARTMENT.

Vinery.—Fires will be necessary during the present wet weather to houses containing Grapes, both to preserve them from damp and mildew, and to allow the requisite ventilation. They should also be applied in some cases where the fruit is cut and the wood is not sufficiently ripened, which is sometimes the case with extra strong wood; and a month's fire-heat at this season, where such is the case, will be of great advantage to the ensuing crop. Maintain the utmost cleanliness in every department; and keep down insects by means previously recommended. Pinery.—Whenever the stock of the successions for furnishing the principal supply next season justifies a shift, they should be removed to their fruiting pots; but it will be better to allow time for the roots to fill their present pots, than to shift them when such is not the case. The size of pot in which they are to perfect their fruit will depend in some measure on the kind of Pine. Queens and other moderate growing sorts will require pots of from 12 to 15 inches in diameter, while the Providence and strong growing kinds will want pots a size or two larger than the above; the above sized pots will, however, only be required for strong plants in vigorous health; where they are not so a less size must be substituted, or disappointment will be the result. The simplest and cheapest way of growing Pines is, however, to grow them on a bed of soil placed over pipes heated by hot water, of sufficient power to heat the bed up to 95°. The soil for the purpose should be one-half each of peat and loam, and should be about 15 inches deep. Turned out into a bed of this description, either from pots or removed from small frames, where they have been previously growing in a free soil, Pines will advance rapidly, attain a size and vigour, and swell off their fruit in a superior manner to such as are grown in pots. To encourage this vigorous habit additional room should be allowed them, and when once they are established large admissions of air and abundance of light will be necessary, to produce a sturdy habit; and artificial heat must be applied to perfect their growth before the dark days of winter. Attend to successions of all kinds, by potting such as require it, and by watering when dry, using clear liquid manure; occasionally allow them plenty of air, and keep a steady bottom heat; pot suckers a few at a time as they are taken from the stools.

FLOWER GARDEN AND SHRUBBERY.

Hollyhocks, Dahlias, and herbaceous plants must be made safe from the effects of high winds, by securely fastening them to their supports. The like attention should be paid to climbing plants against walls and trellises, standard Roses, &c. There is an appearance of negligence in seeing plants blown about by the wind, which should by all means be avoided; remove daily dead leaves, bloom, and litter of all kinds, and frequently sweep and mow Grass, that a clean, well-kept appearance may present itself. Gravel walks should be frequently rolled during heavy rains, to keep them firm. The general pruning of evergreen shrubs should now take place, reducing straggling growths within proper limits, but avoid giving them anything of a formal character—the object is to assist, not deform nature; by this the general characteristics of each plant will be as much as possible preserved; the case is different in pruning shrubs used as architectural embellishments, which will require trimming into the precise figure wanted. Hedges should now be finished cutting, using the knife for large-leaved plants. Keep the shrubbery borders clean by frequent dressings.

FLORISTS' FLOWERS.

At this season many florists divide and repot their Auriculas and Polyanthuses; we consider it a good time for the operation, so that both young and old plants may get established before winter. In removing the offsets or young plants from the Auricula, it is well to avoid the use of the knife as much as possible, the sharp handle of a budding knife will be found an appropriate instrument. Avoid exciting composts; stimulants are only applied when the plants are growing. Shade the old plants which have not had their ball broken, occasionally watering and sprinkling overhead. The offsets planted round the sides of pots will be better in a cool close frame for a few days, till they have made a start, when air may be gradually admitted. Give especial attention to Dahlias—attend to the directions previously given; continue to put out Pinks and Pansies for next season. It is not yet too late to propagate Hollyhocks, which may be done by cuttings; make a bed ready for offset Tulips. These should not be long out of the ground, or probably the smallest and most valuable will shrivel up.

HARDY FRUIT GARDEN.

The value of the Strawberry as a summer fruit renders its successful cultivation a matter of some importance, the more especially, as it comes within the reach of the humblest possessor of a garden. The present is the best season for making new beds; Strawberries thrive best in a deep, rich loam, and open situation; the land should have been previously trenched 2 feet deep, and well manured, for Strawberry roots penetrate to a great depth; select runners, which have either been laid into small pots for the purpose, or the strongest which have taken root from the older beds. If large fruit is an object, a good space should be allowed them, say 2½ feet or 3 feet apart, for the large-leaved kinds, between the rows, and 18 inches between the plants; a somewhat less distance between the rows will suffice for the dwarfer growing kinds and where economy of space is an object; see that an open situation is selected for Strawberries never do well in close, confined places, though there is a general opinion they will grow anywhere; water them during dry weather till they get well established.

KITCHEN GARDEN.

Keep on planting out winter and spring vegetables wherever there is room. The culture of growing crops should be attended to, when the state of the ground and weather will permit. Sow immediately, in an open situation, a good plot of Early Stone, or Green Barrel Turnip for winter and spring use. Towards the end of the week, the principal spring crop of Cauliflowers and Walcheren Broccoli should be sown—sow thin in an open place, and not on too rich soil, or the plants will become gross and less liable to stand through the winter. Another sowing of the different kinds of Cabbage may be made for spring planting, and likewise of the hardy Cos and Cabbage Lettuces, selecting a similar spot for the seed beds, as recommended for Cauliflowers. Thin out and cut down a portion of the spring-sown Parsley, that a fresh growth may be made before winter; a part of the thinnings should be potted in 12-inch pots for removing to frames in the winter. Sow succession crops of the white and red Turnip Radish; thin out Chicory, and plant largely of Endive. Where the ground is wet, this crop should be planted on raised slopes, facing the south, to prevent damping in wet weather. This really valuable winter vegetable should find its way into every garden for culinary use, independent of its qualities as a salad plant. Pull up Onions directly they show indications of ripening, and expose the bulbs to the sun to ripen. Take up Shallots and Garlic for drying. As soon as a sufficient quantity of droppings is ready, proceed to make a bed for Mushrooms, if not already done.

STATE OF THE WEATHER NEAR LONDON,

For the week ending Aug. 12, 1852, as observed at the Horticultural Gardens Chiswick.

August.	Moon's Age.	Barometer.		Temperature.					Wind.	Rain.
				Of the Air.			Of the Earth			
		Max.	Min.	Max.	Min.	Mean	1 foot deep.	2 feet deep.		
Friday .. 6	20	29.398	29.353	68	54	61.0	63	61	S.	.42
Satur. .. 7	21	29.336	29.298	74	52	63.0	62½	60½	S.	.12
Sunday . 8	22	29.477	29.396	72	51	61.5	62	60½	W.	.02
Monday 9	23	29.523	29.499	71	47	59.0	62	60½	S.W.	.06
Tues. .. 10	24	29.631	29.583	71	49	60.0	61½	60½	S.W.	.28
Wed. .. 11	25	29.351	29.123	67	52	59.5	61½	59½	S.	.78
Thurs... 12	26	29.507	29.248	60	52	56.0	61	58	S.W.	.47
Average ..		29.460	29.357	69.0	51.0	60.0	61.8	60.1		2.15

August 6—Rainbow, 6 A.M.; showers; low dark clouds; very heavy shower in forenoon; heavy rain at night.
— 7—Cloudy; showery; clear at night.
— 8—Fine; low white clouds and dark blue sky in intervals; clear.
— 9—Very fine throughout; clear at night; rain.
— 10—Very fine; showers in forenoon; clear.
— 11—Constant heavy rain.
— 12—Heavy rain, almost constant throughout.
Mean temperature of the week, 3½ deg. below the average.

STATE OF THE WEATHER AT CHISWICK,

During the last 26 years, for the ensuing week, ending Aug 21, 1852.

August.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds.								
						N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	
Sunday 15	73.2	51.0	62.1	13	0.61 in.	4	3	4	1	3	6	2	5	
Mon 16	73.5	52.3	62.9	9	0.53	—	3	2	1	3	7	7	3	
Tues. 17	73.5	51.4	62.4	13	0.54	2	1	1	1	4	5	10	2	
Wed. 18	73.7	51.8	62.7	12	0.33	1	5	3	1	3	7	5	1	
Thurs. 19	72.7	50.8	61.2	12	0.42	1	2	2	1	1	7	9	3	
Friday 20	72.9	51.4	62.1	10	0.33	1	1	1	—	5	6	10	2	
Satur. 21	72.3	49.9	60.6	10	0.62	2	2	—	1	6	7	6	2	

The highest temperature during the above period occurred on the 18th, 1842—therm. 92 deg.; and the lowest on the 21st, 1850—therm. 32 deg.

Notices to Correspondents.

Bees'-wax: *Cerapium.* Boil the comb in water after the honey is extracted, then pour into more water, and the bees'-wax, which will float on the surface, will separate when cold.

Books: *T V.* Hooker's "Species Filicum."‡

Fruit: *J M.* The Grapes are well thinned, well swelled, well coloured, and ripe; they do you credit. We cannot say much of the Melon.

Gold Fish in Glasses: *M R.* Bread is considered to be injurious to them; nothing is found to answer better than biscuit (either Abernethy or captain's) put into the water, which should be changed two or three times a week.‡

Insects: *J N.* We are unable to suggest any more likely plan to destroy the clothes moths in your harness-room than to fumigate it thoroughly with brimstone, closing the chimney, windows, &c.—*J S.* Your elephant beetle is the Willow weevil (Cryptorhynchus Lapathi), and your moth is the broad-bordered yellow under-wing (Triphæna fimbria). *W.*

Names of Plants: *Young Botanist.* Scrophularia nodosa, and Sherardia arvensis.—*Redwood.* We have not the slightest idea what the apherousely otherwise called the Gledow Pine is mentioned in Whittaker's "Leeds."—*R E.* 1, Acineta Barkeri; 2, A. densa.—*H W.* Your plant is some species of Grindelia. Before we proceed to determine it more exactly, we will beg you to say upon what authority it comes from the Falklands. No species of the genus is known to inhabit those islands.—*W Adams.* Calistegia pubescens.—*Redwood.* A monstrous white Lily—very common.—*W and Co.* We are unacquainted with your Potentilla, which appears to be some garden hybrid.

New Zealand: *Anon.* Your letters will go with certainty through the Post-office if they are prepaid. Letters from New Zealand, &c., must also be prepaid. Thousands of letters are lying in the Australian Post-offices, not forwarded for want of postage.

Rhubarb Wine: *H H.* Fermentation is over when the wine ceases to throw up air bubbles.

Scarlet Runners: *T C and Co.* Your hybrid *looks* as if it would be an acquisition. It is apparently prolific, and the produce is good in quality.

Silkworms: *Anon.* The number of cocoons which are reeled together varies according to the description of fabric intended to be worked. Mrs. Whitby, who has been very successful in producing excellent British silk, fit for the manufacturer, states, in our vol. for 1844, p. 564, that three cocoons must be reeled together. In the Great Exhibition there were many 5-cocoon samples from foreign countries. The diameters of the reels were also observed to be different. Any common reel, not inconveniently large, will answer. There is no particular *twist* in the winding. The cocoons are divested of the loose outside covering, and then the fine silk is wound off whilst they are floating in tepid water.‖

Strawberries: *T S L.* We are unacquainted with the varieties in question.—*Anon.* Cuthill's Black Prince, Keens' Seedling, British Queen, and Elton. For an answer to your question about burning earth, see our agricultural portion of the paper next week.‡

Worms on Lawns: *G C.* Lime water prepared by letting water stand over caustic lime, and pouring it off clear, applied continually, will bring them out of their holes, when they must be collected and destroyed.‡

Misc: *Sub.* Your climbers lose their leaves because you keep your stove too warm and dry. Tacsonia mollissima will blossom with you when it becomes older; but to have it in perfection, you must give it plenty of room. Two, or at most three, Melons will be enough to leave to ripen on a plant in an 18-inch pot in a hothouse.‡

PERUVIAN GUANO.

CAUTION TO AGRICULTURISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

ANTONY GIBBS AND SONS, AS THE ONLY IMPORTERS OF PERUVIAN GUANO,

Consider it to be their duty to the Peruvian Government and to the Public again to recommend Farmers and all others who buy to be carefully on their guard.

The character of the parties from whom they purchase will of course be the best security, and, in addition to particular attention to that point, ANTONY GIBBS AND SONS think it well to remind buyers that—

The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 9l. 5s. per ton, less 2½ per cent.

Any resales made by dealers at a lower price must therefore either leave a loss to them, or the article must be adulterated.

THE LONDON MANURE COMPANY offer the following Manures on the best terms, warranting every article strictly genuine:—Peruvian Guano, Superphosphate of Lime, Nitrate of Soda, Concentrated Urate, Peat Charcoal, Gypsum, Fishery Salt from Cornwall, also a constant supply of Salt for agricultural purposes; Linseed and Rape Cake. Peruvian Guano, warranted the genuine importation of Messrs. A. Gibbs and Sons, at 9l. 10s. per ton, or for 5 tons and upwards, 9l. 5s. in Dock. EDWARD PURSER, Sec.

40, New Bridge-street, Blackfriars, London.

MANURES.—The following Manures are manufactured at Mr. LAWES'S Factory, Deptford Creek:

Turnip Manure, per ton	...	...	...	£7	0 0
Superphosphate of Lime	...	...	...	7	0 0
Sulphuric Acid and Coprolites		...	...	5	0 0

Office, 69, King William-street, City, London.

N.B. Peruvian Guano, guaranteed to contain 16 per cent. of Ammonia, 9l. 10s. per ton; and for 5 tons or more, 9l. 5s. per ton, in dock. Sulphate of ammonia, &c.

CHARCOAL AND SEWAGE MANURE.—Promote the Health and Wealth of Town and Country by increasing the use of that valuable manure PEAT CHARCOAL, impregnated with the fertilising matter of LONDON SEWAGE. The ammonia, phosphates, and fæces are absorbed, and the water pressed out bright, palatable, and soft.

Sold at the Charcoal and Sewage Works, Stanley-bridge, Fulham, Middlesex, at 60s. per ton, 4s. per cwt., 2s. 6d. per half cwt.

LINSEED CAKE, Foreign and English, Rape Cake, Peruvian Guano, Gypsum, Salt, Peat Charcoal, and all other Manures of known value, on sale.—Apply to MARK FOTHERGILL, 20½ A, Upper Thames-street, London.

GOOD COMMISSION ON GUANO.—Gentlemen having connexions or influence with Farmers or Landowners may have a first-rate commission on sales of POTTER'S CELEBRATED GUANO (established 10 years). Undeniable references given and required.—Apply by letter to Mr. POTTER, 28, Clapham-road-place, Kennington, near London.

STEPHENSON AND PEILL, 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Manufacturers of Copper Cylindrical and Improved Conical Iron BOILERS, and Conservatory and Hothouse Builders, either in wood or iron, respectfully call the attention of the Nobility, Gentry, and Nurserymen to their simple but efficacious method of warming Horticultural and other Buildings by hot water. From the extensive works they have executed, references of the highest respectability can be given, and full particulars furnished on application.

THE BIRMINGHAM CATTLE AND POULTRY SHOW, 1852.—The FOURTH GREAT ANNUAL EXHIBITION of FAT CATTLE, SHEEP, PIGS, and the various kinds of DOMESTIC POULTRY, will be held in BINGLEY HALL, BIRMINGHAM, on the 14TH, 15TH, 16TH, and 17TH of DECEMBER. The PRIZE LISTS are now ready, and may be had on application to the Secretary.

JOHN MORGAN, Jun., Secretary.

Offices, No. 2 Insurance-buildings, Union-passage, Birmingham.

The Agricultural Gazette.

SATURDAY, AUGUST 14, 1852.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

TUESDAY,	Aug.	17	Meeting of the Agri. Improvement
WEDNESDAY,	—	18	Society of Ireland at Galway.
THURSDAY,	—	19	
THURSDAY,	—	19	Agricultural Imp. Society of Ireland.

A WEEK of wet weather has no doubt, to some extent, altered THE PROSPECTS OF HARVEST—and the returns published last Saturday, though true for the commencement, are, we fear, no longer true for the middle of the month. The injury by blight, consequent upon the wet weather, which has been considerable in many of the English counties, may not extend northwards if the weather should alter for the better; and we are disposed to think that as yet its effects have been over-rated; though the recent rise of 2s. or 3s. a quarter in the value of Wheat indicates that in general a contrary opinion prevails.

ONE of the most interesting features of the present harvest is the large extent of CORN that is being CUT BY MACHINERY. If this be a fine day generally over the country we can probably say with truth that there are *now* 1500 reaping machines at work in it. Hitherto harvest work has this season been done by snatches between the storms, and where corn has not been laid by the weather the machines have enabled a more efficient use of these working intervals. Farmers will, we have no doubt, after the experience of this year, put them in more general use during another; and labourers have as yet no cause for complaint—wages have been rising in spite of machinery. We do not believe that the machines in use this season will make up to us the loss of the agricultural labourers who have emigrated since last harvest. Considering the average speed of hand reaping, bagging, and mowing, we do not suppose that one of HUSSEY'S reapers will displace more than eight or nine men. Ten or 12 good "hands" will clear as much as the machine with two men and a boy—the tying and stooking being alike in both cases. There is probably a saving of a pound a day or more by employing the latter, and the cost of the machine may be saved in a single harvest; but it is not the saving, it is the gain derived from its use that is its chief merit. If we can thus add seven or eight men to the power of a farmer during harvest time, the gain is often great, although their wages be to be paid in full; and such a gain is very great in a season like the present, when the whole process of harvest work is made so intermittent by the weather.

In reference, however, to the *saving* by the use of the reaper in the case of standing corn of average bulk, the following will probably be the experience of a good harvest day. Two pairs of horses will be needed, one for the morning work, and the other for the afternoon; a strong lad acts as postilion, and a man rides on the front of the machine, to take care of the corn as it is cut, guiding it in successive parcels to the board behind the cutter, until as much as a sheaf has collected, when it is removed by another. This second man either rides on the machine, with his back to the horses, and rakes this corn to the side—very hard work indeed when there is anything like a bulky crop—or what, so far as we have seen, seems a better plan, walks behind the machine (the hanging board behind it being then removed), and every now and then holds the corn which may have collected, while the machine is drawn on without it; he has thus to take repeated short runs of 8 or 10 yards, alternately overtaking the machine and standing while removing from it the last sheaf it has cut: this, too, is very hard work, and this man must be replaced every now and then by one of the binders. The sheaves are thus laid in the wake of the machine, and spread across the whole breadth of its course; evenly, however, if the corn be standing, and the men understand their work. The reaper is thus drawn round and round the piece that is being cut, turning always to the left, its driving wheel being upon its right side, so that the cutting apparatus is kept at work at the corners. The binders are distributed at intervals all round the piece that is being cut, and, in the case of a crop of ordinary bulk, 9 or 10 hands, or even more, will be needed to clear the ground before the machine comes up again. In this way 12 or 14 men, and with four horses, will clear, probably, 10 acres in a day.

The following is Mr. MECHI'S experience on this subject at Tiptree-hall farm:—"I have been working GARRETT'S HUSSEY'S reaper with perfect success, and shall conclude my Wheat-cutting with it this week.

"I have much improved its action by placing a wheel where the box was, so as to take the weight forward from the horses, and balance it more steadily. It would also be an improvement to have a small wheel on the near side under the nose of the machine, to prevent its dipping into the ground when cutting across furrows.

"We are also making a light ash-rake, 2 ft. 6 in. wide, with fine deep *steel* teeth (like WINTON'S forks), as far superior to the common wood rake, for removing the corn. Our men do not now snatch with the rake, but merely when a proper quantity is deposited on the board, hold it, as it were, and the machine slips from under it, and deposits it straight, and in a fit state to tie up.

"It cuts from 8 to 10 acres per day, and requires eight binders.

"The cost of *cutting* is—				s.	d.
1 driver	...	...	...	3	6
1 corn guide sitting in front			...	3	6
1 raker	...	...	...	3	6
Beer	...	...	...	1	0
				11	6

Or about 1s. 6d. per acre, exclusive of wear and tear of machine.

"As the horses would otherwise be idle in the stable, I do not value their time.

"It cuts the corn much better than it is possible to do it by hand, and will sadly diminish gleaning.

"If Mr. GARRETT will adopt my suggestions, and for deep-furrowed heavy land will have one to fit the furrows, so that, the wheels being in each furrow, the machine will work level on uneven ground.

"It should be borne in mind, that although having a simple crank motion, like a steam-engine, it requires to be *perfectly true*, and therefore the brasses must be looked to, and all parts kept in proper working order, or damage will ensue.

"Every farmer who can afford the cost will use them next year.

"We use two pair of horses; say, one pair for morning, another pair for afternoon.

"The knives must be filed up daily by a 3-square file, and it is desirable to have a spare bar of knives and a few extra points; also oil for the working parts. It cuts the Rye-Grass in the Wheat perfectly well."

The work of laying the corn down from the knives, and removing it from the machine seems quite within the power of machinery to perform; and it appears that at the late trial near Perth of HUSSEY and M'CORMICK'S reapers with that invented more than 30 years ago by the Rev. Mr. BELL, of Carmylie (from which the American reapers have no doubt been copied), the last was held to be the best of the three; probably because of its power thus to remove the grain as it is cut. The grounds of the verdict arrived at by the very respectable jury who superintended these trials have not been published, but the verdict itself was, we are informed, unanimous and decided. The report of the Highland and Agricultural Society's Show, in another column, refers to this and the other subjects of interest which came up for examination at their late meeting at Perth.

CAUSES OF RANCIDITY IN BUTTER.

WHY is it that during some weeks towards the end of May and the beginning of June cream produces rancid or ill-tasted butter? Several correspondents have kindly endeavoured, in recent numbers of the *Agricultural Gazette*, to throw some light on this subject; and from their remarks it appears that the commonly assigned cause of the rancidity of butter made in the early part of summer is the prevalence of certain acrid, bitter, or acid plants in the pastures, which, being unavoidably eaten by the cows along with the Grass, impart a bad taste to the butter, even when newly taken from the churn. That the nature of the food consumed by cows affects the taste and quality of their produce is a fact too well known to admit of dispute. Thus Turnips given raw to cows impart a peculiarly disagreeable taste, not only to the cream and butter, but also to the milk itself, although not so strong in the latter, owing no doubt to the tainting matter being diffused through a greater space. Steaming or boiling the roots has the effect in a great measure of preventing this taint; and the use of saltpetre, dissolved in water, and added to the milk when newly drawn, has long been considered the most effectual means of mitigating the evil. When cows are first sent to the pastures the milk acquires a distinct taste of the Grass, slightly apparent in the cream also, but entirely absent from the butter, which is then in perfection. No means are ever adopted to remove the grassy taste from milk, as it usually disappears in the course of a week or ten days after the cows have been in the pastures. Knowing, therefore, that the ordinary food of cows has a special influence on the quality and composition of their produce, it is not otherwise to be expected than that rank, ill-flavoured plants growing in the pastures, in great abundance, should have a similar effect, either on the milk itself or on the butter and cheese made from it; still there are certain other causes which, if taken into account, will lead to the conclusion that the peculiar rancidity of butter at a certain period in the beginning of summer is not invariably due to the prevalence of noxious plants in the pastures.

In the first place it would greatly facilitate our inquiries to know what those plants are to which the evil effects are attributed, but unfortunately on this head the subject is so overlaid with evidence that a great deal too much is proved for enabling us to arrive at a simple and satisfactory verdict; and we are forced to the conclusion that whenever butter becomes ill-tasted, when cows are in the pasture, the prevalent weeds of the district are blamed for the evil. Wild Garlic, the wild Onion—both of which names refer, we presume, to the same plant, Allium ursinum; the three varieties of Crowfoot — Ranunculus acris, R. repens, and R. bulbosus; also common Sorrel (Rumex acetosa), Sheep's Sorrel (R. acetosella), Dandelion (L. Taraxacum), and even red Clover, have one and all been blamed for imparting a bad taste to butter. But why is it that this effect is not uniformly produced wherever these plants make their appearance? The complaint of bad tasted butter has been prevalent this year, not only on old, rich, damp pasture-land in England, but also on dry, newly-laid down pastures in Scotland. In one case in the latter country, with which the writer is acquainted, cows pastured on a first year's lea, consisting of Rye-grass, white Clover, and Cow-grass (the field a dry thin trap soil), gave very fine butter from the 20th April to the 20th May, but for six or seven weeks afterwards it became so bitter, even when newly churned, and so rancid when kept only a few days unsettled, as to be well-nigh unfit for use. Now in the field referred to, there are no weeds, except Sheep's Sorrel and Silver-weed, and not a single plant of Garlic or Crowfoot; and what is remarkable, the bad taste of the butter has now entirely disappeared, notwithstanding that the Sorrel and Silver-weed are still in full flower, and have been for the last two months. It may be urged in reply to this statement that there is perhaps a particular stage of inflorescence at which the bad taste is communicated; but all who know the habits of these plants are aware that they are flowering and seeding throughout June, July, and August, and consequently if they do affect the produce of cows compelled to eat them along with Grass, the effect should continue all the time they are in flower.

Neither assuming nor denying the influence of certain plants on the produce of dairy cows, and leaving the question open for future investigation, we would in the meantime draw attention to another cause, too often overlooked, as influencing the taste of milk and its products at a certain period of the year.

In all female animals of the mammal class there are certain natural changes, which periodically occur in the blood, in which the whole vascular system being in a state of excitement produces in the lacteal vessels a sympathetic disturbance, which communicates itself to the milk contained in these throughout all its different stages of elaboration. The milk appears to be so affected by this excitement, that its component parts are slightly altered in their affinity and proportion to one another, and the consequence is that no sooner is it drawn from the udder of the cow than its own instability, aided by the action of the air, causes it to become rancid, or, in other words, to putrefy. In most dairy farms the period of calving is generally made to happen in the months of February and March, and it is in the months immediately subsequent to these that the complaint of badly tasted butter is most prevalent. It may be objected to this view of the matter that, if a particular condition of the cows has anything to do with the taste of the butter, then the bad effects should appear periodically in each animal, and as there must always be one or other of the cows in this state until all are in calf, the butter must necessarily be constantly affected until after this period. In connection with what has already been said in regard to the periodical excitement referred to above, it must be kept in mind that a cow tied in a stall, or separated from her companions, is never so much excited at such periods as she is when running loose in the pastures among a lot of other cows; and hence when in the stall, before going out to Grass in the spring, the flow of milk, although lessened for two or three days on these occasions, is not so much affected in its taste or composition as to attract particular notice. Besides, the milk of newly-calved cows readily throws up the cream, which is therefore less liable to be affected by any latent taint in the milk itself. One of the principal causes, therefore, of new butter being rancid, or soon becoming so, is, I am persuaded, this periodical excitement to which cows are liable, and not invariably, as is generally supposed, from their eating certain bitter or acrid-tasted herbs. It is only in cases where these herbs are very prevalent in the pastures that we could suppose it at all likely that they were the sole cause of butter being affected; for we know that if Turnips, for example, be cut down in slices and mixed with chaff or cut straw, and given to cows in small quantities, the butter ceases to be tasted thereby to any very noticeable extent. The same remark applies to Rape-cake, which, if given in large quantities to milch cows, imparts so strong a flavour to the milk as to render it almost unfit for use, but which, when given in small quantities, along with other farinaceous food, ceases to have this effect. If, therefore, the evil to which we have been referring be the result of foul pastures, there is no remedy but either to extirpate the weeds by pulling them up or to subject the land to a course of cropping; or, if it be occasioned by natural causes, originating in the cows themselves, then they should be watched during the rutting season, and as one or other becomes affected, the milk of each may be kept by itself, and used for domestic purposes, as the bad taste is not perceptible in it, but only in the butter. *H. D.*

ROTHAMSTED AND THE WRITER "R."

(*Continued from page* 491.)

As already quoted from our paper on "Turnip Culture," our experiments up to the time it was written had led us to believe, that wherever such an "*excess*" of nitrogen was employed, as gave an undue amount of leaf, and a relatively defective proportion of bulb, the gain of nitrogen from natural sources was reduced, and hence the manurial value of the crop, so far as accumulation was concerned, was also lessened.

In our experimental field we have had for a number of years a series of plots with mineral manures only—a series with the same minerals and ammoniacal salts—another series with the minerals and Rape-cake, and a fourth with the minerals and both Rape-cake and ammoniacal salts. Up to the time of writing the paper referred to (Autumn, 1847), and to 1848 inclusive, the Turnips grown were Norfolk White; and owing to the limited orbit of growth of that variety as compared with the Swede, we should expect that the limit of favourable supply of nitrogen by manure would be much sooner reached in its case than in that of the latter; and this, indeed, might have been supposed to afford some explanation of the apparent loss of nitrogen when supplied to the Norfolk White. However this may be, we believe that, under the influence of the very best of the mineral manures, we did not, in the Norfolk Whites, recover as much nitrogen in the *increased* produce due to the ammoniacal supply as was provided in the manure.

In 1849 and the two following seasons, *Swedes* were grown instead of Norfolk Whites, and they were of course sown much earlier. They were too, as was to be expected, much more benefited by ammoniacal manures than the variety of more limited growth. The question still arose, however, whether the nitrogen of the manure was recovered in the increase of the crop due to its use? or whether this increased produce was obtained at the cost of an expenditure or loss of that substance, and thus part of the *rotation* effect of the crop sacrificed to the production of food for stock?

At the time of taking up the experimental Swede crop of 1849, the leaves were in such a bad state, owing to the weather, that it was thought useless to weigh them. They were therefore spread upon the plots respectively which had grown them, and no samples were taken for analysis. We are unable, therefore, to say with certainty whether or not there was a loss of nitrogen in the case of this first Swede crop, but from such conjectural estimates as we were able to make, we believe that there was less nitrogen in the *increased* produce obtained by its use, than had been supplied in the manure.

The crop of 1850 gave results in this respect apparently similar to those of 1849, and hence it was decided to give no fresh supply of nitrogen in 1851, but to determine whether there were any available quantity of the supplies of it in past years remaining in the soil. With this view, carefully taken samples, both of the leaf and of the bulb of both seasons, have now been submitted to analysis; some, the produce of plots having mineral manures only, and some having the same minerals, and, in addition, ammoniacal salts, Rape-cake, or both Rape-cake and ammoniacal salts respectively. Three mineral conditions were chosen, namely:—

1st, That of superphosphate of lime alone for a series of years.

2d, That of superphosphate of lime with a large supply of potash, also for a series of years; and—

3d, That of superphosphate of lime with potash, soda, and magnesia, added in like manner.

In the produce of each of these, both separately and with the addition of the three kinds respectively, of organic supply as mentioned above, the *acreage* amount of dry substance, of mineral matter, and of nitrogen have been determined; and the general result obtained by deducting the amount of nitrogen grown by the mineral manures alone from that by the mixed mineral and nitrogenous manures is, that taking in each case the produce of both these seasons together, there is not as much nitrogen recovered in the *increase* of the crop due to its use as was supplied by manure in the first of the two, to say nothing of the nitrogen of the manure of *previous seasons*, which, if not obtained in the crop, and not expended during the growth of the plant, we might expect would have been accumulated and available within the soil. Indeed, under neither of the mineral conditions was the nitrogen of the manure of the first season recovered in the *increased produce* of the two, when it was added in the form of *ammoniacal salts alone;* in neither case when in the form of Rape-cake and ammoniacal salts combined; and in only one when the nitrogenous supply was in the form of Rape-cake alone, and this result was obtained when the only manure was superphosphate of lime.

We have, indeed, abundant *experimental* evidence, showing that the effect of an "*excess*" of nitrogen in a Turnip manure is to give a tendency to an over production of leaf—to increase the per centage of nitrogen both in the leaf and in the bulb—and to diminish the accumulation of it from natural sources, and hence, so far as this is the case, to lessen the *gain* by the crop of ammonia as manure. But besides experiments in the field, others of a totally different scale and character upon the functional actions of the various corn and root crops of our rotations, are found to throw much light upon some points of interest in the subject now under consideration; but into the results of these we cannot adequately enter in this place.

Before leaving the subject of the loss, or reduced gain, of nitrogen, when it is applied more freely in manure than the habit of the plant in its adaptations to soil and season require, we will refer, in passing, to one or two other experiments of a purely practical kind bearing upon this question. For several years prior to the harvest of 1851, we had grown Peas on a series of plots in our leguminous experimental field; one of these plots was entirely unmanured—some had mineral manures only—and others Rape-cake or ammoniacal salts, with and without mineral manures. There was, indeed, some effect produced on the Pea crops by some of the mineral manures; but the ammoniacal salts were entirely without beneficial result. After several years' trial, finding it almost impracticable to keep the land clean; and finding, also, little result from the experiment, it was discontinued after the harvest of 1850: and before commencing any other experiment upon the same land, *Wheat* was sown without any further manure, in order to gauge and, to some extent, equalise its condition as left by the various manures, and the removal from the land of the several Pea crops. The result was, that the produce on *all* the plots was about 12 or 15 bushels above that of the normal soil and season, and the repeated dressings of ammonia on some of them, which had not increased the Pea crops, were found to be without effect upon the succeeding Wheat crop.

Again, in our experiments upon Clover in 1849, a series of plots having ammoniacal manures, with and without mineral supply, gave in three crops very little more nitrogen *per acre* than the corresponding plots without ammonia. On these Clover plots *Wheat* was next sown, and although here again, after this leguminous *green* crop, there was, *in all cases*, a produce of Wheat by 12 to 15 bushels or more beyond that of the natural soil and season; and even in some cases, a small increase where the ammoniacal manures had been applied without effect to the Clover; yet in no case was this increase what we might expect, supposing that as much nitrogen had been collected from natural sources where it had been provided in manure as where it had not; and, also, supposing that the whole of the nitrogen of the Clover manure which had not been recovered in the increased crop, had been accumulated in the soil, and was available for future crops.

These results are, we think, very significant; affecting, indeed, other questions besides the one immediately under discussion. But on this point we shall have information still more directly pertinent when we have grown a *cereal* crop, without further manure, upon the land whence we have taken so many Turnip crops without recovery of the nitrogen which had been supplied in manure. *J. B. Lawes.*

Home Correspondence.

Employment and Education.—If idle, uneducated men are left to their own resources, the animal passions will obtain the mastery, leading to gross indulgence, the mind having no influence over the body for good, which it would have, were the hands mechanically employed in providing the necessaries of life, and comforts which every cottage should possess. There is great difficulty in instructing a long-neglected adult population; it is very different from teaching children. Amongst the former an impression can only be made by kindness and management in tendering advice, not as a master, but as a friend. How frequently do the best intentioned persons fail in guiding the lower classes, because they proceed to work without any tact, insisting rather than persuading, which will not answer with an independent English labourer, who, however dependent he may be, does not like to fancy so, much less be reminded of it. Sixpence bestowed with a gentle word is more thankfully received than a shilling from a cold, proud hand; still more grateful would an able-bodied man feel to be allowed to earn his wages. Agriculture is advancing in the estimation of our countrymen, and is no longer considered a low cast of occupation, capable of being superintended by the commonest intellect; a farmer, to keep pace with well-known and well-tried improvements in the management of stock and crops, must have a better education than he can attain at the tail of the plough. The best teaching that a man can receive will be of little avail, if he intends to set up for himself, unless he has capital to carry out his experience, and support him under his first year's trial. As the master has much to learn before he becomes competent to guide others, so, in comparison, has the labourer need to brush up his faculties, in order to understand and follow the instruction given him. Obedience is an essential ingredient in the composition of a good servant, not that sort of wooden compliance so characteristic of an ignorant race, but a cheerful wish to do his duty to the utmost of his power to insure the best result to the operations entrusted to his honesty and skill; whilst so much drinking is not only permitted but encouraged amongst farm-labourers, so long will their condition remain much below the standard of rational beings, and they will continue to be mere machines of a very ordinary capacity; gallons of sour cider or hard beer are not requisite to make a good workman or a conscientious Christian. *Falcon.*

Fire Insurance.—It has ever been my practice to insure the farm-buildings on my property, and also to recommend my tenants to insure their stock and crop, a large portion of which would probably be destroyed if a fire were to occur; but I find it would be as easy to persuade them to make their will as to induce them to insure. As my tenants on entering on a farm do not pay the first half-year's rent till the expiration of the year, the rent is always one year in arrear. Now, if a fire were to happen and much damage ensue, the tenant would be almost ruined, the landlord would feel ashamed to enforce payment of rent, or if he did enforce it, the country would cry out against him, and all because he could not induce the tenant to do his duty to his family and to his landlord. Under these circumstances I wish to inquire through the medium of your valuable Paper, if a landlord may insure against fire, &c., the stock and crop of his tenant, and thus secure his year's rent? Then, having received his due from the office, may he call upon the tenant to pay what he can on his part? Would it be just thus to receive from both parties; or would not the insurance office look upon the business with much suspicion? Yet, what other means can a landlord take to insure himself and family against this folly of his tenant? He might insure for the tenant—but that would not secure the year's rent to the landlord after such an accident, for the tenant would require the money to re-instate himself. *A Subscriber.* [We do not understand the question; you may insure anyone's property, if he will allow the office agent to inspect it for you. In the event of its destruction by fire, you would of course receive the amount insured upon it. And all this would not affect the claim upon your tenant for rent.]

The Potato Disease.—We extract the following valuable communication on this subject from the *Times* newspaper. "In the *Times* of July 20, 1847, I stated my belief that the Potato disease resulted from a long-continued ill-treatment of the tubers, and from the too great richness of the soil in which they are grown. Where the soil is rich the disease is most virulent; where the soil is poor the disease has less influence—the Potato is more flowery and better flavoured. These statements were true then, and I confirm them now. The health of the Potato depends on the wintering of the tuber. If taken care of in the winter, it will take care of itself in the summer. At digging-up time all

Potatoes intended for seed should be left upon the ground until well greened by the sun and air, then laid in a cold, dry, and airy place, if possible, where they can be protected from frost. How, it may be asked, does this prevent the disease? In this way:—Every person must know that the slowest-growing tree forms the hardest wood, and this is just the case with the Potato wintered on my plan. When the tubers are placed as above directed, they produce their shoots slowly and gradually, the stem becomes woody, with fine close fibres, so that the texture is strong and wiry; when once this condition is produced it is never altered, and it extends itself to the very summit of the haulm. This simple fact explains why autumn-planted Potatoes have been freest from the disease; the development of the shoots being slow, they acquire that woody texture which it is essential for the stem to have to defend it from the influence of the disease. Contrast the above principles with common practice. The tubers are put away in large heaps, covered thickly with straw and mould, sweated, and by the spring matted together with the shoots which have grown out of them. When planting time comes, all this growth is pulled off, the tubers are cut to pieces and limed over to heal up the wounds. They are planted upon or under rotten dung or mud; what life is left shows itself in the development of a soft watery shoot, just like a balsam, liable to every disease. Such plants may be compared to a confirmed drunkard whose organs are in the last stage of destruction; should any external influence act upon them so as to produce active disease, all is lost; there are no stamina to fall back upon. Thus there is no hope for such mismanaged Potatoes when the weather is unfavourable; if a few dull hot days are followed by a powerful bright sun the sap ferments, becomes putrid, mildew forms, the diseased sap descends gradually into the tubers, when those which are youngest, into which the flow is most rapid, suffer most, while those which are nearly ripe suffer less or not at all. The whole secret is in the wintering, and planting the tubers in the earth with all the strength nature had placed in them when fully ripe. Then they form healthy roots and a strong woody stem. Sudden changes have little effect upon the vaulm of such plants; the movement of the sap goes on regularly; the plant cannot become gorged with water, since the stem is too woody. The sap is well elaborated, the underground stem is hard, and the neck of the plant firm and solid, exhibiting a strong health, which can only be acquired through careful wintering. In addition to all this, a late Potato, with a robust constitution like that just described, ripens its tubers five or six weeks earlier than otherwise. I have now done with all experiments upon this king of vegetables, and I trust I may have been the means of doing some service to Potato-growing."—*James Cuthill, of Camberwell.*

Poultry.—You are probably aware that at all recent poultry shows a complete "reaction" has manifested itself in judging Cochin China fowls. Although few can doubt the superior plumage of the four-clawed, light class (for such I must style them) over the dark five-clawed or grouse-coloured, yet the latter are decidedly heavier, as I am well informed the former cannot be reared within about two pounds in weight of the latter; but for all this, the dark class have no chance at a show. It has occurred to me and a number of friends that two distinct classes ought to be admitted for competition. The chitteprat and pheasant tribe are divided into several classes, why should not Cochin China? If you approve of this, can you lend your aid? and surely it could be accomplished at the Birmingham show in December next. *A Poultry Fancier.*

Poisonous Oilcake.—I take the liberty of herewith sending you a sample of oilcake which has been found to possess poisonous qualities; resulting, in all probability, from some vegetable substance or the seed of some plant with which it is adulterated. Every animal that has eaten it has been affected with violent purging; and death, I believe, in some cases, has ensued. A chemical analysis does not reveal any poisonous substance of a mineral character, or show any marked difference in composition from ordinary oilcake. I think I see in it the husk or some portions of the seed of some plant different from that of which it ought to be composed. A considerable quantity of the oilcake has been purchased by some neighbours of mine; and I should feel deeply obliged if you can find time to examine it and give your opinion, either in the *Agricultural Gazette* or to me privately, as you think fit. *Agrestis.* [We are unable to state the cause of the poisonous quality of the cake. Its history would probably be interesting. Is it home-made or foreign?]

Heracleum giganteum and H. sphondylium. — To prevent these plants from becoming a pest by self-seeding, which is a fault assigned to them, we beg to state that immediately after its flowering, the heads should be cut off, to prevent their seeding; a pair of steps will be necessary for operating on the former; in short, the whole of this plant may be cleared away and the root taken up, as no further beauty is to be expected; it then becomes unsightly, and being biennial, dies off altogether after flowering. The sphondylium, however, should be treated differently, the leaves and roots are to be retained for the use of pigs, rabbits, &c., until the end of autumn. This plant, if dried in summer, and stored in casks or hampers trod in like Hops, will be found very serviceable in large towns during winter for rabbits, as well as cattle, which are very fond of it thus dried and preserved. *Hardy and Son, Maldon, Essex.*

The Show at Lewes.—In walking round the cattle department at Lewes, to view the mountains of beef that were exhibited there, my attention was first drawn to the two prize bulls in the first class of short-horns, where a number of people had congregated, and were freely expressing their various opinions. I found the general opinion was that judges had commenced their task by "making a bull,"—giving the second prize where the first ought to have been. On turning to the other classes I found the prizes carried off by some very splendid animals, but fed to that degree that will prevent our show-yards from ever being graced with their offspring. I should be glad to hear of the Society taking some steps to moderate this high feeding. It is justly remarked in the Agricultural Journal that the high feeding prevents many of our eminent breeders from entering the Society's list as competitors, and thus gives animals of inferior quality an opportunity of carrying off the prizes. It is a very common thing for gentlemen to say (on being asked why they don't show such and such animals), "I want it for breeding, and cannot afford to spoil it by making it up for show." In the young classes of both Herefords and short-horns the evil work is in a forward state; many of them on reaching their homes will experience a wonderful change in their diet (especially when doubt arises as to their breeding prospects). Instead of the meal, and everything that will tend to accumulate fat, they will be subjected to everything that will tend to decrease fat. Such changes must injure the constitution. The Herefords as well as short-horns were as fat as they could be made. As I have often been impressed with the idea that short-horns arrive at maturity earlier than Herefords, I thought this a fitting opportunity for testing that point, and I girthed the yearling classes of both breeds, and found them as follows: Short-horns (12 entered, 10 shown), average age 1 year 6 months, average girth a little over 6 feet 6 inches; Herefords (5 shown), average age 1 year 8 months, average girth 6 feet 4 inches; showing a difference in favour of short-horns of 2 inches at two months younger. *J. K.*

Thin Seeding.—I have now growing towards maturity Wheat and Barley in my fields cultivated on the system I have so long advocated. The seed for the Wheat varied from three and a half quarts to two pecks per acre, and that of the Barley from a peck and a half per acre to four pecks, or a bushel. I have several plots of Wheat, and some of which, that is, the thinnest seeded, and the next to the thinnest seeded, I challenge against all England; and I unhesitatingly assert that it cannot be exceeded, if it can be equalled, in this or any other country. A small portion of the Wheat was put in with Dr. Newington's dibbler, and a beautiful specimen it is; the rows are 15 inches apart, and the grains were put in singly 6 inches apart in the rows. The rest of the seed Wheat, namely, the peck and peck and half and two pecks per acre, were put in with my drill in rows 12 inches apart, and the grains in the rows singly, from 4 to 8 inches apart, according as I intended to drill in more or less seed. The greater part of my Barley was not put in until the beginning of June, and the weather has been greatly against it; but still the crops will be very fine, though not equal to the Wheat; but the thinnest seeded, as with the Wheat, is by far the best, and the thickest the worst crop. I invite all advocates of thick and barbarous and wasteful seeding to inspect these crops; and with reference to the Wheat I challenge them to equal it. *G. Wilkins, Wix, near Manningtree.*

Labourers.—Complaints are made of the difficulty of procuring mowers to cut the Grass this season; the wonder is that any able-bodied men remain in the country, when their services are required only on particular occasions; at other times they have little to do, the farmers barely keeping sufficient hands to prevent their holdings becoming useless, for the most ordinary purposes of agriculture, according to the old system. If a vessel leaves port under-manned, the chances are, if her voyage is a long one, she will never be heard of more—the saving of a few pounds in wages causing the loss of valuable property, to the ruin of the owners. What prospect has land of producing an abundance of food, unless the number of men employed, in some measure, corresponds with the acreage? To attempt the cultivation of a farm of 300 acres with strength calculated for 200 acres, is to insure a failure of crops and loss of money; the objection used against keeping up a permanent staff all the year round is—How are they to be turned to account in bad weather, when out-of-door work cannot be proceeded with, when the earth is either too damp from moisture or too hard from frost to be mowed? In a well-regulated establishment there is much to be done when it rains, snows, or freezes—carts to be repaired and greased, tools to be looked over, harness mended, sheds patched up, hurdles made, gate posts cut out, wood split, cattle houses thoroughly cleaned, horses trimmed, dressed, and feet attended to; door-locks and windows rubbed up, and anything painted that wants it. In frosty weather breaking stones for the roads, filling up ruts, clipping hedges, cutting the rough Grass in ditches to be trod into manure, and numerous other odds and ends both useful and ornamental, which would occupy too much space to enumerate, but which will occur to an industrious agriculturist. It often occurs when a cart and horses are called for on an emergency, that a shoe is loose, the tyre of a wheel out of order, or the collar pinches, because common attention was not bestowed upon home economy when there was nothing else to be done. It will be said this is all fine talking, but where are individuals to be found sufficiently intelligent to be trusted with the duties of the saddler, wheelwright, or carpenter, &c. Show labourers that certain services will be required of them, pay them well, and they will soon become skilful jobbers and attain other rural accomplishments. A man may not be able to manufacture a pad, but with a little practice he may splice a strap, or sow on a buckle; a carter might be puzzled to construct a waggon, yet he might without difficulty replace a broken plank in the bottom, instead of stuffing a wisp of straw into the hole. There may be more ingenuity in forming a horse-shoe than falls to the lot of a peasant, yet he might be able to draw an old nail and put in a new one, to prevent the animal casting a shoe on a journey, or before a day's work, which would save time and inconvenience. The old song, "Produce is low and we can't afford to burthen our farms with more labour" must cease, or the best men will emigrate; and then a new cry may travel through the length and breadth of the land—"Our crops are spoiling, we have no one to gather in the harvest;" and whose fault will it be? Individuals cannot be expected to shut their eyes to the fact of thousands of acres of land being neglected and half tilled; frequent expressions are heard to the effect—"So and so ought to be ashamed to have his land in such a plight when willing labourers are anxious to be employed, if poor fellows had land they would soon make it grow more food." There is some truth in these remarks if we contrast the appearance of allotments with the farm ranging side by side, and the former paying double rent and sometimes more—shame to those who ask it, taking advantage of the poor man's necessity. The interesting account in the Leader of the *Gazette*, July 24, affords matter for grave consideration, and carries the thoughts beyond the present time, over a series of years before the experiment can be pronounced successful — cropping without manuring, if the statement has been correctly understood. No doubt can exist of the efficacy of frequently stirring the soil, and periodically bringing it fresh up to the surface. In the course of time, without the usual manure feeding, will not the land become unproductive from exhaustion and require a very long period to regain its usual fertility? The question is asked, because an instance is known of a garden which was cropped and cropped, trenched and trenched, year after year, until at last it became labour in vain; and even with the richest dressing, it was long before the land showed symptoms of recovery. The length of time soil will produce and reproduce, without assistance, will depend upon its natural properties, and perhaps the experiment might be tried once too often. These remarks are thrown out to induce discussion on so important a subject. *Falcon.*

Sewage.—The best substitute for guano will be the sewage of towns collected in large tanks and consolidated by draining off the top water; the deposit to be removed to sheds and dried for agricultural purposes. We are slow to take advantage of resources within our reach, but sooner or later, as chance may determine, what we now throw away will be sold for thousands of pounds. I do not anticipate obtaining the prize of 1000 guineas for this suggestion, nevertheless British guano thus saved would supply the farmer with a cheap and valuable fertiliser, and will, some day, drive foreign guano out of the field. Let any man experiment with half-a-dozen pounds of the black mud from a common house-drain, place it under cover, and when dry reduce it to powder, and drill in with Turnip seed, or sow broadcast on Grass after or before rain. *Economist.*

North of Yorkshire.—I have again visited this agricultural district, and am surprised to find so little change in the management of the land, and the occupiers of the farms. The farmers are very generally going on in the old way, although in some other parts of the kingdom there have, of late years, been many changes among the tenants, and great improvements in the cultivation. Here, neglect and mismanagement of manure strikingly display a low state of agricultural management; and the same may be said respecting the weedy condition of the crops. It is true that there are a few exceptions to this state of things. There is some fair cultivation, and a very little of a quite superior character; but these spots are only the exception to the general rule. With some of the farmers, there is a surprising ignorance of several of those improvements which have, of late years, been so advantageously adopted in other places. How they manage to get a living in these times is somewhat mysterious. It is said they are living upon capital; but those who are well acquainted with the country are of opinion that capital was always very deficient among the farmers here, as well as in most other parts of the country. If these remarks seem to convey a censure on the farmers, I would say they are not so culpable as they appear to be; the landowners and agents must share the blame with them, since the tenants have never been encouraged as they should have been to manage in a spirited way. Many of the landlords and agents are honourable men, but, however worthy of that character they may be, the system of yearly tenure, without compensation for improvement, does not encourage it. How many fine estates there are, and how much moor-land there is, which, as it is generally allowed, would pay for improvement; and yet little or nothing is done, except in the way of drainage here and there. *An Agricultural Visitor.*

Modern Bread.—I read some time back an article in the *Gazette*, headed "Modern Bread is worthless," which appeared to me to convey some useful truths; since that time I have eaten brown bread whenever I

met with it, but without any perceptible difference in health or strength, which I am thankful to acknowledge is usually good; but as the great variety of food taken by the human race (at least by such as can indulge in change of food) renders any result from the use of various sorts of bread doubtful, I venture to suggest that if a dozen of your subscribers were to try the experiment with two pigs, giving one the best baker's bread, and to the other an equal value of brown bread; if any uniform result were obtained, this practical experience would be of great value and would compensate for the extra cost of the pork. *W. K.*

Societies.

HIGHLAND AND AGRICULTURAL SOCIETY'S MEETING AT PERTH.

[The following was in type and ready for publication last Saturday, but unavoidably postponed, owing to the space occupied by the reports on the state of the crops.]

The great Exhibition of this Society, consisting of stock, implements of husbandry, and dairy produce, commenced on Wednesday, August 4, at Perth.

The previous show of the Society was held at Glasgow in 1850, so that two years have intervened between it and the present one. The site chosen for the show of this year is a level piece of meadow ground, about 7 or 8 acres, forming part of the south "Inch" of Perth, and extending between the road and the river Tay. The arrangements connected with the show-ground have all been admirably made, and reflect the highest credit on the secretary and stewards. Wednesday was devoted to implements and dairy produce. Thursday, general exhibition of stock, &c.; and on Friday there is to be a sale by auction, which will terminate the proceedings.

IMPLEMENTS.

Wednesday.—The show of implements is greatly inferior in point of numbers to that of Glasgow in 1850; but the quality of the workmanship and utility of the articles are in no way diminished; in fact, the practical part is in every way greatly better than any former show.

In *Section* 1 there were 14 two-horse ploughs for general purposes, all of which were well made, and several of them polished to a degree altogether out of keeping with the practical uses to which they are to be applied. Plough-makers should remember that mere hand-work in polishing is ever of secondary importance to head-work, as manifested in ingenious contrivances for combining strength with lightness of draught, and both with cheapness. One feature characterised nearly all the ploughs, viz., shortness of beam and great length of handles. The absence of wheels in the Scotch ploughs, necessitates a greater length of handles than in the English wheel ploughs, in order that the ploughman may have a greater leverage, and consequent command over the implement. There was only one plough with wheels in the yard, which was exhibited by Mr. James Kirkwood, Tranent. The prize in this section was awarded to George Ponton, Crongfoot, Linlithgow, for a plough with rather short hands and longish beam. The only peculiarity and improvement consists in the length and strength of the upper side plate, which is admirably constructed to defend the sheath and lower part of the left handle from injury.

Section 5 consisted of 9 double-mould ploughs, most of which were remarkable for the form and great length of the mould-boards; the entire length from the end of the board to the point of the stock was in some cases from 4 feet to 4½ feet. The objects of this great length and flatness of board are first, to obtain a long bearing in the land; and secondly, to raise the earth without pressing upon and consolidating the raised part of the drill. John Hutchison, Craigend, Perthshire, exhibited a plough of this sort with an improved screw for shifting the mould-boards to any required width. The screw moves on two journals, or axles, at both ends, and works through a female screw which is attached to two hinged bars of iron, each of which is attached to separate mould-boards, so that when the male-screw is turned to the aft-hand, the female one moves along it and draws the boards inward, and when turned to the right, the boards are pushed outward. The prize in this section was carried off by James Barclay, Castletown, Fowlis, Crieff, for a plough remarkable for the great length of all the different parts, strength of material and workmanship, and also from its extreme cheapness, 2*l.* 12*s.*

Section 7 contained 11 two-horse grubbers or cultivators for working on the flat. The prize in this section was gained by Robert Law Shettleston, Glasgow, for a Tennant's Grubber, registered in June, 1851. This is a very strong, simply-constructed implement, and can be used either as a common grubber for preparing land for green crops, or, by shifting the tines, as a grubber for drilled green crops, or as a scarifier for stubble land. Few grubbers, we believe, have given greater general satisfaction than this; and the judges have added their approval also by awarding the first prize to it. This grubber is described in the "'Practical Mechanics' Journal' as possessing a superior grubbing action for disintegrating and cleansing land, simplicity and strength of parts, the retention of the lubricating oil upon the spindle of the adjustable pivot wheel, and the prevention of sand into the wheel bearings." This implement has already produced a considerable sensation in the agricultural literary world, in consequence of its invention, Mr. Tennant having stated that in his own practice it has nearly superseded the use of the plough in the cultivation of his land. Mr. George Ponton also exhibits a very good grubber in this section, but more adapted, we should think, for three or four-horse draught than two, which it is stated to be. Mr. Lewis Potter, Bothkennar, Falkirk, exhibits a grubber with a Norwegian harrow attached. The tines of the grubber being in front, loosen the soil; and as the clods must pass through between those of the harrow, the land is pulverised to the highest degree. The weight of this implement, and the work it has to perform, adapt it more for four horses than for two.

In *Section* 8 there are 10 drill-grubbers, all of which have been considered so devoid of merit that no prize has been awarded, only one being commended; and this, so far as our judgment goes, about the worst of the lot. Mr. Ponton exhibits a very good drill-grubber with the tines (seven in number) so arranged, and so far apart, as not only to cover the whole ground, but also to obviate the chance of choking in foul land.

In *Section* 9 there are only two Norwegian harrows about which there are novelties of any importance, and being nearly the same in construction, there are no points of contrast.

Section 10.—Consolidating land rollers. Three implements shown, Crosskill's serrated roller and two smooth rollers, none of which received a prize; but A. and W. Smith's smooth roller had a commendation ticket attached to it.

In *Section* 11 (land pressers for preparing seed-bed for grain), there was only one implement, which was exhibited by David Galloway, Alyth, Perthshire. This machine consisted of a frame embracing six presser wheels, and having a sowing apparatus behind for sowing all kinds of grain in the drills formed by the wheels. The great weight of the machine renders it one fit for level land of a light texture.

Section 12.—Pulverising land rollers. There are eight implements, all differing from each other in construction. First on the list and first in merit, according to the judges who have given it the first prize, is the Northumberland clod crusher, invented by Matthew Gibson, and exhibited by Gibson and Richardson, Newcastle. It consists of two axles, each of which carries 22 sharp-edged wheels about 3 inches apart, working alternately and partly within the same circle, so that the implement is both crushing and self-cleansing. Second on the list is a wooden roller with 2-inch circular grooves cleaned out by scrapers—the raised portions between the grooves being shod with iron. Next comes a large Norwegian harrow, and then a cast-iron deeper fluted roller in three divisions, which, no doubt, will do good execution when the ground is completely dry, but very apt to clog with the least moisture.

Section 13.—Harrows: William Crosskill carried off the prize here, which is highly creditable to him, as there were many good sets of harrows competing against his. The fixing of the tines with screwed nuts is a great improvement and should be more generally adopted, as there is less loss from the tines shaking out on stony ground. A set of harrows, originally invented by the late Mr. Smith, of Deanston, was exhibited in this section. Known for a long time now as the chain-web Grass-seed harrow. The set under review was exhibited by Mr. Law, of Shettleston, who has improved them, and rendered them more useful and less liable to choke.

Section 16.—Broad-cast sowing machines for grain and Grass seeds. The first premium was awarded to John Lennie, Lauder. This machine covers 18 feet of land, and consists of a long box carried on a frame, and divided by joints into three lengths. Inside the box is a spindle carrying a series of thin-toothed pinion wheels, which bring up the seed from the bottom of the box, and propel it through holes situated about an inch and a half from the bottom. The delivery of the seed is regulated by enlarging or diminishing the size of the holes through which the seed passes. When this machine is used for sowing Grass seeds, another spindle is employed than for corn, which is furnished with a series of brushes for propelling the seed through the orifices already described. The principal advantage in using this machine is for Grass seeds, which it sows with great regularity, however windy the weather may be. Thirty acres a day can be accomplished with this machine, drawn only by one horse and guided by one man.

Section 17.—Drill sowing machines. In this section there are six machines, three on the English or seed-cup principle and three upon the Scotch or toothed-pinion principle. The premium was awarded to Thomas Sherriff, West Barns, Dunbar, for a machine having several ingenious adaptations for the delivery of the seed and the regulating of the quantity to be sown per acre. In the first place, the seed-box is composed of two chambers, the upper one of which contains the great bulk of the seed which passes gradually into the lower chamber, through holes graduated by moveable slips of iron. The seed is then propelled through holes by toothed pinions; and as these holes are simultaneously diminished or enlarged by moving a lever, they can all be made to deliver the same quantity of grain, from one bushel up to six bushels per acre. In the second place, there are two indices driven by the carrying wheels (which also drive the seed wheels), which show the extent of grain passed over by the machine in a given time. The pointer of one of these indices makes one complete revolution for every acre passed over by the machine, while the other makes only one revolution when it has passed over 20 acres; but this index being divided into 20 parts, the extent of ground passed over is exactly indicated at any period of the day. This is decidedly one of the most ingenious contrivances we have ever yet seen for showing the quantity of grain sown, and the extent of ground passed over.

In *Section* 18 there are three horse-hoes for corn. The prize was awarded to Thomas Sherriff, West Barns, Dunbar. This machine is all of iron, with the exception of the steering rod, which is of wood. The scrapers or cutters are all rigid, and do not admit of being shifted while the machine is in motion, and in this respect we consider it much inferior to several of the English horse-hoes, which are provided with a parallel motion for shifting the whole of the cutters at once in a lateral direction.

In Turnip-sowing machines there are several novelties. Hugh Cowan, Corstorphine, Edinburgh, exhibits a very simple machine. The seed is delivered through holes in a slider driven by the roller. The number of holes are increased or diminished by a moveable slid; each open hole sows 1 lb. per acre. The roller is of cast-iron and concave, with a sharp projecting flange in the centre, which makes the rut for the seed. No premium has been awarded in this section, but a machine exhibited by Chas. Hay, Ratho, had a commendation ticket attached. It had concave rollers but no flange. The seed-bed is formed by two thin wheels, moved by contact with the ground. The seed is delivered by a tin wheel (something like a mimic dredging wheel), working in a box full of seed, each bucket lifting up a quantity of seed, and pitching into a spout, which conveys it to the ground. The quantity of seed is regulated by a slip of tin placed at right angles to the seed buckets, and which can be moved so as to diminish or increase the breadth, so that only the part next the spout delivers the seed into it, while the rest is carried round in the buckets.

Section 24 contains several straw-cutters, the prize being carried off, as usual, by Richmond and Chandler, Manchester. This machine has been so often described, and is so well known that any description is unnecessary. Of Turnip-cutters there are four varieties—Gardiner's cylinder, wheel with radial knives, horizontal grating and knives, and the common lever Turnip-cutter. The prize was gained by James Kirkwood, Tranent, for one on the same principle as that exhibited at Glasgow, and for which he also then got the prize. It can be used either as a stationary machine for driving by hand, or it may be dragged behind a cart when the knives are driven by the carrying-wheels; but when used as a hand-machine, the carrying-wheels are converted into fly-wheels by raising them off the ground.

There were only six corn and linseed bruisers in the show-yard; the premium for the Oat bruiser was awarded to A. and W. Smith and Co., Paisley; and for a linseed crusher the premium was carried off by Richmond and Chandler.

There are only two competitors for the premium for the steaming apparatus, viz., Richmond and Chandler and A. and W. Smith and Co., Paisley; and as the merits of both were about equally balanced, the judges gave a premium to each.

Section 36 contains a number of very excellent one-horse farm carts. The prize was awarded to Alex. Seymgeour, Methven, Perth, for a very plain substantial cart, the sides and front of which were of solid wood without any mortices. The fore lock or tilting-rod consist of bars of iron, arranged triangularly and resting on two of the angles on the front bottom sheath of the cart, while the third angle is welded to a bar of iron with a peg at the top, which catches in holes made in another bar of iron fixed to the front of the cart. The improvement here is in having the tilting-rod to rest upon two points of the front sheath about 16 inches apart, so that the strain is more diffused, and the whole is firmer, and consequently the cart less liable to wear from jolting.

In *Section* 39 there is a set of wrought and cast-iron rick-stands, eight in number, ranging from 10 feet in diameter top to 18 feet; exhibited by Charles D. Young, and Co. These stands are of very superior workmanship, and so constructed that, with ordinary attention in removing props from the stacks after being made, they may be said to be vermin-proof. There is also in this section a set of rick-stand pillars, made of fire-clay; exhibited by John Quarten, Crossgates, Fifeshire, which is somewhat of a novelty, but most farmers will prefer cast-iron, as being stronger and more durable. There are four-horse stubble or hay-rakes, the premium for which was awarded to Lawrence Oliphant, of Cordie, Bridge of Earn: this is one of the Messrs. Smith's (Stamford) rakes improved in the axle by the exhibitor. This improvement consists merely in carrying the axle about 18 inches inward, and bolting the end of it to a cross-bracket instead of bolting it to the end bar itself, as is the case with Smith's machine.

There are only three or four corn-dressing fanners in *Section* 46, thus showing a want of spirit among the millwrights and makers. The prize was awarded to Robert Reid, Lysmill, by Arbroath, for an implement which seems to combine a number of material points of excellence. The wind is allowed to escape from the flyers at a point about 9 inches below the centre, and it catches the grain immediately as it drops from the hopper, and before it has acquired much velocity. The grain falls into a riddle through which the good grain passes, falling upon a sieve, and coming out at either side as may be required. The quantity of corn to be delivered from the hopper can be regulated by a rack and pinion apparatus, which is easily and handily wrought. The riddle is elevated or depressed by another rack and pinion of the same sort. Upon the whole, this is one of the best dressing-fans we ever remember seeing at the Highland Society's shows. The price is also very low.

In the churn department there are only four varieties of form, and the prize was awarded to C. D. Young and Co., of Edinburgh, for Drummond's churn driven by horse power. This churn consists of one large oblong tub, divided down the centre by a board with perforated holes. In each chamber a common dash works, and when in motion, the one is at its highest point when the other is at the lowest. The aeration and agitation of the cream is said to be very complete by this arrangement. M'Cartney and Drummond, Cumnock, carry off the prize for the best cheese press. The pressing apparatus consists of a rack wound up or lowered by a pinion, and the pressure is applied to any required extent by a weighted lever.

Charles D. Young, of Edinburgh, exhibit a very good set of traverse divisions, rack, and manger for farm stables. The posts are of cast-iron, highly ornamental, and resting on cross flanged sockets, to which they are keyed in the same way as the columns of a steam-engine. The sides of the traverse are intended to be of wood, and grooved iron soles and rails are provided for fitting the boards, while the pillars also are grooved to receive the ends. The manger is of cast-iron well rounded off at the edge next the horse. A traverse of this kind will not merely be lasting, but it will also be an excellent preventive of crib-biting.

Of Reaping-machines there are Bell's and Hussey's—the former shown by Mr. George Bell, Inchmichael, Errol, Perthshire, brother of the inventor, the Rev. Patrick Bell, Carmyllie Manse, Arbroath; and the other exhibited by Crosskill, Beverley; Imrie, Perth; and C. D. Young and Co., Edinburgh. These implements are to be tried to-morrow (Friday) on the farm of Muirton, when the farmers will have an opportunity of judging of their respective merits. There is a great variety of excellent machines and articles in the extra department, which we must forbear noticing for want of space. The show of stock is now going on (Thursday, 5th), but we can neither give the prizes, nor a description of the various sections and classes till next week.

Yorkshire Agricultural.—The annual meeting of this Society was held last week at Sheffield. We can only publish the awards of prizes, our space being this week taken up by the report of the Highland Society's meeting at Perth. A very interesting discussion took place on the Wednesday, upon the best and most economical method of cutting and harvesting corn, at which some very encouraging facts as to the use of the reaping machine were brought forward.

AWARDS FOR IMPLEMENTS.

Best 9-inch plough, Mr. Ball	£5	0	0
Best 7-inch plough, Mr. Busby	5	0	0
Best 5-inch plough, Mr. Busby	5	0	0
Harrow for light land, Mr. Stead	3	0	0
Drag, or scarifier, Mr. Smith, Stamford	5	0	0
Horse-hoe on the flat, Mr. Smith, Kettering	5	0	0
Ditto on the ridge, Mr. Busby	2	0	0
Portable steam-engine, Mr. Hornsby	15	0	0
Winnowing machine, Mr. Hornsby	5	0	0
Threshing machine with winnower, Mr. Hornsby	10	0	0
Drill, the most useful, Mr. Hornsby	5	0	0
To Mr. Hornsby—cake mill	2	0	0
Fixed steam-engine, Messrs. Tuxford and Sons	15	0	0
M'Cormick's reaping machine, Burgess and Key	6	0	0
Single-horse cart, Mr. Bellerby	5	0	0
Ditto, Crosskill's	Highly commended		
Theshing machine, Mr. Goucher	Medal		
Patent metal meal mill, Mr. Hurwood	Medal		

Miscellaneous.

To Mr. Crosskill—Best assortment of implements in the yard	The Gold Medal		
,, Waggon	5	0	0
,, Liquid manure cart	2	0	0
,, Roller in parts for uneven ground	2	0	0
,, Wheels and axles	2	0	0
To Mr. Smith, Stamford—Haymaker	3	0	0
To Barrett and Exall—Horse rake	2	0	0
To Mr. Hill, Brierley Hill—Iron gates and Hurdles	3	0	0
To Norton and Borrie—Brick machine	2	0	0
To Mr. Burrell—Saw bench and hurdle frames	2	0	0
To Mr. Cogan—Dairy utensils	2	0	0
To Mr. Sorby—Improved scythes	1	0	0
To Burgess and Key—Double-action pump	1	0	0
,, Assortment of forks	1	0	0
To Mr. Busby—Chaff-cutter	2	0	0
To Mr. Barker—Subsoil plough	2	0	0
To Mr. Hart—For the ingenuity displayed in the construction of his new brick-making machine	Medal		
To Mr. Awdas—Improved drag lifter	Medal		

AWARDS FOR CATTLE.

SHORT-HORNED CATTLE.

Best bull, of any age, 25*l.*, F. H. Fawkes, Farnley, Otley; 10*l.*, T. Raine, Gainford, Darlington. 21 entries.

Best yearling bull, 20*l.*, Earl Fitzwilliam, Wentworth Rotherham; 5*l.*, H. Ambler, Watkin Hall. 10 entries.

Best bull calf, upwards of five months old; 10*l.*, R. Booth, Warlaby, Northallerton. 11 entries.

Best cow of any age, in calf or milk, 15*l.*, Charles Towneley, Towneley Park; 5*l.*, to R. Booth, of Northallerton. 17 entries

Best three-year-old cow, in calf or milk, and having had a calf, 10*l.*, Charles Towneley, Towneley Park, considered to be the best animal in the yard. 4 entries.

Best two-year-old heifer, in calf, 10*l.*, John Booth, Killerby, Catterick; 5*l.*, R. Booth, Warlaby. 9 entries.

Best yearling heifer, 10*l.*, Charles Towneley, Towneley Park; 5*l.*, R. Booth, Warlaby. 11 entries.

Best heifer calf, upwards of five months old, 5*l.*, Charles Towneley, Towneley Park. 7 entries.

CATTLE OF ANY BREED.

Best cow for dairy purposes, 5*l.*, J. Gordon, Lecalty, Manchester. 4 entries.

LONG WOOLLED SHEEP.

Best shearling ram, 20*l.*, J. Simpson, Spofforth Park; 5*l.*, John Borten, Barton-le-street, Malton. 3 entries.

Best ram of any age, 10*l.*, John Borton, Barton-le-street, Malton; 5*l.*, W. Abraham, Barnetby-le-Wold, Brigg. 12 entries.

Best pen of five ewes, 5*l.*, J. Simpson, Spofforth Park. 7 entries.

Best pen of five shearling wethers, 5*l.*, W. L. Mellish, Hodsock Priory, Worksop. 5 entries.

Best pen of five shearling gimmers, 10*l.*, W. Abraham,

Barnetby-le-Wold; 5*l.*, W. Jordan, Low Caythorpe, Burlington. 10 entries.

SOUTHDOWN SHEEP.

Best Southdown ram of any age, 10*l.*, G. S. Foljambe, Osberton Hall, Worksop. 18 entries.

EXTRA STOCK—SHEEP.

First prize, Samuel Swift, Hemingfield, Barnsley, half-bred Southdown wethers; second do., Robert Dawson, Sowerby, Burlington, one shearling ram. 17 entries.

PIGS.

For the best boar, large breed, 5*l.*, Josh. Knowles, Tinsley, Sheffield; second do., 2*l.*, T. M. Richardson, Hibaldstow, Kirton Lindsey. 10 competitors.

For the best sow, large breed, in pig or milk, 5*l*, W. Abbott, Woodhouse-lane, Leeds; 2*l.*, J. Tuley, Matchless House, Keighley. 7 competitors.

For the best boar, small breed, 5*l.*, Timothy Town, Keighley, Yorkshire; 2*l*, F. Lacy, Panton, Wragby. 27 competitors.

For the best sow, small breed, in pig or milk, 5*l.*, William Fowler, Woodhill, Sheffield; 2*l.*, A. H. Smith, Snittles, Beeston, Leeds. 30 competitors.

For the best three store pigs, of the lame litter, from four to nine months old, 5*l.*, John Fullerton, Thrybergh Park, Rotherham; 2*l.*, Lord Wenlock, Escrick Park, bred by his lordship. 14 competitors.

For the best sow of any breed not qualified to compete in classes 21 or 23, 5*l.*, R. Owston, Brigg, Lincolnshire. 11 competitors.

HORSES.

For the best stallion for hunters, 10*l.*, R. Stockdale, Skerne, Driffield; 3*l.*, T. Groves, Plumpton Hall, Knaresborough. 6 competitors.

For the best stallion for coach-horses, 10*l.*, Thomas Danby, Rawcliffe, Selby; 3*l.*, Water Fulford, York. 13 competitors.

For the best stallion for roadsters, 10*l.*, Wm. Burton Fulford; 3*l.*, F. Newbold, Sheffield. 5 competitors.

For the best stallion for agricultural purposes, 10*l.*, Thomas Renton, Otley; 3*l.*, James Stead, Bishop Thornton, Ripley. 17 competitors.

For the best mare and foal for hunting, 5*l.*, J. Bainton, Wansford, Driffield. 4 competitors.

For the best mare and foal for coaching, 5*l.*, J. Robinson, Leckby, Topcliffe. 3 competitors.

For the best roadster mare and foal, S. Wylie, Bransby, York.

For the best mare and foal for agricultural purposes, 5*l.*, J. Fullerton, Thrybergh Park. 3 competitors.

For the best three-year-old hunting gelding, 5*l.*, John C. Athorpe, Dinnington. 3 competitors.

For the best three-year-old hunting filly, 5*l.*, F. Wharton, Dunscroft, Hatfield.

For the best three-year-old coaching gelding, 5*l.*, J. Johnson, Brigham, Driffield 5 competitors.

For the best three-year-old coaching filly, 5*l.*, J. Smith, Marton Lodge, Burlington. 5 competitors.

For the best two-year-old coaching gelding, 5*l.*, J. Booth, Killerby, Catterick. 3 competitors.

For the best two-year-old coaching filly, 5*l.*, J. Robinson, Rudby, Yarm. 6 competitors.

For the best three-year-old hackney gelding or filly, 5*l.*, B. Swaffield, Chatsworth, Bakewell. 5 competitors.

For the best hackney gelding or mare, not less than four years old, nor exceeding six, 5*l.*, J. Booth, Killerby. 4 competitors.

For the best pair of horses of either sex, for agricultural purposes, worked during the season, 5*l*, H. Grantham, Scawby, Brigg. 3 competitors.

For the best four-year-old hunting colt or filly, 5*l.*, F. W. Tyas, Norton Priory, Doncaster; 2*l.* 10*s.*, W. Wood, Bank, Lichfield. 5 competitors.

For the best four-year-old mare or gelding, of the heavy coach or van-horse breed, 5*l.*, H. Owston, Killerby Grange, Scarborough; 2*l.* 10*s.*, R. Booker, jun., Norton, Sheffield, 2. 4 competitors.

For the best two open gilts of the small breed, not less than six or more than twelve months old, 5*l.*; 2*l.* 10*s.*, Samuel Wiley, Bransby, York. 7 competitors.

Farmers' Clubs.

ANNUAL GATHERING AT TIPTREE HALL, *July* 23.—We regret we have not space for a full report of the proceedings at Tiptree the other day; the following is Mr. Mechi's address:—

With respect to agriculture or other operations, he would say he thought they ought all to do everything in the best possible way, and without prejudice. Prejudice was a great bar to progress; but somehow or other there was an advantage in prejudice, as sometimes it prevented their going too fast; and he did think their ardent spirits were at times apt to be wrong, though he did not say he was wrong. But, at all events, he thought they would agree with him, especially those who had travelled last week from London to Lewes to the Royal Agricultural Show, that the agriculture of this country had not yet arrived at the maximum of perfection; or had reached that state which it ought to do, and it must do. He heard at that meeting great congratulations on the subject of fat stock, and a beautiful exhibition, and profitable, no doubt, to those who went there, it was; but he did not hear at that meeting any moaning over the lean land between London and Lewes. (Hear, hear.) He did not say that the land there was an exception to the general rule, he did not think it was; our railways seemed to run through poor countries; but this he would say, that he hoped we should farm our poor lands high, and should put them, by the adoption of scientific improvements and the use of artificial manure (for by these means it must be done), in fair comparison with the richer lands of our fertile valleys and more productive districts. Now, no sensible man supposed that the rent of land in England was going to be reduced, and for this reason, that our acres were fixed—they had no families. The number of our acres was unalterable. But the population was multiplying rapidly, and farmers' sons came of age every year, but acres had no sons; and therefore it was quite clear that, so long as we had order, peace, and good government, land and the rent of land could not be sensibly diminished. He said this as his private opinion, for he wished to compromise no one by what he stated. Well, then, if they were to continue to pay the same rent and were to come in competition with those broad acres and those mighty rivers that Mr. Lawrence was so well acquainted with, it must be done by investing more capital, more skill, more intelligence, and he would say less prejudice on our own broad acres. (Cheers.) With respect to himself and the principles he endeavoured to impress on them, by his proceedings and his experiments, he felt that he was an instrument in the hands of Providence, because he felt that he was telling them for their benefit that which was true, and could be proved to be true. For instance, as to drainage, if they had a flower in a garden pot, and put a cork in the bottom of the pot, and gave it water, and forgot to take out the cork, that flower would look yellow and sickly. That was exactly what took place in those lands which not being naturally drained had not been artificially so; and if the tenants, and the landlords too—for he looked upon the landlords as farmers, their rent being a part of the profits—did not drain their lands, they were in the position of the man with a flower-pot with a cork in the bottom and the plant sickly. (Cheers.) But in a sanitary point of view how stood the question? Let them look to the metropolis. They had London on the Thames, seated on a bed of solid clay, and surrounded by chalk hills, but unless that land was artificially drained, they dare not put the refuse of London on it in a liquid form—the lands were too wet already, and if they put more on they would injure instead of improving them. But when they had got Mr. Fowler here with his draining plough, he would drain their farms for them so that they should hardly know it—he would draw a wedge under the fields, as it were in the night, leaving but a small cut in the surface, and the next morning they would find drains formed and pipes laid more regularly than man could do it, and they would find, instead of being saturated with water, their land was drained at a small cost. Well, then, let them drain their lands. But before they could drain their lands they must drain their heads. (Laughter.) When he met with a man full of prejudice and love for old customs, and he talked to him of draining or other improvements, that man did not tell him, "the honest truth is I am opposed to it from prejudice;" but he asked, "where is the money to come from?" But he said, have a reform in the English brain, clear out prejudices, and the money would come whenever they like. Let them look at what was done about railways. At Colchester and at other places they would not have the railway come near the town—oh, no; they drove it as far off as they could; but seven years after they had to make branch lines, in order to secure the benefit for the town, because they had prejudice, and opposed the plan in the first instance. Therefore, to effect improvements, they must make an impression on the brain—they would then touch the pocket, and would find the money when it was wanted; only show it was profitable, and they removed prejudice, and the thing would be done. (Cheers.) Therefore he had hopes that within 100 years, when his body was turned into a large Cabbage or a great Turnip, as it would be, for Nature would not let it be wasted—she would not let anything be wasted, but was carrying on a constant system of reproduction, then this matter would be understood, and the 5000 oxen and all other things that were sent to London for the supply of the population, would speedily find their way back to those who sent them, to sustain their agriculture, and refresh and fertilise their fields, and reproduce the same articles to be sent up again Lord Ebrington had stated that they had 80 representatives of water companies in Parliament, and he believed in a century more they would have 80 representatives of manure companies. He said it was impossible for a man to travel through the country without seeing that there had not been capital enough or education enough, or intelligence enough, employed to bring out the full capabilities of the soil. But they must alter that, and this brought him to the subject of education. He lived here in a parish of 5000 acres — they were raising a subscription to build a school, for they had only a room 15 feet by 11 feet, and a female to superintend it; and how much did they think they had collected for education on this 5000 acres, or a population of 1200 persons? Why, among Dissenters and all, they raised 15*l.* a year to build the house, pay a schoolmistress, and do all that was required for the education of that population. He hoped those whom he addressed had been to the Lewes show and had seen the machines there, for they would have seen that they were of a nature that must involve the employment of a considerable degree of intelligence in those who were to superintend their operations; but where, he asked, were they to find the labourers to work them with 15*l.* a year for education. He was aware that various circumstances prevented the raising of a larger sum; but when the surveyor called on him for his rate, he found that they could raise 3*d.* an acre for the roads, but could not raise three farthings to develope the intelligence and the mind of the people about them, he did feel that it was a matter that wanted altering. His men felt it. His man had said to him when he pointed out to him the principle and the nice action of a piece of machinery, "The Almighty has given to me the mind to understand, but man has not given me the power of developing it." And when, as Mr. Lawrence knew, they had annually devoted 200,000 dolls. to the education of the people in the state of New York, they must feel we had been here asleep (Hear, hear, and cheers.) But public opinion would reform these things; and he hoped the facilities of railway communication, and the record of almost their thoughts by the press, to which they were greatly indebted, would tend to effect that reformation which he hoped would soon come, for he was quite sure we could compete with the world in the production of food. Look to what was done in manufactures by the application of science and machinery. Mr. Mark Phillips knew that the machinery in that branch of enterprise and industry had been brought to such perfection that a bale of wool went in at one end and came out a shirt at the other. (Laughter.) Really there were in the exhibition machines that appeared almost to talk and reason; and if this had done so much for manufactures, why should it not do it for agriculture? The laws relating to agriculture required modification. The law said, if he transferred his hat or his umbrella to another person, it did not require a certificate to show to whom it belonged 40 years ago; when they came to him for a razor they did not ask it; and he did say that the law as to transfer of land in this country was not suited to the present time; there was enormous loss by the peculiar form of large farms, kept so by the force of custom and obsolete feudalism; so that sometimes they had to go two or three miles round. Much was wasted in this way, that he should be ashamed to name. This must be altered. As to their sanitary condition, what was London manure but quartern loaves and rounds of beef in another form. Juster notions were beginning to prevail on this subject; and like the rushing stream of a great river, like Mr. Lawrence's own proud Mississippi, they could not withstand the current of correct public opinion. They had heard of the drainage of 200,000 acres of land in Lincolnshire, and what was all that done by? That land, as Mr. Clarke said, was drained off by the power that drove a single West India steamer—1000 horse-power drained the 200,000 acres of land—and he did say it made him sorry when he reflected that this great agricultural kingdom could not afford the powers of a single West India steamer, for the purpose of bringing the refuse of the city to the fertilisation of the land. Could not they afford 10,000 horse-power if they wanted it? He said that the oxen that went to London on Friday must be back here in the shape of manure on Monday, and he wanted it turned into beef on the Tuesday, to go to the market again on the next Friday. (Laughter.) He said, shame that the refuse of London should go down that river to produce marine plants which they seldom knew much of, or which only reached us indirectly, at 10*l.* a ton, from Peru. (Cheers and laughter.) He could only say they must stimulate the public mind by such meetings as that. It was his fate formerly to belong to the council of the Royal Agricultural College, as he did now, to which he devoted twelve days in the year, and his friends pitied him, as they said they did not want science, they wanted practice; but the feeling on this was improving, and the Agricultural College at Cirencester was paying, though, he was sorry to say, they had not one farmer's son amongst the lot last year. (Hear.) He did not make this as a charge, but it was a misfortune. He said, give me science, it is the parent and guide of practice; and those who practice would save millions in costly experiments if they had science to guide them. He felt they had here mind over matter, for he had endeavoured to choose men whose minds were above prejudice, for progression in matter was inert and must be helped on by mind, as it ultimately would be. He had bought his farm there, and when he entered on it he found the buildings rotten and tumbling down, the fields badly formed, smothered with fences, full of poverty and non-employment; and he had, he might say, succeeded in changing its character, for when he took it he said, "I must apply the business principle of my commercial life to agriculture," and he had done so. (Cheers.) He saw, also, it was making its way; and if they wanted to get over this principle they must drain, provide buildings, take care of their manure, adopt deep cultivation, and employ much labour; and with much respect to Mr. Lawrence, he would state that he had read a paper by Mr. Delafield, who said that when those who had long grown tobacco and other things of that kind in the United States found that they did not get such good crops as they did before, he told them to study Liebig, and see the principles he laid down, for the fact was that they had taken out tobacco and corn from the land, and they must bring it back again in the shape of that which would afford food to the plants, or they could not continue to grow the same material. This was the principle that Nature acted upon, and this was the principle they must follow in their practice. (Cheers.)

EAST BERWICKSHIRE, *June* 12.—*Liquid Manuring.*—After the reading of reports on the soiling and pasturing of horses and cattle, which we shall give in future Numbers, Mr. WILSON, Edington Mains, said Mr. Hardie, towards the close of his report, referred to an experiment that he had made some years ago in regard to liquid manuring, which did not turn out according to his expectations. The result of that experiment Mr. Hardie had mentioned to him two years ago, and when he (Mr. Wilson) afterwards visited Mr. Kennedy's farm at Myremill, he told him of Mr. Hardie's attempt to apply the liquid manure, and asked him if he could explain how it could so totally fail in one case and appear to be too successful in another. The only difference, Mr. Kennedy replied, appeared to be that Mr. Hardie applied his liquid manure as it was produced, whereas Mr. Kennedy allowed his in every instance to become fermented before using it.—Mr. GEORGE SUTTIE said that the subject before the meeting was no doubt a very important one, but mixed up with it appeared to be the question of the benefit of liquid manure, and the mode in which it ought to be applied. The fact which Mr. Wilson had just stated that fermentation ought in all cases to be allowed to take place before the liquid manure was used, was a very important one, and deserved to be taken into consideration. He thought it might be of advantage to ask those gentlemen who had adopted the system of soiling cattle to turn their attention to the subject of liquid manure and the best way of applying it. This was a matter, as they were no doubt all aware, which had engaged the attention of some gentlemen in the south, particularly of Mr. Mechi; and if they were to believe him, it would supersede all other kinds of manure. But from his (Sir G. Suttie's) own experience, and from what he had heard to-day, he must confess that he had strong doubts on the subject. Still he thought there was room for some attention being paid to it; and if on any future occasion some of the gentlemen present were to turn their attention to it, it might be of considerable advantage, as the subject was by no means as yet exhausted. Between two opinions they might derive some advantageous result. He thought himself that by mixing the liquid manure with guano or with other descriptions of portable manures the value of this manure might be very much increased. The whole question, however, was a very important one for their future discussion. A great difference of opinion existed upon it, and no definite result had yet been obtained.—Professor ANDERSON said that by the term "liquid manuring" was usually understood the application of the fluid portion or the urine alone to the land. The plan pursued by Mr. Kennedy in Ayrshire was something very different from this. He had an apparatus for the mixture of both the solid and liquid parts together, and distributing it in that state over his farm. When he visited Mr. Kennedy's farm, he found it was his practice to mix Rape-dust also with the solid and liquid manure from his cattle. He believed that a great deal of the difference of opinion as to the beneficial effects of liquid manure depended on the misapprehension which existed on this point. If the liquid or fluid portion alone was applied to land, he believed that not only would it not be successful, but that the ultimate result would be hurtful. According to Mr. Kennedy's plan of applying the solid as well as the liquid manure, he employed that portion which is chemically the most advantageous, because it contains the greatest amount of phosphates.—Mr. R. HODGSON said the observations of the learned Professor were most valuable, and would do much to remove any doubts which might be entertained respecting the beneficial effects of liquid manure when properly applied in the way just pointed out. In regard to Mr. Mechi's experiments on this subject, which had been quoted by Sir G. Suttie, he (Mr. Hodgson) was somewhat sceptical of the prodigious effects he anticipated. But if he recollected right, on reading Mr. Mechi's reports, he had expressed the same views as Prof. Anderson with respect to the application of liquid manure. It was not the application of the mere liquid portion of the manure, but of both liquid and solid, and this ought to be borne in mind.

Frauds and Adulterations in Guano.—Mr. WILSON said it was quite unnecessary that he should occupy the time of the meeting in stating what was now unfortunately so well known, namely, that enormous adulterations of guano are now and have been for some time practised in this country. It had been stated that the quantity of adulterated guano annually put into circulation in Great Britain was equal to the whole quantity of genuine guano imported from Peru; in other words, 100,000 tons of adulterated guano were sold in Great Britain in addition to the 100,000 tons of genuine guano imported. This brings out an amount of robbery practised on the farmers of Great Britain which was really dreadful to contemplate and it became the duty of all of them, in self-defence, to protect themselves from this system of wholesale

robbery. It was quite easy to see that, with guano at the high price of 9*l.* 10*s.* per ton, a great temptation was held out to dishonest and fraudulent dealers to palm upon the farmers spurious articles which were not worth a third of the price; and moreover the skill to which they had attained in the practice of adulteration was so great, that no one, with only his bodily senses to guide him, could avoid being deceived; because the spurious article approaches so nearly in appearance and smell to the genuine, that it was almost impossible for even the most experienced to say at once that this sample is adulterated or that that is pure. Fortunately, however, farmers now have a means of obtaining assistance in this way which they should avail themselves of. He referred to chemical analysis by parties in whom they had unlimited confidence. It was fortunate for them that there are such parties, and he could only say that he was glad to see among them that day so eminent a chemist as Professor Anderson. Now, most of those present were aware that in the course of the month of May, the attention of the agricultural public had been called to a series of articles in the *Gardeners' Chronicle* on this subject. The editor of that paper had boldly and resolutely exposed the disgraceful practices which were carried on in some parts of London, and in his Papers of the 8th, 15th, and 22d May, he even gave the names of various parties in and around London who were supposed at least to be engaged in those practices. He apprises the public of this important fact, that those parties are in the habit of receiving enormous quantities of loam into their manufactories, and that they send out no loam. The only article they send out is guano, or what they call guano, and the editor therefore advises the public to look to themselves. Now, in his paper of the 8th of May, he brings the matter home to ourselves, for after some remarks, there comes this sentence, "Indeed we should not be surprised if an unfavourable opinion were entertained of the cargo of the Pandora, Captain Jay, which loaded at the mud-hole tier last Saturday fortnight, and sailed for Berwick with 150 tons on board, in bulk." This paragraph was quoted into the *Kelso Mail* the following week, and it naturally excited intense interest among the agriculturists of this district, and led to inquiries being made. He held in his hand a communication from Messrs. Hood and Thomson, who were the consignees of this cargo, in which they frankly admit the fact of its being adulterated, but say they bought it from a house with whom they have had frequent dealings, with the assurance that it was a first-rate article, and they now make this communication to their customers to express their readiness to meet them in a fair and liberal spirit. These parties, shortly after the appearance of the article in the *Gardeners' Chronicle*, sent a specimen to Prof. Anderson for analysis. In this communication they print his analysis, but they omit the paragraph which shows the amount of adulteration. As soon as this matter got wind, various parties who had purchased portions of the Pandora's cargo, either directly or through aequaintances, forwarded other samples to Edinburgh for analysis. He had now before him two analyses which had been sent to private parties, and both these analyses, he was bound to say, differed considerably from that given in this printed circular. Of course they all knew that even in a genuine cargo of guano the quality may vary considerably, therefore he was not warranted in saying that these gentlemen had been guilty of anything that was not fair and square in selecting their sample for analysis. As far as they were concerned, he believed the transaction was a fair one; but he thought he was warranted in saying in going on the broad undeniable fact that enormous adulterations had been practised, that a cargo of adulterated guano had been imported into their own port, and he thought as a club they ought to take some means to prevent themselves from being imposed on in this way. (Hear.) The fact of adulteration was not attempted to be denied: it was frankly admitted. In one instance, he (Mr. Wilson) had, at the request of a private individual, sent a sample for analysis, which sample he told him had been made up by taking a portion from every sack of four tons. The analysis of this sample might, therefore, with every justice be taken as a fair analysis of the whole, and it showed a considerably higher amount of adulteration than in the printed circular. He had another analysis which was also greater. Now, it was difficult to see what they were to do exactly in order to defend themselves. It had come to his knowledge that since this cargo of the Pandora arrived, another cargo, supposed to be equally highly adulterated, had been landed in this port. The name of the vessel had been handed to him, but it was so indistinctly written that he was unable to give it. Neither did he feel it necessary to mention to whom this cargo was consigned, for the simple reason that he was not aware that the article had been sold as Peruvian guano. He merely mentioned the fact, on the most trustworthy evidence, that another cargo had been landed in this port, and all concerned will do well to look about them. Now the proposal he had to make was twofold. He thought the editor of the *Gardeners' Chronicle*, in publishing these statements, had done such good service to the agriculturists of Berwickshire that he is fully entitled to a cordial vote of thanks from the club. (Applause.) And what, therefore, he (Mr. Wilson) had to propose to the meeting was, that they should formally record their thanks to him, and that the Secretary be instructed to forward the same to him. In addition to this, it had occurred to him, after mentioning the matter to the committee that morning and receiving their approbation, that the club should make a communication with Messrs. Gibbs of this nature; asking them, if quite agreeable to them, that they should in future publish a monthly list, to be circulated in all the papers in the country, giving the agricultural community notice of all cargoes of Peruvian guano which they sell, along with the name of the vessel, the name of the master, the tonnage, the port to which it is destined, and the parties to whom the cargo is consigned, that the agricultural community may know who have genuine guano to sell. This would not, of course, prevent adulteration, but it would let the farmers know who are the parties who have the genuine article.—In reply to a question from Mr. Hodgson, Mr. MILNE stated that in the invoice given in to one of their customers by Messrs. Hood and Thomson, they describe the article landed from the Pandora as Peruvian guano, and at the price of 9*l.* 10*s.* per ton.

Notices to Correspondents.

BEES: *Hinchley.* Bevan on the "Honey Bee" is a good book.

CYCLOPÆDIA: *C H.* For Wilsons's "Rural Cyclopædia you should apply to Fullerton and Co., publishers, Edinburgh.

FLY POWDER: *G Summers.* The powder you mention, we believe, will scarcely tinge the fleece; and if so, for a very little time.

MANURE FOR EARLY POTATOES: *A B.* Guano and rotten manure cannot be exactly compared; but, probably, 1 cwt. of the former will nearly correspond in effect to 3 tons of the latter. And 5 cwt. per acre of guano, or 15 tons of rotten manure, may be a good dressing for an acre of land intended for early Potatoes.

OYSTER-SHELLS: *Mill Bay.* If burned and slaked, they are better than ordinary limestone. They may be applied to land just as lime is; and will, no doubt, owe most of their effect to the caustic lime they will contain. Spread them over any corn stubble (40 or 50 bushels per acre) before ploughing it in for Vetches.

POULTRY: *Omega.* There is a distinct breed of white Spanish. It also happens at times that black birds moult white, but these regain their original colour; and there are also black. The pure white are now extremely scarce. The properties are similar in both colours.

Markets.

COVENT GARDEN, Aug. 14.

Notwithstanding the late heavy rains, the supply of both Fruit and Vegetables has been good, with the exception of Strawberries and Oranges, which are nearly over. The former are confined to a few Eltons, on which the wet has had an unfavourable effect. Melons are more plentiful. Some excellent Greengage and other Plums have arrived from France, and also some Apricots, Jargonelle Pears, and Apples. Tomatoes likewise continue to be imported. Potatoes are very plentiful, as are also Peas. West India Pine-apples are scarce. Mushrooms are cheaper. Cut flowers consist of Heaths, Pelargoniums, Mignonette, Roses, Bignonia venusta, and Pinks.

FRUIT.

Pine-apples, per lb., 4s to 6s	Gooseberries, per half sieve, 2s 6d to 3s
Grapes, hothouse, p. lb., 2s to 5s	Almonds, per peck, 5s
Peaches, per doz., 8s to 15s	— sweet, per lb., 2s to 3s
Nectarines, per doz., 8s to 15s	Lemons, per doz., 1s to 2s
Apricots, per doz., 1s 6d to 4s	Oranges, per doz., 1s to 1s 6d
Plums, per punnet, 1s to 4s	— per 100, 3s 6d to 10s
— Greengage, do., 2s to 3s	— Seville, per doz., 1s to 3s
Figs, per doz., 4s to 8s	Nuts, Barcelona, per bush, 20s to 22s
Melons, each, 2s to 6s	— Brazil, per bushel, 12s to 14s
Cherries, per lb., 2d to 6d	
— wall, do., 1s 6d to 3s	
Currants, do., 2s to 3s 6d	

VEGETABLES.

Cabbages, per doz., 6d to 1s 3d	Garlic, per lb., 8d to 1s
French Beans, p. hf. sieve, 2s to 3s	Lettuce, Cab., per score 4d to 1s
Peas, per sieve, 2s to 5s	— Cos, p. score, 9d to 1s 6d
Cauliflowers, per doz., 4s to 6s	Radishes, per doz., 8d to 1s
Greens, per doz., 1s to 1s 6d	— Turnip, 9d to 1s 6d
Rhubarb, p. bundle, 3d to 4d	Small Salads, p. pun., 2d to 3d
Potatoes, per ton, 60s to 130s	Horse Radish, p. bundle, 1s to 1s
— per cwt., 3s 6d to 7s	Mushrooms, p. pott., 6d to 1s
— per bush., 1s 6d to 2s 6d	— per punnet, 9d to 1s
Turnips, per doz., 3s to 4s	Sorrel, per hf. sieve, 6d to 1s
Cucumbers, each, 4d to 6d	Artichokes, per doz., 1s 6d to 2s
Veget. Marrow, p. doz, 6d to 1s 6d	Fennel, per bunch, 2d to 3d
Celery, per bundle, 1s to 1s 6d	Savory, per bunch, 2d to 3d
Carrots, p. doz., 3s to 5s	Thyme, per bunch, 2d to 3d
Spinach, per sieve, 1s to 2s	Parsley, p. doz. bnchs., 2s to 3s
Onions, per bunch, 2d to 8d	Mint, per bunch, 2d to 3d
— Spanish, p. doz., 1s 3d to 3s	Basil, green, p. bunch, 4d
Beet, per doz., 1s to 2s	Marjoram, do., 3d to 6d
Leeks, per bunch, 2d to 3d	Watercresses, p. 12 bun, 9d to 1s
Shallots, per bunch, 3d	

ENGLISH TIMBER.—Aug. 14.

	Round Timber. Per Load.	Plank. Per Foot Cube.	Inch Board. Per Foot Super.
Oak	£5 0 0 to £6 10 0	3*s.* 0*d.* to 5*s.* 0*d.*	0*s.* 4½*d.* to 0*s.* 6*d.*
Ash	3 10 0 — 4 10 0	2 3 — 3 0	0 3 — 0 4
Elm	2 15 0 — 3 15 0	1 3 — 2 0	0 2 — 0 3
Beech	2 10 0 — 3 10 0	1 3 — 1 9	0 2 — 0 3
Lime	3 0 0 — 3 10 0	1 6 — 2 0	0 3½ — 0 4½

ENGLISH AND FOREIGN BARK.

In English a fair demand has prevailed for good parcels; many of the samples offered in the market have been so damaged by weather as to be almost unsaleable, and great difficulty is experienced in obtaining even offers for such quality. Of foreign, the import is 51 tons.

	£ *s.*	£ *s.*		£ *s.*	£ *s.*
English timber, p. ld. of 45 cwt.	10 0	to 13 0	Antwerp timber, per ton	5 0	— 5 10
Do. Coppice, do.	11 0	— 14 0	Do. Coppice	5 0	— 5 10

LIVERPOOL BARK MARKET.

English Coppice, per ton of 2400 lbs.	£6	5 0	to £6	10	0
" Timber " "	6	5 0	to 6	10	0

HOPS.—Borough Market, Aug. 13.

Messrs. Pattenden and Smith report that the accounts received from the Hop plantations both yesterday and this morning speak of very great damage having been done to the Hops from the effects of the late high winds, many persons believing it will lessen the duty full one-fourth from the late estimate. More money is asked for hops to-day.

HAY.—Per Load of 36 Trusses.

Smithfield, Aug. 12.

Prime Meadow Hay	78s to 84s	Clover	85s to 100s	
Inferior do.	68	75	New do.	67	80
Rowen	65	—	Straw	27	32
New Hay	60	75		E. J. Davis.	

Trade dull.

Cumberland Market, Aug. 12.

Prime Meadow Hay	78s to 86s	Inferior Clover	80s to 90s	
Inferior do.	65	72	New do.	65	80
New Hay	58	70	Straw	30	34
Old Clover	95	100		Joshua Baker.	

Whitechapel, Aug. 12.

Fine old Hay	80s to 84s	Old Clover	95s to 100s	
Inferior do.	—	—	New Clover	75	84
New Hay	63	70	Inferior do.	—	—
Inferior do.	55	60	Straw	28	32

SMITHFIELD.—Monday, Aug. 9.

The number of Beasts is again very large; however, we are not over supplied with choicest kinds, and the weather is more favourable; in consequence, rather higher prices are obtained for the best descriptions. The supply of Sheep is not quite so large as on Monday last. We have a cheerful trade for them, at rather more money. Lambs are not so much in demand, and it is difficult to maintain late quotations except for the very choicest. We have a dull trade for Calves, at Friday's quotations. From Germany and Holland there are 1616 Beasts, 4650 Sheep, 287 Calves, and 125 Pigs; from Spain, 520 Sheep; from Scotland, 60 Beasts; Norfolk and Suffolk, 200; and 2300 from the northern and midland counties.

Per st. of 8lbs.	s	d	s	d
Best Scots, Herefords, &c.	3 6	to 3 10		
Best Short-horns	3 4	— 3 6		
2d quality Beasts	2 6	— 2 10		
Best Downs and Half-breds	3 10	— 4 0		
Do. Shorn	0 0	— 0 0		

Per st. of 8lbs.	s	d	s	d
Best Long-wools	3	6 to	3	8
Do. Shorn	0	0 —	0	0
Ewes & 2d quality	2	10 —	3	2
Do. Shorn	0	0 —	0	0
Lambs	4	4 —	5	2
Calves	2	8 —	3	8
Pigs	2	4 —	3	4

Beasts, 4416; Sheep and Lambs, 32,880; Calves, 395; Pigs, 410.

Friday, Aug. 13.

The non-arrival of our usual foreign supplies causes a short number of Beasts; trade is consequently brisk, at a small advance in second-rate descriptions, this class being most affected by the quality usually imported. The supply of Sheep is not so large as of late, partly owing to the cause above stated, and in some measure occasioned by an increased demand in our own grazing districts. Sheep on the average are about 2d. per 8 lbs. dearer, but trade for Lambs is no better. The number of Calves is considerable; however, other things being rather scarce, these have advanced a little in price. Our foreign supply consists only of 150 Sheep and 246 Calves; 300 Beasts from the northern and midland, and 113 Milch Cows from the home counties.

WOOL.

Bradford, Thursday, Aug. 12.—The transactions in the English wool market during the current week have been somewhat below the average, and spinners generally evinced little disposition to purchase beyond their immediate wants. The high rates which still range in the country preclude any giving way of prices here, and they must be regarded as firmly maintained. Noils and brokes continue in good demand, and stocks being low, command full prices.

MARK LANE.

Monday, Aug. 9.—There was a fair supply of English Wheat to this morning's market, and it sold readily at an advance of about 2*s.* per qr. from the prices of this day se'nnight; foreign on the spot was in moderate demand, and 1*s.* to 2*s.* per qr. dearer; some f. o. b. sales of Baltic Wheats were also made at a rise of 1*s.* to 2*s.* per qr. on the rates of last week. Foreign Flour met an improvement of 2*s.* on sacks and 1*s.* on barrels. There is a fair inquiry for Barley at rather over the prices of this day week.—Beans are unaltered in value.—White Peas must be written 1*s.* and 2*s.* per qr. cheaper.—The Oat trade is steady at late prices.

Per Imperial Quarter.	*s.*	*s.*		*s.*	*s.*
Wheat, Essex, Kent, & Suffolk... White	41	—46	Red	38	—40
— — fine selected runs... ditto	46	—48	Red	39	—42
— — Talavera	50	—52			
— Norfolk	37	—48	Red	—	
— Foreign	36	—53			
Barley, grind. & distil., 24*s* to 27*s*... Chev.	—		Malting	—	
— Foreign ...grinding and distilling	19	—25	Malting	—	
Oats, Essex, and Suffolk	18	—19			
— Scotch and Lincolnshire... Potato	18	—22	Feed	17	—19
— Irish ... Potato	17	—20	Feed	17	—19
— Foreign ... Poland and Brew	17	—19	Feed	14	—17
Rye	—		Foreign	—	
Rye-meal, foreign	—				
Beans, Mazagan ...27*s* to 30*s*... Tick	28	—31	Harrow	28	—31
— Pigeon ...28*s* — 34*s*... Winds.	—		Longpod	—	
— Foreign ... Small	32	—33	Egyptian	25	—26
Peas, white, Essex and Kent... Boilers	30	—32	Suffolk	30	—33
— Maple...31*s* to 34*s*... Grey	30	—32	Foreign	26	—35
Maize ... White	—		Yellow	—	
Flour, best marks delivered ...per sack	37	—40			
— Suffolk ... ditto	25	—32	Norfolk	25	—32
— Foreign ... per barrel	17	—21	Per sack	28	—34

Friday, Aug 13.—The arrival of American Flour has been large; of grain, English or foreign, but moderate. The advance of prices in some of the country markets having been considerable, factors commenced by holding for very high prices, which stopped business, and sales were limited, at an advance of 1*s.* to 2*s.* per qr. upon the prices of Monday, for both English and foreign. Flour has been in improved request, at an advance of 1*s.* per barrel and sack. Spring corn of all sorts meets a goodi nquiry at the extreme prices of Monday.

Imperial Averages.

	Wheat. *s.*	*d.*	Barley. *s.*	*d.*	Oats. *s.*	*d.*	Rye. *s.*	*d.*	Beans. *s.*	*d.*	Peas. *s.*	*d.*
July 3	41	4	27	5	19	10	32	4	33	1	33	2
— 10	41	5	28	3	19	9	32	6	34	0	33	3
— 17	41	0	27	0	19	11	30	1	34	5	30	11
— 24	40	7	28	2	19	9	28	9	33	10	34	5
— 31	40	0	27	8	20	6	29	11	34	2	33	5
Aug. 7	39	7	27	3	20	6	29	7	33	9	30	6
Aggreg. Aver.	40	8	27	7	19	3	30	6	31	1	32	8

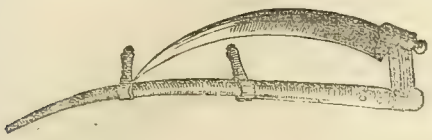
Duties on Foreign Grain, 1*s.* per qr.

Fluctuations in the last Six Week's Averages.

Prices.	July 3.	July 10.	July 17.	July 24	July 31.	Aug. 7
41*s* 5*d*	...		...	...	...	...
41 4		...	...	...	...	...
41 0	...	...		...	...	...
40 7	...	...	...		...	...
40 0	...	...	...	...		...
39 7	...	...	...	...	...	

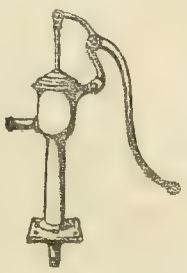
Liverpool, Tuesday, Aug. 10.—The imports from abroad this week are of good extent. The market this morning was well attended by millers and dealers, who were indisposed to follow up the recent advance, and their operations were confined to present purposes. Several large parcels of Wheat and Flour were, however, taken to hold over, establishing an advance on last Tuesday's rates of 3d. to 4d. per bushel on Wheat, and 1*s.* 6d. per barrel and 1*s.* per sack on Flour, and there is very little choice left offering of either article. Indian corn on the spot neglected. Oats, Barley, Beans, and Peas all fully supported the extreme rates of last week.—Friday, Aug. 6.—The arrivals from Ireland and coastwise since Tuesday, have been more liberal of Oats and Oatmeal, but insignificant of other articles; while those from foreign ports are to a fair extent. There was but a small attendance at this day's market, and the business done in Wheat and Flour for consumption was limited; however, there was a good speculative inquiry, which resulted in some considerable purchases at an advance of 1d. per 70 lbs. on the former, and 6d. per barrel on the latter article. Oats and Oatmeal were neglected, and again in favour of the buyer. Barley, Beans, and Peas were in moderate retail demand, at about late rates.

BOYD'S SELF-ADJUSTING SCYTHE.



BOYD'S PATENT SCYTHE and the celebrated STEEL DIGGING FORKS.—BOYD'S Scythe is capable of being adjusted to any angle by the person using it, and never requires the aid of a blacksmith; when out of use it shuts up like a clasp-knife. The *Gardeners' Chronicle* thus comments upon it:—"We gladly state that Mr. BOYD'S Scythe stands well the great test, experience, especially with his late ingenious and very useful improvement."—G. C., 15th May, 1852. The Steel Digging Forks are those celebrated by Mr. MECHI: "When a labourer has once used them, he will never work with any other implement for digging. They effect a saving of nearly 50 per cent. in labour."—Wholesale and Retail at WM. DRAY and Co.'s Agricultural Implement and Machinery Warehouse, Swan-lane, Upper Thames-street, near London-bridge.

FARM AND COTTAGE PUMPS.



PATENT CAST-IRON PUMPS, for the use of Farms, Cottages, Manure Tanks, and Shallow Wells.

	£	s.	d.
Patent Pump	1	15	0
Patent Pump, with 15 feet of lead pipe attached, and bolts and nuts ready for fixing	2	10	0

Larger sizes if required.

May be obtained of any Ironmonger or Plumber in Town or Country, or of the Patentees and Manufacturers,

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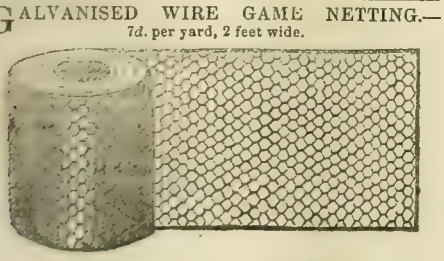
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ARRANGEMENT OF SALE.—First day, the Orchids and Stove Plants; Second day, the Greenhouse Plants, Azaleas, &c.; Third day, the Plate, Plated Articles, Pianoforte, Carriages, Harness, &c.; Fourth day, the Wines and Books.

N.B. There will be no admittance to the grounds on the days of view and sale, but by Catalogues.

Wonford, near Exeter, Aug. 14.

NURSERY, SEED, AND FLORIST'S BUSINESS.

TO BE DISPOSED OF, the Goodwill, Stock, Crops, and Effects of a long-established BUSINESS, situate about 15 miles from London, in a populous county, and well adapted in every respect for an enterprising person possessed of capital.—For further particulars, apply to Messrs. PROTHEROE and MORRIS, Leytonstone, Essex; or to Messrs. TUSTIN and PATERSON, Solicitors, 4, Bride-court, New Bridge-street, Blackfriars, London.

NURSERY TO LET.

TO BE LET, and may be entered upon at Christmas, an old established Provincial Nursery, about 50 miles from London, conveniently situated near a railway, and close to an important town. The grounds are about 4 acres in extent, with Dwelling-house, Greenhouses, Pits, Frames, and other conveniences for carrying on business.

Apply to Messrs. Low and Co., Clapton Nursery, London.

TO BE LET, on Lease, a very flourishing and commodious NURSERY, well suited to the growth of American and other Plants, and Forest Trees, situate in one of the Western Counties, within a mile of a Station on the South Western Railway, and near a populous town. The Greenhouse, Plant Stove, Pits, Frames, and other Conveniences, are in good order, and the present Stock of the Nursery is in a very healthy and thriving state; the whole to be taken at a valuation.—Application to be made to J. WATT, Auctioneer, Wareham, Dorset.

TO BE LET, for 3, 7, or 14 years, a SMALL HOUSE, in the best part of Sloane-street, opposite the Gardens. Rent, including Fixtures and Looking-glasses, SEVENTY POUNDS.—For address, enquire of Mr. MONEY, Bricklayer, Pavilion-street, middle of Sloane-street, London.

FARM TO BE LET IN THE VICINITY OF LONDON.

TO BE LET, A FIRST-RATE FARM, situate at Wennington, in the county of Essex, about 13 miles from London, within 1½ mile of a manure wharf, and a very short distance from a goods station on a railway now in course of construction through the estate to London. The Farm consists of an excellent House and Homestead, substantially built, entirely new, and erected upon approved principles, together with about 260 acres of land, 72 acres of which are fine Grazing Marsh Land (11 acres of which may be broken up), 32 acres of extremely fertile Arable Marsh Land, requiring no manure; and the residue consists of a loamy soil, chiefly arable, easily worked, and well adapted for either stock or garden farming.—Further particulars may be had by application to Mr. EDWARD SAGE, Furze House, Dagenham, Essex; and the Farm will be shown by MARK GIBBARD, Wennington Hall, Essex.

Printed by WILLIAM BRADBURY, of No. 13, Upper Woburn-place, in the parish of St. Pancras, and FREDERICK MULLETT EVANS, of No. 7, Churchrow, Stoke Newington, both in the County of Middlesex Printers, at their Office in Lombard-street, in the Precinct of Whitefriars, in the City of London; and published by them at the office, No 5, Charles-street, in the parish of St. Paul's, Covent-garden, in the said County, where all Advertisements and Communications are to be ADDRESSED TO THE EDITOR.—SATURDAY, AUGUST 14, 1852.

THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 34.—1852.] SATURDAY, AUGUST 21. [Price 6d.

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THE NOTTING HILL DAHLIA SHOW is postponed until the 16TH of SEPTEMBER.

NATIONAL FLORICULTURAL SOCIETY.—NOTICE is hereby given, that the ELEVENTH MEETING of the Season, for the examination of Seedling Hollyhocks, Dahlias, &c., will be held on THURSDAY, the 26th inst., when all flowers must be staged before 1 o'clock.

CENSORS.

Mr. J. Long, Watford	Mr. J. Robinson, Pimlico
Mr. C. Lidgard, Hammersmith	Mr. Black, Clewer
Mr. W. Paul, Cheshunt	Mr. G. Macintosh, Edgeware-road
Mr. A. Parsons, Welwyn	Mr. W. P. Ayres, Blackheath
Mr. C. P. Lochner, Paddington	

For the TWELFTH MEETING, on THURSDAY, Sept. 9, the following are appointed as Censors:—

Mr. W. P. Ayres, Blackheath	Mr. W. Holmes, Hackney
Mr. C. Lidgard, Hammersmith	Mr. Cook, Notting Hill
Mr. W. Dodds, Salisbury	Mr. James, Stoke Newington
Mr. J. Long, Watford	Mr. A. Parsons, Welwyn
Mr. J. S. Prockter, Bermondsey	Mr. J. Robinson, Pimlico
Mr. J. Shirriff, Birmingham	Mr. E. Spary, Brighton

The Committee beg to announce that on the 26th instant the Third Part of the Society's Transactions will be ready for delivery. By order JOHN EDWARDS.

COUNTY OF GLOUCESTER AND CHELTENHAM HORTICULTURAL SOCIETY.—The Third and last Show this season of the above Society will take place at the Pittville Spa and Gardens, Cheltenham, on THURSDAY, the 26th inst. It is particularly requested that Regulation No. 2 in Schedule be strictly adhered to by parties intending to exhibit, otherwise space cannot be insured.

The Annual Dinner of the Society will take place at 7 o'clock in the evening, after the Show, at the Assembly Rooms.

Sir WILLIAM CODRINGTON, Bart., M.P., has kindly consented to take the Chair. J. H. WILLIAMS, Hon. Sec.

Committee Room, 382, High-street, Aug. 21.

NEWBURY HORTICULTURAL SOCIETY.—At the Autumn Show of this Society, on FRIDAY, September 3, 1852, the following Extra Prizes are offered for DAHLIAS, open to all England. For 24 Dissimilar Blooms, Dahlias, Four Prizes—the best, 5*l.*; second, 3*l.*; third, 2*l.*; fourth, 1*l.* 10*s.* Entrance fee, 7*s.* 6*d.* Certificates awarded to Seedlings of merit.

Further particulars on application to Mr. F. S. ADNAMS, Honorary Secretary, Newbury.

GAINES'S SEEDLING LILIUM LANCIFOLIUM are now coming into flower. They grow with large heads similar to dwarf trees, and have from 20 to 60 blooms upon one stem. They vary in colour from L. rubrum to L. album, and will be a great improvement upon the older varieties.

N. G. begs to inform the growers of Geraniums that he will have, in addition to his own seedlings, those of Thos. White, Esq., and the Rev. E. Trimmer's. A Descriptive List of them will be printed in September next, and may be had at the Nursery, Surrey-lane, Battersea.—Aug. 21.

THE NEW AND BEAUTIFULLY VARIEGATED-LEAVED PLANT,

CISSUS DISCOLOR (BLUME.)

WILLIAM ROLLISSON AND SONS beg leave to inform the nobility, gentry, and the trade, that they intend sending out, on and after the 27th of September, their new and beautifully variegated-leaved climbing plant, CISSUS DISCOLOR, of Blume, which has been so universally admired this summer at the Chiswick and Regent's Park Exhibitions. Price 21*s.* per plant. The usual allowance to the trade if two or more plants are ordered.—Tooting Nursery, near London.

NEW ROSES.

JOHN HARRISON begs to offer to his Friends in the Trade the following NEW ROSES, worked on the Napoleon and the Manetti stock, in pots; the plants vary in size and strength according to the prices; those at 20*s.* to 25*s.* have made growths this season 4 to 5 feet, and will average 30 or more buds each, and consequently are cheap to the trade. The growth of my Roses this season cannot be surpassed; the Hybrid Perpetuals generally average from 4 to 6 feet.

	Each.
Auguste Mie, H. P.	5*s.* 0*d.* to 25*s.* 0*d.*
Baronne Hallez, H. P.	3 6 to 7 6
Comtesse Barthyani, H. P. ...	5 0 to 10 6
General Negrier, H. P.	3 6 to 7 6
Madame Fremion	5 0 to 15 0
Queen Victoria 'Paul', ...	7 6 to 25 0
Berranger, H. P.	3 6 to 10 6

Grange Nursery, Darlington, Aug. 21.

A FEW FRIENDS to the Family of Mr. JAMES CARTON, once Gardener at Syon House, and now wholly destitute, having formed a small purse, in order that he may emigrate with his family to Australia, solicit some further aid, in order to enable them to complete their arrangements.—Subscriptions will be received by JOHN EDWARDS, Esq., Wace Cottage, Holloway, London.

ROSES IN POTS.

WILLIAM WOOD AND SON, Woodlands Nursery, Maresfield, near Uckfield, Sussex, are now sending out strong, healthy, and vigorous Plants, in pots, suitable for planting out at the present time. Per dozen.

HYBRID PERPETUALS, strong, left to our selection	... 12*s.* to 18*s.*
BOURBON, Ditto	... 12*s.* to 18*s.*
TEA-SCENTED, Ditto...	... 12*s.* to 18*s.*
CHINA, Ditto	... 9*s.* to 12*s.*

JAMES DICKSON AND SONS have now the pleasure of informing their numerous customers that they were awarded the Silver Medal for their splendid Collection of CARNATIONS, and likewise the one for PICOTEES, at the Royal Caledonian Horticultural Society's Exhibition, on Saturday, the 7th current; and they will be ready to send out Plants of these superb Flowers early in October.

Catalogues may be had free on application.

Edinburgh, 32, Hanover-street, Aug. 21.

NEW AND CHOICE SEEDS FOR PRESENT AND AUTUMN SOWING.

JOHN CATTELL has now ready to send out the following Seeds, post free, at per packet, as annexed:—

CALCEOLARIA, saved from a very fine collection, and carefully impregnated, 2*s.* 6*d.*

Directions for sowing, &c., will accompany each packet.

The produce from the Calceolaria seed J. C. has hitherto sent out having given such universal satisfaction, and the many testimonials he has received in praise of its excellence, enables him to recommend this with the greatest confidence.

CINERARIA, from newest and finest varieties, 2*s.* 6*d.*

GERANIUM, from new florist varieties sent out last autumn, 2*s.* 6*d.*; 18 seeds.

Do. older first-rate varieties, 1*s.*; 18 seeds.

Do. from new fancy varieties sent out last autumn, 2*s.* 6*d.*; 18 seeds.

Do. older first-rate varieties, 1*s.*; 18 seeds.

Do. saved from scented varieties, 1*s.*

SCHIZANTHUS RETUSUS, 6*d.*

Do. Do. ALBUS, 6*d.*

Twenty-five sorts of fine showy hardy Annuals, for flowering in the open ground in spring, 4*s.*; larger packets, 6*s.*

Twelve sorts of fine showy hardy Annuals, for early flowering in the greenhouse, 2*s.*; larger packets, 4*s.* 6*d.*

Orders from unknown correspondents to be accompanied with a remittance.—Westerham, Kent.

NEW PELARGONIUMS OF 1851.

JOHN DOBSON in selecting the New Varieties to be sent out in the Autumn, begs to inform the admirers of the PELARGONIUM, that those he has selected are perfectly distinct from anything yet out. They are all good in shape, of first-rate qualities, distinct colours, abundant bloomers, and first-rate show flowers; J. D. feels assured they will give as much satisfaction as any of the varieties previously sent out by himself and Mr. BECK. The following will be sent out the first week in October, 1852, strong plants in 4-inch pots, packed in the usual manner, and which has given so much satisfaction. Carriage and package free to London. The usual allowance to the trade.

SPOT.—Lower petals rosy lilac, with deep maroon spot, leaving a pure white eye; upper petals dark maroon, with narrow distinct margin of rose; medium sized flower, smooth, good shape, and excellent habit—a first-rate exhibiting flower, very constant and early. 1*l.* 1*s.*

VULCAN.—A large flat-setting flower, lower petals orange salmon, with large distinct white centre; upper petals clouded scarlet maroon, leaving narrow margin of violet; good habit, free bloomer, and very constant. 1*l.* 11*s.* 6*d.*

COMMANDER.—Lower petals crimson purple, with light centre; upper petals very dark chocolate, nearly approaching to black; blotch decided, leaving a narrow margin of light crimson; free bloomer and excellent habit, good late flower. 1*l.* 1*s.*

GERTRUDE.—Lower petals light rose mottled, with large white eye; upper petals maroon, shading off to a deep rose; good shape, free bloomer, and excellent habit; a very striking and constant variety. 1*l.* 1*s.*

HARRIOT.—Lower petals pink, clean white centre; upper petals crimson maroon, with narrow pink margin; good size, smooth flower, free bloomer, and constant; good habit, early flower. 15*s.*

JUPITER.—Lower petals deep rosy purple, with pure white centre; upper petals crimson purple, shading off to deep rose; large flower and free bloomer; robust habit, constant, good late flower. 1*l.* 1*s.*

PASHA.—A smooth flat-setting flower, lower petals deep mulberry, clean white centre, with deep maroon blotch on upper petals; distinct bright margin, free bloomer and good habit; a novel and striking variety. 1*l.* 1*s.*

Woodlands Nursery, Isleworth.

SEVENTY CLEAN PINE PLANTS of all the best kinds, and about 30 very large Suckers of the Black kinds, at 1*s.* 6*d.* each.—Apply to R. NEWMAN, Stedham Hall, Midhurst, Sussex.

COCHIN CHINA CHICKENS.—A few pairs, from three to four months old, well feathered on the legs, and of the purest breed. Price 15*s.* per pair.—Address to THOMAS PAGE, Chatteris, Cambridgeshire.

PROTECTION OF PLANTS FROM THE HEAT OF THE SUN.—Use E. F. ARCHER'S HAIR CLOTH, a perfect non-conductor of heat, and admitting light without heat, where a covering is required; it is 2 yards wide, and any length, at 1*s.* 4*d.* per yard, and much cheaper than Bass Mats.

E. F. ARCHER, 451, Oxford-street, London.

GRAPE VINES FROM EYES, VERY FINE.

J. WEEKS AND CO., King's Road, Chelsea, have a most splendid collection of VINES, very strong and clean, two and three years old, from Eyes, all the best sorts for PLANTING OR FRUITING IN POTS.

Also an extensive and valuable collection of STOVE and GREENHOUSE PLANTS, with all new varieties. See our Catalogues devoted to each. Also our Illustrations on HORTICULTURAL BUILDING and HEATING by HOT-WATER.

J. WEEKS and Co., King's-road, Chelsea.

WM. HAMILTON, SEEDSMAN, &c., 156, Cheapside, London, begs to announce that his Catalogue of BULBOUS ROOTS is now in press, and will shortly be ready. He has this year imported a large and select assortment of Dutch and other Flowering Roots, for which early orders are respectfully solicited. CALCEOLARIA SEED.—W. H. has some of the above, which he will warrant to be carefully saved from the choicest flowers of the season—a packet will be forwarded by post for 30 postage stamps.

TO GENTLEMEN AND THEIR GARDENERS.

THE ADVERTISER, who will be leaving this country at the beginning of November, is desirous of taking with him SEEDS of Showy GREENHOUSE, HARDY, and HALF-HARDY PLANTS. Those who can spare anything good, by sending the TRUE NAME of the seed with the price wanted, will be duly attended to; none need apply who are not prepared to give a written warrant as to the genuineness of the seeds offered.—Address W. H. SILKES, at Eyre's Advertising Office, 19, Bouverie-street, Fleet-street, London.

BEACH'S QUEEN STRAWBERRY PLANTS.—Having taken several Prizes these two years with QUEEN'S STRAWBERRIES, thousands of them weighing upwards of 2 oz., many of them I exhibited last year in the Crystal Palace upwards of 3 oz., and this year, at Chiswick, they gained two Knightian Medals on July 10th; and also on the 14th inst. the Head Prize at the Great Show at Lewes. See also Dr. Lindley's opinion of them in the *Gardeners' Chronicle* of the 10th of July, and likewise Mr. Cuthill's account of my place in the same Journal of the 24th of July. Strong, healthy, and fine plants are now ready to be sent out at 5*s.* per 100, box included.—Post-office Orders on Hounslow to Mr THOMAS BEACH, Market Gardener, Worton, Isleworth, near London.

RIVERS' LARGE YELLOW STONE TURNIP SEED (the growth of the present season). Price 1*s.* per lb. This Turnip had its origin in 1842 with the Stubble Swede; and has been repeatedly tested with other kinds of Yellow Turnip, in which its superiority was very apparent—but its sweetness of flavour, and in its vigour of growth, last three years, on various soils, it has yielded from 25 to 30 tons per acre, when sown in the early part of August; and it has the advantage of keeping in giants quite firm in the spring.

RIVERS' Stubbin Swede, 1*s.* 6*d.* per lb. Orders to the amount of 10*s.* paid to London.—Sawbridgeworth, Herts.

GLASS FOR CONSERVATORIES, GREENHOUSES, PIT FRAMES, &c.

JAMES PHILLIPS AND CO. beg to hand their prices of SHEET GLASS for cash:

Cut to order in Panes not above 40 inches long.		Packed in Boxes of 100 feet each.		£. s. d.
16 oz.	3*d.* to 3½*d.*	6 by 4, 6½ by 4½	...	0 13 0
21 do.	3½*d.* to 5*d.*	7 by 5, 7½ by 5½	...	0 15 0
26 do.	5*d.* to 7½*d.*	8 by 5, 8 by 5½	...	0 15 0
In Crates of 300 ft., 16 oz., 21*d.* perfoot.		8 by 6, 8½ by 6	...	0 17 6
		9 by 7, 10 by 8	...	1 0 0

HARTLEY'S PATENT ROUGH PLATE GLASS for Conservatories, Public Buildings, Manufactories, Skylights, &c., ⅛ inch thick. Packed in boxes of 50 feet each.

6 by 4 and 6½ by 4½...10*s.* 6*d.*	7 by 5 and 7½ by 5½...12*s.* 0*d.*
8 by 6 and 8½ by 6½...13*s.* 6*d.*	9 by 7 and 10 by 8 ...15*s.* 0*d.*

FOREIGN SHEET GLASS, of very superior quality, packed in cases of 200 feet, and in sizes varying from 36 by 26 to 44 by 30 inches, at 38*s.*, 40*s.*, to 42*s.* per case.

HARTLEY'S PATENT QUARRY GLASS.

GLASS MILK PANS,

The same size as the foreign ones, but superior in colour, make, and quality, at 2*s.* each, or 21*s.* per dozen, as recommended by Captain Stanley Carr.

GLASS CHURN THERMOMETERS, for regulating the Temperature of Cream.

LORD CAMOY'S MILK SYPHONS, LACTOMETERS, GLASS CREAM POTS, &c. &c.

CUCUMBER TUBES, PROPAGATING AND BEE GLASSES, TILES AND SLATES, WASP TRAPS,

PLATE, CROWN, AND ORNAMENTAL GLASS, SHADES FOR ORNAMENTS, FERN SHADES,

And every Article in the Trade.

HORTICULTURAL GLASS WAREHOUSE, 116, Bishopsgate-street Without, London.

GLASS.

THOMAS MILLINGTON'S FOREIGN SHEET GLASS is far superior to any other manufacture, as well as cheaper. In 100-feet boxes, packed for immediate delivery.

6 inches by 4 and 6½ by 4½	...	...	...	13*s.* 0*d.*
7 ,, 5 and 7½ by 5½	...	...	...	15 0
8 ,, 5 and 8 by 5½	...	...	...	15 0
8 ,, 6 and 8½ by 6½	...	...	...	17 6
9 ,, 7 and 10 by 8	...	...	...	20 0
12 ,, 10 and 13 by 9	...	...	...	20 0

And many other sizes, or cut to order in various thicknesses Cases containing large Sheets, in 100, 200, and 300 feet, at 21*s.* per 100 feet.

ROUGH PLATE, perfectly flat, ⅛ in. thick, best manufactured.

In sizes under 15 inches		6*d.*	per foot.
,, ,, 35 ,, ...		8*d.*	,,
,, ,, 50 ,, ...		9½*d.*	,,
,, ,, 75 ,, ...		12*d.*	,,

Milk Pans, 2*s.* to 6*s.* each; Metal Hand Frames, Glass Tiles and Slates; Cucumber, Propagating, and Bee Glasses; Wasp Traps, Glass Shades, and Plate Glass, at 87, Bishopsgate-street Without, London, same side as Eastern Counties Railway.—Established 100 years.

HORTICULTURAL SOCIETY OF LONDON.

EXHIBITIONS IN REGENT STREET.

THE COUNCIL OF THE HORTICULTURAL SOCIETY HEREBY GIVE NOTICE, that, with a view to the further encouragement of good cultivation at all seasons and in all branches of Gardening, Medals and Certificates of Merit will be given at the General Meetings of the Society in Regent-street, during the years 1852 and 1853, according to the following Schedule, and under the Regulations thereto annexed:—

1852.

OCTOBER 19. *Third Tuesday.* ... ... Meeting at 3 P.M.
- The best collections of Hardy Annuals (cut flowers), each sort named correctly ... ... SB. C.
- Table Pears, correctly named, in collections of six, two specimens of each sort to be produced SB. C.
- Green Peas, named correctly ... ... C.

NOVEMBER 2. *First Tuesday.* ... ... Meeting at 2 P.M.
- Chrysanthemums (shown in sixes, in pots not exceeding 11 inches in inside diameter) ... SK. SB.
- Alpine Strawberries ... ... SB. C.
- Celery (shown in three heads) ... ... C.

DECEMBER 7. *First Tuesday.* ... ... Meeting at 2 P.M.
- Autumn-flowering Heaths (shown in sixes, in pots not more than 11 inches in inside diameter) SK. SB.
- Table Pears, as in October ... ... SB. C.
- The best lot of forced Vegetables ... ... SB. C.

1853.

JANUARY 18. *Third Tuesday.* ... ... Meeting at 2 P.M.
- The best collection of Hardy Winter-flowering Plants (cut flowers admissible) ... ... SB. C.
- English Grapes ... ... SB. C.
- The best and most varied Salad ... ... SB. C.

FEBRUARY 15. *Third Tuesday* ... ... Meeting at 2 P.M.
- Camellias (shown in threes, in pots not exceeding 15 inches in inside diameter) ... ... SK. SB.
- Table Pears, as in October ... ... SB. C.
- Lettuces (shown in sixes) ... ... SB. C.

MARCH 1. *First Tuesday.* ... ... Meeting at 3 P.M.
- Chinese Primulas (shown in pairs in 9 inch pots) SB. C.
- Himalayan Primulas, in pots ... ... SB. C.
- Strawberries (one dish only shown by each Exhibitor) ... ... SB. C.
- New Grapes ... ... SK. SB.

MARCH 15. *Third Tuesday.* ... ... Meeting at 3 P.M.
- Hybrid Rhododendrons (one pot only to be shown by each Exhibitor) ... ... SK. SB.
- Strawberries in pots, in threes ... ... SB. C.
- The best and most varied Salad ... ... SB. C.

APRIL 5. *First Tuesday.* ... ... Meeting at 3 P.M.
- Hyacinths (shown in pots in sixes) ... ... SB. C.
- Fruits or Vegetables, preserved whole by private persons for family use, without sugar or vinegar (shown in bottles of white glass, one bottle of each kind), accompanied by a written account of the manner in which they have been prepared ... ... SB. C.
- Forced Peas ... ... SB. C.

APRIL 19. *Third Tuesday.* ... ... Meeting at 3 P.M.
- Cyclamens, in pots ... ... SB. C.
- Cherries (one dish only to be shown by each Exhibitor) ... ... SB. C.
- Cauliflowers, in sixes ... ... SB. C.

MAY 24. *Fourth Tuesday.* ... ... Meeting at 3 P.M.
- The two best collections of Vegetables ... ... SK. SB.

JUNE 28. *Fourth Tuesday.* ... ... Meeting at 3 P.M.
- The two best collections of Vegetables ... ... SK. SB.

JULY 26. *Fourth Tuesday.* ... ... Meeting at 3 P.M.
- The two best collections of Vegetables ... ... SK. SB.

SK.—Silver Knightian Medal.
SB.—Silver Banksian do.
C.—Certificate of Merit.

1. The Medals and Certificates of Merit are on no account to be increased beyond those named in this schedule. They are to be given for fine cultivation, and not for mere novelty, which is to be a secondary consideration with the judges, unless attended by great excellence.

2. Prizes may be withheld if the objects exhibited for competition do not, in the opinion of the judges, deserve them.

3. Although those subjects of exhibition which are thus specially indicated are what the Council are most desirous of receiving, nevertheless other objects are also admissible, and additional prizes may even be given for them; *provided they possess very conspicuous merit.* The Silver Knightian Medal will be the highest additional reward which the judges can bestow, without the special sanction of the Council.

4. In a future year other kinds of produce will be selected for special competition.

5. Cut flowers are not admissible, except when it is expressly so stated.

6. Dishes or baskets for fruit and vegetables must be furnished by the Exhibitors, if they are present or live near London. The Society will only find dishes for what comes from a considerable distance.

7. Fruit must be perfectly ripe and perfectly coloured, or it will be disqualified.

8. Vegetables must be produced in the state in which they are offered for sale in the best class of shops, and properly prepared for the cook.

9. Foreign fruit and vegetables are admissible, but not in competition with produce of home growth.

10. Everything must be in the room three hours before the meeting, and ready for inspection by the Judges two hours before the meeting. If anything received later is allowed to be exhibited, it will be liable to exclusion from competition.

11. Exhibitors, and Exhibitors only, can receive passes to enable them to return to the meeting-room after the Prizes shall have been adjudicated. Two hours before the meeting they must quit the room, in order that the Judges may be undisturbed.

COTTAM AND HALLEN,

2, WENSLEY STREET, AND 76, OXFORD STREET, LONDON.



APPLICATION is requested for their NEW HORTICULTURAL LIST, containing Illustrations, Descriptions, and Prices of

Conservatories	Mowing Machines	Hand-glass Frames	Garden Engines	Flower Sticks
Greenhouses	Fountains	Game Netting	Do. Syringes	Garden Bordering
Hot Water Apparatus	Ornamental Wire Work	Hurdles	Do. Rollers	Watering Pots
Garden Vases	Flower Stands	Garden Chairs	Flower Labels	Garden Arches, &c.

IRON HURDLES, STRAINED WIRE FENCING, GAME NETTING, &c.

AGRICULTURAL LIST UPON APPLICATION.

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VINAIGRE DE BORDEAUX.

"College of Chemistry, Liverpool.

"DEAR SIRS—The Cask of FRENCH WINE VINEGAR came safely to hand. I have submitted it to analysis, and find it to be perfectly pure, *i.e.*, it only contains those matters which are in all fermented Grape juice. It is very much liked in my house, being a most agreeable acid. The reason of my sending to you for Vinegar was on account of the dreadful mixture sold here under that name. Some of the samples I examined contained sugar, oil of vitriol, and arsenic.

"Yours truly,

"SHERIDAN MUSPRATT, F.R.S.E., Dr. Phil., &c., &c.

"To Messrs. W. and S. KENT and SONS, Upton-on-Severn."

☞ See also the Report on Vinegar of the Analytical Sanitary Commission, in the *Lancet*, of the 17th January last, copies of which, and the names of the retailers throughout the Kingdom, may be had from the Importers.

N.B. Stores in London, Liverpool, Hull, and Gloucester.

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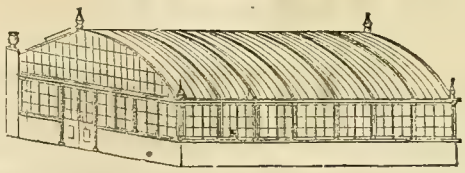
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See *Gardeners' Chronicle* first Saturday in each month.

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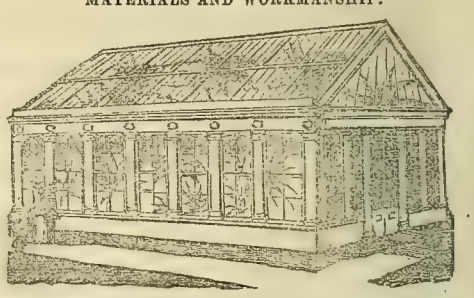
BY HER MAJESTY'S ROYAL LETTERS PATENT.

E. DENCH, PATENT HOTHOUSE WORKS, King's Road, Chelsea.—The superior qualities in every respect of these Structures having been proved in all parts of the United Kingdom, has caused a greater demand for them than E. D. could execute; he has been obliged to have perfect and powerful machinery made to meet the numerous orders, and can now execute any amount of work to great perfection, with dispatch, and for quality and price to defy all competition. Patent Hothouses, with excellent glass, 3 feet long by 1 foot wide, every front sash to open, and every top one to slide down, with pulley made of the same materials as the electric telegraph wires, which require no painting; delivered free to Wharf or Railway Station, at 1*s.* 2*d.* per foot super., complete, having been fitted, and every portion marked previously, making a Greenhouse 16 ft. 6 inches long, 12 ft. rafter, 400 ft., 23*l.* 6*s.* 8*d.*; 24 ft. 6 ins. long, do. do., 526 ft., 30*l.* 13*s.* 8*d.*; 28 ft. 6 ins. long, 15 ft. rafter, 712 ft., 41*l.* 10*s.* 8*d.* Heating by Hot Water on the most approved and economical principles.

Patent Sashes for Pits and Peach Walls, &c., 7*d.* and 8*d.* per foot, super.

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AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.



GRAY AND ORMSON, Danvers Street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

G. and O. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders they can with the greatest confidence give the most satisfactory references.

Their Hot-Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating by Hot Water can be made available.

TANNED GARDEN NETTING, for protecting Strawberries and wall-fruit from birds, or as a fence for fowls, pigeons, &c., in any length, from JOHN KING FARLOW'S Fishing Tackle and Net Manufactory, 5, Crooked-lane, London-bridge, at 1½*d.* one yard, 3*d.* two, or 6*d.* four yards wide. All orders over 20*s.*, accompanied with post-office order or stamps, carriage free.

BAKER'S PHEASANTRY, Beaufort-street, King's Road, Chelsea, by special appointment to her MAJESTY and H. R. H. PRINCE ALBERT.—ORNAMENTAL WATER FOWL, consisting of black and white Swans, Egyptian, Canada, China, barnacle, brent, and laughing Geese, Shieldrakes, Pin-tail, Widgeon, summer and winter Teal, Gadwall, Labrador, Shovellers, gold-eyed and dun Divers, Carolina Ducks, &c., domesticated and pinioned; also Spanish, Cochin China, Malay, Poland, Surrey, and Dorking Fowls; white, Japan, pied, and common Pea-fowl, and pure China Pigs; and at 3, Half-moon Passage, Gracechurch-street, London.

WINTON'S PARKES' NEW STEEL DIGGING FORKS AND DRAINING TOOLS.—Silver Medal at Lewes Show was awarded to BURGESS and KEY, 103, Newgate-street, London, for these celebrated FORKS. It would be endless to quote the unlimited approbation expressed by the leading agriculturists, farmers, nurserymen and others, from the nobleman to the labourer; but all who have used them concur in Mr. MECHI's remark, "That they facilitate labour quite 20 per cent." Early orders are requested. Price lists sent on application.

A. VERSCHAFFELT, Nurseryman, Ghent, Belgium, begs to announce that he will send out on the 15th September next, his fine new CAMELLIA, "GENERAL DROUOT," on the following conditions:—

Plants, 3 feet high, with branches	£1 12 0
Do., 2 do., do.	1 4 0
Do., young grafted plants, with two to three bases	0 8 0

N.B. His New General Catalogue of Plants will be ready in a few days.

CHOICE CALCEOLARIA SEED, ETC.

GEORGE WHEELER, Nurseryman, Warminster, Wilts, begs to announce that he is now sending out the following SEEDS:—

CALCEOLARIA, saved from his large, choice, and beautiful collection of free blooming and fine spotted varieties, from 2s. 6d. to 5s. per packet.

PANSY, all from choice show flowers, 1s. to 2s. 6d. per packet.

CINERARIA, from a fine collection, 1s. to 2s. 6d. per packet.

CHINESE LARKSPUR, saved from a beautiful collection of various colours, from pure white, sky blue, variegated, &c., to dark blue, 1s. per packet.

ANTIRRHINUM, produced by beautifully striped and tricolored kinds, 1s. per packet.

Remittances accompanying the orders will ensure the delivery of the above postage free.

G. W. also begs to offer the under-mentioned desirable kinds of Strawberries—Victoria (Trollop's), a highly approved, prolific, early kind, and an excellent forcer, 20s. per 100, or 3s. per dozen; Black Prince (Cuthill's), very early, good bearer, and a good forcer, 3s. 6d. per 100; Eleanor (Myatt's), large, late, and excellent, 3s. 6d. per 100; Stirling Castle Pine, a large, late, good bearing, and hardy kind, somewhat of the British Queen flavour, 5s. per 100. Older esteemed kinds from 2s. 6d. to 3s 6d per 100.

HOLLYHOCKS saved from Rubida, Rosea Grandiflora, Aurantia, Queen, Model of Perfection, Black Prince, Sulphurea Perfecta, 20s. per 100, a portion of each kind, or separate; 80 out of every 100 of these kinds come true from seed, and in many instances superior to the originals.

Strawberry Plants, all the approved kinds, 2s. 6d. to 5s. per 100, strong plants, true to name.

DILLISTONE and Co.'s Nurseries, Sturmer, Halstead.—Aug 21.

CAMELLIAS, AZALEAS, ETC., WITH FLOWER-BUDS.

A. VAN GEERT, Nurseryman and Provider to several Courts of Europe, Ghent, Belgium, begs to offer fine—

CAMELLIAS, well set with flower-buds, of the leading varieties at 6l. per 100 and upwards.

CAMELLIA STOCKS, ready for grafting, at 25s. per 100.

INDIAN AZALEAS, of the leading free flowering varieties, with flower-buds, at 1s. each and upwards.

GHENT HARDY AZALEAS, with flower-buds, of the best sorts, 1s. 3d each and upwards.

LILIUM LANCIFOLIUM ALBUM and RUBRUM, flowering roots, 1s. each.

ASCLEPIAS TUBEROSA, strong flowering roots, 30s. per 100.

A collection of 30 fine new varieties of Hardy Hybrid GHENT RHODODENDRONS, late flowering, 3l.

A. V. G.'s new Catalogue of Plants, just published, may be had on application to his Agent, Mr. R. Silberrad, 5, Harp-lane, Great Tower-street, London.

A reference from unknown correspondents.

CUTHILL'S PRINCE OF WALES AND BLACK PRINCE STRAWBERRY PLANTS.

THE PRINCE OF WALES was raised in 1849; it is the latest we have in this country—was in bearing, August 1. The flavour is excellent; a scarlet cone-shaped fruit, about the size of a Keen; throws its bloom well up, foliage light green, and, like its royal relative (the Black Prince), an enormous bearer. If planted on a northern aspect, it will bear up to September. Price 1l. per 100, or 10s. 6d. for 50 (a few plants extra allowed to the Trade).

Also the celebrated BLACK PRINCE, the earliest in England; this year they were picked in the open ground, at 8s. per lb., by me. See also Mr. Meredith's account of its forcing qualities at the Duke of Sutherland's. Will be ready for delivery on the 23d instant.

CUTHILL'S Pamphlet on the Potato, Asparagus, Seakale, Rhubarb, Strawberry, Melon, Cucumber, &c., 2s., or by post 2s. 4d. Also his "Market Gardening round London," 1s 6d., or by post 1s. 8d. The true Lapstone Kidney 8s. per bushel. Post-office orders on Camberwell-green.

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PLANT LOVERS who wish to enrich and beautify their collections at a cheap rate, and yet with good plants, may accomplish their wishes by application to WILLIAM MASTERS, EXOTIC NURSERY, CANTERBURY, as the following list will attest:—

12 Plants of Succulents, of distinct kinds, 9s., 18s., 30s.	12 Stove Plants, 12s. to 30s.
12 Ferns, 12s., 18s., 24s.	12 New Sikkim Rhododendrons, 42s.
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12 Fancy Geraniums, 12s.	12 China Plants, introduced by Fortune, 21s.
12 Greenhouse Plants, 9s. to 18s.	

Orders are respectfully solicited, and will be punctually attended to.

The Gardeners' Chronicle.

SATURDAY, AUGUST 21, 1852.

MEETINGS FOR THE ENSUING WEEK.

THURSDAY, Aug. 26—National Floricultural .....3 P.M.

COUNTRY SHOWS—Tuesday, August 24: Handsworth and Lozells.—Wednesday, Aug. 25: Trowbridge, Wycombe, and Thornbury.—Thursday, Aug. 26: Chichester, and Chelmsham.—Friday, Aug. 27: Banbury.

It has been this year observed in several places that the Cherry, the Plum, the Gooseberry, and other fruits, either dropped off the branches without half swelling, or that they rotted on the trees while ripening. Something of the same kind has been remarked upon the Cherries near Paris, of which M. Leveillé has given an account, from which we extract a few particulars serving to show in what point of view such affections are regarded among our intelligent neighbours on the other side of the channel.

The Cherry Disease in question is said to be chiefly observed on the Merises or Kentish Cherries, otherwise called English Cherries, and especially on Bigarreaux. A quarter of the crop drops off, or dries up, or rots upon the branches, and the rest is of little value, being spotted and deformed, as if it had suffered from a hailstorm. These spots, M. Leveillé states, are merely the symptoms of a deep-seated evil pervading the branches. At first you can only perceive on the surface of the Cherry one or more brown points, surrounded by a pale rose-coloured border; shortly after the spot enlarges, the border disappears; a depression caused by the drying up of the tissue extends, sometimes irregularly, sometimes in the form of concentric rings. The surrounding flesh is not much affected. The microscope shows that the cells are deformed in drying up, and become more or less brown. Small white threads, the spawn of a fungus, such as usually accompanies vegetable decay, are also observable under the skin.

But the fruit of the Cherry is not the only part affected: the stalk is gradually marked by brown spots, which become deeper coloured as the disease extends. By degrees the stalk dries up, its central pith being found to be also brown, and its cells to be deformed. The same appearances extend to the pith of the branches, but are attended by no external symptoms. It is, however, to be observed that the spots which are observable on the leaves do not appear to have any connection with the disease of the pith.

The vessels which connect the stone of the Cherry with the stalk readily break off, and gradually become brown.

This disease of the Cherry varies in its symptoms according to the period at which it appears. If it is attacked when young, before the stone hardens, the fruit simply dries up, and has no external spots. But if it is nearly full-grown, then only these spots appear on the surface and stalk of the fruit.

It will thus be seen that the learned Frenchman does not refer the Cherry blight to the attack of fungi; and on that point his opinion has weight, because he is a practised mycological observer. On the contrary, the whole of his statements, here greatly abridged, go to show that it is a constitutional disease, belonging to the pith or medullary system. Upon the whole, M. Leveillé inclines to adopt the view of such subjects taken by M. Schleiden, in his work on the diseases of plants. "The celebrated Professor" (we here translate M. Leveillé's words) "observes, that cultivated plants are more frequently ailing than those which are wild, or rather uncultivated. We create, in a manner, the earth from which the first derive their nutriment, while the others choose for themselves such soil as suits them. Seeds germinate or not in the place where they fall. If the soil is suitable (*bon*) they live, if bad they die. Whence it actually results that plants which are found wild are always placed under circumstances most favourable to their existence, and are generally in good health."

"This simple remark is the key of the whole theory. We at once understand why land is worn out when the same plant is cultivated in it for many successive years, and when it is every year saturated with the same substances conveyed in the manure. Some of those substances are no doubt good; but others are bad. Plants, however, must consume them all, indifferently, because they have nothing else on which to feed. At one time phosphates predominate, at another alkaline matters. These substances re-act, each in its own way, on the primitive elements of the cells—proteine and the fluid contents; thus vitality is struck at, at its very source, the juices are affected, the immediate products are unable to form, the cells themselves eventually disaggregate, and the constitution becomes wholly affected. Parts then become weak, and rot, or become the prey of insects and vegetable parasites."

"It is not a little singular that at the time when M. Schleiden was writing, M. Delafond, Professor at the Veterinary school of Alfort, should have observed nearly an identical effect produced upon the horses fed with hay from some artificial pastures, consisting of Clover, Lucerne, and Sainfoin. The horse, when at liberty, like plants in a wild state, selects the food which suits him, some, as Grasses giving him fibrine, and others, such as Clover, Sainfoin, and Lucerne, supplying him with albumen. In stables, where the horse is fed exclusively with leguminous plants, his blood is altered; it abounds in water and albumen, and contains scarcely any fibrine; the quantity of blood globules is considerably diminished, and thus is produced acute or chronic inflammation of the intestines, which carries off large numbers of animals. M. Delafond made these observations in the departments of the Eure and Loire, the Seine and Oise, the Marne, the Seine and Marne, and the Aisne. And what gives great force to these views is that the disease in question had not been observed till about 30 years since, when the production of artificial food was first established in those departments."

Such is the manner in which M. Leveillé looks at the Cherry blight. It will be seen that his opinions in some respects coincide with suggestions lately made in this Journal, when the question was raised whether the frequency of mildew and other diseases in these days might not be attributed in some way to high modern cultivation. No inquiry can be of greater moment than this, and we still hope that a discussion may be raised concerning it in this country, among men whose knowledge of effect and cause will give weight to any opinions which they may express. We shall take an early opportunity of reverting to the subject.

It has been observed in France that the Egg Mildew of the Vine (*Oïdium Tuckeri*) has not attacked the Vine-like plants which grow near the common Vine in a state of disease. We learn from M. Pépin that in the Jardin des Plantes the American creeper (*Ampelopsis quinquefolia*), *Ampelopsis bipinnata*, *Cissus heterophylla* and *orientalis*, have grown as usual, without a sign of mildew. Even the true Vines, such as *Vitis labrusca*, *vulpina*, *cordifolia* and *virginiana*, with another known in Paris for 30 years under the name of the Massachusets Grape (or Vigne Isabelle), one of the Fox Grapes, remarkable for the strong musky smell of the fruit and its great coarse leaves, have all escaped. The last, even when trained to a wall, among ordinary Vines, has been seen by M. Hericart de Thury to resist the egg mildew perfectly, although the surrounding Vines have been seriously affected.

Since the Vine is very easily grafted, we would suggest that it might be worth while to work a number of Vines on such a stock as that of the Isabella Grape, for the sake of determining whether, under such circumstances, the mildew would be able to attack them. Even if it should prove that the stock is without influence upon the disease, the experiment might be attended by useful results, inasmuch as the wild Vines of the United States are far more hardy than our own, and may possibly form roots capable of acting well in soils too cold for the European Vine.

We all know that one of the causes of Grapes not ripening in England is that they do not leaf and flower early enough for our short summers. This arises from the coldness of the soil of Great Britain, which usually keeps the Vine root torpid when it ought to be in full activity. But the American Vines by no means require the same amount of earth heat; on the contrary, they are growing freely, while the cultivated Grape is still unroused. Put, then, the latter on the former, and it is a fair hypothesis that a few weeks of spring growth will be gained, which is all we want. This is actually done in the case of the Peach, which we always bud upon the Plum stock, because its own roots are too tender for our soil. Why, then, may not the same thing happen with the Vine?

Again, there are hundreds of gardens in heavy land in which the Vine never even flowers in abundance, and where a ripe Grape is not to be thought of. In such places, even in Vineries, the berries either shank or refuse to colour; and all the draining in the world will not prevent it. It is well worth inquiring, whether a hardy stock on which to graft the Vine would not prevent this. There is no fear of grafted Vines not "standing;" on the contrary, we never heard of a case in which the operation was attended with the slightest disadvantage. We therefore recommend the intelligent part of the gardening world to set seriously about trying the very simple and unexpensive experiment now suggested.

THE WHITE WAX INSECT OF CHINA.

The public is no doubt aware that there is a white wax (Pe-la) produced in China of great value, and that various statements have been made regarding the insect from which it is prepared, as well as the tree on which that insect feeds. Sir George Staunton observed an insect of this description on the coast of Cochin China, "busily employed upon the small branches of a shrub then neither in fruit nor flower, but in its general habit bearing somewhat the appearance of a Privet." Various other observations have been made upon it by the Abbé Grossier, M. Stanislas Julien, and others, but up to the present time I believe the insect is unknown to entomologists. According to Capt. Hutton, who published some account of the Himalayan wax insect (Flata limbata), in the Journal of the Asiatic Society, the Chinese species must be quite distinct from the Indian one. As the deposit of F. limbata "will neither melt on the fire *per se*, nor combine with oil, it cannot be the substance from which the famous white wax of China is formed; and we are led to perceive, from the difference in the habits of the larva of Flata limbata, and that of the insect mentioned by the Abbé Grossier, that the wax is rather the produce of a species of Coccus than of the larva of F. limbata, or even of the allied F. nigricornis."

I observe, however, that although entomologists confess their ignorance as regards the insect, writers

generally have no hesitation in saying that the tree on which it is placed is the well-known Ligustrum lucidum, or, according to M. Julien, L. glabrum. I cannot help thinking that this opinion must be classed amongst those *facts* which are arrived at by what we familiarly call "jumping at conclusions" without evidence. I observe that M. S. Julien, whose opinions are entitled to great weight from his intimate knowledge of the written language of China, says that the wax insects are stated to be raised on three species of plants, namely, Ligustrum glabrum, Rhus succedanea, and a species of Hibiscus (Comptes Rendus, 1840). But all Chinese scholars unacquainted with China must necessarily labour under the great difficulty of referring Chinese names to botanical ones, and are no doubt apt, with all their care and research, to be misled. Thus the Tong-tsing of M. Julien is certainly applied to Ligustrum lucidum (not L. glabrum), about Ningpo and Shanghae; but then, although this tree abounds in those districts, I never saw the wax insect upon it, and it is certainly not cultivated for that purpose. But we all know how very loose and uncertain Chinese botanical nomenclature is, and it is not at all unlikely that the Tong-tsing may, in another district, refer to another plant.

I now possess evidence which goes a long way to prove that another plant, different from any of the above, is the true White Wax tree of Central China. Before leaving China, I had the honour of receiving from the French consul at Shanghae two small trees, which had been brought down by one of the Catholic missionaries from the province of Sychuen, where the principal part of this valuable substance is produced. I cannot see how any mistake could have been made, as the tree is no doubt as common in that province as the Tallow tree is in Chekiang. I am happy to say that one of these plants has reached this country in good condition, and is now in the Exotic Nursery at Chelsea. Messrs. Knight and Perry have allowed me to place it with them for the present, and I have no doubt they will allow any one interested in the beautiful white wax of China to see it. It appears to be very like an Ash, but apparently different from any known species. It is deciduous, and no doubt will prove perfectly hardy in the gardens of this country. *R. F.*

PETUNIA (NIEREMBERGIA) INTERMEDIA.

Twenty years have scarcely passed away since this pretty little plant was first raised from South American seeds in the garden of the late Dr. Neill, when a high opinion was formed of it by plant growers generally. For some time it was extensively cultivated, and no collection was considered complete without it; but as its beauty and worth consist in compact growth, and a profusion of interesting little flowers, from April to November, and not in the production of large high-coloured blossoms of only a few weeks' duration, the prevailing taste of recent years for showy flowers has driven this once favourite plant nearly out of cultivation. It is also somewhat delicate, and soon shows its impatience of improper treatment, of which it has had a large share; for notwithstanding that it is a native of the warm sandy plains of Buenos Ayres, it has been planted and potted in rich heavy soil, and very liberally watered; and because it did not thrive under such circumstances, many discarded it as difficult to manage. For the decoration of the greenhouse during the summer months, for placing in the sitting-room window, or for planting in masses among half-hardy plants, it is a really valuable plant, provided its habits are respected.

Cuttings should be selected of firm pieces of young wood, such as have not begun to produce flowers, planted in light sandy soil, covered with a bell glass, and placed for a fortnight in a shady part of a cold frame, and then removed where the temperature may be from 60° to 70°; thus treated, they will be sufficiently rooted for potting off in about a month or five weeks. This Petunia is difficult to winter in a soft state, and as some time is required to get up nice plants with well matured wood, the cuttings should be got in before the end of June, and where a stock for out-door planting is required, it will be advisable to grow a few plants to furnish cuttings at the proper season. Pot singly in 4-inch pots as soon as the cuttings are sufficiently rooted, using light rich sandy soil, and place them in a close moist frame until they have made some progress; afterwards, gradually accustom them to a free circulation of air, and full exposure to the sun's rays, in order to get the wood well ripened. An airy situation free from damp, and where the temperature may average about 40°, will suit during winter. Those intended for planting out should be hardened during spring by free exposure to air on mild days, but they had better be kept growing slowly, and if they can be shifted into 5-inch pots this will assist in keeping them healthy and in having good plants at turning out time, which will produce immediate effect. A warm sheltered situation, with light rich sandy soil and thorough drainage, is indispensable, especially in such seasons as the present.

The plants intended to be grown in pots should be nice compact specimens in 5-inch pots, before winter, and should be induced to start into free growth as early in spring as circumstances will permit. About the middle or end of February will be a proper time for placing the plants in a temperature of from 50° to 60°, keeping them near the glass, and admitting air freely on mild days. As soon as they are moderately rooted, shift into pots one or two sizes larger than those they occupy, according to the vigour of the plants; very fine healthy specimens may be allowed 8-inch pots, while a size smaller will be more suitable for such as are not so promising. Stop rather closely, and tie out the principal shoots; maintain a moist atmosphere, but water carefully till they appear to have taken to the fresh soil, especially any that were pot-bound. Keep them growing as freely during the spring as can be done without inducing weakly growth. Beginners will probably experience considerable difficulty in getting some of their intended specimens to make a good start; and they will act wisely in being prepared with a few extra plants, which will enable them to throw failures away without inconvenience; for once get this plant into bad health, and it is not easily recovered. If all goes on well they will be handsome specimens, covered with flower, by the middle of May, and should be placed in the greenhouse when its usual occupants are placed out-of-doors. Any of the specimens that have filled their pots well with roots will be benefited by a shift, and all by occasional waterings with clear weak manure water. When they have done flowering, which, if they are properly treated, will not be until well into the autumn, they may be thrown to the rubbish-heap, as young plants occupy less space during winter, and generally make better specimens than old ones kept after flowering.

The best soil for the pot culture of this plant is turfy sandy loam and fibrous peat in about equal proportions, which should be broken up into small pieces, rejecting all that is not full of fibre. To four parts of this add one of sharp silver-sand, and one of clean small pots-herds. A small quantity of thoroughly decayed cow-dung passed through a fine sieve, to free it from worms, intimately mixed with the compost, will be useful to healthy plants, especially in the final shift. *Alpha.*

A NEW BRITISH PLANT.

In August, 1851, we received from the Rev. L. Vernon Harcourt a few flowers of an Epipactis, which



he had found wild near Chichester. From these, and a sketch which accompanied them, it was evident that the plant varied in some striking particulars from *E. latifolia*. Mr. Vernon Harcourt had observed that the specimens, of which a great many were found, were widely different from that species in the form of their flowers, and in the want of downiness upon the flower-stalks and ovary. This year he has favoured us with living plants, which have flowered in our garden, and in which the following peculiarities are observable.

The general habit, form of leaves, and stature, are those of *E. latifolia;* except that the lowest leaf is much narrower than in the usual forms of that species. The rachis, pedicels, and ovaries are perfectly smooth, not a trace of the coarse short down that belongs to *E. latifolia* being observable. The flowers themselves are greenish-yellow, with very acute divisions; in the lip the middle lobe is narrower than usual, as well as much sharper pointed. The ovary is clavate, instead of being linear oblong. The raceme itself has a drooping character, which at once catches the eye of the observer.

Were we to follow the custom of many modern botanists, we should at once declare that our Epipactis is a new species, for it differs much more from *E. latifolia* than numbers of so-called modern species differ from others. Its smoothness, its sharp flower-divisions, its colour, its peculiar drooping flowers, and we might add its occuring wild in some quantity, might be all regarded as proofs that it must be essentially distinct from that with which we have compared it. Nevertheless we are obliged to confess that although we should be proud of the honour of once more announcing the existence of a plant that no one had ever before been acute enough to distinguish in this kingdom, yet we must regard that in question as no better than an accidental variety, having the same relation to *E. latifolia* as *Rosa canina* bears to the *R. dumetosum* of Woods. For the sake of enabling others to judge whether we are right or not, the annexed figure has been carefully prepared from one of Mr. Vernon Harcourt's living plants. The representation, on the left hand, of a magnified flower, will assist the botanist in forming his conclusion. *J. L.*

ROOTS AS A MEANS OF PROPAGATION.

As it is a fact, which botanists have clearly demonstrated, that all the organs of plants have an extremely simple origin, and are formed, as it may be said, by a single utricle, which engenders others, among which vessels of different kinds appear; that this mass of utricles proceeds in this manner to constitute, under the vital influence, plants of various forms, adapted for our use and for increasing our enjoyment; since it is the case, I repeat, that all plants originate by a simple and uniform organisation, and that many of them are naturally multiplied by division (segmentation) we may thence conclude that every detached part of a plant, placed under conditions favourable for its preservation, would reproduce an individual similar to that from which it was taken. Practical experience daily furnishes us with numerous examples in support of this view of the subject.

What does, in fact, the gardener when he cuts off a branch from some plant in order to make it produce roots? Is not the complete separation of the small portion of the plant made with the intention of its becoming an individual similar to that from which it was taken? Do not cuttings and buds afford daily confirmation of these data of vegetable physiology? Is it not the case, that in some plants, Gloxinias and Achimenes, for example, a leaf, or the fragment of a leaf is sufficient to propagate the species? Moreover, is it not known that in some of the Lily tribe even a single scale detached from the bulb will produce minute bulbs or shoots from its base; and, finally, one of the scales in some cases may be cut into small pieces, by means of which the gardener can produce several plants.

These examples, which might be easily multiplied, are, I presume, sufficient for the subject I have proposed; and they lead to the conclusion, that, if the above-ground portions of a plant can produce new individuals, so ought likewise the under-ground parts or roots, seeing that they have the same elementary formation. I am convinced that this part of the plant has hitherto been too much neglected as regards propagation, and that in this respect it will become of great importance, when it shall be advantageously employed in the propagation of plants that are found difficult to increase by other modes. It may be employed for producing plants either directly similar to the original, or for furnishing stocks. In the first case, it is sufficient to cut the roots into small pieces and plant them in the natural soil, as is usually done with the Catalpa, Tecoma, Paulovnia, Xanthoxylum, Cydonia, Azalea, Maclura, Gingko, Calycanthus, Syringa, Prunus, Morus, Guilandina, Volkameria, Ailanthus, Rhus, &c.; and in the second, that is, when we wish to raise stock, we must proceed as is done for the Pæonia, Clematis, Bignonia, &c.

The examples which I have cited may be extended to herbaceous plants, such as the Lobelia and certain Anemones. The Pæonia officinalis, &c., make equally good plants from pieces of the roots, and in my opinion this is the best mode of propagation for these plants. Indeed, certain families, such as the Campanulaceæ, Boraginaceæ, Convolvulaceæ, and the Ranunculaceæ, &c., seem to possess this property in a high degree.

In endeavouring to direct the attention of gardeners to the roots as a means of propagating plants, I have the conviction that the certainty of the proceeding will be very advantageous in the propagation of certain plants which refuse to strike from cuttings taken from shoots or branches. If we have great difficulty in so propagating them, it is frequently because the mode employed is not suitable to the degenerated or domesticated state into which we have brought them; for we cannot imagine that the Creator, in spreading over the earth innumerable species of plants, intended that they should disappear; but on the contrary we may rest assured that He has given each of them the means of reproduction. These means are the seeds; but as man, always desirous of enjoyment, endeavours to procure new, by transporting into the country which he inherits, plants from a different region, and which are by this frequently rendered sterile,

he must submit to the consequences of this transgression of natural laws. The various cares which plants require, and the difficulty which we experience in their propagation, have caused us to have recourse to a part of the plant less subject than the stems and flowers to the influences of climate.

I therefore consider the roots as being peculiarly adapted in most cases, if not in all, for the propagation of plants which will neither produce seeds nor propagate by cuttings of the shoots. *Carrière, in Revue Horticole, June,* 1852.

Home Correspondence.

Hybrids.—Your remarks on hybridising induce me to enquire if any experiment has been made with the different species of Lychnis, as I think a race of singular beauty might be obtained between fulgens or coronata and the old hardy scarlet of our gardens. If a variety could be raised, combining the robust constitution of the latter with the large blossoms of the former, I think the successful florist would be well rewarded for his pains. Such an experiment has been, this year, attempted in my conservatory; but not having the hardier species, Chalcedonica, in my garden, coronata was the mother, or rather intended mother; for the whole flower stem was accidentally broken off, after the individual blossoms had received the pollen. I am not myself a Heath grower, but I am very anxious to recommend to the attention of some skilful cultivator of this lovely race the attempt to unite the hardy British species with the exquisite race of South Africa; I presume that no physiological bar to the union exists; which peradventure might prevent a combination of the Ericas of the Cape with the Menziesias of Ireland; if not, how beautiful would the large blossoms of one appear, when suffused with the glowing hues of the other. As it is affirmed that the interesting little hardy shrub, known as Bryanthus erectus is a true Menziesia, it might be well to test its capabilities as the parent of a new race. Obstacles to the union of various Heathworts seem to exist; as I am told that the late Dean of Manchester failed in raising crosses between Rhodothamnus Kamtchaticus and some species of Rhododendron, while he succeeded in getting a hybrid between Rhododendron dauricum atrovirens, which has flowered and is very distinct, and is now in the possession of Messrs. Veitch of Exeter, who I believe possess the whole stock. Mr. Smith, of Norbiton, tells me that he cannot procure a union between the Azalea indicas and the fine Ghent varieties, though so many fine seedlings of each have been raised by him. I see that Messrs. Rollisson have succeeded in raising seedlings between Rhododendron Javanicum and some hardy species, and I believe the same result has been accomplished in the nursery of Messsrs. Veitch, so that we may hope to see orange and yellow added to the other colours of this glorious race. I do not grow many bulbs, but having observed at this early season, a strong head of flowers of the Belladonna Lily, which had been forced into bloom by having been planted at the foot of a wall, which receives heat from the kitchen chimney, I dusted the stigma with the pollen of a fine Amaryllis platypetala, and am hopeful regarding the result of the experiment; but the pollen of the Belladonna has had no effect on the Amaryllis. *A Devonian.*

The Manetti Rose-stock.—It is asked at p. 517 if Roses worked upon this stock die off after three or four years' growth? I have now used the Manetti stock for at least seven years, and after I had once began to send out plants upon it my customers (or at least those of them who had a sample) would never take plants upon the Briar. I have now fine large bushes on the Manetti, at least five or six years old, which are as healthy and vigorous as they were the first season, and which form a fine contrast (on a border of specimens) with the majority which are on Briars, and some of which are annually dying, and others monthly choked with suckers. One of the best properties of the Manetti stock is the freedom with which it swells annually with the growth of the bud. As a pot stock it is invaluable; it makes such fine fibrous roots, and is so clear of suckers; and in pots it may be "worked" 10 months out of the 12. I have formerly said a good deal in favour of this stock, and now, after seven years' experience, I think more highly of it than ever. *Thomas Appleby, York, Aug.* 17.

Melon growing. — The following is my mode of managing the Beechwood, with which I have always been very successful. My pit is heated with hot dung, and is pigeon-holed, with a hot chamber under the bed. The soil I employ is three parts Wimbledon loam, and one part vegetable mould. I would recommend the loam to be in a rough state, and removed from the pasture a considerable time before it is used, so that all the herbage it contained may have become decayed. I grow my young plants in light loam and leaf soil previous to their being planted out. Heat should be duly attended to, particularly at the time the fruit is setting; after it begins to swell, plenty of air should be admitted on every favourable opportunity. The plants should be freed from all straggling or over-luxuriant shoots. I leave the mould loose when the plants are first put out, by which means they soon get well established; at moulding-up time I press it hard. I stop first at the second joint. The second stopping depends on the strength of the plant, the breadth of the frame, and other circumstances. The plants should not be placed too near the back wall, as the shoots in that case become exhausted before they are stopped, and the lateral or fruit-bearing Vines are weak. It is impossible to get large, well-flavoured fruit, without healthy foliage and strong fruit-bearing shoots. I damp the plants every evening during the growing period, except when the fruit is setting, and I shut up the pit with plenty of sun-heat in it, so as to ensure a warm moist heat; by this means I keep the plants in a healthy growing state, and free from red spider. If green-fly appears, I immediately fumigate with tobacco smoke. Under the above treatment I have grown, with uniform success, large quantities of well-flavoured fruit, weighing from 4 to 5 lbs. each. *J. K., August* 14.

Pear Insects.—About a fortnight ago I observed a Jargonelle Pear-tree affected by an insect which varies in length from a quarter to half an inch; its formation or shape is like a tadpole, with numerous feet, short and strong like the Gooseberry caterpillar; its appearance is like a glutinous drop, not unlike a drop of resinous matter such as that which issues from the Plum tree; its effects are speedily observed upon the leaves of the tree attacked by them, and in hot weather you hear the sound of their operations on the leaves as if it were drops of rain falling upon them; they are very destructive to the leaf; sometimes they make a hole in it exactly the size and shape of their body, and fall either on the leaves below or upon the ground. I cannot say that I have seen them on the branches or on the ground. When I first observed them on the Pear tree, which is on a wall with an exposure to the south, there were few of them, but it was very soon covered with them, and now the whole of the leaves of this tree are quite brown; and though the other Pear trees are at some distance they are now quite covered with the insects, who seem to have powers of locomotion and breeding to a wonderful extent. They do not affect the fruit, to all appearance, but I see that the Pears are earlier ripened than formerly; their flavour is not affected, so far as I can discover. I observe that the insect has no objection to feed upon the leaves of a Plum tree close to one of the Pears, but it gives a decided preference to the Pear; and I cannot say that it has evinced any disposition to partake of the leaves of the Apple. All the standard Pears as well as wall trees are affected; and, as I fear that the havoc by this insect may be extended to other gardens and trees, I have called the attention of gardeners and naturalists in this quarter to its peculiarities, and it is to all of us quite a novelty. *John Blair, Irvine, Ayrshire, N. B., August* 16. [The insects alluded to in the preceding letter are the slug-worm, or slimy grub of a species of saw-fly (Tenthredo Cerasi), described in our vol. for 1842, p. 692, with figures (see accompanying woodcut), representing



the larva itself rather magnified; the cocoon and the perfect insect magnified. The attacks of this insect when very numerous must certainly have an injurious effect upon the health of the tree, the action of the leaves being destroyed and the consequent ripening of the young wood prevented. Lime water or dusting the leaves with lime is an effectual remedy. *J. O. W.*]

The Temperature of July.—I see that your statement of a thermometer having risen to 97° has been doubted, and you do not seem to be aware that it has ever before been seen above 90°. It was, however, at 96° in Kew Gardens one day that I was there, somewhere about the year 1790; Sir Joseph Banks was of the party, and the excessive heat induced Mr. Aiton to send for his truest thermometer. After trying it in various places the coolest was found to be under the great Plane tree. The thermometer was suspended to a branch and left some time at rest, after which it was steady at 96°. I remember well the day, for in the morning of it I had witnessed a most glorious dispersion of fog. I had to meet my father in his garden; in going along St. James's-park there was fog, or rather haze, so thick as to conceal all objects at a few feet distance. Suddenly—instantaneously—this haze was no more. The sun shone forth in a clear blue sky such as I have never seen surpassed, even in the south of France. The heat from that moment felt excessive, but not oppressive. *M. B.*

Podocarpus Dieffenbachii.—Can any reader tell me where this plant is to be purchased? I have recently received from Van Diemen's Land a present of a fine plant, which appears to be an Araucaria; it is like A. excelsa, but the branches are not pendulous, and far more rigid. What can it be, and is it likely to be hardy in South Devon? *A Devonian.* [It is possibly the Huon Pine. We should imagine that most Van Diemen's Land plants would be tolerably, if not quite, hardy, in South Devon.]

Diseases.—With every care, every precaution, mildew and blight have taken possession of my houses, marring the growth of plants, the maturation of my hybrid seed crop, and so forth. Looking abroad I see amongst my Roses, my perennials, and annuals, similar devastation; extending my observation yet wider — Beans, Wheat, and other crops are suffering from the same causes; Potatoes are too manifestly affected, and the rank growth in Mangold, Turnips, Carrots, &c., I feel betokens the same issue; stock may come next under the influence of the malaria, and lastly man. Gradually and unceasingly for years past has this visitation been spreading, baffling the wisdom of the wise. I asked, half in earnest, years since, what becomes of the enormous amount of electricity which is in every instant of time set free by the friction of the steam through the tubes of the legion of mighty engines now in operation over more than one-half of the globe; and I asked also whether it might so affect the constituents of the atmosphere as to interfere in any way with vegetable or animal life. I think I asked also whether ozone might not be a new product from this source. I hold yet to the idea that so mighty and all-pervading an agent as electricity cannot be set at large to the extent we know it to be without some manifestation of its presence becoming ultimately sensible to us. See what wondrous results we can produce with our popgun discharges from Leyden jars—dissipate the diamond, resolve metals into their gaseous components, and decompose and recompose water. I wish this matter was taken up in the manner I think it ought to be. *T. I., Downham.*

Cuthill's Black Prince Strawberry.—The Black Prince is the best early Strawberry out, and for forcing none can beat it. I have forced 500 pots of it each of the two last seasons, and never had such crops, and at the unusually early period of the 1st of February. They are beautiful while in flower, and attract notice, from the reddish tinge on the petals. We are sadly at a loss in the north to get strong plants to pot early, as it is the end of July before we can get anything like rooted young plants. *C. M'Intosh, Dalkeith.*

Memoranda from Java.—Of the noble race of Palms, there are two species which at present, I believe, are entirely confined to Java, and inhabit the dense forest near the great series of volcanic mountains in the central part of the island, viz., Corypha Gebanga, and C. oliveæformis; the leaves of the first-named species are generally used by the natives for covering their houses; a fine cordage may also be made by beating or pounding the midrib of the dried leaves. This Palm grows to the height of 50 feet and upwards, and does not produce any fruit until it has arrived at maturity; as the fruit ripens, the leaves wither, fall off, and the tree dies, leaving the fruit hanging to the pendant shoots of fructification, for several months afterwards. The latter species, C. oliveæformis, is much more ornamental, as also better adapted to our stoves, on account of its dwarf habit, its height not exceeding 7 feet. The leaves are palmate, like the former species, the fruit being similar in size, colour, and appearance, to the Olive, and hence its specific name; they are produced on much longer pendant shoots than the former, but not in such clusters; the tree does not die on ripening its fruit. The Areca Catechu is a slender and graceful Palm; amongst the natives it ranks next to the Cocoa-nut (Cocos nucifera), and in commerce was formerly supposed to produce the Terra japonica, or Catechu, whence its specific name has been derived. This species is the common Pinang of the Malays, or Djambehsoesoe of the Javanese, and grows abundantly on almost every part of the island, even from the sea-coast to an elevation of 4000 feet. There are two varieties of this species indigenous to Java, A. Catechu alba and A. C. oblonga. The fruit of the first-mentioned sort is much used in Java, where it is eaten by the natives, both in its unripe as well as ripe state; in the former it is green and succulent, with a small cavity containing a little milky fluid; in the latter it is about the size of a Plum, of an orange colour; the interior or nut resembles in shape, colour, and internal structure, a nutmeg. To make it palatable to the mouth, the natives cut it into small pieces, and add a piece of Gambier of the same size; these are wrapped in two leaves of the Siri (Piper Betel), which have been previously smeared over with lime (made from coral or shells, called Kapur), to preserve the flavour. The natives are continually chewing it as we do tobacco, which makes the inside of their mouths and lips as red as blood, and their teeth much darker, approaching almost a black colour. Amongst the Palms which supply materials in the domestic economy of the natives, the Sowangkong (Caryota urens), and the Nipa or Sipa (Nipa fruticans), are of great value, and deserve notice. The Sowangkong is the true mountain Cabbage. The stem is slender, tall, and perfectly straight, and is used for posts of houses, or in the construction of strong railing or fences, as a protection from the tigers of the forest. The outer portion of the wood is remarkably hard and strong, the inner spongy, from which circumstance the tree can be easily excavated, and forms excellent gutters or channels for the transmission of water. The top of the tree or germ of future foliage is like that of other Palms, edible, but more delicate than the rest. In taste it resembles much the flavour of a young Cabbage-stalk. The Nipa on the contrary is a dwarf-growing Palm, the trunk never exceeding 7 feet in height, and oftentimes wanting altogether. It is an inhabitant of low marshy situations; its leaves are used by the Malays for thatch, and part of the leaf is also used when dried as a material for rolling their tobacco, so as to form cigars for their own use; it is also employed for the fabrication of coarse cloth, and, like other Palms, yields a wine by the usual process; sometimes the small unripe kernels are preserved as sweetmeats. The genus Calamus forms a connecting link between the Palms and Gramineous plants, having the inflorescence of the former and the habit of the latter. It furnishes the Rotan Cane now so well known over all Europe. The Rotan is a prickly

bush, sending forth shoots of an amazing length, which form the useful part of the plant, and are found either climbing the lofty trees of the dense forest or trailing along the ground. The Rotan may be considered one of the most useful of the indigenous plants, both in domestic and rural economy; it is constantly used for the purposes of ligatures, cordage, ropes, baskets, and fastenings for buildings, &c. The common Rotan yields a small insipid fruit, occasionally prepared as sweetmeat. Calamus Zalacca or Zallak, of Java, is entirely cultivated for its fruit, which is about the size of a pullet's egg; very hard, and enveloped by a firm white pulp, covered with thin scales, in colour not unlike those of a lizard; within these scales are two or three yellow kernels, having a strong odour, a mealy and acid flavour, and esteemed very much amongst the natives. This species is the only one cultivated, as the forest affords abundant supply for all other purposes. The majority of the Palms of Java are found near ravines, where streams are continually flowing, or near the margin of springs; but few (except the Cocoa-nut, Cocos nucifera), establish themselves on the shores of the ocean; some collect in clusters on the plains, while others inhabit the forest and mountains to a considerable height, and where the cold is sensibly felt. The region of Palms extends to the south of the equator, to about 30° latitude, and commences at 35° or 40° north. *John Henshall.*

Artificial Manure for Flower Borders.—Will any successful experimentalist say what artificial manure he has found most satisfactory in his flower garden; I want something that, in the humid climate of Devonshire, will tend to produce blossoms, and check the growth of the summer occupants of my beds and borders. *A Devonian.*

The Weather.—After the intense heat of July a period of unusually wet weather commenced on August 3d, with a great decrease of temperature and a heavy fall of rain to the amount of 5.14 inches to the 16th, inclusive, which is a larger quantity than fell in any 14 consecutive days during the very wet month of June. On several occasions the atmosphere was almost saturated with moisture, and rain fell in such torrents that the uncut Wheat has been very much laid. On the 11th, we had a very severe gale, and the crops in exposed situations were almost threshed on the ground, while some of the heaviest ears were broken off. On the night of the 14th, upwards of an inch of rain fell in a few hours, which completely soaked the sheaves, and this being followed by very sultry and damp weather on the two subsequent days, the corn is fast germinating, the plumules in many instances being nearly half an inch in length. Blight and mildew are almost universally prevalent, both in the white and red Wheats, so that both the quality and yield of the crops will be materially affected from this cause, unless dry weather sets in very quickly. The hurricane on Wednesday has very much injured the Hops in gardens exposed to the south and south-west. As it may be interesting to compare the fall of rain in Sussex with that in other counties, I shall here insert the daily amount which fell at this place and at Buxted Park, together with the temperature of the dew-point at 9 A.M., and the amount of humidity, &c.:—

1852.	Fall of Rain in Inches.		Dew-point, 9 A.M.	Humidity.
	Uckfield.	Buxted Park.		Saturation equal 1.000
August 3 ...	.15	.14	63.5°	.782
„ 4 ...	.08	.07	54.6	.893
„ 5 ...	.55	.56	57.0	.765
„ 6 ...	.45	.56	57.0	.765
„ 7 ...	.57	.69	62.8	.897
„ 8 ...	.25	.17	59.6	.808
„ 9 ...	.11	.09	60.2	.851
„ 10 ...	.60	.46	58.9	.843
„ 11 ...	.29	.30	58.6	.891
„ 12 ...	.53	.41	54.9	.843
„ 13 ...	.02	.07	60.6	.893
„ 14 ...	.33	.27	56.6	.893
„ 15 ...	1.16	1.14	56.6	.893
„ 16 ...	.05	.05	48.0	.815
Total ...	5.14	4.98		

—C. Leeson Prince, Uckfield, Sussex, August 17th.

Review.

Western Himalaya and Tibet; a Narrative of a Journey through the Mountains of Northern India. By T. Thomson, M.D. 8vo. Reeve and Co.

Among the modern naturalists who have penetrated the remote recesses of the Indian Alps, and brought us acquainted with the climate and vegetation of countries almost unknown to Europeans, the author of this work deserves honourable mention. Operating to the westward while Dr. Hooker was exploring the eastern regions of the mighty ranges of the Himalaya, these two admirable observers have collected a mass of information respecting climate, vegetation, geology, and geography such as would have been worthy of Humboldt himself; and we now know almost as much of Rondu, Nubra, Balti, and Chorbat, as of Mussooree, Kunawur, and Nepal.

To the student of Alpine vegetation, under any circumstances, to him who would learn what the botany is like of Cashmere and the vast regions beyond it to the north-east, to all those, in short, who desire to judge scientifically of what is possible in the cultivation of the Indo-Alpine Flora, which is now so rapidly enriching our gardens, works of this description have great interest. Unlike gossiping books of travels, such as are the favourite reading of circulating libraries and book-clubs, to be perused at a glance and forgotten in an hour, the record of researches such as Dr. Thomson's forms a subject of serious reference, which can only lose its value when men cease to regard physical facts as the foundation of all true knowledge.

The author was quartered with his regiment at Ferozepore, celebrated in the annals of modern war, when he was appointed to join a mission across the Himalayas into Tibet. He immediately proceeded to Simla, where he received his instructions, and thence travelled north-westward by Miru, Hanle, Le, and Iskardo, as far as latitude 35½° N., in longitude 75° E., which was his most north-eastern station, at a place in Rondu, called Tirko. He then moved by Dras, the country of the Prangos plant, into Cashmere, reached Jamoo, returned towards Tibet, where he encamped at an elevation of 13,300 feet above the sea, afterwards reached the pass of Karakoram in the Muztagh range of mountains, ascended the Murgai valley to the height of 16,800 feet, returned to Cashmere, and finally reached Lahore, after a journey as full of danger as of interest, extended over more than 18 months.

The following extracts, which relate to matters of horticultural interest, will show the reader in what manner Dr. Thomson treats the subjects that came before him. He thus describes Miru, a place in the valley of Kunawar.

"Next day our journey was a short one, not more than five and a half miles, to the village of Miru. It began by a rapid ascent for two miles to the crest of the ridge, advancing all the time towards the Sutlej, which wound round the base of the steep spur, 2000 feet below. The ascent was bare (as the slopes facing the west generally are), and the hill-side almost precipitous; but as soon as the crest of the ridge, at an elevation of about 8000 feet, had been gained, scattered trees appeared of a species not previously seen. This was P. Gerardiana, the Pine of Kunawar and the other dry regions of the Western Himalaya, from the back parts of Garhwal (where it has been seen by Dr. Jameson) to the valleys of the Upper Chenab. The first trees met with were small, and in appearance quite distinct from P. longifolia and excelsa, being more compact, with much shorter leaves, and a very peculiar bark, falling off in large patches, so as to leave the trunk nearly smooth. Beyond the crest of the ridge, from which the view into the Sutlej valley, and towards the mountains across the river, was superb, the road on the east slope again receded from the river, entering an Oak wood, through which it continued nearly level for more than a mile, but soon began to descend slightly towards the stream, which ran at the bottom of a deep ravine, down to which the road plunged abruptly, to ascend again as steeply on the other side; after which a steep ascent of upwards of mile led to Miru, a large village in which we encamped, at an elevation of 8500 feet. At this delightful elevation, in a climate where the periodical rains of the Himalaya are scarcely felt, embosomed in extensive orchards of luxuriant fruit trees, and facing the south, so that it has the full benefit of the sun's rays to mature its grain crops, Miru is one of the most delightful villages of Kunawar, being rivalled only by Rogi and Chini, beyond which the climate becomes too arid for beauty. The crops of Miru, both of grain and fruit, were most luxuriant, and the Vine thrives to perfection. The principal Vineyards, however, are lower down, at elevations of between 6000 and 7000 feet, at which level the sun has more power in autumn to ripen the Grape."

Still further northward we have the vegetation of the Werung Pass, on the northern side.

"From the crest of the pass, the descent to Lipa was long and steep, the distance being about five miles. At about 500 feet, or rather more (of perpendicular height), below the pass, the first tree, a large Birch, stood quite alone, with a stout erect trunk. A little further down, a small grove of the same trees was passed, in which every individual had its trunk bent in the direction of the slope, probably by the weight of the winter's snow. No Birches had been seen on the south face of the pass, nor did the dwarf Rhododendron and little Andromeda appear till the summit had been gained, though they were abundant on the northern face. Rhododendron campanulatum was the next plant observed, forming bushes four or five feet in height, and growing in large green patches, along with the Willow, which I had found on the top, and the same rose common on the southern side. About 1200 feet below the summit, that is, about 12,000 feet above the sea, Pine trees commenced—Pinus excelsa and Picea making their appearance together, the Deodar not till a considerably lower level had been reached. The trees of Silver Fir were small, with smaller and shorter leaves than the common tree of the forests in the outer Himalaya, and were therefore the true Picea Webbiana of Royle, the more common long-leaved form being the Picea Pindrow of that author. At an elevation of 11,000 feet, at a rough estimate, we passed the first Deodars, and at the same height cultivation commenced. The first fields were Wheat, now nearly ripe. With the cultivation many plants of lower elevation began to appear, which had disappeared on the upper part of the mountain, but many were missed which had been common, and the general aspect of the vegetation was strikingly altered, the diminution affecting at once the number, the abundance, and the luxuriance of the plants. Juniper was frequent till some time after the first corn-fields were passed, and Gerard's Pine was common on the lower part of the descent."

The little known Populus euphratensis is thus spoken of, while describing the vegetation of Nubra.

"In some of the recesses small trees of a peculiar species of Poplar (P. euphratica) were not uncommon, growing in pure sand. This tree is remarkable for its extended distribution. Originally discovered on the banks of the Euphrates, it has been found by Griffith, and more recently by Dr. Stocks and others, to be abundant on the banks of the Indus, in Sind and Multan. It occurs also at intervals along the valley of the Indus, within the mountains, but appears to be far from common, and to confine itself to hot sandy places. In several parts of Nubra it is common enough, but only, so far as I have observed, on the south side of the Shayuk. This Poplar is also remarkable for the very changeable shape of its leaves, which vary from broadly deltoid and coarsely toothed, to narrow-linear and quite entire. The leaves of the full-grown tree are generally broad and much toothed, while young plants have very narrow leaves; the shoots of pollarded plants, which are common, the tree being much used for fuel, are also narrow."

Wild Apricots occurred in the severe climate of Iskardo, nearly the most north-westerly point our traveller gained.

"In many parts of the Indus valley, even in the most rugged and desolate spots, I noticed, occasionally, trees of the Elæagnus and of Apricot, growing in rocky places along the river, where it was very evident that they had never been planted. The Elæagnus is always conspicuous, even in mid-winter, in consequence of the withered leaves remaining attached to the tree instead of falling at the end of autumn. Occasionally, no doubt, the occurrence of these trees was due to the former existence of villages in the vicinity of the places in which they were observed, but they also seemed sometimes to occur in places where no cultivation could ever have existed. Their occurrence, however, must, I think, be considered purely accidental: they were too few in number to be regarded as really indigenous; nor is it surprising that these trees, which are so extensively cultivated round all the villages of Baltistan, and so universally used as food by the inhabitants, should occasionally vegetate at a great distance from their usual place of growth."

The Valley of Cashmere, by some thought to have been the site of the Garden of Eden, hardly realised to Dr. Thomson the expectation which previous accounts had led him to entertain.

"My first visit was to the lake, and to the celebrated gardens on its northern shore, which were the delight of the emperors who made Kashmir their retreat from the heat and cares of Delhi and Lahore. The southern part of the lake is very shallow, and I sailed along narrow channels, which separated large patches of tall reeds, among which a very narrow-leaved Typha and an Arundo were the commonest plants. Three or four species of Potamogeton were abundant in the lake, just coming into flower, but most of the water-plants were only beginning to vegetate. I saw three or four flowers of a Water-Lily (Nymphæa alba), and could just recognise Villarsia nymphæoides, Menyanthes trifoliata and Trapa, all of which had been recorded by previous travellers as natives of Kashmir. I looked anxiously for Nelumbium, but saw no signs of it, except the withered capsules of the previous year, many of which I observed floating on the lake.

"The gardens of Shalimar and of Dilawer Khan rise in a succession of terraces from the margin of the lake. They are laid out in a stiff formal style, straight walks crossing one another at right angles, and are irrigated by means of straight water-courses, branching from a long canal which passes down the centre, through a succession of ponds well built in masonry, and provided with artificial fountains, which are made to play on festivals and holidays. Pavilions of fine marble occupy the intersections of the principal walks. Magnificent plane-trees form the chief ornament of these gardens, which are now much neglected; straggling bushes and a wilderness of weeds occupying all the less conspicuous parts, while the main avenues alone are kept a little neat.

"Although the chief beauty of the valley of Kashmir is undoubtedly the magnificent girdle of snowy mountains by which it is surrounded, the orchards and gardens, which are still numerous in the neighbourhood of the capital, are charming spots, and the more so from the contrast which they present with the barrenness of the surrounding country, and the absolute ugliness of the swamps in the centre of the valley. Nor should it be forgotten, when we compare the accounts given by early travellers with the impressions made upon us by the present appearance of the valley, that Kashmir is no longer in the same state as it was in the days of the emperors; a long continuance of misrule, under a succession of governors, whose only interest it has been to extract as much revenue as possible from the unfortunate inhabitants, having produced the only conceivable result, in abandoned cultivation, a diminished revenue, and an impoverished people."

The Valley of the Chenab was very different.

"From the great elevation of the mountains which I had just crossed, I was prepared to find a marked change in the aspect of the vegetation, and I was not disappointed. The steep slopes were covered with a most luxuriant herbage, above 2 feet in height. A tall panicled Rheum was very common, and numerous Umbelliferæ, Silene inflata, Geranium, and Pteris aquilina were abundant. The most remarkable plant, however, from the extreme quantity in which it occurred,

was an Asphodelaceous plant (Eremurus, Bieb.), the long scapes of which, from 4 to 5 feet in height, covered the hill-sides in countless myriads. These scapes were clothed, for nearly half their length, with a profusion of elegant white flowers, very slightly tinged with a pale yellowish green. I met, during the day, with most of the characteristic plants of the Kunawar flora; as instances, I may mention Ephedra, Dictamnus, Rosa Webbiana, Dianthus, and Scutellaria orientalis. The arboreous vegetation was much the same as on the other side of the pass. The right side of the ravine was well clothed with Pines, of all the four ordinary species; the left side was usually bare, the northern faces of the spurs, which are generally wooded, being too precipitous, but in the hollows there were a few small clumps of trees, principally Pine, Walnut, and Sycamore."

But we must conclude; plenty of similar information is to be found scattered through Dr. Thomson's pages.

Garden Memoranda.

Mr. E. G. Henderson's Nursery, Wellington-road, St. John's Wood.—The Wallich Lily (Lilium Wallichianum) has just flowered here, and a truly magnificent thing it is. The blossoms are pure white, and very striking, on account of their large size. One which we measured was 7 inches across the mouth, and that on a comparatively small plant, which occupied a 3-inch pot last spring. We may, therefore, reasonably expect larger flowers still from strong specimens, which, when well bloomed, must produce a grand effect. The house in which this Lily is blooming is filled with seedlings of Lilium lancifolium speciosum, which are now in full blossom, and are of themselves well worth a visit. All of them bear close resemblance to L. l. speciosum, as far as colour is concerned, but great diversity exists among them in regard to shape, some having narrow twisted petals, starry and worthless, while the majority are extremely handsome in form and beautiful in colour, and in all respects an improvement on the parent. Few plants produce half so grand a display in the greenhouse or conservatory, at this season, as these Japan Lilies, and yet, strange to say, they are far from being common in many parts of the country. We would advise all, therefore, who are interested in gay autumn flowers to visit the collections of this plant while in blossom at Mr. Groom's or Mr. Henderson's, and then we are sure that this fine Lily will meet with that encouragement which it so well deserves. One house here is at present devoted to Fuchsias, among which are some promising seedlings, one or two of the best of which were stated to have been raised by Mr. Smith, when manager to Mr. Whalley of Liverpool. The kinds most worthy of mentioning were Splendidissima, whose flowers are large and showy, the crimson sepals being sufficiently reflexed to show off to advantage the large violet-purple corolla; Commodore, a bold flower, of good substance, with a rich plum-coloured corolla, and bright carmine tube and sepals; Gem of the Season, a profuse flowerer, with smooth glossy crimson tube and sepals, and deep purple corolla; Hendersoni, a showy variety, with deep purple semi-double corolla, and bright crimson tube and sepals; and last, but not least, Purple Perfection, a fine, bold, quite new flower, with beautifully reflexed crimson sepals, and violet-purple corolla. This is certainly one of the most desirable of the dark kinds. Among reflexed light sorts, the best was Duchess of Lancaster; and Sidonia (Smith), though not new, is remarkable on account of its purple corolla. It is something in the way of Venus Victrix, but in all respects a great improvement on that variety. In addition to the above, there were many others all possessing more or less merit. In one of the frames we noticed several plants of a very dwarf Heliotrope, called H. Voltaire-anum nanum. It has the fine deep colour of the Voltaire Heliotrope, with good foliage and compact habit scarcely in any instance rising above 6 or 7 inches in height. It will therefore be found very suitable for rockwork, or for planting round the margin of beds filled with some of the taller kinds of Heliotrope, &c. By far the most attractive plants in the open ground at present are Hollyhocks and Gladioli. Of the latter, there is a fine collection here, and most of the autumn blooming kinds are just now in perfection, while the early sorts are over, and the bulbs being taken up and placed in their winter quarters, an operation which must be performed immediately the foliage has become withered, or most of the varieties are apt to push again, and thereby prevent their flowering so well next year. Those in bloom now are chiefly confined to Gandavensis, and hybrids between it and other high-coloured late sorts. Many of them are very beautiful, and rising as they do from 3 feet to 5 feet in height, they are extremely showy and effective. Their proper place, however, is rather in front of ornamental borders in the shape of single specimens, or one or two together, than in masses in beds, in which, though they are very showy, they have a somewhat confused appearance. A narrow border here, of some 200 yards in length, contains a row of Aranea in imbricata, intermixed with dwarf Rhododendrons, and behind them is a row of G. Gandavensis and its varieties, which are the admiration of all who see them. The Perpetual or Tree Carnation is another plant which can hardly be too extensively cultivated, for it is easily managed and highly ornamental. All the best varieties of it are trained against a dwarf wall here, where, owing to their dry position and comparative immunity from frost, they flower from this time up to Christmas. In pots they are also very beautiful, and they have been found to force well. Among Antirrhinums one was especially worthy of notice. It is named A. Hendersoni. The tube and ground colour are white, distinctly marked throughout each petal with broad bands of purple, the stripes and ground colour being so evenly balanced that each flower is an exact counterpart of every other on the plant. It is decidedly an acquisition. While among border plants, it may perhaps be well to draw attention to Delphinium Hendersoni, a very fine hybrid, raised we believe between D. chilense and D. elatum splendens. Its blossoms are azure blue, large and attractive. It is just now producing a second crop of flowers from the laterals, the principal display being over. A shrubby yellow Œnothera called splendens will also make a showy plant in the herbaceous border. Among the newer kinds of Verbenas planted out for trial, the following appeared to be the best:—Madame Legras, white, striped with lilac up the middle of each petal; Mirabeau, scarlet, very dwarf; La Camargo, purplish violet, compact and good; Celina Mallet, the best of the new whites, but unequal to some of the older sorts; Ormthey Beauty, warm plum colour with a white eye, fine in form and showy; Duchess of Kent, one of the best light kinds, having a rosy centre; Juliette, dark velvety crimson, large and attractive; Koh-i-noor, rosy salmon, and one of the largest flowered sorts in cultivation; and finally Eliza Cook, bright rose with a white centre. These are all good kinds. Phloxes, China Asters, and other bedding plants are just now exceedingly gay, and altogether open ground plants look better than might be expected, considering the heavy rains to which they have lately been subjected.

Wynyard Park, Stockton-on-Tees, the Seat of the Marquis of Londonderry.—There is at present, in a ridge and furrow-roofed conservatory at this place, an Oleander with 580 fully expanded blooms upon it, and, judging from the large quantity of blossom-buds yet to open, there can be no doubt that it will continue in great beauty for several weeks to come. *M. B., Aug.* 14.

FLORICULTURE.

Seed Saving: Dahlias.—Multitudes of novelties are every year submitted for inspection at our several floral exhibitions, and no one can deny that floriculture is not progressing; but still we have reason to know that less well-directed energy and forethought are bestowed upon the subject of seed saving than on any other branch of the business; the common routine of cultivation which is necessary for decorative and exhibitional purposes is studiously followed and well carried out. There are few counties in England that cannot boast of at least one flower show during the season, and few indeed that do not lay claim to a Dahlia show in particular; and appended to most schedules there is a class specially set apart for seedlings, which invariably form the great attraction of such meetings; but yet, with all that encouragement, the fact cannot be denied that we proceed in an incautious way (to use a mild term) to effect what many strive for; viz., the production of a first-rate seedling; the usual, if not the universal practice, is to gather seed somewhat after the following method:—The gardener says to his master, "We had a frost last night which has cut down all our Heliotropes, Salvias, Verbenas, &c.; and not a green leaf is left on the Dahlias." "Well," says the master, "go and look after the seed, you will doubtless save plenty, yet, that may have been produced by the latest blooms." Of course Mr. Gardener does as he is desired; and such we will engage to say is the practice of a large number of those who, year by year, save seed, sow it, grow it, and, alas! blow it! Now, how long would English gardening maintain its far-famed reputation, if more attention was not paid to saving seed in other departments than is displayed in the case of the Dahlia? Take, for instance, our common garden vegetables. On the one hand, there is tolerable security and certainty; on the other, mere chance; yet so it is. Now, if the following rules are attended to they may be productive of some good, and the present is a proper time to apply them, before our plants have lost their vigour; therefore at once begin with a determination to save seed from the finest bloooms that may be produced; in fact the model bloom of your Duke of Wellington, of Mr. Seldon, Triumphant, or of any other good variety; secure the same to a stake, and let it arrive at maturity without overshading. Allow the branch, or even limb, to produce no other flowers than the one selected; and moreover aim not at saving seed from naturally uncertain varieties, nor from plants that are not constitutionally strong and vigorous, nor from even the best sorts at a time so far advanced in the season that the debilitating influence of over flowering may be operating on the parent. By attending to our advice you will find yourself, at the end of the season, with a harvest of valuable material that shall give more real satisfaction than whole acres of seedlings from the produce of half formed flowers, and from degenerated or worn-out plants. As a closing caution, never save a pod of seed after the second week in September. *J. E.*

The Chrysanthemum.—Permit us to direct the attention of growers of this flower to the Horticultural Society's advertisement in another page, wherein it will be found that collections of 6 Chrysanthemums cultivated in pots not exceeding 11 inches in inside measurement, and to be staged on Tuesday, Nov. 2, before 12 o'clock, are invited. Two prizes are offered; and we feel sure that our metropolitan cultivators, at least, will most cheerfully respond to a movement by which the style of plant-growing, so long fostered under the encouragement held out by the Stoke Newington and Highgate Chrysanthemum Societies, will be displayed to advantage. We feel confident that the result will prove that the encomiums bestowed on the exhibitions of these flowers last season will not be found on the 2d of November to have been misplaced; therefore we hope to have such an exhibition of our favourite autumn flower as shall leave an impression, that florists can produce well-cultivated plants, as well as fine flowers, in a cut state. *J. E.*

Camellias: *J K.* You had better inarch them; it may either be done now or in the end of March or April.

Carnations and Picotees: *L.* It has been definitely settled that the National Meeting for 1853 shall be held at Derby; the affair is already in full agitation.

Dahlia Show. The intended Notting-hill Meeting, advertised in our columns last week to take place next Tuesday, is now postponed to the 16th of September.

Pansies: *T O.* You have not selected the right kind of cuttings. Take the smallest and insert them in a shady border without glasses, of which there has been no need this season. In regard to hybridising, remove the stamens from the flower to be operated on before they have shed their pollen (taking care that it is not otherwise fertilised), and use pollen from the flower from which you wish to have a cross. To obtain the best results, employ only first-class flowers. Fertilise as soon as the stigma is fully expanded.

Petunias: *J F W.* We have seen one or two such sports this season similar to yours. We fear you will not be able to perpetuate it.

Pines: *A B.* The novelties of the season will doubtless be advertised in our pages; we have a list in preparation. We cannot recommend dealers.

Schedule of Prizes received for the Exhibition of the Shackle-well, Stoke Newington, and Hackney Floral Society, to be held on Wednesday, September 1; and of the North London Floral Society, to be held at Highgate, on Tuesday, September 14, and on Monday, November the 22d.

Tulips: *J C.* Too much care cannot be bestowed in packing bulbs for transmission by post or other conveyance: we have seen several instances of injury, and it is certain that however trifling the bruises may appear to be, they materially detract from the growth and perfection of the flower; cotton wool should be used, and enough to prevent any shaking in the box or package, as half the mischief that takes place arises from slack packing.

SEEDLING FLOWERS.

Dahlias: *W H.* Hornchurch Beauty is a remarkably bold flower; colour a lively rosy lilac; petals well formed and smooth, very double, and symmetrical in outline; centre scarcely prominent enough, yet compact and close; a noble back tier flower, surpassed by none of its class. Cambrian Beauty, a small dull orange, with purple tips on the under side of the petals, bronze tips on the face; stout, smooth, and well arranged, but low in the centre. Securely packed and in good condition.—*C J P.* Fancy variety, lively purple tipped with white; the petals, being inclined to reflex and absolutely ribby, must prevent its taking a place amongst collections.

Fuchsias: *J H.* Not so good as many light coloured kinds already in cultivation.—*J H.* England's Glory is bold and graceful; corolla smooth and well expanded, colour purplish crimson, tube and sepals pinkish white, with smooth surface; its only drawback is a narrowness of the sepals for so bold a flower.

Miscellaneous.

The late Mr. Downing, of New York.—Among the sufferers by the burning of the Henry Clay steamboat, in the waters of the Hudson, lately recorded in the daily papers, was Mr. A. J. Downing, of New York, well known as a writer on landscape gardening and rural architecture. Mr. Downing's works are familiar to a large class of English readers, and he had many personal friends in this country. In America his death will be recorded as a national loss.

Apple Marmalade.—Peel and core two pounds subacid apples and put them in an enamelled saucepan with one pint of sweet cider, or half a pint of pure wine, and one pound of crushed sugar, and cook them by a gentle heat three hours, or longer, until the fruit is very soft, and then squeeze it first through a colander and then through a sieve. If not sufficiently sweet, add powdered sugar to suit your taste, and put away in jars made air-tight by a piece of wet bladder. It is delicious when eaten with milk, and still better with cream. *American Gardeners Chronicle.*

Cultivation of Amaryllids.—I make it a rule to examine the stock under my care about the end of January or the beginning of February, and those wanted to bloom in April are then selected and examined as to their drainage; if their roots are decayed, all the mould is at once shaken off, and the bulbs are then re-potted in a mixture composed of one-third loam, one-third peat, and one-third rotten dung, with a liberal portion of silver sand; they are then placed in a temperature of 55 to 60 degrees Fahr., and watered very sparingly until the flower spike has grown 6 or 8 inches; if it is then wanted to accelerate their growth, more water and more heat is applied; if, on the other hand, it is wanted to retard their growth, water and heat are withheld; but if, on examining the pots, the roots are found in a healthy condition, I dispense with the potting at that time, as I prefer to pot them after the foliage has grown about 6 inches. When they have done flowering, I place them on the back shelf of a stove, or vinery, or in a pit that can be kept warm; I then water and syringe them freely until the foliage assumes a yellow tinge; water is then gradually withheld until the foliage has parted from the bulb, when no more is given, and the pots are then laid on their sides at the warm end of the greenhouse, under the stage, till the following spring; the remarks, as to resting, do not apply to all kinds alike, as Hippeastrum aulicum and one or two others do not lose their foliage during winter. The means of resting these is only by keeping them moderately dry and cool during

the winter months. To the amateur florist, and to the gardener who may have room and leisure, a wide field is open for improvement in this class of flowers, for although they are admitted to be in the highest degree ornamental, some of them very fragrant, and all of them easily cultivated, yet they are very far from possessing that rotundity of petal it is very desirable that they should possess. Vallota purpurea is one of the best formed flowers in this class, as well as being of a good colour, and would, I presume, be a good one to cross with for purposes of improvement. I usually sow the seed as soon as gathered in some rather dry loam and sand, and place it in a warm house or frame, and water sparingly until the seed germinates; I usually allow them to remain in the seed-pan until the following March, when they are potted off into 3-inch pots at first; they are afterwards potted as their growth progresses. The principles essential to their successful cultivation are an abundance of light, heat, water, and a good rest. *E. A. Hamp, in Gardeners' Record.*

Nag-Kassar. By Berthold Seemann.—The buds are about the size of a Pea, and of an orange-brown or cinnamon colour. They emit a fragrance not unlike that of Violets or green tea; and Dr. Pereira has suggested that on account of this odour they might be valuable as a perfume. Their chief use, however, and that for which they are employed in the East Indies, is dyeing silk. What colour they produce is not known, but it is probably yellow. My esteemed friend, D. Hanbury, says, in a letter to me, "A decoction of the Calysaccion buds possesses, I find, but very little colour, as the enclosed slip of blotting paper, which has been dipped into it, will show. If, however, a little subcarbonate of potash be added to this simple decoction, a tolerable deep orange-brown is produced. The piece of calico sent, having been steeped in a weak solution of alum, was boiled in this alkaline decoction, but the buff colour it has acquired is not remarkably fine; perhaps some one acquainted with dyeing might succeed in producing a better hue." The genus Calysaccion is allied to Kayea, Wall; and the only species as yet discovered is C. longifolium, Wight, a beautiful tree, found in abundance on the top of the Malabar Ghauts, in the southern Mahratta country, in the west Mysore and Coorg, on the Parell and Worlu hills, Bombay, and in the Kennery jungles. The leaves are opposite, oblong, coriaceous, and evergreen. The flowers appear in March and April, and are produced in clusters on the old wood. They are whitish-yellow, streaked with red, and polygamous. The male plant is called Woondy, the female Poonag, while both are known by the names of Suringee and Geordeeondy. The term Nagesar, which is applied to the buds in commerce, is given to them in India, in common with those of several other Clusiaceæ. *Pharmaceutical Journal.*

Mulberry Wood.—Some sound beams, formed from the wood of the Mulberry tree, have been found in the ruins of Nineveh, where they are supposed to have been placed at least 700 years before the birth of Christ. *Daily Paper.*

Hedgehogs.—A gentleman residing in Norfolk recently found that some chickens of the Spanish breed, which he was rearing in hutches in his garden, were disappearing night after night, through the agency of some nocturnal depredator. As the garden was only a short distance from the river, it was concluded that these depredations were committed by rats. About 11 o'clock one night, as the owner was passing through his garden, he heard a great commotion in the chicken-hutches, and, on proceeding to the spot, discovered that there was some animal chasing the chickens rapidly round the hutch, with a view to their destruction. Having secured the assailant, by closing the door of the hutch, on lights being procured the depredator was found to be a large hedgehog, which was instantly killed in the hutch. *Times.*

Calendar of Operations.

(For the ensuing week.)

PLANT DEPARTMENT.

No time should be lost in completing the repairs of the various structures devoted to the growth of plants; for the sooner plants of all kinds at present exposed to the weather are put under the protection of glass, the better it will be for their future well-doing. The conservatory will require a fire occasionally, during very wet days, to dry up internal damp, and to allow for extra ventilation; let the fires, however, be made during the day, and extinguished before night, and used solely for the purpose of producing a drier atmosphere, without increasing the temperature. Continue to keep the house gay by a selection from the reserve houses of the showiest plants in bloom; carefully tie out, before they reach the blooming state, the different varieties of Lilium lancifolium; two other good autumn-flowering plants should likewise have the like attention—Crowea saligna and Plumbago capensis, which are invaluable at this season. Attend to the proper regulation of climbers, and give liquid manure to gross growing plants in bloom, to maintain them in vigorous health, and assist the late flower-buds to open. After greenhouse plants have been placed under protection, whether of a permanent or merely temporary character, an unlimited supply of air must be given them day and night, for reasons noted in last week's Calendar; finish the potting of Chrysanthemums, and stake them securely as they advance. The stock of autumn and winter flowering plants should not be stopped after this, but have every encouragement to assist in ripening their wood early, that no difficulty may arise in getting them into bloom at the time wanted. Daphnes, Oranges (of the different kinds), Myrtles, and Gardenias intended for forcing should be removed to a cool airy house, and be kept as dormant as possible.

FORCING DEPARTMENT.

VINERY.—Ripe Grapes should be occasionally looked over, to remove decayed berries. During the continuance of wet weather, slight fires (by day) will be necessary, both to houses of ripe fruit and to Grapes swelling off, and colouring, to prevent damp; and to allow for ample ventilation. Wasps at this season are troublesome, and, to prevent their entrance, tack the Nottingham hexagonal netting on slight frames, and place them over the sliding sashes and ventilators; extra growths after this should be stopped back, but preserve the principal leaves untouched, until they die naturally. We allude to this, as we have seen large leaves frequently removed, to admit the sun to the ripening fruit—a practice founded in error, as Grapes do not require it, and it materially injures the Vine. PINERY.—Finish off potting, both of the fruiting and succession plants, as soon as circumstances permit, that time may be allowed them to finish their growth before the dull days of winter. In re-plunging them allow plenty of room between the plants for their growth during the next three months, and keep them as near the glass as the form of the pit or house will permit. Keep up a steady bottom heat at 90°, to facilitate a quicker growth of the root after potting; it may gradually decline a few degrees as the plants advance. Syringing should be discontinued (unless in dry airy houses) as the days shorten, and the external air becomes moister, except to plants swelling their fruit, which will require a moist atmosphere. Air should be freely given the fore part of the day; but the plants will enjoy being closed up early in the afternoon at a temperature of 90° or 95° for three or four hours, giving as much air afterwards as will produce a gentle circulation through the night. Water fruiting plants with liquid manure when dry; where the fruit is cut from those kinds which do not produce suckers freely, the stools should be shaken out of their pots and repotted in deep and lesser-sized pots, plunging them in a brisk bottom heat; this will generally induce them to produce a supply. Cucumbers and Melons, to carry them on, will require the bottom heat to be kept steady, at not less than 85°; nothing tends so much to bring on mildew and gum with the above, as insufficient bottom heat, which, checking the free progress of the roots, has a corresponding effect on the top, and enables disease to have greater power over the plant. The atmosphere should be kept pure, and somewhat drier, by slight fires and good ventilation, or, if growing in dung frames, by linings of hot dung. A sowing of a good winter Cucumber should now be put in; we prefer Lord Kenyon's for nearly every purpose. Fertilise the late Melons, to assist their setting, and keep the plants thin of vines, allowing no more shoots or leaves than what is required to carry out the ripening of the fruit.

FLOWER GARDEN AND SHRUBBERY.

Cuttings of choice herbaceous plants, Carnations, Picotees, &c., put in early, should be pricked out, or potted, immediately they are struck, to get established. The early struck Pansies may be planted out for autumn blooming. Young seedling Wallflowers, Brompton Stocks, Sweet Williams, and other biennials, should either be planted out into reserve beds, or where they are to flower. Continue the propagation of bedding out plants; making notes of desirable new things. The present will prove a favourable time to propagate by cuttings most kinds of Roses. Choose the ends of the shoots for the purpose, with the bottom part partly ripened. Noisettes, Bourbons, Chinas, and many Perpetuals, will strike freely in sandy soil, by the above means.

HARDY FRUIT GARDEN.

To prolong the season of the more common hardy fruits, a selection of Gooseberries and Currants should be made, and matted, to protect them from birds, &c. A better way is to make rough frames large enough to cover one or more bushes, and cover with hexagonal netting. This will effectually exclude wasps and flies, which often find their way through mats; and at the same time admits sufficient air to keep the fruit from damping. The top may be of rough boards, if thought desirable.

KITCHEN GARDEN.

Potatoes on wet soils should be taken up wherever the haulm is decayed, to prevent the sound ones from rotting. Where the tops show any appearance of vitality the crop may remain for a time, to stand the chance of becoming better ripened. Store the sound part of the crop in small quantities in sheds, lofts, &c., to dry, before attempting to pit them; for probably many will still turn diseased. In our neighbourhood they are all but a complete failure. If not sown, as advised last week, lose no time in getting in the spring Cauliflower, Lettuce, &c. A bed of Onions may likewise be sown thickly, to stand the winter. A crop of dwarf French Beans should be sown under a south wall, for the chance of a late supply; and an empty Melon pit may be planted at the same time, keeping the sashes off till frosty nights come on. Prune off superfluous shoots from Tomatoes against walls, that they may not shade the ripening fruit. The leading shoots may be pinched out when sufficient fruit is set, which will assist to ripen the crop. Chillies, in pots or frames, should be kept free from green-fly; a little manure water will keep those in pots. Earth up Celery and Cardoons on dry days. The last crop of Peas will require sticking, and any appearance of mildew checked by dusting them with lime and sulphur.

STATE OF THE WEATHER NEAR LONDON,

For the week ending Aug. 19, 1852, as observed at the Horticultural Gardens, Chiswick.

August.	Moon's Age	Barometer. Max.	Barometer. Min.	Temperature. Of the Air. Max.	Of the Air. Min.	Of the Air. Mean	Of the Earth. 1 foot deep.	Of the Earth. 2 feet deep.	Wind.	Rain.
Friday.. 13	27	29.769	29.611	71	49	60.0	59	58	N.W.	.00
Satur.. 14	28	29.781	29.591	74	54	64.0	60	59	S.W.	.64
Sunday.. 15	🌑	29.866	29.293	70	47	58.5	61	59	N.E.	.00
Monday 16	1	29.930	29.917	71	62	66.5	60½	59	S.	.00
Tues. .. 17	2	29.914	29.678	76	59	67.5	62	60	S.E.	.76
Wed.' .. 18	3	29.862	29.741	74	52	63.0	62½	60	W.	.00
Thurs... 19	4	29.930	29.909	70	55	62.5	63	60½	N.	.00
Average ..		29.863	29.677	72.3	54.0	63.1	61.1	59.3		1.40

August 13—Fine; very fine; clear at night.
— 14—Very fine; heavy rain at night.
— 15—Foggy; low white clouds; clear.
— 16—Heavy dew; fine, densely overcast; very mild at night.
— 17—Densely overcast; masses of white clouds; densely overcast; heavy thunder-storm commencing in the evening, most severe 11–12 P.M. with forked lightning, loud thunder and rain in torrents.
— 18—Fine; very fine; low white clouds; densely clouded; lightning at night.
— 19—Fine; very fine; cloudy; clear.
Mean temperature of the week, 1 deg. above the average.

STATE OF THE WEATHER AT CHISWICK,

During the last 26 years, for the ensuing week, ending Aug. 28, 1852.

August.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 22	70.8	51.3	61.0	11	0.58 in.	1	2	1	1	4	10	7	2
Mon. 23	71.2	48.9	60.1	14	0.95	1	2	1	1	2	9	9	1
Tues. 24	71.0	47.8	59.4	12	0.23	1	3	—	—	5	5	6	3
Wed. 25	70.3	51.8	61.1	8	0.32	2	2	1	1	5	8	4	3
Thurs. 26	72.1	48.8	60.5	9	0.51	—	2	2	—	5	8	5	4
Friday 27	72.6	50.2	61.4	8	1.32	1	2	3	—	1	7	6	6
Satur. 28	72.3	51.2	61.7	12	0.20	1	5	3	—	4	3	7	3

The highest temperature during the above period occurred on the 25th, 1826—therm. 83 deg.; and the lowest on the 26th 1850—therm. 36 deg.

Notices to Correspondents.

*** In consequence of the Editor's absence from London, a few Answers to Correspondents are unavoidably postponed till next week.

BACK NUMBERS OF THE GARDENERS' CHRONICLE: The publisher begs to say that the following may be had. Any subscriber who will forward postage stamps equivalent to as many numbers as are required, will have them sent free by post. The volumes for 1847, 1848, 1849, 1850, and 1851 are now ready, price 30*s.* The volumes for former years are out of print.

1841—1, 8, 13, 14, 15, 16, 17, 18, 20, 22, 23, 24, 26, 27, 28, 29, 30, 31, 32, 34, 45, 46, 47, 48, 51.

1842—1, 2, 4, 6, 8, 10, 11, 13, 14, 15, 16, 17, 18, 19, 20, 24, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 41, 42, 43, 45, 50, 51, 52, 53.

1843—9, 10, 11, 12, 13, 14, 16, 17, 18, 20, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 59, 51, 52.

1844—All except 46.

1845—1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 17, 18, 19, 20, 21, 23, 25, 27, 28, 31, 39, 40, 41, 42, 44, 48, 49, 50, 51, 52.

1846—4, 5, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 23, 24, 26, 37, 41, 42, 43, 46, 49, 50.

1847—1, 2, 3, 4, 5, 6, 8, 13, 14, 19, 21, 22, 27, 32, 33, 36, 37, 41, 42, 43, 44, 46, 47, 48, 51.

1848—1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 30, 32, 33, 34, 36, 37, 38, 39, 40, 41, 44, 48, 51, 52, 53.

1849—All except 46, 47, 48, 49, 51.

1850—1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25, 26, 27, 28, 29, 30, 31, 33, 34, 35, 38, 39, 40, 48, 50, 52.

1851—All except 24, 27, 30, 49, 52.

1852—All.

BOOKS: *A B C.* We are unable to say; you had better apply to the publishers. Your other question will be answered in the agricultural portion of the paper.‡

CONIFERS: *X Y.* Young Pines frequently go off when sown in loose soil. The latter should be pressed firmly before and after sowing, and care should be taken not to allow it to become very dry.‡

FIGS: *Beta.* The cause of Fig-trees dropping their fruit when growing out of doors, is generally to be ascribed to badly-ripened wood and sudden cold at the fall of the leaves in autumn.‡

GOOSEBERRIES: *R.* The small dark Rough Red, Red Champagne, and Scotch beat Jam, are esteemed varieties for preserving.‡

INSECTS: *F A P.* Your Willow leaves have been devoured by the larvæ of a sawfly, probably Nematus Salicis, the specimens of which forwarded to us have already formed their cocoons. The blotches or rather gall-like tubercles on the leaves are caused by another species of sawfly, each being the nidus of a small grub, which will ultimately turn to Nematus intercus.—*J B.* See our "Home Correspondence" of to-day. The few *seeds*, supposed to be the slug-worm in its primitive state, are the cocoons of a minute parasitic ichneumon, the larvæ of which have been reared within the body of the caterpillar of some moth or butterfly. *W.*—*M H M.* Sulphur applied carefully and diligently will destroy both red spider and thrips ‡

MELONS: *G L.* They are in a sad plight; but how they have been brought into such a state, it is impossible for us to say. If all the leaves are in the same condition as those sent, the sooner the plants are thrown to the rubbish heap, and the frames occupied by something else, the better; for, to try to cure them would be labour in vain.‡

MICROSCOPES: *Walmer.* You may get a pretty good one for 20*l.* Abercrombie's book, although obsolete, is useful; but as to his physiology, the less you have to do with it the better.

NAMES OF PLANTS: *G C.* Pancratium amboinense is a *Eurycles* and a stove plant. *P.* nervifolium is one of its *aliases*. Your leaf seems to belong to some kind of Funkia, a genus separated from Hemerocallis. The white sort probably wants to be cramped in a pot, and exposed to a long autumnal sun. The next year it may flower.—*R M J.* The cut-leaved Alder, a variety of Alnus glutinosa.

RASPBERRIES: *Scobina.* The red and white Antwerp and the Barnet.‡

ROSE WATER: *T A.* Take 10 lbs. of petals, 7 fluid ounces of proof spirit, 2 gallons of water. Let a gallon distil.

SPINACH: *J C H.* The Flanders and the Lettuce-leaved are preferable to the Prickly-seeded for present sowing.‡

TANKS: *P S.* Slate will be found to suit your purpose best. Give the plants room enough at first, and they will require little attention afterwards.‡

TRANSPLANTING: *T D.* You may move your Conifers next month with safety.‡

VIOLETS: *F H.* It is difficult to say what ails them. How have they been managed?

WASPS: *Reader.* Try the effect of covering the trees with some cheap gauze netting ‡

MISC: *Clericus.* Mr. Rivers' address is Sawbridgeworth, Herts.‡

PERUVIAN GUANO.

CAUTION TO AGRICULTURISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

ANTONY GIBBS AND SONS, AS THE ONLY IMPORTERS OF PERUVIAN GUANO,

Consider it to be their duty to the Peruvian Government and to the Public again to recommend Farmers and all others who buy to be carefully on their guard.

The character of the parties from whom they purchase will of course be the best security, and, in addition to particular attention to that point, ANTONY GIBBS AND SONS think it well to remind buyers that—

The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 9l. 5s. per ton, less 2½ per cent.

Any resales made by dealers at a lower price must therefore either leave a loss to them, or the article must be adulterated.

THE LONDON MANURE COMPANY offer the following Manures on the best terms, warranting every article strictly genuine:—Peruvian Guano, Superphosphate of Lime, Nitrate of Soda, Concentrated Urate, Peat Charcoal, Gypsum, Fishery Salt from Cornwall, also a constant supply of Salt for agricultural purposes; Linseed and Rape Cake. Peruvian Guano, warranted the genuine importation of Messrs. A. Gibbs and Sons, at 9l. 10s. per ton, or for 5 tons and upwards, 9l. 5s. in Dock. EDWARD PURSER, Sec.
40, New Bridge-street, Blackfriars, London.

MANURES.—The following Manures are manufactured at Mr. LAWES'S Factory, Deptford Creek:

Turnip Manure, per ton	... ...	£7	0 0
Superphosphate of Lime	... ...	7	0 0
Sulphuric Acid and Coprolites	... ...	5	0 0

Office, 69, King William-street, City, London.

N.B. Peruvian Guano, guaranteed to contain 16 per cent. of Ammonia, 9l. 10s. per ton; and for 5 tons or more, 9l. 5s. per ton, in dock. Sulphate of ammonia, &c.

LINSEED CAKE, Foreign and English, Rape Cake, Peruvian Guano, Gypsum, Salt, Peat Charcoal, and all other Manures of known value, on sale.—Apply to MARK FOTHERGILL, 204 A, Upper Thames-street, London.

THE ECONOMIC PORTABLE MANURE COMPANY manufacture, and have always for sale, the following MANURES:—Patent Manure, 5l. 5s. per ton; highly concentrated Fæcal Manures, 3l. 10s. per ton; Superphosphate of Lime, 5l. 2s. 6d. per ton; Turnip Manure, 4l. 10s. per ton; Gypsum, 1l. 5s. per ton.

Orders and applications for agencies to be addressed to WILLIAM DODDS and Co., Managers, 102, Leadenhall-street, London.

CHARCOAL AND SEWAGE MANURE.—Promote the Health and Wealth of Town and Country by increasing the use of that valuable manure PEAT CHARCOAL, impregnated with the fertilising matter of LONDON SEWAGE. The ammonia, phosphates, and fæces are absorbed, and the water pressed out bright, palatable, and soft.

Sold at the Charcoal and Sewage Works, Stanley-bridge, Fulham, Middlesex, at 60s. per ton, 4s. per cwt., 2s. 6d. per half cwt.



LIQUID MANURE conveyed overland by

FREEMAN ROE,

HYDRAULIC ENGINEER, 70, STRAND, LONDON.

Farms supplied with water by the

HYDRAULIC RAM.

WELLS SUNK AND BORING DONE IN ALL PARTS OF TOWN OR COUNTRY.

FOR WATERING GARDENS, DISTRIBUTING LIQUID MANURE, BREWERS' USE, ETC.
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JAMES LYNE HANCOCK, (SOLE LICENSEE AND) MANUFACTURER, GOSWELL ROAD, LONDON.

These Pipes are well adapted for Watering Gardens, conveying Liquid Manure, racking Beer and Cider, for portable Gas Lamps, and all purposes where a perfectly sound Waterproof and Flexible Pipe is required. They are particularly suitable for Fire Engines, and are found exceedingly useful in Dwelling-houses for conveying Hot or Cold Water to Baths, &c.

Hose Reels for winding-up and wheeling away long lengths of the Vulcanised Rubber Garden Hose, are now manufactured by J. L. HANCOCK, of light and cheap wicker work.

N.B.—Vulcanised India Rubber Garden Hose, fitted up with Roses, Jets, and Branches complete, with union joints ready to attach to pumps or water cisterns.

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Lists of Colours, with Prices, together with a Copy of the Testimonials, will be sent on application to WALTER CARSON and Son, No. 2, Great Winchester-street, Old Broad-street, Royal Exchange, London.—No Agents. All orders are particularly requested to be sent direct.

FOR SALE AND EXPORTATION, SIXTEEN RAMS AND RAM LAMBS, of 1851 and 1852, of pure Spanish and Saxon blood. They are worth the attention of Flockmasters and Colonists, being bred with much care from the best Merino Flocks remaining in this country. Their Wool is not only fine, but longer than usual in this description of sheep, and obtained a Prize Medal at the Great Exhibition of 1851. They can also be recommended for crossing with English breeds, to improve the quality and quantity of the Fleece.—For price and particulars, enquire of C. DORRIEN, Simmcots, Chichester, Sussex.

HORSE KEEP CHEAP, AND EMIGRANT TOOLS.—FREE TRADE.—Do you bruise your Oats? A quarter of Oats, at a guinea, well crushed, will nearly make four sacks. Immense saving, and important improvement of the animal. OAT BRUISERS, Chaff-cutters, Ploughs, Threshing-machines, Domestic Flour-mills, Light Carts, Mining Tools, Gold-sifting Machine, Brick and Tile ditto, Corn-dressing ditto, &c. Order early. Repairs done. Inspect the operation of above articles.—M. WEDLAKE and Co., 118, Fenchurch-street, London. Pamphlet on Feeding, 1s.

IRON HURDLES, FENCING, ETC.

STEPHENSON AND PEILL, 61, Gracechurch-street, London, and 17, New Park-street, Southwark, beg to inform their friends and the public generally they are now manufacturing Iron Hurdles, at the following low prices:—For sheep, 6 ft. long 3 ft. high, 5 bars, 3s. 2d. each; and for cattle, 6 ft. long, 3 ft. 3 in. high, 5 bars, 3s. 6d. each.

WATERPROOF PATHS.—Those who would enjoy their Gardens during the winter months should construct their walks of PORTLAND CEMENT CONCRETE, which are formed thus:—Screen the gravel of which the path is at present made from the loam which is mixed with it, and to every part of clean gravel add one of sharp river sand. To five parts of such equal mixture add one of Portland Cement, and incorporate the whole well in the dry state before applying the water. It may then be laid on 2 inches thick. Any labourer can mix and spread it. No tool is required beyond the spade, and in 48 hours it becomes as hard as a rock. Vegetation cannot grow through or upon it, and it resists the action of the severest frost. It is necessary, as water does not soak through it, to give a fall from the middle of the path towards the sides.—Manufacturers of the Cement, J. B. WHITE and SONS, Millbank-street, Westminster.

The Agricultural Gazette.

SATURDAY, AUGUST 21, 1852.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

THURSDAY, Aug. 26—Agricultural Imp. Society of Ireland.
THURSDAY, Sept. 2—Agricultural Imp. Society of Ireland.

THE three weeks which have elapsed since our reports of the coming harvest—published on the 7th August—were written, have been characterised by frequent and in some districts by almost constant rain. No wonder, then, that we have received letters from many of the gentlemen who kindly furnished those reports, intimating that they no longer describe the prospects of the country. The Wheat crop is much lodged, and in some parts of the country it has grown even where standing. One gentleman writing from Yorkshire seems to have been taken to task for his report on meeting his friends at the weekly market; and he suggests, that though these reports were true of the date on which they were prepared, yet circumstances having altered so much, a counter statement ought to appear. We have, therefore, again issued a circular inquiry on the subject, and hope to publish the answers next week.

The general prevalence of mildew is a matter of serious importance. It has been supposed that its cause must be looked for not only in the damp weather which has of late prevailed, but in the altered treatment which our soils have of late years experienced. Certain it is that the use of nitrogenous manures—of guano and the other artificial aids to fertility now so frequent—tends to that grosser habit of growth of which, in the Wheat plant, mildew is generally the accompaniment. It remains to be seen whether this more general tendency to mildew, of which we hear complaints, can be checked by the selection of varieties, or by the better cultivation of the land during the growth of the plant. We commend Mr. THOMPSON'S remarks on this subject, at the late meeting of the Yorkshire Agricultural Society, to the attention of our readers.

ONE of the most notable features of the day presents itself in the efforts which the educated classes are making to extend the benefits of that mental wealth which they have themselves received. There is hardly a town in England which has not its mutual improvement society, its mechanics' institute, or its athenæum. Mechanics, artisans, and workmen have opportunities now—at a cost within their means—of intellectual pleasures and social enjoyments, which were formerly denied to them. Free libraries, reading-rooms, classes, lectures, are waging an earnest, and we believe, a successful warfare with the brutalising attraction of the public house.

Now, we should be heartily glad if what is thus true of almost every town in the land were also true of every district in the country. One thing is certain—if ever this shall be, it must be through the agency and the influence of the owners and the occupiers of the soil. They hold the place amongst labourers here which the educated and the public-spirited of our towns occupy amongst the labourers there. And we are persuaded there is many a one who will read this paragraph that has the power in this way of conferring a lasting benefit upon his neighbours. It is not money that is wanted—*that* would be forthcoming; if the landowners did not provide it the labourers would; it is a little of the time and patience of the intelligent young men of a neighbourhood that is the necessary thing. And if our remarks should fall under the eye of any such, we venture thus to suggest the onerous responsibility that therefore rests upon them.

Day-schools are not enough for the task which is committed to them; and this is especially true in the country. There is not a farmer, with the ages of his herd boys before him, but must acknowledge it. Labouring *men* have no such high esteem for the benefits of schooling, and their children accordingly are taken from school as soon as they can earn 1s. 6d. or 2s. a week in the field. And it is with some knowledge, both of day-schools and sunday-schools in the country district, that we venture to express the opinion that the majority of those who attend them leave them before reading has ceased to be a labour to them. The consequence is, that our young labouring men in general prefer almost any other companion to a book during their leisure hours.

Day-schools need to be supplemented: and we believe that their deficiencies are best supplied by the instruction offered in so many of our towns, during the winter season, by the establishment of evening classes, and occasional lectures. If we can only get the young labouring men of a district to attend these classes, two great things will be accomplished—they will be hindered from acquiring a liking for the pleasures of the pothouse, and they are enabled to acquire that liking for learning, which will ensure to the next generation of children a more efficient schooling than the present is receiving. And that a very considerable number will attend such classes when opened and superintended, and maintained by teachers of ordinary intelligence, our own experience will prove.

If any one should be disposed to confer with the nearest schoolmaster, and see what may be done in his own neighbourhood during the ensuing winter towards the establishment of an evening school on three or four nights of the week, it may, perhaps, gratify him to understand that a society has been established in London for the very purpose of aiding such efforts: and we have great pleasure in calling attention to the rules* of the "Working Men's Educational Union," as being, in our opinion, eminently calculated to further the efforts which are being made for the real benefit of the labouring class. This Society purposes to exert itself chiefly in the way of furnishing aids to lectures; and it must not be forgotten that those who attend the evening classes we have referred to are not children, and cannot be taught as children. Barring the simple elements of reading, writing, and arithmetic, which must be taught in the usual way, instruction should be given more by means of conversational lectures, or lectures of a more formal character, than by the system of tasking the memory with lessons, and then testing it by questions. To all such lectures the aid which this society offers will be of essential importance. We sincerely hope some of our readers may be induced to inquire further into this subject, with a view to the making of some effort in connection with it during the coming season.

REAPING MACHINES.

[WE abridge the following from a report of the discussion on the subject at the Council dinner of the Yorkshire Agricultural Society at Sheffield.]

JOHN OUTHWAITE, Esq., of Bainesse, near Richmond, opened the discussion—on the best and most economical method of cutting and harvesting corn. In his opinion, a great portion of the grain of England was very badly harvested. Many experiments had been made as to the proper state in which Wheat should be got in. He had never yet seen an instance of grain got before it was fully ripe that did not furnish a superior sample to that which was gathered at a later period. In his opinion, the great bulk of the Wheat between here and York was now ready to cut, but proper care must be taken of it afterwards. As to the reaping by scythe or hook, there was much difference of opinion, but not in cost. Within the last 12 months reaping machines had been introduced, but they were not yet so fully understood as to be condemned or appreciated. He had long been of opinion that reaping might be done by machinery, and he witnessed the first experiment in this country with an American machine, on Mr. Mechi's farm. At that time considerable bias existed against those machines, which might be accounted for to some extent by the fact, that on the occasion he referred to, the machine was sent down in the charge of a policeman. Hussey's machine was set

* Working Men's Educational Union. List of Office-bearers, &c. A Tract. 43, Skinner-street, Snow-hill, London.

to work by a London policeman, who set it to cut 2 feet instead of a few inches from the ground. (Laughter.) Under such circumstances it was condemned, and justly so. M'Cormick's machine was next tried, and worked well, considering it was a rainy day and the Wheat not in a fit state for cutting. M'Cormick's got all the credit because it did the work better than Hussey's, but when tested together Hussey's gained the victory. He had seen another of Hussey's tried at the Barnard Castle meeting, and it worked well. He thought reaping machines had not yet done great service, but he had no doubt that they might cut a considerable portion of the corn in this country. With regard to the practice of using the scythe, there were some objections. In the first place he thought there was some question as to whether that mode of cutting Wheat was more economical than that of having it reaped by Irish or English labourers. Again, when corn is cut with the scythe, many of the heads are likely to get at the foot end of the sheaves, and when they come to be planted on the ground, if the ground be damp, they will probably suffer some injury. For these reasons he certainly did recommend, where labourers could be secured at a reasonable cost, the practice of reaping by the hook in preference to the scythe; and he had acted upon the plan himself for the most part, for he had reaped by the scythe but a very small portion of his corn. Two years ago a discussion had taken place at Northallerton, in the North Riding of this county, respecting the reaping of corn; and on that occasion, as on most others, there was a great diversity of opinion, some parties advocating the superiority of the practice of mowing the corn, and others thinking with himself that shearing was the better plan. If it were cut and bound up and thoroughly dried, by placing in an opposite position two shocks upon eight, in the shape of a hood—when properly done in this way, he had found that the eight sheaves at all events might be made as safe in the stook, with regard to experiencing any harm from the weather, as if they were carted and safely lodged in the stack. He was not the only farmer in the neighbourhood in which he resided who adopted this plan, because it was practised by 19 out of every 20, and for this, among other reasons, that it admits the sun and air, and so dries and ripens the corn quicker and better. Another point to which he might advert was, that as long as ever there was any saccharine matter left in the straw it would feed the grain; and therefore, if he considered that the grain was drawing any advantage from the straw in this respect, he would allow it to stand in stook, because he had no fear of any sort of rainy seasons; no weather could have any effect upon the corn, when treated as he had described. If they placed the hood with the head upwards, the heads of the corn would hold water; but this objection, by the plan he adopted, was obviated, as he placed the sheaves forming the hood with the heads downwards, and thus the water ran out.—Mr. Dyson, of Tinsley, said there was no doubt great difference of opinion among farmers with regard to the proper time for cutting the corn. His opinion was, that when they went round and examined their corn, by taking it between the finger and thumb, and squeezing it, if they found that there was no milk left in it, then that corn was ready, and in the best possible condition for cutting. There was no doubt, he thought, that when corn was in this state, it was far better cut than being allowed to remain upon the ground; and when it was cut, he agreed with Mr. Outhwaite as to the propriety of adopting the plan of hood, because they did not want the corn to be dried in one day, by a hot sun, but to receive the benefit to be derived from the nurture still left in the straw.—Mr. Brown, of Wrangbrook, said he commenced reaping a field of Oats with the reaping machine a few days ago. Some part of the crop was laid, and with that they had some difficulty, but they experienced none whatever with that part that was standing. Some parties present were very much dissatisfied with the performance. On the day following he commenced an 18-acre field of Wheat. It was Hussey's machine, made by Crosskill. On the first day a number of spectators crowded round and annoyed them a good deal, but on the second day they had a fair opportunity. It was a large field, and all the crop was standing. The whole 18 acres was reaped in two days. They experienced no difficulty whatever in the operation, and it was done quite as well as it had been done with the scythe, and rather better. However, he was not at all sanguine about the capabilities of the machine to reap laid corn. He had only had his machine about a week, and he had not tried it with laid corn, and he could not say therefore how far it might succeed with the laid crop. But as to standing Wheat, however heavy the crop, he was satisfied they would be able to do it in a very workmanlike manner. Mr. Brown then commented on Mr. Outhwaite's plan of leaving the corn a long time out in the shock. In his opinion to leave it out in the fields five or six weeks was to run a great risk. Recurring to the capabilities of the reaping machine, he observed that when the crop was cut in a workmanlike manner by the machine, he preferred it either to the work of the scythe or sickle. For standing corn, he had no doubt the machine would come into very general use; but as to its capabilities of reaping laid corn, he was unable to give an opinion. In the first instance, they commenced gathering the sheaves with a rake; but at the suggestion of a friend, he adopted a different plan. One of the men who was clever at the operation, put the corn off the machine with great regularity in the form of sheaves, without bands, and eight men followed, who made the bands and bound up the sheaves. That, he thought, was preferable to using the rake at all. It was necessary to have two clever men to manage the reaper, and eight other men to follow. (Murmurs.) He had no doubt that with such a force as that, they could reap 8 acres a-day comfortably. ("With how many horses?") At first they geared two horses, but the weather being very hot a third was added, and a boy was engaged to lead the first horse. That was found much easier. They worked the horses about two hours, and then replaced them by fresh ones. The work would have been much easier but for the hot weather. ("What is the average cost per acre?") He had not calculated the cost, but he was quite certain it was less per acre than if reaped by sickle or scythe. Any other questions he would be glad to answer. ("What would you do with the labourers?") Mr. Brown was asked if he had seen M'Cormick's machine at work, and he replied he had not.—Mr. H. Dyson (Tinsley): Are not the heads of the corn likely to get into the butt-end of the sheaf?—Mr. Brown: Perhaps more than with the hook, but decidedly less than with the scythe.—Captain R. F. Shaw (Brantingham) asked Mr. Brown if he did not find that the working of the machine galled the necks of the horses? He had used Garrett's machine, and he found that the great weight of the machine rested on the necks of the horses, and consequently injured them. It occurred to him at the time that it was possible to affix a small wheel in the fore-part of the machine, at the point where the man with the rake sat, and thus take off the pressure from the horses' necks. He begged to ask Mr. Brown whether he had not noticed the same fault.—Mr. Brown remarked that the machine required the exercise of a little patience in its management. As to galling the horses, they found on the first day some little difficulty, but that arose from putting on the links of the pole in the wrong place. They removed them about a foot nearer to the pole end, and that remedied the difficulty; and by changing the horses about every two hours they were not at all distressed.—Mr. Beaumont inquired what was the advantage obtained in employing the reaper? Was it in time, in money, or in both? According to the statement of Mr. Brown, 10 men and one boy were required to conduct the reaping operations. In the district where he (Mr. Beaumont) farmed, viz, in the neighbourhood of Barnsley, the men who were employed to harvest received 5*s.* a day, and boys 1*s.* Therefore, to have 10 men and a boy, and the expense of horses, he had calculated would amount to 63*s.*; and if the reaper cut eight acres per day, the cost would amount to nearly 8*s.* an acre, which was 3*s.* an acre more than under the present system in his district.—Mr. Brown said he was decidedly of opinion that they could reap more with the same hands with the reaper than without it, and for less expense. Second-rate hands would do for gathering the corn, and they might pay a man, say 2*s.* a day for gathering corn, whereas by mowing corn they would have to pay 3*s.* 6*d.* or 4*s.* a day, and this showed the benefit of the reaper.—Mr. H. S. Thompson, of Moat Hall, said that not having tried this machine, he should have preferred leaving the discussion to those who had done so. It had been tried by few people as yet; but he was inclined to offer a few remarks, from having witnessed nearly all the public trials that have taken place with the reaping machine in this country. He had had the honour of being a juror, and had had the opportunity of examining the implement. He saw Hussey's and M'Cormick's machines tried last year in Cleveland. He also saw them tried at Barnard Castle, and lately at Lewes, where there were 15 or 16 of these machines at work. The great difference in the two principles by which these machines are distinguished, is in the form of the knives. The form of M'Cormick's knives had been altered since the machine had been brought over to this country, and Messrs. Garrett had improved upon the principle adopted by Hussey; and of the 15 or 16 at work, to his mind, Garrett's improved knife made by far the best work. The appearance of the corn cut by M'Cormick's machine was likewise equal in appearance to that cut with the sickle. It was suggested at Lewes that a wheel should be put in front to relieve the stress upon the horses, and he had no doubt that before long such an improved machine would be brought out. Howard's machine contained another improvement in laying the straw down the best in cutting; it, however, did not work well, and it seemed to require great alteration before it would so. Before the arrival of another year, he had no doubt they would have a machine brought out in a much more perfect form than they had now. The only thing the machine could not do at all was the laid corn. If the corn was laid one way, and not quite on the ground, the machine would cut it very fairly, so much so, that he should have no hesitation in cutting in that way. He thought it was worth while to draw their attention to the point of laid corn, and conceived there was a great deal to be done in that respect. Was there any possibility of diminishing the quantity of laid corn? He thought there was. In going through the country, and seeing two fields side by side, one standing and another quite flat, there was a cause for it, although the cultivation might be pretty nearly the same. He believed the great difference would be found in the kind of manure which was supplied. This year we have had a very warm season, and in many parts of England a good deal of rain had fallen when the corn was filling. Speaking of his own district, and the district of Lincolnshire, in which he had travelled during the last few weeks, he had found that the quality of the corn had been deteriorated very much within the last three weeks by mildew, which, of course, made the sample worse and the yield less. During the last few years there had been an increase of the guano brought into use. If they applied guano in large quantities, without altering the cultivation in other respects, in such a season as this they might do a great deal of injury. In the one case they might get a moderate crop of good quality, and the straw is bright and fine; whereas, with two or three cwt. of guano, the crop looks extremely promising till the last few weeks; but when the showers come, the warm moist weather causes the mildew and other diseases; and the farmer who has spent 1*l.* or 30*s.* per acre, would be very glad to exchange with his neighbour who has used none. He alluded to an experiment which had been made, and he thought that the standing of corn had a great deal to do with deep cultivation and exposure of the soil to the air, and that the deeper and the more perfect the cultivation of the soil the better.—Mr. Peter Love, of Northamptonshire, said he thought that considerable attention should be paid to any subject connected with agriculture before any district or portion of the country should dictate to another any system the result of their own experience only. He first acquired his experience in the west of Scotland, where he had a very wet climate to contend with. He next removed to Ireland, which was a better climate; and afterwards to the west of England, which was a better climate still. When he came to Northamptonshire, he was surprised to find farmers cutting their crops of Wheat, Oats, and Barley with the scythe, which he thought a very careless method. But in two or three years he found that they could carry to market a better crop than he could. In no part of the world were men more careful in harvesting their crops than in the north of England. He thought it was best to grow as little green produce amongst corn as possible, so that after it had been cut it might be put quickly into a safe position. He recommended all persons to pay great attention to the nature of the climate in which they cultivated land. They would then be able to form an opinion whether the apparently slovenly system of harvesting corn, adopted in the south, or the more careful system of the north, would be most profitable to them. In the wet climate of the west of Ireland, he found that corn was never cut till it was dry, and it was stacked immediately, for they would run no risk by letting it lie on the ground. It was stacked in small stacks; and though the rain wet the stack externally, the high winds dried the stack inwards. There was yet one other vexed question connected with the harvesting of corn which had not yet been touched upon, and that was as to the best vehicles in which it should be carried from the field to the stack-yard. Some were in favour of carts, others of waggons. He had always been a one-horse cart man; but he had seen work done so well by waggons, that he should be much puzzled to which method to give the preference. He recommended persons who might remove into a district where waggons were in general use to adopt that method, because the predilection of the labourers would be in favour of that system, and they might think it up-hill work instructing them in the other method. Improvements should always be made steadily. Another subject was as to the best mode of stacking corn. Some persons were in the habit of making their stacks wide and low; others high and narrow. He thought both systems objectionable. A high stack consumed labour in getting the corn to the top of it. A wide stack required more thatching, occupied greater space, and required more straddles. He thought it best to make stacks of a medium height and width, and nearly perpendicular.

FARM ACCOUNTS.—No. III.

[The following is the Journal, into which the entries of the Day-book, given at page 444, are transferred, under designations and with references which mark their place in the Ledger.]

Fol. JOURNAL. 1850.—Page 1.

Ledg. Sundries *Dr.* to John Jones, as follows, viz.:

Oct.				
11.—4.	Farm stock.			
	For valuation of farm stock, as per inventory		£ 236	s. d. 15 0
12.—4.	Cows.			
	For 2 cows, at 9*l.* each		18	0 0
12.—4.	Pigs and poultry.			
	For sundry pigs, &c., &c.		10	0 0
13.—4.	Manure.			
	For 150 loads, at 3*s.* per load ...	22 10 0		
	Straw from last crop	20 0 0		
		42	10	0
13.—4.	—Hay.			
	For 6 tons Clover hay, at 60*s.* p. ton	18 0 0		
	7 do. Grass, at 40*s.* per ton ...	14 0 0		
		32	0	0
5.—4.	Church field.			
	For 10 acres of Clover-lea, at 8*s.* 6*d.* per acre		4	5 0
7.—4.	Path field.			
	For 6 ploughings, at 7*s.* 6*d.* per acre	18 0 0		
	2 harrowings, at 1*s.*	0 16 0		
	1 year's rent	10 0 0		
		28	16	0
6.—4.	Wood field.			
	For 6 ploughings, at 7*s.* 6*d.* ...	27 0 0		
	2 harrowings	1 4 0		
	150 loads manure, carting, &c. ...	27 10 0		
	Seed sowing, hoeing, &c. ...	9 0 0		
	1 year's rent	12 0 0		
		76	14	0
14.—£449			0	0

October, 1850.—Page 2

16.— 5.	Sheep *Dr.* to William Mason.		£	s. d.
	For 50 ewes, at 24*s.* each		15.—60	0 0
2.— 6.	Pond field, *Dr.* to manure.			
	For 120 loads manure, at 3*s.* per load...		13.—18	0 0

Sundries *Dr.* to horse account for this month, as follows, viz.:

				£	s.	d.	£	s.	d.
—	Pond field.								
6.	For carting on manure		...	4	0	0			
6.	2 ploughs, 2 days, at 8*s.*		...	1	12	0			
13.	Do.	do.	...	1	12	0			
13.	2 teams rolling, &c.		...	2	0	0			
13.	Drilling do.	... ...	...	0	15	0			
13.	Steeding up furrows		...	0	8	0			
20.	Do., and drawing water furrows	... ...	...	0	8	0			
							10	15	0
—	Dairy field.								
20.	For 2 ploughs, 5½ days, at 8*s.* each	... ...	...	4	8	0			
27.	Do. 1 day	... ...	...	0	16	0			
27.	2 teams, 3 days, harrow, rolling, &c.	... ...	...	2	8	0			
27.	2 days drilling, harrow, &c.			2	0	0			
							9	12	0
							11.—£20	7	0

Sundries *Dr.* to labour account for this month, as follows, viz.:

				£	s.	d.	£	s.	d.
—	Pond field.								
6.	For sundries, see labour book			1	14	0			
13.	Do.	Do.		0	18	0			
20.	Do.	Do.		0	9	0			
							3	1	0
—	Cows, pigs, &c.								
6.	For 1 boy, a week	...	...	0	3	0			
13.	Do.	...	...	0	3	0			
	Carried forward		...	£0	6	0	£3	1	0

October, 1850.—Page 3

				£	s.	d.	£	s.	d.
	Brought forward		...	0	6	0	3	1	0
20.	For 1 boy, a week	...	...	0	3	0			
27.	Do.	...	...	0	3	0			
							0	12	0
—	Stable field.								
13.	For 2 men haulming, 6 days		...	0	18	0			
20.	Do.	Do.	...	0	15	0			
							1	13	0
—	Dairy field.								
20.	For sundries, see labour book			0	16	6			
27.	Do.	Do.		0	18	0			
							1	14	6
							17.—£7	0	6

— 6. Horse account *Dr.* to Richard Wright.
For 10 qrs. Oats, at 18*s.* per qr. ... 18.— 9 0 0

— 8. Seed corn *Dr.* to John Simmons.
For 5 qrs. Red Wheat, at 42*s.* per qr. 20.—10 10 0

Sundries *Dr.* to seed corn, as follows, viz.:

				£	s.	d.
—20.	Pond field.					
	For 2 qrs. Wheat, at 42*s.*	... ...		4	4	0
—27.	Dairy field.					
	For 3 do., at 42*s.*	... ...		6	6	0
			19.—£10	10	0	

— Cash *Dr.* to capital employed.
1. For balance in hand when I commenced farming ... ... 22.—1000 0 0

Sundries *Dr.* to cash for this month, as follows, viz.:

				£	s.	d.
— 4.	John Jones.					
	For valuation of stock, &c., as per inventory	... ...		449	0	0
	Carried forward		...	£449	0	0

October, 1850.—Page 4

				£	s.	d.	£	s.	d.
	Brought forward		...	449	0	0			
—	Labour account.								
6.	For wages, as per labour book			1	17	0			
13.	Do.	Do.		1	19	0			
20.	Do.	Do.		2	3	6			
27.	Do.	Do.		1	1	0			
							7	0	6
—10.	William Mason.								
	For 50 ewes	... ...					60	0	0
—18.	Richard Wright.								
	For Oats, as per account	... ...					9	0	0
—27.	William Simmons.								
	For seed Wheat, do.	... ...					10	10	0
—31.	Housekeeping.								
	For cash on account	... ...					10		0
							21.—£545	10	6

November, 1850.

Sundries *Dr.* to horse account for this month, as follows, viz.:

				£	s.	d.	£	s.	d.
—	Stable field.								
3.	For 1 plough, 6 days, at 8*s.*		...	2	8	0			
10.	Do.	Do.	...	2	8	0			
17.	Do.	Do.	...	2	8	0			
24.	Do.	Do.	...	2	8	0			
							9	12	0
—	Manure.								
3.	For 1 team, 3 days making bottom		...	1	4	0			
10.	Do.	Do.	...	1	4	0			
17.	Do.	Do.	...	1	4	0			
24.	Do.	Do.	...	1	4	0			
							4	16	0
	Carried forward		...	£14	8	0			

November.—Page 5

				£	s.	d.	£	s.	d.
—	Sheep.		Brought forward		...		14	8	0
3.	For 1 team, 2 days carting Turnips			0	16	0			
10.	Do.	Do.		0	16	0			
17.	Do.	Do.		0	16	0			
24.	Do.	Do.		0	16	0			
							3	4	0
—	Cows, pigs, &c.								
3.	For 1 team, a day carting Turnips			0	8	0			
10.	Do.	Do.		0	8	0			
17.	Do.	Do.		0	8	0			
24.	Do.	Do.		0	8	0			
							1	12	0
							11.—19	4	0

Sundries *Dr.* to labour account for this month, as follows, viz.:

				£	s.	d.	£	s.	d.
—	Stable field.								
3.	For sundries, see labour book			0	9	0			
	2 men hedging, &c.	...	...	0	18	0			
							1	7	0
10.	Do.	Do.	...	1	7	0			
17.	Do.	Do.	...	1	7	0			
24.	Do.	Do.	...	1	7	0			
—	Manure.								
3.	For sundries, see labour book		...	0	4	6			
10.	Do.	Do.	...	0	4	6			
17.	Do.	Do.	...	0	4	6			
24.	Do.	Do.	...	0	4	6			
							0	18	0
	Carried forward		...	£7	13	0			

Brought forward ... £7 13 0

				£	s.	d.	£	s.	d.
16.—	Sheep.								
3.	For sundries	Do.	...	0	3	0			
10.	Do.	Do.	...	0	3	0			
17.	Do.	Do.	...	0	3	0			
24.	Do.	Do.	...	0	3	0			
							0	12	0
	Carried forward		...	£8	5	0			

November, 1850.—Page 6

				£	s.	d.	£	s.	d.
	Brought forward		...	6	18	0			
12.—	Cows, pigs, &c.								
3.	For sundries, see labour book		...	0	4	6			
10.	Do.	Do.	...	0	4	6			
17.	Do.	Do.	...	0	4	6			
24.	Do.	Do.	...	0	4	6			
							0	18	0
							17.—£7	16	0

				£	s.	d.	£	s.	d.
17.—	Labour account *Dr.* to cash.								
3.	For wages, as per labour book		...	1	19	0			
10.	Do.	Do.	...	1	19	0			
17.	Do.	Do.	...	1	19	0			
24.	Do.	Do.	...	1	19	0			
							21.—£7	16	0

December.

Sundries *Dr.* to house account for this month, as follows, viz.:

				£	s.	d.	£	s.	d.
3.—	Stable field.								
	1. For 1 plough, 6 days, at 8*s.*	... ...					2	8	0
13.—	Manure *Dr.*								
	1. For 1 team, 3 days making bottom			1	4	0			
	8. Cart and three horses, 6 days, at 12*s.* per day	... ...	...	3	12	0			
15.	Do.	Do.		3	12	0			
22.	Do.	Do.		3	12	0			
29.	Do.	Do.		3	12	0			
							15	12	0
16.—	Sheep.								
	1. For 1 team, 2 days ...	... ...	...	0	16	0			
	8. 1 horse and cart, 4 days		...	0	16	0			
15.	Do.	Do.	...	0	16	0			
22.	Do.	Do.	...	0	16	0			
29.	Do.	Do.	...	0	16	0			
							4	0	0
	Carried forward		...	£22	0	0			

December.—Page 7

				£	s.	d.	£	s.	d.
	Brought forward		...	22	0	0			
12.—	Cows, pigs, &c.								
	1. For 1 team, a day carting Turnips			0	8	0			
	8. 1 horse, 2 days do.	... ...	...	0	8	0			
15.	Do.	Do.	...	0	8	0			
22.	Do.	Do.	...	0	8	0			
29.	Do.	Do.	...	0	8	0			
							2	0	0
							11.—£24	0	0

Sundries *Dr.* to labour for this month, as follows, viz.:

				£	s.	d.	£	s.	d.
3.—	Stable field.								
	1. For sundries, see labour book		...	0	9	0			
	Hedging, &c.	... ...	...	0	18	0			
							1	7	0
13.—	Manure.								
	1. For sundries, see labour book		...	0	4	6			
8.	Do.	Do.	...	0	9	0			
15.	Do.	Do.	...	0	9	0			
22.	Do.	Do.	...	0	9	0			
29.	Do.	Do.	...	0	9	0			
							2	0	6
16.—	Sheep.								
	1. For sundries	Do.	...	0	3	0			
8.	Do.	Do.	...	0	6	0			
15.	Do.	Do.	...	0	6	0			
22.	Do.	Do.	...	0	6	0			
29.	Do.	Do.	...	0	6	0			
							1	7	0
12.—	Cows, pigs, &c.								
	1. For sundries	Do.	...	0	4	6			
8.	Do.	Do.	...	0	6	0			
15.	Do.	Do.	...	0	6	0			
22.	Do.	Do.	...	0	6	0			
29.	Do.	Do.	...	0	6	0			
							1	8	6
	Carried forward		...	£6	3	0			

December, 1850.—Page 8

				£	s.	d.	£	s.	d.
	Brought forward		...	6	3	0			
3.—29.	Stable field.								
	For 120 rods land draining, at 3*s.* per rod—see labour book	... ...	...				1	10	0
							17.—£7	13	0

13.—29. Manure *Dr.* to Peter Thompson.
For 30 loads chalk, at 6*s.* per load ... 9 0 0

Sundries *Dr.* to cash for the following sums paid this month, viz.:

				£	s.	d.	£	s.	d.
17.—	Labour account.								
	1. For wages, as per labour book		...	1	19	0			
8.	Do.	Do.	...	1	1	0			
15.	Do.	Do.	...	1	1	0			
22.	Do.	Do.	...	1	1	0			
29.	Do.	Do.	...	2	11	0			
							7	13	0
23.—15.	Housekeeping.								
	For cash, on account	... ...	...				10	0	0
							£17	13	0

ROTHAMSTED AND THE WRITER "R."

(*Continued from page 522.*)

Still postponing for the present the consideration of the effect upon the *feeding* value of the crop, we have thus maintained in our papers, and do still maintain, that an "*excess*" of nitrogen in the Turnip manure tends to the over production of leaf, and at the same time to reduce the gain by the crop of nitrogen from natural sources. But the reader asks:—

"What do you mean by an '*excess*' of ammonia?"

"Will this point be reached in using so much rich box-fed dung; or may I add to this—one, two, three, or more hundred-weights of ammoniacal salts, or Peruvian guano?"

With regard to the first of these questions, we think a careful consideration of what we have already said, and what will yet follow, will of itself supply a sufficient answer; and this attained, those who exercise an intelligent observation in the practical conduct of their art will not be at a loss to find, in each case for themselves, the varied definite answers to the second question which their equally varied circumstances of climate, soil, and other local influences must require. In reference to points of this kind, involving so many other than purely chemical considerations, it is of necessity that our chemistry of vegetation in its application to the general and fundamental principles of farming practice, should be pre-eminently "elastic and flexible," if it is to maintain consistency with the varied local practices due to the complex and varied local causes, which will necessarily affect the application of any such general principles; but in spite of attempts to confound in the mind of the practical reader the sphere of the chemistry of the general principles of rotation, with that of providing numerical rules for local and particular circumstances, we, for ourselves, at least, entirely disclaim the latter as the sphere and immediate object of our papers; and it is, indeed, in reference to such points as the varied adaptation of manuring to the Turnip, that our views, being, as they were throughout, *conditional* and *relative*, have proved to be so generally in *accordance* with such varied practice. It is, however, one thing to claim *accordance* or *consistency* with varied practices, when professedly discussing them in one particular point of view; but it is quite another to pretend to have adequately considered the *varying* circumstances themselves, and to have pointed out individually their varying influences in determining this or that varying practice—a task which would, of course, necessarily involve a systematic consideration of climate, soils, and other local agencies, and even commercial considerations, subjects which we did not, nor do profess, to have touched upon otherwise than purely incidentally.

After any systematic consideration of the influence of varying local circumstances upon our various crops, it might indeed, with some propriety, be assumed that on this or that soil, with this or that average climate, ammoniacal salts, in addition to so much farm-yard manure for Turnips, will yield a return; yet even in such a case, in one year its effects might be to give an undue amount of leaf, and not to give as much nitrogen in the *increased crop due to its use*, as was supplied in the manure; whilst in the next it would be the means of so maintaining the "vitality and longevity" of the plant as to turn to the fullest possible account the other resources within the soil, as well the power of collection from natural sources. The chemical and mechanical characters of the soil, the supply of other constituents by manure, and the adaptation of these various conditions to the character of the season, materially affect the amount required of nitrogenous manures.

It was particularly maintained in our papers that the characteristic effect of ammonia as a manure for the Turnip was to increase the "vitality and longevity" of the plant, and to prevent a tendency to too early maturity; so that, other things being equal, this manure will be beneficial to the Turnip, when, without it, the crop would, under the combined influence of season, soil, and other supply, have come to premature ripeness, and thus have lost the benefit of an extended growth. Indeed, speaking in general terms, we may say, that as a rule, ammoniacal manures, in addition to farm-yard manure, are useful, wherever with, upon the whole, an extended orbit of growth, there is, during a part of the period growth, such a defect of *sustaining* climatic circumstances as would tend, in the absence of ammoniacal supply, to a premature ripeness of the crop. In such a case, however, the increased produce may often be obtained at the cost or loss of ammonia, or the lessened accumulation of it from natural sources.

In the eastern counties of England, under the four-course system, and a considerable importation of cattle food, and with a higher average temperature of Turnip season, and less rain, there is a much larger quantity of farm-yard manure (supplying both carbon and nitrogen), employed, in relation to the amount of Turnips produced, than in Scotland; and frequently the nitrogen supplied in this way comes to be sufficient under such circumstances, so to carry on the vitality and active growth of the crop, as fully to use up and turn to account the climatic agencies and supplies of this naturally but limited Turnip season. In Scotland, on the other hand, with the increased natural agencies of low temperature and more moisture, and with—relatively to the large amounts of produce which can be grown under these enhanced natural conditions, both for the conversion of organic manure supplied, and for the direct supply of these constituents from natural sources—a much smaller amount of organic supply by manure, ammonia, artificially provided, comes to be important. But if, allowing for soil and climate, the farm-yard manure in Scotland bore the same proportion to the amount of Turnips produced as in the eastern counties of England, direct ammoniacal manures would then prove much less valuable than they now are found to be; and, under such circumstances, a given amount of Turnips, would frequently be grown by a less actual amount of *supplied* nitrogen than at present; with, at the same time, a frequently larger gain of it from natural sources. There are, however, many circumstances coming into play which must always prevent any purely scientific solution of questions of this kind, intimately connected as they are with the general economy of the farming of any locality. Indeed, when science has directed the attention of the farmer to the varying chemical or other circumstances under which this or that crop is grown, it is then a question for commerce, not for science, to determine which course will be the most *profitable*; for in *profit* there are many other elements to be taken into account than merely the accumulation or expenditure of so many pounds of

ammonia in the production of a certain amount of Turnips, or in their production at an earlier or a later period of the season. But, as we have already said, wherever an increased crop of Turnips is obtained by means of nitrogen only, as organic supply, we must look for the profit of this increase of crop to some other quality than that of collecting nitrogen from natural sources. Were this indeed the only source of value of the crop it would not be the nitrogen only that would be so profusely supplied by art, under the comparatively large natural resources of the Turnip season in Scotland. *J. B. Lawes.* *(To be continued.)*

HARVEST OPERATIONS

IN CAMBRIDGESHIRE, ISLE OF ELY, AND HUNTS.

Cambridge.—Reaping of Wheat on light lands is nearly brought to a close, and on other soils proceeding rapidly: in some parishes fields have been cleared, and a small portion threshed out, yielding admirably both in weight and quality—the reported mildew only affecting the straw, and that but slightly, where the crops were beaten down. Some growers expect a yield of from 10 to 12 coombs per acre, on the poorer soils 8 to 9 ditto, of Wheat. Barley is a most abundant crop, ears long, and corn bright. The yield computed at from 10 to 14 sacks per acre, weighing 15 to 16 stone; much is already cut, and a few favourable days will enable the growers to house it in fine condition.

Newmarket and District.—On forward land, the Wheats are cut, some carted; growers complain of the "mildew," yet the most communicative admit that the ears are not so much injured as they apprehended. The yield will be a full average one. Barley and Oats are being mown generally, both falling heavy, and of excellent quality.

St. Ives and District.—Nearly all the Wheats are down, and much Barley mown; Oats ready. Where the crops are heavy, the corn and straw show a discolouration, yet the hope is that the corn has not suffered to any serious extent. The yield of all kinds of grain is expected to exceed an average. Labourers in some parishes are rather short, so that the men are receiving good wages; from 10*s.* to 14*s.* per acre for reaping, and 3*s.* to 10*s.* per acre for mowing and tying.

Chatteris, with Somersham and Wimblington.—In these great corn-growing parishes the crops are splendid beyond description, particularly of Wheat; much is beat down through the excessive weight of the ears, and the late rains, causing the straw to look dark, and to be in low places mildewed; but the attack coming when the ear was full grown the injury is happily much less than was at first feared. Many growers in this part anticipate a yield of 12 to 14 coombs per acre of Wheat, and of Oats from 14 to 18 per acre. Not much Barley or Beans grown. Potatoes again blighted. Everywhere are to be seen men cutting the ripening corn, at wages of from 10*s.* to 14*s.* per acre.

March, including the high lands and fens in the parishes of *Friday-bridge, Elm*, and *Whittlesea.*—The crops generally the heaviest ever seen. Wheat much laid; in some districts the mildew is perceptible. Farmers loudly complaining. Wages excessive compared to former years, 10*s.* up to 13*s.* per acre for reaping Wheat, and from 8*s.* to 14*s.* for Oats and Barley. Harvest work pretty general in all quarters. Fewer Potatoes planted this year than last, yet many of those much blighted; the disease spreading rapidly. Several large farmers are this year growing Flax and Canary Seed in lieu of Potatoes. The crops looking very promising.

Manea, with Chittisham.—Crops remarkably promising. Harvest work general. In many parts the Wheats beat down, and the crops injured by the "mildew." Oats and Barley expected to yield abundantly. Potatoes going off with the fatal disease of the last five years.

Ely, with Littleport, Hilgay Fen, and Waterbeach.—In every direction the Wheats are much beat down and more or less injured by the mildew. Reaping is commencing on some farms, but harvest work will not be general before next Monday; the crops are heavy, but it is feared the yield of Wheats will be lean and light. Oats vary much, on some soils good, promising a great yield: in other parts they appear to ripen in patches, leaving some spots quite green. Barley looks well; Coleseed yields very indifferently; instead of 9 or 10 coombs to an acre, some farmers have found but 3 to 4 ditto on threshing out their crop. Many growers of Potatoes are complaining of the wide spreading of the disease again this season.

Huntingdon, with Fen Stanton, Long Stanton, St. Neots, and other parishes.—The Wheat harvest is fast progressing: much already secured in good condition; some samples shown of new Wheats weighing 18 st. net, bright and excellent in quality; mildew complained of by some growers, but that not so universal as many first feared; the average yield expected to exceed nine sacks per acre. Barley is being cut, and falls heavy: fine weather will enable the growers to secure at least six quarters per acre of fine malting grain. Beans and Peas but a moderate crop. Oats about an average. Turnips growing amazingly. Potatoes in places diseased. *R. Gilbert.*

Home Correspondence.

Cochin China Poultry.—"A Poultry Fancier," in last week's *Gazette*, requires two classes of these noble birds at the next Birmingham show, one for "the four-clawed light class," and another for "the five-clawed or grouse-coloured birds," which would be manifestly unjust, as the five-toed birds are impure. Did not Mr. Baily, the eminent poultry judge, only a few weeks ago, in reply to a correspondent of the *Gazette*, state that five toes were inadmissible in this breed? *C. P.*

Wheat Blight.—A very bad case of Wheat blight has occurred in a field adjoining the property that I am superintending, and close to which a row of Berberry trees of the common kind are growing. The field in question contains 21 acres of Wheat, all of which crop is no better than lost. The farmer to whom it belongs, backed by others of his neighbours, maintains that the Berberry bushes are the real cause of it. Four years ago it went off in a similar way; and the farmers hold out that it always will occur until the Berberry bushes are destroyed, as they have known cases of it before. I enclose a fair specimen of the ear and portion of the straw, to show that 21 acres of such must be a great loss. If the Berberry trees are the cause of it my employer will consent to their removal immediately, and solicits an opinion in your Paper. *C. C. Elcott.*

[The removal of the Berberry bushes will not ensure safety from mildew.]

Spring-hoeing Wheat.—In Caird's "British Agriculture," p. 170, I find it stated that spring-hoeing Wheat is injurious on light lands, by increasing the proportion of light corn in Norfolk. On land of a medium quality I have been in the habit of hoeing mine for many years, with Garrett's hoe, without discovering any such injury, and I have this year examined the roots of my Wheat, to ascertain whether it is probable any injury should be incurred. My soil was in 1850 thoroughly broken up, to the depth of about 13 inches, by the subsoil plough; it has since borne a crop of Mangold Wurzel, followed by Wheat. The Wheat was horse-hoed twice—once in Feb. and again in April—to the depth of about an inch. A small part was only slightly hoed by the Dutch hoe, to kill the weeds; and one acre, which was drilled at 20-inch intervals, was broken up by the Turnip grubber, to the depth of 7 inches, in May. I do not, in any part, find the roots of the Wheat less than 4 inches from the surface, and they occupy the soil very fully to about 11 inches. Between the 20-inch rows of Wheat, I broke up the soil in one place 16 inches, bringing the subsoil to the top. There the roots followed the surface soil, to the full depth of 16 inches. I shall have from 44 to 48 bushels of Wheat per acre upon the part which is drilled at 10 inches. The Wheat drilled at wider intervals is much mildewed, otherwise I think I might have had 40 bushels. I shall, however, thresh it separately, to ascertain the quantity. I should be glad if any of your Norfolk correspondents would examine the depth at which the roots of their Wheat lie, that we may know under what conditions it is necessary to dispense with the use of the horse-hoe. *Charles Paget, Ruddington Grange, Nottingham.*

Gutta Percha.—I should feel obliged if you, or some of the readers of the *Agri. Gazette*, will or can inform me in the next Number, or at your earliest convenience, whether gutta percha has ever been used as a tube to convey cider; and if so, how it has answered?—whether it imparts any unpleasant flavour to cider? or if the action of the acid in cider will affect the gutta percha? In my own case I wish to convey cider from my cellar into my house, for convenience sake, and to save my cellar from exposure every time a jug of cider is required. By-the-bye, I shall hope to see the able advocacy of transferring land continued in your valuable Paper; for, in the past week, I should have purchased a small estate but for the long rigmarole of an imperfect title. *W. P., South Devon.*

Why will not Beans answer as a Field Crop in Devon?—This was a question I asked some years since of some old Devonians. All I could get from them was that they would not; so I determined to try. In 1849 I sowed 4 acres of winter Beans—the true sort; for they were grown from seed raised by Mr. Morton, of Whitfield. I also planted 2 acres of spring Beans in the February following. My winter crop yielded about 26 bushels per acre, and the spring something less. Having been so fortunate, I determined to try again. In the autumn of 1850 I sowed 12 acres of winter Beans from my own seed; they did remarkably well until the May following, when, in two days, they were blighted; the whole 12 acres did not yield 24 bushels. Last autumn I sowed about 3 acres of the same sort; they also did very well through the winter, and flowered beautifully in May, but in June they were again destroyed by blight: so that two years out of three they have been a complete failure. Perhaps I ought to state that they were grown after Wheat, the land being in good tilth, and drilled with wood-ashes (most of them, not all) about 22 inches apart. *John Bidlake, jun.*

Societies.

HIGHLAND AND AGRICULTURAL SOCIETY'S MEETING AT PERTH.—To our last week's report of the Implements exhibited, we now add the prize list for Stock and Implements:—

SHORT-HORN BREED.

Sweepstake for short-horn bulls, awarded to Thomas Chrisp, Hawkhill, Alnwick.

1. For the best bull of any age, 20*l.*, to Thomas Chrisp, Hawkhill, Alnwick; the Silver Medal to the same, as the breeder.
2. For the best bull, calved after 1st January, 1850, 10*l.*, to A. Cruickshank, Sittyton, Aberdeen.
3. For the best bull, calved after 1st January, 1851, 6*l.*, to his Grace the Duke of Buccleuch, Dalkeith Park.
4. For the best cow of any age, 10*l.*, to James Douglas, Athelstaneford, Haddington; 2*d*, 5*l.*, to William Tod, Elphinstone Tower, Tranent.
5. For the best heifer, calved after 1st January, 1850, 8*l.*, to James Douglas, Athelstaneford, Haddington; 2*d*, 4*l.*, to James C. Grant Duff, of Eden, Banff.
6. For the best heifer, calved after 1st January, 1851, 5*l.*, to James Douglas, Athelstaneford, Haddington.

POLLED BREEDS.—ANGUS, ABERDEEN, AND GALLOWAY.

Sweepstakes for polled bulls, awarded to Hugh Watson, Keillor, Coupar-Angus.

7. For the best bull of any age, 15*l.*, to Hugh Watson, Keillor, Coupar-Angus; to the same, as the breeder, the Silver Medal.
8. For the best bull, calved after 1st January, 1850, 8*l.*, to Alexander Bowie, Mains of Kelly, Arbroath.
9. For the best bull, calved after 1st January, 1851, 5*l.*, to Thomas Carnegy, of Craigo, Montrose.
10. For the best cow of any age, 8*l.*, to William M'Combie, Tillyfour, Aberdeen; 2*d*, 4*l.*, to Hugh Watson, Keillor.
11. For the best heifer, calved after the 1st January, 1850, 6*l.*, to William M'Combie, Tillyfour, Aberdeen; 2*d*, 3*l.*, to the same.
12. For the best heifer, calved after 1st January, 1851, 4*l.*, to Robert Scott, Balwyllo, Brechin.
13. For the best pair of oxen, calved after 1st January, 1849, the Medium Gold Medal, to William M'Combie, Tillyfour.

AYRSHIRE BREED.

Sweepstakes for Ayrshire bulls, to A. W. Buttery, Monkland, Airdrie.

14. For the best bull of any age, 15*l.*, to A. W. Buttery, Monkland, Airdrie; to Mr. Calder, Miller's Neuk, Kirkintolloch, as the breeder, the Silver Medal.
15. For the best bull, calved after 1st January, 1850, 8*l.*, to A. W. Buttery, Monkland, Airdrie.
16. For the best cow of any age, in milk, 8*l.*, to A. W. Buttery, Monkland, Airdrie; 2*d*, 4*l.* to James Young, Handaxwood, by Whiteburn.
17. For the best cow, of any age, in calf, 6*l.*, to Alexander M'Lachlan, East Longhaugh, Renfrewshire; second, 3*l.*, to Robert Kirkwood, High Longmuir, Kilmaurs.
18. For the best heifer, calved after 1st January, 1850, 6*l.*, to John Paterson, Macorriston, Doune; second, 3*l.*, to William Muir, Haddington Mains, Biggar.
19. For the best heifer, calved after 1st January, 1851, 4*l.*, to John Hamilton, Burnbrae, Avondale.

HIGHLAND BREED.

20. For the best bull, of any age, 15*l.*, to the Right Hon. Duncan M'Neill, of Colonsay, Lord Justice-General; to Charles Stewart, late of Chesthill, as the breeder, the Silver Medal.
21. For the best bull, calved after 1st January, 1850, 8*l.*, to John Macdonald, Inverlochlang, Lochearnhead.
22. For the best cow, of any age, 8*l.*, to the Marquis of Breadalbane, Taymouth Castle; second, 4*l.*, to Neill Malcolm, of Poltalloch, Lochgilphead.
23. For the best heifer, calved after 1st January, 1849, 6*l.*, to the Marquis of Breadalbane, Taymouth Castle; second, 3*l.*, to Robert Peter, Urlar, Aberfeldy.
24. For the best heifer, calved after 1st January, 1850, 4*l.*, to Donald M'Learn, Braeleny, Callander.
25. For the best pair of oxen, calved after 1st January, 1849, the Medium Gold Medal, to Alexander Campbell, of Monzie.

FIFE BREED.

Sweepstakes for Fifeshire bulls, to Robert Wilson, Firthfield, Anstruther.

31. For the best bull, of any age, 10*l.*, to John Rintoul, Overston, Pittenweem; to John Rintoul, as the breeder, the Silver Medal.
32. For the best cow, of any age, 6*l.*, to William Fullarton, Mains of Ardestie, Dundee.
33. For the best heifer, calved after 1st January, 1850, 4*l.*, to David Wallace, Balgrummo, Leven.

NOTE.—The judges report that only two animals were exhibited for the sweepstakes.

CLASS II.—HORSES.

FOR AGRICULTURAL PURPOSES.

1. For the best stallion, 25*l.*, to Samuel Clark, Manswrae, Kilbarchan; 10*l.*, to John Smith, Grassmarket, Edinburgh.
2. For the best entire colt, foaled after 1st January, 1849, 10*l.*, to Alexander Lawson, Old Mills, Elgin.
3. For the best entire colt foaled after 1st January, 1850, 8*l.*, to James Kay, Hill Farm, Gargunnoch, Stirlingshire.
4. For the best entire colt, foaled after 1st January, 1851, 6*l.*, to John and Peter Young, Niddry, West Lothian.
5. For the best mare, 10*l.*, to A. W. Buttery, Monkland, Airdrie; for the second best, 5*l.*, to Andrew Logan, Crossflatt, Kilbarchan, Renfrewshire.
6. For the best filly, foaled after 1st January, 1849, 8*l.*, to Robert Murdoch, Hallside, Cambuslang.
7. For the best filly, foaled after 1st January, 1850, 6*l.*, to Andrew Logan, Crossflatt, Kilbarchan, Renfrewshire.
8. For the best filly, foaled after 1st January, 1851, 4*l.*, to Robert Jack, Balcarroch, Campsie, Stirlingshire.

EXTRA SECTIONS.

9. For the best Highland pony stallion, not over 14, nor under 12 hands, 8*l.*, to Alexander Campbell, Monzie, Crieff.
10. For the best Highland pony mare, of the same height, 5*l.*, to Sir John Stuart Forbes, Bart., of Pitsligo and Fettercairn.

CLASS III.—SHEEP.

LEICESTER BREED.

1. For the best tup, not exceeding four years old, 8*l.*, to John Davidson, Brandon Whitehouse, Northumberland; 2*d*, 4*l.*, to Thomas Dickinson, Maiden Hall, St. Boswells.
2. For the best pair of Dinmont or shearling tups, 8*l.*, to John Davidson, Brandon Whitehouse, Northumberland; 2*d*, 4*l.*, to James Douglas, Athelstaneford, Haddington.
3. For the best pen of five ewes, not exceeding five years old, 6*l.*, to Adam Thomson, Rutherford, Kelso; 2*d*, 3*l.*, to William Tod, Elphinstone Tower, Tranent.
4. For the best pen of five shearling ewes or gimmers, 4*l.*, to James Douglas, Athelstaneford, Haddington.

CHEVIOT BREED.

5. For the best tup, not exceeding four years old, 8*l.*, to James Brydon, Moodlaw, Langholm; 2*d*, 4*l.*, to Walter Carruthers, Kirkhill, Moffat.
6. For the best pair of Dinmont or shearling tups, 8*l.*, to Thomas Elliott, Hindhope, Jedburgh; 2*d*, 4*l.*, to the same.
7. For the best pen of five ewes, not exceeding five years old, 6*l.*, to Thomas Elliot, Hindhope; 2*d*, 3*l.*, to James Brydon, Moodlaw, Langholm.
8. For the best pen of five gimmers, lambed after 1st April, 1851, 4*l.*, to Thomas Elliott, Hindhope, Jedburgh.

BLACK-FACED BREED.

9. For the best tup, not exceeding four years old, 8*l.*, to Robert Paterson, of Birthwood, Biggar; 2*d*, 4*l.*, to Adam Blacklock, Minnygap, Moffat.
10. For the best pair of dinmont or shearling tups, the premium of 8*l.*, to James Tweedie, Nether Abington, Lanarkshire; 2*d*, 4*l.*, to John and James Watson, Mitchelhill, Biggar.
11. For the best pen of five ewes, not exceeding five years old, 6*l.*, to James Brydon, Kennelhead, Moffat; 2*d*, 3*l.*, to Donald M'Laren, Braeleny, Callander.
12. For the best pen of five gimmers, lambed after 1st April 1851, 4*l.*, to Patrick Small, Dirnanean, Kirkmichael, Perthshire.

SOUTHDOWN BREED.

13. For the best tup, not exceeding four years old, the premium of 8*l.*, to James Aitchison, of Alderston, Haddington; 2*d*, 4*l.*, to Hugh Watson, of Keillor.
14. For the best pair of shearling tups, 8*l.*, to Hugh Watson 2*d*, 4*l.*, to James Aitchison, Alderston, Haddington.
15. For the best pen of five ewes, not exceeding five years old, 6*l.*, to Hugh Watson; 2*d*, 3*l.*, to William Tod, Elphinstone Tower.
16. For the best pen of five shearling ewes or gimmers, 4*l.* to Hugh Watson.

CLASS IV.—SWINE.

For the best boar, large breed, 5*l.*, to W. H. Brown, of ley, by Ratho, Mid-Lothian; 2d, 3*l.*, to John Gordon, of enhead, Glasgow.

For the best boar, small breed, 5*l.*, to Jonathan Brown, Height, Wigton, Cumberland; 2d, 3*l.*, to Robert Harrison son, Bolton Park, Wigton, Cumberland.

For the best sow, large breed, 4*l.*, to George Hay Plummer, ville, Dalkeith.

For the best sow, small breed, 4*l.*, to John Arkley, Pow-, Brechin; 2d, 2*l.*, to A. W. Buttery, Monkland, Airdrie.

For the best pen of three pigs, not exceeding eight months 4*l.*, to Jonathan Brown, the Height, Wigton, Cumberland; 2*l.*, to the Earl of Mansfield, Scone Palace.

LASS VII.—IMPLEMENTS AND MACHINES.

or the best two-horse plough for general purposes, 2*l.*, to rge Ponton, Grougfoot, Linlithgow.

or the best double mould-board plough, for forming drills, to James Barclay, Castleton, Fowlis, Crieff.

or the best two-horse grubber or cultivator, working on the , 2*l.*, to Robert Low, Shettleston, Glasgow.

or the best Norwegian harrow, 3*l.*, to James Kirkwood, nent.

or the best land-presser, for preparing seed-bed for grain, to David Galloway, Cumno, Alyth.

or the best pulverising land roller, 3*l.*, to Gibson and hardson, Newcastle-on-Tyne.

or the best harrows, 2*l.*, to William Crosskill, Beverley.

or the best equalising swingtrees or draught-bars, 1*l.*, to nes Kirkwood, Tranent.

or the best broadcast sowing machine, for grain and Grass ls, 3*l.*, to John Lennie, Lauder Barns, Lauder.

or the best drill sowing machine, for grain, 3*l.*, to Thomas riff, West Barns, Dunbar.

or the best horse-hoe, for drilled grain crops, 4*l.*, to Thomas riff, West Barns, Dunbar.

or the best liquid manure distributing machine, 3*l.*, to liam Herkless, Glasgow.

or the best liquid manure pump, 1*l.*, to A. and W. Smith Co., Paisley.

or the best straw-cutter, for hand labour, 2*l.*, to Richmond Chandler, Manchester.

or the best straw-cutter for power, 3*l.*, to Richmond and ndler, Mancheater.

or the best Turnip-cutter, for sheep, 2*l.*, to James Kirk-d, Tranent.

or the best Turnip-cutter, for cattle, 1*l.*, to C. D. Young Co., Edinburgh.

or the best Turnip-cutter, for sheep, adapted for attaching cart, 3*l.*, to John Hutchison, Craigend, Perth.

or the best Linseed bruiser, for hand labour, 2*l.*, to Rich-nd and Chandler, Manchester.

or the best grain-bruiser, for hand-labour, to A. and W. ith, Paisley.

or the best grain and Linseed bruiser, for power, 3*l.*, to hmond and Chandler, Manchester.

or the best steaming apparatus, for preparing food, 3*l.*, ally between Richmond and Chandler, Manchester, and nd W. Smith, Paisley.

or the best one-horse farm-cart, 3*l.*, to Alex. Scrymgeour, hven, Perth.

or the best light spring cart, for farm or other purposes, to William Crosskill, Beverley.

or the best harvest cart. No award.

or the best stone or iron stack pillars, with frame-work, 2*l.*, oung, Peddie, and Co., Edinburgh.

or the best hay-tedding machine, 2*l.*, to Richard Hodgson, urham, Coldstream.

or the best horse stubble or ray rake, 1*l.*, to Lawrence hant, of Condie, Perth.

or the best improvement on any part of the threshing-hine, 5*l.*, to Peter M'Lellan, Bridge of Earn, Perth.

or the best threshing-machine, not exceeding two-horse er, 6*l.*, to Robert Stewart, of Carphin, Lanarkshire.

or the best dressing fanners, for grain, 3*l.*, to Robert Reid, mill, Forfarshire.

or the best weighing-machine, indicating from 1 lb. to ns, 3*l.*, to A. and W. Smith, Paisley.

or the best churn, worked by hand, 2*l.*, to Peter M'Lellan, ge of Earn, Perth.

or the best churn, worked by power, 2*l.*, to Charles D. ng and Co., Edinburgh.

or the best cheese-press, 1*l*, to Macartney and Drummond, nock, Ayrshire.

or the best field gate, constructed entirely of iron, 1*l.*, to mas Gorrie, Perth.

or the best set of traverse divisions, rack and manger, for stables, 2*l.*, to Charles D. Young, Edinburgh.

or the best set of farm harness, premium equally between es Dunlop, Haddington; Hunter Allan, Kelso; and lander Russel, Pitmachie, Aberdeenshire.

or the best set of tiles and pipes, for field drainage, 1*l.*, lly between James M'Alpine, Stirling, and Alexander rum, Seafield Tile Works, St. Andrews.

or the best set of glazed socketed pipes, for sewerage, to the Aberdeen Brick and Tile Company, Aberdeen.

r the best set of tools, for cutting field drains, a pre-n, to William Caddell, Sons, and Co., Cramond.

r the best set of tools, for cutting open drains in bill ures, premium to William Caddell, Sons, & Co., Cramond.

r the best apparatus for preparing Flax, 10*l.*, to d W. Smith and Co., Paisley.

r the best reaping machine, the premium of 20*l.*, to be ded on Friday, Aug. 6, and reported in the public press.

his report has not yet been published, but the ing is the statement of the time and its result, as in the *Times*:—

e competition of the reaping machines excited the intense interest among all classes of the community. ld become generally known that the directors of the y had arranged for a fair competition between of Hussey's American reapers and a machine, ted by the Rev. Mr. Bell, of the parish of Car-, 25 years ago, and which has been in use on the of Mr. Bell, of Inchmichael, Carse of Gowrie, for st 15 years. The competition being limited to two machines, the contest was popularly viewed as a real versus America. Most men are now familiar, ever, with the look of those exhibited by M'Cormick Great Exhibition, and by Hussey as improved by tt, and now in use at Tiptree and on some other in England. The principle is the same in Bell's, the details are essentially different. Hussey's ne on being put to work requires a clear space on ght hand of the standing corn for the horses to it. Bell's goes right into the corn at once, the apparatus being before the horses. When y's machine takes the field one man is required to on it, and with a hand rake throw off the cut corn gatherers and binders; Bell's machine is supplied canvass apron on rollers, rising at an angle of 45 from the cutters, and worked by a concentric motion, so as to lay the cut corn in line to be gathered. Hussey's machine cuts the crop as it stands; Bell's has flying arms in front, which lay the corn to be cut exactly as a newspaper printing machine lays hold of the sheet of paper to be printed. Hussey's machine goes to work with a rumbling noise, Bell's in silence. The first trial was by Bell's machine on a field of Oats, in the presence of the judges. It went along very smoothly and laid the corn with the utmost ease. The stubble left was about three inches high and very even. Eight women and two men were scarcely able to gather it, which gives some idea of its speed; and the horses, two Clydesdale grays, seemed quite equal to their work. Hussey's machine was then tried. It cut two or three breadths with ease and very speedily, but, getting to a piece of rough ground, by the furrow of the field, or the "rig" as it is called in Scotland, where the Grass had grown about a third part up the straw of the Oats, it got choked, and came to a dead stand. So far as it had cut here the stubble was very uneven, and the corn much spoiled. On being cleared, the rest of the breadth, if cut at all, was not a satisfactory performance. The second trial was on a field of Barley. The late heavy rains had "laid" the Barley in several places, and in some parts it was so twisted that but little hope was entertained that it could be cut by the one machine or the other. Bell's machine went in first, and cut a breadth very smoothly. Here the practical value of the arms became apparent. They laid hold of the crop so as to put the most twisted parts of it in order for the scissors, and when the breadth was cut the stubble was as good as that of the sickle. Hussey's machine worked much worse among the Barley than the Oats. It cut smoothly and speedily where the straw was straight, but whenever it came to a portion that was laid at an angle from the machines the cutters missed, or tore the corn up by the roots, leaving a very uneven stubble on most parts of the ground. The third trial was on a field of Wheat in beautiful order for cutting. Bell's machine moved the strong stubble and laid it in order very freely for the first 20 yards, but it then got loaded with the cut corn and stuck fast. The canvass apron did not appear to have power or velocity enough to throw off the Wheat as quickly as the cutters laid it on, and this deficiency in the working of the machine occasioned its coming to a stand-still three or four times in the course of this trial. Hussey's machine went into the Wheat with great ease and power. It was soon evident that its *forte* lies in cutting straight Wheat on smooth land, while for Oats and Barley it is ill adapted. In the evening the judges gave their award unanimously in favour of Bell's machine. They are to publish a detailed report of the grounds on which they have given the preference, which we were given to understand would be simply these:—Economy of time; the grain cleanest cut; less shaken; laid with greatest regularity; less liable to interruptions from choking in case of Grass; requires less power to cover the same breadth; requires no open side to the field before commencing work; has a power of laying off grain on either side, which Hussey's wants—a power of depositing grain in rows without manual labour, and saves by mechanical power the cost of two men, which Hussey's requires in the process of laying for the gatherers. An objection was taken by some parties on the ground to the use of the feeding arms. It was thought that in laying hold of the corn they would shake out some of the ears. The directors had an examination of the corn and the ground to ascertain if this objection were well-founded, and report that none of the heads had been shaken, and that for one corn which falls out of ear by Bell's machine two fall out by Hussey's. The difference of cost of the two machines was also a subject of consideration, Bell's being 35*l.*, and Hussey's only 18*l.*; but, in estimating the comparative saving of labour by Bell's, to say nothing of other advantages, they found that, though the dearest machine at first, it is the cheapest in the end. The judges of the trial were—Mr. Oliphant, of Condie; Mr. Watson, Keillor; Mr. Stirling, C.E.; Mr. Finnie, of Swanstown; Mr. Gibson, Woolmet; Mr. Steedman, Boghall; Mr. Stephens, author of "The Book of the Farm;" Mr. Watson, millwright, Errol; Mr. Young, implement maker, Ayr; the Duke of Athol, attending member.

Miscellaneous.

Cost of Wheat in Ohio.—Take the case of a farmer of 200 acres of land, worth 40 dollars per acre—of whom there is a large class in Ohio, and a class possessing intelligence and capital, and capable of turning their attention to other crops and to stock as soon as they found the profits of Wheat-growing diminishing—I went over the calculation with several of them, all of whom said they should not continue to raise Wheat if it continued much below 65 cents; arriving in every case at the same result, namely, that a price below that point would afford a very small return, and would operate as an inducement to the most intelligent among them to apply their land to other purposes.—The next point is the cost of transferring it from the grower in the interior of Ohio, first to the chief shipping place, Cleveland, and thence to New York. This I ascertained to be on an average about 10 cents per bushel to Cleveland, and 20 more to New York.—At the time of my being in Cleveland (at the end of September last) the farmer in the interior of Ohio was only getting 55 cents per bushel for his Wheat, instead of 65, the price below which he will not freely bring it to market. Adding, therefore, 10 cents per bushel, the cost of bringing it to Cleveland, and 20 cents more to New York, Ohio Wheat at that time was deliverable at New York for 85 cents per bushel. For the purpose of determining at what price Wheat purchased at New York for 85 cents per bushel could be sold at Liverpool, I applied to some gentlemen engaged in that branch of business at New York, and subsequently, by the obliging assistance of a friend, to an eminent mercantile house at Liverpool; and as their accounts very nearly tallied, I give with the more confidence the full statement which was very kindly furnished to me by the house at Liverpool. From this it appears clear that when red Ohio is deliverable at New York at the price at which, under present circumstances, it will come freely to market, namely, 65 cents to the grower, or 95 purchaseable free on board at New York, it cannot be sold at Liverpool (all charges included) under 5*s.* 6½*d.* per bushel of 60 lbs., or 6*s.* 5½*d.* per bushel of 70 lbs., the usual selling weight at Liverpool. While, if any shortness of crop in America, or any brisk demand from Europe, should raise it to a dollar free on board at New York, the equivalent selling price at Liverpool would be 5*s.* 9*d.* per bushel of 60 lbs., and 6*s.* 8¾*d.* per bushel of 70lbs. *Tremenheere's Notes during a Tour in the United States.*

Burning Clay Recommended.—The burning of clay and earth in large heaps is successfully carried on by several farmers in the neighbourhood of Northampton, and used as a dressing for heavy land, for the purpose of rendering it more friable. For this purpose the scouring of the ditches, any spare clay that remains after filling in drains, and any rough Grass and soil obtained in trimming up hedge-rows or levelling banks, is collected together. If there is not a sufficiency of weeds or other vegetable matter contained in the heap to burn the mass into the requisite red ash, a portion of refuse coal-dust or slag (as it called), may be obtained occasionally from the coal merchants at the rate of about 5*s.* per ton, is used; as also the refuse bark from the tan-yards, which not only helps to consume the heap, but also affords when burnt a fine alkali, which is very beneficial to the crops. This bark is frequently given away at the tan-yards to those who choose to fetch it. To burn a heap, a small fire of wood and coal is first lighted, which is covered over with a layer of clay, over which a few shovels-full of refuse bark or coal-dust are scattered: when the fire begins to burst through, more earth is laid on, and the same process repeated until the whole heap is made up. Considerable judgment is required on the part of the workman to burn a heap properly; few excel at it, and the art can only be acquired by practice and attention. As soon as the fire has attained a good heat, the heap requires raking down rather flat, to afford a larger hot surface for fresh earth to come on; and in windy weather care must be taken to apply the fresh material on the contrary side to that on which the wind lies, or one side will burn out before the fire touches the other. Mr. Collins, of Monk's Park, near Northampton, was, I believe, the first to introduce this practice, and he speaks most highly of the beneficial effect of burnt clay to the land. He selected the worst and most neglected field upon his property to operate upon first. The soil was cold and stiff, and had the character of never having been free from weeds. His first step was to drain it thoroughly and deeply, and then apply a dressing of 30 or 40 cubic yards of burnt earth to the acre; and he states that by the three first crops after the application, consisting of one of Potatoes and two of Wheat (happening in dear times) he realised the fee-simple value of the land; and he considers that the whole of his land ploughs one horse easier, now that it has all been dressed with ashes. Mr. Collins has made no calculation of the exact cost of obtaining a cubic yard of these ashes; but, judging from the quantity of coal required for burning clay into ballast or for road-metal, I should consider that three cwt. of coal would be amply sufficient to burn a cubic yard of clay to a red ash, thus:—

3 cwt. coal at 3*d.*	...	... 0*s.*9*d.*
Getting and burning ...		... 0 6
		1 3 per cubic yard.

The principal secret in burning strong clay is to throw it wet upon the burning clamp; the lumps then come out in a cracked state, and presently moulder down with the weather: if, on the contrary, it is laid on in dry, hard lumps, it will inevitably burn into brick, and lie "knocking about" the land perhaps for two or three years before the frost will crumble it down. Common bricks are a proof of this, for if burnt before being thoroughly dried, they will certainly turn out unsound and incapable of standing the weather. *Baker's Farming of Northamptonshire.*

Notices to Correspondents.

BEANS: *An Old Sub.* We will publish your letter in another number, when it will be sure to come under the eye of all those who reported on this crop.

CHELTENHAM POULTRY SHOW: *Paul Pry.* We are not aware of any *recent* show. There was one in June, we believe; and we shall in future endeavour to procure the prize lists and reports of such exhibition. We have not inserted the prize lists of either Sheffield or Perth, because the exhibitions were not of importance, and we really have not had room for more valuable matter.

GRASS: *H. R. M.* For a deep loam, the following mixture will suit. It should be sown when the ground is damp in April next year, and you may this autumn get the land well cleaned, drained if necessary, and manured. If you sow corn with it, let it be a light seeding, say 6 pecks per acre, of Barley: Alopecurus pratensis, 2 lbs.; Arrhenatherum avenaceum, 1 lb.; Dactylis glomerata, 1 lb.; Festuca duriuscula, 2 lbs.; F. heterophylla, 3 lbs.; F. loliacea, 1 lb.; F. pratensis, 2 lbs; Lolium perenne, 6 lbs.; L. italicum, 4 lbs.; Lleum pratense, 1 lb.; Poa nemoralis, 3 lbs; P. trivialis

1 lb.; Trifolium pratense, 3 lbs.; T. repens, 4 lbs. The most rapid way of obtaining a turf would be by planting bits of a good turf in every square foot of the land this autumn, after it had been properly tilled and manured, and sowing Grass seed over all in spring.

HORSE RAKE: *W.* Howards, of Bedford, or Grant's, of Stamford.

POULTRY, &c.: *S D T.* The ordinary food for ringdoves is Hempseed, varied now and then with a little Barley, &c., as, from its heating nature, Hempseed is not good for them when given in large quantities; Tares are also good food. The birds may be left out of doors in the night during the summer and early part of autumn, but not in the winter.—*P C N.* Your turkeys have got a common disease called the roup. Probably the place where you keep them is tainted; remove them to a fresh, dry, airy, place. Give them plenty of bread steeped in strong ale, and do not breed from diseased birds. —*H.* I am not aware of any work that treats of the operation in question. It is become almost obsolete.—*E D C.* I have known Cochin China and other cocks lose their voices, but I can assign no reason for it. It generally returns after a time. —*M N O.* I have never been able to find any distinction between Cochin China and Shanghae fowls. The cream-coloured fowls have realised larger prices, but they are neither better nor truer than darker varieties.—*X.* It is good rearing, and a sign of a careful hen-wife, when three out of four chickens hatched are reared. It is impossible to fix any number whereby a person should be judged, as accidental causes interfere, cold damp weather, easterly winds, hailstorms, &c. The time of year must also be considered; it is easier to rear in May and June than in February and March. *J. Baily, 113, Mount-street.*

MANURE: *C L K.* A ton of it would contain, as its only valuable constituents, in the case of No. 1, 300 lbs. of phosphate of lime; and in the case of No. 2, 180 lbs. of phosphate of lime and 100 lbs. of potash. For the silica, carbonates of lime and magnesia are to be had for the quarrying. No. 1 might be worth 1*l.* a ton, and No. 2, 1*l.* 10*s.* per ton.

SUBSOIL PLOUGH: *J S.* The subpulveriser of Messrs. Deane, Dray, and Co. is said to be a good one. It possesses more than one tine. You had better see theirs and judge for yourself. We imagine that it will be heavier to draw than either Read's or the old Deanston subsoiler.

SUMMER SOILING DAIRY COWS: *W Robbins.* Rape sown early will serve in August, Vetches sown after harvest will serve in June, and early Cabbages might be planted in early spring for use during July. Vetches, Cabbages, and Rape would carry you through summer.

TOP DRESSING: *H.* 3 cwt of good guano per acre spread broadcast over the young plant in wet weather would be a good top dressing for Italian Rye-grass. The length of time during which superphosphate continues to act depends altogether upon the quantity applied. Its effects are generally not to be seen in the second crop.

TREES: *J Bidlake.* Cattle will eat Yew, Holly, Laurel, and we do not know what they will not eat. The best plan will be for you to protect Holly, &c., till they are strong enough to defy them.

ERRATUM.—In the report by Mr. Burbery of the Wheat crop in Warwickshire, page 508, for "any" read "average."

Markets.

COVENT GARDEN, Aug. 21.

The supply of both Vegetables and Fruit has been good, with the exception of bush fruit, which the heavy rains have nearly banished from the market. Melons are more plentiful. Excellent Greengage and other Plums still arrive from France, and also Apricots, Jargonelle Pears, and Apples. Tomatoes likewise continue to be imported. Potatoes are very plentiful. Peas are somewhat scarcer. West India Pine-apples are nearly over. Mushrooms are cheaper. Cut flowers consist of Heaths, Pelargoniums, Mignonette, Roses, Big-nonia venusta, and Pinks.

FRUIT.

Pine-apples, per lb., 4s to 6s
Grapes, hothouse, p. lb., 2s to 5s
Peaches, per doz., 6s to 12s
Nectarines, per doz., 4s to 12s
Apricots, per doz., 1s to 4s
Plums, per punnet, 1s to 3s
— Greengage, do., 2s to 3s
Figs, per doz., 4s to 8s
Melons, each, 2s to 6s
Cherries, per lb., 6d to 1s
— wall, do., 1s 6d to 3s
Lemons, per doz., 1s to 2s
Pears, per doz., 2s to 3s
— per half sieve, 4s to 8s
Currants, do., 2s to 3s 6d
Gooseberries, do., 2s 6d to 3s
Almonds, per peck, 5s
— sweet, per lb., 2s to 3s
Oranges, per doz., 1s to 1s 6d
— per 100, 3s 6d to 10s
— Seville, per doz., 1s to 3s
Nuts, Barcelona, per bush, 20s to 22s
— Brazil, do., 12s to 14s

VEGETABLES.

Cabbages, per doz., 6d to 1s 3d
French Beans, p. hf. sieve, 2s to 3s
Peas, per sieve, 2s to 5s
Cauliflowers, per doz., 4s to 6s
Greens, per doz., 1s to 1s 6d
Rhubarb, p. bundle, 3d to 4d
Potatoes, per ton, 60s to 130s
— per cwt., 3s 6d to 7s
— per bush., 1s 6d to 2s 6d
Turnips, per doz., 3s to 4s
Cucumbers, each, 2d to 6d
Veget. Marrow, p. doz, 6d to 1s 6d
Celery, per bundle, 1s to 1s 6d
Carrots, p. doz., 3s to 5s
Spinach, per sieve, 1s to 2s
Onions, per bunch, 2d to 8d
— Spanish, p. doz., 1s 3d to 3s
Beet, per doz., 1s to 2s
Leeks, per bunch, 2d to 3d
Shallots, per bunch, 3d
Garlic, per lb., 8d to 1s
Lettuce, Cab., per score 4d to 1s
— Cos, p. score, 9d to 1s 6d
Radishes, per doz., 8d to 1s
— Turnip, 9d to 1s 6d
Small Salads, p. pun., 2d to 3d
Horse Radish, p. bundle, 1s to 4s
Mushrooms, p. pott., 6d to 1s
— per punnet, 9d to 1s
Sorrel, per hf. sieve, 6d to 1s
Artichokes, per doz., 1s 6d to 2s
Fennel, per bunch, 2d to 3d
Savory, per bunch, 2d to 3d
Thyme, per bunch, 2d to 3d
Parsley, p. doz. bnchs., 2s to 3s
Mint, per bunch, 2d to 3d
Basil, green, p. bunch, 4d
Marjoram, do., 3d to 6d
Watercresses, p. 12 bun, 9d to 1s

HOPS.—BOROUGH MARKET, Aug. 20.

Messrs. Pattenden and Smith report that there is a steady demand for consumption; the stock of last year's Hops being almost exhausted, prices keep firm. The accounts from the plantations are of a very favourable description, and a heavy crop will doubtless be realised. Duty, 210,000*l.*

Mid & East Kents 120s to 180s | Sussex ... ... 115s to 130s
Weald Kents ... 115s to 135s | Yearlings... ... — to —

COAL MARKET.—FRIDAY, Aug. 20.

Holywell, 14s.; Eden Main, 14s. 3d.; West Hartley, 14s.; Wallsend Hetton, 15s. 6d.; Wallsend Lambton, 15s. 3d.; Wallsend Stewarts, 15s. 6d.—Ships at market, 85.

HAY.—Per Load of 36 Trusses.

SMITHFIELD, Aug. 19.

Prime Meadow Hay 78s to 84s
Inferior do. ... 70 75
Rowen ... ... 65 —
New Hay 60 76
Clover ... ... 90s to 100s
New do. 70 85
Straw 30 34

E. J. DAVIS.

CUMBERLAND MARKET, Aug. 19.

Prime Meadow Hay 78s to 86s
Inferior do. 65 72
New Hay 55 72
Old Clover 95 100
Inferior Clover ... 75s to 84s
New do. 60 86
Straw 34 38

JOSHUA BAKER.

WHITECHAPEL, Aug. 19.

Fine old Hay ... 76s to 84s
Inferior do. ... — —
New Hay 65 72
Inferior do. 50 60
Old Clover... ... 90s to 100s
New Clover ... 80 86
Inferior do. ... 55 70
Straw 28 32

SMITHFIELD.—MONDAY, Aug. 16.

The supply of Beasts is large, notwithstanding their being but little stock on hand; prices are on the average higher.

The number of Sheep and Lambs is much smaller, and in consequence trade is brisk, at a small advance on Friday's quotations. Calves are plentiful; however, Friday's prices are freely given, and, in a few instances, are rather exceeded. From Germany and Holland there are 1522 Beasts, 6420 Sheep, 417 Calves, and 70 Pigs; from Spain, 410 Sheep; and 2000 Beasts from the northern and midland counties.

Per st. of 8lbs.—	s	d	s	d
Best Scots, Here-fords, &c. ...	3	8	to 3	10
Best Short-horns	3	6	— 3	8
2d quality Beasts	3	0	— 3	4
Best Downs and Half-breds ...	4	0	— 4	4
Do. Shorn	0	0	— 0	0

Per st. of 8lbs.—	s	d	s	d
Best Long-wools .	3	8	to 4	0
Do. Shorn ...	0	0	— 0	0
Ewes & 2d quality	3	0	— 3	6
Do. Shorn	0	0	— 0	0
Lambs	4	4	— 5	2
Calves	2	10	— 3	10
Pigs	2	8	— 3	8

Beasts, 4335; Sheep and Lambs, 29,820; Calves, 506; Pigs, 310.

FRIDAY, Aug. 20.

We have a fair supply of Beasts, and the demand is scarcely so good; in consequence it is difficult to realise Monday's quotations, except in the choicest kinds. The number of Sheep is larger, and although trade is tolerably brisk, prices on the average are lower. There is more inquiry for choice Lambs, and being scarce are rather dearer. The supply of Calves is unusually large; middling kinds are much lower; there is also a slight reduction in the choicest. From Germany and Holland we have 314 Beasts, 1330 Sheep, 454 Calves, and 10 Pigs; 400 Beasts from the northern and midland, and 120 Milch Cows from the home counties.

Per st. of 8lbs.—	s	d	s	d
Best Scots, Here-fords, &c. ...	3	6	to 3	10
Best Short-horns	3	4	— 3	8
2d quality Beasts	2	8	— 3	2
Best Downs and Half-breds ...	4	0	— 4	2
Do. Shorn ...	0	0	— 0	0

Per st. of 8lbs.—	s	d	s	d
Best Long-wools .	3	8	to 3	10
Do. Shorn ...			...	
Ewes & 2d quality	2	8	— 3	4
Do. Shorn ...	0	0	— 0	0
Lambs	4	6	— 5	4
Calves	2	4	— 3	8
Pigs	2	6	— 3	6

Beasts, 1001; Sheep and Lambs, 14,190; Calves, 700; Pigs, 310.

WOOL.

BRADFORD, THURSDAY, Aug. 19.—There is no particular change to report in the state of our wool market; the demand during the current week has been limited, but the transactions entered into were characterised by a firm tone of prices. The quantity of new wool arriving to market does not average that of the previous three years at the same period, and this circumstance is accounted for by the fact that both growers and country dealers are firm holders for higher prices than the state of this market seems to justify being conceded. Spinners generally are not well supplied with wool, and there is considerable reason to expect some increase of activity at no distant period. Short wools and noils continue to realise good prices.

MARK LANE.

MONDAY, Aug. 16.—There was a small supply of English Wheat to this morning's market, including about 400 qrs. of new white, which varied considerably in quality, and sold at 46s. to 52s. per qr.; old and foreign must be written 3s. dearer than this day week, but the sale of the latter was limited. The top price of town-made Flour has been advanced 3s. per sack, namely, to 43s. Foreign sacks must be written 3s. and barrels 1s. to 2s. dearer.—The arrivals of Barley are short, and there is a fair demand for grinding qualities, at an advance of 1s. per qr.—Beans and Peas are very scarce, but we do not alter our quotations.—The Oat trade is firm, and prices must be written 6d. per qr. dearer.

PER IMPERIAL QUARTER.	s.	s.		s.	s.
Wheat, Essex, Kent, & Suffolk...White	46	—48	Red	40	—42
— — fine selected runs...ditto	48	—52	Red	42	—48
— — Talavera	52	—56			
— Norfolk	40	—48	Red	—	
— Foreign	37	—55			
Barley, grind. & distil., 24s to 27s...Chev.	25	—32	Malting .	28	—30
— Foreign ...grinding and distilling	21	—26	Malting .	—	
Oats, Essex, and Suffolk	18	—19			
— Scotch and Lincolnshire...Potato	18	—22	Feed	17	—19
— Irish ..... Potato	17	—20	Feed	17	—19
— Foreign .....Poland and Brew	18	—20	Feed	15	—18
Rye	—		Foreign .	—	
Rye-meal, foreign	—				
Beans, Mazagan.....27s to 30s.....Tick	28	—31	Harrow .	28	—31
— Pigeon .....28s — 34s...Winds.	—		Longpod ...	—	
— Foreign .....Small	26	—33	Egyptian	25	—26
Peas, white, Essex and Kent.....Boilers	30	—32	Suffolk...	30	—33
— Maple.....31s to 34s.....Grey	30	—32	Foreign .	26	—35
Maize	—		Yellow...	—	
Flour, best marks delivered ...per sack	37	—40			
— Suffolk ..... ditto	25	—32	Norfolk .	25	—32
— Foreign..... per barrel	21	—24	Per sack	28	—34

FRIDAY, Aug 20.—The arrivals of English grain, this week have been moderate, but large of foreign. To-day's market was largely attended by buyers. English Wheat must be written 1s. per qr. dearer, and a similar advance was obtained in many instances on foreign; prices, however, being higher than buyers anticipated, the sale was not extensive. In floating cargoes business has been done to some extent at 38s. 6d. for Polish Odessa, and 40s. to 41s. for Ghirka. Barrel Flour must be written 6d. dearer, and a fair business doing.—We observe no alteration in the value of Barley, Beans, or Peas.—Oats meet a fair demand at fully Monday's rates.

IMPERIAL AVERAGES.

	WHEAT.		BARLEY.		OATS		RYE.		BEANS.		PEAS.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
July 10.....	41	5	28	3	19	9	32	6	34	0	33	3
— 17.....	41	0	27	0	19	11	30	1	34	5	30	11
— 24.....	40	7	28	2	19	9	28	9	33	10	34	5
— 31.....	40	0	27	8	20	6	29	11	34	2	33	5
Aug. 7.....	39	7	27	3	20	6	29	7	33	9	20	6
— 14.....	39	7	27	5	19	6	30	3	33	7	31	4
Aggreg. Aver.	40	4	27	7	19	11	30	2	34	0	32	4

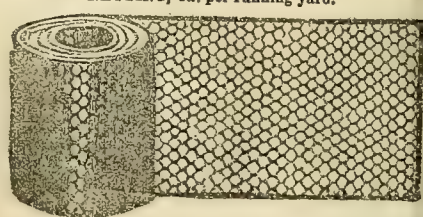
Duties on Foreign Grain, 1s. per qr.

FLUCTUATIONS IN THE LAST SIX WEEK'S AVERAGES.

PRICES.	JULY 10.	JULY 17.	JULY 24	JULY 31.	AUG. 7	AUG. 14.
41s 5d	—	...	...	...	...	...
41 0	...	—	...	...	...	...
40 7	...	...	—	...	...	...
40 0	...	...	...	—	...	...
39 7	...	...	...	...	—	...
39 7	...	...	...	...	...	—

LIVERPOOL, TUESDAY, Aug. 17.—The arrivals since Tuesday from Ireland and coastwise are liberal of Oats, but light of other articles. At this morning's market there was a fair attendance of town and country dealers, and a good demand was experienced for Wheat and Flour, at an advance since Tuesday last of 2d. to 3d. per 70 lbs., and 6d. per sack and barrel, a part of Friday's advance having been lost. Oats and Oatmeal brought full prices, but the demand was not active. Beans must be quoted 6d. per qr. higher; but Barley and Peas met a slow sale, at late rates. Indian corn was neglected, and floating cargoes were obtainable on rather easier terms.—— FRIDAY, Aug. 13.—We have had excessive rain the last two days, but to-day is fine. A considerable speculative business has been done in Wheat and Flour, since Tuesday, at an advance of about 3d per bushel and 6d. per barrel. The consuming buyers, however, hold themselves aloof from the market, and do not enter into the excitement. Every other article of the grain trade remains much as quoted on Tuesday.

CHEAP WIRE GAME AND POULTRY NETTING, 5*d.* per running yard.

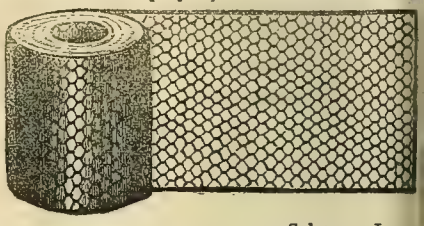


GALVANISED ditto, 7*d.* per running yard, 2 feet wide.

	Galvanised.	Not Galvanised
24 in. wide, 2 in. mesh,	7*d.* per yard.	... 5*d.* per yard.
30 in. " 2 in. "	9*d.* "	... 6½*d.* "
36 in. " 2 in. "	10½*d.* "	... 7½*d.* "
48 in. " 2 in. "	1*s.* 2*d.* "	... 10*d.* "

Sparrow Proof Netting, Galvanised, 3*d.* per square fo made to any size for the same proportionate price. T article was shown at the "Great Exhibition," where it was much admired for its light and durable appearance, and knowledged to be the cheapest and best article of the k ever offered. Extra strong Wire Sheep Netting, 3 feet hig 1*s.* 6*d.* and 2*s.* 3*d.* per yard. Also every description of Flow Trainers, Dahlia Rods, Garden Arches, Bordering, Flow Stands, Tying Wire, Trellis Work, Invisible Wire Fencin Hurdles, and every description of Wire Work for Horticultu purposes.—Illustrated Catalogues of Patterns forwarded, po free, on application to T. H. FOX, City of London Wire Wo and Iron Fence Manufactory, 44, Skinner-street, and 6 and Snow-hill, London.

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	Galvanised.	Japan Iron
2-inch mesh, light, 24 inches wide ...	7*d.* per yd.	5*d.* per
2-inch " strong " ...	9 "	6½ "
2-inch " extra strong " ...	12 "	9 "
1⅝-inch " light " ...	8 "	6 "
1⅝-inch " strong " ...	10 "	8 "
1⅝-inch " extra strong " ...	14 "	11 "

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ROYAL SOUTH LONDON FLORICULTURAL SOCIETY. Under the Patronage of her most gracious Majesty the Queen. A grand Dahlia, Hollyhock, and Miscellaneous FLOWER SHOW of the above Society, will be held at the ROYAL SURREY ZOOLOGICAL GARDENS on WEDNESDAY, SEPTEMBER 8th. Open to all Exhibitors, when prizes will be awarded for the following productions; viz., Stove, Greenhouse, and Specimen Plants, Dahlias, Roses, Hollyhocks, Verbenas, Cut Flowers, Fruit, and Honey; extra prizes for seedling Dahlias, Fuchsias, Hollyhocks, and Verbenas, in addition to 1st Class Certificates awarded by the Society. The following extra prizes offered by members will also be awarded; By Mr. C. Turner, 4 prizes for 3 blooms of Dahlias, from varieties sent out by him the spring previous. By Mr. E. Spary, 2 prizes for 6 blooms of Dahlias. By Mr. John Salter, 4 prizes for 6 blooms of Dahlias. By Mr. G. Rawlings, 4 prizes for 3 blooms of Dahlias. By C. Sainsbury, Esq., a Silver Cup and 3 prizes by Mr. C. Drummond, for 6 blooms of Dahlias. From a subscription fund collected by R. W. Dutton, Esq., a Gold Albert Medal, for the best specimen of honey (in the comb in glass); for 2d best ditto, a large Silver Victoria Medal; and for the 3d best ditto a Small Silver Victoria Medal; and by Mr. J. Marriott, for the best specimen of honey in the comb, taken on the humane principle, a small Silver Albert Medal. List of prizes and the rules for the exhibitors, may be obtained from JOHN TAYLOR NEVILLE, Secretary, Ebenezer House, Peckham, Surrey.

The Committee will meet at the Horns Tavern, Kennington, on the following days, for awarding 1st Class Certificates for Seedling Florist Flowers, for such as are deserving the same; viz., Thursday, September 2d, October 14th, November 11th, and December 9th, in addition to the exhibition as above.

THE SHACKLEWELL, STOKE NEWINGTON, AND HACKNEY FLORICULTURAL SOCIETY'S GRAND DAHLIA, HOLLYHOCK, AND MISCELLANEOUS FLOWER SHOW will be held in the Manor Rooms and Grounds, Hackney, on WEDNESDAY next, September 1, by permission of J. R. D. Tyssen, Esq.—The band of the Royal Marines will attend. Further particulars may be had of Mr. C. E. ALLEN, Shacklewell; or Mr. W. HOLMES, Well-street, Hackney.

GREAT YARMOUTH AND EASTERN COUNTIES ASSOCIATION FOR PROMOTING THE IMPROVEMENT OF THE BREEDS OF POULTRY, &c. —The First Show of the above Association, under distinguished Patronage, will be held at the VAUXHALL GARDENS, GREAT YARMOUTH, adjoining the Railway Station, on THURSDAY, the 16th of SEPTEMBER, 1852. For Prize List, Printed Rules, Certificates of Entry, &c., apply to Messrs. YOUELL and Co., Royal Nursery, Great Yarmouth.

VALE OF TAUNTON DEANE HORTICULTURAL AND FLORICULTURAL SOCIETY.—THIRD EXHIBITION, to be holden in the Vivary Park, SEPTEMBER 15, 1852.

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NEWBURY HORTICULTURAL SOCIETY.—At the Autumn Show of this Society, on FRIDAY, September 3, 1852, the following Extra Prizes are offered for DAHLIAS, open to all England. For 24 Dissimilar Blooms, Dahlias, Four Prizes—the best, 5l.; second, 3l; third, 2l.; fourth, 1l. 10s. Entrance fee, 7s. 6d. Certificates awarded to Seedlings of merit.

Further particulars on application to Mr. F. S. ADNAMS, Honorary Secretary, Newbury.

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JAMES DICKSON AND SONS have now the pleasure of informing their numerous customers and the public generally, that their first cargo of HYACINTHS, along with every variety of DUTCH BULBS, has just been landed in splendid condition, and are of first-rate quality. They are now ready to execute orders, and Catalogues may be had free on application.

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ALL Persons who have any DEMANDS against the Estate of the late Mr. MATTHEW COLE, of the Aston Lane Nursery, Birchfield, near Birmingham, are requested to SEND the same to Mr. JOB COLE, Balsall Heath Terrace, Birmingham, in order that the same may be examined, and, if found correct, discharged; and all Persons INDEBTED to the late Firm of "COLE AND SHARP" are requested to PAY the same at the Nursery, as aforesaid.

CHEAP TALLIES.—Wood Tallies, from 4d. per 100; Porcelain ditto, from 9d. per 100; Zinc ditto, from 1s. per 100. Indelible Jet Black Inks, for writing on Zinc, &c. &c. Specimens of the Tallies forwarded free by post on pre-paid application to Mr. JOHN POWELL, Trentham, Newcastle, Staffordshire, of whom may also be procured Tye's Registered Hyacinth Glasses, Flower Supports, Card Labels for naming Hyacinths, and Exhibition Plant Labels, &c. &c.

FOR CASH.—A liberal allowance to the trade.

PROTECTION OF PLANTS FROM THE HEAT OF THE SUN.—Use E. F. ARCHER'S HAIR CLOTH, a perfect non-conductor of heat, and admitting light without heat, where a covering is required; it is 2 yards wide, and any length, at 1s. 4d. per yard, and much cheaper than Bass Mats. E. F. ARCHER, 451, Oxford-street, London.

COCHIN CHINA CHICKENS.—A few pairs, from three to four months old, well feathered on the legs, and of the purest breed. Price 15s. per pair.—Address to THOMAS PAGE, Chatteris, Cambridgeshire.

WHITE COCHIN CHINA CHICKENS. — An Amateur has a few pairs of these much admired birds to dispose of, well feathered on the legs, and of the purest breed; also a few birds of the Black Cochin China, a variety extremely rare and very valuable.—Direct to ALFRED SALTER, William-street, Hammersmith-turnpike, Middlesex.

WHITE AYLESBURY AND BLACK BOTANY BAY DUCKS, AND COCHIN CHINA FOWLS, of the purest breed, of light straw or buff colour, well-feathered legs, and finely fluffed, bred from imported birds selected in China for their size and purity of their strain. The advertiser has for sale a few pairs of the above, warranted of the purest breed, which he offers at the following prices:—White Aylesbury Ducks, 10s. per couple; Black Botany Bay ditto, 21s. per couple. The Botany Bay Ducks are very rare, quite as hardy as the common kinds, of a beautiful glossy jet black, the male birds having two or three white feathers on the breast. The flesh is far more delicate and superior to any of the genus. This species possess the extraordinary character of laying a majority of eggs perfectly black. Cochin China Fowls, four to five months old, 42s. per pair; Black Norfolk Turkeys, 17s. 6d. per pair, package included. The celebrated breed of Norfolk Geese, 12s. per pair. —Orders, accompanied by post office orders or reference, addressed to ISAAC BRUNNING, North End, Great Yarmouth, will receive prompt attention.

HARTLEY'S PATENT ROUGH PLATE GLASS,

FOR RIDGE AND FURROW ROOFS, GREENHOUSES, RAILWAY STATIONS, ENGINE SHEDS, MILLS, MARKET-HALLS, AND PUBLIC BUILDINGS GENERALLY.

For Conservatories, Public Buildings, Manufactories, Skylights, &c., &c.	One-eighth inch thick.	3-16th inch thick.	¼ inch thick.
	s. d.	s. d.	s. d.
Packed in Crates, for cutting up of the sizes as Manufactured :— 30 inches wide and from 40 to 50 long ... ... Or 20 ,, ,, 50 to 70 ,, ...	0 6	0 8	0 10
In Squares, cut to the sizes ordered :— Under 8 by 6	0 4	0 6	0 7
8 by 6 and under 10 by 8	0 4½	0 7	0 8
10 by 8 ,, 14 by 10	0 5	0 7	0 9
14 by 10 ,, 1½ feet super., if the length does not exceed 20 inches	0 5½	0 7	0 9
1½ feet sup. ,, 3 ,, or if above 20, and not above 30 inches long	0 6	0 8	0 10
3 ,, ,, 4 ,, ,, 20 ,, 30 ,, ...	0 6½	0 8	0 10
4 ,, ,, 5 ,, ,, 30 ,, 35 ,, ...	0 7	0 8½	0 10
5 ,, ,, 6 ,, ,, 35 ,, 40 ,, ...	0 7½	0 9	0 10½
6 ,, ,, 8 ,, ,, 40 ,, 45 ,, ...	0 8	0 9½	0 11
8 ,, ,, 10 ,, ,, 45 ,, 55 ,, ...	0 8½	0 10	1 0
10 ,, ,, 12 ,, ,, 55 ,, 70 ,, ...	0 9	0 11	1 1
12 ,, ,, 15 ,, ,, 70 ,, 85 ,, ...	.....	1 0	1 2

Packed in Boxes of 50 Feet each.

Ins.	Ins.	Ins.	s.	d.
6 by 4 and 6½ by 4½			10	6
7 by 5 and 7½ by 5½			12	0
8 by 6 and 8½ by 6½			13	0
9 by 7 and 9½ by 7½ and 10 by 8			15	0

Note.—Squares are charged according to the superficial contents, except where the length exceeds the restriction above, in which case the higher price is charged irrespective of the contents.

Bending.—1-8th, 6d.; 3-16ths, 9d.; ¼ inch, 1s. per foot, net.

*** *Irregular shapes are charged as squares.*

When Crates are ordered, the 30-inch widths will be sent, unless otherwise specified.

THE PATENT ROUGH PLATE, one-eighth of an inch thick, and weighing 2 lbs. to the foot, has now become an article of very extensive and increasing consumption.

It is universally admitted to be the best and most suitable Glass for Ridge and Furrow Roofs, Greenhouses, Factories, Workshops,

And all such like purposes, and is a cheap and efficient substitute for Fluted or Obscured Glass, where the object is to intercept the vision without diminishing the light. Its non-transparency, strength, and cost (being no more weight for weight than Common Sheet Glass), render it eminently suitable for the Glazing of Conservatories and Roofs of all kinds; Blinds are unnecessary, and when used in Greenhouses *no scorching occurs.*

Where still greater strength is required the 3-16ths and ¼ inch thick will be found much cheaper than the Common Rough Plate. Samples will be forwarded on application, by applying to

JAMES PHILLIPS AND CO.,

HORTICULTURAL GLASS MERCHANTS, 116, BISHOPSGATE STREET WITHOUT, LONDON.

GLASS.

THOMAS MILLINGTON'S FOREIGN SHEET GLASS is far superior to any other manufacture, as well as cheaper. In 100-feet boxes, packed for immediate delivery.

6 inches by 4 and 6½ by 4½ ... ... 13s. 0d.
7 ,, 5 and 7½ by 5½ 15 0
8 ,, 5 and 8 by 5½ 15 0
8 ,, 6 and 8½ by 6½ 17 6
9 ,, 7 and 10 by 8 ... ... 20 0
12 ,, 10 and 13 by 9 ... ... 20 0

And many other sizes, or cut to order in various thicknesses, Cases containing large Sheets, in 100, 200, and 300 feet, at 21s. per 100 feet.

ROUGH PLATE, perfectly flat, ⅛ in. thick, best manufactured.

In sizes under 15 inches ..... 6d. per foot.
,, ,, 35 ,, ... 8d. ,,
,, ,, 50 ,, ... 9½d. ,,
,, ,, 75 ,, ... 12d. ,,

Milk Pans, 2s. to 6s. each; Metal Hand Frames, Glass Tiles and Slates; Cucumber, Propagating, and Bee Glasses; Wasp Traps, Glass Shades, and Plate Glass, at 87, Bishopsgate-street Without, London, same side as Eastern Counties Railway.—Established 100 years.

GLASS FOR CONSERVATORIES, ETC.

HETLEY AND Co. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2d. to 3d. per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices and Estimates forwarded on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLATES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to James Hetley and Co., 35, Soho-square, London.

See *Gardeners' Chronicle* first Saturday in each month.

THE CHEAPEST HOUSE FOR LEAD, GLASS, OIL, AND COLOURS.

WHOLESALE PRICES CHARGED.

H. J. AND W. WALKER, Lead, Glass, Oil, and Colour Merchants, 125, Queen-street, Portsea, supply in any quantities, at wholesale prices, Crown and Horticultural SHEET GLASS, Patent and Polished Plate, Rough Plate for Conservatories and Greenhouses, Glass Milk Pans, Bee, Cucumber, and Propagating Glasses, and every description of Glass for Horticultural purposes. Ornamental and Stained Glass, Church Quarries, &c. Deep Well, Lift, and Garden Pumps. Plumbers' Brass Work, Brushes, Varnishes, and Colours at London prices.

N.B.—Experienced workmen sent to any part of the country.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER,

AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.



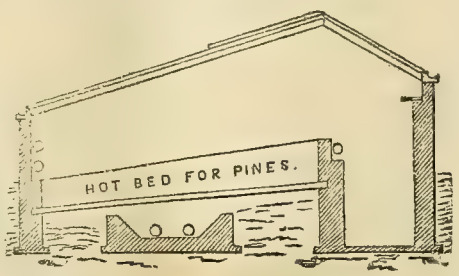
GRAY AND ORMSON, Danvers Street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

G. and O. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders they can with the greatest confidence give the most satisfactory references.

Their Hot-Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating by Hot Water can be made available.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER.

WARRANTED BEST MATERIALS AND WORKMANSHIP, AT THE LOWEST POSSIBLE PRICES.



J. WEEKS AND CO., King's Road, Chelsea, Horticultural Architects, Hothouse Builders, and Hot-water Apparatus Manufacturers. The Nobility and Gentry about to erect Horticultural buildings, or fix Hot-Water Apparatus, will find, at our Hothouse Works, King's Road, Chelsea, an extensive variety of Hothouses, Greenhouses, Conservatories, Pits, &c., erected, and in full operation, combining all modern improvements, so that a lady or gentleman can select the description of House best adapted for every required purpose.

THE HOT-WATER APPARATUSES (which are efficient and economical), are particularly worthy of attention, and are erected in all the Houses, Pits, &c., for both Top and Bottom Heat, and in constant operation in the Stoves.

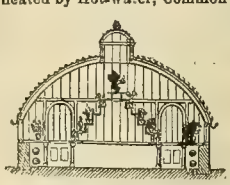
The splendid collection of Stove and Greenhouse Plants is in the highest state of cultivation, and for sale at very low prices. Also a fine collection of strong Grape Vines in pots from eyes, all the best sorts.

Plans, Models, and Estimates of Horticultural Buildings; also Catalogues of Plants, Vines, Seeds, &c., forwarded on application.

J. WEEKS AND CO., King's Road, Chelsea, London.

J. W. THOMSON, Landscape Gardener, Hothouse Designer and Builder, Hammersmith.

Every kind of Horticultural Structure designed, erected, and heated by Hot-water, Common Flues, and other modes, on the most economical and improved modern principles. Testimonials and references from noblemen and gentlemen who have kindly patronised, for more than 15 years past, J. W. THOMSON'S modern and simple mode of Constructing, Building, Warming, and Ventilating Garden Structures. He begs to draw particular attention to his newly-invented plan for moving all Lights, front and top, for admitting air, by one action or simultaneously, at very little more expense than by the old and inconvenient mode of cords and pulleys. This simple plan can be applied, at a moderate cost, to houses already ventilated by the old and troublesome cord and pulley system.



FOR SALE, A SMALL, NEAT CONSERVATORY, a Bargain, 15 feet by 10 feet 6 inches, made of the best materials and workmanship.—May be seen at G. Nicholls and Co's, Horticultural Builders and Hot-water Apparatus Manufacturers, corner of Plumber-street, City-road (near the Toll-gate).

N.B.—Estimates and plans submitted for all kinds of Horticul ural Buildings.

WINTON'S PARKES' NEW STEEL DIGGING FORKS AND DRAINING TOOLS.—Silver Medal at Lewes Show was awarded to BURGESS and KEY, 103, Newgate-street, London, for these celebrated FORKS. It would be endless to quote the unlimited approbation expressed by the leading agriculturists, farmers, nurserymen and others, from the nobleman to the labourer; but all who have used them concur in Mr. Meehi's remark, "That they facilitate labour quite 20 per cent." Early orders are requested. Price lists sent on application.

HOTHOUSES, GREENHOUSES, ETC.

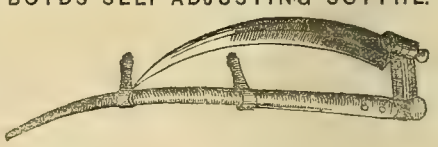
BY HER MAJESTY'S ROYAL LETTERS PATENT.

E. DENCH, PATENT HOTHOUSE WORKS, King's Road, Chelsea.—The superior qualities in every respect of these Structures having been proved in all parts of the United Kingdom, has caused a greater demand for them than E. D. could execute; he has been obliged to have perfect and powerful machinery made to meet the numerous orders, and can now execute any amount of work to great perfection, with dispatch, and for quality and price to defy all competition. Patent Hothouses, with excellent glass, 3 feet long by 1 foot wide, every front sash to open, and every top one to slide down, with pulley made of the same materials as the electric telegraph wires, which require no painting; delivered free to Wharf or Railway Station, at 1s. 2d. per foot super., complete, having been fitted, and every portion marked previously, making a Greenhouse 16 ft. 6 inches long, 12 ft. rafter, 400 ft., 23l. 6s. 8d.; 24 ft. 6 ins. long, do. do., 526 ft., 30l. 13s. 8d.; 28 ft. 6 ins. long, 15 ft. rafter, 712 ft., 41l. 10s. 8d. Heating by Hot Water on the most approved and economical principles.

Patent Sashes for Pits and Peach Walls, &c., 7d. and 8d. per foot, super.

GREEN AND HOTHOUSES, made by Machinery, at J. Lewis' Horticultural Works, Stamford Hill, Middlesex, warranted best materials, and the cheapest in England.—A List of Prices sent by enclosing 2 postage stamps.

BOYD'S SELF-ADJUSTING SCYTHE.



BOYD'S PATENT SCYTHE and the celebrated STEEL DIGGING FORKS.—Boyd's Scythe is capable of being adjusted to any angle by the person using it, and never requires the aid of a blacksmith; when out of use it shuts up like a clasp-knife. The *Gardeners' Chronicle* thus comments upon it:—"We gladly state that Mr. Boyd's Scythe stands well the great test, experience, especially with his late ingenious and very useful improvement."—G. C., 15th May, 1852. The Steel Digging Forks are those celebrated by Mr. Mechi: "When a labourer has once used them, he will never work with any other implement for digging. They effect a saving of nearly 50 per cent. in labour."—Wholesale and Retail at Wm. Dray and Co.'s Agricultural Implement and Machinery Warehouse, Swan-lane, Upper Thames-street, near London-bridge.

EMIGRANTS TO AUSTRALIA, ETC., SUPPLIED.

A PRIZE MEDAL FOR SUPERIOR LOCKS WAS AWARDED TO J. H. BOOBBYER, AT THE GREAT EXHIBITION OF 1851.

THE CELEBRATED STEEL DIGGING FORK, Patent Spades, Daisy Rakes, Scythes, Draining, and other Garden Tools. Mole Traps, 6s. per dozen. Carpenters' and Smiths' Tools, &c. Rubbers for sharpening Scythes, 2s. 6d. per dozen. Patent fumigators for destroying insects on Plants, in greenhouses, &c.: at Messrs. J. H. Boobbyer and Co.'s (late Sturch and Boobbyer), Ironmongery, Brass-foundry, Nail and Tool Warehouse, 14, Stanhope-street, Clare-market, London. Established nearly 200 years for the sale of goods from the best Manufactories at the lowest prices. Goods forwarded to any part on the receipt of remittance. Lists sent by post.

DEANE'S WARRANTED GARDEN TOOLS.—Horticulturists, and all interested in Gardening Pursuits, are invited to examine DEANE, DRAY, AND CO.'S extensive Stock of GARDENING and PRUNING IMPLEMENTS, best London-made Garden Engines and Syringes, Colebrook-dale Garden Seats and Chairs.

Averuncators	Garden Scrapers	Mowing Machines
Axes	Gidney's Prussian Hoe	Pickaxes
Bagging Hooks	Grape Gatherers & Scissors	Potato Forks
Bills	Gravel Rakes and Sieves	Pruning Bills
Borders, various patterns	Greenhouse Doors and Frames	,, Knives, various
Botanical Boxes	Hammers	,, Saws
Boyd's Patent Scythe	Hand-glass Frames	,, Scissors
Brown's Patent Fumigator	Hay Knives	,, Shears
Cases of Pruning Instruments	Horticultural Hammers & Hatchets	Rakes in great variety
Daisy Rakes	Hoes of every pattern	Reaping Hooks
Dibbles	Hotbed Handles	Scythes
Draining Tools	Ladies' Set of Tools	Scythe Stones
Edging Irons and Shears	Labels, various patterns, in Zinc, Porcelain, &c.	Shears, various
Flower Scissors	Lines and Reels	Sickles
,, Stands in Wires & Iron	Marking Ink	Sickle Saws
Fumigators	Mattocks	Spades and Shovels
Galvanic Borders and Plant Protectors	Menographs	Spuds
Garden Chairs and Seats	Metallic Wire	Switch Hooks
,, Loops	Milton Hatchets	Thistle Hooks
,, Rollers	Mole Traps	Transplanting Tools
		Trowels
		Turfing Irons
		Wall Nails
		Watering pots
		Weed Hooks
		Wheelbarrows
		Youths' Set of Tools

DEANE, DRAY, AND CO. are sole Agents for LINGHAM'S PERMANENT LABELS, samples of which, with their Illustrated List of Horticultural Tools, can be sent, post paid, to any part of the United Kingdom. Also, Wholesale and Retail Agents for SAYNOR'S celebrated PRUNING KNIVES, used exclusively by the first Gardeners in the United Kingdom.—DEANE, DRAY, & CO. (Opening to the Monument), London-bridge.

HOT-WATER APPARATUS.

G. NICHOLLS, City Road (corner of Plumber-street), London, begs to inform the Gentry and others engaged in Horticultural pursuits, that he is a practical and working Man, and undertakes the erection of every description of Hot-water Apparatus. Defective Apparatus re-arranged, and warranted to act well. Those supplying their own materials attended to in town or country.

ROBERTS'S HOLLOW BRICKS for Conservatories, Terra Cotta Vases, Grape Tiles, Melon and Strawberry Tiles, with many other horticultural appliances, daily on sale at his Tile Works, Upnor, near Rochester. A small Treatise on the Culture of Strawberries and other articles can be had for six postage stamps, addressed as above. He particularly begs to draw attention to Mr. Cottingham's letter on the front page of the *Gardeners' Chronicle*, August 14.

GRAPE VINES FROM EYES, VERY FINE.

J. WEEKS AND Co., King's Road, Chelsea, have a most splendid collection of VINES, very strong and clean, two and three years old, from Eyes, all the best sorts for PLANTING OR FRUITING IN POTS.

Also an extensive and valuable collection of STOVE and GREENHOUSE PLANTS, with all new varieties. See our Catalogues devoted to each. Also our Illustrations on HORTICULTURAL BUILDING and HEATING by HOT-WATER.

J. WEEKS and Co., King's-road, Chelsea.

ROSES IN POTS.

WILLIAM WOOD AND SON, Woodlands Nursery, Maresfield, near Uckfield, Sussex, are now sending out strong, healthy, and vigorous Plants, in pots, suitable for planting out at the present time. Per dozen.

HYBRID PERPETUALS, strong, left to our selection	... 12s. to 18s.
BOURBON, Ditto	... 12s. to 18s.
TEA-SCENTED, Ditto...	... 12s. to 18s.
CHINA, Ditto	... 9s. to 12s.

AVERSCHAFFELT, NURSERYMAN, Ghent, Belgium begs to announce that he will send out on the 15th September next, his fine new CAMELLIA, "GENERAL DROUOT," on the following conditions:—

Plants, 3 feet high, with branches ...	... £1 12 0
Do., 2 do., do. ...	... 1 4 0
Do., young grafted plants, with two to three bases	... 0 8 0

N.B. His New General Catalogue of Plants will be ready in a few days.

FOR PRESENT SOWING.

SUTTON'S PERMANENT GRASSES.—The SUPERIOR QUALITY of SUTTON'S GRASS SEEDS is plainly indicated by the numerous Orders they are daily receiving, through the recommendation of former customers.

Some interesting particulars of Land laid down with these Seeds is published in the GARDENERS' CHRONICLE *of March 27th, page* 195.

The prices for the best quality are as under, but for poor reclaimed Lands or other cases where the cost is the principal consideration, mixtures at about half the price may be had.

For best permanent Meadow and Pasture, mixed expressly to suit the soil	Per acre. 24s. to 28s.
For best Clovers and Grasses (for one, two, or three years' lay)	14s. to 20s.

The sorts consist of true Perennial Grasses and Clovers, as named particularly in our Advertisement on the last page of the *Gardeners' Chronicle* of 20th March.

JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

NEW AND CHOICE PLANTS AND BULBS.

BASS AND BROWN'S NEW AUTUMN CATALOGUE is now ready: it embraces much descriptive and useful information. On receipt of three postage stamps it will be sent free, or gratis to purchasers. It contains, among other new plants, the NEW GERANIUMS last out, at reduced prices, of which we possess a fine stock, and will shortly be ready.

Seed and Horticultural Establishment, Sudbury, Suffolk.

DUTCH FLOWER ROOTS FOR EARLY FORCING.

HYACINTHS, TULIPS, NARCISSUS, CROCUSES, &c.

WM. DENYER, SEEDSMAN and FLORIST, 82, Gracechurch-street, London, has just received his large and annual supply of DUTCH BULBS and other flowering roots. A descriptive and priced Catalogue, containing several new and splendid novelties, will be ready in a few days. Copies of the same forwarded on application.

THE NEW AND BEAUTIFULLY VARIEGATED-LEAVED PLANT,

CISSUS DISCOLOR (BLUME.)

WILLIAM ROLLISSON AND SONS beg leave to inform the nobility, gentry, and the trade, that they intend sending out, on and after the 27th of September, their new and beautifully variegated-leaved climbing plant, CISSUS DISCOLOR, of Blume, which has been so universally admired this summer at the Chiswick and Regent's Park Exhibitions. Price 21s. per plant. The usual allowance to the trade if two or more plants are ordered.—Tooting Nursery, near London.

The Gardeners' Chronicle.

SATURDAY, AUGUST 28, 1852.

MEETINGS FOR THE ENSUING WEEK.

FRIDAY Sept. 3—Botanical.....8 P.M.

Country Shows.—Tuesday, August 31: Wolverhampton, Barnsley, and Shrewsbury Dahlia.—Wednesday, Sept. 1: Shacklewell.—Thursday, Sept. 2: Liverpool.—Friday, Sept. 3. Kirkheaton, Newbury, and Ashford.

AMONG the prizes which the Horticultural Society has just offered is one for GREEN PEAS at the end of October. Some of our correspondents appear to doubt the practicability of obtaining them at that season. We therefore reprint Mr. KNIGHT's statement upon the subject, from which it will be seen that he at least managed to have his table as well supplied with this esculent in September and October as in June and July.

It is clear that the main feature of the plan employed by Mr. KNIGHT consisted in having the ground very deeply trenched, so that the roots of his Peas might have plenty of room to spread, without being exposed to the chance of drought, against which he also provided by copious watering. We venture to predict that all who engage in this kind of cultivation will find that deep trenching is the key of the operation; with it watering will not be much needed; without it water will do at least as much harm as good.

It is needless to say that deep trenching is at all times of very great importance to annual crops, for reasons that have been often given. In the case of late Peas, it has an advantage that is likely to be overlooked. To remain healthy, and growing, and bearing, the roots of the Pea must be in a state of great activity, so as to maintain all the functions of vigorous vegetation. Whether or not this happens depends upon the temperature of the soil; if it is too cold the roots are unable to act, and the growth of stem and leaves is paralysed; it cannot very well be too warm. Now, the looser soil is the warmer it is; the looser it is the deeper will roots penetrate; the deeper they penetrate still warmer will they be. In the month of October, near London, the temperature of the soil, at 1 foot depth, is on an average 52.38°, but at 2 feet deep it averages 53.74°, a gain of 1.36°, which is very important; this temperature is nearly that of May, when Peas are in full growth; but it sometimes averages 54½°, and has been known to reach a mean of 55.19° (in 1846) which is the temperature of June. Under such circumstances there is no reason why Peas should not bear till they are killed by frost, and we entertain no doubt that with proper precautions we shall have plenty of instances of success. Only one other thing requires to be pointed out, namely, that cold pump water be not used for watering the crop; it should always be rain water that has been exposed to the sun, and warmed.

Now that PANAMA has become the high road to the Pacific, and that multitudes of travellers throng its roads, one while in the eager pursuit of wealth, and next with the leisure of contented enterprize, the nature of the country and its natural history have acquired far greater interest than they ever before possessed. There is not a family that may not have some acquaintance whose fortunes direct him to the El Dorado of the West, and who may have opportunities of sending to Europe what is most interesting in the great American isthmus. Information respecting its vegetation has therefore become a European want that must be satisfied; especially since, till within a few years, books were all but silent on the subject. It was known, indeed, from the slight collections formed by Mr. CUMING in 1829, that the plants were in many instances peculiar; as was afterwards shown by the importation of the Dove Plant (*Peristeria elata*); botanists learned something more from the collections of BARCLAY, HINDS, and other travellers; and plant-growers have found that the importations of M. WARCZEWITZ, from Veragua, a neighbouring country possessing a similar flora, were mostly novel. Still our knowledge of Panama continued to be meagre in the extreme till the return of H.M.S. Herald, which had been employed for six years under command of Capt. KELLETT, in circumnavigating the globe, a large part of which time was passed in the Pacific.

It happened fortunately that there was attached to this expedition, Mr. BERTHOLD SEEMANN, a German naturalist, of much intelligence and industry, and great power of observation, who neglected no opportunity of making himself thoroughly acquainted with everything relating to botany which came within his observation. The result is preparing for publication in different works, among which "The Botany of the Voyage of the Herald" has already been favourably noticed by us.* In the second part of this important work, of which we have just received a copy, an account will be found of Panama, which gives so graphic and ample a description of what it is most desirable for the cultivator to know, and draws so striking a picture of the beauty of the vegetation, that we are tempted to lay Mr. SEEMANN's statement before our readers at some length.

In the first place we have the following account of the climate:—

"With the exception of the higher mountains, where the temperature is comparatively low, the climate is hot and rainy. The seasons are distributed into wet and dry. The rains commence with the appearance of the new moon in April, and are in the beginning mere passing showers, but they gradually increase, and are fully established towards the end of May, when they fall in torrents, sometimes for days together in succession, and are accompanied by thunder and lightning of the most terrific description. Save a few days about the 24th of June, the Veranito de San Juan, the rains continue for eight months, until the end of December, and in Southern Darien and some parts on the Atlantic side, they last almost the whole year. During this time, fogs, calms, and light variable winds prevail, and the air is loaded with so much moisture that leather cleaned in the morning is densely covered with mould in the evening. The temperature does not vary more than from 75° to 87° FAHR., but still perspiration being impeded, the temperature feels hot and close, and to a European some of the nights are almost insufferable. Tired in the extreme, he throws himself on his couch, but no sleep closes his eyes. Everything is hot and uncomfortable, and the pillow is repeatedly turned over to get the coolest side. Towards the end of December the violent rains diminish in frequency, and with the commencement of the new year the north-west wind sets in. An immediate change follows. The air becomes pure and refreshing, the sky blue and serene, hardly a cloud is to be seen, and there being but little moisture in the atmosphere, the heat, though ranging between 75° and 94° FAHR., is less felt. Scarcely has dawn commenced when everybody is in action. Nature stands invigorated by night's repose, and heavy drops of dew hang on every leaf. Stately Palms wave their foliage in the morning air, and gay-coloured humming-birds, parrots, and macaws diffuse animation over the scene. This time is delightful, but of short duration. Towards 9 o'clock the heat begins to be felt, and that lassitude for which tropical regions are so well known seizes everything. The leaves droop, the wild pigeons cease to utter their notes, and the inhabitants seek shelter in the shade of their dwellings. At noon a profound silence prevails, only broken now and then by some reptile gliding among the dead leaves of the forest, or by the solitary tapping of the woodpecker. Not a breath stirs the air, the whole atmosphere trembles from the excessive heat, and the thermometer of FAHRENHEIT, when exposed to the full influence of the scorching rays, frequently rises to the height of 124°. In the afternoon the heat becomes less oppressive; breezes spring up, and the cool air of the evening calls forth a new life. The forests are now glittering with myriads of fire-flies, crickets are chanting their merry tunes, and here and there are groups of people chatting and amusing themselves. But nothing can exceed the beauty of the scene when the full moon rises, shedding its silvery light over the broad foliage of the tropics. Whatever may have been the fatigue of the day, whatever the body may have suffered from heat and languor, all is forgotten when this spectacle presents itself. Such a night baffles description, it is the quintessence of equinoctial life."

The coast line and the tracts within the influence of the tides are little better than swamps, in which the traveller finds nothing of horticultural interest:—

"Far different is the vegetation of the savanas. The ground, being level or slightly undulated, is clothed during the greater part of the year with a turf of brilliant green. Groups of trees and bushes rise here and there; silvery streams, herds of cattle and deer, and the isolated huts of the natives, tend to give variety to the scene, while the absence of Palms and Tree Ferns imparts to the whole more the appearance of a European park than a tract of land in tropical America. The turf is almost as dense as in an English garden, and contains, besides numerous kinds of Grasses, many elegant Papilionaceæ, Polygaleæ, Gentianeæ, and Violaceæ; the Sensitive Plant (Mimosa pudica, LINN.) prevails in many localities, shutting up its tender leaves even upon the approach of a heavy footstep. The clumps of trees and shrubs, over which the Garumos and Pavas are waving their large foliage, are composed of Myrtaceæ, Melastomeæ, Chrysobalaneæ, Papilionaceæ, Verbenaceæ, Compositæ, Dilleniaceæ, Anonaceæ, Malpighiaceæ, and Acanthaceæ, and overspread by Convolvulaceæ, Aristolochiæ, Apocyneæ, and other climbing or twining plants. Orchideæ are plentiful in the vicinity of the rivers, where the trees are literally loaded with them. The Vainilla (Vanilla sp.) climbs in abundance up the stems of young trees, and often increases so much in weight as to cause the downfall of its supporters."

"The Espiritu Santo or Holy Ghost Plant (Peristeria elata, HOOK.) bears a flower resembling a dove, and is, like the Flor de semana santa, another Orchidea, almost held in religious veneration, and eagerly sought for when in blossom. The Biura (Petræa volubilis, JACQ.) is a flower of whose beauty those who have only seen it in conservatories can form but an inadequate idea: nothing can be more charming than the sight of whole groves overspread with the long blue racemes of this creeper; it almost baffles description. The Palo de buba (Jacaranda filicifolia, DON) is another of those plants on which poets delight to try their pen, and painters their brush. When this noble tree rises on the banks of the river, amidst the dark foliage of a luxuriant vegetation, and waves its large panicles in the air, the foot is involuntarily arrested, and one gazes for some time lost in wonder and admiration. There is also a number of plants which exhale a delicious perfume; a long list of them could be cited, but it may suffice to enumerate the Flor de Aroma (Acacia Farnesiana, WILLD.), Buenas tardes (Mirabilis Jalapa, LINN.), the different Caracuchas (Plumieria sp. pl.), Copecillo olorosa (Clusia sp.), Dama de noche (Cestrum paniculatum, WILLD.), Guavito cansaboca (Pithecolobium), Jasmin de monte (Taber-

* Parts 1 and 2, fo. REEVE and Co. The plates, which were rather coarsely lithographied in the first part, are now executed by Mr. FITCH, and are exquisite examples of botanical drawing.

næmontana alba, Mill.), Ñorbo (Passiflora biflora, Lam.), and Manglillo (Ternstrœmia brevipes, DC.)."

"Several spontaneous productions are used as culinary vegetables. The Marathrum fœniculaceum, H. B. K., a plant resembling some of the finer sea-weeds, and growing in most rivers of Veraguas is esteemed so highly by the inhabitants that they have called it Passecarne, *i.e.*, excels or surpasses meat; and, indeed, its young leaf-stalks, when boiled, have a delicate flavour, not unlike that of French Beans. The leaves of the Ñaju de espina (Peirescia Bleo, De Cand.) are eaten as salad, either raw or boiled, like the young branches of several Opuntias in Mexico; and in a country where, from the nature of the climate, the rearing of Lettuces is attended with difficulty, they form a tolerable substitute. The foliage of the Col de Nicaragua (Jatropha multifida, Linn.) affords another culinary vegetable, losing, apparently, as do most Euphorbiaceæ, its poisonous qualities by boiling. The seeds of the Chigua (Zamia Chigua, Seem.), a plant abounding in the vicinity of Chirambirà, after having been boiled and reduced to a mash, are mixed with milk and sugar, and thus eaten. A kind of bread is also prepared from them. As condiments for esculent purposes, divers plants are used. The red berries of the Malagueto chico, or Malagueto hembra (Xylopia frutescens, Aubl.), are substituted for pepper, especially by the negroes. The fruit of the Vainilla (Vanilla, sp.) and Vainilla chica (Sobralia, sp.), are spices employed in flavouring sweetmeats, chocolate, and puddings. The leaves of the Toronjil (Ocimum), a common herb, are chopped, and serve to replace our Parsley. The most important, however, of all the aromatics to the Panamian cook is the Culantra (Eryngium fœtidum, Linn.). It imparts a flavour difficult for a foreigner to relish; but the inhabitants consider it indispensable, and are quite distressed when in the soups and sancoches their favourite condiment has by some accident been omitted."

Such are among the claims of Panama upon the attention of European cultivators; and surely they will excite the interest of all who have access to that singular country. A visit for a few spring months would produce an abundant harvest to any active, quick-eyed gardener. He would only have to avoid the swamps where he will find alligators instead of fine plants, and the forests which cover at least two-thirds of the country, and where "flowers are scarce in proportion to the mass of leaves with which such places are crowded."

We understand that only 25 copies of the large edition of "English Botany," in 36 volumes, now remain in the publisher's hands. We mention this because we see that they may now be had for 25*l.* instead of 55*l.* each; and for the sake of correcting a misapprehension regarding the small edition, in seven volumes, which is often supposed to be the same as the large one. But the small edition contains neither Ferns, nor Mosses, nor Lichens, nor sea-weeds, nor any cryptogamic plants whatever. These, with the exception of fungi, form a very large part of the original edition of the work.

EARLY BULBS.

Through the medium of your Calendar, and other sources of information, the attention of amateurs and forcing gardeners has been directed to the importance of procuring and potting their bulbs early for early forcing. The London nurserymen and seedsmen, to meet this demand and accommodate their customers, have urged the Dutch growers to forward them earlier than usual, and the consequence is that now, instead of receiving the bulbs in October, it is not unusual to see them here in August, or even the end of July. Now, it cannot be denied that early potting or planting is one of the main hinges of success in forcing bulbs for Christmas decoration, but whether early potting means the end of July or the middle of September, is a matter worth defining. We all know, at least every gardener ought to know, that the great desideratum in bulb management is to have them thoroughly matured, first by the full exposure of the foliage to light and atmospheric influences until it dies off naturally, and secondly by slowly drying and ripening the bulbs afterwards until they are as firm and solid as possible. Upon this thorough ripening, much more of the success of early forcing and strong flowers depends than upon premature ripening and potting. I say "premature ripening," because I believe, in fact I have had the information direct from some of the principal growers in Holland, that to meet this early demand a portion of the bulbs has to be taken up before their growth is completed; and hence, though early, they are immature, and consequently do not contain the elements of early and vigorous development.

It may be argued that the early imported bulbs are properly matured, to which I reply, test them. Take a dozen bulbs in the end of July, weigh them, and then let them remain in the sun-scorched and gas-heated seed-shop window, and in a fortnight they will have lost one-third of their weight, and will in consequence have quite a shrivelled appearance. Submit a similar quantity of later imported bulbs to the same test in September, and they will scarcely be injured at all. Let me not, however, be misunderstood; for while I am desirous of pointing out the impropriety of importing bulbs very early, I do not wish to run to the old extreme of very late importations. For my own part, I am quite convinced—and I force many hundreds annually—that thoroughly ripened bulbs potted by the beginning of October, and properly treated afterwards, are superior for blooming at Christmas to those imported in July; in fact, having more true sap stored up, they will produce finer spikes of bloom than the early imported bulbs possibly can do.

Few plants pay better for good treatment than early bulbs, and they delight in good rich soil, such as mellow loam and fresh horse-dung sweated together and afterwards well aerated, mixed with about one-third of perfectly decomposed three-year-old cow-dung, and plenty of gritty sand. Thus potted and placed in a frame, if upon a spent hot-bed all the better, and covered 6 to 12 inches deep with old tan or ashes, and fully exposed, except to drenching rains, they will soon fill the pots with roots and be fit to introduce to the forcing-house the beginning of November. Bulbs should not be selected for their size, but for their weight and solidity; a small bulb that is heavy and firm, especially about the point of growth, will produce a much finer flower than one double the size, but soft and scaly; and hence it is not right to estimate bulbs by their size, so much as by their weight and proper maturation.

In making the above remarks my object is to check the early importation of bulbs, by showing purchasers the impropriety of buying them. Bulbs imported early should be kept cool and in the dark; and if you wish to have good flowers, avoid those that have been exposed in seed-shop windows. *W. P. Ayres, Blackheath.*

LATE PEAS.

(Reprinted from T. A. Knight's "Physiological and Horticultural Papers.")

I shall not dwell longer upon the primary cause of the various diseases which are comprehended under the name of mildew; but shall proceed to the immediate object of the present memoir, which is to point out the means by which the injurious effects of the common white mildew may be, in particular cases, prevented.

The secondary and immediate causes of this disease, and of its congeners, have long appeared to me to be the want of a sufficient supply of moisture from the soil, with excess of humidity in the air, particularly if the plants be exposed to a temperature below that to which they have been accustomed. If damp and cold weather in July succeed that which has been warm and bright, without the intervention of sufficient rain to moisten the ground to some depth, the Wheat crop is generally much injured by mildew. I suspect that, in such cases, an injurious absorption of moisture, by the leaves and stems of the Wheat plants, takes place; and I have proved, that under similar circumstances much water will be absorbed by the leaves of trees, and carried downwards through their alburnous substance; though it is certainly through this substance that the sap rises under other circumstances. If a branch be taken from a tree when its leaves are mature, and one leaf be kept constantly wet, that leaf will absorb moisture and supply another leaf below it upon the branch, even though all communication between them through the bark be intersected; and if a similar absorption takes place in the straws of Wheat, or the stems of other plants, and a retrograde motion of the fluids be produced, I conceive that the ascent of the true sap or organisable matter into the seed-vessels must be retarded, and that it may become the food of the parasitical plants, which then only may grow luxuriant and injurious.

This view of the subject, whether true or false, led me to the following method of cultivating the Pea late in the autumn, by which my table has always been as abundantly supplied during the months of September and October as in June and July; and my plants have been very nearly as free from mildew. The ground is dug in the usual way, and the spaces which will be occupied by the future rows are well soaked with water. The mould upon each side is then collected, so as to form ridges 7 or 8 inches above the previous level of the ground, and these are well watered; after which the seeds are sown, in single rows, along the tops of the ridges. The plants very soon appear above the soil, and grow with much vigour, owing to the great depth of the soil, and abundant moisture. Water is given rather profusely once in every week or nine days, even if the weather proves showery; but if the ground be thoroughly drenched with water by the autumnal rains, no further trouble is necessary. Under this mode of management the plants will remain perfectly green and luxuriant till their blossoms and young seed-vessels are destroyed by frost; and their produce will retain its proper flavour, which is always taken away by mildew.

The Pea, which I have always planted for autumnal crops, is a very large kind, of which the seeds are much shrivelled, and which grows very high: it is very common in the shops of London, and my name has, I believe, been generally attached to it. I prefer this variety because it is more saccharine than any other, and retains its flavour better late in the autumn; but it is probable that any other late and tall-growing variety will succeed perfectly well. It is my custom to sow a small quantity every ten days till midsummer, and I rarely ever fail of having my table well supplied till the end of October, though sometimes a severe frost in the beginning of that month proves fatal to my later crops.

The mildew of the Peach, and of other fruit trees, probably originates in the same causes as the mildew of the Pea, and may be prevented by similar means. When the roots, which penetrate most deeply into the soil, and are consequently best adapted to supply the tree with moisture in the summer, are destroyed by a noxious subsoil, or by excess of moisture during the winter, I have observed the mildew upon many varieties of the Peach to become a very formidable enemy. Where, on the contrary, a deep and fertile dry loam permits the roots to extend to their proper depth; and where the situation is not so low as to be much infested with fogs, I have found little of this disease; and in a forcing-house I have found it equally easy, by appropriate management, to introduce or prevent the appearance of it. When I have kept the mould very dry, and the air in the house damp and unchanged, the plants have soon become mildewed; but when the mould has been regularly, and rather abundantly watered, not a vestige of the disease has appeared.

SALVIA GESNERIFLORA.

The fine long spikes of brilliant scarlet Gesnera-like flowers which this Sage produces from every properly ripened shoot render it very striking, especially during the winter and spring months. It may be easily grown to a large size in one season; and I doubt whether we possess a plant requiring so little skill for its successful cultivation that is equally beautiful. It is not, however, very generally met with, which may possibly be attributed to the fact that it requires to be grown to the desired size, and wintered in that state to have it bloom in anything like perfection; if this is a fault, however, it is one which pertains to the majority of our most esteemed greenhouse plants.

Stunted bits of the young wood are more suitable for cuttings than healthy fast growing pieces, as the former root more certainly, and form closer jointed specimens than the latter, and generally flower more freely. Plant them in light sandy soil, cover with a bell glass, and place them in a gentle bottom-heat, where in a few weeks they will be ready for potting off. Place them in a shady close frame after potting, until they have become well established; and stop the principal shoots in order to induce a bushy habit of growth. A situation near the glass where they can be protected from frost and damp will suit during winter.

Where it is desired to have large specimens in 15-inch pots, the plants should be in 7-inch pots, and well established before winter; and should be placed in a close frame, with a moist growing temperature from 40° to 50° early in spring; but if moderate-sized plants only are required, the warmest end of the greenhouse will advance them sufficiently fast. Keep them well supplied with pot-room, and persevere in stopping and pegging out the shoots. They should be ready for shifting into their flowering pots in June, and when established in these they will be benefited by being placed in an airy situation out of doors, where they will be freely exposed to the sun's rays. This will greatly assist in securing short jointed thoroughly-ripened wood, which will flower more satisfactorily in spring than if the last growth were made under glass in a moist atmosphere, where it would be improperly matured. Manure-water in a clear state may be given two or three times a week during the growing season with advantage; but this should be discontinued when the object is to ripen the wood. Some attention will be requisite to secure handsomely-formed specimens; the shoots should be pegged out in spring, and stopped, with a view to induce them to make compact growth. They must not be stopped later than July, otherwise the flower spikes will be small, and the plants will not present the splendid appearance which they do when properly prepared. A cool, light situation, free from frost, with a very sparing supply of water, merely enough to keep the plants from flagging, and a free circulation of air on mild days during winter, will check all tendency to growth, and suit better than kinder treatment at this season.

After Christmas the plants will be easily induced to bloom, by being placed in a temperature of about 50°, and liberally supplied with water at the root; or they may be placed in the closest part of the greenhouse, where they will come into flower in March, and will form brilliant objects for some six weeks. While in flower, water with manure water, and admit air freely on mild days, and sufficient at all times to prevent injury from damp. When the beauty of the plants is over, they may be closely cut back, and placed in a cool part of the house, until they can be set out of doors, and, with a liberal supply of manure-water and a moderate shift, they will form useful specimens for blooming next season; but young plants are generally preferable, and if there is a stock of these, the old ones may be thrown to the rubbish heap.

A strong rich soil suits this Salvia well, such as one-half mellow fibry loam, one-fourth rotted leaves, and one-fourth thoroughly decayed cow-dung; but it is not very particular in this respect, and will grow in any rich porous soil. If dung is used, pass it through a quarter-inch mesh sieve, and mix it with its own bulk of sand; and before adding it to the compost, rub it through the hands, when the sand will destroy any small worms that may have passed through the sieve. *Alpha.*

TRADE MEMORANDA.

Who is Mr. Samuel Brindley, of 10, Dyche street, St. George's-road, Manchester, dealer in glass? Is he any relation of a person of the same name writing from 23, Hart-street? And has he any connection or relationship with Mr. Patrick Kelley?

Home Correspondence.

Orchard Houses.—I have been so much interested by a visit to-day to a structure of this kind at Hyde-hall, near Sawbridgeworth, that I am induced to think a few words of its history and description may be of use to many of your readers. In the autumn of last year the Peaches and Nectarines at Hyde-hall failed for the fourth or fifth consecutive season; the trees were also blighted and nearly dead, owing in a great measure to the cold clayey nature of the soil, highly unfavourable to Peaches and Nectarines. Lord R— happened at this time to pay a visit to his neighbour, Mr. Rivers, and was much struck by his trees in pots, then full of fruit, and decided upon having an orchard house. This was built last November, a lean-to against a south wall, to which the Peach trees had formerly been trained. It is 40 feet long and 10 feet wide, with nine apertures in the wall 2 feet by 1 foot, closed by sliding shutters inside; in front one row of glass 14 inches wide, and a shutter on hinges 11 inches wide; the path in the centre is sunk; the front border is 3 feet 6 inches wide, the back border 4 feet wide; this is raised so as to be about 6 feet from the roof. In December last 40 Peach and Nectarine trees, in 11-inch pots, were placed in the house, 20 on each border; they were top-dressed with rotten manure towards the end of February, and water, for the first time during the winter, given to them; they bloomed finely in March, having abundance of air, the shutters front and back being open night and day in mild weather, and closed at night only during the cold winds; the fruit, in spite of the severe frost on the 20th of April, which penetrated the house, set well, and the trees in May put forth healthy foliage. Syringing morning and evening was then commenced, and continued till the fruit commenced ripening. Towards the middle of June the trees had rooted through the pots into the border, and began to grow too luxuriantly; to check them, and yet not to make the fruit fall off by too great a check, they were tilted up on one side, so as to break off half the young roots, the pots replaced, and then suffered to rest a week, and the other side of the pot then tilted, so as to break off the remainder. The trees were checked, but not a fruit dropped off. By the end of July some of the trees again showed too much vigour, when the tilting was repeated. The ends of the young shoots were pinched off during the summer, as soon as they had attained a length of 9 or 10 inches. Now for the end. Twenty-two of the trees, which were in a more forward state than the remainder (which were younger trees) are most beautiful objects, and have given between 200 and 300 of fine fruit of exquisite flavour. The trees are all robust bushes, in the finest health, and capable of bearing next season more than double the quantity they have this; it is intended to shift the trees in autumn into 13-inch pots, in which, with annual top-dressing, they are to remain for some years. Now when it is brought to mind that the above is the result of six months' culture only, *i. e.*, from March to August inclusive, and that a garden labourer who never pruned a Peach tree has had the sole management of them, it will show, I think, the facility with which Peaches and Nectarines (the most delicious of fruits) may be cultivated under glass without fire-heat, and a crop always insured. I hope to see orchard houses in the gardens of every lover of gardening; for no structures, in my opinion, are so calculated to give pleasure, aye, and to more senses than one—for in spring the trees gladden the eye, and in summer and autumn the other sense—let your readers imagine which. *Pomona, Harlow.*

Peat Charcoal, if strewn over Potatoes when being clamped, will effectually preserve them from decay. Knowing the powerful properties of this article as a deodoriser and preservative, I am convinced it would prevent the disease extending in the root after the Potato was dug out. *F.*

Rhododendrons.—A very unusual proportion of the flower-buds formed this summer is developing itself into leaves, and an autumnal shoot. Is this likely to be caused, or increased, by the practice of covering the borders with mown Grass—a system adopted to save the plants from burning in a light soil. If so, can another system, free from this objection, be pointed out? *R. A. H., Westmoreland.* [We ascribe the circumstance to floods of rain falling upon ground most *unusually* heated by a fierce sun.]

The Australian Gold Fields.—Knowing that it is your desire to give both sides of the delights of the Australian gold fields, as so many of the trade are going out, I send you the following extract from a letter dated 21st March last, from W. H. Hovell, Esq., J.P., of Goulburn, my brother-in-law, on whose veracity you may place the utmost reliance:—"The number of persons working at the Port Phillip gold fields is estimated at 40,000; but being so near the receptacle for convicts, Van Diemen's Land, they have all the worst characters amongst them—and depredations of the foulest nature are constantly committed; but here, in the Goulburn district, the best order is preserved: life and property are quite safe, and the mails and other coaches and vehicles travel without fear. The last time I went to Sydney, one person in the coach had 76 lbs. of gold, and two other passengers 30 lbs. between them. I should have mentioned that the 76 lbs. were sewed up in an old horse-collar, and lying at the bottom of the coach as a footstool for me. Many thousands of pounds worth go in the mail-bags weekly, besides the large amount in passengers' luggage, all of which is unprotected, there being only the coachman and passengers, and these perhaps with not a pistol among them. The quantity of gold shipped to the 13th inst., for England, is 1,125,317*l.* 5*s.* 7*d.*, leaving a large quantity in the hands of the diggers and other persons. It appears that about 455,061 ounces have been sent to England from Port Phillip, and 194,000 were in hand, making the total collected 27 tons 4 cwts. 39 lbs. How this is to end no one will venture to predict; all other pursuits are neglected, as every man (I have seen women too), will 'try their hand at it,' and not more than one in twenty will be successful. The work is very hard, wet and cold, bad water, bad feeding, and bad sleeping; if the water had been good before, it is made bad by washing the earth in it. In consequence of this mode of living the man becomes brutalised, for he neither washes nor shaves himself, and the same blue shirt and fustian trousers last him for months, and all decencies are forgotten, yet, in this filthy garb and appearance the fellow will swagger and appear very independent till, perhaps, at last, his health gives way after working for months without 'luck;' he then returns to his 'old home' pennyless, in rags, and seeks permission for medical relief in the hospital. As the winter is now approaching I expect many will return in the way I have described; many will make fortunes, a larger number will have done well, but *thousands* will say they could have done better at their usual employment. Labourers employed at the diggings get from 45*s.* to 60*s.* per week, in some instances food given in. Several hundreds of Chinamen have been brought to the colony lately; other cargoes are expected. They are a very sober, industrious race, and work at low wages; with method they are easily managed, and as they are bound for 5 years, it is absolutely necessary to acquire that method." *C. G. Wilkinson, Western Rose Nursery, Ealing.*

New British Plant.—The Epipactis you have figured at p. 536 is the E. media of Babington's "Manual of British Botany," and is distinguished from the typical E. latifolia in each of the editions of that book. It is not certain that it really is the true E. media of Fries, although it accords with his description; for Mr. Lange, of Copenhagen, informs me that that description of the terminal division of the lip does not agree with that part in specimens named by Fries. Unfortunately my specimen from the latter illustrious botanist does not allow of my ascertaining the form of this part. Mr. Lange has not seen my E. media in Denmark: it is not uncommon in England. There is a plant having the flower of E. latifolia (with the exception of an apiculus in place of the recurved point) which may be the E. media of Fries. The whole subject of these plants is very much in want of elucidation, and I fear that the confusion is even increased by the figures and descriptions contained in Mr. G. H. Reichenbach's otherwise most valuable and beautiful "Orchideæ in Fl. Germanica recensitæ," to which I would venture to direct the attention of the botanical readers of this note. *Charles C. Babington.* [We regret our inability to agree in the opinion thus expressed by our learned friend. The most important of the peculiarities belonging to the plant in question consist in its ovary having a peculiar form and no downiness, and in its acute even lip. In all this it is at variance with *Epipactis media*, which, like *E. ovalis*, we must regard as trifling varieties of the variable *E. latifolia*. If it were possible to admit any specific difference among these plants, then Mr. Vernon Harcourt's is far more distinct from them than they are from each other. This will appear from the following contrast between it and Mr. Babington's Epipactis media:—

Mr. Vernon Harcourt's.	Mr. Babington's.
Ovary perfectly smooth.	Ovary downy.
Lip even, entire.	Lip crenate.
Flowers greenish, with no other colour.	Flowers green, tinged with purple.]

Vines in Pots.—I have been a grower of Vines in pots for several years, and with good success; but this season I have met with a disappointment which I feel unable to account for, the plants in every respect having had the same treatment as heretofore, as regards all the accessories or stimulants to growth; yet the fruit has not coloured so well, nor are the leaves so healthy as I have been accustomed to have them. This defect I am inclined to think may be attributed to my growing (for the first time) this year, the pretty Lycopodium depressum on the surface of the pots, to make the plants look more dressy when sent to table. Do you agree with me in considering this to be the cause of my failure? Or can it be prejudicial in any way to the growth of the Vine? *F. T.* [We should think not.]

Potatoes in Burnt Tan, &c.—Observing, at p. 517, an article on the application of old tan for the preservation of Potatoes, I am induced to represent that for the last two or three years I have applied an equal proportion of burnt tan, lime, soot, and salt, but somewhat less of the latter, and have found it answer exceedingly, and prove a manure for my garden. On digging, I find the application visible in the soil, and the Potatoes very clean, and free from injury by slugs, &c. My produce has been abundant, and the Potatoes excellent. Even in this year of disease, a few only are affected. A tanner lives near me, who is continually burning his old tan to ashes, from which I am supplied. I sprinkle some of the application in the trenches made for planting, and put whole Potatoes upon it and cover them, which I do about the second week in February and March. *H. V., Dursley, Gloucestershire.* —— A correspondent, a fortnight since, spoke of Potatoes planted in spent tan being quite free from disease. Did his former crop remain so all last winter? For here a crop of Potatoes, got out of the ground a fortnight since, was apparently sound; but on looking them over in the store-house, a week since, disease was found extensively. The Kidney Potatoes, which were all got up a month ago, continue as sound as at first; these grew in a part of the same soil, and with the same manuring as the others. If the Kidneys shall be found to keep sound through the winter, is not the inference that we ought to grow the sorts which ripen so early that they can be dug up before the season when disease shows, and to discontinue the late kinds? Vegetation, both leaf and stalk, in various cases, seems to be unusually affected here this year, with different forms of mildews, blights, galls, &c. *R. A. H., Westmoreland.*

Normandy Cress.—Is it generally known that this beautifully curled Cress is quite hardy, at least sufficiently so to stand unprotected in any warm and dry corner of the garden? Upon my cold and stubborn soil, quite unprotected, it stood through last winter, when I frequently gathered as many as a peck of leaves from it weekly. I need scarcely point out how very superior Cress of this description is to the soft watery stuff sold in Covent-garden market, what an indispensable ingredient it is when once tasted in a good salad, and what an admirable thing it is also for garnishing, being beautiful to look upon, and good to eat also. To stand through the winter, it should be sown not later than the first week in September, upon rich, well-worked ground, in drills 3 inches apart, sowing very thinly, and thinning the plants to an inch apart in the drills. The foot of a south wall would be the best place, and if the border were made to slope to the sun, it would be so much the better. Stir the ground among the plants frequently, and keep it free from weeds; and from half-a-dozen square yards you may gather sufficient Cress for the daily supply of an ordinary family. Should the weather be very severe, the beds might, for the purpose of securing a regular supply, be covered with hand-glasses; or a few Spruce Fir or Yew-branches would be a great protection in breaking drying and north-east winds; but my own bed had no protection. This Cress, with the American Cress, and Watercress, will be found exceedingly useful where salad plants are much in demand. I may remark that the Normandy Cress transplants beautifully, and that a few pots, or a box, would not be an unsightly object in the window or the amateur's greenhouse. *Wm. P. Ayres.*

Haricot Beans.—In consequence of the failure of the Potato crop, allow me to remind all market gardeners and extensive growers of French Beans to save as many as they possibly can, for they may fully rely upon Haricot Beans being much in request this winter, and on long prices being offered for them. As a substitute for the Potato they are highly valuable, and contain much nourishment, and I think a more wholesome dish cannot be found. As there is every appearance of Potatoes being very dear, this affords the best chance of poor families getting a good Sunday's dinner in the middle of winter. *E. Bennett, Perdiswell Hall Gardens, August 23.*

Coloured Light.—I observe, at p. 517, that in reply to a correspondent who consulted you on a point relating to the comparative effect of coloured or white light on vegetation, you say, "We prefer white light, the natural light which Providence has given us." Do you mean by this, that coloured light is not natural light, and has not been given us by Providence? For if you do, then by all the glorious hues of the rainbow, the loveliest of Nature's meteors, you are wrong. Or would you imply that a question as to the specific effect of coloured light upon the growth of plants does not deserve a serious or respectful reply? If so, I desire, with of course due deference to your authority, to submit a few facts respecting some of the curious properties of coloured light to your consideration, in the hope that they may not be without interest for some of your readers also. 1. We know that when a ray of white solar light is passed through a prism, it is decomposed or separated into a number of coloured rays, and that each of them differs in heating power. This may be shown generally by looking at the sun through glasses of different colours, when it will be found that red and yellow glasses heat and oppress the eye, much more than blue or green ones. The fact may be demonstrated with more scientific precision, by placing the bulb of a delicate thermometer in the coloured spaces of the solar spectrum, when it is found to stand highest in the red space, and to fall lower and lower as it is moved towards the violet space, where it is lowest. 2. Again, these coloured rays are refrangible in different degrees. Thus, the heat of the violet ray passes through limpid water more readily than that of the yellow; and the heat of the yellow than that of the red ray. 3. They differ also in their power of producing chemical changes; and how remarkable a power that is, is now universally known, through its application to the interesting modern art of photography. The strongest chemical action is exerted just beyond, or at the verge of the violet part of the prismatic spectrum; the spot next in chemical energy is the violet itself; and this power gradually diminishes in advancing to the green, beyond which it seems to be wholly wanting. In conclusion, I would observe that any one who has time and taste for such

investigation, and proper appliances, might confer much service on a branch of vegetable physiology, by instituting a well-considered series of observations on the effect of coloured light on the growth of plants. Your correspondent asserts that violet light hastens vegetation, and induces a quicker striking of cuttings. *P. L., Brecon.* [We are not unacquainted with Mr. Hunt's curious experiments on this subject; nevertheless we abide by the opinion we have expressed. What the connexion may be between the colours of a rainbow and light acting upon vegetation, we do not perceive.]

Late Peas.—The soil of my garden being very light, I have tried in vain to obtain a good autumnal supply of green Peas. A cotemporary periodical recommends planting in a trench, like Celery, with loam and manure. In the *Chronicle* it is stated that manure is an exciting cause of mildew. Where authorities greatly disagree, we may infer that very little is really known. This year I tried a plan which is said to have been successful in other places, namely, sowing early, and at 6 inches apart, stopping the plants, and pulling off flowers, until one wants them to commence bearing. I have thus treated Prussian Blues, Knight's Dwarfs, Hairs' Dwarfs, and British Queens. They have been well watered at the roots, and mulched. But, excepting the British Queens, they are all sadly mildewed. Some years ago, on returning from France, in October, I wrote to you, remarking the abundance of green Peas, even at that late season, and was in hopes that some correspondent acquainted with gardening in that country, might impart some information to us. But no such information has appeared in your columns. It is quite clear that the greater heat and drought of France is unfavourable to the Peas, yet they are sufficiently abundant to be sold everywhere; while, in England, a few autumnal Peas are rarities only now and then to be seen. As green Peas are the best vegetable grown, a little advice as to the best mode of obtaining them would, I think, be acceptable to all. *G. B.* [You will find a communication on this subject made to the Horticultural Society many years ago, by the late Mr. Knight, reprinted in another column.]

Rough Plate Glass.—A gentleman about to erect a new conservatory is anxious to learn how rough plate answers for the roofs of such houses. He is aware that it has been recommended for Vineries and other forcing houses, but he wishes to know whether it has been tried for plant houses, and if so, with what result; and if shading be required where it is used? He would likewise wish to ascertain from those who have had it in use some time, if dirt does not collect on it more than on glass having a smoother surface; and if the condensed vapour rising in every house to the roof runs as freely down glass of this kind as it does on good sheet, as he is afraid the roughened surface impeding the flow of moisture might occasion drip more so than with other glass; and as the angle of elevation is fixed in his case, he cannot raise it to avoid such an evil, should it be more likely to happen with rough plate than good sheet. He is aware that it has been strongly recommended by some who had evidently not had sufficient experience to warrant their coming to such a conclusion; he would now wish to elicit the unbiassed opinion of all who have had a lengthened trial of it, and hopes they will be candid in pointing out its defects, as well as its merits; he feels strongly tempted to try it, but before doing so would like to be informed as far as possible what its advantages are over good sheet; and whether they be such as to justify his incurring the increased expense, which in his case will be considerable. He trusts some of your correspondents, who have had experience in the matter, will favour him with the required information, as he has made arrangements for commencing immediately; and his decision as to the kind of glass to be used is wanted, in order that the work may be progressed with. *H. L. T.* [We can only repeat that our own experience is entirely in favour of rough plate.]

Covering Vine Borders with Raw Pigs' Dung.—The following statement may afford some little instruction to young gardeners, and it will certainly be the means of putting inexperienced amateurs on the alert:—In the beginning of April last I wrote to you concerning the pernicious and unnatural system of putting raw pigs' dung on Vine borders. That letter at the time had the desired effect, and the "poison" was removed, in the course of a few days. Now, I rejoice to state, that the crop of Grapes has far exceeded my late employer's most sanguine expectations. When applied to for my opinion I candidly gave it, and advised him to have the whole (8 or 9 inches in thickness), of this cold and crude mess removed. My ex-employer says now that if it had been left on the border, the crop of Grapes would have been much finer. This is the point on which we disagree. We examined the border, and found some few half-starved roots, about 2 feet beneath the surface, in a cold, sour, and undrained bottom. Now, I contend that the improved state of the crop is to be attributed to the removal of the pigs' dung, as the genial rays of the sun acted as a stimulus, and encouraged the roots to take an upward direction, whereas, if this reeking, moving mass (when trodden upon), emitting a pestilential odour, was allowed to remain on, the Vine roots would avoid coming in contact with it, as we should shun, if possible, a contagious epidemic. I have been accused by my late employer of writing to you in order to expose his establishment. I deny such charge; the only motive which actuated me to take the step I did was, that I might be able to convince him how erroneous his notions were, and to satisfy myself (by an appeal to the whole gardening world), that what I advocated was right. It would be difficult to convince me that 9 inches of raw pigs' dung are preferable to a sufficient quantity of stable-dung, which would raise the heat of the border (by carefully renewing it from time to time, as circumstances might dictate), to a degree proportionate to the atmospheric temperature within the house. I very much doubt if Mr. Mitchell, of Brighton, applies raw pigs' dung on his Vine borders. It never heats, but remains a cold mass of matter, utterly precluding all the genial advantages to be derived from solar rays acting on the soil, and more especially if the border is deep and not properly drained. I believe that if 9 inches of cold, raw, pigs' dung were allowed to remain on a Vine border for any considerable length of time, mildew, shanking, and other evils must inevitably ensue. Might I request, in conclusion, some of your able correspondents to express their opinion on the subject. *J. A. H., Tooting.* [Our opinion is that you are perfectly right.]

Remarkable Flight of Ant Flies.—The following may be interesting to those who take a pleasure in natural history:—On Tuesday, August 17, about 5 o'clock in the afternoon, I was in Romney Marsh, when I saw a dark column, which I at first thought was smoke. It was a quarter of a mile from me, and its length was upwards of a quarter of a mile, and its breadth I should think from 50 to 100 yards. On its approaching me I found it was composed of ant flies, which seemed to have suddenly collected together from all quarters of the marsh. After the column had passed me, it crossed the river Rother, where it left millions and millions in the water; the water was quite darkened by them; still, notwithstanding this loss, and the millions which were left behind on the ground, trees, hedges, &c., the column appeared undiminished, as I could see it like a wreath of smoke a mile and a half ahead of me, and I could easily trace its course by those left behind. My workmen, who were at work three miles from the place I first observed it, saw the column, which they thought likewise was smoke, but from the air being filled with flies, they soon found their mistake. How far the column was observable I know not, but for a good four miles; it travelled rapidly, at the rate of 6 or 7 miles an hour. The wind was in the east; it was very sultry, and there was all the appearance of a thunder-storm, which took place in two hours afterwards. Kirby and Spence mention a similar flight of ant flies in 1814 in Kent, and in 1812 in Suffolk. The extraordinary circumstance is that the ant flies seem all to have taken wing at the same moment from all quarters of the marsh, almost 30 miles in length, and to have collected together so quickly. At first I thought the column must have come over from the continent, but one of my men who was collecting ants' eggs for me, tells me on a sudden he found himself covered with these flies, and on looking up he saw the strands of Grass covered with the flies, which ran to the top of the strand and then took wing. They were all on wing in about five minutes from the time he first observed them, and from that time, although he continued getting ants' eggs, he found hardly a fly left in the nests. The man has collected eggs for me for some years, and he says he thought there were fewer eggs and flies than usual this year. Several persons were witnesses to this fact, and some tell me they think the column was more than a mile in length. The flies were from the nests of the small red ant. *A Lover of Natural History, Leasam House, near Rye.*

Diseased Oaks.—In an avenue of large Oak trees the foliage on two of them became quite yellow about a month ago, and they are now apparently dead. On examining the roots I found their extremities rotten, and their bark towards the trunk of the tree infected with a fungus, of which I enclose a specimen for your inspection. Can the fungus have caused their decay, and by what means can the others be preserved? as they appear to be all affected. The soil is from 9 inches to 1 foot deep on gravel; the average girth of the Oaks is 15 feet at 3 feet from the ground; the girth of the two dead trees is only 5 feet. *A.* [The roots are infested with dry rot; but what has enabled the dry rot to attack them can only be told on the spot. No doubt they were diseased before the dry rot took possession of them.]

Chinese Flower Sticks.—Can any of your correspondents inform me of what wood the little sticks are made, which appear like little brushes, used for sticking into the soil of pot plants to drive away insects? They are tied up in bundles and lately imported from China, where they are extensively used. Are they really efficacious for the purpose? *J. Weston.*

Araucarias.—Having planted an Araucaria imbricata about nine years since in a damp situation where it did not flourish, in 1850 I removed it into drier ground. This year it has grown very vigorously, but instead of four lateral shoots and a leader, as it formerly had, only the four lateral shoots have grown, and no leader has appeared. What am I to do with it? Should I leave it to Nature? or should I peg down the upper lateral shoots, in the hope that a leader may start from the centre? The tree is now 4 feet high. *A Subscriber.* [We should stop three of the upper laterals about the end of October, and allow the fourth to become the leader.]

Bleeding Elm Tree.—About three years ago two leaden bullets were shot from a rifle into an old Elm tree, making holes about 3 inches apart, and about 4 feet from the ground. The wounds began to bleed, and some person had covered them over with coal-tar, with the view of stopping the bleeding; the sap and tar have overflowed and killed a strip of bark, about 3 inches in breadth, down to the ground. In March last I pared the sides of the bark with a sharp knife, and filled up the open space and the wound with clay, mixed with horse-droppings, the same as I had been grafting with, thinking to get the bark and wound to heal up, but it commenced running as badly as ever. The sap has raised the clay from the tree, and it has tumbled down altogether. Fears are entertained that it will soon kill the tree. If any of your correspondents, therefore, could suggest a remedy whereby the bleeding might be stopped, or say if there is any danger of the tree being killed, they would oblige *W. C., Forfarshire.* [Plug the holes with very dry Elm wood.]

Societies.

Caledonian Horticultural, *Aug.* 7.—There was a good display of horticultural productions on this occasion, and especially of Carnations and Picotees, which were superior to any that had been previously exhibited in Scotland. The following premiums were awarded:—For the best 2 Fuchsias (for which there were four competitors), 1st, Mr. Walker, gr. to J. Mood, Esq., with Clapton Hero and Pearl of England; 2d, Mr. Crombie, gr. to A. F. Adam, Esq., for Diademiflora and Voltigeur. Best Exotic Ferns, including Lycopods, 1st, Mr. Anderson, gr. to J. Henderson, Esq. For 3 pairs of Pinks, grown and exhibited in pots not exceeding 10 inches, 1st, Mr. Henderson, gr. to C. K. Sivewright, Esq., for 5 plants of the following varieties, there being 54 expanded blooms upon the whole; Lola Montez (Costar), Narborough Buck (Maclean), Laura (Willmer). For 12 blooms of Carnations, produced by nurserymen, the Silver Medal was awarded to Messrs. Dickson and Son: Lady of the Lake (Hale), Duke of York (Strong), Twyford Perfection (Young), Prince Albert (Puxley), Admiral Curzon (Easom), Antonio (May), Owen Glendower (May), Horsa (Puxley), Themis (Puxley), Falconbridge (May), Justice Shallow (May), and Lord Lewisham (Bunn); 2d, Mr. Lightbody, for Rainbow (Hastings), Lorenzo (May), Falconbridge (May), Squire Meynell (Brabbin), Gladiator (Slater), Flora's Garland (Brooks), Duchess of Sutherland (Elliot), Magnificent (Ely), William IV. (Wilson), Napoleon (Lee), Duke of Bedford (Ely). For 12 blooms of Picotees, produced by nurserymen, the Silver Medal was awarded to Messrs. J. Dickson and Sons, for Ganymede (Fellowes), Princess Royal (Willmer), Mary (Dodwell), Lord Nelson (Norman), Beatrice (May), Prince of Wales (Marris), Ophelia (May), Prince Arthur (Fellowes), Guilo Romano (Fellowes), Mrs. Barnard (Barnard), Alfred (Dodwell), and Pride of the Village (Kirtland); 2d, Mr. Lightbody, for Sebastian (May), Duke of Rutland (Holyoake), Gem (Youell), Portia (May), Mr. Trahar (Dickson), Ophelia (May), Lord Nelson (Norman), King James (Headley), Queen Victoria (Green), Isabella, dark variety (Wildman), Unexpected (Marris), Venus (Headley). The prize of one guinea, offered, through the Society, by Messrs. James Dickson and Son, to practical gardeners and amateurs, for the best 10 Carnations, was gained by Mr. Henderson, Cargilfield, with Lady of the Lake (Hale), Middleton (Puxley), Lord Pollington (Ely), Justice Shallow (May), Squire Meynell (Brabbin), Twyford Perfection (Young), Flora's Garland (Brooks), Sarah Payne (Ward), Duncan (May), Squire Trow (Jackson). A similar reward, offered by Messrs. P. Lawson and Son, for the best 10 Picotees (for which there were four competitors), was gained by Mr. Henderson, with Mrs. Norman (Norman), Willoughby (Matthews), King of Purples (Garratt), Mary (Dodwell), Prince of Wales (Marris), Princess Royal (Willmer), Isabella (Wildman), Prince Arthur (Fellowes), Duchess of Sutherland (Burroughes), Jeannette (Marris); 2d by Mr. Foulis, gr. to J. Tytler, Esq., for Alfred (Dodwell), Mrs. Norman (Norman), Jenny Lind (Edmonds), Princess Alice (Wood), Portia (May), Gem (Youell), Enchantress (Matthews), Hon. Miss Annesley, Mrs. Bevan (Burroughes), King James (Headley). The prizes offered by C. K. Sivewright, Esq. (to the extent of two guineas), for Carnations and Picotees in Class Showing, were all gained by Mr. Henderson, with the following varieties: Scarlet Bizarre Carnations: Lord Rancliffe (Halliday), Middleton (Puxley). Crimson Bizarres: Duncan (May), Lord Pollington (Ely). Pink and Purple Bizarres: Falconbridge (May), Twyford Perfection (Young). Scarlet Flakes: Queen Victoria (Simpson), Cradley Pet (Wallis). Rose Flakes: Flora's Garland (Brooks), two blooms. Purple Flakes: Beauty of Woodhouse (Mansley), two blooms. Heavy-edged Red Picotee: Mrs. Norman (Norman), two blooms. Light-edged Red Picotee: Mary (Dodwell), two blooms. Heavy-edged Purple Picotee: Prince Arthur (Fellowes), King of Purples (Garratt). Light-edged Purple Picotee: Willoughby (Matthews), Pride of the Village (Kirtland). Heavy Rose-edged Picotee: Venus (Headley), Queen Victoria (Green); Light Rose-edged Picotee: Mrs. Barnard (Barnard), two blooms. In addition to articles sent for competition there were many extra productions for exhibition only. Messrs. Dickson and Co. contributed specimens of Lilium lancifolium speciosum and l. punctatum, Tritonia aurea, with Achimenes, and stands of Roses, Hollyhocks, and China Asters; also a seedling Heath, a hybrid between tricolor impressa and ampullacea rubra. Messrs. J. Dickson and Sons sent Stove and Greenhouse Plants, including Fuchsias, Heaths, Gloxinias, Phlox Mayii variegata, and stands of Carnations and

Picotees. Messrs. P. Lawson and Son exhibited Saxe-Gothæa conspicua, Fitz-Roya patagonica, a beautifully flowered specimen of Yucca filamentosa, with Achimenes, and stands of Roses, Carnations, and Picotees; also six well fruited Pears on Quince stocks. Mr. Handasyde exhibited Dahlias and Roses. Mr. Stark, Greenhouse Plants and spikes of Hollyhocks, Phlox Mayii variegata, &c.; also two sorts of Gooseberries, from Mr. Biggar. Messrs. Downie and Laird exhibited Greenhouse Plants, including Fuchsias, Lilies, trained Verbenas, and stands of Hollyhocks, Pelargoniums, and Verbenas. Messrs. Ballantyne and Sons sent a collection of large Gooseberries and stands of Hollyhocks. Mr. R. T. M'Intosh exhibited several plants of Lilium lancifolium speciosum. A Certificate of Merit was voted to Miss Walker, for a large and well-flowered specimen of Diplacus latifolius. A certificate was likewise voted to I. Anderson, Esq., Maryfield, for a seedling Veronica, with bright carmine flowers changing to pure white. Mr. Anderson also showed a seedling Veronica, of close habit, and flowers of a clear rosy lilac changing to white, and specimens of a new species of Berberis, with Calceolarias lavandulæfolia and ericoides from the Andes, for which an honorary award was voted. C. K. Sivewright, Esq., produced Carnations, Picotees, and Pinks; and J. Edmond, Esq., a variety of Red Currants, and Peas with edible pods. J. Henderson, Esq., sent a beautifully flowered Leschenaultia formosa, for which an honorary award was voted to Mr. Anderson, his gardener. A. F. Adam, Esq, sent Lobelias and Fuchsias; and J. Mood, Esq., large specimens of Fuchsias. Mr. Laing, gr. to the Earl of Rosslyn, furnished flowering shoots of Neillia thyrsiflora, with plants of Balsamina latifolia alba, and Diplacus latifolius, and named Hollyhocks; also numerous seedling Calceolarias. Mr. Hampton exhibited a number of seedling Hollyhocks; and Mr. Maclauchlan, gr., Barnton, a fine specimen of Kalosanthes coccinea. Dr. Alison sent two pots of well-trained Verbenas; and Mr. Lauder, a branch of a red Currant of large size, and apparently a great bearer. Mr. Kerr exhibited Phloxes; and Mr. Nicol Fuchsias, with cut blooms of Hollyhocks and Marigolds. Mr. Mitchell also exhibited Hollyhocks; and Mr. Stirling Alpine plants, including Polygonum Brunonianum, Geranium argenteum, Lychnis quadridentata, &c. From the garden of James Roughead, Esq., were stands of Dianthus, Marigolds, and seedling Fuchsias; from Mr. Forrester, a box of Carnations and Picotees; from Mr. Sanderson, a basket of red Currants; and from Mr. Thomson, gr. to R. S. Wilson, Esq., black Currants and Gooseberries. Mr. C. Jockel, exhibited a number of succulent plants in miniature pots.

Books Received.

The Home and the Grave of Byron; a complete Guide-Book to Newstead Abbey and Neighbourhood. 12mo. Longmans. A pamphlet.

Walpers, Annales Botanices Systematicæ. Vol. III. Part 2.

Plantæ Junghuhnianæ: Enumeratio Plantarum quas in insulis Java, &c. Fasc. II.

Aperçu d'un voyage dans le nord de la Bolivie et dans les parties voisines du Pérou. Par. M. H. A. Weddell. 8vo. Paris, Martinet. A pamphlet.—A succinct account of the enterprising author's last visit to Bolivia by way of Panama and Arica. The traveller visited the dreary, snow-capped heights of La Paz, where a Baccharis, a Senecio, and a Bolax formed the principal vegetation; then the Valley of Sorata, 2700 yards above the sea, and Tipuani, once celebrated for its gold. Speaking of this place, M. Weddell says, that "the observations made by him and his companions enable him to affirm that, in proportion to its extent, it is richer than the most celebrated auriferous districts of California or Australia." Thence he returned to the coast by way of Coroico, La Paz, Puno, and Arequipa.

A Lecture upon Cotton as an Element of Industry. By T. Bazley. 8vo. Longmans. A pamphlet.—This is a reprint of an excellent lecture delivered last spring before the Society of Arts. One passage relating to the possibility of growing cotton in our own possessions, instead of trusting to the United States, puts in a very strong light our own colonial supineness. "That in the foreign dominions of Great Britain a larger tract of land exists capable of producing good cotton than any other power whatever possesses, has been already asserted; yet there remains to be told the startling truth, that a piece of ground, of only the extent of our English county of York, would, if of suitable soil, and in a genial climate, yield more cotton than the existing extensive consumption of Great Britain requires. Yorkshire contains about four millions of statute acres, and as the best soils of the United States yield more than one bag of cotton per acre, the production of that extent of land would be four millions of bags per annum; hence an ample margin has been left in this estimate of productive capability, as the present yearly consumption of the United Kingdom is below two millions of bags. Do not the British colonies contain a multitude of patches of most excellent, but uncultivated ground, of the size of Yorkshire, all adapted to the growth of good cotton? And why cannot the parent race of the Anglo-Saxon achieve in colonial industry those triumphs of energy and labour which honour them at home in their manufactures, or in the cultivation of their native land, and which their descendants display in the United States? Let the administrators and directors of our colonial possessions answer the question, and explain at the same time why the flood-tide of emigration from the parent land flows, not to the foreign dominions of Great Britain, but to a rival country?" We trust our readers will bear in mind this striking and most truthful passage; to which we shall return at no distant time, when considering Dr. Royle's elaborate work on the "Culture of Cotton in India,"* which has laid upon our table unnoticed for many months.

Garden Memoranda.

Mr. Freeman Roe's, Bridgefield House, Wandsworth.—We called here on Thursday last to inspect an appliance which Mr. Roe has put in operation on a small scale for watering his garden with liquid manure. It consists of a small square iron trough on the ground level, in which the manure water is prepared, which is then pumped up through a gutta percha pipe into a deep barrel or tub, in an adjoining loft, from which sufficient fall is obtained to induce a force that will distribute it all over the garden. The liquid is led out of this tub by means of a small leaden pipe to the ground level again, where it enters an iron pipe, just buried under the surface, that conducts it into the garden. Here it is led along the line of walk, under-ground, of course, and is furnished at convenient distances with "hydrants," which permit a "stand pipe" to be inserted to a spout or nozzle, to which any length of hose may be attached for watering all around. It will be seen that there is nothing new in all this, except the hydrant, which is a ball-in-cup-valve closed by the pressure of the water in the pipe, and opened by pushing down a brass rod in the stand pipe. This rod resembles that in a common syringe, and fixes the ball down as long as it is wanted, by means of a screw at its end. The hydrant is found to work extremely well, and it is very much cheaper than sluice cocks, which are usually employed for the purpose. By means of this contrivance, therefore, the cost of an appliance for watering a garden in this manner has been very considerably lessened, and in future we may expect to find apparatuses of this kind more commonly used. We had nearly forgotten to mention, that the manure-water can be turned off when desired by a stop-cock in the lead pipe leading from the upper cistern, and clean water from the town waterworks led on, so that Mr. Roe can at any time either use manure-water or clean water, as may best suit his purpose at the time. This manner of watering has not been long enough in operation here to have produced any result; but few will doubt its beneficial effects.

FLORICULTURE.

Japan Lilies.—The different varieties of Lilium lancifolium, which are now nearly everywhere in full bloom, must certainly be classed amongst the most ornamental of autumn-flowering plants, and they are so easily managed, that almost anybody can grow them. The only accommodation they require is a greenhouse or cold frame, where their early growth can be protected from nipping frosts, and cold cutting winds in spring, and security from rain and damp while in flower. Persons commencing their culture should procure bulbs from the middle of November to January, at which season they are dormant, and not liable to receive injury from travelling. If they arrive in pots in which they have made their season's growth, they should be shaken out, the decayed roots removed, and they should be re-potted in fresh soil. The size of pot to be used, and the number of bulbs to be placed in each, must depend upon the size of specimen desired. The pots at this shift need not be larger than may be required to permit the bulbs to stand about 2 inches apart; these will occupy less space than if the bulbs were put at once into the pot in which they are to flower, and it will be easy to re-pot before the roots become matted, or the plants sustain injury, for want of pot room. Set them in a cool airy situation, and give very little water until the crowns appear above the soil. If they are wanted to flower in succession, now is the time to provide for that, and with sufficient stock it is easy to have a constant supply of blossom from the middle of July till late in October. To effect this, place a portion of the plants in the closest end of the greenhouse, or where the temperature may average about 45° in February, or early in March, and give them a moderate supply of water. A second lot may be similarly treated in April, and a third kept as cool and dry as possible, with a view to retard their growth; and they should be placed in a sunny situation out of doors as soon as the weather becomes mild and settled. To have the first lot in flower in July, they will probably require to be kept under glass, and to be treated rather close after the flower buds are formed, but this will greatly depend upon circumstances, and will be best learned by a season's practice. When the bulbs commence growing the pots should be placed near the glass, and plenty of air admitted to secure dwarf stocky growth—for it is important to have the leaves thickly set on the base of the stem, because from the axils of these small bulbs will be produced, if a portion of the stem is covered with soil at the final potting. The roots will have made some progress before the bulbs start into growth; and as these when allowed to become matted in small pots never start vigorously into fresh soil, the plants should be shifted into their flowering pots before the stems are more than a foot high. If the bulbs were merely covered with soil at the first potting, they should be placed afterwards 3 inches deeper in their pots, which serves two purposes, viz., the encouraging the emission of roots from the base of the stems, and the formation of small bulbs at the axils of the leaves covered with soil. A certain means of increase will thus be provided, and the stem roots, upon which the plants in their advanced state mainly depend for support, will be encouraged. The proper size of pot will depend upon the number and strength of the bulbs; three full grown healthy bulbs will require 15-inch pots, and one strong bulb, for its healthy development, will want a 12-inch pot. Water cautiously after shifting till the roots have laid hold of the fresh soil, but when the pots are moderately filled with fibres a liberal supply will be required, and manure water may be given twice or thrice a week with advantage. All the plants except those desired to bloom early may be placed in a warm sheltered situation out of doors towards the end of May, and these should be carefully tied to stakes, to prevent any accident from wind or other causes. While in flower a situation slightly shaded from the forenoon sun, with an airy rather dry atmosphere, should be provided, as the flowers are very liable to become discoloured if exposed to rain or damp, and soon fade. When the beauty of the plants is over remove them to a rather warm dry situation, and give very little more water to the soil. A place against a south wall, where they will be exposed to the sun and protected from rain, will answer for plants ripening early, but those that flower late had better be kept under glass, as it will hardly be possible to get the bulbs properly matured otherwise, and unless this is effected they will neither grow nor flower in full vigour next season. Before storing them for the winter, it will be advisable to shake the soil from the bulbs and repot them in smaller pots, but defer this until the roots are mostly decayed. The small offsets may be potted half-a-dozen together in 5-inch pots, as, if left in the specimen pots, they are liable to be overgrown and injured by their stronger neighbours. Turfy sandy loam and peat in about equal proportions, with a liberal sprinkling of sharp sand, will suit perfectly, although it is asserted by some growers that the flowers are higher coloured when the plants are grown in peat alone. *J. E.*

National Floricultural Society, *Aug.* 26.—Mr. Salter in the chair. There was an interesting meeting on this occasion—Dahlias, Hollyhocks, Gladioli, and Roses being present in profusion. A Label of Commendation was awarded to Hollyhock Daniel O'Rourke (Bircham), a promising flower and somewhat distinct in colour; and a Certificate of Merit to Crimson Perfection (Paul), a finely-shaped variety, bright in colour and large in size. In Dahlias, a First-class Certificate was granted to Sir John Franklin (Turner), a medium-sized flower of good shape, petals cupped and good, centre full and well up, colour orange buff; ditto to Lord Byron (Keynes), a rosy salmon variety of medium size and excellent outline, centre good, petals finely cupped; Label of Commendation to Wonderful (Keynes), a singular-looking fancy sort with lemon ground, blotched and striped with pink; Certificate of Merit to Queen Victoria (Wheeler), a flower with good outline, petals cupped, colour yellow slightly tipped with purple, size above the average, centre middling. First-class Certificate to a Bourbon Rose named Prince Albert (Paul), apparently a very profuse blooming kind, bearing small crimson purple flowers in clusters, that are very striking, on account of their brilliancy. Certificate of Merit to a herbaceous Phlox named Spencei (Turner), a rosy purple sort, with a pale centre, and highly desirable on account of its fine colour and free blooming habit, each spike being surmounted by an unusually large compact head of flowers. Some promising Fuchsias were produced by Mr. Dobson, of Isleworth; a nice box of named Roses by Messrs. Paul, and there were also some Verbenas, Gladioli, and a Lobelia, the latter much spoiled by travelling.

Auriculas: *W M.* By no means keep them closely framed so long after their general shift. Some little of the old foliage may, and most probably will, decay, which you had better remove from time to time. More air and an occasional growing shower will be beneficial.

Roses: *S T B.* Baronne Prevost, Auguste Mie, Baronne Hallez, Chéreau, Cymedor, Duchesse de Praslin, Standard of Marengo, La Reine, Géant des Batailles, Robin Hood, William Jesse, and Caroline de Sausal, will possibly suit you.

Schedule of Prizes received for the Maidstone Exhibition, to be held on September 8th.

Sweetwilliams: *Sub.* We are not acquainted with any named varieties of this flower; that it is being carefully seeded, and the best selected for the purposes of propagation, is all the information we can give you on the subject. *J. E.*

SEEDLING FLOWERS.

Dahlias: *J R R, Honiton* A crimson flower of no value. The treatment you describe could scarcely warrant a favourable result, for without attention to good growth, the true character of even our best varieties may be easily disguised.—*C J P.* The fancy flower is similar to Striata perfecta, so far as colours go, but wanting in form. Time will no doubt justify our remarks. In regard to the lemon-coloured varieties, the specimen received was in fair condition.—*H F.* Strikingly similar to the fancy flower noticed in our answer to "C J P."—*T T, Wanstead.* A white, of little promise.—*H G, Dover.* Purple, with white tips; the petals are too flat to produce a symmetrical flower. Yellow and white tips, not so good as Mrs. Hansard.

Hollyhocks: *D and Co.* Three blooms of a cheerful rose-coloured flower; size medium, centre very prominent, and guard petals smooth. There is a want of novelty in the shade of colour. The single bloom of the black flower is good, but we think not so first-rate as one reported on at the late Norwich exhibition, from Mr. Bircham, and called New Black Prince. *J. E.*

Miscellaneous.

Scotch Expedition to Oregon.—We learn that at last a box has arrived from Mr. Jeffrey, the collector to the Edinburgh Association. Upon opening the box, one or two live specimens of the curious Lewisia rediviva appeared, and a great many fine things. The distribution will occupy much time. Dr. Greville, who is not a subscriber, has kindly undertaken the very laborious task.

Wool from the Vegetable Kingdom.—Two very extraordinary applications of Fir-tree leaves to useful purposes have been made in a domain called the "Prairie

* 1 vol. 8vo, pp. 607. Smith and Elder.

of Humboldt," near Breslau, in Silesia. One consists in the extraction from them of a fibrous material which has been termed "vegetable wool;" the other in the establishment of medicinal baths with the refuse balsamic fluid, liberated in the course of the former manufacture. The establishment of both these manufactures originates with M. de Pannewitz, the inventor of a process for converting the fibrous matter of Pine-leaves into textile threads. The Pinus sylvestris, or wild Pine, is the species which, in the case under notice, yields the fibrous material, but every member of the Pine and Fir tribes may, it would appear, be turned to similar account. The leaves of these trees consist of a woolly or cottony matter, agglutinated together by means of a resinous substance. The latter by chemical solvents may easily be removed, leaving the woolly matter free, and when removed may be turned to good account as the basis of a medicinal bath. The vegetable wool thus produced is woven into counterpanes, blankets, and other similar articles. It has been used for a considerable period in many of the charitable institutions of Vienna, and is much approved of. Amongst other advantages, textures of this substance possess the excellent quality of banishing all manner of insects, which are driven away by a certain odour, not at all disagreeable, which the fibre never loses. *Daily Paper.*

How to Plant a Quick and Privet Hedge.—The next point to which we should direct attention is the preparation of ground for a hedge; and considering the object in view (the formation of a quick-growing and efficient fence), this ground should be well prepared. Having laid on a line, in the direction of the hedge, trench deeply, at least 4 feet in breadth, the site on which the hedge is to be planted, turning down the good, rich surface soil to the bottom, that it may be in contact with the roots of the young plants; the sub or under soil should be placed on the surface, to be acted on by the atmosphere, and afterwards manured, if necessary. This trench should, at least, be dug two spits in depth, and a quantity of good, old manure mixed with the soil, and placed so as to be immediately under the roots, as this portion of the soil cannot be enriched at any future period, the hedge having been once planted. A hedge may be planted at any time from October to the beginning of March, but I would recommend October or November as best suited for the purpose. Stretch a line along the course of the hedge, in the centre of the trenched part, along which an opening or trench should be made deep enough to receive the roots of the plants freely, which should be placed from 10 to 12 inches asunder, in an upright or vertical position, their roots spread out regularly, and not doubled or folded upon each other—a matter of frequent occurrence with careless persons—observing, at the same time, that every third plant should be a Privet. If convenient, a quantity of good, rich earth should be brought from the adjoining ground, placed immediately over the roots, and trampled down firmly, so as to give them a firm hold in the ground. The remainder of the earth should be levelled about the plants, left open and loose upon the surface, to allow the air to act upon and pulverise it; and should be a little elevated, to allow for the sinking of the earth, which always takes place. The care which such a hedge would require for two years after its being planted, is merely to be kept clear of weeds of all kinds, and the ground to be kept open and loose at all times about it. By the end of this time it will become well established, and ought to be headed down for the purpose of encouraging the young plants to throw out young wood, and thereby thicken the hedge, and also to cause a more vigorous and rapid growth in the plants themselves. A hedge thus headed down will grow more in one year than it would in three, had this operation been neglected; and will become so close, from the numerous increase of branches thus produced, as to prevent animals of any description from passing through it ever after. Therefore this operation should be considered decidedly a matter of the greatest importance, utility, and necessity, and should be performed about the end of February or beginning of March, just when the young plants are beginning to push. *The Farmers' and Cottagers' Guide.*

Calendar of Operations.

(For the ensuing week.)

PLANT DEPARTMENT.

Before finally placing plants in their winter quarters let the drainage be examined and the surface soil stirred; the pots likewise should be washed, that a neat appearance may pervade the house when the plants are staged. It is presumed the necessary repairs and painting have been performed, the heating apparatus put in working order, and everything made ready for winter's work. See that Chrysanthemums and other autumn flowering plants are properly staked as they advance. Chrysanthemums should be well supplied with liquid manure. Orchids are now mostly finishing their growth, and will require a progressively drier and cooler atmosphere. Supply with the necessary humidity such as still continue growing.

FORCING DEPARTMENT.

The wood in the earliest Peach-house will perhaps justify the removal of the sashes; this should not, however, be done unless the wood is brown and tolerably firm. Where such is the case the lights may be taken off, although the leaves are green, which will sometimes be the case on even well-ripened wood, but exposure to the weather will soon cause them to drop. Vines in pots for early forcing should now have their wood sufficiently ripe to be removed out of doors. Nail them up to a south wall for a few weeks, to complete the ripening of the wood, and afterwards place them to winter in the shade of a north wall.

FLOWER GARDEN AND SHRUBBERY.

Now is the proper time to look over the arrangement of the beds in the flower garden, to see if any improvement can be effected either in the arrangement of colours or the plants employed. In all cases a working plan should be made of the beds, and each bed marked with the description of plants intended to be grown in it the ensuing season; copies of the plan should be made, all having the same number to the beds; one will be required specifying the number of plants of each kind it will take to fill the beds in the spring, as a guide to the propagator in furnishing the supply; a second should show how each bed will require to be made up, as regards compost, &c.; while a third will be required at planting time in filling up the beds, to show what is intended for each. A well ordered arrangement of this kind in the hands of the different workmen, will save trouble and a large amount of subsequent directions.

FLORISTS' FLOWERS.

Continue to plant out Pinks as they strike root; bearing in mind that those which are put out now in the place that they are to flower in next season, generally lace much better than those planted in the spring. We never recollect having so much Pink seed as we have this season; we would advise our readers to gather it forthwith, allowing it to remain in the capsule or seed-vessel till wanted. Plant offset Tulips, and commence arranging the best bed for planting. Of course all careful growers have made the necessary remarks as to the state of the flowers last season, whether too high for their then position on the bed, whether stained or out of character, &c., &c. The amateur who is commencing may now have an opportunity of procuring fine sorts at moderate cost, many extensive growers disposing of their surplus stock at very reasonable rates. We will here name a few that are fine, and should be grown by every one; and though cheap, are indispensable. In Bizarres: Leonidas, Pilot, Charles the Tenth, Captain White, Polyphemus, and Duke of Devonshire. Byblæmens: Thalia, Musidora, Princess Royal, Queen Charlotte, Chellaston Beauty, and Maid of Orleans. Roses: Heroine, Aglaia, Catherine, Lady Jane Grey, Lavinia, and La Vandicken. These are most of them fine sorts for exhibition, and, when in good character, gems on any bed.—Give Dahlias liquid manure once or twice a week, and attend to disbudding, &c.

KITCHEN GARDEN.

Proceed cautiously with earthing-up Celery in fine weather. Tie up Endive and Lettuce as they advance; a good crop of the latter should be got out for autumn use, unless, as we have previously advised, it has been sown where it can remain. Now the weather is somewhat drier, let the kitchen garden be completely cleared of any weeds which have sprung up during the late rains. The different crops of Broccoli and winter greens should be frequently hoed between. Onions may be taken up now, as they will be mostly ripe; lay them in the sun, with the roots upwards, to ripen and dry. If Leeks have been planted in drills, a little earth may be drawn to them. Hoe and thin out autumn Turnips.

STATE OF THE WEATHER NEAR LONDON,

For the week ending Aug. 26, 1852, as observed at the Horticultural Gardens, Chiswick.

August.	Moon's Age.	Barometer.		Temperature. Of the Air.			Of the Earth.		Wind.	Rain.
		Max.	Min.	Max.	Min.	Mean	1 foot deep.	2 feet deep.		
Friday.. 20	6	30.074	29.991	64	57	60.5	62	60	N.	.03
Satur.. 21	7	30.205	30.128	72	60	66.0	62	60	N.	.01
Sunday.. 22	8	30.242	30.213	72	53	62.5	58	60	W.	.00
Monday 23	9	30.260	30.195	72	55	63.5	63	60½	N.E.	.00
Tues. .. 24	9	30.168	29.995	71	55	63.0	63	61	S.W.	.05
Wed. .. 25	10	29.915	29.882	73	56	64.5	63	61	S.W.	.00
Thurs. .. 26	11	30.045	29.973	74	54	64.0	64	61	E.	.00
Average ..		30.129	30.054	71.1	55.7	63.4	62.1	60.5		.08

August 20—Overcast; densely overcast; slight rain.
— 21—Uniformly overcast; light clouds; overcast.
— 22—Overcast; fine with light clouds; clear at night.
— 23—Fine; light clouds; cloudy and fine; uniformly overcast.
— 24—Overcast; rain in afternoon; overcast.
— 25—Fine; low white clouds; very fine; overcast.
— 26—Slight haze; very fine; clear at night.
Mean temperature of the week, 2½ deg. above the average.

STATE OF THE WEATHER AT CHISWICK,

During the last 26 years, for the ensuing week, ending Sept 4, 1852.

August and Sept.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 29	71.0	49.2	60.1	11	0.53 in.	4	3	4	—	2	7	3	3
Mon 30	71.5	49.2	60.3	6	0.92	2	4	2	—	4	5	6	3
Tues. 31	71.2	49.5	60.3	13	1.31	2	5	1	2	2	2	7	5
Wed. 1	70.3	49.2	59.7	14	1.50	2	4	2	4	2	7	5	3
Thurs. 2	71.1	48.5	59.8	9	0.23	4	5	1	1	2	4	7	2
Friday 3	70.2	48.9	59.5	10	0.48	1	6	1	1	4	6	6	1
Satur. 4	70.0	48.0	59.0	12	0.58	5	6	2	—	4	4	3	2

The highest temperature during the above period occurred on the 1st, 1843—therm. 85 deg.; and the lowest on the 4th, 1850—therm. 85 deg.

Notices to Correspondents.

Annuals: *Thomas Scobie.* If the seed of an annual be sown in spring, and propagated in summer or autumn, to perpetuate it; and supposing that the plants so propagated be kept till the succeeding season, the plant is not the less an annual on that account. A biennial is one which naturally spends the first season in growing and the second in flowering, after which it dies.

Apricots: *J S* wishes to ascertain if the Apricot was ever brought to perfection in Pembrokeshire; if so, the name of the place and the gardeners' name are requested.

Australia: *L F J.* You can be supplied with seeds and fruit trees at Adelaide, and therefore it would not pay to take out Apple trees of the age you mention. Vines are also plentiful there. We cannot venture an opinion in regard to the other matters about which you inquire, every one must judge for himself. For an answer to the question about fowls see the agricultural department of our Paper.‡

Bees: *An Old Subscriber* is pleased with Mr. Lloyd's straightforward statement at p. 518, respecting his management of bees, and the sort of hives he uses, and will be greatly obliged if, at his leisure, he will inform him, after having put the swarm from the hive E under it, whether the bees from hive E work through the bottom one; and likewise when he takes the two top hives off he speaks of, how he will know whether the queen is in the bottom one; if she is not there, will it not be destruction to the colony? Of course, all the working bees will return to the hive after being parted from the combs in the top hives. If the above plan is practicable, it will be an excellent way of removing bees from old hives into new ones, without stupifying them, which appears to be of little or no use, as in the following spring the hives they are put to are apparently not any the stronger or better. He will also feel obliged if Mr. Lloyd will state where the hives he speaks of can be procured, as they can be sent quickly now to all parts by railway.

Books: *H D.* Loudon's "Encyclopædia of Plants" is illustrated with woodcuts, and consequently not coloured plates. Works on botany with coloured plates are innumerable. For English plants you may have the "English Botany" mentioned in another column.—*G.* Have patience. The work on Orchids is in progress.

Cork Pots: *H L B.* If you will be so good as refer to July 3, you will see that our correspondent expressly states that he saw them in use in Portugal and Spain, where, or in similar cork producing countries, they must be sought for. They are not on sale in this country that we know of.

Drying Plants: *W P.* Heaths may be dried in the same manner as other plants, provided they are plunged into *boiling* water before they are subjected to the usual pressure.

Earwigs: *C R D.* Dry Bean-stalks, cut in lengths of about 6 inches, are perhaps the very best earwig traps. Stick the Bean-stalks plentifully among the branches, and blow out the earwigs every morning into a bottle partly filled with water. Hoe and rake the soil frequently along the bottom of the tree, and quite close to it. By these means you will soon get rid of the destructive pests. You must commence using the Bean-stalks sometime before the fruit begins to ripen. The May Duke Cherry will be suitable, if you should resolve on moving one of your Apricot trees.‖

Exhibitions: *Lucidum.* A Nepenthes bearing nothing but ovaries, such as you have sent must certainly be said to be in bloom, and therefore was rightly shown as a plant in flower. It is a female. The Gloxinia is worthless.‡

Flat Peach of China: *J F.* We are not aware that this has existed in England since the severe winter of 1838.‖

Fruit Trees: *R J S.* Be so good as to state the extent of the respective walls.‖

Heating: *A Constant Reader.* It is impossible to answer your inquiries exactly; the data for exactness do not exist. The hot air chamber should be as small as convenient, the object being to heat the air in it as rapidly as possible, and to discharge it into the house; of course therefore the less air there is to heat the more rapid will be the action. Let the cold air drains be as large as you can conveniently make them with single bricks—say 7 by 4. The opening for ingress should be 24 by 12.—We are obliged to refrain from answering private inquiries.—*M W K.* If you build a house, and wish to have a greenhouse by the side of it, the fireplace in the sitting-room being in the centre, and at the back of the said greenhouse, you may use it for heating the latter at little expense; but you must consult an experienced architect as to the mode of carrying the hot air out of the sitting-room into the greenhouse. Very careful and skilful plans will be required for this purpose.

Insects: *S F.* The green striped caterpillar dug up underground is that of the Privet hawk moth, Sphinx ligustri.—*A E F.* Your insects were crushed so as not to be determined. Try gas-tar water. *W.*—*Mary Ann.* Dusting with sulphur, and frequently syringing well with clean water, will free your plants from red spider.‡—*E S F.* A decoction of Quassia-root and sugar will kill house flies.‡—*W C T.* The mass of gelatinous matter found on the Yew, inclosing eggs and minute hexapod larvæ, is quite new to us. Can you send us more specimens for examination? *W.*

Monstrous Honeysuckles: *S P.* The deformed Honeysuckle flowers gathered from one plant at Sedbury Park are in that state of transformation which some writers call phyllomania. The corolla is becoming green, or is green and separating into green leaves. The stamens are partially or wholly changed in like manner. The carpels are, for the most part, transformed into narrow leaves, and are placed upon an elongated axis. One of them is half an anther. But, what is very curious, the calyx has in no case undergone a change, except that it is *inferior, instead of superior!* a most remarkable fact.

Names of Fruits: *Anna.* Your Plum is the Red Magnum Bonum; you will be able to obtain the identical sort by that name from the nurserymen; but you will do better if you plant the Jefferson Plum instead.‖—*John A T.* Your Pear is the Sans peau, or Skinless Pear.‖—*H B.* Be so good as to send a leaf from the shoots which bore the fruit you sent.‖

Names of Plants: *P M.* The Campanula looks like a morsel of C. patula; the other is Bryum cinclidioides.—*Jack, Castle Carey.* Pavia macrostachya.—*G S.* Scheuchzeria palustris. *James Vair.* Swainsona coronillæfolia.—*Rodolph.* 2, Momordica Balsamina; 1, Pinus persica (?); 4, Paliurus australis; 3, A Capparis of some sort—flowers wanted; 5, Clitoria ternatea.—*J P., Hants.* 1, Clitoria ternatea; 2, Asplenium lanceolatum, S.—*X Y.* Both Pteris crispa, S., now Allosorus crispus. 1 sterile and 2 fertile fronds. *S.*—*C W C.* 1, Talinum ciliatum; 2, the leaves of Atriplex portulacoides, or some such plant.—*W R.* Some species of Crinum, not determinable in so decayed a state.—*Sub.* Cyanotis vittata.

Vinegar Grapes: *B W G.* The only cause out of those you name for your Grapes shanking, and neither colouring nor sweetening, is, that you killed the leaves by fumigating with "tobacco paper, sulphur, and black pepper." What a mixture! Sulphur should never be burnt in a house; it is certain to kill leaves, and very likely plants as well. Without good leaves you cannot have fruit.

Vinery: *Leicester.* Two feet are better than 20 inches, and enough. Employ the spur system. Such an Arnott stove as you describe will be wholly inadequate. If you object to the cost of hot water build a smoke flue, with the upper tiles *dished* to hold water. Under your circumstances a concrete foundation would be useless.

Yuccas: *J P.* The best thing you can possibly do with them is to let them alone.

Misc.: *Constant Sub.* You may move your Laurestinus with safety next month. Your wall-fruit will be best preserved from wasps by covering the trees with some cheap hexagonal netting.‡

Erratum.—In Mr. Cuthill's article on Salads, at p. 516, line 3 from top, for "Rape is only about 1*s.* a bushel;" read "Rape is only about 1*s.* a bushel cheaper than Mustard."

PERUVIAN GUANO.

CAUTION TO AGRICULTURISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

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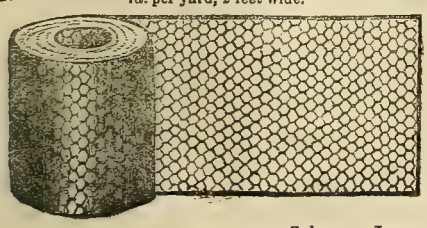
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LINSEED CAKE, Foreign and English, Rape Cake, Peruvian Guano, Gypsum, Salt, Peat Charcoal, and all other Manures of known value, on sale.—Apply to MARK FOTHERGILL, 204 A, Upper Thames-street, London.

GALVANISED WIRE GAME NETTING.—7d. per yard, 2 feet wide.

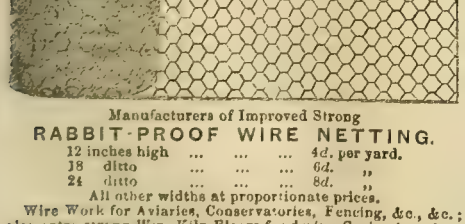


	Galvanised.	Japanned Iron.
2-inch mesh, light, 24 inches wide ...	7d. per yd.	5d. per yd.
2-inch ,, strong ,, ...	9 ,,	6½ ,,
2-inch ,, extra strong ,, ...	12 ,,	9 ,,
1½-inch ,, light ,, ...	8 ,,	6 ,,
1½-inch ,, strong ,, ...	10 ,,	8 ,,
1½-inch ,, extra strong ,, ...	14 ,,	11 ,,

All the above can be made any width at proportionate prices. If the upper half is a coarse mesh, it will reduce the prices one-fourth. Galvanised sparrow-proof netting for Pheasantries, 3d. per square foot. Patterns forwarded post free.

Manufactured by BARNARD and BISHOP, Market-place, Norwich, and delivered free of expense in London, Peterborough, Hull, or Newcastle.

GEORGE ARTINGSTALL AND CO., LATCHFORD WIRE WORKS, WARRINGTON,



Manufacturers of Improved Strong

RABBIT-PROOF WIRE NETTING.

12 inches high	4d. per yard.
18 ditto	6d. ,,
24 ditto	8d. ,,

All other widths at proportionate prices.

Wire Work for Aviaries, Conservatories, Fencing, &c., &c.; also extra strong Wire Kiln Floors for drying Grain, &c., &c.

CHALLENGE.

CORN REAPING MACHINE.—Dissatisfaction having been expressed with the mode of trial adopted by the Highland and Agricultural Society of Scotland, at their Show lately held at Perth, for testing the merits of the Reaping Machines, for which a premium was offered, and awarded to BELL'S Reaping Machine, which I have since had opportunity of seeing at work, on various Crops of Corn, confirming me in the favourable opinion given along with the other Judges at Perth, of this Improved Machine, the invention of Mr. BELL, Forfarshire,—I now, on the part of Mr BELL and myself, offer to enter into a SWEEPSTAKE OF FIFTY SOVEREIGNS EACH, for the most efficient and approved REAPING MACHINE, to be produced in competition on this Farm, where a trial will take place, in presence of competent Judges, to be approved by the Competitors, previous to starting, at 1 o'clock afternoon of Saturday, the 4th September next.

Entries to close on the 2d September, and Stakes to be deposited before starting, on the day of trial.

All communications as to entries, &c., to be addressed to HUGH WATSON, Keillor, by Coupar Angus, N.B.

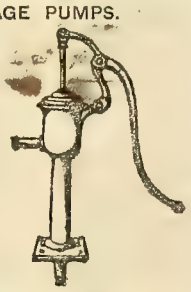
NOTE.—Keillor Farm is 15 miles east of Perth, by the Scottish Midland Junction Railway. Every facility will be afforded to competitors from a distance for getting the Machines from the Railway Stations to the Field of Competition, and horses and labourers provided to work the machines.

Keillor Farm, August 28.

FARM AND COTTAGE PUMPS.

PATENT CAST-IRON PUMPS, for the use of Farms, Cottages, Manure Tanks, and Shallow Wells.

	£	s.	d.
Patent Pump	1	15	0
Patent Pump, with 15 feet of lead pipe attached, and bolts and nuts ready for fixing	2	10	0



Larger sizes if required.

May be obtained of any Ironmonger or Plumber in Town or Country, or of the Patentees and Manufacturers,

JOHN WARNER & SONS,

8, Crescent, Jewin-street, London.

Every description of Machinery for Raising and Forcing Water, either by Steam, Horse, or Manual power. Fire and Garden Engines, &c.

The usual allowance to the Trade.

WATERPROOF PATHS.—Those who would enjoy their Gardens during the winter months should construct their walks of PORTLAND CEMENT CONCRETE, which are formed thus:—Screen the gravel of which the path is at present made from the loam which is mixed with it, and to every part of clean gravel add one of sharp river sand. To five parts of such equal mixture add one of Portland Cement, and incorporate the whole well in the dry state before applying the water. It may then be laid on 2 inches thick. Any labourer can mix and spread it. No tool is required beyond the spade, and in 48 hours it becomes as hard as a rock. Vegetation cannot grow through or upon it, and it resists the action of the severest frost. It is necessary, as water does not soak through it, to give a fall from the middle of the path towards the sides.—Manufacturers of the Cement, J. B. WHITE and SONS, Millbank-street, Westminster.

The Agricultural Gazette.

SATURDAY, AUGUST 28, 1852.

MEETINGS FOR THE ENSUING WEEK.

WEDNESDAY, Sept. 1—Agricultural Society of England.
THURSDAY, — 2—Agricultural Imp. Society of Ireland.

THE reports in another column show how much injury has been done by a fortnight of warm wet weather in the month of August. From 10 to 20 per cent. must be written off the returns of July 29, all over the south and middle of England, to fit them for a report of the present condition of the crops: and the quality of the remainder, it must not be forgotten, has been much damaged; a great deal has been harvested in such a damp state, that it cannot be brought to market till spring, and then it will be found that it is 3 or 4 lbs. per bushel below the weight of a good sample. In Scotland, no injury of any importance has yet been received, and accordingly a very fine crop is in course of being reaped. The Barley as well as the Wheat has suffered much injury all over England, and much will be harvested in a state unfit for malting purposes. The Oat crop does not seem to have suffered so much as the other cereal grains. Beans and Peas have turned out better under the sickle than was expected, but in some of the early districts the continued rains have opened the pods and caused much injury by shedding. In reference to the Bean crop, we may bring under the notice of those who have furnished returns regarding it, a letter received from a Gloucestershire correspondent, near whom the crop has proved a failure, and who wishes accordingly to learn the circumstances under which it has succeeded in other districts. We are the more ready to add our request to his own on this point, because it appears to us that if the 300 gentlemen who have kindly stated the *results* of their experience, would in like manner occasionally furnish the *methods and circumstances* under which those results have been attained, conclusions and inferences might sometimes be drawn of the greatest usefulness to the farmer. In the case before us, we believe that success here and failure there have been owing more to difference of climate than to any other cause; but there can be no doubt that most instructive difference of management might often be brought out by such comparison on the great scale. Our correspondent says:

"In common with many of your subscribers I should be glad to read in the columns of your Paper statistics of the site of the lands and the class of soils, together with statements of the surrounding crops, and of the mode of their cultivation, which have together produced the 14 'over average' crops of Beans, and the nine 'over average' crops of Peas out of the 175 and 141 reports, respectively published in your Journal of Aug. 7. The locality, or peculiar management, may throw some light that may explain the reason why, in these cases, the crops have escaped the general blight."

It is not only in the case of Beans and Peas that such reports would be valuable: we venture to commend another subject to the attention of our correspondents. The Highland and Agricultural Society have lately issued a series of questions on the disease called "anbury," "fingers and toes," "clubbing," &c., to which Turnips are liable. Now, will those gentlemen who have reported that their Turnip crops are suffering from anbury be kind enough to tell us what they know regarding the management of the particular crop so affected, and the past history of the soil on which the disease occurs? We published, at page 493, the list of questions referred to above; and we venture to ask for answers to them from any of our readers who may be suffering from the inroads of the disease in question. Such answers arranged for comparison in a tabular form would throw much light on the many difficult questions connected with the disease called Anbury.

Among the striking features of the present harvest may be named the premature ripening of the crop, which is very generally complained of with reference to Wheat, Barley, and Oats. This is not, however, the proper way of stating the fact, for it is not so much the ripening as the death of the plant before maturity that is the evil; otherwise we should be disposed to place in the same category the unusual tendency which the Turnip crop has exhibited to run to seed, which is also a subject of very general complaint. The rapid ripening of corn is, we suspect, the result of internal disease, and not directly of external climatic agency. It, too, is one of the greatest of the many puzzles that the farmer has to deal with; and we should be glad of any information upon it that our correspondents may favour us with. One, writing from Norfolk, tells us, that along the coast line, and for a few miles inland, the crops are free from it, while farther inland they have all suffered materially from this cause; others speak of strong land having escaped, while on lighter soils the crop is injured. We wish we could induce some hundreds of farmers on all the various soils, and under the different skies which cover this country, to state their experience fully on this subject. It and the other liabilities to which our crops are exposed will become more and more the proper subject for anxious study and consideration, as the fertility of the land increases, under improved management; for it is on these artificially fertile soils especially, that the crops run these risks.

To return to the reports, which our readers will find in another page, we have only to add, that it is necessary to compare them with the former returns, published on August 7, before a correct idea can be obtained. For although a very serious injury has been sustained, it is well to remember that the crop injured is one of the most abundant which England has ever known. We fear, however, that there can be but little doubt that the produce of the Wheat crop is, on the whole, considerably below the average.

"IT is desirable that as many persons as possible should this year state their experience in the use of the reaping machine, as well as any suggestions respecting the use of it which have occurred to them." So says Mr. HALL in a valuable communication he has favoured us with (which we have in type for next week); and we heartily urge his request upon any of our readers who can comply with it. We also beg the attention of our readers to the communication on this subject from Messrs. BURGESS and KEY, in which they correct our statement on the trial of reaping machines at Perth, where M'CORMICK'S reaper did not appear. Since that date several trials have taken place, and Mr. M'CORMICK'S machine seems to be re-acquiring the status it formerly held. Certainly the gathering of the corn and the laying it in swathes or in bundles out of the wake of the machine seem to be quite within the scope of machinery to perform, and we have no doubt that ultimately reaping machines will lay down the corn as it is reaped ready for the binder. Meanwhile, the greater complication of a machine which attempts anything beyond the mere cutting operation, renders it more difficult to manage, and the quantity of work done by M'CORMICK has accordingly generally been less than that done by HUSSEY, though the greater completeness of the operation in the former case renders the former the more popular of the two.

At Cirencester this week the two machines have competed—HUSSEY'S cut 3 acres in 2 hours and 6 minutes, the delivery being behind, and the corn gathered and tied, and stooked out of the way by a sufficient number of hands. M'CORMICK'S was not got to work so easily, and several stoppages occurred in the management of it: ultimately it cut 1¾ acre in 1 hour and 20 minutes. The popular opinion was in favour of the latter, notwithstanding all its stoppages, because it delivers at the side. At Cirencester we understand that HUSSEY'S machine has cut 20 acres in 19 hours, and that by the use of it they have been able to cut down Wheat, and bind it up, for 4s. an acre. We shall have further details on this subject to offer next week, and meanwhile we hope that any who have experience to offer on the subject will kindly record it in our columns for the instruction of others.

STATE OF THE CROPS, AUGUST 21, 1852.

[The following Returns are in reply to a Circular asking for the appearance of the Crops in the Neighbourhood to which it was sent.]

COUNTIES.	WHEAT.	BARLEY.	OATS.	BEANS.	PEAS.	GREEN CROPS	POTATOES.	NAME AND ADDRESS.
SCOTLAND.								
ROSS	Good	Light and short	Light and very short	Good	Good and cut	Magnificent	Disease threatening	T. P. Dods, Dingwall
INVERNESS	Very good	Light	Very light	Average	Average	Over average	Diseased	J. Mackenzie, M.D., Eilenach
ABERDEEN	.....	Full average	Good, light straw	.....	.....	Most luxuriant	Generally diseased	J. MacDonald, Huntley
MORAY	A fine crop	Over average	Over average	.....	.....	Fine & healthy	Disease has appeared	J. Hamilton, Forres
	Good quality—under average	Fine full crop	Fine full crop	.....	.....	Fine crop	Fine crop—diseased	J. Grigor, Forres
	Rather below average	Average	Seems an average	.....	.....	Very forward	Disease progresses	A. Robertson, Elgin
PERTHSHIRE	Full average	Full average	Hardly average	Average	Average	Luxuriant (Anbury)	Symptoms of disease	P. Edie, Abernethy
	Full crop	Full crop	Full crop	Full crop	Full crop	Full crop	Symptoms of disease	D. Todd, Bridge of Earn
	Good	Full crop	Fair	Average	Average	Look well	Symptoms of blight	C. Playfair, Errol
FORFAR	Never saw a better crop	Great crop	Under average	Moderate	Moderate	Splendid	Partially diseased	Alex. Bell, Ferryden Farm
	Over average	Over average	Over average	.....	.....	Excellent	Slight disease	R. Findlay, Kirriemuir
	Excellent—over average	Very good	Good	Fair	Fair	Generally good	Disease progressing	D. D. Black, Brechin
	A very full crop	Very full crop	Good crop	Weighty	Weighty	Very promising	More or less diseased	R. Colvill, Inverkeillor
STIRLING	Over average—good quality	Over average	Rather over average	Nearly average	Nearly average	Average	Disease rapid	R. M'Naughton, Stirling
	A great crop; a little blighted	Good crop	Under average	Under average	.....	Good	Partly diseased	W. Forrester, Stewarthall
FIFE	Over average	Over average	Average	Good	Good	Excellent	Haulm diseased	R. Russell, Kilwhiss
	Splendid	Average	Average	Average	Average	Very fine	Symptoms of disease	D. Tennant, St. Andrew's
	Full average; partly blighted	Full average	Average	Average	.....	A large crop	Disease increasing	J. Barclay, Randerstown
	Over average	Full average	Nearly average	Scarcely average	.....	Very promising	Fine	W. Veitch, Kinghorn
	Over average; partly blighted	Bulky—coarse	Average	Average	Average	Bulky—well	Average	J. Haxton, Drumnod
RENFREW	Good average	Good average	Good average	Under average	.....	Looking healthy	Almost all diseased	G. Boyd, Renfrew
LANARK	Excellent crop—lodged in places	Full crop	Bulky	Bulky—blight	Good	Most luxuriant	Disease very bad	D. Gairdner, Hamilton
MID LOTHIAN	Straw full—grain middling	Very bulky	Full average	Tall—thin	.....	Very promising	Fine, but diseased	J. Melvin, Ratho
	.....	Full average	About average	.....	.....	Very good—running to seed	Disease appearing	J. H. Haig, Stage Hall
EAST LOTHIAN	Over average—fine quality	Much over average	Full average	Average	.....	Luxuriant—running to seed	Stems slightly spotted	G. Hope, Fenton Barns
	Over average	Over average	Average	Average	.....	Good	Disease in gardens	J. Brodie, Abbey Mains
	The heaviest crop remembered	Excellent	Good average	Good crop	Good	Good	Going	John Russell (Elie, Fife)
AYR	An extra full crop	Extra full	Fair average	Deficient	.....	Diseased	One-third diseased	J. Dykes, Kilmarnock
	Abundant and sound	.....	Average	Damaged	.....	Very luxuriant	Diseased	——, Maybole
SELKIRK	Full average	Over average	Average	.....	.....	Over average	Symptoms of disease	J. Stalker, Galashiels
BERWICK	Average	Over average	Average	Average	Average	Over average	Diseased	G. Logan, Greenlaw
	Above average	Above average	Average	Above average	.....	A great crop	Much diseased	J. Wilson, Edington Mains
	Full average—of variable quality	Full crop	Average	Over average	.....	A full crop	Look well	T. Hood, Cockburnspath
	.....	Average	Good	.....	Good	Very good	Symptoms of disease	A. T. Wilson, Lammermuir
ROXBURGH	Average—a little rusty	Full average	Average	Full average	Full average	Good	Good—doubtful	J. Scott, Newstead Mill
	Above average	Above average	Average	Above average	Above average	Over average	Disease increasing	J. Thomson, Whitelee
	Good	Good	Average	Good	Good	Good	Doubtful	P. Brodie, Clavilaw
	.....	Full average	Over average	.....	.....	Very good	Much diseased	J. Grieve, Hawick
DUMFRIES	Very good	Very good	Very good	Good	.....	Very promising (Anbury)	Disease general	W. Thomson, Cleckhill
	.....	Good	Very good	.....	.....	Very good	All diseased	J. Little, Langholm
	Fair average	Full crop	Over average	.....	.....	Good	Slightly diseased	A. Jardine, Mouswald
WIGTON	Good crop; slightly mildewed	Full average	Very good	Good	.....	Fine appearance	Very healthy yet	T. MacClelland, Balfern
	Bulky and excellent quality	.....	Excellent	Good	.....	Most luxuriant	Disease appearing	J. Gibson, Glenluce
	Hardly so good as expected	Fair	Complaints of rust	Average	.....	Good (Anbury)	All diseased	A. H. M'Lean, Stranraer
	Full average	.....	Over average	Good average	.....	Full average (Anbury)	Diseased	W. Davidson, Auchness
ENGLAND.								
NORTHUMBERLAND	Much laid, but average	Inferior sample	Very fine	Diseased	Good	Improved	Disease appearing	W. Glover, Newcastle
	Bulky—lodged—coarse	Bulky—coarse	Average	Various	Pretty good	Large	Diseased	J. Grey, Dilston
CUMBERLAND	Splendid	Very good	Excellent	Good	Good	Very good	Many diseased	M. Kumbley, Keswick
	Remarkably good	Very good	Very good	.....	.....	Capital	Much diseased	T. Wilson, Penrith
	Great crops are lodged	Lodged	Very great crops	.....	.....	Generally good	Attacked	S. Rigg, Abbey House
WESTMORELAND	Average	Over average	Over average	Over average	.....	Good	All diseased	W. Turner, Kendal
	Very good	Heavy—coarse	Average	.....	.....	Best remembered	Diseased	J. Crosby, Kirkby Thore
	Good—diseased in places	Very good	Good	.....	.....	Very good	Much diseased	J. Robinson, Warcop
	Good	Good	Good	Promising	.....	Very good	All diseased	W. Key, Kirby Lonsdale
DURHAM	Much hurt by rain	Hurt by rain	Laid	.....	.....	Early sown, run to seed	Nearly all bad	G. Bell, Durham
	First-rate crop, a little hurt	Very good	Very good	Pretty good	Pretty good	Generally good	Pretty good	R. B. Dixon, Darlington
YORKSHIRE	Full average—much laid	Nearly average	Average—laid	.....	Fair crop	Very good	Much diseased	J. Howard, Leyburn
	Strawy; mildewed; inferior	Bulky—lodged	Moderate	Indifferent	.....	Very fine	Suffering	M. M. Milburn, Thirsk
	Much blight and mildewed	Good	Fair	Injured by hail	.....	Promising	Early diseased	P. Stevenson, Rainton
	Quality inferior; a good deal blighted and sprouted	Average — quality inferior	Very good	Average	.....	Progressing	Blight prevalent	F. W. Tyas, Nat. r Priory
	Good—little blight or mildew	Good	Fair	Fair	Fair	Very good	Disease partial	Henry Briggs, Wakefield
	Full average—partly injured	Average	Various	Promising	Average	Very promising	Various	H. J. Turner, Richmond
	Over average, notwithstanding blight, &c.	Good	Good	Good	.....	Never better	Worse than ever	J. Oldroyd, Barnsley
LANCASHIRE	Much over average	.....	Very good	Good	.....	Excellent	Disease appearing	E. Evans, Wigan
	Excellent	.....	Abundant	Excellent	.....	Good	Blighted lately	M. Saul, Garstang
	Good	Good	Very good	Generally average	.....	Excellent (Anbury)	Early sorts bad	F. Twining, Standish
CHESHIRE	Suffered from blight and mildew	Lodged	Still good	.....	.....	Very promising	One-half gone	R. Owen, Tarporley
	Good	Very good	Various	.....	.....	Moderate	Very much diseased	Henry Tipping, Warrington
	Full average—laid crops sprouted	Very bulky—laid	Average	.....	.....	Luxuriant (Anbury)	Very bad	W. Palin, Tarvin
DERBY	Slightly injured	Over average	Excellent	.....	.....	First-rate	One-sixth lost	A. J. Bernays, Derby
NOTTINGHAM	Much mildewed—under average	Average—grown	Under average	Under average	Under average	Very promising	Diseased	J. Buckley, Normanton Hill
	Sadly mildewed and sprouted	Prematurely ripe	Pretty good	Very poor	Various	Splendid	Good	J. Young, Newark
LINCOLNSHIRE	Under average—materially injured	.....	Good average	Blighted	Good—injured	Very good	Disease general	J. A. Clarke, Long Sutton
	Partial mildew, but average	Average	Below average	Bad	.....	Good	.....	F. Sowerby, Grimsby
	Full average—very light—much sprouted	.....	Light	.....	Fair	Promising	Diseased	T. Aitken, Deeping Fen
	Good—a little mildew	Generally good	Very fair	Not good	Not good	Good	Diseased in places	J. Willerton, Scamblesby
	Good, except where mildewed	Good	Average	Moderate	Moderate	Good	Show disease	T. Pickett, Scamblesby
SHROPSHIRE	Very heavy straw—grain lean, and sprouted	Excellent—sprouted	Good—sprouted	Good	.....	Never better	All diseased	R. Sayce, Bridgenorth
	Average—no blight to hurt	Good	Full average	Fair	.....	Very good	Very bad	E. Bowen, Corpton
	Sprouted—got in bad order	Very middling	Very middling	Bad	.....	Promising	Very bad	W. Minors, Market Drayton
	Bulk good; slightly damaged	Average	Average	Very bad	Average bulk	Injured by rain	Much diseased	R. Davis, Little Wenlock
	Much damaged	Much damaged	Pretty good	Damaged	Hurt	Good	Very bad	J. Powell, Shiffnal
STAFFORDSHIRE	Very good	.....	Very good	.....	.....	Excellent	Very little disease	E. Cole, Turnhurst Hall
	Very good	Good	Very good	Average	.....	Never so well	Diseased in places	J. Johnson, Tunstall
	Very good	Good, but hurt	Very good	Various	Good—hurt	Splendid	Much diseased	J. Aston, Ashley
LEICESTER	Mildewed and sprouted	Cut and sprouting	Cut & sprouting	Pods opening	As the Beans	Very good	Much diseased	G. Townshend, Hinchley
	Blighted and sprouting	Going near hedgerows	As Barley	Partial failure	.....	Very fine	Diseased	J. Stallard, Leicester
RUTLAND	Much laid and mildewed	Laid—uneven	Laid—sprouting	Half a crop	Damaged	Much improved	Much diseased	T. Spencer, Knossington
	Mildewed more or less	Average — discoloured	Very good	Good	Good	Good	Diseased	W. Fancourt, Empingham
HEREFORD	Sprouting fast	Injured	Injured	.....	.....	.....	.....	——, Lidbury
WORCESTER	Bulky straw—blighted and grown	Heavy—injured	Very good—hurt	Indifferent	Indifferent	Very good	All blighted	H. Hudson, Pershore
	Bulky—lodged—blighted—white grown	Uneven—stained	Full crop	Various	Various	Too much rain	As bad as 1847	F. E. Williams, Doddenham
	Worse than July, by 15 bushels per acre	Colour bad	Badly harvested	Various	Much shed	Very good	Much diseased	[berton F. Woodward, J.P., Little Com-
WARWICK	Much injured by blight	Sample hurt	Much hurt	Spring sort good	Spoiled	Various	Diseased	J. H Burbery, Kenilworth
	Still average of inferior quality	Average—hurt	As Barley	Under Average	Much hurt	Checked	Haulm gone	W. Gibbs, Stratford-on-Avon
	A good crop, damaged and grown	Much hurt	Very much hur	Very poor	Spoiled	Improving	Badly diseased	W. Aitcheson, Berkeswell
	Not average—bad quality	Average—hurt	Good—grown	Average	Average—hurt	Good	Very bad	J. Burbury, Wootton Grange
	Much grown and injured by blight and mildew	Lodged & injured	Much grown	Injured	Grown and hurt	Too much rain	Much diseased	W. Gray, Courteen-hall
NORTHAMPTON	Mildewed in fens; sprouting	Full crop—injured	Average	Not average	Much hurt	Good	Partly good	J. Whitwell, Peterborough

STATE OF THE CROPS—*continued.*

COUNTIES.	WHEAT.	BARLEY.	OATS.	BEANS.	PEAS.	GREEN CROPS	POTATOES.	NAME AND ADDRESS.
ENGLAND.								
HUNTINGDON	Seriously mildewed and sprouted	Injured	Not Bulky	Bad	All diseased	Splendid	Not much diseased	P. Purves, Brampton
	Quantity average—quality very poor	Bulky, coarse	Under average	Average	Under average	Too much wet	Top diseased	R. Beart, Godmanchester
CAMBRIDGE	Blighted, mildewed, and sprouted	Stained & sprouted	As Barley	Not good	Much hurt	Very good	Very much hurt	P. Howard, Granchester
	Bulky—blighted, mildewed, grown	Sprouted	Much sprouted	Average	.....	Very good	Partly diseased	A. S. Ruston, Wenny-road
	Much blighted and sprouted	.....	Middling	.....	.....	Very good	Much diseased	S. Fryer, Chatteris
SUFFOLK	More or less mildewed very badly	Not good	.....	Very indifferent	Middling	Very good	Diseased in places	L. O. Cottingham, Saxmundham
NORFOLK	Mildewed and deficient	Good but hurt	Not average	Bad	Middling	Good	Bad	T. Brown, Downham
	Injured prematurely—partly blighted	Sprouted when cut	Good, but hurt	Indifferent	Fair crop	Never better	Diseased	W. Cubitt, Barton Abbey
	Mildewed, and prematurely ripe	Average	Good	Indifferent	Various	Very good	Diseased	J. J. Hill, Briston
MONMOUTH	Much blighted — under average	Average	Average	Very deficient	Fair crop	Good	Much diseased	J. Scales, Ragland
	Not much damaged	Little damaged	.....	.....	.....	Doing well	Diseased	W. H. Little, Abergavenny
	Full average—but light	Malting rapidly	Various	.....	.....	Very promising	Half diseased	G. R. G. Relph, Usk
GLOUCESTER	Most wretched—much grown	Very much injured	Good but hurt	Much injured	Good but hurt	Hurt by slug	Totally spoiled	R. Beman, Moreton-in-Marsh
	Two-thirds of a crop	Average—injured	Average	Half a crop	Much hurt	Never better	Poor yield	R. Valentine, R. A. College
	Blighted—two-thirds of crop	Bulky—rough	Good	Half a crop	Average	Good	Badly blighted	J. Kearsey, Cirencester
	Injured and much laid	Stained & sprouted	As Barley	Hurt by rain	Hurt by rain	Too much wet	Disease increased	S. Taylor, Gloucester
	One-eighth destroyed	Badly hurt	Injured	Very bad	Badly hurt	Good	Destroyed	J. Hunt, Almondsbury
	Ten bushels short of last year	Bulky—coarse	Good—hurt	Half a crop	Hurt	Good	Never worse	A. Tuckett, Sieton
	Much injured by rain	Laid	Good	Under average	Average	Good	Half bad	John F. Peacey, Winchcomb
OXFORD	Good crop—blighted and injured by wet	Fair average—injured	Full crop	Not blighted	Average	Excellent	Small and diseased	S. Druce, jun., Eynsham
	Partially blighted & sprouted	Good	Average	Fair	Good	Abundant	Diseased	S. Collier, Witney
BUCKS	Badly blighted	Much hurt	Hurt	Bad	Badly hurt	Promising	Bad	A. Fraser, Middle Claydon
	More or less sprouted	Partially sprouted	.....	Not well podded	Shed a great deal	Good	Tops gone	W. J. Duncan, Bradwell
	Grown in the shock	Grown	Good	Bad	.....	Very good	.....	W. Lavander, Biddenham
	Generally mildewed and much sprouted	Much sprouted	As Barley	.....	.....	Luxuriant	As bad as possible	T. Bennett, Woburn
HERTS	Full average—partly blighted—somewhat sprouted	Lodged & stained	Not much injured	Very bad	Indifferent	Very good	Partial failure	——, St. Albans
ESSEX	Good crop—suffering much	Stained & sprouting	Good	Improved	Average	Looking well	Small—blighted	A. Barfield, Dunmow
	Large quantity—poor quality—sprouting	Much injured	Abundant	Under average	Under average	Very good	Disease partial	R. Baker, Writtle
	Average crop—much injured	Heavy—injured	Good	Blighted	Blighted	Improving	Indifferent	C. Hall, Romford
	One-fifth destroyed by mildew and rain	Full crop—hurt	Good—hurt	Partial	Average	Good	Much blighted	W. F. Hobbs, Colchester
	Good	Very good	Good	Various	Average	Average	Bad	J. Malpas, Harwich
	Much hurt by mildew	Good—hurt	Full average	Middling	Middling	Very good	Half a crop	J. J. Mechi, Kelvedon
SOMERSET	Damaged by rain	Good	Good	Blighted	.....	Various	Diseased	H. Cottrell, Congresbury
	Laid and sprouted in places	Good	Very good	.....	Various	Very good	Half a crop	C. P. Collyer, Dulverton
	Greatly damaged	Grown—stained	Injured	Sprouted	Not good	Too much wet	Much diseased	R. S. Graburn, Glastonbury
WILTS	Blighted and hurt by rain	Nearly average	Average	Blighted	Hurt by rain	Good	All diseased	J. Spencer, Bowood
	Much hurt by mildew and sprouting	Various	Good—hurt	Various	Hurt	Good	Bad	T. Arkell, Swindon
	Much blighted and grown	Hurt by rain	As Barley	Average	Not average	Good	Much hurt	S. Brown, Avebury
BERKS	Blighted and grown	Much hurt	Much hurt	Under average	Partly hurt	Good	Very bad	J. Adnams, Thatcham
	Three-tenths hurt by wet and blight	Stained	As Barley	Near average	As Beans	Good	All blighted	J. Williams, Abingdon
	White wheat nearly destroyed	Much hurt	Much grown	Improved	.....	Looking sickly	Generally diseased	E. W. Moore, Coleshill
MIDDLESEX	Blighted—early cut grown	Bulky—coarse	Grown	Partly blighted	Much blighted	Very good	Diseased	——, Uxbridge
SURREY	Much blighted and hurt by rain	Heavy—hurt	Good—hurt	Bad	Spoiled	Very good	Never worse	J. M. Paine, Farnham
	Near average—various	Good	Very good	Mean	Deficient	Good	Partly diseased	J. Smeed, Margate
KENT	Blighted—one-tenth blown out	Ripened too fast	Average	Improved	Half a crop	Looking well	Very bad	M. Sandford, Dover
	Blighted—much under average	Over average	Very good	Much blighted	Very bad	Various	Partly diseased	R. Matson, Wingham
SUSSEX	Partly blighted—under average	Average	Over Average	Under average	Under average	Various	Partly blighted	J. Brotherston, Robertsbridge
	Average crop—slightly blighted	Average—stained	Very good	Failure	Blighted	Various	Under average	——, Chichester
HAMPSHIRE	Partly blighted and sprouted	Bulky, but injured	Injured	.....	.....	Promising	Greatly diseased	S. Cheetham, Southampton
	Injured by wet and blight	Good	Good	Inferior	Injured	Good	Diseased	Hugh Raynbird, Laverstoke
	Under average	Average	Over average	Deficient	Deficient	Promising	Diseased	Joseph Blundell, Burseldon
	Bulky—blighted—shrivelled	Blighted	Good	Very bad	Very bad	Very bad	Much blighted	J. Eames, Beaulieu, Lymington
	One-quarter badly blighted—all affected	Not much injured	Shed by storms	Indifferent	Fair	Good	Very bad	J. T. Twynam, Stockbridge
	Much sprouted	Injured	As Barley	Blighted	Under average	Want sun	All diseased	J. W. Clark, Romsey
	Under average—blighted—sprouted	Partly blighted	Average	Blighted	Under average	Average	Diseased	W. C. Spooner, Eling
DORSET	Good crop—quality injured	Good—hurt	Good—hurt	.....	.....	Very good	Much diseased	G. Singer, Dorchester
	Generally blighted and sprouted	Blighted	Blighted	Very bad	Moderate	Good	Very bad	J. Furmedge, Beaminster
	Bad—shed by wind, and sprouted	Injured	Injured	.....	.....	Good	Worse than ever	W. Voss, Corfe Castle
DEVON	Partly blighted, and sprouted	Fair crop	As Barley	Bad	Two-thirds of a crop	Good	Diseased	G. Turner, Exeter
	Thin plant—good ear	Good	As Wheat	Blighted	.....	Good	Much diseased	G. Langdon, Barnstaple
	Bulky—sprouted	Sample injured	.....	.....	.....	Promising	Much blighted	S. Cornish, Kingsbridge
	Good, but much sprouted	Unequal	Various	.....	.....	Improving	Much diseased	J. Benson, Tavistock
	Various	Good	Good	Bad	.....	Average	Badly diseased	G. W. Fowler, Dartmoor
	One-third below average	Good	Very good	Blighted	.....	Fair	Much blighted	T. Michelmore, Totnes
CORNWALL	Much hurt by weather	Lodged & stained	Bulky	Poor	.....	Promising	Blighted	J. Wills, Southpetherwyn
	Blighted in places—sprouted	Bulky	Injured	.....	.....	Generally good	Nearly all gone	H. Trethewy, Probus
	I hope average	Average	Very light	.....	.....	Promising	Badly diseased	J. Michell, Truro
WALES.								
CAERNARVON	Very good—much stacked	Very good	Very good	Very good	Middling	Excellent	Healthy at yet	J. Williams, Conway
DENBIGH	Full crop	Full crop—slightly hurt by rain	Average	Under average	Full crop	Capital	Much diseased	J. Girdwood, Chirk
CAERMARTHEN	Fair—complaint of blight	Fair average	Fair average	Light	Light	Turnip good	Disease everywhere	E. H. Griffith, Denbigh
	Excellent	Excellent	Excellent	... ...	.....	Excellent	Diseased	T. W. Lawford, Tirydail
IRELAND.								
DONEGAL	.....	Very good	Above average	.....	.....	Excellent	Good	H. Sinclair, Mountcharles
	Average crop	.....	Abundant	.....	... ...	Various	Diseased	C. P. Boyce, Stranorlan
	.....	Good	Good	.....	.....	Very good	Good	T. A. Atkinson, Ballyshannon
	Middling	Good	Inferior	Good	.....	Bad	Disease progressing	J. O'Donnell, Ballyshannon
LONDONDERRY	Good	Good	Good	Below average	Below average	Average	Everywhere diseased	J. Moore, Newtown Limavady
	Very good	Average	Remarkably fine	.....	.....	Excellent	One-tenth of crop diseased	James J. Clark, Maghera
	... ...	Average	Very good	.....	.....	Promising	Blighted	Charles Pollock, Magherafelt
	Damaged	Excellent	Excellent	Very good	Good	Splendid	Much diseased	Samuel Orr, Coleraine
ANTRIM	Over average	.....	Over average	.....	.....	Very good	Much diseased	Joseph Lamb, Belfast
	.....	.....	Very good	Good	Good	Excellent	Very bad	John Burmiston, Randalstown
	Average	Over average	Over average	Under average	.....	Over average	Blighted	A. M'Kinley, Bush Mills
	Good	Good	Excellent	.....	.....	Superior	Much diseased	R. Rolls, Haughton, Lisburn
TYRONE	Very good	.....	Good	.....	.....	Very good	Fast decaying	James Knox, Strabane
	Good	Good	Very good	Good	Good	Very good	Much diseased	W. Paterson, Newton Stewart
	Good	.....	Abundant	.....	.....	Very good	Much diseased	Rev. W. Atwell, Clonse Rectory, Stewartstown
FERMANAGH	.....	.....	Fine crop	.....	.....	Very good	Very bad	J. Paterson, Clemoss, Linaskea
	Average crop	.....	Most abundant	Very good	Very good	Very good	Blighted	Andrew Mair, Linaskea
MONAGHAN	.....	.....	Excellent	.....	.....	Average	Much diseased	James Marrow, Ballibay
	.....	.....	Luxuriant	.....	.....	Good	Blighted	Rev. G. B. Coulter, Castleblayney
ARMAGH	Under average	Fair crop	Good	.....	.....	Good	One-fourth gone	R. Boyd Hardy, Caloy Hill
DOWN	Good	Good	Good	Average	Inferior	Splendid	Diseased	W. M'Cleary, Portaferry
	Average	Good	Good	Good	Fair	Promising	Failed	Thomas Gracey, Portaferry
	Fair average	Good	Average	Good	.....	Under average	Bad	John M'Kee, Comber
	Very good	Good	Excellent	.....	... ...	Promising	60 per cent. diseased	H. E. Boyd, Rectory, Dromara
	Full average	.....	Above average	.....	.....	Very fine	Much diseased	John Andrews, Comber
	Much injured by rain	.....	Over average	Bad crop	Bad	Looking well	Badly diseased	Robert M'Donnell, Clantagh
	Average	Good	Very good	Average	.....	Under average	Less blighted	Rev. S. Simms, Loughbrickland
MAYO	Fair crop	Good	Good	.....	.....	Average	Much injured	George Hildebrand, Westpoint
	Indifferent	Looks bad	Average	.....	.....	Very good	Much diseased	A. S. Perkins, Killala
LEITRIM	... ...	... ...	Looks good	.....	... ...	Very promising	Diseased	J. Lindsay, Manor Hamilton
LOUTH	Much damaged	Good	Very good	Tolerably good	... ...	Excellent	Not much damaged	W. M'Culloch, Dundalk

STATE OF THE CROPS—*continued.*

COUNTIES.	WHEAT.	BARLEY.	OATS.	BEANS.	PEAS.	GREEN CROPS	POTATOES.	NAME AND ADDRESS.
IRELAND.								
LONGFORD	.....	.....	Average	.....	.....	Good	Very bad	E. Morgan, Edgeworthstown
	Generally good	.....	Very good	.....	.....	Backward	Diseased	J. M. Goodiff, Granard
WESTMEATH	Good	Good	Good	.....	Average	Very good	Total failure	Rob. Bagnell, Tyrrell's Pass
	Good	.....	Over average	Good	.....	Very good	Diseased	Walter Newburo, Mullingar
GALWAY	Average	Good	Very good	Good	Good	Very good	Injured	R. B. Seymour, Banagher
	.....	Good	Very good	.....	.....	Good	Very bad	James Ellis, Leiterfeach
KING'S COUNTY	Good	Good	Very good	.....	.....	Over average	Blighted	Edw. Bewley, M.D., Clare
KILDARE	Fair crop	Good	Good	.....	.....	Good	Diseased	Gordon Lamb, Castle Dermot
CLARE	Partly blighted	Average	Smut appearing	.....	.....	Various	Complete failure	Edward Bennet, Bally Car
	Good	Good	Good	.....	.....	Promising	Partially blighted	D. J. Wilson, Six-mile Bridge
	Good	Good	Very good	.....	.....	Good	Going fast	R. Morray, Miltown Malbey
	Average	Average	Very good	.....	.....	Pretty good	Much blighted	Henry Franks, Killaloe
	Good	Very good	Excellent	.....	.....	Good	20 per cent. diseased	W. Dissen, Killaloe
TIPPERARY	Very good	Very good	Very good	.....	.....	Very good	Half lost	R. D. Bolton, Massey, Ballywir
	Somewhat damaged	Pretty good	Very good	.....	.....	Good	Three-fourths destroyed	J. Farrel, Upper Cooks Abbey
	Good	Very good	Very good	.....	.....	Very good	Injured	W. Peel, Clonmell
	Average	Average	Over average	.....	.....	Good	50 per cent. rotten	James Murphy, Steward
QUEEN'S COUNTY	Average crop—much laid	Average—laid	Average—laid	.....	.....	Promising	Half lost	Michael Dunne, Ballymana
	Good	Good	Good	.....	.....	Good	Blighted	Thos. Roe, Coalfirm
CARLOW	Good	Good	Exceedingly good	.....	.....	Very good	Much diseased	John de Reuzy, Clonegal
	Partially damaged	Good	Damaged	.....	.....	Good	Greatly damaged	P. B. Hope, Rutland House
	Fair crop	Under average	Much laid	.....	.....	Promising	Injured	James Bryan, Bagnallstown
WICKLOW	Seriously injured from rain	Damaged	Damaged	.....	.....	Good	Uncertain	John Dickson, Tinakelly
WEXFORD	Slightly improved	Good	Damaged	.....	.....	Very good	Greatly blighted	Geo. Glasscott, Carnolin
	Average	Fair average	Various	Half a crop	Superior	Much improved	Bad	Edw. Carroll, Castlebridge
	Partially injured	Good	Spring Oats injured	.....	.....	Late	Much diseased	Alex. Preston, Enniscorthy
	Under average	Average	Fair	.....	Middling	Backward	Much diseased	George Gordon, Ballycarney
	Promises well	Very good	Slightly blighted	.....	Good	Very good	Much injured	John Deane, Stokestown Rollo
	Injured	Very fine	Good	.....	.....	Very fine	Greatly injured	T. Rudd, Cloon Ferns
KILKENNY	Good	.....	Good	.....	.....	Fair	Blighted	John Richardson, Ballyne
	Fair crop	Various	Average	.....	Under average	Various	Rotting	Martin Murphy, Upper-grange, Gorsebridge
	Good	Very good	Very good	Under average	.....	Good	Much injured	W. Somerville, Castlecomer
	Good	Above average	Good	.....	.....	Good	Middling	P. Grant, Upper-court, Fresh-
WATERFORD	Blighted—hurt by rain	Very fine	Very fine	.....	.....	Fair	Blighted	E. Kennedy, Curibeka [ford
	Much injured from rain	Good	Injured	Good	Good	Very good	Blighted	R. T. Barron, Kilmacthomas
	Various	Very good	Very good	.....	.....	Good	Much blighted	G. Hill, Cappoquin
KERRY	Good	Very good	Very good	Good	.....	Very good	Excellent—partially blighted	J. Creagh, Tarbet
	Tolerable	Fair	Excellent	.....	.....	Indifferent	Rotting fast	E. M. Dill, M. D., Killoghlin
CORK	Indifferent	Good	Very good	.....	.....	Very good	Blighted	J. Wilkinson, J. P., Cloyne
	Blighted and deficient	Average	Average	.....	.....	Good	Very bad	R. Hudson, J. P., Youghal
	Fair	Good	Good	.....	.....	Good	Blighted	H. Longfield, Doneraile
	Average	Good	Good	.....	.....	Good	Much diseased	F. A. Twinam, Kanturk
	Somewhat injured	Thin	Much laid	.....	.....	Very good	Decidedly injured	T. C. Cole, J. P., Innishannon
	Good	Good	Good	.....	.....	Promising	Blight increasing	S. Piddell, M. D., Kildorrery
	Fine crop	Average	Very fine	.....	.....	Fair	Going fast	J. Y. Kingston, Bantry
	Partial blight	Good	Very good	Good	Good	Promising	Diseased	T. Jenkins, Kinsale
	Under average—inferior quality	Good	Very good	.....	.....	Fair	Worst year since 1846	David Bockley, Newcastle Blarney
	Good	Very good	Very good	.....	.....	Good	Diseased	Denis M'Gallivey, Clonakilty
SLIGO	.....	.....	Very good	.....	.....	Average	Slight blight	J. Knott, Boyle
CAVAN	Average	Good	Good	.....	Average	Under average	Diseased—various	Isaiah Gibson, Bailieboro'
LIMERICK	.....	Good	Good	.....	.....	Good	Bad	G. Gubbins, Bruff

Home Correspondence.

A Word in Season. (see p. 509).—Many have read with little profit the book of life and light Mr. Smith has been in the habit of expounding; we cannot therefore be much surprised that the pamphlet he has written should also have failed in instilling its proper vivifying effects on our friend "Numskull;" his candour, however, and courage in attaching to his remarks a name so very generally disclaimed by his family give us some hopes of him. We admit that to the uninitiated it does appear somewhat astounding that, in the first year, Mr. Smith can obtain by his plan a full crop on half the land; yet facts are stubborn things, and Mr. Smith does so. There are certainly some things both in the book and in the pamphlet that require faith—and we deny the right of "Numskull" to fail in this on the integrity of Mr. Smith; and, decidedly as he may repudiate "much benefit from the diggings between the Wheat," we boldly tell him that to these diggings and workings, and to the spaces uncropped between the rows of Wheat, may be well attributed, as all sufficient, the large returns which give Mr. Smith a full crop on half the land in the first year and after a crop of Wheat. We believe Mr. Smith, and our own experience gives us good reason to do so, independent of any respect we may have for him; for we have seen for 30 years past the great productiveness of grain in rows at wide intervals. It is not by a winter's frost, but by a 12 month's fallow, that Mr. Smith obtains his results. Powerful as is the action on vessels, whether of inorganic or organic composition, of alternate frosts and thaws, of solidifications and liquidations, in breaking up and separating their parts, yet we are inclined to think the mechanical effects of the winter's exposure have been overrated, and that by keeping the soil open to aerial influences, we obtain all the advantages of a fallow, let the winter be as free from frost as it may. The fresh inch of crude soil thrown to the top by Mr. Smith cares not for the winter's frost, its fertilisation does not depend on it, it imbibes sufficient ammonia and carbonic acid by its 12 months' exposure to the atmosphere, while alternate heats and colds, though the latter reach not to intense frosts, break down their parts. We have also buried the surface and brought up the subsoil, manuring highly and with very injurious effects for years, but this is not Mr. Smith's plan; he gradually brings up such small portions of the subsoil as can in 12 months be efficiently operated on by natural causes; and thus gradually bringing crude and inactive elements in such small quantities upon the surface, exposes a thin coat to organic action, and renders it fit for organic use; he thus, at the same time, gradually increases the depth of the active soil, and there is no "Numskull" who would not prefer a deep soil to a shallow one. There is something unexplained in "Numskull's" crops of chaff, perhaps the birds took away the grain, or perhaps he sowed slippery Wheat. Very many persons, as well as Mr. Smith and "Numskull," have sown Wheat thinly, but we hear of no other of them reaping a crop of chaff. Another reverend gentleman allows each of his grains of Wheat (Mummy) 2 feet of ground to luxuriate in, and they gratefully give him enormous returns of grain, without any preponderance of the less weighty article of chaff. We have often admired the immense growth and promising productiveness of isolated plants of grain, but have been told they would come to no good, and truly it was so; for the birds took away the grain as fast as it filled and left the chaff, which they had not so particular a fancy for. Mr. Smith has an item in his account for bird watching. We cannot understand what there is in thin sowing or in deep cultivation to produce chaff instead of grain. Mr. Smith can afford to throw off a pound or so in the value of the straw, and yet leave himself a wide margin of profit; besides, some gentlemen find it of value for feeding, indeed of too much to throw under the cattle. But "Numskull" himself has offered a very excellent reason for adopting Mr. Smith's plan; if "there is not much profit now a days in feeding stock," surely the advantage is much enhanced of growing a succession of crops that yield annually, without injuring the soil, a profit of from 8*l.* to 9*l.* an acre. *G.*——Observing in your No. for Aug. 7 a correspondent criticising the pamphlet "A Word in Season," in stating his opinion upon thin sowing says, that having used Newington's dibble with 2 pecks of seed to the acre, that the result was large ears, as large as three ordinary ones; but on threshing, "lots of chaff and little corn." Having been a thin sower for years, using not more than 6 pecks of seed to the acre, with a two-horse drill, and always reaping as much as my neighbours who use 9 pecks (the mystic number), the custom in this neighbourhood, last February I used Dr. Newington's dibble in planting an acre with Talavera Wheat, 2 pecks of seed only, and a finer crop could not possibly be, having tillered out in a very satisfactory way; the result of the yield shall be communicated to the *Gazette*. The seed was put in after Mangold Wurzel; soil, a rich sand; was twice hoed, and top-dressed with English guano. Dr. Newington's dibbles, from their delivering only two or three corns at a dibb, require the land to be as clean as a garden, and answers best with planting in the turn of the year. I have always used it at that time and with success—have a splendid crop of Mangold Wurzel this season put in with Newington's, and a more even plant is not possible to be seen; not a blot over the whole piece. *Amicus.*

Wheat.—With all deference to our esteemed friend Mr. Wilkins, we trust to be able to compete, if not exceed him, in the growth of Wheat and Barley, on a different principle from his. We sincerely hope he may prove the victor, and that others may go on progressing, which is the high road to perfection. With reference to the rev. gentleman's late sown Barley, if it has any merit, the credit is due to us, as he borrowed the notion of us last season from a plot which he saw growing on our grounds, sown on the 4th of June, after Potatoes. Enclosed is a sample of it harvested last September at the rate of 5 qrs. per acre, which crop, however, is too late to be depended on as a general rule, and, therefore, not to be recommended. We have this year attempted to improve the growth both of Wheat and Barley, combined with Potatoes, and trust with success and satisfactory results, when the harvest is ended. *A. Hardy and Son, Maldon.*

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

(*Continued from page* 381.)

May 12.—At the conclusion of Mr. Trimmer's Lecture, already given to our readers, on the agricultural importance of a knowledge of the warp or drift forming the soils lying on different geological formations, Mr. Pusey, trustee, in the Chair, and after a vote of thanks moved by Lord Berners, and seconded by Sir John Johnstone, Bart., M.P., for Mr. Trimmer's kindness in preparing that valuable lecture, and his trouble in illustrating it with so interesting a series of original geological diagrams, the meeting was addressed by Lord Berners, Captain Wentworth Buller, Mr. Pusey, and Sir John Johnstone.

Clay-bank Draining.—Lord Berners, on rising to propose a vote of thanks to Mr. Trimmer for his interesting lecture then delivered to the members, remarked, that if he had understood the lecturer correctly, the furrows to which he had alluded in reference to draining, were the same as what in Leicestershire were commonly known as "clay-banks"; and if so, his lordship could from long experience corroborate the accuracy of Mr. Trimmer's views on that subject. Lord Berners had found the only way to drain effectually and cheaply was to ascertain the direction of those banks; for, while a drain parallel to a clay-bank would not in some instances drain to an extent of more than two or three yards, one across the bank would be found to drain to 20, 50, or even a still greater number of yards; a fact of which he had proved the correctness by digging trial-holes in the fields. He found that in some spots of the strongest clays, there were, at various depths, little sand-galls, fissures, fibres, stones, or some porous substance; and that between these, in different intervals and directions, ran the strong clay-banks alluded to. It then became evident to his lordship that the best plan to adopt would be that of uniting these fissures, by cutting directly across and through the opposing clay-banks that formed the obstruction. When the fall was in more than one direction, it was also necessary to ascertain whether there was any other obstructing object, such as a hard pan or retentive subsoil, giving to the under or lower water a

natural course, not down the steepest slopes of the hill, (in which direction, the land might at some remote date have been thrown into ridges); in such cases diagonal draining only having been found to be effectual. His lordship added, that more water was frequently to be found in or under the slope of the ridges than in the furrows. In answer to a question then put to his lordship, by Mr. Darby, whether such drains would stand seven years, he remarked that he could show some drains put down on that principle 20 years ago, that still answered perfectly; while others placed on the old system, directly down the steepest part of the slope, had failed entirely. His lordship could most strongly recommend the plan of trial-holes, both before the commencement of the work and during its progress, for the purpose of discovering, not only the relative depth of the lower or deep water in different parts of the field, but the depth also of the fibres, fissures, or porous spots, so frequently to be found in the strongest clays. By these means he had frequently and most efficiently drained heavy fields at one quarter the cost of labour that would have been incurred by the usual practice of draining at one uniform depth and width. The land on which his operations had been carried on in Leicestershire consisted of a strong blue clay, that hardened on exposure.

Manure-deposits.—Captain Wentworth Buller, R.N., called the attention of the Council to the great results that would in all probability arise to the English farmer, from a careful habit of observation among our navigators, in reference to deposits on barren rocks, creeks, and islands throughout the world, especially in tropical regions. He laid on the table a section of the Admiralty charts, on which were laid down on a large scale the eastern shore and the adjacent islands of the Pacific; and an American work entitled :—

"A Narrative of Four Voyages to the South Sea, North and South Pacific Ocean, Chinese Sea, Ethiopic and Southern Atlantic Ocean, Indian and Antarctic Ocean. From the year 1822 to 1831 (comprising Critical Surveys, Life, &c.). By Capt. Benj. Morrell, jun. New York (Harper), 1832."

This work at the time of publication was sold in London, at 15s., by O. Rich, 12, Red Lion-square, but had now become so scarce that no copies of it were, he believed, to be met with. He hoped he should not be introducing a subject altogether foreign to that under discussion if he gave a practical illustration of the advantages which might be derived from this habit of observing the different deposits upon the face of the earth. Among these deposits, none were of greater importance to the agriculturist than those enormous deposits of guano which were now known to exist in different quarters of the globe, but which —for want of observation on the part of navigators and travellers — had so long escaped notice. The chart which he now produced was an Admiralty chart, showing the track of the Beagle in 1836. On it were laid down the Islands of Lobos Afuera and Lobos de Tierra; still from this survey not a syllable was known of the enormous deposit of guano now proved to exist in these islands. This discovery was due to Captain Morrell, an American sealer, whose book of voyages he now produced. He thought it might be interesting to the Society to see the minute description of these islands given in this book with the account of the guano. He trusted that individual members of the Society, who knew so well the value of guano, would take the subject up, and see if they could not do something to put down or to mitigate the monopoly now claimed by the Peruvian Government. It could not be supposed that an individual like himself could contend with such a powerful monopoly unless supported by public opinion. He knew of no subject more useful and advantageous to the Society and to all practical men than that of cheapening guano. Captain Buller concluded his remarks by striking evidence connected with the discovery and long use of guano, the geographical localities of its occurrence, and his own official communications with the Foreign-office on the importance of a reduction being effected in its prices to the agriculturists of this country. Captain Buller's observations excited much interest in the meeting, and were received with full concurrence as to the importance of the question.

Superficial Deposits.—Mr. Pusey could bear witness to the priority of Mr. Trimmer's important views on superficial deposits, as brought under the notice of the Geological Society and the Royal Agricultural Society of England. He thought that great benefit would eventually result from these new views, in determining more accurately the relation of geology to agriculture in its practical bearings.

Geological Mapping of Estates.—Sir John V. B. Johnstone, Bart., M.P., addressed to Mr. Pusey, in 1839, a letter containing the particulars of the geological map and survey of Sir John's Hackness estate, made for him by the late celebrated Dr. William Smith. This letter was published at the time in the first volume of the Society's *Journal*, and the following extracts from it will strongly illustrate the importance of the subject of Mr. Trimmer's lecture : —

In the year 1828, having observed great variations in the soils upon my estate, not only on the sides of the hills, which might have been expected, but also in the fields upon the table-land forming the summits of these hills, and which from being flat, or rather declining to the south with a gradual and easy slope, rendered the variation more difficult to explain, I mentioned the subject to Dr. Smith, who was then lecturing at Scarborough, and surveying the surrounding district, with the view of proving the identity of the Hackness strata with those near Oxford. He at once offered a solution of my difficulty by a reference to geology; and, having gone over minutely the fields in question, with a reduced map of my estate in his hands, he marked upon it, in different colours, the ranges of these strata, as they exhibited themselves in succession upon the surface, forming themselves into zones or breadths of one, two, or more fields together, according as the particular stratum which came to the surface was more or less horizontal, or more or less thick. The result thus obtained clearly demonstrated that the value of each field, and the mode of cultivation already adopted (with the exception of the use of lime, which had been too frequently and too indiscriminately applied to the entire estate), corresponded to the variations of the strata, and were limited by the areas which these occupied on the surface; thus showing that (though the results had been arrived at by the farmers through a different process, viz., trial and error), the geological character of a country, when accurately understood, pointed out at once the natural value of the land, and the system of cultivation best adapted to it. For instance, on the highest range of my hills, a few fields, without any apparent reason, have been universally productive in all seasons more so than the fields adjoining them on a lower level, and which appeared nearly of the same quality. The fossils, and other marks well understood by Dr. Smith, proved them to consist of an insulated portion of the upper calcareous grit formation, which also produces an excellent tract of land in another part of Yorkshire. Subsequent closer investigation by other geologists, and a discovery of some fresh fossils, makes me now think that the vein in question is upon the upper good bed of the ordinary calcareous grit, below the coralline oolite, and which does not appear elsewhere in the neighbourhood. Whichever formation, however, of the two it may belong to, the peculiarity remains the same. Both strata in other districts form good land. I have now no doubt whatever that the soils upon the calcareous grit formation always vary according as the particular beds of that stratum come uppermost. So also through all the successive divisions of the upper oolitic series, which compose this estate, it was seen that the best upland Grass land was on the peculiar zone or stratum formed on the coralline oolite through all the farms, though separated from each other by wide intervals. We also discovered what, when followed out in other districts, may prove a most valuable fact, that the Wheat is usually only thrown out in severe frosts upon those fields formed by this same coralline oolite; the same cause having no effect upon the adjoining fields, which are on a different strata, lower in the series, and of a sandy nature, with no calcareous matter in them. A limestone road, as you know, lifts more in frost than a gravel road; and a different method of planting Wheat upon chalk, or other calcareous soils, must be pursued than that usually adopted, if we wish to secure our Wheat crops from failure from this particular cause. Next we found (as is the case over an extensive district here) that the entire surface of the portion as yet left out of cultivation upon the estate was formed by the worst beds of the calcareous grit, which (notwithstanding their name) contain no calcareous matter whatever. On analysing three divisions of the calcareous grit rock at Scarborough, I find that the two upper beds are calcareous, the highest of the two in the greatest degree, probably from its vicinity to the coralline oolite, which immediately covers it; but a lower bed there, like that at Hackness, is entirely destitute of lime. This distinction should be followed out and tested in other districts, as we know that in many places the calcareous grit forms very good land; probably this arises from the calcareous beds being there uppermost. Again, when, on descending the hill sides, it was found that there were certain fields which—whether towards the south or north, whatever the aspect, whatever the local circumstances (so long as not too steep to be ploughed)—invariably produced good Wheat; it was a triumph for agricultural geology to discover that these fields were invariably upon the Oxford clay, or rather where the lower beds of the calc grit become mixed up with that formation; and comparing the comparative value and growth of timber produced upon different portions of the slopes where too steep for ploughing, it was satisfactorily established that Oaks flourished the best upon this identical stratum or zone wherever existing. It also appeared on examination that the lowest bed of this same Oxford clay was the only water-tight stratified bed on the estate, and threw out every spring on the hill sides—a fact which, had it been known some years ago, coupled with the knowledge we now possess of the thickness of the superincumbent strata, would have saved much money expended in sinking for wells upon the highest range of these hills. The facility with which water had been obtained by shallow wells on a neighbouring summit had probably misled the then managers of the estate. Dr. Smith discovered that the height last named was covered with diluvium, which had a water-tight seam in it below the gravel, a few feet below the surface, and thus produced the well or spring. In this case, geological knowledge would have shown at once the different construction of the two hills. It is a curious fact that the greatest mass of diluvial matter upon the estate should be on one of the highest summit levels; thus giving water at an easy depth, and forming a tract of good Grass land. I may therefore fairly say, that the geological map and survey of my estate (which I allow is peculiarly adapted for such an experiment, through the variety and number of the subdivisions of the oolitic series which develope themselves successively upon the surface), has not only explained the reason of the discrepancy between the soil and productiveness of neighbouring fields—a matter of great interest, and tending to develope the true conditions of vegetable life—but that the following positive practical results will also have been derived from it :—1st. The knowledge of applying lime to advantage over the property. 2d. Laying down fields to advantage to Grass, and where and how to plant Wheat. 3d. What sorts of trees to plant upon each stratum. It is, moreover, important to possess a sort of theory of the whole series of soils, which explains many of their peculiarities, and furnishes hints for future agricultural operations. I have before observed that the best Grass land upon the hills is upon the coralline oolitic bede. My geological map at once points out all those portions of the estate which consist of this stratum, and upon which there is obviously no necessity for lime; and I am thus saved from the task which otherwise I should have to encounter, of analysing the soil of each individual field. The above are a few of the more striking results which have followed from the geological survey of my estate, and may perhaps serve to show that, by pursuing a similar system over different districts of our island, the knowledge of the regular stratification of the earth may be made subservient to the systematic arrangement of those facts, trials, and experiments which societies like this will encourage and collect. It is quite clear that the results of the best local practice on different soils have never yet been generalised, nor even had the benefit of a judicious selection. Certain soils are so obviously connected with their bases, that we need scarcely ask how geology and agriculture are linked together; and, to use Dr. Smith's own words, "The [strata succeed each other in a certain order, and, being delineated, a knowledge of the strata becomes the natural and safe foundation of improvement; and if agricultural chemistry be ever successfully applied to the practical purposes of agriculture, it must be by proceeding with the chemical analysis of soils along the range of each stratum." Proceeding then on the positive basis established by the science of geology, we may spread on that base a new layer of facts, with ready references to them for local use or general reasoning. Arranged upon maps they may be readily seen, compared, and generalised. When any two parties have made experiments upon the same stratum, no matter which, a comparison can then be made. Chemists will thus be called into action, and as the different limestone, soils, and clays, &c., vary, so in lieu of the general terms sandy, loamy, or clayey, which are only generic distinctions of little use, specific distinctions derived from geological terms will hereafter be used.

At the present meeting, Sir John Johnstone confirmed by further experience his full estimation of the value of detailed maps of estates, in reference to the connexion of their geological and agricultural characters, and the great practical importance of the subject. He felt a great desire that the opportunity of Mr. Trimmer's immediate attention to illustrations of this nature should be rendered available to an extended prosecution of his researches and elucidations—the operations thus undertaken by him professionally being so far a question of expense as to save him from loss by the requisite outlay, while he liberally gives up his time and services to their prosecution. Having consulted Mr. Trimmer on this point, the following arrangements had been proposed by Mr. Trimmer :—

Wilmington, near Dartford, Kent, May 18, 1852.

I have so much confidence in the value of the plan which I propose for laying down on one map the variations of soil and subsoil, and am so anxious to have it brought to the test of experiment, that if any landowner can be induced to have 1000 acres mapped on my plan as a specimen, I shall be happy to undertake it on the following terms : —

1. If there is no private map of the estate from which a trace can be taken for the field, he shall procure one from the Tithe Office, for which they will charge 1*d.* the acre.

2. He shall pay for the paper for the fair copy; and, if I find it necessary to employ a draughtsman to make it, he shall pay the draughtsman. These two items may come to about 4*d.* the acre.

3. He shall allow me two men for a few weeks, to open holes where I require it, and to fill them in again.

4. I will give my time to the work gratuitously.

5. I shall be permitted to exhibit the map, and to explain the results obtained, at the Royal Agricultural Society of England, the Geological Society, the Society of Arts, and the British Association for the Advancement of Science.

(Signed) Joshua Trimmer.

Sir John Johnstone hoped that some opportunity would be afforded for the engagement of Mr. Trimmer's valuable services and matured scientific experience in a work of so interesting and practical character as the one now proposed.

HIGHLAND AND AGRICULTURAL SHOW AT PERTH.

August 5.—The general show of implements and live stock was held to-day, and it appears to be the unanimous feeling of all practical men that, so far as real utility is concerned, this has been one of the most satisfactory and gratifying exhibitions ever held under the auspices of the Highland Society. In fashionable *parlance* it may be characterised as "small and select;" and this remark is especially true of the implement department, in which there was none of those cumbrous and complicated contrivances miscalled agricultural machines, and which, to be properly worked, would require a resident engineer to direct them. The exhibitors in this department have evidently learnt wisdom from former failures, and the suggestions of previous judges. There are now greater simplicity of design, more substantial workmanship and strength of material at those places where the strain is greatest, combined also with a better application of the principles of mechanical philosophy to the lessening of draught or power required, and the attaining of strength without increasing the weight of material employed. There is one point, however, in which further improvement is still desirable; viz., greater reduction of cost. High prices defeat the end they are intended to subserve, in consequence of stopping demand, or at least confining it to a smaller circle of customers. Drill sowing machines come under this category in a very marked degree; for why is it that the simple operations of making a rut and depositing the seed should necessitate the construction of a machine which costs from 25*l.* to 35*l*? There is not material to account for such a price; and, so far as workmanship is concerned, much hammering and filing which serve no practical or useful end might be dispensed with. Corn-drilling machines are not likely to come into general use in Scotland until they can be made and sold for a sum not exceeding 10*l.*

LIVE STOCK.

Beginning with cattle, the first class that comes under review is short-horn bulls. For the premium for bulls of any age there were 21 competitors; it was carried off by Mr. Crisp, of Northumberland, for his 4 years and 4 months old bull, bred by himself. This bull gained the Royal Agricultural Society's premium at Lewes, and appears, therefore, to be a favourite with those who are considered the best judges both in England and Scotland. He is no doubt a very fine animal, but there are points about him, especially in the downward twist of the horn and the shortness of his hair, which must be considered as very serious defects. There were not many first-rate animals in this class, and several of them were very inferior. The first premium bull of the Royal Agricultural Improvement Society of Ireland was also a competitor in this class, but was not even considered worthy of commendation; he is, nevertheless, a good animal, well covered with long hair, hardy looking, but sadly deficient behind the shoulder, and a slight tendency to droop in the back.

Bulls Calved in 1850.—There were 13 competitors in this section, and the premium was awarded to Mr. A. Cruikshank, Lyttyton, Aberdeen, for a roan bull 1 year and 11 months old, bred by William Smith, of West Rasen; this was a very beautiful animal, of remarkably fine symmetry in the hind-quarters, soft skin well covered with close silky hair; if a fault could be found with him it would be in the horns, which betray a coarseness which augurs badly for the appearance of his head when fully grown. There were many fine animals in this section.

Bulls Calved in 1851.—Thirteen competitors in this section. Premium awarded to the Duke of Buccleuch for a bull 1 year and 6 months, bred by S. E.

Bolden, Lancaster; this bull is a strawberry colour, very large, and has very fine points every way, and is probably the finest bull shown at Perth.

Cows of any Age.—Fifteen competitors. Premium awarded to James Douglas, Athelstaneford, Haddington, for his cow, Rose of Autumn; bred by John La Touche, Harristown, Ireland. This cow was sold by Mr. Douglas at his sale of short-horns, lately, for 105 guineas, and her calf was sold for 22*l*. The right to exhibit this cow at the Perth show was reserved by Mr. Douglas; her colour is mostly red, with white flanks. Being greatly out of condition, this cow did not look well at the show, and many tyros were at a loss to discover the merits which induced the judges to place her first on the list. The second premium was gained by Mr. W. Tod, Elphinstone Tower, Tranent, for a cow bred by R. Goldsborough—both premiums have therefore gone to East Lothian.

Heifers Calved in 1850.—Six competitors. Premium gained by James Douglas, Athelstaneford, for a dark roan heifer, Village Belle, 2 years and 4 months; bred by himself. This is a very fine animal, and in our opinion the best animal of the short-horned breed in the yard; her pedigree, is sire Dusty Miller (9054), dam Blue Bell, by Captain Shaftoe (6834); g. d. by Tomboy.

Heifers Calved in 1851.—Fourteen competitors. Premium to James Douglas, Athelstaneford, for a 1 year and 5 months old heifer, Purity, bred by himself; her colour is nearly a pure white, and in point of symmetry is almost, if not quite, equal to Village Belle. James Gulland, Newtown of Wemyss, Fife, exhibited three very fine heifers in this section, one of which was commended by the judges, and all of them greatly admired by the visitors.

POLLED BREEDS: ANGUS, ABERDEEN, and GALLOWAY.

Bulls of any Age.—Six competitors. Premium awarded to Hugh Watson, Keillor, for an Angus bull, 3 years and 4 months old, bred by himself. Mr. Watson also carried off the sweepstakes for another Angus bull, aged 14 years and 4 months, bred by himself. This bull having gained the Society's first premium at Inverness in 1846, could only be admitted in competition for the sweepstakes. Both animals were greatly admired for their perfect symmetry, fine heads, deep briskets, full rounded shoulders, straight backs, wide quarters, and short small legs.

Bulls Calved in 1850.—Eleven competitors. The premium bull in this section is also of the Angus breed, the property of Alexander Bower, Mains of Kelly, Arbroath, and bred by him; aged 2 years and 4½ months. This is a very superior animal, possessing all the best properties of the breed. All his points are well rounded, and the entire figure is well proportioned, so that he looks smaller than he really is—indeed, this is characteristic of the breed.

Bulls Calved in 1851.—Seven competitors. Premiums to Thomas Carnegy, of Craigo, Montrose, for an Angus bull, aged 1 year and 5 months, and bred by himself. This animal is well developed, and possesses most of the characteristic excellences of the breed. A very fine animal was also exhibited in this section by Hugh Watson, Keillor, which, however, was only considered second in merit by the judges.

Cows of any Age.—Twelve competitors. First premium awarded to William M'Combie, Tillyfour, Aberdeen, for a cow of the Angus breed, aged 3 years and 6 months, bred by himself; and the second premium was awarded to Hugh Watson, of Keillor, for a cow of the same breed and same age, bred by himself. Both cows were perfect pictures of beauty.

Heifers Calved in 1850.—Ten competitors. Both the first and second premiums in this section were gained by William M'Combie, Tillyfour, Aberdeen, for two Angus heifers, aged respectively 2 years and 6 months and 2 years and 5 months, bred by himself. Two very fine animals, not surpassed in symmetry by any in the show-yard, if they could even be said to be equalled.

Heifers Calved in 1851.—Six competitors. Premium to Robert Scott, Balwylo, Brechin, for an Augus heifer, aged 1 year and 4½ months, bred by himself. The whole of the heifers in this and the preceding class were very superior, indeed; so equal were they, that considerable difficulty must have been experienced in determining which was really the best animal. As a breed, the Angus stood decidedly highest, not only among the polled breeds, but also among all the different breeds of cattle in the yard. It will also be observed, that although there were many polled Galloways shown, that the Angus invariably carried off the premiums. There is a fineness, sweetness, and quality about the real Angus that the Galloway ox wants; and this might suggest the propriety of bringing Angus bulls to the south of Scotland, where the Galloways prevail, in order to improve the breed.

While under the head of polled oxen we may notice a cow and calf, the property of Mr. Watson, Keillor, exhibited among the extra stock. The cow is *twenty-six* years of age, and was bred by Mr. Watson. She has gained the Society's prize in *every* class, and has given birth to and matured *twenty-three* calves. She is still youthful in appearance, and might easily pass for 8 or 9 years old.

AYRSHIRE BREED.

The show of Ayrshire stock was much inferior to what it was at Glasgow in 1850. The number was less and the animals were very unequal; for, although there were some of very considerable merit, there were many far too inferior to claim attention in a show-yard. Of bulls of any age there were eight competitors, and of bulls calved in 1850 six competitors. The winner in both cases was Mr. A. W. Buttery, Markland Iron Works, Airdrie; and both bulls, especially the oldest, were very superior. Mr. Buttery also gained the first prize for the best cow of any age, in milk. This cow is of very good symmetry, and is a very good milker, having given 54 imperial pints daily for some time after going to Grass, and even yet the daily yield is 36 pints. The second prize was awarded to James Young, Handakwood, Midlothian. There were nine competitors in section 17, cows of any age in calf. The first premium was gained by Alexander M'Lachlan, East Longhaugh, Renfrewshire, for a very handsome brown cow, aged 5 years, bred by John Steele, Erskine. The second premium went to R. Kirkwood, High Longmuir, for a cow 4 years and 1 month old, bred by Gense Cowan, Wheatrigg, Dreghorn.

HIGHLAND CATTLE.

Of bulls of any age there were 12 competitors. Premium to the Right Hon. Duncan M'Neill, of Colonsey, for a bull 8 years and 2 months old, bred by C. Stewart, late of Chesthill. In this section there were several good specimens of the Highland breed, and others very inferior. The prize bull is small, but shows the characteristic points of the breed very markedly. Of bulls calved after 1850 there were six competitors, and the premium was carried off by John M'Donald, Inverlochlany, Locheamhead, Perthshire, for a brown bull, 2 years and 6 months old, bred by exhibitor. Of cows of any age there were 13 exhibitors, and the premium was awarded to the Marquis of Breadalbane, for a 5 year and 6 months old dun-coloured cow, with plenty of good soft hair, and of good touch. Another very neat cow was exhibited in this section by Neil Malcolm, of Pottallock, Lochgelphead. Of heifers calved in 1849 there were 12 competitors, and the premium was awarded to the Marquis of Breadalbane for a heifer 3 years and 4 months old, of a brown colour, and having a very fine body, but a remarkably coarse, ill-shaped head. The second prize was given to Robert Peter, Urlar, Aberfeldy, for a very good heifer of a dun colour, 3 years and 4 months old, bred by himself. Of heifers calved in 1850 there were nine entries, and the prize was gained by Donald M'Laren, Bracleny, Callander, for a very handsome brindled heifer, 2 years and 6 months old, bred by himself.

FIFE BREED OF CATTLE.

Of bulls of any age there were only five competitors. Premium to John Rintoul, Ovenstone, Pittenweem, for a very handsome but smallish black bull, aged 4 years and 2 months, bred by exhibitor. Of cows of any age there were five entries, and the premium was gained by William Fullerton, Mains of Ardestre, Dundee. There were none of these cows that could rank higher than secondary beasts; and, moreover, the purity of some of them must be doubted. Of heifers calved in 1850, there were only four entries, and the premium was gained by David Wallace, Balgrummo, Leven Fife, for a strong-boned black heifer, aged 2 years and 4 months, bred by exhibitor. Under the head of Fifeshire cattle, we may notice two fat four-year-old oxen, which were exhibited among the extra stock, by George Brown, Kingbarns.

HORSES FOR AGRICULTURAL PURPOSES.

There were 21 competitors for the premiums offered for stallions of any age, the first of which was awarded to Samuel Clark, Manserral, Kilbarchan, Renfrewshire, for a dark brown stallion with white hind feet, aged 5 years and 2 months; and the second premium was gained by John Smith, Grass-market, Edinburgh, for a dark brown stallion, aged 8 years, bred by John Finnie, Swanston. Our own opinion was that the second horse was the better of the two, not only as regards soundness, but also in figure and action, and this opinion seemed to be prevalent with the great majority on the show day.

Notices to Correspondents.

Ashes: *A B C.* What do you mean by the "burnt" ashes with which you ask us to compare coal-ashes? If you mean the heaps remaining after burning turf, we should greatly prefer them to the ashes of coal; especially if burned slowly in large heaps, so as not to dissipate the charcoal.—Plants differ greatly in the proportion which obtains between the quantity of food taken in by their roots and by their leaves respectively.

Bees: *W W H* will be obliged by being told of anything to flower early in the spring of next year, if sown now, better than spring Tares, to supply bees with food, and afterwards for the use of the cows. He wants something which will not give an unpleasant flavour to the milk or butter.

Cochin Chinas: *L F J.* We shall be glad to hear from you.

Weed: *J S.* It is Clover Dodder; you should pare every patch of it and burn it.

Markets.

SMITHFIELD.—Monday, Aug. 23.

There is a considerable increase in the supply of Beasts; we have a fair demand, but prices are on the average lower. In choicest qualities there is not much reduction. The number of Sheep and Lambs is also larger, but a large portion are of inferior quality, consequently the best kinds cannot be quoted lower. We have fewer Calves, but quite equal to the demand; prices on the average are no better. From Germany and Holland there are 1771 Beasts, 7000 Sheep, 315 Calves, and 30 Pigs; from Scotland, 70 Beasts; and 2700 from the northern and midland counties.

Per st. of 8lbs.—	s	d	s	d
Best Scots, Here-fords, &c. ...	3	6	to 3	10
Best Short-horns	3	4	— 3	8
2d quality Beasts	2	6	— 3	0
Best Downs and Half-breds ...	4	0	— 4	2
Do. Shorn	0	0	— 0	0

Per st. of 8lbs.—	s	d	s	d
Best Long-wools.	3	6	to 3	10
Do. Shorn ...	0	0	— 0	0
Ewes & 2d quality	2	8	— 3	2
Do. Shorn	0	0	— 0	0
Lambs	4	6	— 5	2
Calves	2	6	— 3	8
Pigs	2	6	— 3	8

Beasts, 4827; Sheep and Lambs, 33,760; Calves, 399; Pigs, 245.

Friday, Aug. 27.

We have still a good supply of Beasts, and no increase in demand; consequently prices are no better than on Monday. The number of Sheep and Lambs is very much less than of late. They are very quickly sold, at an advance of fully 2d. per 8 lbs. on all kinds. Although the number of Calves is still large, the scarcity of Sheep has an evident effect upon the sale of them, and prices have advanced, especially for the choicest descriptions, which are scarce. From Germany and Holland we have about 500 Beasts, 2030 Sheep, and 440 Calves; 200 Beasts from the northern and midland, and 97 Milch Cows from the home counties.

COVENT GARDEN, Aug. 28.

The supply of both Vegetables and Fruit has been good, with the exception of bush fruit, which begins to get scarce. Melons are more plentiful. Excellent Greengage and other Plums still arrive from France, and also Apricots, Jargonelle Pears, and Apples. Tomatoes likewise continue to be imported. Filberts are coming in very plentifully, but being yet very unripe, they sell slowly at 35s. and 45s. per 100 lbs. Potatoes are very plentiful. Peas are somewhat scarcer. West India Pine-apples are nearly over. Mushrooms are cheap. Cut flowers consist of Heaths, Pelargoniums, Roses, Miguonette, Bignonia venusta, and Fuchsias.

FRUIT.

Pine-apples, per lb., 4s to 6s	Pears, per doz., 2s to 3s
Grapes, hothouse, p. lb., 2s to 5s	— per half sieve, 4s to 8s
Peaches, per doz., 6s to 12s	Currants, do., 2s to 3s 6d
Nectarines, per doz., 4s to 12s	Gooseberries, do., 2s 6d to 3s
Apricots, per doz., 1s to 4s	Almonds, per peck, 5s
Plums, per punnet, 1s to 3s	— sweet, per lb., 2s to 3s
— Greengage, do., 2s to 3s	Lemons, per doz., 1s to 2s
Figs, per doz., 4s to 8s	Oranges, per doz., 1s to 1s 6d
Apples, dessert, p. bsh., 4s to 7s	— per 100, 3s 6d to 10s
— kitchen, do., 3s to 5s	— Seville, per doz., 1s to 3s
Melons, each, 2s to 6s	Nuts, Barcelona, per bush, 20s to 22s
Cherries, per lb., 6d to 1s	— Brazil, do., 12s to 14s
— wall, do., 1s 6d to 3s	

VEGETABLES.

Cabbages, per doz., 6d to 1s 3d	Shallots, per lb., 6d to 8d
French Beans, per half sieve, 1s 6d to 2s	Garlic, per lb., 6d to 8d
Peas, per sieve, 2s to 5s	Lettuce, Cab., per score 4d to 1s
Cauliflowers, per doz., 4s to 6s	— Cos, p. score, 9d to 1s 6d
Greens, per doz., 1s to 1s 6d	Radishes, per doz., 8d to 1s
Tomatoes, per hf. sieve, 4s to 5s	— Turnip, 9d to 1s 6d
Potatoes, per ton, 60s to 130s	Small Salads, p. pun., 2d to 3d
— per cwt., 2s 6d to 7s	Horse Radish, p. bundle, 1s to 1s
— per bush., 1s 6d to 2s 6d	Mushrooms, p. pott., 9d to 1s 3d
Turnips, per doz., 3s to 4s	— per bush., 3s to 5s
Cucumbers, each, 2d to 6d	Sorrel, per hf. sieve, 6d to 1s
Veget. Marrow, p. doz, 6d to 1s 6d	Artichokes, per doz., 4s to 6s
Celery, per bundle, 9d to 1s 3d	Fennel, per bunch, 2d to 3d
Carrots, p. doz., 3s to 5s	Savory, per bunch, 2d to 3d
Spinach, per sieve, 1s to 2s	Thyme, per bunch, 2d to 3d
Onions, per bunch, 2d to 4d	Parsley, p. doz. bnchs., 2s to 3s
— Spanish, p. doz., 1s 3d to 3s	Mint, per bunch, 2d to 3d
Beet, per doz., 1s to 2s	Basil, green, p. bunch, 4d
Leeks, per bunch, 1d to 2d	Marjoram, do., 3d to 6d
	Watercresses, p. 12 bun, 9d to 1s

COAL MARKET.—Friday, Aug. 27.

New Tanfield, 12s. 6d.; North Percy Hartley, 13s. 9d.; Wallsend Harton, 13s. 9d.; Wallsend Gosforth, 13s. 9d.; Wallsend Hartlepool, 15s.; Wallsend Tees, 15s. 6d.; Wallsend Eden Main, 14s. 3d.; Wallsend Hetton, 15s. 6d.; Wallsend Stewarts, 15s.—Ships at market, 100.

HAY.—Per Load of 36 Trusses.

Smithfield, Aug. 26.

Prime Meadow Hay	80s to 90s		Clover ...	... 95s to 110s	
Inferior do.	... 70	75	New do. ...	... 80	90
Rowen ...	... 66	—	Straw ...	... 36	40
New Hay ...	... 60	78		E. J. Davis.	

A short supply.

WOOL.

Bradford, Thursday, Aug. 28.—Our market for English wool has continued without material change during the current week. Spinners are still reluctant to operate largely at present rates, and their purchases are confined to the supplying of immediate wants. Prices remained comparatively firm, although the limited sales of the past week or two have in some slight degree tended to influence them in favour of buyers. The transactions in the country are on a diminished scale, as the few growers in good districts who still hold their clips are unwilling sellers, except at higher prices than can be conceded by the dealers. Short wool and noils are in good request at firm rates.

MARK LANE.

Monday, Aug. 23.—There was a small supply of English Wheat to this morning's market, being chiefly new, the quality of which, and particularly the condition, were very disappointing, and some quantity remained unsold; in old we observe no alteration in value. Foreign met a retail demand on about the terms of last Monday. Flour is less in demand. —English Barley sold at last week's prices; of foreign we have a good arrival, and trade was scarcely so good as this day week.—Beans and Peas are each 1s. per qr. dearer.—The Oat trade is slow at the rates of Monday last.

Friday, Aug 27.—The arrivals of foreign corn and Flour this week are large. The new English Wheat, which arrived in wretched condition, has been nearly all refused, and can only be disposed of at an abatement of 3s. to 4s. per qr. Very little business was transacted in foreign Wheat. The Flour trade is heavy, and barrels are only saleable at 1s. decline.—Barley is a slow sale at prices rather under those paid on Monday.—Beans and Peas are unaltered in value.—Oats are dull, and the turn lower.

Imperial Averages.

	Wheat.		Barley.		Oats		Rye.		Beans.		Peas.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
July 17.....	41	0	27	0	19	11	30	1	34	5	30	11
— 24.....	40	7	28	2	19	9	28	9	33	10	34	5
— 31.....	40	0	27	8	20	6	29	11	34	2	33	5
Aug. 7.....	39	7	27	3	20	6	29	7	33	9	30	6
— 14.....	39	7	27	5	19	6	30	3	33	7	31	4
— 21.....	41	2	27	4	19	3	29	4	33	2	29	10
Aggreg. Aver.	40	4	27	6	19	10	29	7	33	10	31	9

Duties on Foreign Grain, 1s. per qr.

Fluctuations in the last Six Week's Averages.

Prices.	July 17.	July 24	July 31.	Aug. 7	Aug. 14.	Aug. 21.
41s 2d	...	...	...	...	...	...
41 0	—	...	...	...	...	...
40 7	...	...	...	...	...	...
40 0	...	...	...	...	...	...
39 7	...	...	...	...	...	...
39 7	...	...	...	...	...	...

Liverpool, Tuesday, Aug. 24.—The imports this week from our own coasts and from abroad are moderate. The market this morning was inactive. The sales of Wheat were at a reduction of 2d. per bushel, and Flour 6d. per barrel, from the price of this day se'nnight, being a shade under Friday's decline. Old Oats were ½d., and new 1d. to 2d. per bushel lower. Other articles of the grain trade were neglected, and no alteration can be made in the quotations.—Friday, Aug. 26.—At this morning's market the business in Wheat was small, and in some instances the prices gave way 1d. to 2d. per bushel. There was more doing in Flour for consumption, this article not having advanced in proportion to the advance on Wheat, but it was 3d. to 6d. per barrel easier to buy than on Tuesday. No change whatever in the value of other articles of the grain trade.

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August 28, 1852.

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"The question of adulteration by strychnine, which has been taken up seriously in England, seemed to me of great importance, and I thought to do some good by aiding to demonstrate the error. If I wished to associate with any individual brewery my remarks on the alleged adulteration of bitter beer with strychnine, it would have been natural to have mentioned another brewery in which alone, and not in Mr. Allsopp's, I was engaged in investigating the Burton mode of brewing; and it was also in that other brewery the Bavarian brewers acquired all the instruction they obtained at Burton. The admiration I expressed of this beverage in my letter to Mr. Allsopp is advertised in such a manner as to lead to the inference that my praise was exclusively confined to Mr. Allsopp's Beer; this was not the case; my remarks referred to that class of beer.

"Giessen, July 24, 1852. "JUSTUS LIEBIG"

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THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 36.—1852.] SATURDAY, SEPTEMBER 4. [PRICE 6*d.*

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NATIONAL FLORICULTURAL SOCIETY.—NOTICE is hereby given that the TWELFTH MEETING of the Season, for the examination of Seedling Hollyhocks, Dahlias, Liliums, &c., will be held on THURSDAY the 9th inst., when all flowers must be staged before 1 o'clock.

CENSORS:

Mr. W. P. Ayres, Blackheath	Mr. W. Holmes, Hackney
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Mr. J. Shirriff, Birmingham	Mr. E. Spary, Brighton

The Committee beg to announce that since the 26th ult. the Third Part of the Society's Transactions has been ready for delivery. By order JOHN EDWARDS.

ROYAL SOUTH LONDON FLORICULTURAL SOCIETY. Under the Patronage of her Most Gracious Majesty the Queen. A grand Dahlia, Hollyhock, and Miscellaneous FLOWER SHOW of the above Society, will be held at the ROYAL SURREY ZOOLOGICAL GARDENS on WEDNESDAY, SEPTEMBER 8th. Open to all Exhibitors, when prizes will be awarded for the following productions; viz., Stove, Greenhouse, and Specimen Plants, Dahlias, Roses, Hollyhocks, Verbenas, Cut Flowers, Fruit, and Honey; extra prizes for seedling Dahlias, Fuchsias, Hollyhocks, and Verbenas, in addition to 1st Class Certificates awarded by the Society. The following extra prizes offered by members will also be awarded; By Mr. C. Turner, 4 prizes for 3 blooms of Dahlias, from varieties sent out by him the spring previous. By Mr. E. Spary, 2 prizes for 6 blooms of Dahlias. By Mr. John Salter, 4 prizes for 6 blooms of Dahlias. By Mr. G. Rawlings, 4 prizes for 3 blooms of Dahlias. By C. Sainsbury, Esq., a Silver Cup and 3 prizes by Mr. C. Drummond, for 6 blooms of Dahlias. From a subscription fund collected by R. W. Dutton, Esq., a Gold Albert Medal, for the best specimen of honey (in the comb in glass); for 2d best ditto, a large Silver Victoria Medal; and for the 3d best ditto a Small Silver Victoria Medal; and by Mr. J. Marriott, for the best specimen of honey in the comb, taken on the humane principle, a small Silver Albert Medal. List of prizes and the rules for the exhibitors, may be obtained from JOHN TAYLOR NEVILLE, Secretary, Ebenezer House, Peckham, Surrey.

The Committee will meet at the Horns Tavern, Kennington, on the following days, for awarding 1st Class Certificates for Seedling Florist Flowers, for such as are deserving the same; viz., Thursday, October 14th, November 11th, and December 9th, in addition to the exhibition as above.

TO DAHLIA GROWERS.

NORFOLK AND NORWICH HORTICULTURAL SOCIETY.—The DAHLIA SHOW will be held at the Corn Exchange, Norwich, on the 21st of SEPTEMBER next, being the first day of the Musical Festival, which commences the same evening. Amongst others, Prizes of 4*l.*, 3*l.*, 2*l.*, and 1*l.* will be offered for 24 Dissimilar Dahlia Blooms (Fancies excluded), open to Nurserymen and Amateurs, being subscribers, in the United Kingdom. No entrance money.

Norwich, Aug. 24. ARTHUR PRESTON, Hon. Sec.

GRAVESEND AND MILTON FLOWER SHOW will be held at the TIVOLI GARDENS, GRAVESEND, on THURSDAY, September 9. Open to all England. Prizes will be given for Dahlias, Hollyhocks, German Asters, Verbenas, Cockscombs, Specimen Plants, Cut Flowers, Floral Devices, Fruits, &c. Printed particulars may be obtained of Mr. W. HUME, Clark's Nursery, Windmill-street, Gravesend; or at the Tivoli, Gravesend. A Full Band, conducted by Mr. T. BEET, will perform a selection of Favourite Overtures, &c., during the day. Admission, after 2 o'clock, 6*d.* each.

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For the second best do.	1 1 0
For the third best do....	0 10 6

Entrance fee, 5*s.*

The above prizes will be given at the next Show of the Society, on WEDNESDAY, SEPT. 8. No Exhibitor to receive more than one prize. The Stands to be in the Exhibition Room, Corn Exchange, by Ten o'clock, excepting those sent by railway, which will be admitted on the arrival of the first train. By order of the Committee,

Week-street, Maidstone. J. G. SMITH, Hon. Sec.

THE GREAT YARMOUTH AND EASTERN COUNTIES ASSOCIATION FOR PROMOTING THE IMPROVEMENT OF DOMESTIC POULTRY, &c.—The FIRST SHOW will be held at the VAUXHALL GARDENS, GREAT YARMOUTH, on THURSDAY, the 16th of SEPTEMBER, 1852.

Rules, Prize Lists, and Certificates, may be had of Mr. H. YOZELL, Honorary Secretary, Royal Nursery; or of Messrs. Groom and Son, Booksellers, Market Place, Great Yarmouth.

EXTRA PRIZES offered for NEW DAHLIAS at the Surrey Gardens Grand FLOWER SHOW on the 8th inst., by E. SPARY. In consequence of some plants of Victoria (Cook's) being unavoidably sent out incorrect, the prizes offered in Class I., letter W, will be awarded to Absolom (Spary's), and John Davis (Cook's). E. S. begs to return thanks to the nobility, gentry, and visitors of Brighton, and invites public attention to his extensive Grape and Plant growing establishment (open daily, Sundays excepted). A constant supply of fine Hothouse Grapes, Plants, Bouquets, and Flowers cut to order. Seeds, Bulbs, Mats, &c.

Queen's Graperies and Nursery Ground, Park-street, Brighton. September 4.

A FEW FRIENDS to the Family of Mr. JAMES CARTON, once Gardener at Syon House, and now wholly destitute, having formed a small purse, in order that he may emigrate with his family to Australia, solicit some further aid, in order to enable them to complete their arrangements.—Subscriptions will be received by JOHN EDWARDS, Esq., Wace Cottage, Holloway, London.

CROCUS—Common, mixed, 1*s.* per 100; Snowdrops, 1*s.* 9*d.* per 100; ditto, superior Dutch, mixed, 1*s.* 6*d.* per 100; Tulips, finest border, 5*s.* per 100; Hyacinths, mixed colours, 2*s.* 6*d.* per doz.; Hyacinths, named, for pots or glasses, 6*s.* to 12*s.* per. doz. Other roots equally cheap, and all warranted of the best quality. Catalogues on application.—Address, WM. HAMILTON, Seedsman, &c., 155, CHEAPSIDE, LONDON. N. B.—Standard Roses, Chrysanthemums, Carnations, and Picotees.

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J. S. and SONS recommend early planting; but, for the accommodation of those who prefer it, they will import a fresh assortment for later planting in October.

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JOHN DOBSON'S DESCRIPTIVE CATALOGUE of the new SEEDLING PELARGONIUMS to be sent out in October next, may be had on application. Early orders will insure good Plants.

J. D. is now sending out the following in good strong Plants. All orders above 1*l.* package and carriage paid to London:—

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J. D.'s stock of Pelargoniums is very large and in fine health, and the selections, if left to him, he is assured, will give the greatest satisfaction. A large stock of Hollyhocks of the best and newest varieties, will be ready for sending out in a few weeks, from 12*s.* per dozen.

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"Mr. Frost, gardener to E. L. Betts, Esq., of Preston Hall, furnished a seedling Begonia, obtained by crossing B. cinnabarina with B. nitida. The result is a freer flowering plant than B. cinnabarina, with even higher coloured flowers than those of that fine kind, while the foliage is very nearly the same as that of nitida."

L., P., and Co., may say in addition to the above high testimonial, that it possesses an excellent habit, producing its brilliant orange-scarlet coloured flowers very profusely; can be easily cultivated in any greenhouse, and is deliciously fragrant, the odour being that of a fine Tea-scented Rose.—Specimens of it are now in flower in the Exeter Nursery, to which they respectfully invite attention.

Exeter Nursery, Exeter, September 4.

FUCHSIA, "ENGLAND'S GLORY."

JOHN HARRISON is so far convinced of the superiority of this Fuchsia, both in habit, substance, and purity of tube and sepals, distinct colour of corolla, and beautifully reflexed sepals, above all other white or light Fuchsias in cultivation, that he is now open to show it against any light variety now or old, for any sum not exceeding 25*l.* Parties wishing to see blooms of this really splendid seedling Fuchsia, can have them sent through the post on receipt of 12 stamps for case and postage. A specimen plant will be shown at the Royal South London Horticultural Society's Show, Surrey Gardens, London, on Wednesday next, the 8th inst.—Grange Nursery, Darlington, Sept. 1.

NICHOLSON'S TWO NEW SEEDLING STRAWBERRY PLANTS.

WILLIAM NICHOLSON continues to send out his unrivalled STRAWBERRY PLANTS, viz., the "Ajax" and "Ruby" at 2*l.* for 100 plants, 1*l.* 5*s.* for 50, and 15*s.* for 25. Orders promptly attended to on the receipt of a Post-office order. The "Ajax" was exhibited last year in Covent-garden Market, nine of which weighed 16 oz., and one measured nine inches in circumference. The fruit of the "Ajax" is of a fine globular shape, the colour a rich dark crimson, very juicy and of particular fine flavour. The parent plant of the "Ruby" is now six years old, in full bearing, and had 146 perfect berries upon it this season; colour ruby, shape fine oval, size a little less than the "Queen," of fine flavour, is very prolific, and continues bearing much longer than any other known kind; fruit having been gathered from it this season up to the 25th August. Testimonials of their merits have been received from some of the first gardeners in the kingdom, which Mr. N. will be happy to produce if requested.

WILLIAM NICHOLSON, Egglescliffe, near Yarm, Yorkshire. September 4.

BEACH'S QUEEN STRAWBERRY PLANTS.—Having taken several Prizes these two years with QUEEN'S STRAWBERRIES, thousands of them weighing upwards of 2 oz., many of them I exhibited last year in the Crystal Palace upwards of 3 oz., and this year, at Chiswick, they gained two Knightian Medals on July 10th; and also on the 14th Aug. the Head Prize at the Great Show at Lewes. See also Dr. Lindley's opinion of them in the *Gardeners' Chronicle* of the 10th of July, and likewise Mr. Cuthill's account of my place in the same Journal of the 24th of July. Strong, healthy, and fine plants are now ready to be sent out at 5*s.* per 100, box included.—Post-office Orders on Hounslow to Mr THOMAS BEACH, Market Gardener, Worton, Isleworth, near London.

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BRIDGEWATER PAGE AND CO. have the pleasure to offer fine Flowering Bulbs of the above beautiful Autumnal Lilies. Guernsey Lilies, 4*s.* per dozen; Belladonna ditto, 4*s.* per dozen; Amaryllis formosissima, 4*s.* per dozen; Early Double Roman Narcissus, 4*s.* per dozen; ditto Paper White do., 4*s.* per dozen; ditto largest Jonquils, 4*s.* per dozen. All orders above 10*s.* 6*d.* will be delivered free to the South-Western and Great Western Railways.

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S. CHEESE, in returning thanks to his numerous Patrons, begs to inform them he has now ready a large stock of his justly celebrated SPAWN, in fine condition, at the usual price. Any quantity can be safely packed and forwarded on receipt of a Post-office Order to SAMUEL CHEESE, Flora Gardens, Bayswater. All Post-office Orders to be made payable at the Post-office, Oxford-street, London.

YELLOW STONE TURNIP SEED AND WINTER TARES.—The Subscriber has for sale, in quantities of not less than 56 lbs., Yellow Stone Turnip Seed and Winter Tares, grown by him here. Satisfactory references can be given as to the purity of the Seed. JAMES ROBB.
Gorgie, by Edinburgh, Sept. 4.

RIVERS' LARGE YELLOW STONE TURNIP SEED (the growth of the present season). Price 1s. per lb. This Turnip had its origin in 1842 with the Stubble Swede; and has been repeatedly tested with other kinds of Yellow Turnip, in which its superiority was very apparent—in its sweetness of flavour, and in its vigour of growth. For the last three years, on various soils, it has yielded from 12 to 16 tons per acre, when sown in the early part of August; and it has the advantage of keeping in clamps quite late in the spring.
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THE NEW AND BEAUTIFULLY VARIEGATED-LEAVED PLANT,
CISSUS DISCOLOR (BLUME.)
WILLIAM ROLLISSON AND SONS beg leave to inform the nobility, gentry, and the trade, that they intend sending out, on and after the 27th of September, their new and beautifully variegated-leaved climbing plant, CISSUS DISCOLOR, of Blume, which has been so universally admired this summer at the Chiswick and Regent's Park Exhibitions. Price 21s. per plant. The usual allowance to the trade if two or more plants are ordered.—Tooting Nursery, near London.

PROTECTION OF PLANTS FROM THE HEAT OF THE SUN.—Use E. F. ARCHER'S HAIR CLOTH, a perfect non-conductor of heat, and admitting light without heat, where a covering is required; it is 2 yards wide, and any length, at 1s. 4d. per yard, and much cheaper than Bass Mats.
E. F. ARCHER, 451, Oxford-street, London.

HORTICULTURAL SOCIETY OF LONDON.
EXHIBITIONS IN REGENT STREET.

THE COUNCIL OF THE HORTICULTURAL SOCIETY HEREBY GIVE NOTICE, that, with a view to the further encouragement of good cultivation at all seasons and in all branches of Gardening, Medals and Certificates of Merit will be given at the General Meetings of the Society in Regent-street, during the years 1852 and 1853, according to the following Schedule, and under the Regulations thereto annexed:—

1852.

OCTOBER 19. *Third Tuesday* ... ... Meeting at 3 P.M.
- The best collections of Hardy Annuals (cut flowers), each sort named correctly ... ... SB. C.
- Table Pears, correctly named, in collections of six, two specimens of each sort to be produced SB. C.
- Green Peas, named correctly ... ... C.

NOVEMBER 2. *First Tuesday.* ... ... Meeting at 2 P.M.
- Chrysanthemums (shown in sixes, in pots not exceeding 11 inches in inside diameter) ... SK. SB.
- Alpine Strawberries ... ... SB. C.
- Celery (shown in three heads) ... ... C.

DECEMBER 7. *First Tuesday.* ... ... Meeting at 2 P.M.
- Autumn-flowering Heaths (shown in sixes, in pots not more than 11 inches in inside diameter) SK. SB.
- Table Pears, as in October ... ... SB. C.
- The best lot of forced Vegetables ... ... SB. C.

1853.

JANUARY 18. *Third Tuesday.* ... ... Meeting at 2 P.M.
- The best collection of Hardy Winter-flowering Plants (cut flowers admissible) ... ... SB. C.
- English Grapes ... ... SB. C.
- The best and most varied Salad ... ... SB. C.

FEBRUARY 15. *Third Tuesday.* ... ... Meeting at 2 P.M.
- Camellias (shown in threes, in pots not exceeding 15 inches in inside diameter) ... ... SK. SB.
- Table Pears, as in October ... ... SB. C.
- Lettuces (shown in sixes) ... ... SB. C.

MARCH 1. *First Tuesday.* ... ... Meeting at 3 P.M.
- Chinese Primulas (shown in pairs in 9-inch pots) SB. C.
- Himalayan Primulas, in pots ... ... SB. C.
- Strawberries (one dish only shown by each Exhibitor) ... ... SB. C.
- New Grapes ... ... SK. SB.

MARCH 15. *Third Tuesday.* ... ... Meeting at 3 P.M.
- Hybrid Rhododendrons (one pot only to be shown by each Exhibitor) ... ... SK. SB.
- Strawberries in pots, in threes ... ... SB. C.
- The best and most varied Salad ... ... SB. C.

APRIL 5. *First Tuesday.* ... ... Meeting at 3 P.M.
- Hyacinths (shown in pots in sixes) ... ... SB. C.
- Fruits or Vegetables, preserved whole by private persons for family use, without sugar or vinegar (shown in bottles of white glass, one bottle of each kind), accompanied by a written account of the manner in which they have been prepared ... ... SB. C.
- Forced Peas ... ... SB. C.

APRIL 19. *Third Tuesday.* ... ... Meeting at 3 P.M.
- Cyclamens, in pots ... ... SB. C.
- Cherries (one dish only to be shown by each Exhibitor) ... ... SB. C.
- Cauliflowers, in sixes ... ... SB. C.

MAY 24. *Fourth Tuesday.* ... ... Meeting at 3 P.M.
- The two best collections of Vegetables ... ... SK. SB.

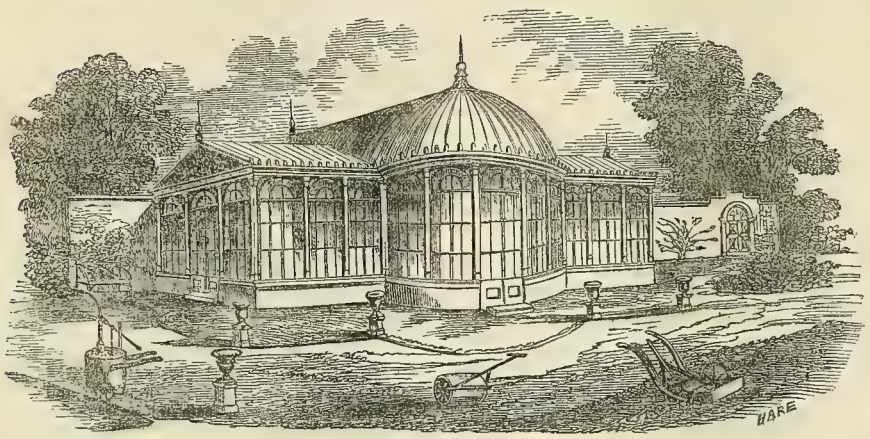
JUNE 28. *Fourth Tuesday.* ... ... Meeting at 3 P.M.
- The two best collections of Vegetables ... ... SK. SB.

JULY 26. *Fourth Tuesday.* ... ... Meeting at 3 P.M.
- The two best collections of Vegetables ... ... SK. SB

SK.—Silver Knightian Medal.
SB.—Silver Banksian do.
C.—Certificate of Merit.

1. The Medals and Certificates of Merit are on no account to be increased beyond those named in this schedule. They are to be given for fine cultivation, and not for mere novelty, which is to be a secondary consideration with the judges, unless attended by great excellence.
2. Prizes may be withheld if the objects exhibited for competition do not, in the opinion of the judges, deserve them.
3. Although those subjects of exhibition which are thus specially indicated are what the Council are most desirous of receiving, nevertheless other objects are also admissible, and additional prizes may even be given for them; *provided they possess very conspicuous merit.* The Silver Knightian Medal will be the highest additional reward which the judges can bestow, without the special sanction of the Council.
4. In a future year other kinds of produce will be selected for special competition.
5. Cut flowers are not admissible, except when it is expressly so stated.
6. Dishes or baskets for fruit and vegetables must be furnished by the Exhibitors, if they are present or live near London. The Society will only find dishes for what comes from a considerable distance.
7. Fruit must be perfectly ripe and perfectly coloured, or it will be disqualified.
8. Vegetables must be produced in the state in which they are offered for sale in the best class of shops, and properly prepared for the cook.
9. Foreign fruit and vegetables are admissible, but not in competition with produce of home growth.
10. Everything must be in the room three hours before the meeting, and ready for inspection by the Judges two hours before the meeting. If anything received later is allowed to be exhibited, it will be liable to exclusion from competition.
11. Exhibitors, and Exhibitors only, can receive passes to enable them to return to the meeting-room after the Prizes shall have been adjudicated. Two hours before the meeting they must quit the room, in order that the Judges may be undisturbed.

COTTAM AND HALLEN,
2, WINSLEY STREET, AND 76, OXFORD STREET, LONDON.



APPLICATION is requested for their NEW HORTICULTURAL LIST, containing Illustrations, Descriptions, and Prices of

Conservatories	Mowing Machines	Hand-glass Frames	Garden Engines	Flower Sticks
Greenhouses	Fountains	Game Netting	Do. Syringes	Garden Bordering
Hot Water Apparatus	Ornamental Wire Work	Hurdles	Do. Rollers	Watering Pots
Garden Vases	Flower Stands	Garden Chairs	Flower Labels	Garden Arches, &c.

IRON HURDLES, STRAINED WIRE FENCING, GAME NETTING, &c.
AGRICULTURAL LIST UPON APPLICATION.
EVERY DESCRIPTION OF PLAIN, ORNAMENTAL, CAST AND WROUGHT IRON, AND WIRE WORK.
EXHIBITION PRIZE MEDAL GATES AND ENAMELLED MANGERS.

GLASS FOR CONSERVATORIES, GREENHOUSES, PIT FRAMES, ETC.

HETLEY AND CO. are supplying 16-oz. Sheet Glass of British Manufacture, packed in boxes, containing 10 square feet each, at the following REDUCED PRICES for cash. A reduction made on 1000 feet.

Sizes.—Inches.			Inches.			Per foot.	Per 100 feet.
		Under	6	by	4	at 1½d.	is £0 12 6
From	6 by 4	,,	7	,,	5	,, 2d.	,, 0 16 8
	7 ,, 5	,,	8	,,	6	,, 2½d.	,, 0 18 9
	8 ,, 6	,,	10	,,	8	,, 2½d.	,, 1 0 10
	10 ,, 8	,,	12	,,	9	,, 2¾d.	,, 1 2 11

Larger sizes, not exceeding 40 inches long.
16 oz. from 3d. to 3½d. per square foot, according to size.
21 oz. ,, 3½d. to 5d. ,, ,, ,,
26 oz. ,, 3½d. to 7½d. ,, ,, ,,
PATENT ROUGH PLATE, THICK CROWN GLASS, and PATENT PLATE GLASS for Horticultural purposes, at reduced prices, by the 100 square feet.
GLASS TILES AND SLATES made to any size or pattern, either in Sheet or Rough Plate Glass.
Propagating Glasses, Bee-hive Glasses, Cucumber Tubes, Glass Milk Pans, Glass Water Pipes, and various other articles not hitherto manufactured in glass.
PATENT PLATE GLASS.—The present extremely moderate price of this superior article should cause it to supersede all other inferior window glass in a gentleman's residence. No alteration connected with the sash is required.
GLASS SHADES, as ornamental to, and for the preservation of every description of goods susceptible of injury by exposure. Prices, since the removal of the excise duty reduced one-half. List of Prices and Estimates forwarded on application to JAMES HETLEY and Co., 35, Soho-square, London.

GLASS.

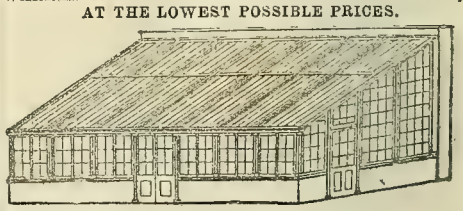
THOMAS MILLINGTON'S FOREIGN SHEET GLASS is far superior to any other manufacture, as well as cheaper. In 100-feet boxes, packed for immediate delivery.

6 inches	by 4 and 6½	by 4½	... ...	... 13s.	0d.
7 ,,	5 and 7½	by 5½	... ...	... 15	0
8 ,,	5 and 8	by 5½	... ...	... 15	0
8 ,,	6 and 8½	by 6½	... ...	... 17	6
9 ,,	7 and 10	by 8	... ...	... 20	0
12 ,,	10 and 13	by 9	... ...	... 20	0

And many other sizes, or cut to order in various thicknesses. Cases containing large Sheets, in 100, 200, and 300 feet, at 21s. per 100 feet.
ROUGH PLATE, perfectly flat, ⅛ in. thick, best manufactured.
In sizes under 15 inches ..... 6d. per foot.
,, ,, 35 ,, ... 8d. ,,
,, ,, 50 ,, ... 9½d. ,,
,, ,, 75 ,, ... 12d. ,,
Milk Pans, 2s. to 6s. each; Metal Hand Frames, Glass Tiles and Slates; Cucumber, Propagating, and Bee Glasses; Wasp Traps, Glass Shades, and Plate Glass, at 87, Bishopsgate-street Without, London, same side as Eastern Counties Railway.—Established 100 years.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER.

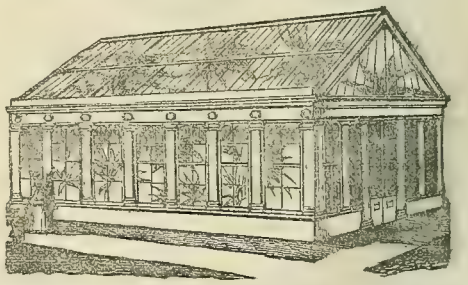
WARRANTED BEST MATERIALS AND WORKMANSHIP, AT THE LOWEST POSSIBLE PRICES.



J. WEEKS AND CO., King's Road, Chelsea, Horticultural Architects, Hothouse Builders, and Hot-water Apparatus Manufacturers. The Nobility and Gentry about to erect Horticultural buildings, or fix Hot-Water Apparatus, will find, at our Hothouse Works, King's Road, Chelsea, an extensive variety of Hothouses, Greenhouses, Conservatories, Pits, &c., erected, and in full operation, combining all modern improvements, so that a lady or gentleman can select the description of House best adapted for every required purpose.
THE HOT-WATER APPARATUSES (which are efficient and economical), are particularly worthy of attention, and are erected in all the Houses, Pits, &c., for both Top and Bottom Heat, and in constant operation in the Stoves.
The splendid collection of Stove and Greenhouse Plants is in the highest state of cultivation, and for sale at very low prices. Also a fine collection of strong Grape Vines in pots from eyes, all the best sorts.
Plans, Models, and Estimates of Horticultural Buildings; also Catalogues of Plants, Vines, Seeds, &c., forwarded on application.
J. WEEKS AND CO., KING'S ROAD, CHELSEA, LONDON.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER,

AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.



GRAY AND ORMSON, Danvers Street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.
G. and O. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders they can with the greatest confidence give the most satisfactory references.
Their Hot-Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating by Hot Water can be made available.

CUTHILL'S PRINCE OF WALES AND BLACK PRINCE STRAWBERRY PLANTS.

THE PRINCE OF WALES was raised in 1849; it is the latest we have in this country—was in bearing August 1. The flavour is excellent; a scarlet cone-shaped fruit, about the size of a Keen; throws its bloom well up, foliage light green, and, like its royal relative (the Black Prince), an enormous bearer. If planted on a northern aspect, it will bear up to September. Price 1*l.* per 100, or 10*s.* 6*d.* for 50 (a few plants extra allowed to the Trade).

Also the celebrated BLACK PRINCE, the earliest in England; this year they were picked in the open ground, at 8*s.* per lb., by me. See also Mr. Meredith's account of its forcing qualities at the Duke of Sutherland's. Are now ready for sending out.

CUTHILL'S Pamphlet on the Potato, Asparagus, Seakale, Rhubarb, Strawberry, Melon, Cucumber, &c., 2*s.*, or by post 2*s.* 4*d.* Also his "Market Gardening round London," 1*s* 6*d.*, or by post 1*s.* 8*d.* The true Lapstone Kidney 8*s.* per bushel. Post-office orders on Camberwell-green.

JAMES CUTHILL, Camberwell, London.

GAINES'S SEEDLING LILIUM LANCIFOLIUM are now coming into flower. They grow with large heads similar to dwarf trees, and have from 20 to 60 blooms upon one stem. They vary in colour from L. rubrum to L. album, and will be a great improvement upon the older varieties.

N. G. begs to inform the growers of Geraniums that he will have, in addition to his own seedlings, those of Thos. White, Esq., and the Rev. E. Trimmer's. A Descriptive List of them will be printed in September, and may be had at the Nursery, Surrey-lane, Battersea.—Sept. 4.

T. LOCKHART, FLORIST, 84, Fleet-street, London, will forward his Autumn List of BULBS and sundry plants free by post. He begs to inform those who may favour him with their orders that the cultivation of bulbous roots has been the study of his life; and to acquire that knowledge he resided 15 years at Haarlem, during which period he was practically engaged in this sole pursuit.

Address 84, Fleet-street, London.

STRAWBERRY PLANTS.—The under-mentioned first-rate varieties, which have all been thoroughly proved to the satisfaction of their growers, are now ready for sending out.

TROLLOP'S VICTORIA.—This is one of the finest Strawberries ever yet sent out; it has been exhibited at numerous exhibitions last season and this, and proved superior to all others for its superb quality, and, as an early forcer, is not equalled; 1*l.* per 100, or 3*s.* per dozen plants.

CREMONT'S PERPETUAL OR DOUBLE BEARING STRAWBERRY; 1*l.* per hundred, or 3*s.* per dozen.

MYATT'S SURPRISE, extra fine	10*s*	0*d.*	per 100.
PRINCE ARTHUR, ditto	7	6	,,
BLACK PRINCE, a first-rate early variety ...	5	0	,,
PROLIFIC, very fine and early	5	0	,,
ELEANOR, the best and latest bearing Strawberry, many of the fruit growing to 2½ oz., very firm, and first-rate for travelling ...	5	0	,,
BRITISH QUEEN (true)	3	6	,,
BRITANNIA (very fine)	5	0	,,
STIRLING CASTLE STRAWBERRY (fine)	5	0	,,
ELIZA	5	0	,,
GLOBE	5	0	,,
ALICE MAUDE	3	6	,,
"GOLIATH"	3	6	,,

The above are strong well-rooted plants, and such as will ensure satisfaction. Fine plants can be had for potting, if required, which were pricked off for the purpose early in the spring.

N.B. Those Strawberries at 3*s.* per dozen will be sent postage and package free.

FINE ANTIRRHINUMS, all saved from striped and spotted varieties, such as will give every satisfaction and bloom early next spring, 5*s.* per 100.

SWEET WILLIAMS, 48 superb varieties, 3*s.* per 100.

SEEDLING HOLLYHOCKS, extra fine, saved from all the best varieties in cultivation, and such as will give satisfaction, 1*l.* per 100, or 3*s.* per dozen. (One hundred of these superb Hollyhocks were planted out in a bed last autumn, and 86 of them proved to be double flowers and equal to the varieties they were saved from).

A remittance must accompany the order, either by penny postage stamps or a post-office order, on receipt of which the whole or any quantity of the above will be sent hamper and package free.

EDWARD TILEY, Nurseryman, Seedsman, and Florist, 14, Abbey Churchyard, Bath, Somerset.

The Gardeners' Chronicle.

SATURDAY, SEPTEMBER 4, 1852.

MEETINGS FOR THE ENSUING WEEK.

WEDNESDAY, Sept. 8—Royal South London ..... 1 P.M.
THURSDAY, — 9—National Floricultural ..... 3 P.M.

COUNTRY SHOWS.—Monday, Sept. 6: South Devon.—Tuesday, Sept. 7: Thirsk.—Wednesday, Sept. 8: East Essex, Dunham, Maidstone, Wallingford, and Manchester.—Thursday, Sept. 9: Kirkcaldy, Ipswich, and Royal Horticultural of Ireland.

THE sad account given by our agricultural returns of last week leaves no doubt about the general reappearance of the POTATO BLIGHT. It is clear that a large part of this crop is again ruined all over the country, from the western isles and the adjacent shore to the Isle of Wight and Scilly. That this is only what we have always anticipated, the readers of this Journal well know. That it will always continue to happen, until an entire change has taken place in Potato husbandry, we venture to predict. Considering the great interests at stake, it is not a little surprising that the attempts which have been made to explain the cause of this visitation, and those to arrest it, have been quite insignificant. Mr. SHEPHERD'S system of cultivation, as practised in the Calf of Man, and long since (1846, pp. 179 and 675), shown by us to have all the elements of rationality about it, has hardly had an imitator. Autumn planting, from the beginning recommended by Mr. GREY, of Dilston, has scarcely had a thought, except by M. ROY MAUILLE, whose long experience, described by us on the 10th of April this year, has been so uniformly successful. We suspect that few have even followed Mr. CUTHILL'S advice (p. 819, 1847). The utmost that seems to have been done on a large scale is to take warning from the copious evidence collected in these columns in 1849, that the best security to be found against disease is very early planting, dry land, and a discontinuance of rank manure, and to modify cultivation accordingly.

Of all the causes that have been suggested, constitutional debility seems best to agree with the facts we now know connected with this question. It was insisted upon at a very early period of the inquiry, and would certainly have met with more general acquiescence, had not the suggestion been overlaid with so much bad physiology, unsound reasoning, and utterly unfounded hypothesis. It was by no means inconsistent with the theory that the immediate cause was either meteoric or fungoid, or both; and it derived great probability from Mr. SHEPHERD'S practice, above alluded to. That practice mainly consisted in growing seed Potatoes apart from those for market, never taking up the sets till they were to be planted; and planting immediately, that is to say, on the very same day.

We observe that a writer in the *Cork Constitution* has revived this view of the cause. He is of opinion "that the Potato disease is not produced by electric or atmospheric influence, that it is not 'blight' at all, but is simply the natural and inevitable effect of *exhaustion*, produced by long years of most barbarous treatment, and total disregard of all the well known rules observed in the care of seeds." "If," he adds, "this theory be real and true, we must look for the '*blight*' next year; and the next and the next, unless means are adopted for the *resuscitation* of the Potato. As *exhaustion* is the *cause* of the disease, so *resuscitation* is the *remedy*—which I rejoice to think may be readily applied; and be also speedy, effectual, and permanent in its effects. Besides the usual modes of producing resuscitation, it is my opinion that if the breadth of a ridge around every field in the land were sown *early* with whole seed, to be left at rest in the ground all winter and until digging time the following summer, or, what would be still better, until *setting* time, then dug *and re-set*, we should soon have Potatoes at 2*d.* per lb. (weight?) again. If, then, any persons should feel inclined to try an experiment so easy and simple, I warn them that it is indispensable to a fair trial of it, that the dykes inclosing each field should be *cleaned* out and dug to a depth of at least 3 feet (*uplands* included) and deeper still, if the subsoil at that depth is not found to be perfectly porous. If this be well done the field will be thoroughly drained, and not one drop of *foreign* water can by any possibility pass *through* it—the frequent drain 'or Deanstonian system' notwithstanding. With regard to the same system, and while I am quite ready to admit that it has been eminently, nay, pre-eminently, successful, I nevertheless consider it to be based on false hypotheses; and altogether too expensive ever to admit of general application in this country. But to return. There is one other matter which is indispensable to a fair trial of this experiment. It is, that in setting the seed *each* Potato must be allowed as much ground as is usually appropriated to half a dozen, or more, sets. If these two indispensable requisites to a fair trial of this experiment be strictly performed, I dare to promise most satisfactory results."

We the more gladly give increased publicity to this statement, because the writer evidently knows nothing of what others have said and done. He tells us that his opinion is the "result of anxious observation and patient investigation, continued from the first appearance of this grievous visitation to the present." It is therefore entitled to respectful consideration, even although it is mixed up with speculative views which we have not thought it necessary to quote at length.

Assuming this view to be a just one, the case of the Potato might be succinctly stated thus:—

1. The Potato, like all other living things, has a peculiar *vitality* or *vital force*, by means of which, if unimpaired, it is capable of resisting disease, and of braving the attacks of parasites.

2. But if the *vitality decreases*, then the Potato becomes liable to disease, and suffers from parasites.

3. The common mode of preserving the Potato in heaps, or exposed to the air for long periods of time, has the effect of lowering vitality, and, consequently, of predisposing it to disease, and rendering it incapable of braving the attacks of parasites.

4. This supposed reduction of vital force does not take place suddenly, but comes on slowly, after years of mismanagement.

5. The vital force of the Potato having been thus lowered, if an unusually unfavourable season, or peculiar meteoric causes occur, the Potato has not enough constitutional energy to resist them, and whole districts are suddenly affected.

6. When this affection has been once experienced the vitality of the plant is still more lowered, and will continue to be so until the constitutional energy is repaired.

7. Vital energy may be restored by means the reverse of what reduced it, keeping the plant always in the ground, when all its functions of life go on without interruption and by better cultivation.

8. When vital energy is thus restored then the Potato will be able to resist meteoric action or parasitical attacks, as formerly.

These propositions are, we take it, a true expression of the theory in question, and they deserve the most serious consideration. They show why the Botrytis now commits its ravages, although it had no such effect in former days. They go in fact to the *remote cause* of the diseases, which is far more important than the immediate cause. They even show how it has happened that men of intelligence should be still led to believe in the preposterous notion that the Potato disease, or the Vine-mildew, or any such affections, are caused by insects. Upon this subject M. LÉON DUFOUR has lately made some felicitous illustrations, with which we conclude:—

"The Vine disease will no doubt follow the fate of the Potato disease and the cholera; volumes have been written on these, without arriving at the true solution. The authors are misled by taking consequences for principles, and effects for the cause; in pretending to discover the truth they only thirst for fame. Hence the incoherent facts, nonsense, and absurdities which have been brought forward on these subjects.

"Will it be believed that we are speaking seriously when we state that people were afraid to uncork a flask containing some diseased Grapes, lest the germs or reproductive principles of the terrible *Oidium* should infest the vineyards of the Bordelais? I am fully convinced that myriad clouds of these and other analogous germs circulate almost continually in the air, that we breathe them, that we swallow them at every instant, and that they fall everywhere; but they remain inert and imperceptible, unless under conditions favourable for their germination and growth. Now, these conditions are disease or death.

"We must, therefore, go back to the causes of disease in the plant; and these exist either in the meteorological condition of the air, or in the soil, and sometimes in both. HIPPOCRATES having been consulted on the causes of a direful epidemic, made no reply, but merely raised his eyes towards the sky, signifying that the evil came from above.

"The Vine, whilst making luxuriant growth, may be affected by a deadly element, which may disturb its internal functions, and yet this initial attack may be in no way perceptible to the most intelligent and acute Vine cultivator. Afterwards the circulation of the sap becomes languid, the colour changes, and likewise the nature of the tissues, the disease increases, death is partially introduced among the tissues, and the parts that are soft or pulpy undergo chemical decomposition. The owner is alarmed; he sees, he thinks, reflects, complains; and during this time the germs of the *Oidium* floating in the air settle on the Grapes, previously diseased, or tending to a putrescent state; there they find the most favourable conditions for germinating and propagating themselves to an infinite extent. Insects of various kinds, obedient to their mission by Providence for hastening the destruction of decaying bodies, crowd from all parts and consign to these dead vegetable habitations the germs of life of their own progeny. It is in this state of incurable disease, of universal gangrene, that the philosopher, furnished with his eye-glass, and, pardon the common but just expression, not seeing beyond his nose, proclaims loudly that the causes of the disease are the inoffensive Oidium, the innocent worms, and the Acarus with various names; simple visitors, which collect a few morsels, or follow in the train of larvæ. Is this, I ask, a well-founded accusation?

"When you find lying in a ditch the dead body of an animal, harbouring in its entrails and in its flesh an immense number of worms, must you thence conclude that the Sarcophaga, Silpha, Necrophorus, Staphylinus, Dermestes, which these worms have engendered, are the cause of the animal's death? Certainly not; on the contrary, you may rest assured that these insects, in consuming the abodes of infection, diminish, for the benefit of mankind, the deleterious elements which tend to vitiate the air.

"And the sickly top of that fine tree, the pride of your avenue, does it not occur to you that, in the midst of luxuriant vegetation, this appearance arises from some irregularity in the flow of sap, languor, or disease? In the following season no leaves appear, the tree is dead; it is cut down. Will you then also join in a cry of murder because the fortunate entomologist discovers in the body of this dead tree a California of insects which of late have been so much calumniated, such as Bostrichus, Scolytus, Callidium, Cerambyx, Buprestis, Elater, Pyrochroa, Colydium, Lyctus, Platypus, Laphria, and a thousand others, some in the bark, some in the liber, others between the two. Of those

that penetrate into the solid wood some attack only the trunk, others prefer the branches; here are the true wood-eaters, there the parasites which feed on the latter. Will you, I repeat, ascribe to all these the death of the tree? No; this would be taking the effect for the cause, and imitating those forward persons that are so eager to sound the trumpet to their own praise."

MANY of our readers are aware that an AIR-PLANT resembling *Aerides odoratum* has lately been introduced into cultivation under the name of *A. suavissimum*, a name which it well deserves, for it has a more balsamic and delicious odour than *A. odoratum* itself. Long loose drooping spikes of flowers, varnished as it were with a sticky substance that makes them adhere to whatever they touch, and tinted sometimes with yellow and red, sometimes with yellow and green, and always suffused with tender pink, render this one of the most beautiful of all the Orchids in cultivation. A specimen now before us, having a raceme almost 18 inches long, with more than 30 flowers upon it in full perfection, seems to be even finer than the original imported by Messrs. LODDIGES, the colours being more vivid and the flowers rather larger; it has been obtained by Messrs. LUCOMBE, PINCE, and Co., of Exeter, and deserves this special notice.

Although the species is nearly related to *A. odoratum*, yet we conceive that it is quite as distinct as the other Aerides are from each other. The narrow constantly-bifid middle lobe of its lip, the toothletted middle lobes, the long slender racemes, and its very graceful habit, offer ample marks of distinction; which a cultivator would say are strengthened by the peculiar habit of the species, its autumnal flowering, and its striking tendency to blossom freely when very young.

OUR NATIVE ORCHIDS AS BEDDING PLANTS.

THE Epipactis sent to you by the Rev. V. Harcourt as a new species from the neighbourhood of Chichester, appears, from the description and figure of it at p. 536, to be identical with one found at this place. I observed it first about six years ago, but I have never looked upon it in any other light than as an accidental variety of E. latifolia, the principal difference consisting in the lip of the variety being smaller and more pointed, the ovary quite smooth, and the spike altogether of a paler colour than that of E. latifolia. I have some reasons also for believing that these characters are not permanent, as in a certain spot where I had found E. latifolia one season, I looked in vain for anything but the variety the following, so that seasons and circumstances may have very much to do with its altered form. Though this is a favourite locality with many of the British Orchids, the E. latifolia and its variety are not plentiful, and I regret that it is now too late in the season to find specimens of them in flower to send you for examination.

Several species of this interesting tribe of plants abound here in countless numbers, and within a circuit of 400 or 500 yards from where I am writing the following may be found during their respective seasons:—Neottia spiralis, Listera ovata and nidus-avis, Epipactis latifolia and grandiflora; Orchis morio, mascula, pyramidalis and maculata; Gymnadenia conopsea, with its white variety; Habenaria viridis and bifolia, Ophrys apifera and muscifera.

I have often wondered why some of our enthusiastic flower gardeners have not availed themselves of some of the more ornamental of the native Orchids for bedding, as they flower at a time when variety is much wanted. I am aware that many suppose them to be unsusceptible of cultivation; this is true only to a certain extent, and only holds good as regards some sorts, for I know that many are not only easily managed but much improved by cultivation. Some of the fibrous-rooted kinds delight to grow under the shade of trees, and among their tangled roots, and to give them the conditions requisite to their successful culture would at once exclude them from the trim-kept flower garden; but it is perhaps worthy of remark that those requiring these conditions are unworthy of cultivation in an ornamental point of view. It may be taken as a general rule that all having tuberous roots may be cultivated with facility. And as far as I have tried them, all those found growing wild in light chalky soil have improved when planted in light loam on a dry bottom.

It fortunately happens that all those most easily managed are the sorts which would suit the flower gardener the best. Most of the genus Orchis might be made available. And what can be more interesting and pretty than many of them are in the months of May and June? they are just the things to succeed the spring flowering bulbs, such as Crocuses, Hyacinths, and Narcissi. Orchis morio, mascula, pyramidalis, maculata, and Gymnadenia conopsea, will all succeed; and I think I may safely add Orchis fusca, militaris, and macra, though I have not had an opportunity of proving them. Such things as Habenaria bifolia, Ophrys apifera and muscifera, might occupy less conspicuous places in the herbaceous borders, as they are not quite showy enough for beds.

Orchids are not gross feeders, consequently they would not require to be often taken up for the purpose of renewing the soil, but might be allowed to remain for several years undisturbed in the same place. They might be planted in patches or rows over the beds at sufficient distances to admit of the usual summer bedding plants being inserted amongst them, in order to cover the bed by the time the Orchids died off for the season.

There is one more to which I wish to direct attention, and perhaps it is the best of them all—the beautiful Cypripedium Calceolus. Are there no means by which this could be made a bedder? I have been told that it is seen occasionally, growing freely in cottage gardens in the north of England; if so, why should we not try to overcome any difficulty attending its cultivation in the south, and bring it into more general favour, as it would certainly well reward any extra labour bestowed upon it. A fine bed of it would be quite a novelty, and a great acquisition to the flower-garden. *A. D., Dalepark, Arundel.*

CLIMATE OF BELLE-ILE,

(*Belle-Ile-en-Mer*, west coast of France, Lat. 47° 18′ N.; Long. 5° 33′ W.),

AND ON SOME PLANTS FROM WARM COUNTRIES WHICH ARE SUCCESSFULLY CULTIVATED IN IT.

HORTICULTURAL journals frequently allude to the mildness of the climate of the south-west of England, where plants from the south of Europe, and even from still warmer climates, flourish without shelter, in the open air. We have learned from the *Gardeners' Chronicle* lately, that in the gardens of Cornwall or of Devonshire, the Rhododendron javanicum, exposed to all the influences of that mild sky, was covered with an abundance of splendid flowers, such as the gardeners in other parts of England could not obtain with the aid of greenhouses and Orangeries. This sort of information is always interesting to the lovers of horticulture; but the interest increases when we find similar exceptions to the general character of climate in our own country, in which of all others they are the least observed and profited by. We believe, then, that it will be both useful and agreeable to our readers if we lay before them some facts relating to this subject, which have been collected at Belle-Ile-en-Mer by a worthy agriculturist, M. Trochu, who has had long experience of the climate of this little isle, and possesses a talent for observation rarely to be met with.

In 1826, M. Trochu introduced the cultivation of the Cork tree, Quercus Suber, on a farm which he managed himself at Belle-Ile. The trees have succeeded perfectly well, although the locality is situated under the 47° of latitude, that is to say, about 4 degrees farther north than the limit of the cultivation of Cork trees in France. At the end of 23 years from the time of sowing, the trees attained the height of nearly 30 feet, and had from 10 to 13 feet of straight stem, without branches, and proper for barking. In 1847 their circumference at the base averaged 15¾ inches; and latterly, when they were stripped, they furnished cork boards of this breadth. M. Trochu does not know what the quality of the cork will be which the trees will afterwards produce, it being understood that the first bark is nowhere of any value; but he has every reason to believe that it will be of good quality when the trees shall have attained sufficient age. He has 200 of them on his property.

The growth of the Cork tree under the 47° of latitude is very remarkable; but still more so is the enormous size of the Fig trees in this same climate. In no part, not even in the warmest localities of the south of France, does there exist any so large as in Belle-Ile. M. Trochu has seen trees of them in some gardens from 52 to 60 feet high, with stems below the branches from 26 to 32 feet high, and 6½ feet in circumference near the base. These trees yield every year considerable quantities of fruit, which ripen perfectly, although the summers are generally temperate at Belle-Ile, and are not always sufficiently hot to bring the Maize to complete maturity. On the other hand, the winters are remarkably mild; rarely there fall a few flakes of snow, and in the greatest frosts the thermometer falls only to 26° or 27° Fahr., and it very seldom reaches so low, and when it does the frost is but of short duration.

The Jujubes grow with proportionate vigour at Belle-Ile; they flower there every year; but they do not yield fruit. The Mulberry succeeds remarkably well, and, provided it is sheltered from the violent sea-winds, it acquires an enormous size, and fruits abundantly. Many other plants of the South, such as Myrtles, Yuccas, &c., grow, it may be said, without any care or cultivation.

The cause of these anomalies of climate is now well known; they result almost entirely from the great ocean current or Gulf Stream, which, coming from near the Cape of Good Hope, traverses the torrid zone, washing the shores of Central America and those of Western Africa, and which, after being heated in its course under a tropical sun, carries to the coasts of Europe, and even to Iceland and the North Cape, an enormous mass of warm water, the heat of which is communicated to the atmosphere. Its effects are perhaps nowhere more sensibly felt than on the coasts of Scandinavia. This long peninsula, divided by a chain of high mountains running from north to south, which checks the sea breeze, presents an astonishing difference of climate between its eastern and western portions. In the latter the winters are not much more severe than they are in the north of France; but on the eastern side they have all the severity of Siberian winters in an equal latitude; and to such extent that at Umea, near the Gulf of Bothnia, and far from being within the polar circle, it is nothing uncommon to see the mercury frozen, and the spirit thermometer indicating 72° Fahr. below the freezing point of water.

The mildness of the winters in France on the coasts of the ocean ought to induce the lovers of horticulture to make numerous experiments with regard to the naturalisation of exotic plants, useful and ornamental; for we are convinced that by making a judicious choice of plants for this purpose, successful results would be obtained. Arborescent plants should be first tried, and more especially those of New Zealand, Van Diemen's Land, Chili, &c. These countries contain trees remarkable not only as timber trees, but likewise for their ornamental effect, trees which in all probability there would be no difficulty in naturalising; for example, the fine Conifers lately introduced to Europe, and which have been abundantly propagated by nurserymen. To these we may add some species of Eucalyptus, and also some Palms, the tropical vegetation of which would give to the landscape a richness of ornament altogether unknown in our temperate regions. Among these we may mention the Areca sapida of New Zealand, the Chamærops Palmetto of the United States, which rises to the height of 66 feet in localities colder than many in the south of France; and finally the Chamærops excelsa of China, of which a single specimen, brought to Europe by Mr. Fortune, has lived for several winters near London in the open ground, without shelter. With the exception of the last, all the sorts we have mentioned may be obtained at a moderate price from various nurserymen. *Naudin, in Revue Horticole, July*, 1852.

PERGULARIA ODORATISSIMA.

ONE of your correspondents complains that he "has grown this plant for six years; that it is luxuriant, and in appearance all that a plant should be, but that it has never produced a single bloom." He has said nothing regarding the kind of treatment his plant has received; and as the Pergularia is rather a free flowerer, the inference is that it has been badly managed. It is probable, however, that others have also experienced some difficulty in flowering this plant, or it would, doubtless, be more common in small collections than it is, for its flowers are great favourites, especially with ladies, and they well deserve to be so; for they are deliciously fragrant, and last longer in water than most sweet-scented blossoms, giving off in a warm room a most refreshing perfume for days together.

The Pergularia, like most East Indian plants, requires a warm rather moist climate, and all the light that can be afforded it during its season of growth, and to have its wood well matured, which is best effected by keeping the atmosphere dry, with a free circulation of air, full exposure to sunshine, and a very sparing supply of water must be afforded it. Treated in this way it will bloom abundantly the second season after propagation.

It is of too vigorous a habit to be successfully flowered when confined to the ordinary limits of a specimen twiner in a pot, but with a little skill in its management it may be treated as such, and induced to flower tolerably well. Its proper place, however, is trained to wires on the roof or back of a house, where the temperature may average 55° in winter, and from 65° to 70° in summer; but whether grown in a pot, and trained to a trellis, or planted in a bed of soil, and allowed ample space for the extension of its shoots, the roots should not be permitted to have too large a mass of moist earth about them, for in this case it will be difficult to get the wood ripened; and unless that is secured it will be vain to expect an abundant crop of blossoms. Like many other twiners, the Pergularia flowers earlier and more freely when propagated from skilfully selected cuttings; suckers and long jointed vigorous shoots should not be used for cuttings, as plants from these grow more vigorously, and require more care to ripen their wood, than if short-jointed rather hard bits had been used. Such will be readily obtained in spring, and will soon emit roots in a sharp bottom-heat of from 70° to 80°; and if potted singly and kept in a warm moist temperature during the summer, they will be strong plants previous to winter.

Encourage active growth as early in spring as convenient, by placing the plants in a warm moist temperature. Those to be grown in pots should be shifted into the size in which they are intended to flower early, so as to admit of the trellis being applied before the shoots get entangled, and by early shifting into the flowering pots the latter will become filled with roots, and the soil will get somewhat exhausted, in which case the wood will require less skill to ripen it than if the plants were shifted into fresh soil at an advanced stage of growth. As already intimated, a warm dry temperature, with full exposure to sunshine, and a short allowance of water to the soil, is necessary during autumn. Any light situation where the temperature may average about 55°, and where the plants will be safe from damp, will suit during winter; and no more water should be given to the soil than is sufficient to retain it in a healthy state. If removed in spring to a temperature of from 65° to 75°, and liberally watered at the root, and kept near the glass, a profusion of flowers may be expected from them. When they cease to produce blossoms prune rather hard, and treat them as last season; only no potting will be required, as the soil will be easily kept sufficiently rich by using manure-water in a clear state; and it will probably be found that without this stimulant the plants will make abundance of wood for ordinary-

sized trellises, and that this must be proportionably large for the size of the pot.

When planted in a bed of soil, it should be light and sandy, such as water will pass through freely, and so placed that it can be kept dry and moist at the proper season. In this case, as when grown in pots, defer pruning till after the blooming season, merely regulating the growth by stopping any over-luxuriant shoots. *Alpha.*

Home Correspondence.

Late Peas.—I fear we must go further than either "deep trenching," or "profuse watering," for a remedy against the attacks of mildew, which seem to set at defiance the efforts of your correspondents to produce late Peas. In certain localities there can be no doubt of benefit resulting to the crop from the plan recommended by the late Mr. Knight; but we want, I apprehend, a general specific for the disease, if such is to be found; and that it is not to be found in Mr. Knight's prescription is very much to be regretted. This summer I sowed for my last crop of Peas several rows of Knight's Dwarf Long-pod, all of them in last year's Celery trenches, which had been dug to the depth of 2 feet, and filled in to the depth of 9 inches with well decomposed dung. These trenches were thoroughly dug over again, and the dung distributed through them before the Peas were sown. In the early part of June they were soaked with pond water, a shallow drill drawn along the centre of each trench, and single seeds deposited about 4 inches apart. They came up well, and received two moderate dressings of soot, and when about 6 inches high a good soaking of liquid manure, previous to being moulded up. Yet as soon as the pods began to form the mildew made its appearance, and rapidly obtained the mastery; so much so, that I have not succeeded in gathering a single dish. A similar plan adopted with my second crop last year produced as fine a show of Knight's Tall Marrows as one could conceive; while, for a late crop, a total failure is the result. Now, having done all that my little knowledge of gardening (for which I am mainly indebted to the *Gardeners' Chronicle*) could suggest, I take my revenge on the mildew by communicating to you the result; and hope that, by dint of "comparing notes," some of your correspondents may in the end hammer out a settler for that plague. *A Bucks Curate, the Lee, Tring, Herts.*——I think I may fairly say, with regard to late Peas, that I have never found any to equal, for lateness and quality, the sort called "Ward's Incomparable," which I have obtained at Bath, and have grown for many years with the greatest success. I cannot say too much in their favour, as they continue good, in every sense of the word, till the frost sets in so permanently and severely that they can no longer contend against it. They seem to be but little damaged by the frosts which we have usually in September, as mine are generally to be picked till late in October, or the beginning of November, though this of course will entirely depend upon the weather we have during autumn. *John Chynoweth.*

Garden Turnips.—The finest and best crop of Turnips I ever saw was watered with soot water; they were as clean and firm as a Turnip could possibly be, and the flavour was excellent, indeed far superior to any I have seen grown in a field, which are generally acknowledged to be the best. I would recommend gardeners to take better care of their soot, and not permit the sweeps to carry it away, and dispose of it by the road-side, which is very often done; it is a highly valuable manure for nearly all garden crops. *E. Bennett, Perdiswell.* [Certainly. Most valuable.]

M. Grison's Cure for Mildew (see p. 419.)—Allow me to thank you for publishing M. Grison's remedy against mildew on Grapes. In 1850 and 1851 two splendid crops of fruit in my small greenhouse were utterly destroyed by this pest. This year I have my usual abundant crop; my Vines having had their accustomed supply of soapsuds and other liquids. When the Grapes were the size of small Peas mildew was discovered to a great extent on every bunch and nearly every leaf; I immediately had them thickly powdered with sulphur, which remained on until washed off with M. Grison's liquid, applied according to his directions. The washing has been twice repeated, and the Grapes are quite clean, swelling off, and preparing to ripen in a most satisfactory manner. I can scarcely say if I am to attribute the cure to the sulphur or the liquid; but the former, having been tried on the two previous years, I am inclined to give the palm to M. Grison. *Constant Reader.*

Tenacity of Life in a Sow Thistle.—For ten successive days I trampled on a Sow Thistle in full flower, laying it quite prostrate; but lo! every morning when I went my rounds, it was again erect and flourishing, and still continues to be so. What a wonderful renewal of its injured structural parts must have taken place in every 24 hours, and what persevering efforts to come to perfection and ripen its seed, and thus fulfil its destiny! This ought to be a lesson for mankind. *Fulhamensis.*

Albino Toad.—Some time ago I troubled you with an account of the extraordinary way in which toads (and frogs also) shed, and afterwards swallowed, their skins. I remember some of my friends at the time thought the story savoured a little of the marvellous, but what they will say now, I am at no loss to conjecture. I can only remind them that "seeing is believing," and invite them to come and see. The other day I heard that a white toad with pink eyes had been found by a labourer upon an open common fen near Ely. The animal was brought to me for inspection, and is now in my possession. It is an average-sized toad, livelier, I think, than toads in general, and feeds well. The skin is not white, but a very pale ochre or clay colour. The eyes are red, just like those of a white rabbit or mouse. It is a veritable albino; I do not remember to have heard or read of a case of albinism among the Reptilia. Have any of your readers met with a similar freak of Nature? *William Marshall, Ely.*

The Manetti Rose.—Some eight or nine years ago I planted two borders with pillar Roses, principally of varieties of hybrid China and hybrid Bourbon; many of these were budded on the Manetti, the remainder on the Dog Rose; they were not marked but planted indiscriminately, and all about the difference in the stocks entirely forgotten till some time about the end of last July, when I was attracted by the extremely vigorous growth of many of the Roses in question, in contrast with others in the same borders; this led to examination and inquiry, when I found that all, or nearly all, of these vigorous growing Roses, were budded on the Manetti Rose, the others on the Dog Rose. The former are from 7 to 8 feet in height, and among them are the following sorts: Baronne Prevost, Charles Duval, Legonné, Parigot, &c. They are now 10 years old, and the union of the bud with the stock is so perfect as scarcely to be distinguished. Surely this is evidence enough as to the durable quality of this stock; but why should it be otherwise, will Messrs. Lane and Paul say? Is not the Manetti a hybrid China Rose? and are not all our finest autumnal Roses of the same race? The transition must therefore be less than when a bud of a hybrid Rose is placed in a Dog Rose stock. I ought to add, that the pillar Roses, above described, are growing in a cold wet soil on a subsoil of clay. I have hitherto thought the Manetti better adapted to light sandy soils, in which I have always observed it to succeed admirably. I was particularly struck this summer with a bed of the Rose Géant des Batailles, in the garden of Mr. Mickle, of Folkestone. The plants are three or four years old, and most vigorous and beautiful. Two or three plants in the same bed are on the Dog Rose; the contrast is most remarkable. Now, the soil at Folkestone is so light and sandy that Roses on the Dog Rose seldom or never succeed well. The Manetti Rose stock requires some attention as to the time of budding, and care in not giving it too rich a soil, &c. I remember finding some little difficulty in its management at first; and so I think it will be well for the above-named gentlemen, my good friends and neighbours, to come here and serve a sort of apprenticeship. I shall require only a moderate premium; if they are teachable and docile I will treat them kindly; and when they know how to manage this stock as well as I do, they will think it as great a boon to the Rose-grower as all those who know it well are inclined to do; and they will then, I am sure, leave off "evil speaking" about this poor Rose. How beautiful at this moment are the following Roses budded on it: Standard of Marengo, Duchess of Sutherland, Baronne Prevost, Béranger, Caroline de Sansal, Baronne Hallez (the most perfect and beautiful Rose ever seen), Géant des Batailles, &c. In conclusion, I may mention that I have just been looking at some Manetti stocks, trained for standards; these made shoots, last year, 8 feet in length; they are this season fastened to stakes, have not been pruned, and are swelling rapidly. Owing to improved agriculture we shall lose our Hedge and Dog Briars, and then for standard Rose stocks.

> When all our Briars are "gone and spent,"
> Manetti will be excellent.

Thomas Rivers, Nurseries, Sawbridgeworth, Aug. 25.——Permit me to bear testimony to the merits of the Manetti Rose in this locality (Folkestone), where it produces astonishing results, in a soil and climate that destroy most Roses on the common stocks, in a couple of years. My belief is, that for pot culture, and for the region of poor light thin soils, it will prove invaluable. In all such cases, its superiority consists in the fact that it makes as many and far better roots in three months than the Dog Rose does in as many years. I would advise all who predict its early decay, to inspect the luxuriance of Mr. Rivers' semi-tree, of some eight or ten years' standing, before they publish such doctrine. While recommending its universal adoption, I expect that in some instances it will be found wanting, well knowing the absurdity attaching to all universal panacea; and I daily see cause to regret that so little stress is laid upon the almost omnipotent effect of locality upon gardening matters generally. Too often the tyro who would point out things to stock this "great world of ours" draws conclusions under the shadow of his own Vine, and promulgates for the guidance of the universe experience that never roamed beyond a Cabbage garden. His pen thoroughly annihilates locality as a galvanised wire does space; ruthlessly prescribing for the reeking atmosphere of the murky fen the same individuals he would doom to quiver in the withering sirocco, that three months out of the twelve sweeps this coast from Deal to Folkestone. *J. M., August* 27.

Rough Plate Glass.—I have given the rough plate 12 months' trial, and I find it answer better than any other glass I have in use; the plants keep more dwarf, and the foliage is of a better green. I do not find it to collect more dirt, and the condensed vapour runs down it quite as freely as on other glass. If I build more new houses, I shall certainly use Hartley's rough plate. I purchased what I have had of Messrs. Phillips and Co. I have two houses glazed with it, which can at any time be seen at my nursery. *N. Gaines, Surrey-lane, Battersea.*——In answer to a series of questions, at page 550, respecting rough plate glass, I can state that in a conservatory, in which the whole of the top is of that material, nothing can be more successful. I should recommend any one using it to have it in large sheets where they are not required to be moved, as it saves joints and wood; and, consequently, drip, and many other annoyances. I never will use anything else, I am much pleased with it; but care must be taken, I think, in ordering it to specify the sort required, as I suspect there are many varieties called "rough plate;" that I speak of is Hartley's, and I procured it at Phillips's, having seen it advertised in your columns; it has so many advantages (to my fancy), that it would occupy too much space to enumerate them; but if I state that all burning is obviated, and, consequently, shading not required, and that the foliage retains a fine, healthy colour, and that for one's own comfort while sitting, or at work under it, there is an absence of that very scorching glare which all other glass has, I think I have said something in its favour. *John Chynoweth.* [There can be no doubt about the pre-eminent excellence of this glass, which we are glad to find Messrs. Chance of Birmingham, and Mr. Pilkington of St. Helens, have now taken licences of Mr. Hartley to manufacture.]

The Hedgehog.—Under ordinary circumstances implicit reliance may be placed on paragraphs that are admitted into the *Times;* I cannot however believe, on the faith of an anonymous correspondent, the story of hedgehogs feeding on chickens. The hutches, if properly made for valuable poultry, would not admit a hedgehog; besides, where was the old hen? The story is badly put together; it is too indifferently told to allow of ready credence. I think it will either be corroborated or disproved, as the poor animal is already sufficiently persecuted. *F. D., Pershore.* [Our correspondent should read what "Lusor" says at p. 501 of our Volume for 1846.]

Cutting off and pulling up Potato Haulm.—There is a great difference in the meaning of cutting off and pulling up Potato haulm, and the utility of the former practice is lost by the adoption of the latter, which does more harm than good. The idea of "cutting off" the green tops as soon or before the infection is perceptible, is to kill the plant by draining or bleeding the roots of such as may be contaminated with disease till life is extinct; whilst pulling up the haulm destroys their vitals instanter, shutting in the disease, or inflammable juices, and occasioning the tubers to rot. Let a handful of dry earth be placed over the stump of any green plant that has recently been amputated, and the good effects of the practice will no longer be doubted. *A. Hardy and Son, Maldon.*

Hints to Settlers in New South Wales.— The account you give of the meat biscuit, made by Gail Borden, may be turned to great advantage in New South Wales, where millions of sheep are quite a drug on the market, and they know not how to dispose of them. Pray recommend this use of them. Our poor people will be greatly benefited by it, as well as the South Walians. Recommend also their subsoiling as deep as possible every acre of ground they plough or plant. Their soil consists chiefly of sand and loam, mixed together, and bound as hard as stone; but, if once broken, it will admit the rain, which otherwise runs off, and is soon lost. If this were universally done the very climate would in time be altered, and dews and showers be given out from the earth that is now as hard as a stone. Vines might be planted on land trenched 3 or 4 feet deep, and a good wine made, which would meet a ready consumption here. *P. P.* [Mr. Borden uses beef, not mutton, and believes the former to be essential.]

Effects of Dry North Wind on Young Shoots of Scotch Fir.—On the evening of the 10th and morning of the 11th June last, the north wind blew long and loud, and the cold was uncommonly severe for that season of the year. Along with many others, a young plantation of forest trees at this place was exposed to its influence, and some of the trees felt the effects of the gale pretty severely; many of the young shoots of the Spruce Fir were broken and scattered on the ground. One remarkable circumstance was connected with it which may be worth recording, although a satisfactory explanation may not be given; yet if it lead to a more full examination of the subject, the present notice will not be altogether worthless. The first thing that attracted my notice on the morning of the 11th June was the strange appearance of the Scotch Firs, the young shoots being almost invariably bent towards the north, some shoots more than others, and not the shoots of one tree only, but every Scotch Fir tree that I saw for upwards of half a mile had their young shoots in a similar position. And although the sun broke out during the day the shoots still kept their bent position, and it was not until the next day that they began to resume their upright posture, and some of the longest shoots had the appearance of what painters call the line of beauty; and it was three or four days after the gale before they were all straight. In most cases the young and tender shoots of plants yield to the blast, and turn from it as far as they can, but in this case the young shoots of the Scotch Fir met the enemy bravely, and bent their heads to the blast as far as they were able. I have been endeavouring to find out an explanation of the cause of the bending of the young shoots, from such works on vegetable physiology as are within my reach, but have been unsuccessful. It is a long time since we were taught the reason why the young shoots of trees and herbaceous plants bent towards the light, and I have been wondering if a cold dry wind in the month of June, together with the light from the north during the night, should have the same effect

upon the succulent shoots of the Scotch Fir. Knight remarks regarding light and its effects on the stems of climbing plants, that, "A seedling plant of the Peach tree, and one of the Ampelopsis and Ivy, were placed nearly in the centre of the house, and under similar circumstances, except that supports formed of very slender bars of wood, about 4 inches high, were applied to the Ampelopsis and Ivy. The Peach tree continued to grow nearly perpendicular, with a slight inclination towards the front and south side of the house, whilst the stems of the Ampelopsis and Ivy, as soon as they exceeded the height of their supports, inclined many points from the perpendicular line in the opposite direction. It appears, therefore, that not only the tendrils and claws of these creeping dependent plants, but that their stems also are made to recede from light and to press against the opaque bodies, which nature intended to support and protect them. M. De Candolle, I believe, first observed that the succulent shoots of trees and herbaceous plants, which do not depend upon others for support, are bent towards the point from which they receive light, by the contraction of the cellular substance of their bark upon that side, and I believe his opinion to be perfectly well founded. The operation of light upon the tendrils and stems of the Ampelopsis and Ivy appears to produce diametrically opposite effects, and to occasion an extension of the cellular bark wherever that is exposed to its influence; and this circumstance affords, I think, a satisfactory explanation why these plants appear to seek and approach contiguous opaque objects, just as they would do if they were conscious of their own feebleness, and of power in the objects to which they approach, to afford them support and protection." We are also informed that one of the greatest functions of cellular tissue is to absorb moisture or gaseous matter and to part with it again, acting as a sort of living filter. In such a way the cold dry wind may have drawn the moisture from the succulent shoot exposed to its influence, and caused the bending by the contraction of the cellular substance exposed to the wind. Cellular tissue we are told is the grand agent by means of which many of what may be termed the mechanical forces of plants are exerted. Before concluding I may remark that the morning of the 11th of June was somewhat cloudy, although the wind blew pretty hard, and when I felt the Grass early in the morning there was scarcely any dew upon it, or on anything else that I could observe, with the exception of one plant, which I think was Equisetum arvense; many small dew drops were upon the plants, although the Grass beside them was dry. This case appears to be an exception to the general rule regarding the production of dew, namely, that it is never seen when the weather is cloudy and windy at the same time. *Peter Mackenzie, West Plean, Stirling.*

Roses.—I send you two diseased leaves which are taken from Rose de Rennes grown in a small garden where about 50 other varieties are cultivated, but no other has been attacked but de Rennes; and I believe this is the third year that it has been so diseased. When it first comes into leaf it looks healthy and well for about a month, and then the disease appears, which grows worse and worse, and prevents its flowering. *J. W.* [The leaves are attacked by the parasite called Aregma mucronatum. There is no known mode of cure.]

Cooking Haricot Beans.—I should feel obliged if Mr. Bennett (see p. 549) would kindly favour me with the best way of cooking Haricot Beans, as I am quite ignorant of any method by which they may be rendered "wholesome and agreeable." *Mary.*

Cucumbers.—I have this season gathered 52 Cucumbers fit for table from three plants of Cuthill's Black Spine; and there are some more which will be ready in a few days. Would this be considered a fair crop? I do not know what number is generally gathered from one plant, and shall be obliged by the information. *Mary, August* 30.

Potatoes in Old Tan.—In reference to the inquiries at p. 549, I have to state that the Potatoes grown by me in old tan were perfectly free from disease, and they remained so during the whole winter; they were stored in a dark but very dry cellar, in large boxes that were formerly used as packing cases, covered over with straw, and on the top of each box was placed a piece of oil-cloth, so that but little air was permitted to enter. The sorts were Ashleaf Kidney, Forty-fold, Shaws, and Regents; the latter were the last used, and scarcely a bad one from either disease or rot was to be found among them. This relates only to the crop grown in old tan. *E. Bennett, Perdiswell, Worcester.*

Societies.

County of Gloucester and Cheltenham Horticultural.—The third and last exhibition for the season was held on the 26th ult. The day was fine, and there was a large attendance, which made up in a pecuniary point of view for the unfavourable days of the opening and second exhibitions formerly noticed in our columns. Collections of 12 Stove and Greenhouse Plants were furnished by Messrs. Rollisson (1), Mr. Hodges (2), and R. S. Holford, Esq. (3). Eight ditto by A. MacDonell, Esq. (1), H. Brown, Esq., M.P. (2), C. Shaw, Esq. (3). Four ditto, by Col. Fiddes (1), Lady Acland (2), Miss M. Phillips (3), J. Webster, Esq. (4); in these collections were Allamanda cathartica, Fuchsia corymbiflora, Beaufortia purpurea, Pleroma elegans, Statice mucronata and Holfordii; Japan Lilies, Hedychium Gardnerianum, with four noble spikes of flowers, the Sutton scarlet Gesnera, Vinca rosea and oculata, Ixora coccata, Stephanotis floribunda, &c., all more or less excellent for this advanced season. Orchids, as might be expected, were inferior to what they were in June; nevertheless, some nice specimens were produced. In the class for 10 species Messrs. Rollisson were first, R. S. Holford, Esq., second: five ditto, C. S. Shaw, Esq. (1); among these were Cattleya Loddigesii, crispa, labiata, atropurpurea, and Aclandiæ; Oncidium altissimum superbum, O. luridum guttatum, Phalænopsis grandiflora, Saccolabium Blumei, Vanda teres, Stanhopea oculata, Rhaius albus, and Sobralia macrantha. Variegated plants and Mosses were liberally staged by H. Brown, Esq., M.P. (1), R. S. Holford, Esq. (2), C. S. Shaw, Esq. (3), and Messrs. Rollisson (3); the latter had their deservedly much admired Cissus discolor, to which a first prize was awarded. Achimenes, Gloxinias, Fuchsias, &c, were well represented. Roses in collections of 25 were admirably displayed by Mr. J. Cranston, (1), and Mr. C. Turner (2); among the sorts were Standard of Marengo, Dr. Marx, Solfaterre, Baronne Prevost, Duchess of Sutherland, Baronne Hallez, Cloth of Gold, Louis Payronne, Géant des Batailles, Dupetit Thouars, Acidalie, &c. In Dahlias, 24 varieties, Mr. C. Turner was first, with Sir F. Bathurst, Fame, Queen of Beauty extra, Leda, Gem, General Faucher, Princess Radzewill, Roundhead, Mr. Seldon, Model, Kant, Richard Cobden, Sir C. Napier, Gem (Oakley), Mr. Herbert, Essex Triumph, Blanchfleur, Sir R. Whittington, Dr. Frampton, Mrs. Seldon, Thames Bank Hero, Morning Star, Ambassadeur, Duke of Cambridge, and George Villiers; 2d, Mr. Sealey; 3d, Mr. Drummond, with sorts principally enumerated in the first collection. Twelve Fancies: 1st, Mr. Turner, with Claude, La Paön, Trial, Mrs. Merry, Mrs. Hansard, Princess Helena, Laura Lavington, Lady Grenville, Phaeton, Lord Lyndhurst, Spectabilis, and Elizabeth; 2d, Mr. Drummond. Twelve Dahlias: 1st, Mr. Dale; 2d, Mr. Hodges. Among these the best were Imbricata, General Faucher, Duke of Wellington, Essex Triumph, Richard Cobden, Admiral, Purple Standard, Scarlet Gem. An extra prize, offered by Mr. C. Turner, was won by C. H. Vetley, Esq., with Duke of Wellington, Lord Mayor, Marchioness Cornwallis, Mr. Herbert, Sir F. Bathurst, Toison d'Or, Purple and Yellow Standards, Fearless, Frederick Jerome, Duchess, and Richard Cobden. The first collections of cut blooms and spikes of Hollyhocks, were both awarded to Mr. C. Turner; the six spikes consisting of Model, blush lilac; Venosa, mottled purplish red; Mrs. Foster, bright pink; Mr. Dundas, deep rose; Mrs. Moulding, cream-edged carmine valuable both for quality and novelty; Sir D. Wedderburn, dark rosy crimson. A Certificate was awarded to Dahlia Sir John Franklin (Turner), a sort with high centre, admirable outline, smooth and symmetrical, colour deep orange buff, shading darker at the base of petals; size medium. Drummond's Bob and British Queen were both shown well, the former scarlet crimson, the latter white, with mottled edges of faint lilac approaching to lake. *J. E.*

Review.

Buenos Ayres and the Provinces of the Rio de la Plata. By Sir Woodbine Parish, K.C.H., F.R.S. Second edition. Murray. 8vo; pp. 434, with some plates and a map.

Less is known in gardens of the vast provinces watered by the Plata, and other mighty streams, and called the Argentine provinces, than of any part of South America. We doubt whether 50 species are in cultivation; and yet they are the countries of our brilliant Verbenas, and of a few gay climbers which are all capable of thriving out of doors in our summer season. Political distractions, commercial jealousy, and the dangerous natives of thinly peopled regions, have combined to exclude all but Spaniards from an intimacy with the vegetation of the country, and Spaniards now-a-days care little for such a subject. It is true that a Scotch gardener named Tweedie resided for many years at Buenos Ayres, whence he made excursions as far as Tucuman, and formed botanical collections, but his means were too slender to enable him to turn his opportunities to much account, and England has been but a small gainer from his enterprise. The names of Cordova, Salta, Santiago, Tucuman, Entre Rios, Corrientes, Banda Oriental, and the Missiones are almost unheard of in the literature of gardens.

And yet they are vast countries, well watered, with a most varied climate, rich in natural productions, and some at least mountainous, hilly and wooded enough to promise a rich harvest to the naturalist. Speaking of Tucuman alone, Sir Woodbine Parish says, "Nothing can be more luxuriant than the vegetation in this province: whilst the plains yield corn and Maize, and Rice and Tobacco, in the greatest abundance, the base and slopes of the mountain ranges in the west are covered with noble trees in every variety, interspersed with innumerable shrubs, and hung with the most beautiful parasitical plants. Extensive groves also of aroma and Orange-trees produce a fragrance which adds to the delights of this favoured region. The Sugar-cane grows naturally in the low lands, and might be turned to valuable account; the demand for it, however, at present, is not sufficient to induce the country people to attend to it. Not so with the Tobacco-plant, which they cultivate and find a ready sale for in all the adjoining provinces; as they do for their cheeses, known as those of *Tafi*, which are considered a delicacy at Buenos Ayres. The people are a well-disposed, hardy race, proud of their beautiful country, and always ready to take up arms in defence of *La Patria*." So, again, in Salta: "Proceeding eastward through the valleys of Campo Santo, and those watered by the Lavayen and its affluents, to Oran, a town founded in 1793, after Cornejo's exploration of the Vermejo, and throughout all that department, a tropical vegetation is found in all its natural luxuriance. Forests of noble trees stud the banks of the rivers, and extend far down the shores of the Vermejo, valuable not only as timber, but as producing fruits which may be said to supply the place of bread and wine to the natives: such, amongst others, is the Algaroba or Carob tree, a sort of Acacia, from the fruit of which a large Bean growing in clusters of pods, mixed with Maize, the Indians make cakes; and, by fermentation, produce the *chicha*, a strong intoxicating liquor. The Palm-tree, and the plant which produces the maté, or Paraguay tea, are alike indigenous there, and many others, as yet only known to us by their Indian names, which it would be useless to recapitulate."

"In the valleys watered by the Jujuy and its tributaries, as in many other parts of the republic, the ndigo grows wild, and the Sugar-cane and Tobacco are extensively cultivated, the two latter being produced in sufficient quantity not only for the consumption of the whole of the province of Salta, but for exportation to the rest of the upper provinces, and occasionally to Chile. Cotton, also, is grown there in considerable quantities, and of a quality which, if cleaned, would be prized in the markets of Europe—as indeed would be nearly all the valuable productions of this highly favoured region." Here, at least, is scope enough for a horticultural collector, for we may be sure that where such plants are objects of cultivation the country will abound with others that are wild.

Upon such subjects, as upon every other, the work before us is one of admitted authority, and must be consulted by all who occupy themselves with thoughts of a mission to La Plata. Himself not less an accomplished naturalist than a learned historian and profound political economist, Sir Woodbine Parish's information has peculiar value. However surprising, then, some of his anecdotes in natural history may appear, we feel bound to accept them with an entire belief in their accuracy. His statements respecting the ants in these countries are most curious, and we must indulge our readers with an extract relating to their habits, however long it may be.

"The bones of extinct animals of monstrous size, so frequently met with, gave rise, as well as they might, to the story of the giants. The *pigmies* are a race unfortunately not yet extinct, and are, I think, palpably the *ants*, whose marvellous works are no less calculated to have occasioned at first sight the most far-fetched conjectures as to their origin. I have made some allusion, in speaking of the course of the river Paraguay, to their ingenious contrivances in the lakes of Xarayes (where also the pigmy tribes were said to have dwelt); but those are nothing compared to the works of the ants of Corrientes and Paraguay, where whole plains are covered with their dome-like and conical edifices, rising five and six feet and more in height, and covered with a cement hard as rock, and impervious to the wet. Man's vanity might easily induce him to mistake them for works of his own species in miniature; but no buildings he has ever yet constructed, with all his art and ingenuity, are comparable to the works of these little insects. The Pyramids of Egypt do not bear one-half the relative proportion to his own size which the ordinary habitations of these ants do to theirs.

"Azara has described with great minuteness the various species which he examined—amongst others, one furnished with wings, swarms in such prodigious numbers, that he says he once rode for three leagues continuously through one mass of them. This was in about the latitude of Santa Fé, where they particularly abound, and where the people collect and eat them. The abdominal part, it seems, is very fat; and they fry them into a sort of omelette, or, mixed up with sugar, make sweatmeats of them.

"They are a sad pest to the agriculturist, and a great nuisance when they get inside the houses. At Buenos Ayres I tried myself every means, but in vain, to get rid of them; no contrivance could preserve anything in the shape of sweatmeats or dried fruits from their attacks. The quantity of sugar they would carry off in a very short time was almost incredible. We thought to prevent this by placing our stores upon tables, the legs of which were immersed in water; but they carried straws and twigs into the water, and so made themselves bridges to cross upon. If we hung them from the ceiling, they climbed the walls and descended by the ropes which suspended them. In our garden they were extremely destructive; and in the summer season it was always necessary to keep people constantly and solely employed in destroying their nests. We observed that they could not exist in the sun; so that, if a basin of sugar were half filled with them, as was frequently the case, by placing it in the sunshine it was almost immediately emptied.

"In Paraguay, about Villa Rica, they deposit upon certain plants small globules of white wax, which the inhabitants collect to make candles of, the value of which in some measure compensates for the damage they do to the husbandman.

"Against their depredations, St. Simon, and St. Jude, and St. Bonifacio, have been by turns elected in due form, to be the special guardians and protectors of all good Catholics; their aid, however, would avail but little if an all-wise Providence had not provided a much more efficient protector in the ant-bear (*Myrmecophaga Jubata*), expressly adapted, by its habits and organisation, to keep down such a plague, and prevent their carrying off all the fruits of the land.

"That extraordinary animal, slow and sluggish in all its movements, without power of escape, and apparently without ordinary means of self-defence, its long, trumpet-shaped snout, solely formed to contain the singular prehensile organ with which it is furnished for the purpose of taking its diminutive prey, being entirely destitute of anything like the teeth of other animals, would itself be speedily exterminated by the beasts of prey which abound where it is found, were it not—as if to compensate for these deficiencies—providentially supplied with strong sharp claws, and such courage and muscular power to use them as enables it to defy every assailant. When attacked, it throws itself upon its back, and in that posture will make so desperate a resistance, that it is more than a match for the jaguar, its fiercest enemy."

Cabeza de Vaca's discovery of the Brazilian Araucaria is thus narrated:—

"Amongst other food brought them by the natives

was a paste made from the Pine-nuts, the trees producing which were of so large a girth in some places, that four men, with their arms extended, could barely span them; straight and tall in proportion, they appeared to them the finest timber they had ever seen. The nuts fed vast quantities of monkeys and wild swine, between whom a continual warfare was carried on, which amused the Spaniards not a little; the pigs gave chase to the monkeys, who, running up the trees, pelted them with the cones, the contents of which they greedily devoured; in vain the monkeys rushed down to share at least in the repast of their own providing—they were as quickly obliged to take to flight again, to fight the same battle over again from the trees, to the great satisfaction of the pigs below. No din could be more discordant than the shrill screaming of thousands of these monkeys on the one side, and the hoarse gruntings of their greedy adversaries on the other."

One more extract respecting the climate of Buenos Ayres, and we conclude:—

"I have been often asked whether the heat in summer is not almost intolerable. On some days it is so; the glass perhaps at 90° in-doors, and all nature gasping for air; but on those very days the most experienced of the natives will be clothed in warm woollens instead of linen jackets and trousers, for fear of catching cold.

"During the greater part of the year the prevailing winds are northerly, which, passing over the marshy lands of Entre Rios, and then over the wide expanse of the Plata, imbibe their exhalations, and by the time they reach the southern shores of the river, have a great influence upon the climate. Everything is damp; the mould stands upon the boots cleaned but yesterday; books become mildewed, and the keys rust in one's pocket. Good fires are the best preservatives, and I found them, if not absolutely necessary, at least very comfortable, during quite as many months as I should have had them in England; and yet I never, during nine years, saw snow or ice thicker than a dollar, and the latter only once."

This explains how it is that the Buenos Ayreans are able to decorate the iron railings of their windows with festoons of the beautiful air plants of Paraguay, which there live and blossom in wild luxuriance.

Garden Memoranda.

Horticultural Society's Garden, Turnham Green.—In our last account of this establishment we announced that the example of Mr. Ewing's glass walls, about which so much interest has everywhere been excited, was put up, though the painting and other details connected with its erection were not quite finished. These are now completed, and it is being planted. In one half are Vines and Figs, which are intended to be permanent, together with the large plant of Psidium Cattleianum, which formerly grew in a tub in the curvilinear Vinery, and the other half contains flowering plants, such as Camellias, Oranges, Euonymus fimbriatus, Fuchsias, Clematis, Roses, Escallonia macrantha, and things of that description; so that not only will the value of these walls be tested as regards the production of fruit, but also that of flowers. Of their excellence in both respects there can be little doubt; but of that more hereafter. While on the subject of new fruit-producing contrivances, we may mention that the Peaches on the tree covered by Cottam and Hallen's Peach-frame are not so far advanced as those on neighbouring trees on the open wall. This is somewhat remarkable, inasmuch as very excellent results have been obtained from facing trees with glazed sashes, in other parts of the country. The crop on the rest of the wall is progressing as favourably as could be desired, and the trees are in the best possible condition, being furnished, in most cases, with plenty of healthy foliage to the very ground. The Shanghae Peach, two trees of which are on this wall, is nearly ripe; it is a fine-looking fruit, pale-coloured, except a tinge of red next the sun, and rather above the average size. The Downton and Imperatrice Nectarines, two of the best varieties raised by the late Mr. Knight, are also maturing fine crops, the fruit, as we have stated before, being most abundant on those portions of the trees that were protected by light straw screens in early spring. In order to keep down mildew on the Peach and other things, the following remedy has been tried, viz., sulphur and unslacked lime put into a tub of water, in which they are quickly and intimately mixed, and the trees syringed with the clear liquid after these substances have settled at the bottom. The value of this has not yet been fully tested, but it is thought it will prove efficacious. Among Apples, with the exception of the summer Golden Pippin and the Early Harvest, which in good seasons is ripe by the 1st of August, few have as yet been gathered. Pears are a good crop, both on walls and on quenouilles in borders. On the former they have been so thick in some instances that it has been considered advisable to slightly thin them.

In the kitchen garden some late Peas were coming forward; but not without slight symptoms of mildew, which, however, will be immediately checked by the application of sulphur. It may, perhaps, be useful to know that the "Asparagus kale" of some nurserymen's seed lists has proved here to be the Couve Tronchuda or Portugal Cabbage, the white mid-ribs of whose leaves are prepared and eaten something after the manner of Seakale. Among French Beans the Haricot nain de Belgique may be cited as being very prolific, and an excellent sort both for early and late sowing. A plot of it is just now coming into use, while a sowing of the Haricot d'Algers, made at the same time, is not yet in bearing. The early Vienna Kohl Rabi, a violet variety with few leaves, is at present in perfection; this is one of the best sorts for garden cropping. As regards Potatoes, we regret to state that here, as elsewhere, disease has made considerable havoc; and as far as the haulm is concerned, Messrs. Hay and Sangster's prepared cuttings have enjoyed no immunity from the all-pervading malady; on the contrary, they are quite as bad as others. It has been reported, indeed, that in a neighbouring garden they have succeeded well, and are free from disease, with tubers floury and excellent, while the surrounding crop is affected. This, however, is not the case; we have inspected the crop said to be sound, and we are able to say that there will not be one-third part sound, if so much.

The fine trees of red Brugmansia in the large conservatory, which are every now and then so gay with flowers, have been pruned hard in, and their wood has been painted over with a mixture of clay, soft soap, and tobacco-water, with the view of keeping them clear of insects. Hedychium Gardnerianum, a Maize-like Ginger-wort, bearing fine heads of yellow inflorescence, is now in blossom, and a valuable plant it is in the border of a conservatory at this season of the year. The heads of flower measure at least a foot long, and 8 inches through. Among flowering plants on the shelves we remarked some Continental Balsams of a large and fine description. In the large stove the huge Lælia superbiens, now familiar to most admirers of Orchids, is again throwing up flower-stems which bid fair to be more numerous than in previous years, showing that when once a blooming habit is induced in this plant it will flower with certainty every season afterwards. The rare Cinchona Calisaya, from which the best kind of Peruvian bark is obtained, is now in full flower, *for the first time*, we believe, *in Europe*. Its clusters of pinkish hairy flowers are extremely curious. A large example of the double purple Hibiscus syriacus is now in full beauty in the open border, where it is very ornamental, and Ceanothus azureus and its pale variety are in blossom on the conservative wall: of the two the variety is the gayer, its flower spikes being larger than those of the species. The arboretum is still in full summer dress, and altogether the garden is quite as inviting, and even more enjoyable at the present time than it has been at any period during the whole season.

J. Wilday, Esq.'s, Atherstone.—On Friday, August 27, a quantity of Noblesse Peaches was gathered in the garden here of extraordinary size and quality; one measured 10½ inches in circumference, and weighed 9¼ ounces, and several measured 9¾ inches and weighed 8 ounces each; these Peaches have been grown without the aid of artificial heat, and their appearance on the trees was such as to excite the admiration of all who saw them. They were produced on a wall behind suspended glass frames, being a plan not so generally adopted as it deserves, from the advantage it possesses in securing regularity of crops. The frame may be described as dropping from the front of an 11-inch board, which is placed immediately under the coping, and hung so as to be capable of opening to admit of ventilation, to within a foot of the ground, where it rests on a sill supported on short posts. *J. Bishop.*

FLORICULTURE.

Shacklewell, Stoke Newington, and Hackney Amalgamated Floral Society, *Sept.* 1.—Dealers. 24 Dahlias: 1st, Mr. C. Turner, with Mr. Seldon, Mr. Herbert, Princess Radzewill, General Faucher, Barmaid, Leda, Fame, Sir F. Bathurst, Queen of Whites, R. Cobden, Seraph, Chancellor, Morning Star, Sir R. Whittington, Fearless, G. Glenny, Sir C. Napier, Queen of Lilacs, Scarlet Eclipse, Kant, Miss Shears, Dr. Frampton, Sir R. Peel, and Gem of the Grove; 2d, Mr. Legg, with Anticipation, Nil desperandum, Mrs. Seldon, Leda, Fearless, Carmina, Lady St. Maur, Duke of Wellington, R. Cobden, Marchioness Cornwallis, Sir F. Bathurst, Sylph, Thames Bank Hero, Magnificent, Utilis, Queen of Beauty, Roundhead, Mr. Herbert, Admiral, Mr. Seldon, Miss Newman, Nonpareil, Queen of Yellows, Summit of Perfection; 3d, Mr. Hunt.—12 Fancies: 1st, Mr. Legg, with Lady Grenville, Mrs. Hansard, Princess Charlotte, Mrs. Willis, Belle de Peyne, Jetty Treffz, Maid of Lodi, Saracen, Jenny Lind, Floral Beauty, Queen of Fancies, and Madame Bresson; 2d, Mr. Turner, with Claude, Le Peon, Elegantissima, Lady Grenville, Princess Helena, Empereur de Maroc, Phaeton, Mrs. Hansard, Lord Lyndhurst, Duchess of Sutherland, and Jenny Lind. Amateurs.—12 blooms: 1st, Mr. Holmes, with G. Glenny, Duke of Cambridge, Richard Cobden, Miss C. Bacon, Sir F. Bathurst, Miss Newman, Duke of Wellington, El Dorado, Jullien, Summit of Perfection, Marchioness Cornwallis, and Mr. Seldon; 2d, Mr. Robinson, with General Faucher, Ambassadeur, Queen of Lilacs, Mr. Seldon, Richard Cobden, Fearless, Sylph, Shylock, Nil Desperandum, Sir F. Bathurst, Roundhead, and Sir C. Napier; 3d, Mr. Weedon, with Negro, Queen of Lilacs, Mr. Seldon, Model, Sir F. Bathurst, Leda, Fearless, Duke of Wellington, Blanche Heur, Nil Desperandum, and Gem of the Grove; 4th, Mr. Prockter, with General Faucher, Fame, Duke of Wellington, Victory, Richard Cobden, Queen of Lilacs, Sir F. Bathurst, El Dorado, Fearless, Julien, C. Turner, and Sir C. Napier; 5th, Mr. Harris; 6th, Mr. Edwards; 7th, Mr. Cook; 8th, Mr. Hunt, jun; 9th, Mr. James; 10th, Mr. Holder. Six Fancies: 1st, Mr. Prockter, with Queen of Fancies, Miss Weylund, Mrs. Hansard, Spectabilis, Miss Bathurst, and Gloire de Kain; 2d, Mr. J. Edwards, Pollaway, with Elizabeth, Reine Pomare, Hibland Chief, Miss Compton, Mrs Hansard, and Jenny Lind; 3d, Mr. James, with Princess Charlotte, Mrs. Hansard, Empereur de Maroc, General Cavaignac, Phaeton, and Triumphant; 4th, Mr. Humber, with Rachael, Flying Dutchman, Mrs. Hansard, Miss Compton, Mrs. Lobouchere, and Floral Beauty. Six other collections were staged in this class, and it is worthy of remark that in every pan Mrs. Hansard was introduced, showing that in this variety is to combine highly popular. Six new Flowers: 1st, Mr Robinson with Morning Star, Queen of Whites, Phaeton, Alice, Miss Ward (without the white tips), and Sir R. Whittington; 2d, Mr. J. Edwards, Holloway, with Edmund Foster, Morning Star, Triumphant, Alice, Sir R. Whittington, and Dr. Frampton; 3d, Mr. Holder, with Morning Star, Sir R. Whittington, Queen of Whites, Miss Ward, Sir F. Theshier, and Malvina; 4th, Mr. James, with Morning Star, Queen of Whites, Sir R. Whittington, Red Gauntlet, Douglas Jerrold, and Dr. Frampton; 5th, Mr. Prockter; 6th, Mr. Hunt, jun.; 7th, Mr. Cook. First Class Certificates were granted to the following six varieties, and an interesting exhibition was made by a specimen of each being set up in a regular board. We enumerate them as set up in the stand: Sir J. Franklin (Turner) previously described by us; Miss Matthews (Bragg) scarlet, tipped with white, a fancy flower remarkable for its depth; Bob (Drummond) a brilliant scarlet; deep, well arranged and fine centre; Miss Caroline (Brittle) a blush flower in the way of Marchioness Cornwallis but much thicker; Beauty of the Grove (Burgess), pale buff yellow with dark rosy tips, attractive and with plenty of "stuff" to warrant good growth; Lord Byron (Pope), rosy salmon, new in colour, large smooth petal, of good outline. Other seedlings were shown possessing many excellent points, and foremost among these was Lady Dalrymple (Turvill), lilac blush boldly tipped with purple; Plantagenet (Turner), rosy lilac, bold; Sir J. Paxton, dull yellow inclined to colour on the edge; Lady Folkstone, blush; Miss F. Moriers (Union), a tricolor, dark yellow base, sides crimson, tip white; Marchioness Duro, clear yellow. Of other novelties, Mr. Edwards contributed a flower of a striped fancy seedling, colours scarlet and deep yellow evenly balanced in regular stripes. The general opinion regarding this flower was that for form, centre, and petal, it is unequalled in its class. It was compared with Rembrandt and Spectabilis, flowers intimately in the way of it so far as colour is concerned, but much behind it in every quality constituting perfection; the praise bestowed on it was so unanimous that it is intended to call it Unanimity (Edwards). The Roses of Messrs. Paul and Francis were very fine, the most striking being La Reine, Géant des Batailles (whose colours are now improving), Standard of Marengo, Comedor, Justine, Baronne Hallez, Madame Laffay, Auguste Mie, Safranot, and Mrs. Elliott, &c. Hollyhocks, for which this Society is famous, were well produced, although it was fully late for them, by Mr. Turner (1), and Mr. Bragg (2); the principal sorts were Acme, Charles Turner, Napoleon, Comet, Queen, Illuminator, Sir Joseph Paxton, Sir D. Wedderburn, Bessy Bell, Mrs. Moulding ex, William, Susannah, Magnum Bonum, National, Sulphurea elegans, Defiance, Purity, and Cyclops. 12 spikes were put up by Mr. Bragg (1), and Messrs. Paul (2). First-class Certificates were awarded to Laura (Paul), blush pink; Remus (Paul), deep pink, with high centre; and Sir Robert Peel (Paul), much in the way of Comet. The Fuchsias furnished by Messrs. J. and J. Fraser, of Lea Bridge, were by far the best specimens we have seen around London for some time: Voltigeur (Banks), was perfection of growth, with profusion of flower. Cacti, for which Mr. C. Palmer is so noted, were nicely shown by him, and numbered between 40 and 50 plants. A more interesting general display it has seldom been our lot to witness. *J. E.*

Calceolarias: *J H.* Next week.

Catalogue of new and choice Pelargoniums, including a selection of Fancies, received from Mr. Turner, of Slough.

Cinerarias: *J H.* The following six will not disappoint you: Mrs. S. Herbert, Madame Sontag, Prima Donna, Queen of Beauties, Rosy Morn, and Surprise.

Dahlias: *Mr M.* Examples of Dahlias in the condition of that you have sent, are common enough in the south. The parts adhere and grow together when in a very soft and young state.

SEEDLING FLOWERS.

Dahlias: *J C A.* Blush white and pale rosy lilac; sufficiently distinct to warrant your propagating and growing it for a season, to further prove its merits.—*W N., Hornchurch.* Two blooms of a dark crimson flower, approaching maroon; centre elevated, compact, and symmetrically arranged; petals small, and much resembling the style of those in Standard of Perfection; with better size this will doubtless take a place, although the class to which it belongs is already somewhat crowded. Two blooms of a buff-yellow, the tips of the petals suffused with purplish-red; centre, arrangement, and form first-rate; well packed and fresh.

Fuchsias: *J P, Trentham.* 1 and 2 have both narrow sepals, and are not near so good as other dark sorts already in cultivation. The light flower is novel, having a variegated corolla; but that is all the merit that pertains to it.

Hollyhocks: *R S, Jun.* Ten blooms of a pleasing variety which resembles one reported on at the late Norwich meeting, and named "Fenella;" body colour pinkish cream; florets and guard petals edged with bright salmony pink; substance good. An acquisition to its class.—*W N, Hornchurch.* We abound in flowers similar to the pink variety; the single bloom is novel in colour, a bright cerise, florets smooth, erect, and free from confusion, but wanting in depth; guard petals in nice proportion, of good surface, smooth on the edges, and with sub-tarce equal to most of the light varieties.

Phlox: *R S, Jun.* Dilecta is in every way a pretty variety, and cannot fail to prove a favourite.

Picotee: *T H, Carlisle.* Worthless as a show flower.

Miscellaneous.

Drying Fruit.—It may benefit some to be furnished with my plan of drying fruit. I have a house 6 feet square and 7 feet high, with a tight floor; at bottom and top the frame is made of scantling about 3 inches square, with three posts on each side; these three side posts have inch holes through them 6 inches apart, from bottom to top, to receive inch pins, 18 or 20 inches long, to sustain the shelves containing the fruit. The shelves used are half-inch boards, 5 feet 10 inches long, and 10 inches wide, with the corners at each end a little rounded, so that they may be taken out or put in handily. Two of these boards lie on one range of pins—one board of 20 inches would do, but is rather heavy when filled with green fruit. A door 2 feet wide and 7 feet high is about right—let it be in the centre of one end; it is then convenient to stand outside and slip in the shelves filled with fruit, either to the right or left. A small stove placed in the centre completes the fixture, except a covering to the building, which may be attached to it, or a separate concern. Any farmer who has a tolerable supply of sprightly boys or girls, can in one night, from dark till bed-time, prepare enough fruit to cover all the shelves in the house just described, which will make more than a bushel of dried fruit; and 24 hours is sufficient to dry it completely, by keeping up a moderate fire in the stove. The temperature in the dry house should be about 150° Fahrenheit, which is easily maintained if the house is tight. About 300 feet of well seasoned boards will suffice for the whole concern, which should be tongued and grooved. A workman can make it in two or three days, and when once made, it answers for many important purposes besides drying fruit; and if insects are likely to trouble your dried Peaches or Apples in the spring of the year, remove

them to the dry house, and subject them to a heat of about 150° for several hours, and it will effectually remedy the evil. *M. T. Johnson, in the Ohio Cultivator.*

How to form an Asparagus Bed. By P. Kendall, Esq., Marine Villa, Aldborough, Suffolk.—On forming a new vegetable garden at my residence here about four years since, I made of course a new Asparagus bed, and finding it quite answer my expectations as to its productiveness and quality, and the plan I adopted being original, I send you the particulars of its formation. I set out my bed as follows:—60 feet long, 5 feet wide, 4 feet deep. The earth was all taken out and laid on one side the bed; I then placed at the bottom 2 feet deep of salt ooze, from the banks of the Alde: 1½ feet deep of the river weed (a long Grass): 2 feet of the best vegetable mould was then placed on the top, and the young plants set out at 18 inches distance, all over the bed. *Note by the Vice-Secretary.*—It will be obvious that the method of proceeding adopted in this little experiment was founded upon the most just conception of the nature of the Asparagus plant. Deep rich loose soil for its roots, salt in moderation, and the crown of the plant only just buried in earth, produced, as might have been expected, heads of the finest Asparagus possible—green, succulent, excellent in flavour, and in no respect inferior to any that has been seen by the most experienced gardeners. *Horticultural Society's Journal.*

Colossal Walnut Tree.—On the road from Martel to Gramat (Lot) is to be seen a colossal Walnut tree, at least 300 years old. The height of this tree is about 55 feet; its branches extend to a distance of 125 feet; the trunk, 14 feet in diameter, is only 20 feet high, but it sends out seven immense branches. It bears on an average each year 15 bags of Walnuts. Other Walnut trees grow near, but they are of very moderate dimensions. *Galignani.*

Calendar of Operations.

(*For the ensuing week.*)

PLANT DEPARTMENT.

In arranging plants in their winter quarters, on no account allow them to be placed too closely together. It should be borne in mind, that but very few plants have as yet perfectly matured their wood; and, consequently, as that process is still going on, such will require the air to play freely around them. Plants, too, are now-a-days expected to bear examining on all sides, and it is impossible to obtain bushy, compact plants, if they are allowed to touch each other. On flat stages a few may, here and there, be elevated on inverted pots, to give a little relief to the mass of green. As by placing the plants thinner, room may not possibly be found for all, a selection of the oldest or worst-formed plants, should be set aside to make room for choicer things; and as cut flowers are always in request, the above may be found useful to keep for that purpose; and may be wintered in Vineries, pits, &c., where they will not interfere with other arrangements. Unless the weather continues dry, Orange trees, if at all large, will soon require housing, as the heavy rains have saturated them to excess; and a low night temperature will turn the foliage to a sickly yellow, which frequently remains throughout the winter. Before removing them to their winter quarters any that require additional root room should have fresh pots or tubs, the present being the most favourable time for the operation. As a compost for the Citrus tribe, French gardeners use a mixture of loam, peat, and rotten dung, in a state of black mould; we have, however, found them to thrive well in yellow turfy loam and thoroughly rotten cow-dung, mixing a portion of broken charcoal through the mass. One thing, however, should be strictly attended to, and that is drainage, which, if imperfect, will soon produce ruinous results; they will likewise thrive all the better for being rather under than over potted. Such as do not require a complete shifting should have their drainage examined, and the state of the soil as regards dryness noted, that their winter treatment may be regulated accordingly. Directly Japan Lilies, Gladioli, and plants of like habit have done blooming, remove them to the foot of a south wall to ripen their growth; water them moderately till their tops show signs of decay, when they may be laid on their sides till potting time. The earliest struck Pelargoniums should now be potted off, exposing them on all occasions to the weather, except during heavy rains; the older plants first cut back, which have made shoots an inch or two in length, should now be shook out of their old soil, the roots trimmed, and repotted in smaller pots; if they can be plunged in a slight bottom heat till the roots get a start, it will help them. To have a late bloom of Fuchsias, let a portion of the stock have their young wood cut back about one half; if these are placed in a little extra heat they will break again, and go on blooming till Christmas. Continue shifting Cinerarias, Chinese Primroses, Calceolarias, Humeas, and other seedling plants for next season's blooming.

FORCING DEPARTMENT.

In addition to carrying out the culture of late crops, the principal point demanding attention is the proper ripening of the present season's wood. The foundation for next season's success must be laid now, by attending to this important part of cultivation. It was formerly the practice, after Grapes and Peaches were gathered, to take but little further notice of the trees, till pruning time; but good growers know how necessary to future success is the reverse of this. While the principal leaves of the Vine, Peach, and indeed every kind of fruit tree, can be kept healthy, they are depositing in the tissues of the plant the proximate elements for future crops—hence the importance of carefully preserving them from injury; and by exposing them to light and air, enable them at the same time to exercise the best effects in ripening the wood of the plant. Attend to the wants of the newly potted Strawberries for next season's forcing: they should now be enjoying an open and sunny exposure. Carefully remove all runners as they appear; and as they are now rooting fast, should be assisted with liquid manure, and every means practised to obtain stout healthy plants the present autumn, as no future management will compensate for neglect in this particular at the present time.

FLOWER GARDEN AND SHRUBBERY.

Unless some precautions are taken to keep the taller plants in the beds of geometric flower gardens within proper limits, they will be likely, towards the end of the season, to get too high, and will destroy the uniform appearance essential to this style of gardening. A constant watch should, therefore, be kept on plants likely to exceed the standard height, and by frequently pinching back, or pegging down, endeavour to keep the same pattern beds at the same height. At this season, with beds of flowering plants, frequent cuttings back and trimmings will be required to prevent a straggling habit in free-growing plants, and which the late rains will help; at the same time allow no dead flowers or seed-pods to remain on the plants. By careful attention to these little matters, the season of blooming may be prolonged, till the plants are destroyed by frost. Lawns should be well swept in dry weather, to remove worm-casts, and afterwards be well rolled. Where worms are very troublesome, water with clear lime-water of full strength; this will bring them to the surface, when they should be removed. Cuttings of various evergreens should now be planted, to keep up the reserve garden. Directly the early cuttings of bedding stuff have taken root, remove them to an open situation, or place them out of doors, to insure a hardy habit.

HARDY FRUIT GARDEN.

For the last time go over the Peaches and Nectarines, and nail, or tie in, further growths, at the same time removing any very weak or extra strong shoots, which will not be wanted for fruiting next season. The remaining shoots being thinner, will derive more influence from the sun's rays, increasing the temperature of the wall. Remove leaves where they prevent the fruit from properly colouring. The best kinds of Plums and Nectarines should be protected from wasps and flies by some kind of hexagonal netting. Continue to tie in and stop Figs and Vines against walls, and protect the fruit as above.

KITCHEN GARDEN.

In earthing up Celery the greatest care is necessary to prevent any portion of the earth from falling into the heart of the plant, which would prevent the upright growth of the inside leaves, and spoil its appearance for the table; nor should the earth be pressed too closely round the upper part of the plant, as frequently, when such is the case, it bulges out below. The best practice is to tie each plant up loosely with matting (having previously removed the suckers and small leaves), and then a little earth can be added every week, as the plant increases in height. Another common error arises from earthing Celery up too soon. It should be allowed to grow to a considerable size before earthing up is attempted; and be frequently soaked with water, as but little rain will reach the roots afterwards; it should likewise never be touched when the plants are at all damp. Cardoons will require similar treatment. Leeks in drills may have earth drawn up to them by the hoe. Autumn Cauliflowers and Broccoli planted in shallow trenches should now have them filled up; for unless in very dry situations the natural rains will keep them moist. Late Peas and Beans will require close attention, to prevent mildew; well supply the former with liquid manure. The advancing winter crops of Broccoli, Borecole, &c., should be kept frequently hoed, and vacant ground may yet be filled up with the later kinds. Tomatoes are likely to be late, and the leaves shading the fruit should be removed; and prevent the plants making any further growth by constant stopping. As time permits, the Potato crop may be taken up, beginning with the earliest kinds first. In this locality fully one-half of the early ones is rotten, and fields of the later kinds are scarcely worth the digging. They should be allowed a few weeks under a shed or other shelter before being stored away for good, that the sound ones only may be selected.

STATE OF THE WEATHER NEAR LONDON,

For the week ending Sept. 2, 1852, as observed at the Horticultural Gardens, Chiswick.

August and Sept.	Moon's Age.	Barometer. Max.	Barometer. Min.	Temperature. Of the Air. Max.	Of the Air. Min.	Of the Air. Mean	Of the Earth. 1 foot deep.	Of the Earth. 2 feet deep.	Wind.	Rain.
Friday.. 27	12	30.117	30.107	75	54	64.5	63½	60½	E.	.00
Satur.. 28	13	30.040	29.993	76	57	66.5	63½	61	S W.	.01
Sunday . 29	14	30.024	29.969	76	47	61.5	64	61	S.E.	.00
Monday 30	15	30.019	30.010	72	45	58.5	63	61½	S.W.	.00
Tues. .. 31	16	30.077	30.007	69	44	56.5	61	62	S W.	.00
Wed. .. 1	17	30.195	30.080	72	43	57.5	61	60	S.W.	.01
Thurs... 2	18	30.261	30.220	77	45	61.0	60½	60	S.W.	.00
Average ...		30.104	30.048	73.8	47.8	60.8	62.3	60.8		.00

August 27—Fine; small white clouds; clear at night.
— 28—Foggy; very dusky 9—10 A.M.; very fine; clear.
— 29—Very fine; densely overcast; fine, with light clouds.
— 30—Cloudy; very fine; clear at night.
— 31—Clear; very fine; clear.
Sept. 1—Slight drizzle; very fine; some drops of rain occasionally; clear and fine.
— 2—Foggy; cloudless, with hot sun; clear at night.
Mean temperature of the week, ½ deg. above the average.

STATE OF THE WEATHER AT CHISWICK,

During the last 26 years, for the ensuing week, ending Sept 11, 1852.

Sept.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 5	69.7	48.4	59.1	12	0.30 in.	3	4	6	—	4	3	4	2
Mon. 6	70.0	46.6	58.3	11	0.70	—	6	3	—	1	9	6	1
Tues. 7	69.8	48.3	59.1	14	0.55	1	3	4	2	4	9	2	1
Wed. 8	67.0	48.1	57.6	10	0.65	2	5	1	2	4	9	2	1
Thurs. 9	68.2	49.3	58.7	11	1.09	—	3	2	1	5	7	6	2
Friday 10	69.5	47.8	58.6	14	1.27	—	1	2	1	6	6	8	2
Satur. 11	68.2	48.8	57.5	9	0.46	2	3	1	1	4	5	7	3

The highest temperature during the above period occurred on the 5th, 1848, and 7th, 1843 and 1846—therm. 83 deg.; and the lowest on the 6th, 1850—therm. 30 deg.

Notices to Correspondents.

APPLES: *W E C.* Apples in many cases will keep longer if gathered when the kernels are white, but then of course they wither. They certainly keep best if not gathered till the kernel becomes brown.‖

BOOKS: *H M.* You will find at p. 488 of this year's volume all we know of M. Fabre's pamphlet about the Ægilops. Seeds of the Æ. ovata, and the var. triticoides, may possibly be procured from Messrs. Vilmorin, of Paris. Tulasne's book on Truffles can be purchased of any of the foreign booksellers, who will procure it from Paris.—*J D.* Lindley's "Theory of Horticulture."

CUTTINGS: *H G.* Laurels will strike well enough now. The others are doubtful. They may, however, be tried now with as good a chance of success as at any time. Better now than later.

FRUIT TREES: *R J S.* The following will be suitable for the spaces you mention. South wall: Grosse Mignonne, Royal George, Bellegarde, Noblesse, and Barrington Peaches; Violette Hâtive, Stanwick, Elruge, and Downton Nectarines; and the Moorpark Apricot. For the South-east aspect: the Greengage Plum, Royal and Turkey Apricots. For the South-west aspect: the Purple Gage and Coe's Golden Drop Plums.‖

FUNGI: *A Subscriber.* These plants, if dry and thick, like Boleti, may be preserved by simple drying, after having been steeped for a few hours in a solution of corrosive sublimate; if thin, or epipbyllous, by simple pressure. As to the succulent kinds, like Agarics, various modes have been proposed, but they are not satisfactory, and would not answer your purpose. The best plan is, we believe, that of Dr. Klotzsch, described in Smith's "English Flora," vol. v., p. 10°, by the Rev. Mr. Berkeley.

GRAPES: *C P G.* The late heavy rains being permitted to fall on a deep undrained border, after a period of so much heat and drought, would have the effect of causing your fruit to crack. The cause of the shanking of your Hamburghs must also be looked for in the border, which certainly should have been artificially drained when made.‡

GREEN KIDNEY BEANS: *Well-wisher.* The following plan of preserving them was published some time ago in the "*Flore des Serres*:"—"In fine weather gather the pods, before the seeds are too visible take the threads off, plunge the pods into boiling water, and take them out again immediately; let them cool, put them in a tub in layers 5 inches deep, alternating with Vine leaves, which must begin and end the series: on the top of the last layer of Vine leaves, put a stone, heavy enough to keep the whole well pressed; then pour some salt-water until the top is covered; replace the water as it evaporates. The Beans can thus be preserved quite fresh." Ripe Vegetable Marrows, like other ripe fruit, will keep sound for some time, provided they are kept dry. See Mr. Cuthill's excellent article on the subject at p. 261 of our volume for 1850.‡

GUANO: *Constant Reader.* It is now too late for applying liquid guano, for the purpose of better swelling off Peaches or Grapes; it would spoil their flavour. We are doubtful whether guano, at any time or in any form, is a good manure for fruit trees.‖

MATTING: *C H.* The source from which the matting about which you inquire is derived is unknown. It comes from Cuba. It may be bought, we believe, of Mr. Ayres, of Blackheath.

MYRTLES: *W D F.* They appear to have been struck by the sun; or to have been accidentally left without sufficient water at a time when the sun was shining strongly. At all events they are dead. Whether the roots are in the same condition can only be told by actual inspection. If alive they had better be repotted, and the stems be cut down to the living wood. They will break again, in that case.

NAMES OF FRUITS: *H B.* Your Peach is the Grosse Mignonne. You state that the flavour is not equal to that of the fruit from the original tree, imported from France, 34 years ago. Probably that had been worked on the Almond stock, on which the Grosse Mignonne succeeds well. Before the alterations in the Royal Gardens at Kensington, many imported trees of the above variety, worked on the Almond, existed there; and they bore very fine fruit. If your soil is not too cold, you should work the sort on the A mond.‖

NAMES OF PLANTS: *F F.* Lagerströmia Reginæ.—*Jack.* It seems to be an imperfect state of some Clavaria.—*D R C.* Inula dysenterica and Linaria spuria.—*M A K.* Cerinthe major.—*C F.* Malva rotundifolia; 1, Erica tetralix; 2, E. cinerea; 3, Calluna vulgaris.—*G J C.* Thelephora mollissima, Fers., apparently abundant this year, as it has been received from other quarters. *M. J. B.*—*E E.* Rumexes cannot be determined by examining the leaves only. The fruit must accompany them. Your leaves look as if they belonged to R. obtusifolius.—*Y X.* Centaurea moschata, or Sweet Sultan.—*Robin Hood.* Clematis campanulata.

ORCHIDS: *A Constant Sub.* You must not use corrosive sublimate at all, in any quantity whatever. Is it possible that you employ it to kill worms in pots, and do not find it kill the roots of your plants? Calonyction is handsome, the other not. We do not recognise your Indian leaves; they have a very common appearance. If you wish to send your plants to rest, it is full time to diminish syringing.

POMEGRANATES: *Gulmare.* A Pomegranate is not a climber, but a small tree. It usually blossoms a few years after planting; and will do without shelter on a south-east wall, but will not flower well there unless you have a very warm soil.

POTATOES: *R S.* Yams are a tropical production, and cannot be grown out of doors in Great Britain. You will not replace Potatoes by anything at present known, except grain crops. Common root crops are too watery and unsubstantial to suit the population. Instead of searching for what does not exist, attention should be directed to counteracting the disease in the Potato, by many years of serious alteration in the mode of cultivation. But years of perseverance *may* be required to effect any great constitutional change.

*** As usual, many communications have been received too late, and others are unavoidably detained till the necessary inquiries can be made.

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CAUTION TO AGRICULTURISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

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The character of the parties from whom they purchase will of course be the best security, and, in addition to particular attention to that point, ANTONY GIBBS AND SONS think it well to remind buyers that—

The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 9l. 5s. per ton, less 2½ per cent.

Any resales made by dealers at a lower price must therefore either leave a loss to them, or the article must be adulterated.

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N.B. Peruvian Guano, guaranteed to contain 16 per cent. of Ammonia, 9l. 10s. per ton; and for 5 tons or more, 9l. 5s. per ton, in dock. Sulphate of ammonia, &c.

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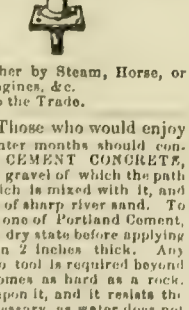
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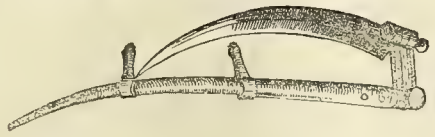
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The Agricultural Gazette.

SATURDAY, SEPTEMBER 4, 1852.

MEETING FOR THE ENSUING WEEK.

THURSDAY, Sept. 9—Agricultural Imp. Society of Ireland.

IT may be interesting at the present time to give a short account of the various steps by which the REAPING MACHINE has attained its present form. It is by no means a novelty, for the corn-fields of the Britons were reaped by machinery in the days of the Romans. If we figure to ourselves a low cart pushed before an ox, with the shears of BELL'S or HUSSEY'S reapers nailed to the top of the tail-board—a sturdy Roman in the bottom of the cart raking inwards, with hasty strokes, the ears of corn as the cart is urged along, and trampling them under his feet within the body of the carriage, we shall have obtained a pretty good idea of a Roman reaping machine and its *modus operandi* in the field.

The Roman idea was obviously to ripple or strip off the ears of corn—securing the grain in the first place, and afterwards the straw as provender and litter for cattle; and from the days of the Romans up to those of ARTHUR YOUNG this idea, and the rude implement for carrying it into practice, appear to have been lost sight of. About the latter period attention was again turned in this direction; for YOUNG, in his "Annals of Agriculture," notices the fact of LOFFT'S "translation from PLINY and PALLADIUS" having suggested the above idea to Mr. WM. PIT, of Pendeford, who brought out a reaping machine on the Roman principle. The "Complete Farmer," a work printed in 1793, quoting from YOUNG, gives a drawing and description of the machine. It consists of a series of ripples or stripping-rakes fixed on the periphery of a drum for rippling off the corn, and throwing it backwards into the cart, from which it is removed when full. The drum is set in motion by a band from the wheel of the cart, which is pushed before the horse, like its predecessor. Mr. PIT'S copy, therefore, from the ancient model, must be taken as the first modern attempt at the reaping machine.

About the commencement of the present century Mr. BOYCE entered the field with a new idea, and patented a reaping machine which cut with revolving scythes, but was destitute of efficient gathering apparatus. In this case the cutting department appears to have met with some approbation, but the gathering being a complete failure the whole fell to the ground a fruitless speculation.

Mr. PLUNCKET, a London machinist, brought out the *third* machine, an improvement of BOYCE'S, the principal difference between the two being that he substituted a circular steel-plate, sharp at the edge, and serrated like a sickle, for the scythes. It was drawn behind the team like the American reapers now-a-days, the horses going along the standing corn, and, like the original, it was destitute of gathering apparatus. A short description of it may be seen in the supplement of the "Encyclopedia Britannica"—article *Agriculture*.

In 1806, Mr. GLADSTONE, a millwright, of Castle Douglas, entered the field with further improvements. His cutting wheel was smooth edged, like a scythe, and shielded with projecting prongs, which aided in collecting the corn, and holding it while being cut, and it was also furnished with apparatus for sharpening the knife as it revolved, besides a gathering apparatus in the shape of revolving rakes. A drawing and description of this machine may be seen in the "Edinburgh Encyclopedia"—article *Agriculture*.

Mr. SALMON, of Woburn, Beds, next made his appearance as a rival with the first machine on the clipping principle. It had also a more complete gathering apparatus than the former, laying down the cut corn in separate parcels ready for binding. Drawings of this machine may be seen in the supplement of the "Encyclopedia Britannica"—article *Agriculture*.

In 1811, the late Mr. SMITH, of Deanston, took up the subject, exhibiting a machine on a small scale, worked by two men; in 1812 a larger, worked by one horse; and in 1814 one by two horses. His attention appears principally to have been directed to the gathering department. A drawing of his two-horse machine, with a description, may be seen in the supplement to "Encyclopedia Britannica." Its cutting-wheel is like that of GLADSTONE'S, but it is pushed before the horses by means of a pole from the rear, is borne on four wheels, which gives it greater stability than its predecessor, although more awkward to turn, and its gathering apparatus was a drum—in shape, the frustrum of a cone with its base uppermost.

In 1815, Mr. SCOT, of Ormiston, next came out with improvements, both in the cutting and gathering departments. On the periphery of the cutting-wheel 16 serrated blades are fixed projecting forwards, and thus both cutting and clipping as they pass through the shields in front in which they work. The gathering drum has rakes which project through its circumference in front, but are drawn into the interior behind, and thus let the corn fall off in a regular swathe. The machine is borne on two wheels in the centre of the cutting-wheel, and is pushed before the horse, yoked by two shafts as in the old Roman contrivance. A plan and description may be seen in the "Edinburgh Encyclopedia,"—article *Reaping*.

In 1820, Mr. JOSEPH MANN, of Ruby, Cumberland, exhibited a working model of a reaping machine to the Abbey Holme Agricultural Society, which underwent several subsequent improvements. At first it was placed before the horses, subsequently behind them. It had a polygonal cutting wheel of 12 sides, and a gathering drum with 25 rakes, with a fixed rake at the side for stripping or cleaning the revolving rakes when the cut corn fell into a regular swathe. It was borne on three wheels, two in the rear and one in front, to which the horse's shafts were attached. A drawing of it may be seen in the fourth volume of the "Quarterly Journal of Agriculture, 1833."

In 1822, Mr. OGLE, of Rennington, near Alnwick, entered the field with two new ideas, the straight alternate working knife, and the fan or flapper. A drawing of this machine may be seen in the fifth volume of the "Mechanics' Magazine." Its appearance and *modus operandi* is so like that of Mr. M'CORMICK'S that the one would pass for the other, both requiring a man with a rake.

The next candidate who entered the field was the Rev. PATRICK BELL, in 1826, who, whether the ideas were original with himself or not, connected SALMON'S cutting apparatus, OGLE'S flapper, and an endless gathering cloth, his own invention. As in the Roman machine, his machine is placed *before* the horses. Perhaps the most important part of his invention is the new arrangement of previous improvements, giving them a practical utility; for his machine is the first which has been able to keep its ground in the harvest field, all the others having been laid aside. Shortly after the invention several machines were sent to the United States, and both in the New World and in Forfarshire they have ever since been in successful operation.

Between 1830 and 1851 various improvements were made by MANN, SMITH, and others, on the revolving cutting machines. On the list may be mentioned several patentees; for instance—Mr. DUNCAN in 1840, Mr. PHILLIPS 1841, Mr. TOWNSHEND 1841, Messrs. MIDDLETON and PHILLIPS 1843, Mr. GIBSON, 1846, but all with equal want of success.

Across the Atlantic it was different; for there parties were animated by different circumstances and different ideas; and hence the contents of the Great Exhibition—a modification of Ogle's machine by Mr. M'Cormick, and a combination of Ogle's and Salmon's, or rather of Bell's, cutting apparatus in Hussey's machine, both successful.

It will thus be perceived how distant, as it were, some of our most ingenious minds have kept themselves from those points on which the ultimate success of the Reaping-machine now appears to depend. To the Romans is due the putting "the cart before the horse;" to Mr. Boyce, the placing it behind him; to Mr. Gladstone, the shielding or sheathing of the cutting-knife; to Mr. Salmon, the shears; to Mr. Ogle, the straight, single, alternate-working knife and fan; to Mr. Bell, the combination of shears, fan, and gathering-cloth; and to Mr. Hussey, the combination of Salmon's and Ogle's cutting apparatus with Ogle's mode of gathering with a rake. But although these are all great improvements, yet, doubtless, we are far from the nearest attainable point to perfection.

THE REAPING MACHINE.

It is desirable that as many persons as possible should this year state their experience in the use of the reaping machine, as well as any suggestions respecting it which have occurred to them. No other mode seems so likely to moderate both extravagant expectations and undue disparagement, and at the same time to facilitate useful improvements. Your Paper is a very fitting receptacle for such communications; and I am unwilling to delay mine, because your Leader in the *Gazette* of the 14th takes a much more decided tone as to the present success of the machine than is yet justified by the result of its trials in these parts. There is here a prevalent conviction that the machine wastes corn to such a degree that more is lost in that way than is saved in labour. Two persons, at least, have thrown it aside after trial, and one, though he has it in his possession, has not even had it put together. This want of perseverance, and the unwillingness to make a little sacrifice, is greatly to be regretted, and can be by no means encouraging to the spirited machinists who direct their attention to the introduction of agricultural implements; but an excuse must be admitted in the fact that harvest is the last time of the year in which agriculturists can afford to give either mind or body to experiments.

Now for my own experience on the subject. I saw the reaper (Garrett's) cutting a field of Wheat on the farm of a machinist in this neighbourhood. The crop was light, and stood up perfectly; and the field was almost a dead level. The horses went at a smart walk. The corn was cut smoothly and well, tolerably delivered from the rake, and though there was some confusion among the binders, who were mechanics, still the sheaves were reasonably well made, and there was but little left on the ground, certainly not more, if so much, as in ordinary hand reaping. In this trial, as a result of previous trials, the second tailboard was dispensed with. The general opinion of the farmers present seemed to be that the cut was perfect, but that the speed of the machine should be increased and the pace of the horses diminished; that some alteration was required on the side of the machine next the standing corn, to guide the cut corn with more accuracy on to the platform, as some fell over the wheel and in disorder; and that the weight was too great upon the horse's necks. I heard no complaint of waste, and I saw no reason for any complaint on that score.

Having bought this identical reaper, and my men having received two hours' instruction from the operatives, the machine was on the first fine day set to work in a 20-acre field of Wheat on a hill side, rough and flinty. The crop was heavy, and the whole more or less reclined in one direction, except that there were patches here and there laid in various directions; and some acres too much laid to attempt cutting them by machine. Altogether it was such a crop as with generous tillage we are apt to find when wind and rain has prevailed. Thus the reaper was fully tried. It cut perfectly up hill or down, seldom clogged, and did not appear to require any increased speed to work efficiently, the horses moving at their usual walking pace. After a few rounds the men worked it well. This was a severe trial of the reaper, and I was pleased to find it did so well. But the result was easily seen to be a great loss as compared with hand reaping. It seemed quite impossible to get the corn cleanly picked up, even when the straw was left of full length, and in places the ears were cut off short in quantities, with little or no straw attached. And although the introduction of the horse-rake when carrying the field would save some part of the corn missed by the binders, yet the sacrifice both in quantity and quality would be great. Now as in good, and still more in high farming, it is almost the exception on most lands to find the crops standing well up, it seems to me manifest that without some modification, by which the reaper shall be adapted to crops moderately laid, without this immense loss from cutting off the ears too short, it must become comparatively useless.

At the commencement of harvest I had 60 acres of Wheat, only 20 of which (not the field afterwards experimented upon) could have been cut well and without loss by the reaper. I had cut them, however, by hand before I possessed the reaper, and therefore on this point I express belief only and not knowledge. I have also 120 acres of Oats and Barley. Of these not more than 30 or 40 acres gave any promise of a favourable result with the reaper; and since the rain, it would be impracticable to use it with good effect in any part of the crop. This year is so far peculiar inasmuch as the storms have occurred at or just before harvest; but storms and rain occur almost annually, and heavy crops seldom escape any year entirely; and where patches are not of sufficient size or frequency to justify the preparing a way round them in the first instance, loss must take place in cutting through them, or delay and interruption in avoiding them, in order to cut them out by hand. Mr. Bell's plan of putting the knives before the horses would be a great assistance in such cases, as the reaper would then cut its own way round any patches desirable to avoid; Mr. Mechi's introduction of the wheel to carry the weight of the machine will probably relieve the horses; Mr. Crosskill has given more speed to the machine if it be required; and even if machinery shall not be found partly to effect the object, greater skill both in clearing the machine and in clearing the ground may be acquired by attention; but with all these, still, in the absence of some means to prevent the waste occurring in the manner I have described, we cannot depend upon the machine for our harvest work, and continue at the same time to aim at growing heavy crops, as we should be too frequently left in the lurch, having no men provided, and being unable to use the machine.

I shall give no estimate of the cost of working the machine, as we have used it too little yet to afford full data; but I may say, that the facts being, that the machine is 5 feet wide, that it seems seldom desirable to take a wider cut than 4 feet; that moving at the rate of 2 miles per hour for 10 hours without stoppages or hindrance of any sort, it would pass over a space of 8½ acres only, there seems no grounds for the assertion frequently made, that it will cut on an average from 12 to 16 acres a day. With English farm-horses, with stoppages and delays of various sorts, in a working day of 12 hours, giving out two for meals, I cannot but think that from 6 to 7 acres will be found in practice to be the day's work; and I think that the expense will exceed, or at least equal, mowing. However, it is quite as difficult in many parts to get corn well mowed by hand as it is to get it well reaped by the machine. For this and other reasons it is desirable that efforts should be made to perfect the reaper and adapt it to British crops; for it is clear that if we cannot use machinery, while the Americans and others can and will, we must lose ground in the great race which we are running against all the world. *Alex. Hall Hall, Watergate, Emsworth, Aug.* 17.

Mr. Peter Gibson, smith and machine-maker, Dock-street, Dundee, in a letter to the *Northern Warder*, says: I was the first that brought the reaping-machine into practice. I made the principal part of the Rev. Mr. Bell's original machine in 1826. Mr. Bell had the idea, I carried it into execution; and for this invention Mr. Bell obtained a premium of 50*l.* from the National Society. In 1830 I made one for Mr. Alexander Bell, farmer, Mains of Tealing, brother of the inventor. In 1832 I made four of these machines, viz., one for Mr. James Thomson, farmer, Findowrie, near Brechin; one for Colonel Miller, Orquhard, Fifeshire; and another for Mr. George Moodie, farmer, Dunbog, Fifeshire; and one for Mr. Andrew Whitton, farmer, Auchter-house, Forfarshire. I made another in 1833 for Mr. James Robertson, farmer, Reddieleys, Fifeshire; another in 1834 for P. B. Yattes, Madison county, State of New York, America. And here an error has been committed. The advertiser says four machines were sent to America from Dundee; but so far as I know only one machine was sent from Dundee to America by me, and I know of no other person who made them at that time. In 1836 I made one to James Geddes, farmer, Morayshire, for the Morayshire Agricultural Society. The last one I made was in 1844 for the Count de Bombelles, Austria. The machines were never brought into general use, principally because of the persons entrusted with them (who were generally some of the farmers' own servants) not knowing how to work them properly. To this there were two exceptions, viz., Mr. George Moodie, farmer, Dunbog, Fifeshire; and Mr. James Thomson, Findowrie, who cut with them from 100 to 130 acres annually for a great number of years. The machine exhibited at the Highland and Agricultural Society's Show at Perth, belonging to Mr. Bell, of Inchmichael, purporting to have been made by Messrs. Carmichael, of the West Foundry, Dundee, was made about 18 or 20 years ago, and was only repaired and put in working order by them. *From the Arbroath Guide, August* 14.

In your leading article on reaping machines in your Journal of 14th inst., you refer to a trial which took place near Perth, in which you state M'Cormick's was tried. Numerous misstatements have appeared in various journals, all tending to mislead the public as to the real merits of M'Cormick's machine, and in this case we trust to your sense of justice to insert our statement, which is, that M'Cormick's machine was not at the Perth meeting, and that it never has been tried (to our knowledge) in competition with Bell's. On the 3d inst. we were engaged at Sheffield in the trials of our machines against Hussey's, manufactured by Crosskill and Dray, in which trial the prize was awarded to M'Cormick, and again on the 13th, we met Hussey's machine by Crosskill, before the Driffield Farmers' Club, at Driffield, where we again proved the superiority of our machine. *Burgess and Key.*

THE FARM AT LOIS WEEDON.

The Rev. Mr. Smith has satisfactorily proved that, on certain soils and at certain intervals, Wheat after fallow may be continuously produced in crops equal to those which occupy the whole of the ground, without deteriorating and without the application of manure; yet, as has been observed, it is open to trial whether his distances are the best, or the alternating of narrow and wide spaces between the rows as productive as when all the spaces are wide enough, say about 2 feet, to admit the deep working of Mr. Smith's alleys, between every row; there is no doubt in any man's mind who has tried them, that either are more so than any spaces under 18 inches in any deep well worked soils, with the requisite hoeings, &c, during the growth of the crop; and again whether an application of manure, and to what amount, would not be profitable.

A query has been put forth whether, in a rotation of crops and the manuring and change of ground which a rotation implies, Wheat requires so much space? The object sought in these wide spaces is twofold—a fallowing process, and an equal if not an increased production. In a rotation in which crops intervene, which do not admit of summer working the soil, as Peas, &c., or of neither summer nor winter working, as Clover, &c., and granting the beneficial effects of frequent fallows, these wide spaces are necessary to the fertilising of the soil; and, if the wide spaces are necessary to crops of Wheat without manure, giving "a large ear at the end of a healthy straw, with as few weeds as possible wasting the strength of the ground," there can be no doubt that these wide spaces are much more necessary in the greater general luxuriance superinduced by the application of manures and by the accumulation of substances in the soil favourable to their particular growth in those years that intervened between the occupation of the ground by these crops.

We are inclined, with Mr. Clarke, to give a preference to alternate wide and narrow spaces between the rows of corn in clean ground, and in such case the narrow spaces may possibly be reduced to 9 inches, or three or more rows may be sown at those intervals; but of all this we want experience. So far as small experiments through a course of many years enable us to decide, we are convinced that for the wide intervals on any lands, and under any rotation, greater spaces will be required than 18 inches; and in rich and deep soils much greater still, to give a maximum crop. Much indeed in this tillage must be left to the discrimination of the farmer, as a great deal will, of course, depend on the nature, depth, and cultivation of the ground. In our experiments we have had no instances in which spaces of 21 inches were too much, and we have had many in which they were not enough to produce a standing crop or the greatest return; indeed in one instance with Barley, where the general spaces were 21 inches, a space of 3 feet 6 inches between two of the rows gave an increased return of 7 to 5. We have never found, in ground in good heart and well tilled, 2 feet spaces between every row too much. We have no doubt that in soils of great natural or artificial depth, spaces full as wide, if not wider than those of Mr. Smith's, may profitably be used; so wide, indeed, as to admit of a green, or root crop, but whether between every row of corn or between two or three rows, is a subject for inquiry. We had last year an acre and a half of Wheat in rows at intervals of 4 feet (Cabbages in the spaces), the land undrained, though much requiring to be drained, and otherwise ill-prepared; till the time of blossoming the Wheat promised a fair average return of a broadcast crop, but the blight, so common of late years in Ireland, then came on and spoiled the experiment.

In Ireland, from whence we write, and perhaps there are some in England to whom it may also be fitting, we would recommend a system of tillage embracing Mr. Smith's plan, which even the extreme poverty of the poorest of the farmers of the country would not prevent their adopting, and which could not fail of being more beneficial to them than their present tillage of grain crop after grain crop until the land is so exhausted as to require to be left for several years uncropped, in weeds and rubbish, to restore it to a maudlin state of fertility. It might also be found an acceptable one to those possessing more capital, though falling short of that required for what is called high farming.

It is simply this: after placing so much of the land as the farmer's capital will allow under a good regular course of tillage suitable to the land, to adopt Mr. Smith's plan on the rest; in the foul state of the fields of Ireland, we would, however, prefer two rows instead of his three, and they might be 1½ foot apart, thus leaving the alleys at his breadth of 3 feet; we should have for seed (rows and alley) 4½ feet. When his spring work is over, the farmer should then collect (and make up with ashes, bog stuff, or such materials as he can obtain) as much manure as he can, and, so far as this reaches, sow or plant in the alleys Rape, Stubble Turnips, or Cabbages, as stolen crops, for winter and spring feed, or crops for ploughing under in some cases. By threshing the tops of the sheaves of the grain crop of this land, without breaking them, and sending the grain to market, he may from the produce of this land supply himself with stock to consume these stolen crops,

together with a portion of the straw; he will at the same time create manure to extend the green cropping on it. To the Irish farmer this will be all profit; for the part of his farm which he has placed under a good regular course of alternate cropping will support as much stock, and produce as much grain, as the entire of his land does under its present cultivation.

In the consideration of the depth of drains there is one argument, and what we are inclined to think a very strong one, in favour of deep draining, that has not been produced; it is the effects that deep draining produces in deepening the fertile soil. Now there is no man who would not give, all other things equal, more rent for deep land than for shallow land. The upward growth of a plant, and its consequent productiveness, is proportional to the downward growth of its roots; at whatever depth the roots of most plants find themselves in excess of water, be it at 2 feet or at 5 feet, they cease to go deeper—their object is accomplished, they obtain sufficient water for their needs, their tissue there becomes dissolved. A tap root of a plant becomes fibrous, even when it meets with running water, and spreads its fibres laterally. It is, then, the depth at which the roots find water in excess in the soil that regulates the upward growth of a plant; the roots only maintain a healthy growth of plant so long as they find in the soil very little more than the water of its saturation; the deeper the drains are cut, the greater depth of soil in this state must be available to the roots. *G.*

ROTHAMSTED AND THE WRITER "R."

(*Continued from page 540.*)

BEFORE leaving the question of the more extended use of ammoniacal manures for the Turnip in Scotland and in some parts of England than in others, we will again call attention to the ingenuous criticism of the writer "R." on a sentence in our paper on Turnip culture relating to this subject; and we shall thus find a starting point for a few general remarks as to the scope, object, and bearing of our observations on the subject of climate, more particularly as affecting the growth of the Turnip in our rotations.

After arguing in his article of August 2, 1851, exactly in accordance with the views maintained in our paper, on the action of nitrogenous manures on the Turnip, that, under a defect of them, the plant was liable to come to "*premature ripeness*," and that, under the influence of such manures, the "*vitality*" of the plant is "*maintained in the end of the season*"—our own expression being, that "the *vitality* and *longevity* of the plant is much increased;" he then goes on to say of the Swede, "that it admits of being sown in the early part of May," "at least, on all soils moderately *retentive of moisture*." * * * * * * "The great advantage of the Swede in Scotland is, that it admits of early culture; *but this can only be done when it is well dressed with nitrogenous manures.*" According to "R.," then, a condition important to the certainty of the crop when sown *early*, and with a liberal supply of *nitrogenous manures*, is a certain amount of *moisture* in the soil. But he then remarks:—

"Mr. Lawes entirely reverses the climatic action of ammonia; for if the following passage has any meaning at all, there is a double fallacy in it:"—

"'Peruvian guano, which contains a large quantity of ammonia as well as phosphates, is found to be a much more CERTAIN manure for Turnips in Scotland, where the fall of rain is large, than in those parts of England where it is much less.'"

"R." then adds:—

"The superiority of the seasons in Scotland over England, for the growth of the Turnip, depends more upon a *lower temperature* in the early part of the season than any slight difference in the amount of rain."

Now, even had our remarks on the subject of the Turnip season in Scotland stopped short, as here quoted by "R.," any critic who had carefully read our paper through would have seen that the expression, a more "*certain*" manure when there was a large fall of rain, had reference to some admitted *uncertainty* or irregularity in the results obtained, especially by such manures, this being a fact to which we had several times drawn attention in the course of our paper; namely, the frequent destruction of the plant, as we in one place thus expressed it—"especially in the absence of rain during *the early stages of growth*," when, as was at that time much more generally the case, ammoniacal manures were sown too near the seed; and this was a circumstance which, we then stated, was probably one fruitful source of the conflicting opinions then held as to the value of such manures.

But, had our remarks as to the Turnip season of Scotland stopped short as quoted by "R.," and especially had we not, apart from this purely incidental point of view, clearly stated in the course of our paper what were the main characteristics of climate best adapted to the growth of the Turnip, we freely grant that then the explanation now given would have been needed for ignorant and careless reading; and, indeed, that in this sentence, the general superiority of the climate in Scotland for the growth of the Turnip was very inadequately indicated in thus citing the fall of rain alone.

Before bringing further quotations from our papers, however, we may here remark, as to the *general* effect of a large fall of rain during a Turnip season, apart from the incidental point of view above alluded to, that we imagine the views of the writer "R." on this subject must be exactly identical with our own, when he quotes the case of superphosphate of lime giving, in a *wet season*, 7 tons more bulb than guano; the latter manure having "developed the Swede stems to a most injurious extent"—or, as we have it, "an excess of nitrogen in the soil produces too large a proportion of leaf and too little tendency to form bulb." We say, we cannot suppose that the writer who thus illustrates the vast source of constituents of a large fall of rain, and who thus speaks of the effects of an *excess* of nitrogenous supply, can hold any opinion as to the effects, so far, of a large fall of rain, or of an excess of nitrogen, different from our own; or that he can in any degree underrate the value of the former.

By virtue, however, of his invariable practice towards us, of misrepresentation, he has sought to convey the idea to his readers that we recognise a difference in fall of rain *alone*, as contributing to the general superiority of a Turnip season; and that by us, at all events, the importance of a certain "*lower temperature*" is entirely overlooked.

The following is the sentence in our paper immediately succeeding the one quoted by "R.," which, he says, reverses the climatic action of ammonia, and contains a "double fallacy":—

"Indeed the *natural agencies of season* are much more favourable to the growth of Turnips in Scotland, and in the north and west of England, than in the eastern counties, where the application of skill and capital upon a soil well suited to the plant has gained for them a high reputation."

In *this* sentence, *then*, it is obviously the *general*, and not the particular character of the Turnip season that is spoken of; and the question arises—what is to be understood by "*the natural agencies?*" Had we, in the course of our paper, clearly defined *the natural agency of season* favourable to the growth of the Turnip to comprise anything more than merely a large fall of rain?

As to the scope, object, and bearing of our treatment of the subject of climate in relation to our various crops, those who have read our paper will not need to be told that it was undertaken ostensibly with the view of affording some key to the results of our experiments upon various crops, with various manures, in different seasons. No one, indeed, more than ourselves would disclaim for our remarks on this subject any pretension to a systematic or adequate treatment of the general question of climate as affecting our different crops. Yet, at the same time, we distinctly claim for them correctness so far as they went, and suitableness to the limited object in view. As to what were their pretensions in this respect, we defined them at the outset, as relating merely to the "quantity of rain that falls, the number of days in which it falls, and the temperature during the period when the plant is actively growing or forming seed." We professed only to give a "*summary* of the statistics provided by the rain gauge and the register thermometer;" and after giving one such in connection with the Turnip question, we say:

"By such a *summary* as is here given, of course only the *general* differences in the seasons are brought to light; but our readers will probably admit that the greatly increased labour of examination, were the table more extended and in detail, would scarcely be compensated for, if the *main* characters, requisites, and offices of the *Turnip season* can be ascertained without it." And, again, we say on this point, 'All we wish to maintain is the *general* effect of season upon the growth of the cultivated Turnip.'"

But, restricted and incidental only as was the scope of our treatment of the subject of season as affecting the Turnip crop, it was at any rate more than enough to show that we have again and again defined *the natural agencies of season*, favourable to the growth of the Turnip, as comprising something more than merely a comparatively large fall of rain; and surely, too, more than enough to condemn the unworthy attempt to impute error to us on this head, by picking out an isolated expression, and giving it a general sense, when it was obvious—as well from the immediate context as from the general tenor of our views—that such could never have been intended. Thus we say (referring to the season of 1845, which had proved a very favourable one for the Turnip, as compared with 1843 and 1844):

"A relatively large number of rainy days, an enhanced actual amount of rain, and a *low degree of temperature*, are prominently the characters which distinguish the assumed Turnip season of 1845 from that of the two preceding years, and during a considerable portion of the period, especially from that of 1843."

Again, distinguishing the seasons under which, in practice, our different crops are grown:—

"In these facts, *even though so general and limited in their indication*, there is scarcely one which does not show that the most favourable conditions of growth for our cultivated bulb-forming Turnips are, relatively to those for the seed-producing gramineous plants, *a low degree of temperature*, a large number of rainy days and a large actual amount of rain."

And further, in reference to the Turnip season, after defining certain limits, we say—

"Again, *the lower the temperature the less important is a continuity and a large amount of rain*."

Such, then, is the combination and mutual adaptation of influences which we had pointed out as characterising a favourable Turnip season; and we think the readers of the *Gazette* will think with us, that—they having been thus previously defined—certainly, no critic, at once competent and honest, when we afterwards speak of "the natural agencies of season" as being "much more favourable to the growth of Turnips in Scotland and the North and West of England than in the eastern counties," would represent us as meaning a large fall of rain alone. But this writer, "R.," does not give this sentence referring to the general Turnip season of Scotland, nor any referring to a Turnip season generally quotes only the one which refers to the particular point of a large fall of rain—and thereupon tells his readers that, "Mr. Lawes entirely reverses the climatic action of ammonia"—and that in his views there is a "double fallacy;" and then, on his own account, he informs them, that a comparatively low temperature, as well as the fall of rain, may have something to do with the matter! *J. B. Lawes.*

(*To be continued.*)

Home Correspondence.

Mildewed Wheat.—With the view, if possible, of gaining some information from your knowledge and experience which may throw light on a subject of considerable importance in this locality, I take the liberty of sending you a specimen of the Wheat grown on our farm this year. Our whole crop is in one piece of between 45 and 50 acres, and the whole of it is as bad as that enclosed; utterly worthless both straw and corn, even the pigs and poultry not caring to eat the latter. Now what is the probable cause of this? The aspect of the farm is north-easterly, and the soil is the same as that prevailing through the greater part of South Wiltshire, lying on the upper chalk. With regard to the aspect of the farm I should observe, that land lying on the opposite side of the valley, with of course an aspect the reverse of ours, is subject to the same description of blight, though not this year to the same extent. The condition of that farm is, I should say, higher than the one we occupy, which, until three years ago, when it was taken in hand by the owner, was subjected for several years to a system of utter exhaustion. The four-course system has of late years been followed here. 1, Turnips; 2, Barley; 3, Grass (Rye-grass and Clover); and 4, Wheat. The Wheat up to the time of its blossoming promised exceedingly well; the straw stout and the ears large. I do not know what your practice is with regard to such communications as this; if irregular, I must apologise for troubling you, but if not you will be doing those of our neighbours who are similarly afflicted (though none are nearly so badly as we are) and ourselves, personally, essential service by giving us your views on the subject. So far as I know, I believe I have stated everything that is necessary to enable you to form an opinion, but if you would wish any further information I shall be most happy to give it. *J. Williams Bell, Hindon, Wilts.*

[The whole plant is destroyed by mildew. Thanks for your communication, though unfortunately we are unable to give you any consolation. The disease appears to attack white Wheats rather than red; and all sorts are more liable to it in a wet season, and when of gross and bulky growth.]

South Hants.—The harvest commenced in this division of the county a month ago. Since then the weather has been, on and off, a continuous series of storms and gales; at intervals of sunshine and clear weather, Wheat was carried and ricked, the sheaves damp and wet in the bonds, and growing. In this state and manner the greater portion of the Wheat has been housed. Even of those who have carried none at all, few have opened or aired the sheaves, but merely shifted the stooks. Those, but few in number, who opened their sheaves saw the mischief within, wet as dung, and ears sprouted; where the tops of sheaves met and damp within, long sprouts might be seen. The white Wheats have suffered sadly, growing out in the butts and heads of the sheaves. The mischief is done; and now that the weather has changed for the better, many will repent of not having had a little patience. Some ricks have taken fire and smouldered, and had again to be taken abroad, some to be thrown into the dung-yard. Many ricks around, it is thought, will show signs of mischief within. None of these ricks, if they do not reek, can be taken in and threshed till March or June next year. Man himself adds to the mischief, and destroys more than the dispensations and decrees of Providence. *X. Y. Z., Hants.*

Cochin China Fowls.—Recent numbers of the *Gazette* show that a satisfactory solution is still wanted of the question, whether a fifth toe in a Cochin China fowl is evidence of impurity of breed? and the following facts seem adverse to the affirmative view taken by your referee, Mr. Baily. I have four hens, a cross between the five-clawed Dorking and a five-toed Cochin China cock, two of which have four toes and two five; whereas, if the five claws in the Cochin China cock attested a fixed abnormal variety, the whole of his progeny from five-toed Dorking hens might be expected to have five claws. The cock is a handsome bird, red and buff in plumage, with yellow legs slightly feathered above the toes. He is the produce of an egg got from London. I have also a clutch of Cochin China chickens, produced from eggs obtained from Chelmsford, one only of which has five claws. They are fine birds, well feathered down the legs. The one with five toes, however, bears no resemblance to the Dorking; it is more than three months old, and still without erect feathers in the tail, and the growth of its plumage has not been quicker than that of other chickens with four claws in the same batch. Now, as the Dorking feathers rapidly, and the Cochin China slowly, it appears reasonable to conclude that, if the five claws in the Cochin China were proof of an admixture of the blood of the Dorking, its presence would have induced a growth of feathers corresponding with that of the Dorking, but no such effect was noticeable. The cross between the Cochin China cock and Dorking hens is large and handsome. My pullets began to lay at about six months old, and two cockerels of the same age weighed, without the feathers, 7 lbs. each. The hens seem very liable to the hatching impulse. There are not likely to be any Dorkings in Cochin China, and if it could be satisfactorily ascertained whether five-clawed fowls are found there, fresh light would be thrown upon the mooted point. *A Constant Reader, East Lothian.*

Evening School for Labouring Men. — It afforded me very considerable pleasure to see by a Leader in a late Paper that you were wielding your pen in, at least, attempting to confer a blessing of no ordinary kind upon the working classes; namely, a taste for reading, and the means of feeding that taste. A few years ago I felt impressed with the necessity and importance of such an undertaking as the one you suggest, for two reasons: the first was a wish to awaken the dormant energies of my neighbours, and induce them to partake in those intellectual pleasures from which they had been debarred, either through poverty or neglect; the second reason was a wish to be surrounded with intelligent neighbours, for as I look upon enlightenment as a good-producing principle, and upon ignorance as an evil-producing one. I felt it my duty, though in a secluded and out-of-the-way village in the West Riding of Yorkshire, to make an attempt, an account of which I now forward you, in hopes it may induce others to make similar efforts, fully believing that mutual benefit must be the result, as "'tis more blessed to give than receive." Day-schools are very important institutions, as they afford the rudiments out of, or on, which we may build, more particularly so when the tuition is purely secular; my scholars were nearly all adults, varying in scholarship from the "Reading made Easy" upwards. Whether they had felt the necessity of making a desperate attempt to possess the lost or missing treasure, I do not know; but I often thought this was the case, as they laboured so diligently, and progressed so surprisingly. I made a small weekly charge, enough to pay for fuel and candle, of such as could afford to pay, but I excluded none on that account; some were pretty good readers and writers, but bad at accounts; these I kept working most constantly where I saw they were most deficient; this was the principle on which I invariably acted, at the same time confining their attention as much as possible to such rules as I knew would be most useful to them in their respective trades. I also made a practice of delivering a lecture to them as often as my time would permit, chosing for a subject some instance from natural philosophy, which I supposed would be entertaining and profitable, and in this manner spent many a pleasant and most agreeable evening. In order to create or encourage a taste for reading, I commenced a book-club, which answered its end so admirably that I shall trouble you with a detailed account thereof. I had also another object in view; *i. e.*, a wish to foster a book-buying taste; each member paid 2*d.* per week, a constant subscription. With this sum books were purchased, which were common property for six months after their admission into the club, affording in that time each member sufficient time to read them. The books could be then collected and divided as equally as possible into lots, which were then drawn for and distributed amongst the members, each one getting a book or books equivalent to the sum of money he had paid, and as many books as he could read in six months in addition. Each member became possessed of books, which formed something to attract him to home, and was, at least, the beginning of a home book-club, which I hope to see established in every cottage in the kingdom. I fully believe "night schools" for adults are most useful and profitable institutions, and should be encouraged by every one who wishes well to his brother man. *William Payne, Fir Vale, Sheffield.*

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

A Weekly Council was held at the Society's House in Hanover Square, on Wednesday, the 19th of May, Colonel Challoner, Trustee, in the Chair. Professor Way, the consulting-chemist to the Society, delivered before the members the first of his proposed lectures on the light thrown by the agricultural principles of the celebrated Jethro Tull on facts connected with modern cultivation.

Prof. Way stated that his object in the present lectures was to call attention to the principles enunciated by Jethro Tull fully a century ago, and to make such quotations from his work as would seem most forcibly to illustrate his views and the arguments by which they were supported. In doing so Mr. Way wished it clearly to be understood that he was not advocating any system or practice founded upon those principles, but simply of pointing out how far the ideas of an author, who wrote almost before the dawn of modern chemical science, were compatible with the facts and laws which have been since recognised and established. As might be anticipated, wherever Tull attempted any scientific explanation of facts, the terms he employed were antiquated and obsolete—in accordance with the vague and fanciful theories of the older chemists and physiologists, but utterly inconsistent with the present state of these sciences. Still, in the midst of all these crudities, there might be seen a large amount of philosophical reasoning; and those who carefully studied the writings of Tull would find that many of the discoveries in agricultural science which are accorded to philosophers of the present day, were more or less clearly anticipated and announced by the author in question. Cobbett, to whom we are indebted for the most convenient edition of Tull's book, takes occasion in his preface to pay a deserved compliment to the excellence of its contents, and to remark that the re-publication of the work would strip many modern agricultural writers of their borrowed plumage. The great principle of Tull was, that the soil and the air together contained all that was necessary, without the aid of manure, for the production of luxuriant vegetation; but that, in order to render the one and the other available for this end, it was necessary that the soil should be opened up by abundant pulverisation and comminution of its parts.

The arguments with which this view was sustained were most forcible and convincing. The better to illustrate his meaning, he had compared the parts of the earth to which the roots of plants attach themselves with the Grass or herbage on which animals feed. Thus the fissures or openings through which the roots penetrate, and the internal surface upon which they spread their delicate fibres, constitute, in Tull's language, the "pasture of plants"—a most happy expression, and one which facilitates in the mind the comprehension of his subsequent reasonings. So, then, as an animal will grow and fatten in proportion to the suitability in quality and sufficiency in quantity of the food to which it has access, in the same manner the rapidity of growth and the luxuriance of a plant will depend upon the nature and abundance of the "pasture" provided for it in the recesses of the soil. But the pasture of plants differs from that of animals in this important respect—that whilst in the latter case the quantity can only be increased by taking in more surface, the pasture of plants may be indefinitely extended and renewed by the pulverisation of the soil, which is constantly exposing new surfaces to the roots. Nothing can be more true, as Tull says, than that for all practical purposes the soil is infinitely divisible; and that, since the roots of plants cannot by possibility occupy every interstice which may exist in a highly comminuted soil, each additional stirring is tantamount to the production of a new internal surface, and a fresh source of food. Then he argues that constant comminution and opening of the soil not only enables the roots of plants to benefit by the stores of food already existing in the soil, but that it at the same time materially increases that stock by letting in the atmosphere loaded with invigorating and healthful supplies. It is obvious that Tull could have had only a faint notion of the changes in the nature of the soil which might be brought about by the influence of the air, and we can imagine the pleasure which he would have derived from the acquisition of the more exact knowledge which in relation to this point we now possess; but none the less was he convinced that such an influence was exerted, and one of the objects of his method of cultivation was to take full advantage of it. Acting upon these principles, Tull had introduced a system of cultivation of crops planted in rows by the drill, and had earned thereby the gratitude of posterity, which was exhibited in the almost universal adoption of that system. But he had also attempted a method of growing crops which had not been so generally followed. In addition to the provision for stirring the soil between the rows of plants, he had left intervals of varying but very considerable width between every second or third row, which enabled him at all times of the year to carry out his principle of pulverising the soil. These intervals were, in fact, in the position of a naked fallow for the year, and were, in the succeeding season, in their turn brought under a crop. Mr. Way did not intend to enlarge upon the practical part of this subject, which many of his hearers understood far better than himself; but he wished, irrespectively of any particular form of accomplishing that end, to impress upon them the great importance and value of a thorough comminution of the soil, both as rendering available its present riches, and enabling it to receive from the air whatever beneficial effects the latter was able to produce. Mr. Way read a number of passages from the author's work, commenting upon and explaining them as he proceeded, and concluded his lecture by commending the book to the careful study of all those who had not yet become acquainted with it.

Lord Berners had great pleasure in proposing a vote of thanks to Prof. Way for the interesting lecture he had then delivered, which would be useful in pointing out to practical men the causes of their success or failure in particular cases. Every farmer knew that the clay placed below a manure-heap increased its value and quantity. There was no description of land that was not benefited by green crops. He had some land so foul, that he had ploughed down the Mangold on it, and found the wide spaces yield from 9 to 15 tons per acre. He had more Wheat on strong land than on simple fallows.—Mr Rowlandson had never greater pleasure in his life than in seconding the vote of thanks for the lecture they had just heard, and which he considered did great credit to Prof. Way, and proved the practical uses of funds appropriated by the Society to scientific purposes. He had himself been engaged in chemical operations on a large scale, and he could particularly estimate the value of one of the facts adduced, which would revolutionise the plan of processes connected with it, namely, the constitution of the double silicates, and the superiority of lime as an active convertible agent. It would have been thought, under the old system, that the soda-compound was superior. He conceived that the theory of Prof. Way would open views of unexampled importance in reference to the promotion of fertility in soils. It was probable that, if the double silicates could be obtained economically, direct manuring with the double silicate of lime might eventually be adopted as preferable to marling and liming. He remarked that the double silicate of alumina and lime formed a considerable portion of hydraulic cement, and might probably be manufactured on a large scale.—Colonel Challoner thought that these lectures, as delivered by Prof. Way, did a great deal to establish that intelligent principle of farming which led at every step to the inquiry "Why" such and such things should be done by him? He considered that the Council had acted very wisely in their arrangements for the lectures to be delivered from time to time before the members of the Society.—Mr. Evelyn Denison, M.P., inquired the condition of pulverised and burnt soils, and the power of the latter to absorb ammonia.—Prof. Way remarked that, although by burning soils their staple was destroyed, such soils were improved by the resulting pulverisation. Clay was mechanically improved by being burnt, but it could then only absorb ammonia mechanically as a porous substance, the hydrated double silicates having lost by heat their properties of absorbing that alkali, and clay, when burnt, was accordingly deprived of the power of chemical absorption dependent simply on the action of those silicates.—Mr. Chandos Wren Hoskyns then gave an interesting account of his personal visit to the crops of the Rev. S. Smith, of Lois-Weedon Vicarage, in Northampton, the best exponent, as Prof. Way had just then described him, of the Tullian system of cultivation, and the author of a paper "on the experiment and experience of the growth of Wheat year after year on the same acre of land," in the last volume of the Society's Journal, page 133. His results, as Mr. Hoskyns remarked, were only so wonderful, that they did not receive the credit they deserved; although, when personally inspected, they carried at once a conviction of their perfect feasibility, notwithstanding the marvellous absence of all manure, as technically so understood by such term, in the carrying out of his simple but effective processes.— Mr. Gadesden could fully confirm Mr. Hoskyns's statement, as he had also paid a personal visit to Mr. Smith's farm and inspected his crops. The soil was a stiff one, and so stiff that Mr. Smith's own tenant farmer expostulated with him in reference to the circumstance; but, although no manure had been used, it had become so fertile, that it would be necessary to cast off the top staple and bring up the clay. Mr. Smith had 6 acres of Wheat, and intended to extend the cultivation to 20. He understood, too, that the Earl of Essex had 50 acres on the same system.—Mr. John Mainwaring Paine, of Farnham, could simply, but entirely confirm all that Mr. Hoskyns had stated with regard to Mr. Smith's experimental Wheat-fields, under the Tullian mode of culture as practised by him. He would, however, very briefly state what he saw, and the impression which Mr. Smith's crops left on his own mind. The first time that he saw them was immediately after inspecting Mr. Lawes's experimental Wheat at Rothamsted, about the last day of June. He had thus a good opportunity of forming a comparison of the appearance of the respective crops at that time. Mr. Lawes's highly manured nitrogenous plots were then looking splendidly well: Mr. Paine had also some of his own similarly manured, which was likewise very promising, and which did realise from 7 to 7½ quarters per acre. He had thus in his mind's eye some very good standards of comparison, and he was bound to state that Mr. Smith's far exceeded either of them in luxuriant appearance and promise of crop. When he first beheld them, he could not help exclaiming, "This land has been lavishly dressed with ammoniacal manure." And so, indeed, it really had been, from atmospherical sources; for this we knew and could appreciate, after Mr. Way's most valuable discovery of the absorption and retentive powers of clay soils. Mr. Paine felt assured that there could be no mistake about this matter. The nitrogenous aspect of the whole crop, in his opinion, stood out in too bold relief to be overlooked for a moment. He was also particularly struck with the largeness and regularity in size of the ears of the corn, and with the uniform height of the straw. This he did not expect to find; yet such, he remarked, was the fact. On asking Mr. Smith to explain the cause of this remarkable feature in thin-sown Wheat, he replied that he believed it simply to arise from the circumstance of early sowing, by which means the plants were enabled to tiller out before the spring. These appearances, and the subsequent large crop obtained by Mr. Smith, Mr. Paine need scarcely state, after what Mr. Smith had explained fully in his pamphlet, was obtained exclusively by deep and frequent stirrings of the soil. His method was founded on Tull's principles, and was a great improvement on Tull's practice. Mr. Smith's intervals are smaller; there are three rows instead of two, and he digs down deeply into the subsoil, which Tull was afraid to touch. Mr. Paine considered Mr. Smith's practice to afford a most beautiful illustration of the large amount of ammonia available for agricultural purposes existing in the atmosphere, and at the same time of the absorptive power of clay or loamy soils. He had seen Mr. Smith's crops again this season; they were as remarkable for their luxuriance as last year, probably more so. There was no sign of exhaustion in the field then cropped with its seventh successive growth of Wheat; but, on the contrary, there was some danger to be apprehended from its exuberance. There was evidently an accumulation of atmospherical and disintegrated mineral manure in that field, for an explanation of which Mr. Paine thought we must fall back upon the information Mr. Way had given us relative to the absorption, retention, expenditure, and consequent balance of manure left in the soil. Mr. Paine could perceive nothing peculiar in the geological structure of the land at Lois-Weedon which would lead us to infer that Mr. Smith's success was at all attributable to that cause. It was manifestly what would be good Wheat land, when well drained and well cultivated. With common management, the surrounding land did not produce large crops. In fact, Mr. Paine

narked, it was well known that many trials of the
ne plan were then proceeding elsewhere, in different
unties, with every probability of similar success
nerever the land possessed the necessary ingredients of
y or loam. At that time he was himself carrying out
is system on one of his fields; the surface soil of which
as an extremely stiff clay resting upon a subsoil of the
ver chalk marl; he having selected the field in
estion, because it had already borne three Wheat crops
the four preceding years. It was sown with Wheat in
e winter preceding 1848, the land being at that time
a good state of cultivation; the crop was an extraor-
nary fine one till it fell, and then it only produced
out six quarters of bad quality per acre. It was sown
1849 with Wheat, again without any manure; the
sult was 5½ quarters of good Wheat per acre: all
rough the season the flag and straw had a very light
een appearance, evidently showing the want of
mmonia. There was Clover in 1850 cut twice, and
thout any manure; and in 1851 it was again sown
th Wheat and manured with guano. The result was
crop of upwards of seven quarters per acre, weighing
lbs. per bushel. Immediately after last harvest the
ld was deeply ploughed and cleaned from weeds,
preparation for Mr. Smith's plan; but for want of
e requisite implements it was not sown till the 9th of
ovember, at the rate of half a bushel per acre, without
y kind of manure: it looked thin and miserable
rough the winter, so that the intervals could not be
nched up till the middle of March. The ground
as then broken 18 inches deep, and some of the
bsoil brought to the surface. The rows of Wheat
ve been hoed, and the intervals deeply stirred up to
e present time. The whole field had at that time a
ost luxuriant appearance, the flags of a dark green
lour, and, like Mr. Smith's, if there be any fault,
r. Paine's crop was only looking too gross in con-
ion than otherwise.—Mr. Denison, M.P., inquired as
the levelness of all the ears of Wheat in these cases,
d referred to the objection sometimes made, that
en Wheat tillered much, many of the ears never
ained perfection.—Mr. Alcock, M.P., required a
tement of the profit and loss on this plan of cultiva-
n.—Mr. Briscoe referred to its connection with spade
sbandry.—The Earl of Essex remarked that all his
rk was done by the spade, and no difficulty was
perienced.—Mr. Wolryche Whitmore stated the results
his own experience in deep cultivation on his estate
Shropshire. The effects of trenching a piece of garden
ound 3 feet deep, and leaving it without manure,
re so wonderful, that strangers on witnessing these
ects could scarcely be persuaded that the ground had
t been heavily manured. A portion of the arable
ld too, on one of his farms, was ploughed 12 inches
ep, and the remainder was only ploughed shallow:
e result was, that while the deep-ploughed land was
ost luxuriant, the shallow was so indifferent that he did
t know what to do with it. He then cited the results
Mr. Woodward's farming in the Vale of Evesham,
d Mr. Randall's opinion that dry ground should be
ll trodden with horses in the early spring. They were
well acquainted with the pulverising and consolidating
wer of Crosskill's clod-crusher: still he thought that
nedium should be observed in these operations, and
at pulverisation especially should not be carried too
; the market-gardeners, he believed, having ceased to
ss their soil as formerly through a fine sieve.—Mr.
andos Pole recollected an instance on his own property
the result of great consolidation from trampling.
the November of 1850 the whole of a pack of hounds
d run through the same gateway of a Wheat-field.
e soil at Radbourne, as those would remember who
re present at the trial of implements at the Society's
rby Meeting, is a remarkably strong one, and the
ound near the gateway in the line of these runs was
dden down as hard as a table: it was thought, accord-
gly, that the Wheat would fail in this part of the
ld; but on the contrary, it was found before reaping
t it had become the best part of the whole crop.—
. Whitmore remarked that he had gone to 12 inches
ep.—Mr. Paine stated that he had proceeded to
inches, and had found that the deeper he went the
ter crops he obtained.—Colonel Challoner referred
the different mechanical condition acquired by the
rticles of soil in the process of sifting.—Professor Way
ught nobody could doubt the value of consolidation
r pulverisation. In these, as in all other cases, no
this could militate against each other, while errors
ght. The lighter soils were those to which consoli-
ion was most applicable; heavy soils required
verisation before consolidation. Mr. Smith, he
lieved, preferred a solid bottom to his land. Perfect
nuring was obtained from the air; in fact, that clay
lf manured itself.

The vote of thanks to Professor Way for his kindness
delivering the interesting and important lecture which
y had then heard, was then put by Colonel Challoner
the Chair, and carried unanimously; Professor
Way, in acknowledging the compliment, expressing the
tisfaction it gave him on that and on all other occa-
ns to aid in the great work of promoting the objects
the Society.

The Audit or Accounts was held on Friday, the
st of May. The Earl of Ducie, President; Mr. Ray-
nd Barker, Chairman of the Finance Committee;
lonel Challoner and Mr. H. Blanshard, members of
Finance Committee; and Mr. Thomas Knight, Mr.
orge J. Raymond Barker, and Mr. George Dyer,
itors on the part of the Society; were present.

he Accounts of the Society from July to December, 1851, were examined, audited, and found correct.—The Bankers' Letter and Transfer Receipt relating to the purchase of Stock in the 3½ per Cents. for 1010*l.*, were laid before the Auditors.

A Special Council, for deciding on the Report to be made by the Council to the ensuing General Meeting of the Society, was held on Friday, the 21st of May, the Earl of Ducie, President, in the Chair. On the motion of Col. Challoner, seconded by Mr. Raymond Barker, the Report was taken into consideration and agreed to accordingly.

The half-yearly General Meeting of the Society was held at the Society's House in Hanover-square on Saturday, the 22d of May, the Earl of Ducie, President, in the Chair. We have already laid before our readers a report of the proceedings at this meeting.

Miscellaneous.

Dirt in the Right Place at Tiptree.—Near the farm buildings is the great tank, to the mouth of which we mount up the side of a rough mound. A couple of trap-doors being opened, we look down into a gloomy vault of the size of a small cottage, wherein there sleep, in a dull, heavy way, the remains of a great many things. Every atom of manure upon the farm, all offal, every dead dog or sheep, is buried here. Cattle dead of disease are skinned, cut into quarters, and thrown down this trap-door. "What is the density of this mass, Mr. Mechi?" "If we were all to jump in it would float us all, and an elephant or two into the bargain." This is a country supply of Mechi's magic paste intended to improve the blades of Grass and corn. Any gruel so thick and slab never was yet concocted in a witch's cauldron; a frog would be a ridiculous drop to throw into such a bucket; and the farm labourers who "round about this cauldron go," if they read Shakspeare, must think him far from having attained sublimity in his ideal of a filthy mess. This is the filth collected on a single farm, every grain of which the seed upon the farm, fulfilling its appointed office in the scheme of nature, is ready to convert into corn, Cabbage, Clover, and the like, which will again pass into flesh. This pool is not a Slough of Despond, but a true Bethesda to the sickly land about it. Over this pool we may well think how large a tank would be required to hold the filth of London, and of many another city. Such filth lies partly stagnant under towns, and partly pours into their rivers; it ripens crops for undertakers in the city, and yields crops for butchers and for bakers in the field. If we look down into the tank we shall perceive, now that the pool is stirred, no solid wheel could move in the thick mass to mix it properly; what iron could not manage is done by the impalpable substance of the air. Powerful streams of air are forced in from below by the adjoining engine; these make their way upward, and slowly the huge mass stirs, the scum breaks upon its surface, and strange shapes of corruption rise to the top, slowly pass aside, and sink again. Water, drained from the farm—the water that once puffed the land up as a diseased excrescence, a bog tumour—flows into the tank, is mixed with the more solid matter, and having thinned it to the due consistence, passes with it, in the form of liquid manure, through a pipe that lies under the strong thumb of a steam engine. Through a pipe 5 inches in diameter, the steam engine forces the fertilising stream into a series of tubes, which run under the brown skin of the soil as arteries run under our own skins, charged with nourishment. . . . Whatever rots in the tank to-day will probably be growing in the field to-morrow; there is no waste of matter and there is no waste of time. The manure heap might be transformed twice over into growing vegetables, and be back in the shape of a double quantity of manure, instead of lying idle for a twelvemonth as it does occasionally in the old-fashioned farmyard. Nothing lies idle at Tiptree. The tank is the great stomach of the farm into which all refuse goes as food, and forms the chyle that is to pass as the farm's blood through pipes under the whole surface of the land. It creates new life, out of which there comes new death, which returns to the great central stomach and builds up new life again. As the boys manage at leap-frog, the pot here is always kept a boiling, and death in the pot becomes life in the pasture. *Dickens' Household Words.*

Cattle-Feeding.—Reflecting on the great question of cattle-feeding, I am daily more and more convinced of its general ill-management, and of the great difficulties in arranging the temperature to the season, with our present ill-arranged farmeries. Had I to remodel my own, I would attach a fanner to the steam-engine for summer ventilation, and in winter the waste steam would circulate in pipes through all my cattle-houses—thus controlling the fluctuations of some 50 degrees in the temperature, economising food and increasing profit. I am well assured that not a fly will venture in the summer draught caused by a fanner. In winter we see cattle with staring coats absolutely chasing each other about to keep up circulation, much as we should do under the same circumstances. What a contrast this forms to the fat, sleek, lazy lapdog, eating little, but luxuriating in the radiation of a good register stove! The apoplectic enjoyments of warmth and tranquillity tell favourably in the farmer's stock balance sheet. Our young farmers, who shall have studied physiology at the Royal Agricultural College, will not want my advice in this matter. I consider it very injudicious in winter to give our cattle either cold water or frozen Turnips, thus abstracting the carbon of the food and producing diarrhœa. Mr. Graham's example, in this respect, is most judicious, the cold cut Turnips being warmed by admixture with the hot steamed straw or hay. These pinching times will make us economical in details. *Mr. Mechi's Second Paper.*

Tares on Wheat Stubble.—(*Expenses per acre.*)

	£	s.	d.
Half-year's rent	1	0	0
Ditto tithe, &c.	0	5	0
15 carts of manure (filling, carting, and spreading)	0	10	0
One ploughing	0	7	0
One rolling	0	0	9
Two bushels of seed	0	9	0
Drilling	0	1	6
Harrowing	0	0	9
	£2	14	0

Fed off with sheep eating half-a-pound of Rape-cake per day. Followed by Swedes, Green Rounds, or transplanted Cabbage and Kohl Rabi. *Mr. Mechi's Second Paper.*

Colne Engaine.—Last week we wandered as far as Colne Engaine, for the purpose of knowing whether Mr. J. D. Piper was still farming his land on the no-ploughing system, and, if so, of ascertaining what kind of a show he had for a crop. On going to the land we found on it a strong and very beautiful piece of Payne's Defiance Wheat, and we quickly ascertained that the land on which it stood had not been ploughed up, or turned over by any implement, for the period of nine years, and that during the whole time Wheat had followed Wheat, without intermission or change of crop. The description of Wheat had been occasionally altered. We saw another piece of Mr. Piper's Wheat (white), planted after Potatoes, the ears of which are far above the usual size, and will certainly average from 85 to 90 kernels in each head. The great peculiarity here is, that the Wheat was sown *very thin*—in fact, at the rate of only six pints per acre. The holes for the seed were set eight square inches apart, and in each hole but one grain was dropped. The crop will be an excellent one. *Ipswich Express.*

Is my Farming Costly?—Although in marketing, and other such matters, I lose some advantages by my personal absence, a reference to my detailed operations will show that I farm at much less cost than the general run of farmers holding unimproved farms. The small number of horses I keep will prove this. For instance, owing to drainage, my land works one horse lighter, and I can plough at almost any time; whilst on undrained lands there are many idle days or weeks for the horses. Again, my manure is carted at once from under the animals and ploughed in; thus avoiding the double cartings, fillings, turning over, and waste of the ordinary well-washed dung-heaps. Owing to the absence of fences, and by the squareness of my fields, two horses always plough an acre per day; then, by steam-power, the corn is threshed as fast it comes from the stack, instead of being barned and handled twice. By using Garrett's horse-hoe, I can hoe better and deeper at 1*s.* per acre, than by the hand-hoe at 3*s.* 6*d.* There are many other advantages arising from the removal of 4½ miles of fences; such as gain of space, ready drying and warming of the soil, &c., to say nothing of the benefit and saving resulting from being now able, owing to drainage, to fold my heavy land with sheep. Twice harrowing is now sufficient on my soil, where eight and ten times used to be occasionally required. The effects of my previous improvements are showing themselves in annually increased productions of improved quality. It must not be forgotten that the valuation of my rental was raised last year threefold, a pretty clear evidence of the benefits resulting from my improvements. *Mr. Mechi's Second Paper.*

Notices to Correspondents.

Barn Flooring: *Subscriber.* We have handed your question to an architect, from whom we shall probably hear next week.

Box Manure: *J B.* It is not easily compared with guano. So far as their ammonia is concerned, on which their immediate effect depends, perhaps it would be fair to say that from 10 to 12 tons of good box manure would be equal to one ton of guano; and that, as regards their phosphoric acid, more than double that quantity of manure would not be equal to that quantity of guano.

Canary Seed: *J L B.* You will find a full account of Kentish practice in the cultivation of Canary in "Blackie's Cyclopædia of Agriculture." Four gallons of seed are sown per acre in rows a foot apart, on the surface of a dry loam, in the month of March, and it is treated and harvested pretty much as Wheat is.

Capital: *A S.* We cannot say what amount is needed for commencing farming in Ireland, in the absence of a knowledge of circumstances. The capital needed may vary from 5*l.* to 12*l.* You may have to purchase a large tenant-right on the part of the previous occupier.

Cow: *C P.* A first class cow is not to be had under 16*l.* or 18*l.* Perhaps the best sort for your purpose are to be had in Yorkshire. One of the large Holderness breed, such as the London cowkeepers purchase, would be most likely to suit you. Some weeks ago we had a correspondent who wrote on the subject of London milk, giving his address in this Paper; perhaps he could be of use to you.

Drainage Level: *A B.* Mr. Bailey Denton's is probably as good as any. It is sold by instrument makers in London.

Essay on Dairy Management: *H.* Your proposal is under consideration. Please to give us your address.

Feeding Boxes: *W K.* It matters little what bottom is laid if you litter abundantly, for the straw will suck up the water. Clay or mortar composition, or bricks, will do.

Guano: *J P.* It will work very well with the superphosphate; and the Turnips will benefit by the former, although they have received a dose of the latter.

Horse-power Mowing Machine: *E R C.* Do you mean the reaping machine? If so, our leading article may give you the answer you wish.

Meetings: *Anon.* Thanks for your hint; we will endeavour to increase our notices of *agricultural* meetings.

Poultry: *B B.* I consider that Mr. Dixon's is the best book on Poultry hitherto published. It is difficult to answer your second question, as you do not say what is your object in keeping fowls—eggs, plumage, or table. If eggs, the pencilled Hamburg's lay the largest number, and they never set. Next to them come the Cochin Chinas. If you want large eggs keep the Spanish; if you want to eat

good fowls keep the Dorking. If they are to live hard, and you keep but one cock, the game will answer your purpose.—*Lancashire* The weight of Dorking fowls much depends on age and the time of year; I will not say feeding, because I will assume they are well fed. The average weight of good Dorking fowls in March or April should be—cocks, 7 to 8 lbs.; hens, 5 to 6 lbs. There will of course be some heavier—some lighter; but this would be an average of good birds; very old hens will weigh rather more. I do not believe any cock out of condition ever weighed 10½ lbs. Those who have taken much pains know it is difficult to get that weight with great perseverance both in stock and food. It is not a very unusual thing to get one to weigh 9 lbs., but it is always a cock, and very fat. My motive for mentioning that weight was only to prove that the pure bird, while young and tender, was as heavy as any cross-bred of the same age. The cocks that weigh 9 lbs. are one in ten thousand. At Christmas time there are plenty of them for sale in Leadenhall market. They are fowls that have been saved and fatted on purpose.—*J R R., Honiton.* Place the wing of your duck on a block or table, introduce a stout sharp knife between the spur and the wing, then let some one strike the back of the knife, and the operation is finished. Turn the duck out at once; it will bleed a great deal, but that is of no consequence, and the cold water will stop it. You must remove at least eight feathers, and be careful not to cut the spur, as it saves the wound while green.—*Subscriber.* Your food is good, save the earth-worms; I would never give them. Chalk and Cayenne pepper are the best remedies for diarrhœa. Are you sure they have sweet and fresh water? Guinea fowls bear confinement badly.—*M W K.* Your fowls have the roup; you will find the treatment in most of the numbers of this publication. Poland fowls are subject to disease during the growing of the top-knot, but from the eye swelling, I should fear he was also roupy. If it be from the top-knot you will find the feathers die growing downwards under the skin. Grease the skin well, and where you can detect hardness, open it gently with a stout needle. Raise the feather till the end is out. *J. Baily, 113, Mount-street.*

ROTATION: *Urban.* If you farm highly, you should keep stock, and make beef and mutton; in that way you might make it pay. We should not like to grow Barley after Wheat; but it is impossible to say what sort of crop should be grown, in ignorance of the nature of the soil and locality.

STALL-FEEDING OF SHEEP: *Inquirer.* A very full account of shed feeding sheep is given at page 162 of the volume of the *Agricultural Gazette* for 1843. As to food, 20 lbs. of Turnips a-day, and ½ to 1 lb. of Beans or Barley, or 2 or 3 lbs. of hay cut into chaff and soaked in Linseed soup, would be good food for a sheep; and, in summer, cut Clover substituted for the Turnips would answer.

WHEAT: *Danum.* Apply to Mr. Beman, of Moreton-in-the-Marsh, Gloucestershire; we know he has grown some first-rate red Wheats. We do not know the "Golden Emperor." The "Talavera" white Wheat is a stiff-strawed sort, with the florets distant from one another in the ear. It is a good variety.

Markets.

COVENT GARDEN, SEPT. 4.

Vegetables and Fruit continue to be well supplied. Melons are plentiful and fine. Excellent Greengage and other Plums still arrive from France, and also Pears, and Apples. Apricots are nearly over. Tomatoes likewise still continue to be imported. Filberts realise 35s. and 45s. per 100 lbs. Potatoes are very plentiful, but many of them diseased. Peas are scarcer. Mushrooms are cheap, good, and plentiful. Cut flowers consist of Heaths, Pelargoniums, Roses, Mignonette, Bignonia venusta, and Fuchsias.

FRUIT.

Pine-apples, per lb., 4s to 6s
Grapes, hothouse, p. lb., 2s to 5s
Peaches, per doz., 6s to 12s
Nectarines, per doz., 4s to 12s
Apricots, per doz., 1s to 4s
Plums, per punnet, 1s to 3s
— Greengage, do., 2s to 3s
Figs, per doz., 1s 6d to 2s 6d
Apples, dessert, p. bsh., 4s to 7s
— kitchen, do., 3s to 5s
Melons, each, 2s to 6s
Lemons, per doz., 1s to 2s
Pears, per doz., 2s to 3s
— per half sieve, 4s to 8s
Currants, do., 2s to 3s 3d
Gooseberries, do., 2s 6d to 3s
Almonds, per peck, 5s
— sweet, per lb., 2s to 3s
Oranges, per doz., 1s to 1s 6d
— per 100, 3s 6d to 10s
— Seville, per doz., 1s to 3s
Nuts, Barcelona, per bush, 20s to 22s
— Brazil, do., 12s to 14s

VEGETABLES.

Cabbages, per doz., 6d to 1s 3d
French Beans, per half sieve, 1s 6d to 2s
Peas, per sieve, 2s to 5s
Cauliflowers, per doz., 4s to 6s
Greens, per doz., 1s to 1s 6d
Tomatoes, per hf. sieve, 4s to 5s
Potatoes, per ton, 60s to 130s
— per cwt., 3s 6d to 7s
— per bush., 1s 6d to 2s 6d
Turnips, per doz., 3s to 4s
Cucumbers, each, 2d to 6d
Veget. Marrow, p. doz, 6d to 1s 6d
Celery, per bundle, 9d to 1s 3d
Carrots, p. doz., 3s to 5s
Spinach, per sieve, 1s to 2s
Onions, per bunch, 2d to 4d
— Spanish, p. doz., 1s 3d to 3s
Beet, per doz., 1s to 2s
Leeks, per bunch, 1d to 2d
Shallots, per lb., 6d to 8d
Garlic, per lb., 6d to 8d
Lettuce, Cab., per score 4d to 1s
— Cos, p. score, 9d to 1s 6d
Radishes, per doz., 8d to 1s
— Turnip, 9d to 1s 6d
Small Salads, p. pun., 2d to 3d
Horse Radish, p. bundle, 1s to 4s
Mushrooms, p. pott., 9d to 1s 3d
— per bush., 3s to 5s
Sorrel, per hf. sieve, 6d to 1s
Artichokes, per doz., 4s to 6s
Fennel, per bunch, 2d to 3d
Savory, per bunch, 2d to 3d
Thyme, per bunch, 2d to 3d
Parsley, p. doz. bnchs., 2s to 3s
Mint, per bunch, 2d to 3d
Basil, green, p. bunch, 4d
Marjoram, do., 3d to 6d
Watercresses, p. 12 bun, 9d to 1s

HAY.—Per Load of 36 Trusses.

SMITHFIELD, Sept. 2.

Prime Meadow Hay 78s to 88s
Inferior do. ... 65 72
Rowen ... ... 66 —
New Hay 65 77
Clover ... ... 95s to 105s
New do. 78 85
Straw 33 40

E. J. DAVIS.

CUMBERLAND MARKET, Sept. 2.

Prime Meadow Hay 80s to 88s
Inferior do. 60 75
New Hay ... ... — —
Old Clover 98 105
Inferior Clover ... 84s to 92s
New do. ... ... 70 —
Straw 40 45

JOSHUA BAKER.

SMITHFIELD.—MONDAY, Aug. 30.

The supply of Beasts is not so large as of late, and there is a cheerful trade for them; consequently prices have advanced. A few choice Scots have made 4s., but not generally enough to quote. Sheep and Lambs are not nearly so plentiful as they have been; trade is brisk, at a small advance on Friday's quotations. Calves are not so numerous, and rather more money is obtained for the best descriptions. From Germany and Holland there are 1821 Beasts, 7190 Sheep, 267 Calves, and 35 Pigs; from Spain, 150 Sheep; from Scotland, 80 Beasts; and 2000 from the northern and midland counties.

Per st. of 8lbs.—s d	s d	Per st. of 8lbs.—s d	s d
Best Scots, Herefords, &c. ... 3 8	to 3 10	Best Long-wools . 3 10	to 4 0
Best Short-horns 3 6	— 3 8	Do. Shorn ... 0 0	— 0 0
2d quality Beasts 2 8	— 3 2	Ewes & 2d quality 3 2	— 3 6
Best Downs and Half-breds ... 4 2	— 4 4	Do. Shorn 0 0	— 0 0
Do. Shorn 0 0	— 0 0	Lambs 4 8	— 5 4
		Calves 3 0	— 4 0
		Pigs 2 8	— 3 8

Beasts, 4524; Sheep and Lambs, 28,820; Calves, 342; Pigs, 435.

FRIDAY, Sept. 3.

We have a fair supply of Beasts and the demand is good. There is an advance on Monday's quotations of about 2d. per 8 lbs. The number of Sheep is small; we have a brisk trade at an advance of fully 2d. per 8 lbs., and in some instances rather more. Good Lambs are very scarce and dear; middling ones are also more freely disposed of. Although the number of Calves is large, they are readily sold at rather more money. From Germany and Holland we have about 400 Beasts, 2750 Sheep, 403 Calves, and 15 Pigs; 300 Beasts from the northern and midland, and 102 Milch Cows from the home counties.

Per st. of 8lbs.—s d	s d	Per st. of 8lbs.—s d	s d
Best Scots, Herefords, &c. ... 3 10	to 4 0	Best Long-wools . 3 10	to 4 2
Best Short-horns 3 6	— 3 10	Do. Shorn	
2d quality Beasts 2 10	— 3 4	Ewes & 2d quality 3 4	— 3 8
Best Downs and Half-breds ... 4 4	— 4 6	Do. Shorn ... 0 0	— 0 0
Do. Shorn ... 0 0	— 0 0	Lambs 4 8	— 5 6
		Calves 3 4	— 4 0
		Pigs 3 0	— 4 0

Beasts, 955; Sheep and Lambs, 10,630; Calves, 628; Pigs, 365.

COAL MARKET.—FRIDAY, Sept. 3

Holywell, 14s.; New Tanfield, 12s. 6d.; Wallsend Harton, 14s.; Wallsend Haswell, 15s. 9d.; Wallsend Hetton, 15s. 6d.—Ships at market, 89.

HOPS.—BOROUGH MARKET, Sept. 3.

Messrs. Pattenden and Smith report that seven pockets more of new Hops have arrived at market—one from Tonbridge, Kent, which, for first pickings, are of excellent quality, and have been sold by Messrs. Mease and Wild at 8*l.* per cwt.; the other six pockets were grown at Marden, Kent, and have been sold by the Hop Planters Company at 6*l.* per cwt., being a low and mouldy sample. The demand for yearlings continues steady, at late prices. Duty, 240,000*l.*

WOOL.

BRADFORD, THURSDAY, Sept. 2.—There is no change worthy of comment in the state of our English wool market during the current week. The transactions have continued to be limited, with prices generally supported, but the tone somewhat in favour of buyers. Short wools and noils are very scarce, and in active demand.

MARK LANE.

MONDAY, AUG. 30.—The supply of Wheat by land carriage samples from Essex and Kent this morning was good, and consisted almost entirely of the new crop, the condition of which continues wretched; and the best of it could only be disposed of at a decline of 3s. to 4s. per qr. upon last Monday's rates. Low-priced foreign met a good retail inquiry at former prices. We reduce our quotations for barrel Flour 1s. per barrel.—The few samples of new English Barley at market were disposed of at the prices of this day week.—Beans and Peas bring our extreme quotations.—Oats meet a fair sale at last Monday's rates.—There were about 350 qrs. of new white Mustard Seed at market, mostly much weathered. A few picked samples found buyers at 10s. to 11s. per bushel.

PER IMPERIAL QUARTER.	s. s.		s. s.
Wheat, Essex, Kent, & Suffolk...White	43—50	Red	32—44
— — fine selected runs...ditto	42—54	Red	38—48
— — Talavera	52—56		
— Norfolk	40—48	Red	—
— Foreign	37—55		
Barley, grind. & distil., 24s to 27s...Chev.	25—32	Malting .	28—30
— Foreign ...grinding and distilling	20—25	Malting .	—
Oats, Essex, and Suffolk	18—19		
— Scotch and Lincolnshire...Potato	18—22	Feed	17—19
— Irish ..... Potato	17—20	Feed	17—19
— Foreign .....Poland and Brew	18—20	Feed	15—18
Rye	—	Foreign .	—
Rye-meal, foreign	—		
Beans, Mazagan.....28s to 31s.....Tick	29—32	Harrow .	29—32
— Pigeon .....29s — 35s...Winds.	—	Longpod	—
— Foreign ..... Small	27—34	Egyptian	26—27
Peas, white, Essex and Kent.....Boilers	31—33	Suffolk...	31—34
— Maple.....32s to 35s.....Grey	31—33	Foreign .	27—36
Maize ..... White	—	Yellow...	—
Flour, best marks delivered ...per sack	37—40		
— Suffolk ..... ditto	25—32	Norfolk .	25—32
— Foreign..... per barrel	21—24	Per sack	28—34

FRIDAY, Sept. 3.—The supply of Wheat, English and foreign, and also of foreign Flour, has been good this week, but moderate of other articles. The market was thinly attended, and but little inclination was shown to purchase either English or foreign Wheat; in the latter a few sales were forced at the reduction above mentioned. In the value of Barley, Beans, and Peas we observe no alteration. Oats move off slowly at Monday's prices.

ARRIVALS THIS WEEK.

	Wheat.	Barley.	Oats.	Flour.
	Qrs.	Qrs.	Qrs.	
English ...	3280	210	100	1730 sacks
Irish	—	—	1700	
Foreign ...	11170	600	4720	9460 brls

IMPERIAL AVERAGES.

	Wheat.		Barley.		Oats.		Rye.		Beans.		Peas.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
July 24.....	40	7	28	2	19	9	28	9	33	10	34	5
— 31.....	40	0	27	8	20	6	29	11	34	2	33	5
Aug. 7.....	49	7	27	3	20	6	29	7	33	9	30	6
— 14.....	39	7	27	5	19	6	30	3	33	7	31	4
— 21.....	31	2	27	4	19	3	29	4	33	2	29	10
— 28.....	43	7	28	2	20	3	29	9	34	4	31	1
Aggreg. Aver.	40	9	27	8	19	10	29	7	33	10	31	9

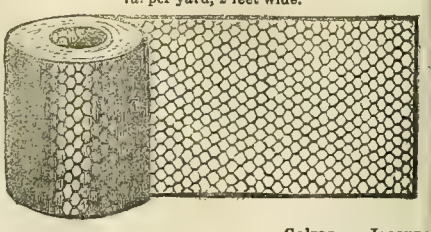
Duties on Foreign Grain, 1s. per qr.

FLUCTUATIONS IN THE LAST SIX WEEK'S AVERAGES.

PRICES.	JULY 24	JULY 31.	AUG. 7	AUG. 14.	AUG. 21.	AUG. 28.
43s 7d	...	...	...	...	...	
41 2 —	...	...	...	...		...
40 7			...	...	...	...
40 0	...			...	...	...
39 7	...	...			...	...
39 7	...	...	...	...	...	...

LIVERPOOL, TUESDAY, Aug. 31.—The market this morning was slenderly attended by buyers, still a fair moderate business was transacted in the good qualities of Wheat and Flour, at Friday's prices, being a decline of 1d. to 2d. per bushel on the former, and 6d. per barrel on the latter. The Flour now arriving out of condition was entirely neglected. Oats and Oatmeal were each easier to buy. Egyptian Beans rather dearer, and very scarce. Peas also scarce, and 1s. to 2s per qr. higher. In Indian Corn nothing doing.—FRIDAY, Aug. 27.—Several purchases of American Flour were made by speculators on Wednesday at full prices, but with more favourable weather since, the millers and dealers have been cautious operators, and at this morning's market the business transacted was moderate, and at a reduction of 1d. per bushel on Wheat, and 3d. to 6d. per barrel on Tuesday's quotations. There was no alteration in the value of any other article of the grain trade, with a limited demand generally.

GALVANISED WIRE GAME NETTING.—7*d.* per yard, 2 feet wide.

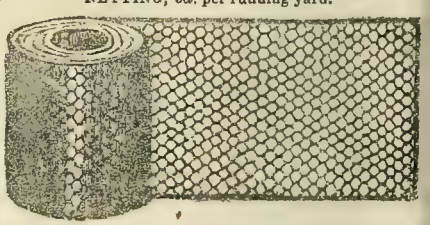


	Galvanised.	Japanned Iron.
2-inch mesh, light, 24 inches wide ...	7*d.* per yd.	5*d.* per yd
2-inch ,, strong ,, ...	9 ,,	6½ ,,
2-inch ,, extra strong ,, ...	12 ,,	9 ,,
1½-inch ,, light ,, ...	8 ,,	6 ,,
1½-inch ,, strong ,, ...	10 ,,	8 ,,
1½-inch ,, extra strong ,, ...	14 ,,	11 ,,

All the above can be made any width at proportionate prices. If the upper half is a coarse mesh, it will reduce the price one-fourth. Galvanised sparrow-proof netting for Pheasantries 3*d.* per square foot. Patterns forwarded post free.

Manufactured by BARNARD and BISHOP, Market-place Norwich, and delivered free of expense in London, Peterborough, Hull, or Newcastle.

CHEAP WIRE GAME AND POULTRY NETTING, 5*d.* per running yard.



GALVANISED ditto, 7*d.* per running yard, 2 feet wide.

	Galvanised.	Not Galvanised
24 in. wide, 2 in. mesh, 7*d.* per yard. ...		5*d.* per yard.
30 in. ,, 2 in. ,, 9*d.* ,, ...		6½*d.* ,,
36 in. ,, 2 in. ,, 10½*d.* ,, ...		7½*d.* ,,
48 in. ,, 2 in. ,, 1*s.* 2*d.* ,, ...		10*d.* ,,

Sparrow Proof Netting, Galvanised, 3*d.* per square foot made to any size for the same proportionate price. This article was shown at the "Great Exhibition," where it was so much admired for its light and durable appearance, and acknowledged to be the cheapest and best article of the kind ever offered. Extra strong Wire Sheep Netting, 3 feet high 1*s.* 6*d.* and 2*s* 3*d.* per yard. Also every description of Flower Trainers, Dahlia Rods, Garden Arches, Bordering, Flower Stands, Tying Wire, Trellis Work, Invisible Wire Fencing, Hurdles, and every description of Wire Work for Horticultural purposes.—Illustrated Catalogues of Patterns forwarded, post free, on application to T. H. FOX, City of London Wire Work and Iron Fence Manufactory, 44, Skinner-street, and 6 and 8 Snow-hill, London.

GEORGE ARTINGSTALL AND CO., LATCHFORD WIRE WORKS, WARRINGTON,



Manufacturers of Improved Strong

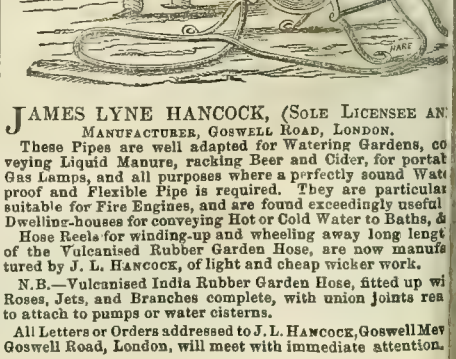
RABBIT-PROOF WIRE NETTING.

12 inches high ... ... 4*d.* per yard.
18 ditto ... ... 6*d.* ,,
24 ditto ... ... 8*d.* ,,

All other widths at proportionate prices.

Wire Work for Aviaries, Conservatories, Fencing, &c., &c. also extra strong Wire Kiln Floors for drying Grain, &c., &c.

FOR WATERING GARDENS, DISTRIBUTING LIQUID MANURE, BREWERS' USE, ETC.
PATENT VULCANISED INDIA-RUBBER HOSE PIPES.



JAMES LYNE HANCOCK, (SOLE LICENSEE AND MANUFACTURER, GOSWELL ROAD, LONDON.

These Pipes are well adapted for Watering Gardens, conveying Liquid Manure, racking Beer and Cider, for portable Gas Lamps, and all purposes where a perfectly sound Waterproof and Flexible Pipe is required. They are particularly suitable for Fire Engines, and are found exceedingly useful in Dwelling-houses for conveying Hot or Cold Water to Baths, &c.

Hose Reels for winding-up and wheeling away long length of the Vulcanised Rubber Garden Hose, are now manufactured by J. L. HANCOCK, of light and cheap wicker work.

N.B.—Vulcanised India Rubber Garden Hose, fitted up with Roses, Jets, and Branches complete, with union Joints ready to attach to pumps or water cisterns.

All Letters or Orders addressed to J. L. HANCOCK, Goswell Mew, Goswell Road, London, will meet with immediate attention.

HOTHOUSES, GREENHOUSES, ETC.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

E. DENCH, PATENT HOTHOUSE WORKS, King's Road, Chelsea.—The superior qualities in every respect of these Structures having been proved in all parts of the United Kingdom, has caused a greater demand for them than E. D. could execute; he has been obliged to have perfect and powerful machinery made to meet the numerous orders, and can now execute any amount of work to great perfection, with dispatch, and for quality and price to defy all competition. Patent Hothouses, with excellent glass, 3 feet long by 1 foot wide, every front sash to open, and every top one to slide down, with pulley made of the same materials as the electric telegraph wires, which require no painting; delivered free to Wharf or Railway Station, at 1s. 2d. per foot super., complete, having been fitted, and every portion marked previously, making a Greenhouse 16 ft. 6 inches long, 12 ft. rafter, 400 ft., 23l. 6s. 8d.; 24 ft. 6 ins. long, do. do., 52l. ft., 30l. 13s. 8d.; 28 ft. 6 ins. long, 15 ft. rafter, 712 ft., 41l. 10s. 8d. Heating by Hot Water on the most approved and economical principles.

Patent Sashes for Pits and Peach Walls, &c., 7d. and 8d. per foot, super.

GREENHOUSE & CONSERVATORY BUILDING ESTABLISHMENT.

HOT-WATER APPARATUS MANUFACTORY, Kensall-green, Harrow-road, London.

JOHN TAYLOR begs most respectfully to call the attention of the Nobility, Gentry, and Gardeners, to the very superior manner in which he erects all kinds of Greenhouses, Conservatories, Forcing Pits, &c., and all other buildings for Horticultural purposes, combining all the most modern improvements with elegance and utility. His manner of heating Horticultural Buildings, Churches, Chapels, Public Buildings, Entrance Halls, &c., has received the greatest approbation from the Nobility and Gentry by whom he had been extensively engaged.

GREEN AND HOTHOUSES, made by Machinery, at J. Lewis' Horticultural Works, Stamford Hill, Middlesex, warranted best materials, and the cheapest in England.—A List of Prices sent by enclosing 2 postage stamps.

BAKER'S PHEASANTRY, Beaufort-street, King's Road, Chelsea, by special appointment to her Majesty and H. R. H. Prince Albert.—ORNAMENTAL WATER FOWL, consisting of black and white Swans, Egyptian, Canada, China, barnacle, brent, and laughing Geese, Shieldrakes, Pintail, Widgeon, summer and winter Teal, Gadwall, Labrador, Shovellers, gold-eyed and dun Divers, Carolina Ducks, &c., domesticated and pinioned; also Spanish, Cochin China, Malay, Poland, Surrey, and Dorking Fowls; white, Japan, pied, and common Pea-fowl, and pure China Pigs; and at 3, Half-moon Passage, Gracechurch-street, London.

LONG SUTTON RAM SHOW.

MR. JOHN CLARKE has the pleasure to inform his Friends and the Breeders of Sheep that his SHOW of RAMS will take place as usual on Wednesday, September the 8th, on which day, or on any succeeding Friday during the season, he would esteem their company a favour. The Rams will be penned on the Wednesday, at 1 o'clock, and Letting commence at 2 o'clock precisely.

Conveyances will be provided to meet the 12 o'clock down train at the Wisbech station, to return in time for the up train at 5.39.—Long Sutton, Sept. 4.

THE ZOOLOGICAL GARDENS, REGENT'S PARK, are open to Visitors daily. The Collection now contains upwards of 1500 specimens, including two fine Chimpanzees, the Hippopotamus (presented by H.H. the Viceroy of Egypt), Elephants, Rhinoceros, Giraffes, and young Leucoryx, Elands, Bonte-boks, Camels, Zebras, Lions, Tigers, Jaguars, Bears, Ostriches, and the Apteryx presented by the Lieutenant-Governor of New Zealand. All Visitors are now admitted to Mr. Gould's collection of Humming Birds without any extra charge.

The Band of the 1st Life Guards will perform, by permission of Col. Hall, on every Saturday, at Four o'Clock, until further notice.—Admission, One Shilling; on MONDAYS, Sixpence.

"EUREKA.—FORD'S EUREKA SHIRTS differ from other patterns, not merely in shape and design, but in their great superiority of fit, quality of material, and workmanship."—*Globe*, April 12, 1852. The Illustrated Price Lists containing directions for self-measurement and every particular, are forwarded post-free; and the pattern-books to select from, of the New Registered Coloured Shirting, on receipt of six stamps.—RICHARD FORD, 38, Poultry, London.

MECHI'S RAZORS, STROP, AND PASTE for 11s. 4, LEADENHALL-STREET, LONDON. Pair of Razors, 7s.; Strop, 3s. 6d.; Paste, 6d. The Razors warranted, or exchanged if not approved. Those who find shaving painful and difficult will do well to try the above, it being well known that MECHI has been eminently successful in rendering shaving an easy operation. Superior Shaving Brushes, Naples Soap, and every article of first-rate quality for the Toilet. CAUTION.—Do not buy any Strop as genuine unless MECHI'S name is on it, there being so many counterfeits. Elegant Case of Razors for presents from 25s. to 10 guineas. Ivory-handled and Scotch Strops.

THE ROYAL EXHIBITION.—A valuable newly-invented, very small, powerful, waistcoat-pocket Glass the size of a Walnut, to discern minute objects at a distance of 4 to 5 miles, which is found to be invaluable for YACHTING, and to SPORTSMEN, GENTLEMEN, and GAMEKEEPERS.

TELESCOPES.—A new and most important INVENTION in TELESCOPES, possessing such extraordinary powers that some—3½ inches, with an extra eye-piece—will show distinctly Jupiter's Moon, Saturn's Ring, and the Double Stars. They supersede every other kind, and are of all sizes—for the waistcoat-pocket, shooting, Military purposes, &c. Opera and Race-course Glasses with wonderful powers; a minute object can be clearly seen from 10 to 12 miles distant.—Invaluable Acoustic Instruments for relief of extreme Deafness.

Messrs. S and B. SOLOMONS, Opticians and Aurists, 39, Albemarle-street, opposite the York Hotel, London.

HEAL & SON'S ILLUSTRATED CATALOGUE OF BEDSTEADS, sent free by post, contains designs and prices of upwards of One Hundred different Bedsteads in Iron, Brass, Japanned Wood, Polished Birch, Mahogany, Rosewood and Walnut-tree Woods; also their Priced List of Bedding; and their New Warerooms enable them to keep one of each design fixed for inspection. They have also, in addition to their usual stock, a great variety of the best designs of PARISIAN BEDSTEADS, both in Wood and Iron, which they have just imported.

Heal and Son, Bedstead and Bedding Manufacturers, 196, Tottenham Court Road, London.

A NEW BEDSTEAD, portable without detaching any of its parts, packs in a sponge bath, is admirably adapted for summer use, on account of its extreme coolness, and which can be changed in one moment from a bed to a lounge or sofa for the sitting-room, may be seen at

COTTAM and HALLEN'S, 76, Oxford-street,

where also is on view a great variety of Metallic Bedsteads, fitted with and without the Patent Rheocline, &c. &c., together with a large assortment of the Patent Radiating and other stoves, and every other description of Ironmongery.

DO YOU WANT LUXURIANT HAIR, WHISKERS, &c.?—Emily Dean's CRINILENE has been many years established as the only preparation that can be relied upon for the Restoration of the Hair in Baldness from any cause, preventing the Hair falling off, strengthening weak Hair, and checking Greyness, and for the production of Whiskers, Moustachios, Eyebrows, &c., in three or four weeks with certainty. It is an elegantly scented compound, and will be sent, post free, on receipt of 24 postage stamps, by Miss Dean, 37 A, Manchester-street, Gray's-inn-road, London. At home daily, from 11 till 7.—"It perfectly restored my Hair after seven years' baldness." Major Hine, Jersey.—"Crinilene is the best stimulant for the hair I have ever analysed." Dr. Thomson, Regent-square.

LADIES TRAVELLING, or during the Drive, the Aquatic Excursion, or while otherwise exposed to the scorching rays of the sun, and heated particles of dust, will find

ROWLANDS' KALYDOR

a most refreshing preparation for the complexion, dispelling the cloud of languour and relaxation, allaying all heat and irritability, and immediately affording the pleasing sensation attending restored elasticity and healthful state of the skin. Composed of choice exotics of balsamic nature, utterly free from all mineral admixture, and pleasing and delightful in its effects, Rowland's Kalydor tends to neutralise the effects of atmosphere upon the skin, and to promote that healthy action of the microscopic vessels, by which its general well-being and the beauty of its appearance are so essentially promoted. Freckles, Tan, Spots, Pimples, Flushes, and Discolorations fly before its application, and give place to delicate clearness with the glow of beauty and of bloom. In cases of Sunburn, or Stings of Insects, its virtues have long been acknowledged.

Its purifying and refreshing properties have obtained its selection by Royalty, and the several Courts throughout Europe, together with the élite of the Aristocracy.—Price 4s. 6d. and 8s. 6d. per bottle.

Caution.—The words Rowlands' Kalydor are on the wrapper of each bottle.

Sold by A. Rowland and Sons, 20, Hatton-garden, London; and by all Chemists and Perfumers.

METCALFE and Co.'s NEW PATTERN TOOTH-BRUSH and SMYRNA SPONGES.—The Tooth-Brush has the important advantage of searching thoroughly into the divisions of the teeth, and cleaning them in the most extraordinary manner, and is famous for the hairs not coming loose.—1s. An Improved Clothes-Brush, that cleans in a third part of the usual time, and incapable of injuring the finest nap. Penetrating Hair-Brushes, with the durable unbleached Russian bristles, which do not soften like common hair. Flesh-Brushes of improved, graduated, and powerful friction. Velvet-Brushes, which act in the most surprising and successful manner. The genuine Smyrna Sponge, with its preserved valuable properties of absorption, vitality, and durability, by means of direct importations, dispensing with all intermediate parties' profits and destructive bleaching, and securing the luxury of a genuine Smyrna Sponge. Only at Metcalfe, Bingley, and Co.'s Sole Establishment, 130 B, Oxford-street, one door from Holles-street, London.

METCALFE'S ALKALINE TOOTH POWDER, 2s. per box.

Caution.—Beware of the words "From Metcalfe's," adopted by some houses.

VALUABLE REMEDIES FOR THE AFFLICTED.

DR. ROBERTS'S CELEBRATED OINTMENT, called the POOR MAN'S FRIEND, is confidently recommended to the Public as an unfailing remedy for Wounds of every description, a certain cure for Ulcerated Sore Legs, if of 20 years' standing; Cuts, Burns, Scalds, Bruises, Chilblains, Scorbutic Eruptions and Pimples on the Face, Sore and Inflamed Eyes, Sore Heads, Sore Breasts, Piles, Fistula, and Cancerous Humours, and is a specific for those afflicting Eruptions that sometimes follow vaccination. Sold in pots at 1s. 1½d., and 2s. 9d. each.

Also his PILULÆ ANTISCROPHULÆ, confirmed by more than 40 years' experience to be, without exception, one of the best alterative medicines ever compounded for purifying the Blood, and assisting nature in all her operations. Hence they are used in Scrofulas, Scorbutic Complaints, Glandular Swellings, particularly those of the Neck, &c. They form a mild and superior Family Aperient, that may be taken at all times without confinement or change of diet. Sold in Boxes, at 1s. 1½d., 2s. 9d., 4s. 6d., 11s., and 22s.

Sold Wholesale by the Proprietors, Beach and Barnicott, at their Dispensary, Bridport; by the London houses. Retail by all respectable Medicine Vendors in the United Kingdom.

Observe.—No Medicine sold under the above name can possibly be genuine, unless "Beach and Barnicott, late Dr. Roberts, Bridport," is engraved on the Government Stamp affixed to each package.

PARR'S LIFE PILLS ARE ACKNOWLEDGED TO BE THE BEST MEDICINE IN THE WORLD.—Economy should be practised in all things, but more particularly in matters of Medicine. The restoration to health has generally been purchased at a costly price; and certainly if health could not be procured at any other rate, a costly price should not be an object of scruple. But where is the wisdom, where is the economy in spending vast sums on a physician's attendance, when sound health and long life may be ensured by the cheap, safe, and simple remedy of Parr's Life Pills?

TO LADIES.

Parr's Life Pills are especially efficacious in all the variety of ailments incident to the Fair Sex. Ladies even of the most delicate constitutions will find them particularly beneficial both before and after confinement; and for general use in Schools they cannot be too strongly recommended. They mildly and speedily remove all Skin Eruptions, Sallowness of Complexion, Nervous Irritability, Sick Head-ache, Depression of Spirits, Irregularity, or general derangement of the system.

Sold by Hannay and Co., and Sanger, Oxford-street; E. Edwards, 67, St. Paul's Churchyard; Barclay and Sons, Farringdon-street; Sutton and Co., Bow Churchyard, London. Price 1s. 1½d., 2s. 9d., and family packets 11s. each; and by all Chemists.

RUPTURES EFFECTUALLY CURED WITHOUT A TRUSS.

DR. LESLIE continues to supply the afflicted with his celebrated Remedy for this alarming complaint, the great success of which, for many years past, renders any further comment unnecessary. It is easy and painless in use, causing no inconvenience or confinement, and is applicable to every variety of single and double Rupture, however bad or of long standing, in male or female of any age. The remedy will be sent, post free, on receipt of 7s. 6d. by Post-office order, payable at the General Post-office, or postage stamps, by Dr. Herbert Leslie, 37 A, Manchester-street, Gray's-inn-road, London.—At home daily, from 10 till 1 and 5 till 8 o'clock; Sundays 10 till 1 only.

Sales by Auction.

NORBITON NURSERY.

IMPORTANT SALE OF AMERICAN & OTHER PLANTS.

MESSRS. PROTHEROE and MORRIS have received instructions from Mr. Smith, the celebrated raiser of American Plants, to submit to public competition by Auction, at the Nursery, Norbiton, Kingston, Surrey, on MONDAY, September 20, at 11 for 12 o'clock precisely, in consequence of the number of Lots, a considerable quantity of Scarlet, Yellow, and other fine Hybrid Rhododendrons, comprising large Arborea, Smithii, Venustum, Red and White Maximum, and other hardy kinds, including Dr. Hooker's Sikkim species; also large Camellias and Azalea Indica, well set with blo m buds; Kalmias, large Laurels, Laurestinus, Lilium lancifolium in varieties, Roses in pots, &c. The stock is particularly worthy the attention of Noblemen and Gentlemen improving their collection, as well as the Trade, for its excellence.—May be viewed prior to the sale. Catalogues may be had on application to Mr. Smith, on the premises; of the principal Seedsmen in London; and of the Auctioneers, American Nursery, Leytonstone, Essex.

UXBRIDGE, MIDDLESEX.

NURSERY, SEED, AND FLORISTS' BUSINESS.

MESSRS. PROTHEROE and MORRIS are directed by the Trustee for Sale and Mortgagee, to sell by Auction, at the Mart, Bartholomew-lane, early in October, in one Lot (if not previously disposed of by private contract), the valuable Leases and Goodwill of the UXBRIDGE NURSERY, which has been established upwards of 20 years; also the whole of the celebrated NURSERY STOCK, riding over from 12 to 13 acres, comprising Fruit and Forest Trees of the first description, and rich assortment of Evergreens, Ornamental Trees, Deciduous Shrubs, and American Plants; together with the Greenhouses, and the Choice Greenhouse Plants, Pits, Frames, Seeds, Drawers, and sundry effects. Particulars, which are being prepared, may be had of Messrs. Tubbin and Paterson, Solicitors, 4, Bride-court, New Bridge-street, Blackfriars; and of Messrs. Protheroe and Morris, Auctioneers and Valuers, American Nursery, Leytonstone, Essex.

STOCK AND CROPS OF A MARKET GARDENER.

MESSRS. DAVIES and VIGERS have been instructed by the Proprietor to sell by Auction on the premises, Lawn-lane, South Lambeth, on TUESDAY, 21st of September, at 12 for 1 o'clock, the whole of the STOCK and CROPS on the Land, with a large quantity of Rhubarb-roots of the best varieties, Mint-roots for forcing, Boxes and Lights, Hand-glasses and Bells, Baskets, a quantity of Manure, a Dennett nearly new, Light Chaise Carts and Market Carts and Wheelbarrows. A young and active Cart Gelding, 6 years old, a handseme Nag 15 hands high, 6 years old, and very fast, and a variety of useful and valuable property. To be viewed the day before and morning of Sale, and Catalogues had on the premises; of Mr. J. Bell, Covent Garden Market; of Mr. Ingledew, Borough Market; and of the Auctioneers, 3, Frederick's-place, Old Jewry.

N.B. Time will be allowed for clearing the Rhubarb roots.

TO FLORISTS AND GARDENERS, ETC.

TO BE DISPOSED OF, a compact FLORIST'S BUSINESS, with four small Greenhouses, Frames, Lights, Stock-in-trade, &c. The premises are situated in one of the leading thoroughfares into London, and in the midst of a highly respectable neighbourhood, about 3 miles distant from London-bridge. An industrious Man, with a small capital, will find this an excellent opportunity.—Apply, by letter only, to A. B., 2, Thomas-place, Stockwell-green, Surrey.

NURSERY, SEED, AND FLORIST BUSINESS

HOPE NURSERIES, NEAR BEDALE, YORKSHIRE.

Situate one mile north of the Sinderby Station of the Leeds Northern Railway.

TO BE DISPOSED OF, the Business which has been successfully carried on by the late Mr. Wm. May upwards of 25 years. The premises comprise 40 acres, 26 of which are occupied as Nurseries, with Snow and Propagating Houses containing 3000 feet of Glass. Part of the purchase money might remain.—Apply to Mr. Beverley, Leeds.

TO BE DISPOSED OF, a first-rate NURSERY and SEED BUSINESS, situated in one of the most populous of the Midland Towns, and surrounded by a wealthy neighbourhood. The connection has been established 30 years, and the returns are now averaging 2000l. per annum. Part of the purchase-money might remain on security of the stock.—Apply, by letter only, to Messrs. Noble, Cooper, and Bolton, Fleet-street, London.

TO BE DISPOSED OF, the BUSINESS and STOCK of a well-established NURSERY, adjoining a large town, comprising a Seed Shop, with everything appertaining thereto, Five Greenhouses, and a Nursery well stocked with good useful stuff. The Advertiser, being desirous to part with the above, would dispose of the whole for 350l. Possession to be had in September.—For further particulars, address M. W., Office of this Paper.

TO BE LET, for a term, at Michaelmas next, a FARM, three miles from Uxbridge, and between the Great Western and North Western Railways, and 15 miles from Oxford-street and Piccadilly. It consists of about 545 Acres, of which rather less than half are Grass. A considerable part of the Land has been drained within the last few years. The Shooting, which has been strictly preserved, may be had with the farm. The house is a large and commodious family residence, within a few minutes' walk of the church.—To view the farm, apply to Mr. E. Powell, Eastcote, near Pinner, Middlesex.

SUSSEX.

TO BE LET, a Farm of about 220 acres, which has received a very large outlay in pipe drainage and improvements, situate about 2½ miles from the Balcombe Station on the Brighton Railway; with a good Family Residence, two Labourers' Cottages, modern and excellent Farm Buildings, and the right of shooting. Possession to be had at Michaelmas next. For further particulars and terms, apply to Messrs. Davies and Vigers, Land and Estate Agents, No. 3, Frederick's-place, Old Jewry, London.

HOLLOWAY'S PILLS FOR DEBILITATED CONSTITUTIONS, DISORDERED LIVER, AND INDIGESTION.—The wonderful efficacy of this salutary medicine and the good effects produced on patients suffering from diseases of the Stomach, Liver Complaints, Bile, and Indigestion, are almost incredible if they were not confirmed by daily proofs of the cures effected by them, and the permanent benefit derived from their use. The exhilarating properties of these invaluable Pills entirely banish all nervousness from the system, strengthen the tone of the Stomach, and thereby promote digestion. All persons suffering from Dropsy should use Holloway's Pills, as they are the most safe and certain remedy ever known for that dreadful malady. Sold by all Druggists, and at Professor Holloway's Establishment, 244, Strand, London.

JAMES PHILLIPS & CO.

AGENTS FOR THE SALE OF

HARTLEY'S PATENT ROUGH PLATE GLASS,

FOR HORTICULTURAL PURPOSES, ONE-EIGHTH OF AN INCH THICK,

SPECIMENS OF WHICH WERE SHOWN AT THE GREAT EXHIBITION, AND OBTAINED THE PRIZE MEDAL,

Respectfully beg to submit the following extracts in favour of Hartley's Patent Rough Plate Glass in a detailed form, partly from the GARDENERS' CHRONICLE, *and from letters addressed to them:—*

"We incline to the belief that no glass has ever been made which is so well adapted for hothouse roofs as the 'Patent Rough Plate,' manufactured by Mr. Hartley. This glass is prepared by rolling, which destroys transparency without diminishing translucency—it is slightly rough on the surface, which has the important effect of dispersing the sun's rays instead of concentrating them. * * * It renders a shade superfluous in summer, and we do not expect that it will intercept any material amount of light in winter; we believe, indeed, that light passes through it as freely, though not as directly, as through transparent glass. The mere fact of its rendering a 'shade' (one of the worst of a gardener's nuisances) unnecessary, gives the 'Patent Rough Plate' a great value in our eyes."—*Gardeners' Chronicle, Aug.* 12, 1848.

"It is now six months since the fitness of Hartley's Patent Rough Plate Glass to supersede the common sheet was suggested in these columns. The impossibility of obtaining the latter with any certainty that it will not burn the leaves beneath it, had become notorious, and cheap Rough Plate was suggested as a substitute. This kind of glass is made of the same materials as sheet, but by a very different process. Instead of being, in the first instance, blown into the form of a cylinder or 'muff,' then slit and flattened—a difficult process, incapable of making it level or free from large irregular lenses—Rough Plate is at once rolled into plates, and left with an irregular granulated surface, which breaks and bends, and separates the rays of light as they pass through it, thus rendering their concentration, and the burning consequent upon it, impossible. But it was objected by those whose opinion in all practical matters has deservedly the greatest weight, that, although this Rough Glass might be suitable for glazed structures in the summer, it could not be safely employed in winter, 'because of the small quantity of light that was able to pass through it,' and that, therefore, any advantage that might attend it in one season would be counterbalanced at another. This was entirely at variance with our own opinion; we saw no difference in the quantity of light that passed through; on the contrary, the amount appeared to be the same in both cases, the difference being that, by rough plate, light was *dispersed*, and, by common sheet, *concentrated*, or, at least, not interfered with by dispersion. It was, however, felt that the objections taken by the former would be better answered by an experiment than by any man's opinion; and therefore the Garden Committee directed it to be tried in the garden of the Horticultural Society at Chiswick. For this purpose a small pit, unventilated, except by sliding the sashes, and heated by hot-water pipes, was selected. In the last week of August this pit was filled with soft-wooded plants, which can only be kept in health in the presence of a large quantity of light, among which were the following, viz.:—The Begonias odorata, undulata, argyrostigma, and dichotoma; Torenia asiatica, Pentas carnea, Adamia sylvatica, Calostylis aurantiaca, and Achimenes picta. The four Begonias, Calostylis, Adamia, and Pentas had been cut close back, and were leafless, Torenia was a cutting just struck, and of Achimenes the dry tubers were employed. The experiment was thus set in action, without any special care having been taken to make it succeed; on the contrary, everything was against success. It is needless to say that the months of October, November, and December, 1848, were more than usually gloomy, and that neither January nor February offered any advantage over those months in ordinary years. In addition to this, it was often necessary to leave the plants in the dark all day long, in consequence of the sashes being covered with frozen mats, which could not be removed. Nevertheless, and notwithstanding these impediments, the experiment was perfectly successful. On Tuesday last, at the meeting of the Horticultural Society, Mr. Gordon, to whom the experiment was confided, produced the plants above named in the most beautiful health, with firm short wood—broad, thick, clean, bright-green leaves, and in the case of the Gesnera and Pentas, flowers perfect in colour, size, and form. In short, it may be said, without the least exaggeration, that more perfect examples of high cultivation were never seen, and few so perfect. It was clear that there had been no deficiency of any element or condition which is required for the most perfect health. This conclusive proof of the excellence of Rough Plate Glass possesses the highest agricultural interest. IT SHOWS THAT GARDENERS ARE NOW SECURED EFFECTUALLY FROM THE SCORCHING EFFECTS OF THE SUN DURING SUMMER, AND THAT ALL THE COSTLY, AS WELL AS INCONVENIENT CONTRIVANCES FOR SHADING, MAY BE, IN FUTURE, DISPENSED WITH. A gentleman of our acquaintance has lately been called upon to pay for shading a single span-roofed house no less a sum than 60*l.*, which is little less than the cost of the whole glass roof. Had the value of Rough Plate Glass been known only nine months ago, his vexatious outlay might have been avoided. Such glass does all that a screen can do, and no light is intercepted. There can be no doubt that the result of the experiment now detailed will be the abandonment of transparent sheet glass in gardening, and that every hand-glass, sash, roof, or screen, hereafter to be erected, will be glazed with Rough Plate. In many cases, indeed, it would be worth while to unglaze the south side of houses, and to substitute Rough Plate, reserving the former glass for repairs of the north side. It is, however, to be understood that the glass in question is NOT common Rough Plate, which is too heavy and expensive, but a PATENT, THIN, ROUGH PLATE."—*Gardeners' Chronicle, Feb.* 24, 1849.

"I learn, with satisfaction, that a substitute for Sheet Glass is likely to be found in Rough Plate, and I hope soon to see all plant structures glazed with it."—*Extract from a Letter signed "Beta."—Gardeners' Chronicle, Feb.* 26, 1849.

"I am of opinion, that for all the common, and probably most of the general purposes of gardening, the Rough Plate Glass will be found invaluable."—*Letter from James Duncan, Basing Park.—Gardeners' Chronicle, May* 26, 1849.

"In confirmation of the remarks you have made in favour of Rough Plate Glass, and for the encouragement of those who are doubtful whether it will answer or not for general horticultural purposes, I wish to state that my employer had the roofs of a small stove and greenhouse glazed with it last autumn, and that the plants which are growing in them look remarkably well. * * * I was doubtful whether it would be suitable for forcing, but on trying a quantity of Geraniums, Petunias, &c., under it, I feel confident it will answer this purpose equally as well as other glass, and with less trouble and expense, for, being so thick, less fire is required to keep up a suitable temperature; LESS FIRING, NO SHADING, AND LESS GENERAL ATTENTION, TOGETHER WITH THE PLEASURE OF HAVING THE PLANTS LONGER IN BLOOM, are advantages not to be overlooked, to say nothing of the satisfaction experienced in seeing plants of a beautiful dark green colour, and in the absence of the fear of having them scorched."—*Letter from J. Marshall, Gardener to Archibald Worthington, Esq., the Mount, Whitchurch, Salop.*

Letter to Gardeners' Chronicle, from James Roberts, Gardener to the Duke of Cleveland, Raby Castle, October 20, 1849.—"Since this sort of glass, so highly recommended in your columns, has answered, British Sheet, 21 oz. and upwards, is losing ground, and not without reason. I have tried it on a small scale this season, against common crown and 16 oz. sheet for the growth of Melons; it has answered well; it superseded by far the 16 oz. sheet, but I could not perceive any difference betwixt it and crown, as far as the growth of the plants and maturity of the fruit were concerned. The Rough Plate and Crown were put in a six-light Macphail pit, three lights of each, side by side. Eight lights glazed with the 16 oz. sheet occupied a separate range, but they showed no comparison with the above as regards the health and vigour of the foliage, &c., both pits receiving the same treatment. THE PROPERTIES POSSESSED BY ROUGH PLATE IN DIFFUSING LIGHT ARE ASTONISHING."

"If it can be shown that Cape and New Holland plants flourish as well under this glass as under the Sheet Glass during the winter months, I can see a decided advantage in the Rough Plate during the summer months of the year."—*Letter from J. H. H. H, Henbury Hill.—Gardeners' Chronicle, Nov.* 17, 1849.

"I have a very high opinion of the Rough Plate for plant growing, and think it would both admit sufficient light and obviate the necessity of shading."—*Extract of letter from Mr. James Roberts, Gardener to the Duke of Cleveland, Raby Castle.*

"We have, for some time past, occasionally pointed out the value of Rough Plate Glass for garden buildings, in consequence of its superiority to Sheet Glass as a medium through which light is admitted into plant-houses. Continued experience leaves us no room to doubt that this is the best material yet produced, and that it will in time supersede glass of all other kinds for the greater part of gardening purposes. * * * As for the article substituted for Rough Plate, and which is actually in the market for the purpose of imposing upon gardeners, it is wholly unfit for any horticultural purpose. The best samples of it which we have yet seen is sold by Mr. JAMES PHILLIPS, 116, BISHOPSGATE-STREET. Among other attempts, is one to persuade buyers that thin and genuine Rough Plate, one-eighth of an inch thick, cannot be made; and, consequently to compel the public to buy a thicker glass, at a higher price. There is no truth in the statement," &c.—*From the Gardeners' Chronicle, Dec.* 8, 1849.

"I am quite satisfied with it (Patent Rough Plate) in every way, and have no doubt of its superiority over every other kind of glass. * * * One thing I find certain, that it will bear very rough handling, without breaking or cracking."—*Mr. T. Ward, Balham Hill, Surrey, Dec.* 16, 1849.

"As far as my experience has as yet gone, your Patent Rough Plate Glass, which I have used in my greenhouse and Vinery, answers very well; AND, NOTWITHSTANDING ITS WANT OF TRANSPARENCY, THERE IS MORE LIGHT IN THE HOUSE THAN BEFORE. * * * I OBSERVED NO BURNING OF THE PLANTS, NEITHER DID MY GARDENER."—*N. Hibbert, Esq., Munden House, Watford, Dec.* 17, 1849.

"VINERY AND COW-HOUSE.—I have just started something novel in a glazed cow-house, which it has occurred to me you might like to hear of. The cow-house is 96 feet long, span-roofed, the roof being made the same as for slating, but the rafters rebated. It is glazed with Hartley's patent-rolled plate in panes 24 inches long by 29 inches wide, so that it is very light. An iron bar is run across midway between the ridge and the eaves, to supply the place of a purlin. The roof cost a few pounds more only than slate. Very ample ventilation is provided for, all round the house, by a ventilator along the whole ridge. Vines are planted in front of the house at every two feet (the distance between the rafters), and it is presumed that the shade from these, and an abundant supply of fresh air, will prevent the cattle from suffering from heat, even in the height of summer. There will not be much escape of ammonia, as gypsum diluted with sulphuric acid will be used on the floor; and if some little does rise, probably it will be of service to the Vines. I have been a good deal twitted as to how I mean to prevent the farm people from helping themselves to the Grapes, but with an honest cowman who may keep the key in his pocket, that is surely an easy matter. For the first two years, until the border Vines bear, the house will be supplied with pot Vines."—*T. W. Lawford, Llandilo, South Wales.—Gardeners' Chronicle, March* 30, 1850.

"Out of the whole quantity of the glass you sent me, not one pane was broken. My opinion of your glass is, that not only can it not be surpassed, but it cannot be equalled by any other person. I have never seen any before, or since, so good. Allow me again to offer my best thanks for your great civility and kindness in attending to my various orders; and you may rely on it, if I have it in my power to be of any assistance to you, I will at all times most readily bear my testimony to the excellent qualities of your glass, and the great attention you pay to any orders that may be given to you."—*From the Rev. J. Wills, Jun., South Perrott, Crewkerne, April* 25, 1849.

"One word as regards the condition of Rough Plate, after *two years' use;* if there be any change at all, it becomes to the eye somewhat more transparent. It has no greater affinity for dirt than any other glass, nor am I conscious of its possessing *any* disadvantage peculiar to itself. I *do not remember* to have seen a leaf *scorched* or *burnt* under this glass."—*H., Bristol.—Gardeners' Chronicle, Nov.* 29, 1851.

"I can speak with some confidence of the merits of Hartley's Rough Plate, from a trial of one year. In Sept. 1850, I built a new house, and glazed it with Hartley's glass, and it has FAR EXCEEDED MY EXPECTATION. The light is gently diffused; it *never scorches*, and requires no shading (no slight merit during the last hot summer), and the forced Strawberries in the spring ripened a FORTNIGHT EARLIER than those in an *adjoining house* glazed with small *sheet glass*. I have since built another house this autumn, and glazed it with Hartley's glass—*so satisfied am I with its excellence*. Its rough surface has *no tendency to become dirty*."—*J. J. C., Fair Oak.—Gardeners' Chronicle, Nov.* 29, 1851.

"I happen to have from 4000 to 5000 feet of vineries glazed with 21-oz. sheet, which was procured from a first-rate firm, *but I have never been able to get over a season without the foliage of my Vines being dreadfully burnt.* I have had *Camellias burnt under it 7 feet from the roof.* Now a word as to the merits of Rough Plate. At the present time I have nearly 3000 feet of it in use, and I am so far satisfied of its superiority, *not* only over sheet-glass, but also over *all other kinds* of glass for horticultural purposes, that for whatever is to re-glaze or erect new here, I will adopt it without hesitation. I use it for plant culture, Melons, Cucumbers, propagating, &c.; and perhaps no one regrets more than I do that I cannot replace the sheet in my vineries with it. It is a *mistake* to suppose that it *obstructs* light; on the contrary, it *collects and diffuses it* better than the clearest Sheet or Crown Glass. Another advantage which it possesses is, that there is *no scorching* and *no shading.* As to this kind of glass becoming *dirty*, that has not happened here: *there are, however, many samples of glass in the market, called Rough Plate, which I would not use.* It effects a saving of fuel, and is proof against the severest storms."—*James Roberts, gardener to the Duke of Cleveland, Raby Castle, Nov.* 28.—*Gardeners' Chronicle, Dec.* 6, 1851.

"It may interest some of your readers to know that, last winter, I re-glazed with 'HARTLEY'S ROUGH PLATE,' a vinery which had previously been glazed with sheet glass, and which gave occasion to the complaints I formerly made against that article. The vinery is a large house, with a flat roof, requiring nearly 1000 feet of glass, and during the last summer it has *answered every expectation I was led to hope from its use:* and I have much pleasure in adding my testimony to its good properties and adaptation to most gardening purposes."—*John Spencer, gardener to the Marquis of Lansdowne, Bowood, Dec.* 2.—*Gardeners' Chronicle, Dec.* 6, 1851.

"I have, for the *last* 3 *years*, had a large quantity of Pines, and a variety of stove plants, growing under Hartley's Patent Rough Plate Glass. During the *hottest sunshine* I have *never required shade*, and the plants have grown, especially the Pines, with a *health* and *vigour* that I have *never seen surpassed.* No instances of *scorching* have occurred, nor has the glass become *dirty. I never would use any other kind of glass for horticultural purposes."—Tirydail.—Gardeners' Chronicle, Dec.* 6, 1851.

"The south side of the roof of the plant-stove here was glazed with HARTLEY'S PATENT ROUGH PLATE, in panes 30 by 7, *three years ago;* and from my experience of it, I consider it superior to sheet glass in many respects. All the plants that I have grown under Rough Plate possess a *richer hue* than the same kinds grown under sheet glass. The light transmitted through Rough Plate is *as powerful* as that through sheet or crown glass; and it is of *a better quality* than sheet glass gives. I consider that this description of glass is a *boon* to the horticulturist, as the obligation to *shade*, to save plants from the scorching propensities of sheet glass, at a time when you require the sun-light upon them, is a *very serious disadvantage."—Henry Bundy, gardener to Lord Dynevor.—Gardeners' Chronicle, Dec.* 5, 1851.

"We have more letters to the same effect; and OUR OWN EXPERIENCE IS CONCLUSIVELY IN FAVOUR OF IT."—*Editor of Gardeners' Chronicle, Dec.* 6, 1851.

"I am glad to state that my Melon plants, under Hartley's Glass, are *far in advance* of those under the common glass, though all of the *same age*, in the *same pit* and *soil*, and, *what is more*, though the *former do not get the sun so soon, on account of the angle of the house."—E. Woodlands, Esq., York Lodge, Southampton, May,* 1851.

"I have much pleasure in adding, that your glass, the Rough Plate, gives great satisfaction. It answers very well for Vines, and I have not yet perceived *any approach* to burning. The best proof is the increased vigour of the plants growing under it, *without the necessity of a shade."—James Heyworth, Esq., Newbury Hill, Berks, June* 23, 1851.

"I can speak most highly of the excellence of your glass, as compared with Sheet Glass, which I had been in the habit of using before."—*The Hon. J. J. Carnegie, Fair Oak, Petersfield, July* 11, 1851.

"I am glad to say I still more and more admire 'HARTLEY'S PATENT ROUGH PLATE.' I have on all occasions recommended it among my friends, who have all liked it very much. I only wish I had used it for all my roofs. It requires *no shading whatever.* It admits *sufficient light and heat for all purposes*; and *I am convinced* the TRUE Hartley's Patent Rough Plate must give satisfaction. I AM MUCH SURPRISED THE ROOF OF THE CRYSTAL PALACE WAS NOT GLAZED WITH IT."—*The Rev. J. Wells, Rectory, South Perrott, Crewkerne, Somerset, Aug.* 17 1851.

"Mr. Canning (Elsenham Vicarage, Nov. 28, 1851), after *two years' experience* of PATENT ROUGH PLATE GLASS, can have no hesitation in giving his opinion that it is admirably adapted for the roof of a vinery. Mr. Canning's Grapes under it, *both last year and this*, have been *perfect* in *colour* and *flavour*, and the wood is thoroughly ripened, so as to give every indication of a crop of fruit next year. The glass in question is *not disfigured by dirt*, offers *no obstruction to the light*, and not the *slightest tendency to scorch* has been noticed."

"I have had the experience of two years with the Rough Plate Glass, and *I can speak most favourably* of its *beneficial effects* for *Peaches, Vines, Strawberries, and Pines.* There is *no scorching* or failing of the glass, and in my opinion there is NO REASONABLE OBJECTION TO ITS MORE EXTENSIVE USE, WHERE SUCH ADVANTAGES ARE ACQUIRED."—*Thomas Hobling, Esq., White Barnes, Nov.* 29, 1851.

"ROUGH PLATE GLASS.—We should have no hesitation in using this for a vinery—INDEED WE SHOULD SELECT IT."—*Cottage Gardener, Nov.* 29, 1851.

"There *can be no question now* that Rough Plate Glass is the most beautiful, as well as the most useful, kind of glass that can be employed in horticulture. It is free from all the faults of sheet or transparent glass, and it has many advantages peculiar to itself, *without a single disadvantage as a set-off."—Gardeners' Chronicle, Jan* 20, 1850.

"My Rough Plate (bought of Phillips and Co.), has proved itself invaluable. During that trying week of June, when the thermometer was at 86° in the shade, I had no sort of protection, and many of my Vines being in pots, were close to the glass, and not one leaf was affected; whereas I know of persons who lost their crops of Grapes, from having roofs of crown glass unprotected."—*Arthur Moore, Walpole Rectory, Lynn, July* 27.—*Gardeners' Chronicle, August* 14, 1852.

JAMES PHILLIPS & Co., Horticultural Glass Warehouse, 116, Bishopsgate-street Without, London.

Printed by WILLIAM BRADBURY, of No. 13, Upper Woburn-place, in the parish of St. Pancras, and FREDERICK MULLETT EVANS, of No. 7, Church row, Stoke Newington, both in the County of Middlesex, Printers, at their Office in Lombard-street, in the Precinct of Whitefriars, in the City of London; and published by them at the office, No. 5, Charles-street, in the parish of St. Paul's, Covent-garden, in the said County, where all Advertisements and Communications are to be ADDRESSED TO THE EDITOR.—SATURDAY, SEPTEMBER 4, 1852.

THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 37.—1852.] SATURDAY, SEPTEMBER 11. [PRICE 6d.

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THE NORTH LONDON FLORICULTURAL SOCIETY'S GRAND DAHLIA AND MISCELLANEOUS EXHIBITION will be held at the Gate House Hotel, Highgate, on TUESDAY, the 14th instant. Entrance from 1 to 4 o'clock, 1s.; from 4 to 7 o'clock, 6d. C. P. LOCHNER, Hon. Sec.
Warwick House, Harrow-road.
N.B. The Chrysanthemum Exhibition will be held on Monday, the 22d November.

VALE OF TAUNTON DEANE HORTICULTURAL AND FLORICULTURAL SOCIETY.—THIRD EXHIBITION, to be holden in the Vivary Park, SEPTEMBER 15, 1852.

PRIZE LIST FOR NURSERYMEN,
Open to all England.

PLANTS IN POTS.—For the best 6 Cockscombs, 1st prize, 10s.; 2d, 5s. For the best collection of Liliums, 1st prize, 15s; 2d, 10s.

CUT FLOWERS.—German Asters, 36 distinct varieties, two of a sort, 1st prize, 10s.; 2d, 5s. Ditto, 24 ditto, 1st prize, 7s. 6d., 2d, 5s. Verbenas, 36 varieties, 1st prize, 10s.; 2d, 5s. Ditto, 24 ditto, 1st prize, 7s. 6d.; 2d, 5s. Dahlias, 36 varieties; 1st prize, 1l. 10s.; 2d, 15s. Ditto, 24 ditto, 1st prize, 1l.; 2d, 10s. Hollyhocks, 24 named varieties, 1st prize, 10s.; 2d, 5s.

Persons intending to compete are requested to communicate with the Hon. Sec., Mr. J. KINGSBURY, 10, Hammet-street, Taunton.

COUNTY OF GLOUCESTER AND CHELTENHAM HORTICULTURAL SOCIETY.
The ROYAL AGRICULTURAL SOCIETY OF ENGLAND holding its ANNUAL MEETING in the neighbouring City of Gloucester during the month of July, 1853, the County of Gloucester and Cheltenham Horticultural Society have fixed on the TUESDAY during the week of such meeting for their JULY EXHIBITION, and on that occasion have determined on considerably augmenting the Schedule of Prizes. The other shows will take place as usual, which will be duly announced.
J. H. WILLIAMS, Hon. Sec.
Committee Room, 382, High-street.

WINTER CUCUMBERS.—"LORD KEYNON'S FAVOURITE."—Numerous inquiries within the last week for the above CUCUMBER SEED having been made, EDWARD TILEY begs to inform his customers that he has some good old Seed of this variety, which surpasses all others for Winter cultivation. Sold in packets at 2s. 6d. each.
Also some other fine varieties of Long Cucumbers, which are equally good for early winter cultivation, at 2s. 6d. per packet. On receipt of penny postage stamps to the amount, the seed will be forwarded per return.
EDWARD TILEY, Nurseryman and Seedsman, 14, Abbey Churchyard, Bath.

CAMDEN NURSERY, CAMBERWELL, LONDON.
WILLIAM BARNES respectfully begs to inform his Friends and the Public generally, that he has now ready a small portion of very superior Calceolaria Seed, which he intends sending out in Packets at 2s. 6d. and 5s. each. A remittance is expected from unknown correspondents.

GRAPE VINES FROM EYES, VERY FINE.
J. WEEKS AND Co., King's Road, Chelsea, have a most splendid collection of VINES, very strong and clean, two and three years old, from Eyes, all the best sorts for PLANTING or FRUITING IN POTS.
Also an extensive and [illegible] collection of STOVE and GREENHOUSE PLANTS, with all new varieties. See our Catalogues, forwarded to each. Also our Illustrations on HORTICULTURAL BUILDING and HEATING by HOT-WATER.
J. WEEKS and Co., King's-road, Chelsea.

THE NEW AND BEAUTIFULLY VARIEGATED-LEAVED PLANT,
CISSUS DISCOLOR (BLUME.)
WILLIAM ROLLISSON AND SONS beg leave to inform the nobility, gentry, and the trade, that they intend sending out, on and after the 27th of September, their new and beautifully variegated-leaved climbing plant, CISSUS DISCOLOR, of Blume, which has been so universally admired this summer at the Chiswick and Regent's Park Exhibitions. Price 21s. per plant. The usual allowance to the trade if two or more plants are ordered.—Tooting Nursery, near London.

PROTECTION OF PLANTS FROM THE HEAT OF THE SUN.—Use E. F. ARCHER'S HAIR CLOTH, a perfect non-conductor of heat, and admitting light without heat, where a covering is required; it is 2 yards wide, and any length, at 1s. 4d. per yard, and much cheaper than BASS MATS.
E. F. ARCHER, 451, Oxford-street, London.

DOUBLE ROMAN AND PAPER WHITE NARCISSUS, 4s. per dozen.—The above bulbs, the former of which is so justly esteemed for its early blooming and excessive fragrance, and the latter for its purity and elegance, have been just received at A. CORBETT'S Italian and Foreign Warehouse, 18, Pall-mall, near Waterloo-place, London.

A FEW FRIENDS to the Family of Mr. JAMES CARTON, once Gardener at Syon House, and now wholly destitute, having formed a small purse, in order that he may emigrate with his family to Australia, solicit some further aid, in order to enable them to complete their arrangements.—Subscriptions will be received by JOHN EDWARDS, Esq., Wace Cottage, Holloway, London.

MAY'S IMPERIAL MUSHROOM SPAWN.
JAMES MAY begs to inform the Trade and Mushroom Growers that he has a large quantity of the above article now ready; it is of first-rate quality. Price can be had on application.
J. M. was sorry to be obliged to disappoint so many persons last season, he not having stock to supply many of the orders he was favoured with. He now begs to inform the Trade he has taken extensive premises, for the purpose of manufacturing a large quantity; and will be able to supply any quantity, at a moderate price.—Fulham, near London.

CAMELLIAS AND CHRYSANTHEMUMS.
CHANDLER AND SONS, NURSERYMEN, Wandsworth-road, Surrey, have now fine healthy plants of Camellias well set with flower-buds at 30s. per dozen; larger size, 42s. per dozen. Bushy plants of Chrysanthemums to flower well this autumn, of the best sorts, 9s. and 12s. per dozen. Dutch Bulbs just imported. Hyacinths, well selected, 6s. to 12s. per dozen. Narcissus, Tulips, Crocus, &c., at reasonable prices.
Post-office orders payable at Kennington Cross.

STRAWBERRY PLANTS.—The under-mentioned first-rate varieties, which have all been thoroughly proved to the satisfaction of their growers, are now ready for sending out.
TROLLOP'S VICTORIA.—This is one of the finest Strawberries ever yet sent out; it has been exhibited at numerous exhibitions last season and this, and proved superior to all others for its superb quality, and, as an early forcer, is not equalled; 1l. per 100, or 3s. per dozen plants.
CREMONT'S PERPETUAL OR DOUBLE BEARING STRAWBERRY; 1l. per hundred, or 3s. per dozen.

MYATT'S SURPRISE, extra fine	10s.	0d.	per 100.
PRINCE ARTHUR, ditto	7	6	,,
BLACK PRINCE, a first-rate early variety ...	5	0	,,
PROLIFIC, very fine and early	5	0	,,
ELEANOR, the best and latest bearing Strawberry, many of the fruit growing to 2½ oz., very firm, and first-rate for travelling ...	5	0	,,
BRITISH QUEEN (true)	3	6	,,
BRITANNIA (very fine)	5	0	,,
STIRLING CASTLE STRAWBERRY (fine)	5	0	,,
ELIZA	5	0	,,
GLOBE	5	0	,,
ALICE MAUDE	3	6	,,
"GOLIATH"	3	6	,,

The above are strong well-rooted plants, and such as will ensure satisfaction. Fine plants can be had for potting, if required, which were pricked off for the purpose early in the spring.
N.B. Those Strawberries at 3s. per dozen will be sent postage and package free.
FINE ANTIRRHINUMS, all saved from striped and spotted varieties, such as will give every satisfaction and bloom early next spring, 5s. per 100.
SWEET WILLIAMS, 48 superb varieties, 3s. per 100.
SEEDLING HOLLYHOCKS, extra fine, saved from all the best varieties in cultivation, and such as will give satisfaction, 1l. per 100, or 3s. per dozen. (One hundred of these superb Hollyhocks were planted out in a bed last autumn, and 86 of them proved to be double flowers and equal to the varieties they were saved from).
A remittance must accompany the order, either by penny postage stamps or a post-office order, on receipt of which the whole or any quantity of the above will be sent hamper and package free.
EDWARD TILEY, Nurseryman, Seedsman, and Florist, 14, Abbey Churchyard, Bath, Somerset.

SEED WHEAT.
THE HYBRID WHEAT, a new variety, which obtained the Prize Medal of the Great Exhibition, is now offered for sale by Mr. R. RAYNBIRD, of Hengrave, near Bury St. Edmunds, Suffolk. Price 60s. per quarter, to include sacks and delivery to the Bury St. Edmunds Station of the Eastern Union Railway. The collection of specimens of Hybrid Wheat shown by Mr. H. RAYNBIRD is highly spoken of in the Reports of the Juries of the Great Exhibition, Class III., page 51, and satisfactory letters have been received from gentlemen to whom seed was supplied last year. Further particulars will be sent upon application to Mr. RAYNBIRD, of Hengrave, or to Mr. H. RAYNBIRD, of Laverstoke, near Andover-road, Hants.

COCHIN CHINA FOWLS.—White, Black and Buff, or Yellow Chickens of this most useful breed to be disposed of by a Gentleman who obtained prizes for the latter coloured varieties at the last great Poultry Show at Birmingham.—Apply to JOSEPH LEMON, Post-office, Sandbach, Cheshire.

CHINESE PIGS.—A beautiful Sow, of the finest species, with a Litter of Ten for Sale, at 5l. 5s. the Sow, and 1 guinea per head for the litter two months old. Also a choice lot of improved Berkshire, at 15s. each, two months old; sent free to Reigate station.—Apply to Mr. MARTIN, 50 and 51, Minories; and to view to A. WAINFORD, Charlwood, Surrey.

GREEN AND HOTHOUSES, made by Machinery, at J. Lewis' Horticultural Works, Stamford Hill, Middlesex, warranted best materials, and the cheapest in England.—A List of Prices sent by enclosing 2 postage stamps,

GLASS FOR CONSERVATORIES, GREENHOUSES, PIT FRAMES, &c.
JAMES PHILLIPS AND CO. beg to hand their prices of SHEET GLASS for cash:

Cut to order in Panes not above 40 inches long.	Packed in Boxes of 100 feet each.	£. s. d.
16 oz. ... ... 3d. to 3½d.	6 by 4, 6½ by 4½ ...	0 13 0
21 do. ... ... 3½d. to 5d.	7 by 5, 7½ by 5½ ...	0 15 0
26 do. ... ... 5d. to 7½d.	8 by 5, 8 by 5½ ...	0 15 0
In Crates of 300 ft., 16 oz., 2½d. per foot.	8 by 6, 8½ by 6 ...	0 17 6
	9 by 7, 10 by 8 ...	1 0 0

HARTLEY'S PATENT ROUGH PLATE GLASS for Conservatories, Public Buildings, Manufactories, Skylights, &c., ⅛ inch thick. Packed in boxes of 50 feet each.
6 by 4 and 6½ by 4½...10s. 6d. | 7 by 5 and 7½ by 5½...12s. 0d.
8 by 6 and 8½ by 6½...13s. 6d. | 9 by 7 and 10 by 8 ...15s. 0d.
FOREIGN SHEET GLASS, of very superior quality, packed in cases of 200 feet, and in sizes varying from 36 by 26 to 44 by 30 inches, at 33s., 40s., to 42s. per case.
HARTLEY'S PATENT QUARRY GLASS.
GLASS MILK PANS,
The same size as the foreign ones, but superior in colour, make, and quality, at 2s. each, or 21s. per dozen, as recommended by Captain Stanley Carr.
GLASS CHURN THERMOMETERS, for regulating the Temperature of Cream.
LORD CAMOY'S MILK SYPHONS, LACTOMETERS, GLASS CREAM POTS, &c. &c.
CUCUMBER TUBES, PROPAGATING AND BEE GLASSES, TILES AND SLATES, WASP TRAPS, PLATE, CROWN, AND ORNAMENTAL GLASS, SHADES FOR ORNAMENTS, FERN SHADES, And every Article in the Trade.
HORTICULTURAL GLASS WAREHOUSE, 116, Bishopsgate-street Without, London.

REDUCTION IN THE PRICES OF PLATE GLASS.
THE UNION PLATE GLASS COMPANY respectfully inform the Trade, and the Public generally, that they have revised their Tariff of Prices, and made considerable reductions thereon.
The new Lists may be had on application at the Works, Pocket Nook, St. Helens.
Warehouse:—99, Hatton-garden, London.
" 11, York-street, Manchester.
" 15, South John-street, Liverpool.
Messrs. C. and J. MULLOCH, 30, Turner's-court, Glasgow; Messrs. JOHN DIX & Co., Bath street, Bristol.

THE CHEAPEST HOUSE FOR LEAD, GLASS, OIL, AND COLOURS.
WHOLESALE PRICES CHARGED.
H. J. AND W. WALKER, LEAD, GLASS, OIL, and COLOUR MERCHANTS, 125, Queen-street Portsea, supply in any quantities, at wholesale prices, Crown and Horticultural SHEET GLASS, Patent and Polished Plate, Rough Plate for Conservatories and Greenhouses, Glass Milk Pans, Bee, Cucumber, and Propagating Glasses, and every description of Glass for Horticultural purposes. Ornamental and Stained Glass, Church Quarries, &c. Deep Well, Lift, and Garden Pumps. Plumbers' Brass Work, Brushes, Varnishes, and Colours at London prices.
N.B.—Experienced workmen sent to any part of the country.

GLASS FOR CONSERVATORIES, ETC.
HETLEY AND Co. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2d. to 3d. per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices and Estimates forwarded on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLATES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to JAMES HETLEY and Co., 35, Soho-square, London.
See *Gardeners' Chronicle* first Saturday in each month.

DEANE'S WARRANTED GARDEN TOOLS.—Horticulturists, and all interested in Gardening Pursuits, are invited to examine DEANE, DRAY, AND CO.'S extensive Stock of GARDENING and PRUNING IMPLEMENTS, best London-made Garden Engines and Syringes, Colebrook-dale Garden Seats and Chairs.

Averuncators	Garden Scrapers	Mowing Machines
Axes	Gidney's Prussian Hoe	Pickaxes
Bagging Hooks	Grape Gatherers & Scissors	Potato Forks
Bills	Gravel Rakes and Sieves	Pruning Bills
Borders, various patterns	Greenhouse Doors and Frames	,, Knives, various
Botanical Boxes	Hammers	,, Saws
Boyd's Patent Scythe	Hand-glass Frames	,, Scissors
Brown's Patent Fumigator	Hay Knives	,, Shears
Cases of Pruning Instruments	Horticultural Hammers & Hatchets	Rakes in great variety
Daisy Rakes	Hoes of every pattern	Reaping Hooks
Dibbles	Hotbed Handles	Scythes
Draining Tools	Ladies' Set of Tools	Scythe Stones
Edging Irons and Shears	Labels, various patterns, in Zinc, Porcelain, &c.	Shears, various
Flower Scissors	Lines and Reels	Sickles
,, Stands in Wires & Iron	Marking Ink	Sickle Saws
Fumigators	Mattocks	Spades and Shovels
Galvanic Borders and Plant Protectors	Menographs	Spuds
Garden Chairs and Seats	Metallic Wire	Switch Hooks
,, Loops	Milton Hatchets	Thistle Hooks
,, Rollers	Mole Traps	Transplanting Tools
		Trowels
		Turfing Irons
		Wall Nails
		Watering pots
		Weed Hooks
		Wheelbarrows
		Youths' Set of Tools

DEANE, DRAY, AND CO. are sole Agents for LINGHAM'S PERMANENT LABELS, samples of which, with their Illustrated List of Horticultural Tools, can be sent, post paid, to any part of the United Kingdom. Also, Wholesale and Retail Agents for SAYNOR'S celebrated PRUNING KNIVES, used exclusively by the first Gardeners in the United Kingdom.—DEANE, DRAY, & CO. (Opening to the Monument), London-bridge.

HORTICULTURAL SOCIETY OF LONDON.

EXHIBITIONS IN REGENT STREET.

THE COUNCIL OF THE HORTICULTURAL SOCIETY HEREBY GIVE NOTICE, that, with a view to the further encouragement of good cultivation at all seasons and in all branches of Gardening, Medals and Certificates of Merit will be given at the General Meetings of the Society in Regent-street, during the years 1852 and 1853, according to the following Schedule, and under the Regulations thereto annexed:—

1852.

OCTOBER 19. *Third Tuesday.* ... ... Meeting at 3 P.M.
- The best collections of Hardy Annuals (cut flowers), each sort named correctly ... ... SB. C.
- Table Pears, correctly named, in collections of six, two specimens of each sort to be produced SB. C.
- Green Peas, named correctly ... ... C.

NOVEMBER 2. *First Tuesday.* ... ... Meeting at 2 P.M.
- Chrysanthemums (shown in sixes, in pots not exceeding 11 inches in inside diameter) ... SK. SB.
- Alpine Strawberries ... ... SB. C.
- Celery (shown in three heads) ... ... C.

DECEMBER 7. *First Tuesday.* ... ... Meeting at 2 P.M.
- Autumn-flowering Heaths (shown in sixes, in pots not more than 11 inches in inside diameter) SK. SB.
- Table Pears, as in October ... ... SB. C.
- The best lot of forced Vegetables ... ... SB. C.

1853.

JANUARY 18. *Third Tuesday.* ... ... Meeting at 2 P.M.
- The best collection of Hardy Winter-flowering Plants (cut flowers admissible) ... ... SB. C.
- English Grapes ... ... SB. C.
- The best and most varied Salad ... ... SB. C.

FEBRUARY 15. *Third Tuesday.* ... ... Meeting at 2 P.M.
- Camellias (shown in threes, in pots not exceeding 15 inches in inside diameter) ... ... SK. SB.
- Table Pears, as in October ... ... SB. C.
- Lettuces (shown in sixes) ... ... SB. C.

MARCH 1. *First Tuesday.* ... ... Meeting at 3 P.M.
- Chinese Primulas (shown in pairs in 9-inch pots) SB. C.
- Himalayan Primulas, in pots ... ... SB. C.
- Strawberries (one dish only shown by each Exhibitor) ... ... SB. C.
- New Grapes ... ... SK. SB.

MARCH 15. *Third Tuesday.* ... ... Meeting at 3 P.M.
- Hybrid Rhododendrons (one pot only to be shown by each Exhibitor) ... ... SK. SB.
- Strawberries in pots, in threes ... ... SB. C.
- The best and most varied Salad ... ... SB. C.

APRIL 5. *First Tuesday.* ... ... Meeting at 3 P.M.
- Hyacinths (shown in pots in sixes) ... ... SB. C.
- Fruits or Vegetables, preserved whole by private persons for family use, without sugar or vinegar (shown in bottles of white glass, one bottle of each kind), accompanied by a written account of the manner in which they have been prepared ... ... SB. C.
- Forced Peas ... ... SB. C.

APRIL 19. *Third Tuesday.* ... ... Meeting at 3 P.M.
- Cyclamens, in pots ... ... SB. C.
- Cherries (one dish only to be shown by each Exhibitor) ... ... SB. C.
- Cauliflowers, in sixes ... ... SB. C.

MAY 24. *Fourth Tuesday.* ... ... Meeting at 3 P.M.
- The two best collections of Vegetables ... ... SK. SB.

JUNE 28. *Fourth Tuesday.* ... ... Meeting at 3 P.M.
- The two best collections of Vegetables ... ... SK. SB.

JULY 26. *Fourth Tuesday.* ... ... Meeting at 3 P.M.
- The two best collections of Vegetables ... ... SK. SB.

SK.—Silver Knightian Medal.
SB.—Silver Banksian do.
C.—Certificate of Merit.

1. The Medals and Certificates of Merit are on no account to be increased beyond those named in this schedule. They are to be given for fine cultivation, and not for mere novelty, which is to be a secondary consideration with the judges, unless attended by great excellence.
2. Prizes may be withheld if the objects exhibited for competition do not, in the opinion of the judges, deserve them.
3. Although those subjects of exhibition which are thus specially indicated are what the Council are most desirous of receiving, nevertheless other objects are also admissible, and additional prizes may even be given for them; *provided they possess very conspicuous merit.* The Silver Knightian Medal will be the highest additional reward which the judges can bestow, without the special sanction of the Council.
4. In a future year other kinds of produce will be selected for special competition.
5. Cut flowers are not admissible, except when it is expressly so stated.
6. Dishes or baskets for fruit and vegetables must be furnished by the Exhibitors, if they are present or live near London. The Society will only find dishes for what comes from a considerable distance.
7. Fruit must be perfectly ripe and perfectly coloured, or it will be disqualified.
8. Vegetables must be produced in the state in which they are offered for sale in the best class of shops, and properly prepared for the cook.
9. Foreign fruit and vegetables are admissible, but not in competition with produce of home growth.
10. Everything must be in the room three hours before the meeting, and ready for inspection by the Judges two hours before the meeting. If anything received later is allowed to be exhibited, it will be liable to exclusion from competition.
11. Exhibitors, and Exhibitors only, can receive passes to enable them to return to the meeting-room after the Prizes shall have been adjudicated. Two hours before the meeting they must quit the room, in order that the Judges may be undisturbed.

ESTABLISHED MORE THAN 100 YEARS.

THOMAS MILLINGTON,

IMPORTER AND DEALER IN

GLASS FOR CONSERVATORIES, GREENHOUSES, GARDEN FRAMES, AND DWELLINGS.

WAREHOUSE, 87, BISHOPSGATE STREET WITHOUT, LONDON.

Cut to any size. Squares not above 40 inches long.

	Per foot.
16 ounces	0s. 2¾d. to 0s. 3d.
21 ,, ...	0 3½ to 0 4
26 ,, ...	0 5 to 0 6
32 ,, ...	0 6½ to 0 8

[Squares in Boxes 100 feet each.

Under 6 by 4	12s. 0d.
6 by 4, 6½ by 4	13 0
7 by 4, 7 by 6 / 8 by 6, 8½ by 6½ } under 9 by 7	15 0
9 by 7, 8 by 8, 12 by 9, 12 by 10 / 13 by 10, 14 by 10, 15 by 10 ... }	20 0

LARGE SHEET of No. 16, very superior, packed in cases of 100, 200, and 300 feet, at 2¾d. to 2½d. per foot.

HARTLEY'S and other ROUGH PLATE, from ⅛ to 1 inch thick.

Glass Milk Pans, Preserve Jars, Bee and Propagating Glasses, Plate Glass, Patent Plate, Plain, ornamental, and Coloured, as well as every description of Window Glass now manufactured. Glass Shades, round, oval, and square, for Clocks and Ornaments. Fern Shades and Dishes.

HOTHOUSES, GREENHOUSES, ETC.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

DENCH, PATENT HOTHOUSE WORKS, KING'S ROAD, CHELSEA.—The superior qualities in every respect of these Structures having been proved in all parts of the United Kingdom, has caused a greater demand for them than E. D. could execute; he has been obliged to have perfect and powerful machinery made to meet the numerous orders, and can now execute any amount of work to great perfection, with dispatch, and for quality and price to defy all competition. Patent Hothouses, with excellent glass, 8 feet long by 1 foot wide, every front sash to open, and every top one to slide down, with pulley made of the same materials as the electric telegraph wires, which require no painting; delivered free to Wharf or Railway Station, at 1s. 2d. per foot super., complete, having been fitted, and every portion marked previously, making a Greenhouse 16 ft. 6 inches long, 12 ft. rafter, 400 ft., 23l. 6s. 8d.; 24 ft. 6 ins. long, do. do., 526 ft., 30l. 13s. 8d.; 28 ft. 6 ins. long, 15 ft. rafter, 712 ft., 41l. 10s. 8d. Heating by Hot Water on the most approved and economical principles.

Patent Sashes for Pits and Peach Walls, &c., 7d. and 8d. per foot, super.

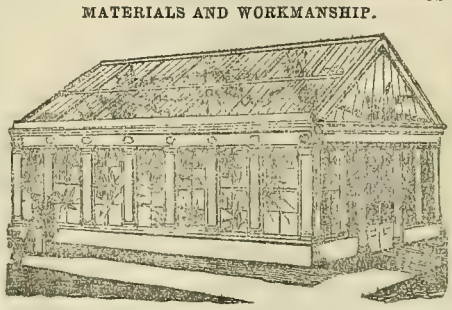
A BARGAIN.

FOR SALE, a lean-to GREENHOUSE, 14 feet 6 inches by 10 feet, made of the very best materials and workmanship, well painted, and ready for fixing. May be seen at Messrs. NICHOLLS and Co., Horticultural Builders, &c., City-road, London, corner of Plumber-street. Manufacturers of Hot-water Apparatus of every description.

N.B. Alterations or additions made on the shortest notice, and on very reasonable terms.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER,

AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.



GRAY AND ORMSON, Danvers Street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

G. and O. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders they can with the greatest confidence give the most satisfactory references.

Their Hot-Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating by Hot Water can be made available.

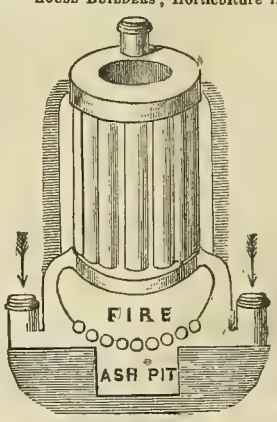
EWING'S PATENT GLASS WALLS—The following are the Agents, and on application to whom drawings may be seen, and all other information obtained:—Messrs. Knight and Perry, Nurserymen, &c., Chelsea; Messrs. Henderson and Co., Nurserymen, Pine-apple-place, London; Messrs. Whitley and Osborn, Nurserymen, &c., Fulham, London; Mr. Glendinning, Nurseryman, &c., Chiswick, London; Messrs. Veitch and Son, Nurserymen, Exeter; Messrs. Dickson, Nurserymen, Chester; Messrs. Lawson and Sons, Nurserymen, Edinburgh; Messrs. Dickson and Turnbull, Nurserymen, Perth; Mr. M'Intosh, F.R.S., Gardener to the Duke of Buccleuch, Dalkeith; Mr. Fleming, F.H.S., Gardener to the Duke of Sutherland, Trentham, Stafford-shire; Mr. Ewing, Gardener, Bodorgan, Anglesea; Messrs. Pilkington and Co., Plate, Crown, and Sheet Glass Works, St. Helen's, Lancashire.

These Walls can, when desired, be made wide enough for a person to enter, by which they become elegant hothouses on the best principle. Existing Walls covered with Glass and Iron.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER.

TUBULAR BOILERS OF ALL SIZES, WARRANTED THE MOST EFFICIENT.

J. WEEKS AND CO., King's-road, Chelsea, HOT-HOUSE BUILDERS; Horticulture in all its branches upon the most improved principles. These Boilers are very powerful, durable, and economical. The fire warranted to last 15 hours without attention. The Furnace Bars are Hollow Tubes through which the return water passes before entering the upper part of the boiler, thereby causing a very rapid circulation, and producing double the effect from the same quantity of fuel.

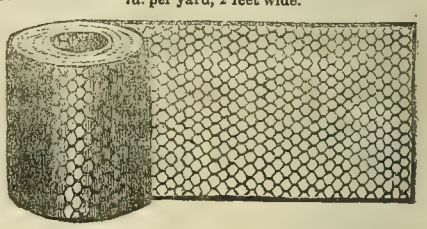


J. WEEKS AND CO., King's Road, Chelsea, CHALLENGE the whole world to make a Boiler that will produce anything like the same effect, with the same quantity of Fuel in a given time. It is one of those boilers that warms the water of their Victoria Regia Tank, which contains 20,000 gallons, and also heats several large Forcing-houses and ranges of Pits, with a small consumption of fuel.

Plans, Models, and Estimates of Horticultural Buildings; also Catalogues of Plants, Vines, Seeds, &c., forwarded on application.

J. WEEKS and Co., King's-road, Chelsea, London.

GALVANISED WIRE GAME NETTING.—7d. per yard, 2 feet wide.

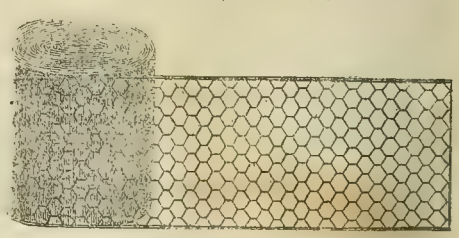


	Galvanised.	Japanned Iron.
2-inch mesh, light, 24 inches wide ...	7d. per yd.	5d. per yd.
2-inch ,, strong ,, ...	9 ,,	6½ ,,
2-inch ,, extra strong ,, ...	12 ,,	9 ,,
1½-inch ,, light ,, ...	8 ,,	6 ,,
1½-inch ,, strong ,, ...	10 ,,	8 ,,
1½-inch ,, extra strong ,, ...	14 ,,	11 ,,

All the above can be made any width at proportionate prices. If the upper half is a coarse mesh, it will reduce the prices one-fourth. Galvanised sparrow-proof netting for Pheasantries, 3d. per square foot. Patterns forwarded post free.

Manufactured by BARNARD and BISHOP, Market-place, Norwich, and delivered free of expense in London, Peterborough, Hull, or Newcastle.

GEORGE ARTINGSTALL AND CO., LATCHFORD WIRE WORKS, WARRINGTON,



Manufacturers of Improved Strong

RABBIT-PROOF WIRE NETTING.

12 inches high	4d. per yard.
18 ditto	6d. ,,
24 ditto	8d. ,,

All other widths at proportionate prices.

Wire Work for Aviaries, Conservatories, Fencing, &c., &c.; also extra strong Wire Kiln Floors for drying Grain, &c., &c.

"EUREKA.—FORD'S EUREKA SHIRTS differ from other patterns, not merely in shape and design, but in their great superiority of fit, quality of material, and workmanship."—*Globe*, April 12, 1852. The Illustrated Price Lists containing directions for self-measurement and every particular, are forwarded post-free; and the pattern-books to select from, of the New Registered Coloured Shirting, on receipt of six stamps.—RICHARD FORD, 38, Poultry, London.

NEW AND CHOICE PLANTS AND BULBS.

BASS AND BROWN'S NEW AUTUMN CATALOGUE is now ready: it embraces much descriptive and useful information. On receipt of three postage stamps it will be sent free, or gratis to purchasers. It contains, among other new plants, the NEW GERANIUMS last out, at reduced prices, of which we possess a fine stock, and will shortly be ready.

Seed and Horticultural Establishment, Sudbury, Suffolk.

JUST IMPORTED.

JOHN SUTTON AND SONS, SEED GROWERS, Reading, Berks, *have just received from* Messrs. BEYOET *and* Mr. DE BOOM, *of Haarlem*, a superior collection of HYACINTHS, ANEMONES, and other Bulbous Flower Roots, which may be depended upon as the best which can be procured.

J. S. and SONS recommend early planting; but, for the accommodation of those who prefer it, they will import a fresh assortment for later planting in October.

The Priced List will be ready shortly, and the following are the prices of some of the leading articles:—

	Per doz.—*s.*	*d.*
The finest Hyacinths, by name	10	6
Fine ditto ditto ... ... *6s.* to	9	0
Finest ditto, in separate colours, without names ...	5	0
Jonquils, sweet double	2	6
Double Roman and Paper White Narcissus	3	6
Gladiolus, finest mixed	3	6
Early Tulips, of sorts, per 100, *7s. 6d.*; per doz.	1	0
Crocuses, many sorts, per 1000, 16*s.*; per 100, 1*s. 6d.* to	2	0
Anemones, new, large double ... ... Per 100	7	0
,, fine mixed, single ... ... ,,	6	0

A complete collection, including all the most desirable kinds of Bulbs *for spring blooming*, 1*l.* 10*s.*, 1*l.*, or 10*s.*

N.B. All Orders to the amount of 30*s.* and upwards will be sent CARRIAGE FREE.

Address, JOHN SUTTON & SONS, Seed Growers, Reading, Berks.

GUERNSEY AND BELLADONNA LILIES.

BRIDGEWATER PAGE AND CO. have the pleasure to offer fine Flowering Bulbs of the above beautiful Autumnal Lilies. Guernsey Lilies, 4*s.* per dozen; Belladonna ditto, 4*s.* per dozen; Amaryllis formosissima, 4*s.* per dozen; Early Double Roman Narcissus, 4*s.* per dozen; ditto Paper White do., 4*s.* per dozen; ditto largest Jonquils, 2*s.* 6*d.* per dozen. All orders above 10*s.* 6*d.* will be delivered free on the South-Western and Great Western Railways.

DUTCH BULBS, consisting of HYACINTHS, TULIPS, CROCUSES, GLADIOLI, &c., have just arrived in fine condition, and are offered at greatly reduced rates, Catalogues of which may be had on application to PAGE and Co., Seed Merchants, Southampton (sole Agents to the Shale Manure Company for the county of Hants).

SHALE MANURE, 3*l.* per ton.

NICHOLSON'S TWO NEW SEEDLING STRAWBERRY PLANTS.

WILLIAM NICHOLSON continues to send out his unriva led STRAWBERRY PLANTS, viz., the "Ajax" and "Ruby" at 2*l.* for 100 plants, 1*l.* 5*s.* for 50, and 15*s.* for 25. Orders promptly attended to on the receipt of a Post-office order. The "Ajax" was exhibited last year in Covent-garden Market, nine of which weighed 16 oz., and one measured nine inches in circumference. The fruit of the "Ajax" is of a fine globular shape, the colour a rich dark crimson, very juicy, and of particular fine flavour. The parent plant of the "Ruby" is now six years old, in full bearing, and had 146 perfect berries upon it this season; colour ruby, shape fine oval, size a little less than the "Queen," of fine flavour, is very prolific, and continues bearing much longer than any other known kind; fruit having been gathered from it this season up to the 25th August. Testimonials of their merits have been received from some of the first gardeners in the kingdom, which Mr. N. will be happy to produce if requested.

WILLIAM NICHOLSON, Egglescliffe, near Yarm, Yorkshire. September 11.

SEEDLING "ELIZA" STRAWBERRY (RIVERS'.)—This Strawberry was raised five years since from Myatt's Eliza, and proves to be one of the finest second early Strawberries known. When Keens' Seedling is fully ripe, this commences to ripen; its flavour is exquisite, like that of its parent, and, in size, it is equal to a middle-sized British Queen; its habit is robust and compact, and it is abundantly prolific.

Strong bearing plants, last year's runners, transplanted in March, 3*s.* per dozen; 20*s.* per 100, paid to London.

Trollope's Victoria, a good early Strawberry, 3*s.* per dozen.

THOMAS RIVERS, Nurseries, Sawbridgeworth, Herts.

The Gardeners' Chronicle.

SATURDAY, SEPTEMBER 11, 1852.

MEETINGS FOR THE ENSUING WEEK.

COUNTRY SHOWS.—Monday, Sept. 13: Thame.—Tuesday, Sept. 14: North London.—Wednesday, Sept. 15, and Thursday, Sept. 16: Hexham.—Wednesday, Sept. 15: Cumbernell, and Welby Amateur.—Thursday, Sept. 16: Hull, Aylesbury, Bath, and Notting Hill Dahlia.—Friday, Sept. 17: Turriff and Whitehaven Dahlia.—Saturday, Sept. 18: Edinburgh and Meath.

THE reports upon THE POTATO CROP IN IRELAND, made officially by the Poor-law Commissioners, only confirm the apprehensions that have been entertained as to the formidable extent of the new disease. The general opinion seems to be that the state of things at the present time is much as it was in 1846; and a careful examination of the returns in question (149 in number) from every union in Ireland leads to no other conclusion. Early planting, which has now become a common practice, has produced the soundest crops, while the late planted fields suffer most. The official returns not having in any case been made at a later date than August 21, and the majority being at least a week earlier, we fear that the hopes which some of the reporters entertain, that the disease will not extend much further, can hardly be realised; it is contrary to all experience that it should not steadily progress; we do not believe that it has ever been known to be arrested, except in the case of a crop being nearly ripe when it broke out.

In Ireland, as with us, the stems and leaves are often blackened, without the tubers themselves becoming tainted at the same time; but it is perfectly certain that under such circumstances, either the tubers will eventually rot, or the crop be seriously diminished.

The most satisfactory circumstance elicited by the Government returns is to our mind the fact that the cultivation of the Potato is gradually giving way for other crops. The reporters, indeed, often speak of a larger quantity of land than of late years being under Potatoes; but we find that out of 149 workhouse sites no fewer than 74, or one-half, report that "no Potatoes have been planted;" and upon the whole we suspect that, although it may be true that in many places more land is occupied with this crop than since 1847, yet there is very much less than in 1845 and previous years.

WE have before us a singular example of that possibility of fixing A SPORT, to which allusion has been so often made.

Mr. SALTER, of the Versailles Nursery, Hammersmith, observed last year among his seedling Dahlias one which produced a number of green scaly flower heads, but no perfect flowers. The root was propagated this season and every plant is now covered with similar heads of scales, looking more like an Artichoke than a Dahlia. All the plants are vigorous, but there is not a single perfect flower-head upon any one of them, so that the sport seems to have become already fixed.

Of one of the specimens now before us, and which we owe to Mr. SALTER, the following is a representation.



It will be seen that in this case the bracts or scales of the involucre, and the paleæ of the receptacle, instead of retaining their usual membranous state, have all taken on them the texture, colour, and veins of leaves, even narrowing their bases into footstalks. Not only is there no trace of flowers in the axils of their scales, but even rudimentary buds are deficient. The receptacle is elevated into a slender axis, and the end or centre of it is in no one respect different from the central scales of an ordinary leaf bud. In one of the examples the clustered arrangement of the involucral leaves is entirely gone, and its place is taken by a mere branch 6 inches long, covered over with small leaves, of which the uppermost are packed more closely and are smaller than the lower, whose stalks are fully half-an-inch long, and are inserted in a tolerably regular spiral manner.

This monster must be taken to demonstrate, firstly, that the bracts and paleæ of a Dahlia, and therefore of all composite flowers, are leaves imperfectly developed, or, if the reader pleases, stopped in their growth when very young; secondly, that the receptacle of such plants, the "bottom" of the Artichoke for example, is merely a branch taking a horizontal development, instead of growing longitudinally; and thirdly, that no difficulty exists in perpetuating sports artificially.

Mr. SALTER and others should cultivate this strange production assiduously; it is by no means improbable that it may again sport or be made to do so, changing the green of its scales for some bright colour; and if so, a very pretty looking garden plant would be the result.

A PARAGRAPH was lately copied from a daily paper into this journal, giving an account of the ravages committed by the Grape mildew in Madeira. Some blighted Grapes from that island have been forwarded by C. H. C. PLOWDEN, Esq., to Sir W. J. HOOKER, and through his kindness submitted to us for inspection. It was scarcely probable that after a long voyage they could arrive in a very satisfactory state, but though much bruised and decayed they have not proved entirely void of interest. Many of the Grapes were perfectly sound, while others were in various stages of decay, but none cracked and distorted, as is frequently the case with our own mildewed Vines, when the disease is very aggravated. Not the least trace of the *Oidium* was discoverable either on the berries, the few leaves which accompanied them, or in the decomposed matter which had been deposited on the sound fruit. But instead of the *Oidium* almost every decayed berry exhibited, more or less distinctly, a species of *Verticillium*, which seems to be the same with that figured in the "Annals of Natural History," under the name of *V. distans*. The spores of this are about $\frac{1}{1000}$ of an inch in length, but mixed with them are others which are triseptate and four times as long, exhibiting all the characteristics of those of a *Fusarium*. It is pretty certain that *F. solani Tuberosi*, Desm., is merely the perfect state of *Dactylium tenuissimum*, which so often occurs on the lower part of the stems and tubers of Potatoes in an early stage of the Potato murrain; and it is very possible that we have here another analogous case, for two forms of fructification occur very frequently amongst fungi.

Another point of interest was also furnished by the decayed berries. A vinous odour was at once perceptible on opening the box, and is indeed very common in decayed Grapes, provided decomposition has not proceeded too far; we were not surprised, then, that the first glance at the field of the microscope brought to view the perfect form of the Yeast plant, such as was first figured by Dr. HASSALL in the *Lancet*, as developed freely on infused malt, and which was raised by Mr. BERKELEY and Mr. G. H. HOFFMAN, between thin laminæ of glass, immediately from the yeast globules, and observed in every stage of growth, from the first germination of the spores to the production of perfect fruit. The plant thus propagated proved exactly identical with what Dr. HASSALL had previously recorded, and his suspicion that he had the perfect form of the yeast globules before him, completely confirmed.

Other moulds were present, especially *Trichothecium roseum*, which is so common on mildewed Cucumbers and Melons; indeed the spores were dispersed in such quantities as to make it very probable that the fruit when gathered was more or less covered by it, and possibly to the partial or complete exclusion of the *Oidium*, which, had it been present, must have left some traces behind. The spores of the *Oidium* average $\frac{1}{750}$ of an inch, while those of the *Trichothecium* are only half that size, and therefore could not very easily escape notice.

The Grape mildew is so completely under the control of the cultivator who will perseveringly apply the lime and sulphur, that it is not easy to obtain specimens, where every one is equally diligent in the use of the prescribed remedies. We have therefore had some difficulty in procuring fresh examples. What we have obtained confirm our assertion as to the mould in this country affecting principally the under surface of the leaves, though not confined to it. We have nothing to retract on the subject, and nothing to add, respecting its history, to former observations, except that we find the spores are very much of the same size and shape as in the Rose mildew. A singular species of *Conisporium*, consisting of obovate or pyriform bodies, about $\frac{1}{1000}$ of an inch long, furnished with a single septum at the narrow end, and an *Ascophora* agreeing with *A. glauca* were abundant on the decayed fruit, especially the latter. *M. J. B.*

THE UNNATURAL EXCITABILITY OF THE POTATO A PROOF OF ITS CONSTITUTIONAL DEBILITY.

THERE is one phase of the Potato disease which I have observed since the beginning of the malady, that has not, so far as I am aware, received that attention which its importance seems to demand—I mean the unnatural degree of excitability manifested by the tubers at this season of the year. Instead of being dormant, as formerly, many of them have produced a sort of underground stem upon which other tubers are formed; others have made shoots from a quarter to half an inch long, and nearly all the eyes are starting into growth.

If this unseasonable effort at reproduction is a general accompaniment of the disease, I think it affords strong evidence that the disease itself is the result of constitutional debility; for we observe that every unhealthy plant puts forth the most persevering efforts, often out of as well as in season, to produce flowers, seeds, or fruit, and thus reproduce and perpetuate its species. Hence we often say of such unhealthy subjects, they are flower-

ing, fruiting, or seeding themselves to death. But this is not strictly correct; for the extraordinary fertility of these plants is seldom the cause, but generally the proof of pre-existing debility. So the peculiar excitability of the Potato is not a producing cause of disease, but affords a strong proof that its vital energy is impaired. Now, every gardener knows that plants in a weak condition become the prey of a whole host of insects, parasitic fungi, &c. In fact a terrific struggle goes on between preservation and destruction—life and death. The plant puts forth all its efforts to live; these different agencies seem determined to destroy it; and destroy it they certainly will, unless some extraneous aid comes to its support; as it seems to be a law pervading alike the vegetable and animal kingdoms, that all diseased subjects should quickly perish, and not continue to cumber or mar the beauty of the earth. It is obvious, too, that the slightest change of the air, either in reference to heat or moisture, will often prove fatal to a weakly plant, whereas the same or far greater changes would not at all affect injuriously the same plant in health—simply proving that a weakly plant furnishes a favourable medium for the development of active disease; while a healthy plant is furnished with the means of resisting it. Hence the best antidote against the ravages of disease is a good constitution, or, as a physician would say, "a well balanced circulation." Our continued barbarous treatment has impaired the constitution of the Potato. How is it to be restored to its original vigour? by cutting off the diseased parts, or diligently hunting and destroying every little insect that has lived unmolested upon Potato leaves for years? No. But by going earnestly to work, with the view of restoring the general health of the Potato. This may be effected not only by raising new varieties, but by at once securing the soundest tubers, subjecting them to the rational systems of treatment recommended in your excellent Leader of the 4th inst.; and, above all, bringing them under a system of strict temperance regimen.

For years we have been stimulating the Potato plant with rich manures, gorging its whole structure with more crude sap than its lanky stems and smothered leaves could possibly elaborate; and thus throwing its whole system into plethoric disorder, and predisposing it to the attacks of every poisonous miasma. It may be necessary for a time to forget our ever-present utilitarian motives, and to cultivate the Potato more with a view to improve its sanitary condition than for profit; for I have always observed, without any exception, that the richer the land and the better the crop the more virulent the disease, and *vice versâ*.

To surround a Potato plant at the present time with a mass of decomposing vegetable or animal manure resembles the folly of a man who, in the time of cholera, would prefer inhaling the pestiferous odour of a London sewer, and debasing himself by intemperance, to breathing the pure air of the country, and practising the strictest sobriety. By the former course of conduct he would almost to a certainty perish; by the latter, escape. So with the Potato plant; for I believe there is a striking analogy between the originating cause of cholera, so far as it is known, and the cause of the Potato disease. Both seem in a certain sense to be atmospheric; that is, the active principle appears either to originate in some general disorganisation of the atmosphere, or in the diffusion throughout certain strata of the same, of some subtle but powerful and destructive agency. But this active principle seems comparatively, if not quite, harmless, until it meets with conditions congenial to the development of its deadly effects; and these conditions may, in both cases I believe, be correctly defined in two words —*dirt* and *debility*.

In conclusion I may mention that, with the exception of crops on poor soils, the disease is generally very virulent, and I believe two-thirds of the crops will be destroyed this year. *D. T. Fish, Kirkleatham Hall, Redcar, Yorkshire.*

ENTOMOLOGY.

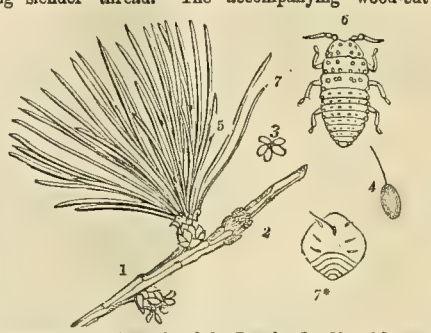
THE SPRUCE-GALL ADELGES.

THE ordinary routine of development of insects,—from an egg deposited by a full-grown, winged female to an active larva, grub, or caterpillar, thence to a quiescent pupa or chrysalis, from which is produced a fully developed individual, male or female, resembling its parents in all respects—is subject to certain modifications in different tribes which are amongst the most remarkable physiological phenomena hitherto observed in the animal world. Many entire orders of insects, grasshoppers, mantides, cimices, cicadæ, &c., indeed differ from the preceding routine being subject as it were to an advance towards perfection in their earlier states, the larvæ differing but little from the perfect insect except in the absence of wings, whilst the pupa state is active and the insect furnished with rudimental wings. Amongst these tribes, however, we find a certain degradation, as it were; many individuals never acquiring wings, but continuing in a state very similar to that of pupæ; possessing, however, all the generative powers of their more perfectly developed relatives. These curious modifications are, moreover, observed in a still higher degree in the species of two families of insects which are continually before the eyes of the gardener, namely the aphides and scale insects. In the former the ordinary development of insects occurs in the male alone, whilst the female undergoes a strange degradation of powers and instincts; for, from a small active six-legged larva, with jointed antennæ and long slender setæ at the extremity of the body, it becomes an inert mass, in which all the limbs are absorbed, with the exception of the threads which form the sucker by which it exhausts the sap of the various vegetables upon which it is found. In the aphides we have still more curious and complicated changes; the females at one time of the year producing eggs, and at another fully developed larvæ (one writer has, indeed, asserted that he has seen them bring forth winged individuals), and this, too, without the necessity of impregnation by the male for the period of many successive generations. In this family, too, we have the strange anomaly of the females produced at one season being quite unlike those which are found at another; in other words, whilst they are winged and like their partners at one season, they remain undeveloped as regards their aerial locomotive organs at another.

The engravings in the present article afford an instance in which this modification is carried to its greatest extent; indeed, so far, that the females found at one period of the year have been regarded as belonging to the family Coccidæ, and those produced at another as Aphideous.

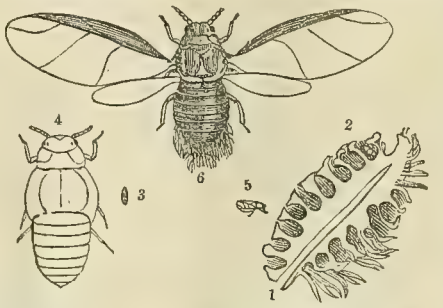
These circumstances, so interesting and anomalous, are accompanied also by effects upon the vegetable economy of the trees on which the insects are reared, resulting in the production of an excrescence which shows us, to a certain extent, how, in flowering plants, leaves are transformed into petals.

In our Paper for 1844, p. 796, there appeared an article by "Ruricola" on a disease of the Larch tree in the spring resembling American blight, occasioned by small, nearly globose, soft blackish animals, more or less clothed with a short white cottony substance, not larger than a pin's head, with six very small legs, and a short stout proboscis, from which proceeds a long flexible setiform tube inserted into the scales of the bud; and close to each of these animals was to be observed a cluster of minute eggs, 30 or 40 in number, each attached by a long slender thread. The accompanying wood-cut



represents part of a twig of the Larch (fig. 1), with one of the insects and its cluster of eggs (fig. 2), five of the eggs in a small cluster (fig. 3), a single egg detached (fig. 4), and the insect itself magnified (fig. 7). At the same time there were also observed on the leaves a number of very minute six-legged active larvæ, which "Ruricola" correctly regarded as the young hatched from some of the eggs. These are represented on the leaves at fig. 5, and one of them magnified at fig. 6. When these larvæ, however, had once selected a leaf, they inserted their rostrum and appeared to rest in a dormant state. In the beginning of June they had spread over the leaves of the Larch, and were beginning to be clothed with a white cottony substance. "Ruricola" thought these insects were closely allied to Coccus, from which the female differed in not being covered with a scale, and in the eggs being deposited not beneath the mother but on one side of her; and in the young not having setiform tails. He suggested that it was possible that they might be the Adelges Laricis of Vallot, which is indeed the case.

In a subsequent number (1844, p. 831), "Ruricola" also gave the description of another insect, which inhabits the curious pseudo-cones of the Spruce Fir, so much resembling the genuine fruit of that tree as to have been mistaken for a modification of them. One of these pseudo-cones is represented cut in half in the accompanying fig. 1, showing a number of little cells on the outer



margin, in one of which, fig. 2, is to be observed a small insect, which is represented detached in fig. 3, and magnified in fig. 4. These proved to be the pupæ of a species of Aphidæ, from which the winged individuals (figs. 5 and 6) were produced in the months of July and August; most of the winged specimens proved to be males, but "Ruricola" observed others with more acuminated tails, which he suspected might be females. From the habits of the insect, which differs generically from the common aphides, he gave to it the generic name of Sacciphantes, considering it probable that the Larch species would associate with this group.

The Spruce Fir species was named by Linnæus Chermes Pini Abietis; and De Geer described it as the Aphis Gallarum Abietis. De Geer's history on this insect is one of the most interesting and complete in his "Memoires;" and from it we learn not only that the galls in question or pseudo-cones are produced by the attacks of the minute larvæ, the eggs of which are deposited between the scales of the buds, but also that the females at one season of the year resemble those described by "Ruricola" on the Larch; whilst at another, they so closely resemble the winged male figured by "Ruricola" on the Spruce, as to render it probable that "Ruricola's" two insects belong to the same species. Dr. Ratzeburg has also illustrated these insects in his "Forst Insecten," Vol. III., and from his observations we further learn that the females have the power of producing eggs, and even living young, before they acquire their wings. Evidence of this remarkable fact will be found in our woodcut, fig. *e*, copied from Ratzeburg's plate:—



The woodcut here given moreover represents, fig. *a*, a sprig of Larch, with two of the pseudo-cones, a portion of the outer edge of a cone, fig. *d*, to show the cavities with the enclosed insects, another portion, fig. *b*, showing the mode in which the two lips of the cells open when the insects have attained their full size, and a portion of a leaf, fig. *c*, springing from one of the cones on which the exuviæ of the pupæ are observed sticking in considerable numbers, the pupæ creeping out of the cells, and being transformed in the open air to winged insects. As regards the generic name of these insects, we should have adopted that of Linnæus (Chermes), were it not a vernacular name of the cochineal insect: that of Sacciphantes is also untenable, being preceded by that of Adelges, previously imposed by Vallot. *J. O. W.*

Home Correspondence.

Late Peas.—I certainly should not have troubled you further on this subject if the plan laid down by that great investigator of the laws of nature—the late Mr. Knight, had been properly carried out by your correspondent "A., Bucks." The deep digging and manuring the Celery-trench were only half doing the work. It seems all went on well while the roots were confined to this rich narrow space, but by the time the plants commenced to fruit, and when the energies of the roots were most needed, they began to penetrate the sides of the trench, exhausted by the former crop, where they could neither find liberty nor nourishment, and were consequently checked. Had "A., Bucks," cultivated his ground 2 or 3 feet on either side of his row of Peas as liberally as he did underneath, he might have been enjoying his dish of green Peas in brown October, instead of deploring their absence. *W. Fitzsimon, Reigate, Surrey.*

Begonia Prestoniensis.—Messrs. Lucombe and Pince's advertisement, at p. 561, reminds me of an opinion I was led to form on receiving from them lately fine specimens of the above-named plant—that Begonias must soon become as popular as Achimenes, Gloxinias, and the like, now that the process of hybridisation has been so successfully brought to bear upon them. You will, perhaps, allow me to mention, for the information of those who have not seen it, that this B. Prestoniensis is probably the handsomest of the Begonias—certainly one of the most brilliant; so that it must become a popular plant. It is said to come from B. cinnabarina crossed with B. nitida, and unites with foliage and flowers very much like those of the former the shrubby character of the latter, so far modified as to be literally of a neat branched habit of growth; the leaves are obliquely ovate-acuminate, slightly lobed, and doubly-serrate on the margin, and the flowers come along the branches in axillary trichotomous cymes, elevated on long red peduncles above the dark green leaves. These flowers (male 4-petalled, female 5-petalled) are, perhaps, rather smaller than in B. cinnabarina, but brighter coloured, and they have unquestionably a very pleasant Rose-like odour, which was discoverable after a long railway journey. It is a true Diploclinium, not a Platyclinium, like its female progenitor, having the placentas double.

A figure of it will be published in the forthcoming, and, I believe, final number, of the "Garden Companion." *Thomas Moore, Chelsea.*

Manetti Rose.—I have read Mr. Rivers's remarks, at p. 565, relative to this Rose, and I have since seen the plants he there alludes to, but my opinion of this Rose as a stock remains unaltered. It is suited to special rather than general use, and that in a very limited degree. The Roses he mentions are certainly growing freely enough on it, but I have seen the same sorts growing equally well in similar soils, both on the Dog Rose and on their own roots—freer, I may say, in the latter instance. Where then in the examples he adduces is the advantage? Now it is no flattery to say that Mr. Rivers is one of our first horticulturists, and if he found some difficulty in its cultivation, so much that he considers it necessary for Messrs. Lane and Paul to "serve a sort of apprenticeship" to know how to manage it, is this stock suited for general culture? Can any amateur or gardener afford the time (leaving out the question of the premium), to serve an apprenticeship to Mr. R. to learn how to grow Roses on this stock? which thing, when learnt, is not worth the learning. I trow not. On one point Mr. R. seems to me to argue strangely for a man of his practical knowledge. He says, "Is not the Manetti a hybrid China Rose? and are not all our finest autumnal Roses of the same race? The transition must therefore be less than when a bud of a hybrid Rose is placed in a Dog-Rose stock." Agreed. But will Mr. R. argue thence that it is better? Is it an axiom in horticulture, that the closer the affinity of the stock and scion the better? Does the Peach thrive better on the common Almond than on the Plum? Is the seedling Apple a better stock for the Apple than the Crab? Surely not; and numerous other instances will doubtless occur to him in which the advantage is not in the precise ratio in which the stock is akin to the bud or graft. As for the remarks of "J. M." respecting "astonishing results," "universal panaceas," and "galvanised wires" they require a more philosophic pen than mine to grapple with them. I am content to deal with facts. Certainly I have too much love for my Roses to wish them transposed where they would have to undergo such a combination of hardships as "poor thin light soils," "reeking atmospheres," "murky fens," and "withering siroccos," and I would entreat that portion of poor suffering humanity who may be "doomed to quiver" under such circumstances, if they cannot themselves escape, at least to place their favourite flowers beyond such influences. *William Paul, Nurseries, Cheshunt, Herts.*

Wasp Trap.—You have formerly recommended as a wasp and fly trap, a wide-mouthed Gooseberry bottle with a tin or other funnel in it. Try, and you will recommend a transparent bottle. The difference in the numbers caught in an opaque and a transparent bottle is surprising. The reason is evident; in the opaque bottle the light, towards which the captives fly, is up the funnel, in the transparent bottle the light is all round them, thither they keep flying till they can fly no longer, and then fall into the liquor, a mixture of beer and treacle. *A Reader from the beginning.*

Erigeron canadensis.—Those botanists who wish to obtain specimens of the Erigeron canadensis, or Canadian Fleabane, will find plenty of it growing in the triangular space which is now being fast built over, between the end of Deptford and New Cross, having Counter Hill to the west of it. As the houses are increasing rapidly there, it will be best to lose no time, as next season there may be no open ground left. This is now a rare plant; but is spoken of by Ray, as growing plentifully about London in his time. I have learnt that the place where I found it was at least 50 years in occupation of Messrs. Cormack and others as garden ground. The high system of manuring which gardeners would find necessary for their purposes would probably not suit the habits of the Fleabane; but no sooner would neglect reduce the ground to its naturally sterile condition, than the seeds of Erigeron would begin to germinate, and produce the plentiful supply now found there. In this fact may be found an explanation of the occasional disappearance and restoration of several interesting plants in various parts of the country. *William Ilott, Bromley.*

Carrion Crows.—Some time ago I was riding in the country. I saw a carrion crow (Corvus corone) fly out of a barn with an egg in its beak; it flew about 60 yards into a field, laid down the egg, and went for another. I then disturbed it, when it flew three or four hundred yards, with the other egg, to its feast. I searched for the first, which I had great difficulty in finding: it was placed in the print of a horse's foot, and completely covered over with clods; it was perfectly uninjured. I was extremely surprised to find that it could carry so large a substance, notwithstanding the saw-like edge of the mandible. The general impression is that it pierces the egg with one mandible. Such, however, is not the case. *P. D., Pershore.*

Cuthill's Black Spine Cucumber.—Permit me to inform "Mary" that gathering 52 Cucumbers off three plants up to the present period is not amiss for a lady gardener. Mr. Boucher, an amateur, living in the New-road here, however, cut 62 Cucumbers from one plant, each measuring 14 inches long, which beats "Mary;" but Mr. B. had had a good Cucumber season. This year has been very unfavourable to Cucumber growing; therefore, upon the whole, "Mary" has done remarkably well, and deserves praise. I trust, however, that I shall not frighten the lady when I tell her that I have grown as many Cucumbers upon one plant before the end of May as she has cut from three up to August 20. Mine are growing upon a trellis 2 feet from the ground. Cucumbers bear better on trellises than placed otherwise, and they are finer flavoured, on account of the free circulation of air which plays over and around the foliage. I would advise the lady and others who are growers of Melons and Cucumbers to build a 4 or 9-inch walled brick pit, even if it were but for one light, the back wall being 5 feet high, the front three and a half. After the hot dung and earth are put into the pit in spring, then plant out one or two plants; two are safer, in case of one failing. Train them up a stick until they are 18 inches or so from the mould, then form a rough trellis of strong rods of hazel, the stronger and rougher the better, in order that they may not bend. Then if the spring is cold some fermenting material may be put round the brick-work. Do not forget to get a fine lively toad, with some water for it to drink, as well as to bathe in, and place it in the pit. Let "Mary" take my advice, and tell us the result next year. *James Cuthill, Camberwell.*

Effect of Heavy Manuring on the Potato Disease.—I observed a few weeks ago a letter in your Paper on the Potato disease, by Mr. Cuthill. I have no wish to dispute the position taken up by that clever cultivator, that the disease is occasioned by the use of rank and fermenting manures; but knowing the importance of facts in such a discussion, perhaps you will give insertion to the following:—On March 6 I planted a quantity of Irish Cup Potatoes, from seed raised by myself, and perfectly free from disease, on a piece of very poor dry sandy soil, which had lain for 50 years under wood (Scotch Fir chiefly). The only manure given was 4 cwt. of Peruvian guano per acre. The crop on this ground was very luxuriant in appearance, and the stems remarkably tall and green till about a week ago, when disease appeared, and so rapidly has it spread that now there is scarcely a green leaf, and I have seen several tainted tubers. On March 25 I planted on a piece of ground, which, though light and sandy, has been many years in cultivation, a quantity of the same kind of Potato, and prepared in the same way; but manured with 21 horse loads of farm-yard dung per acre. This plot, although never so luxuriant in foliage, is as yet perfectly green, and free from disease. Another fact, mentioned by a neighbour of mine, is that in 1846, one part of his Potato field was overflowed by the river Spey, and while the part which escaped was much affected by disease, the part overflowed was entirely sound. *John Cushny, Speymouth, Morayshire, N. B.*—Five years ago I took a cottage in the neighbourhood of Edinburgh for summer quarters, to which cottage is attached a garden of about half a Scotch acre; when I entered, the ground was very, very poor, and I manured it strongly; the crop was excellent and not a diseased Potato. Having a cow and two horses, the manuring was of course very heavy. In the first year, 1848, where there was no disease, at least one-third went wrong in 1849; and every year since, the strong manuring being continued, the greater has been the amount of destruction. I tried this year the effect of lifting early, and in a small break of about four bolls of American Earlies, not above a dozen of diseased Potatoes were found, after being about a month in the pit. I observed this morning the gardener collecting a dishful for dinner, and for every two sound Potatoes he put into the basket, he threw aside upon an average nine diseased ones; and all this decay occurred within about four weeks. I therefore agree with your correspondent that over forcing is one great cause of the disease. I observe that Hollyhocks particularly are affected, also Apple-trees, and that Roses are unusually mildewed and rusted. *W. K. A.*

Memoranda from Java (*continued from p.* 534).—Among timber trees the Tectona or Indian Teak justly takes the lead amongst these of the east, and that of Java is usually considered to be the finest in quality. Like the Oak, the Teak takes from 70 to 100 years to arrive at maturity, and even then it requires a good strong soil; the tree varies in height from 60 to 90 feet, and sometimes it is from 6 to 9 feet in diameter. The Java Teak flowers in the dry season and ripens its fruit about November, just before the north-west monsoon sets in. It is one of the few trees which in the tropics sheds its leaves at once, like those of more temperate countries. With respect to physical distribution, the Teak abounds in Java, Ceylon, Malabar, Coromandel, and especially in the empires of Birma and Pegu; it is found both in the plains and mountains—in the latter not exceeding 4000 feet above the level of the sea. The wood of the mountain Teak is much harder than that of the plains, but more stunted in its growth; in favourable situations in the forest it almost excludes every other tree, even amongst Epiphytal plants few are found clinging to its branches. In comparing the qualities of Teak with Oak, the first is by far superior; it is equally strong but somewhat more buoyant, the durability is more uniform; and it demands less care or preparation. It may be used almost green from the forest without fear of wet or dry rot, and it will endure all climates or alternations of climates, nor does it contain that acid, as in the Oak, which corrodes and destroys iron; but, on the contrary, it possesses an essential oil which tends to preserve iron. The Teak is often used for ship building, beams for large stores, or piles to protect breast-work of rivers; it is entirely unfit for making casks to hold wine or spirits in, on account of the strong odour which it imparts to all liquids which are solvents of the essential oil in which that odour is contained; on the other hand, it improves arrack, as it imparts some of that peculiar flavour which people affect to relish. The medicinal qualities of Teak are an infusion of the leaves drank as tea in cases of cholera. The wood is seldom used, although it imparts to water a bitter taste, somewhat similar to that from the leaves. The native name in Java is Jattie or Djattie, the word Teak belongs to British India. The only superiority the Oak has over Teak is in the construction of casks for holding wines or spirits, for, when exposed to the rays of a tropical sun, it cracks and soon decays. Although the Oak is indigenous to Java, and abounds in vast quantities in the forest at an elevation as low as 7000 feet above the sea level, producing timber of extraordinary size, perfectly straight, and from 5 to 7 feet in diameter, growing in situations not further than 60 miles from Batavia, it is, nevertheless, unknown to the natives, nor even used, or brought into use by the Government itself. The Liquidambar is a fine tree growing to the height of 100 feet, inhabiting the dense forest at an elevation from 5000 to 8000 feet above the level of the sea, and where the cold is sensibly felt; consequently, it is never met with on the plains. The wood is of a very hard texture, fine in grain, and varying in colour from a bright red to a pale rose, which makes it valuable to the furniture-makers of the East. The natives of the mountainous districts are remarkably fond of the fruit of the Chestnut (Castanea javanica and C. argentea), and oftentimes entirely subsist upon them during the greater part of the season in which the trees are in bearing; they may be eaten raw or roasted, with salt or without, as the natives are in no way particular in that respect. The quality of the timber is regulated by the age of the tree; if cut down when very old, it is of little use, but, at a moderate age, it then far exceeds that of the Oak in durability for posts, &c. The general range of growth is from 1000 to 4000 feet above the level of the sea. In Conifers only two genera (Podocarpus and Agathis), are indigenous to Java. The first consists of four species, which are equally distributed over the low plains, or in the forest at an elevation of 9000 feet above the sea level; two species are lofty trees, yielding an abundance of resin, while the other two are dwarf, and planted in gardens about Batavia. The Agathis loranthifolia, Dammara alba, and Pinus Dammara, are one and the same tree, which grows to an extraordinary height, and yields a kind of hard pitch or resin that exudes spontaneously from the tree. There are two varieties of this in commerce, which are distinguished by their colour or consistence, and by the name of Damar batoe in Malay, or Damar sella in Javanese, meaning stony resin; the other, Damar Putih in Malay, or Damar Puteh in Javanese, the white resin. The tree in a growing state is known by the name of Kibiema latakki, the masculine. The Antiaris toxicaria, or deadly Upas tree of Java, is one of the largest trees in the forest: the stem, or trunk, rises perpendicularly to the height of 80 feet before sending out any branches, which then are a few stout horizontal ones with several irregular curves, dividing into smaller branches, and forming an uncompact head. The bark of the stem is of a brownish colour, bursting into longitudinal furrows, and nearly 2 inches in thickness. In the Sundanese, or western part of the island, it is very scarce, and is only known in one district, although the rest of the forest is equally dense. Nor is it widely distributed over the central parts; I have only met with it in two districts—the first a few scattered trees in the Djieng and Battur, the other at the mountain Unarang. On the contrary, in the eastern districts it takes a wider distribution, and is found in Malang, Passurnan, Pugar, Bandawasa, and Banyuwangi. In the places mentioned it is found only in the deepest recesses of the forest, surrounded on all sides with trees, shrubs, or climbing plants encircling its stem, and occasionally Orchids cling to its branches; a proof that the Antiaris is not hurtful to any other plant near it, nor is there that barren or naked ground about it which has been so much spoken of. The inspissated juice, or poison, lies in the outer bark, or cortex, and when fresh wounded it flows from it in form of a milk-white sap; when applied to the skin it produces an intolerable itching, followed by a severe pain and herpetic eruption. The liber or inner bark of the tree produces a fibrous texture much resembling coarse cloth, which the poorer natives of those districts wear round their loins, and some make a kind of hat from it. In its preparation, the bark requires bruising, a long immersion in water, with repeated washing, so as to free it from all particles of poison that it formerly contained; if not properly prepared before using for the purposes mentioned, when it becomes wet the wearer experiences an itching to a degree beyond sufferance. In Java there is an extensive variety of plants possessing noxious qualities. The natives dread the touch of Urtica ovalifolia, or even to approach it too near, more than they do the Upas tree. In the distribution of this plant it is found in every forest on the island; it is always used by the Javanese to irritate the buffalo in his combat with the tiger. The Chetek or Tjettek (Strychnos Tieute), is a far more intense poison than the Antshar, and only takes one-half the time to destroy life; but it must always be first boiled, then it acts more directly on the nervous system and brain, and generally it destroys life by one sudden effort. If taken inwardly instead of introduced into the circulation of the blood, it then acts as a most violent poison, requiring a greater length of time to have the same effect. The poison is prepared chiefly from the bark of the main or tap roots, which are of a bright brick colour. *John Henshall.*

Ants.—On the forenoon of Thursday, August 19, about 12 o'clock, I noticed a large quantity of strange-looking insects flying slowly backwards and forwards over certain parts of the lawn in our pleasure-grounds; circumstances called me away, but between 1 and 2 o'clock I returned, when I made it my business to entrap one of the strangers, for the purpose of a closer examination. Instead of laying hold of a single individual, however, I found that I had caught a couple, male and female, of the common red ant, in the act of pairing. I immediately placed them on the turf at my feet, when to my surprise the first thing the male did was to cut close off his mistress's wings, using for that purpose his mandibles very expertly; nor could she rid herself of him by any means, although she appeared to struggle hard, until he had entirely divested her of them, the operation occupying but a few seconds. This accomplished, he immediately withdrew from her; and she, as if ashamed of her mutilated condition, instantly hid herself by burrowing in the turf, probably there to form a new colony; at this time there were thousands of them floating about in the air, but not in the form of a column, and I watched hundreds of them alight on the grass. There were few females unaccompanied by males, some having three, many two, and many one only; but in every case I noticed that the females were deprived of their wings on alighting by the males, as I have already described; they cut them off close to the body, giving each wing a separate clip with their saws. On examining the turf closely, an immense quantity of those wings could be seen. I observed that as soon as the males had performed this seemingly cruel, although I doubt not in some way necessary operation, they generally seemed stupid and much fatigued, although others of them appeared to fly off in search of fresh partners. There is no doubt, therefore, that they pair on the wing, and what I have stated may be allowed to explain the fact, which I do not elsewhere recollect to have seen accounted for, namely, that female ants are often seen without wings, and *vice versa*. *G. W. Dick, Livermere Park, Suffolk.*

The Deodar.—Not being aware that the Deodar has fruited in this country prior to this date, I have thought it might be interesting to know that a fine tree of this beautiful Conifer, 28 feet high by 23 feet through, is producing abundance of cones here at the present time. *T. R., Bury Hill, near Dorking.*

An aged Pear Tree's Petition.—In a garden in the very heart of the ancient city of Norwich I stand, a venerable Pear tree, of noble size, admired by all who see me, affording a grateful shade from the noon-day sun, an object of beauty to the eye, and a topic of many an interesting conversation. But, alas! that conversation has too deep an interest for me. I hear discussed my past glories, my present degeneration, and my probable fate. I have indeed been a fruitful tree; but because no longer abounding, my fair owners threaten me with destruction. But I have at last found a friend. One who was enjoying a happy hour on the lawn I beautify, and who had heard of my past bounties, entreated for a respite. He urged that application should be made to you, and suggested that you might dictate a course which would restore me to my pristine state. Pardon me if I myself address you and implore your pity. Instruct me as to what can be attempted to restore an invalid to health; devise a remedy, and you will ever be remembered with gratitude by *An Ancient Pear Tree, St. George's Colgate, Norwich.* [Worthy friend, *ex ligno quovis haud fit mercurius;* prescriptions cannot be given after any sort of description of ailments, or no description at all.]

Bleeding Trees.—A person who has had much experience among woods, informed me that it is an excellent plan, before plugging holes in trees, to take a red-hot iron a little larger than the hole and char the wound with the iron; the charring prevents the bleeding, and also keeps the wood from decaying near the injured part. *P. Mackenzie.*

Societies.

LINNEAN, *May* 6.—The President in the Chair. Read, some "Notes on the Leaf of Guarea grandifolia, Dec.," by Dr. Alexander, as follows:—In the enclosed specimens of a Guarea from Jamaica, the G. grandifolia, Dec., it will be seen that the lower leaflets have fallen off, while younger ones are being developed at the extremity of the same petiole. At the time of flowering, the number of leaflets varies from a single pair to eight or ten pairs; but as these fall off in the course of a few months, the petiole elongates, and at each successive rainy season, of which there are two in the year, throws out from the end a fresh foliage of several pairs. The lower and older part of the petiole in the meantime remaining attached to the stem, becomes completely ligneous and round, and acquires a rind distinct from the wood, and covered with lenticelles and a resemblance to pith in the centre;—takes on, in short, the character of a branch, from which it is only to be distinguished by the axillary inflorescence, the absence of buds in the axillæ of the leaflets, and the analogy with the closely-allied genus Trichilia, in which the same phenomenon is seen in leaves deciduous after the second development. In Guarea, at least in this species of it, the leaf seems to be continuous with the branch, without articulation, and to have no definite term of life, hanging on till overtopped and killed by other leaves. Its usual length at that period is from a yard to 4½ feet. In Adrien de Jussieu's memoir on the Meliaceæ are the following remarks:—"The resemblance of the leaflets borne on the same petiole to leaves borne on the same branch becomes more striking still in certain genera, as Guarea, where the extremity of the petiole, after a series of leaflets perfectly developed, presents some which are not yet so, and which appear to belong to another shoot. It would be interesting to ascertain what becomes of them, a thing that I have not been able to do, having had none but dried specimens to examine." This shrub usually grows at the base of large timber trees, such as the Eriodendron anfractuosum, in the pasture districts of St. Ann's parish, establishing itself between their elevated buttress-like roots, and with its leaves hanging down to the Grass, forms natural arbours, or rather stables, in which the cattle repose during the heat of the day. The negroes use them to wattle the walls of their huts, and call the bush "Alligator Tree," probably from the two Spanish words "a ligar," to tie with. Where it stands free, it attains the size of a full-grown Apple-tree; but it invariably, I believe, grows within shelter of some other and larger one. Except this genus and Trichilia, I found no other in Jamaica that had the character of leaf above described.—The President exhibited numerous specimens of recent and fossil Cycadeæ. Among these was a fine specimen of a new species (Cycadites Saxbyanus, R. Br.) found in the Isle of Wight by Mr. Saxby, of Bonchurch. The President remarked that all the specimens of Cycadites hitherto found in the Isle of Wight agreed in having an elliptical outline, unaccompanied with any inequality in the woody ellipsis, and also in having a bud in the axilla of each leaf; in these respects differing from the Cycadites of the Isle of Portland, and from all the recent species of Cycadeæ with which we are acquainted, which have a circular outline and only scattered buds. *Annals of Natural History.*

Review.

The Natural History of Animals. By T. Rymer Jones, F.R.S. Vol. II. Van Voorst. Small 8vo.

IT is rather more than seven years since we noticed the first volume of this valuable work. The second volume, which has been some months on our table, is in all respects worthy of its predecessor, and to some will prove even more acceptable. Its subject is Insects properly so called, together with the nearly allied spiders or Arachnids, and Crustaceans, including the races of shrimps, crabs, and lobsters. In every page we recognise the man of true science; there is no pedantry or affectation; the subject is rendered familiar by means of sterling English; and although we perceive the philosopher everywhere, the reader scarcely suspects that the interest which he feels is closely connected with the strictly classical manner in which the work is treated. Excellent woodcuts illustrate Mr. Rymer Jones' details, the style of which will be appreciated by the following extracts.

The prodigious strength of insects is thus described:—

"Few of us suspect while we amuse ourselves with watching the active gambols of the tiny beings, that to enable them to perform such feats as we see them execute every day, an amount of strength has been conferred upon them which could not safely have been entrusted to any of the larger animals, and that nothing but the comparatively diminutive size to which all the insect races are jealously restricted, prevents them from becoming the tyrants of this globe and the destroyers of all other terrestrial creatures. The fables of antiquity have seldom ventured to attribute to the most redoubtable of mythological heroes such deeds as are every day performed before our own eyes; for the labours of Hercules, and the masonry of the Cyclops, equally sink into insignificance when compared with the most ordinary achievements of the members of the insect world.

"Should any of our readers be sceptical upon this point, perhaps the following illustrations of superherculean strength with which the commonest insects are endowed, selected from curious sources, may prepare us to credit more easily the facts which we shall have to record in subsequent pages. The common flea, as every one knows, will, without much apparent effort, jump 200 times its own length, and several grasshoppers and locusts are said to be able to perform leaps quite as wonderful. In the case of the insect they scarcely excite our notice; but if a man were coolly to take a standing leap of 380 odd yards, which would be an equivalent exertion of muscular power, perhaps our admirers of athletic sports might be rather startled at such a performance.

"Again, for a man to run 10 miles within the hour would be admitted to be a tolerably good display of pedestrianism; but what are we to say to the little fly observed by Mr. Delisle, 'so minute as almost to be invisible,' which ran nearly 6 inches in a second, and in that space was calculated to have made 1080 steps? This, according to the calculation of Kirby and Spence, is as if a man whose steps measured only 2 feet, should run at the incredible rate of 20 miles in a minute.

"Equally surprising are the instances of insect strength given by Mr. Newport. The great stag-beetle (Lucanus cervus), which tears off the bark from the roots and the branches of trees, has been known to gnaw a hole, an inch in diameter, through the side of an iron canister in which it was confined, and on which the marks of its jaws were distinctly visible, as proved by Mr. Stephens, who exhibited the canister at one of the meetings of the Entomological Society.

"The common beetle, Geotrupes stercorarius, can, without injury, support and even raise very great weights, and make its way beneath almost any amount of pressure. In order to put the strength of this insect-Atlas to the test, experiments have been made which prove that it is able to sustain and escape from beneath a load of from 20 to 30 ounces, a prodigious burthen when it is remembered that the insect itself does not weigh as many grains; in fact, once more taking man as a standard of comparison, it is as though a person of ordinary size should raise and get from under a weight of between 40 and 50 tons. This amount of strength is not, however, confined to the short thick-limbed beetles. Mr. Newport once fastened a small carabus—one of the most active and elegantly formed of the beetle tribe—which weighed only three grains and a half, by means of a silk thread, to a small piece of paper, upon which the weight to be moved was placed. At a distance of 10 inches from its load the insect was able to drag after it, up an inclined plane of 25 degrees, very nearly 85 grains; but when placed on a plane of five degrees inclination, it drew after it 125 grains exclusive of the friction to be overcome in moving its load—as though a man was to drag up a hill of similar inclination, a waggon weighing two tons and a half, having first taken the wheels off.

"Such being the strength of insects, as tested by their powers of leaping, running, tearing, carrying, and drawing, let us, in the last place, by way of completing our glance at this part of their economy, briefly advert to their capabilities in the way of flying, a mode of locomotion in which they likewise are unrivalled in the whole range of animated nature. In order to prove this, we need not search far. The common house-fly (Musca domestica) will answer our purpose as well as more striking examples. This familiar inmate of our dwellings has been calculated by a writer in 'Nicholson's Journal' to fly, when engaged upon ordinary business, at the rate of 5 feet in a second, but upon an emergency it will clear 30 or 35 feet in the same period. 'In this space of time,' to use the illustration adopted by Kirby and Spence, 'a race-horse could clear only 90 feet, which is at the rate of more than a mile in a minute. Our little fly, in her swiftest flight, will in the same space of time, go more than one-third of a mile. Now compare the infinite difference of the size of the two animals (10 millions of the fly would hardly counterpoise one racer), and how wonderful will the velocity of this minute creature appear! Did the fly equal the race-horse in size, and retain its present powers in the ratio of its magnitude, it would traverse the globe with the rapidity of lightning.'"

The distinctions between insects and Arachnids or spiders is pointed out in the following passages:—

"In the insect, properly so called, the body is naturally divided into three principal portions, the head, the thorax, and the abdomen, all of which, especially the two former, are so connected as to permit them to move freely on each other; but in the Arachnidan the head is firmly consolidated with the thoracic portion of the body, so that the two together constitute but one broad piece, named by entomological writers cephalo-thorax.

"Insects are, in their perfect state, for the most part provided with wings; but among the Arachnidans these organs are invariably deficient; the former, likewise, undergo, during their preparatory states, a series of metamorphoses by which their form is completely changed, whilst the latter simply moult their skins, remaining throughout their lives in pretty nearly the same condition.

"The organs of the senses are likewise very differently constructed in the two classes—the compound eyes of the insect, with their numerous facets, are replaced in the Arachnidans by a small number of simple ocelli, variously disposed, and the antennæ, which in insects are evidently the seat of such delicate sensations, are here doubtfully represented by two jointed organs, terminated by a pair of forceps of variable structure, to which the names chelicera and antenna-pincers are applied by naturalists.

"The Arachnidans likewise differ from the insects in the structure of their mouths, in the arrangement of their respiratory and circulatory apparatus, in the number of their legs, and in many other important particulars which will necessarily present themselves to the reader's notice as we proceed.

"It is, however, in the construction of the respiratory apparatus that the most marked differences exist between the true insects and the members of the class we are about to describe, as will be evident on examining the breathing apparatus of the scorpion."

The habits of spiders furnish us with the last extract for which we can find space:—

"It is not merely in the construction of their residence that these spiders turn their silken filament to account; with its assistance they are enabled to fabricate a cradle for their progeny, so well contrived that it is impossible to contemplate it without admiration, or without reflecting that even amongst these most savage and ferocious of all living animals, 'Love, strong as Death,' has been appointed the safeguard and defender of the race. Who would expect anything like affection in a female spider, remorseless, cruel, and blood-thirsty as she is? Her very mate approaches her with fear and trembling, for should she not happen to be in an extremely good temper, his life inevitably pays the forfeit of his rashness, his amiable spouse feeling not the slightest objection to obtain a hearty meal by devouring her better half; yet, strange to say, no animals can be pointed out more devotedly attached to their

progeny than the females of these relentless devourers. When about to lay her eggs, converting her silken thread to a new use, the spider-mother constructs with it a beautiful globular basket or cocoon, in which she deposits her precious treasure, and then binds the cradle to some part of her body, or sometimes simply carries it clasped to her breast; no matter how she may be engaged, she never leaves it, even while at the chase in search of food; no danger, no torture will make her drop her cherished burden, nor while life lasts will anything compel her to desert the charge entrusted to her care. When the young are hatched the spectacle is equally interesting, for the new-born progeny, as they leave the egg, creep out upon their mother's back, who carries them about and defends them with tiger-like courage, until they become strong enough to procure their own subsistence."

"Spiders, unlike the true insects, frequently change their skin, and present themselves in a new and enlarged dress as their growth proceeds. The manner in which this operation is effected is thus described by Mr. Blackwall, to whose excellent observations on the structure and economy of these creatures we must again be indebted for an account of the process:—'Preparatory to casting its integuments, the spider spins several strong lines in the vicinity of its snare, from which it suspends itself by the feet, and a filament proceeding from the spinners.' After remaining for a short time in this situation, the horny covering of the thorax gives way by a fissure running down each side of the body, immediately above the insertion of the mandibles and legs, so that the head and thorax are the first parts liberated. The line of separation pursues the same direction till it extends to the abdomen, which is the next part disengaged; the extrication of the legs being the last and greatest difficulty the spider has to overcome. As the suspensory filament connected with the spinners of the exuviæ is considerably shorter than the legs, and does not undergo any sensible alteration in length; the abdomen during the process of moulting becomes gradually deflected from its original horizontal direction, till it assumes a vertical position nearly at right angles with the thorax. By this change of posture, attended with numerous contortions of the body, and alternate contractions and extensions of the limbs, the spider is ultimately enabled to accomplish its purpose. The spines with which the legs are provided, no doubt contribute to facilitate the operation greatly; for as they are directed down the limbs, and are moveable at the will of the animal, when it has partially drawn its legs from their sheath, by contracting them, it can prevent them from re-entering, by slightly erecting the spines, and thus bringing their extremities in contact with the inner surface of the integuments. When the spider has completely disengaged itself from the slough, it remains for a short period in a state of great exhaustion, suspended solely by a thread from the spinners, connected with the interior of the abdominal portion of the cast skin, which is much corrugated and drawn together. The entire process, as above described, occupies the space of about 20 minutes. After reposing a little, the spider further attaches itself to the suspensory lines by the claws of the feet, and when its strength is sufficiently restored, and its limbs have acquired the requisite degree of firmness, it ascends its filaments and seeks its retreat."

Books, &c., Received.

Poems by the Hon. Julian Fane. London. Pickering, 1852.—A beautiful and cheap little volume, full of exquisite poetry and good feeling, remarkable alike for brilliancy of thought and happy expression.

The vacant Throne, and its Claimants. A Scottish story. Pp. 48. (A child's book).—*Manual of Physical Geography.* Pp. 127.—*The Blackberry Gathering.* Pp. 32. (A pretty child's book).—*The British Empire.* p. 64. (An Elementary Catechism). All 24mo. Groombridge.

The Russian Bath. By M. Roth.—*Movements or Exercises* (a book of gymnastics), by the same. Groombridge. Two 8vo. pamphlets.

Buxton Improvements; a letter to Dr. Lyon Playfair. By W. H. Robertson, M D. Bradbury and Evans.—A pamphlet pointing out the great medical importance of the hot springs at Buxton.

Garden Memoranda.

Mr. Barnes' Nursery, Southampton-street, Camberwell.—Few men have had more experience in plant growing than Mr. Barnes, and few in their time have been more successful. We need scarcely wonder, then, that his stock, even during the short time he has been in business on his own account, begins already to exhibit some of the excellence which was wont to characterise his productions from the neighbourhood of Bromley. His nursery occupies about 3 acres, and contains several glass houses well filled with stove and greenhouse plants. In the cultivation of these Mr. Barnes employs charcoal to a large extent, and which is readily obtained after one of those great fires with which our metropolis is unfortunately so often visited. We saw a large heap of charred wood, which Mr. B. considers better adapted to the requirements of his plants than charcoal prepared from green timber. This material is broken into small pieces and used for drainage, and for mixing through the soil in which the plants are grown. Among other things which one seldom sees, we remarked examples of Orchis longicornu, which Mr. Barnes intends "sending out" next year (by the way, a *most valuable* forcing plant, which Mr. Barnes knows how to grow: Ed.), and Cypripedium spectabile, an interesting and showy Orchid which may be cultivated either in borders or in a pot. Mr. B.'s fine specimen of this, which he was wont to show at our metropolitan exhibitions, will be familiar to all who have been in the habit of visiting those grand displays. A straight walk passes through the nursery, with borders on either side. At the back of each border is a row of Hollyhocks, with Dahlias in front; the Hollyhocks were in fine condition, and well worth inspection. The most conspicuous amongst them were Comet, with flowers of bright crimson, very large, and of good form: this is one of the best in cultivation.; Rosea grandiflora, a pretty flower, of a pink colour; Sulphurea perfecta, one of the finest of the sulphur-coloured varieties; Magnum bonum, a fine dark kind; Enchantress, deep pink colour and showy; Charles Baron, a splendid large flower, of a pinkish salmon hue; Rosea alba, very pretty; and Snowball Superb, a beautiful white. We also remarked Rosy Queen, Walden Gem, Obscura, and several other fine sorts. Mr. Barnes has also some beds of seedlings, from which something good is expected. Behind the Hollyhocks are long beds filled with various plants, among which was a fine mass of Roses that had been "worked" this spring, and are thriving famously. Among other things, there was also a bed of a fine Delphinium, of a lovely blue, which was very striking; and as this is a colour much wanted in a flower garden, it cannot fail to be an acquisition. We now come to a greenhouse 28 feet long and 16 feet wide, with a stage in the centre filled with excellent Fuchsias, among which were Clapton Hero, a good kind; also Fair Rosamond, a fine bold flower; Darling, which Mr. B. stated to be a fine sort for bedding; Inaccessible, a very good variety, and many others. At the back of the Fuchsias were some good Pelargoniums for bedding, among which we observed plants of Lady Holmesdale, a dwarf grower; Bishop Stow, with fine trusses of bright scarlet; and King of Naples, one of the best of horse-shoe kinds, and a fine trusser. The next house was filled chiefly with Azaleas and Camellias, and a third, about 30 feet long and 17 feet wide, contained all the best sorts of fancy Pelargoniums; on the front stage was a fine stock of that beautiful variegated Pelargonium, the Flower of the Day, which is equally suitable for pot culture and for bedding. It is best grown in a little heat in winter; where it can have that, it forms a very ornamental plant during the dull season. In addition to this was the new Pelargonium, Mountain of Light, a beautifully variegated variety, which is a great favourite and ought to be in every collection; in the same house were also some nice plants of the gold-leaved Pelargonium, Lady Cottenham, which is said to be a freer grower than the old sort called Golden Chain. In addition to the above there is a stove about 30 feet long and 13 feet wide, with a brick pit in the centre and shelves on either side. Here we remarked various Achimenes, a good stock of Allamanda neriifolia, the beautiful Ixora javanica, and other stove plants. At the back were Japan Lilies, just coming into bloom, amounting to about 100 pots. When fully blown they cannot fail to make a fine display. The nursery is walled in all round, and therefore affords room for and contains a fine stock of young trained trees, both "riders" and dwarfs. Other hardy plants are also pretty abundant.

FLORICULTURE.

The Dahlia.—Having been a very successful cultivator and exhibitor of this fine autumn flower for several years, and the size of my blooms generally having attracted much notice, I beg to offer a few brief remarks upon its culture, more especially as respects watering. I have tried all kinds of manure water, likewise guano, but I have found nothing, as yet, equal to soot-water and soapsuds. It is a general rule with most growers to place half rotten manure round the roots, and then draw the earth up so as to form a basin, a practice which is greatly required; but there is an evil attending it, for oftentimes when the roots are taken up to be stored, they are found to be very much cankered or warty, and hundreds of worms are also discovered there; by watering with soot-water and soapsuds the roots will be perfectly clean and free from all insects, and much larger flowers may be expected. The most successful traps for earwigs I have found to be the bloom stalks of Hog-weed, or Rhubarb, &c., dipped in milk, to soften the pith, which earwigs are particularly fond of; blowing them out of the stems into a bottle, and pouring scalding water on them, is the quickest way to dispose of so great an enemy. *E. Bennett, Perdiswell.*

National Floricultural Society, *Sept.* 9.—Mr. Perry in the Chair. Dahlias and Hollyhocks formed the principal subjects of exhibition, white Roses were represented by a fine display of Bourbon Prince Albert (Paul), noticed in our report of the last meeting of this Society. Fuchsias, Gladioli, Phloxes, Pentstemons, and Verbenas completed a nice display. Of named Dahlias Mr. Edwards staged a collection of 12 blooms, the best being Alice, Mr. Seldon, Carmaid, Mrs. Herbert, and Princess Royal. A first-class certificate was awarded to Gladiolus Mrs. C. Beale, colour salmon, slightly flaked, lower petal striped with rose. Certificate of merit to Gladiolus Gem, colour brilliant orange scarlet, base of petal buff, and marked with rich crimson. Certificate to Dahlia Amazon (Holmes), white ground boldly tipped with lake. First-class ditto to Lilac King (Rawlings). Certificate to Dahlia Brilliant (Rawlings), bright scarlet. First-class to Dahlia Queen Victoria (Wheeler). Ditto to Dahlia Miss Caroline (Britth). Label of Commendation to Dahlia Unanimity (Edwards). Certificate to Hollyhock Remus (Paul). First-class ditto to Hollyhock White Globe (Paul), and Certificate to Hollyhock Lavinia (Paul). A further description of these flowers will be furnished on some future day.

Maidstone Floricultural Society, *Sept.* 8.—We are glad to be able to state that this Society is in an exceedingly thriving condition, so much so, we understand, that after all liabilities of the current year shall have been paid off, a balance will remain to the credit of the Society amounting to more than 100*l.* This is as it should be. The following is a summary of the principal classes in which awards were made, viz.:—Dahlias: 24 open to all England, 24 for dealers only, and 24 and 12 for private growers only; all were strongly contested, and a fine display was the result. In the open class Mr. Turner was first, Mr. Epps second, and J. Shadden, Esq., third. Dealers: Mr. Epps first, and Mr. Mitchell second. Private growers, 24: 1st, Mr. Watts; 2d, C. Scudamore, Esq.; and 3d, W. Mercer, Esq. 12: 1st, F. Scudamore, Esq.; 2d, J. Monckton, Esq.; and 3d, Mrs. Hollingworth; the best flowers, comprising the several collections, were, Bragg's Admiral and Star; Barnes' Fearless; Drummond's Tom, Beeswing, Sir R. Whittington; Keynes' Douglas Jerrold, Triumphant, Summit of Perfection, Sir F. Bathurst; Turner's Mr. and Mrs. Seldon, Roundhead, Morning Star, Malvina, Edmund Foster, Sir C. Napier, Shylock, Queen of Lilacs, Nil Desperandum, Barmaid; and Mitchell's Queen of Beauties; to these may be added General Faucher, Kant, Sir R. Peel, Mrs. Hansard, &c. Certificates were awarded to Drummond's Bob; Turner's Sir J. Franklin; Wheeler's Queen Victoria; and Mitchell's Duchess of Sutherland. Lochner's striking Fancy, named Claudia, was staged. Foremost among Hollyhocks, which were plentiful, stood a large collection from Mr. Bragg (not for competition). Verbenas were supplied in 10 collections of 24 bunches each; Mr. Epps and Mr. Bunyard taking the prizes for dealers. Roses were bold, fresh, and plentiful; Mr. Mitchell being the largest contributor. Stove and greenhouse plants, Fuchsias and cut flowers, were all in true character, and gave evidence of care and skill.

Salisbury, *August* 31.—At an excellent floral *fête* held here the following awards were made:—Dahlias; amateurs, 12 blooms; 1st, Mr. J. Edwards, Wace Cottage, Holloway, with Mr. Seldon, General Faucher, Morning Star, G. Glenny, Sir F. Bathurst, Snowflake, Model, R. Cobden, Dr. Frampton, Sir R. Whittington, Queen of Beauties, G. Villiers; 2d, Mr. Robinson, Pimlico, with Nil Desperandum, Queen of Lilacs, General Faucher, Mr. Seldon, Essex Triumph, Una, Duke of Wellington, R. Cobden, Sir R. Whittington, Sir C. Napier, Sir F. Bathurst, Fearless; 3d, — Yeales, Esq., with Seraph, Model, Miss Chaplin, Mr. Herbert, R. Cobden, Sir F. Bathurst, Mr. Seldon, Queen of Whites, General Faucher, Nonpareil, Duke of Wellington, and Nil Desperandum. The varieties forming the 4th and 5th collections were similar to the preceding. For 12 varieties sent out at any time by Mr. Keynes, a Silver Cup was voted to Mr. Dodds, of Salisbury, for Yellow Standard, Miss Chaplin, Summit of Perfection, Mr. Herbert, Triumphant, Douglas Jerroid, Mrs. Herbert, Sir F. Bathurst, Flora Mac Ivor, Gauntlet, Aurora, and Nancy; 2d, Mr. Yeales; 3d, Mr. J. Edwards. Dealers—24 blooms: 1st Mr. J. Keynes, with General Faucher, John Edward, Seraph, Fearless, Yellow Standard, Essex Triumph, Miss Chaplin, Negro, Mr. Seldon, R. Cobden, Annie Salter, Sir F. Bathurst, Duke of Cambridge, Frederick Jerome, Mrs Herbert, Model, Princess Radziwill, Douglas Jerrold, Malvina, Sir R. Peel, G. Glenny, Queen of Beauties, and Triumphant; 2d, Mr. Drummond; 3d, Mr. Wheeler, in whose collections Morning Star, El Dorado, Alice, Gem of the Grove, Elizabeth, and British Queen were fine. The Fancies shown by Messrs. Keynes (1), and Drummond (2), were unnamed.

Trowbridge Floricultural Society, *Aug.* 25.—There was an interesting meeting on this occasion, the Society, although quite in its infancy, being extremely well attended both by exhibitors and visitors. The show, as a provincial one, was among the best we have seen for some years, many of the specimens of stove and greenhouse plants being very well cultivated, and, in many instances, would not have disgraced a London exhibition. The awards were liberal, indeed too much so as regards the nurserymen, whose plants, generally speaking, were poor compared with those exhibited by amateurs. A list of prizes has been furnished us, but no mention is made of the names of the subjects for which they were given.

Catalogue of Select Roses received from Mr. J. Mitchell, of Maresfield, Sussex.

Dahlias: *T W D.* Such sports as yours are not uncommon among Dahlias. Some account of a more remarkable one will be found in another column.

Potting Pelargoniums for Winter: *J H.* Mr. Dobson, in his excellent little Treatise says:—"By the beginning of October the plants (well rooted cuttings in 2 and 3-inch pots, with their tops pinched off), may be again shifted, that is, if they are sufficiently strong, into 4-inch pots; keeping in mind the same treatment as was recommended in potting them off, except in stopping them, which must be done according to the time they are required to be in flower; June is the principal month. Plants, therefore, that are required for June should be stopped back about the second or third week in December, when they must be kept dry till the eyes are visible. As soon as they are sufficiently broken they may be again shifted into their blooming-pots; a 6-inch pot will be quite large enough for an autumn-struck cutting, as the plants must not be making growth while they are in flower. They will require no more shifting till after they are cut down, when they may be prepared for making specimens."

SEEDLING FLOWERS.

Fuchsias: *A S.* Not so good as some possessing the same colours now in cultivation about London.—*J J, Cirencester.* Your seedling, though handsome, is no improvement on kinds we already possess.

Gloxinia: *A S.* A nice flower in the way of Fyfiana; but too small.

Hollyhocks: *F S, Aberdeen.* All too much spoiled and withered for us to form anything like a correct opinion of them; the blooms were even detached from their footstalks, and the distinguishing numbers released from their places.

Verbenas: *H P.* Crimson King is large, but ill formed; Alba magna is a misnomer, the truss so named being of a deep pinkish blush; individually the pips possess little merit.

Miscellaneous.

On the Sansevieria quinensis, or African Hemp.—The designation of African bow-string Hemp bestowed upon it was evidently derived from the uses to which the fibres were applied by the aborigines of those countries from which it was obtained, viz., in the manufacture of bow-strings of superior strength and durability to others, at that period in ordinary requisition amongst the negro warriors of Guinea, before the importation of fire-arms had become so general as to obviate the necessity of such weapons as bows and arrows. The modern Africans usually employ the exsiccated fibres of the plant in the construction of fishing-lines, nets, thread, and other kinds of cordage, considering them to be better capable of resisting the destructive action of continual

immersion in sea-water than other vegetable substances similarly prepared. The natives of Akkrah term the Hemp procured from this plant Blaw, and prepare it by the following simple process. With the view of obtaining fibrils of the length necessary for their purposes, the exterior or largest leaves are always selected in preference to the others; these in the first instance are well beaten between two stones, then placed in water or in holes dug out of the ground and closely covered over by moist soil for the space of three days. At the expiration of this period, when the mass has become fully softened, it is removed and subjected to another pounding, to dissever the fibrillous from the pulpy portions of the leaf, which are next thoroughly cleansed by ablutions of fresh water from the latter, and then dried in the sun. They are subsequently made up for sale in small bundles, containing each about a dozen lesser portions, twisted at one end, of a light brown hue, and seldom exceeding a foot in length. Another kind of Flax named Annasse is also manufactured by the same people from the Bromelia ananas, but by a somewhat different method. The leaves are stretched on a flat piece of wood, and the surfaces sufficiently scraped to expose and divest their longitudinal filaments from the pulpy matter in which they are embedded; they are then repeatedly washed, and afterwards exposed to bleach in the sun. The fibres thus procured are of a beautiful white colour, and much longer than those of the Blaw. Emmo is a third sort, obtained from the trailing stem of a species of Convolvulus or creeper, in a similar manner as the Pine-apple Flax, with which it is conjoined in the formation of the mesh-work of their fishing-nets; the edge ropes being more exclusively composed of the Blaw. Annasse is likewise used to manufacture the native thread or twine, resorted to equally for sewing as stringing beads, although they have another kind of twine made from the sheaths of some gramineous product for the latter object. Adanson has remarked that the negroes of Senegal make very good ropes, fishing-lines, and nets, not so apt to rot in the water, from the Guinea Aloe, which is doubtless the same species of Sanseviera as that of Akkrah, as is also the Flag or Grass mentioned by Winterbottom that the Timmanes and Bulloms designate Ipperboh, and employ as a substitute for Hemp. Like the leaves of the Bromelia, they are laid upon a board and scraped with a thin piece of wood until freed from the pulp, and then dried in the sun. The nets made from this are neither so strong nor so durable as those made from the Palm leaves, but they are much easier prepared. *Extracts from a paper by Dr. W. F. Daniell, published in the Pharmaceutical Journal.*

Calendar of Operations.

(For the ensuing week.)

PLANT DEPARTMENT.

THE continual decline of summer flowering plants will render attention to the things we formerly recommended to be grown for autumn blooming the more necessary; these should be placed in a favourable position to perfect their growth, when they may be gradually brought into bloom. In addition to Aphelandras, Justicias, Eranthemums, Poinsettias, and other winter blooming plants, a good stock of Begonias should be pushed on, as scarcely any plants are more useful for the purpose. A few Oranges, Gardenias, and Francisceas, which have been a long time at rest, may be removed to warmer quarters for an early bloom. Let everything be done slowly, or a start into growth will be the result, without bloom. A few dozens of Calceolarias, Salvia splendens, patens, and gesneriflora—and the tall scarlet Lobelias, should now be shifted into their blooming pots. They will add much to the display in the conservatory during the late autumnal months. In addition to the above the scarlet and pink-flowered horse-shoe Geraniums in pots should be removed under cover and kept growing. Water Chrysanthemums with liquid manure. Where dwarf blooming plants are wanted a quantity may be layered in 3-inch pots; for this purpose we plant the old stools in the open border, when the layering can be easily managed. The potting of Hyacinths, Tulips, and Narcissus for forcing should now be proceeded with; select firm, well-ripened bulbs; after potting plunge them in ashes behind a north wall, and place a frame over them. The Guernsey Lily should now be obtained and potted forthwith, keeping them cool till the blooms are fairly open. Make a good sowing of Mignonette for the winter and early spring supply.

FORCING DEPARTMENT.

VINERY.—Grapes ripe, or approaching that state, will require abundance of air. In wet weather make fires by day only, and allow free ventilation through the night. We are strongly in favour of having some kind of ventilation, to work independent of the sashes, and when such is the case a thorough circulation of air can be maintained in all weathers; the advantages of this will be known by those who are obliged to keep Grapes through the damp dark weather of November and December, which in houses imperfectly ventilated is a difficulty. We may add, the apertures should be protected by copper-wire netting or some material which, while it will admit air freely, will prevent the admission of insects. The bunches of ripe Grapes should be frequently looked over, to remove decayed berries. When very early Grapes are desired, and the wood is perfectly ripened, means should be taken to throw the Vines into a state of rest; to assist this the Vines should be tied together and protected from the sun by mats or a temporary framing of boards, exposing them at night to the coolness of the atmosphere. Vines to be started in October may be pruned at once. For the above reasons Vines in pots for early forcing, which have well ripened their wood, should be removed to the shade of a north wall; the practice applies equally to Peaches, Nectarines, or Cherries in pots, intended to be started early. The trees in the early Peach-houses should be lightly brushed over with a small bunch of spray, to remove any ripe leaves from the shoots, that the sun and air may get free access to the wood. Pay every attention to the last crop of Melons; let the walls be washed once or twice with the sulphur wash, to keep down red spider. As the fruit will by this time be set, fresh growths should be pinched out, that the energies of the plant may not be uselessly diverted from the swelling fruit. Keep up the bottom-heat to 85°, and allow air liberally in fine weather; those in frames must have the top-heat kept up by linings, to guard against checks by rain or cold weather.

FLOWER GARDEN AND SHRUBBERY.

The usual routine to insure good keeping in every department must be continued; leaves now begin to fall, and daily attention will alone serve to keep everything in order; as most of the new things on trial are in bloom by this time, and have grown sufficiently for their habit to be ascertained, notes of such as appear worthy of future notice should be made, and their propagation at once proceeded with. Phloxes, Pentstemons, Delphiniums, Pansies, and similar things, struck early, should now be transferred to nursery beds, to wait till the regulation of the herbaceous ground and borders; make memorandums of the height, colour, time of flowering, &c., of each new plant in this way that comes under notice, that in re-arranging them a proper admixture of colours may be planted; and at the same time regard can be paid to the time when the borders are expected to look the most gay, by selecting kinds accordingly. Beds for early spring bulbs should now be got in readiness; a mixture of sandy loam and decomposed leaves or cow-dung will form a good compost, adding sharp sand where the loam is at all strong: in this, Hyacinths, Narcissus, Tulips, Gladiolus, Anemones, &c., will thrive. We advise those who can procure them to get the spring flowering varieties of Scilla; the blue of these charming little plants is very striking in early spring.

FLORISTS' FLOWERS.

This is a good time to divide and plant out Pansies for spring bloom; and as every amateur is a raiser of seedlings, these should be put out on a well prepared bed. Polyanthuses, too, will require some care; we are sorry these beautiful spring flowers are not more cultivated in the southern counties, for could we get the energies of some of our best florists there directed towards them, doubtless we should soon have amanifest improvement; and the sameness which is now complained of, would speedily be obviated. Dahlias are now in full glory, consequently will require considerable attention; shading blooms for exhibition, trapping vermin, watering, &c., with a bright look-out for those blossoms from which it is intended to gather seed; early flowers, provided they are well formed, are the most desirable, and as they die off the decayed petals should be removed. Plant out offset Tulips, and prepare the best bed immediately, so that it may have abundant time to sweeten, by repeated turnings, &c. Another thing of vital importance is to look well after Carnation and Picotee seed; when well swelled, the calyx may be slit down on one side, to allow the escape of moisture, which otherwise will prove injurious.

HARDY FRUIT GARDEN.

Proceed with gathering the more early kinds of Apples and Pears as they ripen, and see the fruit rooms are properly cleaned for their reception. Peaches, &c., should be gone over each morning, and those gathered that appear getting ripe. The above, and the better sorts of Plum, are always higher in flavour when gathered and kept in the fruit room a day or two before being sent to table.

KITCHEN GARDEN.

In this department the principal work will consist in carrying out the culture of growing crops, directions for which will be found in former Calendars. Endive, Bath Cos, and one or two sorts of hardy Cabbage Lettuce, should be still planted on south slopes to afford a supply for winter. A good plot should likewise be planted with Cabbage plants.

STATE OF THE WEATHER NEAR LONDON,

For the week ending Sept. 9, 1852, as observed at the Horticultural Gardens, Chiswick.

Sept.	Moon's Age.	Barometer. Max.	Barometer. Min.	Temperature. Of the Air. Max.	Min.	Mean	Of the Earth. 1 foot deep.	2 feet deep.	Wind.	Rain.
Friday.. 3	19	30.187	30.121	76	49	62.5	61	59	E.	.00
Satur.. 4	20	30.093	30.024	75	51	63.0	61½	60	E.	.60
Sunday. 5	21	29.990	29.935	73	50	61.5	62	60	S.	.02
Monday 6	☾	29.970	29.938	69	50	59.5	62	60	N.	.32
Tues. .. 7	23	29.929	29.918	69	55	62.0	61½	59½	W.	.48
Wed. .. 8	24	29.982	29.951	68	58	63.0	61	59½	E.	.14
Thurs... 9	25	29.926	29.859	69	59	64.0	60½	59	N.E.	.09
Average ...		30.011	29.963	71.3	53.1	62.2	61.2	59.5		1.05

Sept. 3—Foggy; very fine; clear at night.
— 4—Foggy; very fine; overcast.
— 5—Uniformly overcast and warm; clear at night.
— 6—Fine; very fine; densely overcast; rain.
— 7—Uniformly overcast; hazy; severe thunder-storm, commencing at 5 P.M.
— 8—Heavy rain, with thunder and lightning; dark clouds; clear.
— 9—Cloudy; showery; fine; lightning at night; rain.
Mean temperature of the week, 3 4-10th deg. above the average.

STATE OF THE WEATHER AT CHISWICK,

During the last 26 years, for the ensuing week, ending Sept. 18, 1852.

Sept.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 12	67.1	48.8	57.9	8	0.49 in.	3	4	1	2	1	4	10	1
Mon. 13	67.2	45.6	56.4	11	0.49	2	3	5	1	2	5	5	3
Tues. 14	66.6	46.7	56.7	12	0.34	1	2	5	3	2	6	6	1
Wed. 15	66.8	45.8	56.3	12	0.63	1	4	3	2	5	1	5	5
Thurs. 16	68.1	48.0	58.0	10	0.50	1	4	3	1	4	5	5	1
Friday 17	68.8	47.0	57.9	10	0.50	1	3	2	2	2	9	4	2
Satur. 18	66.0	44.7	55.4	12	0.76	1	7	1	1	2	6	5	3

The highest temperature during the above period occurred on the 12th, 1841, and 17th, 1843—therm. 84 deg.; and the lowest on the 17th, 1840—therm. 29 deg.

Notices to Correspondents.

ÆSCHYNANTHS: *Messrs. Lucombe and Co.* Your hybrid "splendidus," produced from Æ. speciosus by grandiflorus is indeed a fine thing. One of the heads, containing more than 20 scarlet and yellow flowers, each between 3 and 4 inches long, is one of the most beautiful objects we ever saw. A figure of it will be given in Paxton.

BOOKS: *Young Amateur.* Paxton's "Cottager's Calendar;" and a "Treatise on the Pansy," by Mr. Turner, of Slough. We cannot recommend dealers.‡—*J S.* You must apply to the booksellers; we cannot recommend dealers.‡

BRUSSELS SPROUTS: *Sub.* They should not be stopped till they show a disposition to cabbage at the top; then pinch off the point of the main stem, which will have a beneficial effect on the side sprouts.‡

CLIMBERS: *Inquirer.* The following will possibly suit your purpose, viz., Aristolochia gigas, Pæzularia odoratissima, Stephanotis floribunda, Passiflora racemosa, and any of the Tacsonias.‡

DISEASES: *Meath.* The cause of the black spots and red stains on the leaf of a Bramble is a Fungus called Aregma bulbosum.

FUNCTIONS OF PLANTS: *D Tod.* A volume on Vegetable Physiology is needed to answer your questions. You will find a reply to them in any general modern work upon that subject, to which we beg to refer you. We can only say that green colour is never formed in the absence of light, except in the case of certain deep-sea Fucoids.

GRAPES: *J W and Co.* You will find the distinguishing characteristics of most of the sorts you enumerate given in the Catalogue of Fruits published by the Horticultural Society.‡

GREENHOUSES: *J G.* Next week. Your demands are too large to be complied with on the instant.

INSECTS: *C.* The caterpillar found in the leading shoot of a large Holly in St. James's Park, is that of the wood-leopard moth (Zeuzera æsculi). It is quite unusual for it to attack the Holly.—*W C T.* Thanks; but the specimen was quite dried up. We can hardly think the insects could have made such a mistake in their instinct. They are certainly, however, the larvæ of some species of the Linnæan genus Phryganea; but on immersing them in water, they made much less progress than when placed on dry paper.—*J N.* The caterpillars on Pinus Mughus and austriaca are those of a species of sawfly (Lophyrus Pini), which is fortunately rare in this country, but occasionally does much mischief in the great Pine forests of the continent.—*A B X.* The insect sent is the common Lepisma saccharina, or sugar-louse, found in dark cupboards, &c. The cricket is an active creature all its life, *i. e.*, after being hatched from an egg. In its early state it resembles its parents, except in having no wings and wing cases. *W.*

KYANISING TIMBER: *P J N.* We believe the proportions to be unimportant. A half saturated solution would be ample in either case.

MAGPIES: *J A.* Perhaps the best way of getting rid of them is to shoot them. They are too cunning to be trapped.‡

MODELLING FRUIT: *Young Nurseryman.* Take your Apple, grease it, and place it in plaster of Paris, so as to be half immersed. This may be done by pouring the plaster of Paris into a cylinder of paste-board. Leave the fruit undisturbed till the plaster is set. Then sink two holes in the upper edge of the mould, and pour on it plaster enough to fill up the cylinder and to form the remainder of the mould. The next day take the two halves of the mould apart, and remove the Apple. Have ready some hot bee's-wax, of which pour the lower mould half full; clap on the upper mould, shake them well together, and then put by. In a quarter of an hour you will have made your Apple, which must be afterwards taken out and painted with powder-colours rubbed up with turpentine only.

NAMES OF FRUITS: *P J Newton.* Your Apple appears to be the Red Astrachan.‖—*J C C.* Your Plum is the Washington.‖—*Dillestone and Co.* The Grape is not yet ripe. It is very like the Royal Muscadine. The leaves of this are smooth above, hairy beneath; and in every respect like those you sent.‖

NAMES OF PLANTS: *J A.* Antirrhinum Orontium.—*A B X.* Brassica Napus—common Rape.—*Diamond.* Platanus orientalis.—*J A.* Apparently Schinus Molle, from Peru.—*J N.* A very fine variety of S. Bucephalus, which will be published in Paxton's "Flower-garden," under the name of S. Bucephalus *var.* guttata.—*C K B.* 1, Ceterach officinarum, Willd. 2, Asplenium Ruta-muraria, L.; 3, A. Trichomanes, L. (from a dry place); 4 and 12, A. Adiantum nigrum, L.; 5 and 10, Polypodium vulgare, L.; 6, Asplenium Trichomanes, L. 7, Lastrea Filix-mas, Presl; 8, L. dilatata, Presl; 9, Scolopendrium officinarum, Sm.; 11, Pteris aquilina, L. *S.*—*E G* Cyanotis vittata.—*Cavanensis.* The deciduous Cypress, o Taxodium distichum.

PATCHOULI: *C L.* This drug is not produced by *Pentstemo Patchouli* (there is no such plant), but by Pogostemo Patchouli. We do not know whether it is used as a perfum by the Turks; it is in India. The leaves are merely dried.

ROOTS: *J N.* These organs penetrate solid earth, &c., by a slo process of addition to their points. The result of this curio mode of organisation is a gradual softening and displac ment of earth, or an avoidance of insoluble matter, whic gives the roots an extraordinary power of insinuation. addition there ensues a lateral development, or increase thickness, which has in some instances such enormous for as to displace the heaviest and most solid masonry.

ROSES: *Robin Hood.* The buds of the Roses dropped off becaus in such very hot weather, their evaporating force was great than the action of the roots, so that sap could not be co veyed into them as fast as it was consumed. In other word they perished because they were starved.—*P L G.* We cann recommend dealers.‡

SHANKING: *B W G.* If you will refer to our former reply yo will see that shanking may arise from various causes. Th destruction of your leaves was one cause. Leaves m nevertheless be very large and green, and yet shanking w occur, because in that case it arises from a cause differe from loss of leaves. You may be made sick by a dose white vitriol, or by rising to a great elevation in the air, by bleeding, or by seeing some disgusting object. Here, in shanking, many different causes produce an identic result.

THE EPIPACTIS: *Ann, Cork.* It is E. latifolia in a comm state which you have sent, and not the smooth variety late figured by us. This species is extremely variable.

WINDSOR BEANS: *A B.* How can you occupy yourself wi such idle inquiries? You might as well ask whether all t Apples this year grow with their stalks upwards.

PERUVIAN GUANO.

CAUTION TO AGRICULTURISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

ANTONY GIBBS AND SONS, AS THE ONLY IMPORTERS OF PERUVIAN GUANO,

Consider it to be their duty to the Peruvian Government and to the Public again to recommend Farmers and all others who buy to be carefully on their guard.

The character of the parties from whom they purchase will of course be the best security, and, in addition to particular attention to that point, ANTONY GIBBS AND SONS think it well to remind buyers that—

The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 9l. 5s. per ton, less 2½ per cent.

Any resales made by dealers at a lower price must therefore either leave a loss to them, or the article must be adulterated.

THE LONDON MANURE COMPANY offers on the best terms Wheat Manure for autumn sowing, Linseed, Rape Cakes, Peruvian Guano, Urate, Superphosphate of Lime, and every other artificial manure. Also a quantity of Salt, the refuse of ammonia and saltpetre makers, considerably more valuable than the ordinary agricultural salt.

EDWARD PURSER, Sec., Bridge-street, Blackfriars, London.

MANURES.—The following Manures are manufactured at Mr. LAWES'S Factory, Deptford Creek:

Turnip Manure, per ton	... ...	£7	0 0
Superphosphate of Lime	... ...	7	0 0
Sulphuric Acid and Coprolites	... ...	5	0 0

Office, 69, King William-street, City, London.

N.B. Peruvian Guano, guaranteed to contain 16 per cent. of Ammonia, 9l. 10s. per ton; and for 5 tons or more, 9l. 5s. per ton, in dock. Sulphate of ammonia, &c.

LINSEED CAKE, Foreign and English, Rape Cake, Peruvian Guano, Gypsum, Salt, Peat Charcoal, and all other Manures of known value, on sale.—Apply to MARK FOTHERGILL, 204A, Upper Thames-street, London.

CHARCOAL AND SEWAGE MANURE.—Promote the Health and Wealth of Town and Country by increasing the use of that valuable manure PEAT CHARCOAL, impregnated with the fertilising matter of LONDON SEWAGE. The ammonia, phosphates, and fæces are absorbed, and the water pressed out bright, palatable, and soft.

Sold at the Charcoal and Sewage Works, Stanley-bridge, Fulham, Middlesex, at 60s. per ton, 4s. per cwt., 2s. 6d. per half cwt.

FARM TO LET.

TO BE LET, from Michaelmas next, MAISEY HAMPTON, a capital Sheep and Corn Farm, containing 640 acres, of which two-thirds are Arable, with suitable Field Barn and Homestead. The Farm is in the course of being thoroughly drained, which is nearly completed. A Lease will be granted.—For particulars apply to Messrs. BRAVENDER and TRINDER, Land Agents and Surveyors, Cirencester.

WATERPROOF PATHS.—Those who would enjoy their Gardens during the winter months should construct their walks of PORTLAND CEMENT CONCRETE, which are formed thus:—Screen the gravel of which the path is at present made from the loam which is mixed with it, and to every part of clean gravel add one of sharp river sand. To five parts of such equal mixture add one of Portland Cement, and incorporate the whole well in the dry state before applying the water. It may then be laid on 2 inches thick. Any labourer can mix and spread it. No tool is required beyond the spade, and in 48 hours it becomes as hard as a rock. Vegetation cannot grow through or upon it, and it resists the action of the severest frost. It is necessary, as water does not soak through it, to give a fall from the middle of the path towards the sides.—Manufacturers of the Cement, J. B. WHITE and SONS, Millbank-street, Westminster.

CARSON'S ORIGINAL ANTI-CORROSION PAINT, especially patronised by the British and other Governments, the Hon. East India Company, the principal Dock Companies, most public bodies, and by the Nobility, Gentry, and Clergy, for out-door work at their country seats. The Anti-Corrosion is particularly recommended as the most durable out-door Paint ever invented, for the preservation of every description of Iron, Wood, Stone, Brick, Compo, Cement, &c., work, as has been proved by the practical test of upwards of 60 years, and by the numerous (between 500 and 600) testimonials in its favour, and which from the rank and station in society of those who have given them, have never yet been equalled by anything of the kind hitherto brought before the public notice.

Lists of Colours, with Prices, together with a Copy of the Testimonials, will be sent on application to WALTER CARSON and SON, No. 9, Great Winchester-street, Old Broad-street, Royal Exchange, London.—No Agents. All orders are particularly requested to be sent direct.

BOYD'S SELF-ADJUSTING SCYTHE.



BOYD'S PATENT SCYTHE and the celebrated STEEL DIGGING FORK.—BOYD'S Scythe is capable of being adjusted to any angle by a person using it, and never requires the aid of a blacksmith; when out of use it shuts up like a clasp-knife. The *Gardeners' Chronicle* thus comments upon it:—"We gladly state that BOYD'S Scythe stands well the great test, experience, especially with his late ingenious and very useful improvement."—C., 15th May, 1852. The Steel Digging Forks are those celebrated by Mr. Mechi: "When a labourer has once used them, he will never work with any other implement for digging. They effect a saving of nearly 50 per cent. in labour." Wholesale and Retail at WM. DRAY and Co.'s Agricultural Implement and Machinery Warehouse, Swan-lane, Upper Thames-street, near London-bridge.

STEPHENSON AND PEILL, Gracechurch-street, London, and 17, New Park-st., Southwark, Manufacturers of Copper Cylindrical and Improved Conical Iron BOILERS, and Conservatory and Greenhouse Builders, either in wood or iron, respectfully call the attention of the Nobility, Gentry, and Nurserymen to their simple but efficacious method of warming Horticultural and other buildings by hot water. From the extensive works they have executed, references of the highest respectability can be given, and full particulars furnished on application.

MANCHESTER AND LIVERPOOL AGRICULTURAL SOCIETY.—DISTRICT: South Lancashire, Cheshire, and all other Parts within 35 miles (in a direct line of Warrington.)

The ANNUAL SHOW of this SOCIETY will be at LIVERPOOL, on the 23d of SEPTEMBER. The Competition, except for Implements, is principally confined to the District, but 12 Prizes are given for Horned Cattle, Horses, and Sheep, for which Parties living beyond the District may compete.—20 Prizes are given, for the first time, for POULTRY.

Prize Lists, and any other information, may be obtained by applying to the Secretary.

The last day of Entry is the 17th of September.

Warrington, Sept. 11. HENRY WHITE, Secretary.

EMIGRANTS TO AUSTRALIA, ETC., SUPPLIED. A PRIZE MEDAL FOR SUPERIOR LOCKS WAS AWARDED TO J. H. BOOBBYER, AT THE GREAT EXHIBITION OF 1851.

THE CELEBRATED STEEL DIGGING FORK, Patent Spades, Daisy Rakes, Scythes, Draining, and other Garden Tools. Mole Traps, 6s. per dozen. Carpenters' and Smiths' Tools, &c. Rubbers for sharpening Scythes, 2s. 6d. per dozen. Patent fumigators for destroying insects on Plants, in greenhouses, &c.: at Messrs. J. H. BOOBBYER and Co.'s (late STURCH and BOOBBYER), Ironmongery, Brass-foundry, Nail and Tool Warehouse, 14, Stanhope-street, Clare-market, London. Established nearly 200 years for the sale of goods from the best Manufactories at the lowest prices. Goods forwarded to any part on the receipt of remittance. Lists sent by post.

M'CORMICK'S PATENT AMERICAN REAPER has received numerous Prizes during the present season; amongst others, the award of the Jury appointed by the R. A. College at Cirencester, after NINE days' trial upon all kinds of crops and in all weather.—Winton's Parkes' celebrated Steel Digging Forks, as recommended by Mr. Mechi: they save full 20 per cent. in labour; they obtained the Silver Medal at the R. A. Society's Show at Lewes, the 1st prize at the Royal Yorkshire Show at Sheffield, 1st prize at Galway, and also at the Royal Dublin Show.—Anthony's Patent American Churn has received the prize at every Meeting where it has been exhibited, including those of the R. A. Society at Exeter, Great Exhibition, and at Lewes.—Urwin's Force and Lift Pump, particularly adapted for Liquid Manure. Mr. Mechi has one in use, and it is working to perfection. Kase's Force and Suction Pump, well suited for a Farm Fire Engine or Liquid Manure Pump; it is by far the cheapest and most effective Pump now out. Galvanised Iron Lift Pumps at a very moderate price. Gutta Percha Pumps, Gutta Percha Tubing for Liquid Manure and Garden purposes, Gutta Percha Driving Bands for Machinery, Waterproof Canvas Hose coated with Gutta Percha, for Liquid Manure. Leather Hose and Bands. Richmond and Chandler's Improved Scroll Knife Chaff Machine has obtained the prize at the R. A. Society's Show at Lewes, and at every other show this season. Starbuck's American Ploughs, Grain Bruisers. Also every kind of Agricultural Implement sold by

BURGESS & KEY, 103, NEWGATE-STREET, LONDON.

The Agricultural Gazette.

SATURDAY, SEPTEMBER 11, 1852.

MEETING FOR THE ENSUING WEEK.

THURSDAY, Sept. 16—Agricultural Imp. Society of Ireland.

WE add a few words, for the sake of inquiring correspondents, in explanation of the plan on which the WORKING MEN'S EDUCATIONAL UNION, to which we referred at page 537, intends to act. Beyond the occasional employment of lecturers within the limits of London, and the occasional publication of an outline lecture, the Union does *not* contemplate undertaking *directly* either lecturing, education, or book publication: it proposes to enter into competition neither with schools nor publishers, but hopes, nevertheless, to be helpful to both. The leading feature of the Society's operations is the publication of popular, cheap, and portable diagrams, in order to promote and encourage lecturing to a class of persons, chiefly adults, who may be thereby instructed and edified, at the same time that needful amusement is provided for them. Closely connected with this leading idea are the other objects of the Union, promoting the formation of popular, cheap, yet sound lending libraries for working men and their families, and the encouragement of mutual instruction classes amongst them. For the details of these different schemes we refer inquirers to 43, Skinner-street, Snow-hill, London, where the prospectus of the Society may be had, from which we have extracted the above statement of its objects.

THERE are few topics more frequently the subject of discussion than MILK and its management, doubtless because science lags farther behind in the dairy than in any other department of the farm. Complaints have been loudly raised of the want of experiments in connection with this subject, both on the farm and in the laboratory of the analytical chemist; but whatever may be wanting in the latter, a little inquiry into the facts of the case will show that as regards the former the outcry is in some measure groundless; for in no department does practice present us with a greater variety of examples, whether in the management of cows or their produce. For instance:—In many of the northern isles the cow has yet the alternative of collecting her scanty fare from the produce of the sea-shore and that of the heath. Along our Alpine districts, again, from Cornwall to Caithness, we have many other peculiar and interesting varieties of management; while in our lowlands, Celtic and Saxon, although farmers number by hundreds of thousands, it may without exaggeration be stated that the practice of no two of them coincides in its details.

It is wholly unnecessary, therefore, to put farmers to any expense in the shape of experiments; all that is necessary being to furnish our columns with the details of existing practice, in order to enable science to unravel the chemical anomalies of the dairy.

Some time ago we stated that the peculiar taste of milk and its products attributed to Turnips and wild Onions, was different from that ordinary rancidity which arises from exposure to the influence of the air, and we have little doubt that the investigation now going on in some of our laboratories will corroborate this conclusion; for the acids peculiar to butter in its ordinary state of oxidation are the butyric, caproic, and capric, of which the latter two are the most offensive. Now, caproic acid, says Sir R. KANE, in his "Elements of Chemistry," "has the peculiarly characteristic odour of *sweat*, and capric acid the odour of *the goat*," odours entirely different from that which has been variously attributed to Turnips and wild Onions, and which often exist in the absence of these weeds. The subject is, we believe, engaging the attention of some of the first continental chemists; but while science is strenuously labouring in so important a field, let not the practical farmer sit idle.

In returning such an account of dairy management as that proposed above, all the different circumstances which affect the quantity and quality of milk and its products would require careful notice. These circumstances may be enumerated in several divisions, thus—1. Age, breed, and detailed description of the cow, as regards size, form, health, general state and constitution, distance from calving, &c. 2. The food and treatment of cows. 3. The dairy treatment of the milk; and 4, climate and season of the year. All these affect milk, and in giving in reports of them each division would require to be further subdivided, and the different subdivisions then circumstantially treated. From the importance of the subject the details of different districts might be usefully collected by the various local agricultural societies.

The above divisions, it will readily be perceived, and still more the different subdivisions, are so intimately connected with each other, as on some occasions to render it no easy task to distinguish effects produced by the one from those produced by another. Cows, for instance, are very voracious, not unfrequently foul feeders, and consequently are every now and then suffering from attacks of surfeit and stomach complaints. When first turned out to Grass, put upon Turnips, Tares, or any other similar change of diet, such attacks are of considerable duration—several days, even weeks elapsing before the sufferers are able to overcome them, during which time the attack of necessity affects the secretion of milk. On such occasions the character of the food cannot be considered the only cause of any alteration in the ordinary character of the milk. In general, however, no doubt the milk cow may not inaptly be compared to a distillery or brewery; to throw all sorts of trash into the mash-tun, and yet to expect to drink the same quality of liquor as from pure malt is, to say the least of it, expecting too much.

In the dairy, again, it may often be equally difficult to trace chemical results to their respective sources, owing to the susceptibility of milk and its products to change, and their being continually surrounded by so many changing causes. When milk is newly taken from the cow, and when it has not remained too long in the udder, it is slightly alkaline, but from this state to various degrees and kinds of acidity it hurries with a rapidity often during the heat of summer scarcely credible. If the cow is labouring under sickness or excitement of any other kind, from causes such as those alluded to by our correspondent "H. D.," the work of secretion may be improperly performed, so that the milk may only be partially manufactured, as it were, and consequently decomposition will be both more rapid and different from what it would have been if the milk had been properly manufactured. On the other hand, the organs of secretion may be healthy and performing their functions with ease, and yet passing elements sufficient to flavour the milk, which flavour may be either agreeable or not. Then we have the atmosphere of the dairy always more or less contaminated with elements injurious to milk, arising from the process of natural decay. Now, under all these circumstances, considerable difficulty may often be experienced in tracing causes from their results; and there is the more need, therefore, that the chemist should receive the assistance of the farmer.

Such is the position and prospects of the dairy, and it will readily be perceived from it, that while chemists are active, an important work lies at the door of the farmer; viz., to render a more accurate account of facts connected with cow-feeding and dairy practice, than has yet appeared before the public, for which very flattering prospects are held out in return.

ROTATION OF CROPS.

WE do not find Liebig at all explicit on the *modus operandi* by which a plant, in appropriating its peculiar inorganic elements, does not deprive the soil of those which do not enter into its organism. It is true he speaks of one plant *leaving behind* (?) that which a second, and the second that which a third, may require, and he also says, which may serve to explain the meaning he would give to *leaving behind*, "when substances which are incapable of being employed in the nutrition of a plant exist in the matter absorbed by the roots, they must be again returned to the soil;" but he leaves us again at sea in concluding his chapter "On the Alternation of Crops," for he says, "The reasons why this interchange of crops is so advantageous—the principles which regulate this part of agriculture are, therefore, the artificial production of humus, and the cultivation of different kinds of plants upon the same fields, in such an order of succession, that each shall extract only certain components of the soil, whilst it *leaves behind* or *restores* those which a second or third species of plant may require for its growth and perfect development."

But it is upon the production of humus by an artificial cultivation that he appears mainly to rely for beneficial results from the alternation of crops; on this subject he freely dilates and is very clear. In the transformations of existing compounds in a plant, he says, "There are produced gaseous matters which are excreted by the leaves and blossoms, solid excrements deposited in the bark, and fluid soluble substances which are eliminated by the roots. . . . Substances containing a large proportion of carbon are excreted by the roots and absorbed by the soil. Through the expulsion of these matters unfitted for nutrition, the soil receives again with usury the carbon which it had at first yielded to the young plants as food, in the form of carbonic acid." And while he takes away the ground given by the experiments of Macaire-Princep from under that part of the theory of M. de Candolle, which regards the return of inorganic matters to the soil, he establishes by these same experiments the replenishing of the soil by the roots with organic matters, which, derived from the air and through the leaves, had entered into the organism of the plant and were capable of being converted into humus.

"It is certain that the gummy and resinous excrements observed by Macaire-Princep could not have been contained in the soil; and as we know that the carbon of a soil is not diminished by culture, but, on the contrary, increased, we must conclude that all excrements which contain carbon must be formed from the food obtained by plants from the atmosphere. Now, these excrements are compounds, produced in consequence of the transformations of the food, and of the new forms which it assumes by entering into the composition of the various organs."

And while he ascribes some of the benefits derived from the alternation of certain crops to their requiring only a small quantity of inorganic matter, he appears to attribute far more to their supplying the soil with organic principles.

"These plants (Saintfoin and Lucerne) are remarkable on account of the great ramifications of their roots, and strong development of their leaves, and for requiring only a small quantity of inorganic matter. Until they reach a certain period of their growth, they retain all the carbonic acid and ammonia which may have been conveyed to them by rain and the air, for that which is not absorbed by the soil is appropriated by the leaves; they also possess an extensive four or sixfold surface, capable of assimilating these bodies, and of preventing the volatilisation of ammonia from the soil, by completely covering it in. An immediate consequence of the production of the green principles of the leaves, and of their remaining component parts, as well as those of the stem, is the equally abundant excretion of organic matters into the soil from the roots."

What Liebig affirms of these plants, Saintfoin and Lucerne, may be also predicated of most of these crops we term fallow ones.

However satisfactorily Liebig may show that the fertility induced by the introduction of plants yielding abundant excretions of organic matter into the soil, yet he does not inform us how these matters, being of the same nature, that is, capable of being converted into the same substance, carbonic acid, can *per se* effect an increase of produce by the alternation of crops requiring various elements of nutrition; and it does appear somewhat anomalous that the plants giving out the largest supply of this substance are followed by those assimilating the least, and those giving out the least by those assimilating the most.

We are also yet without proof of the way in which the inorganic components of the soil are supposed to be less diminished by the alternation of crops. On this *tabula rasa*, then, we will inscribe what we believe to be a probable solution.

We find this solution in the action on the crude inorganic components of the soil of the carbonic acid introduced into it by the excrements of plants; for the experiments of Struve "have proved that water impregnated with carbonic acid decomposes rocks which contain alkalies and then dissolves a part of the alkaline carbonates."

Thus, then, that which appeared a difficulty in Liebig clears the way for this solution, for these so called fallow plants collect from the air and give to the soil, through their roots, abundant excretions of organic matter, which acting, in proportion to their amount, on the crude inorganic matters in the soil, render soluble a sufficient quantity of them for the requirement of the succeeding crop of plants, which, in its turn, collecting organic matters less abundantly from the air, give to the soil less excretions, but still in sufficient amount for the demands of a crop which requires only a small quantity of inorganic matter. Thus, in an alternation of crops, each crop supplies enough of organic excrements to act on the inorganic matters of the soil to supply sufficient earthy nutriment to the succeeding one, and each crop is thus supplied in proportion to its need, through the agency of the preceding crop, and with little waste to the soil; for those plants which offer larger evaporating surfaces, and require less inorganic food, finding in the soil a smaller amount of soluble earthy matter, necessarily take up a weaker solution of them, while those, on the contrary, which offer less evaporating surfaces and require more inorganic food, finding in the soil a larger amount of soluble earthy matters, necessarily take up a stronger solution of them. *G.*

NOTE ON THE ADULTERATION OF GUANO.

[From the last number of the Highland Society's Transactions.]

IN a former number of the Transactions of the Society, I published a variety of facts regarding the adulteration of guano which had come under my notice at that time, and I supposed that I had then said enough to put farmers on their guard. Some facts, however, have recently come out, which lead me to suspect that adulterated guano is sold in Scotland to a much larger extent than is generally supposed. I say *sold* in Scotland; for, so far as my present information goes, I have no reason to suppose that the actual adulteration is practised here—all the cargoes which I have been able to trace having been imported from different parts of England, where the adulteration seems to be carried on in a wholesale manner.

The circumstances which induce me again to refer to the subject in the Transactions arise mainly from a series of articles which have recently appeared in the *Gardeners' Chronicle* on low-priced guano. After pointing out (what ought to be familiar to every one) that no genuine Peruvian guano can be sold for under 9*l.* 5*s.* per ton, the editor proceeds to refer to various cases in which guano has been adulterated, cautiously avoiding any imputations on individuals; and, among others, he says, "We should not be surprised if a bad opinion were entertained of the cargo of the Pandora, Captain Jay, which loaded at the Mudhole Tier, and sailed for Berwick with 150 tons of guano in bulk."

The publication of this article caused great excitement in Berwickshire, and samples were sent to the laboratory, both by the owners of the cargo and by different gentlemen who had purchased quantities of it. These analyses of portions from different parts of the cargo all showed large adulteration, although the extent of adulteration varied in different portions, as might be expected, from the difficulty, or almost impossibility, of making a perfectly uniform mixture on the large scale. I give the results of three of these analyses.

	No. I.	No. II.	No. III.
Water	13.05	11.95	14.86
Organic matter and ammoniacal salts	35.32	25.00	22.84
Phosphates	26.61	25.32	26.19
Sulphate of lime	14.18	28.04	21.32
Carbonate of lime	,,	,,	2.19
Alkaline salts	6.27	3.80	6.55
Sand	4.57	5.89	6.05
	100.00	100.00	100.00
Ammonia	10.62	8.90	7.59

For comparison's sake, I give the analysis of a good Peruvian.

Water	12.16
Organic matter and ammoniacal salts	53.51
Phosphates	21.89
Alkaline salts	10.68
Sand	1.76
	100.00
Ammonia	17.50

It appears, then, that the adulterated article in this instance contains a quantity of sulphate of lime, or gypsum, varying in different parts of the cargo from 14 to 28 per cent. In consequence of this addition, the per centage of ammonia is depressed from 17.5, the proportion found in genuine Peruvian, to 10.62 and 7.59. On the other hand, the quantity of phosphates is *higher* in the adulterated than in the genuine guano; and about 5 or 6 per cent of sand is found, whereas the usual per centage is 1.5, and it rarely exceeds 2. It is obvious, from the increased per centage of phosphates in these samples, that they have been adulterated with some material rich in phosphates. Thus, for instance, in the second analysis, the amount of gypsum and sand, which form the adulteration, amount together to about one-third of the whole guano; or, in other words, such a mixture would be produced by adding one ton of foreign matters to two tons of guano. In doing this, however, the per centage of phosphates would be reduced from 22, the normal quantity, to somewhere about 14 per cent. In this case, however, we find upwards of 25 per cent; and the necessary inference is, that out of that, 10 per cent have been added along with the other adulterating material. On considering the whole case, I am inclined to think that coprolites, either ground or dissolved in acid, have been employed to adulterate this guano. There is an article largely sold under the name of dissolved bones, which is really made from coprolites, and that I suspect to have been employed. Its composition varies very much, but the following analysis, which I select at random from a number made in the laboratory, may serve to represent its usual ingredients:—

Water	16.16
Organic matter	14.54
Phosphates	30.20
Sulphate of lime	27.25
Carbonate of lime	3.45
Sand	8.40
	100.00
Ammonia	1.29

Now, a mixture of equal weights of this substance and of the Peruvian guano, of which I have given the analysis above, would have this composition:—

Water	14.16
Organic matter	34.04
Phosphates	26.04
Sulphate of lime	13.63
Carbonate of lime	1.72
Alkaline salts	5.33
Sand	5.08
	100.00
Ammonia	9.40

which bears a general resemblance to the adulterated samples. It is more than likely that the method of adulteration varies greatly, and that coprolites simply ground, and gypsum itself are used; at all events, the latter substance is always present in considerable quantity. Now, such dissolved coprolites as that of which I have given the analysis, can be produced at a cost of about 3*l.* per ton, and gypsum can be bought for 1*l.* 5*s.*; so that the depreciation in value is very great. But the adulterated guano was sold at 9*l.* 10*s.*—the price of the genuine article.

Recent experience has shown me that considerable quantities of this sort of adulterated guano are imported into Scotland, or at least that attempts are made to import it, which, I have no doubt, are sometimes checked by analysis, but often, I fear, escape, owing to the negligence of buyers. The importation takes place entirely at the small seaports, and no case, so far as I know, has occurred at Edinburgh; but a considerable number have occurred at other ports. In proof of this, I give here analyses which have been made in the laboratory during this season from different places. I do not know whether or not the guanoes analysed have been sold at the places mentioned, but they have been sent from there for analysis, and very likely the result may have prevented their sale; but, of course, I have no information on that point.

	Banff.	Arbroath.	Dunbar.	Brechin.	Montrose.*
Water	11.72	15.40	13.10	13.60	13.31
Organic matter and ammoniacal salts	36.28	33.35	26.23	26.63	22.94
Phosphates	24.54	2.03	23.35	23.89	24.49
Sulphate of lime	12.90	0.75	20.57	17.16	20.76
Carbonate of lime	...	..	2.53	3.67	1.25
Alkaline salts	11.29	8.16	6.49	7.11	5.45
Sand	3.27	5.31	7.73	7.94	11.80
	100.00	100.00	100.00	100.00	100.00
Ammonia	10.36	11.04	7.95	7.80	6.76

It would be easy to multiply these analyses, but those I have given will suffice to show how very prevalent the practice of adulteration is; and to impress upon the practical farmer the importance of taking every precaution in the purchase of an article upon which so much of his success depends. *Thomas Anderson, M.D., Chemist to the Society.*

* This sample was not from Montrose, but had been imported into Dundee.

PAUPERISM.

BY the old Poor-law of Scotland the rate is now divided between the landlords, called heritors, and the occupiers; the assessment was raised on the heritors, each district levying a voluntary rate on each heritor according to the value at which his estate was estimated in the county-books. Under that law, real property only was assessed. By the new law the assessment may still be raised as before—by voluntary taxation, in which case the administration of the funds remains under the charge of the heritors and kirk session; or the funds may be raised by a legal rate, in which case they are administered by a board which is elective, the election being made by a majority of rate-payers, who may fix the rate, according to the requirements of the parish, on means and substance, instead of on the valued rental either received or paid; by which means all property is made to contribute to the support of the poor. Neither under the present nor the late law have the able-bodied a right to be on the poor-roll; nor can the helpless, if they have parent or son able to support them, as is the English law. Funds used to be collected in the churches, to which every one contributed; and so obligatory was this offering, that many persons, not able to contribute a halfpenny or penny, remained from church through pride or shame. The funds collected were distributed under the direction of the minister of the kirk and heritors; the latter, however, very seldom interfered, and those persons only were recognised as paupers whose from age, sickness, or unavoidable causes, were unable to earn their subsistence by their own labour. Such persons have long since had, in fact, a legal right to support in Scotland, being considered as afflicted by the hand of God, not only to prove their own tempers, but to test the charity of their more fortunate fellow-creatures.

While the question of compulsory Poor-laws for Scot-

land was agitated and undecided, it was strenuously urged by many enlightened and benevolent men. The late Dr. Chalmers, who had devoted much of his valuable time to the practical administration of parochial funds, agreed with many enlightened and benevolent individuals, that in this country any approximation to the Poor-law of England was to be deprecated; the principal objections being to this effect:—1. That a compulsory law deadens the feelings of charity in the hearts of those who have the means of bestowing gifts, inasmuch as it renders almsgiving a matter of obligation —a tax instead of a beneficence; and, therefore, excites no gratitude in the mind of the recipient. 2. That such law leads to improvident marriages and pauperism; and that the feeling of self-respect and the habits of self-reliance become impaired by the consideration that the parish must support those who become pauperised, as a matter of legal necessity. Now, compulsory assessment does no doubt weaken the Christian grace of charity, but only in those persons who are naturally selfish and hard-hearted, and who make the plea of compulsory obligation as a plausible argument for not doing what they would have found some other excuse for not doing. We knew an illustration of this in the instance of the wife of a Scotch farmer. Previously to the compulsory clause she had been accustomed to give Oatmeal and Potatoes to mendicants; on the operation of the new law she ceased her gratuities, observing "We must hold our hands for our ain bairns." The true spirit of charity could not have existed in her heart, else it would not have been extinguished by a system which methodises and turns to the best general account the means which are contributed by legal rating. The objections to the principle of compulsion we need not consider at any length; the necessity of abandoning the voluntary principle is too evident when the selfishness and heartlessness of so large a proportion of the employing classes is considered. Under very favourable circumstances, mendicancy may be kept down, or greatly restrained within narrow limits, and the destitute poor relieved by spontaneous benevolence; but so much will depend (when contributions are gratuitous), on the discretion of the distributors, on the means, dispositions, and caprices of individuals, that there can be no implicit reliance on modes of relief for pauperism, which are not regulated by laws compelling every one of means and substance to bear a portion of the burden, according to his abilities. But, admitting the practicability of providing adequately for the wants of the poor in towns, and suppressing mendicancy (which is a paramount object), where money and zealous committees of management may be found, how are the unemployed able-bodied poor to be secured from starvation, or great distress, when the sources of employment happen to cease, without a poorhouse to receive them? and for this purpose it is evident that the voluntary system would provide very insufficient means.

The second objection is now to be considered. Experience proves that it is in the most degraded conditions of life, the greatest improvidence as to marriage prevails. Generations of beggars succeed each other, where no means are presented for bettering their state. With them, especially, the moral preventive check has no influence, pursuing their brute instincts, and too low in the social scale to feel such influence—which operates chiefly in the higher classes in proportion as they estimate and aspire to the decencies and comforts of life—they disregard all prudential considerations.

Improvidence as to marriage is notoriously most common in the lowest orders, for instance, among the poorest of Scotsmen and Irishmen of the Celtic tribe, not only among genuine beggars, but in the vast class of labourers, cottiers, and little farmers, always in an inverse ratio to the grade. All the reports furnished to Parliament concur in showing that the poorer the individuals the more anxious are they to marry, from "an anxiety to have children to support them in their old age," and also from the belief that they "cannot be worse off than they are."

Doctor Alison, of Edinburgh, has remarked with truth and point that more are deterred from early and improvident marriages by the hope of bettering their condition than by fear of destitution. When men despair of rising higher in position and feel that farther degradation is impossible, they become reckless in the extreme; but where employment, and therefore food, shall be provided for them by a labour rate, the misery of hopelessness is removed, and Poor-laws, which provide against destitution and its moral evils, tend to stimulate the poor and raise the tone of their character. Those who are accustomed to artificial wants feel the power of the moral restraints regarding improvident marriages in a degree which, with reference to the registrations of marriage, will, in the words of Mr. Carr, be hardly credited when stated in figures.

This truth has a remarkable illustration in France, where, in all the higher classes, the dread of having more than two, or at most three children, may be said to have a universal moral influence—*moral* in the philosophical, but most *immoral* in the familiar sense of the adjective. So strong is the desire of counteracting the effects of the French law, which enforces almost an equal division of landed property among children, that it is not uncommon even for very young married couples, possessing considerable estates, to resist the temptation of having even a second child, in order that all the parental property may be engaged by one inheritor. This, indeed, is pushing the argument to an extreme, but it is an unanswerable test of a principle—it bears out our reasoning. Among the small French proprietary class the preventive check is found to diminish in force as the scale of property descends. The peasantry, with their patch of land, have children as God and Nature dictate. As people acquire education and civilised habits, they become desirous of acquiring the decencies of life.

Nor will the distant contemplation of having a legal provision available to them in case of future misfortune prevent industriously disposed persons from using every exertion while they have opportunity; and even the most prudent of the lower orders of the English value their right to parochial settlement as a freehold which will entitle them to future support as a security against destitution, but not as an encouragement to a presumptuous neglect of their present opportunities, or an inducement to marriage.

Of the sum collected by assessments, mortifications,* and voluntary contributions, for the year ending 14th of May, 1851, with a Parliamentary grant of 10,000*l.* for medical relief, the expenditure for the poor of Scotland was (omitting fractions):

Registered poor	£404,218	Medical relief	£20,311
Casual ditto	25,917	Poorhouse buildings	21,576
General sanitary measures	1,038	Management	52,009
		Law expenses	10,872

The number of poor relieved within the same year was:

Registered poor	99,777
Casual ditto	42,093
Insane or fatuous ditto	3,520
Orphans or deserted children	7,543
	152,933

The rate of pauperism appears to have been about 10 per cent. on the population, which, by the last census, is 2,870,784.

The decrease in the number of registered poor has been trifling; but the decrease in the number of casual poor relieved within the year has been very great. Yet, owing to the deep distress that prevailed in most parts of the Highlands and islands, and to the temporary relief there afforded to destitute able-bodied persons classed as casual poor, there has been on the days on which the returns were made, viz., 1st of January and 1st of July —a recorded increase of the number relieved. In some cases destitute able-bodied poor were classed as casual poor for temporary relief, else they might have perished, and the board of supervision having a discretionary power in urgent cases, directed, in the case of Barra, a very poor parish in Long Island, under 8 & 9 Vict., cap. 83 (which recognises no distinction as to right of relief between temporary and permanent disability), that "all destitute persons who, though previously able-bodied, have ceased to be so for want of sufficient nourishment, hereby acquire a right or claim of relief precisely the same as that of persons who have been able-bodied, but who have ceased to be so from age, sickness, accident, or any other cause;" and the Board did not acknowledge the plea of inability to make suitable assessment as an excuse for not fulfilling the statutory obligation to provide for the support of actual paupers, whether able-bodied or not. The principle thus laid down is of general application throughout the United Kingdom. On this point Mr. M'Neile, of the board of supervision, gave this very peremptory caution to an inspector of poor: "You will be held responsible, that, in exercising the discretionary power conferred upon you by the parochial board, you do not permit any applicant for relief to suffer in health before you give relief; and second, should any applicant who has been refused relief perish from want of food, you would subject yourself to be indicted by the public prosecutor, on a charge of culpable homicide, as accessory to the death of the person so refused. Persons who are destitute and who are suffering from want, so as to be no longer able-bodied, have a legal right to relief; and parochial boards are by law required to provide the funds necessary to relieve them."

The Celtic population of the islands in the West of Scotland, though in the most miserable condition generally, became utterly destitute when the failure of the Potato occurred. But previously they did not require any systematic poor-law. While the manufacture of kelp afforded them employment, they needed no gratuitous relief. This manufacture, with field-labour and fishing, afforded them, in summer, the means of subsistence. As to the domestic accommodation, even now, if their cabins are waterproof over head, they do not trouble themselves about the dryness of the mud floors; and in many Highland districts the families of labourers, in what are called good circumstances, move about, as a matter of course, without shoes and stockings, which in England would be considered extreme misery. People so circumstanced are only a degree or two above the class of paupers as to the comforts of life, and yet they only solicit such employment as will insure to them the regular receipt of the low wages at which they are willing to work. As to the vagrancy, which has so often brought reproach upon the Scotchmen of the Highlands, the fact is, that necessity alone sends them forth. They, like their Celtic brethren of Ireland, are naturally indisposed to go from home, and though found in Glasgow and other lowland towns of Scotland, as the others are in Liverpool and London, performing the severest and most degrading labours, they would much rather be in their native countries, where they find the language and habits identical with their own. If they could find sufficient employment and wages at home, they would not migrate 20 miles from it. A petition presented to the Legislature by upwards of 1000 individuals from the parish of Barra, for means of emigration to North America, was the strongest evidence of their domestic destitution. Unquestionably people under such circumstances have had a strong case for the poor-law, which will for the future save them from starvation.

Many of the lowland parts of Scotland, as has been the case in England, suffered much from the inroads of Irish vagrants also, who swelled the list of casual poor to an intolerable degree, during the famine in their own country, and the labouring poor of Great Britain generally have had cause to complain that the bread has been taken out of their mouths by the immigrant labourers from Ireland. However, as the tide of Irish emigration has latterly turned towards America, the number of casual poor in the British returns, of whom the Irish constituted so large a portion in the most accessible parts of Great Britain, has sensibly decreased.

The evils of vagrant pauperism had been, especially before the enactment of the poor-law, so oppressive in Scotland, that the General Assembly reported that the stranger poor carried away in the form of alms from a parish more in value than would support comfortably the whole of its own poor. The number of persons in the 23 poor-houses in operation on the 1st of July, 1851, was 5312, and the accommodation is estimated for 7536. Where a poor-house has been erected by funds raised from a "combination" of parishes, the expenses of maintenance are paid by equitable apportionment, as in England. *M. D.*

(To be continued.)

* Mortifications are lands or moneys left at the death of the testator for the support of certain endowments or charities, by which means the poor of some localities are supported in Scotland, and there they become substitutes for poor-rates. In other instances mortifications are left as bursaries to pay for the education of poor boys belonging to certain classes of the community, at some college or higher order of school than the ordinary parochial one. In almost all the ancient Scotch burghs these mortifications exist for such and other purposes, and are increased by grants from the Town Councils. They also exist in some country parishes for the support of the really poor. Since the compulsory assessments have been established, mortifications have not been left for the poor, but they may have been heard of for the aid of poor scholars.

Home Correspondence.

The Harvest of 1852.—I am sorry to inform you that the crops in this part of Hampshire are much damaged by the storm of rain and wind of Wednesday, 11th August, which was perhaps one of the most severe ever witnessed in harvest; it blew a perfect hurricane, trees uprooted, limbs torn from them, buildings stripped of their thatch and tiles; in fact, so severe was the storm here, that the south-west side of hedge and tree looked as though they had been scorched with fire. I need not tell you how the crops suffered by such a storm, the Wheat crop in exposed situations was nearly threshed. A neighbour of mine that has some Barley near the shore told me the ears were blown off the straw; mine and others is very much damaged, having blown on to the ground and growing there; and from the ears being so near the ground, much is cut off with the scythe and will be lost. The storm has been followed by a succession of heavy thunder-showers for a week, such as are seldom witnessed in this part of the country, much of the Wheat in consequence is very much grown, and, from having to untie most of it, much has been tossed. I was fortunate to get up about 35 acres of your red straw, nearly all I grow of that sort, before the rain; a little of it left out is nearly spoilt; it sprouts very quick, but, on the whole, it is as good a Wheat as we can sow. I find the Fenton as good a cropper, or a little better, but the quality is not so good; it does not sprout so soon. One hardly knows how to estimate the loss from such a storm, but the damage must be very great; it is worse than the bad harvest of 1848. Ours is a favourable situation for harvest; being on the coast, we catch the breeze, if there is any. I cannot help thinking that the short notice you took of the rise in the market in your Paper of the 21st ult., must have been made without sufficient knowledge as to the damage the crops had sustained, for I feel sure that if they are injured generally as they are here, that it would have justified a greater rise; that corn should be as cheap as is possible to produce it I think quite right, but that we farmers should have an advantage in a rise of price caused by such a storm, and such causes, for the whole crop seemed in jeopardy, is nothing more than legitimate; but to write against it makes one have misgivings that the Editor of the *Gazette* is not quite so much of the farmers' friend as we took him for. If you are really engaged in farming, you know how much the farmer has suffered these four years past, nor does there seem much prospect of a recovery. I have ever been a Free-trader, and must acknowledge that I have suffered much from sticking to a principle that is opposed to my interest. There cannot be a doubt but free trade has benefited the rich and the poor to a very great extent, at the expense of the farmer; but that farmers will be able to live, even after having farmed high, I begin to have my misgivings. I am among those that have used largely of guano from its first import to this country, having spent a sum equal to the annual rent of my land in guano and other manures. My crops have largely benefited by it, but I find from year to year that the corn does not increase in proportion to the straw, and that there is a decided falling off in quality of the corn. If this is to be the case, I ask, how are we to meet the low price at which we have been selling corn hitherto at a decided loss to many of us, situated as I am with a heavy land

farm, where we purchase all our sheep and other cattle to fatten at a price not in proportion to what we make of them when fat, with our rent as it was before free trade, labour only reduced one-ninth taxes and poor rates not at all? I own that I begin to feel that I am working and losing my property for the benefit of others, which fits worse the longer it is continued. We have had splendid weather this last week (August 27). We are carting our Barley in excellent condition. *James Eames.*

Ventilation of Rooms: To Builders.—Now that gas stoves are getting into use, by which, as by the Arnott's stove, very little is carried up the chimney, ventilation becomes quite essential to keep the air of the room in a wholesome, respirable state. This may often, not always, be done by good management of the window; but the most effectual and constant means is Arnott's chimney-valve, which requires an opening into the chimney, near the ceiling. The valve shall be described below; but I wish first to recall to builders a very simple method of making the opening, without defacing the front of the chimney, recommended five or six years ago in the "Journal of the Public Health." It is simply to build a round drain tile (about 4 inches in diameter) into the chimney, at the top of the room. This can be stopped, if not wanted; and when required, opened by merely cutting away the plastering, and the Arnott's valve fixed before it. The simplest form of this valve is a plate of metal, with a round hole (about 4 inches diameter for an ordinary room), crossed by a brass wire grating of half-inch squares, behind which hangs a little silk curtain, with a wire at bottom to keep it flat. So long as there is up draught, the curtain is drawn in towards the chimney, and leaves the hole open; but on the slightest downward current, the curtain is pressed against the grating, and prevents the return of smoke or foul air into the room. *J. Prideaux, August* 25.

The Smell of New Paint.—A bundle of old dry hay, wetted and spread about, presents a multifarous absorbing surface for this; especially if not on the floor only, but over pieces of furniture which allow circulation of air, as chairs laid upon their faces, &c. Large vessels of water, as trays and pans, are not uncommonly used, with good effect; but the multiplied surfaces of the loose hay give it great advantage. It must be kept wet, however, or at least damp, for the oily vapour does not seem to be readily absorbed unless the air is kept moist by evaporation. *J. Prideaux.*

The Wheat Crop.—You say that you wish you could induce some hundreds of farmers to give their opinions respecting the injury done to the late crop of Wheat. It is, I think, the duty of all to assist in endeavouring to find out the true cause of the late failure, and therefore I, as an occupier of several hundred acres of light land, do not hesitate to give you my opinion. We may have had some quantity of mildew, but I cannot but think that an almost tropical sun coming suddenly upon a crop gorged with moisture or sap, and causing a sudden stoppage of circulation, has been the principal, if not sole cause of deficiency of ear and blackness of straw; and I fully believe that the loss occasioned by the above cause will amount in a very great many instances to between 2 and 2½ quarters per acre. Until the end of June we had constant moisture; suddenly the rain ceased, and we had the thermometer for days ranging between 80° and 90° in the shade; and the fact that where the land was the richest and best farmed suffering the most, seems to carry out my idea of the cause of mischief. You likewise wish for the report of persons who may have used the reaping-machine; I have this year used one of Hussey's, made by Crosskill, and I have no hesitation in giving my unqualified approbation of the way in which it did its work upon a good upstanding Wheat crop; and it has shown itself more especially useful this year, inasmuch as the corn comes from the reaper like a sheaf from the sickle, while my mown corn is thickly strewn with ears at the bottom, all of which, from the quantity of wet, are more or less sprouted; and I am quite satisfied with the quantity of land it is able to clear, while for cleanness of work and evenness of cut, nothing I have ever yet seen can come near it. I have seen no other machine at work, so can give no opinion upon the rival reapers; but I cannot see that M'Cormick's is preferable, because it lays the corn away from the tread of the horses, as it must be ultimately tied up; and I am of opinion that when the corn is ripe, it is better in this variable climate to stack it as soon as it is cut, whether it is done by machine, scythe, or sickle. *R. S.*

Produce of Wheat Sowed in Drills 20⅔ inches asunder.—I have threshed the Swiss white Wheat sowed at wide intervals, as described in your *Gazette*, Aug. 21. The produce of 1 acre and 14 perches is 6 quarters, 4 bushels, 42 lbs. of good Wheat; 2 bushels 21 lbs. of tail corn fit for bread; and 58 lbs. of chicken corn, put up at 63 lbs. per bushel. The Wheat weighed 60¾ lbs. the imperial bushel, which was as much as I expected, since the portion sowed at 20⅔ inches was much more mildewed than that sowed 10⅓. I have no doubt that the yield of the latter will be considerably greater and of better quality. I hope there is not much reason to despond as to the produce of the present harvest, for I have no doubt that I have threshed my least productive crop. *Charles Paget, Ruddington Grange, Notts, Aug.* 31.

Beans.—Neither winter nor spring Beans are blighted, but the winter Beans are the best crop. They were sown in the first week in October upon Wheat stubbles dressed with 10 one-horse loads of manure, drilled 19 inches apart. They were horse-hoed in February, and grubbed 6 inches deep in April. The stubble is now clean. The spring Beans were drilled in land similarly prepared in February, 2 feet apart, covered in with the ridging plough, and the intervals cleared with the subsoil plough. Early in March they were harrowed level, horse-hoed in April, and grubbed in May. The soil is covered with young chicken-weed, but the crop, which is too thin upon the ground, will yield well to the straw. *Charles Paget, Ruddington Grange, Notts, Aug.* 31.

M'Cormick's Reaping Machine.—I saw a light crop which had been very well cut with this machine, 3 acres in 2 hours 20 minutes. I tried it on mine, but found that no man could draw away the corn quickly enough, nor would the machine cut the corn where it was laid, unless when meeting it. It was taken to another crop, of perhaps 4 quarters to the acre, and cut 4 acres very well in a little more than three hours. *Charles Paget, Ruddington Grange, Notts, Aug.* 31.

Lucerne, the Cultivation of.—This is the most lucrative crop, and is attended with the least expense of any we grow, though several hundreds of others are under our care and management. For the guidance of inquiring correspondents, permit us to submit to notice our mode of culture. We cultivate 30 rods, which serve our horse with ample provender from the beginning of May to the end of September, valued at 3*s.* per week. We always take three cuttings during the summer, and sometimes four, and the average weight of the three cuttings per rod is 3 cwt., equal to 24 tons per imperial acre, without taking into account the fourth crop. As ours is a tenacious soil we dress the said 30 rods in midwinter with 15 bushels of soot, and fork it in between the rows in February; by this we are successful in warding off slugs and insects. We sow ours in shallow drills one foot apart, and keep it clean after each cutting. The most essential point in preparing the ground for reception of the seed is double trenching, on which all success depends; on light soils a dressing of rich loam previously is efficacious, and on strong soils a lighter material is necessary. Near towns it will always sell at 1*s.* per rod, first cut; 9*d.*, second do.; and 6*d.*, third do.; equal to 18*l.* per acre, per annum, or 9*d.* per cwt. Therefore, under proper management, one acre is nearly sufficient for six horses at least five months in the year. *Hardy & Son, Maldon, Essex.*

Hoeing Turnips.—Mr Pusey in the Agricultural Journal calls attention to a new mode of hoeing Turnips with Garrett's horse-hoe, *i.e.*, after having hoed between the drills, the hoe is so set that in going right across the drills you cut up say 12 inches, and leave 4 or more at pleasure, the Turnips will then stand in bunches say 2 feet between drills (the distance I drill mine), and 16 inches from centre of bunch to centre of ditto; it should be a good and regular plant all over the field, or it does not answer well. Mr. Pusey's mode is, then to have them singled by children; I have done so, but do not like it so well, as the hoe moves all the earth close up to the plant, and also cuts up any weeds that may be left in the bunch of remaining Turnips. I have practised this plan at times for the last 10 seasons, having purchased one of Garrett's horse-hoes in the spring of 1843; but I would not advise the purchase of one exclusively for Turnips for the sake of saving a few pounds, as I know from experience that Wheat, Barley, and all corn crops can be hoed on most lands at a much cheaper rate and much more effectual by it than by hand. In fact, too much praise cannot be bestowed on this very excellent implement of Messrs. Garretts, which stands, in my estimation, next to the plough; and it is a pity that it cannot be made at a very much reduced price, especially now that farmers have lost more than one-third the price of their produce, which certainly is the mainstay of human existence, and ought to be followed by a corresponding reduction in all manufactured articles, especially where much labour is bestowed. *James Eames.*

Turnip Rot.—I trust you will give publicity to this letter in your next Number, for the purpose of my learning the cause of failure in my Turnips, through some kind reader of the *Gazette*, who has had a more extensive practice than such an humble practitioner as I am. I will explain the mode of treatment I gave the affected piece of Turnips, the extent of which is about 1 rood. The first week in May I spread manure (farm-yard) on the ground, at the rate of 50 tons to the acre. The soil is a stiff clay, on a substratum of fox sand. The manure, after being spread on the surface, I had dug into the ground with spades, so that all when done exhibited an even surface, as if prepared to plant Cabbages. The foregoing operations being finished by the 12th, I next opened drills at 32 inches apart and sowed my seed (Imperial Purple-top Swede); the seed grew beautifully, and never got the slightest check from fly or any other cause, so the next operation was thinning and hoeing. I first thinned, and afterwards hoed, so as to leave the plants standing 12 inches from plant to plant. You will observe the object I had in view in preparing the ground after the manner described, and the wide space between the drills, and what appears to some the great distance from plant to plant in the drills. The object was simply this: I intended planting Borecole through the Turnips, believing they will stand a useful crop next spring, when the Turnips are removed. The Borecole stands at 32 by 30. The next part of the operation was after I had hoed the Turnips, and the plants had acquired a good size. I got all the spaces or alleys between the drills dug with the fork, which considerably added to the improvement of the crop. Now the crop has attained a very great size of bulb, and is accounted by all who see it an extraordinary crop. I also expect a very good crop from the greens, as they are thriving apace. I keep off the intruding leaves of their neighbouring Turnips. I find, on examining the Turnips, that a great many of them are infected with rot; it first makes its appearance in the crown of the plant and penetrates through the bulb to the bottom. Last week I deprived the Turnips of all their decayed leaves, or any straggling leaves perforated by insects, for the purpose of admitting a free circulation of air through the crop. I trust that by your giving this letter a place in your valuable columns, some of its readers will be so kind as to say what they consider to be the cause of the rot, with some remedy towards the prevention of its future progress. And, also to say when I might safely take up my Turnips, so as to give the greens a fair chance. *J. Kelly, Tarra Agricultural School.*

Mildewed Wheat.—Many thanks for your attention to my communication on the subject of our mildewed Wheat. If the cause of its being mildewed exists in the soil and not in the climate of our farm, I assume that there is a remedy for it; and your observations on my communication, although not directly affording us any consolation for our present loss, lead us to infer a possible cause for it. You say Wheats "are more liable to it in a wet season, and when of gross and bulky growth," in which latter case I presume the roots of the plant are more expansive and go deeper into the subsoil. Our surface soil being light and porous, rain when it falls goes quickly through it, leaving it dry; but below that surface lies the chalk, absorbing like a sponge the moisture, and retaining it in a stagnant, and I imagine, unhealthy state. Now, may it not be that the roots of the Wheat plant descending into this, create a diseased condition and produce the mildew? the remedy of course for this, if it should be the probable cause, is obvious, to withdraw the bottom water by draining. As against this theory, however, it is but fair to state that land within a very short distance, with similar surface and subsoil, bears good crops of Wheat. *J. Williams Bell.* [The experience of the author of "A Word in Season" on mildew, and its remedy, which we hope shortly to give our readers, will be instructive on this subject.]

A Word in Season.—So much is said of Mr. Smith's system of growing Wheat, that the record of any trial may be useful. Last year I planted an acre, one-third broadcast, one-third dibbled in rows 12 inches apart, one-third on Mr. Smith's plan, with this exception, that I left intervals of 4 feet instead of 3. I understood the direction to be half the ground planted, whereas Mr. Smith plants three-fifths, that is, three rows where there would be five if the whole were planted. Others nearly made this mistake on reading the former edition of the "Word in Season;" the diagram sets the matter right, but still Mr. Smith speaks of (page 35) "one moiety of each of these 4 acres in Wheat." The land had been previously planted with Beans, the portion sown broadcast was ploughed, the remainder hoed and set either by hand or with Newington's dibble. I send three ears, and though not precisely the same sort of Wheat, they show the character of the three crops—that dibbled in rows 1 foot apart was the largest crop I almost ever saw; the broadcast the best quality, and that on Mr. Smith's plan the largest ears. I shall continue the experiment, sowing the Wheat in September instead of October. *A Small Farmer.* [The ear from Mr. Smith's plot is certainly a very fine one—12 sets of florets on each side.]

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

A Monthly Council was held at the Society's House in Hanover-square, on Wednesday, the 2d of June. The following Members of Council and Governors of the Society were present: Lord Portman, Trustee, in the Chair; Sir John V. Shelley, Bart., Sir Charles Lemon, Bart., M.P., Sir Robert Price, Bart., M.P., Mr. Raymond Barker (Hambledon), Mr. Raymond Barker (Fairford), Mr. S. Bennett, Mr. Ivatt Briscoe, Captain Wentworth Buller, R.N., Mr. Burke, Mr. W. G. Cavendish, M.P., Colonel Challoner, Mr. Freeland, Mr. Gadesden, Mr. Garrett, Mr. Brandreth Gibbs, Mr. Grantham, Mr. Hamond, Mr. Fisher Hobbs, Mr. Hornsby, Mr. Jonas, Rev. C. R. Keene, Mr. Kinder, Mr. Lawes, Colonel Le Couteur, Mr. Shaw, Prof. Simonds, Mr. Simpson, Mr. Slaney, M.P., and Mr. Crompton Stansfield, M.P.

Humphris W. Freeland, Esq., of the Albany, London, was elected a Governor of the Society.

The following new Members were elected:

James, Richard, Haverfordwest, Pembrokeshire
Ludlam, William, Bradford, Yorkshire
Bishop, John, Norwich
Bennett, Henry, London-road, Liverpool
Farley, Rev. C. T., Eastham, Tenbury, Worcestershire
Westhead, J. P. B., M.P., Lea Castle, Kidderminster
Taylor, George Edward, Oatlands, Leeds
Filder, John, Mead's House, Eastbourne, Sussex
Howard, Hon. C. W. G., M.P., Naworth Castle, Cumberland
Read, James, Whittlesea, Cambridgeshire
Macnamara, Arthur, Caddington Hall, Herts
Locock, Charles, M.D., Hertford-street, May-fair
Bermingham, Thomas, J.P. for the county of Galway
Curme, Charles, Arlington-square, Islington
Goulton, Benjamin, Gedney Dyke, Long Sutton, Lincolnshire
Bunny, Edward John, Christ Church, Oxford
Harrington, Earl, Elvaston Castle, Derbyshire
Blandford, Henry, Sandridge Cottage, Melksham, Wilts
Busby, William, Newton-le-Willows, Bedale, Yorkshire
Newman, Thomas, Craysmarsh Farm, Melksham
Smith, G. P., Oundle, Northamptonshire
Jones, Henry P., 28, Mark-lane, London
Buller, Morton Edward, Dilhorne, Cheadle, Staffs.

FINANCES.—Mr. Raymond Barker, Chairman of the Finance Committee, laid before the Council the monthly report on the accounts of the Society; from which it appeared that the current cash balance in the hands of the bankers was 3022*l*.

PRESIDENT ELECT.—Lord Ashburton, having been elected by the members of the Society at their recent general meeting the President of the Society for the year ensuing the rising of the Lewes meeting, addressed a letter to the Council expressing his regret that the state of his health would oblige him to leave England for the German Spa during the autumn of this year, and thus prevent him from occupying, as it would otherwise have been his lordship's pleasure and duty to have done, the vice-chair at the Pavilion dinner at the ensuing Country Meeting, and from presiding at the general meeting and Council to be held on the following day in the County Hall at Lewes. He hoped, on his return to England, to devote himself to the duties of the high office to which he had been thus unanimously elected by the Society.

LEWES MEETING.—Sir John Villiers Shelley, Bart., presented to the Council the Report of the General Lewes Committee, of which he was the Vice-Chairman, detailing the satisfactory progress of the arrangements for the Lewes Meeting. This report was received and adopted accordingly.

DISTRICT FOR 1856.—Mr. Raymond Barker presented to the Council the Report of the Special Committee appointed at a former Council to consider the district four years in advance, to supply the place of the South-Eastern district of the current year; and their recommendation that the district of the Country Meeting of the Society, for the year 1856, should comprise the counties of Huntingdon, Cambridge, Bedford, Buckingham, Hertford, and Essex.

GLOUCESTER MEETING.—The agreement between the Mayor of Gloucester and the Secretary of the Society was laid before the Council, and executed in duplicate under the Great Seal of the Society and the powers of the Charter.

The following letter, from Mr. Saunders, of Worcester, dated the 22d of May last, and addressed to the Secretary, was received with much satisfaction by the Council, who ordered their best thanks to be expressed for it to Mr. Saunders and the Worcester Committee:—

"I am directed by the Committee appointed for promoting the holding of the meeting of the Royal Agricultural Society in 1853 at Worcester, to acknowledge the receipt of your letter of the 5th inst., and, in reply, to express the regret of the Committee at the unsuccessful result of their application to the Council. The Committee desire me to express their hope that the Council of the Royal Agricultural Society will, upon some early future occasion, take into their consideration the very strong claims of this city for the holding of a Meeting of the Society in Worcester. The Committee assure the Council that the cordial aid of the residents in this city and neighbourhood will not be wanting to ensure the success of the meeting at Gloucester."

FINES FOR NON-EXHIBITION. — The Secretary laid before the Council the following general Report on the Fines incurred by parties who had entered live stock for the Windsor Meeting, and caused the Society to incur the expense of providing accommodation for their animals; which were eventually, however, not sent to the meeting. The Council having excused two parties who had sent notice before the day of meeting, that in the case a pig had died on the railway, and in the other, that the servant specially accustomed to the management of a stallion to be exhibited had met with a severe accident, the following was the detail connected with the remaining parties, on whom the claim of fine was made, and who had sent no notice whatever before the day of meeting of their intention to withhold any of their stock from exhibition. These parties were 47 in number, of whom 21 paid the fine on the Secretary's first application; the other 26, who did not comply with the rule of the Society, were written to a second time, when 12 of them paid; the remaining 13 were addressed by the Secretary for the third time, when nine of them paid. There was then left a final residue of five persons who failed to make the required payment, and whose names were handed over by the unanimous order of the Council to Messrs. Tooke, Son, and Hallowes, solicitors, of Bedford-row. In consequence of the legal representations thus made to them on this final reference, the whole of the parties liable to the fines in question, with the exception of the two parties only who had been excused on the special grounds referred to, made the payments required of them, the object of the Council in the enforcement of the rules of the Society having been the establishment of a principle of impartial justice in their proceedings, rather than the mere recovery of the small sums of which these fines consisted.

PRIZE ESSAYS.—Mr. Pusey, M.P., Chairman of the Journal Committee, transmitted to the Council the following adjudication of a prize in this department:

To John Wilson (late Principal of the Royal Agricultural College, Cirencester), of Heath Lodge, Iver, Buckinghamshire, the Society's prize of 30 sovereigns, for the best account of the Manufacture of Sugar from Beet-root, which should include the following information:—1. The cultivation of the Root for this purpose in France, Belgium, or Germany; and the extent to which high manuring affects its saccharine contents. 2. Whether Mangold Wurzel is applicable to the manufacture of sugar? 3. Manufacture of Sugar according to the latest improved processes. 4. Disposal of the refuse for the distillation of spirits, extraction of salts, or feeding of cattle. 5. Comparison of profit per acre from production of sugar or corn at present prices.

PRIZES FOR ESSAYS AND REPORTS. — Lord Portman laid before the Council the following Schedule of Prizes for 1853, in the department of Essays and Reports:—

Farming of Herefordshire	...	...	...	£50
Farming of Surrey	...	...	...	50
Farming of Derbyshire	...	...	...	50
Heavy Land Farming	...	...	...	30
Light Land Farming	...	...	...	30
Cultivation of Beans and Peas		...	...	10
Hereditary diseases in the Sheep and Pig				20
Any other Agricultural subject		...	...	20
				£260

This schedule was adopted by the Council, subject to the usual conditions of competition, and the delivery of the essays and reports at the House of the Society on or before the 1st of March, 1853.

DEPUTATION ON GUANO.—On the motion of Mr. Fisher Hobbs, seconded by Mr. Shaw, the following resolutions were carried—

1. That a deputation to the Minister be appointed to represent the importance of taking every possible means to effect a reduction in the price of guano.
2. That it consist of such members of the Council and of the Society as may think fit to attend.
3. That the Secretary communicate to the President, and request a day of interview with the Premier, and communicate to the Society.
4. That a copy of these resolutions be sent to the Duke of Richmond.

POTATO DISEASE.—The Earl of Malmesbury, H. M. Principal Secretary of State for the Foreign Department, transmitted to the Council, through Mr. Addington, the following despatch addressed to his lordship by H.B.M. Consul-General at Warsaw—

"Warsaw, May 13th, 1852.

"Although the kingdom of Poland has suffered comparatively very little from the blight of the Potato plant, which has of late years been so general in the more western countries of Europe, everything relating to that still unexplained phenomenon has nevertheless received much attention here from private individuals as well as from the public authorities. With the exception of Ireland, there is, perhaps, not another country in which the culture of the Potato forms so important a feature of the rural economy of the nation, as it does in Poland, although its introduction into this country is of comparatively recent date; and much public attention has lately been excited here by an article extracted from a foreign provincial newspaper, ascribing the so-called 'Potato disease' to the presence of too much *free* ammonia in the lands on which the plants are cultivated; and pointing out the very simple means of counteracting this evil by the employment of fixed alkalies. This theory appears so strongly to bear out the view which was taken here of the subject at the very beginning of the epidemic appearance of the evil in question (as reported in my letter consular, No. 28, of the 16th October, 1846), that I am induced to bring the statement to your lordship's notice, for the information of such persons as may be specially interested in ascertaining the correctness of the observation. I have not seen the original statement; but the article above alluded to mentions that it is copied from the 'Kölnische Zeitung,' to which it had been communicated by a Dr. Voget, of Heinsburg, in the Governmental district of Aix-la-Chapelle. Dr. Voget recommends as the most simple mode of decomposing the free ammonia, wherever by chemical tests it may be proved to exist, and whether arising from artificial manures or from natural causes inherent in the quality of the soil, to use crude gypsum as a top-dressing, or to irrigate the ground with very strongly diluted muriatic or sulphuric acid, in the same manner as liquid manures are applied, or before carrying out the manure, to mix it with gypsum, ashes, or acids, &c.

"(Signed) "GUST DU PLAT,
"H. M. Con.-Gen. in Poland."

The Council ordered their best thanks to be conveyed to the Earl of Malmesbury for the favour of this communication.

AGRICULTURAL SHOW AT GALWAY.

THE following remarks on the more prominent animals exhibited at this meeting, we take from the *Irish Farmers' Gazette*. They were pressed out from last week's Number by the long report connected with the English Agricultural Society.

CLASS A.—SHORT-HORNED.

SECTION I. *Bulls calved on or after the 1st of January, 1847, and previous to the 1st of January, 1850.*—The first prize was awarded to Phœnix, the property of and bred by Thomas Chrisp, Esq., Hawkhill, Alnwick, Northumberland. Phœnix was the winner at the late show at Perth of the Highland and Agricultural Society, and, we have heard, has been purchased by Lord Talbot de Malahide, for the handsome sum of 200 guineas.—Bamboo (11132), the property of and bred by A. F. Nugent, Esq., Pallas, Tynagh, was the winner of the second prize in this section.—Lord Talbot de Malahide's bull, Blunder, bred by William Garnett, Esq., was most deservedly commended.

SECTION II. *Bulls calved in the year* 1850.—The first prize was awarded to Dencalion, the property of Lord Clonbrock; bred by Mr. Hinricks, of Breckenbrough. The second prize in this section was awarded to Sol, the property of Thomas Ball, Esq., Malahide; bred by William Torr, Esq., of Aylesby Manor, Lincolnshire.—In this section we would notice Mr. Chaloner's bull, Barley Sugar, bred by that gentleman.

SECTION III. *Bulls calved on or after the 1st of January*, 1851.—First prize to Emerald, the property of and bred by Thomas Ball, Esq.—The second prize to Snowdrop, belonging to Lord Clancarty. In this section there were two or three good specimens besides the prize animals. Of these we may notice Young Forrest, bred by and the property of Lord Talbot de Malahide; also Mr. Skilling's bull, Roller.—The show of yearling bulls was much inferior to that of the spring show of the Royal Dublin Society, both as to numbers and quality; but, from the season of the year and the locality, this was to be expected.

SECTION IV. *Cows in calf, or that have had a calf in* 1852.—The first prize was awarded to the celebrated cow, Maid of Killerby, the property of A. F. Nugent, Esq; and the second prize to the no less equally celebrated cow, Grandiflora, the property of and bred by J. J. Turner, Esq, Newtown Villa, Kilcullen. The awards in this section underwent much criticism, and so far as our judgment is concerned, we are of opinion that Grandiflora is not only the handsomest, but also the most useful cow of the two, and in this opinion we were backed by some of the best judges on the ground.

SECTION V. *Heifers in calf or in milk, calved in the year* 1849.—The first prize in this section was awarded to the very beautiful heifer, Butterfly, the property of and bred by Charles Towneley, Esq., M.P., Towneley Park, Burnley, Lancashire. She was also the successful heifer at the Lewes show of the English Agricultural Society, and at the late show of the Yorkshire Society, at Sheffield, and was deservedly awarded the Purcell Challenge Cup, as the best animal in the show-yard at Galway.—The second prize was won by Mr. Nugent's heifer, Baby.—In this section there were two heifers, Countess and Susan, exhibited by Lord Talbot de Malahide; Countess was bred by A. F. Nugent, Esq., and Susan was bred by Francis Walsh, Esq., Frankville, Athboy. Both of these heifers were very handsome animals; their shapes, handling, and colour were all that could be desired, and we feel sure that they will, at a future time, prove very formidable to any competitor against them.

SECTION VI. *Heifers in calf or in milk, calved in the year* 1850.—The first prize was awarded to Mr. Nugent's heifer, Muslin; and the second to Mr. O'Meagher's heifer, Dimple. Besides these heifers, we would notice as particularly good No. 53, Sydney, bred by and the property of J. J. Turner, Esq.

SECTION VII. *Heifers calved on or after the 1st of January*, 1851.—The first prize was most deservedly awarded to Mr. Towneley's very beautiful heifer, Frederachia; and the second to Lady Harris, the property of and bred by St George Grey, Esq., Dorrington.—No. 62 in this class, Young Myrtle, bred by and the property of A. F. Nugent, Esq., was well worthy of notice.

In the other classes of cattle, there were few worthy of notice except the prize animals. The section for Long-horns may now be safely withdrawn from the premium sheet.

CLASS D.—HORSES.

SECTION I. *Cart Stallions over three years old, and foaled on or after the 1st of January*, 1845.—In this section there were several really good animals exhibited. The first premium was gained by No Mistake, the property of John Woolsey, Esq., Milesdown, Castlebellingham; and the second by Lively, belonging to Alexander Binney, Esq., Santry, Dublin. We also noticed a very nice Clydesdale horse, shown by Mr. Fitzpatrick, Downpatrick; and we believe the competition between this animal and the premium horses was very close. He was much admired as a very handsome horse, and from his shape and size was universally considered to be, perhaps, the most useful horse in the yard for improving the breed of horses among the majority of farmers in this country.

SECTION II. *Cart Stallions foaled on or after 1st January*, 1849.—First prize to Mr. Rait's horse, Glaucer; and second to Young Blythe, the property of James Young, Carpet Hall, Linlithgowshire, Scotland. This horse was a year younger than Glaucer, and gives every promise of becoming a first-class animal.

SECTION III. *Thorough-bred Stallions.*—Only one entry, to which the medal was awarded.

SECTION IV. *Cart Mare in foal, or with a foal at her foot, or having reared a foal in the year* 1851.—First to Mr. Rait's Clydesdale mare, Bett; the second to Mr. Woolsey's mare, Nelly, both very good specimens of draught mares.

SECTION V. *Cart Fillies, not exceeding three years old.*—The prize to Mr. Rait's Clydesdale filly, Gentle, three years old.

CLASS E.—SHEEP—LEICESTERS.

SECTION I. *Shearling Rams.*—The first prize to F. F. Hamilton, Esq., for a ram bred by Mr. Landy, Holme Pierrepoint, Nottingham; the second to Thomas Carter, Esq., Scales, Richmond, Yorkshire. In this section there were many first-class rams shown, among which we would notice the two belonging to Thomas Skilling, Esq., Queen's College, Galway; also the sheep shown by Mr. Rait, Mr. La Touche, of Harristown; Mr. Hudson, Kilmore; Lord Clonbrock, &c.

SECTION II. *Two-shear Rams.*—First prize gained by Thos. Carter, Esq.; second by George Spencer, Esq., Normanton House, Hinckly, Leicestershire, whose ram, No. 235, was also commended. We noticed also the sheep shown by Mr. A. C. Skilling, Prospect, Oranmore; John La Touche, Esq., Harristown; and Charles Ellison, Esq., Loughglynn, as being very superior.

SECTION III. *Rams of any other age.*—The prize was gained by a very good sheep belonging to Thomas Skilling, Esq.

SECTION IV. *Five Shearling Ewes.* The first and second prizes were both carried off by Mr. Carter, of Scales, Yorkshire. The pens of ewes belonging to Mr. Hudson, Mr. La Touche, Mr. Rait, Mr. Hamilton, and Mr. Skilling, were also of great merit.

SECTION V. *Pen of Five Ewe Lambs.*—Premium awarded to the pen belonging to John La Touche, Esq., Harristown. Very fine lambs were also shown by Mr. Skilling and Mr. Hamilton.

CLASS F.—OTHER LONG-WOOLLED SHEEP, NOT QUALIFIED TO COMPETE AS LEICESTERS.

SECTION I. *Shearling Rams.*—David Kerr, Esq., Clonin, Edinderry, obtained the first prize; and F. F. Hamilton, Esq., the second. Mr. Thunder, Kingston Lodge, Navan; Mr. Ball, Malahide; Mr. Garnett, Archhall; Mr. Rait, and Mr. Jones, of Roscommon, exhibited also several excellent animals.

SECTION II. *Two-shear Rams.*—Mr. Rait carried off both premiums. Mr. Thunder's ram also possessed great merit.

SECTION III. *Rams of any other age.*—Mr. Thunder was here the successful competitor.

SECTION IV. *Pen of five Shearling Ewes.*—Awarded to Mr. Rait's pen. Mr. Garnett also showed some splendid ewes.

SECTION V. *Pen of five Ewe Lambs.*—Premium awarded to Mr. Garnett's pen of lambs.

CLASS G.—SOUTHDOWNS.

SECTION I. *Shearling Rams.* Premiums granted to Tiernan and Lockhart, Dublin.

SECTION II. *Rams of any other age.*—Awarded, deservedly, to Mr. Owen's ram.

SECTION III. *Five Shearling Ewes.*—Awarded to Mr. Woolsey's pen of ewes.

CLASS H.—CHEVIOTS.

SECTION I. *Shearling Rams.*—Premium gained by the Marquis of Conyngham.

In SECTIONS II and III., namely, for *Rams of any other age*, and for *Shearling Ewes*, the Marquis of Conyngham was also the successful competitor. We must remark that all his lordship's sheep, which were exhibited, were bred by Colonel La Touche, and fully maintained the character which the Luggela flock has so long possessed as first-class Cheviots. Mr. C. W. Hamilton, Hamwood, Dunboyne, showed a pen of five very good shearlings; as for the other lots shown, they were but poor specimens of Cheviot sheep.

In *Blackfaced Sheep*, the only prize awarded was gained by J. J. Lopdell, Esq., Raheen, Athenry, for his ram. We certainly expected that in the capital of Connaught there would have been a larger turn-out of mountain sheep; but we trust this will be amended before the next show in that province. One great object with all parties who may be desirous of keeping such sheep ought to be, to get the best of the kind, for several specimens shown as imported sheep were very unlike what would be turned out at a show in Scotland; and it is only by procuring the best that satisfactory results will be produced.

CLASS K.—SWINE.

This class was well represented by a numerous show of Berkshires, which still seem the favourites, in which the Bunbury, Croker, Monck, and Warburton blood stood pre-eminent. Mr. Warburton showed, we believe, thirty animals of this beautiful breed, taking the second prize in Section 1; highly commended in Section 3; first and second prize in Section 4; and second prize in Section 5.

In SECTION I., for the *best boar under* 18 *months*, Arthur C. Chaigneau, Benowen, Ballymahon, was awarded the first prize of 10 sovs. for his boar, Friar Bacon, No. 409; and the Rev. John Warburton the second prize of five sovs., for his boar, No. 411. In this section, Joseph Sharp Spencer, of Hinckley, Leicestershire, showed a beautiful white boar, Windsor, No. 407. He was also the successful competitor in the sows, Section 3; but the Berkshires were the favourites amongst the boars.

In SECTION II. Thomas Skilling, Esq., Professor of Agriculture, Queen's College, Galway, carried away the first prize of 8 sovs., for his white boar, 24½ months old; Alexander Montgomery, Kilmer House, Ballivor, Athboy, took the second prize of 4 sovs., for a Berkshire boar; and Edward Croker, Bally-

tore House, was commended for a Berkshire boar, No. 422, two years and three months old.

In SECTION III., for the *best breeding Sow, under 18 months old*, Joseph Sharp Spencer, Hinckley, took the first prize of eight sovs., for his very fine white sow, Purity, No. 433, 1 year and 24 days old; she was in pig. This exhibitor owned also No. 434, Lady, with a litter; and Perfection, No. 435, in pig, a very beautiful animal, only 4 months and 2 weeks old. These white pigs were very much admired. Edward Croker, of Ballytore House, was awarded the second prize of four sovs., for a beautiful Berkshire sow, and No. 428, the Rev. Mr. Warburton, highly commended; she was in pig, and but 13 months old.

In SECTION IV., the Rev. John Warburton's Berkshire sow, No. 438, took the first prize of five sovs. Mr. Augustus Warburton's Berkshire sow, the second prize of two sovs.; and No. 440, Thomas Ball's Berkshire sow, commended. In this section Mr. J. Sharp Spencer exhibited a white sow, Queen, No. 436, with a litter. She was an enormous and a very beautiful animal.

In SECTION V., for the *best litter of three Breeding Pigs*, Lord Monck justly took the first prize of five sovs., for lot No. 460; and Mr. Augustus Warburton the second prize for lot No. 456. There were several lots of very fine creatures in this section, and the honours were keenly contested.

Notices to Correspondents.

BLIGHTED WHEAT: *W Hibbert*. It is blighted, but we do not see that it is mildewed. It is not likely that chemical analysis would detect the presence of a poison, which might, nevertheless, be present in sufficient quantity to destroy the plant. If you are connected with the English Agricultural Society, possibly they might investigate the subject, if, on your statement, it was deemed deserving of further examination. Your application should be made to the Secretary, in Hanover-square.

DAIRY ESSAY: *H*. Please to give us your address.

EMIGRATION: *G L B*. Messrs. Chambers' publications on the subject are as instructive and useful as any; and they direct, we believe, to other publications which are trustworthy too.

GUANO: *A Smith*. The committee appointed to issue the terms of the 1000*l*. prize have not yet given in their report.

LEAVES OF SWEDES: *G Hill*. They present precisely the same blotched appearance which the Mangold Wurzel leaves have shown after the attack of an insect whose grub has eaten out the green matter in places between the sides of the leaf. Do you find any grubs in the leaves?

TANE: *Galloway*. Build it of brick, ramming down and puddling clay in behind it. We would erect it apart from the dung pit, and connect the two with a drain. Soapsuds and house waste will not injure the liquid. A common lift-pump will answer the purpose perfectly; letting the pipe terminate 2 or 3 feet from the bottom of the tank.

WILD OATS: *J M C*. They are *Avena fatua*, the common wild Oat, a native of this country.

Markets.

COVENT GARDEN, SEPT. 11.

Vegetables and Fruit are still well supplied. Melons are plentiful and good. Greengage and other Plums still arrive from France, and also Pears and Apples. Apricots are nearly over. Tomatoes likewise still continue to be imported. Filberts realise 35s. and 45s. per 100 lbs. Potatoes are very plentiful, but badly diseased. They are also slightly advancing in price. Peas are scarcer. Mushrooms are cheap, and plentiful. Cut flowers consist of Heaths, Pelargoniums, Roses, Mignonette, Bignonia venusta, and Fuchsias.

FRUIT.

Pine-apples, per lb., 4s to 6s	Pears, per doz., 2s to 3s
Grapes, hothouse, p. lb., 2s to 5s	— per half sieve, 4s to 8s
Peaches, per doz., 6s to 12s	Currants, do., 2s to 3s 3d
Nectarines, per doz., 4s to 12s	Gooseberries, do., 2s 6d to 3s
Apricots, per doz., 1s to 4s	Almonds, per peck, 5s
Plums, per punnet, 1s to 3s	— sweet, per lb., 2s to 3s
— Greengage, do., 2s to 3s	Oranges, per doz., 1s to 1s 6d
Figs, per doz., 1s 6d to 2s 6d	— per 100, 3s 6d to 10s
Apples, dessert, p. bsh., 4s to 7s	— Seville, per doz., 1s to 3s
— kitchen, do., 3s to 5s	Nuts, Barcelona, per bush, 20s to 22s
Melons, each, 2s to 6s	— Brazil, do., 12s to 14s
Lemons, per doz., 1s to 2s	

VEGETABLES.

Cabbages, per doz., 6d to 1s 3d	Shallots, per lb., 6d to 8d
French Beans, per half sieve, 1s 6d to 2s	Garlic, per lb., 6d to 8d
Peas, per sieve, 2s to 5s	Lettuce, Cab., per score 4d to 1s
Cauliflowers, per doz., 4s to 6s	— Cos, p. score, 9d to 1s 6d
Greens, per doz., 1s to 1s 6d	Radishes, per doz., 8d to 1s
Tomatoes, per hf. sieve, 4s to 5s	— Turnip, 9d to 1s 6d
Potatoes, per ton, 60s to 130s	Small Salads, p. pun., 2d to 3d
— per cwt., 3s 6d to 7s	Horse Radish, p. bundle, 1s to 1s
— per bush., 1s 6d to 2s 6d	Mushrooms, p. pott., 9d to 1s 3d
Turnips, per doz., 3s to 4s	— per bush., 3s to 5s
Cucumbers, each, 2d to 6d	Sorrel, per hf. sieve, 6d to 1s
Veget. Marrow, p. doz, 6d to 1s 6d	Artichokes, per doz., 4s to 6s
Celery, per bundle, 9d to 1s 3d	Fennel, per bunch, 2d to 3d
Carrots, p. doz., 3s to 5s	Savory, per bunch, 2d to 3d
Spinach, per sieve, 1s to 2s	Thyme, per bunch, 2d to 3d
Onions, per bunch, 2d to 4d	Parsley, p. doz. buchs., 2s to 3s
— Spanish, p. doz., 1s 3d to 3s	Mint, per bunch, 2d to 3d
Beet, per doz., 1s to 2s	Basil, green, p. bunch, 4d
Leeks, per bunch, 1d to 2d	Marjoram, do., 3d to 6d
	Watercresses, p. 12 bun, 9d to 1s

HAY.—Per Load of 36 Trusses.

SMITHFIELD, Sept. 9.

Prime Meadow Hay	75s to 85s	Clover ...	... 95s to 100s
Inferior do.	... 65 70	New do. ...	... 80 95
Rowen ...	... 63 —	Straw ...	... 30 40
New Hay ...	... 63 75		E. J. DAVIS.

CUMBERLAND MARKET, Sept. 9.

Prime Meadow Hay	80s to 88s	Inferior Clover	... 70s to 92s
Inferior do. ...	... 68 72	New do. ...	... 70 92
New Hay ...	... 60 76	Straw ...	... 36 40
Old Clover ...	... 98 105		JOSHUA BAKER.

WHITECHAPEL, Sept. 9.

Fine old Hay	... 80s to 84s	Old Clover...	...100s to 105s
New Hay ...	... — —	Inferior do.	... 90 95
Inferior do.	... 70 75	New Clover	... — —
Straw ...	... — —	Inferior do.	... 70 75

SMITHFIELD.—MONDAY, Sept. 6.

We have a few more Beasts than on Monday last; however, the demand is large, and the quotations of that day are fully maintained. Some choice Scots, &c., have made 4s., but this price is not generally given. The supply of Sheep and Lambs is the same as of late; the butchers do not willingly give our last quotations still they are realised. Good Calves are rather scarcer, and fully as dear as on Friday. From Germany and Holland there are 1855 Beasts, 6710 Sheep, 212 Calves, and 110 Pigs; from Scotland, 60 Beasts; and 2200 from the northern and midland counties.

Per st. of 8lbs.—s d	s d	Per st. of 8lbs.—s d	s d
Best Scots, Herefords, &c. ... 3 8	to 3 10	Best Long-wools . 3 10	to 4 2
Best Short-horns 3 6	— 3 8	Do. Shorn ... 0 0	— 0 0
2d quality Beasts 2 10	— 3 2	Ewes & 2d quality 3 4	— 3 8
Best Downs and Half-breds ... 4 4	— 4 6	Do. Shorn ... 0 0	— 0 0
Do. Shorn ... 0 0	— 0 0	Lambs 4 8	— 5 4
		Calves 3 4	— 4 0
		Pigs 3 4	— 4 0

Beasts, 4701; Sheep and Lambs, 29,210; Calves, 284; Pigs, 375.

FRIDAY, Sept. 10.

We have an average supply of Beasts; trade is dull for them; in most instances Monday's quotations are realised, but a clearance is with difficulty effected. There is a fair number of Sheep for the time of year; a large proportion, however, are of middling quality, the choicest kinds therefore make the same as on Monday, but trade on the whole is worse. The demand for Lambs has much decreased, and prices are lower. Choice Calves maintain late quotations; other kinds are lower. From Germany and Holland we have 362 Beasts, 2830 Sheep, 297 Calves, and 35 Pigs; 350 Beasts from the northern and midland, and 114 Milch Cows from the home counties.

Per st. of 8lbs.—s d	s d	Per st. of 8lbs.—s d	s d
Best Scots, Herefords, &c. ... 3 8	to 3 10	Best Long-wools . 3 10	to 4 2
Best Short-horns 3 6	— 3 8	Do. Shorn	
2d quality Beasts 2 8	— 3 2	Ewes & 2d quality 3 0	— 3 6
Best Downs and Half-breds ... 4 4	— 4 6	Do. Shorn ... 0 0	— 0 0
Do. Shorn ... 0 0	— 0 0	Lambs 4 4	— 5 2
		Calves 5 0	— 4 0
		Pigs 3 4	— 4 0

COAL MARKET.—FRIDAY, Sept. 10.

Holywell, 14s.; Tanfield Moor, 12s. 3d.; Davison's West Hartley, 15s. 6d.; Wallsend Riddell, 14s.; Wallsend Haswell, 16s.; Wallsend Hetton, 15s. 9d. Wallsend Lambton, 15s. to 15s. 3d.; Wallsend Tees, 15s. 9d.; Merthyr, 21s.—Ships at market, 21.

HOPS.—BOROUGH MARKET, Sept. 10.

Messrs. Pattenden and Smith report that about 1500 lbs. of new Hops have arrived at market, and are selling as follows: Weald Kents, 4*l*. 15s. to 5*l*. 12s.; Sussex, 4*l* 4s. to 5*l*. There is a good demand for yearlings at from 5*l*. 10s. to 6*l*. 6s. Duty, 240,000*l*.

WOOL.

BRADFORD, THURSDAY, Sept. 9.—There is no material change to report in the general state of the English wool market. The transactions during the current week have not been extensive, but those entered into were characterised by a firm tone of prices. Spinners are only reluctant buyers at current rates, and seem to content themselves by the supply of immediate wants, in the hope that a more favourable opportunity may present itself for laying in their customary stocks at a somewhat later period. Short wools are very active in demand, and prices are well supported.

MARK LANE.

MONDAY, Sept. 6.—The supply of English Wheat to this morning's market was good, consisting almost entirely of the new crop. Dry picked samples commanded the prices of this day se'nnight, but the damp and inferior qualities were disposed of at irregular prices, some quantity remaining unsold towards the end of the market. Foreign meets a fair retail inquiry at the decline noted on Friday last, being 2s. to 3s. per qr. below the highest prices lately obtained.—Flour is heavy, and we reduce our quotations 2s. per barrel.—The finest samples of malting Barley were sold at the full prices of last week; inferior and grinding qualities are the turn cheaper.—Beans and Peas bring our extreme quotations.—The Oat trade is firm at late rates.

PER IMPERIAL QUARTER.	s. s.		s. s.
Wheat, Essex, Kent, & Suffolk...White	36—50	Red	32—44
— — fine selected runs...ditto	40—54	Red	38—48
— — Talavera	52—56		
— Norfolk	40—48	Red	—
— Foreign	37—52		
Barley, grind. & distil., 24s to 27s...Chev.	25—33	Malting .	28—30
— Foreign ...grinding and distilling	20—25	Malting .	—
Oats, Essex, and Suffolk	18—19		
— Scotch and Lincolnshire...Potato	18—22	Feed	17—19
— Irish ..... Potato	17—20	Feed	17—19
— Foreign .....Poland and Brew	18—20	Feed	15—18
Rye	—	Foreign .	—
Rye-meal, foreign	—		
Beans, Mazagan.....28s to 31s.....Tick	29—32	Harrow .	29—32
— Pigeon .....29s — 35s...Winds.	—	Longpod	—
— Foreign .....Small	27—34	Egyptian	26—27
Peas, white, Essex and Kent.....Boilers	32—36	Suffolk...	33—38
— Maple.....32s to 35s.....Grey	31—33	Foreign .	27—36
Maize .....White	—	Yellow...	—
Flour, best marks delivered ...per sack	37—40		
— Suffolk .....ditto	25—32	Norfolk .	25—32
— Foreign.....per barrel	21—24	Per sack	28—34

ARRIVALS IN THE PORT OF LONDON LAST WEEK.

	Wheat.	Barley.	Malt.	Oats.	Beans.	Peas.
Flour, 9911 sks — 17939 brls	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.
English	4765	245	3885	100	70	50
Irish	—	—	43	2960	—	—
Foreign	14897	4550	—	14017	655	154

FRIDAY, Sept. 10.—The supply of Wheat and Oats from abroad this week are considerable, but moderate of other articles. To-day's market was not so well attended as of late, and there was less disposition to purchase Wheat, of which the sale was limited, but we do not note it cheaper. Flour is in improved demand at Monday's prices. There is no alteration in the value of spring corn. In cargoes of Wheat afloat there is little doing, and prices are the turn lower. The same applies to Indian Corn.

ARRIVALS THIS WEEK.

	Wheat.	Barley.	Oats.	Flour.
	Qrs.	Qrs.	Qrs.	
English ...	2410	590	1520	1550 sacks
Irish	—	—	500	
Foreign ...	23600	1530	32980	3290 brls

IMPERIAL AVERAGES.

	Wheat.		Barley.		Oats		Rye.		Beans.		Peas.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
July 31.....	40	0	27	8	20	6	29	11	34	2	33	5
Aug. 7.....	39	7	27	3	20	6	29	7	33	9	20	6
— 14.....	39	7	27	5	19	6	30	3	33	7	31	4
— 21.....	41	2	27	4	19	3	29	4	33	2	29	10
— 28.....	43	7	28	2	20	3	29	9	34	4	31	1
Sept. 4.....	44	9	28	2	20	5	31	3	34	10	31	6
Aggreg. Aver.	41	5	27	8	20	0	30	0	34	0	31	3

FLUCTUATIONS IN THE LAST SIX WEEK'S AVERAGES.

PRICES.	JULY 31.	AUG. 7	AUG. 14.	AUG. 21.	AUG. 28.	SEPT. 4.
44s 9d —	...	...	...	...	...	
43 7	...	...	...	...		...
41 2	...	...	...		...	...
40 0		...	...		...	...
39 7	...			...	...	...
39 7	...	...	...	...	...	...

LIVERPOOL, TUESDAY, Sept. 7.—There has been a good demand at our market to-day, and nearly all sold up.——FRIDAY, Sept. 3.—The weather since Tuesday has been all that the farmer could desire to secure his crops, and even in late districts the harvest is growing to a favourable close. The grain market has consequently ruled dull, but there has been no pressure to sell good quality of Wheat and of Flour at less money; and at our Corn Exchange this morning, with a moderate consumptive demand, prices generally were well supported. Egyptian Beans improved 6d. per qr. No change in the value of any other article of the grain trade.

Sales by Auction.

NORBITON NURSERY.

IMPORTANT SALE OF AMERICAN & OTHER PLANTS.

MESSRS. PROTHEROE AND MORRIS have received instructions from Mr. Smith, the celebrated raiser of American Plants, to submit to public competition by Auction, at the Nursery, Norbiton, Kingston, Surrey, on MONDAY, September 20, at 11 for 12 o'clock precisely, in consequence of the number of Lots, a considerable quantity of Scarlet, Yellow, and other fine Hybrid Rhododendrons, comprising large Arborea, Smithii, Venustum, Red and White Maximum, and other hardy kinds, including Dr. Hooker's Sikkim species; also large Camellias and Azalea Indica, well set with bloom buds; Kalmias, large Laurels, Laurestinus, Lilium lancifolium in varieties, Roses in pots, &c. The stock is particularly worthy the attention of Noblemen and Gentlemen improving their collection, as well as the Trade, for its excellence.—May be viewed prior to the sale. Catalogues may be had on application to Mr. SMITH, on the premises; of the principal Seedsmen in London; and of the Auctioneers, American Nursery, Leytonstone, Essex.

UXBRIDGE, MIDDLESEX.

NURSERY, SEED, AND FLORISTS' BUSINESS.

MESSRS. PROTHEROE AND MORRIS are directed by the Trustee for Sale and Mortgagee, to sell by Auction at the Mart, Bartholomew-lane, early in October, in one Lot (if not previously disposed of by private contract), the valuable Leases and Goodwill of the UXBRIDGE NURSERY, which has been established upwards of 20 years; also the whole of the celebrated NURSERY STOCK, riding over from 12 to 15 acres, comprising Fruit and Forest Trees of the first description and rich assortment of Evergreens, Ornamental Trees, Deciduous Shrubs, and American Plants; together with the Greenhouses, and the Choice Greenhouse Plants, Pits, Frames, Seeds, Drawers, and sundry effects. Particulars, which are being prepared, may be had of Messrs. TUSTIN AND PATERSON, Solicitors, 4, Bride-court, New Bridge-street, Blackfriars; and of Messrs. PROTHEROE AND MORRIS, Auctioneers and Valuers, American Nursery, Leytonstone, Essex.

COCHIN CHINA AND OTHER POULTRY.

MR. J. C. STEVENS will sell by Auction, at his Great Room, 38, King-street, Covent-garden, on TUESDAY, 21st September, at 12 for 1 o'clock, an assemblage of about 100 PAIRS OF COCHIN CHINA AND OTHER FOWLS, of the purest blood, from the collections of Mr. A. Stainton, Hornsey-road, Holloway, and several other well known Amateurs; among them will be found many of great weight, and some from birds that have obtained prizes at the Birmingham and Halifax Shows: they are from the celebrated breeds of Sturgeon, Punchard, Moody, Fletcher, Gwynne, &c., of the favourite colours, and in excellent condition. Also three Skye Terriers, 18 months and 2 years old.—May be viewed the morning of sale, and Catalogues had.

STOCK AND CROPS OF A MARKET GARDENER.

MESSRS. DAVIES AND VIGERS have been instructed by the Proprietor to sell by Auction on the premises, Lawn-lane, South Lambeth, on TUESDAY, 21st of September, at 12 for 1 o'clock, the whole of the STOCK and CROPS on the Land, with a large quantity of Rhubarb-roots of the best varieties, Mint-roots for forcing, Boxes and Lights, Hand-glasses and Bells, Baskets, a quantity of Manure, a Dennett nearly new, Light Chaise Carts and Market Carts, and Wheelbarrows. A young and active Cart Gelding, 6 years old, a handsome Nag 15 hands high, 6 years old, and very fast, and a variety of useful and valuable property. To be viewed the day before and morning of Sale, and Catalogues had on the premises; of Mr. J. BELL, Covent Garden Market; of Mr. INGLEDEW, Borough Market; and of the Auctioneers, 3, Frederick's-place, Old Jewry.

N.B. Time will be allowed for clearing the Rhubarb roots.

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TO BE LET OR SOLD, a SMALL NURSERY at Camberwell, with three Greenhouses, Pits, &c., and about 1 acre of ground.—Full particulars may be had of Mr. JEFFERISS, Nurseryman, Albany-road, Camberwell, and Messrs. PROTHEROE AND MORRIS, Leytonstone, Essex.

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No. 38.—1852.] SATURDAY, SEPTEMBER 18. [PRICE 6d.

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WILLIAM BARNES respectfully begs to inform his Friends and the Public generally, that he has now ready a small portion of very superior Calceolaria Seed, which he intends sending out in Packets at 2s. 6d. and 5s. each. A remittance is expected from unknown correspondents.

HEXACENTRIS MYSORENSIS.

MESSRS. VEITCH AND SON will not be prepared to send out the above beautiful Climber till the spring of 1853, when those who have kindly ordered it may rely on receiving strong plants. Due notice will be given when the plants are ready.—Exeter, Sept. 18.

WINTER CUCUMBERS.—"LORD KEYNON'S FAVOURITE."—Numerous inquiries within the last week for the above CUCUMBER SEED having been made, EDWARD TILEY begs to inform his customers that he has some good old Seed of this variety, which surpasses all others for Winter cultivation. Sold in packets at 2s. 6d. each.

Also some other fine varieties of Long Cucumbers, which are equally good for early winter cultivation, at 2s. 6d. per packet. On receipt of penny postage stamps to the amount, the seed will be forwarded per return.

EDWARD TILEY, Nurseryman and Seedsman, 14, Abbey Churchyard, Bath.

SEEDLING "ELIZA" STRAWBERRY (RIVERS'.)—This Strawberry was raised five years since from Myatt's Eliza, and proves to be one of the finest second early Strawberries known. When Keens' Seedling is fully ripe, this commences to ripen; its flavour is exquisite, like that of its parent, and, in size, it is equal to a middle-sized British Queen; its habit is robust and compact, and it is abundantly prolific.

Strong bearing plants, last year's runners, transplanted in March, 3s. per dozen; 20s. per 100, paid to London.

Trollope's Victoria, a good early Strawberry, 3s. per dozen.

THOMAS RIVERS, Nurseries, Sawbridgeworth, Herts.

VICTORIA NURSERY, UXBRIDGE, MIDDLESEX.

T. APPLEBY (late Foreman and Landscape Gardener for Messrs. Henderson's, of Pine-apple-place), begs to inform the Public that he has taken the above premises, where he intends carrying on the NURSERY AND SEED BUSINESS in all its branches, and trusts, by a careful selection of genuine Seeds and Fruit Trees, to merit and receive encouragement and support.

T. A. having had great experience in Designing and Laying-out Gardens, begs to offer his services to Noblemen and Gentlemen about to lay out New Gardens, or alter and improve old ones.

T. A. has just received an importation of genuine Dutch Bulbs, in fine condition, which he offers at very moderate prices.

The Victoria Nursery is two miles from the West Drayton Station, on the Great Western Railway. Omnibuses meet every train.—Victoria Nursery, Sept. 18.

STRAWBERRY PLANTS.—The under-mentioned first-rate varieties, which have all been thoroughly proved to the satisfaction of their growers, are now ready for sending out.

TROLLOP'S VICTORIA.—This is one of the finest Strawberries ever yet sent out; it has been exhibited at numerous exhibitions last season and this, and proved superior to all others for its superb quality, and, as an early forcer, is not equalled; 1l. per 100, or 3s. per dozen plants.

CREMONT'S PERPETUAL OR DOUBLE BEARING STRAWBERRY; 1l. per hundred, or 3s. per dozen.

MYATT'S SURPRISE, extra fine	10s.	0d.	per 100.	
PRINCE ARTHUR, ditto	7	6	,,	
BLACK PRINCE, a first-rate early variety ...	5	0	,,	
PROLIFIC, very fine and early	5	0	,,	
ELEANOR, the best and latest bearing Strawberry, many of the fruit growing to 2½ oz., very firm, and first-rate for travelling ...	5	0	,,	
BRITISH QUEEN (true)	3	6	,,	
BRITANNIA (very fine)	5	0	,,	
STIRLING CASTLE STRAWBERRY (fine)	5	0	,,	
ELIZA	5	0	,,	
GLOBE	5	0	,,	
ALICE MAUDE	3	6	,,	
"GOLIATH"	3	6	,,	

The above are strong well-rooted plants, and such as will ensure satisfaction. Fine plants can be had for potting, if required, which were pricked off for the purpose early in the spring.

N.B. Those Strawberries at 3s. per dozen will be sent postage and package free.

FINE ANTIRRHINUMS, all saved from striped and spotted varieties, such as will give every satisfaction and bloom early next spring, 5s. per 100.

SWEET WILLIAMS, 48 superb varieties, 3s. per 100.

SEEDLING HOLLYHOCKS, extra fine, saved from all the best varieties in cultivation, and such as will give satisfaction, 1l. per 100, or 3s. per dozen. (One hundred of these superb Hollyhocks were planted out in a bed last autumn, and 86 of them proved to be double flowers and equal to the varieties they were saved from).

A remittance must accompany the order, either by penny postage stamps or a post-office order, on receipt of which [illegible] or any quantity of the above will be sent hamper and package free.

EDWARD TILEY, Nurseryman, Seedsman, and Florist, 14, Abbey Churchyard, Bath, Somerset.

NOTICE.

PETER LAWSON AND SON, of Edinburgh, have just issued special Priced Lists of FOREST TREES, SHRUBS, FRUIT and ROSE TREES; also BULBOUS ROOTS adapted for the present season, which may be had on application, or free by post from their Agent, JOHN C. SOMMERS, 159, Fenchurch-street, London. Also, "The Synopsis of the Vegetable products of Scotland," in one volume, [illegible] 10s. 6d.

CAMELLIAS, CHINESE AZALEAS, AND RHODODENDRONS.—For those who wish to ornament their Conservatories, &c., H. LANE and SON, Great Berkhampstead Nurseries, have the pleasure of stating that their plants are very fine, and at the following prices:

CAMELLIAS, 24s., 30s., 36s., and 42s. per dozen.

AZALEAS, 12s., 18s., 24s., 30s., and 36s. per dozen.

RHODODENDRONS (yellow and spotted, of various shades), 5s. to 10s. 6d. each.

NEW GERANIUMS,

RAISED BY MESSRS. BECK, FOSTER, HOYLE, &c.

SENT OUT FOR THE FIRST TIME IN SPRING, 1852.

EDWARD GEORGE HENDERSON AND SON will be prepared to send out in October the undermentioned GERANIUMS:—

Selected from the following varieties, 6s. per doz.

Ganymede	Enchantress	Rubens
Vandyck	Surprise	Beatrice
Celia	Chieftain	Chloe
Claudiana	Constantine	Cristine
Eurydice	Flying Dutchman	Illuminator
Little Nell	Monteith	Naval Knight
Pretty Polly	Saladin	

Selected from the following, 42s. per doz.

Painter Improved	Exhibitor	Colonel of the Buffs
Elise	Mrs. Mangles	Enchantress
Ambassador	Rubens	Shylock
Pulchra	Plantagenet	Lablache
Remus	Lord Mayor	Magnet
Laviana	Jullien	Commission
Mochanna	Bride of Abydos	First of May.
Arethusa	Ganymede	

E. G. H. and SON have now received their annual supply of DUTCH ROOTS, in the finest condition, Catalogues of which can be had post free on application.

Wellington Nursery, St. John's Wood, London.

WEIGELA MIDDENDORFFIANA.—For the information of all persons who have purchased from the Subscribers a plant under the above name, we hereby give notice, that we have unintentionally been the medium of circulating quite a different plant to the true Weigela Middendorffiana. We possess the true species received direct from Russia, but as we had not plants sufficient for the orders we had received, we purchased in Paris a quantity under the name of Weigela lutea, which we understood to be the same plant. From these have originated all the plants of the spurious variety which have been sold by us.

All parties who have received this plant from us are at liberty to deduct the amount charged from their accounts, or we will replace them with the true species, free of carriage, early in the ensuing spring.

HUGH LOW and Co., Clapton Nursery, near London, Sept. 18.

PROTECTION OF PLANTS FROM THE HEAT OF THE SUN.—Use E. F. ARCHER'S HAIR CLOTH, a perfect non-conductor of heat, and admitting light without heat, where a covering is required; it is 2 yards wide, and any length, at 1s. 4d. per yard, and much cheaper than Bass Mats.

E. F. ARCHER, 451, Oxford-street, London.

TO NOBLEMEN, GENTLEMEN, AND THE TRADE.

HAY, SANGSTER, AND CO.

Are now ready to send out their **NEW EARLY No. 1 PEA, price 2s. 6d. per Quart,** and can with confidence recommend it as a very superior article.

About the second week in October they will be ready to send out their New Early Scarlet PRINCE OF WALES RHUBARB, 5s. each. It is quite as early as the Prince Albert, much larger, red throughout, of exquisite flavour, and a large cropper.

Post-office Orders from those not having an account open with H., S., and Co., to be made payable to the Firm, at the Borough Post-office, or postage stamps.

Annexed are a few of the many Letters we have received from parties who had small quantities of the No. 1 PEA *last year:—*

Market Deeping, Aug. 6, 1852.

Dear Sirs,—I have grown your No. 1 Pea, and can recommend it as the earliest, best flavoured, and longest-podded Pea ever grown in this neighbourhood.—I am, Sirs, your obedient servant, WM. ALGAR.

To Messrs. Hay, Sangster, and Co.

Dorchester Nursery, Aug. 5, 1852.

Gentlemen,—I feel pleasure in bearing testimony to the exceedingly prolific and excellently-flavoured Early Pea, which you call No. 1; those friends of mine who tried them prefer them to any other that is yet grown as an early Pea.—I am, Gentlemen, yours, &c., JANE BISHOP.

To Messrs. Hay, Sangster, and Co.

Fordham, Aug. 20, 1852.

Dear Sirs,—Your No. 1 Pea is the best Early Pea that ever I cultivated. I have tried almost every Pea in cultivation, and it is the best, the earliest, and the best bearer. I planted one pint, and I have got a peck and a half of Peas from the pint. I sowed some, to try to have another crop; they were sowed the 20th of July, and they have now pods on them, which is but one month. I shall sow no other early Pea but them another season.—I remain, Sirs, your most obedient servant,

To Messrs. Hay, Sangster, and Co. EDWARDS BROWN.

Colchester, Aug. 6, 1852.

Dear Sirs,—We have much pleasure in stating that your Early Pea is one of the best and earliest we have yet seen.—Yours respectfully, S. CHISNELL and SON,

East Hill Nursery, Colchester.

To Messrs. Hay, Sangster, and Co.

Sisson House, July 6, 1852.

Dear Sir,—It is with great pleasure that I inform you that I found your Early No. 1 Pea the earliest and best I have yet grown, and it was much admired by many friends for the size of its pods, the greenness of the Pea, and also for being such a first-rate cropper; in fact, no gentleman's garden should be without it.—I am, dear Sir, yours obediently, W. J. COOPER.

To Mr. Sangster.

Morton, August 9, 1852.

Sir,—I can with confidence recommend your Early No. 1 Pea; it has given general satisfaction in the neighbourhood.—I am yours respectfully, GEORGE DIFFY, Seedsman, &c.

To Mr. Sangster.

Brixton, August 5, 1852.

Dear Sir,—Your Early Pea No. 1 had not a fair trial, the weather being so very dry this season; its habit of growth is good, and a good pod for an early Pea; of a fair size.—Yours faithfully, E. DENYER.

To Mr. Sangster.

Worthen, Shrewsbury, August 5, 1852.

Gentlemen,—I can with confidence recommend your Early No. 1 Pea, for being very early and a good cropper, and in height about 2½ feet.—I am your obedient servant, RICHARD DOWNES, Grocer, &c.

To Messrs. Hay, Sangster, and Co., Seed Merchants.

Retford, August 17, 1852.

Dear Sir,—I have great pleasure in saying I have tried your Early No. 1 Pea, and find it the earliest and best flavoured of early Peas I ever grew; although sown six weeks later than other sorts, they were equally early, much larger pod, and, indeed, altogether a superior article.—I am yours respectfully,

To Mr. Sangster. CHAS. EYRE, Gardener and Seedsman.

Rudge Heath, Sept. 8, 1852.

Dear Sir,—What few I grew of your Early No. 1 Pea I found to be very early, and a good cropper.—I am, dear Sir, yours truly, ROBERT FRANCES, Farmer.

To Mr. Sangster.

Hucknall Torkard, Aug. 12, 1852.

Sir,—I can with confidence recommend your Early No. 1 Pea; it is decidedly the earliest Pea I have ever grown.—I am, Sir, yours, &c., WM. FLINT, Seedsman.

To Mr. Sangster.

Rudge Heath, Cleaverley, Aug. 9, 1852.

Sir,—When you advertise your prices of Seeds, I shall feel obliged by your sending me a list. I think your Early No. 1 Pea the earliest Pea I have ever had or seen.—Yours truly,

To Mr. Sangster. JAMES HERBERT.

Kiddermiuster, Aug. 8, 1852.

Sir,—I have proved your No. 1 Pea to be the earliest I have ever sown. It is an excellent cropper, and well podded. I intend to plant double the quantity next year.—I remain, Sir, your humble servant, JOHN GRUBHAM.

To Mr. Sangster.

Tonbridge, Aug. 5, 1852.

Gentlemen,—I received yours this morning respecting the Peas. I have to say I planted your No. 1 Pea, the Racehorse, and the Early Frame in one row, all the same day, and I found the No. 1 Pea ready to pick 12 or 14 days sooner than either of the others.—Gentlemen, yours most respectfully, THOS. HARRIS.

To Messrs. Hay, Sangster, and Co.

St. Clement's, Oxford, Aug. 4.

Gentlemen,—Having tried your No. 1 Pea this year, I consider it the best and largest early Pea known; the pod is of great length, and the flavour very fine.—Yours respectfully, J. KING, Corn Dealer and Seedsman.

To Messrs. Hay, Sangster, and Co.

Rainham Nursery, near Sittingbourne, Aug. 6, 1852.

Sir,—With much pleasure I can inform you that your No. 1 Pea is the very earliest I have yet seen, and was highly admired by all my friends who saw it growing.—Sir, I am yours truly, GEO. LONGLEY.

To Mr. Sangster, Seedsman, &c., Newington Butts.

Northampton, Aug. 11, 1852.

Sir,—I consider your Early No. 1 Pea to be the earliest in cultivation; a first-rate cropper, and of the very best quality; that is my firm opinion of it.—I remain, yours truly,

To Mr. Sangster. J. PERKINS.

Aylesbury, Bucks, Aug. 12, 1852.

Dear Sir,—With confidence I can recommend your No. 1 Pea, being the earliest and most profitable I ever planted.—Yours truly, JOHN PETTY,

To Mr. Sangster. Gardener and Seedsman.

Ross, Aug. 13, 1852.

Dear Sir,—The Pea, No. 1, which you sent me is one of the best and the earliest I have ever planted. It can be recommended to any part of the Kingdom.—Yours, very respectfully,

To Mr. Sangster. JOHN TREHERNE.

Gentlemen,—I have a very good opinion of your Early No. 1 Peas; they are to be recommended to any gardener. I should wish to have some more of them for the next sowing.—I am, gentleman, your obedient servant, THOMAS WOOLLVEN.

To Messrs. Hay, Sangster, and Co.

To save Carriage we have appointed the following parties, where both articles may be had:—

Messrs. Austin and M'Aslan, Seed Merchants, Glasgow
Mr. Wm. Algar, Seedsman, Market Deeping, and Stamford
Mr. Joseph Berry, Seed Merchant, Dublin
Mr. Sam. Blockley, Seedsman, Chesterfield
Mr. Wm. Bosworth, Seedsman, Ashby de la Zouch
Mr. S. C. Baker, Seedsman, Atherston
Mr. Thomas Bunyard, Seedsman, Maidstone
Mr. Thos. Clarke, Seedsman, Retford
Mr. Chas. Clarke, Nursery and Seedsman, Gravesend
Mr. Wm. Caprin, Seedsman, Newark
Mr. Sam. Coveny, Seedsman, Dover
Messrs. Wm. Drummond and Sons, Seed Merchants, Stirling
Messrs. Dickson and Turnbull, Seed Merchants, Perth
Messrs. F. and J. Dickson, Nursery and Seedsmen, Chester
Mr. E. Dilnot, Seedsman, &c., Ramsgate
Mr. Emanuel Day, Nursery and Seedsman, Shipston-on-Stour
Mr. Geo. Diffy, Seedsman, &c., Morton, Lincolnshire
Mr. Thos. Dean, Nursery and Seedsman, Uppingham
Messrs. Fisher and Holmes, Handsworth Nursery, Sheffield
Messrs. S. Finney and Co., Seed Merchants, Gateshead
Messrs. Frier and Son, Seed-Merchants, Birmingham
Mr. Wm. Fairbeard, Seedsman, &c., Green-street, Kent
Messrs. Garraway, Mays, and Co., Bristol Nursery, Bristol
Mr. Jos. Green, Seedsman, &c., Tetenhall, near Wolverhampton
Mr. Jas. Goble, Seedsman, &c., Bicester
Mr. J. Hayward, Nursery and Seedsman, Evesham
Messrs. Thos. Imrie and Sons, Seedsmen, &c., Ayr
Mr. John Kearsley, Seedsman, &c., Leeds
Mr. John Keynes, Nursery and Seedsman, Salisbury
Mr. J. King, Seedsman, &c., St. Clement's, Oxford
Mr. W. D. Lingham, Seedsman, &c., Worcester
Mr. Henry Law, Seed Dealer, Northampton
Mr. Thos. Marriott, Nursery and Seedsman, Nuneaton
Mr. Geo. Marshall, Seedsman, &c., Leamington
Mr. Jas. Mickle, Seedsman, &c., Folkstone
Mr. Wm. Masters, Botanic Garden, Canterbury
Mr. W. Miller, Nursery and Seedsman, Newbury
Mrs. Ann Milan, Seed Dealer, Doncaster
Messrs. Martin and Son, Nursery and Seedsmen, Hull
Mr. E. Mitchell, Bristol Gardens, Kemp Town, and 55, Marine Parade, Brighton
Mr. E. Nicholls, Seedsman, &c., Vauxhall Gardens, Stourbridge
Mr. Jno. Petty, Seedsman, &c., Aylesbury
Mr. Edward, Perkins, Seedsman, &c., Leamington
Messrs. Benjamin Reid and Co., Nursery and Seedsmen, Aberdeen
Miss Ann Reason, Seed Dealer, Stratford-on-Avon
Mr. W. E. Rendle, Plymouth Manure Company, Plymouth
Mr. James Rickets, Nursery and Seedsman, Deal
Mr. W. H. Rogers, Nursery and Seedsman, Southampton
Messrs. W. Robinson and Son, Nursery and Seedsmen, Loughborough
Mr. Wm. Skirving, Nursery and Seedsman, Liverpool
Messrs. John Sutton and Sons, Seed Merchants, Reading
Mr. Robert Stark, Seedsman, Edinburgh
Mr. George Townsend, Seedsman, Fordham, Cambridgeshire
Mr. J. Treherne, Seedsman, Ross
Mr. Wm. Toogood, Seedsman, Westergate, near Bognor
Mr. Wm. Weller, Seedsman, Chatham
Mr. George Wheeler, Nursery and Seedsman, Warminster
Mr. Wm. Warner, Seedsman, Grantham
Mr. R. C. Ward, Seed Merchant, Bath.

Newington Butts, London, Sept. 18.

BAKER'S PHEASANTRY, Beaufort-street, King's Road, Chelsea, by special appointment to her MAJESTY and H. R. H. PRINCE ALBERT.—ORNAMENTAL WATER FOWL, consisting of black and white Swans, Egyptian, Canada, China, barnacle, brent, and laughing Geese, Shieldrakes, Pintail, Widgeon, summer and winter Teal, Gadwall, Labrador, Shovellers, gold-eyed and dun Divers, Carolina Ducks, &c., domesticated and pinioned; also Spanish, Cochin China, Malay, Poland, Surrey, and Dorking Fowls; white, Japan, pied, and common Pea-fowl, and pure China Pigs; and at 3, Half-moon Passage, Gracechurch-street, London.

PERMANENT PASTURE.

H. R. SMITHE, of Eastling, Faversham, Kent, informs the public that his mixtures of the Natural Grasses and small Clovers, gathered principally under his superintendence, including every sort necessary to form a Permanent Pasture, accordant with the soil, &c. (which should be particularly stated), are now ready to be delivered by Railway to any Station in England, carriage free, at 23s. per acre, allowing 3 bushels per acre; Mixtures for Lawns, &c.

GERANIUM "WILLMORE'S SURPRISE."

JOHN AND CHARLES LEE will be prepared to send out this extraordinary variety on the 1st October; it is a monstrous production, of good habit, with beautifully fringed leaves and leaflets. The flowers are double, of a rich crimson, with good markings; the trusses are bold and erect, and each bloom, with its monstrous calyx, remains in perfection for several weeks. It is adapted for pot culture, or bedding, and is altogether of a very pleasing aspect. Price 5s. each, or 25s. the half-dozen. The usual allowance to the Trade, besides a plant over for every three ordered.

Nursery and Seed Establishment, Hammersmith.

KINGHORNE'S SEEDLING EPACRISES.

JOHN AND CHARLES LEE beg to announce that they will be prepared to send out these beautiful Seedlings on the 1st October, from which they have selected the following distinct kinds:—

E. KINGHORNII.—Tube medium length, very stout, beautifully pencilled with rose colour, pure white tip, and sepals well reflexed: a most profuse bloomer. Price 7s. 6d.

E. GRANDIFLORA RUBRA.—Tube longer, stouter, and much higher coloured than grandiflora; tips pure white; sepals expand well; very free bloomer. Price 5s.

E. MINIATA SPLENDENS.—Tube larger and longer than miniata, of a more brilliant colour, white tip, more distinct; sepals expand well; extremely free bloomer. Price 5s.

PRICE OF THE SET, 15s.—The usual discount to the Trade, besides a set over on every three sets ordered.

These superb Epacrises are really the most useful plants offered to the Public this season. They are very great improvements, both in habit and profuseness of blooming, over all former introductions, and will prove highly valuable for exhibition.

Nursery and Seed Establishment, Hammersmith.

WILLIAM HAMILTON, SEEDSMAN, &c., 156, CHEAPSIDE, LONDON.

Common mixed Crocus 1s. per 100.	SNOWDROPS, very fine, 2s. per 100.
Superior Dutch Mixed Crocus, 1s. 6d. per 100.	NARCISSUS, Soleil d'Or, 3s. per doz.
CROCUS, very large and fine yellow, 2s. 6d. per 100.	,, Dbl. Roman, 3s. per doz.
,, 12 distinct varieties named, 3s. per 100.	,, paper white, 3s. per doz.
,, in separate colours, 1s. 6d. to 2s. per 100.	,, Grand Monarque (large), 6s. per doz.
TULIPS, fine border varieties, early and late, 5s. to 7s. 6d. per 100.	HYACINTHS, excellent mixtures 3s. 6d. per doz.
	,, named for pots or glasses, 6s. to 12s. per doz.

GLASS DISHES with six superior HYACINTHS ready planted in Moss, and which are easily transmitted to the country without injury, 5s.; the price increases from 5s. to 10s. 6d. according to the size of Dish and number of Hyacinths.

The above are all warranted fine, and will be delivered in the best possible condition.

WM. HAMILTON'S Catalogue, containing an immense variety of bulbous roots, &c., may be had on application.—Address, 156, Cheapside, London.

TO BE DISPOSED OF, a first-rate NURSERY and SEED BUSINESS, situated in one of the most populous of the Midland Towns, and surrounded by a wealthy neighbourhood. The connection has been established 30 years, and the returns are now averaging 2000*l.* per annum. Part of the purchase-money might remain on security of the stock.—Apply, by letter only, to Messrs. NOBLE, COOPER, and BOLTON, Fleet-street, London.

REDUCTION IN THE PRICES OF PLATE GLASS.

THE UNION PLATE GLASS COMPANY respectfully inform the Trade, and the Public generally, that they have revised their Tariff of Prices, and made considerable reductions therein.

The new Lists may be had on application at the Works, Pocket Nook, St. Helens.

Warehouse:—39, Hatton-garden, London.
,, 11, York-street, Manchester.
,, 15, South John-street, Liverpool.
Messrs. C. and J. MULLOCH, 30, Turner's-court, Glasgow;
Messrs. JOHN DIX & Co., Bath-street, Bristol.

GLASS.

THOMAS MILLINGTON'S FOREIGN SHEET GLASS is far superior to any other manufacture, as well as cheaper. In 100-feet boxes, packed for immediate delivery.

6 inches by 4 and 6½ by 4½	...	...	...	13s.	0d.
7 ,, 5 and 7½ by 5½	...	...	...	15	0
8 ,, 5 and 8 by 5½	...	...	...	15	0
8 ,, 6 and 8½ by 6½	...	...	...	17	6
9 ,, 7 and 10 by 8	...	...	...	20	0
12 ,, 10 and 13 by 9	...	...	...	20	0

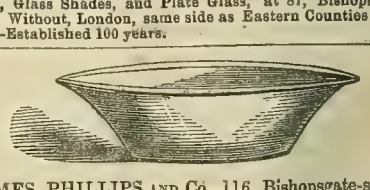
And many other sizes, or cut to order in various thicknesses.

Cases containing large Sheets, in 100, 200, and 300 feet, at 21s. per 100 feet.

ROUGH PLATE, perfectly flat, ⅛ in. thick, best manufactured.

In sizes under 15 inches			6*d.*	per foot.
,, ,, 35 ,, ...			8*d.*	,,
,, ,, 50 ,, ...			9½*d.*	,,
,, ,, 75 ,, ...			12*d.*	,,

Milk Pans, 2s. to 6s. each; Metal Hand Frames, Glass Tiles and Slates; Cucumber, Propagating, and Bee Glasses; Wasp Traps, Glass Shades, and Plate Glass, at 87, Bishopsgate-street Without, London, same side as Eastern Counties Railway.—Established 100 years.



JAMES PHILLIPS AND CO., 116, Bishopsgate-street Without, beg to inform their friends they are prepared to supply

GLASS MILK PANS,

the same size as the foreign ones (18 inches in diameter) but superior in colour, make, and quality, at 2s. each, or 21s. per dozen. Lord Camoy's Milk Syphons, Lactometers, Milk Tests, Glass Cream Pots, &c., &c.

116, Bishopsgate-street Without, London.

GLASS FOR CONSERVATORIES, ETC.

HETLEY AND CO. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2*d.* to 8*d.* per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices and Estimates forwarded on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLATES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to JAMES HETLEY and Co., 35, Soho-square, London.

See *Gardeners' Chronicle* first Saturday in each month.

NEW PELARGONIUMS, ETC.

JOHN DOBSON'S DESCRIPTIVE CATALOGUE of the new SEEDLING PELARGONIUMS to be sent out in October next, may be had on application. Early orders will insure good plants.

J. D. is now sending out the following in good strong Plants. All orders above 1*l*, package and carriage paid to London.

Chrysanthemums, finest show varieties	per dozen—	9s.
,, Lilliputians	,,	9s.
Cinerarias, named varieties	,,	12s.
Daisies, German named varieties	,,	3s.
Pinks, a fine healthy stock of named varieties	,,	6s.
,, Anna Boleyn, strong plants for potting	,,	6s.
Pelargoniums, fine show flowers, from	,,	12s.

J. D.'s stock of Pelargoniums is very large and in fine health, and the selections, if left to him, he is assured, will give the greatest satisfaction. A large stock of Hollyhocks of the best and newest varieties will be ready for sending out in a few weeks, from 12s. per dozen.

Woodlands Nursery, Isleworth, Middlesex.

BEACH'S QUEEN STRAWBERRY PLANTS.—Having taken several Prizes these two years with QUEEN'S STRAWBERRIES, thousands of them weighing upwards of 2 oz., many of them I exhibited last year in the Crystal Palace upwards of 3 oz., and this year, at Chiswick, they gained two Knightian Medals on July 10th; and also on the 14th Aug. the Head Prize at the Great Show at Lewes. See also Dr. Lindley's opinion of them in the *Gardeners' Chronicle* of the 10th of July, and likewise Mr. Cuthill's account of my place in the same Journal of the 24th of July. Strong, healthy, and fine plants are now ready to be sent out at 5s. per 100, box included.—Post-office Orders on Hounslow to Mr THOMAS BEACH, Market Gardener, Worton, Isleworth, near London.

DUTCH BULBS.

CHARLES TURNER has imported an extensive and varied collection of DUTCH FLOWER ROOTS, which have arrived in the best possible condition.—Priced Catalogues may be had on application.—Royal Nursery, Slough.

IMPORTANT SALE OF TULIPS.

CAREY TYSO, FLORIST, &c., Wallingford, Berks, respectfully informs his Friends and the Public, that in consequence of some alterations in his business arrangements, he is about to decline the further cultivation of his celebrated COLLECTION OF TULIPS, consisting of nearly 400 of the best named varieties, including several Seedlings of great merit, and is consequently determined to offer them, for cash only, at prices varying from one-third to one-half of the charge in the Catalogue of the present year. Beds arranged for planting, of any dimensions, at half the price formerly charged.

C. T. offers other FLORISTS' FLOWERS as heretofore, and solicits attention to the following assortments:—

Anemones, 100 superb double varieties	...	24s. to £1	10 0
Ranunculuses, 100 ditto	...	40s. to 4	0 0
Irises, 50 splendid varieties	...	20s. to 1	10 0
Crocuses, 100, in 15 fine sorts	...	0	4 0
Hyacinths, double and single, per doz.	...	5s. to 0	12 0

Catalogues may be had by forwarding two postage stamps.

GENUINE DUTCH BULBS.

JOHN CATTELL, Westerham, Kent, begs to announce that his importation of the above has arrived in first-rate condition, a Catalogue of which, containing also Plants for forcing, is now ready, and may be had on application, by inclosing one penny stamp.

J. C. wishes particularly to call attention to his Seedling Japan Lilies, one of which, named ATRO-RUBRUM, is decidedly the deepest coloured variety in cultivation, and has the advantage of coming into flower three weeks earlier than the Japan species.

CAMPANULA CARPATICA ALBA VERA—pure snowy white variety of Campanula carpatica. J. CATTELL has much pleasure in being able to offer this desirable herbaceous plant, the habit and size of flower the same as C. carpatica, very strong plants in 4-inch pots, 3s. 6d. each; good plants in 3-inch pots, 2s. 6d. each.

CAMPANULA CARPATICA ALBA, bluish white, 9d. each.

J. C. has a large stock of the under-named to offer, wholesale prices may be had on application by enclosing one penny stamp. Tropæolum tricolorum grandiflorum, Tropæolum brachyceras, Tropæolum pentaphyllum, Gladiolus Brenchleyensis, Scilla sibirica, Anemone pavonia, all sorts of Japan Lilies.

The Gardeners' Chronicle.

SATURDAY, SEPTEMBER 18, 1852.

MEETINGS FOR THE ENSUING WEEK.

THURSDAY, Sept. 23—National Floricultural.....3 P.M.

COUNTRY SHOWS.—Monday, Sept. 20: Northampton Dahlia.—Tuesday, Sept. 21: Norwich.—Wednesday, Sept. 22: York.—Thursday, Sept. 23: Oxfordshire.

THAT the agency of LIGHT is essential to vegetation is a fact which has been long known; but the amount of it which different kinds of plants require, and that which is necessary for the same plant in different stages of growth, have not yet been distinctly ascertained. It is recorded, that in the time of TIBERIUS, Cucumbers were grown at all seasons of the year, in boxes or baskets, which were taken in-doors when the nights were too cold, and set out during the day to the light, admitted through *specularia*, or thin plates of talc. Hence, it appears, that light was then considered as important as it is generally at the present day, otherwise so much pains would not have been taken to secure its access to the plants. These were not grown under a dark roof, with only light in front. They were exposed to a full but diffused light through the talc, like that which is afforded by rough plate-glass.

Centuries afterwards structures were built having the two ends, back, and roof impervious to the rays of light, this being only admitted in front through as much space as the architect thought proper to leave unblocked by massive piers, necessary to give to his design an imposing front, or to be in harmony with the architecture of the palace or mansion to which the structure may have happened to be an adjunct. It was called an Orangery; for Orange trees, possessing an extraordinary tenacity of life, did live in such places. They grow slowly, and do not rapidly decay. Their leaves last during winter, and are green, though only partially exposed to light. During a long winter the plant of course must suffer; but be this as it may, pallid or green, it is sometimes drawn forth from its shade for the season suddenly to bear the shock of a hot sun. Unacquaintance with the effects of light is the cause of such errors as this.

The importance of light to vegetation ought to be constantly borne in mind. Without it no substantial growth could be made. The Oak, formed into the hard ponderous timbers of ships, was once in a fluid state; solid as it has become, it passed at one time or other through the very fine vessels of the leaves, in the form of sap, consisting chiefly of dilute carbonic acid. The decomposition of the latter is effected by light, and the carbon becomes a fixed constituent of the tree.

Light consists of different coloured rays; some are distinguished as calorific, others as chemical; but it will be most suitable for our present purpose to refer to light in terms that are generally well understood, namely, *direct* light and *diffused* light. The source of both is of course the same; but the first consists of direct solar rays, whilst diffused light is derived from these after they have been broken, reflected, and diffused. They come from all directions. The shadow caused by a perpendicular object placed in direct rays forms a parallelogram, which is always in a direct line with the object and the sun. Diffused light, on the contrary, forms a shadow which extends back from whatever portion of the sky it is admitted. If the only window in a room faces directly north, the shadow of any perpendicular object in the room placed opposite the centre of the window will extend directly south; and if the object be placed opposite the side of the window, the shadow will be in a line with the object and the centre of the window.

The depth of shadow is in proportion to the amount of light. If large trees with dense foliage obstruct the view of the sky from even a north window, the shadow of anything in the room will consequently be less distinct. A conservatory glazed on all sides will therefore receive little light, if high trees are planted near it, even on the north side. Trees growing against a north wall will, in like manner, receive less light if the sky is partially hid from them by high trees at a little distance. Houses facing the north in a street are rendered gloomy by the houses opposite, especially if these are dark and smoky. If white, so as to reflect direct light abundantly, of course the case would be very different, so much so that sanitary commissioners might well direct their attention to it.

From what has been stated we presume it will be acknowledged, that although the beneficial effects of light as regards vegetation have been long known, yet, even in modern times its importance is frequently overlooked. We have endeavoured to throw out some hints that may be usefully considered; but the subject affords a wide field for investigation. It is well known that some plants in all countries grow in the sun, whilst others affect the shade; yet we find hundreds of exotics all subjected to the same treatment with respect to light.

The same plant may also beneficially receive a certain amount of light during one stage of its growth, and a greater amount at another. A remarkable instance of this is afforded by the following details, which we have received from Mr. JOHN POVEY, gardener to the Rev. JOHN THORNEYCROFT, Thorneycroft Hall, near Congleton. He says:—"I send you a few Peaches taken from a tree which was brought to this garden as a nursery plant in 1832; the following winter it was planted where it now stands, the wall and border being both new. For the first 10 years I do not recollect that it ever bore a single fruit, owing to a large Sycamore tree overshadowing the wall where it stood; and that tree being an object visible from various parts of the premises, my master felt the greatest reluctance to take it down; but about 10 years ago he consented to remove it, and since that time the Peach tree, which had never before that I recollect carried a single fruit, has rewarded us with a fine crop every year; of which the enclosed are a fair sample. The number this year on the tree is 36 dozen; in 1851, 33 dozen; in 1850, 30 dozen; the extreme length of the tree is 51 feet, on a wall 10 feet 6 inches in height; and without the least exaggeration, I think I may say that the tree itself is a perfect picture—there is not a naked spot in it; it is covered with foliage and fruit to its very foot, and has been greatly admired by all who have seen it; the kind is, as you will see, the old Royal George."

The Peaches were large and finely coloured; and it did not appear that the tree had been overburdened, notwithstanding the heavy crop it had produced in this and previous years since it began to bear. The example proves that the Peach-tree may be extraordinarily well grown with less light than is requisite for its fruiting; but that fruit will not come without abundance of direct sun-light; and this is doubtless the case with many other species of plants. It is evident that the amount of shade which plants will bear, requires to be ascertained by experiment.

No season was ever more productive of fungi, esculent and non-esculent, than the present. The woods and meadows absolutely teem with them, and those labourers who are sufficiently active and industrious to wade through the wet Grass before sunrise are reaping a second harvest from the abundance of the common Mushroom and its varieties. Other excellent species, such as the Champignon, *Clavariæ*, *Hydnum repandum*, the common Chantarelle, and, above all, the esculent Boletus and *Agaricus deliciosus* are no less plentiful, and afford many a treat to those who are skilled in their distinctions, and above the common prejudice which rejects everything except a single form of *A. campestris*. Scarcely a station can be visited with a view to obtain any particular species, though two lustra or more have passed since its occurrence, but it is found on the old mycelium, in confirmation of the dictum that fungi are almost as constant to their true localities as phænogams. A spot, for instance, which some 14 years ago yielded a single specimen of the curious and gigantic, and, according to VITTADINI, the exquisite Agaricus strobiliformis, is now covered with scores of the species, presenting a most pleasing and singular sight. The mycelium was spreading all the time, and waited only a favourable concurrence of circumstances for its development.

This, however, is but the bright side of the picture; the other is gloomy enough; the Grapes in many districts are destroyed, the Plums have withered on their branches, the Potatoes are as bad as in 1845, the produce of the Wheat crop materially diminished, and now other forms of evil are daily evidenced. Amongst others, a singularly rapid decay in Pears has lately been forwarded to us from Aberglasney, which merits a passing notice, though we have met with it before. A very circumscribed light brown stain is the first evidence of evil; this rapidly spreads, and eventually the whole substance, as well as the surface, assumes a dark colour and soft consistency, exhibiting in concentric rings a crop of *Oidium fructigenium*, whose spores are at least a third longer than those of the Grape mildew. The mycelium burrows deep into the flesh, where it is first developed, and only after the partial decay of the fruit makes its appearance externally. It was long since stated by Dr. HASSALL that the decay of fruit was attributable to the action of fungi; and though he carried his views too far in the especial instance which came under his notice, there is little doubt that such is the case in the present instance. The mould was doubtless developed amongst the cells in consequence of some derangement of their chemical condition and attendant depression of vital energy; but when once the growth has commenced it is easy to understand how rapidly, in accordance with Mr. GRAHAM's ingenious notion, the death of those portions of mycelium which were first produced is capable of communicating a taint to the tissues of the plant with which they happened to be in contact. In the present instance, as in the Grapes from Madeira lately noticed, the yeast plant had been extensively developed, but probably during the transit of the specimens.

The mould is well figured by EHRENBERG, on Pears exhibiting precisely the same appearance as those before us, in his well-known treatise on the development of fungi. *M. J. B.*

IT will be seen from our advertisements that a further sale of Mr. LINDEN'S NEW ORCHIDS will take place at STEVENS'S next Friday. We need not say that Mr. LINDEN is the most successful of the Continental importers of this Order, and that his statements have always been found to be verified by the result. We are, therefore, glad to announce, on his authority, that among the lots to be offered on the 24th are—two *Anguloas*, one with large purple, the other with large white flowers; the rare bearded *Brasavola Digbyana* from Honduras; *Burlingtonia granadensis*; two supposed new *Cattleyas* from Michoacan and New Grenada; *Epidendrum vitellinum*, a large variety from Michoacan; *Epidendrum Sceptrum*, a very fine thing, with long spikes; *Galeandra Funckiana*, from New Grenada, said to be very handsome; several *Oncidiums* and *Odontoglossums*, among which is *Od. Pescatorei*, one of the most charming species of the whole order.

THE CHOROZEMA.

MOST of the species of this useful genus are comparatively easily cultivated, and possess a remarkably elegant habit of growth; if the young wood is properly

ripened in autumn they will bloom in the warm end of a greenhouse all through the winter and spring months; and few plants at that season form more graceful or beautiful objects than well-grown and bloomed specimens of Chorozema.

Persons well acquainted with the culture of hard-wooded greenhouse plants are very careful to select dwarf, healthy, well propagated examples for growing into first-rate specimens; therefore, beginners cannot be too particular in the selection of good plants to begin with; and in cases where they have to be obtained from a distance they should be ordered at a season when they will not be liable to be parched or frozen on the journey. The present and following month is a proper season for procuring plants from nurseries. If they are in proper order as regards pot-room, when received, they will require merely a careful supply of water, and an airy situation in the greenhouse during winter. In March place them in the closest end of the house, and have soil, &c., in readiness to give a shift as soon as necessary. The proper time for shifting is when the pots are filled with healthy roots, and before the latter become matted. I must not be understood, however, to recommend beginners to shift their plants in winter, or when the roots are comparatively inactive; experienced cultivators are careful to avoid any necessity for shifting hard-wooded plants after September till they commence active growth in spring, and young growers should be careful to afford such plants sufficient pot room for the winter, without shifting later than August. After potting water cautiously, keep the atmosphere rather close and moist, and sprinkle the plants overhead on fine mornings, to encourage the roots to strike into the fresh soil. When fairly established a more liberal supply of water will be necessary, and air must be freely admitted on mild days, but cold drying currents on first entering the house should not be permitted to pass over the plants. About the beginning of May, or earlier if the weather proves settled, the young specimens may be removed to a cold pit, which will form a suitable situation for their making their summer's growth in. If cold weather with frosty nights occur after the plants are removed to the pot, or frame, cover the glass at night, and regulate the supply of air during the day, so as to prevent their sustaining a check from a low temperature. Unless the frame occupies a situation sheltered from the midday sun, a light shade should be afforded for a few hours on the forenoons of bright hot days—and the plants should be sprinkled overhead morning and evening and allowed as moist an atmosphere as possible. Too much air can hardly be given except during the occurrence of parching winds, when it will be better to raise the lights on the sheltered side only, and to keep down the temperature by shading. Vigorous growing specimens of the stronger varieties will probably require a second shift about July, and this should be given them as soon as it is necessary, in order that the roots may lay hold of the fresh soil before winter. As regards stopping and training, the habit of growth of the most showy species is such that very little attention is required in these respects to form handsome specimens. A few stakes for the support of the main branches, and the timely stopping of any ill-placed, over-luxuriant shoot will be sufficient. Henchmanni, and some others of a very slender habit of growth, will, however, require careful staking, and the twining varieties must also be provided with proper means of support. Shading and sprinkling overhead had better be discontinued as soon as the heat of summer is over, but allow the plants to receive the benefit of night dews, by placing the lights so that they will throw off a sudden storm of rain, and yet leave the plants fully exposed. Towards the end of September remove the specimens to a light airy situation in the greenhouse.

If the object in view is to obtain large specimens in the shortest possible time, remove the flowers in spring as they appear, and the more expeditious way of doing this will be to cut back the branches, so as to remove all the eyes which show flower. The plants should then be placed in a moist temperature of about 55°, to encourage active growth. They may be treated as recommended for last summer, and if all goes on well, they will form large handsome specimens by the end of the season, and will form beautiful objects during the winter and spring months. Having obtained moderate-sized handsome plants, the aim should be to keep these in a healthy state for as many years as possible. This will be best accomplished by cutting back the shoots after flowering, and slightly thinning out the branches by removing altogether any weakly or unhealthy twig, and giving but a small shift every other year. The strong-growing varieties will make sufficient growth if placed out of doors during the summer, but such as Henchmanni are best kept under glass. Treated in this way they will last for several years, but it is safest to be provided with a stock of good young plants, as the loss of a specimen may be calculated on as an occasional occurrence. Red spider may be looked for on most varieties, and must be eradicated, or the destruction of the plant is certain; this is easily prevented by laying the affected plant on its side and giving it a liberal washing with a powerful syringe. Henchmanni is very liable to be attacked by mildew if kept in a moist confined atmosphere; therefore apply sulphur the moment the pest appears.

The best soil for the Chorozema is rich turfy peat, broken small, and mixed with sharp silver-sand, small potsherds, or charcoal. The addition of one-fourth of turfy sandy loam will be an improvement for the strong-growing varieties; but strong adhesive loam should not be used, and the weaker varieties are longer lived in peat, although their growth will not be equally rapid at first. *Alpha.*

BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

THE twenty-second meeting of this association was held this year at Belfast. We shall give from time to time a report of such matter as relates to the objects of this Paper.

On the Composition and Economy of the Flax Crop, by Professor HODGES.—From the earliest periods we have reason to believe that the inhabitants of Ireland were acquainted with the qualities possessed by the fibre of the Flax plant, for clothing. By whom, however, or from what country it was introduced, we have no satisfactory record; for the assertion made by some writers—that the Phœnicians were the instructors of the Irish people—is destitute of historical foundation. Our Irish name for Flax is *Lhin*, which word is also applied to thread, while the term *anairt* is used to express linen cloth. Dr. O'Donovan informs me that it has no cognate term in any language with which he is acquainted, and is evidently a word of great antiquity. In the Brehon laws also, we find it enjoined that the Brughaidhs must be acquainted with the mode of working Flax. The linen shirt, dyed yellow, indeed, appears to have been a national dress; and the Jesuit, Edmund Campion, speaking of the "meere" Irish, describes their fondness for capacious linen garments. "Linen shirts," he says, "the rich doe weare for wantonness and bravery, with wide hanging sleeves, playted; thirtie yards are little enough for one of them." The importance of Flax cultivation in Ireland appears to have been recognised by the English Government, as may be found from the number of legislative enactments and grants for its encouragement. In 1809, Government appropriated the sum of 20,000*l.* for this purpose. The exertions of several national societies have also been directed to the promotion of Flax cultivation; the labours of the Royal Dublin Society were early excited in improving the management of this crop. Since the establishment, in 1841, of the Royal Flax Improvement Society, an association of proprietors and manufacturers which was originated and holds its meetings in Belfast, there has been expended, of money collected by subscriptions from members, 8000*l.*, and of money granted by the Government to the Society for the Promotion of Flax Cultivation in the south and west of Ireland, 4000*l.* Yet, notwithstanding the efforts which have been made by Governments and Societies to stimulate the culture of Flax, and though the total extent of the crop produced last year was estimated by the Government Commission as equal to 138,619 acres, the value of which would be about 1,700,000*l.*, this produce is only about a fourth of that annually required by the rapidly increasing manufactures of the United Kingdom. Though Flax is to be found in cultivation in almost every part of Ireland, yet it is in Ulster that its chief development is to be found. Of the 138,619 acres of Flax grown in 1851, only 14,893 acres were beyond the bounds of this province. It is in Ulster also that the chief seats of its manufacture are to be found.

Report on the Influence of the Solar Radiations on the Vital Powers of Plants growing under different Atmospheric Conditions, by Dr. J. H. GLADSTONE.—As a preliminary matter of inquiry, the mere effect of coloured media in accelerating or retarding the growth of various kinds of plants was tried. Hyacinths were chosen as the sample of bulbous-rooted plants. Roots of as nearly as possible the same size and description in every respect were grown under the various bell-glasses. Certain differences were described, both in the rootlets and the leaves, which might fairly be attributed to the character of the light. The time of flowering and the flowers themselves were not affected by it; and the greatest growth (estimated quantitatively in each instance) took place in the plant exposed to all the rays of the solar spectrum; the next greatest was under the blue glass. Wheat was also grown in a similar manner; the method of arrangement of apparatus being minutely detailed, and the character of the corn plants which appeared under the various glasses. Those under the yellow were the most sturdy in their growth; those under the blue the least healthy; whilst some grown under a nearly darkened shade grew quickly nine inches long, put forth no secondary leaves, and died in a month. Mallows were grown in a similar manner. The detailed observations were too much the same purport as in the preceding instance. As it had been formerly observed by the author and his brother, that plants kept in an unchanged atmosphere appear to enter into a sort of lethargic condition, experiments were instituted for the purpose of ascertaining whether the alteration in light produced by coloured media made any marked variation in this matter. The Pansy and the Poa annua were the plants selected; and comparative experiments were made with a darkened shade, and with no covering at all. The results were various; but scarcely conclusive, unless in reference to the fact that plants survive much longer for being in unchanged air. The colourless and yellow media appeared most favourable to the healthiness of the plants. As experiments on growing plants must stretch over a considerable time, the author's observations were not put forth as foundations for any generalization, but just as samples of his preliminary attempts.

A Report on the Altitudinal Ranges of Plants in the North of Ireland, by Prof. DICKIE, M.D.—The observations were made on Slieve Donard, in County Down, attaining an elevation of 2796 feet; Muckish and Erigal, in County Donegal, the height of the former being 2190 feet, of the latter 2450 feet; and Nephin, in the north-west of County Mayo, its elevation being 2639 feet. It might have been expected that in general the species noted would have the upper and lower limits of each respectively obeying the usually understood law. Instead of which, it appears that their natural upper limits are, with a very few exceptions, lower in the North of Ireland than in North Britain. The lowest limits of plants usually found at high elevations were next examined, and those of 20 species in Ireland compared with their recorded lowest limits in different parts of North Britain; from which comparison it appears that the lower limits in Ireland are generally much lower than in North Britain. It may be stated, in other words, that in Ireland, with a climate which is generally mild, plants usually growing in low grounds do not rise so high upon the mountains as in North Britain with a less favourable climate; and plants usually growing at high elevations descend lower in Ireland than in many parts of North Britain.—Prof. Balfour had often observed a considerable descent of Alpine plants. Draba incana he had found on the sea-shore. Saxifraga oppositifolia was found very low near Glasgow.—Prof. Walker Arnott mentioned several instances of Alpine plants descending to the sea-shore, as Saxifraga aizoides. He thought those plants descended which grew in the vicinity of streams, and would divide Alpine plants into dry and moist. There was a considerable difference in the distribution of plants according as they grew on continents or islands.—Mr. L. Reeve observed that the lines of distribution of many of the plants referred to by Prof. Dickie corresponded with the isothermal lines of Humboldt.—The Prince of Canino thought it of first importance to distinguish between dry and wet Alpine plants. In investigations on the distribution of plants care should be taken to take into consideration the physical properties of the soil.—Mr. Wyville Thomson had found Alpine plants at the mouth of the river Dee, but not in its course. He thought this was due to the sea supplying the warmth low down which the snow did higher up. Neither snow nor sea protecting the plant in the middle parts of the river's course.

TRADE MEMORANDA.

Mr. R. C. BRADLEY, 67, Tower-street, Westminster-road, London. A correspondent asks who this gentleman is?

Home Correspondence.

The Petunia as a Conservatory Border Plant.—I am afraid some will be surprised at my recommending the Petunia as a conservatory plant, seeing it is so very common. I however regard this as a weak objection, provided the plant be suitable and useful; and that it is so I have proved this year, when it has answered so admirably that I think it is worth a trial by those who are fond of having their conservatories well supplied with flowers. I propagate in spring, in a bottom-heat of about 65° or 70°. After the plants are rooted I keep them growing freely on with as little heat as possible. I planted a healthy plant from this stock in the conservatory border early in March, keeping it well supplied with water. I trained it up to a stake about 5 feet high. A month after its transplantation it commenced flowering, and since that time up to the present it has gone on blossoming incessantly; and now it seems by no means exhausted, looking full of vigour, and likely to continue in flower for months to come; it measures 5 feet high and 5 feet through, and is covered with innumerable blossoms. It does not seem subject to the attacks of insects like some conservatory plants. I frequently syringed in the evening for the purpose of washing off the dust and preserving a green healthy appearance. It seems capable of standing a very great amount of heat without any bad effects, if it be well supplied with water. I have tried another Petunia as a trellis plant in a back border in the same house. As it grows rapidly it requires attention in tying up the shoots. It has answered admirably, flowering for many months, sometimes being subject to a sun heat of 110° Fahr. Very much of course depends upon taste in the selection of plants. To my taste there is no purple flower, as a conservatory border plant, capable of successfully competing with the Petunia. *William Payne, Fir Vale, near Sheffield.*

Peat Charcoal and the Potato Disease.—The melancholy reports concerning the Potato crop which reach us from all parts of the country, make me lament the little use that has hitherto been made of peat charcoal; although Mr. Cuthill has long urged a trial of it in his various pamphlets, and confirmed its efficacy by much experience, yet but few have adopted it. I have been induced to plant a large proportion of my crop with charcoal this year, and I have a more satisfactory produce than ever I recollect to have had, both in size, quantity, and quality; and the sight which my lofts at this time present, I imagine cannot be surpassed, if equalled, in the kingdom. In some plots of ground where I did not use charcoal, I have fared as my neighbours have done, very bad—Potatoes small, and partly diseased. I may mention that from the earliest stage of growth, the crop planted in charcoal shewed great vigour of stem, and an unusual intensity of green in the leaves. I have elsewhere observed that the experience of an eminent gardener first led me to adopt the

use of charcoal; and not being a chemist myself, I attributed the wonderful effects to its valuable antiputrescent quality, preserving the tuber from rot, and I was quite ignorant (until last month), of its possessing a far higher scientific value. I subjoin a few extracts connected with this subject from an August provincial paper, on "the weather, electricity, and the Potato disease," emanating from the pen of a talented writer and chemist in the medical profession. This gentleman, in his remarks, attributes the Potato disease to a great deficiency of electricity in the atmosphere, and remarks upon it thus:—"The true explanation of the Potato gangrene is very simple, but few are, perhaps, aware of the fact, that the leaves of a plant are identical with the lungs of an animal; that the sap, or blood of the Potato is absorbed from the soil, carried then to the leaves, and here obtains the 'breath of life,' from the electricity evolved in the exchange of oxygen for carbon. If, therefore, the atmosphere should be *nil* as to its electricity, the sap descends, or the blood thus unpurified or decarbonised returns to the tuber, which rots, perishes, and passes for want of life. Such is briefly my view of the Potato gangrene; and the state of the electricity registered this year bears me out in this very simple explanation." He further remarks:—"Where charcoal is used, what is the *rationale?* The sap is supplied with more carbon (peat charcoal contains 96 per cent. of carbon.—Herapath), and this, from its affinity for oxygen absorbs more of the latter from the atmosphere, and hence the plant possesses greater vitality, oxygen being the 'breath of life' of the sacred writer." Never having perused such conclusive scientific reasoning as to the value of charcoal for the Potato crop, and, in fact, for any other esculents, I have thought the above might be interesting to your readers. *John Lilly, Glastonbury.*——I am in the habit of growing early field Potatoes every year. I propose, in addition to a good manuring with yard manure, to use peat charcoal, which I am now preparing, impregnating it daily with slops from the house. The way I think of using peat charcoal as to apply about half a pint to each Potato set, after it is inserted in the hole, which I dibble. Do you think this will be the best way to use this substance? Would a broadcast sowing be more efficient, to be followed by a harrowing? *A. B.* [Use the first plan.]

Virgilia capensis.—I forward a sprig and a flower of this hardy and evergreen shrub; it will grow as a bush, or climb beautifully. We have grown it here as a bush, but we have not more than this one plant. About 12 months since we turned it out of a pot against a south wall in peat soil, where it has made very luxuriant and extraordinary growth. It covered a space of 15 feet in length, and is 10 feet high; it has been in flower about two months; is sweet scented, and to see this large plant in full bloom is a sight not often to be met with; it has likewise a beautiful foliage. *N. J. B., near Exeter.* [It is Virgilia capensis, a beautiful tree from the Cape of Good Hope.]

Acclimatising Plants.—I have given my continued best attention to the subject of acclimatising exotic plants at this place during the last 35 years; and I have made a written record of all the successful results during that time, some of which may perhaps be worthy of notice. Richardia, *i. e.*, Calla æthiopica, in pots, produces much seed, of which I sowed some in the open ground in the end of March, 1822, in a vegetable mould, on a clayey subsoil, latitude 55° 55′, altitude about 180 feet above the level of the sea. I put a broken one-light frame over it. In six or seven weeks several seedlings grew up, in all 15 plants; here they continued to grow well until autumn, when I took them up with balls of earth, potted them, and kept them under glass all winter. One of these seedlings began to flower in 13 months. In the spring of 1823 I planted it in the open border, under a high wall with a western aspect, so that the sun did not shine on the plant till 12 o'clock; here it begins flowering in the end of May and June, and grows sometimes 3 feet high. One year it produced 11 flowers, and it has produced seeds. From 1823 it continued to grow and flourish, surviving the long-remembered severe winters of 1836-7-8; in the spring of 1838 it was first taken up; it was a large mass of roots, of which I replanted a portion in the same place, and it continues to grow and flower well. In October, 1851, I was compelled to take it up, owing to alterations; it had then a large cluster of green seeds. I cut the plant in halves, one of which is again growing in the same place under a wall, planted deep in cool loamy earth, in a shady, well-sheltered situation: and the part with seeds was put in a pot, and placed under glass. The cluster of seeds, ½ oz., ripened in the end of December, of which I sowed some in a pot on February 18, 1851, and raised 20 seedlings: they are planted now three in a pot, and one in a 9-inch pot; those planted three in a pot began flowering January 15, 1852, in less than a year from the time of their being sown. By various ways of managing, the plants are in flower nearly all the year. Several are growing, and flower well in other places; under walls, in this situation, it produced seven large flowers last June. The above plant has been twice transplanted, and has lived upwards of 30 years. I have found as many as eight seeds in one berry; the largest seeds produced the hardiest plants, and two varieties—major and minor. A seedling Calla, in a 9-inch pot, grew 4½ feet high, and produced a large cluster of ripe seeds, which weighed 4½ oz. A plant, in flower last February, was 4½ feet high, in a pot of rich earth, with sometimes two large twin leaves on one footstalk, and two columns in one flower; sometimes the flowers are double, so called here, with flowers 7 inches wide; it is a graceful plant for a shady room or hall, or among statuary, &c. I have gathered 2 oz. of seeds in a year, besides the above. *John Street, Biel, East Lothian.*

Transition of Sexes in the Hop-plant.—Amongst our Kentish Hop-growers it has often been a matter of surprise that, although they have for years been careful to eradicate the male plants from their gardens, or to confine their number to one or two hills on an acre, yet, notwithstanding all this care, occasionally "red bines" and males spring up where they were not looked for, and upset all the grower's calculation. It is usual to mark such hills just previously to the picking of the crop, so that they may be dug out when the tops are cut off. Many a labourer has had to bear his master's anger for not having thoroughly torn up and destroyed the plant, or else for having used part of it again to renew some weakly stool, and thus perpetuate the plague—or how could it be? It is now some years since I had ocular demonstration of the change of sex in the same plant in my own nursery: a female plant that had borne hops for several years produced both male and female blossoms, and of course a small quantity of hops in the one year, and in the following the plant became entirely a male plant, and without power to produce a single hop. This fact I communicated to Dr. Royle, who published my opinion on the subject, and which accounts for the seeds vegetating from grounds where, to the casual observer, no male plant is to be found. To the scientific observer who is always watching the transmutations of leaves to flowers and their appendages, the fact is well-known that many diclinous plants, like the hemp, do occasionally produce in a spike of one-sexed flowers one or two where the flowers are of two sexes, and thus, to a common observer, a male plant produces a few perfect growing seeds. The accompanying sketch was made from a



plant growing on the estate of F. Neame, Esq., Macknade, near Faversham, and is remarkable for having only the terminal blossoms females, whilst all the rest are males. *William Masters, Canterbury.*

Sweet-Peas.—It may possibly be worth recording, that from one self-sown Painted Lady Sweet-Pea, I have grown the immense number of 343 pods, and 1890 Peas this summer. *Amelia.*

Gardeners.—From information statistically and otherwise carefully collected, it is found, that as a body, gardeners are masters of more knowledge generally, and have received a better education, than most other professional classes of persons. The greater responsibility therefore attaches to them in practically diffusing and turning the blessing to good account. *Beta.*

Rose House.—Will some of your readers kindly favour me with an opinion on a house which I am about to erect for the purpose principally of growing Tea Roses. It will have a span-roof, the gables facing the north and south; height at gutter 4½ feet, ditto at ridge 9½ feet; the area will be 20 feet square, the door in the north side; a 9-inch brick wall will be carried up 2 feet all round, on which the plate will rest, and above that, along each side, will be sashes 2 feet in height by 3 feet long, hinged at top and opening outward in the usual way; above these the upper plate, and upon that the rafters of a fixed roof, glazed with large glass on the plan of Mr. Rivers' orchard-houses. The glass will be 21 oz. sheet, 30 inches by 20 inches, puttied into steam cut rabbets. The ends, which will be glass, will have two sliding sashes of about 3 feet square each for additional ventilation near the ridge. Roller blinds will be placed on the roof and south end. On the inside, all round, will be a bed of soil (carried up as high as the outer wall, and supported by a half brick thick, in cement, wall) 3 feet wide, to be planted entirely with Tea Roses; then a path of Portland cement 3 feet wide, the centre being occupied with a stage for Roses in pots, or other plants elevated near the glass, and under the stage will be a sunk tank, to receive the rain from the roof. Before commencing this house I should be extremely thankful to know whether it will answer the purpose intended, and whether it could be improved upon without greater expense? I do not at present think of heating it, but should I afterwards desire to do so, what plan of laying hot-water pipes would be most desirable? Can I also have any information as to the success which attends large and wide glass, whether much breakage arises from frost, &c.? Your correspondent at Farnham glazed an orchard-house with panes of the above size 30 inches by 20 inches. Should I putty all laps and leave the drip to run out at bottom, on Mr. Rivers' plan? and would puttying laps entirely prevent breakage by frost? if not, what width of open lap is best? If my humble building is not beneath notice, a practical opinion on these matters will greatly oblige *F. H. S.*

Potato Seed.—I wish very much you could induce the writers in your Paper (to say nothing of the public at large) not to use the word "seed," applied to Potatoes for setting; it causes much confusion and indistinctness in their communications. How could they describe the process of raising new sorts from real seeds, if the word be used in that indiscriminate manner? *F. S. A. C.* [We heartily join our correspondent in the hope that words may be used more correctly.]

Corrosive Sublimate.—In reply to your observation, at p. 568, on the use of corrosive sublimate, I beg to state that I have always used it to destroy worms in pots in greenhouses and hothouses, and in no one instance has it destroyed a plant; the proportion is half an ounce of corrosive sublimate to 2½ gallons of water, a table-spoonful to a small pot and more in proportion to larger ones. Earth-worms, wire-worms, and wood-lice come to the surface directly, an effect I cannot produce with the use of clear lime-water, as once suggested by one of your correspondents. *A Constant Subscriber.* [This is a very unexpected statement, and we would ask our correspondents if they have any similar experience with this dangerous poison. We are aware that lawns have been watered with corrosive sublimate without bad effects, but it has been imagined that in such a case the poison was either decomposed upon reaching the ground, or that the flinty skin of Grasses protected them from its action.]

Cloth of Gold Rose.—I imagine that it is not very common for this favourite Rose to flower the first season from the bud; and as it gets the name of being a shy bloomer I have been induced to send you the following statement respecting its blossoming here:—A bud inserted upon a strong shoot of the common China, growing against a south wall, on the 9th of July, 1851, soon afterwards started into growth and continued growing until the frost stopped its progress late in November; at this time it had nearly reached the height of 6⅔ feet. I had formerly observed that the peculiar habit of this Rose was to produce its flowering shoots from the strongest growth of the previous year, and particularly from those buds nearest the top; I therefore left the shoot to break as high as it had ripened, which was within a foot of its top. Seven of the uppermost shoots produced flowers, which numbered in all 20; these were produced without any assistance in the way of protection during winter, and within 12 months from its union with the stock. *J. W., Gardens, Gordon Castle.*

Uses of a Magpie.—About three miles from Pershore there was a small open heath, full of gravel-pits and abounding in reptiles. Farm buildings were erected there, and the people say that they were extremely annoyed by hawks (who took the chickens before the woman's face while feeding them), toads, snakes, newts, frogs, &c. For the last two years they have kept a tame magpie; yesterday the woman told me that they had entirely lost all their nuisances; that the magpie keeps them all in their proper places. *F. D., Pershore.*

The Manetti Rose.—I ought to apologise to your readers, for omitting to give the very simple management required to make this a healthy stock. For dwarf Roses, the cuttings should be made 10 inches long, all the buds cut off but two at the top of the cutting; they should be planted deeply, so that the two buds are just above the surface, and suffered to grow one season; the following autumn or spring they should be taken up, the two young shoots cut off close to the stem and transplanted, previously removing with the knife all the roots on the stem, leaving only the tuft of roots at bottom, and planting them about 3 inches deep, leaving 7 inches out of the ground; the following summer, after the 25th of August, they may be budded, the buds placed *in the stem* (not in the young shoots) about 4 inches from the ground, the buds will grow rapidly the following summer, and care must be taken about the middle of June to cut off the stock above the bud, an operation called by nurserymen "heeling" or "snagging;" the wound will then soon heal over, and the junction will be perfect. For standards, cuttings one year old should be planted in rich soil, in rows 3 feet apart, and 1 foot plant from plant, suffered to grow one season, and then cut down close to the surface of the ground in February; several shoots will rise—leave three (if only one shoot be left, it becomes too full of sap, and breaks into numerous laterals); fasten one to a stake, and suffer the others to grow all the summer; early in the autumn remove the two wild shoots, the following summer the staked shoot will put forth many laterals. Cut off all those close to the stem, within 18 inches of the base, and allow the others to grow all the summer; bud in the stem, at the height required, in August. The following autumn, in October, cut off close to the stem all the side shoots.—Allow me to answer friend Paul's queries. The Apple grows more freely in good soils when grafted on seedling Apples than on the Crab, as many of the orchardists in Gloucestershire can testify. The Peach grows more

freely, in a proper soil and climate, and is more lasting, when budded on the Almond than on the Plum stock. The culture of the Peach in the south of France, and here in orchard-houses, will exemplify this. I may add, that Manetti Rose cuttings may be budded the first season after planting; but they do not form such sound well-rooted plants. *Thomas Rivers.*

Weeds a preventive of Potato disease.—On occupying a house in this neighbourhood for the summer and autumn months, I found in the garden five plots of Potatoes; symptoms of the disease appeared more or less in every plantation, and I took the generally adopted means of saving the crop by cutting off the green tops and earthing up, to secure better drainage, &c. I, however, totally neglected one lot, and it became thickly and completely covered with weeds, 2 and 3 feet in height. From the other plots I could scarcely get one good Potato—they were wretchedly diseased—and in despair I was driven to the neglected plantation; upon digging this I was most agreeably surprised; in 102 tubers I only found seven bad, and these merely spotted upon the surface, so slightly indeed that in former years no notice would have been taken of it. The haulm was completely withered, the earth was very dry and harsh, presenting an exhausted appearance; the weeds were deeply rooted, and from their number must have prevented all atmospheric influence, with the exception of the heaviest rains. I do not recommend anybody to cultivate weeds in their garden, but I cannot help fancying that I am indebted to a crop of weeds for a crop of Potatoes. *C. F. P., Betchworth, Surrey, September* 8. [Say rather to the exhausted soil laid dry by the evaporation from the weeds.]

A Word or two about Spiders.—As I was walking in a young shrubbery a day or two ago, I saw a large Tipula, or Daddy Long-legs, fly into the web of a spider, suspended between the branches of a young Larch. Presently, from underneath one of the said branches, I perceived the owner of the web, one of the Epëiridæ, cautiously make his appearance. He seemed puzzled what to do with a customer I calculated about six times the size of himself, and he remained some time perfectly motionless. At last he made up his mind, and with three darts—a hop, step, and a jump—he fixed himself upon the head of his victim. The struggle was for a short time fierce, but the diminished action of the poor Daddy told too truly who was master. About this time I observed another spider, smaller than the other, with a flat body and strong legs, cautiously creeping along one of the supports of the web towards the field of combat; and having satisfied himself that the game was nearly dead, he made a dart and came down upon it, to the manifest consternation of Epëirus, who retreated a short distance to ponder upon his future plans. No. 2, now with admirable dexterity commenced rolling over the dead body of the Tipula, until, enveloped in web, it had somewhat the appearance of a mummy. Having done this he began to cut a line here and there, evidently preparing to carry away and enjoy his surreptitiously obtained prize in a secret and retired part of his dominions. Epëirus, however, seemed quite aware of his opponent's intentions, and seizing his opportunity, he quietly dropped on to the body, and No. 2 prudently retired. The movements of the latter were now especially interesting. He evidently wished to avoid a close combat with his enemy, but having permitted him to rest some time, he very cautiously approached within reach of his fore-paws, and with these he most dexterously endeavoured to subject his foe to a roll in the web, similar to that which he had bestowed upon the poor Daddy. Epëirus was, however, on the alert, and at the proper moment he slipped away and again retired, leaving his enemy in possession. These movements or manœuvres were repeated for several minutes, and it was quite doubtful who would remain master of the field. All at once I observed Epëirus walk off the ground, and after remaining a short time on the end of the Larch branch, he dropped down into the Grass beneath. As I considered this a virtual abandonment of the contest, I went my way. Two hours afterwards I returned and found the body had been carried to the point from whence Epëirus had dropped into the Grass; and upon examination I perceived a connecting line from the point to the Grass. The movement had evidently been the result of a compromise; for now at one end of the poor Tipula was firmly fixed Epëirus, while he of the flat body was quietly enjoying his feast at the other. And I mused upon what I had seen; and I thought had Machiavelli himself instructed the eaters they could not have evinced more skill, or arrived at a more satisfactory termination of the dispute. *C. R. Bree, Stowmarket.*

Sulphuric Acid.—I see it stated that vinegar is largely adulterated with vitriol (sulphuric acid), and this is spoken of as being injurious. Now we have been recommended to make "Raspberry acid" with sulphuric acid mixed with water, till about the sourness of Lemon-juice, in place of vinegar. I am anxious to know if this is likely to be deleterious. I have been under the impression that the sulphuric acid would have a tonic effect on the stomach, but I wish to know its real properties. *A. C.*

Wasps eaten by Toads.—About a fortnight ago, when the remains of some old crops were being removed from a border in the kitchen garden, a toad was disturbed in its shady bower, and had to take a walk in the sunshine when the thermometer was about 90°. In its mid-day walk, as it was passing along the sunny side of a Plum tree, it came to a half-eaten Plum, with a number of wasps feasting upon the remains of the injured fruit; here it made a stop, and I was wondering whether it was going to taste the fruit, or the wasps that were devouring it. I had not long to wait, for, in a moment it swallowed one of the wasps. I was thinking it had made a mistake for once; but no, for it soon made a dart at another and took it in, a third came within its reach and was soon out of sight; it appeared as if three wasps were sufficient for a meal, for it might have had more. When it found shelter from the sun I took the part of an injured Plum and bruised it a little and put it near the toad; there were soon plenty of wasps on the Plum, and within reach of the toad; but Bufo vulgaris appeared to say:—No more I thank you. *Natura paucis contenta est. Peter Mackenzie.*

Tomato Disease.—A disease is attacking Tomatoes similar to that which is affecting the Potato. I planted a considerable quantity on the south side of a new wall, and they are nearly all blighted. The disease made its appearance about the 1st of August. Last year I had some affected in the same way, but nothing approaching to the same extent. Have any of your readers been visited by a like calamity? *W. R., Preston, Hampshire.*

Hollies Destroyed by Mice.—I have had a great number of beautiful Hollies, varying in height from 1 to 8 feet, stripped of their bark about 6 inches up the stem from the ground. They were growing in very small plantations under Fir trees; and it is quite evident that the work has been done by mice. I would feel obliged by being informed whether this is a common occurrence, and what steps should be taken to prevent further damage. *W. C.*

Apricots on a North Wall.—I have been induced to offer a few words on this subject, from the frequency of complaints regarding the uncertain nature of the Apricot crop, more particularly in the southern parts of England. I need scarcely say that the Apricot is deserving of some attention, not only for its excellence as a dessert fruit, but also on account of its qualities as a preserve, than which there is none finer or more beautiful; they are in much request for both purposes at this place, and every attention has been paid to ensure, if possible, a crop. The trees have been lifted and replanted in suitable soil and protected from spring frosts, but the success has been so unsatisfactory that it was thought necessary to remove many of them, in order that something of a more profitable character might be grown instead. Having an impression that the Apricot might be cultivated on the north side of a wall, I selected an old tree on which for three successive years I had looked in vain for fruit, and planted it on a prepared border on the north side of a wall; the result has been a good crop of fruit, well coloured, and of excellent quality; lateness is the only difference between them and those on a south aspect, this I consider an advantage rather than otherwise, more especially where dessert is required at all times. In situations where Apricots are obtained from other aspects, trees might be advantageously planted on the north side of a wall with the view of affording a successional crop; the advantages derived from having the trees on a north aspect are, that unseasonable earliness is prevented, and shading or syringing unnecessary after a frost, previous to the sun shining upon the trees. I am also of opinion that trees grown on a north wall will not, as is usual, die off limb by limb, but in this I have not yet had sufficient experience. I am, however, so satisfied with my present success, that I intend removing all the Apricot trees that are in this place to the north sides of the walls. *G. T., Stansted, Sussex.*

The Potato Disease, and Cutting off the Haulm.—I lately paid a visit to Mr. Diplock, of the Griffin-inn, Fletching, which I have done for three years in succession; and as Mr. D. has been very successful with his Potatoes, not having had one diseased tuber for the last three years, while his neighbours around have had to deplore nearly the entire loss of theirs, I give you the mode whereby he prevents the ravages of the malady. As soon as the slightest symptoms of disease are manifested in the leaf, and before it has reached the stem, Mr. D. has the tops cut off close to the soil, at the same time in passing he presses in with his foot the top left behind; they are then thickly earthed over, to prevent bleeding, and if the soil is observed to be damp a few days after, a fresh coat of soil is added. It is to the preventing of the bleeding that Mr. D. attributes his success, as he finds by this mode that the Potatoes swell and grow as usual, while those left uncovered become exhausted by bleeding, and grow no larger. Mr. Diplock has now a fine healthy crop of Potatoes, and not a diseased tuber among them, while every other grower in this neighbourhood find theirs more or less diseased. *Wm. Wood, Woodlands Nursery, Marcsfield, near Uckfield, Sussex.*

Societies.

Entomological, *September* 6.—J. O. Westwood, Esq., F.L.S., President in the Chair. Amongst the donations received since the last meeting, was a series of the publications of the Smithsonian Institute of North America, and various rare insects presented by Signor Passerini, the Rev. J. Green, and Messrs. Bond and Guyon. The President announced that a new Part of the Transactions, N. S. Vol. II., Part 2, was ready for distribution among the members. Mr. Weir exhibited a number of rare Microlepidoptera from the neighbourhood of Tunbridge Wells; and Mr. F. Bond a series of interesting Coleoptera, from the banks of the Mundarra river, in Eastern Australia. The President noticed the occurrence of immense numbers of insects, of all orders, recently observed on the edge of the perpendicular cliffs near Boulogne, the wind at the time blowing gently from the land; as well as an instance in which a humble bee trying to regain the cliff had impaled itself on the sharp point of a Rush, which had pierced the hard covering of its back. Other instances of the impalement of insects on thorns, were mentioned by Messrs. Desvignes, Curtis, Bond, and other members, in some cases evidently by shrikes, but in others by the insects flying against the thorns. Mr. Douglas exhibited specimens of various rare Microlepidoptera, chiefly from the neighbourhood of Ripley, including Plutella horridella from the garden of Mr. Napier, of Ockham; also Bedellia somnulentella, reared from the leaves of Convolvulus arvensis, a species much subject to the attacks of Ichneumonidæ, as, out of 56 larvæ, 40 were destroyed by the last named parasites; also specimens of a second brood of Lithocolletes scabiosella, reared from Scabiosa columbaria. Mr. Augustus Sheppard exhibited various rare Lepidoptera from Margate; Mr. Edwin Shepherd, others from the neighbourhood of Dover, and Mr. Dutton, several from the Isle of Wight, including the very rare Agrotis lunigera; and Mr. S. Stevens, specimens of the splendid Brazilian butterfly Callithea Batesii, which had been reared from the larva by Mr. Bates. Mr. Moore exhibited specimens of various parasites found on birds and animals in the Zoological Society's collection in the Regent's Park. A communication was read from the secretary of the Museum of Natural History, of Charleston, South Carolina. Mr. Curtis mentioned the occurrence, near Tunbridge, of vast quantities of Sceva unicolor, all of which proved to be males, and which he now regarded as only a variety of S. Pyrastri. He also mentioned that all the specimens of the pale variety of Colias Edusa (named C. Helice) had proved to be females. He also exhibited a specimen of the fine Sphinx Antæus, of Drury (a native of Trinidad) which had been reared and found alive in the gardens of the Horticultural Society at Chiswick. He thought it probable that many of our rare supposed native species were inhabitants of other countries, which had been imported into this country with plants, &c. He thought also that the light of our lighthouses often attracted continental species flying over the ocean, instancing the only specimen of Eulepia cribrum, taken in the east of England, and Captain Chawner's unique individual of Ophiusa lunaris, both taken under such circumstances. He also exhibited a leaf of Viburnum Lantana, covered with a flattened kind of galls. Mr. Stainton communicated the translation of a paper on microlepidoptera, from "The Tauschvereins Berecht;" and Mr. Wilkinson exhibited some of the curious cases of the larvæ of a Tinea found on the Oak and Birch, resembling a bivalve shell.

Books Received.

The Georgics of Virgil, in Heroic Couplets. By Rev. E. Cobbold, M.A. Lumley. 12mo; pp. 197.—He is a bold man who undertakes to produce Virgil's Georgics in a modern agricultural dress. The attempt has never yet succeeded, and perhaps never will; for this evident reason—that a poet is not a farmer, nor a farmer a poet, nor the combination of farmer and poet likely to be also a gardener, a botanist, and a good classical scholar. The best version has hitherto been that of King, noticed by us in a previous volume. Mr. Cobbold is a new candidate for public favour, but we fear can hardly be regarded as a more successful one, notwithstanding the cleverness with which passages are here and there rendered. His fault is an occasional looseness and inexactness of translation, which not only fails to convey the author's meaning, even in the form of a paraphrase, but actually misrepresents him. For example, Virgil gives the following directions for knowing one kind of land from another:—

> "Pinguis item quæ sit tellus, hoc denique pacto
> Discimus: haud unquam manibus jactata fatiscit,
> Sed picis in morem ad digitos lentescit habendo.
> Humida majores herbas alit, ipsaque justo
> Lætior! ah nimium ne sit mihi fertilis illa,
> Neu se prævalidam primis ostendat aristis.
> Quæ gravis est, ipso tacitam se pondere prodit;
> Quæque levis. Promtum est oculis prædiscere nigram,
> Et quis cui color. At sceleratum exquirere frigus
> Difficile est: piceæ tantum, taxique nocentes
> Interdum, aut hederæ pandunt vestigia nigræ."

This is rendered by

> "A *fruitful* soil may easily be scann'd,
> In that it crumbles not within the hand;
> But like tenacious pitch will fast adhere,
> And on the palm and fingers'-ends appear.
> Wet land yields *milky blades* of too great length,
> *Tax'd by humidity beyond its strength.*
> Ah! may no field of mine o'er-fertile be,
> *With ears too rank to reach maturity.*
> The heavier and the light are known full well
> By their own weight: nor need we stay to tell
> Of colour caught at sight: still, we must own
> That lean, cold lands are not so surely known:
> Where Spruce alone, with here and there a Yew,
> And *darkly frowning* Ivy rise to view."

In these paragraphs the word "fruitful" ill represents the *pinguis* of the original, which rather meant what is familiarly called *fat* land; that is, a rich, stiff, soapy clay. "Milky blades" is a strange version of *majores herbas*, or rank herbage; "taxed by humidity beyond its strength," is not in Virgil; we should translate *neu se prævalidam primis ostendat aristis*, "lest it show itself to be over strong by the first ears it produces;" that is to say, "lest the crop runs to grass rather than to ear." Nor can we admit *nigræ hederæ*

to mean "darkly frowning Ivy," the *nigræ* evidently referring to the colour of the fruit. This sort of criticism belongs, however, to the field of literature, to which we gladly resign it.

Walpers' Annales Botanices Systematicæ. Vol. III., Part 3. From Cupuliferæ to Orchidaceæ.—The latter have been prepared by Dr. Reichenbach the younger, and contain some useful original observations. It is, however, necessary to remark that the long critical notes upon Asiatic genera are transcribed from Blume's Rumphius, and do not belong to the Editor, as would appear from the absence of references.

Hooker's Flora of New Zealand. Part 2. 4to. Reeve and Co.—This number conducts the reader to the Ericaceous order, of which some representatives occur in New Zealand; it is chiefly occupied with Umbellifers, Loranths, Cinchonads, and Composites. The plates are admirable specimens of Mr. Fitch's skill as an artist. Upon the whole they do not say much for the beauty of the New Zealand flora; but it seems as if some of the Celmisias, showy Composite plants, might be useful for beds for summer decoration.

Pictures from St. Petersburgh. By Edward Jermann. Translated from the German, by F. Hardman. Square 12mo; pp. 276. Longmans.—A volume of the Traveller's Library, containing an interesting and favourable account of the great Russian capital. The author, an actor, does not appear to have been much patronised there, which lends force to the opinions he expresses in favour of the present state of Russian society.

Connemara, and the Irish Highlands. Groombridge.—A little guide-book, of no pretension, with a map of the wild country and its rugged shores.

The Ethnology of Europe.—The Ethnology of the British Islands. By R. G. Latham, M.D., F.R.S. 2 vols., 12mo. Van Voorst.—Two highly interesting volumes, filled with acute criticism and learned disquisitions, which, we need not say, deserve the serious study of all who bethink themselves of the origin of the races of man, and of their own race in particular.

The Twin Pupils, or Education at Home. By Ann Thomson Gray. 12mo. Hatchard. Pp. 576.—Well meant, but mistaken; and drearily dull into the bargain. If home education is to produce such results as the book before us, we should beseech our readers to send their children to school.

The Chemistry of Gold. By J. Scoffern, M.B. Orr and Co. 12mo; pp. 125, with woodcuts.—A useful book to the gold-seeker who desires to know something more than the mere art of separating pure gold from the bed in which it lies. Dr. Scoffern's undoubted chemical skill may be taken as a guarantee that what this trifle does contain may be relied upon. The general reader will find some curious details worth his knowing respecting the value of gold at different periods, the quantity that has been coined from time to time, and so on.

Garden Memoranda.

Royal Nursery, Slough.—We visited this nursery the other day, chiefly with a view to inspect the large collection of Dahlias which is grown here, with so much care, by Mr. Turner. The plants are cultivated in "quarters" of convenient size, each plant standing 6 feet asunder one way and 5 feet apart the other; and at present, although the height of the bloom is certainly past, they are still exceedingly gay. A remarkable fact connected with Dahlias grown for exhibition here is, that as a whole the plants are gayer than those that have not undergone the process of thinning of the shoots, and disbudding, operations essentially necessary for the production of large flowers. Owing to the immense size of the individual blooms, the plants are still as gay as if no shoots had been taken away; but Mr. T. informed us that after a certain period, say the 20th August, all young shoots are removed, which, up to that time, had only been judiciously thinned. Among new varieties we remarked Sir J. Franklin, a buff of exquisite form and good habit, and the flowers appeared to come very true; Grand Duke, bluish lilac, large, and rather coarse, yet a full constant flower, and one that must become popular; Drummond's Bob, a new scarlet, having the same shade as Lee's Bloomsby, a flower never grown now, on account of its deficient form; this was in the best possible condition, the petals being neat, small, well formed, and finely imbricated. There was a large number of blooms of this fine variety, all of which appeared to be equally good. Plantagenet, a shaded purple, is also one of the most approved form. Of those most recently distributed by the trade may be mentioned Annie Salter, which was particularly fine, being a delicate peach with white at the base of the petals; Dr. Frampton, good in shape and habit, but rather small, white-edged and mottled with crimson; Sir R. Whittington, a noble crimson; Douglas Jerrold, a yellow tipped with red, but not of the best form; Triumphant, a good shaped ruby crimson, and possessing a noble habit; Scarlet King, lake, but too flat to match with the fine flowers now out; Sir C. Napier, a model in form, and certainly the best red, or heavy scarlet, in cultivation; Queen of Beauty, white tipped with rose, very beautiful, but uncertain; Sir R. Peel, bright vermilion, with small yellow tip, extremely fine in form. Morning Star, a fiery orange, not the best in form, but very attractive and constant. Queen of Dahlias, a flower of bad habit, and very inconstant, yet it had some noble blooms on it, as had also Andromeda. In whites there appears to be still a deficiency; Queen of Whites, although rather coarse, is the best; Kant is a good shaped flower, but it soon becomes thin; Barmaid, Mr. Seldon, Mrs. Seldon, Sir F. Bathurst, Mr. Herbert, Miss Spears, George Villiers, and the old Essex Triumph, each exhibited the good effects of high cultivation. In fancy varieties, Princess Charlotte is a first-rate addition. Mrs. Hansard maintains her character as the best of the yellow-ground class, and Emperor de Maroc as the best dark fancy. Lochner's Claudia is a good new variety, purple tipped with white; Spectabilis, striped; Glorie de Kain, also distinctly and beautifully striped; Laura Lavington, Miss Ward, Rachel, and Kossuth, are tipped varieties of good shape.

In the glass houses there is at present little to record; it may, however, be worthy of mention that the Pelargoniums for the May shows have just received their last shift, and are already staged. The plants for later exhibitions are also housed, and although in small pots are looking vigorously. Those for June will be finally repotted about the end of October. The Fancies have "broken" very regularly, and are encouraged to make a good start with a little warmth at night. The young stock is coming on fast, and is strong and healthy.

Pinks are being planted in their blooming beds. Of Carnations and Picotees there are immense numbers here, all exhibiting the very best of health; the first layered are being removed from the stools to be potted for wintering. Auriculas, which are very fine, are exposed night and day when it is not likely to rain, and even then the back and front of the frame are left open.

A bed of the new Phlox, called Spencerii, was in bloom; it has the best habit of any we have seen. The colour is rose, or rosy lilac, with a white eye, and the flowers are of average shape, but in habit it surpasses most of this numerous class, having a very large head of blossoms, and being only about 1 foot high, on stout stems requiring no support.

It may be interesting to know that the old crown glass received considerable damage here a short time ago from a severe hail-storm. The remainder of this glass is now fast disappearing before the modern sheet, none of which was broken by the storm alluded to. We had almost forgotten a new scarlet Pelargonium, named King of Scarlets, whose habit is a little stronger than that of Tom Thumb, but it has broad petals, forming a circle, and is certainly an acquisition to this very useful class of plants.

FLORICULTURE.

The Hollyhock.—In a notice of Mr. Paul's little pamphlet entitled, "An Hour with the Hollyhock," at p. 663, 1851, we promised to return to the subject at a fitting opportunity; we now proceed to redeem our pledge, and commence with some remarks on form. Our opinion is, that for every half-inch in height of ball there should be an extension of one-eighth of guard petal beyond the ball, and we would have the height of the ball to be one-half its diameter; thus, a flower 1½ inch high should possess three-eighths of guard petal, the florets forming a diameter of 3 inches, and with the guard petals a whole flower of 3⅜ inches in diameter; larger flowers should possess similar proportions, smaller ones are scarcely to be tolerated, for we have varieties now very nearly approaching our proportions, and of little less than 6 inches in diameter; then as respects the guard petals, all admit that "they should be thick, dense, whole on the edges, and entirely free from fringe or serrature;" in other words, "perfectly smooth and even," "neither ridgy, serrated, nor curled;" to require the guard petals to be "flat," is to require an absolute contradiction of all previous notions relative to the standard of perfection in florists' flowers; as well might we desire the guard petals of Pinks, Picotees, and Carnations, to be flat, whereas the gentle cupping of the guard petals constitutes the charm and grace of the flower, and so it must be with the Hollyhock; we deem it therefore a *sine qua non* that the guard petals do gently cup, a term well known to florists; of the texture of both guards and florets no difference of opinion exists, the freer from a crape-like appearance the better—solid, dense, and velvety; so in regard to the florets, they must be "compact and closely arranged, free from pockets, the anthers not to be seen," and as respects colour "clear and decided." "In striped, veined, mottled, or shaded flowers, the ground and overlying colour should be distinct and well defined, free from all confusion." We have as yet only touched on the quality of flower; let us now advert to habit and arrangement of flowers on a spike. There are many varieties which produce so great a profusion of flowers that a crowded and confused appearance is the result. Others, again, on the contrary, are scarce of bloom; and for this there is little compensation, while, as regards the former, the cultivator can thin so as to please himself. One point hitherto overlooked is a propensity which some sorts have of drooping, not the spike but the flowers; hence it is necessary that the footstalks be strong, and of a length proportionate to the size of the flower, so as to display it without materially overlapping its neighbour; the larger the bloom therefore the stronger must the stem be. Some diversity of opinion exists respecting foliage being permitted to be seen between the flowers forming the spike in a cut state for exhibition; but we hold that a clean and healthy leaf of moderate size, and not too prominent, cannot but be regarded as assisting in the display of those natural beauties for which the Hollyhock is so famous; thus to rob them of all their foliage is to deprive them of much of their charm. We are of opinion that a collection of 11 spikes is highly improved when some few leaves are retained, and those near the base, and particularly on spikes which are placed at the corners of the show board. With Pansies, Pinks, Picotees, Carnations, Dahlias, Roses, &c., uniformity in the mode of exhibiting has been secured; may we suggest that some such regulation is needed with spikes, for although during the agreeable "hour" previously alluded to, we are told how to take spikes to an exhibition, nothing further is stated, the want of which is fully exemplified, when common ginger-beer bottles are used for holding flowers, detracting of course greatly from the neatness which should obtain at every well-ordered exhibition. We would propose that they be formed in two lines of a given distance from each other, say a board of 15 inches from back to front; the back row of six holes to be 3 inches from the edge and 9 inches apart, the front row of five holes to be also 3 inches from the front edge, and alternating with the back row of holes. The invitation of 11 spikes, required by this plan, may at first read somewhat odd; in the case of 12—two lines cannot well be carried out to display all to the best advantage; some have set 12 up in three lines—the front with three, the centre four, and the back with five spikes; but this arrangement does not produce so agreeable an exhibition as we seem to see by the two lines; again, as regards uniformity of heights, if with flat boards the back row of stems may be 18, and the front row 15 inches long, or if the stems be all of one height, and 18 inches seems the popular measurement, then the board should be raised 6 inches higher at back than at front. The metropolitan Dahlia measurement suits the purpose admirably, and no other should be tolerated. Let us hope that the plan now suggested may meet with similar approval. Our next article will be on colours and their classification. *J. E.*

The Gravesend and Milton Flower Show took place in the Tivoli Gardens on the 9th inst., and was tolerably well attended. The display of Dahlias, Hollyhocks, &c., was good. Several prizes were awarded, but we have only been furnished with a list of the awards, without the names of the subjects for which they were given.

Catalogue of Bulbs received from Messrs. J. and J. Fraser, Lea Bridge-road, Essex.

Scarlet Pelargoniums: *J L.* They cannot be depended on to live through the winter out of doors, without protection, in the neighbourhood of Blackheath. Fuchsias may survive; although they lose their leaves and the soft tops of their branches, they may be expected to push afresh next spring, and flower beautifully during the summer.

SEEDLING FLOWERS.

China Asters: *M Vilmorin.* Your Asters are exceedingly beautiful, and mostly very double. Although we have the same colours in flowers in this country, yet they want that extreme brightness, and, in some instances, fine metallic hue which yours possess. 1, rose, petals delicately edged with white, perhaps scarcely sufficiently double; 2, white, centre barely up enough; 3, white, petals very broad and fine; 4, rose, incurved, but scarcely full enough; 5, medium-sized rose, shaded with white, very fine; 6, violet petals, broad, and edged with white, very beautiful, but scarcely full enough in the centre; 7, lilac, petals edged with white, broad and fine; 8, violet, petals edged with white, flower of medium size, and very double; 9, deep violet, with petals broadly and distinctly edged with white, exceedingly beautiful; 10, violet, petals edged with white; 11, rose, outer petals broad and incurved, perhaps scarcely full enough in the centre, but very fine and somewhat new in character; 12, deep lilac, petals edged with white, flower large and very double; 13, rose, petals slightly edged with white, large and full; 14, violet, petals edged with white; 15, deep violet, shading off to white at the base of the petals, large, measuring quite 3 inches across; 16, carmine, petals broadly edged with white; 17, carmine, mottled in the centre with white, large and fine; 18, large, white, resembling a fine Chrysanthemum; certainly one of the best whites we have seen. All the above had petals of good substance, broad and long, and, in some instances, finely incurved towards the centre of the flowers, which were mostly of large size.

Dahlias: *W N, Hornchurch.* Not new in colour, being nearly identical with that of Phantom, petal good, but of the general form we can say nothing, as every petal had fallen from both blooms.—*G B.* 1, purple; 2, dense crimson scarlet; 3, blush white. There is no novelty in the shade of colour of the first, although it possesses other points of excellence; the second is of a deeper shade than is yet to be found in the class; the third has a drawback, which we fear will not leave it, viz., a fold or rib in the centre of every petal. We recommend that 2, as a yearling, be taken care of, and propagated for growth in 1853.—*C K., Pinley.* Carew will not do; it is below average size for exhibition, common in colour, and has a disposition to reflex.

Fuchsia: *C K.* Henry Monteith, a pretty and graceful flower, but too narrow in the sepals.

Hollyhock: *D.* It is somewhat late to judge of the merits of these flowers now, the bloom submitted may, next season, prove to be of much better general form, and we should be sorry to condemn it with such a chance in its favour. Bloom it again.

Petunia: *J P, Essex.* Dull, soft, and rough.

Verbenas: *J S.* 1, such a colour would be welcome, if accompanied by merit in other respects; 2, similar to the other, from which we cannot distinguish it; 3, exceedingly bold, and forming a good truss, with the centre nicely developed; the dull shade of red, without any brightness of eye, tends much to detract from its value, nevertheless we would recommend its being grown.

Miscellaneous.

Deaths from Eating Poisonous Fungi.—A melancholy accident occurred lately at Cross-y-Ceiloq, South Wales, whereby the lives of two persons were sacrificed, owing to their partaking of some poisonous fungi which by mischance had got mixed up with some mushrooms. It appears that the servant of Mr. Jenkins, shopkeeper, Cross-y-Ceiloq, sat down with the son and daughter of her master to a supper of mushrooms, and amongst them must have been some fungi of a deleterious character, for next morning both the

daughter of Mr. Jenkins and the servant girl were seized with symptoms resembling English cholera, and they subsequently expired in great agony. It is hoped that this lamentable occurrence will act as a salutary warning at this peculiar season of the year, when the use of mushrooms is generally prevalent. *Times.*

Californian Onions.—The Madeira Onion, which never weighs more than a pound in any country except Spain and Portugal, and which in the last mentioned country never exceeds 6 lbs., acquires, in the gold soil of California, as many as 21 lbs.—*Pépin in Revue Horticole.* We quite agree with M. Pépin in wishing to know something more of the conditions under which this startling result is obtained. He remarks that the best Hyacinths are obtained near Haarlem in very fine sand, the warmth and constant dampness of which secure the full development of the bulbs.

Pumpkins.—I find nothing noticed of the Pumpkin, a crop which I think quite as valuable as any crop I grow. I plant the common Cheese Pumpkin; the soil is not material, they will grow in any good soil; light is the best, and the richer the better. I generally plant after corn, where I should otherwise put Oats. Plough once, harrow it down, and checker it out 10 feet apart; manure in the hill with one fork full of good manure; cover the manure with the hoe, and plant five or six seeds in a hill. When up, work with the cultivator and hoe, and reduce the stalks in the hill to two; plough and attend to them as often as corn. This crop will produce about 15 tons of Pumpkins per acre in good seasons, and be worth more for hogs, cattle, or house use, than any acre of corn that can be produced from the same quantity of land. *American Gardeners' Chronicle.*

Calendar of Operations.

(For the ensuing week.)

PLANT DEPARTMENT.

As all the more delicate greenhouse plants are by this time housed, the few remaining out may be allowed a short time longer out, provided the weather continues dry; Camellias, Chinese Azaleas, and some Acacias will not be hurt for a week or two, if circumstances do not permit of their being housed immediately. Greenhouse and stove plants of an herbaceous character, after they have done blooming, should have some care, to get their roots properly ripened before they are stowed away for the winter. To effect this with Achimenes, Gesneras, Gloxinias, &c., they should be placed in a spare house or pit near the glass, and supplied with water only to keep them from flagging. This will allow the foliage to ripen gradually, and, as a matter of course, the tubers or roots. Amaryllis, and the different varieties of Japan Lilies, require the same treatment; the latter, however, being more hardy, may be ripened off at the base of a south wall or cold pit. Brugmansias, Clerodendrons, Erythrinas, Allamandas, and plants of similar habit, may be gradually induced to a state of rest in any house of medium temperature with an atmosphere drier than a common stove. Admit air day and night to all descriptions of greenhouse plants; in many species the growth is not yet perfected, and an abundance of air, dried by the heating apparatus in very damp weather, is the only means that remain to bring about that result. This may be assisted, on sunny days, by early closing for a couple of hours in the afternoon, but open the houses at six again, to get the cool night temperature.

FORCING DEPARTMENT.

Pinery.—At this season Pines are growing fast, and those intended for very early fruiting should have a drier atmosphere as the heat and length of the days decrease. The object should be to produce a cessation of growth early, to allow for sufficient time to rest before they are required to show fruit. To assist the above, keep the plants rather dry at root, and admit air plentifully. The principal crop not expected to show before February or March, may be grown on for some time, and supplied with manure water; advantage should, however, be taken of all opportunities to give air liberally—in dull weather making fires to permit of your doing so; in proportion as the growth is vigorous must be the admission of air, and a drier atmosphere be maintained, to produce short-leaved sturdy plants, without which fine fruit need scarcely be expected. The bottom-heat should be kept steady (by whatever means it is produced), at about 90°, allowing it gradually to fall to 85° towards winter. The above directions will apply equally to successions, which should be kept growing for some time yet, but the atmospheric moisture should be gradually reduced as the days get shorter. The above will more especially be necessary when the stock is growing in pits heated only by dung linings. Pine plants will be found to bear a low temperature through the winter much better when their summer growth has become matured by exposure to a drier medium and free ventilation during the autumn months. As cold weather may now at any time set in, the linings should be kept in good working order, and materials for covering them should be at hand when wanted. Peach House.—Directly leaves have fallen from the wood of the early house, the shoots should be untied and left free for some time, at the same time taking out any wood left at former prunings, and which may not be wanted. We do not advise shortening back forced Peaches till they have been some time started, and when the buds are sufficiently advanced to make sure of a good leaf-bud to cut back to. Strawberries in pots must be attended to with water in dry weather; remove runners as they appear, and keep them free from weeds. With us, in damp seasons like the present, they are liable to get the spot in their leaves, a disease which we hope is not general, as we know of no cure for it except dry weather. Where new borders are intended to be made the next spring, now is the best time for procuring the different composts, as well as getting in what is required for the usual potting, &c. Soils vary much in different localities; for general purposes, a yellow loam, full of vegetable fibres, will be the best. Such is most easily met with in old pastures, commons, or open downs; and we have seen loam, of excellent quality, covering limestone rocks, and at considerable elevations. On no account select soils from low or swampy situations, as they are generally sour, from the prevalence of the oxides of iron, or other mineral acids they contain.

FLOWER GARDEN AND SHRUBBERY.

Annuals will now be generally out of bloom, and, with few exceptions, should be entirely removed, as the saving of seed, unless in few instances, should never be attempted in well kept gardens, and the seeds themselves can be purchased at so trifling an expense, that it hardly repays the trouble. The vacancies left by their removal should be filled up by Wallflowers and other biennial flowering plants; and by spring bulbs, of various kinds, which will add much to the gaiety of the borders next spring. The latter, when planted, should be labelled, that they may not be disturbed in cleaning the borders at future times. When the soil is at all worn out, a spadeful or two may be removed, and a little fresh compost, for the roots, put in when planting them. Herbaceous plants will require the dead flower stalks removed, carefully retaining such as are producing flowers, or even where they are green, as they will help to keep off the naked appearance borders of these plants present during the winter. Every means should now be put in hand to complete the propagation of plants for the ensuing year's flower-garden; on no account neglect this, for very late struck cuttings are liable to damp off in the winter. Where large quantities of these things are required, and frame or pot room is scarce, the more common things may remain in their striking pans; these, when struck, should be slightly topped, and set in a sheltered place out of doors, for a short time. This will harden the plants sufficiently to bear damp and cold much better than plants which have not been exposed. The bedding out Geraniums (especially the fancy kinds) should be potted off immediately they are struck, and be kept in a close frame till they become established, when more hardy treatment may be given them; the present has been an unfavourable season for them out of doors. Cuttings of scarlet Geraniums and Calceolarias may now be put in in quantities, the latter seldom strikes well earlier. Sulphurea splendens has proved an acquisition, and should be made the most of. As leaves are now beginning to fall, constant sweeping must be had recourse to, to prevent any appearance of litter. Lawns, at this season, will require rolling often, to keep down worm-casts and preserve them firm, at the same time following closely with the scythe, that good keeping may, in some way compensate for the waning show of flowers.

HARDY FRUIT GARDEN.

Apples and Pears which show indications of ripening should be gathered and placed in the fruit room. In arranging them have every sort labelled, with the name, and date it was gathered on, written plainly, leaving room for the time it ripens and its duration in season to be afterwards added. This is more necessary with new kinds of fruit, whose character is as yet imperfectly known. Alpine Strawberries should be kept clear from weeds, and watered in dry weather. Gather Filberts and other nuts as they ripen, and spread them thinly on the floor of lofts or out-houses for the husks to dry; they may afterwards be packed in baskets, and placed in situations just dry enough to keep the husks from getting mouldy, and not sufficiently so to cause the kernel to shrivel.

KITCHEN GARDEN.

Few more things will require planting after this time, but whenever opportunity permits, attend to growing crops. Gherkins, Onions, Radish pods, and other pickling vegetables should now be gathered. Tarragon, Mint, Parsley, Burnett, and Sorrel should now be potted for winter use; Basil and Marjoram should likewise be pricked into pots to keep green through the winter. Gather Tomatoes as they ripen, and forward any late ones by placing spare sashes before them. Late crops of Peas and Beans should be assisted by liquid manure, unless they were planted in trenches, over rotten dung, when it will not be necessary.

STATE OF THE WEATHER NEAR LONDON,

For the week ending Sept. 16, 1852, as observed at the Horticultural Gardens, Chiswick.

Sept.	Moon's Age.	Barometer. Max.	Barometer. Min.	Temperature. Of the Air. Max.	Of the Air. Min.	Of the Air. Mean	Of the Earth. 1 foot deep.	Of the Earth. 2 feet deep.	Wind.	Rain.
Friday.. 10	26	29.907	29.822	69	49	59.0	61	59	N.E.	.10
Satur. .. 11	27	29.862	29.826	67	45	56.0	60	59	N.W.	.00
Sunday . 12	28	29.935	29.843	68	42	55.0	59	58	N.	.00
Monday 13	29	29.937	29.896	67	46	56.5	57	58	—	.00
Tues. .. 14	1	29.947	29.788	63	46	54.5	58	58	N.W.	.07
Wed. .. 15	2	29.578	29.398	63	45	54.0	58	57	S.	.11
Thurs... 16	3	29.817	29.682	61	34	47.5	57	57	N.	.00
Average ..		29.853	29.751	65.4	43.8	54.6	58.5	58.0		.28

Sept. 10—Cloudy; heavy clouds; slightly overcast.
— 11—Fine through out; clear at night.
— 12—Fine; masses of white clouds; clear and cool.
— 13—Fine; very fine; uniformly overcast at night.
— 14—Clear; dry air; densely overcast; rain.
— 15—Slightly overcast; cloudy; showers; rain at night.
— 16—Fine; heavy white clouds; clear and cold at night.
Mean temperature of the week, 2½ deg. below the average.

STATE OF THE WEATHER AT CHISWICK,

During the last 26 years, for the ensuing week, ending Sept. 25, 1852.

Sept.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 19	66.8	45.7	56.2	11	0.60 in.	1	4	3	1	5	4	4	2
Mon. 20	66.9	45.0	56.0	12	0.45	—	6	2	2	3	4	6	3
Tues. 21	66.7	45.8	56.2	14	0.50	2	3	5	2	6	4	2	2
Wed. 22	67.2	46.0	56.6	12	0.40	—	1	2	7	2	5	5	4	1
Thurs. 23	66.0	46.5	56.3	15	1.21	—	1	6	5	1	6	5	2	1
Friday 24	65.4	46.5	55.9	11	0.75	2	5	2	1	4	8	3	1
Satur. 25	65.9	46.0	55.9	11	0.30	1	4	1	2	4	9	4	1

The highest temperature during the above period occurred on the 25th, 1842—therm. 82 deg.; and the lowest on the 23d, 1845—therm. 20 deg.

Notices to Correspondents.

Corrosive Sublimate: *Devonshire.* If you can introduce this substance into the system of a tree, without its being decomposed, it will kill it. The way would be to introduce a solution between the bark and wood when the sap is rising. It destroys by its poisonous quality.

Egg Plant: *W H.* Do not think of carrying this to Madeira. You will find it there one of the commonest esculents. It is grown everywhere in countries hot enough to ripen it *well*—which is not the case here.

Ferns: *L and A.* Take them up with large balls as soon as the leaves are withered. Put them in the most shady part of your rockwork, for Ferns like shade and moisture.

Fruit Trees: *Gallicus.* The following are hardy, good bearing standard orchard Apples for tarts:—Wormsley Pippin, Hawthornden, Keswick Codlin, Dumelow's Seedling, and Rymer.‖

Fungi: *A C.* We believe the Horse Mushroom to be what is called White Cap—the Agaricus Georgii; and, if so, it may be known from the real Mushroom by its cap being slightly tinged with yellow, and the flesh being yellowish when cut. Take care, however, what you are about, for it is easy to make dangerous mistakes in Fungi. Some people, Dr. Badham for instance, cook excellent dishes out of what others dare not touch; but he seems to know by instinct what species are good. It is dangerous to follow his example, unless you possess his peculiar tact. *No* specific antidote for Fungus poison is known; the best remedy is immediate evacuation.

Greenhouses: *J G.* We have nothing to add to what will have been gathered from weekly statements in our columns. As to *improvements* in construction, we know of none that are recent. The aspect is immaterial, provided it is not north. Span-roofs are better than lean-tos for all purposes, and more economical. Rough plate should be used for both roof and sides, if appearance is not important; if it is necessary that the sides should be seen through, then any smooth glass may be used. Glass in short pieces is most favourable to ventilation; in long pieces it looks better. Ventilation is a problem not much nearer solution now than it was 20 years ago. The difficulty is to admit a *great abundance* of air, warm, continually, so as to *keep the atmosphere* in active motion. The most effectual methods yet thought of are those in which the air is admitted directly to the surface of heated pipes by means of drains or similar channels of conveyance. Hot water continues to be the favourite medium of heating; but it is probable that for many simple purposes, such as merely keeping frost out, flues will be re-introduced; if well constructed, there is no doubt about their answering every purpose, and they are cheap.

Heating: *A Subscriber.* We have not seen galvanised iron troughing used for hot-water tanks for bottom-heat for growing Cucumbers, and we cannot tell whether or not it would answer.

Insects: *J B.* We know of no other plan to destroy the larvæ of Agrotis segetum, now committing much havoc in the Turnip crops, than to pull up such plants as show the presence of the enemy, and hand-pick them. Lime water, or gas-tar water, added to the sheep dung, would probably prove destructive to many insects which lodge there, which is not, however, the case with those in question.—*E B E.* Try slices of Potato stuck on skewers and buried near the roots of the Strawberries. The traps should be examined every morning. Please to send us specimens of the grubs. *W.*

Manetti Rose. *R L.* We cannot print statements from correspondents unknown to us.

Maples: *J L.* The excrescences so common upon the leaves of the Maple are galls produced by some insect.

Names of Fruits: *Edward B E.* Your Peaches appear to be—1, Royal George; 2, Late Admirable; 3, Newington Peach, a clingstone; 4, Royal George.‖—*J P.* Your Grape is the same as one called the Chasselas rouge Royale. It is a variety of the Royal Muscadine, from which it differs little, except in colour.‖

Names of Plants: *F S A C.* The Noyan Vine is Ipomœa sinuata (the Convolvulus dissectus of Linnæus). The Jasmine is, we presume, azoricum; it flowers readily enough in a conservatory, if planted in the border; its roots want room. The Chinese Iris will flower regularly, if it is *well* ripened every year; but it must have plenty of light and heat during the ripening process.—*R Draper.* 1, Salicornia procumbens; 2, Chenopodium fruticosum; 3, Aster Tripolium; 6, Gentiana campestris.—*S and Son.* Calystegia pubescens.—*F R.* We believe it is Vallota purpurea; but it was hardly examinable.—*R L.* Silene Armeria, Verbena multifida, Crucianella stylosa.—*L C.* 1, Goniopteris tetragona, Presl; 2, Phlebodium aureum, R. Br.; 3, Pteris serrulata, L.; 4, P. hastata, Sm. *S.*—*R D.* 4, Cystopteris fragilis, Bernh.; 5, Asplenium Trichomanes, L. *S.*—*Diss.* Escallonia rubra.—*F S.* Next week.—*T A M.* Echinops sphærocephalus. We do not know where the vinegar fungus is to be procured. Vinegar made by it is perfectly wholesome.

Potato: *S S.* Do not use manure at all in planting them. If you have charcoal ashes, or any such substance, peat charcoal for instance, employ that.

Pyramid Pears: *A. Smith.* The following sorts are proper for training in the pyramidal form:—Williams' Bon Chrétien, Beurré d'Amanlis, Louise Bonne (of Jersey), Napoléon, Passe Colmar, Thompson's, Knight's Monarch, Chaumontel, Glout Morceau, Beurré de Capiaumont, Eyewood, Broom Park, and Easter Beurré.‖

Rose Diseases: *A Subscriber.* The spots on the Rose leaves are caused by the spawn of some fungus that is not yet developed.

Salads: *S S.* To Beet-root add cold boiled Portugal Onions, sliced thin; also cold boiled Celery, or Celeriac, or Kohl Rabi. The Beet may be either red or white or yellow.

Seeds: *A Constant Subscriber.* None of the sorts you name are worth raising. They have little beauty in cultivation, even if they flower, which is unlikely.

Tobacco: *R H C.* In preparing the leaves for the purpose of fumigation, hang them up in an airy shed for a time to dry, then throw them into a heap to ferment, then dry again, and they are ready for use.‡

Transplanting Evergreens: *W C.* You may commence moving them now with safety.‡

Victoria Melon: *J Weeks and Co.* Fruit small—3½ inches in length, and 2½ in diameter; in shape a regularly formed oval; skin as smooth to the touch as polished marble, of a beautiful pale orange or lemon colour, and as thin as that of an Apple; flesh white, transparent, like that of some of the Cabul Melons, but the flavour is not good; the fruit, however, is so remarkably handsome and beautiful that it deserves to be tried again.‖

PERUVIAN GUANO.

CAUTION TO AGRICULTURISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

ANTONY GIBBS AND SONS, AS THE ONLY IMPORTERS OF PERUVIAN GUANO,

consider it to be their duty to the Peruvian Government and to the Public again to recommend Farmers and all others who buy to be carefully on their guard.

The character of the parties from whom they purchase will of course be the best security, and, in addition to particular attention to that point, ANTONY GIBBS AND SONS think it well to remind buyers that—

The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 11. 5s. per ton, less 2½ per cent.

Any resales made by dealers at a lower price must therefore either leave a loss to them, or the article must be adulterated.

MANURES.—The following Manures are manufactured at Mr. LAWES'S Factory, Deptford Creek:

Turnip Manure, per ton	...	...	£7 0 0
Superphosphate of Lime	...	...	7 0 0
Sulphuric Acid and Coprolites	...	...	5 0 0

Office, 69, King William-street, City, London.

N.B. Peruvian Guano, guaranteed to contain 16 per cent. of ammonia, 9l. 10s. per ton; and for 5 tons or more, 9l. 5s. per ton, in dock. Sulphate of ammonia, &c.

THE LONDON MANURE COMPANY offers on the best terms Wheat Manure for autumn sowing, Linseed, Rape Cakes, Peruvian Guano, Urate, Superphosphate of Lime, and every other artificial manure. Also a quantity of Salt, the refuse of ammonia and saltpetre makers, considerably more valuable than the ordinary agricultural salt.

EDWARD PURSER, Sec., Bridge-street, Blackfriars, London.

THE ECONOMIC PORTABLE MANURE COMPANY manufacture, and offer for sale, the following MANURES:—Wheat Manure, 4l. 10s. per ton; highly concentrated Fæcal Manures, 3l. 10s. per ton; Superphosphate of Lime, 5l. 5s. per ton; Turnip Manure, 4 . 10s. per ton; Gypsum, 1l. 5s. per ton.

Orders and applications for agencies to be addressed to WILLIAM DODDS and Co., Managers, 102, Leadenhall-street, London.

LINSEED CAKE, Foreign and English, Rape Cake, Peruvian Guano, Gypsum, Salt, Peat Charcoal, and all other Manures of known value, on sale.—Apply to MABE FOTHERGILL, 204A, Upper Thames-street, London.

CHARCOAL AND SEWAGE MANURE.—Promote the Health and Wealth of Town and Country by increasing the use of that valuable manure PEAT CHARCOAL, impregnated with the fertilising matter of LONDON SEWAGE. The ammonia, phosphates, and fæces are absorbed, and the water pressed out bright, palatable, and soft.

Sold at the Charcoal and Sewage Works, Stanley-bridge, Fulham, Middlesex, at 60s. per ton, 4s. per cwt., 2s. 6d. per half cwt.



LIQUID MANURE conveyed over-land by

FREEMAN ROE,

HYDRAULIC ENGINEER, 70, STRAND, LONDON.

Farms supplied with water by the

HYDRAULIC RAM.

WELLS SUNK AND BORING DONE IN ALL PARTS OF TOWN OR COUNTRY.

M'CORMICK'S PATENT AMERICAN REAPER has received numerous Prizes during the present season; amongst others, the award of the Jury appointed by the R. A. College at Cirencester, after NINE days' trial upon all kinds of crops and in all weather.—Winton's Parkes' celebrated Steel Digging Forks, as recommended by Mr. Mechi: they save full 20 per cent. in labour; they obtained the Silver Medal at the R. A. Society's Show at Lewes, the 1st prize at the Royal Yorkshire Show at Sheffield, 1st prize at Galway, and also at the Royal Dublin Show.—Anthony's Patent American Churn has received the prize at every Meeting where it has been exhibited, including those of the R. A. Society at Exeter, Great Exhibition, and at Lewes.—Urwin's Force and Lift Pump, particularly adapted for Liquid Manure. Mr. Mechi has one in use, and it is working to perfection. Kase's Force and Suction Pump, well suited for a Farm Fire Engine or Liquid Manure Pump; it is by far the cheapest and most effective Pump now out. Galvanised Iron Lift Pumps at a very moderate price. Gutta Percha Pumps, Gutta Percha Tubing for Liquid Manure and Garden purposes, Gutta Percha Driving Bands for Machinery, Waterproof Canvas Hose coated with Gutta Percha, for Liquid Manure. Leather Hose and Bands. Richmond and Chandler's Improved Scroll Knife Chaff Machine has obtained the prize at the R. A. Society's Show at Lewes, and at every other show this season. Starbuck's American Ploughs, Grain Bruisers, and every kind of Agricultural Implement sold by

BURGESS & KEY, 103, NEWGATE-STREET, LONDON.

WATERPROOF PATHS.—Those who would enjoy their Gardens during the winter months should construct their walks of PORTLAND CEMENT CONCRETE, which are formed thus:—Screen the gravel of which the path is at present made from the loam which is mixed with it, and to every part of clean gravel add one of sharp river sand. To five parts of such equal mixture add one of Portland Cement, and incorporate the whole well in the dry state before applying the water. It may then be laid on 2 inches thick. Any labourer can mix and spread it. No tool is required beyond the spade, and in 48 hours it becomes as hard as a rock. Vegetation cannot grow through or upon it, and it resists the action of the severest frost. It is necessary, as water does not soak through it, to give a fall from the middle of the path towards the sides.—Manufacturers of the Cement, J. B. WHITE and Sons, Millbank-street, Westminster.

CARSON'S ORIGINAL ANTI-CORROSION PAINT, especially patronised by the British and other Governments, the Hon. East India Company, the principal Dock Companies, most public bodies, and by the Nobility, Gentry, and Clergy, for out-door work at their country seats. The Anti-Corrosion is particularly recommended as the most durable out-door Paint ever invented, for the preservation of every description of Iron, Wood, Stone, Brick, Compo, Cement, &c., work, as has been proved by the practical test of upwards of 60 years, and by the numerous (between 500 and 600) testimonials in its favour, and which, from the rank and station in society of those who have given them, have never yet been equalled by anything of the kind hitherto brought before the public notice.

Lists of Colours, with Prices, together with a Copy of the Testimonials, will be sent on application to WALTER CARSON and SON, No. 9, Great Winchester-street, Old Broad-street, Royal Exchange, London.—No Agents. All orders are particularly requested to be sent direct.

ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.

Patron—His Royal Highness PRINCE ALBERT.
President of Council—Earl BATHURST.
Vice-President—Earl DUCIE.
Principal—Rev. J. S. HAYGARTH, M.A.
PROFESSORS, &c.
Chemistry—J. A. C. Voelcker, Ph. D., F.C.S.
Geology, Zoology, and Botany—James Buckman, F.G.S., F.L.S.
Veterinary Medicine and Surgery—G. T. Brown, M.R.C.V.S.
Surveying, Civil Engineering, & Mathematics—W. Sowerby, A.I.C.E.
Manager of Farm—R. Vallentine.
Assistant to Chemical Professor—A. Williams, M.R.C.S.

The next Quarter-day for the Admission of Students is Wednesday, October 6th.—Students are admitted either as Boarders or as Out-Students. The Annual Fees for Boarders vary from 45 to 80 guineas, according to age and other circumstances. The Fee for Out-Students is 40l. per annum. The College Course of Lectures and Practical Instruction is complete in one twelvemonth—though for younger students a longer time is recommended. There is a department for general as well as for agricultural education.

Prospectuses and information can be had on application to the Principal.—Cirencester, Sept. 18, 1852.

THE BIRMINGHAM CATTLE AND POULTRY SHOW, 1852.—The Fourth GREAT ANNUAL EXHIBITION of FAT CATTLE, SHEEP, PIGS, and the various kinds of DOMESTIC POULTRY will be held in BINGLEY HALL, BIRMINGHAM, on the 14th, 15th, 16th, and 17th of December next. The Prize Lists, and any further information, may be had from the Secretary.

JOHN MORGAN, jun., Secretary.

Offices—No. 2, Insurance Buildings, Union Passage, Birmingham.

THE DORSETSHIRE ASSOCIATION FOR THE IMPROVEMENT OF DOMESTIC POULTRY.—The first Exhibition of this Association will be held in Dorchester, on THURSDAY, the 18th of November, 1852, open to all England. Prize Lists, Forms of Entry, and the Rules of the Association may be had on forwarding six penny postage stamps to the Honorary Secretary. Entries to be made (on the Forms only), on or before the 1st of October.

Dorchester, Dorset. G. J. ANDREWS, Hon. Sec.

SEED WHEAT.

THE HYBRID WHEAT, a new variety, which obtained the Prize Medal of the Great Exhibition, is now offered for sale by Mr. R. RAYNBIRD, of Hengrave, near Bury St. Edmunds, Suffolk. Price 60s. per quarter, to include sacks and delivery to the Bury St. Edmunds Station of the Eastern Union Railway. The collection of specimens of Hybrid Wheat shown by Mr. H. RAYNBIRD is highly spoken of in the Reports of the Juries of the Great Exhibition, Class III., page 51, and satisfactory letters have been received from gentlemen to whom seed was supplied last year. Further particulars will be sent upon application to Mr. RAYNBIRD, of Hengrave, or to Mr. H. RAYNBIRD, of Laverstoke, near Andover-road, Hants.

FARM TO LET.

TO BE LET, from Michaelmas next, MAISEY HAMPTON, a capital Sheep and Corn Farm, containing 340 acres, of which two-thirds are Arable, with suitable Field Barn and Homestead. The Farm is in the course of being thoroughly drained, which is nearly completed. A Lease will be granted.—For particulars apply to Messrs. BEAVENDER and TRINDER, Land Agents and Surveyors, Cirencester.

The Agricultural Gazette.

SATURDAY, SEPTEMBER 18, 1852.

MEETING FOR THE ENSUING WEEK.

THURSDAY, Sept. 23—Agricultural Imp. Society of Ireland.

ACCORDING to the old proverb, an apprenticeship has always to be served before the workman can successfully handle the simplest implement of the farm, and the more complicated the instrument the longer the period of apprenticeship. Of the soundness of this theory there is no diversity of opinion, and therefore its application to the reaping machine will be generally admitted. If it takes a man several years to make a good ploughman, a reputation the majority never attain—how long will it be before we are efficient workers of the reaping machine?

The question is a broader one than at first sight is apt to be imagined, involving not merely the labours of harvest, but those of seed-time also; and it is principally in consequence of this latter view of the question that we at present return to it, for we are now preparing our Wheat lands for seed, and it is of importance that in doing so we should be paying attention to the demands of the reaping machine in the ensuing harvest. If *we* are driving on regardless of the revolutionary changes now taking place, we must say that our enterprising cousins are acting very differently in the cultivated lands of America. Necessity compels them, apart from the consideration of having to undersell us in Liverpool; and if our labourers continue to leave us for the "diggins" at the rate they are now doing, it is difficult to say what may be the position of *our* harvest in 1853, or how dependent we may then be upon the reaping machine for the security of the necessaries of life.

The first demand of the reaping machine in harvest is level land, free from deep furrows, high ridges, and other unevennesses presenting obstacles to its successful working—such as inequality of draught to the horses; different lengths of crop, and hence its being laid in different directions by bad weather; and unequal resistance to the cutting apparatus, leaving a haggled stubble of unequal lengths.

If the horse draws at varying angles, the machine can never work well, even waiving the question of draught. On the other hand, the least waste of moving power, or the application of the horse power in the most profitable manner, is certainly not the least interesting view of the question, since the severity of horse-labour is generally complained of. It is true that the construction of the machine is here involved; but whatever may be its construction, whether moved before the horses or behind them, borne on two wheels, as the American, or three, as in the case of Mr. MANN'S, going over furrows and ridges not only increases the amount of horse-labour, but otherwise tends to injure its working.

The second obstacle arises from a difference in the quality of the straw and its consequences. Generally, the crop is shorter in the furrow immediately on either side than at the middle of the ridge. In the furrow this generally arises from a less depth of soil; at the centre of the ridge as often from improper manuring as an extra depth of soil; for in laying out the ridge, an open furrow is left into which twice the quantity of manure is turned. There is also, generally, a finer mould at the middle than half-way from it to the furrow; hence, a finer and closer braird. Now, the effect of all this at harvest is obvious; for at this period we see in all the furrows, it may be, standing corn, while along the centre of the ridge it is completely laid; or if the whole ridge is laid, then how often do we find the corn parting from the middle of the ridge to the furrows, like the hair on one's head, from the crown to either side; a state of things principally resulting from improper culture, and presenting obstacles to the reaping machine almost insurmountable.

It is very obvious, therefore, that, to prepare the ground for the working of the reaping machine, in the most successful manner, furrow-draining or under-draining must be carried out to a greater degree of perfection than has yet been attained, generally speaking; for without this, a perfectly level surface or surface in one plane is impracticable, and unless we have such a surface, uniformity of tilth, of fertility, of quality of the crop, and of exposure to the influence of the weather, cannot be obtained. If we could suppose these conditions obtained, then the whole of the crop, if laid at all, would be laid in one direction; and being laid thus, it would not be that complete obstacle to the reaping machine which is now found in every instance of laid corn.

The ingenuity of our implement-makers has gone far already to remove the third obstacle from before the reaping machine; but in crossing furrows obliquely it cannot be wholly overcome. The sounder view of the question obviously is to do away with open furrows, instead of making machinery to cut the corn imperfectly out of them.

The reaping machine also demands large open fields, with low fences of equal height; for when fields are small they occasion a greater waste of horse-labour in turning, besides less or more damage to the crop, while the crop itself is more liable to be irregularly laid and twisted about in bad weather than in large open fields; and this latter result will be increased by trees standing in fields or hedgerows, by overgrown hedges, low at one place and high at another, with gaps at every short interval, for such give rise to eddies with all their consequences. In many wooded districts it would no doubt be difficult to comply with this request, owing to their subdivision. But, at all events, if we cannot make things better than they naturally would be, we certainly ought not to make them worse, which we do by making high ridges, deep furrows, improper fences, and by unequal manuring, &c., as has already been shown.

The next demand of the reaping machine brings us to the harvest field, where special hands will always be required to work it, as is the case with sowing, threshing, and chaff-cutting machines; and where the different manipulations are equally difficult to learn, and hence will require similar attention. For instance, he who can manage the rake of HUSSEY'S machine may never become a good driver, the latter requiring a control over horses which very few of our ordinary ploughmen exhibit, besides a knowledge of the state of the crop, and of the action of the machine under different circumstances. The idea of driving the horses at an equal pace, or even of taking an equal breadth of the crop, without regard to the state of the crop and the ability of the man at the rake, is just as absurd as it would be for a mower to talk of going over the ground in the same manner with his scythe; and to take due notice of all these particulars is not so easy a task as many, we fear, have imagined during the bygone harvest, although it is one which must be performed before success can be approximated.

Such is the position of the reaping machine in seed-time and harvest, and it will readily be perceived that the latter must not be lost sight of during the former, and hence our present outlook in preparing the ground for seed.

FARM ACCOUNTS.—No. IV.

(*Continued from page 539.*)

The following are the contents of the Ledger, so far as filled from the Journal given in August 21. The entries there made are here collated under the several accounts which they respectively concern; and from these accounts a balance-sheet could be prepared in the manner stated at page 426, showing the financial result of the proceedings up to the date to which they have been carried. The Index on the next column states the number of each account, as a reference to its place in the book.

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Dr. 1 *Cr.*

1850. Dairy field, 12 acres, rent 30*s.* per acre. £ *s.* *d.*
Oct. 27. To ploughing, drilling, &c., &c. ... ... 2.—9 12 0
27. To labour, &c., this month ... ... 3.—1 14 6
27. To 3 qrs. seed Wheat, at 42*s.* ... ... 3.—6 6 0

PER CONTRA.

Dr. 2 *Cr.*

1850. Pond field, 8 acres, rent 15*s.* per acre. £ *s.* *d.*
Oct. 6. To 120 loads manure, at 3*s.* per load ... 2.—18 0 0
20. To ploughing, drilling, &c. ... ... 2.—10 15 0
20. To labour this month ... ... 2.— 3 1 0
20. To 2 qrs. seed Wheat, at 42*s.* ... ... 3.— 4 4 0

PER CONTRA.

Dr. 3 *Cr.*

1850. Stable field, 20 acres, rent 20*s.* per acre. £ *s.* *d.*
Oct. 20. To labour, &c., Haulming ... ... 3.—1 13 0
Nov. 24. To ploughing this month ... ... 4.—9 12 0
24. To labour, &c., hedging, &c., this month 5.—5 8 0
Dec. 1. To ploughing this month ... ... 6.—2 8 0
29. To labour, &c., hedging, &c. ... ... 7.—1 7 0
29. To do. 120 rods land draining ... ... 8.—1 10 0

PER CONTRA.

Dr. 4 *Cr.*

Barn field, 10 acres, rent 18*s.* per acre.

PER CONTRA.

Dr. 5 *Cr.*

1850. Church field, 10 acres, rent 20*s.* per acre. £ *s.* *d.*
Oct. 4. To Clover hay, per valuation ... ... 1.—4 5 0

PER CONTRA.

Dr. 6 *Cr.*

1850. Wood field, 12 acres, rent 20*s.* per acre. £ *s.* *d.*
Oct. 4. To making fallow, 150 loads manure, sowing Turnips, rent, &c., p. valuation 1.—76 14 0

PER CONTRA.

Dr. 7 *Cr.*

1850. Path field, 8 acres, rent 25*s.* per acre. £ *s.* *d.*
Oct. 4. To making fallow, and 2 years' rent ... 1.—28 16 0

PER CONTRA.

Dr. 8 *Cr.*

Brook meadow, 6 acres, rent 33*s.* per acre.

PER CONTRA.

Dr. 9 *Cr.*

Home pasture, 9 acres, rent 28*s.* per acre.

PER CONTRA

10 *Dr.* 10 *Cr.*

Cuckoo wood, 5 acres, rent 10*s.* per acre.

PER CONTRA.

11 *Dr.* 11 *Cr.*

1850. Farm stock, implements, &c. £ *s.* *d.*
Oct. 4. To valuation of farm stock, as per inventory ... ... 1.—286 15 0
6. To 10 qrs. Oats, at 18*s.* per qr. ... ... 3.— 9 0 0

1850. PER CONTRA. £ *s.* *d.*
Oct. 31. By sundry farm work this month ... 2.—20 7 0
Nov. 24. ditto ditto ... 5.—19 4 0
Dec. 29. ditto ditto ... 7.—24 0 0

12 *Dr.* 12 *Cr.*

1850. Cows, pigs, &c. £ *s.* *d.*
Oct. 4. To 2 cows, at 9*l.* each, see valuation ... 1.—18 0 0
4. To sundry pigs, poultry, &c. ... ... 1.—10 0 0
27. To labour, and boy's attendance ... ... 2.— 0 12 0
Nov. 24. To carting Turnips, &c. ... ... 5.— 1 12 0
24. To labour, &c., this month ... ... 5.— 0 18 0
Dec. 29. To carting Turnips, &c. ... ... 7.— 2 0 0
29. To labour, &c., this month ... ... 7.— 1 8 6

PER CONTRA.

13 *Dr.* 13 *Cr.*

1850. Manure. £ *s.* *d.*
Oct. 4. To 150 loads manure and straw, from last crop, per valuation ... ... 1.—42 10 0
Nov. 24. To carting and making bottom ... ... 4.— 4 16 0
24. To labour, &c., this month ... ... 5.— 0 18 0
Dec. 29. To sundries, carting chalk, &c. ... ... 6.—15 12 0
29. To labour, &c., this month ... ... 7.— 2 0 6
29. To 30 loads of chalk, at 6*s.* per load ... 8.— 9 0 0

1850. PER CONTRA. £ *s.* *d.*
Oct. 6. By pond field, 120 loads ... ... 2.—18 0 0

14 *Dr.* 14 *Cr.*

1850. John Jones, Chelmsford. £ *s.* *d.*
Oct. 4. To cash ... ... 3.—449 0 0

1850. PER CONTRA. £ *s.* *d.*
Oct. 4. By valuation of farm stock, manure, fallows, &c., &c., as per inventory ... 1.—449 0 0

15 *Dr.* 15 *Cr.*

1850. William Mason. £ *s.* *d.*
Oct. 10. To cash ... ... 4.—60 0 0

1850. PER CONTRA. £ *s.* *d.*
Oct. 5. By 50 ewes, at 24*s.* each ... ... 2.—60 0 0

16 *Dr.* 16 *Cr.*

1850. Sheep. £ *s.* *d.*
Oct. 5. To 50 ewes, at 24*s.* each, per W. Mason... 2.—60 0 0
Nov. 24. To carting Turnips, &c., this month ... 5.— 3 4 0
24. To labour, &c., this month ... ... 5.— 0 12 0
Dec. 29. To carting Turnips, &c., this month ... 6.— 4 0 0
29. To labour, &c., this month ... ... 7.— 1 7 0

PER CONTRA.

17 *Dr.* 17 *Cr.*

1850. Labour account. £ *s.* *d.*
Oct. 27. To cash ... ... 4.— 7 0 6
Nov. 24. ditto ... ... 6.— 7 16 0
Dec. 29. ditto ... ... 8.— 7 13 0

1850. PER CONTRA. £ *s.* *d.*
Oct. 27. By labour on farm this month ... ... 3.— 7 0 6
Nov. 24. ditto ditto ... ... 6.— 7 16 0
Dec. 29. ditto ditto ... ... 8.—17 13 0

18 *Dr.* 18 *Cr.*

1850. Richard Wright. £ *s.* *d.*
Oct. 18. To cash ... ... 4.— 9 0 0

1850. PER CONTRA. £ *s.* *d.*
Oct. 6. By 10 qrs. Oats, at 18*s.* per qr. ... ... 3.—9 0 0

19 *Dr.* 19 *Cr.*

1850. Seed Corn. £ *s.* *d.*
Oct. 8. To 5 qrs. Red Wheat, at 42*s.* per qr. ... 3.—10 10 0

1850 PER CONTRA. £ *s.* *d.*
Oct. 27. By sundries ... ... 3.—10 10 0

20 *Dr.* 20 *Cr.*

1850. John Simmons. £ *s.* *d.*
Oct. 27. To cash ... ... 4.—10 10 0

1850. PER CONTRA. £ *s.* *d.*
Oct. 8. By 5 qrs. Red Wheat, at 42*s.* ... ... 3.—10 10 0

21 *Dr.* 21 *Cr.*

1850. Cash (or banker's). £ *s.* *d.*
Oct. 1. To cash in hand on entering farm ... 3.—1000 0 0

1850. PER CONTRA. £ *s.* *d.*
Oct. 31. By sundries paid this month ... ... 4.—545 10 6
Nov. 24. ditto ditto ... ... 6.— 7 16 0
Dec. 29. ditto ditto ... ... 8.— 17 13 0

22 *Dr.* 22 *Cr.*

Capital employed.

1850. PER CONTRA. £ *s.* *d.*
Oct. 1. By capital employed on farm .... 3.—1000 0 0

23. *Dr.* 23 *Cr.*

1850. Housekeeping. £ *s.* *d.*
Oct. 31. To cash on account ... ... 4.—10 0 0
29. ditto ... ... 8.—10 0 0

PER CONTRA.

24 *Dr.* 24 *Cr.*

Peter Thompson.

1850. PER CONTRA. £ *s.* *d.*
Dec. 29. By 30 loads of chalk, at 6*s.* per load ... 8.— 9 0 0

THE REAPING MACHINE.

[The following is an abridgment of the report of judges, published in the *North British Agriculturist*, in reference to a trial of reaping machines the other day at Keillor, in Forfarshire.]

We, the undersigned, having been requested to act as judges at the trial of reaping machines, which took place this day at the above farm, pursuant to a challenge given by Hugh Watson, Esq., and Mr. George Bell, for a Sweepstakes of Fifty Sovereigns each, to test the merits of the different machines which are now attracting public attention in the country, and, if possible, to decide upon the best before next season,

REPORT.

That only three reapers appeared upon the field, viz.:

1. An American machine, known by the name of Hussey's, constructed and improved under the superintendence of Mr. Crosskill, of Beverley, and worked by his agent, Mr. Love.
2. A similar machine, with some important improvements, exhibited by Lord Kinnaird; and,
3. The old original reaping machine, invented by the Rev. Mr. Bell, of Carmylie, Forfarshire, and which, it appears, has been worked by his brother, Mr. George Bell, on his farm of Inchmichael, in the county of Perth, for upwards of 20 years.

As it was desirable that the merits of the machines should be tested in every possible way, it was deemed advisable that the locality should not be too favourable to their easy working, but should possess all the average difficulties of an ordinary corn crop, so as to ascertain the working powers of each. Accordingly the ground selected for the trial was a large field of Barley, on the slope to the south of Keillor House; and three lots of 1 imperial acre each having been measured off, Bell's machine was started first, and performed its work steadily and well in 45 minutes. We examined the stubble carefully, both up and down hill, and it was cut much to our satisfaction, though some difference of opinion existed as to which way the machine worked best. It appeared that the breadth cut each time was something over 6 feet, and the corn was delivered at the side of the machine in one uniform long line, and most convenient for the binders. Mr. Bell concluded by driving a transverse cut obliquely across the field, and right through the centre of the grain, which appeared to show off the merits of the machine to much advantage.

The other two machines were then set to work on similar lots of ground, and Hussey's, under the superintendence of Mr. Love, cut about two-thirds of the prescribed quantity within the 45 minutes, while, from some reason not explained, the other did not complete its task. As these two machines were nearly similar, with the exception of that exhibited by Lord Kinnaird, which had an endless cloth revolving directly in the track of the machine, and intended to facilitate the delivery of the corn in a straight line behind it, the work performed by them was nearly alike. We found, on examination, that the breadth cut was about 3½ feet each time; and though the stubble was well cut up hill, and when the machine worked against the inclination of the Barley, yet it was quite the contrary down hill, where the stalks were often dragged and left uncut. Indeed, so strongly did the director of Hussey's machine feel this difficulty, that, after the first round, he avoided cutting down hill at all, and confined himself to working up hill exclusively, by which means nearly one-half the time was lost. The stops of these two machines were also much more frequent than with Bell's, arising from stones and other impediments, as well as from the cutters driving into the ground, which not only caused great delay, but also ran much risk in damaging the machines irreparably. From the shortness and peculiar construction of the cutters, it appeared to us that they were much too liable to choke or clog, particularly when they came in contact with anything green, or lying at an angle from them, which rendered it often necessary to stop the machines, in order to have the teeth cleared, and the impediments otherwise removed.

When the trial at the Barley was completed, the parties adjourned to the Wheat field, and Bell's machine first charged directly into the centre, and cut a large lane for itself upwards of six feet in breadth, laying the Wheat, which was an exceedingly heavy crop, in a perfectly straight line, and peculiarly well placed for the binders. The reaping of this heavy crop appeared to be comparatively easy work after the Barley, and the easy masterly way in which it was cut down, without any apparent difficulty or noise, gave general satisfaction. Three-quarters of an acre was cut within the half-hour, or at the rate of an acre within the three-quarters, while the stubble appeared beautifully clean and well cut, and no delay whatsoever took place in the performance by Bell's. A lane having been thus cleared, the two other machines set to work, and completed half an acre each in shorter time and with greater ease than with the Barley, and the stubble exhibited none of those inequalities which marked the down hill work at the other crop.

With regard to the relative merits of the different machines, in the first place, we consider Bell's cutting shears as much superior to the knives or chisels of Hussey's; that they do the work in a much easier and effective manner, and are not liable to the stops and delays we have alluded to; nor are they calculated to frighten the horses not accustomed to them, as Hussey's noisy rattling choppers are apt to do. We also think that the wheel with the spiral thread round it, to work the cutting shears in Bell's, is a most ingenious im-

ment, and adds greatly to the easy and effective ng of the machine.

the next place, Bell does by simple and ingenious inery what Hussey attempts to do by manual labour nely, to gather the corn with the revolving fan, ncline it at the proper angle to the cutters, and also iver it from the machine by the endless web, so as ace it in a convenient position for the binders. ner advantage incident to the original machine is, he horses propel it before them, and can charge all ce into the centre of the heaviest crop, and clear a for themselves without trampling on the corn; and e endless web works both ways, it delivers the corn emly, by shifting the gear at every turn, while thers must have a way first cleared for them by rs, before they commence their work.

conclusion, therefore, we have no hesitation in nouncing Mr. Bell's to be the best and most effective ng machine that has been yet submitted to our e. That it is superior in every respect, both in iple and in practice, to any of its rivals, which, in inds, are only humble and defective imitations of riginal, and that it is not only deserving the con- e of the farming classes of these countries, but , even in its present form, and under proper and ous management, to be a powerful auxiliary in g the vast and priceless crops of this country next which, from obvious reasons, is becoming more rious and difficult every successive season.

e cannot, however, close this most interesting and rtant investigation, or separate without expressing eep obligation which we owe, in common with the ry at large, to Mr. Hugh Watson, of Keillor, for nergy and zeal he had displayed on this occasion, nly in procuring tardy justice to the merits of Mr. the now undisputed inventor of this most important ment, but also for the vast and inestimable benefit s conferred upon the whole community, by assert- s utility at this most critical and eventful period, y securing the confidence of the public in its use, pare them to meet those fluctuations in the labour et which are becoming daily more inevitable.

gned) George A. Grey, Millfield Hill, Northum- berland; Chas. Chambers, Aberdeenshire; John Garland, Kincardineshire; Andrew Archer, Forfarshire; William Blackadder, C.E., Glam- mis; Archibald Turnbull, Perthshire, *Judges*. John Ogilvy, Bart., Aldovan; Edward Bullen, Dublin, *Stewards*. Alexander Geekie, Baldowrie, *Timekeeper*.

THE REARING AND BREEDING OF ANIMALS.

The following is an abridged report of a discussion e late meeting of the North Lancashire Agricultural ty.]

. Laycock, of Newcastle-on-Tyne, said—During ast three years he had purchased, in open market, a er of stock at the market price, and fed them in s, which he considered the best mode; and he had ed these cattle with every item connected with their ort during the whole period they had been with He had sold these cattle in open market, and had n up a balance-sheet for the three years, to show xact state of the matter at the end of that period. d taken his Turnips on the ground as worth 6*s.* per for feeding purposes, though he believed some ers did not consider them to be worth so much. he average of the three years that he had produced at the market price, he had obtained 6*s.* per ton for e Turnips he had used. He had paid the market for all the Linseed and other food that he had hased, and he found that he was some little gainer and above 6*s.* He had given 56 lbs. of Swedes to a and three feeds per day; 2 lbs. of Linseed per day, d with chaff, in order to give bulk, for he found in using such concentrated food as Linseed and oil- , unless there was something to give bulk, the food ed through the animal undigested, and of course but benefiting it. If he had short crops of Turnips, could not give them so much at a feed, he would them two feeds of Turnips and two of Linseed and ke; but he never exceeded 6 lbs. of oilcake per as he found that was as much as the animal could ufacture into beef. Allowing also 14 lbs. a day of , and for attendance to each animal per week six- e, the cost of feeding each animal was altogether l*d.* per week. On the credit side he took the value e animal and of the manure in the time he had it. ad the manure weighed out of the boxes in which nimal was kept, the feeding box being 10 feet by 9, nineteen or twenty weeks; and the weight during time was 5 tons 6 cwt. 2 qrs. 7 lbs., which he eived to be worth 7*s.* 6*d.* per ton; indeed, he d have no hesitation in affirming it to be worth per ton. He made his estimate in this way: ought a ton of manure, of that quality, with he solid and liquid particles of the animal, was equal to Peruvian guano; and to keep up fertility of the land he thought it much valuable, if taken at 7*s.* 6*d.* per ton, which unted to about 2*s.* 3*d.* per week for each animal. e feeding he had taken each lot of animals as he based them. The heifers, for instance, at 5*s.* 11*d.* week, came to 105*l.*; and in selling these the ire had got the price for his food, and a balance of ver and above the 6*s.* per cwt. for his Turnips. e facts showed the practicability of feeding animals is way. The next lot so fed were steers, not of so good a quality, and by them he lost 4*l.* 17*s.* 4*d.*, on the same scale that he gained by the other lot. Probably these animals had not the same disposition to fatten as the others. On a third lot he gained 4*s.* 10*d.* over and above the price of their food; and the other lots in a similar way. He believed that by feeding beasts in loose yards, where this manure so much deteriorated by being exposed to the rain, he should have lost by feeding these beasts. One point gained by feeding animals in the boxes was, that they could ventilate them, and regulate the temperature so much better by a small aperture. He did not want a large draught, but space sufficient for fresh air to replace that vitiated by the animal's breath. There had sometimes been disappointment felt by persons commencing to feed animals, on observing the slow progress they made in feeding. From experiments he had made, weighing the animals at stated periods, he found that on an average the best they could do by fair feeding gained 10½ lbs. of beef per week, which was about the value of the food he had debited them with. If they could grow Turnips at 6*s.* per ton, he felt satisfied that it was desirable to grow as many as they had animals for. His own little farm had proved to him the advantage of the manure every time he had applied it. Mr. Laycock read from his memorandum book, in which the entries were put in the following form:—

"The result of fattening 13 steers and 6 heifers.

"Dr. 1849.—Six short-horned heifers and 13 steers, fed in boxes in the following manner:—Three feeds of Swedes per day, 56 lbs. each feed, or 10½ cwt. per week, 3*s* 1½*d.*; 2 lbs. crushed Linseed per day each, steamed and mixed with chaff, equal to 14 lbs. per week, 44*s.* per qr., or 11*s.* 6*d.* per cwt., 1*s.* 5*d.*; 14 lbs. straw per day for food and litter (20*s.* per ton), 10½*d.*; attendance, 6*d.*; total, 5*s.* 11*d.*

		£	*s.*	*d.*
"1848.—Six heifers put up to feed—				
Oct. 20. Cost		72	15	6
Dec. 20. No. 1. 4 weeks.				
Dec. 27. No. 2. 5 ,,				
"1849.—Feb. 6. No. 3. 14 ,,				
Feb. 21. No. 4. 16 ,,				
Mar. 15. No. 5. 19 ,,				
Mar. 29. No. 6. 21 ,,				
79 weeks, at 5*s.* 11*d.* ...		23	7	5
Profit		9	0	4
	£105	3	3	

"Cr. 1849.—Manure contained in a box 10 feet by 9 feet and 2 feet deep, from Oct. 24th to March 17th, or 19 weeks, 5¾ cwt. per week for one beast, 5 tons 6 cwt. 2 qrs. 7 lbs., at 7*s.* 6*d.* per ton, equal to 2*s.* 3*d.* each beast per week.

"Cr. 1848.—Dec. 20, sold No. 1, deducting expenses, at	£14	15	1
Dec. 27, sold No. 2	15	0	10
"Cr. 1849.—Feb. 6, sold No. 3	16	6	6
Feb. 21, sold No. 4	17	6	3
Mar. 15, sold No. 5	16	5	0
Mar. 29, sold No. 6	16	11	10
Manure for 79 weeks, at 5¾ cwt. per week, and 7*s.* 6*d.* per ton, equal to 2*s.* 3*d.* per week each beast (as above stated)	8	17	9
	£105	3	3

"Dr. 1848.—Six steers put up to feed Nov. 1, cost ...	86	6	0
1849.—June 6, 26 weeks' expenses for 5, and 34 weeks' expenses for 1, or 164 weeks, 5*s.* 11*d.*	48	10	4
	£134	16	4
"Cr. 1849.—June 6. Sold 5 steers for	19	10	0
Ditto 1	20	0	0
Manure for 164 weeks, 5¾ cwt. per week, at 7*s.* 6*d.* per ton, equal to 2*s.* 3*d.* per week	18	9	0
Loss	4	17	4
	£134	16	4

"Dr. 1848.—Four small steers put up to feed Dec. 5, cost	33	0	0
No 1, 16 weeks; No. 2, 26 weeks; No. 3, 33 weeks; No. 4, 33 weeks; or a total 108 weeks, at 5*s.* 11*d.*	31	19	0
Profit	0	4	10
	£65	3	10

"Cr. 1849.—Sold, March 19, No. 1 for	11	0	10
Ditto, June 10, No. 2, for	13	0	0
Ditto, July 31, Nos. 3 and 4	29	0	0
Manure, 108 weeks, 5¾ cwt. per week, equal to 2*s.* 3*d.*	12	3	0
	£65	3	10

"Dr. 1849.—Three stirks, put up to feed March 15, cost	40	0	0
No. 1, 13 weeks' feed; No. 2, 13 weeks'; No. 3, 20—total, 46, at 5*s.* 11*d.* ...	13	12	2
	£53	12	2

"Cr. 1849.—June 10, sold No. 1, at	16	10	0
Ditto, sold No. 2, at	16	10	0
Sept. 1, sold No. 3, at	15	5	0
Manure, 46 weeks, at 2*s.* 3*d.*	5	3	6
Loss	0	3	8
	£53	12	2

Mr. Ellison, a farmer, here rose in a state of considerable excitement, and said (addressing Mr. Laycock), I should like to ask you, sir, in the first place, are you a practical farmer?—Mr. Laycock: I must first ask you a question—what do you call a practical farmer?—Mr. Ellison: Do you get your living by it?—Mr. Laycock: No, I do not. (Laughter.)—Mr. Ellison: No; I found that out long since. And I should like to know very much how you can make manure at 7*s.* 6*d.* a ton. It takes 20 tons of our best manures to manure a statute acre of Turnips, whereas 2 cwt. of guano and 10 bushels of bones will bring us a greater quantity of Turnips, and the bones and guano only cost 45*s.* If you can make a profit by farming, you deceive me. I never heard such a ridiculous tale in my life. You have got your lessons out of Mr. Mechi's book, who bought his farm for 50*l.*, and laid out 13,000*l.* upon it, and wants to teach all the farmers in this country; and if you think to teach all the farmers in this room, you are under a very great mistake indeed. I'll defy any one to make a profit as you say. If you had your living to make, you would very soon be in the stiff lock-up, sir. (Great laughter and cheers.) Gentlemen, I have listened and been disgusted long enough. In reference to some of Mr. Binn's statements (a former speaker), Mr. Ellison then pointed out the increased facilities now existing for getting bone-dust and manure, compared with what there were years ago; and then proceeded to describe his own method of rearing 25 cows. He gave them their mother's own milk until they were six weeks old, and then gave half new milk and half old, until the autumn, and then he gave them Turnips and straw. By consuming good straw, it made manure of one-third the value. Some of the cows Mr. Townley had shown that day were too fat for dairy cows; and when he spoke to the person who was showing some, he said, "Oh, but I can reduce them in six weeks." What was the use of prizes for fat cows, if they were to be reduced again?—Mr. Dwining then made some remarks on the growth of breeding cattle, but could not be heard, owing to the noise and confusion which prevailed in the part of the room where he spoke from.

Home Correspondence.

Guano, or a Substitute.—The offer by the Royal Agricultural Society of a reward for the discovery of a cheap and available substitute for guano, connected with the result of the conference held with the Earl of Derby on the 11th of June last, has added importance to a subject justly deemed of the greatest interest to agriculture. Having devoted much time in ascertaining the elements which constitute the fertilising qualities of pure and genuine samples of Peruvian guano, and by comparing results of analyses with those obtained and described by skilful chemists of the present day, I have thought it a duty to avail myself of the columns of your Paper, in order to lose no time in directing the attention of scientific men to a few leading principles, which must form the basis of any attempt to produce a manure that can, by possibility, compete with the imported article. Mr. Thomas Rowlandson, in his circular of 12th of June—"On the only Practical Mode of cheapening Guano, and preventing its sale in adulterated forms," states, as his opinion, that "By the introduction of other and abundant substances for forming fertilisers than those previously employed, a manure of equal or superior value, at a reduced price, can be obtained from substances the produce of the British dominions." While admitting the full value of sewage liquid, as proved in the meadows near Edinburgh, and witnessing, close at hand, the effectual operation of the system of drainage now rapidly advancing in and around Croydon, where, in point of fact, our farmers ought to bring to the proof the real merits of fæcal, deposited manures, I still feel much hesitation in adopting the opinion that such matters can compete with that most comprehensive fertiliser which we term guano, or huano. Let us consider the nature of this substance, and the processes by which it is secreted, and then judge for ourselves. Guano is the excrementitious deposit from myriads of cormorants, flamingoes, cranes, &c., whose food is exclusively sea-fish, found in the highest perfection on the granite rocks or islands, 10 miles from Chincha, off the coast of Peru. Little or no rain there falls, and the sun's rays exert great desiccating effects. Guano, therefore, must be found very different from, if not greatly superior to the fæcal matter excreted by man or the mammalia, inasmuch as the urine and dung of that class of animals are evacuated separately, whereas in birds the excretions of the kidneys and intestines are both contained in the fæces. Guano ought also to be a richer manure than the excrements of man or of animals, on account of its being produced by sea-fowl, which live solely on fish, without admixture of vegetable matter. Now, if the philosophic chemist reflect deeply upon the above facts, will it not become evident that a manure equal and responding to guano can never be produced at home, unless prepared from substances that shall combine every one of the elements in which that manure abounds. Let the reader peruse Dr. Ure's paper commencing Vol. V., p. 287, of the Royal Agricultural Journal, and then reflect how we could produce—first, that great bulk of what the writer called undefined organic matter, the origin of his potential ammonia; then, the large per-centage of the bone-phosphate of fish, in a condition of inimitably fine subdivision; then the important urate of ammonia; and lastly, the various soluble salts with ammoniacal and alkaline bases. I despair not; but assuredly, unless the chemist can discover a compound uniting in itself all the requisite ingredients, and the operator be able to produce any required quantity of the same, in a state of mechanical subdivision of particles conformable to that of guano, and at a cost not exceeding the stipulated 5*l.* per ton, we have little to expect in the way of successful competition. *Philalethes.*

Potatoes in Kildare.—Having read many interesting articles in your instructive *Gazette* on thick and thin seeding, by Mr. Wilkins and others, and having myself been actively engaged all my life in horticultural and agricultural pursuits, I naturally take much interest in such experiments; and in order to learn something new, I visited the farm of Thomas J. Dimsdale, jun., Esq., an intelligent and experimental Englishman, who

has been surprising the natives of Kildare for the last three years. He was planting his Potatoes when I visited him, and the width of his drills attracted my notice; they were 4 feet and 3 feet respectively. I, of course, inquired the reason for such an apparent waste of land. Mr. Dimsdale replied that the ground was dirty, and, moreover, he was trying a few experiments in wide and narrow drills, and kindly invited me to visit him when the crop was ready to dig. This I cheerfully did about ten days ago. Mr. Dimsdale first took me to the field where the drills were 4 feet wide, and solicited me to select a stem, which I did, a medium sized one; he pulled it up, having no spade, and I counted 42 Potatoes, the second trial 43, and the third 41; of course, there were a few small ones, but I do not remember ever seeing so many Potatoes at a single show. On trying the 3 feet drills, we found the largest Potatoes I ever saw, and more of them by one-fourth than is generally obtained in the usual width of drills. This farm is situated in one of the large bogs of Kildare, and there was nothing remarkable in the manure used, as it was bought from the cottagers on the bog, if I may give them the aristocratic name of cottagers, for really such houses for human beings to live in quite surpasses imagination. I am glad to state that we did not find a rotten Potato in all we tried. I am, indeed, sorry that I cannot tell the same story of my own, which are really not worth lifting. P.S. The names of the Potatoes were Dutch Reds and Red-nosed Kidney. *A. Matthew, Moore Abbey, Sept.* 4.

Weeds, to Eradicate.—The late summer rains have produced an unusually large quantity of weeds of all descriptions, inasmuch as the greater part of seeds which have lain in a dormant state, during many past dry seasons, have now germinated. So much the better, as the future may be fairly expected to be comparatively the more free from such seedlings, provided that due care be observed in eradicating them. For the promotion of the agricultural interest, we take this opportunity of recommending the use of Bentall's broadshare surface plough, to be put into immediate requisition where opportunity offers. As this is one of the first-rate modern implements for this purpose now introduced, all should if possible avail themselves of it, or at least of the use of some other similar implement. Care should be taken that weeds are burned as soon as they can be collected, which should be as early in the day as possible, to prevent their shedding seeds. *A. Hardy and Son, Maldon, Essex.*

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

A Weekly Council was held at the Society's House in Hanover-square, on Wednesday, the 9th of June, Mr. Raymond Barker, Vice-President, in the chair. Professor Way, the Consulting Chemist to the Society, delivered his concluding Lecture on the agricultural principles of Jethro Tull, illustrated by modern facts.

Prof. Way's object in this second and concluding lecture was to examine how far the views and principles of Tull were consistent with the modern discoveries of agricultural chemistry. Plants consisted of certain organic and mineral elements, the nature of which was now well understood. The question was, could these substances be supplied by the air and by the soil without manure, as Tull supposed? It was pretty generally conceded at the present day that carbonic acid, ammonia, and water, together, were capable of furnishing all that was necessary to build up the organic structure of plants; whilst no soil of ordinary fertility would be found, upon examination, to be absolutely deficient in any of the mineral ingredients that were required by vegetation. The air contained both ammonia and carbonic acid, but it might be open to question whether in sufficient quantity, not merely for a *natural* but for a *forced* production of Wheat and other crops, such as alone would suffice for the wants of a populous community like that of this country. The quantity of carbonic acid in the air had been found by repeated experiments of M. Saufeure to amount, on the average, to a thousandth part of its weight, and Liebig had calculated that at any one time there was in the air as much carbon in this invisible form as would suffice for the production of the whole coal fields existing throughout the world. It required no stretch of the imagination therefore to suppose that, with the air constantly in motion and constantly renewed to the roots of plants, they might receive from this source all the carbon which was required for their growth. Whilst, too, every disintegration of the soil gave access to this carbonic acid in larger quantity for the direct supply of food, indirectly it contributed to the sustenance of plants by rendering available the necessary mineral elements of their food, which water impregnated with carbonic acid was capable of dissolving. With regard to the quantity of ammonia in the air, we did not possess such satisfactory information. Of its existence there, no one entertained a doubt; it was produced by the decay of animal and vegetable bodies, given off in the exhalations of living animal bodies, and probably in the sweet perfumes of flowers, and thrown out in certain parts of the world in immense quantities by volcanoes. But to ascertain the proportion of ammonia in the air was extremely difficult, and although it had been attempted by more than one able experimenter, the results must only be looked upon as distant approximations to the truth. Fresenius, to whom the most careful experiments in regard to this matter are due, found that 1,000,000 parts by weight of air contained 0.133 parts of ammonia. Without stopping to examine the probability of these figures representing the average amount of ammonia in the air, we might ask whether such a quantity would suffice for the wants of an abundant vegetation. This question it was impossible to answer. Mr. Way's own recent investigations had brought to light the existence in the soil of certain double silicates possessing the power of abstracting the carbonate of ammonia from the air with as much avidity as if they were strong acids. A good soil well opened by cultivation would therefore be constantly at work, day and night, collecting ammonia from the air; and the quantity that could be so obtained would only be limited by the frequency of the renewal of the air. Of course we could not say how often this would take place; but what with alternations of temperature, differences in the heat of the soil and the air, the influences of wind, and perhaps also a constant interchange in the particles of air themselves, it was evident that the renewal of the air in the soil, and the consequent acquisition by it of ammonia, might go on to a very great extent. And it was worthy of remark, too, that this collection of ammonia by the soil was quite independent of rain and dews, and was always proceeding. The more, therefore, the soil was exposed to the air the richer it would become. Of course Mr. Way spoke of soils containing a sufficient quantity of clay. Some light soils there might be that would be injured, not benefited, by such exposure. Mr. Way went on to speak of the experiments of the Rev. Mr. Smith, at Lois-Weedon, expressing the great gratification which he had experienced from a visit to that place. These crops of Wheat which were now growing on land which had been for six years under Wheat without manure of any kind, looked as if they had received a dressing of ammoniacal salts; and that, indeed, was the fact, though the ammonia had been added not *directly*, but *indirectly, and from the air*, by the abundant cultivation which Mr. Smith's method enabled him to give. Mr. Way was of opinion, then, that, so far as the organic elements of vegetation were concerned, there was no absolute impossibility, but, on the other hand, every probability, that they might be secured in all abundance for large crops without manure, provided that the soil was fully exposed to the influence of the air. The only question that remained was in regard to the exhaustion of mineral matters by this mode of cropping. Mr. Way believed that the danger of mineral exhaustion in soils was frequently very greatly overrated. There was no doubt that the continuous cropping by Wheat or any other plant, without the return of anything in the shape of manure, would gradually but certainly reduce the quantity of mineral matter contained in the soil; but the quantities so removed were now accurately known, and it would be found that a continuous course of cropping by Wheat for many years took from the land only a very insignificant quantity of these substances. The following table showed the amount of phosphoric acid, potash, &c., removed by a large crop of Wheat in one and 20 years respectively, and in another column of the table would be found the *per-centage* composition which the soil must have to yield them for 20 such crops.

35 Bushels of Wheat and 2 tons of Straw.

	1 Crop.	20 Crops.	Per-centage removed from Soil by 20 Crops.
	lbs.	lbs.	
Silica	171	3420	0.152
Phosphoric acid	30	600	0.027
Sulphuric acid	8	160	0.007
Lime	16	320	0.014
Magnesia	10	200	0.009
Potash	39	780	0.036
Soda	3	60	0.003
	277	5540	0.248

The per-centage removed from soil by 20 crops is calculated on the assumption that the soil is 10 inches deep and weighs 1000 tons.

Those who had had anything to do with the analysis of soils would see that no soil of ordinary fertility would be found without a small quantity of those minerals here mentioned; indeed, it is usually the case that a loamy soil would contain from two-tenths and upwards of potash, and other things in proportion; and although the whole of this might not be available at any one time, the constant stirring of the land bringing into play the action, furnished a constant supply adequate to the wants of the plants. But although there might be no danger of exhausting the land by this system of cultivation, Mr. Way did not see what good reason there was for continuing it on the same land for more than a certain number of years—say seven or ten—and then alternating with other land, which had been meanwhile under manure. In conclusion he begged to say that, having shown, as far as he was able, the admissibility of the improved Tullian system on Theoretical considerations, his duty was over; it was for practical men themselves to test thoroughly the merits of the plan, and to decide upon its ultimate adoption or rejection.

On the motion of Mr. Gadesden, seconded by Mr. Wolryche Whitmore, the best thanks of the Council were voted to Prof. Way, for the favour of this second lecture on a subject of so much interest and importance.

Capt. Wentworth Buller, R.N., had visited the Rev. Mr. Smith's farm at Lois-Weedon; and he went to it as sceptical as a man could go. He was told that Wheat had been grown for six years successively on the same land, and was informed of the application of labour to the several operations of the crop. He resolved, if possible, to pick holes in the system. He examined thresher and the labourers on the farm; he looked o the crops; but he was unable to detect any error the statements made to him. Mr. Smith showed h his Wheat, and the fields on which his average cr of 36 bushels an acre had been raised; his n corroborated his assertions. He ascertained the pr of digging, and found that people could earn a day. All the manure was applied to the green cr which were as marvellous as the corn crops. He first a heavy crop of Rye cut in April, then Swe and afterwards trenching. There was not too much too little moisture. The roots extended to 18 inch The crop being never checked, the straw, as in Hewitt Davis's system, was bright, from the vegetat not being retarded. Captain Buller had procured so of Clayton's three-pronged forks, 18 inches long, the purpose of ascertaining what could be done on plan. They were worked by day labourers, at common wages of the country. They dug 6½ rods a- of light, stony soil, thoroughly well, to the depth 18 inches, at about 3*d.* a rod. He had been surpri at the amount, excellence, and economy of the w executed.—Mr. Rodwell, of Alderton Hall, had u the fork much on his own property in Suffolk. forks were of the light spit kind, and the best w made in that county; they went to the depth of inches, and turned the soil completely up. A thous acres of land had been dug to that depth, at from 2 to 3*d.* the square rod, for the purpose of taking up Chicory crop. The expense of this forking was fr 30*s.* to 33*s.* 4*d.* per acre; and the labourers, during winter months—from October to April—could earn fr 10*s.* to 12*s.* per week.—Mr. J. Mainwaring Pa being extensively engaged in Hop cultivating, had attention much directed to operations of the nature t referred to. He trenched at intervals, and every y dug 200 acres to a perpendicular depth of 18 inc The cost was greater at the first digging. It cost 24*s.* per acre to bring the bottom soil to the surface, perhaps might be better to do it at two spits, in the s manner as Mr. Smith did, in which case it would him 30*s.* per acre. The labourers can earn from 2 2*s.* 6*d.* a day. He had found one-horse scarifiers best for intervals. He had seen Wheat crops on well manured with ammoniacal salts, guano, and o substances, look poor and blighted; while those adjoining portions of the same land—treated on Smith's plan, retaining in the soil an available stock nutriment without being required to be manured for current year—were looking remarkably well, and yiel 7⅛ quarters of Wheat. By applying to the crop itse large amount of ammoniacal matter, a great portio it was lost for the immediate purposes of vegeta In reply to an inquiry, he stated that he had kn ashes or burnt turf applied for Carrots seven years —Mr. Hamond thought the nature of the soil ough be taken into consideration. He had paid 24*s.* an acre trenching at 18-inch intervals. He considered that Smith's charge of 2*l.* a load for straw on the credit of his account was too much.—Mr. Gadesden remar that he was much struck with that part of the lec where it was stated that so small a proportion of inorganic elements of a soil are exhausted by cropp The question of exhaustion was one that had been o raised against Mr. Smith's system. It appeared, h ever, that such exhaustion would be practicably al impossible, provided the soil was from time to time in a state of sufficient comminution. Professor had placed the subject in a new and clearer l He had even said that it would be cheaper to su manure than to go on growing crops without it. however, Mr. Smith's crops in this, their seventh were better than Mr. Gadesden's show-crop last and the profit of such system of cultivation should tinue unabated, he himself could see no reason fo being abandoned; as no person would cease to culti profitably. The expense of cultivation, too, was rend light by the implements which Mr. Smith emplo the principal of which was a single-horse scar that worked two lands at a time. Mr. Gades operations being carried on in heavy land in Surrey, him more money than Mr. Smith's at Lois-Weedo a lighter soil. He had now 17 or 18 acres in cul tion under the new system; but the season had particularly trying, and the autumn having been the grain had lain long in the soil; he found the sy a difficult one to carry out in such seasons. Mr. Sm object he believed was to get the Wheat to tiller be winter, not to be retarded till the spring. In weather the scarifier could not be worked.—Prof. replied that he did not mean to say that the time w come when the system would be abandoned; but th would be continued as long as it was found to g profitably. He saw, however, no reason why manu should not continue to be applied to green crops, should only be omitted for Wheat. There would b harm in carrying on the system under the same cir stances for ten years. A time of improved mecha appliances might supersede the use of manures; w on the other hand, a cheaper source of ammonia n be discovered.—Capt. Buller remarked that, as Smith's land was on the oolite, it might yield a l amount of mineral matter to vegetation, while the cli was favourable, and the amount of rain small. He ur stood that Mr. Smith attached great importance to effects of exposure to frost, and accordingly tha turned up his land rough for the purpose of receivin full benefit of that influence.—Mr. Whitmore h that the lecture they had just heard would be publi

Society's Journal, in order that it might, on of its importance, receive the full attention of mbers.—In reply to an inquiry by Mr. Baskerville Mr. Thomas Smith said that if anything ruined nting it would be the winter Beans, which October t in lines 5 feet apart, yielded 7¼ quarters to the Mr. Rowlandson thought that in addition to the ing effects of the system, a great deal depended time of sowing. It had just been said that ought to tiller in winter. In eastern countries, Wheat tillered before Christmas the hogs were into it. He considered that early sowing would oductive of great results; winter-sown Oats in would return double. While acknowledging the erits of Mr. Smith's operations, he was still of n that time of sowing was as important a point as eparation of the land. Mr. Rowlandson regarded lture as the fasciculus of all the sciences, none of can be neglected without in a certain degree injuy affecting its operations; and however correct any e might be in itself, its application would lead to errors, unless all the circumstances and bearings h particular case were duly taken into considera-Mr. Paine had just seen a crop, sown on the 9th vember, looking at that time as well as could be d.—Mr. Rodwell thought that no stated rule could d down for the time of sowing, either in reference soils or climate of different parts of the kingdom. ew soils in the same county and parish on which ld be unwise to sow in every case either uniformly or late. He had gained the experience of a great years on that point, but found that it was difficult down any fixed rule on the subject. He might, ver, venture to say that good lands were better ed for being sown in October and sandy soils in nber.—Mr. Gadesden observed that Mr. Smith own Wheat on the 11th of September, that he was d the month after to plough up, in consequence of rain having matted on the soil.—Mr. Rodwell ed to the gradual modification of his practice of re by the experience of successive years. When st sowed corn, he applied to his land 20 loads, or ons, of farm-yard manure to the acre, agreeably the practice also followed at that time in the adg county of Norfolk. He then gradually reduced anuring to one-half that amount; afterwards to ads in four years, applying it twice during that d at 10 loads per acre. He believed that if he put on each year only five loads per acre, or still er quantities at shorter intervals, he should derive er advantages than from a greater quantity applied ce.—Mr. Thomas Smith remarked that he believed s the opinion of his brother that it would be best to at Lois-Weedon for a year or two longer on the nt plan, and then to introduce root crops into the m. [We have the best reason for knowing that this ecture of Mr. Thomas Smith has no foundation ever, being utterly at variance with the scheme and ntention of the author of the "Word in Season."—*Agricultural Gazette.*]

he Council then referred these lectures of Prof. , and interesting results connected with Tullian vation, kindly communicated to the Society by Mr. , of Dunse Castle, to the Journal Committee. munications from Mr. Spencer Stanhope on a trial nanures, and from Mr. Peter Love, on facts con-ed with the deposition of siliceous matter on the eat stalk, illustrating points discussed in a former re by Prof. Way, was also referred to that com-tee.

EPUTATION ON GUANO.—The following members of ncil and Governors of the Society met by appoint-t in the Council-room at the house of the Society half-past 2 o'clock, previously to assembling at lock at the official residence of the Prime Minister, Downing-street, as part of the deputation which the of Derby—on the representation of the Earl of ie, as the President of the Society—had expressed pleasure it would give his lordship to receive: ely, the Duke of Richmond, Lord Berners, Hon. R. Clive, M.P., Baron Goldsmid, Sir John Villiers lley, Bart., Sir Charles Lemon, Bart., M.P., Mr. ck, M.P., Mr. Raymond Barker, Captain Went-th Buller, R.N., Captain Stanley Carr, Rev. Thomas r, Colonel Challoner, Mr. Fisher Hobbs, Mr. Hud-of Castleacre, Mr. Thompson, Prof. Way, and Mr. s Webb.

he Duke of Richmond having taken the chair, it arranged that the deputation should, in its inter-with the Prime Minister, confine itself to the object which it had been specially appointed by the Council amely, "to represent to his lordship the importance king every possible means to effect a reduction in price of guano." At the request of the meeting, tain Buller and Mr. Hudson, of Castleacre, con-ed to address the Earl of Derby on the part of the utation.

aptain Stanley Carr presented to the Society an resting Spanish work on guano, published last year Lima, and entitled, "Estudios sobre el Huano, ó oria de las Contratas celebradas, por el Gobierno su expendio exterior; precedida de Reflexiones erales sobre sistemas de cultivo y abonos: por S.," for which attention the meeting expressed to their best thanks.

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he Members who attended that Meeting having urned, at 4 o'clock, to Downing-street, were joine l he following additional Members of the Society, with whom, accompanied by Mr. Hudson, their Secretary, they formed the Society's Deputation to the Earl of Derby—namely, the Duke of Buccleuch, Hon Colonel Douglas Pennant, M.P., Hon. Edward Lloyd Mostyn, M.P., Right Hon. Sir James R. G. Graham, Bart., M.P., Sir Robert Price, Bart., M.P., Sir John V. B. Johnstone, Bart., M.P., Mr. Bramston, M.P., Mr. Ivat Briscoe, Mr. Darby, Mr. Fellowes, M.P., Mr. Floyer, M.P., Mr. Freeland, Mr. Fuller, M.P., Mr. Langston, M.P., Mr. Walter Long, M.P., Mr. Marshall, M.P., Mr. Nesbit, Mr. Odams, Mr. Wilson Patten, M.P., Mr. Robartes, M.P., Mr. Rowlandson, Prof. Sewell, M.P., Mr. Slaney, M.P., Mr. Crompton Stansfield, M.P., and Mr. Wreford.

In the absence of the Earl of Ducie, the President of the Society, who was confined at that time to his bed by severe illness, the Deputation was headed by the Duke of Richmond, and introduced by his Grace to the Prime Minister. Captain Buller and Mr. Hudson, of Castleacre, then addressed the Earl of Derby on the part of the Deputation; and his lordship, in the course of his reply, promised to aid the object of the Society by every means that then were or might afterwards be placed within his power. The Deputation then expressed their acknowledgments of his lordship's courtesy in admitting them to an interview, and retired.

AGRICULTURAL IMPROVEMENT OF IRELAND.—The following report upon the Potato disease and its cure, by dressing the seed before planting, was read at a late meeting. The Secretary reported that having had a call from Mr. Eaton, gardener to Sir T. Butler, Bart., of Ballintemple, county Carlow, and heard the former explain in detail a variety of experiments in growing Potatoes, whereby Eaton stated that he had discovered a mode of growing perfectly healthy tubers, he addressed a note to Sir T. Butler on the subject, and received a reply stating that Eaton had succeeded in so dressing and planting his Potato seed as to grow sound crops of good quality, and that "this year, although the crop in the fields of Ballintemple is injured to nearly the extent of one-half, and not a field in the neighbourhood has escaped without considerable injury, I can safely assert that in about 1 rood of ground which has been planted in the garden, not a solitary plant has been affected." The matter being one of national importance, and the honourable baronet, who advised Mr. Eaton to apply to this office, having vouched for the fact of perfectly good and healthy Potatoes being grown by Mr. Eaton, in Sir T. Butler's gardens, I considered it my duty to make a preliminary investigation of the grower's case, and to report thereupon to the Council as follows:—

1. Mr. Eaton explains that he was in the employment of the late Countess of Belvedere for seven years as land-steward and gardener, during which time he obtained 17 prizes from the Westmeath Horticultural Society, at its meetings held in Mullingar; some of these prizes being given for the best early Potatoes. He afterwards lived in the service of the Right Hon. the Earl of Meath, during which time he was awarded at the Royal Dublin Society's show two medals for the best sample of Indian Corn grown by him. He left Lord Meath's service in April, 1849. In September thereafter he went to Mr. Dawson, of Cullamore, where he was till January, 1850, when he went to Sir T. Butler, and with whom he has been till lately.

2. Mr. Eaton explains that subsequent to the violent attack of the Potato disease in 1845, he was doubly careful in greening, preserving, and selecting the seed for his crops, but still they failed to a large extent. But it occurring to him that the virus of the disorganisation either proceeded from small insects which he saw in the roots of the plants, or that these injurious insects resulted from a deleterious fluid or substance in the tuber, which was foreign or opposed to the plant's healthy development, he (Eaton) bethought himself of applying a compound dressing of certain substances to the Potato tubers when cut for planting, in order to ascertain, if possible, whether such deleterious fluid, or injurious insects, were the cause or effect of that vegetable disorganisation which precedes or follows from the Potato disease. Accordingly, in 1848, he took some Potato seed, purchased from Mr. O'Farrell, seedsman, Dublin, and sowed the same in a Melon-bed in the month of April. The seed sprouted, and the plants grew up very vigorously till about the middle of July, when they were blighted in a single night. Eaton then took up the plants, and cut them down to about 4 or 5 inches in length. The one-half of them he planted upon a garden-border, and the other portion he re-planted in the Melon-bed. The latter he dressed with his composition before setting. These grew vigorously, and were taken up in November, the tubers being the size of hen-eggs, and perfectly sound. Those plants which had not been dressed with the composition were taken up at the same time, and were found to be generally diseased, many rotten. The next experiment he made in February, 1851, by cutting large seed, applying to it two dressings of his compound, then planting. At the same time he planted similar seed alongside of the dressed Potatoes. When the dressed ones came to maturity, they were all sound and of excellent quality. The haulms were vigorous and healthy all along, showing at no time any symptom of blight, and only colouring from the fading process inseparable from the ripening of the tuber. The others, which had not been dressed with the compound, but were planted alongside of the dressed ones, showed the disease upon the stalks at an early stage, getting worse and worse; and when the tubers were taken up they were much diseased. In order to satisfy his mind that his system was not an exceptional case, but might be held to apply generally in the preparation of seed, so as to avert the Potato disease, George Eaton, in February, 1852, planted Potato seed cut, dressed, and undressed, exactly as in the experiment and process described above, as gone through in 1851. Those grown from the seed dressed with the compound were all sound in haulm and tubers, as above explained in experiment 1851. The Potatoes now on the council-table are the roots so grown from dressed seed; and, judging from the healthy streaky texture of the skin, and the depth of the eye of the tuber, no Potatoes seen by me since the first appearance of blight seem so vigorous and safe to be used as seed; but whether they would grow perfectly healthy without being again dressed with Mr. Eaton's compound is very doubtful. He says, that in the experiments of 1851 and 1852 the dressed and undressed seed were set plot beside plot, and that while the haulm of the compound-dressed seed grew always healthy and the tubers sound, the seed which had not been prepared with the compound produced haulms and tubers (alongside of the others) affected and diseased in the same manner as the ordinary crops of the country. Mr. Eaton states that his preparation and application would not increase the price of seed Potatoes more than 10*s.* per acre, if quite so much. A few hours after the dressing is applied, the cut seed emit a thickish dark-coloured fluid, which has a most disagreeable stench. He has experimented successfully upon Beldrums, Pink-eyes, Bangers, and Ox-nobles, and will undertake to extract the deleterious matter from any kind of Potato.

CHEVELEY FÊTE.—It may be remembered by some that, last year, a grand horticultural *fête* took place at Cheveley-park, and, in addition, this year it was announced that a poultry show would be held at the same time, which took place on Thursday, the 8th inst., being a beautiful day. Of poultry, which was by far the greatest attraction, there were about 114 pens, besides quantities in baskets. The exhibitors were from various parts—from Yarmouth on one side, and Sussex on the other. There was great competition in Cochin-China fowls, particularly in the class of the chickens of 1852. The most attractive of the young Cochin Chinas were those from Mr. H. Peck, who obtained the prize; these were fine light coloured, and the cock bird the lightest and handsomest bird we ever saw.

Review.

The Journal of the English Agricultural Society. Vol. XIII. Part I. John Murray, Albemarle-street.

THE current number maintains the high character which this periodical has acquired. In practical articles descriptive of existing agriculture, and in scientific ones suggestive of improved practice—in the records of experiments by practical and by scientific men—the present volume bids fair to equal any that have preceded it. We have in the present "Part" of it, instructive reports on Northamptonshire farming, and on that of Cumberland; reports of experiments on fattening cattle on different sorts of food, and of similar experiments on the different breeds of sheep. Mr. Way contributes another instalment of his valuable report on the power of soils to absorb manure. Mr. Rowlandson gives a very full and particular statement on the production of butter. Professor Johnstone has recorded the valuable experience on the relation of geology and agriculture, which he acquired in his travels and researches on that subject in North-Eastern America; the subjects of irrigation, Beet-sugar, sewage-manure, are discussed; and Mr. Pusey himself contributes a useful suggestion on the hoeing of Turnips, which has already been referred to elsewhere by our correspondent Mr. Eames, of Hampshire. We shall print from time to time extracts from the volume in other sections of our Journal. It must suffice for the present thus to have characterised its contents for the sake of those who, not being members of the society, can obtain it only by purchase.

Notices to Correspondents.

FARM BUILDINGS: *A Subscriber.* We have published several plans in past volumes; at present we must be satisfied with referring to them and to the plans published in the different agricultural Cyclopædias. The Transactions of the Highland Society contain plans of farm buildings suited to small farms.

GRASS: *H E J.* It will improve the land. But the best way is to stock the land and allow their manure to benefit the land. Green manuring is a wasteful system at the best, as regards the money result; and it is extravagant when applied as you intend to do to Grass lands.

GRASS SEEDS: *H R M.* You must not sow the Grass seeds now—it is too late. You should wait till March. Give the land a harrowing and cleaning just before sowing. Or you may sow the Barley in March, and hoe the Grass seeds in after the Barley is up, in April.

LUCERNE: *Constant Reader.* If sown now it would come up and be destroyed by the first frost. You must sow in April.

OSIERS: *Osier.* An intelligent correspondent, at page 69, 1845, says:—"Now, if I had 4 acres to plant with Osiers, I would plant—

One with brindled Osier	...	...	3 ft. 0 in.	by	2 ft. 0 in.
One with last new kind	...	...	3 0	,,	2 0
Half with black-budded Spaniard			3 0	,,	2 0
Half with yellow-barked Osier		...	2 6	,,	1 8
Half with green-leaved Osier		...	2 6	,,	1 8
Half with real French	...	...	2 0	,,	1 4

And I would try a rod or two of bitter Purple, remembering that the green-leaved Osier and bitter Ornard should be in the wettest ground. Nevertheless, it is a great error to suppose Osiers grow best in swampy ground. They grow best in a loose sandy loam, but do not mind being occasionally overflowed." You may plant now, by just sticking the cuttings right end downwards into the land.

POULTRY: *B.* The old remedy, and I believe the best, is to wash the hen's breast with vinegar. Shut her from her nest night and day.—*J. R.* The eggs were bad, doubtless from the wretched condition of the cock bird. He is eaten up with fever, that prevents his moulting, and causes the white wattles. Rub the comb, and all parts affected, with any grease that has neither salt nor flour in it. Give him a tablespoonful of castor-oil every day for four days; feed him on oatmeal mixed with lukewarm milk, and Lettuce leaf chopped fine with it; if he improve under this treatment, then feed, when the fever has disappeared, as generously as you can. Be sure they have plenty of clean water, and that it is changed every day; bad water will cause all the ailments you complain of.—*P. L. G.* I cannot tell you the cause. Some attribute it to feeding with meat, some to weakness. It mostly disappears, and I should think cool feeding the best remedy. —*M. D. L.* A chicken will easily take as much chalk as would cover a sixpence, and one-third of the quantity of Cayenne pepper at a dose. I have seldom found the latter necessary, when the first has been given in the early stage of the disorder. It is not necessary to be very particular in making doses for poultry, as although large quantities are seldom given, they will take them with impunity. I have seen a hen take 8 grains of calomel without any perceptible effect. Almost all diarrhœa in chickens is caused by bad water. The Cambridge is the hardiest turkey for any climate. *J. Baily*, 113, *Mount-street.*

INFLUENCE OF OUT-DOOR EMPLOYMENT ON THE FEMALE POPULATION: *A Reader.* We have seen remarks on this subject in the reports to Government of school-inspectors, but are unable to give detailed and exact reference. You will find in page 19, vol. viii., of the English Agricultural Society's Journal, remarks on the subject by Mr. Nicholls, with a reference to the reports of the commissioners appointed in 1842, to inquire into the employment of women and children in agricultural districts.

ROTATION OF CROPS: *Urbam.* Your land must be first rate, or your manure-bill must be considerable, to permit such a rotation as you propose. Swedes, Oats, Winter Beans, Wheat, Barley, succeeding one another, would soon rob any land that was not naturally exceedingly rich, or artificially most liberally recruited, and for this latter purpose we doubt if stolen crops of Mustard and Italian Rye-grass, to be fed off between the Beans and Wheat, and between the Barley and Swedes, would suffice. It is simply the exhaustion and foulness of the land consequent on two corn crops in succession that makes us object to them. Of course you may have them in succession if you choose to apply manure and labour enough to meet these objections. We know of no objection to Talavera Wheat; millers like it, and so do farmers. It is well suited to spring sowing, and it is a stiff strawed sort. Other sorts exceed it in productiveness; for instance, Spalding's red Wheat and red-straw white Wheat.

Markets.

COVENT GARDEN, SEPT. 18.

Vegetables and Fruit are plentiful, Melons abundant, and Plums, Pears, and Apples sufficient for the demand. Apricots are all but over. Tomatoes continue to be imported, but English grown ones may now be obtained. Filberts realise better prices. Potatoes are plentiful, but diseased. Peas are scarce. Mushrooms are plentiful. Cut flowers consist of Heaths, Pelargoniums, Roses, Mignonette, Bignonia venusta, and Fuchsias.

FRUIT.

Pine-apples, per lb., 3s to 5s
Grapes, hothouse, p. lb., 2s to 5s
Peaches, per doz., 5s to 8s
Nectarines, per doz., 3s to 7s
Plums, per punnet, 1s to 3s
Figs, per doz., 1s 6d to 2s 6d
Apples, dessert, p. bsh., 4s to 7s
— kitchen, do., 3s to 5s
Melons, each, 2s to 5s
Lemons, per doz., 1s to 2s
Pears, per doz., 2s to 5s
— per half sieve, 4s to 8s
Almonds, per peck, 5s
— sweet, per lb., 2s to 3s
Oranges, per doz., 1s to 1s 6d
— per 100, 3s 6d to 10s
— Seville, per doz., 1s to 3s
Nuts, Barcelona, per bush, 20s to 22s
— Brazil, do., 12s to 14s

VEGETABLES.

Cabbages, per doz., 6d to 1s 3d
French Beans, per half sieve, 1s 6d to 2s
Peas, per sieve, 2s to 5s
Cauliflowers, per doz., 4s to 6s
Greens, per doz., 1s to 1s 6d
Tomatoes, per hf. sieve, 4s to 5s
Potatoes, per ton, 60s to 130s
— per cwt., 3s 6d to 7s
— per bush., 1s 6d to 2s 6d
Turnips, per doz., 3s to 4s
Cucumbers, each, 2d to 6d
Veget. Marrow, p. doz, 6d to 1s6d
Celery, per bundle, 9d to 1s 3d
Carrots, p. doz., 3s to 5s
Spinach, per sieve, 1s to 2s
Onions, per bunch, 2d to 4d
— Spanish, p. doz., 1s3d to 3s
Beet, per doz., 1s to 2s
Leeks, per bunch, 1d to 2d
Shallots, per lb., 6d to 8d
Garlic, per lb., 6d to 8d
Lettuce, Cab., per score 4d to 1s
— Cos, p. score, 9d to 1s 6d
Radishes, per doz., 8d to 1s
— Turnip, 9d to 1s 6d
Small Salads, p. pun., 2d to 3d
Horse Radish, p. bundle, 1s to 4s
Mushrooms, p. pott., 9d to 1s 3d
— per bush., 3s to 5s
Sorrel, per hf. sieve, 6d to 1s
Artichokes, per doz., 4s to 6s
Fennel, per bunch, 2d to 3d
Savory, per bunch, 2d to 3d
Thyme, per bunch, 2d to 3d
Parsley, p. doz. bnchs., 2s to 3s
Mint, per bunch, 2d to 3d
Basil, green, p. bunch, 4d
Marjoram, do., 3d to 6d
Watercresses, p. 12bun, 9d to 1s

HAY.—Per Load of 36 Trusses.

SMITHFIELD, Sept. 16.

Prime Meadow Hay	75s to 85s	Clover ...	... 80s to 100s
Inferior do.	... 60 70	New do. ...	... 70 90
Rowen ...	... 50 60	Straw ...	... 28 36
New Hay ...	... — —		E. J. DAVIS.

CUMBERLAND MARKET, Sept. 16.

Prime Meadow Hay	80s to 88s	Inferior Clover	... 80s to 90s
Inferior do. ...	... 65 75	New do. ...	... 78 95
New Hay ...	... 60 77	Straw ...	... 26 40
Old Clover ...	... 98 105		JOSHUA BAKER.

WHITECHAPEL, Sept. 16.

Fine old Hay	... 80s to 86s	Old Clover...	...100s to 105s
New Hay ...	... 65 75	Inferior do.	... — —
Inferior do.	... 50 60	New Clover	... 90 100
Straw ...	... 32 35	Inferior do.	... 65 75

SMITHFIELD.—MONDAY, Sept. 13.

There is a considerable increase in the supply of Beasts, which causes a slight depression in the trade; however, the quotations of last Monday are pretty generally realised, and very few remain unsold. The number of Sheep and Lambs is the same as on Monday last; the prices of that day are fully maintained; indeed a few of the choicest descriptions have made more money. The Calf trade remains unaltered. From Germany and Holland there are 1811 Beasts, 5860 Sheep, 260 Calves, and 105 Pigs; from Scotland, 80 Beasts; and 2500 from the northern and midland counties.

Per st. of 8lbs.—	s	d	s	d
Best Scots, Herefords, &c. ...	3	8	to 3	10
Best Short-horns	3	6	— 3	8
2d quality Beasts	2	10	— 3	2
Best Downs and Half-breds ...	4	4	— 4	6
Do. Shorn ...	0	0	— 0	0

Per st. of 8lbs.—	s	d	s	d
Best Long-wools	4	0	to 4	2
Do. Shorn ...	0	0	— 0	0
Ewes & 2d quality	3	4	— 3	8
Do. Shorn ...	0	0	— 0	0
Lambs ...	4	6	— 5	2
Calves ...	3	0	— 4	0
Pigs ...	3	4	— 4	4

Beasts, 5267; Sheep and Lambs, 29,210; Calves, 350; Pigs, 380

FRIDAY, Sept. 17.

The number of Beasts is larger and trade slower; however, the weather being favourable, they are mostly disposed of at about Monday's prices. Trade is much slower for Sheep, and although the supply is not large, they cannot be sold except at reduced prices. There is now very little demand for Lamb; middling ones are very unsaleable. Good Calves are rather dearer, and trade is more active for all kinds. From Germany and Holland we have 551 Beasts, 2850 Sheep, and 293 Calves; 350 Beasts from the northern and midland, and 83 Milch Cows from the home counties.

Per st. of 8lbs.—	s	d	s	d
Best Scots, Herefords, &c. ...	3	8	to 3	10
Best Short-horns	3	6	— 3	8
2d quality Beasts	2	8	— 3	2
Best Downs and Half-breds ...	4	2	— 4	6
Do. Shorn ...	0	0	— 0	0

Per st. of 8lbs.—	s	d	s	d
Best Long-wools	3	10	to 4	0
Do. Shorn ...	...		...	
Ewes & 2d quality	3	2	— 3	6
Do. Shorn ...	0	0	— 0	0
Lambs ...	4	0	— 5	0
Calves ...	3	0	— 4	4
Pigs ...	3	4	— 4	4

Beasts, 1143; Sheep and Lambs, 9,630; Calves, 502; Pigs, 470

COAL MARKET.—FRIDAY, Sept. 17.

Holywell, 14s. 3d.; Eden Main, 14s. 6d.; Tanfield Moor, 12s. 3d.; Wallsend Riddell, 14s.; Wallsend Haswell, 15s. 9d.; Wallsend Hetton, 15s. 6d.; Wallsend Lambton, 15s.; Wallsend Stewarts, 15s. 6d.; Wallsend Tees, 15s. 6d.—Ships at market, 97.

HOPS.—BOROUGH MARKET, Sept. 17.

Messrs. Pattenden and Smith report that a good supply of new Hops have arrived at market, and are selling at the following prices:—Farnhams, 100s. to 112s. per cwt.; country, 90s. to 100s.; Mid and East Kents, 80s. to 140s.; Weald Kents, 75s. to 84s.; Sussex, 70s. to 80s. Inferior and mouldy samples at much less prices. The duty is backed at 245,000*l.* and 250,000*l.*, but it is generally thought to be much overrated. Worcester Fair being on Monday next, is expected to settle prices to some extent.

WOOL.

BRADFORD, THURSDAY, Sept. 16.—The inquiry for most descriptions of English wool during the current week has been languid, but late prices are well supported. Spinners are naturally reluctant in the present depressed condition of the trade to operate extensively at the high rate wool is now commanding; and on the other hand, staplers knowing the utter impossibility of replacing their present stocks from the country, will not sell unless they can realise prices somewhat commensurate with those current there. Short wools and noils are realising high prices from their comparative scarcity.

MARK LANE.

MONDAY, Sept. 13.—The supply of English Wheat by land carriage samples to this morning's market was fair but we are unable to note any improvement in the condition; picked samples commanded the prices of this day se'nnight, but the majority are still very irregularly sold. Foreign met a good retail inquiry, but holders not being generally inclined to accept the prices offered, the business transacted was limited. —English Barley is fully 1s. per qr. cheaper; foreign grinding sells at about the prices of this day se'nnight.—Beans and Peas are very scarce, and bring rather more money.—The Oat trade is slow, and to effect sales it is necessary to submit to a slight reduction.—The Flour trade is firm.

PER IMPERIAL QUARTER.	s.	s.		s.	s.
Wheat, Essex, Kent, & Suffolk...White	36	—50	Red	32	—44
— — fine selected runs...ditto	40	—54	Red	38	—48
— — Talavera	52	—56			
— Norfolk	40	—48	Red	—	
— Foreign	36	—52			
Barley, grind. & distil., 24s to 27s...Chev.	25	—32	Malting .	27	—29
— Foreign ...grinding and distilling	20	—25	Malting .	25	—30
Oats, Essex, and Suffolk	18	—19			
— Scotch and Lincolnshire...Potato	18	—22	Feed	17	—19
— Irish .....Potato	17	—20	Feed	17	—19
— Foreign .....Poland and Brew	18	—20	Feed	15	—18
Ryé	—		Foreign .	—	
Rye-meal, foreign	—				
Beans, Mazagan.....28s to 31s.....Tick	29	—32	Harrow .	29	—32
— Pigeon .....29s — 35s...Winds.	—		Longpod	—	
— Foreign .....Small	27	—34	Egyptian	26	—27
Peas, white, Essex and Kent.....Boilers	34	—37	Suffolk...	36	—39
— Maple.....32s to 33s.....Grey	31	—35	Foreign .	27	—36
Maize .....White	—		Yellow...	—	
Flour, best marks delivered...per sack	37	—40			
— Suffolk .....ditto	25	—32	Norfolk .	25	—32
— Foreign..... per barrel	21	—24	Per sack	28	—34

ARRIVALS IN THE PORT OF LONDON LAST WEEK.

	Wheat.	Barley.	Malt.	Oats.	Beans.	Peas.
Flour, 7431sks						
— 3292 brls	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.
English	3049	671	5150	505	126	192
Irish	—	—	50	510	—	—
Foreign	29780	2120	—	50242	491	44

FRIDAY, Sept. 17.—The arrivals of grain and Flour during the week have been good, but to-day's market was only moderately attended, and a small business transacted; prices of both English and foreign Wheat remain nominally as on Monday.—Flour is in fair request, and fully as dear.—Barley, Beans, and Peas meet a fair demand, at Monday's prices.—The Oat trade is firm, at late rates.—Of floating cargoes of Wheat but few sales have transpired; 39s. 6d. per qr., cost, freight, and insurance, has been paid for Ghirka.

IMPERIAL AVERAGES.

	Wheat.		Barley.		Oats.		Rye.		Beans.		Peas.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
Aug. 7.....	39	7	27	8	20	0	29	7	33	9	30	6
— 14.....	39	7	27	5	19	6	30	3	33	7	31	4
— 21.....	41	2	27	4	19	3	29	4	33	2	29	10
— 28.....	43	7	28	2	20	3	29	9	34	4	31	1
Sept. 4.....	44	9	28	2	20	5	31	3	34	10	31	6
— 11.....	42	5	27	10	18	10	30	9	34	5	31	9
Aggreg. Aver.	41	10	27	8	19	9	30	2	34	0	31	0

Duties on Foreign Grain, 1s. per qr.

FLUCTUATIONS IN THE LAST SIX WEEK'S AVERAGES.

PRICES.	AUG. 7	AUG. 14.	SEPT. 11.	AUG. 28.	SEPT. 4.	AUG. 21.
44s 9d—	...	...	...	...		
43 7	...	...	...		...	...
42 5	...	...	...	...	...	
41 2	...	...	...	...	...	
39 7	...	...	...	...	...	...
39 7	...	...	...	...	...	...

LIVERPOOL, TUESDAY, Sept. 14.—The imports of grain and Flour this week are moderate, both from our own coast and from foreign ports. The Corn Exchange this morning was slenderly attended by buyers. A moderate demand was experienced for Wheat and Flour, and all good qualities fully supported late prices. Superfine sweet American Flour commands 21s. to 21s. 6d. per barrel. In Oats and Oatmeal there was a limited business. A few Irish new Oats sold at 2s. 5½*d.* per 45 lbs. Beans were a little easier to buy. Barley and Peas without alteration in value. Indian Corn also unchanged. —FRIDAY, Sept. 10.—The weather has been highly propitious all the week for the northern harvest, now near upon completion. The Corn Exchange this morning was slenderly attended by millers and dealers, but we had a few buyers of Wheat and Flour to go into the interior, and altogether a fair moderate business was effected at about last Tuesday's rates. In Oats and Oatmeal no change, and not many samples of Irish new on show. Egyptian Beans further improved 6*d.* per quarter. Barley and Peas unaltered in value. India Corn in fair request.

FOR WATERING GARDENS, DISTRIBUTING LIQ
MANURE, BREWERS' USE, ETC.
PATENT VULCANISED INDIA-RUBBER HOSE PIPE



JAMES LYNE HANCOCK, (SOLE LICENSEE
MANUFACTURER, GOSWELL ROAD, LONDON.

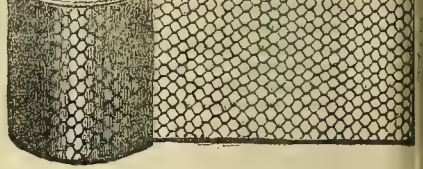
These Pipes are well adapted for Watering Gardens, veying Liquid Manure, racking Beer and Cider, for port Gas Lamps, and all purposes where a perfectly sound W proof and Flexible Pipe is required. They are particul suitable for Fire Engines, and are found exceedingly useful Dwelling-houses for conveying Hot or Cold Water to Baths,

Hose Reels for winding-up and wheeling away long len of the Vulcanised Rubber Garden Hose, are now manu tured by J. L. HANCOCK, of light and cheap wicker work.

N.B.—Vulcanised India Rubber Garden Hose, fitted up Roses, Jets, and Branches complete, with union joints re to attach to pumps or water cisterns.

All Letters or Orders addressed to J. L. HANCOCK, Goswell M Goswell Road, London, will meet with immediate attentio

GALVANISED WIRE GAME NETTING
7*d.* per yard, 2 feet wide.

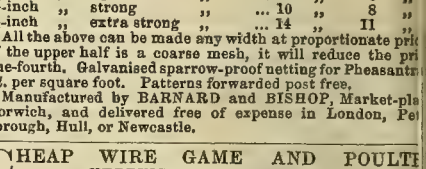


	Galvanised.	Japan Iron
2-inch mesh, light, 24 inches wide ...	7*d.* per yd.	5*d.* per
2-inch " strong " ...	9 "	6½ "
2-inch " extra strong " ...	12 "	9 "
1⅝-inch " light " ...	8 "	6 "
1⅝-inch " strong " ...	10 "	8 "
1⅝-inch " extra strong " ...	14 "	11 "

All the above can be made any width at proportionate pri
If the upper half is a coarse mesh, it will reduce the pri one-fourth. Galvanised sparrow-proof netting for Pheasantr 3*d.* per square foot. Patterns forwarded post free.

Manufactured by BARNARD and BISHOP, Market-pla Norwich, and delivered free of expense in London, Pe borough, Hull, or Newcastle.

CHEAP WIRE GAME AND POULTR
NETTING, 5*d.* per running yard.

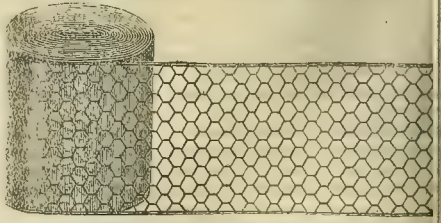


GALVANISED ditto, 7*d.* per running yard, 2 feet wide.

	Galvanised.	Not Galvanised
24 in. wide, 2 in. mesh, 7*d.* per yard, ...		5*d.* per yard.
30 in. " 2 in. " 9*d.* " ...		6½*d.* "
36 in. " 2 in. " 10½*d.* " ...		7½*d.* "
48 in. " 2 in. " 1*s.* 2*d.* " ...		10*d.* "

Sparrow Proof Netting, Galvanised, 3*d.* per square fo made to any size for the same proportionate price. T article was shown at the "Great Exhibition," where it was much admired for its light and durable appearance, and knowledged to be the cheapest and best article of the ki over offered. Extra strong Wire Sheep Netting, 3 feet hi 1*s.* 6*d.* and 2*s.* 3*d.* per yard. Also every description of Flow Trainers, Dahlia Rods, Garden Arches, Bordering, Flow Stands, Tying Wire, Trellis Work, Invisible Wire Fenci Hurdles, and every description of Wire Work for Horticultu purposes.—Illustrated Catalogues of Patterns forwarded, pe free, on application to T. H. Fox, City of London Wire W and Iron Fence Manufactory, 44, Skinner-street, and 6 and Snow-hill, London.

GEORGE ARTINGSTALL AND CO., LATCHFO
WIRE WORKS, WARRINGTON,



Manufacturers of Improved Strong
RABBIT-PROOF WIRE NETTING.

12 inches high ... ... 4*d.* per yard.
18 ditto ... ... 6*d.* "
24 ditto ... ... 8*d.* "

All other widths at proportionate prices.

Wire Work for Aviaries, Conservatories, Fencing, &c., &c also extra strong Wire Kiln Floors for drying Grain, &c., &

HARTLEY'S PATENT ROUGH PLATE GLASS,

For Ridge and Furrow Roofs, Greenhouses, Railway Stations, Engine Sheds, Mills, Market-Halls, and Public Buildings generally.

For Conservatories, Public Buildings, Manufactories, Skylights, &c., &c.	One-eighth inch thick.	3-16th inch thick.	¼ inch thick.
	s. d.	s. d.	s. d.
Packed in Crates, for cutting up of the sizes as Manufactured :— 30 inches wide and from 40 to 50 long ... Or 20 „ „ 50 to 70 „	0 6	0 8	0 10
In Squares, cut to the sizes ordered :— Under 8 by 6	0 4	0 6	0 7
8 by 6 and under 10 by 8	0 4½	0 7	0 8
10 by 8 „ 14 by 10	0 5	0 7	0 9
14 by 10 „ 1½ feet super., if the length does not exceed 20 inches	0 5½	0 7	0 9
1½ feet sup. „ 3 „ or if above 20, and not above 30 inches long	0 6	0 8	0 10
3 „ „ 4 „ „ 20 „ 30 „	0 6½	0 8	0 10
4 „ „ 5 „ „ 30 „ 35 „	0 7	0 8½	0 10
5 „ „ 6 „ „ 35 „ 40 „	0 7½	0 9	0 10½
6 „ „ 8 „ „ 40 „ 45 „	0 8	0 9½	0 11
8 „ „ 10 „ „ 45 „ 55 „	0 8½	0 10	1 0
10 „ „ 12 „ „ 55 „ 70 „	0 9	0 11	1 1
12 „ „ 15 „ „ 70 „ 85 „	.....	1 0	1 2

PACKED IN BOXES OF 50 FEET EACH.

6 inches by 4 inches, and 6½ inches by 4½ inches ... 10*s.* 6*d.* | 8 inches by 6 inches, and 8½ inches by 6½ inches ... 13*s.* 6*d.*
7 „ by 5 „ and 7½ „ by 5½ „ ... 12*s.* 0*d.* | 9 „ by 7 „ and 9½ „ by 7½, and 10 by 8 15*s.* 0*d.*

When a quantity is required, an estimate will be furnished on application.

JAMES PHILLIPS AND CO.,
HORTICULTURAL GLASS MERCHANTS, 116, BISHOPSGATE-STREET WITHOUT, LONDON.

LARGE STOCK OF

AGRICULTURAL IMPLEMENTS ON SALE,

AT TWENTY PER CENT. BELOW THE USUAL COST.

COTTAM AND HALLEN

RE-ARRANGING THEIR

MANUFACTORY AND SHOW ROOMS FOR THE SALE OF

AGRICULTURAL IMPLEMENTS,

WISH TO DISPOSE OF A LARGE ASSORTMENT NOW IN STOCK, PREVIOUS TO MAKING THE NECESSARY ALTERATIONS IN THEIR PREMISES.

The Implements are of the best and most modern invention and useful description, and a saving of 20 per cent. and upwards will be effected by any purchases made from this Stock.

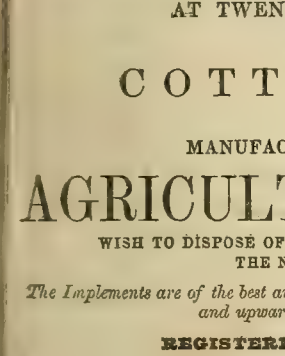
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PRIZE EXHIBITION GATES.
IRON HURDLES AND GAME WIRE NETTING.
CATALOGUES ON APPLICATION.

COTTAM AND HALLEN, 2, WINSLEY-STREET, OXFORD-STREET, LONDON.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER.

TUBULAR BOILERS OF ALL SIZES, WARRANTED THE MOST EFFICIENT.

J. WEEKS AND CO., King's-road, Chelsea, Hot-house Builders; Horticulture in all its branches upon the most improved principles. These Boilers are very powerful, durable, and economical. The fire warranted to last 15 hours without attention. The Furnace Bars are Hollow Tubes through which the return water passes before entering the upper part of the boiler, thereby causing a very rapid circulation, and producing double the effect from the same quantity of fuel.



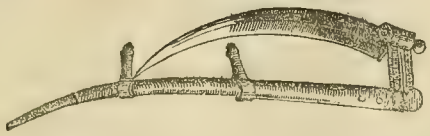
J. WEEKS AND CO., King's Road, Chelsea, CHALLENGE the whole world to make a Boiler that will produce anything like the same effect, with the same quantity of Fuel in a given time. It is one of those boilers that warms the water of their Victoria Regia Tank, which contains 20,000 gallons, and also heats several large Forcing-houses and ranges of Pits, with a small consumption of fuel.

Plans, Models, and Estimates of Horticultural Buildings; also Catalogues of Plants, Vines, Seeds, &c., forwarded on application.

J. WEEKS and Co., King's-road, Chelsea, London.

STEPHENSON AND PEILL, 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Manufacturers of Copper Cylindrical and Improved Conical Iron BOILERS, and Conservatory and Hothouse Builders, either in wood or iron, respectfully call the attention of the Nobility, Gentry and Nurserymen to their simple but efficacious method of warming Horticultural and other Buildings by hot water. From the extensive works they have executed, references of the highest respectability can be given, and full particulars furnished on application.

BOYD'S SELF-ADJUSTING SCYTHE.



BOYD'S PATENT SCYTHE and the celebrated STEEL DIGGING FORKS.—Boyd's Scythe is capable of being adjusted to any angle by the person using it, and never requires the aid of a blacksmith; when out of use it shuts up like a clasp-knife. The *Gardeners' Chronicle* thus comments upon it:—"We gladly state that Mr. Boyd's Scythe stands well the great test, experience, especially with his late ingenious and very useful improvement."—G. C., 15th May, 1852. The Steel Digging Forks are those celebrated by Mr. Mechi: "When a labourer has once used them, he will never work with any other implement for digging. They effect a saving of nearly 50 per cent. in labour."—Wholesale and Retail at Wm. Dray and Co.'s Agricultural Implement and Machinery Warehouse, Swan-lane, Upper Thames-street, near London-bridge.

GREEN AND HOTHOUSES, made by Machinery, at J. Lewis' Horticultural Works, Stamford Hill, Middlesex, warranted best materials, and the cheapest in England.—A List of Prices sent by enclosing 2 postage stamps.

HOTHOUSES, GREENHOUSES, ETC.

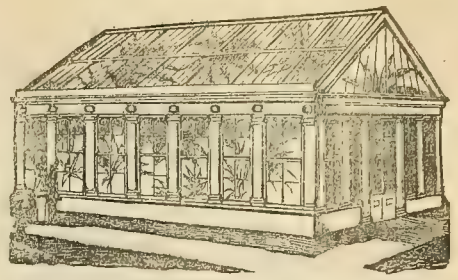
BY HER MAJESTY'S ROYAL LETTERS PATENT.

E. DENCH, PATENT HOTHOUSE WORKS, King's Road, Chelsea.—The superior qualities in every respect of these Structures having been proved in all parts of the United Kingdom, has caused a greater demand for them than E. D. could execute; he has been obliged to have perfect and powerful machinery made to meet the numerous orders, and can now execute any amount of work to great perfection, with dispatch, and for quality and price to defy all competition. Patent Hothouses, with excellent glass, 3 feet long by 1 foot wide, every front sash to open, and every top one to slide down, with pulley made of the same materials as the electric telegraph wires, which require no painting; delivered free to Wharf or Railway Station, at 1*s.* 2*d.* per foot super., complete, having been fitted, and every portion marked previously, making a Greenhouse 16 ft. 6 inches long, 12 ft. rafter, 400 ft., 23*l.* 6*s.* 8*d.*; 24 ft. 6 ins. long, do. do., 52*l.* 6*s.*; 30*l.* 13*s.* 8*d.*; 28 ft. 6 ins. long, 15 ft. rafter, 71*l.* 2 ft., 41*l.* 10*s.* 8*d.* Heating by Hot Water on the most approved and economical principles.

Patent Sashes for Pits and Peach Walls, &c., 7*d.* and 8*d.* per foot, super.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER,

AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.



GRAY AND ORMSON, Danvers Street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

G. and O. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders they can with the greatest confidence give the most satisfactory references.

Their Hot-Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating by Hot Water can be made available.

GARDEN FRAMES, PITS, GREENHOUSES.—TRANSPARENT SHEETING, an effectual protection against frost, giving light to plants, 1*s.* per yard, nearly two yards wide; thick canvass ditto, 1*s.* per square yard; tarpauling, 7*d.* per square yard.—R. RICHARDSON, 21, Tonbridge-place, New-road, N.B. Upwards of 100 thick tarpaulings, second hand, various sizes, at 1*s.* per square yard.

CHEAP ENCLOSURE FOR POULTRY.—Extract from Newton's Shilling Work on Management of Domestic Poultry and Artificial Incubation in Garden Hothouses:—"We bought our wire-work for the enclosure of Richardson, Tonbridge-place, London. It is 6 feet high, and cost 1*s.* per yard run, ready painted, the mesh about 2 inches; this we fixed to posts, 6 feet apart. A cheap enclosure." This wire-work is rabbit-proof, and may be had in any width, from 6 feet to 15 inches, at 6½*d.* per square yard. As a fence against hares, rabbits, cats, dogs, sheep, deer, &c., it will be found to answer; also for enclosing fowls, pheasants, &c.—R. Richardson, 21, Tonbridge-place, corner of Judd-street, New-road.

THE ROYAL EXHIBITION.—A valuable newly-invented, very small, powerful, waistcoat-pocket Glass the size of a Walnut, to discern minute objects at a distance of 4 to 5 miles, which is found to be invaluable for YACHTING, and to SPORTSMEN, GENTLEMEN, and GAMEKEEPERS.

TELESCOPES.—A new and most important INVENTION in TELESCOPES, possessing such extraordinary powers that some—3½ inches, with an extra eye-piece—will show distinctly Jupiter's Moon, Saturn's Ring, and the Double Stars. They supersede every other kind, and are of all sizes—for the waistcoat-pocket, Shooting, Military purposes, &c. Opera and Race-course Glasses with wonderful powers; a minute object can be clearly seen from 10 to 12 miles distant.—Invaluable Acoustic Instruments for relief of extreme Deafness.

Messrs. S. and B. SOLOMONS, Opticians and Aurists, 39, Albemarle-street, opposite the York Hotel, London.

HEAL & SON'S ILLUSTRATED CATALOGUE OF BEDSTEADS, sent free by post, contains designs and prices of upwards of One Hundred different Bedsteads in Iron, Brass, Japanned Wood, Polished Birch, Mahogany, Rosewood and Walnut-tree Woods; also their Priced List of Bedding; and their New Ware-rooms enable them to keep one of each design fixed for inspection. They have also, in addition to their usual stock, a great variety of the best designs of PARISIAN BEDSTEADS, both in Wood and Iron, which they have just imported.

Heal and Son, Bedstead and Bedding Manufacturers, 196, Tottenham Court Road, London.

A NEW BEDSTEAD, portable without detaching any of its parts, packs in a sponge bath, is admirably adapted for summer use, on account of its extreme coolness, and which can be changed in one moment from a bed to a lounge or sofa for the sitting-room, may be seen at

COTTAM and HALLEN'S, 76, Oxford-street,

where also is on view a great variety of Metallic Bedsteads, fitted with and without the Patent Rheocline, &c. &c., together with a large assortment of the Patent Radiating and other Stoves, and every other description of Ironmongery.

THE ZOOLOGICAL GARDENS, REGENT'S PARK, are open daily. All Visitors are admitted to Mr. Gould's collection of Humming Birds without any extra charge. The Band of the 1st Life Guards will perform, for the last time this season, on Saturday, Sept. 18, at Four o'Clock. The first living specimen of CHOIROPOTAMUS ever seen in Europe is now added to the collection.—Admission, One Shilling; on MONDAYS, Sixpence.

LADIES, TRAVELLING, or during the Drive, the Aquatic Excursion, or while otherwise exposed to the scorching rays of the sun, and heated particles of dust, will find

ROWLANDS' KALYDOR

a most refreshing preparation for the complexion, dispelling the cloud of languor and relaxation, allaying all heat and irritability, and immediately affording the pleasing sensation attending restored elasticity and healthful state of the skin. Composed of choice exotics of balsamic nature, utterly free from all mineral admixture, and pleasing and delightful in its effects, Rowlands' Kalydor tends to neutralise the effects of atmosphere upon the skin, and to promote that healthy action of the microscopic vessels, by which its general well-being and the beauty of its appearance are so essentially promoted. Freckles, Tan, Spots, Pimples, Flushes, and Discolorations fly before its application, and give place to delicate clearness with the glow of beauty and of bloom. In cases of Sunburn, or Stings of Insects, its virtues have long been acknowledged.

Its purifying and refreshing properties have obtained its selection by Royalty, and the several Courts throughout Europe, together with the élite of the Aristocracy.—Price 4*s.* 6*d.*, and 8*s.* 6*d.* per bottle.

Caution.—The words Rowlands' Kalydor are on the wrapper of each bottle.

Sold by A. Rowland and Sons, 20, Hatton-garden, London; and by all Chemists and Perfumers.

On the 20th of September will be published, price 5s. 6d. in cloth,

THE FIFTH VOLUME OF

HOUSEHOLD WORDS:

A Weekly Journal, conducted by CHARLES DICKENS.

DESIGNED FOR THE INSTRUCTION AND AMUSEMENT OF ALL CLASSES OF READERS, AND TO ASSIST IN THE DISCUSSION OF THE SOCIAL QUESTIONS OF THE TIME.

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THE HOUSEHOLD NARRATIVE OF CURRENT EVENTS;

BEING A RECORD OF THE PUBLIC EVENTS OF 1850—51.

OFFICE, 16, WELLINGTON STREET, NORTH.

WANTED, the following Numbers of the "GARDENERS' CHRONICLE" for 1850:—Nos. 43, October 26, 47, November 23; 48, November 30; 49, December 7; 51, December 21. One Shilling each will be given for the above, on application to Mr. RASTALL, 24, Ebury-street, Pimlico, London.

With numerous Woodcuts, 3s. 6d., bound and gilt,

DOMESTICATED ANIMALS.

Fifth Edition.

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NYMPHÆA GIGANTEA.

MR. J. C. STEVENS is instructed by Messrs. Standish and Noble to include in his sale on FRIDAY next, three Tubers of the above magnificent and rare Aquatic. They will be sold without reservation.

King-street, Covent-garden, Sept. 18.

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NOTICE.

MR. J. C. STEVENS begs to notify that having concluded an agreement with Sir Joseph Paxton for the purchase of the Entire Collection of Messrs. Loddiges' Plants or the Crystal Palace Company, the Sales by Auction previously advertised will not take place.

38, King-street, Covent-garden, Sept. 18.

COCHIN CHINA AND OTHER POULTRY.

MR. J. C. STEVENS will sell by Auction, at his Great Room, 38, King-street, Covent-garden, on TUESDAY, 21st September, at 12 for 1 o'clock, an assemblage of about 100 PAIRS OF COCHIN CHINA AND OTHER FOWLS, of the purest blood, from the collections of Mr. A. Stainton, Hornsey-road, Holloway, and several other well known Amateurs; among them will be found many of great weight, and some from birds that have obtained prizes at the Birmingham and Halifax Shows: they are from the celebrated breeds of Sturgeon, Punchard, Moody, Fletcher, Gwynne, &c., of the favourite colours, and in excellent condition. Also three Skye Terriers, 18 months and 2 years old.—May be viewed the morning of sale, and Catalogues had.

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MR. J. RAWLINGS has been favoured with instructions from Mr. Sangster to submit to public competition by Auction, on the premises, Pleasant-place, West-square, Lambeth, on MONDAY, October 4, and following days, at 11 o'clock, without the least reserve (in consequence of the the ground being required for great alterations), the whole of the valuable NURSERY STOCK, consisting of fine Evergreens and Shrubs, Fruit and Forest Trees, American Plants, Deciduous and Ornamental Shrubs, &c. Among the stock will be found Chinese Arbor-Vitæ, from 2 to 6 feet high; large Green Hollies, and all other kinds of Evergreens; a considerable quantity of splendid Standard Mulberries, and every other description of Fruit Trees, in the finest condition, as well as many thousands of Apple, Pear, Plum, and Cherry Stocks, Standard and Dwarf Roses, Climbing Plants, Rhubarb for Forcing, &c.—May be viewed prior to the sale. Catalogues (6d. each, returnable to purchasers) may be had on the premises; of the principal Seedsmen; and of the Auctioneer, 5, Hoxton-square, and Ebenezer Nursery, Shacklewell, London.

"THE CEDARS," PUTNEY.

FORMING PART OF THE PUTNEY COLLEGE ESTATE.

MR. J. RAWLINGS will submit to public competition, by Auction, on the premises as above, on FRIDAY, Sept. 24, at 11 o'clock (by order of Mr. Jolley, in consequence of having to give up the premises at Michaelmas), the whole of the valuable GREENHOUSE PLANTS; also the Fruit Trees, Evergreens, and Shrubs; Garden Pots, and sundry effects.—May be viewed prior to the sale, and Catalogues had on the premises; of the principal Seedsmen; and of the Auctioneer, 5, Hoxton-square, and Ebenezer Nursery, Shacklewell, near London.

STOCK AND CROPS OF A MARKET GARDENER.

MESSRS. DAVIS AND VIGERS have been instructed by the Proprietor to sell by Auction on the premises, Lawn-lane, South Lambeth, on TUESDAY, 21st of September, at 12 for 1 o'clock, the whole of the STOCK and CROPS on the Land, with a large quantity of Rhubarb-roots of the best varieties, Mint-roots for forcing, Boxes and Lights, Hand-glasses and Bells, Baskets, a quantity of Manure, a Dennett nearly new, Light Chaise Carts and Market Carts and Wheelbarrows. A young and active Cart Gelding, 6 years old, a handseme Nag 15 hands high, 6 years old, and very fast, and a variety of useful and valuable property. To be viewed the day before and morning of Sale, and Catalogues had on the premises; of Mr. J. BELL, Covent Garden Market; of Mr. INGLEDEW, Borough Market; and of the Auctioneers, 3, Frederick's-place, Old Jewry.

N.B. Time will be allowed for clearing the Rhubarb roots.

WARE, HERTS.

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MR. REE will sell by Auction on THURSDAY, September 23, at 12 o'clock (by order of the executors of the late Mr. JAMES HUDSON) a valuable collection of GREENHOUSE PLANTS, consisting of Geraniums, Fuchsias, Azaleas, Camellias, and Miscellaneous Plants; also, two Greenhouses, Forcing Pit, Garden Utensils, &c., &c.

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THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 39.—1852.] SATURDAY, SEPTEMBER 25. [PRICE 6*d.*

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THOMAS RADDENBERRY, Clifton-Down Nursery, Bristol, begs to offer good Plants of the finest sorts of Camelias (with buds), 30*s.* per dozen; extra strong, 42*s.* Cinerarias, 12 from the following list, for 12*s.*, package included: Lady Hume Campbell, Lady Gertrude, Queen of England, Queen of Beautics, Lettice Arnold, Jetty Treffz, Marianne, Magna, Pauline, Othello, Electra, David Copperfield, Angelique, Flora M'Ivor, Carlotta Grisi, Extinguisher, Renville, Madame Sontag, Pluto.

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P.S. In noting the prices to this advertisement of Sept. 18, we by error attached them *vice versa*, which we now correct.

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For Testimonials and parties where both articles can be had, see *Gardeners' Chronicle* 18th September, 1852, page 594.

Newington Butts, London.

A FEW FRIENDS to the Family of Mr. JAMES CARTON, once Gardener at Syon House, and now wholly destitute, having formed a small purse, in order that he may emigrate with his family to Australia, solicit some further aid, in order to enable them to complete their arrangements.—Subscriptions will be received by JOHN EDWARDS, Esq., Wace Cottage, Holloway, London.

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JAMES KITLEY wishes again to draw public attention to this most superb Strawberry, by stating facts which prove it to be without a rival. The original bed, which is 9 feet by 36 feet, and 6 years old, produced this season 90 qts. of fine large fruit; and a bed, 36 ft. by 36 ft., and 3 years old, produced 255 qts. of beautiful large high-coloured, Pine-flavoured fruit, the ground being so thickly covered as to render it impossible to step between without first removing the fruit, although the plants were 2½ ft. apart. They were the admiration and astonishment of numerous gentlemen and gardeners who visited his grounds. A Post-office order for 3*s.* 6*d.*, or stamps to that amount, will secure 100 strong well-rooted plants, package included; 1*s.* 6*d.* in stamps will secure by po st six fine plants to any part of the kingdom.

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12 Climbing Roses, choice sorts, in pots	6	0
12 Bourbon Roses, on their own roots, in pots	10	6
12 Tea-scented Roses, one of a sort, by name, in pots ...	9	0
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12 Camellias, choice sorts, set with buds	30	0
24 Fine new Fuchsias, do., do.	10	0
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A remittance respectfully requested.

NEW PELARGONIUMS, ETC.

HENRY WALTON, FLORIST, &c., Edge End, Marsden, near Burnley, Lancashire, begs to state that his Autumn Catalogue of all the new and leading kinds of fine Show and Fancy Pelargoniums, Fuchsias, Verbenas, Petunias, Pansies, Hollyhocks, Carnations, Picotees, and Cinerarias, at very reduced prices, is now ready, and may be had for one stamp.

Good plants of choice Cinerarias, 9*s.*, 12*s.*, 15*s.*, and 18*s.* per dozen.

Fine show Chrysanthemums, 6*s.*, 9*s.*, and 12*s.* per dozen.

,, Lilliputienne ditto, 6*s.*, 9*s.*, and 12*s.* per dozen.

Pelargoniums, fine show varieties, 9*s.*, 12*s.*, and upwards, per dozen.

Camellias, 21*s.* and upwards per dozen.

Orders amounting to 25*s.* and upwards carriage free to Liverpool, Manchester, and Leeds; for more distant carriage extra plants will be added. It is respectfully requested that all orders be accompanied with a Post-office order payable at Marsden, Lancashire.

Choice Cineraria Seed, free by post, 1*s.*, 1*s.* 6*d.*, and 2*s.* per packet.

DUTCH BULBS.

CHARLES TURNER has imported an extensive and varied collection of DUTCH FLOWER ROOTS, which have arrived in the best possible condition.—Priced Catalogues may be had on application.—Royal Nursery, Slough.

GERANIUM "WILLMORE'S SURPRISE."

JOHN AND CHARLES LEE are now prepared to send out this extraordinary variety. It is a monstrous production, of good habit, with beautifully fringed leaves and leaflets. The flowers are double, of a rich crimson, with good markings; the trusses are bold and erect, and each bloom, with its monstrous calyx, remains in perfection for several weeks. It is adapted for pot culture, or bedding, and is altogether of a very pleasing aspect. Price 5*s.* each, or 25*s.* the half-dozen. The usual allowance to the Trade, besides a plant over for every three ordered.

Nursery and Seed Establishment, Hammersmith.

CALCEOLARIA SEED.

MR. HENRY MAJOR, Knosthorpe, near Leeds, begs to announce that his Calceolaria Seed is now ready to send out in Packets at 2*s.* 6*d.* each. It has been saved from rich and beautiful varieties, and, therefore, good and beautiful colours and shapes may reasonably be expected. Also, Select Pansy Seed at 2*s.* 6*d.* per packet. Now is the season to sow each kind for an early bloom next summer.

H. M. has the pleasure of informing his friends that he will have several very distinct and beautiful varieties of Calceolaria to send out next spring, prior to which due notice will be given.

C. LODDIGES AND SONS beg most respectfully to inform their friends and the public in general, that in consequence of the Crystal Palace Company having purchased their collection of PLANTS, they will be for the future unable to execute any orders. They take also this opportunity of expressing their grateful acknowledgments for the confidence reposed in, and liberal patronage bestowed upon their house during nearly a century.

N.B. All claims upon, and amounts due to the firm, are respectfully requested to be sent in.—Hackney, Sept. 25.

NEW WHITE BROCCOLI "DILCOCK'S BRIDE."

BAINBRIDGE AND HEY beg to announce that they have purchased of Dilcock the entire stock of the above, which is a broccoli of the highest merit, surpassing every other variety (the far-famed "Mammoth"), as the following will testify. It has been sold in the York market at 1*s.* per head.

"York Horticultural Society, June 18, 1852.

"In reply to your inquiries I find 'Dilcock's Bride Broccoli' was awarded first and third prizes 1850; first, second, and third, 1851; and first, second, and third in the present year. It ought to be grown by every gentleman's gardener, especially where any are grown for competition. Market gardeners also will find it to their profit to possess it.—Yours truly,

"R. DEMPSEY, Hon. Secretary."

The Seed will be sent out in the autumn in sealed packets at 2*s.* 6*d.* each, containing about 1300 Seeds, and may be had of themselves at York; or of Messrs. NOBLE, COOPER, and BOLTON, Seed-merchants, 152, Fleet-street, London.

Hope Nursery, York.

☞ BASS AND BROWN'S NEW AUTUMN CATALOGUE *is now ready, and will be sent Free on receipt of Three Postage Stamps.*

BEST NEW GERANIUMS OF LAST SEASON. STRONG PLANTS NOW READY.

BASS AND BROWN have the pleasure to offer as under the following, all new varieties of last season, raised by Messrs. HOYLE, FOSTER, and DOBSON.

The Collection may be had for 3*l.* 15*s.*

Any 12 for 50*s.*, or left to our selection, for 44*s.*

	s.	*d.*
Ariadne (Foster)	5	0
Ambassador (Dobson) ...	3	6
Arethusa (Dobson) ...	3	6
Chieftain (Hoyle)	3	6
Colonel of the Buffs (Hoyle)	5	0
Commissioner (Beck) ...	3	6
Elise (Hoyle)	5	0
Enchantress (Foster) ...	5	0
Exhibitor (Beck)	3	6
Ganymede (Hoyle)	5	0
Gem (Dobson)	3	6
Herald (Hoyle)	3	6
Incomparable (Dobson)...	3	6
Lavinia (Foster)	3	6
Magnet (Hoyle)	7	6
Mochanna (Hoyle)	3	6
Monteith (Foster)	3	6
Painter Improved (Beck)	3	6
Purple Standard (Foster)	5	0
Rubens (Foster)	3	6
Shylock (Foster)	5	0

NEW FANCY GERANIUMS

RAISED BY AMBROSE, AYRES, AND HENDERSON.

The 12 varieties for 2*l.* 2*s.*

	s.	*d.*
Ambassador (Henderson)	3	6
Beauty of St. John's Wood (Henderson) ...	3	6
Caliban (Ayres)	5	0
Captivation (Ambrose) ...	5	0
Electra (Ayres)	2	6
Formosissima (Ayres) ...	5	0
Gipsey Queen (Ayres) ...	5	0
Miranda (Ayres)	5	0
Othello (Henderson) ...	3	6
Princess Royal (Henderson)	3	6
Richard Cobden (Amb.)	5	0
Superba (Ambrose) ...	5	0

NEW SCARLET AND PINK-FLOWERING HORSE-SHOE LEAVED GERANIUMS.

	s.	*d.*
Amazon (Low)	2	6
Defiance (A. Henderson)	2	6
Hendersonii (Henderson)	2	6
Mountain of Light (Lee)	3	6
Odoratissima grandiflorum (Henderson) ...	2	6
Shrubland Pet (Henderson)	3	6

For varieties of previous introduction see catalogue. Our annual importation of Dutch Bulbs has arrived in excellent condition. We also beg to call attention to our very superb collections of Ranunculi, Gladioli, Iris, and an extensive stock of other roots.

Post-office orders payable to STEPHEN BROWN, Seed and Horticultural Establishment, Sudbury, Suffolk.

WILLIAM E. RENDLE AND CO., NURSERYMEN, SEEDSMEN, and FLORISTS, by Royal Permission, to HER MOST GRACIOUS MAJESTY THE QUEEN, beg respectfully to state that they have this season a very large and well-selected Stock of all the NEWEST AND BEST GERANIUMS, which they are enabled to offer at very reduced prices.

CARRIAGE FREE (SEE BELOW.)

GERANIUMS.

As some of the following varieties are scarce, early orders are respectfully solicited.

MAGNET (Hoyle's).

A highly coloured scarlet crimson; large black blotch, varying towards the margin, on a scarlet crimson ground, without being lighter on the edge; very profuse bloomer and constant; very striking flower. 10*s.* 6*d.* each.

ARIADNE (Foster's).

Rosy purple bottom petals, rich dark top, with narrow margin of rose, clear white centre, free bloomer, large truss, and fine substance; good early exhibition plant. 7*s.* 6*d.* each.

PURPLE STANDARD (Foster's).

Bottom petals rich purple; black top petals, with narrow, even fiery margin. This flower possesses fine substance and shape; the best purple out. 7*s.* 6*d.* each.

HOYLE'S OCELLATUM.

This is a very novel and striking flower, and should be in every collection. The lower petals are bright pink, with a distinct and constant spot of deep crimson; top petals deep crimson spot, shaded with bright rose. It has a pure white centre, and is altogether a most showy and lovely variety. Price 3*s.* 6*d.* each.

Enchantress (Foster's)	5*s.* 0*d*	Lablache (Foster's)	5*s.* 0*d*
Herald (Hoyle's)	5 0	Incomparable (Beck's)	5 0
Silk Mercer (Beck's)	3 6	Illuminator (Turner's)	3 6
Rosa (Beck's)	3 6	Christine (Hoyle's)	3 6
Queen of the Isles (Luff's)	2 6	Goliah (Luff's)	2 6
Loveliness (Beck's)	2 6	Eurydice (Foster's)	2 6
Major Domo (Beck's)	2 6	Tyrian Queen (Beck's)	2 6
Pretty Polly (Turner's)	2 6	Rosalind (Beck's)	2 6
Prince of Orange (Hoyle)	2 6	Lucifer (Morgan's)	2 6
Roi d'Enfer (Morgan's)	2 6	May Queen (Hoyle's)	2 6
Flavia (Hoyle's)	2 6	Ajax (Hoyle's)	2 6
Ocellatum (Hoyle's)	3 6	Queen of Torbay (Morgan)	3 6

Purchaser's Selection of TWELVE *from the following List for* £1, *or* TWENTY *for* £1 10*s.*

Cardinal (Hoyle's)	Isis (Hoyle's)
Heartsease (do.)	Rubiola (Hoyle's)
Generalissimo (do.)	Corinne (Hoyle's)
Nectar Cup (do.)	Surprize (Elliott's)
Beauty of Montpelier (Rundle)	Gaiety (Bragg's)
Boule de Feu (Bragg's)	Prince Arthur
Lady Peel (Paley's)	Village Maid (Walton's)
Candidate (Bragg's)	Magnificent (Foquette's)

Purchaser's Selection of TWELVE *from the following List for* 12*s.*, *or* TWENTY *for* 18*s.*

Gipsey Bride, Falstaff, Star, Ariel, Victory, Brilliant, Negress, Sundown, Symmetry, Gustavus, Gulielma, Virgin Queen, Grandiflora, Clown, Mercury, Star of the West, Lady Ebrington, Jenny Lind, Refulgens, Cruenta, Crusader, Princess Emilie, and Centurion.

FANCY GERANIUMS.

The following have been selected with much care from some of the best growers, and will be sure to give satisfaction. As some of the varieties are very scarce, early orders are respectfully solicited.

Miranda (Ayres')	5*s.* 0*d*	Celestial (Ayres')	5*s.* 0*d*
Gipsey Queen (Ayres')	5 0	Formosissima (Ayres')	5 0
Torbay Hero (Morgan's)	5 0	Samb) (Ayres')	3 6
Caliban (Ayres')	3 6	Defiance (Ambrose)	2 6
Marion (Henderson's)	2 6	Beauty (Ayres')	2 6
Albonii superb (Ayres')	2 6	Othello (Henderson's)	2 6
Exquisite (Henderson's)	2 6	Lucy Neal (Ayres')	2 6
Pencillatum (Ayres')	2 6		

Purchaser's Selection of TWELVE *from the following List for* £1, *or* TWENTY *for* £1 10*s.*

Hero of Surrey, Victory superb, Miss Sheppard, Pilot, Gaiety, Alboni, Creole, Magnificent, Fairy Queen, Lady Rivers, Modesta, Flexuosa, Lady Plymouth, Nosegay, Jehu improved, Mazeppa superb, Jenny Lind, Statiaskii, Unique, Queen Victoria, Jehu, Beauty of Winchester, Bouquet tout fait, &c. &c.

SCARLET GERANIUMS.

Purchaser's Selection of TWELVE *from the following List for* 12*s.*, *or* TWENTY *for* 18*s.*

Queen of Summer, Royalist, Fire Queen, Excellence, Magnum Bonum, Commander-in-Chief, Hendersonii, Monarch, Britannia, General Tom Thumb, Glendinning's Perpetual, &c.

MOUNTAIN OF LIGHT.—Very handsome foliage; the white in this variety is more pure than in "Flower of the Day," the colour deep scarlet; free bloomer and dwarf habit. 5*s.* each.

FLOWER OF THE DAY.—A beautiful variegated variety, with pale scarlet flowers, very good, 1*s.* 6*d.* each.

DANDY.—A beautiful miniature plant, adapted for small pots, and edging of flower beds, 1*s.* each.

CINERARIA, from newest and finest varieties, 2*s.* 3*d.* per packet.

CALCEOLARIA, saved from first-rate flowers, and carefully impregnated, 2*s.* 6*d.* per packet.

DUTCH FLOWER ROOTS.

W. E. RENDLE and CO. have just received a large and fine Collection of Bulbs, which are offered on very reasonable terms; Catalogues of which can be obtained on application.

Collections of Bulbs.

No. 1 Collection, all the most approved sorts	£3	0	0
No. 2 Collection, containing smaller quantities	2	0	0
No. 3 Collection for a small garden	1	0	0

For details of Collections, see Catalogue.

Trollope's Victoria Strawberry.

This is one of the best Strawberries of the day. It has been exhibited at numerous Exhibitions during the past and present season, and proved superior to all others for its superb quality, and as an early forcer is unequalled. Price 1*l.* per 100, or 3*s.* per dozen.

Kitley's Goliah Strawberries, 3*s.* 6*d.* per 100.
Cuthill's Black Prince, ditto, 3*s.* 6*d.* per 100.
All the other Prize Strawberries equally low.

All Orders above £2 will be delivered, CARRIAGE FREE, to any Station on the Great Western, Bristol, Exeter, or South Devon Railways. All Orders attended to in strict rotation.

WILLIAM E. RENDLE AND CO.,
NURSERYMEN, SEEDSMEN, AND FLORISTS, UNION ROAD, PLYMOUTH.

N.B. Our General Catalogue of Forest Trees for the coming Autumn, will be ready for delivery shortly.

FINE ANEMONE ROOTS AND SEED.

TO THE NOBILITY, GENTRY, AND CLERGY.

HENRY GIBSON, Floore, near Weedon, Northamptonshire, has now on sale an unlimited stock of the finest Striped and other Anemone Roots, at the following low prices, viz., 5*s.* per 100, or 2*l.* per 1000; seed saved from the above of 1852 growth, in packets containing 2000 seeds, 5*s.*; smaller, containing 1000, 3*s.* Sent free to any part of England on receipt of a Post-office order on the Weedon Post Office, payable to HENRY GIBSON.

HYACINTHS, DUTCH BULBS, ETC.

HENRY GROOM, CLAPHAM RISE, near LONDON, by appointment FLORIST TO HER MAJESTY THE QUEEN, and to HIS MAJESTY THE KING OF SAXONY, begs to say that he has received his usual supply of HYACINTHS and DUTCH BULBS, in very fine condition. His catalogue of Bulbs, &c., will be forwarded on application.

GREEN AND HOTHOUSES, made by Machinery, at J. LEWIS' Horticultural Works, Stamford Hill, Middlesex, warranted best materials, and the cheapest in England.—A List of Prices sent by enclosing 2 postage stamps.

ESTABLISHED MORE THAN 100 YEARS.

THOMAS MILLINGTON,

IMPORTER AND DEALER IN

GLASS FOR CONSERVATORIES, GREENHOUSES, GARDEN FRAMES, AND DWELLINGS.

WAREHOUSE, 87, BISHOPSGATE STREET WITHOUT, LONDON.

Cut to any size.	Squares not above 40 inches long. Per foot.
16 ounces	0*s.* 2½*d.* to 0*s.* 3*d.*
21 ,,	0 3½ to 0 4
26 ,,	0 5 to 0 6
32 ,,	0 6½ to 0 8

Squares in Boxes 100 feet each.	
Under 6 by 4	12*s.* 0*d.*
6 by 4, 6½ by 4	13 0
7 by 4, 7 by 6, 8 by 6, 8½ by 6½ under 9 by 7	15 0
9 by 7, 8 by 8, 12 by 9, 12 by 10, 13 by 10, 14 by 10, 15 by 10	20 0

LARGE SHEET of No. 16, very superior, packed in cases of 100, 200, and 300 feet, at 2½*d.* to 2¾*d.* per foot.

HARTLEY'S and other ROUGH PLATE, from ½ to 1 inch thick.

Glass Milk Pans, Preserve Jars, Bee and Propagating Glasses, Plate Glass, Patent Plate, Plain, ornamental, and Coloured, as well as every description of Window Glass now manufactured. Glass Shades, round, oval, and square, for Clocks and Ornaments. Fern Shades and Dishes.

LANGAGE NURSERY.

CHARLES WOOLVEN invites the attention of Fruit growers and the public generally to his large and very superior stock of Fruit-trees, comprising about 4000 standard Apples, Pears, Plums, and Cherries; fine straight stems 6½ to 8 feet in height, from 12*s.* to 21*s.* per dozen. Also a good stock of dwarf and trained trees, all of the most approved kinds, from 12*s.* to 36*s.* per dozen. A capital stock of Gooseberries and Currants, all of the very best kinds, from 2*s.* 6*d.* to 3*s.* 6*d.* per dozen, now in excellent condition. C. W. also wishes to recommend to gentlemen and builders his large stock of Evergreens, Forest Trees, and other Shrubs, at equally low prices.—C. WOOLVEN, Nurseryman, Upper Edmonton, Middlesex.

AMERICAN PLANTS.

JOHN WATERER begs to announce his Catalogue of the above Plants, Roses, Conifers, &c., is now published, and may be obtained by enclosing two postage stamps. The colours of all the Rhododendrons worthy of cultivation are described in order to facilitate purchasers in selecting.

☞ The Rhododendrons, Azaleas, &c., annually exhibited at the Royal Botanic Gardens, Regent's Park, are from this establishment.—The American Nursery, Bagshot, Surrey, near Farnborough Station, South-Western Railway.

DUTCH BULBS IMPORTED.

DAWE, COTTRELL, AND BENHAM, SEEDSMEN and FLORISTS (successors to Mr. Frederick Warner), have now received their second importation of Dutch Bulbs, Hyacinths, Crocus, Liliums, &c. &c., in fine sound condition. Guernsey and Belladonna Lilies. Catalogues on application. 3, Laurence Pountney-lane, and 36, Moorgate-street; late 28, Cornhill.

GLASS FOR CONSERVATORIES, GREENHOUSES, PIT FRAMES, &c.

JAMES PHILLIPS AND CO. beg to hand their prices of SHEET GLASS for cash:

Cut to order in Panes not above 40 inches long.	Packed in Boxes of 100 feet each.	£.	s.	d.
16 oz. ... ... 3*d.* to 3½*d.*	6 by 4, 6½ by 4½ ...	0	13	0
21 do. ... ... 3½*d.* to 5*d.*	7 by 5, 7½ by 5½ ...	0	15	0
26 do. ... ... 5*d.* to 7½*d.*	8 by 5, 8 by 5½ ...	0	15	0
In Crates of 300 ft., 16 oz., 2½*d.* per foot.	8 by 6, 8½ by 6 ...	0	17	6
	9 by 7, 10 by 8 ...	1	0	0

HARTLEY'S PATENT ROUGH PLATE GLASS for Conservatories, Public Buildings, Manufactories, Skylights, &c., ½ inch thick. Packed in boxes of 50 feet each.

6 by 4 and 6½ by 4½...10*s.* 6*d.*	7 by 5 and 7½ by 5½...12*s.* 0*d.*
8 by 6 and 8½ by 6½...13*s.* 6*d.*	9 by 7 and 10 by 8 ...15*s.* 0*d.*

FOREIGN SHEET GLASS, of very superior quality, packed in cases of 200 feet, and in sizes varying from 36 by 26 to 44 by 30 inches, at 38*s.*, 40*s.*, to 42*s.* per case.

HARTLEY'S PATENT QUARRY GLASS.

GLASS MILK PANS,

The same size as the foreign ones, but superior in colour, make, and quality, at 2*s.* each, or 21*s.* per dozen, as recommended by Captain Stanley Carr.

GLASS CHURN THERMOMETERS, for regulating the Temperature of Cream.

LORD CAMOY'S MILK SYPHONS, LACTOMETERS, GLASS CREAM POTS, &c. &c.

CUCUMBER TUBES, PROPAGATING AND BEE GLASSES, TILES AND SLATES, WASP TRAPS, PLATE, CROWN, AND ORNAMENTAL GLASS, SHADES FOR ORNAMENTS, FERN SHADES, And every Article in the Trade.

HORTICULTURAL GLASS WAREHOUSE, 116, Bishopsgate-street Without, London.

HOTHOUSES, GREENHOUSES, ETC.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

E. DENCH, PATENT HOTHOUSE WORKS, KING'S ROAD, CHELSEA.—The superior qualities in every respect of these Structures having been proved in all parts of the United Kingdom, has caused a greater demand for them than E. D. could execute; he has been obliged to have perfect and powerful machinery made to meet the numerous orders, and can now execute any amount of work to great perfection, with dispatch, and for quality and price to defy all competition. Patent Hothouses, with excellent glass, 3 feet long by 1 foot wide, every front sash to open, and every top one to slide down, with pulley made of the same materials as the electric telegraph wires, which require no painting; delivered free to Wharf or Railway Station, at 1*s.* 2*d.* per foot super., complete, having been fitted, and every portion marked previously, making a Greenhouse 16 ft. 6 inches long, 12 ft. rafter, 400 ft., 23*l.* 6*s.* 8*d.*; 24 ft. 6 ins. long, do. do., 526 ft., 30*l.* 13*s.* 8*d.*; 28 ft. 6 ins. long, 15 ft. rafter, 712 ft., 41*l.* 10*s.* 8*d.* Heating by Hot Water on the most approved and economical principles.

Patent Sashes for Pits and Peach Walls, &c., 7*d.* and 8*d.* per foot, super.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER,

AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.



GRAY AND ORMSON, Danvers Street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

G. and O. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders they can with the greatest confidence give the most satisfactory references.

Their Hot-Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating by Hot Water can be made available.

GRAPE VINES FROM EYES, VERY FINE.

J. WEEKS AND Co., King's Road, Chelsea, have a most splendid collection of VINES, very strong and clean, two and three years old, from Eyes, all the best sorts for PLANTING or FRUITING IN POTS.

Also an extensive and valuable collection of STOVE and GREENHOUSE PLANTS, with all new varieties. See our Catalogues devoted to each. Also our Illustrations on HORTICULTURAL BUILDING and HEATING by HOT-WATER.

J. WEEKS and Co., King's-road, Chelsea.

DOUBLE ROMAN AND PAPER WHITE NARCISSUS, 4s. per dozen.—The above bulbs, the former of which is so justly esteemed for its early blooming and excessive fragrance, and the latter for its purity and elegance, have been just received at A. CORBETT'S Italian and Foreign Warehouse, 18, Pall-mall, near Waterloo-place, London.

GUERNSEY AND BELLADONNA LILIES.

BRIDGEWATER PAGE AND CO. have the pleasure to offer fine Flowering Bulbs of the above beautiful Autumnal Lilies. Guernsey Lilies, 4s. per dozen; Belladonna ditto, 4s. per dozen; Amaryllis formosissima, 4s. per dozen; Early Double Roman Narcissus, 4s. per dozen; ditto Paper White do., 4s. per dozen; ditto largest Jonquils, 2s. 6d. per dozen. All orders above 10s. 6d. will be delivered free on the South-Western and Great Western Railways.

DUTCH BULBS, consisting of HYACINTHS, TULIPS, CROCUSES, GLADIOLI, &c., have just arrived in fine condition, and are offered at greatly reduced rates, Catalogues of which may be had on application to PAGE and Co., Seed Merchants, Southampton (sole Agents to the Shale Manure Company for the county of Hants).

SHALE MANURE, 3l. per ton.

CAMDEN NURSERY, CAMBERWELL, LONDON.

WILLIAM BARNES respectfully begs to inform his Friends and the Public generally, that he has now ready a small portion of very superior Calceolaria Seed, which he intends sending out in Packets at 2s. 6d. and 5s. each. A remittance is expected from unknown correspondents.

CAMELLIAS, CHINESE AZALEAS, AND RHODODENDRONS.—For those who wish to ornament their Conservatories, &c., H. LANE and SON, Great Berkhampstead Nurseries, have the pleasure of stating that their plants are very fine, and at the following prices:

CAMELLIAS, 24s., 30s., 36s., and 42s. per dozen.

AZALEAS, 12s., 18s., 24s., 30s., and 36s. per dozen.

RHODODENDRONS (yellow and spotted, of various shades), 5s. to 10s. 6d. each.

WEIGELA MIDDENDORFFIANA.—For the information of all persons who have purchased from the Subscribers a plant under the above name, we hereby give notice, that we have unintentionally been the medium of circulating quite a different plant to the true Weigela Middendorffiana. We possess the true species received direct from Russia, but as we had not plants sufficient for the orders we had received, we purchased in Paris a quantity under the name of Weigela lutea, which we understood to be the same plant. From these have originated all the plants of the spurious variety which have been sold by us.

All parties who have received this plant from us are at liberty to deduct the amount charged from their accounts, or we will replace them with the true species, free of carriage, early in the ensuing spring.

HUGH LOW and Co., Clapton Nursery, near London, Sept. 25.

FRUIT TREES.

HUGH LOW AND CO. invite the attention of the Trade to their Stock of Maiden Fruit Trees. They are of unusually fine growth this season, and the collection comprises all the most approved kinds of Peaches, Nectarines, Apricots, Plums, Pears, &c., &c. Also strong healthy trees of Kaisha Apricot and Stanwick Nectarine.

H. L. and Co. will have pleasure in showing them to any parties who may visit their Nursery.

Clapton Nursery, near London, Sept. 25.

KINGHORNE'S SEEDLING EPACRISES.

JOHN AND CHARLES LEE beg to announce that they are prepared to send out these beautiful Seedlings, from which they have selected the following distinct kinds:—

E. KINGHORNII.—Tube medium length, very stout, beautifully pencilled with rose colour, pure white tip, and sepals well reflexed: a most profuse bloomer. Price 7s. 6d.

E. GRANDIFLORA RUBRA.—Tube longer, stouter, and much higher coloured than grandiflora; tips pure white; sepals expand well; very free bloomer. Price 5s.

E. MINIATA SPLENDENS.—Tube larger and longer than miniata, of a more brilliant colour, white tip more distinct; sepals expand well; extremely free bloomer. Price 5s.

PRICE OF THE SET, 15s.—The usual discount to the Trade, besides a set over on every three sets ordered.

These superb Epacrises are really the most useful plants offered to the Public this season. They are very great improvements, both in habit and profuseness of blooming, over all former introductions, and will prove highly valuable for exhibition.

Nursery and Seed Establishment, Hammersmith.

The Gardeners' Chronicle.

SATURDAY, SEPTEMBER 25, 1852.

IT is often supposed, especially by those who are advocates of the notion that fungi are the mere offspring of the fortuitous concurrence of certain chemical and atmospheric conditions, that the species are less constant than in other branches of botany, and in fact scarcely worthy of the name. Those, however, who have most diligently studied these curious productions, are well assured that they are quite as constant in their characters as any other natural assemblage of plants. There are frequently multitudes of forms belonging to one and the same species, so as to make it very difficult to draw up specific characters which shall be universally applicable, but this may be said also of many plants which do not baffle all powers of investigation, as the Willows and Brambles.

Fungi, however, grow occasionally under such singular circumstances as modify the species considerably. Every one, for instance, is aware of the immense difference which exists between the same species of *Sphæria*, when growing on a thick branch and on a filiform twig. The common *Sphæria herbarum*, again, may be expected to present a very puzzling aspect when produced on the red sea-weeds, cast up upon the exposed beach, instead of being developed beneath the cuticle of herbaceous stems. Nor are there stranger differences of locality amongst the higher fungi. *Agaricus velutipes*, so common on old trees, occurs also on herbaceous plants, as Lupines. *Agaricus præcox*, which grows usually on exposed pastures, has been gathered on the dead stem of *Inula glandulosa*. *Agaricus siparius* on the cases of caddis worms, instead of Fern stems. A *Coprinus* on the dressings of fractured limbs; and other equally singular changes of habitat might be noticed. In general, species occurring in such strange localities are to be regarded with some suspicion, the differences they exhibit being seldom specific.

These observations have been called forth by the examination of some *Agarics* found in great profusion on the walls of the sewage filtering apparatus at Croydon, growing out of the dried scum and fæces clinging to the brickwork. One was a *Coprinus*, which would not bear a long journey, and has, consequently, not come within our notice, except so far as the dead spores certainly indicate that genus. The other is a very puzzling species, which we believe to be a form of *Agaricus physaloides* of Bulliard. It is in fact just intermediate between that species and *Agaricus libertatis*, which is apparently identical with the first six figures of SOWERBY'S *Agaricus virosus*, the very species which proved so fatal to a family at Mitcham some 40 years since, and which is figured by LETELLIER under the name of *Agaricus clivularum*. The principal difference in our specimens and SOWERBY'S species consists in the flatter pileus, which very rarely exhibits any elevation in the centre, and in the presence of a decided veil when the pileus is very young. The spores are of a clear delicate lilac when seen by transmitted light. It may be the more necessary to point out their close affinity to the plant of SOWERBY, as they have a strong Mushroom scent which might easily prove deceptive. *M. J. B.*

AT last the POTATO DISEASE has produced a new idea. Planting in dry ground, or in barren ground, in autumn or the early spring, greening or burying, pulling up the rotting stems, or cutting them off, or leaving them alone; guano, peat charcoal, cinders, peat, plaster of Paris, or nothing at all, are all subjects that have been discussed till facts and inferences are exhausted.

The last Number of the *Comptes Rendus* brings us a thoroughly new project, of which we give a literal translation. The article is headed "Rural Economy — On a method calculated to prevent the Potato disease." (Extract of a letter from M. BAYARD.)

"In the property I possess in the north of the department of the Maine and Loire (the ancient Anjou) commune of Jaille-Yvon, the Potatoes of the crop of 1850 were almost all spotted and bad. Before planting in 1851, I cut a hectolitre into sets, and forced into each set, according to its size, one, two, or three dry Peas. The sets were planted, according to the custom of the country, in ridges. The rest of the ground (about a hectare) was set with Potatoes not charged with Peas.

"In spite of the dryness of the summer, the Peas grew strong and flowered, while the Potato stems pushed vigorously.

"The latter were neither withered nor diseased; the tubers were all sound, but were small and numerous. They kept perfectly well, and some were used for setting in June last (1852). A part of the other Potatoes was diseased.

"While this experiment was going on in a field of heavy soil (*argilo-schisteuse*), hardened by the dryness of the season, similar trials were made in a kitchen garden, the soil of which was lighter, and brought to a good tilth by manuring; the seedlings were, moreover, watered. The result was the same. The tubers charged with Peas were preserved from disease, but the others planted in the same soil rapidly indicated signs of ill health.

"During the growth of the Pea stems and Potato shoots I had some of them pulled up and examined. I observed that the early vegetation of the Pea had carried off from the tuber its excessive humidity, and favoured the development of the Potato.

"Ashes, the use of which has been recommended, appear to me to act in the same way, but less completely. They absorb in part the excessive humidity by reason of the saline matters they contain, but there is no such rapidity of absorption as follows the vegetation of the Peas."

We have all heard of a "capon pricked with bacon," and a very good thing it is; but a Potato pricked with Peas is quite a novelty. Let us hope that it may be always as successful as M. BAYARD has found it. The plan evidently rests upon the same foundation as the speculations that have received so little favour as to the influence of weeds upon the Potato crop. "They draw off the disease," says one; "they screen the Potato plant from the currents of malaria that destroy them," is the theory of a second; at all events "they do act well somehow," cries a third. The difficulty has been that there is no lack of weeds in Ireland, and yet weeds were not found a safeguard in that country; and that with us a weedy field is often found to be one of the worst.

It may be conjectured that where weeds and sound Potatoes have been found in connection, the weeds were thin enough and strong enough to exhaust the land of its moisture, without overshading it; and if so, that may be regarded as being analogous to what M. BAYARD tells us of his Peas, experiments with which we recommend to all ingenious persons through the country. One advantage at least seems to attend the plan—that you get a crop of Peas, if you lose the crop of Potatoes.

LEONOTIS LEONURUS.

THIS is one of the most showy of late flowering plants, and is well deserving of extensive cultivation for autumn decoration. When properly managed it is extremely useful for succeeding the brilliant Clerodendrons in the conservatory, and when seen in the shape of well grown and bloomed specimens, it is hardly less attractive. It is a plant of very easy culture, and yet beginners seldom manage it well, owing, doubtless, to a want of knowledge respecting the peculiarities of treatment necessary to ensure success. It is of a strong and rather straggling habit, and unless care is taken the specimens become tall and unsightly; and the growth must be well ripened early in autumn, otherwise flowers will be but scantily produced. To have good-sized plants, with properly ripened wood early in September, it is necessary to have nice compact specimens in 7-inch pots to begin with in spring.

About April select cuttings of the stunted bits of young wood, plant in light sandy soil, cover with a bell-glass, and plunge the pots in a gentle bottom heat till the cuttings are well rooted, which will be in the course of a month. Pot them singly in 4-inch pots, when they have become sufficiently rooted to bear handling, and place them in a close place till well established. When this has taken place remove them to a cold frame, and keep them regularly stopped till compact bushy plants in 7-inch pots are secured. Protection from frost and damp, with a moderate supply of water, is all they require during winter. In March remove them to a temperature of from 50° to 60°, where a moist growing atmosphere can be maintained, and give a moderate shift to induce them to break freely. If the plants break irregularly pinch off the points of such shoots as may take a decided lead, and peg them down, which will throw the sap into the weaker shoots, and tend to equalise the growth; but allow the shoots generally to make five or six sets of leaves before giving the final stopping. When this is done the outside shoots should be pegged down, and if weak left without stopping. The stronger ones should be pinched back to dormant eyes. Treated in this way a sufficient number of shoots to form large specimens will be obtained early in the season; and this is of the greatest importance where an abundant supply of blossom is expected.

When the plants start into free growth after stopping, they may be shifted into their flowering pots, the size of which must be regulated by the convenience, &c., of the grower; 12-inch pots will be large enough for moderate-sized specimens, and 15-inch ones will not be too large for the plants under liberal and proper treatment. After shifting, the object should be to secure short-jointed wood, to obtain which the plants must be kept rather cool, placed near the glass, and freely supplied with air. When the specimens are fairly established in their flowering pots with shoots about a foot in length, which will probably be the case about the middle of June, remove them to a sheltered situation out of doors, where they will be slightly screened from the forenoon sun, sudden exposure to which would probably check their growth, and the result would be a second attempt at growth in autumn, when they should be showing flower. If allowed to remain in this situation for about a month, and supplied with manure-water twice or thrice a week, and attended to with staking, &c., they will be large bushy specimens, and should be removed to the south side of a wall, and rather sparingly supplied with water. This will check growth, and the exposure to the full force of the sun's rays will ripen the wood. I need not say that manure-water should be discontinued when the object is to harden the wood.

Early in September remove the specimens to a dry airy house, and about a month before it is wished to have them in flower, keep the atmosphere rather close and moist, and give manure-water to such as may appear to want more pot room. Managed in this way, every shoot will produce a fine long spike of bright scarlet flowers, and will afford an ample reward for the attention necessary to produce them. While in bloom a rather dry atmosphere, with a temperature of about

45°, is necessary to preserve the flowers from damp, by which they are liable to be injured, and at this time they may be regularly watered with advantage with clear weak manure-water. I prefer young plants, and regularly throw the specimens to the rubbish heap when their beauty is over, merely reserving one to furnish a supply of cuttings. I cannot say that the old plants are equal to young ones, but doubtless with cutting back, and a slight shift, they would form useful specimens a second season.

The Leonotis is not particular as to soil, but as it is desirable to be able to check growth somewhat suddenly, a light sandy rather poor loam is preferable, to which may be added about one-fourth leaf-soil. *Alpha.*

BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

Morphological Analogy between the Disposition of the Branches of Exogenous Plants and the Venation of their Leaves, by Prof. M'Cosh.—The author said that the view which he took of the morphology of the plant might be regarded as an extension, in the same direction, of the theory of Goethe. According to this theory, all the appendages of the axis of the plant, including leaves, bracts, sepals, petals, stamens, &c., are formed on a common plan, of which the leaf may be taken as the type. It had occurred to him (Dr. M'Cosh) that we may regard the branches of the plant and the whole plant as formed on the same plan. We may thus regard the plant as constructed on one model throughout. Speaking in this paper of reticulated-leaved plants, he showed that there is a correspondence between the disposition of the branches along the axis and the distribution of the venation of the leaf:—(1) In some plants the lateral branches are disposed pretty equably along the axis, whereas, in others, a number are gathered together at one point, and the plant becomes, in consequence, verticillate or whorled. Now, he found that wherever the branches are whorled, the leaves of the plant, as in the Rhododendron, or the veins of the individual leaf, as in the common Sycamore and Ladysmantle, are also whorled. (2) He showed, further, that when the leaf has a petiole, the tree has its trunk unbranched to near the base (as in the case of the Sycamore, Apple, &c.); and when the leaf has no petiole, the trunk is branched from the root, as in our common ornamental lawn shrubs—the Bay Laurel, Holly, Box, &c. (3) He showed, further, that the angle at which the branches go off from the axis is the same as that at which the side veins go off from the main veins. His observations during the past summer had been chiefly directed to this point, and he made the measurements by means of a graduated circle with a moveable index. In these measurements he took the angle formed by the main lateral branches with the axis, and by the main lateral veins with the midrib. The angle of the veins of the leaf is easily taken. It is more difficult to determine the natural angle of the branches, inasmuch as the direction of the branch may be modified by a variety of circumstances, as by winds, its own weight, &c. Still there is evidently a normal angle for each species of plant, which may be ascertained by taking the average of a number of measurements of a freely growing plant. He had measured in all about 210 species of plants, and found the angle of the branch and of the vein to correspond. He produced a tabulated statement of these 210 plants, and called the special attention of the Section to several of them.

The Black and Green Teas of Commerce, by Dr. Royle.—It was a remarkable fact that the subject of the difference between the black and green teas had been, until recently, a matter of great uncertainty. The Jesuits, who had penetrated into China, and Mr. Pigou, were of opinion that both the black and green teas were produced from the same plant; while Mr. Reeve believed that they were manufactured from two distinct plants. Now, as regarded himself, he (Dr. Royle) had adopted the view that the best kinds of black and green tea were made from different plants; and examination of tea samples seemed to confirm that view, but a repetition of the experiment had not done so. Mr. Fortune, subsequent to the China war, having been sent out to China by the Horticultural Society of England, made inquiries on the subject. He there found the Thea bohea in the southern parts of China employed for making black tea; and in proceeding as far north as Shanghae, he found the Thea viridis used in making green tea near the districts where the best green tea was made. So far, therefore, the information obtained seemed to confirm the view of two different species of Thea being employed to make the two different kinds of tea; but Mr. Fortune, in visiting the district of Fokien, was surprised to find what he conceived to be the true Thea viridis employed in making *black* tea in districts near where the best black tea was made. He took plants with him from Fokien to Shanghae, and could find no difference between them. It was still, however, desirable to get specimens from the district where the black and green teas of commerce were actually made, and this had latterly been effected. In consequence of the great success which had attended the experimental culture of tea in the nurseries established in the Himalayas, Mr. Fortune was again sent to China by the East India Company. He proceeded to the northern parts of the country, in order to obtain tea seeds and plants of the best description, as the most likely to stand the Himalaya climate. Mr. Fortune procured seeds and plants in great numbers, and sent them to the Himalayas, where they had been since cultivated. When he had reached Calcutta, the tea manufacturers whom he had brought with him made from plants in the Botanic Gardens their black and green tea from the same specimens; so that it was evident it was the process of manufacture, and not the plant itself, that produced the green tea. All now who were acquainted with the difference between black and green teas knew that they could be prepared from the same plant without the assistance of any extraneous materials, though it was a common thing for manufacturers to use indigo, Prussian blue, turmeric, &c., in colouring the tea. Dr. Royle showed specimens of the black tea plant from the Woo-e-Shan, and of the green tea plant from the Hwuychou districts. No specific difference could be observed between the two specimens.

Dr. Lankester read the *Twelfth Report of a Committee appointed to make Experiments on the Growth and Vitality of Seeds.*—The seeds set apart for this year's sowing were those collected in 1844. It was the third time the same seeds had been experimented on, and it was found that there was a very evident decrease in the numbers which have vegetated, compared with those of previous sowings. Dr. Lankester explained the object of the committee, and stated, that the fact of Raspberry seeds growing, which had been taken from the stomach of the body of a human being, buried in a tumulus in Dorsetshire, and which had been doubted, had been re-investigated during the past year, and there seemed no reason to doubt that the seeds, thus buried for centuries, had germinated. —Dr. Royle stated, that having been present when the original mass of matter from the stomach of the dead person was brought to Dr. Lindley in London, and the Raspberry seeds discovered in it, he had no doubt of the correctness of the conclusion that the seeds which had thus been swallowed and buried, had germinated after the lapse of centuries.

On the Geographical Distribution of Animals in connexion with the Progress of Human Civilisation, by W. Ogilby, Esq.—The author treated his subject in a very popular manner, and pointed to the less civilised nations of the world, as being so from the absence of animals capable of domestication. America and Australia were the great types of this deficiency. The following conclusion of his paper will give an idea of the general argument and style. "Let us now examine the facilities which the natives of Europe, Asia, and Africa possessed for developing civilisation compared with those of America and Australia. The former had those great *collaborateurs* in their social progress, they had the horse, the ass, and the camel, for beasts of burden; and they had the sheep, the ox, and the goat, for food and a thousand other useful purposes. The consequence of this was, that, at a very early period—at a period of which there are few authentic historical documents extant—the nations of Western Asia had advanced in civilisation to an extent which is now only beginning to be thoroughly understood and appreciated. The researches of such eminent men as Dr. Layard into the antiquity of Assyria and Egypt prove this beyond question; and show that those nations had advanced to a power which, in modern times, has scarcely been equalled, and that we are only now in the same state with regard to civilisation that they were three or four thousand years ago, whilst the less fortunate inhabitants of America and Australia would be obliged, by the want of those facilities possessed by the former, to remain in their original condition for eternity. —Prince Canino said, that there were some points on which he coincided with the author, but there were others also on which he differed. He did not consider that it was the animals who were to be blamed for the backward state of the aborigines of America and New Holland, but the people themselves. As a beast of burden, he thought the American bison might be tamed, and made to serve that purpose as well as the ox, for it was a stronger animal, and possessed many useful qualities which the ox did not. As another example of what the people of those countries might do in this way, he would refer to the American Grapes, which at one time were thought so useless that there was a proverb to that effect; but now it was found that a good wine can be made from them. In confirmation of Mr. Ogilby's opinions as to the origin of domestic animals, he might say that the prototype of the common cat was that kept in the temples of Egypt.

SEA-WEEDS AS FOOD.

The luxuriance and rich abundance of the sea-weeds (Fuci) which abound in almost every part of the rocky shores of Great Britain, are too well-known to need asserting here; but out of this very abundance the question naturally arises: Is their economical value fully appreciated? True, in the manufacture of kelp, there long flowed a rich stream of profit to the proprietors on the rocky shores of the north. Their value too, as manure, has not been entirely overlooked, although I am not aware that it has been applied other than in a fresh state; of its fertilising properties in that condition we have abundant evidence. Mr. Donaldson remarks that the quality of earthy composts and farmyard dung is prodigiously improved by a mixture of sea-weed. Now, were the agricultural chemist to direct his attention to the subject, I do not see why the rich fund of nitrogenous and saline principles which abound so profusely upon our shores should not be taken advantage of, and so manufactured and concentrated as to form a portable, cheap, and valuable manure, transferable to any part of the kingdom. It is, however, to other properties which are possessed in so eminent a degree by several species that I would here more particularly direct attention; I allude to the large quantity of saccharine matter and vegetable mucilage which they contain. As to the quantity of which Professor John states that one of the species, Fucus vesiculosus, contains 750 parts in every 1000, a statement which Mr. Brown, of Haddington (*vide* a paper read some years ago before the Society for the Encouragement of Useful Arts in Scotland), considers somewhat exaggerated; whilst, according to his own researches another species, F. palmatus, yields by infusion about half its own weight of the principle in question. This last species is the Dulse of the Lowland Scots, the Duilloisq of the Highlanders; in Ireland it is called Dillesk. The old cry of "Buy Dulse and Tangle" will not be quite unfamiliar to any one who may have sojourned in the northern Athens; Tangle meaning the tender shoots and young fronds of Fucus digitalus, called Red Ware in the Orkneys, the Stat-mhara or Sea-weed of the Highlanders; both are eaten fresh from the sea, commonly without any preparation, in the way of a salad. In the Orkneys, the pinnæ of F. esculentus are eaten under the name of mirkles; other species, as F. edulis and F. ciliatus, are occasionally eaten in the same manner. F. vesiculosus, mentioned above, is valuable also to the Scottish islanders, as winter food for cattle, of which it constitutes a considerable part. Linnæus says that the people of Gothland boil the plant, and, mixing it with coarse flour, feed their pigs with it, and hence it there receives the name of Swine-tang.

We have only, then, to improve upon these facts to convert a valuable substance, now only partially appreciated, even in the vicinity of its production, into an article of universal consumption; as it is evident that such large proportions of nutritious matter as are contained in this division of the vegetable kingdom, growing, as it does, so exuberantly on our very shores, must be invaluable.

Indeed, one of the species bearing the name of Irish Moss, is well known in some parts as a nourishing and easily-digested food for invalids, boiled with milk and sugar, which, when cool, forms a beautiful *blanc-mange*.

In the manufacture of mucilage on an extensive scale as food for cattle we may quote Mr. Brown's formula. He says, "Let the Tangle-ware be bruised by some rude machine, macerate a day or two in water, acidulated by vitriol, wash well in cold water, boil some hours in three or four times its weight of water; strain, evaporate the decoction to a thick ropy consistence, mix with bran, and put up in cakes. These cakes, after being dried, keep for any length of time, and may be given to cattle in the same way as Linseed-cakes, broken and mashed with warm water. The decoction might also be evaporated to dryness and transported in the form of cakes of mucilage."

I think it highly probable that were a corresponding degree of delicacy observed in the manufacture, our provision shops might be furnished with an article of human consumption, possessing very great nutritious properties, and available to the working classes at an exceedingly cheap rate. *Wm. Hudson, Alderwasley, near Belper, Derbyshire.*

Home Correspondence.

Filberts.—The Filbert, as most people know, is very successfully cultivated in many parts of Kent. The soil best adapted for it is a sandy loam, but I have also seen it flourish in a portion of old brick rubbish mixed with loam. Filberts are particularly fond of manure and require a good top dressing every year. The best mode of increasing them is by grafting on seedling stocks, which should be "worked" in February or March; or they may be propagated from suckers. The latter mode is generally preferred in Kent. Layering in spring, or sowing the nuts in October or March, also offer means of increasing the stock. When one year old they they should be planted out in rows in beds. In this way they may be trained so as to form standards or dwarfs. The best time to make new plantations is from October to March, choosing mild weather for planting. Plenty of room should also be allotted for each tree, as they do not succeed so well when they are crowded, which is very often the case. When I was living at Wildernesse Park, in Kent, I had an opportunity of visiting many excellent Filbert grounds, and the practice there was generally to train the trees with a short stem, similar to a Currant or Gooseberry bush, and also to keep them very thin of wood. Every shoot that is expected to bear fruit is shortened at the end, in order that it may not weaken the branch. Filberts mostly bear from the upper young wood, or from young shoots from the bases of the side branches a twelvemonth old. The leading shoot of young trees intended for dwarfs should be shortened two-thirds every year until they reach the size required. The best sorts to cultivate are the red and white Filbert. The Cosford and Cob Nuts are also very desirable. Where size is required the Downton square nut, Spanish, and large Cob may be selected. The nuts should be gathered in bunches as soon as the "cup" and nut turn brown. They should be properly dried and laid in a box nearly air-tight, with saw-dust and salt, so as to prevent the kernel from shrivelling. *E. Bennet, Perdiswell.*

Eatable Fungi.—In turning over the pages of your Journal of last week, I find among the Notices to Correspondents, that my "instinct" has been complimented

way which, as it is quite undeserved, I take opportunity of modestly but pointedly repudiating. not by instinct that I have learnt to know whole- e from unwholesome funguses, but by the exercise he same discriminative faculty by which you select vegetables and fruit, and all men know, when they it, a Mushroom from a Toadstool. As funguses a for a portion of each year abroad the diet of ions, and fresh or dried are largely consumed by classes in every civilised country but our own; as, reover, many excellent practical treatises have been lished in German, French, and Italian, instructing r respective "publics" how, without instinct, they y safely in this matter shun their poison and choose r food; such notorious facts as these are, I ceive, sufficient to secure from the imputation of ness or indiscretion any one who, by his example teaching, may endeavour to remove misconception, substitute wholesome food in the room of unwhole- e prejudice. Deaths occur every year from eating e deleterious productions of this class, in consequence which our common Mushroom itself has been of looked upon not without suspicion. To show them, and my friends have been doing for the last five rs, that species do not change their natures; that shrooms and a host of other wholesome funguses er become unwholesome; and that Ag. torminosus, emeticus, and Ag. necator will always gripe and nit and kill, is, I conceive, the best way to prevent mistakes of the rash, and to allay the fears of the id. The present has been an "annus mirabilis" for guses. Your distinguished mycological contributor, J. B.," with whom I have lately been staying, has merated several species of which we partook together. ere are many other equally excellent kinds which more plentiful hereabouts; as Am. vaginata, and arici rubescens, orcella, heterophyllus, caperatus, gineus, ruber, &c., which have been in culinary use th in our own and friends' families for the last six eks; and puff balls of the larger sort have been usually common. One of these, the largest I have n, measuring 48 inches round and weighing 6½ lbs. s brought to the kitchen some short time ago, and ing cut into inch-thick slices for frying was distributed tongst our neighbours, who regretted, as we do, that ese vegetable sweetbreads are not of more common currence. *C. D. B., Suffolk.* [We esteem the know- dge of our learned friend much too highly to have tended to disparage it by what we said, as we hope ill be evident to him upon reading our observations ice more.]

New Grape.—Having read (at p. 678, 1850) a descrip- on of a new Grape, pronounced by you to be capital, I nclude it must be something exceedingly good. Could u kindly give me any information as to whom I should ply for plants, and you will much oblige, *Clericus.* We can repeat that the Grape in question was excel- nt; but regret that we can give no farther informa- on. We have published your note, in the hope that e unknown possessor of the Grape may be induced to t it out.]

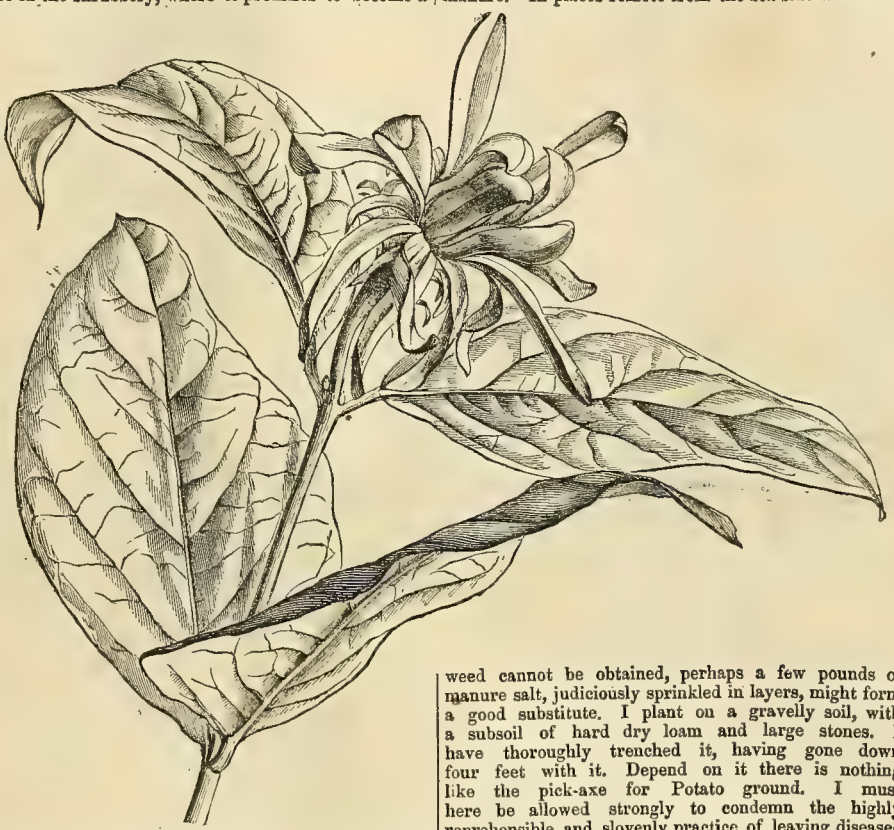
Water Pipes.—I shall be grateful to any correspondent ho can advise me under the following circumstances. y lead pipes, conveying the water to my house from hydraulic ram (a distance of 600 yards), are all rroded, from the action of the water, in the space of ght years. As it is of course out of the question after is failure to replace the old with new lead pipes, I am nxious to know if glass pipes of 1½ inch bore would ear the pressure of an hydraulic ram; and if not, hether any other description of pipes can be recom- ended for this purpose. I believe the lead cisterns nd pipes are all equally corroded from the absence of ll sulphates in the water. The lead cisterns I have eplaced with slate ones. *G. M. G.*

The Weather.—Have any of your observing corre- pondents noticed the remarkable change in the temper- ture on the evening of Saturday, the 18th inst.? riday morning there was a sharp frost—*i. e.* sharp for ie time of year, very cold and hoary, but I did not see ee. Saturday morning was sufficiently cold to bear a re in my study, all Saturday afternoon the rain came own heavily. Going out of my door at 6½ P.M., I was truck with the extreme warmth of the air, which had nuch the character of that in a greenhouse; I looked t my pocket thermometer on my study table, and ound, although a fire was in the room, that it was tanding at 58°; I took it out of doors, and the mercury ose to 70°; I brought it in and it fell to 58°, but rose again ut of doors to 70°. I observed these phenomena until I vent to bed at 11. The wind was blowing from the outh. In little more than 24 hours we observed here difference of temperature amounting to 40°. I assume he *vera causa* to have been the great absorption of heat y the ground in the earlier part of the week. There were large masses of clouds drifting away quite low, while others far above were stationary, and the blue ky and the twinkling stars told that there at least all was calm and quiet. *C. R. Bree, Stowmarket.* [It was exactly the same near London.]

Large Peach.—A Peach, very similar to the Chancellor but without the little kidney-shaped lobes at the base of the leaves), has just been gathered in the garden of George Miller, Esq., F.H.S., Waltham-house, Chiswick Mall, measuring 11¼ inches in circumference, and weigh- ng 10 ounces. It was grown on a wall with a western spect, unprotected by glass or otherwise. *J. O. W.*

Strawberries, Violets, and Figs.—Allow me to ask your opinion on the three following points, all appear- ng to me to involve the same principle:—1st. Some good authorities maintain that all Strawberry runners ought always to be removed; others, that so removing them in autumn only causes more to be thrown out, to the detriment of the blossom-bearing powers of the plant. [It is not necessary that runners should be allowed to form in the autumn because they have been removed in the spring. Whenever they appear they can be stopped; no doubt exists that the mother plant is weakened by producing them.] 2d. In preparing Neapolitan Violets for winter flowering, it is recommended to remove all summer runners. I have followed this plan two years, and find I get very few flowers. [Probably your Violets are thus forced to run too much to leaf; which is not the case with the Strawberry, provided it is thoroughly exposed to sun and wind.] 3d. In Fig cultivation it has been recommended to remove the second crop as soon as it appears; as the embryo Figs, which cannot ripen in England, draw on the nourishment of the plant. I tried this last year, and have a bad crop now; though this, I find, is a general complaint this season. Is it not probable, that by taking off the earlier embryo Figs, which form on the lower part of the branch, one stimulates into premature growth those which lie higher, and which, if not so stimulated, would have remained dormant until the spring, and then fruited? [We should never remove the second crop of Figs—for this reason, that the Fig tree is always over vigorous in this damp climate, and the second crop, although in general useless otherwise, tends to check exuberance.] *G. S. B.*

Calycanthus occidentalis; aliàs C. macrophyllus.—The specimen I send, is from a small plant that is now in flower here. For the last three years it has occupied a place in the shrubbery, where it promises to become a



striking object, at once remarkable for its fine large foliage and the singular appearance of its bright chocolate coloured flowers, tipped or variegated with greenish orange. Its habit resembles that of the old and well known Calycanthus floridus, only it is much larger in every respect, and apparently of more vigorous growth. I consider it a very desirable plant, and a good addition to our collection of hardy shrubs. I am rather surprised at the various kinds of Calycanthus not being more generally cultivated, especially when it is known that they will thrive in any light garden soil, provided the situation is not too dry and exposed. Few plants bear the knife so well, and the oftener their young shoots are pinched the more freely do they flower. This fact has been noticed by M. Decandolle, who states in his Prodromus (vol. iii., p. 2), that the removal of the terminal leaf-bud of a shoot causes the production of two new flower-buds; and that by this practice a succession of flowers during the whole summer may be obtained when desirable. Under this mode of treatment I have little doubt of Calycanthus occidentalis flowering freely and becoming ornamental. I am not aware if its flowers are sweet scented, but those of the other kinds of Calycanthus are very fragrant. *Wm. B. Booth, Carclew, Sept.* 15. [We borrow from "Paxton's Flower Garden" the accompanying wood-cut, to illustrate this plant, which some of our readers may not be acquainted with.]

The Potato Disease.—Seeing with regret the rapid progress the disease is making among Potatoes, I am induced to offer a few suggestions which have come under my notice, for the benefit of those who may be inclined to adopt them. I must begin by stating that not a speck of disease has ever appeared among my Potatoes from first to last, either in haulm or tuber, which is a fact well known in my neighbourhood. My invariable mode of treatment is this: First, in regard to Potatoes for planting at digging up time, I throw out on the ground those I intend for setting, preferring them about the size of a Walnut to plant whole. I let them remain out in all weathers for a month or six weeks, to get thoroughly brown and hardened. I then hang them up in frail baskets in a cool, dry, dark place, being satisfied that they are then in a better condition for planting in the spring than when they are carelessly put away in a mass; they throw out a stronger shoot, and are consequently better able to withstand frost or whatever may attack them, than when they are allowed to dwindle. Next in regard to manure. I dig a large hole and throw in all the refuse of the garden and house, particularly all the soap-suds, as containing alkali, but more especially the chamber lye, for its saline properties, together with road-scrapings, old mortar, and any rubbish that comes in the way. About September, I empty the hole, and get a load or two of sea-weed, and make a heap of alternate layers of the manure and sea-weed and cover it up with a good thick coat of sea-weed, which prevents exhalation, and the saltness of the weed also gets washed into the heap by the rains. I turn the heap two or three times during winter, always covering it up again with more sea-weed, then in the spring I have a good heap of well-rotted saline manure, which I spread over the ground and dig in, planting as I go with the setting-stick, having previously steeped the Potatoes two days in a strong decoction of Elder leaves. I should never think of planting Potatoes in a trench, and burying them with rank, half-rotten manure. In places remote from the sea-side where the weed cannot be obtained, perhaps a few pounds of manure salt, judiciously sprinkled in layers, might form a good substitute. I plant on a gravelly soil, with a subsoil of hard dry loam and large stones. I have thoroughly trenched it, having gone down four feet with it. Depend on it there is nothing like the pick-axe for Potato ground. I must here be allowed strongly to condemn the highly reprehensible and slovenly practice of leaving diseased Potatoes on the ground after digging. What possible good can be expected from it? What evils may not arise to future crops? I would advise a more careful selection of kinds for planting than is generally practised; let it be borne in mind that it is just as easy and cheap to grow a good sort as a bad one. Let me not be misunderstood, as wishing to dictate in any way—far from it; these remarks are wholly independent of whatever has been written or said before on the subject, they are solely the result of my own observation; and I am fully confident if strictly adhered to, with any other simple precaution which may suggest itself, together with the blessing of Providence, who always assists those who help themselves, that in a short time the Potato disease will wholly disappear, and become a thing of the past. *George Towten, Bitterne, Southampton.*

Acacias.—The A. viscosas have been in the habit of showing their whitish-pink flowers in June or July, and again in September, but this year the common Acacias, after flowering in June, have within the last week again shown their white flowers. *L. L.* [The statement respecting cottagers was not enclosed.]

The Manetti Rose.—I have been somewhat surprised to see my name brought forward in connection with this Rose, by my friends Mr. Rivers and Mr. Mickle. The latter gentleman I have only seen once, having met Mr. Rivers and him in a railway train from Folkestone. I, in course of a conversation relating to Manetti, stated that it was curious, some plants of it which had been budded with Roses two or three years ago, were, from some cause or other getting worse each year. I have just examined the same plants and find no improvement in them. We have about four acres of this Rose, and some of the Roses on it are extremely strong. If Mr. Rivers

and Mr. Mickle take advantage of a friendly conversation and misconstrue it to suit themselves, I think they would do well to apprentice themselves to me, for the lesson I teach is to do all you can by your own exertions for yourself, but always to avoid even a hint at other people's expence. *John Ed. Lane, The Nurseries, Great Berkhampstead.*

Root-pruned Pear Trees.—In addition to what has been so often stated in the *Chronicle*, as regards the merits of root-pruned Pear trees, and their early bearing, I send you an account of this year's produce of 12 dwarf root-pruned trees, which were planted at Lord Lyndhurst's, Turville-park, in November, 1849; they were planted on mounds, as recommended by Mr. Rivers, and about 10 feet from a high garden wall, with a south-east aspect, and have been pruned and cultivated by the gardener carefully, according to Mr. Rivers' precepts. It may be mentioned that neither the exposure nor soil is favourable to fruit trees. In addition to this year's crop, nearly all the trees bore fruit in 1850 and 1851. Subjoined are the names of the varieties and quantity of Pears on each tree.

1 Beurré Diel	120	7 Napoleon	30
2 Louise Bonne (of Jersey)	110	8 Soldat d'Esperen	22
3 Colmar d'Eté	102	9 Beurré Sterkmann	17
4 Beurré d'Amanlis	70	10 Beurré Van Mons	8
5 Beurré de Mello	52	11 Adèle de Saint Denis	4
6 Orpheline d'Enghien	46	12 Beurré Rance	3

—*Georgey.*

Review.

Parks and Pleasure Grounds; or, Practical Notes on Country Residences, Villas, Public Parks, and Gardens. By C. H. J. Smith. 8vo. Reeve. Pp. 290.

MR. SMITH is an experienced landscape gardener, and a man of much good sense. His practice has, we believe, laid principally in Scotland, where his talents are respected. His opinions are therefore entitled to attention, although he may only add one to the long list of authors upon taste, whose views are as much disputed as appreciated in everything except broad general principles. For ourselves, we believe that Mr. Smith, if he does not take such lofty flights as Repton and Price, is as safe a guide as these distinguished men, and much safer than some of their successors.

The author's remarks upon subjects easily understood by readers of all ranks, serve to show his turn of mind. Let us take a few examples—for instance:

"*Grass Slopes.*—Terraces are often faced with Grass slopes instead of walls; and though the resulting effect is inferior, these slopes are very suitable for places where a plain style of decoration is required, and particularly at a distance from the mansion-house, as on the sides of bowling-greens or in flower-gardens, and in the more remote parts of the pleasure-grounds. It must be admitted that a terrace with a regularly formed Grass bank of considerable depth has mostly a bald appearance. This arises partly from its surface being so plain as to have no variety, and partly from the absence of a diversity in light and shade, particularly in those slopes which face towards the south. A long, natural slope of Grass is often very beautiful; but, on examination, it will be found that it is free from that dead, mechanical uniformity common in artificial works. Perhaps, however, light has the greatest influence in this respect—a fact very much overlooked in landscape gardening. The surface of the slope is turned up towards the light; and so it wants that variety of shade which even a plain wall exhibits at different periods of the day. Accordingly it is found that, when facing the north, and in an inferior degree when facing the east and west, these Grass slopes are always more effective than when turned to the south, for in this last position they are seldom seen in shade, and consequently have a bare and bald effect. Nevertheless a long deep Grassy slope, closely shaven and neatly kept, is always popular, however ineffective it may be in the eye of refined taste."

"*Stairs on Terraces.*—Flights of steps form an excellent means of decorating terraces. When connected with walls, they are susceptible of a considerable degree of ornament. Stairs on Grass slopes afford less scope for decoration; vases placed on their sides may be deemed the most proper objects for this purpose. Stairs should be placed at the ends of terraces, as well as at their centres; they may be omitted in the latter position, but if they are only found there, they have a sensible effect in diminishing the appearance of length in the terraces by dividing them into halves. Properly, stairs should be in connection with walks, but they may sometimes be introduced without the latter. In either case, when there is more than one tier of terraces, the flights of stairs should be successively carried from the top to the bottom of the whole series. Anything short of this produces an uncomfortable feeling, as if some of the flights of stairs had been misplaced through perversity, or lost by mistake."

He thus expresses himself concerning the dotting system of planting:

"This consists in placing a number of objects in nearly equidistant positions, without reference to their intrinsic or relative importance. Examples of this mode of planting occur in the park, when plantations, clumps, or groups are set down in complete isolation, or without any perceptible relation to surrounding objects. Trees are seen occupying the broad spaces or narrower openings between the woods without a greater affinity to one mass than to another. This effect, exhibited on the side of a green hill, where it is peculiarly infelicitous, has been well compared to a pattern of sprigged muslin Into pleasure-grounds and gardens the dotting system has also intruded: in these, figures containing shrubs and flowers, as well as single shrubs and trees, are often sprinkled with the most undeviating regularity. The main object would seem to be to leave unoccupied no piece of Grass or plot of ground above a certain and very moderate size. On the lawns of many gardens this paltry and tasteless system has been carried out to the greatest perfection. A better taste, indeed, is now being diffused; we have, however, observed a finished specimen of this style in a garden of great pretension and celebrity, and which is supposed to exhibit the very perfection of British gardening. A Pinetum is dotted over an extensive lawn, without respect to the natural physiognomy of the trees, and, what is more surprising, without any regard, so far as we could discover, to their botanical affinities as species. A few formal clumps of Rhododendrons lend their aid to complete the general insipidity. It must be admitted, at the same time, that it is seldom that lawns are dotted with such hardy tenants. They are frequently filled with half-hardy objects undergoing the miseries of acclimatising experiments; and the eye is regaled with the stunted growth and discoloured foliage in summer, and the stake and the mat or furze covering in winter. The results of the dotting system are, a general monotony and an insipidity, which no variety in the character of the trees or shrubs will ever overcome. There is the same breadth of light and shade on this tree and on that—the same patchwork of sunbeam and shadow wherever the eye can turn. On the common or in the native forest we do not find the wild denizens of nature put down at equal distances. Where the hand of man has not interfered, the trees and bushes are seen in masses and irregular clusters with single plants scattered round them, and forming groups of greater or less dimensions. In the mass or group you will scarcely find half-a-dozen plants growing at the same distance from each other. The single trees are mostly in closer proximity to some portion of the general group than to another. Hence arise the infinitely-diversified beauties of the native Pine-forest, and the captivating and almost inimitable grace of the wild Oaks and Birches on the sides of the Highland glens; and hence, too, the ceaseless interchange of light and shade both on tree and turf, on which the eye never fails to dwell with pleasure. In short, grouping is everywhere productive of interest and beauty; dotting, of insipid monotony and languor."

Passages such as this show that Mr. Smith has a true sense of the beautiful; but we are not sure that he does not carry his ideas of the picturesque to places where it is attended with inconvenience, and is therefore objectionable. We especially refer to his observations upon botanic gardens, which he would construct with reference to general effect rather than as they are now planned. A botanic garden is a place in which plants are gathered together for the purpose of studying their separate structure or combined peculiarities, and not for studying the principles of landscape gardening. A botanic garden in which the last point is introduced becomes a park, and the name is misapplied, or it may be a combination of the two, as at Kew. Now, the essence of a place for study is that all things should be readily accessible, and placed where it is most easy for students to consult or compare them. Space should be economised, in order to save labour in running about. Objects that resemble each other should be placed where they can be comparatively examined. In short in a botanic garden convenience is everything, effect the last point to be thought of. To our minds the formal enclosures in the *Jardin des Plantes* are perfection for this purpose. But surely those principles of arrangement are the very reverse of what a landscape gardener would approve of. In like manner we suspect that "territorial" arrangements of plants will meet with little approval. Mr. Smith says:—

"For example, we might have a British Flora, a French and German Flora, a Mediterranean, a Russian and Siberian, a North American Flora, and various others. Undoubtedly, one of the most curious things in our flower-gardens is to see natives of the Alps and the Himalayas, of Oregon and of the Cape of Good Hope, all growing peacefully and lovingly together; but in consequence of this promiscuous planting, the facts of botanical geography are at once lost sight of, and very often completely forgotten. It is admitted that it would be difficult, or rather expensive and laborious, to carry out the territorial system to a great extent: yet it might be within the compass of attainable effort to adopt the principle in part. We should like to see a real American garden—that is, one containing only American plants, and not the mixed affair which goes generally under that name. There might at least be distinct gardens for the natural vegetation of the United Kingdom, and of her principal colonies—those, namely, in North America, the Cape, Australia, New Zealand, and the mountainous regions of India. It is not proposed that every plant which is to be found within the limits of any country should be included in these separate arrangements; but it seems possible, by the selection of characteristic species, to give a fair representation of the vegetable economy of the territory selected, and even to convey an expression of its external physiognomy. The space required for such purposes is not necessarily large, as the trees and shrubs which occupy most space might be kept small, there being other specimens of the same species, in the general collection, allowed to reach their natural development. Let any one go into a botanic garden, as commonly arranged at present, in order to acquire a knowledge of the vegetation indigenous in any of the temperate regions of the world, and most likely he will have to trace, by the aid of books and other appliances, a botanical system scattered over the whole grounds before he can obtain even a glimpse of the object of his research. From the divisional gardens we are now recommending, persons about to travel might receive at once a general idea of the vegetation they are likely to meet with in foreign countries; and all might learn with little trouble how much we are indebted to particular regions for the trees, shrubs, and plants that tenant our gardens. Certainly, the unbotanical public would find more attraction and instruction in these than in strictly scientific arrangements. We therefore strongly recommend them to the attention of our readers, admitting at the same time that they would require some increase of room and of expense; still we think that there are several botanic gardens in Great Britain of extent and resources sufficient to admit of the experiment being tried with success."

All this reads very well; but how is the plan to be carried out, supposing it were worth attaining, which we do not think. How, for instance, is the characteristic vegetation of the United States to be represented better than it is? Some Pines, and other hardy trees, Rhododendrons, Azaleas, and Magnolias, are characteristic as far as they go, but trees are not the only characteristics; the herbage is even more peculiar, and we are quite unable to conceive how such plants as Sabbatias, Gentians, and Sarracenias of the lowlands, or the peculiar alpine vegetation of the rocky mountains, are to be brought together in this country, in such a way as to impress the uninformed spectator of what he is to regard as the peculiarities of transatlantic vegetation. Mr. Smith can hardly mean that his characteristic plants are to be exhibited in garden pots; if so, such of them as are attainable are to be found in botanic gardens already. If he means that the characteristic features of each country are to be produced in natural situations and in some such proportions as they must bear when they are wild—and as he writes on landscape gardening such must be his meaning, we presume—then we can only express our fear that his plans are unattainable.

Books, &c., Received.

Lowre's Spelling and Dictation Book. 12mo; pp. 70. Longmans.—A useful elementary book, well conceived and well executed.

A Dirge for Wellington.—A Poem. By Martin F. Tupper. Pp. 10. Hatchard.

Memoir of the Duke of Wellington (No. 31 of Longmans' Travellers' Library).—A reprint of two admirable articles which appeared in the *Times* immediately after the death of the great Duke.

The Battle of Leipsig, by the Rev. G. R. Gleig (Nos. 29 and 30 of Longmans' Travellers' Library).—An interesting narrative of a very great event, written in the happy manner of the author. But will the reader in Messrs. Spottiswoode's office explain who Caliancourt was, and Milordavitch, and Guilay, and Latour Mabourg, and some other important personages of whom we never before heard. Is it possible that they can have been relations of our old acquaintances Caulaincourt, and Miloradovitch, and Giulay, and Latour Maubourg?

Garden Memoranda.

MR. H. BELLENDEN KER'S, CHESHUNT.—Few gentlemen take so much interest in their gardens as Mr. Ker, and therefore we were not surprised to find his place one of "sweet retirement" from the active bustle of a city life. His cottage is in the Swiss style, agreeably ornamented with evergreen drapery, and half surrounded by a terrace-walk furnished with vases, which are at present extremely gay with scarlet Pelargoniums. On the south of the cottage is a well kept lawn containing some fine Cedars, Cypresses, Deodars, a weeping Larch, and a beautiful example of Cryptomeria japonica 9 feet high which was stated to have been turned out of a 3-inch pot only three years ago. In addition to these, we remarked, among other interesting trees, Paulownia imperialis, which, although it does not flower, is very ornamental, on account of its handsome foliage. A circle of Fuchsia gracilis, which is still one of the best of the hardier kinds, surrounding an old tree stump, covered with Ivy, had a good effect, being just now in full bloom. It survives the winter without any protection; and although the tops are killed by frost every winter, they push again the following spring, and flower beautifully all the summer. On a piece of rockwork at the edge of the lawn, near the house, the Castor-oil plant (Palma Christi) was growing very luxuriantly, and, owing to its elegant habit and large handsome leaves, it formed an object at once striking and effective. A broad terrace-walk and a ha-ha divide the lawn from the adjoining park on the south; on the west is a little flower garden in the shape of beds, on gravel, separated from the lawn by a closely-clipped Portugal Laurel hedge; and on the east is a Rosery, flanked on either side by beds of herbaceous plants. Scarlet Pelargoniums are planted in lines between the Rose trees; and now that the latter are out of flower the Pelargoniums are just in the height of their beauty. Among bedding plants in the flower garden the following are still gay, viz:—Tom Thumb, Ivy-leaved, Ayres' Gem, Huntsman, Lady Mary Fox, Mangles' variegated, and Compactum Pelargoniums; Kentish Hero, Amplexicaulis, and Kayii Calceolarias; a semi-double purple Petunia.

Robinson's Defiance and other Verbenas, Lantana delicatissima, Bouvardia triphylla, Salvia patens, Cuphea platycentra, the white-flowered variegated Alyssum, and Isotoma axillaris, which is the only annual Mr. Wooley (the gardener) has retained, and which is well worth growing, on account of the interesting pale blue star-shaped flowers which it produces in great abundance. The Cuphea has been found fault with in beds on Grass, for being too dingy, but on gravel it looks bright and effective. Anemone japonica is just coming into flower, and China Asters have been very fine, but their beauty is now over. A long walk leads from this garden by the side of an orchard of Apple trees (among which almost the only trees that have anything like a good crop are the Lemon Pippin), and round the shrubbery, which is extensive. It is bordered with Dahlias, Hollyhocks, Phloxes, Pentstemons, and Roses, &c. Among the latter Souvenir de la Malmaison, Paul Joseph, Fabvier, and Géant des Batailles, are still yielding stray blossoms, and furnished with plenty of buds. The last named is indeed the first Rose of the season, and it is also the last; and how intense is the rich crimson, or rather scarlet, of those blooms produced in the autumn, when the sun is not sufficiently powerful to rob them of their colour! We had nearly forgotten to mention that a collection of Gourds is successfully grown on the grassy south slope of the ha-ha in front of the lawn, where their large leaves and variously-coloured fruit have not a bad effect. The kitchen garden and glass structures are situated on the east side of the house. Among the latter perhaps the most interesting is a protected trellis, *i. e.* a rough trellis covered with glass sashes 10 feet in length, resting on 11-feet posts at the back, and 1½ foot supports in front. The back is quite open; but the ends are closed with deal boards, and an 11-inch plank is nailed along the front, but so as to admit plenty of air. From this trellis, which is about 16 yards long, and contains four trees, Mr. Ker has this year had a crop of between 40 and 50 dozen first-rate well-ripened Peaches, which for colour, size, flavour and juiciness, could not be surpassed by the best fruit from a wall. His success this untoward season is perfect, and therefore the advantages arising from such contrivances will be obvious, and they are so simple in their construction that a clever labourer might erect one in a day. No mildew has attacked the trees on this trellis; and although red spider began to make its appearance during the hot weather of July, it was soon checked. We understood Mr. Wooley to say that he took off the lights and kept them off for four or five weeks. This treatment arrested the progress of the spider, and prevented the trees receiving any injury from it. This temporary exposure of the trees has slightly retarded the ripening of the fruit, so as to make them succeed those on the walls. Mr. Wooley mentioned that he had in former seasons retarded mid-season Peaches, (such as Grosse Mignonne, Royal George, and others) till the beginning of October, by keeping off the lights till the beginning of September. We had almost forgotten to add, that Mr. Wooley protected his trees from the severe spring frosts by covering the glass with refuse hay when the nights were frosty, which seems to have been a most efficient protection. This year's wood is ripening satisfactorily, and there can be no doubt there will be a good crop again next season. A Vinery on the principle of Mr. Rivers' orchard houses, is maturing a fair crop of Grapes, which are well coloured, though the bunches are not large. The Vines were cut back by a sharp frost in April; but they soon regained their former vigour and growth. The house is furnished by a brick Arnott stove; but no fire heat has ever been applied. On the north side of this are two span-roofed Orchid houses, one heated by a tank, the other by 4-inch hot-water pipes, all from one boiler. The walls of the latter house, as well as those of the Vinery just mentioned, consist of deal boards covered on the outside with tarred felt, and they answer admirably. The Orchids, which have been so successful in obtaining prizes this year, both at Chiswick and Regent's-park, are in good health, and some of them are in bloom. Among the latter was the blue Vanda (V. cærulea), and Lælia superbiens is showing flower spikes. The singular Lady's Slipper (Cypripedium insigne), will soon be in full flower. Mr. Wooley informed us that this is one of the best plants he has for drawing-room decoration, as it may be had in blossom in great perfection from October till February. We saw the remains of a capital crop of Peaches on a south wall, and on the north side of the same were some fine Morello Cherries, which are netted up to keep them from birds. The "quarters" of the kitchen garden are bordered with dwarf pyramidal root-pruned Pear trees, from one of which (Louise Bonne, of Jersey), about 6 feet high, Mr. Wooley gathered half a bushel of ripe Pears this week. We also remarked Marie Louise double-worked on the Quince, full of fruit. On the south side of the kitchen garden is a 2-acre orchard of pyramidal root-pruned Apple and Pear trees, &c.; but here, as elsewhere, the crop on these has been comparatively a failure this year. A sloping bank at the bottom of this orchard is covered with Apple trees, whose branches are trained on short stakes up the face of the bank, about 1 foot above its surface. They have not borne so well this year; but we were informed that they generally produce excellent crops managed in this way. Like Mr. Rivers, Mr. Ker advocates the use of burnt earth, which he finds very useful for mixing with his stiff clay, which forms the staple of his garden.

FLORICULTURE.

Will Cut Flowers Travel?—At the Caledonian Horticultural Society's Exhibition, on the 18th inst., a 1st prize for Hollyhocks was awarded to Messrs. Paul, of Cheshunt, Herts; a 1st prize for 24 Dahlias; ditto for 12 fancy kinds, and several first-class Certificates for Dahlias, to Mr. C. Turner, of the Royal Nursery, Slough, Bucks! after taking the flowers all the way from London to Edinburgh, together with the respective journeys from Cheshunt and Slough to Euston-square. More than 450 miles were thus traversed with innumerable shiftings and joltings, such as travellers by "road and rail" know full well. During our experience in the management of exhibitions, both monster and select, distance has often been held out as an excuse for not bringing blooms for competition, the usual phrase being that "We do not stage our flowers upon an equality with your local friends, who cut, pack, and run up the show morning." Alas! such excuses can no longer obtain; and let us hope that in future praiseworthy efforts, like those of Messrs. Paul and Turner, in addition to their first prizes, obtained against strong competition, may always meet with similar reward. *J. E.*

North London Floricultural Society, *September* 14.—There was a capital exhibition on this occasion, every available inch of space being covered. The following awards were made:—Dahlias: Amateurs. 12 blooms.—1st, Mr. Robinson, with John Edward, Queen of Whites, Duke of Wellington, Fearless, Mr. Seldon, Absolam, Queen of Lilacs, Scarlet Gem, Sir C. Napier, Richard Cobden, Princess Radziwill, and Triumphant; 2d, Mr. J. S. Prockter, with Mrs. C. Bacon, Richard Cobden, Queen of Lilacs, General Faucher, Scarlet Gem, Louis Kossuth, Sir R. Peel, Nonpareil, Sir F. Bathurst, Fearless, and Uullis; 3d, Mr. W. Holmes, with Mrs. C. Bacon, Mr. Seldon, G. Glenny, Queen of Lilacs, Sir F. Bathurst, Duke of Wellington, Richard Cobden, Sir R. Peel (misnamed Sir C. Napier), Roundhead, Fearless, Shylock, and Elizabeth (Daniel's); 4th, Mr. H. Hunt, with Queen of Lilacs, Mr. Seldon, Queen of the East, Admiral, Shylock, Dr. Frampton, Duke of Wellington, Sir R. Whittington, and Fearless; 5th, Mr. J. Edwards, with Morning Star, Thames Bank Hero, Mrs. Seldon, General Faucher, Una, John Edward, Admiral, Mr. Seldon, Sir C. Napier, Sir R. Whittington, Queen of Beauties, and Triumphant; 6th, Mr. Cook, with G. Glenny, Elizabeth, Absolam, Scarlet Gem, Earl Clarendon, Princess Radziwill, Mrs. C. Bacon, Admiral, Fearless, Triumphant, Malvina, and Alice; 7th, Mr. Windsor; 8th, Mr. Weatherall; three other collections were staged in this class.—Six distinct Fancy Dahlias: 1st, Mr. J. Edwards, with Miss Compton, Rachael, Mrs. Hansard, Jeannette, Highland Chief, and Elizabeth; 2d, Mr. Holder, with Cricket, Miss Ward, Spectabilis, Claude, Kossuth, and Elizabeth; 3d, Mr. J. S. Prockter, with Miss Weyland, Queen of Fairies, Elizabeth, Miss Ward, Mrs. Hansard, and Rosenante; two other collections were also staged.—12 Hollyhocks: 1st, Mr. Holder, with Comet, Princess Royal, C. Turner, President, General Bem, Spectabilis, Prima Donna, Magnum Bonum, Napoleon, C. Baron, Venosa, and Model of Perfection.—12 Verbenas: 1st, Mr. C. P. Lochner; 2d, Mr. Weatherall; the leading varieties in these groups were King, Napoleon, Exquisite, St. Margaret, British Queen, Roseа, Mrs. Mills, Defiance, Laura, Marianne, Brilliant, Magnificent, Lilac Rival, Virginius, Standard, and National.—Six Fuchsias: 1st, Mr. M'Ewan; 2d, Mr. Cragg; the sorts being General Oudinot, Novelty, Fair Rosamond, Don Giovanni, Orion, General Changarnier, Splendida, Snowball, and Prince Arthur, &c.; these were the most showy. Dealers—24 Dahlias: 1st, Mr. J. Keynes, of Salisbury, with Princess Radziwill, Negro, Douglas Jerrold (Keynes), John Edward, Queen of Whites, Mr. Herbert (Keynes), Malvina, General Faucher, Sir F. Bathurst (Keynes), Una (Keynes), Essex Triumph, Annie Salter, Mr. Seldon, Magnificent (Keynes), Standard of Perfection (Keynes), Fearless, Duke of Wellington, Sir J. Whittington, Queen of the East, Sir R. Peel, Beauty of Kent (Keynes), Frederick Jerome, Goliath, and Triumphant (Keynes); 2d, Mr. Legge, with Fearless, Leda, Queen of Beauty, Magnificent, G. Glenny, Roundhead, Queen of Dahlias, Thames Bank Hero, John Edward, Marcolonese Cornwallis, Sir J. Whittington, Mr. Herbert, Carmina, Mrs. C. Bacon, Duke of Wellington, Phantom, Sir. Charles Napier, Triumph, Seraph, Sir Robert Peel, Barmaid, Summit of Perfection, Fame, Sir Frederick Bathurst; and Mr. Hunt also staged a collection of 24 sorts. 12 Fancies—Dahlias: 1st, Mr. J. Keynes, with Empereur de Maroc, Elizabeth, Rachael, Miss Compton, Laura Lavington, Mrs. Willis, Princess Charlotte, Cricket, Elegantissima, Rainbow, Nancy, and Mrs. Hansard; 2d, Mr. H. Legge, with Maid of Lodi, Mrs. Hansard, Princess Charlotte, Miss Compton, Madame Rose, Belle de Nogent, Jetty Treffz, Striata-perfecta, Miss Blackmore, Jenny Lind, Lady Grenville, and Belle de Pecque; 3d, Mr. Hunt, with similar sorts. 24 Verbenas: 1st, Mr. G. Smith; 2d, Mr. Shockley. The best sorts, as far as display went, were Standard, Miss Jane, M. Julilien, Alba Magna, King, Model of Perfection, Heloise, Koh-i-Noor, Marianne, Defiance, Ariel, St. Margaret's, Gloire de Paris (famous for bedding purposes), Eliza Cook, Grandis, Joan of Arc, Exquisite, Alboni, Surprise, Brilliant, Macrantha, and Orlando. 6 Fuchsias: 1, Mr. G. Smith, with Cartoni, Armada, Nonsuch, Actæon, Prince Arthur, and Nil Desperandum. Extra prizes presented by Mr. Turner for 6 blooms of Dahlias set out by himself, the 1st was won by Mr. Robinson, and the 2d by Mr. Prockter. Mr. Edwards and Mr. Cook also competed. The best sorts shown were Morning Star, Queen of Lilacs, Mr. and Mrs. Seldon, Shylock, and Scarlet Gem. Of Roses Mr. Wilkinson had some fine bunches, among which were admirable blooms of Souvenir de la Malmaison, Madame Guillotte, Safranot, Lady A. Peel, Souchet, Acidalie, La Reine, Comte de Paris, Baronne Prevost, Devoniensis, Mrs. Elliott, Leveson Gower, Sidonia, Madame Laffay, Lamarque, Duchess of Sutherland, Goubault, Geant des Batailles, Comtesse Duchatel, Amandine, Louis Napoleon, Queen, Bouquette de Flore, Mrs. Beaucquet, Paul Joseph, Armosa, Cramoisie superieure, and Duchesse de Thuringe, which we take it will be likely someday to displace Bourbon Queen, being a very desirable addition to the most select collection. Seedlings were numerous, and proved as they always do, a source of much interest; amongst Dahlias, Sir J. Franklin (Turner) took the lead; for to it a first-class Certificate was added an extra prize for the best Seedling, offered by Mr. Lochner, and also a further extra prize offered by Mr. J. Edwards for the best bloom in the entire exhibition. This speaks better things than we could possibly say of it; there were in all over 100 blooms staged for competition, and to be the best among so many proves that it must indeed be first-rate. The 24 best Seedling prize was awarded to Plantagenet (Turner), a deep violet, bold and novel: this also received a first-class Certificate, as did Boa (Drummond), a bold scarlet, previously noticed; Brilliant (Hastings) was similarly rewarded; this is likewise a scarlet; Wonderful (Keynes) had the fine distinction conferred on it more for its novelty than actual purity, the base of the petals being amber and blotched purple towards their tips; this class of flowers will ere long be popular if not made too numerous by frivolous distinctions, and if moreover the present blotches must become regular stripes or flakes, bold, distinct and well defined. Of other seedlings, Claudia (Lochner) is a striking fancy; purple with bold tip of pure white; Grand Duke (Turner) was commended as being useful, colour deep rosy lilac; Henriette (Howard), Hercules (Rawlings), Conquering Hero (Rawlings), Kossuth, Sir J. Paxton, Cambrian Beauty, and some others, made a larger number than usual. In Fuchsias, first-class Certificates were awarded to Glory, and to Lady Franklin, both from Mr. G. Smith; the former is a glorious dark, the latter an approach to purple and white, so much needed for contrast, our lights at present running mostly with scarlet corollas. An extra prize was awarded Mrs. Hansard, as being the best fancy Dahlia in the entire exhibition, the selection falling on the bloom exhibited in the raiser's first stand, to which we have already directed attention. *J. E.*

Catalogues received from Messrs. Bass and Brown, Sudbury, Suffolk; and from Mr. Godwin, Ashbourn, Derbyshire.

Miscellaneous.

Mr. Warszewicz's Orchids, to be sold on Friday, 1st October, were, we understand, collected on the hills between Bolivia and Brazil, the cordilleras of Sarrata and Tipuari and Ulimari, where, we believe, no collector had before been in search of such plants, and possibly the first and last that will be brought from that quarter, as Warszewicz describes the frost to have been so intense when crossing with his collections to the coast, that, notwithstanding his covering them well with woollen cloths, he lost the greatest part of the delicate ones; what have arrived, and are in good health, are, we understand as follows:—3 species of Anguloa, 2 species of Lycaste or Anguloa, 1 species of Zygopetalum? large yellow flowers; 1 species of Cyrtopodium? 1 species of Trichopilia, 3 species of Odontoglossum—one like the Odontoglossum grande in its pseudo-bulb; an Epidendrum, habit of Stamfordianum; and a Sobralia, described as branched, and like Lælia superbiens in flower; to which will be added a few plants saved from a former collection in New Grenada, imported last year, in excellent health, namely Masdevallia coccinea (a most charming thing, with flowers as red as a soldier's coat), Trichopilia suavis, 2 species of Anguloa, &c.

Fruits of Sikkim Himalaya.—Peaches never ripen in Sikkim, apparently from the want of sun; the tree grows well at 3000 to 7000 feet, and flowers abundantly, and its fruit makes the nearest approach to maturity (according to the elevation) from July to October. At Darjiling it follows the English season, flowers in March and fruits in September, when the scarce reddened and still hard fruit falls from the tree. It is curious that throughout this, the temperate region, there is hardly an eatable fruit except the native Walnut. English cultivated fruits are extremely poor; the native are confined to the Walnut, some poor brambles, of which the "yellow" and "ground Raspberry" are the best, some insipid Figs, and a very austere Crab-apple. The European Apple will hardly ripen, the Pear not at all. Currants and Gooseberries show no disposition to thrive, and Strawberries, which grow well, ripen a flavourless berry. Vines, Figs, Pomegranates, Plums, Apricots, &c., will not succeed even as trees. European vegetables again grow and thrive remarkably well throughout the summer of Darjiling, and the produce is very fair, sweet and good, but inferior in flavour to the English. Of tropical fruits cultivated below 4000 feet the Orange and Banana alone are frequent, with Lemons of various kinds. The season for these is, however, very short: that of the Plantain might with care be prolonged, but the fruit, as I have said above, is poor; Oranges abound in winter, and are excellent in flavour, but neither so large nor free of white pulp as those of South America, the West Indies, or west coast of Africa. Mangoes are brought from the plains; they do not thrive in the valleys; and though I have seen the Pine-apple plant, I never met with its fruit. A singular and almost total absence of the light and heat of the direct rays of the sun in the fruiting season is the cause of this dearth. Both the farmer and orchard gardener know full well in England the value of a bright sky as well as of a warm autumnal atmosphere. Without this corn does not ripen, and the fruit trees are blighted. The winter of the plains of India being more analogous in its distribution of moisture and heat to a European summer, such fruits as the Peach, Vine, and even Plum, the Fig, Strawberry, &c., may be brought to bear well in March to April and May, if they are only carefully attended through the previous hot and damp seasons, which is, in respect to the functions of flowering and fruiting, their winter. Hence it appears that, though some English fruits will turn the winter solstice of India (November to May) into summer, and then flower and fruit, neither these nor others will thrive in the summer of 7000 feet on the outer Himalaya, though its temperature so nearly approaches that of England, by reason of the accumulated evils of its excessive rains and fogs. Further, they are often exposed to a winter's cold no less rigorous than the average of that of London, the snow lying for a week on the ground and the thermometer descending to 25°. It is true that in no case is the extreme of cold so great here as in England, but it is sufficient to check vegetation, and to prevent fruit trees flowering till they are fruiting in the plains. There is in this a great difference between the climate of the central and eastern and western Himalaya, at equal elevations. In the eastern (Kumaon, &c.) the winters are colder and more comfortless than in Sikkim—the summers warmer and less humid. The rainy season is shorter, and the sun shines so much more frequently through the heavy

showers that the Apple and other fruits are brought to a much better state. It is true that the rain gauge may show a greater fall there, but this is no measure of the humidity of the atmosphere, and still less so of the amount of the sun's direct light and heat intercepted by aqueous vapour. It takes no account of the quantity of moisture suspended in the air, nor of the depositions from fogs, which are far more fatal to the perfecting of fruits than the heaviest brief showers. In the valley of Nepal, Mr. Hodgson informs me that at 4000 feet the Apple, though flavourless, ripens well and is a good fruit, as are two varieties of the European Fig; but these ripen at the same seasons as they do in the plains, the winters being so mild that snow is rare, and never lies. There, however, the Plantain and Mango do not ripen, nor the Orange always. It is too warm for Gooseberries, Currants, and Raspberries, and too rainy for the Vine. Apricots may be produced with care, but seldom Peaches. The Indian solstices, which are marked by one season of excessive drought, and the other of excessive humidity, can never be favourable to a copious fruit market. The obstacles to the production of good European fruits, either in the plains or hills, are manifest, nor do the tropical kinds flourish as in other quarters of the globe, where the seasons are not so contrasted. Hence there is not one good fruit peculiar to the country, and perhaps but one which arrives at full perfection; namely, the Mango. The Plantains are good, so are the Oranges and Pine-apples, but are less abundant, and of inferior kinds, and remain a shorter season in perfection than they do in most other equally warm climates. Who that has walked the fruit-markets of South America, the West Indies, or Western Africa, has not been struck with the profusion of all the above fruits throughout the year, and of many more besides, which are unknown to India? *Dr. Hooker, in the Journal of the Horticultural Society.*

Messrs. Loddiges' Plants.—The following circular has been issued since our last:—"Hackney, 8th Sept., 1852. The Crystal Palace Company having purchased our collection of plants, we are unable to execute any further orders. Tendering our grateful acknowledgments for the kind and liberal patronage bestowed upon our house during so many years, we are, &c.—C. Loddiges and Sons." We congratulate the Crystal Palace Company upon their having become the proprietors of this matchless collection.

Mr. Linden's Orchids.—What kind of prices these realised may be gleaned from the following:—Epidendrum macrochilum roseum, fetched 1*l.* 4*s.*; E. Sceptrum, 2*l.* 5*s.*; E. vitellinum, 2*l.* 16*s.*; Odontoglossum hastilabium, 2*l.*; O. nævium, from 3*l.* 3*s.* to 3*l.* 5*s.*; O. Pescatorei, 6*l.*; Brasavola Digbyana, 2*l.* 6*s.*; Anguloa purpurea, from 4*l.* 15*s.* to 6*l.* 15*s.*; A. sp. nova, 2*l.* 6*s.*; A. Ruckeri, 2*l.* 15*s.*; a supposed new Cattleya from Michoacan, from 2*l.* 4*s.* to 3*l.* 3*s.*; Galeandra Funckiana, 6*l.*; and Oncidium candelabrum, 3*l.* 5*s.* The number of lots in all was 156.

Calendar of Operations.

(*For the ensuing week.*)

PLANT DEPARTMENT.

The conservatory will still be kept gay by fresh introductions of plants in bloom, and the removal of such as begin to decay. It will, however, not be desirable to overcrowd the house at this season of the year, as the permanent inmates will require to have all the light and air possible, to effect the ripening of their wood. The climbing plants in this and other houses should likewise have a weekly regulation, shortening back the shoots going out of bloom, and training the remainder in a suitable manner, to effect a free natural habit. Climbing plants in pots, as Kennedyas, Hardenbergias. &c., should likewise be neatly tied to their trellises, and exposed to a good share of light. The borders in the conservatory will require less water, and this should be still further reduced as the days shorten, making a difference, however, with strong rooting plants, which will require larger quantities than others. The buds of Camellias, where too thick, should be thinned out according to the strength of the plant; water such as have not been recently potted with clear soot-water, which will help them to perfect good-sized flowers. A batch of Roses having had a short rest may now be placed in a light pit, for after removal to the plant-houses or drawing-rooms, they will be useful after the out-door ones are over. For a number which is useful we recommend the following as blooming very late: Devoniensis, Elise Sauvage, Goubault, and Smith's Yellow; and Scarlet Odorata, among the "Teas." Most of the Perpetuals and Bourbons should likewise be grown—Géant des Batailles particularly so, and the dwarf miniature Roses are pretty objects for the drawing-room, when grown in pots. A portion of the stock of Chrysanthemums should be placed under glass, to forward them; thin out the bloom buds, and water with liquid manure. In arranging Pelargoniums for the winter, allow them the lightest and warmest end of the house, unless there is a separate house for them, when the Fancies should have the best end; keep them close to the glass, and do not allow them to touch each other; those cut back late may yet be shaken from their old soil and repotted, placing them, however, in a slight bottom heat afterwards, to facilitate their quick rooting; cuttings struck should be potted at once, if not done previously. Let the greatest cleanliness be carried out in every house. The pots should be frequently washed on the outside, and moss prevented from growing on the surface soil. Make it a rule to clean out each house after the morning's watering, that they may get dry early in the forenoon. Specimen plants should be frequently turned round, to prevent their becoming one-sided. Keep only moderate fires to stove plants at this season.

FORCING DEPARTMENT.

Vinery.—Where it is intended to begin forcing next month, pruning should no longer be delayed, that the cuts may have time to heal before the sap rises. The borders should be covered, a week or two previous to putting on the sashes, with some dry material to retain the heat, for which dry leaves neatly covered over and protected from rains will answer. As the natural heat of the border declines (which will be very slow under the above conditions), a portion of fermenting materials may be added to promote a regular action to the roots. After pruning, the rough bark should be rubbed off and the Vines dressed with a mixture of soft soap, sulphur, and tobacco water, diluting it with water to a medium strength. Unless the Vines are much infested this dressing need not be done till the sashes are put on. Brush the composition well into the crevices, and have it of a proper consistence to adhere to the stem for some time. Vines started by the middle of October may be expected to ripen their crop by the beginning of April.

Peach-house.—Take every opportunity of removing the ripe leaves and liberating the shoots. The cool nights will now prove of the greatest advantage in ripening and hardening the young wood. It would prove of great benefit to Peach borders if they could be protected from heavy autumnal rains, which, by soaking the borders, keep up a growth at the root longer than is favourable for the thorough ripening of the wood. The same remarks apply equally to late Vinery borders.

FLOWER GARDEN AND SHRUBBERY.

Where extensive alterations are in contemplation, involving the planting of evergreen trees and shrubs, no time should be lost in commencing operations, from the present time to the middle of November being the most favourable season for planting the above. The transplanting of large trees and shrubs is now become so general and well understood, that a detail of the practice is unnecessary. We would, however, remind our readers that a considerable part of their future success will depend on each plant being furnished with a suitable soil, and the stagnation of water round their roots prevented by proper drainage. Where large masses of soil are prepared for the plants, as in the case of large trees, the mounds will require being made up to a sufficient height above the general level to allow for sinking. Trees look and thrive best when growing on slight elevations; but this rule on dry soils may easily be carried too far. As the planting proceeds, mulch with short Grass or litter for a good space round each, and where the plants are large, a hay-band wound round the principal stem and branches is of benefit; the plants should be well watered in, but the natural rains will generally suffice afterwards, with occasional sprinklings over-head in dry weather. Tall trees should be securely staked, to prevent rocking by the wind. Bring to a close the pruning of evergreens, that the wounds may have time to heal before winter. Cuttings of many kinds may be still put in. Our previous directions respecting the necessity of increased vigilance in keeping every part in order should be acted upon, especially now the fall of the leaf and the general decay of summer flowers render them imperative in well-kept places.

FLORISTS' FLOWERS.

Give Tulip bulbs a thorough revision, as the time for planting is rapidly drawing near: remove the offsets, to be planted by themselves as soon as the bed is prepared for them and the weather suitable. From the last year's collection of offsets very nice maiden or unbloomed bulbs may be obtained to add to the main bed: these will usually bloom cleaner than older ones. We would advise a more strict scrutiny as to purity of base and stamens; for we find, especially in the north, that flowers of the most awkward shape and gross impurity are allowed to win at many exhibitions; for instance, Sable Rex, Potter's Albion, Lustre des Beautés, Duc de Savoy, &c., still figure conspicuously in their prize lists. These, with us in the south, have been doomed flowers years ago. Draw the soil round the crowns of Dahlias, where not effectually covered; look over the plants, and collect any heads of seed which may be ready, choosing a dry day. Continue to pot layers of Carnations and Picotees, taking care that the soil is well freed from wireworm and injurious insects by hand picking; those layers which are not sufficiently rooted should be placed under hand-glasses on gentle heat, four layers in a pot; if planted firmly, close to the sides, they will speedily become established.

KITCHEN GARDEN.

Take the opportunity of dry days, to earth up Celery and Cardoons, if the latter are grown, and to tie up Lettuce and Endive for blanching; house immediately late Onions, and keep them in well ventilated sheds; Cauliflowers now showing their heads should have a few leaves turned over, to protect them from frost. Clear off crops as they are gathered, and dig up the ground for future use; prepare a piece of ground in a sheltered situation for hand-glass Cauliflowers. When Tomatoes are late in ripening, place spare sashes before them, to assist in getting them in; finish taking up Potatoes, and if they are dry, pit or store them away directly, as we find exposing them to the air increases the disposition to rot.

STATE OF THE WEATHER NEAR LONDON,

For the week ending Sept. 23, 1852, as observed at the Horticultural Gardens, Chiswick.

Sept.	Moon's Age.	Barometer. Max.	Barometer. Min.	Temperature. Of the Air. Max.	Of the Air. Min.	Of the Air. Mean	Of the Earth. 1 foot deep.	Of the Earth. 2 feet deep.	Wind.	Rain.
Friday.. 17	3	29.819	29.811	62	37	49.5	54½	54½	E.	.00
Satur.. 18	4	29.643	29.226	63	53	59.5	54½	54½	E.	.34
Sunday. 19	5	29.639	29.263	63	43	53.0	56	56	N.E.	.03
Monday 20	6	29.593	29.531	65	45	55.0	56	55	S.E.	.23
Tues. .. 21	7	30.164	29.605	57	34	45 5	55	54	W.	.01
Wed. .. 22	8	30.417	30.376	62	47	54.5	53	53	W.	.00
Thurs... 23	9	30.462	30.457	66	43	54.5	54	54	W.	.00
Average ...		29.967	29.753	63.0	43.1	53.0	54.7	54.3		1.11

Sept. 17—Slight fog with cold and heavy dew; very fine; clear and cold.
— 18—Foggy; constant heavy rain, clear at night.
— 19—Cloudy; uniformly overcast; cold at night.
— 20—Slight rain; showery; clear.
— 21—Boisterous with rain; cloudy; clear and cold at night.
— 22—Clear; very fine; cloudy; overcast
— 23—Overcast; very fine; low fog at night; barometer steadily very high.

Mean temperature of the week, 2½ deg. below the average.

STATE OF THE WEATHER AT CHISWICK,

During the last 26 years, for the ensuing week, ending Oct 1, 1852.

Sept. and Oct.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 26	65.5	46.2	55.9	15	0.72 in.	—	4	4	1	4	6	1	1
Mon 27	63.9	45.2	54.5	15	0.57	—	2	3	1	4	7	6	3
Tues. 28	64.5	44.0	55.2	12	0.80	1	3	2	1	8	6	4	2
Wed. 29	64.2	43.3	54.7	15	0.35	1	2	3	2	5	8	2	2
Thurs. 30	63.9	44.4	54 1	13	0.38	2	2	3	1	5	6	7	—
Friday 1	63.5	42.9	53.2	13	0.53	2	3	2	2	6	6	3	2
Satur. 2	63.7	44.6	53.6	15	0.48	2	4	1	—	6	6	4	3

The highest temperature during the above period occurred on the 26th 1828; 26th, 27th, 29th—therm. 79 deg.; and the lowest on the 27th, 1823—therm. 24 deg.

Notices to Correspondents.

Books: *Mary Ann.* Any bookseller can procure it for you, if he chooses. We never recommend dealers.‡

British Pomology: *Youngster.* Your letter has been sent to Mr. Hogg, who will, no doubt, give it due attention ‡

Cucumbers: *J P Willson.* Your specimen was as perfect a one as we ever saw; and as good as it was handsome. But it seems to have something of the "Smyrna" in it, which some gardeners, with whom we disagree, disapprove of. They think prickles necessary—in order, we presume, that they may have the pleasure of paring them off.

Filberts: *Omega.* Cut off the tops as you propose. The trees should be kept strictly to a single stem, and spurred like a Currant bush. You will find the pruning and management of Filberts, in full detail, in the vol. for 1850, p. 101. Plant immediately the leaves have fallen.‖

Fir Insects: *Abies.* The coccus of the Apple, and of the hot-houses, perishes instantly if touched with spirit of wine, or spirit of tar. So will the Chermes Pini. But will these trees themselves bear the spirit? and if they could, would not the expense be too great? You should try a branch with spirit of tar and ascertain the fact: having done which you will perhaps report to us. A solution of soft soap in tobacco-water, applied with a syringe, is used with success in many cases, but its action is by no means so searching as that of spirit of tar.

Heating: *Derbyshire.* One 4-inch pipe made to pass along one side, and to return along the other, of your chamber, will give you heat enough. Let your pipes be a foot below the stones.

Horse-radish: *X Y Z* will thank some of our readers to inform him what is the best plan of eradicating "Horse-radish." He has already more in his garden than is required, and it has begun to invade the neighbouring beds.

Horticultural Society: *Derbyshire.* We do not agree with you in opinion. Subjects of exhibitions must wait their turn. What is excluded this year may be admitted another. There is not room for everything at once. Apples the most neglected of fruits! What *can* you mean?

Hort. Soc. Fruit Cat.: *J C.* This is the best known authority for fruits. Your informant has probably a better opinion of his knowledge than we should entertain.

Insects: *Y Z.* The caterpillar you inquire about is most probably that of the swallow-tailed moth (Ourapteryx sambucaria), belonging to the family Geometridæ, so named from the geometrical mode in which the caterpillars rest and walk. *W.*

Names of Fruits: *J D.* Apples: 1, Trumpington, or Eve-Apple; 2, Scarlet Crofton; 5, Minchall Crab. Pears: 1, Manseuette; 2, 4, 6, 15, Passe Colmar; 5, Glout Morceau; 7, Brown Beurré; 8, Duchesse d'Angoulême; 14, 21, Beurré Diel; 17, Beurré Rance; 20, Marie Louise. Plum: B, white round Damson. Peach: C, Late Admirable.‖—*Guthlac* 1, Hoary Morning; 2, Adams' Pearmain.‖—*M S.* 1, Duchesse d'Angoulême; 4, Easter Beurré; 5, 6, Beurré Diel; 7, St. Germain. Apple: Fearn's Pippin.‖—*T A M.* 1, Crassane; 2, Louise Bonne (of Jersey); 3, Glout Morceau; 4, Williams' Bon Chrétien.‖ *A Young Gardener.* Your Peach is the Late Admirable.‖—*W S.* The Pear is Williams' Bon Chrétien, and the Peach is the Noblesse.‖

Names of Plants: *Z.* Clavaria cristata.—*A. H.* Corydalis bulbosa is hardy, so is Erinosma verna *Herbert* (alias Leucoium vernum); the two others are tender.—*F R.* It is Vallota purpurea.—*A B D.* Hypnum proliferum. 2. Bryum ligulatum.—*J S.* Pernettya mucronata; are not its pink berries very pretty?

Portland Cement: *J C.* Beautiful looking walks may be made with this material. No weeds will come on them; they will stand any degree of frost. As to price of materials, for that you must consult the merchants who deal in the article. Plaster of Paris is not suited for making garden walks, independently of its bad colour. It is much too soft.

Potatoes: *H M.* You can replant now, but, to make the experiment perfect, the tubers should not have been taken up. Perhaps you may as well stop till next season.—*An Amateur.* Peat charcoal is peat charred. Peat pulverised is peat separated from the fibre and not charred. The difference is of the same nature as roast beef and raw beef. One cannot be substituted for the other.

Raspberries: *W C.* Large fruit being your object, it will not be advisable to leave more than four canes to each plant. Trim off the laterals, shorten and train the shoots in January.‖

Salsify and Scorzonera: *W T B.* Scorzonera has the broadest leaf. The leaves of Salsify resemble Leeks at a distance, and its roots are white; those of Scorzonera are black outside. Your crop having run to seed, the roots will not be good. Although they have done so, we do not suppose that therefore seed saved from them will produce plants apt to run, if sown at the proper season. Salsify is the Tragopogon porrifolius; the other is the Scorzonera hispanica.‖

The Osage Orange: *Sabina.* It is a tree called Maclura aurantiaca; we never heard of its fruiting in this country. Perhaps you may obtain it of Messrs. Osborne and Co., of Fulham. No doubt it will ripen at Genoa, for it is regardless of winter's cold and greedy of summer heat.

Vinegar Plant: *W E M* states that if *T A M* will furnish us with his address, he will be happy to communicate respecting the fungus asked about, and will give every information wished for belonging to it.

PERUVIAN GUANO.

CAUTION TO AGRICULTURISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

ANTONY GIBBS AND SONS, AS THE ONLY IMPORTERS OF PERUVIAN GUANO,

Consider it to be their duty to the Peruvian Government and to the Public again to recommend Farmers and all others who buy to be carefully on their guard.

The character of the parties from whom they purchase will of course be the best security, and, in addition to particular attention to that point, ANTONY GIBBS AND SONS think it we'l to remind buyers that—

The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 9l. 5s. per ton, less 2½ per cent.

Any resales made by dealers at a lower price must therefore either leave a loss to them, or the article must be adulterated.

MANURES.—The following Manures are manufactured at Mr. LAWES'S Factory, Deptford Creek:

Turnip Manure, per ton	...	...	£7 0 0
Superphosphate of Lime	...	...	7 0 0
Sulphuric Acid and Coprolites	...	...	5 0 0

Office, 69, King William-street, City, London.

N.B. Peruvian Guano, guaranteed to contain 16 per cent. of Ammonia, 9l. 10s. per ton; and for 5 tons or more, 9l. 5s. per ton, in dock. Sulphate of ammonia, &c.

THE LONDON MANURE COMPANY offers on the best terms Wheat Manure for autumn sowing, Linseed, Rape Cakes, Peruvian Guano, Urate, Superphosphate of Lime, and every other artificial manure. Also a quaptity of Salt, the refuse of ammonia and saltpetre makers, considerably more valuable than the ordinary agricultural salt.

EDWARD PURSER, Sec., Bridge-street, Blackfriars, London.

CHARCOAL AND SEWAGE MANURE.—Promote the Health and Wealth of Town and Country by increasing the use of that valuable manure PEAT CHARCOAL, impregnated with the fertilising matter of LONDON SEWAGE. The ammonia, phosphates, and fæces are absorbed, and the water pressed out bright, palatable, and soft.

Sold at the Charcoal and Sewage Works, Stanley-bridge, Fulham, Middlesex, at 60s. per ton, 4s. per cwt., 2s. 6d. per half cwt.

LINSEED CAKE, Foreign and English, Rape Cake, Peruvian Guano, Gypsum, Salt, Peat Charcoal, and all other Manures of known value, on sale.—Apply to MARK FOTHERGILL, 20i A, Upper Thames-street, London.

SEED WHEAT.

THE HYBRID WHEAT, a new variety, which obtained the Prize Medal of the Great Exhibition, is now offered for sale by Mr. R. RAYNBIRD, of Hengrave, near Bury St. Edmunds, Suffolk. Price 60s. per quarter, to include sacks and delivery to the Bury St. Edmunds Station of the Eastern Union Railway. The collection of specimens of Hybrid Wheat shown by Mr. H. RAYNBIRD is highly spoken of in the Reports of the Juries of the Great Exhibition, Class III., page 51, and satisfactory letters have been received from gentlemen to whom seed was supplied last year. Further particulars will be sent upon application to Mr. RAYNBIRD, of Hengrave, or to Mr. H. RAYNBIRD, of Laverstoke, near Andover-road, Hants.

M'CORMICK'S PATENT AMERICAN REAPER has received numerous Prizes during the present season; amongst others, the award of the Jury appointed by the R. A. College at Cirencester, after NINE days' trial upon all kinds of crops and in all weather.—Winton's Parkes' celebrated Steel Digging Forks, as recommended by Mr. Mechi: they save full 20 per cent. in labour; they obtained the Silver Medal at the R. A. Society's Show at Lewes, the 1st prize at the Royal Yorkshire Show at Sheffield, 1st prize at Galway, and also at the Royal Dublin Show.—Anthony's Patent American Churn has received the prize at every Meeting where it has been exhibited, including those of the R. A. Society at Exeter, Great Exhibition, and at Lewes.—Urwin's Force and Lift Pump, particularly adapted for Liquid Manure. Mr. Mechi has one in use, and it is working to perfection. Kase's Force and Suction Pump, well suited for a Farm Fire Engine or Liquid Manure Pump; it is by far the cheapest and most effective Pump now out. Galvanised Iron Lift Pumps at a very moderate price. Gutta Percha Pumps, Gutta Percha Tubing for Liquid Manure and Garden purposes, Gutta Percha Driving Bands for Machinery, Waterproof Canvas Hose coated with Gutta Percha, for Liquid Manure. Leather Hose and Bands. Richmond and Chandler's Improved Scroll Knife Chaff Machine has obtained the prize at the R. A. Society's Show at Lewes, and at every other show this season. Starbuck's American Ploughs, Grain Bruisers, and every kind of Agricultural Implement sold by

BURGESS & KEY, 103, NEWGATE-STREET, LONDON.

THE DORSETSHIRE ASSOCIATION FOR THE IMPROVEMENT OF DOMESTIC POULTRY.—The first Exhibition of this Association will be held in Dorchester, on THURSDAY, the 13th of November, 1852, open to all England. Prize Lists, Forms of Entry, and the Rules of the Association may be had on forwarding six penny postage stamps to the Honorary Secretary. Entries to be made (on the Forms only), on or before the 1st of October.

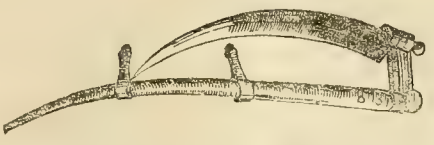
Dorchester, Dorset. G. J. ANDREWS, Hon. Sec.

STEPHENSON AND PEILL, 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Manufacturers of Copper Cylindrical and Improved Conical Iron BOILERS, and Conservatory and Hothouse Builders, either in wood or iron, respectfully call the attention of the Nobility, Gentry, and Nurserymen to their simple but efficacious method of warming Horticultural and other Buildings by hot water. From the extensive works they have executed, references of the highest respectability can be given, and full particulars furnished on application.

CARSON'S ORIGINAL ANTI-CORROSION PAINT, especially patronised by the British and other Governments, the Hon. East India Company, the principal Dock Companies, most public bodies, and by the Nobility, Gentry, and Clergy, for out-door work at their country seats. The Anti-Corrosion is particularly recommended as the most durable out-door Paint ever invented, for the preservation of every description of Iron, Wood, Stone, Brick, Compo, Cement, &c., work, as has been proved by the practical test of upwards of 40 years, and by the numerous (between 500 and 600) testimonials in its favour, and which, from the rank and station in society of those who have given them, have never yet been equalled by anything of the kind hitherto brought before the public notice.

Lists of Colours, with Prices, together with a Copy of the Testimonials, will be sent on application to WALTER CARSON and Son, No. 9, Great Winchester-street, Old Broad-street, Royal Exchange, London.—No Agents. All orders are particularly requested to be sent direct.

BOYD'S SELF-ADJUSTING SCYTHE.

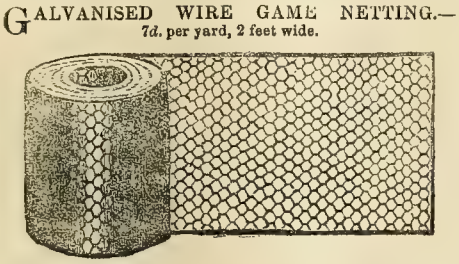


BOYD'S PATENT SCYTHE and the celebrated STEEL DIGGING FORKS.—BOYD'S Scythe is capable of being adjusted to any angle by the person using it, and never requires the aid of a blacksmith; when out of use it shuts up like a clasp-knife. The *Gardeners' Chronicle* thus comments upon it:—"We gladly state that Mr. BOYD'S Scythe stands well the great test, experience, especially with his late ingenious and very useful improvement."—G. C., 15th May, 1852. The Steel Digging Forks are those celebrated by Mr. Mechi: "When a labourer has once used them, he will never work with any other implement for digging. They effect a saving of nearly 50 per cent. in labour."—Wholesale and Retail at WM. DRAY and Co.'s Agricultural Implement and Machinery Warehouse, Swan-lane, Upper Thames-street, near London-bridge.

PERMANENT PASTURE.

H. R. SMITHE, of Eastling, Faversham, Kent, informs the public that his mixtures of the Natural Grasses and small Clovers, gathered principally under his superintendence, including every sort necessary to form a Permanent Pasture, accordant with the soil, &c. (which should be particularly stated), are now ready to be delivered by Railway to any Station in England, carriage free, at 28s. per acre, allowing 3 bushels per acre; Mixtures for Lawns, &c.

GALVANISED WIRE GAME NETTING.—7d. per yard, 2 feet wide.



	Galvanised.	Japanned Iron.
2-inch mesh, light, 24 inches wide ...	7d. per yd.	5d. per yd.
2-inch " strong " ...	9 "	6½ "
2-inch " extra strong " ...	12 "	9 "
1⅝-inch " light " ...	8 "	6 "
1⅝-inch " strong " ...	10 "	8 "
1⅝-inch " extra strong " ...	14 "	11 "

All the above can be made any width at proportionate prices. If the upper half is a coarse mesh, it will reduce the prices one-fourth. Galvanised sparrow-proof netting for Pheasantries, 3d. per square foot. Patterns forwarded post free.

Manufactured by BARNARD and BISHOP, Market-place, Norwich, and delivered free of expense in London, Peterborough, Hull, or Newcastle.

The Agricultural Gazette.

SATURDAY, SEPTEMBER 25th, 1852.

MEETING FOR THE ENSUING WEEK.

THURSDAY, Sept. 30—Agricultural Imp. Society of Ireland.

THE information which has been acquired by this year's experience of the REAPING MACHINE will, no doubt, suffice for the instruction of both farmers and agricultural implement makers against another season. Certainly, there is many a machine now regularly and successfully at work in our mills and manufactories, which did not at first promise or perform so well as any of the many forms of reaping machines which have this season been tried; and however many acres may have been mangled and injured by our first bungled attempts at harvest by machinery, the experience of the season certainly sanctions the hope of ultimate success.

The only source of doubt on the subject exists in the fact, that no expressions of confidence in our present reaping machines have exceeded in force what fell from competent judges more than a quarter of a century ago, in reference to the attempts which had then been made, but which, nevertheless, have for all that time resulted in nothing. But no such general excitement on the subject existed then as has now been produced. Besides, the manufacture of machinery for agriculture is now a vastly more important business than it then was—the firms then engaged in it have more than quadrupled their trade, and have increased more than tenfold in number—and neither they nor the now anxious farmer will let a chance drop, which 20 years ago they might have disregarded.

The general result of the trials which have been made has gone in favour of the completer machines. HUSSEY'S, which merely cuts the corn, has been improved, both as regards the labour which it involves and the excellence of its performance; but M'CORMICK'S has gained upon it; and, in several instances, surpassed it in favour.

Thus, one of the most important contests of the season, undoubtedly, was that on the grounds of the Royal Agricultural College, at Cirencester; and the judges headed by Mr. CURTIS HAYWARD, of Quedgeley, Gloucester, were as competent to give a sound verdict as any who have been called upon to decide on the relative merits of the machines; and they inclined to give a preference to the latter. The trial extended over several days and the work done exceeded 100 acres. We were not present on the occasion, but know the crops and the ground, and can testify to its having been a case of fair average harvest work. The conclusion arrived at was couched in these words: "We are, therefore, of opinion, that, of the two machines, thus tried, M'CORMICK'S has the advantage in lightness of draught, security of cutting, and clearing itself under adverse circumstances, and in the more convenient delivery of the sheaves."

Among the important facts involved in this trial is the superiority, in the judgment of the inspectors, of the serrated blade over oscillating knives; the stubble appeared neatest after HUSSEY'S, but 3½ bushels per acre had been raked off them, and only 2½ bushels off M'CORMICK'S ground.

In Scotland, again, where the performance of the original reaping machine, invented by Mr. BELL, has been repeatedly compared with that of HUSSEY'S, the former has in every case come off victorious; the position of the horses enabling it to charge right into a standing crop, and the apparatus for removing the cut grain, and laying it in swathe by the side of the machine, are the great points in its favour, and we incline to believe that if the machine can be constructed more cheaply than has hitherto been the case, it will be the favourite form of the reaper another year.

We give the particulars of some further trials in another page, and presume that we shall not now have occasion to recur at much length to the subject until the approach of the harvest season of 1853.

EVERYWHERE art and science are fast triumphing over the systems of our forefathers, and the farther our progress on the way of improvement the more easy is the conquest which they are effecting. In no department of the farm, perhaps, is it more necessary to attend to the instruction which they offer than in the management of cows for dairy purposes; for, though butter and cheese may be imported to supply our demands, the importation of milk or cream is a more difficult problem to solve.

It is said, that, to find out the seat of the disease is to effect half a cure, and, accordingly, to point out the short-comings of our present mode of managing and feeding dairy cows would facilitate a most important improvement.

The subject divides itself into two questions—food and treatment. As regards the former, milk has been taken as the type of food for the whole of the mammalia, and, therefore, the proportion of its constituent elements should be attended to in the feeding of milch cows. This proportion is somewhat different under different circumstances, but it will be sufficiently near the truth for our present purpose to say, that on an average milk contains of solids 15 per cent, and of water 85. The analysis of HENRY and CHEVALLIER gives the former a little less, and the latter rather more, the solid part being 12.98 and the liquid 87.02 per cent. We have here, therefore, as a type of food, solids and liquids blended together in the above proportion; and large as the proportion of water appears, it will require rather to be increased than otherwise, in the case of food for cattle; for, in general, 85 per cent. of water will be found too small.

Blood has been taken as another type of food, and it will be found that in the proportion of its solid and liquid portions, and the general arrangement of elements, it bears a close resemblance to milk.

Natural pasture has also been taken as an example of the best food for milch-cows; for, when fed upon it, they give the largest quantity and the best quality of milk. Now, in this case, it will be found that the proportion of solids and liquids approximate closely to that of milk, and even that the different elements of the solid portion stand in the same ratio to one another. As we depart from this arrangement unfavourable consequences are experienced; for instance, when Grass lands are top-dressed, and the Grass allowed to get to some considerable length before it is fed, it gives a disagreeable rankness of flavour to the milk; and during rainy weather a similar result is experienced. We are all again familiar with the richness of the flavour of butter when cows are first turned out to Grass, whether natural or artificial; that from Rye-grass being inferior to that from fine old pasture, but superior to that from natural Grass of an inferior kind. The judicious mixture of Grasses, as being favourable to good milk, is a problem of great importance to the dairy farmer.

It is probably owing in some measure to the failure of this due proportion, that rank pasture or Grass after a heavy top-dressing does not produce so finely a flavoured article as short pasture from a soil of uniform fertility; for it will almost always

be found that when natural Grasses are allowed to get to any length, the coarser sorts so far choak the finer that we have not the same mixture, and hence not the same quality of food.

But the case of butter from cows just turned out to Grass, in spring, is a compound one involving two causes; for not only is there a change of food to account for the result, but a change of treatment also. Previous to taking out the cow to Grass, she may have been not only living on food of an inferior quality, but, as is too often the case, she may have been confined in a badly ventilated hovel without exercise. And this is the second important branch of our subject. During summer as well as winter, cows require accommodation to shelter them from the extremes of weather. As near an approach as can be made to uniformity of temperature for the cows—plenty of pure air—and sufficiency of exercise, are, with the supply of appropriate food, the elements of successful practice on the dairy farm.

Irregularity of feeding and milking, with bad grooming, are other branches of treatment requiring grave consideration. Generally, there is too long an interval between supper and breakfast; for the secretion of milk is an active process, and does not sleep when the cattle-man goes to bed. And the same may be said of milking; long fasting and seldom milking are two successful expedients in practice for putting the cow dry. In the cow-house, again, it but too frequently happens that the currycomb and brush are wanting, while the language of the cow-herd, and his handling and general demeanour towards the cows, are even ruder than towards oxen destined for the shambles! A cow in calf, or after calving, requires gentle treatment, and her skin should be kept clean, and she should be kept otherwise in comfortable circumstances. Taking into consideration the few points alone which have been named, it will readily be perceived that the general treatment of the milch-cow is as yet anything but perfect, whether we refer to the food or the treatment she receives; for, during the greater portion of the year, the former is very far from the simple type which Nature has given us, and the latter is, if possible, even more at variance with what Nature requires.

THE WEEDON SYSTEM OF GROWING WHEAT.

Frequent reference has been made by your correspondents to the Weedon system of growing Wheat; and the leading point of their remarks has been mildew. "Thin-sown Wheat, with wide intervals, is subject to mildew; and the result is, large heads, it may be, with light ears and shrivelled grain."

I do not know that I can better reply to this than by giving a report of my own and my neighbours' crops this season. Let me first of all refer to the field on which my principal crop is grown. It was in a most favourable condition for my experiment when I took to it first, in 1850; for it was exhausted. The result was, that there was no fear of over-luxuriance, and it produced 5 quarters 1 bushel from the moiety of each acre, uninjured by mildew. I call it the moiety of each acre, because the lands are each exactly 5 feet wide, and I trench exactly 2½ feet every year for a fallow for the succeeding crop, and leave 2½ feet every year untrenched, for the growing crop.

In 1851, I sowed the other moiety of each acre, and the crop is carried and in stack. Judging from the size, regularity, and fulness of the ears, I fix the yield at from 36 to 40 bushels. The grain ripened prematurely—10 days before its time—and so will fail as to full beauty in the sample. But the straw was bright—"the brightest I have seen this season," I heard a farmer say—and the crop wholly uninjured by mildew. Two of my neighbours have adopted the plan with almost equal success with myself; one on half an acre, the other on a field of 5 acres. Of the latter crop, one acre, sown two or three months too late, was destroyed by mildew; the remaining four, a very fine crop, sown in tolerable time, escaped. The half-acre piece, sown in good time, was wholly uninjured by mildew.

But there is a dark side of the picture; the sun does not shine on it from every point. I have shown by my own experience, and by that of others under my own immediate observation, that mildew is not a part of the Weedon system; but by management, or want of management, it may be made so.

It will be recollected by the readers of the "Word in Season to the Farmer," that I spoke there of another plot of ground set apart for the early trials of my scheme. It was broken up nine years ago, having been breast-ploughed, and the turf been carried off. It has since had eight crops consecutively without manure; the first year Oats, the second year Vetches, and the six following crops Wheat, from the alternate moieties of the acre. Though fearfully scourged, it still does not suffer or cry out, but seems rather to laugh and sing all the more. Every touch of the scarifier brings out some latent virtue. It was here, at the outset of my experiment, I had this neighbourly warning, "What are you doing, Sir? Your land gives you but little Grass" (not a ton of hay to the acre), "and it will grow you little but weeds." And when I persevered and brought up to the surface 15 inches of yellow clay—like that "nasty stuff" of the far-seeing clay-farm chronicler—it was the cry of one and all, of every passer-by, of every farmer and every labourer in the parish, "His land is done for; he'll never have a crop again as long as he lives!" I persevered however; and what is the cry now? Not the cry of all, but still the cry of a few, "No wonder he has such good crops; for his land is so good!" The few are quite right. The land is indeed good; it is excellent; there seems scarcely a limit to its power of production. But, with all the infinite variety of this description of soil, I do not hesitate to express my conviction that the great majority of clays spread over the kingdom could be made, with similar treatment, equally good and equally productive with mine.'

Well, upon this plot of ground I got in my sixth crop of Wheat in the middle of October, 1851, unavoidably too late by a whole month. But that was not all. When the plant came slowly and irregularly up, I found too late there had been something wrong in the seed: seed crushed in threshing had been used: it had lain several days in a fermenting heap after dressing; and the result in March was, chasms in every row of from 12 to 24 inches, and more in length from plant to plant. The crop was considered gone. I knew too well, however, the effect of tillage, and stirred round every plant, as with Turnips. I so fed and pampered it with the hoe, that it spread, and tillered, and grew into the finest and most luxuriant crop I ever had. It is now threshed out; and the yield is very nearly 4 quarters and 2 bushels from the half portion of the acre.

I have entered into these details, in order to point a moral. The produce, it will be seen, was large, but the grain generally proved thin and light in the scales. The truth is, that this feeding and forcing of the plant came too late. There were but few tillers in the early spring, but after the process I have described, fresh ones were thrown out so numerous that I have since counted in the stubble as many as 53 stems from a single grain.

It was upon these fresh tillers that the mildew fell. The plant was formed almost wholly of these tillers; and while the few early and original stems were growing and ripening into the dry maturity of age, these late ones were still youthful and succulent and porous. Then came the season of trial—the rains of summer and the fogs of autumn. The *stomata* of the straw were open to inhale. The *sporules* of the fungus entered in. The sap, checked in its circulation, ceased to flow upwards. The grain no longer filled; and the end is an uneven sample, saved only from being positively bad by the few ears of early growth. Examine a single plant of late-tillered Wheat at harvest, and some few ears will be found with plump full grains; others with corn deep in the cleft, furrowed, and thin. The latter tell their own tale of ill-timed luxuriance and wrinkled growth.

There is scarcely a farmer who has not suffered from late-tillered Wheat. The wireworm, or the slug, or something has been at work, and he finds at spring his Wheat crop patchy and thin. To his astonishment the thin patch grows and overtops the rest. The plant has had room to spread, and has filled the blank space with tillers:—too late. They are become plethoric and predisposed to disease, and mildew comes and spoils all.

A whole field has been thin and backward at spring. A dressing of guano will set it up, and is applied. With what results, in a season like the past, full many a farmer can tell. A tenant of my own dressed a part of a Wheat crop with guano; it forced the plant forward and heightened the straw, and lengthened the ear, and marked it out to a foot from the unfavoured portion of the field. But it mildewed, and came down. I saw the crop before reaping. The unfavoured part stood up, not free from scars, it is true, but with healthy and well-filled ears, marked out to a foot from their prostrate and blackened neighbours.

To the thin sower the moral is this: "Late-growing, luxuriant Wheat rarely prospers. Therefore, sow early. Let the plant tiller fully before winter, or quite early in spring. Give each stem an equal start at the genial season of growth, and then there need be no alarm as to the result, subject only to those visitations from which no Wheat on any system, on the same description of soil with his, and under the same climate, is secure." *S. Smith, Lois-Weedon, Sept.* 14, 1852.

THE REAPING MACHINE.

[We have been favoured by Mr. Harkness with the report on this subject lately published by him in his capacity of Secretary to the Royal Agricultural Improvement Society of Ireland. The following is an abridgment of it

Any one acquainted with the history of the late lamented James Smith, of Deanston, one of the greatest promoters of agriculture Scotland ever saw, must know that he carefully and zealously pursued the formation of a reaping machine long prior to 1815. In that year he had brought his machine into working order, and a committee of the Highland Society of Scotland was appointed to see it in operation, and to report upon it to the Society. And this was done. It was set to cut Oats and Beans, and the committee reported, that the machine not only wrought expeditiously, "took up the whole straw close to the ground, and laid the cut corn with great evenness and regularity, ready for the bandmakers and binders," but they also reported, "that in their humble opinion, this machine is, perhaps, next to the plough itself, the most valuable invention that has occurred in the annals of husbandry—that the discovery is of great national importance—and that Mr. Smith is not only highly deserving of the patronage of the Society, but eminently entitled to the special favour of Government and to liberal Parliamentary reward; that, regarding Mr. Smith as standing high in the class of ingenious men, who devote their talents to the good of their country, they felt themselves called upon to recommend earnestly that the Society be pleased to make him a present of 200 guineas as a mark of their approbation, and as an encouragement to labour for the public good."

In the same year (1815) 19 respectable farmers, in the district of Monteith, who saw the machine work, in a similar way, bore a willing testimony in favour of Mr. Smith's machine, by certifying "that the cutting and laying were most correctly done, and that the quantity of work performed exceeded their most sanguine expectation. They congratulated the public on Mr. Smith's success, and were fully satisfied, that in a very short time, the machine would be generally used, wherever agriculture is properly understood and practised."

Whether the patriotic inventor and manufacturer of this machine ever got the 200 guineas, as recommended by the Highland Society's committee, we know not; but this we do know, that notwitstanding the very strong report and recommendations in favour of Mr. Smith's machine, by the committee and a large body of good Scotch agriculturists, it seemed to have been allowed to go to sleep for many years.

However, to proceed with our sketch of the Scotch reaper—Mr. Bell's improved one made its appearance in 1828, with a plate and description of it in the Highland Society's journal of that year, the editor thus expressing his opinion of its merits:—"We have seen it at work, and we feel satisfied that it possesses not only all the ingenuity which we formerly ascribed to it, but complete efficiency. Its manner of performing its work is faithfully given in the annexed report, which was subscribed on the field by the member of Parliament and the sheriff of the county of Forfar, and by 40 landed proprietors and practical agriculturists, who were present. The certificate proceeds thus:—

"Powrie, 10th September, 1828.

"We, Proprietors of Land, Farmers, and others, have this day witnessed the operation of Mr. Peter Bell's reaping machines at Powrie, in the county of Forfar. They were employed in cutting down Oats, Barley, and Wheat, on ground of uneven surface and considerable declivity. Each machine was about 5 feet broad, and consequently cut down this breadth of corn as it passed along. The stubble was from three to four inches high, completely free from loose straw, and the cut corn was deposited on the side of the machine, as it advanced, in a very regular manner; and without rolling, was collected into compact and well-formed sheaves, with the greatest facility and despatch. At the rate at which the machine moved, it was ascertained by measurement that it cut down about an imperial acre in the hour. From six to eight persons seemed to be necessary in gathering, binding, and setting the corn, so as to keep pace with the operation of the machine. Each machine was moved by a single horse, and, as we learned from the practical mechanic who attended, may cost about 30*l*.

"We beg leave to express our convictions that Mr. Bell's reaping machine will come immediately into general use—that it will confer a signal benefit on agriculture—that his invention is of national importance—and that he deserves the highest encouragement for his active and strenuous exertions for the public good."

It had been frequently asked, as a matter of wonder, how Mr. Bell's machine was so little known till now it had come out with an effulgence which dazzled the public gaze. That it was so little thought of from 1828 to 1829, or practised by the British farmer, was no fault of Mr. Bell. As now shown, he worked it publicly in 1828, and in 1829 it was exhibited at Glasgow, at the Highland Agricultural Society of Scotland, and a medal awarded to it. Not only so, but about the year 1830, an elaborate, yet minute, article appeared from the pen of the late Mr. Loudon, speaking in high terms of it. Mr. Loudon, an able and ardent promoter of agricultural improvement and knowledge, sent to Mr. Bell some hundreds of his paper, which the latter addressed to many influential persons—to all, in fact, he thought likely to entertain and promote the invention; and the result of all this agitation was, that no one stirred in the matter, Mr. Bell being left to work away for 20 years cutting his own crops in the Carse of Gowrie with the very machine now exhibited, several of his neighbours even having never had the curiosity to walk over his farm to see his reaper work. In truth, this narrative shows that enterprise in agricultural improvement is still much needed.

1. Formerly, when agriculture was rudely managed, and lands undrained, the harvest came forward to a ripening condition piecemeal, the lightest and best cultivated grounds ripening to the sickle first, the heavy next, and the wet soil last. But now that drainage and good pulverisation are advised by all, and adopted by many, the crops of a farm frequently come to the sickle within a week or ten days of the same time, and ought, therefore, to be smartly cut down and preserved.

2. But how can this be accomplished with the ordinary labourers of the present day? Emigration has carried out of Ireland a very large proportion of her most able-bodied workmen, and still the cry is "they go." This may not yet have produced a dangerous deficit of labour for the general agricultural operations of the year; but when a large harvest requires, from its general and rapid ripening, to be cut down in 14 days, or say three weeks, while labourers equal to cut it in six weeks can alone be commanded, is it not clear that much damage must occur to the crops so ripening and left to shed their seed. And here it is that a reaping machine on crop in a proper state, and on properly cultivated land, may be of advantage; for if it were to

cut the grain no cheaper than ordinary reapers would cost, still by the farmer cutting, say 10 acres a day, with a machine, in addition to what he could manage with his usual complement of hand reapers, it is clear a great saving from protecting the grain against over-ripening and shaking would be effected; and probably as great a saving by getting the crop cleverly into the barn-yard before a break of weather. The extraordinary emigration from Ireland to America, and the increasing emigration from England and Scotland to New South Wales, form cogent matter-of-fact arguments in favour of good and valuable reaping machines.

3. The existence of a scarcity of labourers implies a direct rise in harvest wages. So it has been this season in Ireland; and so much as 10*s.* and 12*s.* per imperial acre have been paid in England, while there is good reason to believe that, with a good reaping machine, it could have been cut for 4*s.* or 5*s.* per acre. Thus a saving in 100 acres of white crop would be at least 25*l.*, and, probably, as much more by being able to reap in due time, and save the best grain, which is too often knocked off short by handling the stuff when over-ripe and exposed to bad weather.

4. One of the great drawbacks in cutting with the sickle, and partly also with the scythe, is, that the straw is much compressed, and when bound up is thereby tardy in winning so as to be fit for being built into a proper corn-rick.

In a moist climate, such as this, any practice which lays an embargo upon the stocked grain, keeping it weeks in the field, is a serious loss to the farmer. But crops cut with Mr. Bell's machine, which lays the grain loosely and regularly along the ridge, the buts all the one way, and the tops all the other, could be so handled and managed as to be capable of being carried and stacked in one-half the time that crops cut with the sickle could be stacked. This would be attended with a decided advantage—a saving of money.

Many other advantages attending the use of a good and cheap reaping machine might be stated, but these, we think, form the main ones, and ought to suffice.

But we know it will be urged by some, that however plausible such considerations are in favour of reaping machines, their application would prove injurious to the agricultural labourers whose employment and wages are yet too scanty in Ireland.

The objection is founded on mere assumption, the dreaded evil of reaping machines injuriously displacing manual labour, being an airy vision merely. No doubt the reaping machine used over say one-half of all white crops in the three kingdoms, in addition to all the reapers who could be commanded, would shorten the period of cutting work say one-half, or on an average, say 14 days,—but what would be the consequence? As the farmer would thereby secure his crop at less cost and with less loss, he would be the better able, from his savings, to employ extra hands after harvest in preparing and cleaning land for Beans, Oats, and winter Vetches, to feed his cattle and sheep upon in spring. The speedy clearing of his stubble land would also induce him to trench deep, burying the Couch Grass in the month of September, in his stubble set apart for deep-rooted green crops in the spring. In this proper and productive method of employing labourers, we see a much more economic and laudable method of serving the working agricultural classes, than by encouraging their employment, in competing by hand labour against a mixed system and a less expensive one, of mechanical and manual work.

ROTHAMSTED AND THE WRITER "R."

We have quoted from our paper, in regard to the growth of the Turnip, that, within certain limits, *the lower the temperature the less important "is a continuity and a large amount of rain."* Any one, indeed, who has attempted carefully to study statistics of the more tangible elements of season, namely, of maximum, minimum, and mean temperature, range of temperature, inches of rain, and number of rainy days (to say nothing of the moisture of the atmosphere, and the varying character of the sun's rays), of different seasons or locality, in connection with particulars of the quantity or the quality of agricultural produce—the result of otherwise equal circumstances of growth—will have learnt, as one of their first lessons in this field of inquiry, that it is the *mutual adaptation* of the various climatic elements to the *several stages of growth* of the plants, that we must seek to trace the real influence of varying climatic circumstances, in determining the very varying quantity and quality of the produce.

It was, indeed, being strongly impressed, at the outset, with the importance of studying the question in this point of view, that we have for years been engaged in collecting statistics of the growth of the cereal grains, and specimens for examination, from various countries and climates; and that, at one time, a tour was contemplated through all the corn-growing districts of Europe, in order to gain such information relating to this point as the current statistics could not supply; but, especially too, with a view of coming to some decision as to the *limit of production* of various soils and of various climates, under such system of culture as seemed essential to corn-exporting districts.

It was, too, under the full consciousness of the very limited insight which such figures as we provided were competent to supply, as to the circumstances of growth of our cultivated Turnip, that we claimed for them the indication only of the main and characteristic features of a Turnip season. Indeed, when writing our paper on Turnip Culture, we had before us a striking illustration of the error into which we should be led, in relying in any arbitrary or unconditional manner upon individual characters of season, as affecting the produce of the crop. Thus, notwithstanding the vast influence of a large fall of rain, in conjunction with other climatic elements, it was found, by a comparison of the general characters of the Turnip seasons of 1845 and 1846 respectively, within a considerable circle round London, that the amount of rain was considerably larger in 1846 than in 1845; though, owing chiefly to the compensating circumstance of a much lower temperature (and *especially* a much lower *maximum*) in 1845 than in 1846, during a greater part of the season, that of the former was much more favourable to the growth of the Turnip than that of the latter. Indeed, the Turnip season of 1845 is one of the best, and that of 1846 the worst, that we have had for the last 8 or 10 years.

As to the competency of the current statistics of the various climatic elements enumerated above, to serve in the elimination of a sound agricultural theory, a very considerable experience in this matter has strongly impressed us with the necessity for great caution in the application of them to such a purpose. It may, however, be of some interest to those who pay any attention to this subject, if we give, in a very general way, an outline of our method of studying any such climatic figures as we may think fit to adopt.

Taking, for instance, the several points of mean maximum, mean minimum, mean, and mean daily range, of temperature—the inches of rain and the number of rainy days we have arranged—first, for the whole period or season under consideration, the figures for each of these elements separately, in a table of weekly or monthly periods, of the different years or places, as the case may be. We next bring together, in tables for each separate month or other sub-divisional period respectively, the statistics of the several climatic elements *collectively*. The figures in each of these tables of *actual quantities* for the several years or places are then reduced to their indices—that is to say, corresponding tables are drawn out, in the columns of which, figures representing the *order only* of the actual quantities, year compared with year, or place with place are given. A column is also given of the *sum* of the indices of the weekly or monthly periods of which the "*season*" is supposed to be constituted. And these *sums* are again reduced to a column of *their* indices. In some cases, too, the several points are reduced to the form of a diagram.

In the case of our own field experiments, we have arranged by the side both of the actual climatic statistics, and of their indices, both the actual amounts of produce under otherwise equal circumstances of growth, and *their* order or indices. But in studying the subject in its more general and extended bearings a diagram is frequently found the most applicable form of arrangement. By methods such as are here indicated, the vast body of figures of *detail*, with which it is necessary to deal in studying this subject by the aid of statistics, is brought at once to a few columns of main and characteristic indications; and when these are once fixed upon the mind, the points of a more minute and detailed character will then be more conveniently traced in the figures of detail themselves.

But besides these more tangible and obvious characters of climate or season, affecting the accumulation and elaboration of vegetable substance, the general or characteristic influence of which upon the growth of some of the crops of our rotations, we endeavoured to illustrate by means of a condensed summary of statistics relating to them—there are others, namely, *light*, and the *moisture of the atmosphere*, to which we only referred in a very casual manner.

See paper on Turnip culture, Journal of the Royal Agricultural Society, Vol. VIII., Part 2, p. 539.

> "It must be remembered, then, that the Turnip plant, cultivated as food for stock, is gathered at no well-defined stage of its growth; but whilst containing a vast amount of circulating fluid, the proportion and concentration of which is subject to constant variation, under the influences of the still active vital processes of the plant, the varying stores of moisture and of food presented to the roots, and the circumstances of temperature, *light*, and *moisture of the atmosphere*, to which the leaves are exposed."

Each of these influences, namely, the *moisture of the atmosphere*, and the *varying character of the sun's rays throughout our seasons*, plays a very important part in determining the quantity and the character of the produce of the various crops as grown in our rotations. To the latter influence the writer "R." does not refer; and, so far as we are aware, no one has hitherto attempted to apply the floating and independent scientific observations bearing upon this subject, in the manner which it has appeared to us they are capable of application, in further elucidation of some of the phenomena of our rotations. This is a point, however, which we hope ourselves to follow out on some future occasion.

Upon the *moisture of the atmosphere* the writer "R." lays much stress, partly in correction of the omissions of Liebig on this point; but, especially in reference to its direct influence upon the evaporation from plants, and as thereby materially affecting their growth, we think that in endeavouring to fix attention upon the seeming omission of others on this point, he has himself given it an undue preponderance. However close, and in some cases even direct, may be the connection between evaporation and the fixation of certain constituents in plants, yet, according to our numerous experiments on this subject, with the cereals and other corn, and with the root and other green crops, this connection would seem to be so various, even under equal climatic circumstances, according to the nature and source of the constituents, and to the conditions in which they are stored up in the different plants, that the evaporation itself can by no means be *unconditionally* attributed even to the *collective* climatic influences alone, which determine ordinary evaporation. Still less can it be so *mainly* dependent upon the amount of moisture existing in the atmosphere, as the readers of the articles of "R." on this subject would be led to imagine. We cannot, however, enter adequately upon this subject either, in this place; but we may observe, in passing, that the varying relation of evaporation to constituents fixed by the Turnip plant, under equal climatic circumstances of growth, according to the source of those constituents, and to the proportions of leaf and bulb which they may form, would seem to be a point of great significance; and it is such, also, as to afford us confirmation of the views which we have maintained in relation to the "consuming" or "collecting" functions respectively of the crop. *J. B. Lawes.*

Home Correspondence.

Bone Manure is the cheapest and most durable of manures now in use for all heavy loams. The most scientific as well as the best practical agriculturists have given it a fair trial in central Cheshire and south Cheshire; and Shropshire is following their steps; and ultimately all England, I believe, will adopt the same practice, owing partly to the great success of the Cheshire farmers. It is 30 years since my father commenced the system of farming, more to be particularised in the latter part of this letter, under the persuasion of Mr. Warburton, of Arley Hall, who, it may truly be said, is ranked as a leader of its introduction in Cheshire. Many a farmer wishes him long life and happiness, as a warm advocate of improved systems of tillage. There are two plans laid down as the best for the use of bones. First, take and drain (say 36 inches deep, and 7 yards apart) a plot of cold heavy loam, break it up with white crop, follow with a green crop, not heavily manured with farm-yard dung, then lay it down with white crop, Barley, Oats, or Wheat. When the weather suits, in March or April, sow on the grain crop your Clovers and other mixture of Grasses, and pass a roller or harrow over them, so as not to injure or pluck up your corn. When the grain is reaped, be on the look-out, in September or October, for a nice showery day, and apply 35 to 40 cwt. of well-beaten bones, the finer the better; before winter sets in, the Clovers will be strong and able to stand the coming frosts, &c. You will have a crop of Clovers to pay you for the manure at once. The land so treated will do for two mowings. After these two mowings, in the month of October or November, or very early in the spring following, scatter about 12 to 15 cwt. more very fine-ground raw bones. Land thus treated will graze seven, ten, and in some instances 14 years without any additional manures. 2d. Sound land that needs no draining may be covered over on the pasture Grass with not more than 30 to 40 cwt. of well-ground raw, or finely beaten stewed bones, with good success; some have applied 4 tons to the Cheshire acre, but 2 acres may be covered with that weight with as much success. Land under my own knowledge that has been manured with bones 14 years ago, has been broken up for white and green crops, and the old bones being thus revived, have told a good tale in the first white crop, being more than double the weight of grain given on the same piece 16 years ago, that is, previously to bones being used for the land. The old method of having land laying to Grass as meadow land for 20 to 60 years, is now considered worse than madness. Grasses thrown up by the improved course of husbandry are heavier, and 100 per cent. more nutritious, than those of "my Lord's old Park," not having been ploughed these scores of years. The best farmers break up with a white crop, follow with one or two years' green crops, then lay down to Grass with a white crop. All acres herein named are of the Cheshire measure. Bones and tiles, or pipes, are the only or chief materials, with the blessing of Providence, to carry poor farmers over Free-trade Bridge. *Peter Barber, Grappenhall, Cheshire.*

Rotherfield.—Thinking that you may be pleased with being informed of our late and present prospects in this neighbourhood, I write to give you a brief account of them. In the first place, Wheat is quite the average, great straw, no mildew, very light, and a little grown. Oats good; above the average, but rather light. Barley, the little that we grow, good. Hops above the average, little hurt by the wind; picking just beginning; a very little mould. Hay a good crop, and well harvested; Turnips, the few we grow, going on well; Potatoes, I am sorry to say, quite gone, as bad as the first year. I observed the blight first about the middle of June, and it has gone on steadily ever since; most dug up; the few that are good very small. In the spring we had a great blossom on our fruit trees, but a rough wind in June soon made sad havoc, which was completed by the wind a fortnight since, which not only brought down nearly all that was left, but bringing up the salt spray from the sea has burnt the leaf, so that many trees look like November, and the fruit appears to be completely stopped in its growth. On touching the black leaves with the tongue, the salt tastes quite sensibly and nauseous. We have had great heat for some time, and on Monday a repetition of thunder-storms, which con-

tinued both days (Monday and Tuesday) all around us in every direction, and is still continuing while I write, one having just passed over us, with a very heavy fall of rain, and great heat. *W. Baldock.*

Tallow Greaves for Fattening Animals.—I would strongly recommend to your numerous subscribers tallow greaves in feeding pigs. This description of food may appear objectionable on the ground of rendering the pork rank, but I have not found it to be so when a fair portion of corn food of some description has been used in conjunction. What the effect of greaves might be on the pork, if pigs were confined exclusively to them as an article of diet, I am not prepared to say. But we must not forget that nature uses her own chemistry in the process of assimilation, taking one body and rejecting another. Moreover it is not to be forgotten that we are bound to prepare food for every class of consumers—Belgravia and Whitechapel, the dyspeptic and the peptic, and what would alarm the pylonic regions of the former would be cheerfully solicited by the latter. I can only add that the effect of tallow greaves on chickens is marvellous, in egg-laying. Throughout the past winter, with a small brigade of poultry, we were never without eggs. As the greaves are prepared in very solid square cakes, the method of using them I adopt is to break them into pieces and then to steep them in cold water about 30 hours. The better plan of proceeding in pig-diet is to boil the greaves. In the cooked form this food becomes a real palliative, and the whole duty of the pig is confined to overloading his stomach, and indulging in solid sleep. And that which the pig leaves behind as a legacy would be regarded a treasure even in Lobos Island. *A. B.*

Barley.—If you think the following worth inserting it is at your service. Last year I observed growing amongst some Cabbage plants a plant of Barley, which I took but little notice of until the month of July, when I thought it was making a rather extraordinary growth, so left to see the event; when taken up it had made 27 stalks, and produced 784 grains, which I intended to keep, but sent some, by request, to a person who intended to try it, and the remainder I kept to plant this year myself. To again test it, I planted them the middle of April of this year, and the produce has far exceeded my expectations. I have now by me from one grain 56 stalks, the greatest number of grain being 39 on one ear, and producing above 1700 seeds. I have been induced to send this by large farmers who have seen it, and say it ought to be in every farmer's hand, as nothing near it was ever known. It should also be mentioned that the land was only manured with lime, and grown in an orchard; and the sample is bright and very much larger than any other sort, the braird much longer, and a miller says it is the finest he ever saw, and should like a large quantity of it; it would make splendid malting Barley. I think the average number of stalks to be about from 35 to 40, and about 35 grains to every ear, making at least above 1200 seeds. After one, the saving in the sowing too would make a great consideration, as 50,000 seeds would sow an acre, which is something less than a foot apart from seed to seed which I planted. I can refer you to very respectable gentlemen as a guarantee for the above statement. *Wm. Allen, Seedsman, Totnes.*

Thin Seeded Wheat.—Permit me to reply briefly to the challenge of Messrs. Hardy and Son, as published in your Journal, August 28th, to compete with me, and even beat me in the cultivation of Wheat and Barley, and upon a plan different from the one I have been for many years pursuing and recommending to others. I assure Messrs. Hardy and Son that I have never contended for victory, unless it be a victory over long and obstinately cherished prejudices; I shall rejoice, therefore, and very greatly, if not only they but all England should be enabled fairly to triumph over me. But Messrs. Hardy and Son must drop the notion that I had learnt the method of rearing Barley late from them; they know very well that I never saw them nor their land until last year at nearly harvest time; nor did I know until that time that they had ever grown Barley or any other kind of grain, yet, as all my neighbours know, I had then Barley ripening in my field, the seed of which was drilled in with my drill on the 19th day of June; and my previous crop was put in on the 6th of June; and I had a crop in 1845 witnessed to by Mr. Morton, sen., which produced 63 bushels per acre, and was put in equally as late. My crop, which was growing to maturity when I visited Messrs. Hardy and Son, and which was drilled in on the 19th of June, was on land which had grown Wheat the four previous years, the yield of which on an average was 44 bushels an acre, or 176 bushels for the four years; and the Barley crop succeeding it was 46 bushels an acre, and the finest Barley I had ever before seen, as was proved by the merchant who bought what I sold of it, for he himself used the whole on his own farm for seed. Let me also put my competitors in mind that, like the gallant Scotch general, "I dunna waste my pooder;" for the largest quantity of seed I used for any of the above referred to crops was not more then 2 pecks or 16 quarts per acre of either Wheat or Barley; and the smallest quantity for my Wheat crops, and which were always my best crops, was only the fifth part of 16 quarts, or but a little more than three quarts. I am particular in stating these results, in order that there may be no mistake hereafter when, as I conclude they will, my competitors publish their doings. I state also that I do all I possibly can to make my doings witnessed and tested by as many witnesses as I can; as one example of this, I will observe that when Mr. Morton inspected my Barley, he also looked at my crop of Wheat then growing; that crop was threshed in the field by a machine, and measured in the presence of many of my parishioners, and the yield was 52 bushels an acre. I do not know the system pursued by Messrs. Hardy and Son, but they will excuse me for stating that whatever be the quantity of seed I use, I deposit it in the ground grain by grain; that is, I never, except accidentally, put more than one into one place, whether I use my maximum quantity of 2 pecks, or my minimum quantity of 3 quarts only. By pursuing this plan, had Messrs. Hardy and Son paid me a visit a month since, they might have gone into my fields and have pulled up, of the red-strawed white Wheat, root after root, from single grains of seed having produced upwards of 2000-fold, and of my Egyptian Wheat upwards of 3500-fold; and of the latter I have found a few roots which have yielded more than 4000-fold; and should my life be spared I undertake to do the same next year. In conclusion, I wish it to be particularly observed, should others feel interested in these results besides my competitors, that they must not expect to do the same by merely thin-seeding their grounds, but they must cultivate also, and in the spring of the year keep a scientifically made hoe going, not a horse-hoe commonly in use, which cuts off the roots, but one properly and scientifically constructed. Perhaps, also, I should state that the machines I use for putting in my seeds are Dr. Newington's patented dibble and a two-horse drill, invented and made by myself; with either of these machines I can put in my seed grain by grain, just as much or as little as I please—indeed I can nearly count the number of grains. I am aware that many farmers and others of your readers will disbelieve all or most of the above statement; but if they will not believe me, and will take the trouble to pay my friend Mr. Piper, of Colne Engain, a visit, they will find still more wonderful results, or they will be enabled to witness the finest crops of Wheat perhaps they ever saw, and all from thin seeding; and the best plot, that is the largest yield and finest grain, is from exactly 2 quarts of seed per acre. *George Wilkins.*

Wheat-growing—Two improved systems of Wheat cultivation have lately been introduced to the agricultural world; and I think a comparison of the merits of each would be interesting: firstly, Dr. Newington, the well-known inventor of some implements, advocates thin seeding by dibble, and attaches great weight to the frequent stirring of the soil by means of his hand-hoe and cultivator; several agriculturists of note, who have made use of these implements, testify as to their efficacy in having enabled them to grow from 50 to 52 bushels per acre of Wheat. No doubt their land must have been well manured, and otherwise well treated; whereas, on the second system, that of the Rev. Mr. Smith of Lois-Weedon, no manure is used. This mode of culture has been already amply dilated on in your Paper, and very deservedly attracts great attention; for where it is an object, as is generally the case, most especially with small capitalists in southern counties, to grow a very large breadth of Wheat every year in succession, no system for the attainment of that object can equal Mr. Smith's; but how many persons there are who find it their interest in these times to keep a large proportion of live stock on their farms, and to grow a considerable breadth of green crop for soiling them. Now, where this is practised, a smaller proportion of land is required for the growth of Wheat, perhaps not more than a fifth or a tenth of the holding; and for a small amount of acreage, I think the farmer who keeps a good many cattle will find it both practicable and very advantageous to apply manure for his Wheat, and crop the whole acre, instead of cropping only half of it upon Mr. Smith's plan, as both Dr Newington and Mr. Smith concur in general principles, both attaching great importance to thin seeding as well as to disintegrating and pulverising the soil. Some might argue that, as the earth, by being constantly stirred, naturally attracts the ammonia contained in the atmosphere, the farm-yard manure in addition would confer too much ammonia, but this I cannot apprehend unless the soil be very rich. I believe that, with manuring for the Wheat dibbling at 10 inches apart and stirring between the slants, the land will be left in better heart after the crop, by this mode, than it would be with Mr. Smith's wider stirred intervals and no manures. I have had a fork made for stirring the soil two or three inches, which is used somewhat after the fashion of a Dutch hoe, and I think a labourer with his fork will cultivate the land nearly, if not quite as expeditiously, as with Dr. Newington's cultivator. I should be glad to hear the result of your experience with the hand-dibble; as, if it acts as efficaciously as the old-fashioned dibbles, it certainly appears to be much more expeditious and thereby economical. According to Dr. Newington's estimate of 1*l.* 5*s.* 10½ for dibbling an acre of Wheat with his hand implement, the whole cost of the acre in ploughing, manuring, &c., up to the time of marketing the grain, will amount to about 7*l.* 16*s.*; and if, say 48 bushels can be produced by this mode of culture, this at 40*s* per qr. will be 12*l.*; and as the cost of manuring for the Wheat is charged against it in the sum I name for total expenses, we may take credit for the straw upon Dr. Newington's system equally with that of Mr. Smith, which will be worth at least as much upon the whole acre as upon Mr. Smith's half acre. Say, therefore, the straw to be worth 3*l.* 4*s.*, and we have the handsome sum of 7*l.* 8*s.* for rent, interest on capital, and profit, from the acre of Wheat sown and cultivated by Dr. Newington's implements, which I believe is nearly if not quite equal to Mr. Smith's returns. *H. H.*

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

A Weekly Council was held on Wednesday, the 16th of June. Present: the Duke of Richmond, Trustee, in the chair; Lord Bridport, Hon. H. R. Clive, M.P., Sir John Villiers Shelley, Bart., Sir John V. B. Johnstone, Bart., M.P., Mr. Arkwright (Hampton Court), Mr. Raymond Barker (Hambledon), Mr. H. Raymond Barker, Mr. Briscoe, Mr. Browne, Mr. Buller (Dilhorne), Mr. E. Bullen, Dr. Calvert, Rev. T. Cator, Mr. Gadesden, Mr. Brandreth Gibbs, Mr. Baskerville Glegg, Mr. Grantham, Mr. Fisher Hobbs, Mr. Law Hodges, M.P., Mr. Horatio Kemble, Mr. Lennox Naper, Mr. Townley Milford, Mr. C. E. Overman, Mr. Malvicieux (Paris), Mr. Parkins, Mr. Rowlandson, Prof. Sewell, Prof. Simonds, Mr. Simpson, Mr. Reynolds Solly, and Mr. R. Trench.

Substitute for Guano.—Mr. Fisher Hobbs gave notice that he should move the following resolution at the ensuing Monthly Council on the 7th of July; namely—"That a prize of 1000*l.* and the Gold Medal of the Society be offered for the discovery of a manure, equal in fertilising properties to the Peruvian Guano, and of which an unlimited supply can be furnished to the English farmer, at a rate not exceeding 5*l.* per ton."

Points of Cattle.—Mr. Overman called the attention of the Council to the established success, as he understood, of that system of ascertaining the milking qualities of dairy from external relations and configuration, which M. Guénon had submitted to the consideration of Members of the Society, at the Northampton Meeting, in the year 1847; and at the same time brought under the notice of the public, by republishing in that year (through Messrs. Longman and Co.) the English translation, which had already been printed in France, of the work containing the details and illustrations of his system. Experience had since that date been gained in these discriminations, and their correctness confirmed or modified by practical reference to animals of well-known qualities in various parts of the Continent as well as in this country, especially in Ireland, where a translation of M. Guénon's work had been published in successive numbers of the *Farmers' Gazette*, and subsequently in a collected form by Messrs. Orr and Co., of Paternoster-row, in London.—Mr. Fisher Hobbs could bear testimony to the value of these criteria; for having on one occasion met M. Guénon at Castleacre, he was surprised to find that M. Guénon selected from among the Devon cattle on that farm, by means of external formation and peculiar developments, exactly those animals which Mr. Hudson knew from actual experience to be the best dairy cows of his herd.—The Duke of Richmond thought that this was a subject of great interest and importance, and one that well deserved to be referred to a committee of practical farmers. He would not, however, confine these points to dairy cattle generally, any more than to the Channel Islands' cattle in particular. He had been favoured by Colonel Le Couteur with scales of points for Short-horns and other breeds, drawn up in a similar manner to those of the Jersey cattle, which were last year placed in the hands of the judges in that class at Windsor, when their awards gave so much satisfaction to all parties. His Grace was in communication with Colonel Le Couteur on this subject, and he would take an opportunity of laying these scales of points before the Council. He would repeat, however, that it would be desirable to have the whole question submitted to the consideration and actual test of a committee of practical farmers, with a request that they would report their recommendations to the Council.—Dr. Calvert had not yet been able to understand the origin of the difference in the quality of milk given by the same cows on different farms. He was aware that difference in the amount and quality of the herbage would often account for difference in the amount and quality of the milk; but he had met with many cases in which this circumstance was not sufficient to furnish a satisfactory explanation; and he thought these various external conditions of pasture and management of the cows themselves were important ones to be considered.

Miscellaneous Communications.—Sir John Conroy, Bart., transmitted to the Council a sample of Wheat grown at Arborfield Hall in 1851, and sold in Reading market, on the 5th of June, 1852, at 52*s.* a quarter; it was seeded under 3 pecks to the acre, and drilled in at 13 inches apart; it yielded 5 quarters to the acre, and weighed 65 lbs. to the bushel.—Mr. Scratton, of The Priory, near Prittlewell, Essex, communicated the particulars connected with the blight that had appeared extensively among his own winter Beans and those of his neighbours.—Mr. Farmer, of Fazeley, suggested an inquiry on this subject of the Chicory crop: "What were its properties, and whether it could not be grown for other purposes than as a substitute for coffee; such, for instance, as brewing beer, wholly or in part as a substitute for malt, or for feeding purposes in the cases of horses and pigs."—Mr. Hill Dickson, of 26, Gresham-street, informed the Council of the near completion of his Portable Flax-Breaking, Scutching, and Heckling Mills for farmers, and invited a personal inspection.—Mr. Croll, of Bow Common Lane, called the attention of the Council to a simple test of the purity of sulphate of ammonia, founded on its being volatilisable at a red-heat, while the earthy impurities would remain behind on the shovel or other plate of iron used for the purpose.—Mr. Freeman Roe, of 70, Strand, presented a Camoys

block-tin Dairy Syphon, with piston and wooden stand complete, which he would manufacture for the agricultural community at one-half the lowest price yet charged for them—namely, at 1*s.* 6*d.*—The Council ordered their usual acknowledgments for the favour of these communications.

A Weekly Council was held at the Society's House in Hanover-square, on Wednesday, the 23d of June: present, the Earl of Ducie, President, in the Chair; Lord Berners, Sir John Villiers Shelley, Bart., Sir Robert Price, Bart., M.P., Sir Henry Shiffner, Bart., Sir John V. B. Johnstone, Bart., M.P., Col. Austen, Mr. Raymond Barker, Mr. Browne, Capt. Wentworth Buller, R.N., Dr. Calvert, Mr. W. G. Cavendish, M.P., Mr. George Dyer, Mr. C. Eyre, Mr. Gadesden, Mr. Brandreth Gibbs, Mr. Glegg, Mr. Fisher Hobbs, Mr. H. Kemble, Mr. Rowlandson, Prof. Sewell, Mr. Simpson, Mr. Robert Smith, Mr. Solly, Mr. Spencer Stanhope, Mr. Trench, and Prof. Way.

Mr. Scratton made further communications to the Council on the progress of the blight in winter Beans.—Mr. Gadesden stated that his own crop had been attacked, and he understood that in Northamptonshire and Somersetshire similar crops, in one instance to the extent of 40 acres, were mowed down and carried to the manure-yard in large quantities.—Mr. Fuller, M.P., reported the attack of his Cabbages, in Sussex, by a small white maggot eating into the stems and roots.—The Earl of Tyrconnel transmitted communications from Sir Gardner Wilkinson and Mr. Grimstone, on the subject of Egyptian Wheat and Peas, of which his lordship favoured the Council with specimens.—Messrs. Swinburne reported their manufacture of cheap glass utensils for dairy purposes.—The Council ordered their usual acknowledgments for the favour of these communications.

A Special Council, for deciding on the Judges to be selected for the Lewes Meeting, was held on Wednesday, the 23d of June: present, the Earl of Ducie, President, in the chair; Mr. Raymond Barker, Mr. W. G. Cavendish, M.P., Mr. Brandreth Gibbs, Mr. Fisher Hobbs, Mr. William Simpson, and Mr. Robert Smith. The Council took into consideration the special object of their meeting, and decided on the Judges to be appointed in the various departments of the Exhibition at the Lewes Meeting.

Agricultural Improvement Society of Ireland, *Sept.* 7.—Mr. Thomas Harkness, the secretary, read the following report of the judges of the Society, in reference to the reaping machines of Mr. Bell, of Perthshire, and Mr. Robinson:—

"*Judges*—Lord Talbot de Malahide, Chas. Wm. Hamilton, Lower Dominick-street; Robert C. Wade, Clonebraney, Crossakeale; Finlay W. Cusack, Lower Dominick-street; Thomas Thompson, Holywoodrath, Castleknock; Benjamin Willan, Mitchelstown, Finglas; Thomas Butler, Priestown, Clonee; Thomas Paul, Blackhall-place; George Harden, Huntstown, Finglas; and Richard Phillips, Belgrave.

"*Thursday.*—This day the committee proceeded to the working of Mr. Bell's machine on a fine standing field of Wheat, in a field belonging to Thomas Thompson, Esq., Holywood. The cutting commenced at half-past 10 o'clock, and at 10 minutes past 12 it was timed in its cutting for one hour, at the end of which it was found to have cut an Irish acre, less six perches; and the staff was then set about binding and stooking. It was a very heavy crop, full of rank Clover and Grasses, and it took the men and women an hour and six minutes to bind and stook that which had been cut in the hour. The machine cut the whole straw from 3 to 4 inches to the ground in first-rate order, and laid the cut crop with perfect evenness and regularity, in fine order for the binders to take up and bind. The machine cut clean a breadth of 5 feet 6 inches, and the work was done quite clean. The committee feel called on to express it as their mature conviction, that Mr. Bell's improved reaper is a machine of great value in agriculture—is, in fact, of national importance, and deserves the highest encouragement. Mr. Bell's machine, during the Thursday and part of this morning, cut as near as could be calculated about 7½ Irish acres. The committee consider the draught of this machine about equal to that of a two-horse plough, or two-horse harrows. It is the opinion of the judges that this machine, in fair average working, will cut per day of 10 hours, with two pair of horses in a yoke of two hours each, and two, are capable of cutting 10 acres per day.

"*Friday.*—This day Mr. Robinson's improved Hussey machine was worked upon the same field; and though the committee consider that Mr. Bell's machine is superior in point of principle and working power, nevertheless the judges present consider it a machine of merit and utility, superior to the other machines which they have seen worked (excepting Mr. Bell's), and very creditable to Mr. Robinson, the quantity cut by it—namely, 63 perches in 40 minutes—being at the rate of half an acre and 13 perches per hour."

The Chairman said he had been very much gratified at witnessing the performance of Mr. Bell's reaping machine, and no one could have seen it without being surprised that such a candle could have been hid under a bushel for so many years.

Review.

Notes on Ireland and the Land Question. 1. *Free Trade in Land.* 2. *The Channel Islands.* By Vincent Scully, Esq., Q.C. Dublin: Hodges and Smith, Grafton-street. London: Simpkin, Marshall, and Co.; and James Ridgway.

Mr. Vincent Scully has recently published a short tract under the above title, which is not the less deserving of attention from its conciseness, a quality which, whether in books or in *vivâ voce* speeches, is most commendable, provided that succinctness does not involve obscurity.

Half of this little book is partly a digest of a previous work on the land question by the same author, and also as supplementary argument; the remaining moiety, as the title indicates, is a sketch of the Channel Islands, whose agricultural prosperity is in a great measure attributable, in Mr. Scully's opinion, to the cheapness and general facilities affecting the transfer of land in those highly favoured portions of the British empire. We shall make some remarks on each part.

1. Free trade in land.

The chief object of the writer is to convince the landowners of Ireland that their peculiar interests will be advanced by the introduction of a perfectly free trade in land, which would remove all existing impediments to the general interests of that country, and advance those of England and of the empire at large.

Our readers may recollect that our own occasional observations on the transfer of land have been in accordance with the general principle advocated by Mr. Scully. We have expressed a desire for the simplification of those laws which place the purchase of land beyond the reach of the great majority of moderate capitalists, in consequence of the technicalities, the artificial obstacles, the unwise limitations, and the disproportionate expenses (considered relatively with the actual money value of the land itself), which the investigations of titles, &c., necessarily occasion before a transfer can be effected. If the formalities which impede the sales of land were simplified and cheapened, the value of land in any part of the United Kingdom would rise in the market. We know that in many parts of the neighbouring Continent 40 years' purchase is no uncommon rate, and this principally because there are no tedious forms and expensive barriers to render it inaccessible. We have maintained—and we have no reason to change our opinion—that if land could be transferred as cheaply as bank stock, it would be more sought for than the latter, and become more valuable. If, in the words of Mr. Scully, the "landowners continue to 'lay field on field,' and to accumulate large tracts into few hands, still greater evil is also chiefly caused by the legal obstacles to its free transfer. Those impediments are occasioned principally by the legal delays and expenses attendant upon the transfer of landed property, as well as by those laws that permit land to be held either in perpetual mortmain or under indefeisible settlements, for a period that may extend to any number of existing lives, and 21 years after their expiration, and which period is in practice periodically renewed."

As to the general principle that law reforms are required by which even any small purchases of land may inexpensively be obtained by the yeomanry class, or any small capitalists* desirous of vesting their funds in land, and of personally cultivating it, we are not at issue with Mr. Scully, or those who think with him, however we may doubt the expediency of adopting some of his remedial measures; and to avoid quoting from our own pages, we would refer the reader to the editorial article of the 24th of April last, as an exposition of our opinion, that a general register of titles to land—and Scotland affords a mode—and the assimilation of the transfer of land to that of stock, would be among the most effective means for liberating land from the existing padlocks which close access to it so despotically.

It may be said that recent facts in Ireland prove the contrary of some of the foregoing assertions; that, under the hop-step-and-jump movement introduced by the Encumbered Estates Bill, land has been sold, or rather sacrificed, at a lower rate than it has been sold for at any period within the memory of living man; that none of that competition among small and local capitalists, more especially, as had been anticipated, has been excited; and that the general relief to Ireland which had been contemplated by the late Ministry as resulting from the transfer of property from insolvent to solvent hands has not been realised: in short, that the sales of land have been generally made at disastrously low prices.

"Now, then," as Mr. Scully says, "it is always an easy matter to suggest imperfections, real or imaginary, in the details of any proposed plan for attaining a desirable object, whilst it may be difficult to devise a more perfect course. Thus, whilst all persons now admit the manifest evils inherent in the present land system of Ireland, and few deny that great advantages would arise from the immediate removal of artificial obstructions to the natural free dealing and free trade in land, there are some who still object to the plan that has been suggested for effecting the necessary reform; but no one has attempted to supply a better substitute and to define its details in any practical and attainable shape." The reform which Mr. Scully proposes is a perfect free-trade in land. As far as the agency of the Encumbered Estates Act has gone, it has been, like most human schemes, an admixture of good and evil; the good in some particulars has been exaggerated, and the evil has also been magnified. But, undoubtedly, the anticipated results in social and national improvement—through the acquisition of property in land in small divisions (from 20 to 50 acres), by which it was expected that residence and improvement by the new possessors would be a very extended consequence—has not been realised. Nor have British farmers, except in very small numbers, been induced to locate themselves on the lands vacated by pauperised tenants, and forced from the necessitous landlords by the pressure of a disastrous insolvency.

And why has this great depreciation of land followed in Ireland from the system of cheap and easy transfer, which has tended to the contrary result in other countries? Evidently, because the *sudden* introduction of a vast quantity of property, to be promptly and peremptorily sold by the auctioneers (at the time when the number of capitalists of the most desirable order had been nearly extinguished by the calamitous consequences of the famine, and when a general notion prevailed that the burdens on the land would absorb any rental), absolutely gorged the market. This cause, more than any other, occasioned many thousands of fair and fertile acres to be sold to mere land-jobbers or speculators in the market, who contrived by the many influences they could exercise over a doomed property to elevate themselves to the position of landowners by bidding in the mart eight or nine years' purchase of fair rental. Nay, in many cases, the standard of value set up by the purchaser, and all the extreme depreciators of property, was not the assumed rental, however moderate, but the amount of rent actually paid by a pauperised or a dishonest tenantry, whereas the intrinsic value of the land ought to have been the standard of price—looking to the natural progress of the country, after the famine and its consequences should have passed away.

It is almost a matter of regret with us that some aid was not afforded to the Irish landowners, by which the sacrifice of estates much below the standard at which they were saleable previously to the famine period, and their consequent sudden insolvency might have been obviated. Mr. Scully has been an advocate of land debentures. We must give his own views here:—"One of the chief obstacles usually felt to the investment of money in the purchase of land is, that capital so invested becomes permanently locked up, and its utility thereby diminished. This objection would be obviated, and the value of all land be greatly increased to its owner, if he could use it at any time as a sort of circulating medium, by possessing a *limited* power to charge it with negotiable land debentures. He might thereby, from time to time, without expense or delay, raise sums of money to pay his debts, to give portions to his children, to improve and stock his farms, and to meet his current engagements. The principle of land debentures could be advantageously applied for the purpose of effecting a *voluntary* conversion of all charges that now affect land property—such as head rents, crown rents, quit rents, tithe-rent charges, determinable or perpetual annuities, mortgages, family charges, and judgments. By thus converting property in the land into land debentures of equivalent value, it would become as tranferable as personal property. These debentures, or the money value which they would represent, might be put into settlement, and there would no longer exist any necessity for having intricate settlements of land. The land would be represented by those transferable debentures, and in lieu of complicated systems of registering all acts, deeds, and incumbrances of various sorts, there would thenceforth be substituted the most simple forms of charge and transfer." He assumes that such debentures would be negotiable like bills of exchange, and be eagerly sought after as securities by bankers, &c. "The proposed debentures would resemble in many respects the land debentures already issued under the Irish Drainage Acts. These are charged on the lands drained or improved, with the advantage of a Parliamentary title and a priority over all other charges except quit rent and tithe rent charge. The interest upon them is payable half-yearly, on every first day of January and first day of July, and they are transferable by simple endorsement, without stamp duty."

A petition in favour of the issue of debentures of this character, prepared by Mr. Scully, and signed by a great number of the Irish aristocracy and landowners generally, was presented to both Houses of Parliament in 1850. Mr. Scully thinks that if this scheme had been fully carried out, free trade in land would have been the result in Ireland. The object of the Securities for Advances Bill in 1850, which did not pass, would have tended to raise the value of estates to be sold under the Encumbered Estates Act; but as it would have necessarily involved the compulsory sale of the estates of those proprietors who might avail themselves of its provisions, it was rejected; they "considered the proposed securities for advances unjust as well as injurious to them, unless its provisions should be so extended as to enable them to raise a limited sum through the means of land debentures." Who can however predicate, with any degree of certainty, of the effect of any financial or other measures affecting Ireland whose anomalies perplex every reflecting mind? The facilities at this moment accessible to any one desiring to invest capital in the soil of Ireland at a low or very reasonable rate of purchase, are extreme; but will the purchasers avail themselves of them while the year of grace is continued to the commissioners?

2. The second part of the tract consists of a very judicious and interesting digest of the statistics of Jersey and Guernsey, carefully compiled; though, like the greater portion of Ireland, of remote Gaulish or Celtic origin, the inhabitants of these highly favoured islands have nothing of the original Gaulish character;

* The great bulk of the funds is held by small stock proprietors.

their admixture with the more modern inhabitants of Normandy has imparted to them much of the French character in its best aspect. Of Guernsey it has been said by an old historian, that "the earth is of the same nature with Crete and Ireland, not apt to foster any venomous creature in it." Why Mr. Scully has appended to his other pages what is more appropriate to a tourist's guide book, at first puzzled us not a little; but advancing to the close, we find that his purpose is to show "that the prosperous state of those islands is mainly attributable to superior local government and institutions, but especially to a superior land system."

The distinctive features are—1. A perpetuity of estate or tenure; 2. A convenient and uniform description of charge upon the land; 3. An inexpensive mode of transferring either the ownership of the land or the charges upon it.

In the principal islands—Jersey and Guernsey—land is transferred by a short and simple written contract, verbally acknowledged in open court before official witnesses. The contract is then registered, and the largest estate may be thus disposed of for 5*l.* at the utmost. "Here, then," says a shrewd and graphic writer, "that multiplier of tautologies, the unwieldy conveyancer, teeming with long needless provisoes and mere useless covenants, with which with inken gall he blackens and bestrews the bleached hide thicker than the wool it fostered, may view with surprise the same kind of short primitive deed, found among the musty muniments of his client (and often contemplated with wonder how lawyers then could live), still affording even greater security against flaws and quibbles than all the multiplied tautology and perplexity of his bulky roll, too large to fold and yet too short to bind." The incumbrances on any property are in the Channel Islands, as in France, readily ascertained by a reference to the register.

Instead of letting land to a tenant for a term of years, or from year to year, generally, at a fixed money rent, the owner of land in these fertile islands transfers it for a price to be paid either directly in money, or by certain charges called *quartiers de froment* (corn rents); and generally but one-fourth of the amount is paid down, the other three parts remaining as charges under the technical term of *rentes*.

"In Jersey each quarter is always a fixed sum of money, but in Guernsey the quarter may be either a fixed money payment, or it may be made to fluctuate according to the current price of Wheat. Each of these quarters bears an interest, at a specified rent; that is, in respect of every 20 quarters charged upon any land, the owner of those quarters may stipulate to receive a fixed or a fluctuating payment equivalent to the amount or value of one of those quarters, and so in proportion for any greater or lesser number of quarters charged upon the land. This annual interest constitutes a fixed or a fluctuating income payable to the owner of the quarters in the nature of a money or of a corn rent. There is no other description of incumbrance charged upon the land except some seignorial dues when making an agreement for the letting, or, more correctly speaking, for the sale of a farm to a new occupier, it may be agreed that the quarters shall thereafter be either permanent or redeemable. All *rentes* or quarters, whether fixed or fluctuating, permanent or redeemable, may be transferred by their owners upon registering a short contract of sale. *Rente rachetable* is that rent or income which the occupier may redeem at any time. *Rente assignable* is that from which he may relieve himself by transferring a similar rent of equal value charged upon other land. *Rente fonciere* is that which the occupier cannot redeem unless with the consent of the holder, by whom, however, it may be sold; but in that event the occupier would be entitled to a pre-emption upon indemnifying the purchase within a limited period. The *rente fonciere* not being liable to redemption, commands a higher price than the *rente rachetable*. The advocates of fixity of tenure in Ireland will be glad to know that in the Channel Islands the occupier of land is entitled to hold his farm in perpetuity; but they should remember that this is conditional on their paying the yearly interest on the three-fourths of the purchase money usually remaining as *rentes*. It is no doubt a happy circumstance for the occupier of land to have, as in these islands, the privilege of gradually diminishing the amount of rent, and of becoming independent of despotic control; but the Irish occupier has too often lost sight of the essential condition by which he could have any just reason to consider his occupancy as perpetual, viz., the just and punctual payment of the rent he undertook to pay to his landlord.

A Jersey farmer would not contemplate the infliction of such injustice to the owner of the property which he occupies; he strictly performs his part of the mutual contract; and the result of the happy understanding that exists between the owner and the occupier of the soil in that island (in Guernsey the proprietors generally cultivate their own land), is that the land bears an exceedingly high value, the soil and the climate being also pre-eminently favourable to general husbandry.

Notices to Correspondents.

Barn Floor: *A Subscriber*. White deal does very well, but the *owner* of the farm should use the more durable material, and oak should therefore be preferred. The best way to make a wooden floor vermin proof is to excavate the area of the building about two feet, then fill it to the depth of a few inches with broken stones, and place on the top of the levelled stones rough flags with dressed joints. These flags should be laid before the building is up, and should be received into the substance of the wall. Dwarf walls are built to carry the sleepers on while the flooring is being laid. See "Blackie's Cyclopedia of Agriculture," article, "Farm Buildings."

Rearing and Breeding of Animals: *J G.* The *Preston Chronicle*.

Roofing: *X Y.* We have never heard of any preparation of caoutchouc being used for this purpose. The lightest roofing is the asphalted felt. The best is slate. That which will best unite cheapness and durability for a large extent is probably the corrugated iron.

Rotten Turnips: *A B.* It is very likely that the crop is generally damaged. The weather is probably the cause, and that has, no doubt, affected the whole, though not in an equal degree.

Sour Beer: *D W* says, "On referring to your Paper of March 9th, 1850, for a remedy to prevent beer turning acid, I find one there recommended, but would your correspondent give the particulars of the process that he has for so many years successfully practised?"

Steam Plough, &c.: *Anon.* We do not know that it has ever been *used*. It has been *tried* in Lincolnshire and Lancashire, and, we think, Dumfrieshire. Mr. Usher's steam-plough too was lately tried near Edinburgh. We have obtained information on one point for you, viz., Messrs. Garrett employed 60 to 100 men 20 years ago, and now between 400 and 500.

Trenching: *A Z, Sussex.* We should prefer the experience of your tenant to that of any other man, as it was obtained upon the land you intend to cultivate. At the same time it should be your guide only so long as your land is as it then was; perhaps undrained, or under other circumstances, to which the injury of bringing the subsoil up may have been owing. The *safest* way will be for you to trench the land, digging the second spit in its place, and throwing the upper spit on the top of it; and in the course of a season or two afterwards you may throw the subsoil to the top. If the land be good you may dibble, and half a bushel to the acre would be enough for a full crop.

Urine: *A O.* Peat ashes will, to some extent, hinder the "goodness" of the liquid manure from escaping, especially if they are slowly burned so as to become charred. But if you can get dry pulverised peat, that will be the better material with which to form a compost. It will absorb and retain the ammonia, and become itself reduced, so as to become a valuable manure.

Markets.

COVENT GARDEN, Sept. 25.

Vegetables and Fruit are plentifully supplied. Melons are good and cheap. Plums, Pears, Apples, and excellent Peaches still arrive from France. Apricots are over. Tomatoes are abundant. Filberts realise rather better prices. Potatoes are very plentiful, but, in many instances, diseased. They have not altered in price. Peas are nearly over. Mushrooms continue plentiful. Cut flowers consist of Heaths, Pelargoniums, Roses, Mignonette, Bignonia venusta, and Fuchsias.

FRUIT.

Pine-apples, per lb., 3s to 5s	Pears, per doz., 2s to 5s
Grapes, hothouse, p. lb., 2s to 5s	— per half sieve, 4s to 8s
Peaches, per doz., 5s to 8s	Almonds, per peck, 5s
Nectarines, per doz., 3s to 7s	— sweet, per lb., 2s to 3s
Plums, per punnet, 1s to 3s	Oranges, per doz., 1s to 1s 6d
Figs, per doz., 1s 6d to 2s 6d	— per 100, 3s 6d to 10s
Apples, dessert, p. bsh., 4s to 7s	— Seville, per doz., 1s to 3s
— kitchen, do., 3s to 5s	Nuts, Barcelona, per bush, 20s to 22s
Melons, each, 2s to 5s	— Brazil, do., 12s to 14s
Lemons, per doz., 1s to 2s	

VEGETABLES.

Cabbages, per doz., 6d to 1s 3d	Shallots, per lb., 6d to 8d
French Beans, per half sieve, 1s 6d to 2s	Garlic, per lb., 6d to 8d
Peas, per sieve, 2s to 5s	Lettuce, Cab., per score 4d to 1s
Cauliflowers, per doz., 4s to 6s	— Cos, p. score, 9d to 1s 6d
Greens, per doz., 1s to 1s 6d	Radishes, per doz., 8d to 1s
Tomatoes, per hf. sieve, 4s to 5s	— Turnip, 9d to 1s 6d
Potatoes, per ton, 60s to 130s	Small Salads, p. pun., 2d to 3d
— per cwt., 3s 6d to 7s	Horse Radish, p. bundle, 1s to 4s
— per bush., 1s 6d to 2s 6d	Mushrooms, p. pott., 9d to 1s 3d
Turnips, per doz., 3s to 4s	— per bush., 3s to 5s
Cucumbers, each, 2d to 6d	Sorrel, per hf. sieve, 6d to 1s
Veget. Marrow, p. doz, 6d to 1s 6d	Artichokes, per doz., 4s to 6s
Celery, per bundle, 9d to 1s 3d	Fennel, per bunch, 2d to 3d
Carrots, p. doz., 3s to 5s	Savory, per bunch, 2d to 3d
Spinach, per sieve, 1s to 2s	Thyme, per bunch, 2d to 3d
Onions, per bunch, 2d to 4d	Parsley, p. doz. bnchs., 2s to 3s
— Spanish, p. doz., 1s 3d to 3s	Mint, per bunch, 2d to 3d
Beet, per doz., 1s to 2s	Basil, green, p. bunch, 4d
Leeks, per bunch, 1d to 2d	Marjoram, do., 3d to 6d
	Watercresses, p. 12 bun, 9d to 1s

HAY.—Per Load of 36 Trusses.

Smithfield, Sept. 23.

Prime Meadow Hay	72s to 80s	Clover ...	... 75s to 95s
Inferior do.	... 60 68	New do. ...	... 65 90
Rowen ...	... 50 60	Straw ...	... 28 36
New Hay ...	... — —		E. J. Davis.

Cumberland Market, Sept. 23.

Prime Meadow Hay	75s to 86s	Inferior Clover	... 70s to 80s
Inferior do. ...	... 55 68	New do. ...	... — —
New Hay ...	... — —	Straw	... 32 36
Old Clover ...	.. 88 95		Joshua Baker.

Whitechapel, Sept. 23.

Fine old Hay	... 80s to 84s	Old Clover...	...100s to 105s
New Hay ...	... 65 75	Inferior do.	... — —
Inferior do.	... 55 65	New Clover	... 84 92
Straw ...	... 30 33	Inferior do.	... 55 70

SMITHFIELD.—Monday, Sept. 20.

The supply of Beasts is again very large, and the weather rather unfavourable. Trade is consequently dull, still choice qualities reach 3s. 10d. Inferior are lower, and cannot all be sold. The number of Sheep and Lambs is smaller; however, prices are no better; indeed, late quotations are not so freely given, owing to large supplies at the dead markets. Lamb is nearly out of season. Choice Calves are as dear as on Friday; inferior are rather lower. From Germany and Holland there are 2081 Beasts, 6540 Sheep, 262 Calves, and 60 Pigs; from Scotland, 100 Beasts; and 2900 from the northern and midland counties.

Per st. of 8lbs.—s d	s d	Per st. of 8lbs.—s d	s d
Best Scots, Here-fords, &c. ... 3 8	to 3 10	Best Long-wools . 4 0	to 4 2
Best Short-horns 3 4	— 3 8	Do. Shorn ... 0 0	— 0 0
2d quality Beasts 2 6	— 3 0	Ewes & 2d quality 3 4	— 3 8
Best Downs and Half-breds ... 4 4	— 4 6	Do. Shorn 0 0	— 0 0
Do. Shorn 0 0	— 0 0	Lambs 4 0	— 5 0
		Calves 3 0	— 4 4
		Pigs 3 4	— 4 4

Beasts, 5513; Sheep and Lambs, 28,900; Calves, 332; Pigs, 340

Friday, Sept. 24.

We have a considerable number of Beasts, but the majority are of middling quality; the choicest kinds, therefore, make fully as much as on Monday. Several middling ones remain unsold. The supply of Sheep and Lambs is also good for the time of year; trade is dull, and late quotations are barely maintained. The number of Calves is large, and lower prices are submitted to; the reduction is chiefly in inferior kinds. From Germany and Holland we have 610 Beasts, 2170 Sheep, and 361 Calves; 400 Beasts from the northern and midland, and 89 Milch Cows from the home counties.

Per st. of 8lbs.—s d	s d	Per st. of 8lbs.—s d	s d
Best Scots, Here-fords, &c. ... 3 8	to 3 10	Best Long-wools . 3 10	to 4 0
Best Short-horns 3 4	— 3 8	Do. Shorn	...
2d quality Beasts 2 4	— 3 0	Ewes & 2d quality 3 4	— 3 6
Best Downs and Half-breds ... 4 2	— 4 4	Do. Shorn ... 0 0	— 0 0
Do. Shorn ... 0 0	— 0 0	Lambs 4 0	— 4 8
		Calves 2 8	— 4 2
		Pigs 3 0	— 4 4

Beasts, 1299; Sheep and Lambs, 7,110; Calves, 557; Pigs, 465.

COAL MARKET.—Friday, Sept. 24.

Holywell, 15s.; Eden Main, 15s. 6d.; West Hartley, 16s. 6d.; Wallsend Riddell, 14s. 6d.; Wallsend Hetton, 16s. 6d.; Wallsend Stewarts, 16s. 6d.; Wallsend Tees, 16s. 6d.—Ships at market, 53.

WOOL.

Bradford, Thursday, Sept. 23.—Our English wool market has presented during the current week no features indicating a satisfactory change from the dull monotonous tone which has prevailed for some weeks previously. The transactions may have been nearly an average, but there is an entire absence of animation in them, and the sales effected are generally the result of either absolute requirement on the part of the spinner, or a clear inducement of price held out by the stapler. Strangely at variance with this state of things, here is the spirited demand and firm tone of prices in the country. With dealers there is but one feeling seems to exist, and it is courageously acted upon—viz., to secure all the good wool they can find, at such prices as the farmers may be pleased to offer it. What may be the result of this decided anomaly it is impossible at present to say. The facts are patent to all connected with the trade, but the solution of the problem is a matter which time only can determine.

MARK LANE.

Monday, Sept. 20.—The supply of new English Wheat to this morning's market was good, and met a slow sale on the terms of this day se'nnight; in foreign, very little business was done, and prices must be considered nominally as last quoted. The Flour trade is heavy, but we do not alter our quotations.—The finest parcels of malting Barley were sold at the prices of this day week, but inferior are difficult to quit at a slight reduction. In grinding there is no alteration.—Beans and Peas continue scarce, and in demand at our extreme quotations.—The Oat trade is slow, and sales could only be effected at a slight reduction.

Per Imperial Quarter.	s. s.		s. s.
Wheat, Essex, Kent, & Suffolk...White	36—50	Red	32—44
— — fine selected runs...ditto	40—54	Red	38—48
— — Talavera	52—56		
— Norfolk	40—48	Red	—
— Foreign	36—52		
Barley, grind. & distil., 25s to 27s...Chev.	25—32	Malting .	27—29
— Foreign ...grinding and distilling	20—25	Malting .	25—30
Oats, Essex, and Suffolk	18—19		
— Scotch and Lincolnshire...Potato	18—22	Feed	17—19
— Irish .....Potato	17—20	Feed	17—19
— Foreign .....Poland and Brew	18—20	Feed	15—18
Rye	—	Foreign .	—
Rye-meal, foreign	—		
Beans, Mazagan.....28s to 31s.....Tick	29—32	Harrow .	29—32
— Pigeon .....29s — 35s...Winds.	—	Longpod .	—
— Foreign .....Small	27—34	Egyptian	26—27
Peas, white, Essex and Kent.....Boilers	36—38	Suffolk...	38—40
— Maple.....32s to 36s.....Grey	31—34	Foreign .	28—36
Maize ..... White	—	Yellow ...	—
Flour, best marks delivered ...per sack	37—40		
— Suffolk .....ditto	25—32	Norfolk .	25—32
— Foreign..... per barrel	21—24	Per sack	28—34

Arrivals in the Port of London last Week.

	Wheat.	Barley.	Malt.	Oats.	Beans.	Peas.
Flour, 14241sks — 22160 brls	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.
English	2668	927	2546	4	220	41
Irish	—	133	53	1980	80	—
Foreign	15651	1273	—	51591	606	7

Friday, Sept. 24.—The supplies of grain and Flour during the week have been small. To-day's market was thinly attended, and a limited business transacted; prices of Wheat are unaltered, and for Flour our extreme quotations are obtained. The arrivals from the Mediterranean on the coast are considerable, but have been chiefly sold floating; holders are firm at 36s. 6d. to 39s., cost, freight, and insurance. Spring corn of all sorts commands our extreme quotations.

Arrivals this Week.

	Wheat.	Barley.	Oats.	Flour.
	Qrs.	Qrs.	Qrs.	
English ...	2740	1450	190	980 sacks
Irish	—	—	2770	
Foreign ...	3840	1130	13800	1150 sacks

Imperial Averages.

	Wheat.		Barley.		Oats		Rye.		Beans.		Peas.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
Aug. 14.....	39	7	27	5	19	6	30	3	33	7	31	4
— 21.....	41	2	27	4	19	3	29	4	33	2	29	10
— 28.....	43	7	28	2	20	3	29	9	34	4	31	1
Sept. 4.....	44	9	28	2	20	5	31	3	34	10	31	6
— 11.....	42	5	27	10	18	10	30	9	34	5	31	9
— 18.....	40	5	27	4	18	7	30	1	34	4	29	10
Aggreg. Aver.	42	0	27	9	19	6	30	3	34	1	30	11

Duties on Foreign Grain, 1s. per qr.

Fluctuations in the last Six Week's Averages.

Prices.	Aug. 14.	Aug. 21.	Aug. 28.	Sept. 4.	Sept. 11.	Sept. 18.
44s 9d	...	...	...	...	...	...
43 7	...	...	...	...	...	...
42 5	...	...	...	...	...	...
41 2	...	...	...	...	...	...
40 5	...	...	...	...	...	...
39 7	...	...	...	...	...	...

Liverpool, Tuesday, Sept. 21.—The imports this week both from our own coast and from abroad, are small. The attendance at this morning's market was small. Wheat sold in fair quantities at quite as good prices as could be obtained last week. Good parcels of American Flour are still very scarce, and rather dearer. Old and new Oats were in fair request and supported last week's currency. Oatmeal slow of sale. Barley and Peas were unchanged in value. Egyptian Beans advanced 1s. 6d. per qr., and the market was cleared. Some fresh arrivals are daily expected. There was more doing in Indian Corn, and it was rather dearer.—Friday, Sept. 17.—At our Corn Exchange this morning, with an unusually thin attendance of millers, sales of Wheat of all descriptions proceeded very slowly, and the transactions were of limited amount, without change in price. Flour was also dull, and rather easier to purchase. Malt has been in fair demand through the week at recent quotations. No new malting Barley has yet appeared. The market is almost cleared of Egyptian Beans at 28s. 6d.: fine English sell at 37s. to 38s. per qr. New Oats are scarce and in request at former rates, and old, upon a moderate demand, remain steady in value.

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12 by 10, 13 by 10, 14 by 10, 15 by 10, 16 by 10, 17 by 10, 18 by 10, 19 by 10, 20 by 10, 23 by 10, 25 by 10.

14 by 11, 15 by 11, 16 by 11, 17 by 11, 18 by 11, 19 by 11, 20 by 11, 21 by 11, 22 by 11, 25 by 11.

14 by 12, 17 by 12, 20 by 12, 21 by 12, 22 by 12, 23 by 12, 24 by 12, 25 by 12.

16 by 13, 17 by 13, 19 by 13, 21 by 13, 22 by 13, 24 by 13, 25 by 13, 26 by 13.

17 by 14, 21 by 14, 22 by 14, 23 by 14, 24 by 14, 26 by 14.

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In doing this, however, the nature of the subject compels him to follow an unusual plan of publication. Although the greater part of the genera of this Natural Family have now been examined by himself and reduced to order, their true structure ascertained, and their place in a systematical arrangement determined, yet there is still a considerable number concerning which he has no sufficient information. If genera were to follow in the present work in regular sequence, according to some established plan of arrangement, it must necessarily happen that an insufficiently known genus would require to be introduced as soon as it was reached in the publication, whether useful information concerning it had been gained or not; and the possible result would be to place it in the classification where it is has no claim to remain. For the purpose of avoiding this inconvenience each genus will be paged separately—or printed on a single leaf if it does not require more space. By this means no genus need appear until something certain is known about it: and the best known genera can be taken first. At the completion of the work they can all be arranged according to whatever method further experience and accumulated information shall show to be most expedient. In the meanwhile the reader can either retain the genera in the order of publication, or place them temporarily in alphabetical order, or arrange them in the manner proposed in the author's "Vegetable Kingdom." No inconvenience will attend disturbing the work as it proceeds, because no pages will be used for the short genera, and each large genus will be paged by itself; the date of publication being indicated at the bottom of the first page of each. This will be readily understood by a reference to the first part of the work.

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TO LAVENDER GROWERS, GARDENERS, FLORISTS, ETC.

TO BE SOLD, (very cheap) by tender or private contract, on or before the 30th of September, inst., three pieces of young planted LAVENDER in a 1½ acre piece; a ½ acre piece; and a half-acre piece, in Penny's Lane, and a field below the chalk-pit adjoining the Wargrave-road about two miles from Henley, and three miles from the Great Western Railway at Twyford. There are from 15 to 20,000 young and good fresh Lavender Trees, just fit for a new stock, or cheaply to extend any person's plantation. They will be sold, either by the piece of land they grow upon, or by the dozen of good plants; so as to be removed and re-planted this autumn.—For further particulars apply personally to JOHN FORD, of the late Lavender Grounds, near Wargrave, Berks.

TO BE DISPOSED OF, a first-rate NURSERY and SEED BUSINESS, situated in one of the most populous of the Midland Towns, and surrounded by a wealthy neighbourhood. The connection has been established 30 years, and the returns are now averaging 2000*l.* per annum. Part of the purchase-money might remain on security of the stock.—Apply, by letter only, to Messrs. NOBLE, COOPER, and BOLTON, Fleet-street, London.

Sales by Auction.

BLACKHEATH.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, &c.

MESSRS. PROTHEROE AND MORRIS are instructed by Mr. Hally to sell by Auction, on the premises, Tranquil Vale, Blackheath, on MONDAY, October 11, at 11 o'clock—about 1000 Double CAMELLIAS from 2 to 5 feet, beautifully set with bloom buds; 200 strong Camellia Stocks; also choice Greenhouse and hardy ornamental Plants, comprising Indian and hardy Azaleas, Andromeda floribunda, Araucaria imbricata, Cupressus funebris and Govenianum, Cryptomeria japonica, Cantua dependens, Berberis Darwinii, Dielytra spectabilis, a few fine plants of the new Saxe-Gothæ conspicua, Pompone Chrysanthemums, &c.—May be viewed one week prior to the Sale; Catalogues may be had of the principal Seedsmen in London; on the Premises; and of the Auctioneers, American Nursery, Leytonstone, Essex.

UXBRIDGE, MIDDLESEX.

NURSERY, SEED, AND FLORISTS' BUSINESS.

MESSRS. PROTHEROE AND MORRIS are directed by the Trustee for Sale and Mortgagee, to sell by Auction, at the Mart, Bartholomew-lane, on THURSDAY, October 14, in one Lot (if not previously disposed of by private contract), the valuable Leases and Goodwill of the UXBRIDGE NURSERY, which has been established upwards of 20 years; also the whole of the celebrated NURSERY STOCK, riding over from 12 to 13 acres, comprising Fruit and Forest Trees of the first description, and rich assortment of Evergreens, Ornamental Trees, Deciduous Shrubs, and American Plants, together with the Greenhouses, and the Choice Greenhouse Plants, Pits, Frames, Seeds, Drawers, and sundry effects. Particulars, which are being prepared, may be had of Messrs. TUSTIN and PATERSON, Solicitors, 4, Bride-court, New Bridge-street, Blackfriars; and of Messrs. PROTHEROE and MORRIS, Auctioneers and Valuers, American Nursery, Leytonstone, Essex.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, AND OTHERS.

600 Double Camellias for absolute Sale, 1 to 3 feet; 300 Indian Azaleas; 300 Lilium lancifolium rubrum; 100 fine bushy Scarlet Rhododendrons.

MESSRS. PROTHEROE AND MORRIS are instructed by Mons. A. Van Geert, of Ghent, to submit to public competition by Auction, at the Mart, Bartholomew-lane, on WEDNESDAY, October 13, at 12 o'clock, the above, which comprise all the leading varieties, and are well furnished with bloom buds. On view the morning of Sale. Catalogues may be had at the Auction Mart, and of the Auctioneers, American Nursery, Leytonstone, Essex.

A LUCRATIVE CONCERN.

MR. J. RAWLINGS has to dispose of by private contract, a first-rate NURSERY, situate about four miles from the City, consisting of Three Acres, well stocked with fine Evergreens, Fruit Trees, &c. A considerable quantity of Greenhouse and other potted Plants, three newly-erected Greenhouses, several Pits and Frames, Seed Drawers, Fixtures, &c. A good Seed and Jobbing connection. A new four-roomed dwelling-house on the premises; Lease unexpired, 18 years; Rent, 25*l.* Reason for disposing, the proprietor retiring from the Nursery business.

5, Hoxton-square, Sept. 25.

EARLY SALE OF DUTCH BULBS.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MR. J. RAWLINGS will submit to public competition, at the Auction Mart, Bartholomew-lane, on FRIDAY, Oct. 1st, at 12 o'clock, a first-rate Collection of DUTCH BULBS, consisting of the finest Double and Single Hyacinths, Narcissus, Tulips, Jonquils, Anemones, Iris, &c.; also all the new varieties of Crocus, Gladiolus Queen Victoria, new and beautiful, as well as every other variety; and the first portion of 20,000 superb mixed Ranunculus, from one of the first growers in the country.—May be viewed the morning of Sale, and Catalogues had at the Mart, and of the Auctioneer, 5, Hoxton-square, and Ebenezer Nursery, Shacklewell.

LAMBETH.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, BUILDERS, AND OTHERS ENGAGED IN PLANTING.

MR. J. RAWLINGS has been favoured with instructions from Messrs. Hay, Sangster, and Co., to submit to public competition by Auction, on the premises, Pleasant-place, West-square, Lambeth, on MONDAY, Oct. 4, and following days, at 11 o'clock, without reserve (in consequence of the the ground being required for great alterations), the whole of the valuable NURSERY STOCK, consisting of very fine Evergreens and Shrubs, Fruit, Forest, and Ornamental Trees, American Plants, &c. The stock comprises large Chinese Arbor-Vitæ, from 2 to 6 feet high; large Green Hollies, and all other kinds of Evergreens; a considerable quantity of splendid Standard Mulberries, and every other description of Fruit Tree, in the finest condition, as well as many thousands of Apple, Pear, Plum, and Cherry Stocks, Standard and Dwarf Roses, Climbing Plants, a quantity of Rhubarb, Seakale, and Asparagus, for Forcing, &c.; also a capital heavy Town Cart, and a quantity of Paving Stones.—May be viewed prior to the sale. Catalogues (6*d.* each, returnable to purchasers) may be had on the premises; of the principal Seedsmen; and of the Auctioneer, 5, Hoxton-square, and Ebenezer Nursery, Shacklewell, London.

COCHIN CHINA FOWLS.

MR. J. C. STEVENS will sell by Auction, at his Great Room, 38, King-street, Covent-garden, on TUESDAY, 28th of September, at 12 for 1 o'clock—COCHIN CHINA FOWLS, from the stock of well-known amateurs, including a pair of Sturgeon's Birmingham prize birds, 1851, and Chickens from the same; a Birmingham prize Malay Cock, 1851, and Chickens; some handsome black Chickens, bred from Birmingham prize, white Cochin China Cock and coloured Hen, and many others of the favourite colours; buff, yellow, and partridge, of great weight and celebrated breeds. May be seen on the morning of Sale, and Catalogues had of Mr. J. C. STEVENS, 38, King-street, Covent-garden.

ORCHIDS.

MR. J. C. STEVENS will sell by Auction at his Great Room, 38, King-street, Covent-Garden, on FRIDAY, October 1, at 12 for 1 o'clock—ORCHIDS, collected by Mr. WARSZEWIEZ in Bolivia and the bordering Cordilleras of Brazil, hitherto unknown, comprising Anguloas, Lycastes, Trichopilia, Odontoglossums, a remarkable species resembling a Huntleya or Zygopetalum, a Sobralia of remarkable character bearing a number of flowers, which is like Lælia superbiens—all these plants are in fine robust health; to which will be added the rare MASDEVALLIA COCCINEA, a Trichopilia suavis, and some others, survivors of an importation from New Grenada last year; also a collection of East Indian Orchids, comprising Vanda cærulea very fine, Aerides affine, Dendrobium Farmeri very fine, Paxtoni, Cambridgeanum, Dalhousianum, Devonianum, formosum, &c., a part of which has just arrived, and part has been six weeks in this country, and in the finest health.—May be viewed the day prior and morning of sale, and catalogues had.

STOVE AND GREENHOUSE PLANTS.

THE COLLECTION OF AN AMATEUR.

MR. J. C. STEVENS is instructed to sell by Auction at his Great Room, 38, King-street, Covent-garden, on FRIDAY, 8th October, at 12 for 1 o'clock, a collection of well-grown specimen STOVE AND GREENHOUSE PLANTS, including Heaths, Rhododendrons, Azalea indica, and Camellias, well deserving attention.—May be viewed on the day prior, and morning of sale, and Catalogues had.

Printed by WILLIAM BRADBURY, of No. 13, Upper Woburn-place, in the parish of St. Pancras, and FREDERICK MULLETT EVANS, of No. 7, Church-row, Stoke Newington, both in the County of Middlesex, Printers, at their Office in Lombard-street, in the Precinct of Whitefriars, in the City of London; and published by them at the office, No. 5, Charles-street, in the parish of St. Paul's, Covent-garden, in the said County, where all Advertisements and Communications are to be ADDRESSED TO THE EDITOR.—SATURDAY, SEPTEMBER 25, 1852.

THE GARDENERS' CHRONICLE

AND

AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 40.—1852.] SATURDAY, OCTOBER 2. [PRICE 6*d*.

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FRUIT TREES.

HUGH LOW AND CO. invite the attention of the Trade to their Stock of Maiden Fruit Trees. They are of unusually fine growth this season, and the collection comprises all the most approved kinds of Peaches, Nectarines, Apricots, Plums, Pears, &c., &c. Also strong healthy trees of Kaisha Apricot and Stanwick Nectarine.

H. L. and Co. will have pleasure in showing them to any parties who may visit their Nursery.

Clapton Nursery, near London, Oct. 2.

TO THE AMATEURS OF TULIPS.

HENRY GROOM, FLORIST, Clapham Rise, near London, begs to inform the AMATEURS that he has published a NEW CATALOGUE of the above FLOWERS, in which he has made a very considerable reduction in the prices of the leading kinds, and will be happy to forward his Catalogue on application.

A. PAUL AND SON beg to announce that their CATALOGUES of ROSES and HOLLYHOCKS, containing all the fine new varieties for the present season, are now ready, and may be had free on application, enclosing Two Penny Stamps for the postage.

The AUTUMNAL ROSES are still finely in bloom.

Nurseries, Cheshunt, Herts, October 2.

GOLIATH STRAWBERRY.

JAMES KITLEY wishes again to withdraw public attention to this most superb Strawberry, by stating facts which prove it to be without a rival. The original bed, which is 9 feet by 36 feet, and 6 years old, produced this season 90 qts. of fine large fruit; and a bed, 36 ft. by 36 ft., and 3 years old, produced 255 qts. of beautiful large high-coloured, Pine-flavoured fruit, the ground being so thickly covered as to render it impossible to step between without first removing the fruit, although the plants were 2½ ft. apart. They were the admiration and astonishment of numerous gentlemen and gardeners who visited his grounds. A Post-office order for 3*s*. 6*d*., or stamps to that amount, will secure 100 strong well-rooted plants, package included; 1*s*. 6*d*. in stamps will secure by post six fine plants to any part of the kingdom.

Also Trollope's Victoria, 1*l*. per 100; Black Prince, 3*s*. 6*d*.; Eleanor, 2*s*. 6*d*.; Alice Maud, 2*s*. 6*d*.; Keens' Seedling, 2*s*. 6*d*.; Hooper's Seedling, 2*s*. 6*d*.; Hautbois, 2*s*. 6*d*.; Bath Scarlet, 2*s*. 6*d*.; Elton Pine, 2*s*. 6*d*.—N.B. The Trade supplied at very low prices.

Lyncombe Vale Nursery, Bath.

FINE ANEMONE ROOTS AND SEED.

TO THE NOBILITY, GENTRY, AND CLERGY.

HENRY GIBSON, Floore, near Weedon, Northamptonshire, has now on sale an unlimited stock of the finest Striped and other Anemone Roots, at the following low prices, viz., 5*s*. per 100, or 2*l*. per 1000; seed saved from the above of 1852 growth, in packets containing 2000 seeds, 5*s*; smaller, containing 1000, 3*s*. Sent free to any part of England on receipt of a Post-office order on the Weedon Post Office, payable to HENRY GIBSON.

AMBROSE'S SEEDLING FANCY PELARGONIUMS,

to be sent out the middle of October:—

MAGNUM BONUM.—Upper petals crimson purple, lower petals pencilled and shaded with crimson violet, form and substance good; received a first-class certificate at the National Floricultural Society. 1*l*. 1*s*.

DARLING.—Upper petals rosy lilac, lower petals light, with rosy lilac markings; an abundant bloomer and good grower. 1*l*. 1*s*.

RESPLENDENS.—A brilliant scarlet crimson flower; lower petals light, with markings of the same; a flower of good form, the most brilliant of its class. 1*l*. 1*s*.

GOLIAH.—The largest and most showy colour yet raised; upper petals rich mulberry colour, shaded with violet; lower petals marked with the same colour, clear white throat; a delicate grower. 10*s*. 6*d*.

BARRIER. Upper petals rich mulberry colour, with a rich velvety texture; lower petals violet crimson; good grower and free bloomer. 10*s*. 6*d*.

PRINCESS ALICE MAUDE.—Upper petals bright crimson, and margined with white; lower petals white, tinged with blush, fine form; an immense bloomer and good grower, and will become a great favourite. 10*s*. 6*d*.

Nursery, King-street, Battersea.

LOUIS VAN HOUTTE, of Ghent, Belgium, has just issued his new GENERAL CATALOGUE, which may be had on application to his Agents, MESSRS. BETHAM and BLACKITH, Cox and Hammond's Quays, Lower Thames-street, London.

NEW GERANIUMS.

JOHN SCOTT, FLORIST, Bathford, near Bath, can supply the following NEW GERANIUMS at 42*s*. per dozen:—Ambassador, Ariadne, Enchantress, Elise, Magnet, Mochanna, Lord Mayor, Lablache, Ganymede, Flying Dutchman, Purple Standard, Illuminator, Beck's Rosa, and May Queen, (the 14), 45*s*. The fancy Geranium Richard Cobden, 3*s*. 6*d*. each; Annette, 2*s*. 6*d*. each.

J. S. has a dozen of each of the following sorts, which he can supply to the Trade:—Magnet, Enchantress, Lablache, Purple Standard, Ambassador, and Flying Dutchman. Price on application. It is respectfully requested that a Post-office order (payable at Bath) accompany orders from unknown correspondents.

HEPATICAS.

WILLIAM FIELD, FLORIST, Flookersbrook, Chester, begs to offer strong 3 and 4 year-old Plants, of the single blue Hepatica, at 25*s*. per 100, or 10*l*. 10*s*. per 1000. The above are strong and good, and cannot fail to give satisfaction; also Delphinium Barlowii, 6*s*. per dozen. Catalogues of Herbaceous Plants, &c., on application. A remittance or reference from unknown correspondents.

NEW GERANIUMS, SHOW AND FANCY VARIETIES.

—All the best sorts, of the latest introduction, can be obtained from

WILLIAM E. RENDLE AND CO.,
NURSERYMEN,
PLYMOUTH.

For particulars, see *Gardeners' Chronicle* for Sept. 25, page 610.

DUTCH FLOWER ROOTS.

W. E. RENDLE and Co. *have received their Annual Importation, which is offered on reasonable terms. Catalogues can be procured as per address above.*

A FEW FRIENDS to the Family of Mr. JAMES CARTON, once Gardener at Syon House, and now wholly destitute, having formed a small purse, in order that he may emigrate with his family to Australia, solicit some further aid, in order to enable them to complete their arrangements.—Subscriptions will be received by JOHN EDWARDS, Esq., Wace Cottage, Holloway, London.

STRAWBERRIES.

WILLIAM MITCHELL having a large Stock of strong well-rooted plants of the under-mentioned kinds, begs to offer them to the public at the low price of 1*l*. per 1000, namely:—Keens' Seedling, British Queen, and Elton Pine.

W. M. considers the above the three best sorts now grown.

Post-office orders made payable to WILLIAM MITCHELL, Enfield Highway, Middlesex, will meet with prompt attention.

A FINE OPPORTUNITY.

FOR CHEAPNESS, UTILITY, AND DISPLAY, the following are strongly recommended. Carriage paid. See below.

SELECT HARDY HERBACEOUS PLANTS and ALPINES, 100 in 50 choice sorts, (our selection, 25*s*.; 100 in 100 choice sorts, our or purchaser's selection, 30*s*.

FLOWERING and EVERGREEN SHRUBS, TREES, &c., purchaser's or our choice, per 100 in 100 sorts, 2*l*.; our own choice, in 50 sorts, 1*l*.

COMMON LAURELS, 1½ to 2 feet, per 1000, 3*l*.; per 100, 8*s*. 2 to 3 feet, bushy plants, per 1000, 4*l*.; per 100, 10*s*.

PORTUGAL LAURELS, 1½ to 2 feet, 20*s*. per 100, or 2*s*. 6*d*. per dozen. 2 to 3 feet, extra fine, 25*s*. per 100, or 3*s*. per dozen.

EVERGREEN PRIVET, fine, 2 to 3 feet, per 1000, 40*s*.

HORSE CHESTNUTS, 5 to 6 feet, 30*s*. per 100.

ROSES, 50 splendid sorts, standards, 4*l*. per 100, or 15*s*. per dozen. 100 superb sorts, Dwarf Roses, 35*s*., or 6*s*. per dozen, our choice; mixed do., 25*s*. per 100, or 4*s*. per dozen.

STOVE PLANTS, purchaser's choice, 50 sorts, 40*s*.; our own choice, in 50 sorts, 35*s*.

GREENHOUSE PLANTS, purchaser's choice, 50 sorts, 40*s*.; our own choice, in 50 sorts, 35*s*.

ERICAS, purchaser's choice, 50 sorts, 2*l*. 10*s*.; our choice, in 50 sorts, best, 40*s*., or 9*s*. per dozen.

CHINESE AZALEAS, 20 fine show sorts, 20*s*., our choice; purchaser's choice, 25*s*., or 18*s*. per dozen.

These are all fine, healthy grown plants.

HOLLYHOCKS, fine, double coloured, 30*s*. per 100; do. seed, in packets, warranted to produce 75 in 100 double, 1*s*. 6*d*. each.

GOOSEBERRIES, finest Lancashire sorts, 70*s*. per 1000 in 100 sorts named, or 10*s*. per 100 in 50 sorts.

CURRANTS—May's Victoria, or Raby Castle Red, is the largest and best sort grown, and ought to be grown in every garden, 25*s*. per 100, or 4*s*. per dozen. Red Grape and Champagne Currants, fine, 10*s*. per 100, or 2*s*. per dozen.

APPLES and PEARS, fine, clean standards, 10*s*. per dozen, or 70*s*. per 100; choice of sorts left to us, very select.

PLUMS and CHERRIES, finest sorts, standards, 18*s*. per dozen, our choice; dwarf-trained do., 3*s*. 6*d*. each, or 30*s*. per dozen.

APRICOTS, PEACHES, and NECTARINES, fine, three years trained, of best sorts, own choice, 4*s*. each, or 40*s*. per doz.

N.B. A fine stock of Larch, Spruce, Oak, &c., size and prices on application. MAY'S Descriptive Catalogue in three parts:—Part 1 contains Stove and Greenhouse Plants; Part 2, Hardy Herbaceous Plants, Roses, Shrubs, &c.; and Part 3 contains Fruit Trees, &c.; to be had on application.

Ornamental Grounds designed gratis, by giving measurement, &c.; and Plans furnished on the same terms, and executed on the most liberal terms. Forest planting by estimate.

*** *All orders above 2l. 10s. carriage paid to London, Liverpool, Birmingham, and Edinburgh, and all the intermediate stations within 150 miles of the Nursery.*

Address all orders and communications to HENRY MAY, the Hope Nurseries, Leeming Lane, Bedale, Yorkshire. A remittance or reference from unknown correspondents respectfully requested.

THE [illegible] INSTITUTE, organised, three years ago, by the BELGIAN GOVERNMENT for the STUDY and PRACTICE of HORTICULTURE under the direction of Mr. LOUIS VAN HOUTTE, Florist to the King of the Belgians, receives a limited number of foreign boarders (but no day scholars of any nation). This Establishment is situated at GHENT, capital of Flanders, only two hours from Ostend. For the terms, which are very reasonable, apply to the Director. The scholastic year commences on the 15th of October and continues to the 15th of August.

Prospectuses are to be had of Messrs. Betham and Blackith, Cox and Hammond's Quays, Lower Thames-street, London; or from Mr. William Walton, No. 11, Carlton-street, Liverpool.

IMPERIAL MUSHROOM SPAWN.

JAMES MAY begs to inform the Trade, and Mushroom-growers in general, that he has still a fine Stock of the above article now just ready, the price of which can be had on application.—Fulham, near London, October 2.

NEW PELARGONIUMS, ETC.

HENRY WALTON, FLORIST, &c., Edge End, Marsden, near Burnley, Lancashire, begs to state that his Autumn Catalogue of all the new and leading kinds of fine Show and Fancy Pelargoniums, Fuchsias, Verbenas, Petunias, Pansies, Hollyhocks, Carnations, Picotees, and Cinerarias, at very reduced prices, is now ready, and may be had for one stamp.

Good plants of choice Cinerarias, 9*s*., 12*s*., 15*s*., and 18*s*. per dozen.

Fine show Chrysanthemums, 6*s*., 9*s*., and 12*s*. per dozen.

" Lilliputienne ditto, 6*s*., 9*s*., and 12*s*. per dozen.

Pelargoniums, fine show varieties, 9*s*., 12*s*., and upwards, per dozen.

Camellias, 21*s*. and upwards per dozen.

Orders amounting to 25*s*. and upwards carriage free to Liverpool, Manchester, and Leeds; for more distant carriage extra plants will be added. It is respectfully requested that all orders be accompanied with a Post-office order payable at Marsden, Lancashire.

Choice Cineraria Seed, free by post, 1*s*., 1*s*. 6*d*., and 2*s*. per packet.

NEW GERANIUMS,

RAISED BY MESSRS. BECK, FOSTER, HOYLE, &c.

EDWARD GEORGE HENDERSON AND SON will be prepared to send out in October the undermentioned GERANIUMS:—

Selected from the following varieties, 63*s*. per doz.

Painter Improved	Exhibitor	Colonel of the Buffs
Elise	Mrs. Mangles	
Ambassador	Rubens	Enchantress
Pulchra	Plantagenet	Shylock
Remus	Lord Mayor	Lablache
Lavinai	Jullien	Magnet
Mochanna	Bride of Abydos	Commission
Arethusa	Ganymede	First of May.

Selected from the following, 42*s*. per doz.

Ganymede	Enchantress	Rubens
Vandyck	Surprise	Beatrice
Celia	Chieftain	Chloe
Claudiana	Constance	Cristine
Eurydice	Flying Dutchman	Illuminator
Little Nell	Monteith	Naval Knight
Pretty Polly	Saladin	

E. G. H. and Son have now received their annual supply of DUTCH ROOTS, in the finest condition, Catalogues of which will be forwarded post free on application.

P.S. In noting the prices to this advertisement of Sept. 18, we by error attached them *vice versa*, which we now correct.

Wellington Nursery, St. John's Wood, London.

DOUBLE ROMAN AND PAPER WHITE NARCISSUS, 4*s*. per dozen.—The above bulbs, the former of which is so justly esteemed for its early blooming and excessive fragrance, and the latter for its purity and elegance, have been just received at A. COBBETT'S Italian and Foreign Warehouse, 18, Pall-mall, near Waterloo-place, London.

GUERNSEY AND BELLADONNA LILIES.

BRIDGEWATER PAGE AND CO. have the pleasure to offer fine Flowering Bulbs of the above beautiful Autumnal Lilies. Guernsey Lilies, 4*s*. per dozen; Belladonna ditto, 4*s*. per dozen; Amaryllis formosissima, 4*s*. per dozen; Early Double Roman Narcissus, 4*s*. per dozen; ditto Paper White do., 4*s*. per dozen; ditto largest Jonquils, 2*s*. 6*d*. per dozen. All orders above 10*s*. 6*d*. will be delivered free on the South-Western and Great Western Railways.

DUTCH BULBS, consisting of HYACINTHS, TULIPS, CROCUSES, GLADIOLI, &c., have just arrived in fine condition, and are offered at greatly reduced rates, Catalogues of which may be had on application to PAGE and Co., Seed Merchants, Southampton (sole Agents to the Shale Manure Company for the county of Hants).

SHALE MANURE, 3*l*. per ton.

WEIGELA MIDDENDORFFIANA.—For the information of all persons who have purchased from the Subscribers a plant under the above name, we hereby give notice, that we have unintentionally been the medium of circulating quite a different plant to the true Weigela Middendorffiana. We possess the true species received direct from Russia, but as we had not plants sufficient for the orders we had received, we purchased in Paris a quantity under the name of Weigela lutea, which we understood to be the same plant. From these have originated all the plants of the spurious variety which have been sold by us.

All parties who have received this plant from us are at liberty to deduct the amount charged from their accounts, or we will replace them with the true species, free of carriage, early in the ensuing spring.

Hugh Low and Co., Clapton Nursery, near London, Oct. 2.

☞ BASS AND BROWN'S NEW AUTUMN CATALOGUE *is now ready, and will be sent Free on receipt of Three Postage Stamps.*

BEST NEW GERANIUMS OF LAST SEASON.
STRONG PLANTS NOW READY.

BASS AND BROWN have the pleasure to offer as under the following, all new varieties of last season, raised by Messrs. HOYLE, FOSTER, and DOBSON.

The Collection may be had for 3*l.* 15*s.*

Any 12 for 5*l.*, or left to our selection, for 44*s.*

	s.	*d.*		*s.*	*d.*
Ariadne (Foster)	5	0	Gem (Dobson)	3	6
Ambassador (Dobson) ...	3	6	Herald (Hoyle)	3	6
Arethusa (Dobson)	3	6	Incomparable (Dobson) ..	3	6
Chieftain (Hoyle)	3	6	Lavinia (Foster)	3	6
Colonel of the Buffs (Hoyle)	5	0	Magnet (Hoyle)	7	6
Commissioner (Beck) ...	3	6	Mochanna (Hoyle)	3	6
Elise (Hoyle)	5	0	Monteith (Foster)	3	6
Enchantress (Foster) ...	5	0	Painter Improved (Beck)	3	6
Exhibitor (Beck)	3	6	Purple Standard (Foster)	5	0
Ganymede (Hoyle)	5	0	Rubens (Foster)	3	6
			Shylock (Foster)	5	0

NEW FANCY GERANIUMS
RAISED BY AMBROSE, AYRES, AND HENDERSON.
The 12 varieties for 2*l.* 2*s.*

	s.	*d.*		*s.*	*d.*
Ambassador (Henderson)	3	6	Gipsey Queen (Ayres) ...	5	0
Beauty of St. John's Wood (Henderson) ...	3	6	Miranda (Ayres)	5	0
Caliban (Ayres)	5	0	Othello (Henderson) ...	3	6
Captivation (Ambrose) ...	5	0	Princess Royal (Henderson)	3	6
Electra (Ayres)	2	6	Richard Cobden (Amb.)	5	0
Formosissima (Ayres) ...	5	0	Superba (Ambrose) ...	5	0

NEW SCARLET AND PINK-FLOWERING HORSE-SHOE LEAVED GERANIUMS.

	s.	*d*		*s.*	*d.*
Amazon (Low)	2	6	Odoratissima grandiflorum (Henderson) ...	2	6
Defiance (A. Henderson)	2	6	Shrubland Pet (Henderson)	3	6
Hendersonii (Henderson)	2	6			
Mountain of Light (Lee)	3	6			

For varieties of previous introduction see catalogue. Our annual importation of Dutch Bulbs has arrived in excellent condition. We also beg to call attention to our very superb collections of Ranunculi, Gladioli, Iris, and an extensive stock of other roots.

Post-office orders payable to STEPHEN BROWN, Seed and Horticultural Establishment, Sudbury, Suffolk.

ROSES! ROSES!!

A GODWIN'S DESCRIPTIVE CATALOGUE OF ROSES, for the ensuing season, is now ready, and may be had in exchange for one postage stamp.

Ashbourne, Derbyshire.

SUPERB HOLLYHOCKS.—A Selection of the best Hollyhocks, by R. B. BIRCHAM, Hedenham Rosary, Bungay, Suffolk.

	s.	*d*
Aurantia (Rivers'), salmon	1	0
Black Prince, new (Gibbon's), a good black, much more double than the old one, and produces a fine spike ...	3	6
Bicolor (Chater's), purple and white...	1	6
Commander-in-Chief (Barron's), light-edged rose	1	6
Comet (Chater's), bright ruby red	2	6
Delicata (Barron's), French white	1	0
Dido (Parsons'); brownish red	3	6
Elegans (Chater's), delicate blush	1	6
Enchantress (Chater's), deep pink	2	6
Formosa (Barron's), claret	1	0
Hebe (Bircham's), fine peach blossom, flowers large and full, produces a fine spike	3	6
Joan of Arc (Parsons'), silvery blush	10	6
Lady Braybrooke (Chater's), rosy crimson	7	6
Magnum Bonum (Barron's), dark maroon	3	0
Meteor (Bircham's), a crimson scarlet, centre well up, and fine guard petal, produces a fine spike, extra fine	5	0
Model of Perfection (Barron's), good white, chocolate ground	1	0
Mr. C. Barron (Chater's), pinkish salmon	3	0
Mandarin (Bircham's), nankeen, large and full, changing to pale chocolate	5	0
Napoleon (Pow's), light-edged puce	3	0
Obscura (Chater's), silvery-shaded puce	1	0
Pourpre de Tyre (Bircham's), ruby purple, splendid form, and fine texture, guard petals smooth, centre full, and well up, produces a splendid spike, decidedly the best yet raised. First Class Certificate, National Society, Sept. 18, 1851; South London, Sept. 8, 1852; see *Gardeners' Chronicle*, July 31; and the "Florist" for Sept., 1852	10	6
Penelope (Bircham's), deep rosy pink, shaded, large and full, very distinct, produces a splendid spike. A Certificate National Floricultural, Sept. 18, 1851	7	6
Pandora (Bircham's), bronze, buff and orange, large and full flower, and spike up well	5	0
Prince of Orange (Bircham's), a buff yellow, with orange at the base	3	6
Pillar of Beauty (Parsons'), bright rosy crimson	5	0
Picta (Parsons'), rosy salmon, light edged	5	0
Queen (Barron's), beautiful blush	1	0
Queen of Denmark (Bircham's), an orange-yellow, of a new and desirable shade, producing a fine spike. A First Class Certificate awarded. See *Gardeners' Chronicle*, July 31, 1852	5	0
Rosy Queen (Chater's), rosy blush	1	6
Rosea grandiflora (Barron's), fine rosy pink	2	6
Rosea Alba (Barron's), rose and white	2	0
Spectabilis (Chater's), rose and salmon	3	6
Safrano (Parsons'), pink and salmon, buff guard petals, large and fine	7	6
Sulphurea perfecta (Rivers'), fine sulphur	1	0
Sulphur Queen (Chater's), beautiful primrose, chocolate ground, fine form	10	6
Triumphant (Parsons'), pale primrose, tinted with delicate rose	5	0
Walden Gem (Chater's), or Charles Turner (Black), deep ruby crimson, extra fine	3	6
White Perfection (Chater's), pure white	3	6
Yellow Model (Bircham's), a peculiar shade of primrose yellow, with chocolate ground, splendid form, and fine texture; flowers large, centre well up; produces a splendid spike, one of the best yet raised. First-class Certificate awarded by the National Floricultural Society, September 18, 1851. See *Gardeners' Chronicle*, July 31, and the "Florist" for September, 1852, &c. ...	10	6
IF THE SELECTION BE LEFT TO R. B. B.:		
First-rate varieties of the above, per dozen ...	£2	0 0
Good ,, ,, ,, ...	1	0 0
Semi-double kinds, with brilliant colours, such as many of the Scotch varieties, under names per doz.	0	12 0
Fine double flowers, with splendid colours, selected when in bloom from many thousand seedlings; these are strong ground roots, but without names, per dozen	0	6 0

Carriage paid to London; plants added to compensate for long carriage, and every attention paid to package.

Post-office orders, payable at Bungay Office, to ROBERT BIRCHAM.

LANGAGE NURSERY.

CHARLES WOOLVEN invites the attention of Fruit growers and the public generally to his large and very superior stock of Fruit-trees, comprising about 4000 standard Apples, Pears, Plums, and Cherries; fine straight stems 6½ to 8 feet in height, from 12*s.* to 21*s.* per dozen. Also a good stock of dwarf and trained trees, all of the most approved kinds, from 12*s.* to 36*s.* per dozen. A capital stock of Gooseberries and Currants, all of the very best kinds, from 2*s.* 6*d.* to 3*s.* 6*d.* per dozen, now in excellent condition. C. W. also wishes to recommend to gentlemen and builders his large stock of Evergreens, Forest Trees, and other Shrubs, at equally low prices.—C. WOOLVEN, Nurseryman, Upper Edmonton, Middlesex.

CUTHILL'S PRINCE OF WALES AND BLACK PRINCE STRAWBERRY PLANTS, still sending out these two sorts. See former Advertisements. Prince of Wales, 1*l.* per 100; Black Prince, 5*s.*

CUTHILL'S PAMPHLETS ON THE POTATO, &c., &c., as a Preventive of the Disease, 2*s.* by post 2*s.* 4*d*; also, his MARKET GARDENING ROUND LONDON, 1*s.* 6*d*, by post 1*s.* 8*d.*—Post-office Orders on Camberwell Green.

JAMES CUTHILL, CAMBERWELL, LONDON.

GEORGE JACKMAN, NURSERYMAN, Woking, Surrey, 1½ mile from Woking Station, South Western Railway, begs to announce he has just published a new and complete Catalogue of his American Plants, Ornamental Evergreens, Conifers, flowering Shrubs, Standard and Dwarf Roses, Fruit and Forest Trees, &c. &c., and may be had on application by inclosing two postage stamps.

LARGE CAMELLIAS.

SOMMERVILLE AND DEAN, LANDSCAPE GARDENERS, SEEDSMEN, &c., Clifton Road, St. John's Wood, London, have received instructions from a gentleman to offer for sale about 18 FINE CAMELLIAS, ranging from 4 to 7 feet, and well set with flower buds. The plants may be seen any day (except Sunday) on application to the Gardener at 3, Addison Road, Bayswater; and particulars as to price to SOMMERVILLE and DEAN, as above.

S. WICKS begs respectfully to inform his friends that his NEW LACHENALIA AUREUM and L. WICKSIANA are ready, at 1*s.* each; YELLOW PAPILIONACEOUS PELARGONIUMS and straw and other ditto, at 10*s.* each; Double Oxalis 10*s.*; Ornithogalum aureum and various, 1*s.* each. Allowance to the trade. All have been grown out of doors.—Address 10, Boswell-court, Devonshire-street, Queen's-square, London.

ROSE, AND OTHER CATALOGUES,
BY THOMAS RIVERS.

A DESCRIPTIVE CATALOGUE OF ROSES, containing a selection only of the finest varieties, for two postage stamps.

A Descriptive Catalogue of FRUITS, for four postage stamps. This was published October, 1851.

A Descriptive Catalogue of TREES and SHRUBS, for two postage stamps.

A Descriptive Catalogue of ORNAMENTAL TREES for LAWNS, free.

The MINIATURE FRUIT GARDEN; or the Culture of Pyramidal Pear and other Fruit Trees, for 24 postage stamps.

Nurseries, Sawbridgeworth, Herts.

LINSEED CAKE, Foreign and English, Rape Cake, Peruvian Guano, Gypsum, Salt, Peat Charcoal, and all other Manures of known value, on sale.—Apply to MARK FOTHERGILL, 204 A, Upper Thames-street, London.

HOTHOUSES, GREENHOUSES, ETC.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

E. DENCH, PATENT HOTHOUSE WORKS, KING'S ROAD, CHELSEA.—The superior qualities in every respect of these Structures having been proved in all parts of the United Kingdom, has caused a greater demand for them than E. D. could execute; he has been obliged to have perfect and powerful machinery made to meet the numerous orders, and can now execute any amount of work to great perfection, with dispatch, and for quality and price to defy all competition. Patent Hothouses, with excellent glass, 8 feet long by 1 foot wide, every front sash to open, and every top one to slide down, with pulley made of the same materials as the electric telegraph wires, which require no painting; delivered free to Wharf or Railway Station, at 1*s.* 2*d.* per foot super., complete, having been fitted, and every portion marked previously, making a Greenhouse 16 ft. 6 inches long, 12 ft. rafter, 400 ft., 23*l.* 8*s.* 8*d.*; 24 ft. 6 ins. long, do. do., 526 ft., 30*l.* 13*s.* 8*d.*; 28 ft. 6 ins. long, 15 ft. rafter, 712 ft., 41*l.* 10*s.* 8*d.* Heating by Hot Water on the most approved and economical principles.

Patent Sashes for Pits and Peach Walls, &c., 7*d.* and 8*d.* per foot, super.

REDUCTION IN THE PRICES OF PLATE GLASS.

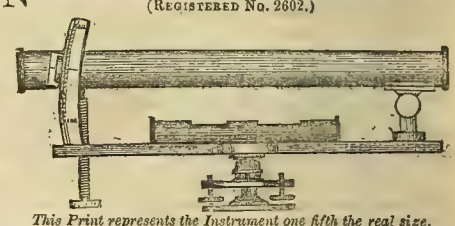
THE UNION PLATE GLASS COMPANY respectfully inform the Trade, and the Public generally, that they have revised their Tariff of Prices, and made considerable reductions therein.

The new Lists may be had on application at the Works, Pocket Nook, St. Helens.

Warehouse:—99, Hatton-garden, London.
,, 11, York-street, Manchester.
,, 15, South John-street, Liverpool.
Messrs. C. and J. MALLOCH, 30, Turner's-court, Glasgow;
Messrs. JOHN DIX & Co., Bath-street, Bristol.

DRAINAGE.

NEW LEVELLING INSTRUMENT.—(REGISTERED No. 2602.)



This Print represents the Instrument one fifth the real size.

This is a simple and effective Self-recording Instrument, suitable for Levelling Drains, Sewers, or Roads, or for Measuring the Elevations and Depressions of Ground. It consists of a Telescope, Level, Graduated Arch, and Tripod Stand. The Arch is so divided as to show the rise and fall in feet and inches.

(*From the Practical Mechanic's Journal, Feb.* 1, 1851.)

"In the hands of even the most unlettered farm-servant this little instrument will afford the most correct measurements, as the operator has only to level the plate and bring his sight to bear upon the object, when the elevation or depression is given at once. It will be a most useful contrivance for draining or road-making."

Price 4*l.* 4*s.*—Made only by GARDNER and Co., 21, Buchanan-street, Glasgow.

ESTABLISHED MORE THAN 100 YEARS.

THOMAS MILLINGTON,

IMPORTER AND DEALER IN

GLASS FOR CONSERVATORIES, GREENHOUSES, GARDEN FRAMES, AND DWELLINGS.

WAREHOUSE, 87, BISHOPSGATE STREET WITHOUT, LONDON.

Cut to any size.	Squares not above 40 inches long. Per foot.
16 ounces	0*s.* 2½*d.* to 0*s.* 3*d.*
21 ,, ...	0 3½ to 0 4
26 ,, ...	0 5 to 0 6
32 ,, ...	0 6½ to 0 8

Squares in Boxes 100 feet each.			
Under 6 by 4		12*s.*	0*d.*
6 by 4, 6½ by 4		13	0
7 by 4, 7 by 6 } 8 by 6, 8½ by 6½ }	under 9 by 7	15	0
9 by 7, 8 by 8, 12 by 9, 12 by 10 } 13 by 10, 14 by 10, 15 by 10 ... }	... ...	20	0

LARGE SHEET of No. 16, very superior, packed in cases of 100, 200, and 300 feet, at 2½*d.* to 2¾*d.* per foot.

HARTLEY'S and other ROUGH PLATE, from ⅛ to 1 inch thick.

Glass Milk Pans, Preserve Jars, Bee and Propagating Glasses, Plate Glass, Patent Plate, Plain, ornamental, and Coloured, as well as every description of Window Glass now manufactured. Glass Shades, round, oval, and square, for Clocks and Ornaments. Fern Shades and Dishes.

HARTLEY'S PATENT ROUGH PLATE GLASS,

For Ridge and Furrow Roofs, Greenhouses, Railway Stations, Engine Sheds, Mills, Market-Halls, and Public Buildings generally.

FOR CONSERVATORIES, PUBLIC BUILDINGS, MANUFACTORIES, SKYLIGHTS, &c., &c.	One-eighth inch thick.	3-16th inch thick.	¼ inch thick.
	s. *d.*	*s.* *d.*	*s.* *d.*
PACKED IN CRATES, for cutting up of the sizes as Manufactured:— 30 inches wide and from 40 to 50 long ... ... Or 20 ,, ,, 50 to 70 ,, ...	0 6	0 8	0 10
IN SQUARES, cut to the sizes ordered:— Under 8 by 6	0 4	0 6	0 7
8 by 6 and under 10 by 8	0 4½	0 7	0 8
10 by 8 ,, 14 by 10	0 5	0 7	0 9
14 by 10 ,, 1½ feet super., if the length does not exceed 20 inches	0 5½	0 7	0 9
1½ feet sup. ,, 3 ,, or if above 20, and not above 30 inches long	0 6	0 8	0 10
3 ,, ,, 4 ,, ,, 20 ,, 30 ,, ...	0 6½	0 8	0 10
4 ,, ,, 5 ,, ,, 30 ,, 35 ,, ...	0 7	0 8½	0 10
5 ,, ,, 6 ,, ,, 35 ,, 40 ,, ...	0 7½	0 9	0 10½
6 ,, ,, 8 ,, ,, 40 ,, 45 ,, ...	0 8	0 9½	0 11
8 ,, ,, 10 ,, ,, 45 ,, 55 ,, ...	0 8½	0 10	1 0
10 ,, ,, 12 ,, ,, 55 ,, 70 ,, ...	0 9	0 11	1 1
12 ,, ,, 15 ,, ,, 70 ,, 85 ,, ...	.....	1 0	1 2

PACKED IN BOXES OF 50 FEET EACH.

6 inches by 4 inches, and 6½ inches by 4½ inches ... 10*s.* 6*d.*	8 inches by 6 inches, and 8½ inches by 6½ inches ... 13*s.* 6*d.*
7 ,, by 5 ,, and 7½ ,, by 5½ ,, ... 12*s.* 0*d.*	9 ,, by 7 ,, and 9½ ,, by 7½, and 10 by 8 15*s.* 0*d.*

When a quantity is required, an estimate will be furnished on application.

JAMES PHILLIPS AND CO.,
HORTICULTURAL GLASS MERCHANTS, 116, BISHOPSGATE-STREET WITHOUT, LONDON.

NEW GERANIUMS.

ISAAC DAVIES can supply good healthy plants of the following varieties, which are a selection from those raised and exhibited last year, six of which obtained prizes at the June Exhibition, Regent's Park.

Magnet, 7s. 6d.; Purple Standard, 5s.; Elise, 5s; Herald, 5s.; Arethusa, 5s.; Ganymede, 5s.; Lablache, 5s.; Mochanna, 5s.; Cristina, 5s.; or the lot of nine for 1l 12s. 6d, box and package included, cash price. Remittance or reference respectfully requested from unknown correspondents.

Larkfield Nursery, Waverree, near Liverpool.

GRAPE VINES FROM EYES, VERY FINE.

J. WEEKS AND Co., King's Road, Chelsea, have a most splendid collection of VINES, very strong and clean, two and three years old, from Eyes, all the best sorts for PLANTING OR FRUITING IN POTS

Also an extensive and valuable collection of STOVE and GREENHOUSE PLANTS, with all new varieties. See our Catalogues devoted to each. Also our Illustrations on HORTICULTURAL BUILDING and HEATING by HOT-WATER.

J. WEEKS and Co., King's-road, Chelsea.

NOW SENDING OUT—NEW PELARGONIUMS.

JOHN DOBSON is now sending out in strong plants his new Seedlings, which are perfectly distinct from anything out, being new in colour, good shape, and free bloomers, most of them in his winning stands in June last, where he obtained the two first prizes. Also 12 good show varieties for 12s. per dozen, in 4-inch pots, and requiring an immediate shift.

J. D's. Catalogue for 1852-53, with full descriptions of the above—also Fuchsias, Hollyhocks, Verbenas, &c., in choice selections—is now ready, and may be had in exchange for two postage stamps. A few copies of J. D's. "Treatise on the Pelargonium," remain unsold, and will be forwarded on receipt of eight postage stamps.

Also a few hundred Tulip bulbs, the surplus stock of an amateur, at 20s. per 100, including Bib. Holmes' King, Cenotaph, Roi de Ceres, Roi de Egypt, Reine d' Egypt, Mountain of Snow, Alcon, Cleopatra, &c.; Biz Tricolor, Abadda, Surpass Cantique, Lawrence's Duke of Clarence, Catafalque Surpasse, Polyphemus, Tippoo Saib, Reuben St. Louis, Bell's King and Queen, &c.; Roses, Matilda, Triomphe Royale, Hebe, Preticosa, Belle Hellena, &c.—Woodlands Nursery, Isleworth.

EDWARD PIERCE, Yeovil Nursery, Somerset, has for sale a large stock of the best kinds of

CAMELLIA JAPONICAS	...	6 to 9 inches	... £5 per 100
AZALEA INDICAS	...	12 inches	... £5 per 100
ERICAS	...	12 inches	... £5 per 100

His Fruit Trees, Ornamental Trees, and Evergreen Shrubs, are particularly fine, stock extensive, and prices low; a very large quantity of strong Quick.—P.S. Reference with orders from unknown correspondents.—Oct. 2.

AMERICAN PLANTS.

JOHN WATERER begs to announce his Catalogue of the above Plants, Roses, Conifers, &c., is now published, and may be obtained by enclosing two postage stamps. The colours of all the Rhododendrons worthy of cultivation are described in order to facilitate purchasers in selecting.

☞ The Rhododendrons, Azaleas, &c., annually exhibited at the Royal Botanic Gardens, Regent's Park, are from this establishment.—The American Nursery, Bagshot, Surrey, near Farnborough Station, South-Western Railway.

GERANIUM "WILLMORE'S SURPRISE."

JOHN AND CHARLES LEE are now prepared to send out this extraordinary variety. It is a monstrous production, of good habit, with beautifully fringed leaves and leaflets. The flowers are double, of a rich crimson, with good markings; the trusses are bold and erect, and each bloom, with its monstrous calyx, remains in perfection for several weeks. It is adapted for pot culture, or bedding, and is altogether of a very pleasing aspect. Price 5s. each, or 25s. the half-dozen. The usual allowance to the Trade, besides a plant over for every three ordered.

Nursery and Seed Establishment, Hammersmith.

KINGHORNE'S SEEDLING EPACRISES.

JOHN AND CHARLES LEE beg to announce that they are prepared to send out these beautiful Seedlings, from which they have selected the following distinct kinds:—

E. KINGHORNII.—Tube medium length, very stout, beautifully pencilled with rose colour, pure white tip, and sepals well reflexed: a most profuse bloomer. Price 7s. 6d.

E. GRANDIFLORA RUBRA.—Tube longer, stouter, and much higher coloured than grandiflora; tips pure white; sepals expand well; very free bloomer. Price 5s.

E. MINIATA SPLENDENS.—Tube larger and longer than minima, of a more brilliant colour, white tip more distinct; sepals expand well; extremely free bloomer. Price 5s.

PRICE OF THE SET, 15s.—The usual discount to the trade, besides a set over on every three sets ordered.

These superb Epacrises are really the most useful plants offered to the Public this season. They are very great improvements, both in habit and profuseness of blooming, over all former introductions, and will prove highly valuable for exhibition.

Nursery and Seed Establishment, Hammersmith.

TO NOBLEMEN, GENTLEMEN, AND THE TRADE.

HAY, SANGSTER, AND CO. are now ready to send out their NEW EARLY NO. 1 PEA, price 2s 6d. per quart, and can with confidence recommend it as a very superior sort.

About the second week in October they will be ready to send out their New Early Scarlet PRINCE OF WALES RHUBARB, which is quite as early as the Prince Albert, much larger, of superb flavour, and a large cropper.

Post-office Orders from those not having an account open with Hay, Sangster, and Co., to be made payable to the Firm, at the Hampstead Post-office, or postage stamps.

For Testimonials and parties where both articles can be seen, see *Gardeners' Chronicle* 13th September, 1852, page 594; Messrs. E. and J. DICKSON, and Co., Seed Merchants, Chester, Manchester; BASS and BROWN, Seed and Horticultural Establishment, Sudbury, Suffolk; and Mr. JOSEPH SHILSON, Nursery and Seedsman, Winchester.

New Cotton Mills, London.

The Gardeners' Chronicle.

SATURDAY, OCTOBER 2, 1852.

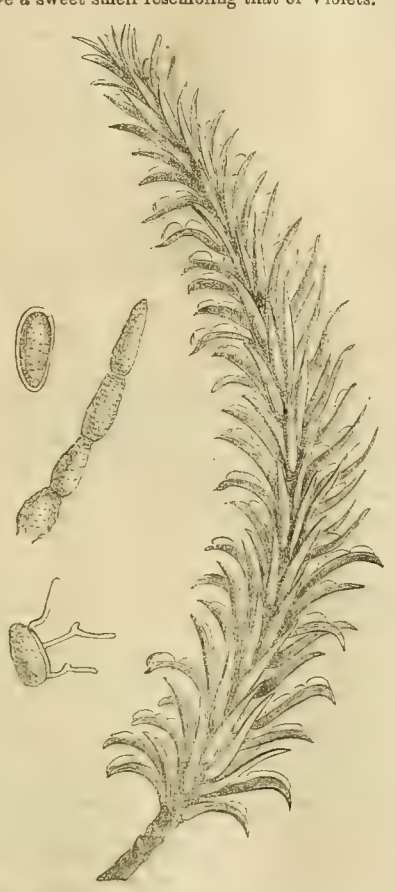
MEETING FOR THE ENSUING WEEK.

Tuesday, Oct. 7—National Floricultural.....3 P.M.

In some parts of Germany, and in the district of the Vosges Mountains in France, the SILVER FIR is subject to a disease which totally alters the appearance of the trees, insomuch that they are known to the natives under the name of Hexenbesen and Pâneurs de Sotré, names equivalent to Witches' Brooms. The leaves acquire a reddish-brown hue, and are copiously sprinkled with little sori full of orange-coloured spores, with a delicate white filmy peridium.

Another somewhat similar production, but not so attractive to the common eye, occurs on the same species of Pine, at least in Germany; and in our own country Scotch Firs, especially when young, are often infested, sometimes to a dangerous degree, with an analogous fungus, which on the bark of the thicker branches acquires a very large size.

Each and all of these, however, are far surpassed by a curious species gathered on *Abies Smithiana* by Dr. THOMSON, amongst the Northern Himalayas, at an elevation of 8000 feet. The leaves are reduced in length nearly one-half, and curved, and the whole upper surface is occupied by one or more large, elevated, more or less elongated sori, sometimes disposed in two rows, which must give the diseased tree a very strange appearance, and at length prove fatal, from the immense diversion of nutriment requisite to support a parasite so large and multitudinous. As a species it is totally different from the three European fungi just mentioned, for not only is its general appearance distinct, but the spores are greatly elongated, and often exceed $\frac{1}{100}$ of an inch in length, while those of the other species approach more a globular or ovate form, and are respectively, taking average samples, $\frac{1}{750}$, $\frac{1}{1250}$, and $\frac{1}{1000}$ of an inch long. The spores are mixed with mucedinous filaments, some of which are ready to fructify. These are doubtless extraneous and belong probably to some *Penicillium*. The dried specimens, like some other allied parasites, have a sweet smell resembling that of Violets.



We have given a figure of a diseased twig covered with *Æcidium Thomsoni*, and of the spores, one of which is attacked by a young mould.

We take the present opportunity of stating that M. DESMAZIERES has published specimens of the Grape mildew in a late number of his dried Cryptogams, under which he states that, as in the Madeira specimens, a form of *Trichothecium roseum* was often present. He believes the Oidium to be almost identical with *O. Erysiphoides*. *M. J. B.*

IT is now time to say a word about the LATE SUMMER. After a cold spring and summer up to the 3d of July in the present year, a fortnight of excessively hot weather was experienced. It is stated by M. BARRAL (*Revue Horticole*), that in this period the maximum temperature in the shade at the Observatory at Paris was upwards of 86° Fah. in eight successive days; and that a similar instance of continued high temperature had only occurred once during a century and half, and that was between the 20th and 27th of July, 1835.

The following Table exhibits the maximum, minimum, and mean temperatures at Paris and Chiswick from the 3d to the 16th of July inclusive:

1852.	Maximum.		Minimum.		Mean.	
	Paris.	Chiswick.	Paris.	Chiswick.	Paris.	Chiswick.
July 3 ..	78.6	80	54 3	51	66.45	65.5
„ 4...	85.1	94	57.5	57	71.33	75.5
„ 5...	87.8	97	64 2	60	75 01	78 5
„ 6...	89.0	90	68 3	61	78 71	75.5
„ 7 ..	82.2	90	67.4	49	73.94	69.5
„ 8 ..	82 0	87	63.1	51	72 59	69 0
„ 9 ..	87 9	92	63 5	54	75 74	73.0
„ 10...	92 3	87	67.1	53	74.70	70.0
„ 11...	87.9	84	64.7	57	77.36	69 0
„ 12...	91 6	79	63 3	56	73 53	67.5
„ 13 ..	92 8	81	67.6	59	80 24	65 0
„ 14 .	92 6	84	66 7	60	79 70	70 5
„ 15...	92 8	87	65.3	53	79 05	70 0
„ 16	94.8	87	68 3	62	81 59	79.5
Means ...	88 31	86 64	64 73	55 92	76 49	71.28

It appears from the above table that the highest temperature in the period occurred at Chiswick, on the 4th—thermometer ... 97.0°

The highest at Paris occurred on the 16th—thermometer ... ... 94.8°

So that the extreme at Chiswick exceeded that at Paris by ... ... 2.2°

The average maximum temperature was, at Paris, 88.31°; at Chiswick, 86.64°. The average minimum temperature was, at Paris, 64.73°; at Chiswick, 55.92°. Mean range of temperature, at Paris, 23.58°; at Chiswick, 30.72°.

Although the days were remarkably hot, yet the nights at Chiswick were little more than two degrees warmer than usual at the same period of the season. The great range of temperature above exhibited may be attributed partly to the coldness of the ground, but chiefly to the prevalence of easterly winds, which kept the temperature comparatively low in the absence of the sun's rays.

The following table, on the authorities of M. ARAGO and M. BARRAL, shows that extremes of high temperatures are of more frequent occurrence in the present century than in the past. It includes all the instances of the thermometer in the shade exceeding 92.8° at Paris, since the year 1700. Centigrade degrees have been reduced to those of Fahrenheit.

Date.	Deg.	Date.	Deg.
1705—Aug. 6	92.8	1822—June 10	92.8
1706—Aug. 8	95.5	1835—July 22	93.2
1753—July 7	96.0	1836—July 1	93.7
1754—July 14	95.0	June 30	96 8
1755	94 4	1842 Aug 10	94.4
1793 July 8	101.1	Aug. 17	95.3
July 16	99.1	Aug. 18	93.9
1800—Aug. 18	95.9	July 5	97.7
1802—Aug. 8	97.5	1846 July 31	93.9
1803	93.0	Aug. 1	93.2
1808—July 15	97.1	Aug. 5	95.5
1818—July 24	94.1	1852—July 16	94.8

Only seven times in the last century did the thermometer exceed 92.8°; this, in the present, has been already exceeded 17 times.

OBSERVATIONS ON THE VINE DISEASE,

MADE IN PIEDMONT, ITALY, AND THE SOUTH OF FRANCE.

By M. GUERIN-MENEVILLE, (Comptes Rendus, Sept. 1852.)

THE rapid examination which I have made, during my journey in many very different localities, of numerous vineyards attacked by the disease, has shown me that it is not, as I formerly stated, when the Grapes are over-run with the mildew that we can hope to arrive at a knowledge of the cause of the disease; but rather by searching for it at different periods, perhaps at the beginning of the year, in the roots and fluids of the plant. All the facts which I have observed in the course of my journey lead me to think that there is a deeply seated cause of disease in the disorganisation of the Vines, as well as in that of the Potato, and in silk-worms in countries where these are extensively reared. This cause appears to consist in a want of equilibrium in the functions, whether it be from an excess of vitality, or too rapid vital movement, or from a deficiency of vitality, atony, excessive weakness. Probably both these causes lead to the same result, a disease terminating in mildew under certain conditions. I shall confine myself to such preliminaries as have been suggested to me during a sort of inspection made at a period when the only thing that could be stated was the ravages occasioned by the disease, and shall proceed to report the facts which I have this season had an opportunity of observing.

It is very remarkable that in Italy as in France nearly all agree that the disease in its first attacks fell with greatest severity on the finest Vines, on those that are sheltered, planted in good soil, also those on trellises placed against houses, in courts and gardens; those, in short, which are in the most vigorous condition, although they may have been well syringed and manured, are the most attacked. I have obtained proofs of this at Nice, around Marseilles, and in the department of the Lower Alps. In the garden of M. Eugene Robert, at Sainte-Tulle, I saw the disease commence on some magnificent trellised Vines long before it appeared in the open country; then it made its appearance on the strong Vines cultivated in the plain of Monosque, in very rich soil formed by the alluvia of the Durance. It is a fact deserving particular notice, that many Vines in the garden of M. E. Robert, of Sainte-Tulle, which they had

eglected to prune, and which were covered with healthy foliage, produced bunches entirely free from disease, although growing beside those that were the most affected. It is also worthy of remark, that the Vines in a wild state, rambling in the hedges surrounding the infected vineyards, showed no trace of disease. I have, indeed, seen a few exceptions, some Vines planted high and in poor soil have shown disease ; but such instances are rare, whereas it is quite the reverse as regards those that are vigorous, for by far the greater part of them are diseased.

At Sainte-Tulle, where I had a little more time for observation, I have recognised the disease in the Vines, although the bunches exhibited no trace of the Oidium. These Vines had on their year-old wood, and on their shoots, which bore magnificent bunches, some dark and reddish specks, formed by a longitudinal series of small dots, like the outbreaking of little buds, indicating a diseased state of the sap. Having studied and figured these external traces of disease, and having daily observed the development of the specks, I soon perceived that these preceded by several days the appearance of the Oidium on the Grapes. I pointed out these facts to M. E. Roberts, and to some cultivators at Sainte-Tulle and Monosque ; I have also repeated my observations on the later sorts of Vines, and I could foretell the appearance of the disease. When I saw on apparently very healthy and vigorous shoots a series of dark specks, ranged longitudinally and following the course of the vessels, I could announce, to the great astonishment of the peasants, that their Vines would be mildewed in a few days. To this characteristic of specks on the shoots another may be added, which is this :—The shoots affected are much more brittle than those not attacked by the disease.

A distinguished entomologist, M. Lefébure de Cerisy, an old naval officer, now retired at Toulon, has made similar observations, at his country seat at Montrieux, on some magnificent Vines in his garden. He has observed these black and brown specks on the shoots, their arrangement in longitudinal lines, and their constant coincidence with the attack of the Oidium on the bunches.

From these facts, although merely glanced at, may we not, however, conclude that the Grape mildew is entirely the consequence of a disease in the Vine itself, a disease which generally attacks with greatest severity the most vigorous plants, and which might be called inflammation proceeding from an excess of vitality ?

If it is really so, and if these hints should be confirmed by good observations, we may be permitted to hope that means will be found to counteract the disastrous effects of this disease, instead of patiently waiting till it naturally dies off, as is fortunately the case with all epidemics. A remedy may be discovered by endeavouring to re-establish the balance of the vital functions of the Vine. Some very curious and important facts can be already adduced in support of this idea. The bleeding of the Vine, recommended by a Piedmontese cultivator, for stopping the progress of the evil, pruning at a different period from that in which it is usually performed, at a period when the sap is in motion so as to cause a loss, more or less, of this fluid nourishment of the plant, laying bare the roots, and root-pruning ; all these proceedings, which may be called debilitants, accord with the idea of an excess of vitality.

A letter, by Count Borromée's gardener having been published in the newspapers, and the good effects which he obtained in Piedmont from bleeding his Vines being thus generally known, it will be unnecessary to dwell on this fact, which ought to form a subject of serious experiment in the ensuing season.

The late pruning of the Vine appears to me to merit great attention. I have been informed that this year a simple peasant, named Tessier, at Trémoulat, in the commune of Valence (Drôme), vexed at having lost his crop in former seasons, resolved to try an experiment, and determined not to prune one part of his Vine till the buds began to swell, which was five weeks after he had pruned the other part. This Vine lost in consequence a very large quantity of sap, but its vegetation was not retarded ; and it has not been attacked by the Oidium, whilst the others near it, and, indeed, all the surrounding vineyards were almost completely overrun. On my return, I was informed that late pruning had given similar results at Paris.

Another fact ought to be stated in support of the idea I have expressed as above. M. Castera informs me that he has obtained excellent results from uncovering the roots of his Vines to the depth of several inches, and cutting off all the superficial fibres, leaving the roots uncovered for some weeks.

Another instance of the advantages of late pruning in preventing the Grape disease was announced by M. Roussel, a Vine-grower at Joyeuse, department of Ardèche. He stated that one portion of a Vine was pruned in December, and the other portion of the same Vine in April. The latter was free from disease, whilst the former was attacked. He had also seen equally good effects produced on a Vine pruned early, but subsequently bled by making several incisions when the sap was in motion, thereby causing the escape of a considerable quantity of this liquid.

[In connexion with the above remarks on the cause of mildew, we may mention a circumstance which came within our observation 15 years ago, in the gardens of the Horticultural Society, at Chiswick. The Apricot trees, on a wall with an eastern aspect, had become completely covered with mildew, notwithstanding frequent syringings. There was no really healthy green foliage to be seen upon them. Although the trees were large, many of them covering the portion of wall assigned to them, they were taken up, carefully preserving all the roots. The border was trenched and the trees replanted at the same depth as before, for they were not too deep. The consequence was that the trees recovered and produced a healthy foliage, quite free from mildew. The roots were not in stagnant water, for this, in the Society's garden, is only to met with far below the roots of trees. The roots of these Apricots may, however, have penetrated, a wet season, the previously untrenched yellow loam, which may not have afforded sufficient moisture in a dry season, and thus may have caused the mildew. Now, the branches were nailed against the same wall, exposed to the same air, they were placed exactly under the same circumstances as before, but the roots were differently and better situated than formerly. We may, therefore, conclude that the mildew was owing to the condition of the roots ; for when this condition was changed the mildew disappeared, although all other circumstances were the same. ||]

BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

Major Munro on the conversion of Ægilops into Triticum.—Major Munro produced to the section a series of specimens of Ægilops, showing the gradual transition of Æ. ovata into Æ. triaristata and triticoides, and stated that the *Gardeners' Chronicle* had recently detailed the particulars of an experiment extending over several years, and carefully carried on by M. Esprit Fabre, from the results of which it was evident that he had succeeded in converting the wild Sicilian worthless Grass into good useful Petanielle Wheat. Indeed, so sudden was the change, that M. Fabre published in the "Comptes Rendus," of 1839, one of the first years of the experiment, a short account stating that he had succeeded in producing Wheat from Ægilops triticoides. Some persons have argued that this fact indicates the non-existence of genera, and many even now have resumed the belief that Wheat can be changed into Barley, and Oats into Rye, and it would be as well that the minds of these persons should be disabused of such notions. A genus is difficult of definition, but is a good term to apply to one of those divisions or groups of plants within the wide range of which species can wander, but beyond which they cannot go. The opportunity of seeing a large number of specimens of any particular family, such as Major Munro stated he had recently enjoyed with Grasses, convinced him that it was possible, without the aid of powerful glasses, to place with very slight examination the greater number of Grasses at once in their proper genera. Sometimes it would be difficult to define in words the exact differences, but the eye distinguished them at once. The author then explained with diagrams the difference between the genera Hordeum, Secale, Triticum, and Avena, and contended that no one genus of these forms could be converted into either of the others. On the contrary, it had long been suspected by botanists that Triticum and Ægilops were identical ; and Pal. de Beauvois, in 1812, in his valuable illustrations of the genera of Grasses, and with rather a tendency to subdivide genera, said that he could discover no difference between Triticum and Ægilops. There is no real difference, and therefore the change above mentioned, although curious, is not contrary to the laws of genera. Wheat itself varies wonderfully, the smooth red kind being externally unlike the long bearded variety, now cultivated for its very great produce in many parts. The author also stated as a guide in coming to conclusions on the subject, that, in all the numerous instances of abnormal structures that had come under his observation, on at least 30 different genera of Grasses, the universal tendency in the spikelet was to elongate its axis, and increase its number of flowers ; and never in one solitary instance observed to become fewer flowered than in the normal state.—Dr. Arnott observed, that several botanists, and himself among the number, were not yet convinced of the actual transmutation of Ægilops ovata into Triticum.

STEPHANOTIS FLORIBUNDA.

When I state that this lovely stove twiner comes from Madagascar, it will be readily inferred that it likes a warm moist temperature, to promote vigorous growth and secure an abundant display of its snowy white deliciously fragrant blossoms ; nevertheless, like many other plants which are natives of warm climates, when the wood is properly ripened, it may be wintered in a temperature very little warmer than that of an ordinary greenhouse ; indeed, it is more easily accommodated in this respect than would be supposed by persons having only for their guide the climate of its native country.

It may be propagated by short-jointed cuttings of the young wood selected from flowering plants if possible in a half ripe state, planted in sandy peaty soil, covered with a bell-glass, and plunged in a brisk bottom-heat of about 85°, in which they will emit roots freely, and probably be ready for potting singly in small pots in the course of a month or six weeks from the time in which they were put in. They must be returned to bottom-heat after potting singly, and kept close and moist during the summer, and shifted as necessary. Cuttings got in early in March, and properly attended to during the summer, may easily be made into well-established plants in 6-inch pots in the course of the season. Winter them in a light airy situation where the temperature may range from 50° to 60°, and water cautiously and rather sparingly.

As early in spring as convenient remove the young plants to a brisk bottom-heat of 80° or 85°, and maintain a close moist warm temperature of from 70° to 75°. Any weak straggling shoot should be cut back, and the stronger ones shortened, and any of the plants that may have filled their pots with roots should be shifted—a liberal shift being given to such as are vigorous and thriving. It is advisable, however, at this stage to decide as to whether the plants are intended for planting out or flowering in pots, and also the sized specimen preferred. Well established plants in 8-inch pots may be shifted at once into 15-inch pots, which will be sufficiently large for the growth of very fine specimens, and training should be attended to before the young wood makes much progress. Light, round, wire trellises, 18 inches across, and about 4 feet high, are the best for the purpose. If a liberal system of treatment is pursued during the summer, with a sharp bottom-heat, the plants will make immense progress, and will cover their trellises closely. Towards the middle of September the atmosphere should be gradually kept rather drier, and the plants should be wintered in a dry airy place, where the temperature may average about 55°. This treatment will ripen and harden the young wood, and prepare it for furnishing in the coming season a liberal display of blossom.

If it is wished to have the plants in flower early in the year, it will be necessary to replunge them in bottom-heat, say towards the end of March, and to treat them much the same as directed for last season, except that the atmosphere should not be kept moist, any shifting of course will not be required. When in flower (with which the plants will be thickly covered if they have been properly managed), they may be removed to the greenhouse, conservatory, sitting-room window, or to any other desirable situation where an average temperature of from 50° to 60° can be maintained. With judicious management in keeping the atmosphere rather dry, and avoiding the settlement of damp upon the blossoms, they will remain in perfection for many weeks ; indeed, my own specimens of Stephanotis usually retain their places in the conservatory for some two months at a time, and most attractive objects they are throughout this comparatively long period. I am, however, careful to keep them perfectly free from red spider, and to gradually prepare them for removal from a high moist temperature, and also to afford them a close corner in the conservatory.

When their beauty is over, they should be loosened from their frames, the weaker shoots entirely cut out, and the length of the stronger ones greatly reduced. The plants should then be placed in bottom heat, maintaining, at the same time, a warm moist growing atmosphere, sprinkling overhead morning and evening, and supplying clear weak manure-water, in order to induce them to break freely. If liberally treated in this way for six weeks or two months, the plants will make plenty of young wood, which must be ripened as directed for last year, when the specimens will flower as abundantly as in the previous season.

The Stephanotis may be partially disrooted when necessary, with little or no injury. The soil will probably be found to have become sodden and unkind by the end of the second flowering season, in which case the plants should be turned out of their pots, the sodden soil and decayed roots removed, and repotted in the same sized pots, unless it is desirable to have larger specimens, in which case they may be afforded the largest sized pots. Treated in this way, the specimens will last I know not how long, for my oldest plant is still my most prolific bloomer. Good fresh turfy loam and peat, in about equal proportions, broken small, with a liberal mixture of sand, charcoal, or potsherds, form the most suitable compost for the growth of young plants. To the soil for plants that have been disrooted I usually add about one-fifth thoroughly decayed cow dung, passed through a fine sieve to clear it of worms.

Alpha.

Home Correspondence.

British Orchids.—I noticed a communication in your Paper, at p. 564, from some one in Sussex, suggesting that our British Orchids might be grown as bedding plants. I have anxiously looked for a reply to such a unusual statement, but none having as yet appeared I am induced to believe that the thing is not practicable. Having paid some little attention to the matter, and tried several times to cultivate some of the more showy species, I am obliged to confess that my success has been anything but cheering, and a friend of mine who has ardently tried for some years to obtain a collection of our native Orchids in a cultivated state, has been equally unsuccessful; although he prepared his bed with cart-loads of chalk and other materials supposed to favour their growth, and even then he could scarcely obtain a bloom. The Fly Orchis flowers pretty well in a cultivated state, but the Spider Orchis, the Bee, and the rare Lizard Orchis have in all cases refused to blossom. Now this is very annoying after taking so much pains to secure them the conditions common to their wild state. Your correspondent has surely not had much experience in their cultivation, when I

proposed to introduce them as bedding plants; he must also, I think, be wrong in his surmises that Cypripedium calceolus is plentiful in the north of England, for during a sojourn of many years in the northern counties I never could hear of it being found wild anywhere except at Castle Eden, on the east side of Durham, and even there it was exceedingly scarce; and from the inquiries then made about it, it is likely it is lost entirely ere now—the period I speak of being 15 or 20 years ago. Hooker, in his "British Flora," reports it as found in "woods in the north of England, but rare;" and assuredly it is rare, as I never heard of any other locality being mentioned for it. That the cottagers grow it in beds must be a mistake, as its possession was confined to a very few, and no exotic plant (rare ones excepted) was regarded with more interest than this beautiful native. I shall be glad to hear of its being more plentiful, but at the time I speak it certainly was rare, and I fear will ever be so. However, anyone who has been successful in the culture of this and other Orchids of British origin, will confer a favour on many an anxious collector of wild plants, by recording their practice and experience in the matter. *H. L. T.*

Potatoes in Old Tan.—A few weeks ago I read in your columns an account of a successful experiment in regard to planting Potatoes and preventing disease by using old tan for covering; and as I tried the same thing and proved its good effects in 1846, I have successfully followed it up ever since. I very much approve of a light porous covering, particularly for strong lands. Tan is plentiful in this neighbourhood, and may be employed on a small scale; but on a large one I think stubble or chaff might answer the purpose, *i. e.*, the drills might be filled with them, and but little mould put over them at the time of planting. I will state my mode of management. I manure and dig the ground. I then make drills 6 inches deep, and 2 feet 6 inches apart; I then put my seed Potatoes (the very largest size), in the drill 12 inches apart; old tan is next put on, so plentifully that a ridge is left, giving an appearance to the drills as if they were banked up for good. The alleys are kept clean by hoeing, but no earth is drawn up over the tan, which is of itself heavy enough. A little mould might be applied over stubble or chaff, but the land must be prepared and manured as for white Turnips, previous to drilling. I find by planting large whole Potatoes that I get one-third more weight of produce on the same ground than I obtain either from small or large ones cut, and I have less small. *J. Rodgers, Hull.*

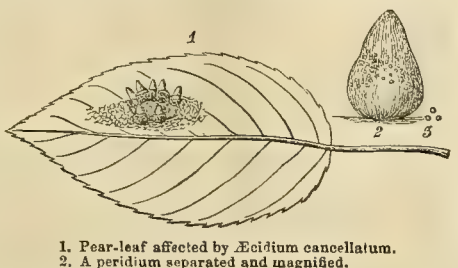
Late Green Peas and French Beans. — Having read several statements in your pages in favour of late Peas, and finding that some have almost doubted the possibility of having them very late in the season, I beg to state, for the encouragement of young gardeners and amateurs, that I find little difficulty in supplying the table through October with good Peas, provided the weather is favourable. I have now (Sept. 28), two crops in full bearing; one is Knight's Tall Marrow, the other Victoria Marrow. I have also another crop of the former variety in full bloom; last year I furnished the table with a dish on the 5th of November: this was not a mere handful, for the sake of saying they were gathered, but a good dish. I would also advise late crops of French Beans to be had, which I think are not grown so much as they deserve; they are plentiful with me at present. I have also some in full bloom, and in fine autumns I find such crops very useful; last autumn I gathered a good dish on the 30th of October. I presume many have less to contend with than myself as to soil and situation. I live in a valley much exposed to strong winds, which are very prevalent about this season, and I suffer much from damps and early frosts, the soil being a stiff loam on a clayey subsoil. *W. D. S., Deal.*

Purple Frontignan Grape.—In a Vinery at this place, one spur upon a Purple Frontignan Vine has now produced spontaneously, for two consecutive seasons, white berries only, or fruit of the white Frontignan; probably the variety originated in this way, although I do not find such a circumstance upon record. *George Wells, Scotney.*

Horse-radish.—In reply to "X. Y. Z." (see p. 616) I have to state that the only successful way of eradicating Horse-radish is to trench the ground well 3 feet or more deep, carefully turning the soil, and picking out every portion of the roots; none of the latter, however small, must be permitted to remain, or they will grow. If properly done, this plan will be found a sure way of entirely destroying it. *E. Bennett, Perdiswell.*

Bees.—The following circumstance connected with bees occurred this season in the garden of the Rev. Mr. Jones, of Barnet-common, Hertfordshire. For several seasons past I have had the management of a few hives which that gentleman keeps. This year he had two stock hives, and near the end of February I went to see if they had survived the winter, and whether their winter stock of provisions was exhausted, and would require feeding or not. After I had done examining the two hives Mrs. Jones requested me to put a glass on the top of one of the hives for the bees to work in, for the purpose of obtaining a quantity of pure honey. I did so, and then covered the glass and left the bees to the freedom of their own wills. On the second day of May Mrs. Jones called on me early in the forenoon, and requested me to come and look at one of the hives, as a great many bees were out in a cluster outside the hive, and she thought they were likely to swarm. As the morning was cloudy and so early in the season, I thought that they might not swarm for a few days, although they were in a cluster outside the hive, as I have had my own bees situated in the same way under the alighting board for a considerable time before swarming; between 12 and 1 o'clock the same day I went into the garden to see the state of the hives; I had not been there more than a few minutes when, from the hive that the glass was placed upon in the end of February, a fine swarm came off; no time was lost in putting them into a hive, and, strange to say, a few minutes only elapsed when the other hive swarmed also; the bees had made no comb in the glass placed on the top. On the 15th day after the two hives swarmed I called at Mr. Jones's to see if there was any appearance of either of the two hives throwing (in apian language) a cast, and seeing the bees of one of the hives rather in a state of agitation and apparently no work going on, I concluded that they might come off that day; and in a short time they came off, and I put them into a hive. I had just finished hiving the bees when the other hive sent out a cast also; it is rather a singular circumstance, considering that the gentleman had only the two stock hives; if he had been in possession of a considerable number, no notice might have been taken of this circumstance. *Robert Downie, Arkley-lane Cottage, Barnet Common, Herts.*

Pear-leaf Fungi. — In a recent Number a correspondent inquired the cause of the orange spot on Pear leaves, and was answered that it arose from a fungus called "Dothidea colliculosa," but that no exact reason could be given for its appearance. After very careful examination I am of opinion that the Dothidea is not of itself a perfect fungus, but merely the early stage of Æcidium cancellatum, which is now mature and shedding its spores. The Dothidea, so called, consists of small orange-yellow conical bodies on the surface of the leaf, which eventually subside and turn black, while on the underside, exactly beneath these, grow several larger peridia conical at their tops, but round beneath. When ripe, as they now are, the apex splits into ragged threads like the calyptra of a Moss, and under a glass is transparent, exhibiting the spores through the interstices, even under a common lens. At length the calyptra is thrown off and a hole like a crater is seen by which the spores escape. I send you a sketch, which may perhaps best illustrate the subject. I have never been able to



1. Pear-leaf affected by Æcidium cancellatum.
2. A peridium separated and magnified.
3. Spores—reddish brown.

discover anything like fructification in the so called Dothidea; and as every specimen at this period presents the form above described, I think this Dothidea ought to be struck out of the list of fungi. This fungus is sometimes most destructive; a friend of mine having been obliged to destroy one fine tree, and having the parasite now communicated to nearly every tree in his garden, causing the fruit to be almost useless, and in some cases to fall off prematurely. The only remedy I know is to pull off every leaf that is attacked early in the summer, for it will increase rapidly if neglected until sometimes every leaf is diseased, and the fruit starved in consequence. *F. J. Graham, Cranford.*

Effects of a severe Storm of Wind in August last.—Wishing to know if certain phenomena, occasioned by the severe storm in August, which has occurred here, has been observed anywhere else, I venture to give you an account of them, as I have not found that they are noticed in your journal. The storm of wind which swept along the southern coast of England on the 11th of August, with such terrific and almost unprecedented violence, was most severely felt in this part of Sussex, injuring the corn crops, whether standing or in shocks, to an alarming degree. I am not a farmer, but a great lover of nature, and will describe what has occurred here. The old town of Hastings is situated in a narrow valley, rendered very picturesque in its higher part by trees, chiefly Elm; the wind swept up this valley, burning the leaves of the trees, either wholly or partially, taking one side of a hedge and leaving the other intact, &c. The consequence was that the next day we were plunged into a mid-winter landscape, the trees were bare, and the ground covered with crisp, black leaves, not at all resembling leaves which fall in autumn. Two days afterwards the Elms began to show signs of putting forth new shoots, and one of the severest sufferers, a fine old tree, is now in all the glories of early summer foliage. The Larch in the neighbourhood has done the same, and the other trees and shrubs have followed in different degrees. A Laburnum, the upper half of which rises above a low wall, has its lower part covered with its dark green leaves, while the upper has tender green leaves and complete flower buds, which will open in a few days. In an adjoining valley to the eastward (Fairlight-glen) I observed the fantastic effect this gave to the wood; autumn tints are fringed by light green, the Mountain Ash especially rising a little above the unscathed Oak—the same effects may be seen in one and the same tree. This appears to be worth noticing, though it may not be peculiar to this place. *E. W., Hastings.*—— Almost all the trees in this part of the country (Sussex) show more or less of the effects of a severe gale of wind, from the south-west, which we had here about two months since. Some of the trees on the side facing the wind have changed their summer attire for the sere and yellow leaf of autumn, while others are denuded of their foliage on that side, the other comparatively retaining its usual appearance. But perhaps the most remarkable effect of that wind is shown in a group of six Horse Chestnuts in the Priory Park, the brown colour of the dead leaves on which contrasts strangely with the light green of the young shoots produced since the storm, and still more strangely with the numerous spikes of beautiful flowers with which that side of the trees is covered. The spikes are smaller but quite as numerous on one tree as in the spring; the other trees have not put forth so many. *C. W. C., Chichester.*

Pinus insignis.—I have a very fine example of this Conifer under my care which last year produced one cone, and this year it has but the same limited quantity. I imagine, however, that as it becomes older, we shall have a good supply of them. It was planted 18 years ago. Does it usually bear cones in this country? [No.] *William Whale, Englefield Green.*

Aubergine.—Though the Aubergine does not ripen well in this country, it nevertheless arrives at such a degree of perfection as to make it a delicate and excellent article of food, if dressed in the following manner:—When the fruit has attained all the maturity of which it is capable in our northern latitudes, it should be cut lengthwise in quarters, and, after being lightly sprinkled with salt for two or three hours, allowed to drain. The divided fruit should then be placed in the well of the dripping-pan where meat is roasting, and in about three quarters of an hour served quite hot, either alone, or with a little strong gravy. So dressed it partakes of the combined excellence of Salsafy and Tomatoes. The variety cultivated was the violet-coloured Aubergine, of which seeds were distributed by the Horticultural Society in the spring. The Chinese Brinjal succeeds about as well as other kinds of Egg-plant, and is, doubtless, equally good. *M. J. B.*

The Weather.—Mr. Bree, of Stowmarket, asks "if the remarkable change in the temperature on Saturday, the 18th ult., was observed." Here it was just as he states. I was obliged to exclude the external air, to prevent the condensation of vapour on the walls, &c., inside the house, which took place to a greater extent than I ever remember, wherever the external air was admitted. The vapour was also condensed on the outside of the windows, showing a difference of temperature of at least 10° between the air within and without. *J. C. C., near Abingdon.*

West of Ireland.—The Potatoes in the south-east of Mayo, after partially recovering (or rather having the disease suspended), have lately had another access of disease. All other crops are good, early, and nearly safe. Sheep and cattle bring good prices. This has been an extremely good year for fruit of all kinds. The autumn is very early, the weather being like October rather than September. Many Limes, Witch Elms, Horse Chestnuts, and Walnuts particularly, have lost their leaves. Emigration is increasing, owing to the failure of Potatoes. Our best smiths, masons, carpenters, and labourers are either gone or going. *Ballandyne.*

Toads eat Wasps.—I can confirm the notice of Mr. Mackenzie at p. 598, that toads eat wasps. You may remember that I sent you an account two years ago, of a couple of the large Jersey toads in my possession changing their skins. These pets are still in full health and vigour, and I have frequently given them wasps and humble bees in considerable numbers. They appear quite as insensible to the stings of these insects as the boa in the Zoological Gardens was to the flavour of his blanket. I have ascertained they are very fond of worms, which affords me an excellent opportunity of procuring a more abundant supply of food than from insects alone. They take worms of the largest dimensions, and having got one into the mouth, they deal with it most energetically and somewhat ludicrously with their fore-paws, scraping away any dirt or *debris* that may chance to adhere to them whilst they are wriggling about their jaws. Large beetles (Carabi) and cockchaffers (Melolontha) disappear in an instant; but great dragon-flies (Æshna) are rather puzzling whenever the wings are disappearing transversely to the gape. I am reminded that one of them dispatched in one day a handful of grasshoppers, three worms, and a dozen humble-bees. *J. S. Henslow, Hitcham, Sept.* 20.

Potatoes among Weeds.—One of your correspondents speaks of having saved his Potato crop by permitting weeds to grow up and cover it. He was certainly fortunate in meeting with such unexpected success; but in order that persons may not encourage weeds with the idea of having sound Potatoes, I beg to forward the result of a crop that was dug from an orchard where weeds had been allowed to run at large ever since the Potatoes were earthed, some of the weeds being from 3 to 4 feet high; and the issue is that, out of 20 square yards, there was not one bushel of sound Potatoes. It is my opinion that the weeds keeping the ground so very damp this wet summer caused the Potatoes to rot so extensively, excluding as they did all sun and air. *E. Bennett, Perdiswell.*

American Aloe in Bloom.—There is now in flower at the White House, Colebrookdale, Salop (the seat of Mrs. Darby), a specimen of the Agave americana, or American Aloe, supposed to be above 100 years old. The plant has thrown up two flowering stems, the largest 16 feet, and the smaller one 13 feet high. The larger stem has 24 branches, comprising from 13 to 152

flowers on each; the smaller stem has 18 branches, comprising from 11 to 61 flowers on each branch. As, from the great rarity of the flowering of the plant in this country, few have an opportunity of comparing one specimen with another, the following account, taken from Thornton's "Botany" (a book not accessible to every one), may assist in forming some idea of the present plant. After mentioning that the Aloe was brought from South America into Spain, he states, that one is represented to have flowered at Lambeth, in 1690, and two other plants in 1714, at Hampton Court-palace; and that the one from which the representation given by him was taken, flowered in September, 1790, at Smith's Nursery, at Dalston, near Hackney. This plant was then supposed to be about 70 years old, "at which time it displayed its 'scape,' or trunk, arising from the centre of the leaves, increasing with astonishing rapidity, until it reached nearly the height of 30 feet; resembling the mast of a ship, and there projected from its summit at proportionate distances 13 great branches, at each of whose extremities were found from 80 to 100 flowers, on proper peduncles or flower stalks of different lengths; that each flower might have its due position as to light and heat, exciting in the beholder the idea of a vast chandelier." It will be observed, that the plant described by Thornton, though nearly twice the height of the one at Colebrookdale (which, by-the-bye, is said to be the first recorded to have flowered in Shropshire), has fewer branches; and although the average number of flowers on each branch is greater. the total on all the branches is considerably less, the plant at Colebrookdale having on its main stem 24 branches, comprising 1515 flowers, and on its second stem 18 branches, comprising 639 flowers; altogether 42 branches, comprising 2154 flowers. It is a curious coincidence (but nothing more), that the two stems together are about the height of the one described by Thornton. In a note, the properties of the Aloe, in its native country, are thus stated. "In the whole vegetable creation, there is not, perhaps, a plant more useful than the one we have described. As a defence it bids defiance to all intruders. Its leaves are employed as a thatch for houses; and properly managed, they will separate into fibres which, manufactured, can supply the place of hemp, flax, and cotton. The thorns with which it is armed serve for awls, or are made into nails, or pins, or needles. When rightly tapped, from three to four hundred gallons of sap may be extracted, which may be fermented into wine, or by simply boiling, reduced to a pulp, which serves all the purposes of soap. The ligneous stem is made use of by the carpenter, or for fuel; and the honey, which copiously distils from the flowers, when collected, is a most efficacious remedy in asthma, and other disorders of the chest." The gardener, with the permission of his employer, will have much pleasure in gratifying the curiosity of any one who may be pleased to visit this "wonder of nature," in the course of the ensuing month. *W. G., September* 28.

Gold Fish.—Will some of your correspondents kindly furnish me with the best mode of increasing gold fish. I have a quantity which was bred about five years ago, but they have not bred since. This I attribute to having a few tench in the pond with the parent fish. Some of the young ones have turned red, and the others are of a brownish tint. Will the brownish fish turn red in course of time? *Subscriber.*

Planting Potatoes in Autumn.—I think the nearer we approach Nature in the cultivation of Potatoes the better, and autumn planting is the full observance of this principle. When autumn planting is not, or cannot be resorted to, I am convinced the Potatoes intended for sets in the spring following should remain in the ground where they are grown during the winter, and be at once transplanted to their new situation. Of course care must be taken to preserve them from frost, by ploughing fresh earth upon the drills, and this operation would throw off much water and drain the ground on which the Potatoes are lying. I am fully satisfied, from observation and enquiry, that the Potato disease is traceable to a perversion of the natural habits of the plant, and ill-treatment being continued for years, its vitality and constitutional powers are so reduced as to render it a prey to any damaging influence peculiar to the season. I heard a person say: "My Potatoes are very good." "How is this," I enquired, leading the way to the place where these good Potatoes were growing. I found them very good indeed, but not large. The secret is, they were the produce of Potatoes grown the year before; that is, the old Potatoes had never been taken out of the ground. *T. T. Rowley, Rowthorne, Chesterfield.*—In October, 1851, I set about half an acre of good rich soil, drained, with Regent Potatoes, about 10 inches deep. They appeared above ground rather earlier than the spring set plants, but only a little earlier, and did not show signs of being fit to harvest so soon as the Shaws, which were set in February and March. The crop is not remarkable either way; but the tubers are small, and there is more disease among them than I have hitherto had in Regents. *J. E. Gray, Willesdon.*

Greshna cassia.—A present having been made me of some Russian greshna cassia, it has reminded me of the excellence of this article, and that probably it would be the best of all substitutes for the Potato. Greshna cassia is nothing more than Buckwheat freed from its husk and partially broken, in the manner that groats are made from Oats. At St. Petersburgh it is the cheapest kind of food, and might doubtless be afforded here at a very low price. It has the advantage of being highly nutritive, is easy of digestion, and, like the Potato, may be eaten with any kind of meat, or simply alone, requiring nothing more than the addition of a little salt and butter; or for the poor man's table, dripping. This cassia may either be cooked in an oven or over the fire; if in a water bath all the better, to prevent the chance of burning. It should be put into a rather deep vessel with twice or thrice its bulk of water, according to expected evaporation, and left in the oven, or on the fire, till each grain becomes soft, but yet so dry as to retain its original form, and not in the least pappy. Greshna cassia might be immediately imported from Russia at a cheaper rate than haricot can be obtained. In future seasons it would, doubtless, well repay the expense of cultivation, and of freeing it from its husk. *B.*

Tomato Disease.—A correspondent, from Hampshire, complains, at p. 598, of a disease attacking his Tomatoes similar to the Potato disease, and inquires whether any of your readers have been visited with a like calamity. In the second or third year of the Potato blight I had a ow of Tomatoes fastened to stakes, and the end of the row was exposed, owing to a gap in the hedge, to a damp south-west wind which then set in. The plants at that end of the row were soon after extensively blighted, and the disease was soon communicated to the remainder of the row. I then concluded that the Potato blight was very much owing to atmospheric influences—the Tomato and Potato being both species of the genus Solanum. *J. P., Sept.* 21.

Societies.

Caledonian Horticultural, *Sept.* 2.—W. Steele, Esq., in the chair. Premiums were awarded as follows:—Best two sorts of Peaches: 1st prize to Mr. Ramsay, gr. to Sir D. Baird, Bart., for Noblesse and Royal George; 2d, to Mr. Thom, gr. to C. Balfour, Esq., for the same varieties; 3d, to Mr. Crocket, gr. to Col. Ferguson, M.P., for Noblesse and Bellegarde. Nectarines: 1st prize to Mr. Crocket, for Violette Hative, and Elruge; 2d, to Mr. Ramsay, for Duc de Tello, and Elruge. Muscat Grapes: 1st prize to Mr. Lees, gr. to the Earl of Haddington; 2d, to Mr. Saunders. Black Hamburgh: 1st prize to Mr. Thom, for a bunch weighing 3 lbs. 14 oz.; 2d, to Mr. Kidd, gr., Rossie Priory, whose bunch weighed 4 lbs. 2 oz.; 3d, Mr. Crocket. Frontignans: 1st, Mr. Crocket, with the grizzly variety. Highest flavoured bunch of Grapes of any sort: 1st prize to Mr. Thompson, gr., Wishaw, for Golden Drop; 2d, to Mr. Lees, for Chasselas Musque. Moorpark Apricots: 1st prize to Mr. Ramsay; 2d, Mr. Hardie, gr. to W. Chambers, Esq. Greengage Plums: 1st, Mr. Calder, Seacliffe; 2d, Mr. Dunlop, Drum; 3d, Mr. M'Lauchlan, Barnton; best three sorts: 1st prize to Mr. Crocket, for Washington, Purple Gage, and Magnum Bonum; 2d, Mr. Thom, for Victoria, Washington, and Magnum Bonum. Highest flavoured Melon: 1st prize to Mr. Ramsay, for Duke of Bedford; 2d to Mr. Mossman, for Bromham Hall; 3d to Mr. Fowler, Smeaton. Heaviest six Jargonelle Pears fit for immediate use: 1st prize to Mr. Lees; 2d to Mr. Fowler. Dahlias: nurserymen—1st prize to Mr. Handasyde, for Nil Desperandum, Duchess, Beeswing, Marchioness, George Glenny, Sir R. Whittington, Queen, Mr. Seldon, Sir Charles Napier, Snowflake, Sir F. Bathurst, and Queen of Beauties; 2d to Messrs. Downie and Laird, for Sir E. Antrobus, John Edwards, Richard Cobden, George Glenny, Mr. Seldon, Crocus, Duke of Wellington, Barnard, Sir Charles Napier, Miss Spears, Malvina, and Triumphant; practical gardeners: 1st prize to Mr. Begg, Greenlaw, for Marchioness of Cornwallis, Duke of Wellington, Mrs. C. Bacon, Sir Robert Peel, El Dorado, Mr. Seldon, George Glenny, Richard Cobden, and Crocus. Equal 2d premiums were voted to Mr. Oswald, Murthly Castle, and Mr. Reid, Broomfield; Mr. Oswald's varieties were: Marchioness Cornwallis, Ring, Emperor of Whites, George Glenny, Duke of Wellington, Mrs. Seldon, Sir R. Peel, Mr. Seldon, Sir E. Antrobus; and Mr. Reid produced Yellow Standard, Mr. Seldon, Crocus, Duke of Wellington, Sir Charles Napier, Alice, Beeswing, Marchioness Cornwallis, and Newington Rival; amateurs: 1st prize to J. Mood, Esq., for Sir F. Bathurst, Mrs. Seldon, Mr. Seldon, Princess Radziville, Standard of Perfection, and Marchioness Cornwallis; 2d to Mr. Sanderson, for Nil Desperandum, Cardinal Ferretti, Duke of Wellington, Queen of the Grove, and King of Dahlias. Hollyhocks: 1st, Mr. Fowlis, Woodhouselee, for Walden Gem (Chater), Mr. C. Baron (Chater), William (Veitch), Susannah (Veitch), Triumphant (Parsons), Seedling No. 1, Safranot (Parsons), General Bem (Veitch), Spectabilis (Chater), Sir David Wedderburn (Currie), Miss Innes (Webster), and Comet (Chater); 2d, Mr. Pow, Norton, for Illuminator, Seedling, Susannah, General Bem, Mr. Berwick, Magnum Bonum, Enchantress, Queen, Rosea grandiflora, Sulphurea, Sultan, and Acme; 3d, W. Blackwood, Esq., for Tom Carlyle, Walden Gem, Lady Clerk, Illuminator, Tom Glen, Susannah, Charles Turner, Spectabilis, Magnum Bonum, Sir David Wedderburn, and Captain Peat. Phloxes in pots, one dark and one light: 1st, Mr. Gourlay. Vegetables: 1st prize to Mr. Pender, Moredun. The prize of one guinea, offered through the Society, by Messrs. Downie and Laird, for the best 18 Hollyhocks, was gained by Mr. Veitch, Melville Castle, with the following kinds: General Bem, William, Susannah, Hamlet, Golden Prince, Marchioness of Lothian, Sphinx Pyramidalis, Lady Bleak, Mazena, Lady Flora Hastings, Mungo Park, Napoleon, Shakspeare, Venus, Sir R. Bruce, Lucy Neal, and Thunderer. A second premium, given by the Society, was voted to Mr. Fowlis, for Triumphant, William, Susannah, General Bem, Walden Gem, Mr. C. Baron, Seedling No. 1, Charles Turner, Comet, Safranot, Sir David Wedderburn, Spectabilis, Lady Clark, Miss Innes, Napoleon, Magnum Bonum, and Queen. Messrs. Dicksons and Co. contributed a selection of Heaths, Fuchsias, and Achimenes, with Lilies, Verbenas, and China Asters. Messrs. J. Dickson and Sons exhibited Achimenes and Heaths, with other greenhouse and stove plants, and stands of Dahlias. Messrs. P. Lawson and Son furnished fruit of Lawson's Golden Gage Plum, of which the committee expressed a favourable opinion; also Heaths and other exotics, with Roses, Marygolds, and Hollyhocks. Mr. Handasyde contributed Dahlias, including superior fancy varieties, for which an extra award was voted; and Messrs. Ballantyne and Sons sent Hollyhocks. Messrs. Downie and Laird produced Verbenas, Asters, and Hollyhocks (including a number of seedlings), and flowers of Antirrhinum Hendersonii. Mr. R. M. Stark sent a selection of greenhouse plants and blooms of Dahlias, Hollyhocks, and Verbenas. Mr. R. T. M'Intosh showed a plant of Lilium lancifolium album; and Mr. Grieve blooms of Hollyhocks, Asters, and Pansies, including several seedlings. Several new members were enrolled.

Garden Memoranda.

Horticultural Society's Garden, Turnham-Green.—When we visited this establishment a month ago, we found the fine Phalænopsis amabilis in the Orchid house out of bloom, a very rare occurrence at any season with this useful plant; the flower spikes had been cut back, and were just beginning to break; they are now coming fast into beauty, and will doubtless continue gay all the winter. In the adjoining greenhouse were nice bushes of the Rock Abelia (A. rupestris) a very useful shrub for blossoming at this season; Hedychium flavescens, received from Dr. Siebold under the name of H. Roxburghii, has also been in flower here; it is a rather showy plant, with pale yellow or straw-coloured flowers that emit an agreeable spicy fragrance. The white blossomed Mandevilla suaveolens formed a gay rafter; it can be kept clear of red spider in a cool house; but in a warm one it is sadly infested with this pest. Oxalis Bowiei, which every year about this time is so gay in a little frame in front of the Orchid-house, is already yielding a goodly crop of cheerful, round, red blossoms, about the size of a shilling, which will increase in profusion from this time up to Christmas. The bright blue Plumbago Larpentæ was really sufficiently gay, in an open border in the flower garden near the Council-room, to deserve a better name than it has received. It is perfectly hardy; and what have we in its way more effective at this season? Among annuals Tagetes signata makes a good bed, which is still gay; and among newer sorts may be mentioned Cosmos bipinnatifida atro-purpurea, with purple flowers, large and fine, somewhat resembling blooms of a single Dahlia.

The little greenhouse near the carpenter's shop has been newly painted, and the plants — Cape species of Pelargonium, Balsams, and a few other showy things—fresh arranged. This is one of the most useful houses for an amateur with which we are acquainted; it has a flat span-roof with a passage down the middle, on either side of which is placed flowering plants, and behind these newly propagated half-hardy plants are stowed away for the winter. The stove adjoining this is gay with Achimenes and Begonias, both of which are brought forward in frames, and introduced as they come into flower. In this way considerable gaiety can be maintained, the plants being at all times removed as soon as their beauty is over. In a pit near this stove was the Society's portion of the Oregon seeds, lately received from Jeffrey, of which some mention was made at p. 551. They consist of Pinuses and other things which have not yet had time to germinate. We noticed two Pinuses raised from Russian seeds here, which are expected to be new; one is named P. Padufia, and another sort. In the same pit the Golden Lachenalia (L. aurea) was in flower, and an extremely handsome thing it is. We cannot, however, say as much of a reported yellow Pelargonium, sent over from the Cape by the same collector (Wicks); it is one of the fleshy-rooted species sometimes called Hoareas, bearing umbels of six or eight pale buff blossoms, the two upper ones composed of long narrow petals, having a minute crimson spot near their middle. It may possibly prove useful as a breeder; but in an ornamental point of view it is certainly valueless.

Cinchona Calisaya, the Peruvian bark plant, which was reported a month ago to be flowering in the Society's garden, for the first time in Europe, is still in bloom, and has excited much interest. The flowers appear in panicles at the ends of the lateral shoots; they are pale flesh coloured before expansion, but nearly white when fully open, and emit a faint balsamic odour. The corolla has a cylindrical tube about half an inch long, and a reflexed five-lobed limb, singularly fringed with long transparent hairs. From this species is obtained the best bark used in medicine. It is found in forests in the hottest parts of Bolivia and southern Peru. The plant in the Society's garden was raised from seeds sown in the end of 1848. It has been grown in a stove on a gentle bottom-heat, and during its younger state it had its branches carefully tied down, to induce it to make laterals, and it is possibly in a great measure owing to this treatment that Mr. Gordon has beaten his Continental neighbours in flowering the "Calisaya;" for it

was from the Jardin des Plantes that the seeds were received through the kindness of J. B. Pentland, Esq. The flowers last but a short time before they drop; but they are speedily succeeded by others.

The plants in the American garden have made good growth this season. The Pampas Grass (Gynerium argenteum) is throwing up several flower stems, some of which are just beginning to open. Among other interesting plants here we noticed the Californian Oak (Quercus agrifolia), the fine hardy evergreen Ceanothus verrucosus; Catalpa Bungeana; Pernettya ciliaris, a sort with larger leaves than the common kind; the female Garrya, with clusters of nearly ripe, hairy, bluish purple fruit; an interesting dwarf Laurel, and, if it does not run away, exceedingly useful for small gardens, raised from seeds of the common Laurel by General Monckton; various Sikkim Rhododendrons; and Gaura Lindheimeri, a branching herbaceous plant, growing from 2 to to 3 feet high, and producing numerous showy white and reddish flowers at this time of the year; the latter is certainly a valuable addition to hardy border plants. Among more common plants, few are more useful than Cotoneaster microphylla, whose red berries are very ornamental at this season; it has a pretty effect on rockwork, on which it displays itself to advantage. The hardy Cornish and other Heaths, and the white and purple Menziesias, are also highly decorative plants during the later months of the year. They have been and are still in good bloom here.

We observed that all the more important plants in different parts of the garden are being labelled with common wooden tallies, painted white above, and tarred on the part which enters the ground. The name is written on them with common ink, which is afterwards varnished over, for the sake of protection. They have a good appearance, and being about 18 inches in the ground, will not be liable to be pulled up or lost.

In the Rose-house the plants have thriven satisfactorily since the weather has become cooler, and now there is a good sprinkling of flowers in it, which will yet be more plentiful, as there is still a large show of buds. It may be worthy of mention that while the heads of those plants on the Manetti made little progress, the stocks threw up suckers; but now that the superabundant sap is being drawn away from the stock by the increased head the suckers are disappearing.

In the large conservatory Hedychium Gardnerianum is still in flower. It has been extremely gay, and is a plant which no house of this description should be without. As soon as the beauty of the flower heads is past they should be cut off, and as the stems ripen they too should be removed close down to the bottom, which keeps the plant tidy, and strengthens it for next year's flowering. Cestrum aurantiacum is coming into bloom a second time this year. The tree Statice (S. arborea), planted out in the border has been gay for some time past, as has also been Berberis tenuifolia, which succeeds well here, but is too tender for the open air. Erica concolor is also a showy Heath at this season. On the shelves was a nice plant of Araucaria Cookii, 3 feet high; and near the entrance some capital examples of Sedum Sieboldii, which is a useful winter plant. It is perfectly hardy; but when placed out of doors care must be taken to protect it from slugs. The shelves of this house will soon be gay with Chrysanthemums, which are very promising this year. They have been grown in comparatively small pots, and the foliage has been successfully kept on their lower parts by means of manure water.

Some half-hardy plants, too tender for the conservative wall, which have been placed in the glass wall are looking as yet very healthy and promising. The Vines and Figs, &c., are also going on satisfactorily, and some of the fruit on the latter looks as if it would ripen, provided the nights do not become very cold and frosty. Capsicums are maturing fruit in it; but the Aubergine, put out for trial, is a failure.

The Peaches on the protected trellis in the garden not having ripened last year, the upper side being soft while the under-side was hard, the bottom was raised nearer the trees and paved with tiles, and this season what fruit survived the spring frosts has ripened perfectly on all sides, a circumstance which must, we think, be attributed to the reflection from the tiles. They were, however, later than the same sort on the open wall, and though well coloured were scarcely so well flavoured.

As regards Cottam and Hallen's Peach frame, we have still to report what we stated before, viz, that although the tree is in vigorous health the fruit is not so good—at least as far as this trial has gone—as that on the open wall. Fruit on the latter has been very fine this season, many of the Late Admirable and Chancellor Peaches measuring 10 inches in circumference. Some of these are enclosed in Halliman's "fruit protectors," which have been found useful in saving valuable fruit, not only from wasps, but also from falling on the ground and being bruised, in which respect they are preferable to a net.

Some wall Pears have been gathered, and among others Beurré Rance, which, though a late sort, came off with even a slight touch of the hand. They were worked on the Quince, which would appear to accelerate the ripening of this variety more than the Pear stock. Among sorts in the fruit room, we must not omit to mention Beahnell's Seedling, a new Pear raised by J. Beahnell, Esq., of Tottenham. The fruit is nearly middle-sized and turbinate, the skin pale yellowish-green on the shaded side, and red next the sun. The flesh is melting, exceedingly juicy and rich. Its period of ripening is from the middle of September to that of October. It does not keep long after being ripe. The tree is an abundant bearer, and the variety cannot fail to become a favourite. The Elton Pear, a coreless variety, is not so well known as it should be; when ripe it is exceedingly good. Along with these were good examples of Beurré Bosc, Duchesse d'Angoulême, and other kinds.

Among Peas in the kitchen garden, Hamilton's November, Sutton's Early Goliath, Knight's Dwarf White Marrow, and the Auvergne, were all sown on the same plot of ground on the 16th of July last. The two first-named have produced no crop; Knight's Dwarf White Marrow is coming into flower, while the Auvergne is now in bearing. Seitze's Florentiner Pfluckerbse Pea proves to be the Early Frame; as does also Whalley's Early Prince of Wales; Weeks' Royal Alfred is a sort of Marrow, but not so sugary as Knight's. In addition to the Haricot de Belgique, mentioned in our last report as being a good sort, we have to recommend the Bush Haricot (H. solitaire), which grows about 15 inches high, throwing out a number of branches nearly close to the ground, thus forming a kind of bush. It bears abundantly, the pods being 5 inches long, crisp, and excellent. It forms a valuable succession to the earlier sorts, especially during hot dry weather. Newington Wonder French Bean is also an excellent variety. It grows about a foot high, and is early and productive. It forms seeds but slowly, and the pods remain long tender.

FLORICULTURE.

The Hyacinth, Narcissus, &c., that make such fine ornaments for a greenhouse and drawing-room in winter should be potted early in the present month, in order that a fine display of bloom may be insured. I have found 5-inch pots to be most suitable, and I would therefore recommend them; to manage these flowers well, it is essential that the pots be well drained, for although they will thrive in glasses of water they require efficient drainage when potted. I have found it an excellent plan to place about 2 inches of good rough rotten dung next the crocks; the soil best adapted for them is two parts good loam, one part well rotted cowdung, and one part leaf-mould, with equal portions of peat and sand, all being well mixed together. In potting I have found filling the pots rather firmly to within 2 inches of the top, placing the bulb in the centre, and afterwards filling up to the rim, better than the old practice of potting loosely and pressing the bulb into the soil. After potting they may be removed to a spare frame or corner, and covered over with 6 or 8 inches of old tan or ashes, where they may remain until the time arrives for placing them in a warm stove or pit to start them. By following the above directions I imagine that few complaints will be heard respecting unripe or bad bulbs, and the grower will be well rewarded for his trouble by a fine display of bloom. *E. Bennett, Perdiswell.*

National Floricultural Society, *Sept.* 23.—Mr. J. S. Proctes in the Chair. As might be expected, Dahlias formed the principal feature of attraction at this meeting. Among seeedlings, Burgess's Gem of the Grove was awarded a Certificate of Merit; it is a yellow, slightly tipped with purple; a Label of Commendation was assigned to Bragg's Miss Matthews, but we have reason to believe that a higher award would have been given, had the proper number of blooms been staged. Lochner's Claudia was highly approved of for its distinctness, but it is wanting in general properties. A singular sport was contributed by Mr. Legge, in the shape of two blooms from one plant, the one a dark shaded self in the way of R. Cobden, the other had a strong marking of blush on every petal; Holmes's Amazon was again shown by the raiser. A first-class Certificate was granted to a seedling Tigridia, of great beauty, from Dr. Maclean. G. Holmes, Esq., was elected a member, and Mr. Turville nominated as a candidate.

Whitby Amateur Floricultural Society.—The autumn exhibition was held on the 14th inst. In the floral department there was an excellent display, especially of Dahlias. Mr. G. Edward, of York, obtained the 1st prize for 24 dissimilar blooms, which comprised the following varieties, all in fine character: Duke of Wellington, George Glenny, Magnificent (Edwards'), Black Diamond, Lord Mayor, El Dorado, Queen of Lilacs, Mrs. Ward, Admiral, Tolson d'Or, Queen of the East, Absolam, Mr. Seldon, Dauecroft Hero, Seraph, Marchioness of Cornwallis, John Edward, Marquis of Worcester, Sir Charles Napier, Champion, Sir R. Peel, Summit of Perfection, Shylock, and Miss Speers. In Mr. Edwards' collection of 18 and 12 we noticed nice blooms of Charles Villiers, Optimus, Box, Sussex Hero, Sir J. Frampton, Roundhead, Duchess of Lancaster, Sir R. Whittington, Mr. Palmer, Standard of Perfection, and Blanche Fleur, with others already noticed in his tray of 24 blooms. Mr. S. Anderson was first in the collection of six blooms, the varieties being Shylock, Duke of Wellington, Bar. maid, Mr. Seldon, Queen of Lilacs, and Captain Warner. Among single blooms Mr. Anderson was first in pink or rose, with Queen of Lilacs; ditto in lilac, scarlet, and rose, with Sir Charles Napier; ditto in salmon, orange, or buff, with Duke of Wellington; ditto in puce or purple, with Mr. Seldon; and ditto, in ruby or light crimson, with Beeswing. In dark crimson or maroon, Thomas Percival, Esq., was first with Essex Triumph; ditto in yellow or sulphur, with Crocus; and ditto, in best of any colour not before specified, with Jetty Fretz. The only seedling worthy of notice was a promising flower exhibited by Mr. George Edward, called Mrs. John Slater, but which we should like to see again before we deserve its properties. The cut Verbenas were very fine, but the varieties were those in general cultivation. In Pansies, Mr. M. Woodhouse obtained the premier prize with Mr. Beck, and also the first prize for a pan of 12 blooms, which comprised Mr. Beck, Sir J. Franklin (Major), Supreme, Duchess of Richmond, Blue-eyed Maid (Major), White Sergeant, Polyphemus, Caroline, Mrs. Beck, a Seedling, and two others. Mr. Woodhouse was first in the collection of six cut Roses, with Mrs. Bosanquet, Gloire des Beaulieu, Paul Joseph, Souvenir de la Malmaison, Achille, and William Jesse. Hollyhocks and China Asters were only indifferent. There was nothing particularly striking in the plant department.

Catalogues received from Messrs. Lawson and Sons, Edinburgh; Paul and Sons, Cheshunt; Dallmeine and Co., Stormer, Halstead, Essex; Messrs. Wood and Son, Mareshall, near Oakfield; Mr. Groom, of Clapham.

Dahlias: *R R C, Bare Hall.* You will find an answer in another part of the Paper.

SEEDLING FLOWERS.

Calceolarias: *D F, and Co.* Shrivelled up past recovery when received.

Dahlias: *J M, Pelt lown.* Orange Standard will not do; it is too flat, and too deficient of "stuff" to be good in the centre; Duke of Wellington, Leda, General Paulmier, and Maiding Star all approach it in colour, and all of them are better in general character. Duchess of Sutherland was awarded a prize at the late Maidstone exhibition; it closely resembles old Egyptian King, perhaps long since lost; the base of the petals is white, midway towards the tips they become mottled with bright lake, which becomes more dense as it proceeds outwards, the extreme tips again becoming of a similar colour as that at their base; the form is one in better vogue, and the centre middling; it is valuable for its striking general appearance alone.—*W H., Hendworth.* We should call the flower you name Purple Monarch crimson, the bases of the petals are purple, but taking a front view of the flower they are not seen; the centre is too much depressed, petals well formed and symmetrically arranged, producing a first rate shoulder; the defect noticed may result from the advanced season; but if the plant be vigorous we doubt no improvement will take place; if, on the contrary, it has been over-bloomed, we shall expect to see this variety take a place next season. The other flower has nothing particularly novel about it.—*W H, B.* Golden Eagle: colour a rich golden orange-yellow; flower of average depth, exquisite in outline; petals smooth and cupped, somewhat indented; centre tight, but low—the latter may, however, be a fault consequent upon the advanced season. As a single flower, this was admired at the last National Floricultural Meeting. Abigail has but an indifferent outline, owing to the length and form of petal it cannot be otherwise; colour blush, slightly mottled with purple; centre prominent. Our Notices last week were deferred owing to the length of the North London Report.

Delphinium: *F H S.* Pulchrum is a very fine thing. Its light blue blossoms are exceedingly handsome, and will contrast well with the dark flowered kinds.

Hollyhocks: *B., Colne-park.* Four spikes each exceeding 2 feet in length. 1 is by far the best, colour deep rose, centre well elevated and compact, guard petals narrow; scarcely set close enough on the spike; 2, a shade lighter and brighter than 1, but wanting both the fulness and elevation of that variety; 3 (also labelled 4), is identical in colour with 1, with bad flat centre, and ragged wide guard; 4 (also named Mr. Reeve), is of a delicate pale pink, with much substance and as smooth as most sorts that we have seen this season; the centre wants more depth.

Lobelia: *F F.* Too much dried up when received to enable us to pass any opinion as to its merits.

Petunias: *G S.* 1 alone has any merit; 2, 5, 6, and 8 are large and bold-looking, but they want symmetry.

Rose: *J M.* Lady Shelley, H.P., is a good bold globular flower, not unlike the shade of colour of your well-known Dahlia of the same name. In fragrance it is the very acme of perfection itself; foliage broad and elegant; we fear that its solidity and lightness in cold situations will prevent it expanding freely; nevertheless, for perfume alone, it is worth one-half our autumn Roses.

Scarlet Pelargoniums: *R W.* Bulgen's Norwood Seedling is of good colour and bold in the truss; the individual pips are small, though round and smooth; habit is of much importance with scarlets, and of this no idea can be formed from cut blooms.

Verbena: *Medicus.* A nice looking white, with greenish-yellow eye.

Miscellaneous.

A New Building Material.—An invention has recently been patented for the adaptation of a preparation of coke and other substances, by which bricks, paving slabs, door and stair steps, tiles, pipes, blocks, railway sleepers, and other articles of general use by builders, &c., can be produced with a perfection and at a cost that will inevitably effect a complete revolution in the building trade. The price at which it is proposed to offer the coke brick to the public is only 8*s.* per thousand, scarcely one-third of the cost of the clay-brick, while in point of durability it is infinitely superior to the best article supplied from the kilns. The manufacture, as we learn from the specification, is effected by means of cast-iron moulds, the interior of which are of the exact dimensions of the common brick; in this mould a certain quantity of duff, or waste coal, powdered coke, charcoal, or cinders, is placed, and being carbonised, the amalgamated material swells to the exact form required. When taken from the mould it undergoes a finishing process, in which varnish is applied to the end or side, having while wet a coating of powdered glass, with an admixture of a mineral colouring matter, sifted over it. The brick is then vitrified, when a beautiful glaze of any required colour is produced, and the article is ready for use. During the manufacturing process the fumes are passed through water, by which means several valuable results are obtained, as, for instance, ammonia, worth about 52*l.* a ton (and each ton of coal contains about 16 lbs. weight of it); gas, pitch, naphtha, and coal tar are also obtained by the same means. The finishing process is only required for particular purposes; as in many instances the coke brick is equally available without it. The material is rendered fire-proof by an application of the muriate of alumina; and is impervious to atmospheric influences by the very nature of its formation. When articles of coke fabric are required of extraordinary density, a variation in the filling material is necessary, as also an extraordinary amount of compression, by which means there is hardly any limit to the degree of solidity obtained. It further appears that there is no description of article used in the erection or ornamentation of buildings but may be produced from the material; thus columns for interior and exterior use, cornices, capitals of plain or elaborately ornamented design, in endless variety and unlimited quantity, can be manufactured and supplied in a finished state, at a reduction on the present cost of such articles that must surprise all who have occasion to feel interested in such matters. We understand that the patentee proposes to grant licenses for vending the several articles manufactured under his patent, and that the per centage upon the sales will render such licenses both lucrative and desirable, inde-

pendent of which the encouragement given to licences to manufacture is extremely liberal. *Weekly Times.*

Marine Glue.—Practical horticulturists are well aware how soon many substances employed in gardens become decayed; for example, wood, the cords of straw mats, cloths, canvas shades, &c. Means of preventing this have been long sought after, but all hitherto tried have imperfectly answered the purpose. It appears that the difficulty is at last surmounted, and that the marine glue affords an almost indestructible coating for wood, iron, canvas, and other substances which are injuriously affected by long contact with air and moisture. A widow lady, Madame Audouin, who takes an interest in manufactures, has lately presented to the Central Horticultural Society at Paris, some specimens of cloth and canvas adapted for horticultural purposes, which had been prepared with marine glue, and which she said would last, exposed to all weathers, for almost any length of time. The President of the Society, thinking that this invention would prove of great use, nominated a commission for verifying the statements announced by Madame Audouin, and its report has been highly favourable. Marine glue, invented by Mr. Jeffery upwards of 10 years ago, is a substance resembling pitch in its composition, and possesses all the qualities of the latter without its faults. It is as insoluble in water as pitch, and it does not melt with the heat of the sun, neither does it scale and crack by contraction from cold. It glues pieces of wood together, with great firmness, is impervious to water, and according to the preparation which it undergoes, it has the property of being either inflexible or pliable, and elastic: and it may be thinly used as varnish for any article to which its application would be desirable. It has been experimentally employed for several years, and every year affords additional proof of its utility. M. Pépin, botanic gardener at the Museum of Natural History, assisted by some members of the Central Society of Horticulture, have given much attention to the use of marine glue. Five hundred props of Oak and Chestnut have been in the ground some two, and others three years, without the slightest change. Various landowners and horticulturists, and among them the Duc de Rohan, and M. Bella, of the Agricultural Institution of Grignon—have had cloths, canvas, and wood-work prepared with marine-glue, and have acknowledged the beneficial results. The trials made at the Museum have been equally satisfactory. We ought therefore to consider this composition as a great acquisition, and, doubtless, its application to horticultural purposes will soon be general. It will save much of the expense which is every year incurred by the deterioration of a considerable portion of articles used in gardening. *Revue Horticole.* [We should like to hear something more of this substance from correspondents in this country. What solvent is used?]

Sale of Mr. Warszewicz's Orchids.—The kind of prices these realised are as follows: Dendrobium Farmeri, from 1*l.* to 4*l.*; other Dendrobes, from 8*s.* to 1*l.*; Anguloa or Lycaste, from 2*l.* 2*s.* to 2*l.* 17*s.* 6*d.*; an Odontoglossum like grande, from 3*l.* 10*s.* to 5*l.* 5*s.*; a Trichopilia, from 2*l.* 15*s.* to 4*l.* 5*s.*; T. suavis, 4*l.* 10*s.*; Masdevallia coccinea, from 5*l.* to 6*l.*; Epidendrum bicornutum, from 2*l.* 10*s.* to 3*l.* 5*s.*; Vanda cærulea, from 2*l.* 2*s.* to 3*l.* 3*s*; a supposed new Cattleya, from 4*l.* to 7*l.* 15*s.*; a Zygopetalum, from 1*l.* to 1*l.* 16*s.*; a Sobralia, like Lælia superbiens in flower, from 2*l.* 5*s.* to 3*l.* 10*s.* Other lots, of which there were in all 162, fetched from 8*s.* to 30*s.* each.

Calendar of Operations.

(*For the ensuing week.*)

PLANT DEPARTMENT.

In consequence of endeavouring to keep as good a show in the plant-houses as possible, there is often a want of room at this season for all the plants intended for spring blooming; where such is the case, a variety of greenhouse plants may be ventured in open sheds, or under temporary shelter for a time, and introduced to the houses as the Fuchsias, Chrysanthemums, and similar plants go out of bloom; among the plants which are comparatively hardy, and will bear this treatment, are Camellias, Hybrid Rhododendrons, Myrtles, Clethras, and some Azaleas. They should, however, be kept dry and exposed to as much light as is consistent with security from frost—in fact we know of no better structure than a well-thatched shed for wintering Fuchsias, Brugmansias, standard Pomegranates, Hydrangeas, and a quantity of other plants used for decorating the flower-garden and plant-houses during summer, and which are too cumbersome to be kept under glass through the winter; even Orange trees winter well in such erections, if their wood is tolerably well ripened before being housed.

FORCING DEPARTMENT.

The present season is not inaptly called the winter of the forcing department, owing to the state of repose most forced plants are now in; to those, however, who have large demands to satisfy in the forthcoming spring, it ought to be a state of considerable activity. The ripening of the wood of forced trees will still demand attention. The repairing and painting of forcing-houses should likewise be carried on, as should also the necessary repairs to the heating apparatus. Fermenting materials should be prepared for covering borders, as well as for forcing Asparagus, Seakale, and Rhubarb, towards the end of the month; and for keeping up the heat to succession Pines and Cucumbers growing in pits heated by the above means. Vines, Peaches and Nectarines, Plums, Cherries and Figs in pots, intended to be started early, should likewise have what pruning they require, and be kept in the cool temperature of a northern aspect, out of the sun's rays, to winter. The roots should be examined as well, and where it is considered a shift will be necessary to carry the crop out, such should be given, bearing in mind, however, that for very early forcing most fruits will succeed best in comparatively small pots, provided they are well supplied with liquid manure. Keep fires by day to late Grapes, and abundant ventilation to keep the air in the houses dry. The last crop of Melons should be kept up to a temperature of 70° by night, with an increase of 15° by day, to allow for plentiful admissions of air, on which, and a moderately dry atmosphere, the flavour of the fruit will much depend. In succession Pine pits, where the internal air of the pit falls below 60° at 6 A.M., covering should be had recourse to, and the day temperature kept up to 70° by well regulated linings. Where hot-water is used, moderate fires should be employed to keep up the above heat—mind the bottom-heat is steady at about 85°.

FLOWER GARDEN AND SHRUBBERY.

Endeavour to compensate for the declining beauty of summer flowers by carefully removing dead blooms and leaves as they appear, and by constant attention to neatness and order. The last stock of cuttings of Calceolarias and a few other things should now be got in; harden off such cuttings as have taken root by a week or two's exposure, and get pits, frames, and other shelters in readiness to be filled; as the plants are hardened off a few things may yet be potted, but unless they can have a little heat to assist their rooting, this operation had better be deferred until February. Still continue planting out bulbs for spring decoration, and Wallflowers, Rockets, Sweetwilliams, and other biennial plants to fill up the vacant spaces left by annuals in the borders and herbaceous beds. Plant out over a slight bottom heat a frame or two of Neapolitan Violets, plant them in light rich earth, near the glass; if a pit, heated by a hot-water pipe can be afforded them, fine blooms may daily be expected through the winter. A stock should likewise be potted into 6-inch pots for the greenhouse; keep them in a frame for a few days after potting, after which give air daily, and pinch off runners as they appear.

FLORISTS' FLOWERS.

The season of the gorgeous autumnal Queen of the gardens is now nearly past, therefore preparations must be made to harvest the roots of the Dahlia as soon as frost blackens the tops; for if not removed from the ground when this is the case, the eyes round the crown will again start. Copper or metallic wire should be procured, to which may be attached labels made of deal and painted, so that by being moistened or slightly rubbed with white-lead, they can be written on at any time. Put in offset Tulips immediately, at least whenever the ground is in a fit state. Keep Auriculas in frames well tilted during wet weather; take care also that no drip occurs; as soon as perceived remedy the evil, or serious mischief will ensue. It is not yet too late to make up beds of Pinks and Pansies, but the sooner done the better. Now is a good time to make plantations of Hollyhocks; they get established before winter, in which case they bloom stronger, by having a better start than when put in during the spring.

HARDY FRUIT GARDEN.

Apples and Pears should be gathered as they show indications of ripening; all the choice sorts should be placed singly on the shelves of the fruit-room, and labelled, as before advised. Keep the new Strawberry beds clear of weeds, and pinch off runners. The fruit-tree quarters should have a good cleaning before winter; cut out the old wood of Raspberries, and leave only sufficient of the new to produce the next season's crop.

KITCHEN GARDEN.

Every dry day should be taken advantage of to clear out the remains of old crops, leaves, &c., which not only afford a harbour for slugs while on the ground, but have at all times an untidy appearance. The vacant quarters should have a rough digging, if time permits; if not they should be raked over clean, and dusted over with hot lime to kill what slugs are found on the surface. Cabbage plants may yet be planted on well trenched, rich land; and the true Bath Cos and hardy Hammersmith Lettuce should be planted out in a warm situation to come in early. Thin out the seed-beds of Cauliflowers and Lettuce, and prick out the thinnings on warm sheltered borders, and a portion into frames, to have the protection of glass in severe weather. The Brown Dutch Lettuce we advised being sown for forcing, should be pricked out a foot apart, to get bushy plants by the beginning of December, when they may be transferred to the forcing frames. Earth up Celery, Cardoons, and Leeks as they advance, and tie up Endive and Lettuce when dry. Onions stored away should be frequently turned over, and take the opportunity of bad weather to trace them up, and afterwards hang them in dry airy situations; they keep much better in that state than when allowed to remain in heaps. Continue to prepare droppings for future Mushroom beds. Beds not spawned should be examined, and when the heat declines to 90° or thereabouts, insert the spawn 9 inches or a foot apart, and 3 inches deep over the bed; beat the whole firm, and allow it to remain a few days, when, if it gets no higher, a coating of fresh loam (not too heavy), should be placed over the bed, and well beat down, minding the loam is not by any means wet; the bed should then be covered slightly with hay.

STATE OF THE WEATHER NEAR LONDON,

For the week ending Sept. 30, 1852, as observed at the Horticultural Gardens, Chiswick.

Sept.	Moon's Age.	Barometer.		Temperature.					Wind.	Rain.
				Of the Air			Of the Earth.			
		Max.	Min.	Max.	Min.	Mean	1 foot deep.	2 feet deep.		
Friday..	24	30.460	30 322	67	46	56.5	55	53	N.E.	.01
Satur..	25	30.239	29.960	66	44	55.0	55½	55	E.	.01
Sunday.	26	29.906	29.584	61	45	53.0	55½	54	E.	.00
Monday	27	29.869	29.692	61	48	54.5	55½	54	E.	.63
Tues. ..	28	29.391	28.956	62	50	56.0	55	54	E.	.29
Wed. ..	29	29.292	29.179	63	42	52.5	55	54	S.W.	.02
Thurs...	30	29.674	29.470	59	42	50.5	54½	53½	S.W.	.13
Average		29.833	29.637	62.7	45.3	54.0	55.1	53.9		1.19

Sept. 24—Foggy; very fine; dense fog at night.
— 25—Dense fog, with heavy dew; very fine; foggy.
— 26—Heavy dew; foggy; hazy and calm; overcast; hazy.
— 27—Dense fog; overcast; heavy and constant rain at night.
— 28—Constant rain; foggy; rain at night.
— 29—Cloudy; slight showers; cloudy and cold at night.
— 30—Overcast; boisterous, fine but windy; rain at night.
Mean temperature of the week, 1½ deg. below the average.

STATE OF THE WEATHER AT CHISWICK,

During the last 26 years, for the ensuing week, ending Oct 9, 1852.

October.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds.							
						N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 3	63.1	45.6	54.3	15	1.01 in.	1	3	1	1	8	8	2	2
Mon 4	63.6	43.8	53.7	12	0.36	—	5	2	—	5	10	3	1
Tues. 5	62.9	45.3	54.1	10	0.57	4	3	2	1	5	5	5	1
Wed. 6	61.6	43.5	52.7	13	0.78	1	2	3	3	3	8	5	1
Thurs. 7	62.5	43.8	53.6	16	0.58	1	6	1	2	4	11	2	1
Friday 8	60.7	43.2	51.9	11	0.63	—	4	3	2	4	6	6	1
Satur. 9	59.7	44.0	51.8	15	0.52	—	4	1	1	5	9	5	1

The highest temperature during the above period occurred on the 5th, 1834—therm. 80 deg.; and the lowest on the 5th, 1851—therm. 28 deg.

Notices to Correspondents.

Books: *A P.* You will find the information you seek in our advertising columns of last week, p. 624.†—*Reader.* We do not know. You must apply to your bookseller.‡—*X Y Z.* "The Tree Rose," and Rivers' "Rose Amateur's Guide," will possibly suit you. There are no cheap works on Coniferæ besides those you mention.‡

Glazed Walls: *Jacobus.* If you place glass against a wall you may consider that in so doing you are constructing a sort of Peach-house. You must have the means of giving more or less air, and to regulate this you must have a person at hand to attend to it. He can maintain a higher temperature inside the structure than that of the open wall, and, consequently, he can forward the fruit; but to have the latter well coloured it must be near the glass; as near as it conveniently can be, if possible within 3 feet of it. Something like what you propose is to be seen in the Society's garden at Chiswick.‖

Heating: *Deficiency.* In the first place, 82° is sufficient for bottom-heat. In the next place, with such a quantity of pipes as you possess, you ought to have the command of more heat if it *were* wanted. We see no defect in the present arrangement, nor any improvement in what you suggest.

Hollies: *A B.* They may be budded now.‡

Insects: *E R T.* The harvest bug is a very minute species of the family of mite Acaridæ (Acarus autumnalis). Scarcely anything is known of its general habits, except that in autumn it takes every opportunity of burrowing into the softer parts of the human skin for food. It is not peculiar to chalk districts. *W.*

Manures: *Deficiency.* All gardeners who understand their business prefer cow-dung to horse-dung for potted plants.

Names of Fruits: *G F Aigburth.* 1, Seckel; 2, Marie Louise; 3, Easter Beurré; 4, Beurré Bosc; 5, Beurré Rance; 6, Dunmore. The Apples in their present state are unknown.‖—*John A. Tinne.* 1, Wormsley Pippin; 2, Beauty of Kent; 5, Keswick Codlin; 6, Blenheim Pippin; 9, Gloria Mundi; 10, Cat's Head.‖—*Anon.* 1, like Black Worcester; 2, probably Beurré Rance; 3, Dunmore; 4, Beurre d'Aremberg. The fruit is from late blossoms; and as you observe, it has not its usual characters, neither will it prove melting.‖—*Edward Hales.* 1, 5, 6, Violette Hâtive Nectarine; 2, 7, 8, Late Admirable Peach; 3, 4, Royal George.‖—*J C C.* Plums: 1, Coe's Golden Drop; 2, Knight's Large Green Drying. Apples: 1, Kerry Pippin; 2, Carlisle Codlin; 3, Yellow Ingestrie; 4, Scarlet Nonpareil; 5, Early Nonpareil. Pear: 2, Autumn Bergamot.‖—*Z.* 1, Williams's Bon Chrétien; 2, Beurré Rance; 3, Marie Louise; 4, Easter Beurré; 5, Chaumontel.‖

Names of Plants: *W L.* 1, Cystopteris bulbifera, *Bernh.*; native of North America; usual height about 1 foot, sometimes 1½ foot. 2, Asplenium (§ Athyrium) Filix-fœmina, in a small state. *S.*—*W L.* 3, Equisetum palustre; 4, Juncus uliginosus: 5, Scirpus setaceus. We should hope that a gardener can employ his money better than in buying books containing *coloured* figures of Ferns. Mr. Moore's book is not coloured. —*A S.* 1, Salix alba; 2, S. purpurea.—*C F.* Lithospermum arvense.—*J M R.* Momordica Balsamina, and some Casuarina.—*A W.* 1, Francoa appendiculata; 2, Chelone obliqua.—*Eben.* They are Junipers.—*J D.* Smilax aspera.

Occupation: *An Old Sub.* We make it a rule not to give legal opinions. You may, however, depend upon this, that a nurseryman can claim no such exemption as you expect. There is no ground for it, because, since you will have notice at Christmas to go at Midsummer, you have all the spring for the removal of stock. Any inconvenience or loss you may sustain will be owing, not to defects in the law, but to your not having taken the prudent precaution of securing a lease of your premises.

Pears for Tarts: *Gallicus.* Chaumontel,‡ Double de Guerre, Catillac, and Easter Bergamot. On a wall with a bad aspect, the Balgowan Nectarine may perhaps half ripen for tarts in your climate.‖

Potatoes: *Iveragh.* We should think that M. Bayard's plan of forcing Peas into Potato sets can hardly be practised in autumn planting.

Rhododendrons: *Lancashire.* You had better thin them. Prune them immediately after flowering, if they grow out of shape; they are much handsomer so than when allowed to form an entangled bank, and they flower better. If you are not satisfied with the quantity of flowers, then pick off the seed-vessels as soon as they begin to swell. There is no remedy for sea breezes except shelter.

Vine Disease: *G S.* Your Vines are attacked by the Vine mildew, which has been so frequent a subject of discussion in these columns for three years at least.

Vine Mildew: *W D S.* You will find M. Grison's remedy for this pest published in our Number for July 3, p. 419.‡

Vines: *W G.* Black Hamburgh Grapes are too watery to dry; all that you can do is to prevent their moulding, by keeping up a gentle dry heat in damp weather. They are not worth the expense of making into wine. We fear, however, you will not find them very saleable when they become shrivelled. —*W C E.* The same answer applies to your question. There are no known means of preserving watery Grapes, except keeping them perfectly dry and well ventilated. "Hermetically sealing," by which we presume you mean putting a little sealing-wax on the stalk where it is cut off, is an absurdity. It does neither good nor harm. If your Grapes are put into paper bags, they must be of tissue paper; the only use of which is to keep off flies and dust.

Vinegar Plant: If *W E M* will send his address, we can now say how he can communicate with "T. A. M."

PERUVIAN GUANO.

CAUTION TO AGRICULTURISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

ANTONY GIBBS AND SONS, AS THE ONLY IMPORTERS OF PERUVIAN GUANO,

Consider it to be their duty to the Peruvian Government and to the Public again to recommend Farmers and all others who buy to be carefully on their guard.

The character of the parties from whom they purchase will of course be the best security, and, in addition to particular attention to that point, ANTONY GIBBS AND SONS think it well to remind buyers that—

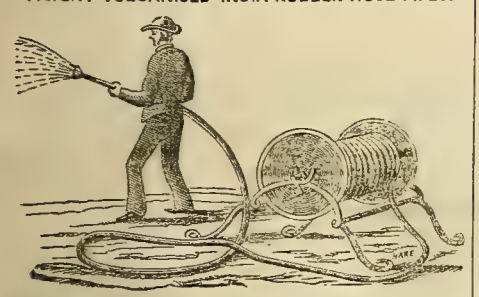
The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 9l. 5s. per ton, less 2½ per cent.

Any resales made by dealers at a lower price must therefore either leave a loss to them, or the article must be adulterated.

THE LONDON MANURE COMPANY offers on the best terms Wheat Manure for autumn sowing, Linseed, Rape Cakes, Peruvian Guano, Urate, Superphosphate of Lime, and every other artificial manure. Also a quantity of Salt, the refuse of ammonia and saltpetre makers, considerably more valuable than the ordinary agricultural salt.

EDWARD PURSER, Sec., Bridge-street, Blackfriars, London.

FOR WATERING GARDENS, DISTRIBUTING LIQUID MANURE, BREWERS' USE, ETC.
PATENT VULCANISED INDIA-RUBBER HOSE PIPES.



JAMES LYNE HANCOCK, (SOLE LICENSEE AND) MANUFACTURER, GOSWELL ROAD, LONDON.

These Pipes are well adapted for Watering Gardens, conveying Liquid Manure, racking Beer and Cider, for portable Gas Lamps, and all purposes where a perfectly sound Waterproof and Flexible Pipe is required. They are particularly suitable for Fire Engines, and are found exceedingly useful in Dwelling-houses for conveying Hot or Cold Water to Baths, &c.

Hose Reels for winding-up and wheeling away long lengths of the Vulcanised Rubber Garden Hose, are now manufactured by J. L. HANCOCK, of light and cheap wicker work.

N.B.—Vulcanised India Rubber Garden Hose, fitted up with Roses, Jets, and Branches complete, with union joints ready to attach to pumps or water cisterns.

All Letters or Orders addressed to J. L. HANCOCK, Goswell Mews, Goswell Road, London, will meet with immediate attention.



LIQUID MANURE conveyed overland by

FREEMAN ROE,

HYDRAULIC ENGINEER, 70, STRAND, LONDON.

Farms supplied with water by the

HYDRAULIC RAM.

WELLS SUNK AND BORING DONE IN ALL PARTS OF TOWN OR COUNTRY.

MANURES.—The following Manures are manufactured at Mr. LAWES's Factory, Deptford Creek:

Turnip Manure, per ton	...	...	£7 0 0
Superphosphate of Lime	...	...	7 0 0
Sulphuric Acid and Copperlites	...	...	5 0 0

Office, 69, King William-street, City, London.

N.B. Peruvian Guano, guaranteed to contain 16 per cent. of Ammonia, 9l. 10s. per ton; and for 5 tons or more, 9l. 5s. per ton, in dock. Sulphate of ammonia, &c.

CHARCOAL AND SEWAGE MANURE.—Promote the Health and Wealth of Town and Country by increasing the use of that valuable manure PEAT CHARCOAL, impregnated with the fertilising matter of LONDON SEWAGE. The ammonia, phosphates, and fæces are absorbed, and the water pressed out bright, palatable, and soft.

Sold at the Charcoal and Sewage Works, Stanley-bridge, Fulham, Middlesex, at 60s. per ton, 4s. per cwt., 2s. 6d. per half cwt.

PERMANENT PASTURE.

H. R. SMITHE, of Eastling, Faversham, Kent, informs the public that his mixtures of the Natural Grasses and small Clovers, gathered principally under his superintendence, including every sort necessary to form a Permanent Pasture, accordant with the soil, &c. (which should be particularly stated), are now ready to be delivered by Railway to any Station in England, carriage free, at 23s. per acre, allowing 3 bushels per acre; Mixtures for Lawns, &c.

M'CORMICK'S PATENT AMERICAN REAPER has received numerous Prizes during the present season; amongst others, the award of the Jury appointed by the R. A. College at Cirencester, after NINE days' trial upon all kinds of crops and in all weather.—Winton's Parkes' celebrated Steel Digging Forks, as recommended by Mr. Mechi: they save full 20 per cent. in labour; they obtained the Silver Medal at the R. A. Society's Show at Lewes, the 1st prize at the Royal Yorkshire Show at Sheffield, 1st prize at Galway, and also at the Royal Dublin Show.—Anthony's Patent American Churn has received the prize at every Meeting where it has been exhibited, including those of the R. A. Society at Exeter, Great Exhibition, and at Lewes.—Erwin's Force and Lift Pump, particularly adapted for Liquid Manure. Mr. Mechi has one in use, and it is working to perfection. Kase's Force and Suction Pump, well suited for a Farm Fire Engine or Liquid Manure Pump; it is by far the cheapest and most effective Pump now out. Galvanised Iron Lift Pumps at a very moderate price. Gutta Percha Pumps, Gutta Percha Tubing for Liquid Manure and Garden purposes, Gutta Percha Driving Bands for Machinery, Waterproof Canvas Hose coated with Gutta Percha, for Liquid Manure. Leather Hose and Bands. Richmond and Chandler's Improved Scroll Knife Chaff Machine has obtained the prize at the R. A. Society's Show at Lewes, and at every other show this season. Starbuck's American Ploughs, Grain Bruisers, and every kind of Agricultural Implement sold by

BURGESS & KEY, 103, NEWGATE-STREET, LONDON.

KESSINGLAND WHEAT.

WILLIAM GRIFFIN, Eydon, Daventry, begs to say that he is delivering at Banbury this productive variety of Wheat, in quantities of not less than half quarters, at the rate of 52s. per quarter, including sacks.

Orders accompanied by Post-office Orders will be punctually attended to.

ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.

Patron—His Royal Highness PRINCE ALBERT.
President of Council—Earl BATHURST.
Vice-President—Earl DUCIE.
Principal—Rev. J. S. HAYGARTH, M.A.

The next Quarter-day for the Admission of Students is Wednesday, October 6th.—Students are admitted either as Boarders or as Out-Students. The Annual Fees for Boarders vary from 45 to 80 guineas, according to age and other circumstances. The Fee for Out-Students is 40l. per annum. The College Course of Lectures and Practical Instruction is complete in one twelvemonth—though for younger students a longer time is recommended. There is a department for general as well as for agricultural education.

Prospectuses and information can be had on application to the Principal.—Cirencester, Oct. 2, 1852.

HIGHLAND AND AGRICULTURAL SOCIETY.

EDINBURGH VETERINARY COLLEGE.—The COMMITTEE OF THE HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND, appointed to superintend the VETERINARY COLLEGE, hereby intimate that the Session will commence upon Monday, the 8th of November.

The Course of Study will be conducted as follows:—

1. Zoiatrics, including the Anatomy, Physiology, and Pathology of the Horse, Neat Cattle, Sheep, Pig, and Dog, Stable Management, and the Business of the Forge, by Prof. DICK.
2. The Principles of Chemistry and Pharmacy, by Dr. GEORGE WILSON, F.R.S.E.
3. General Zootomy and Demonstrations, by Mr. BARLOW, V.S.
4. Zootherapeutics, comprising Veterinary Materia Medica and Dietetics, by Mr. DUN, V.S.
5. Practical Pharmacy, by Mr. WORTHINGTON, V.S.

By order of the Committee,
Edinburgh, Sept. 27. JN HALL MAXWELL, Sec.

SMITHFIELD CLUB.

NOTICE.—All Certificates for Stock and Implements intended to be exhibited at the ensuing show of the Smithfield Club, must be delivered in to the Honorary Secretary on or before SATURDAY, the 6th of NOVEMBER (none will be received after that day.)

The Printed forms of Certificates (which alone are allowed to be used), Lists of Prizes, &c., can be obtained of B. T. BRANDRETH GIBBS, Hon. Sec., Corner of Half Moon Street, Piccadilly, London.

The Agricultural Gazette.

SATURDAY, OCTOBER 2, 1852.

MEETING FOR THE ENSUING WEEK.
THURSDAY, October 7—Agricultural Imp. Society of Ireland.

We have received, too late for publication, from Mr. CURTIS HAYWARD, of Quedgeley, Gloucester, a letter intimating that an error of considerable importance occurred in the published report about the trial of reaping-machines at Cirencester. The large quantity of waste raked up after these reaping-machines was not, as stated, the waste *per* ACRE, but the whole waste over the extent of 3 acres cut by each. We will publish the letter next week.

One of the most interesting subjects that can occupy attention during the months of October and November, is that on which Colonel M'DOUALL writes so well in the current Number of the English Agricultural Society's Journal. The economical conversion into beef and mutton of the enormous quantities of cattle food which are now grown for winter consumption, is a matter of the very highest agricultural importance; and it is one on which the experiments made at Logan, and recorded in the article to which we refer, throw a great deal of light. Let us attempt, as shortly as possible, to state some of the results to which they lead. We cannot in one article name all the experiments that were made and are described by Colonel M'DOUALL; it must suffice to refer to a few of them.

Experiment 1: Three lots of cattle were fed for 100 days, on 3 lbs. of Bean-meal for each beast daily for 56 days, increased to 5 lbs. daily for the remaining 44 days. The cattle each had 5 lbs. of straw daily in fodder, four-fifths being Oat and one-fifth Wheat straw. Lot 1 had 84 lbs. of Mangold Wurzel each in three feeds; Lot 2, 108 lbs. of White Carrot; and Lot 3, 120 lbs. of Swedish Turnips. The design of the experiment was to determine the relative feeding values of these three green crops. The results were as follows: In 100 days each animal consumed in each lot respectively 75 cwt. of Mangold Wurzel, 96 cwt. of Carrots, and 107 cwt. of Swedes; and, as regards the other aspects of the subject we extract the following passage:—

"After deducting the value of the artificial food in each case, the increase of weight on the animal leaves 5½*d.* per cwt. for the Mangold, 4½*d.* for the white Carrots, and 3¾*d.* per cwt. for the Swedes. In this northern part of Great Britain 20 tons of Mangold, 20 tons of white Carrots, and 30 tons of Swedes are found to be nearly the equivalent produce of an acre of land similarly manured and managed. At these prices:—

	£.	s.	d.	
Mangold yields here	8	15	0	per acre.
White Carrots	7	10	0	,,
Swedes	9	7	6	,,

"The number of fattening cattle which a farm maintains is a good criterion of its fertility, and provided that they are profitably kept, the more a farmer can keep the more will he enrich his farm. It is therefore important for him to know the description of green crop which will profitably support the largest head of stock. These experiments show that an acre of

Mangold yields 6 months' green food for			3	stall-fed cattle.
White Carrots	,,	,,	2½	,,
Swedes	,,	,,	3⅔	,,

So that the farmer in this climate, who should grow 20 acres of green crops, could keep (with the aid of the artificial food already mentioned), 67 head of fattening cattle on that quantity of Swedes, 60 head on the same extent of Mangold, and only 47 head on an equal breadth of white Carrots. These figures must be taken relatively rather than absolutely, for there is always a certain amount of unavoidable waste in the details of management.

"In the south-eastern and southern counties of England, where the climate and soil are more favourable to the growth of Mangold than Swedes, and where the proportion per acre would be nearly inverted, 30 tons of Mangold and 20 tons of Swedes being there equivalent crops, the great superiority of the Mangold for those districts is strikingly shown by this experiment."

The result of this experiment is not what we would have expected. Not only the quantity but the quality of the Swede crop in Scotland is superior to what it is in England; and if the Mangold Wurzel can to any extent beat the Swede in the former country, it must be held greatly to excel it in the latter. We have always believed it to be the superior of the Swede *per acre;* and in Scotland it appears also to be its superior *per ton.* We select another experiment for quotation:—*Experiment* 5: three lots of cattle were fed respectively as follows:—

"Lot. 11. *Cattle fed on Three Feeds Turnips per day, with Rape and oil-cake.*—Each animal consumed on an average 118 lbs. Swedes per day for 56 days with 1⅓ lb. of Rape and 1⅓ lb. of oil-cake mixed, and the remaining 44 days each animal consumed 118 lbs. Swedes and 2⅔ lbs. oil-cake with 2⅓ lbs. Rape-cake per day, and 5 lbs. of straw daily for fodder. At the commencement the cattle consumed 126 lbs. Turnips daily, but this gradually decreased to 110 lbs.

"Lot 12. *Cattle fed on Three Feeds Turnips per day and oil-cake.*—Each animal consumed on an average for the first 56 days 119 lbs. of Swedes and 2¼ lbs. of oil-cake per day along with the noonday feed, and the remaining 44 days each animal consumed 119 lbs. of Swedes per day and 4 lbs. of oil-cake. Fodder the same as before. At the commencement the cattle consumed 126 lbs. of Turnips daily, but this gradually decreased to 112 lbs.

"Lot. 13. *Cattle fed on Three Feeds Turnips per day and a mixture of oil-cake, Oats, and Bean-meal.*—Each animal consumed 126 lbs. of Swedes per day, and ¾ lb. of oil-cake, 1 lb. of Oats, and 1 lb. of Bean-meal mixed together, for 56 days, and for the remaining 44 days the same quantity of Swedes per day, and 1⅓ lb. oil-cake, 1⅓ lb. Oats, and 1⅔ lb. Bean-meal. Straw for fodder as before."

All the cattle were accustomed to their different kinds of food for three weeks before the experiment commenced. The following is an extract relating to this case from the table containing the results of all the different experiments:—

Lots.	Value of Increase per head.	Total cost of Food per head.	Gain.	Loss.
	£ s. d.	£ s. d.	s. d.	s. d.
11	2 11 5	2 12 9½	...	1 4½
12	2 15 4	2 13 2	2 2	
13	2 16 5	2 15 0⅓	1 4⅓	

This experiment forms a "comparative trial of the effects of different kinds of artificial food, of equal money value, as auxiliaries to Swedes in the fattening of cattle; 3 lbs. to 4 lbs. of good oil-cake per day give a better return than a mixture of the same money's worth of oil-cake, Oats, and Bean-meal given dry, or of oil and Rape-cake in nearly equal proportions."

There are other experiments recorded to which we shall draw the attention of our readers another week; meanwhile we must just add an extract on the relative merits of box, stall, and shed feeding. The following is the very striking result:—

"After the value of the artificial food is deducted, each lot of cattle leaves for the Swedes consumed as follows, viz.:—

				£	s.	d.	
Box-feeding gives a return of	4⅔*d.*	per cwt....		11	17	6	per acre.
Stall	,,	,,	4½*d.*	,, ...	10	12	6	,,
Shed	,,	,,	3⅞*d.*	,, ...	9	7	6	,,

Where litter is abundant, box-feeding proves itself the most remunerative of the three plans, and shed-

feeding greatly the least—so very inferior is the result in the last case that a persistence in the practice would be absurd, and it is only as between the first two that a comparison need be drawn. Each stall-fed animal uses about 1 ton of straw for litter during the six months of feeding, while each box-fed animal requires nearly 3 tons. In a dry climate, with a soil suited to sheep-feeding, where two-thirds of the Turnips may be consumed on the ground and one-third drawn home for cattle, box-feeding will probably be found in every respect the most advantageous system; where only one-third of the green crop is to be fed by cattle there will generally be a sufficient supply of straw to furnish the requisite supply for the cattle-boxes; but if either the climate or the soil is adverse to sheep on Turnips, and if the whole green crop must be consumed by cattle, box-feeding with such a supply of litter would be impossible, and stall-feeding therefore indispensable. And where straw is valued as an article of food, the two tons saved on each animal by the system of stall-feeding gives it a manifest superiority over the loose boxes."

Colonel M'Douall's experience extends over 250 cattle fattened annually, and its result on the whole is the very satisfactory one that 6*s.* or 7*s.* a ton can be made of Swedish Turnips by converting them into beef. Of course it must be remembered that the cattle are well housed and regularly and carefully fed; and it is to these points, as he well observes, that anyone who would make green crops pay must direct his attention:—

"The substitution," he says, "of the cooked midday feed for one-third of the former allowance of Turnips, has enabled us to increase our fattening cattle by one-third in number, leaving a proportionately larger return per acre for Turnips consumed, and a greater increase of valuable manure. Economy in feeding is the great secret of success in making the Turnip crop pay; a certain effect must not only be produced in a given time, but it must be produced at the cheapest cost. As yet we have found nothing equally nutritive and so cheap as two feeds of raw Swedes per day and 4 lbs. of Bean-meal, cooked with an equal weight of cut straw, given as the midday feed."

STABLE MANAGEMENT.

[We have received from Mr. Blundell, of Bursledon, near Southampton, the following copy of an essay on the above subject, to which there had been awarded a premium by the South-East Hants Agricultural Club. Mr. Blundell states his willingness to answer any questions that may arise out of its publication.]

The attention of agriculturists having been much excited of late upon the subject of manures and their value, and it being generally admitted that now we are obliged to compete with the foreign corn grower, one of the means of reducing our cost of production must be derived from an improved mode of management of home-made manures, whereby the quantity may be increased and the quality improved and retained, I therefore beg to offer in competition for the premium given by the Fareham Agricultural Society for the best written account of any experiment in connection with agriculture, the following statement of an experiment entered into by me, on my farm at Maidenstone-heath, and commenced in January, 1851, for the purpose of proving the best mode of standing farm horses in stable, by which the greatest amount of manure could be taken up and retained, and which would afford the largest share of health and condition to the animals.

I have hitherto been provided only with a stable the stalls of which were paved with stone in the ordinary way, with a gutter passing at the back of them, conveying the liquid manure into the farm-yard, where it became mingled with the manure, a large portion no doubt being washed away by rain and lost. But after seeing the advantages to be derived from the construction of a tank for the liquid manure to drain into, upon a farm under my management belonging to Richard Trench, Esq., I became dissatisfied with my former accommodation for cart-horses, and I decided upon making some alteration, but believing that the tank attached to the stable did not afford all the benefit that might be derived, although the manure from the tank may be used either in the liquid state or mixed with ashes, I therefore determined upon taking up the floor of the stalls of my stable, and relaying them in the hollow form at a depth of 14 inches in the centre, from the former level, gradually diminishing the depth until it meets the level of the front part of the stalls, and the pathway behind. I then proceeded to fill the floor of the stalls with good loamy earth, in as dry a state as I could get it, and keep it littered with straw, as cleanliness requires, in the same manner as in ordinary stables, and the removal of the earth has been continued as often as it became saturated with urine, and when it began to throw off the ammoniacal vapour. I find the earth requires changing about once in three months during winter, but in the summer season, when the horses eat green food, it requires to be changed every six or eight weeks.

In making a comparison of the advantages to be derived as exhibited by this experiment of standing farm horses, I consider it greatly in favour of the earth floor, for although in the stable with a good paved floor, the chief portion of the urine is drained away into a tank, yet it is not done without some loss, and the great objection of an impure air in the stables when closed, and also during the removal of the litter, whereas in the case of stalls bottomed with earth, not a drop of the manure is lost, but it is so completely absorbed and deodorised that the air is quite pure, the animals are clean, and the labour of cleansing the stall is so much diminished, that I do not hesitate to offer the plan to your notice with the greatest confidence, believing that it will be found the cheapest and most effectual mode of retaining the manure, and of affording health and comfort to the horses. I need scarcely say that I have followed the plan ever since the commencement of the experiment, and that I intend to continue it, until some more advantageous mode can be devised.

In conclusion I beg to observe, that my desire of imparting to my brother farmers the results of any experiment from which I have derived benefit, has induced me to offer this short essay upon the present occasion. *Joseph Blundell, Bursledon, Sept.* 2.

PAUPERISM.

(*Continued from page* 587.)

We now advert to Irish pauperism. It was no easy matter for any Government to obtain a poor-law for Ireland, though it was so imperatively called for by the circumstances of that country, because some of the most influential land proprietors opposed any tax which would so materially affect themselves. They dreaded the introduction, which they looked on as an instrument for crushing property already suffering from their own morbid inactivity, or the political mismanagement of their ancestors. The proprietors were divided, with many honourable exceptions, into two parties, both opponents of a compulsory poor law, though from different motives. The one objected from dread of heavy reductions from their rentals, already crippled; the other (a much smaller body), composed of landlords with little pauperism pressing on their estates, exclaimed against poor-rates for the relief of their neighbours' estates as an act of injustice to themselves, and protested against paying the penalty of other men's negligences. They said—fairly enough—"we will take care of our own paupers; but in the name of equity do not load our backs with relief bills for the squatters, and cottiers, and petty tenants of other landlords, who ought to bear their own burthens without compelling us to put our shoulders to them."

But the poor-law has passed, and though in the present transition state of Ireland nothing can be yet decidedly told of its efficiency, it must be deemed an act of justice and a means of good for that country. And it is one of justice to Great Britain also. For it was manifestly a grievance to permit the overwhelming influx of Irish poor, from want of domestic support, to rush into Liverpool, Glasgow, and other British ports, to be concentrated in pauperism there, or be diffused throughout the interior.

The sales which have taken place under the Encumbered Estates Act, show the impoverished state of a large proportion of the landed proprietary, and how impossible it would have been for them to allow from their rentals the reductions necessary for the support of the vast amount of pauperism in Ireland. Previously to all legislation on the subject, Mr. Guinness, then M.P. for Kinsale, stated in the House of Commons that he was the receiver of an estate, the rental of which was 8000*l.*, of which 6000*l.* was paid in jointures and interest to mortgagees.

The new poor-law imposed, we will say, 3*s.* in the pound on the rated rent; the owner was therefore to pay 1200*l.* out of his 2000*l.* a-year, while the parties receiving the 6000*l.* did not pay a farthing. This strongly showed a necessity for assessing on means and substance, so that the provision made for charitable purposes should not be drawn from the pocket of one person out of many recipients of the proceeds of the same estate, merely because he is the nominal owner of it. The insolvent condition of a great portion of Irish property unfortunately stamps these remarks of Count de Strzelicki, who dispensed the bounty of the London Association in some of the most miserable parts of Ireland with the impress of truth. "Now in consequence of the new poor-law and other new enactments of Parliament, those who have a real interest in the preservation of their property, will be forced to look, as they never did before, to the improvement of their tenantry. Those who are insolvent must part with the nominal tenure of land, and leave their estates to capitalists who can better discharge the duty of landlords; and lastly, the masses who had hitherto been abandoned to themselves and to their brutal instincts for self-preservation, will find henceforth their interest linked with that of the landlord, and will find advice, help, encouragement, and, in extreme cases, a legal support."

Many of the landlords laboured with admirable energy to maintain the poor on their own estates. For example, Mr. Hamilton, of St. Ernan's, in the county of Donegal, sustained his paupers at great personal sacrifices by the labour wages which he afforded, and kept them all out of the workhouse. And it is to be lamented, that that gentleman and others who made similar efforts to maintain their own poor, were rendered liable by law to the payment of rates for the support of the poor of neighbouring estates, which were not so fortunate as to have such humane and spirited landlords.

The famine of 1847, which gave sudden rise to such an appalling amount of pauperism and mortality in Ireland, and which, combined with the agency of a vast emigration that principally resulted from it, has reduced the population from 8,175,524 in 1841, to 6,515,794 in 1851, was stalking through the length and breadth of the land, before any approach to adequate relief of pauperism was afforded from any quarter. The number of poor accommodated in workhouses before out-of-door relief was sanctioned and provided for by any liberal advances from the Imperial treasury was very inconsiderable; and previously to June 1848, the numbers that starved from the inadequacy of workhouse room was terrific in the west and south-west of the country especially. When the barriers that had been opposed to out-door relief were removed, an inconceivable tide of pauperism rushed in, as the accompanying table exhibits—

	Maximum number in workhouses.	Maximum number on out-door relief.
At February 27, 1847	116,321	No out-door relief.
,, June 24, 1848 ...	140,227	—
,, July 1, 1848 ...	—	883,889
,, June 16, 1849 ...	227,329	—
,, July 7, 1849 ...	—	784,367
,, February 23, 1850	264,048	—
,, July 22, 1850 ...	—	148,909
,, April 5, 1851 ...	252,615	—
,, April 26, 1851 ...	—	10,935

Of the enormous crowds reported as recipients of out-of-door relief, many no doubt fraudulently represented themselves, or were so represented by dishonest distributors of the money and food supplied; for what controlling power could resist the first influx of the tide, and what vigilance could regulate the pressure, so that it should be adjusted on all points with correctness? The progress and immediate results of the famine, and the inadequacy of employment for the numbers who stood idle in the market-place, had such a disturbing influence on the social system and the frame-work of the poor-law, that the original rule of refusing relief to the able-bodied poor was of necessity departed from; in fact, few of them could be classed as able-bodied, even according to the letter of the law, when absolute hunger or a very meagre diet had debilitated the physical powers of the most robust of the labouring people.

The active working of the poor-law in Ireland commenced under singular and unforeseen difficulties of almost every kind. On reference to the table, it appears that the number of paupers relieved out-of-doors reaches a very low figure indeed, and in order to remove all probable necessity in future for relieving the poor, except in workhouses, these have been so enlarged as to accommodate about 400,000 individuals.

The rate of weekly mortality in them has decreased from 43.6 per 1000 inmates in 1847 to 5.6 in 1851. One of the most melancholy features in the portraiture of Irish pauperism, even to a recent period, is the considerable number of deaths from want, as recorded by coroners' inquests; even so lately as from April 1850 to April 1851, 214 have died from this cause, yet this number is trivial compared with the numbers which have perished from famine and its natural successor—fever, in the previous years. A lesser scourge, in the form of contagious ophthalmia, principally affecting children under 15 years of age, has a prominent place in the catalogue of the ills which probably result from insufficient or unhealthful food and crowded confinement in workhouses. 27,200 cases of this malady have been officially noticed as having occurred among the poor-house paupers. Excepting a few utterly distressed unions, where the poor-rates long pressed intolerably on the landowners, but where it does not appear that any excesses of philanthropy on the part of the guardians were committed towards the many thousands of famishing families which solicited their aid, unless "the course which they took in discontinuing the administration of out-relief before a sufficient extent of workhouse accommodation had been provided to enable them to do so without risk to the lives of the destitute poor" be an act of benevolence, the general financial condition of the unions is satisfactory, and the amount of rates is by no means of an alarming magnitude, even in reference to the comparative poverty of the country. The total expenditure of poor-rates for the half-year ending March 31, 1851, was 551,853*l.*, and a farther reduction is confidently expected.

(*To be continued.*)

ON THE PHOSPHATIC NODULES OF THE GREENSAND ON THE NORTH OF IRELAND.

Prof. Hodges gave an account to the British Association of his interesting discovery of the existence, in the greensand of the north of Ireland, of nodules, rich in phosphate of lime, the important fertilising ingredient of bones. The beds of greensand, he remarked, occurred immediately under the chalk, and belonged to what was called the chalk formation. They extended from the neighbourhood of Moire to the Giant's Causeway, forming in some places a broad belt, and in other parts a narrow stripe, and presented various shades of colour, from yellow green to a rich dark green colour. The nodules which he had analyzed were found imbedded in the greensand, and possessed peculiar interest, as affording the agriculturist a native source of the phosphoric acid. The beds of greensand contained about 5 per cent. of the bone earth phosphate, while the nodules afforded so much as from 30 to 50 per cent. He gave the analysis

of a sample of the greensand from the neighbourhood of Kilroot, in Antrim :—

100 parts were found to contain—	
Water	0.97
Organic matters	0.73
Potash	0.56
Soda	0 25
Lime	4.14
Magnesia	0.41
Oxide of iron	4.85
Alumina	2.41
Sulphuric acid	trace.
Chlorine	0.04
Phosphoric acid, equal to 6.68 bone earth, phosphate	3.24
Silica, soluble in potash	6.41
Insoluble siliceous matters	74.88
Carbonic acid and loss	1.11
	100.00

One ton of the sand would, therefore, convey to the soil 148½ lbs. of bone earth phosphate, worth, at ¾*d.* per lb., *9s. 3d.*

Dr. Hodges also directed attention to the valuable discovery of phosphatic nodules in England, and of a mineral in America, rich in phosphate of lime ; and gave an account of some successful experiments which had been made with greensand, applied as a manure. He said that he purposed making a report on the subject at a future meeting.

Home Correspondence.

Village Excursions.—Many of your readers take an interest in this subject, and I therefore beg to inform you, in connection with it, of a day of most thorough, and, I am quite sure, most wholesome enjoyment, spent in the neighbourhood of Chepstow and Tintern by 170 of the villagers of Falfield and Whitfield. We started in six spring waggons at half-past 5 A.M., the more "respectable" portion of the party arriving with us at the Aust Passage in some eight or ten gigs or "traps," at about 8 A.M. Here we crossed the Severn, and with the aid of four of the waggons taken across with us, we performed the distance of 10 miles, to Tintern Abbey and back, before evening. This gave us ample time for enjoying the many pleasant sights and sounds that were in store for us ; for a large portion of the party consisted of the Whitfield village singing-class, who had been preparing, weeks beforehand, for the performances of this day, and accordingly acquitted themselves to admiration. Certainly the old echoes of Windcliff and the Abbey never resounded to the voice of a merrier party. We reached the shore about half-past 5 P.M., had cake and coffee prepared for us in the grounds of the Beachley Hotel, and after singing our best in honour of the kind old landlady who had made us so welcome, we recrossed the Severn and reached home before 9 P.M., after one of the brightest days that exists in the memory of any one of us. Now let us not forget the facts of the case. Here were 170 people conveyed 16 miles and back by waggon, crossing the Severn twice (which cost about 1*s.* a-piece), provided with cake and coffee for breakfast, with cold meat, coffee and tarts for dinner, and with cake and coffee for tea, at a cost of about 2*s. 6d.* each. The party consisted chiefly of farm labourers and their children. We had, in addition to them, the Dissenting minister of the place and his family, with two or three of the farmers of the neighbourhood. Who can doubt that a day of such simple and yet such thorough enjoyment had a most useful tendency ? The whole proceedings were conducted on teetotal principles ! and the result proves that there is nothing in these principles inconsistent with the highest satisfaction of which man's physical and social nature is capable. I will promise any one who shall start such an annual fête as this in any other locality a rich reward in the many happy faces he will see about him ; and in the cheerful elasticity which long afterwards he will find brought to bear upon the ordinary daily duties, whether of the schools or the farms of the neighbourhood. And as regards the cost, let the people once taste the simple pleasure of such a treat, and the tickets of admission to the party will readily sell at a price perfectly covering the expense. *M. S., Gloucestershire.*

Thin Sowing.—It is well now and then to compare notes on this matter. There is evidently a general diminution in the quantity of seed sown, even amongst the most inveterate and prejudiced thick seeders. The higher we farm the less seed we must sow. Land can never be too rich for corn, provided the quantity of seed is adapted to the condition of the soil ; our cottage gardens are conclusive evidences in this matter. The most incurable thick sower of cereals will admit that for his Turnips or other roots space is as indispensable as food. He knows that a seed bed of Cabbage plants, if not removed or thinned in due time, perishes from overcrowding. The same remark applies to a plantation. You cannot have perfect development without space, air, and light. Take the mere question of food. If there was one provision, solid and liquid, for three men for nine months, and twelve men were compelled to subsist on it, you would naturally find at the end of that period a majority of deaths and a minority of cripples, instead of three well-developed robust individuals. The same thing takes place in over-crowded corn crops. In the early stage everything looks prosperous, but when in May and June the craving demands for nutrition cannot be supplied, prematurity and imperfection disappoint the farmer's hope ; the shrivelled kernel, the puny ear, the soft and fallen straws bear fearful evidence of the vital struggles. A farmer who sows thin must be content to receive an abundant share of pity, ridicule, and blame, during the early stages of vegetation. Even your well-wishers can scarcely control their nervous condolence on your harvest prospects. I endured a pretty considerable treat of this kind when I first commenced farming, but now my neighbours and the labourers say, if we look a little unpromising in April, "Never mind, you will be sure to beat us before harvest." It would be impossible to lay down any fixed quantity for varying soils, climates, and conditions. One of my best fields this year is from one bushel of seed Wheat, drilled in December, after Tares mowed off and white Turnips fed off, following the Tares. I drilled a field of Barley, after white Turnips fed off, on a stiff clay, putting in 7 bushels in 6½ acres, or one bushel and half a peck per acre. The result is a most abundant crop of stiff reedy straw, and at least 52 bushels of good malting Barley per acre. Those who examine the stubble admit that there must have been plenty of straw, and conclude that I must have drilled 3 bushels per acre. I need hardly say that there is an abundant plant of red Clover. The kernels of the Barley were large and well developed, and the ears contained from 14 to 20 kernels on each side. The straw was estimated at four great waggon-loads per acre, although, of course I never use waggons, which people are getting gradually ashamed of, even in this county. The quantity of crop depends more on the depth of cultivation and amount of food, rather than upon the quantity of seed. If seed Wheat is but 5*s.* per bushel, a saving of 5*s.* an acre would be considered a great reduction in rent. We are much indebted to the Rev. Mr. Smith, Mr. Hewitt Davis, and the Rev. George Wilkins, for their perseverance in the good cause of thin seeding. I consider myself still too thick a seeder, but shall come down by degrees. I heard that Sir John Conroy grew 11 qrs. of Oats per acre from 2 pecks of seed. I have grown a fine crop from 1 bushel. On ill-farmed, undrained, and unclean land we often see large quantities of seed sown, to "smother the weeds," and because "there is not force in the land to make the plants branch or tiller." P.S. I have often been amused by seeing a farmer very carefully raising a new stock of corn, depositing one kernel in a hole, keeping the land clean, and obtaining an immense increase. Having by these means got a good supply, he at once relapses into the old system of heavy seeding, and a comparatively insignificant return. *J. J. Mechi, Tiptree-hall, Sept.* 21.

Tallow Greaves for Pig Food.—I can bear my testimony to the observations made in the *Gazette* of the 25th September, as to the value of tallow greaves in pig feeding. I have long been accustomed to diet my pigs on this food. Tallow greaves at the present time are rather high—12*l.* per ton ; but even at this price it will be found the cheapest food for manufacturing pork. I have found that my cows are much benefited with a small portion of this food, when fresh. Occasionally it will be found that the steeped or boiled greaves run into putrescence in hot weather ; but I have found this to have no injurious effect on the health of the pig. In this state I would guard against using it for cows—for these they should be fresh. Sometimes the greaves will be found to be burned. This is produced through the carelessness of the melter not keeping his ingredients well stirred in his copper. Such greaves as these, which are converted into a sort of animal charcoal, I find to have a tendency to scour the pigs, but I have never had a pig fail in health with this food. I have tried Barley, at 20*s.* per quarter; damaged American flour, at 13*s.* per cask, 196 lbs., and every description of food, but I never was so successful as with greaves. The conditions to observe in using it are, first, if pigs are put upon this food all at once, they ought to be a good size, about six months old ; if small pigs are to be fed with it, they should be brought to be accustomed to it gradually, as this is very forcing food. Secondly, the pigs should be well supplied with water. They are visited with great thirst. Chickens and ducks are very fond of greaves. I believe in Aylesbury, tallow greaves are very largely used for fatting ducks. I never heard any one yet complain of the quality of duck meat from Aylesbury. *X. X.*

A Few Words to those who have to compete with the prices of the Foreign Exports of Corn.—From the scientific investigations of the system of Jethro Tull for tilling the soil given in the interesting lectures by Professor Way, before the Royal Agricultural Society of England, he evidently proved the system as sound by the chemical knowledge of the day ; as has the Rev. Mr. Smith, of Lois Weedon, in practice, by a most successful trial of several years, with the addition of some improvements in working out the system, by which it appears that the farmers of the United Kingdom have been leaving too little to Nature ; and by so doing, their present position is needlessly onerous. They have taken the unprofitable side of the conditions of nature, that of dressing the land, rather than expending a little more on the proper tilling of the soil, and therefore over-cropping, and in many instances over-dressing the land, creating disease at a great cost, which Nature never does, for she directs, "Add more labour in deepening, and often stirring the soil, not to speak of draining in these enlightened days ; leave more to my gratuitous work, together with the alternate portions of each acre left fallow, to be cropped alternately, and my atmospheric store-house shall supply the necessary fertilisers to enable the yield of more abundant crops at less cost, so that by expending and sowing less you may reap more." Now, it may be asked, is Nature's providence bestowed on all lands alike ? Undoubtedly so : but then all lands are not in a condition for this practice, neither is corn alone required ; some perhaps are brick lands, but the provision is equal in all soils in accordance with their respective natures. Mechanically, you may build up or change the constitution of most, if not all soils, to grades of fertility, but this is a work of time, and of considerable outlay. Nor do we speak of neglected lands, which have been impoverished by over-cropping, without complying with the conditions of nature ; for by frequent exposure to the fertilising influences of the atmosphere, such lands must be brought round first by the proper means. Professor Way's investigations have already thrown light upon the absorbing powers of the soil, especially of clays for ammonia, and on the peculiar properties of the double silicates ; and to quote the substance of his remarks, after having inspected the Rev. Mr. Smith's farm "that the crops had the appearance as if they had been highly dressed with ammoniacal salts, which in fact they had been from atmospheric sources," must surely be a satisfactory evidence ; allow me to add, not from the Lobos Islands, at the cost of 9*l.* 10*s.* per ton, but from the gratuitous hand of Nature. I cannot too often repeat the necessity of preparing lands for these conditions. Now I will make a few remarks which I conceive to bear essentially upon such prepared lands. It may be asked what is to become of all the manure ? or how is Nature to get at it, if it be not carried to the land ? The answer appears to be, or is, she appropriates or dispenses it, be it where it may, to lands prepared to receive it (without our giving ourselves the trouble of fetching it from the other hemisphere, at a cost of from one to three millions sterling annually, not to speak of "artificials"), if the soil be only properly exposed and fallowed to benefit from Nature's resources, so that he who tills his land the most assiduously gets the better gratuitous fertilising supplies. The manure made on a farm ought to be enough for the improving purposes of the soil, and for the especial services of the green crops, these being consumed at home. A word on the manure of towns : let the sewage convey it away as heretofore, for although it may appear to us as lost, Nature still appropriates its virtues to our well tilled lands, without our laying out some millions to create miles of ducts, and there will be plenty left of refuse for the services of the improvement of lands, if only properly exposed to Nature's balm. For full instructions for carrying out this system, I refer readers to the Rev. Mr. Smith's pamphlet of "A Word in Season," whereby the farmers so fortunate as to hold the required class of lands, of which there are some millions of acres in this island alone, may compete with the foreign market to the utmost advantage, if the rules laid down be carried out in strict integrity. *An Old Subscriber.*

To Preserve damaged Potatoes for Pig-feeding.—It will be found in raising the Potato crop this season that a great quantity is damaged, at least such is the case in this locality ; many of the tubers are found quite rotten. These we throw away, but all those in which the tissue of the Potato is only partially destroyed, are sorted out for pig-feeding ; but it will be found if they are put aside in quantities that fermentation ensues directly, and the disease proceeds with such rapidity as soon to reduce them to a mass of putrefaction. But if, instead of storing them so as to be used at leisure, they are taken at once as they are got up, and washed and boiled, and whilst quite hot, taken and mashed into casks, sprinkling in a little salt as you proceed, and packing them very solid, they will keep fresh for some months. We had a great many done so a few years ago, when we had a quantity of damaged potatoes, and they were as sweet after Christmas when we finished them as when packed into the casks the September previous. Sugar hogsheads answer well to pack them in. *J. W., Salop.* [They will keep after being thus boiled, if only packed tightly and rammed together in a heap against a wall.]

Burnt Tan and Potatoes.—Many cases are before the public in which charcoal and ashes have palliated or prevented the Potato disease, and in the *Gardeners' Chronicle*, August 28, is one of burnt tan ; not charred (it would appear), but ash burnt. This seems to be a destructive process, inasmuch as all the ash is contained in the charcoal ; and the charcoal itself is much esteemed as an agricultural dressing ; witness the numerous testimonials of peat charcoal, which, if perhaps at present over-estimated, is undoubtedly valuable as an unstinker, and anti-putrescent. That tan charcoal would be equal to peat charcoal in these respects is most probable The quantity obtainable, too, is not insignificant, nor the process difficult. For the quantity, the excise returns, while the duty on leather continued, was 40,000 tons in 1825, which, all circumstances considered, is perhaps now double ; and, assuming a ton of leather to use 3 tons average of bark and other tanning materials, we have thus some 200,000 tons of this refuse to dispose of. For the process : to fire-char this, would require drying, and considerable attendance to prevent ash burning or extinction ; and it would diffuse a harsh and oppressive odour, as it now does in ash burning at the tan-yards. But it may be lime-charred with little or none of those troubles. It requires no further drying than drainage, because the lime absorbs and even requires the moisture to slake and produce the heat. There is no trouble in raising up and watching a gradual fire in constant danger of too much air or too little ; the absorbed vapour does not annoy the neighbourhood to anything like the extent of the fire-fume, and the charcoal is alkalised while the lime is rendered mild. All that is required is to mix in the quick-lime (the fresher the better) with the damp bark, and cover it

well with earth; the lime will absorb the moisture and heat, at the same time drying the bark, which the heat will char more or less, in proportion to the lime employed. If too much lime, it will swell, perhaps crack the cover of earth, and admit air enough to burn away more or less of the charcoal; if too little, of course the charring will be imperfect. The proportions must depend on the dampness of the bark, the goodness of the lime, and the mass to keep in the heat. Probably—with good lime, well-drained bark, and a heap of three or four loads—1 to 1½ bushel of lime would be about the thing for a load (one-horse cart) of spent bark. And there arises another question, may not the bark be better used for Potatoes, in their present tender state, without burning at all? Peat water seems to have remarkably preserved Potatoes from decay when dug from amongst others which gave way to the disease; and peat water has a weak acidulous astringency like tan refuse, though generally weaker. In the early cultivation of Potatoes, as reported in the early Transtions of the Society of Arts, vegetable manures were much used, which we know ferment acid, and the Potatoes were hardy enough; but the produce was since increased by dung, with which the cut tubers have been inoculated yearly for centuries, and they are now unable to resist any putrefactive influence either in the soil or air. Do not these facts indicate antiseptic manuring and high, and fresh or mountain air, as desiderata for at least seed Potatoes? and may not tan bark, raw or charred, but not ash burned, be one of the most eligible of such dressings, where the conveyance is not too costly? We are not without examples of its success, recent as well as early. *J. Prideaux, Sept.* 6.

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

A Monthly Council was held at the Society's House, in Hanover-square, on Wednesday, the 7th of July. The following Members of the Council and Governors of the Society were present: The Earl of Ducie, President, in the chair; Lord Southampton, Mr. Raymond Barker, Mr. Barnett, Mr. Brandreth, Mr. W. G. Cavendish, Colonel Challoner, Mr. Druce, Mr. Gadesden, Mr. Hamond, Mr. Fisher Hobbs, Mr. Hornsby, Mr. Kinder, Mr. Milward, Mr. Mainwaring Paine, Mr. Shaw, Prof. Simonds, Mr. Simpson, and Prof. Way.

The following new members were elected:

Phillips, G. L., Ashdale, Haverfordwest, Pembrokeshire
Pym, Francis Leslie, Radwell House, Baldock, Herts
Howe, Edward, Morningthorpe, Long-Stratton, Norfolk
Court, P. S., Saltwood, Hythe, Kent
Brown, George, Avebury, Marlborough, Wilts
Phillips, James B. L., Malws, Aberystwith, Cardigan
Underhill, Henry, Wolverhampton, Staffordshire
Asplin, Charles, East Tilbury-place, Romford, Essex
Chatfield, Robert, Greatham House, Petworth, Sussex
Squier, Samuel W., Langdon Hills, Romford, Essex
Abbott, William, Woodhouse Carr, Leeds, Yorkshire
Skinner, James, Sherrington House, Seimeston, Lewes
Bennett, Luke, Dimsdale Hall, Newcastle, Staffordshire
Cane, Edward, Berwick, Lewes, Sussex
Baker, William, West Johnson, Bps. Nympton, Devonshire
Dixon, Henry, Frankham, Wadhurst, Sussex
Fulton, Hamilton Henry, C.E., Great Queen-street, Westminster
Greaves, Edward, Barford, Warwickshire
Murray, Robert, Keston, Bromley, Kent
Bullen, Edward (Barrister-at-Law), Upper Sackville-street, Dublin
Pain, Thomas, Salisbury, Wilts
Graburn, William John, Melton-Ross, Lincolnshire
Holroyd, Frederick, New North-road, Huddersfield, Yorks.
Rolt, John, Ozleworth Park, Gloucester
Milles, John, The Forest, Tunbridge, Kent.

Finances.—Mr. Raymond Barker, Chairman of the Finance Committee, presented to the Council the monthly report on the accounts of the Society, from which it appeared the current cash balance in the hands of the bankers was 2823*l.* This report was received and adopted.

Reports were read and confirmed from the Chemical Committee, on the favourable prosecution of Professor Way's researches; from the General Lewes Committee, on the completion of the arrangements for the ensuing country meeting; and from the Veterinary Grant Committee, requesting a postponement of their recommendations to the monthly meeting in November.

Substitute for Guano.—On the motion of Mr. Fisher Hobbs, seconded by Colonel Challoner, the following motion, of which Mr. Fisher Hobbs had given notice at a former meeting, was carried unanimously, namely, "That a prize of 1000*l.*, and the gold medal of the Society, be offered for the discovery of a manure equal in fertilising properties to the Peruvian guano, and of which an unlimited supply can be furnished to the English farmer at a rate not exceeding 5*l.* per ton." The Council appointed the following Committee to take into consideration the conditions under which the competition for the prize should take place, and to report to the Council their recommendations on the subject, namely:—The Earl of Ducie, Chairman, Sir John Villiers Shelley, Bart., Mr. Raymond Barker, Capt. Wentworth Buller, R.N., Colonel Challoner, Mr. Fisher Hobbs, Mr. Hamond, Mr. Hudson, of Castleacre, Mr. Shaw, and Mr. Thompson.

Fat Cattle.—On the motion of Mr. Simpson, it was resolved unanimously, "That, at the proper time, the Council take into their deliberate consideration the special instructions to be given to the Society's Judges of Live Stock at its future Country Meetings, respecting animals that may be exhibited on those occasions in an overfed condition inconsistent with their character and value as breeding stock." The President then gave notice that, at the first Council he should be able to attend after the expiration of his year of office, he would be prepared to bring forward this important question for their consideration, and at the same time to offer a suggestion whether it might not be advisable at future country meetings to have both a fat stock and a store stock division, in different departments of the show.

The Annual Country Meeting of the Society, comprising an exhibition of live stock (including poultry), an exhibition and trial of agricultural implements and machinery, and a Pavilion Dinner, took place at Lewes, in Sussex, in the week commencing Monday, the 12th of July. We have already given ample details of the whole of these objects, with the exception of the General Meeting of the Members, held at the County Hall, on Friday, the 16th of that month, Mr. Raymond Barker, Vice-President, in the chair. The following resolutions were passed unanimously:—

1. On the motion of Lord Berners, seconded by Mr. Shaw: "That the best thanks of the Society be conveyed to the Chief Officers of the Borough of Lewes, for their cordial co-operation in promoting the arrangements for the Lewes Meeting."

2. On the motion of Mr. Wilson, seconded by Mr. Milward: "That the best thanks of the Society be given to the Local Committee, and Mr. H. Davey, their Secretary, for the kind and zealous attention they had shown to the wishes of the Society in carrying out the details connected with the arrangements for the Meeting."

3. On the motion of Mr. Fisher Hobbs, seconded by Mr. Barnett: "That the best thanks of the Society be expressed to those owners and occupiers who had placed their land at the disposal of the Society for the trial of implements, and as sites for the Show-yards and Pavilion."

4. On the motion of Mr. Grantham, seconded by Mr. H. Bannerman: "That the best thanks of the Society be signified to Professor Simonds for the important lecture he had delivered before the members at the Lewes meeting, and for the interesting series of original drawings, illustrating on a magnified scale the result of his microscopical investigations on the subject, he had prepared for the purpose of that lecture."

5. On the motion of Mr, Fisher Hobbs, seconded by Lord Berners: "That the best thanks of the Society be expressed to the various railway companies throughout the kingdom for their liberal co-operation in promoting the objects of its country meetings, and for the extraordinary assistance rendered to the exhibitors by the officers of those lines that were more especially and locally connected with the Lewes Meeting."

6. On the motion of Lord Berners, seconded by Mr. Grantham and Mr. Shaw: "That an expression of the best thanks and respect of the Society be conveyed to the Earl of Ducie, for the devoted and conscientious discharge of the high duties of his office during the year of his lordship's presidency, which terminated at the Lewes Meeting."

7. On the motion of Lord Berners, seconded by Mr. Milward: "That the cordial thanks of the General Meeting of that day be given to the chairman, Mr. Raymond Barker, for his kindness in presiding on that occasion, and for the services he had so willingly rendered at all times to the Society."

Mr. Barker acknowledged the kind compliment then paid him. It was gratifying for him to receive so pleasing a mark of their approval. He was sincerely attached to the Society, and ready under every circumstance to lend his co-operation for the advancement of its truly national objects.

Mr. Wilson, of Stowlangtoft, remarked that he could not allow the meeting to separate without informing the Members of the unanimous satisfaction of the implement-makers with every arrangement connected with the exhibition and trial of their implements and machines, and with the adjudication of the prizes.

A Special Council was held in the County Hall, on the same day, for the purpose of giving any local orders that might be required at the close of the Country Meeting; present, Mr. Raymond Barker, V.P., in the chair, Mr. Barnett, Mr. Milward, Mr. Shaw, and Mr. Wilson.

A Weekly Council was held at the Society's House in Hanover-square on Wednesday, the 28th of July: present, Colonel Challoner, Trustee, in the chair; Sir Robert Price, Bart., M.P., Mr. Raymond Barker, M. de Chroustchoff (Chamberlain to the Grand Duchess Catherine of Russia), Mr. H. P. Jones, Mr. Rowlandson, Prof. Sewell, Mr. H. A. Smith, and Prof. Way.

Inoculation for Pleuro-Pneumonia.—His Royal Highness Prince Albert transmitted to the Council, through Colonel the Honourable Charles Grey, a communication addressed to his Royal Highness by Dr. de Saville, of Brussels, on the result of his investigations during 25 years, on the "Pneumonie Exsudative épizootique des bêtes bovines," and his desire to test the value of his curative system by inoculation on animals in this country. The Council ordered their best thanks to be conveyed to his Royal Highness Prince Albert for this kind attention on his Royal Highness's part to the national objects of the Society; and at their request Professor Sewell, of the Royal Veterinary College, undertook to consult with Prof. Simonds on the communication and proposal in question, and to make a joint report on the subject at the next meeting of the Council.

Production of Heat and Light.—Mr. Warriner, of 16, Panton-square, transmitted to the Council the following communication, dated the 28th of July:—

"I take the liberty of submitting a short statement of an invention which, after a long series of trials and difficulties, has latterly come into use in France, and which I think is likely to prove useful in agriculture, and to be at the same time a great boon to the horticulturist. It is the production of pure hydrogen gas from water, for the purpose of heating, lighting, drying and malting. The production is exceedingly simple. In any place already furnished with a steam boiler, the addition of three retorts, of the size of 3 feet long by 14 inches diameter, will give 2000 cubic feet of gas per hour. The cost of such gas is small, as, in its purification, which is made over the carbonate of soda, the bicarbonate is produced, which repays the cost of fuel and wear and tear of production. The mode by which it is produced is as follows. The fires being lighted under the boilers and retorts, the last become white hot by the time the steam is produced from the boiler. When heated, the mouth of the retort is opened, and a layer of about two inches thick of small charcoal or braize is thrown in, the lid is then replaced, and in about three minutes the steam is turned on into the pipes, which are inside of the retorts. These pipes are perforated with small holes, having capsules on them, by which the steam is distributed over the charcoal, and thus becomes decomposed, and forms gas; the gas then passes up the pipe into the hydraulic main, where any steam that may escape decomposition is condensed The gas then passes into the purifiers, the plates of which are covered with carbonate of soda, and as the gas consists of two parts carbonic acid and one part pure hydrogen, the soda absorbs the carbonic acid, and the pure hydrogen passes into the gasometer, for the supply of any place where required. The flame of this gas being blue, the light is obtained from allowing the flame to play upon a net-work of platinum wire, which becomes white hot, and gives a brilliant steady light without smoke or flame. In the public lights now at Passy, near Paris, a distance of 150 metres exists between each, whereas in the common gas 50 metres only are allowed. The advantage which this gas possesses over the common coal-gas is the facility of manufacture, no unpleasant residuum, and its cheapness, which will cause it to be introduced into all large establishments at any distance from a town. For the purpose of warming conservatories it is invaluable. The cost of the apparatus for 50 lights is about 50*l.*, 100 lights 100*l.*, and so in proportion."

Mr. Rowlandson thought the proposed plan would be useful if there were a great demand for the bicarbonate of soda produced; this demand, however, on which the economy of the process appeared to depend, was not likely, he thought, to arise; and he had known an instance a few years ago of this salt being produced in a chemical manufactory more largely than it could be sold off.—Colonel Challoner thought it was advisable in all cases of proposed new applications to bring their practicability to the test of actual experience.—The Council ordered their usual acknowledgments to Mr. Warriner for his attention in submitting this communication to their notice.

Destruction of Deep-rooted Weeds.—The Council had their attention called to a mode, proposed in Belgium, for destroying Docks, Thistles, and other deep seated weeds, by the insertion of a drop of oil of vitriol into the upper part of their root; which, it was stated, at once acted corrosively on its substance and destroyed the vitality of the plant.

Mr. Rowlandson favoured the Council with an interesting account of the progress of the Earl of Essex's operations at Castiobury, in tilling at intervals on the London clay; which, although similar to the red flinty clay, and consequently stiff and impervious, had become under his lordship's system of management, by digging and ploughing, as friable as the most friable loams. Mr. Rowlandson had been much struck with the extraordinary results he had witnessed.

A Monthly Council was held at the Society's House, in Hanover-square, on Wednesday, August 4. The following Members of Council and Governors of the Society were present:—Mr. Raymond Barker, Vice-President, in the chair, Lord Bridport, Colonel Austen, Mr. Blanchard, Mr. Bramston, M.P., Colonel Challoner, Mr. Freeland, Mr. Gadesden, Mr. Garrett, Mr. Brandreth Gibbs, Mr. Fisher Hobbs, Mr. Hornsby, Mr. Milward, Prof. Sewell, Mr. Shaw, Prof. Simonds, Mr. Simpson, Mr. Wilson, of Stowlangtoft, and Prof. Way.

The following new members were elected:—

Wilson, John, Seacroft Hall, Leeds, Yorkshire
Saurans, Thomas, Watercombe, Wareham, Dorsetshire
Churchill, William, King's Head, Gloucester
St. Alban's, Duke of, Radbourne Hall, Brigg, Lincolnshire
Errington, Rowland, Sandoe, Hexham, Northumberlandshire
Gatty, George, Crowhurst-place, Battle, Sussex
Grattan, Right Hon. James, Tennikenill, Enniskerry, Ireland
Churchill, T. B., the Plough Hotel, Cheltenham
Noel, Charles, Bell Hall, Stourbridge, Worcestershire
Gurney, Russell, Q.C., 37, Russell-square, London
Clay, Nicholas, Enfield, Chipping-Ongar, Essex
How, William, Bideford, Devonshire
Harcourt, Rev. L. Vernon, Westdean House, Chichester
Thomson, John, Badminton, Chippenham, Wilts.
Walter, John, Gosport Oak, Tipton, Staffordshire
Halkett, Rev. Dunbar, Rector of Little Bookham, Surrey
Carr, Major, Lancing, Shoreham, Sussex
Lakeman, John, Coaslost, Bodmin, Cornwall
Sperling, Henry Grace Wilson, 10, Hyde Park Terrace, London.

Finances.—Mr. Raymond Barker, as Chairman of the Finance Committee, laid before the Council the Monthly Report on the accounts of the Society, from which it appeared that the current cash-balance in the hands of the bankers was 2650*l.* The quarterly statements of income and expenditure, invested capital and liabilities, were laid on the table for the information of the members. The Council confirmed the recommendation of the Committee, that the claims against the Society on account of the Lewes Meeting should at once be ascertained and discharged.

Fines.—The Council ordered a letter to be addressed to each person who had become liable to the fine for non-exhibition of implements or stock entered for the Lewes Meeting, requesting the payment of the same agreeably with the rules of the Society.

Implements.—Colonel Challoner, Chairman of the

Implement Committee, having presented the report of that Committee, the Council made the following decisions :—

I. That 10*l.* and a Silver Medal be awarded to Messrs. Clayton, Shuttleworth, and Co., for their having exhibited at the Lewes Meeting a Fixed Threshing Machine, with *finishing* dressing apparatus, which performed, in the opinion of the Judges, and to their entire satisfaction, every operation of threshing, shaking the straw, dressing the corn in the most perfect manner, and weighing it into sacks.

II. That the Prize of 10*l.*, offered for the best Light Waggon for general purposes, should be divided between Mr. Crosskill and Mr. W. Ball; the Judges, in accordance with their third instruction, having specially reported to the Council their opinion that, in the competition for that prize, the respective waggons of those exhibitors were the two best in that department, and possessed equal merit.

The Council then proceeded to the consideration of the Prizes to be offered for Implements and Machinery at the Gloucester Meeting next year, and agreed to the following schedule, deferring their decision on the conditions of competition and the regulations of the Prize-sheet till their Monthly Meeting in November :—

Plough best adapted for general purposes	£7
Plough best adapted for deep ploughing	7
One-way or Turn-wrest Plough	7
Paring Plough	5
Dynamometer for traction of ploughs	5
Subsoil Pulveriser	5
Draining Tile or Pipe Machine	10
Instruments for Hand-use in Drainage	3
Heavy Harrow	5
Light Harrow...	5
Cultivator, Grubber, and Scarifier	10
Pair-horse Scarifier...	5
Drill for general purposes...	10
Steerage Corn and Turnip Drill	10
Drill for small occupations	5
Small-occupation Seed and Manure Drill	5
Turnip Drill on the flat	10
Turnip Drill on the ridge	10
Dropping Machine for seed and manure	10
Manure Distributor...	10
Horse Hoe on the flat	5
Horse Hoe on the ridge	5
Agricultural Tools for hand labour	5
Reaping Machine	20
Mowing Machine for Grasses	10
One-horse Cart for general purposes	5
Light Waggon for general purposes	10
Portable Steam-engine, not exceeding 6-horse power ...	20
For the second-best ditto, ditto	10
Fixed Steam-engine, not exceeding 8-horse power ...	20
For the second-best ditto, ditto	10
Portable Threshing Machine, not exceeding 2-horse power	10
Portable Threshing Machine, not exceeding 6-horse power	15
Portable Threshing Machine, not exceeding 6-horse power (finishing)	20
Fixed Threshing Machine, not exceeding 6-horse power (market)	20
Corn-dressing Machine	5
Ditto ditto, for small occupations	5
Grinding Mill for meal	10
Linseed and Corn Crusher	5
Chaff-Cutter, by horse or steam power...	10
Chaff-Cutter, by hand-power	5
Turnip-Cutter	5
Oilcake Breaker, for every variety of cake	5
Ditto, for thin cake	3
Steaming Apparatus for general purposes	5
Flax-straw Machine, by manual or other labour	10
Churn	3
Misc. Awards and Essential Improvements	21
New Implement, such sum as the Council may decide ...	—

General Gloucester Committee.—The Council then greed to the appointment of the following General Gloucester Committee, namely : The Earl of Ducie (Chairman), Duke of Richmond, Earl of Chichester, Lord Portman, Hon. R. H. Clive, M.P., Sir John Villiers Shelley, Bart., M.P., Sir Matthew White Ridley, Bart., Sir John V. B. Johnstone, Bart., M.P., Colonel Austen, Mr. Raymond Barker, Mr. Barnett, Mr. Brandreth, Colonel Challoner, Mr. Brandreth Gibbs, Mr. Hamond, Mr. Fisher Hobbs, Mr. Jonas, Mr. William Jones, Mr. Charles Lawrence, Mr. Milward, Mr. Pusey, Mr. Shaw, and Mr. Simpson.

Inoculation for Pleuro-Pneumonia.—Prof. Sewell and Prof. Simonds reported their opinion on the question of introducing the inoculation system for cattle into this country ; and although they were adverse to such introduction in the present stage of the inquiry, they thought it desirable that the Society should have full knowledge of the facts connected with this subject, which occupied so large a share of attention in Belgium, Holland, France, and Prussia at the present moment. They hoped during the ensuing recess of the Council to gain such an estimation of the exact nature of the new curative system as would enable them to report more circumstantially to the Council at their November meeting.

Potato Disease.—Mr. Dawson transmitted to the Council a synopsis of the several communications on the cause and cure of the Potato rot, received by the Executive of Massachusets, in consequence of a prize of 10,000 dollars offered to any person within that commonwealth who should satisfy the Governor and Council that, by the test of at least five successive years, he had discovered a sure and practical remedy for that malady. This document, prepared and just published under the authority of the legislature of Massachusets, by Mr. Amasa Walker, secretary to that commonwealth, contains the following summary of these communications :

Although these communications may not furnish any perfect cure or preventive of the Potato disease, yet they agree in so many important points, and offer so many valuable hints, relating to the nature, cultivation, preservation, and improvement of the Potato, that they cannot fail to be of great public utility. The similarity of views expressed by the most intelligent and experienced writers, relating to the nature, cultivation, disease, and cure of the Potato, is truly remarkable, and we think auspicious. Among the principal points, relating to which there is a general concurrence, are the following :—

Soundness and Vitality of the Seed.—Renewing the seed from the ball of healthy vigorous plants every few years, even resorting to the native place in South America, and taking the seed from the wild Potato, is considered important. When Potatoes are to be raised from the tuber, sound, healthy, whole Potatoes are recommended for planting. Cutting Potatoes is decidedly condemned. Anything which impairs the vitality of the seed increases the liability to disease.

Quality or kind of Soil.—A dry, light, loose, warm soil is considered necessary to the soundness and health of the vegetable, as well as to its richness and flavour, the latter depending quite as much on the quality of soil as on the variety of seed. A wet, heavy, compact soil directly promotes the disorder. Far up on the side of a mountain or hill is a favourable location for the growth of the Potato; and new land contains more of the qualities requisite for its nourishment and health than old or worn out soils.

Influence of Atmosphere.—Potatoes should be as little exposed to the air as conveniently may be. Their natural place is under ground. By too much exposure they become poisoned, and turn green. Some recommend depositing them for the winter in holes under ground in a dry soil; or if kept in a cellar, to preserve them dry, in small quantities, in sand; and to keep them cool. Keeping large quantities in a body in the cellar is by some supposed to promote heat and putrefaction. Planting in the fall is recommended by some, as Potatoes left in the field, over winter, are observed to come forward earlier in the spring, to grow more vigorously, to get ripe earlier and before the blighting rains in August, and to be more sound, fair, and healthy,

Manures.—All anti-putrescents, such as lime, wood-ashes, pulverised charcoal, plaster, salt, nitrogen, &c., are believed to contribute directly to the health of the Potato, as well as to add to its richness and flavour; and, of course, to prevent putrefaction and disease. Of other manures, well-rotted compost is preferred. Stable-manure is too strong and heating, and produces ill-flavoured, unhealthy Potatoes, and is decidedly condemned.

Disease, Contagion, Old Age, and Death.—These are common to vegetables as well as to animals. All are liable to disease, some more, some less, according to circumstances, predisposing causes, and preventive means. Some vegetable diseases are believed to be contagious. The present disease is thought by many to be of that class. One field of Potatoes is liable to take the disorder from another field. Potatoes are predisposed to disease, by bad cultivation, old age, bad soil, bad manures, sudden changes of weather, warm rains, &c.

Ravages of Insects, Fungi, &c.—The best writers consider the ravages of insects as at most but a predisposing cause, rendering the Potato more liable to disease by enfeebling the plant. By many writers insects are considered as remotely affecting the Potato ; by others, as having no effect at all. The fungus on Potatoes is not the cause of the rot. It finds the Potato, previously diseased, a fit subject for its operation.

The general conclusions to which the facts presented in these various communications seem to lead us, are—

I. That the disease bears a striking resemblance to the cholera, and probably exists in the atmosphere.

II. That it is doubtful whether any specific cure has been, or ever will be discovered ; but

III. As in cholera, certain preventives are well ascertained, by the application of which, the liabilities to disease may be greatly lessened,

IV. That by obtaining the soundest seed, by planting in the most favourable soils, and by using the most suitable manures, we may have a good degree of confidence in the successful cultivation of this useful vegetable.

V. That we may expect that, like the cholera, the Potato rot will become less and less formidable from year to year, and eventually subside into a mild and manageable epidemic, if that term may be used in such a connection.

The Council ordered their best acknowledgments to be conveyed to Mr. Dawson, for his attention in favouring the Society with this communication.

Mr. B. Sanderson, of Woodford Wells, in Essex, addressed a letter to the Council, conveying his experience of four years in the trial of Potato cultivation in poor land without manure, during which period no taint of disease had made its appearance, although the original stock of tubers had been diseased while grown with manure.—The Council ordered their best acknowledgments also for the favour of this communication.

Miscellaneous Communications.—M. Henri Marés, of Montpellier, Perpetual Secretary to the Agricultural Society of the Département de l'Hérault, transmitted to the Council the transactions of that Society for the last five years, with a letter expressive of the desire he felt to mark his sense of the gratification he derived last year in witnessing the results of English farming, by this offering of the record of their own cultivation of the art of agriculture in the south of France under circumstances of climate so different, and, in an agricultural sense, so much more trying than those of this country.—Mr. Johnson, Secretary of the New York State Agricultural Society, transmitted a copy of the details of experiments in Draining, for which prizes had been awarded to Mr. John Johnson and the Hon. T. G. Yeomans.—Mr. W. C. Fowler, of Amherst, Massachusets, presented a copy of the Report of Commissioners concerning the establishment of an Agricultural School, and other subjects relative to the advancement of the interests of agriculture in the Commonwealth of Massachusets. — Mr. Klingemann, Secretary to the Hanoverian Legation, has informed the Society that the Anniversary Meeting of the German Agriculturists will be held at Hanover from the 5th to the 11th of September next, and in the hope that members of the Royal Agricultural Society of England would favour them with their attendance, he has transmitted to the Society a copy of the circular Invitation and the Programme for the occasion.—Mr. Parrington, Secretary of the Cleveland Agricultural Society, conveyed to the Council the thanks of that body for the steps they had taken in reference to effecting a reduction in the price of guano.—Captain Wentworth Buller, R.N., presented a copy of his pamphlet, entitled, " Remarks on the Monopoly of Guano."—Mr. Rowlandson addressed to the Council such suggestions, derived from his own experience, as had reference to the conditions of the Society's prize for a Substitute for Guano.—Mr. Chaplin, M.P., Chairman of the London and South-Western Railway Company, expressed his willingness to receive from the members of the Society, to which he also belonged, any suggestions that in their opinion would tend to promote the agricultural interest by means of railway arrangements. — Mr. Ormsby Gore, M.P., presented a sample of his Flax dressed, after the removal of the seed, at a cost of 5*d.* per lb.—Lord Berners transmitted from Keythorpe Hall, in Leicestershire, specimens of Turnip plants in different stages of their growth, raised in a rich loamy soil from seed transmitted to the Society by the Russian Government. —Mr. Strafford presented a copy of the tenth volume of his illustrated edition of Coates's " Herd-book of Improved Short-horned Cattle."—Mr. Bailward, of Horsington, suggested a prize for an Essay on Orchards and their management, the choice of fruit, and whether the colour of the Apple can be adopted as a guide to the choice for cider-making ; the best management of Apples previously to grinding, and then whether any interval should elapse before pressing ; after that, how cider may be best made, managed, and kept.— Dr. Coley, of Brussels, addressed a letter to the Council on the collection of seeds and grain, the free transmission of agricultural packets between England and Belgium, and the system of inoculation for Pleuro-Pneumonia.— Mr. Carr, of Belper, one of the mechanical judges at the Country Meetings of the Society, presented to each member of the Council a pair of his machine-made horse-shoes, for which he claimed the advantages of a better bite, increased durability, more exact fitting, freedom from concussion, equal protection to the foot, less weight, wear, and tear, smaller nails and fewer in number, exemption from burning the foot, freedom from uneven tread, and less price, four middle-sized shoes being produced at a profit by this mode of manufacture at the small charge of one shilling for such a set.—Mr. C. H. Webber, of Buckland, addressed a letter to the Council on an adaptation he had found advantageous for shaking straw.—Lieut. Browne communicated the result of his endeavours to improve the Agricultural Fumigator he had exhibited to the Council on a former occasion, by the application of a strap or wheel to turn the fan as the machine is moved along, in order that it may be adapted to the fumigation of large buildings and also of Hops. — Captain Stanley Carr laid before the Council a tabular statement of the rate of charge for very economical seamless canvas hose imported by Mr. Peterson, of Water Lane, from the establishment of Burbach and Co.—Prof. Donaldson addressed a letter to the Council on his views respecting the heating power of lime in soils.—Mr. E. Oliver transmitted from Bruges a collection of various agricultural notices.—The Council ordered their usual acknowledgments for the favour of these communications.

The meetings of the Council stand adjourned, over the Autumn recess, to the first Wednesday in November.

Review.

The Journal of the Royal Agricultural Improvement Society of Ireland and Irish Agriculturist. Published at the office of the Royal Agricultural Improvement Society, 41, Upper Sackville-street, Dublin.

This monthly periodical is one of the results of the energetic secretaryship of Mr. Harkness, secretary to the above Society. It is calculated to be of much use as an agency of the Society in disseminating sound agricultural information, such as the farmers of Ireland require. The present number contains full reports of the annual meetings of the societies. We extract, as a specimen of the descriptive and critical power brought to bear on the subjects discussed, the following statement in reference to the different kinds of reaping machines that have been tried during the season :—

" We have seen all these machines, and we have conversed with many most intelligent farmers and mechanics, and the universal opinion is that the principle of these machines is defective, while in practice they are liable to injuries of a serious kind, frequently choking up, requiring daily sharpening, and that they are attended with great loss of time. The only machine on the principle referred to, which promises to be positively beneficial, is that of Mr. Robinson, of Belfast—referred to by the judges of the council in their report, which is elsewhere published by us this month. Mr. Robinson has made Hussey's machine much lighter, more compact, and of much less draught than the original ; and we doubt not that that ingenious and persevering mechanic will, by next harvest, produce a reaper which, at a moderate price and cost of working, will prove very acceptable and useful to the tenantry of Ireland; although in point of simplicity of principle, completeness and efficiency of mechanism, or amount of work capable to be executed, it falls far short of Mr. Bell's Perthshire reaper. This machine was worked part of Thursday, 9th September, and on the morning of the 10th, cutting 7½ acres, Irish, of heavy Wheat, thick Clover, and Grasses in splendid style, laying the swathe of grain in the most perfect order, and to the admiration of every spectator in the field. Mr. Bell showed various of the stewards and ordinary workmen how to work the implement, on which they severally took charge of it and guided it through the corn field with precision and ease. It cut clean in all directions, laid the corn as exact as any hand could, and clipped through the Clover and Grasses with great cleverness. In a word, Mr. Bell's machine, as a reaper, stands A. 1. But Mr. Robinson's implement, already noticed, comes next to it in point of merit, being preferable to all the other reapers of Great Britain. It made very good work, and will, no doubt, in Mr. Robinson's hands, be made much more easily worked and effective. Certainly it is liable to choke with weeds and Grass ; but not so much so as the reapers of England ; nor does it give off the grain so clean and evenly. The English machines are liable to the same objection. To sum up : Bell's is the most perfect and

effective machine. The cost price is heavy at first sight, 30*l.*; but truly light to those with large crops to cut. Mr. Robinson's machine is superior to all the other kinds; will prove a useful instrument to many small tenants who cannot afford to pay more than 15*l.* or 16*l.* for a reaper. Next year these machines will be extensively used—we mean Bell's Scotch reaper and Mr. Robinson's improved Hussey; and, in a year or two, will supersede all the others, and prove of lasting benefit to agriculture and the nation."

Notices to Correspondents.

BROAD-LEAVED MUSTARD OF CHINA: *C S.* We do not know it, at least under this name.

CONTENTS OF VAULT: *Constant Sub* You had better have plenty of half burned ashes or charcoally matter of any kind—peat charcoal would be capital for the purpose. Throw that into the vault to begin with, and make a compost with the remainder close by the farm.

GUANO: *A B.* It must not be mixed with your lime composts. The ashes and salt, 12 months old, may be mixed with guano without harm; but the lime and salt, if the theory of their mutual action holds good, will by this time have become, in a measure, converted into muriate of lime and carbonate of soda. The muriate of lime would, we imagine, do no harm; but the carbonate of soda might, and, we imagine, would decompose any fixed ammoniacal salts existing in the guano, and detach the ammonia from its combinations in those salts, leaving it in the volatile form to make its escape.

LIVE AND DEAD WEIGHT OF CATTLE: *B J W.* You will find a very full and excellent article on this subject in the current number of Blackie's "Cyclopedia of Agriculture," article "Meat," by Mr. Ewart, of Newcastle-on-Tyne. As regards oxen, he divides them into three classes, viz., 1st, short-horns, Herefords, Devons; 2d, best long-horns and Galloways; and 3d, Kyloes and mountain cattle; and the following table gives his opinion on the question of relation between live and carcass weight:—

Condition.	Per cent. of Beef of the Live Weight.		
	Class 1.	Class 2.	Class 3.
Half fat	54 to 59	50 to 55	45 to 50
Moderately fat	60 — 62	56 — 60	51 — 55
Prime to very fat	63 — 66	61 — 63	56 — 60
Extraordinarily fat ...	67 — 72	64 — 68	61 — 68

In our experience these figures are too high. We have often killed good Hereford oxen which yielded not more than half their live weight of beef. The details regarding sheep and pigs are given in full detail. You should consult the work. As regards the last to which you refer, we make one more extract:—

Live Weight, in stone of 14 lbs.	Per cent. of Pork.
Above 40	87 to 88
From 35 to 40	84 — 86
30 — 35	83 — 84
25 — 30	81 — 82
20 — 25	80
15 — 20	78 — 79
Under 15	75 — 77

We have published a good deal of information from Martins, near Dover, on the subject of live and dead weight of pigs in past numbers.

WINTER OATS: *A.* If you can procure the seed of autumn-sown Oats you may sow in November with safety; but not that we know with any prospect of a much greater crop in 1853.

Markets.

COVENT GARDEN, Oct. 2.

Vegetables and Fruit continue plentiful. Melons are good and cheap. Plums, Pears, Apples, and Peaches still arrive from France. Tomatoes are abundant. Filberts realise from 50s. to 65s. Potatoes are very plentiful, but, in many instances, diseased. They have not altered in price. Peas are nearly over. Mushrooms continue plentiful. Cut flowers consist of Heaths, Pelargoniums, Roses, Mignonette, Bignonia venusta, and Fuchsias.

FRUIT.

Pine-apples, per lb., 3s to 5s
Grapes, hothouse, p. lb., 2s to 4s
Peaches, per doz., 5s to 8s
Nectarines, per doz., 3s to 7s
Plums, per punnet, 1s to 3s
Figs, per doz., 1s 6d to 2s 6d.
Apples, dessert, p. bsh., 4s to 7s
— kitchen, do., 3s to 5s
Melons, each, 2s to 5s
Lemons, per doz., 1s to 2s
Pears, per doz., 1s 6d to 3s
— per half sieve, 3s to 6s
Almonds, per peck, 5s
— sweet, per lb., 2s to 3s
Oranges, per doz., 1s to 1s 6d
— per 100, 3s 6d to 10s
— Seville, per doz., 1s to 3s
Nuts, Barcelona, per bush, 20s to 22s
— Brazil, do., 12s to 14s

VEGETABLES.

Cabbages, per doz., 6d to 1s 3d
French Beans, per half sieve, 1s 6d to 2s
Peas, per sieve, 2s to 5s
Cauliflowers, per doz., 4s to 6s
Greens, per doz., 1s to 1s 6d
Tomatoes, per hf. sieve, 4s to 5s
Potatoes, per ton, 60s to 130s
— per cwt., 2s 6d to 7s
— per bush., 1s 6d to 2s 6d
Turnips, per doz., 3s to 4s
Cucumbers, each, 2d to 6d
Veget. Marrow, p. doz. 6d to 1s6d
Celery, per bundle, 9d to 1s 3d
Carrots, p. doz., 3s to 5s
Spinach, per sieve, 1s to 2s
Onions, per bunch, 2d to 4d
— Spanish, p. doz., 1s3d to 3s
Beet, per doz., 1s to 2s
Leeks, per bunch, 1d to 2d
Shallots, per lb., 6d to 8d
Garlic, per lb., 6d to 8d
Lettuce, Cab., per score 4d to 1s
— Cos, p. score, 9d to 1s 6d
Radishes, per doz., 8d to 1s
— Turnip, 9d to 1s 6d
Small Salads, p. pun., 2d to 3d
Horse Radish, p. bundle, 1s to 4s
Mushrooms, p. pott., 9d to 1s 3d
— per bush., 3s to 5s
Sorrel, per hf. sieve, 6d to 1s
Artichokes, per doz., 4s to 6s
Fennel, per bunch, 2d to 3d
Savory, per bunch, 2d to 3d
Thyme, per bunch, 2d to 3d
Parsley, p. doz. bnchs., 2s to 3s
Mint, per bunch, 2d to 3d
Basil, green, p. bunch, 4d
Marjoram, do., 3d to 6d
Watercresses, p. 12 bun, 9d to 1s

HAY.—Per Load of 36 Trusses.

SMITHFIELD, Sept. 30.

Prime Meadow Hay	72s	to 80s	Clover ...	... 75s to	95s
Inferior do.	... 60	66	New do. ...	... 65	85
Rowen ...	... 50	60	Straw ...	... 28	34
New Hay ...	... —	—		E. J. DAVIS.	

A brisk trade for the best Hays; anything of inferior quality difficult to sell.

CUMBERLAND MARKET, Sept. 30.

Prime Meadow Hay	78s	to 86s	Inferior Clover	... 65s to	84s
Inferior do. ...	... 55	72	New do. ...	... —	—
New Hay ...	... —	—	Straw ...	... 28	34
Old Clover ...	.. 90	96		JOSHUA BAKER.	

SMITHFIELD.—MONDAY, Sept. 27.

We have a large increase in the supply of Beasts. We rarely have so many, except at Christmas time; the average weight, however, of course, is not nearly so large as at that season. The number is about 1140 over that of the corresponding day last year; consequently, prices are lower, and a considerable quantity remains unsold. Sheep are not more plentiful, but the demand is smaller; our quotations are therefore about 2d. per 8 lbs. lower. We do not quote Lamb, as it may now be considered out of season. Calves are also rather lower. From Germany and Holland there are 2371 Beasts, 9091 Sheep, and 244 Calves; from Scotland, 100 Beasts; and 3100 from the northern and midland counties.

Per st. of 8lbs.—s	d	s	d	Per st. of 8lbs.—s	d	s	d
Best Scots, Herefords, &c. ...	3	6 to 3	8	Best Long-wools .	3	6 to 3	10
Best Short-horns	3	4 — 3	6	Do. Shorn ...	0	0 — 0	0
2d quality Beasts	2	4 — 2	10	Ewes & 2d quality	3	0 — 3	4
Best Downs and Half-breds ...	4	0 — 4	4	Do. Shorn	0	0 — 0	0
Do. Shorn	0	0 — 0	0	Lambs	0	0 — 0	0
				Calves	2	8 — 4	0
				Pigs	3	0 — 4	4

Beasts, 6286; Sheep and Lambs, 28,560; Calves, 301; Pigs, 415.

FRIDAY, Oct. 1.

The number of Beasts is large, but it chiefly consists of those left over from Monday, and an inferior description of fresh arrivals. Choicest kinds are by no means plentiful, and Monday's quotations are maintained for them; but other descriptions are low, and many remain unsold. We have an usual supply of Sheep; trade for them is about the same as on Monday, with a more active demand for the best kinds. Trade is very dull for Calves at rather lower prices. The foreign supply is 785 Beasts, 3620 Sheep, and 233 Calves; the number of Milch Cows is 82.

Per st. of 8lbs.—s	d	s	d	Per st. of 8lbs.—s	d	s	d
Best Scots, Herefords, &c. ...	3	6 to 3	8	Best Long-wools .	3	6 to 3	10
Best Short-horns	3	2 — 3	6	Do. Shorn ...	...		
2d quality Beasts	2	2 — 2	8	Ewes & 2d quality	3	0 — 3	4
Best Downs and Half-breds ...	4	0 — 4	4	Do. Shorn ...	0	0 — 0	0
Do. Shorn ...	0	0 — 0	0	Lambs	0	0 — 0	0
				Calves	2	8 — 3	10
				Pigs	3	0 — 4	4

Beasts, 1450; Sheep and Lambs, 7,390; Calves, 407; Pigs, 330.

COAL MARKET.—FRIDAY, Oct. 1.

Holywell, 16s. 6d.; West Hartley, 17s. 6d.; Wallsend Hetton, 17s. 6d.—Ships at market, 15.

WOOL.

BRADFORD, THURSDAY, Sept. 30.—The market for English wool during the preceding week has continued steady, both as regards demand and prices. The transactions have not been on any more extended scale than for some time past, but the tone of prices is decidedly firm, with a slightly upward tendency. Should the present large consumption of English wool continue, there is no reason to apprehend any unfavourable variation of prices, and staplers seem justified in holding their stocks rather than submitting to the sacrifice. The state of matters in the country where wool cannot now be secured to sell at even the smallest profit here, tends to confirm this resolution of the dealers. Short wools and noils are a good sale at slightly improved rates.

MARK LANE.

MONDAY, Sept. 27.—The supply of English Wheat to this morning's market was good, and sold on the terms of this day se'nnight. We experienced a fair retail country demand for foreign, at late rates.—In the value of Flour we observe no alteration from Friday.—Fine malting and grinding Barley sells at last week's prices; secondary qualities are difficult to quit.—Beans and Peas continue in demand at extreme prices.—The Oat trade is firm, and Russian are the turn dearer.

PER IMPERIAL QUARTER.	s. s.		s. s.
Wheat, Essex, Kent, & Suffolk...White	36—50	Red	32—44
— — fine selected runs...ditto	40—54	Red	38—48
— — Talavera	52—56		
— Norfolk	40—48	Red	—
— Foreign	34—54		
Barley, grind. & distil., 24s. to 27s...Chev.	25—32	Malting .	27—29
— Foreign ...grinding and distilling	22—25	Malting .	26—29
Oats, Essex, and Suffolk	18—19		
— Scotch and Lincolnshire...Potato	18—22	Feed	17—19
— Irish ..... Potato	17—20	Feed	17—19
— Foreign .....Poland and Brew	18—20	Feed	15—18
Rye	—	Foreign .	—
Rye-meal, foreign	—		
Beans, Mazagan.....28s to 31s.....Tick	29—32	Harrow..	29—32
— Pigeon .....29s — 35s...Winds.	—	Longpod	—
— Foreign ..... Small	29—34	Egyptian	28—29
Peas, white, Essex and Kent.....Boilers	36—38	Suffolk...	38—40
— Maple.....32s to 36s.....Grey	31—34	Foreign .	28—38
Maize ..... White	—	Yellow...	—
Flour, best marks delivered...per sack	37—40		
— Suffolk ..... ditto	25—32	Norfolk .	25—32
— Foreign..... per barrel	21—24	Per sack	28—34

FRIDAY, Oct. 1.—The arrivals of all foreign grain and Flour are moderate; those of Wheat are chiefly cargoes from the Mediterranean. At this morning's market Wheat met an improved inquiry, and a fair business was transacted at the full prices of Monday last.—The supply of Barley is very short, and prices are unaltered.—Beans, Peas, and Oats are fully as dear as on Monday.—The Flour trade is firm. Floating cargoes of Wheat from the Black Sea have also been more in demand; Ghirka is realising 38s. 6d. to 39s. 9d.; Marianople, 40s. to 41s. 6d., cost, freight, and insurance.

IMPERIAL AVERAGES.

	Wheat.		Barley.		Oats.		Rye.		Beans.		Peas.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
Aug. 21.....	41	2	27	4	19	3	29	4	33	2	29	10
— 28.....	43	7	28	2	20	3	29	9	34	4	31	1
Sept. 4.....	44	9	28	2	20	5	31	3	34	10	31	6
— 11.....	42	5	27	10	18	10	30	9	34	5	31	9
— 18.....	40	5	27	4	18	7	30	1	34	4	29	10
— 25.....	39	6	27	5	17	11	31	0	33	10	29	10
Aggreg. Aver.	42	0	27	9	19	3	30	4	34	2	30	8

Duties on Foreign Grain, 1s. per qr.

FLUCTUATIONS IN THE LAST SIX WEEK'S AVERAGES.

PRICES.	AUG. 21.	AUG. 28.	SEPT. 4	SEPT. 11.	SEPT. 18.	SEPT. 25.
44s 9d	...	...		...	...	...
43 7	...		...	...	...	...
42 5	...	...	...		...	...
41 2		...	...	...	...	...
40 5	...	...	...	...		...
39 6	...	...	...	...	...	

LIVERPOOL, TUESDAY, Sept. 28.—The arrivals from Ireland and coastwise this week have been small, but there has been a fair supply from abroad. At this morning's market there was a moderate attendance of the trade, who showed little disposition to buy, and newly-arrived American Wheat and Flour were offered from the quay at a decline of 1d. to 2d. per 70 lbs. and 3d. to 6d. per barrel on the prices of this day week, without much effect. New Oats and Oatmeal were without change; but old mealing Oats realised rather more money. Barley, Beans, and Peas met with a fair retail sale at full prices. Indian Corn was without alteration in value.——FRIDAY, Sept. 24.—At our Corn Exchange this morning, old and new Wheats were in fair request, and a few parcels of the former were taken for shipment. Prices generally were unchanged, excepting in a few cases with the newly arrived American, for which a trifle less was taken. Flour maintained late prices, and purely good brands still scarce. Indian Corn steady, at 29s. 6d. for American yellow, and 30s. for white. There was no variation in the quotations of other articles.

GREENHOUSE & CONSERVATORY BUILDING ESTABLISHMENT.

HOT-WATER APPARATUS MANUFACTORY,
KENSALL-GREEN, HARROW-ROAD, LONDON.

JOHN TAYLOR begs most respectfully to call the attention of the Nobility, Gentry, and Gardeners, to the very superior manner in which he erects all kinds of Greenhouses, Conservatories, Forcing Pits, &c., and all other buildings for Horticultural purposes, combining all the most modern improvements with elegance and utility. His manner of heating Horticultural Buildings, Churches, Chapels, Public Buildings, Entrance Halls, &c., has received the greatest approbation from the Nobility and Gentry by whom he had been extensively engaged.

GLASS FOR CONSERVATORIES, GREENHOUSES PIT FRAMES, ETC.

HETLEY AND CO. are supplying 16-oz. Sheet Glass of British Manufacture, packed in boxes, containing 10 square feet each, at the following REDUCED PRICES for cash. A reduction made on 1000 feet.

Sizes.—Inches.			Inches.		Per foot.	Per 100 feet.
		Under	6	by 4	at 1½*d.* is	£0 12 6
From 6	by 4	,,	7	,, 5	,, 2*d.* ,,	0 16 8
7	,, 5	,,	8	,, 6	,, 2¼*d.* ,,	0 18 9
8	,, 6	,,	10	,, 8	,, 2½*d.* ,,	1 0 10
10	,, 8	,,	12	,, 9	,, 2⅝*d.* ,,	1 2 11

Larger sizes, not exceeding 40 inches long.
16 oz. from 3*d.* to 3½*d.* per square foot, according to size.
21 oz. ,, 3½*d.* to 5*d.* ,, ,, ,,
26 oz. ,, 3½*d.* to 7½*d.* ,, ,, ,,

PATENT ROUGH PLATE, THICK CROWN GLASS, and PATENT PLATE GLASS for Horticultural purposes, at reduced prices, by the 100 square feet.

GLASS TILES AND SLATES made to any size or pattern, either in Sheet or Rough Plate Glass.

Propagating Glasses, Bee-hive Glasses, Cucumber Tubes, Glass Milk Pans, Glass Water Pipes, and various other articles not hitherto manufactured in glass.

PATENT PLATE GLASS.—The present extremely moderate price of this superior article should cause it to supersede all other inferior window glass in a gentleman's residence. No alteration connected with the sash is required.

GLASS SHADES, as ornamental to, and for the preservation of every description of goods susceptible of injury by exposure. Prices, since the removal of the excise duty reduced one half. List of Prices and Estimates forwarded on application to JAMES HETLEY and Co., 35, Soho-square, London.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER,

AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.



GRAY AND ORMSON, Danvers Street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

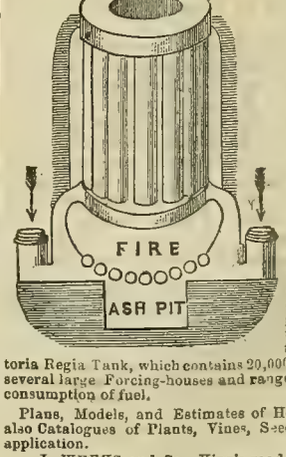
G. and O. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders they can with the greatest confidence give the most satisfactory references.

Their Hot-Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating by Hot Water can be made available.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER.

TUBULAR BOILERS OF ALL SIZES, WARRANTED THE MOST EFFICIENT.

J. WEEKS AND CO., King's-road, Chelsea, HOT-HOUSE BUILDERS; Horticulture in all its branches upon the most improved principles. These Boilers are very powerful, durable, and economical. The fire warranted to last 15 hours without attention. The Furnace Bars are Hollow-Tubes through which the return water passes before entering the upper part of the boiler, thereby causing a very rapid circulation, and producing double the effect from the same quantity of fuel.



J. WEEKS AND CO., King's Road, Chelsea. CHALLENGE the whole world to make a Boiler that will produce anything like the same effect, with the same quantity of Fuel in a given time. It is one of those boilers that warms the water of their Victoria Regia Tank, which contains 20,000 gallons, and also heats several large Forcing-houses and ranges of Pits, with a small consumption of fuel.

Plans, Models, and Estimates of Horticultural Buildings; also Catalogues of Plants, Vines, Seeds, &c., forwarded on application.

J. WEEKS and Co., King's-road, Chelsea, London.

TO GROWERS OF FRUIT AND VEGETABLES.

GEORGE TAYLOR, JUN.,

FOREIGN AND BRITISH FRUIT SALESMAN, WHOLESALE AND RETAIL GREEN-GROCER,

ST. JOHN'S MARKET, LIVERPOOL,

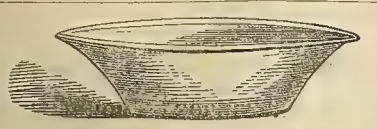
WILL CONTRACT for, to PURCHASE, every description of GARDEN PRODUCE, including

Hothouse Grapes	Choice Apples
Pine-apples	,, Flowers
Melons	Mushrooms
Peaches	Apricots
Nectarines	Plums, &c., &c. Also,
Choice Pears	Vegetables of every description.

PAYMENT:—

NETT CASH ON DELIVERY.

GARDEN AND OTHER PRODUCE SOLD ON COMMISSION.



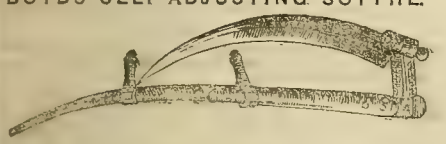
JAMES PHILLIPS AND Co., 116, Bishopsgate-street Without, beg to inform their friends they are prepared to supply

GLASS MILK PANS,

the same size as the foreign ones (17 inches in diameter) but superior in colour, make, and quality, at 2s. each, or 21s. per dozen. Lord Camoy's Milk Syphons, Lactometers, Milk Tests, Glass Cream Pots, &c, &c

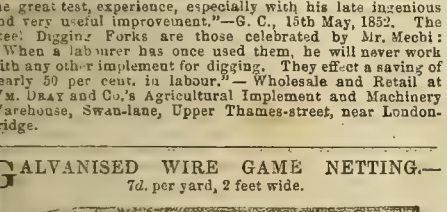
116, Bishopsgate-street Without, London.

BOYD'S SELF-ADJUSTING SCYTHE.



BOYD'S PATENT SCYTHE and the celebrated STEEL DIGGING FORKS.—BOYD'S Scythe is capable of being adjusted to any angle by the person using it, and never requires the aid of a blacksmith; when out of use it shuts up like a clasp-knife. The *Gardeners' Chronicle* thus comments upon it:—"We gladly state that Mr. BOYD'S Scythe stands well the great test, experience, especially with his late ingenious and very useful improvement."—G. C., 15th May, 1852. The Steel Digging Forks are those celebrated by Mr. Mechi: "When a labourer has once used them, he will never work with any other implement for digging. They effect a saving of nearly 50 per cent. in labour."—Wholesale and Retail at WM. DRAY and Co.'s Agricultural Implement and Machinery Warehouse, Swan-lane, Upper Thames-street, near London-bridge.

GALVANISED WIRE GAME NETTING.—7*d.* per yard, 2 feet wide.

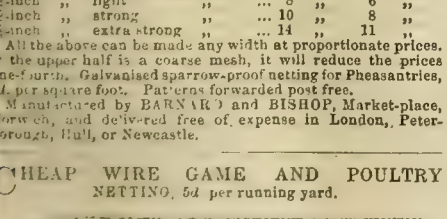


	Galvanised.	Japanned Iron.
2-inch mesh, light, 24 inches wide ...	7*d.* per yd.	5*d.* per yd.
2-inch ,, strong ,, ...	9 ,,	6½ ,,
2-inch ,, extra strong ,, ...	12 ,,	9 ,,
1½-inch ,, light ,, ...	8 ,,	6 ,,
1½-inch ,, strong ,, ...	10 ,,	8 ,,
1½-inch ,, extra strong ,, ...	14 ,,	11 ,,

All the above can be made any width at proportionate prices. If the upper half is a coarse mesh, it will reduce the prices one-fourth. Galvanised sparrow-proof netting for Pheasantries, 3*d.* per square foot. Patterns forwarded post free.

Manufactured by BARNARD and BISHOP, Market-place, Norwich, and delivered free of expense in London, Peterborough, Hull, or Newcastle.

CHEAP WIRE GAME AND POULTRY NETTING, 5*d.* per running yard.



GALVANISED do., 7*d.* per running yard, 2 feet wide.

	Galvanised.	Not Galvanised
24 in. wide, 2 in. mesh, 7*d.* per yard.	...	5*d.* per yard.
30 in. ,, 2 in. ,, 9*d.* ,,	...	6½*d.* ,,
36 in. ,, 2 in. ,, 10½*d.* ,,	...	7½*d.* ,,
48 in. ,, 2 in. ,, 1s. 2*d.* ,,	...	10*d.* ,,

Sparrow Proof Netting, Galvanised, 3*d.* per square foot, made to any size for the same proportionate price. This article was shown at the "Great Exhibition," where it was so much admired for its light and durable appearance, and acknowledged to be the cheapest and best article of the kind ever offered. Extra strong Wire Sheep Netting, 3 feet high, 1s. 6*d.* and 2s. 3*d.* per yard. Also every description of Flower Trainers, Dahlia Rods, Garden Arches, Bordering, Flower stands, Tying Wire, Trellis Work, Invisible Wire Fencing, Hurdles, and every description of Wire Work for Horticultural purposes. Illustrated Catalogues of Patterns forwarded, post-free on application to T. H. FOX, City of London Wire Work and Iron Fence Manufactory, 44, Skinner-street, and 6 and 8, [illegible]

IMPORTANT TO SMALL FARMERS AND OTHERS INTENDING TO EMIGRATE.

THE GOVERNMENT OF NEW BRUNSWICK, British North America, having completed the Survey of three Townships in the Counties of Westmoreland and Kent, on the Gulf of St. Lawrence and near the contemplated Junction of the NEW BRUNSWICK AND NOVA SCOTIA RAILWAYS, at SHADIAC, the Committee of the "CANADIAN LAND AND RAILWAY ASSOCIATION" have instructed their Agent to purchase one of these Townships, consisting of 100 Allotments, of 160 acres each; and they now offer these Allotments on very favourable conditions to such parties as are inclined to emigrate to the healthy and productive colony of New Brunswick.—For full particulars apply personally or by letter (post paid) to the Secretary, 18, Aldermanbury, London.

CARSON'S ORIGINAL ANTI-CORROSION PAINT, especially patronised by the British and other Governments, the Hon. East India Company, the principal Dock Companies, most public bodies, and by the Nobility, Gentry, and Clergy, for out-door work at their country seats. The Anti-Corrosion is particularly recommended as the most durable out-door Paint ever invented, for the preservation of every description of Iron, Wood, Stone, Brick, Compo, Cement, &c., work, as has been proved by the practical test of upwards of 60 years, and by the numerous (between 500 and 600) testimonials in its favour, and which, from the rank and station in society of those who have given them, have never yet been equalled by anything of the kind hitherto brought before the public notice.

Lists of Colours, with Prices, together with a Copy of the Testimonials, will be sent on application to WALTER CARSON and SON, No. 9, Great Winchester-street, Old Broad-street, Royal Exchange, London.—No Agents. All orders are particularly requested to be sent direct.

PROTECTION OF PLANTS FROM THE HEAT OF THE SUN.—Use E. F. ARCHER'S HAIR CLOTH, a perfect non-conductor of heat, and admitting light without heat, where a covering is required; it is 2 yards wide, and any length, at 1s. 4*d.* per yard, and much cheaper than Bass Mats. E. F. ARCHER, 451, Oxford-street, London.

BAKER'S PHEASANTRY, Beaufort-street, King's Road, Chelsea, by special appointment to her MAJESTY and H. R. H. PRINCE ALBERT.—ORNAMENTAL WATER FOWL, consisting of black and white Swans, Egyptian, Canada, China, barnacle, brent, and laughing Geese, Shieldrakes, Pintail, Widgeon, summer and winter Teal, Gadwall, Labrador, Shovellers, gold-eyed and dun Divers, Carolina Ducks, &c., domesticated and pinioned; also Spanish, Cochin China, Malay, Poland, Surrey, and Dorking Fowls; white, Japan, pied, and common Pea-fowl, and pure China Pigs; and at 3, Half-moon Passage, Gracechurch-street, London.

STEPHENSON AND PEILL, 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Manufacturers of Copper Cylindrical and Improved Conical Iron BOILERS, and Conservatory and Hothouse Builders, either in wood or iron, respectfully call the attention of the Nobility, Gentry, and Nurserymen to their simple but efficacious method of warming Horticultural and other Buildings by hot water. From the extensive works they have executed, references of the highest respectability can be given, and full particulars furnished on application.

A NEW BEDSTEAD, portable without detaching any of its parts, packs in a sponge bath, is admirably adapted for summer use, on account of its extreme coolness, and which can be changed in one moment from a bed to a lounge or sofa for the sitting-room, may be seen at

COTTAM and HALLEN'S, 76, Oxford-street,

where also is on view a great variety of Metallic Bedsteads, fitted with and without the Patent Rheocline, &c. &c., together with a large assortment of the Patent Radiating and other Stoves, and every other description of Ironmongery.

A NEW STOVE.—GREAT NOVELTY.—In the construction of the BURTON REGISTER STOVE, it was the first care of the inventor, WILLIAM S. BURTON, to avail himself of the most valued of modern improvements in the art of heating, and secondly, so to modify and alter the receptacle for the coals, as at once to obtain the simplest and most perfect combustion; after a long series of experiments, he has, by the substitution of a graceful form of shell for the present clumsy and ill-adapted bars, succeeded in producing a stove which for soft and brilliant light, as well as purity and quantity of heat, is far beyond his most sanguine expectations, while for cleanliness and cheerfulness it is utterly unapproachable. Price from 5*6s.* to 15*l.* To be seen in use daily in his show-rooms, where also are to be seen

250 STOVES and 325 FENDERS (exclusive of reserved stock) all differing in pattern, forming the largest assortment ever collected together. They are marked in plain figures, and at prices proportionate with those that have tended to make his establishment the most distinguished in this country. Bright stoves, with bronzed ornaments and two sets of bars, 2*l.* 14*s.* to 5*l.* 10*s.*; ditto with ormolu ornaments and two sets of bars, 5*l.* 10*s.* to 12*l.* 12*s.*; bronzed fenders complete, with standards, from 7*s.* to 3*l.*; steel fenders, from 2*l.* 15*s.* to 6*l.*; ditto, with rich ormolu ornaments, from 2*l.* 15*s.* to 7*l.* 7*s.*; fire-irons, from 1*s.* 9*d.* the set to 4*l.* 4*s.* Sylvester and all other patent stoves, with radiating hearth-plates; and kitchen ranges, which he is enabled to sell at these very reduced charges.

First—From the frequency and extent of his purchases; and

Secondly—From those purchases being made exclusively for cash.

WILLIAM S. BURTON has TEN LARGE SHOW ROOMS (all communicating), exclusive of the shop, devoted solely to the show of GENERAL FURNISHING IRONMONGERY (including Cutlery, Nickel Silver, Plated and Japanned Wares, Iron and Brass Bedsteads), so arranged and classified that purchasers may easily and at once make their selections.

Catalogues, with Engravings, sent (per post) free. The money returned for every article not approved of.

39, OXFORD STREET (corner of Newman-street); Nos. 1 and 2, NEWMAN STREET; and 4 and 5, PERRY'S PLACE.

BERDOE'S WATERPROOF OVER-COATS, AND SHOOTING JACKETS. A very large stock of superior garments in every improved material and style, and of every degree of warmth, or lightness, guaranteed to resist any amount of rain; at charges reduced to the lowest point consistent with the principle that an article to be really cheap must be good. Every size also of the WATERPROOF PALLIUM the well known Light Over-Coat, for all seasons (price 45*s.*), Riding and Driving Capes, Leggings, Boys' Over-Coats and Capes, also Cloaks, Mantles, Habits, &c. for LADIES, all thoroughly impervious to rain, WITHOUT OBSTRUCTING FREE VENTILATION, the fatal objection to all other waterproofs.—W. BERDOE, Tailor and Over-Coat Maker, 96 NEW BOND STREET, and 65, CORNHILL (only.)

THE ROYAL EXHIBITION.—A valuable newly-invented, very small, powerful, waistcoat-pocket Glass the size of a Walnut, to discern minute objects at a distance of 4 to 5 miles, which is found to be invaluable for YACHTING, and to SPORTSMEN, GENTLEMEN, and GAMEKEEPERS.

TELESCOPES.—A new and most important INVENTION in TELESCOPES, possessing such extraordinary powers that some—3½ inches, with an extra eye-piece—will show distinctly Jupiter's Moons, Saturn's Ring, and the Double Stars. They supersede every other kind, and are of all sizes—for the waistcoat-pocket, Shooting, Military purposes, &c. Opera and Race-course Glasses with wonderful powers; a minute object can be clearly seen from 10 to 12 miles distant.—Invaluable Acoustic Instruments for relief of extreme Deafness.

MESSRS. S AND B. SOLOMONS, OPTICIANS and AURISTS, 39, Albemarle-street, opposite the York Hotel, London

SOUND AND WHITE TEETH are not only indispensably requisite to a pleasing exterior in male and female, but they are peculiarly appreciated through life as a blessing highly conducive to the purposes of health and longevity. The great esteem in which the public have long held

ROWLANDS' ODONTO, OR PEARL DENTIFRICE,

precludes the necessity here of entering into a minute detail of its merits, and the singular advantages it so eminently possesses over the usual powders sold for the teeth. It is sufficient to observe that ROWLANDS' ODONTO is a pure preparation of the most efficient EASTERN HERBS, which not only has the property of rendering the above beautiful organs of the mouth dazzlingly white, but it strengthens their organic structure, and fulfils the pleasing task of rendering the breath sweet and pure. It should never (in particular) be forgotten that, when used in early life, it effectually prevents all aches in the Teeth and Gums—effaces all spots and discolourations whatsoever—eradicates scurvy—and, in a word, soon realises the chief attribute of Health and Beauty.—A FINE SET OF PEARLY TEETH!

Price 2*s* 9*d.* per box.

*** BEWARE OF SPURIOUS IMITATIONS. The genuine article has the words "ROWLANDS' ODONTO" on the Label, and "A. Rowland and Sons, 20, Hatton Garden," engraved on the Government Stamp affixed on each box. Sold by them, and by Chemists and Perfumers.

"WHERE SHALL WE GO THIS MORNING?" Such is usually the query over the breakfast table with visitors to London. Let us answer the question. If you can admire the most beautiful specimens of Papier Maché manufacture which are produced in this country, displayed in the most attractive forms—if you want a handsome or useful Dressing Case, Work Box, or Writing Desk—if you need any requisite for the work table or toilet—or if you desire to see one of the most elegant emporiums in London, then you will go to MECHI'S, 4, LEADENHALL-STREET, near the India House, in whose Show-rooms you may lounge away an hour very pleasantly.

HOLLOWAY'S PILLS, THE MOST UNPRECEDENTED MEDICINE FOR THE CURE OF BILE AND DISORDERED STOMACH.—Extract of a letter from Mr. D. E. Evans, commercial traveller, Chester, dated September 7, 1852. "To Professor HOLLOWAY. Sir,—For a considerable period I suffered dreadfully from Bile, Indigestion, and disordered Stomach; in the hopes of obtaining relief, I took a great variety of medicine, but all proved of no avail. I was, however, recommended by Mr. Hughes, of Harlech, to try your PILLS, and it is with pleasure that I shou'd inform you that they soon restored my appetite, and I now enjoy the very best of health. (Signed) D. E. EVANS."—Sold by all Druggists; and at Professor HOLLOWAY'S Establishment, 244, Strand, London.

HEAL & SON'S ILLUSTRATED CATALOGUE OF BEDSTEADS, sent free by post, contains designs and prices of upwards of ONE HUNDRED different Bedsteads in Iron, Brass, Japanned Wood, Polished Birch, Mahogany, Rosewood and Walnut-tree Woods; also their Priced List of Bedding; and their New Ware-rooms enable them to keep one of each design fixed for inspection. They have also, in addition to their usual stock, a great variety of the best designs of PARISIAN BEDSTEADS, both in Wood and Iron, which they have just imported.

HEAL and SON, Bedstead and Bedding Manufacturers, 196, Tottenham Court Road, London.

DO YOU BRUISE YOUR OATS? A Quarter of Oats at a Guinea, well crushed, will nearly make four sacks. Immense saving, and important improvement of the animal.—OAT BRUISERS, Chaff Cutters, Roughs, Threshing Machines, Domestic Flour Mills, Light Carts, Mining Tools, Gold-Sifting Machine, Brick and Tile ditto, Corn Dressing ditto, Horse and Steam Machinery put up, &c. Order early. Repairs done. Inspect the operation of above articles.

M. WEDLAKE and Co., 118, Fenchurch-street, London.

Pamphlet on Feeding, 1*s.* List and 140 Illustrations, 1*s.*, free per post.

PURE COCHIN CHINA CHICKENS, well feathered to the toes, seven months old, and weighing from 14 lbs. to 16 lbs. the couple, at from 30*s.* to 42*s.*; and Chickens between two and three months old, at 15*s.* per pair. Young Cocks, 7*s.* 6*d.* each.—Address, THOMAS PAGE Chatteris, Cambridgeshire.

COCHIN CHINA FOWLS.—White, Black, and Yellow or Buff coloured Chickens to be disposed of by a Gentleman who obtained prizes for this most useful breed at the Monster Exhibition of last year at Birmingham, as well as at other less important Poultry shows.—Apply to JOSEPH LEMON, Post-office, Sandbach, Cheshire.

COCHIN CHINA FOWLS FOR SALE.—Large Healthy Birds of the Pure Breed.—Apply to Mr. Mackenzie, Seaforth House, near Fareham, Surrey.

ELM TREES.

TO NURSERYMEN, &c., &c.

WANTED, some ELM TREES, from 18 to 30 feet high, with straight stems, handsome heads, and branches sprouting about 10 feet above the roots.

They must have been moved, not longer than three years ago; must be taken up very carefully with long fibrous roots; their living must be guaranteed, and they must be delivered at Kensington, in the vicinity of the Church.

If any Nurseryman having such Elms will address a letter to J. F., No. 20, Hanover Terrace Villas, Notting Hill, Bayswater, London, stating the number he may have, their respective heights, and the price per dozen at which they will be delivered, he will probably hear of a purchaser.—Oct. 2.

TO GRAPE GROWERS AND FLORISTS.

TO BE LET, with immediate possession, the ROSE HILL NURSERIES, at Brighton, consisting of a series of 12 Succession and Forcing Grape Houses, Peach Stove, Propagating and Plant Houses, and numerous Pits, covered by 10,000 ft. of glass.

N B. The Ground lays open to the south and is sheltered from the north and west, and enclosed by walls clothed with full bearing trees. The Vines and Trees will be scheduled, and the incoming tenant will have the choice of providing his own stock.

Apply to Messrs. JOSEPH PARSONS and SON, Estate Agents and Auctioneers, Market Parade, Brighton.

This day is published, price 4*d.*, post free for Eight Stamps,

THE GREENHOUSE: Its Construction and Management Popularly Treated. By the Author of "The Garden Frame."

This original work forms the Eighth Treatise in Groombridge's Farm and Garden Essays, price 4*d.* each, as follows:

1. The Cultivation of Arable Land.
2. Rearing and Management of Poultry.
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4. A Treatise on the Horse.
5. Fruit Trees and Fruit-bearing Shrubs.
6. A Treatise on Cattle.
7. The Garden Frame.
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**** The above Eight original works, written expressly for this Series by the best Authors, may now be had, neatly bound in one volume, price 3*s.*; Post free for 3*s.* 6*d.*

London: Groombridge and Sons, 5, Paternoster Row.

TABLES ON CATTLE, HAY, AND DRAINING.

Eighth Edition, price 2*s.* 6*d.* cloth of

A NEW SET OF TABLES for Computing the Weight of Cattle by Measurement, the Quantity of Hay in Ricks of different Forms, the Value of Land, &c. &c. To which is now added, a Concise System of FARM BOOK-KEEPING. By James Strachan, Fochabers.

The Book-keeping is also sold separately, price 6*d.*

Second Edition, price 2*s.* 6*d.* cloth, of

STRACHAN'S TABLES ON DRAINING, with Practical Directions.

Oliver and Boyd, Edinburgh; Simpkin, Marshall, and Co., London.

On the 18th of November will be published, price 1*s.*,

THE GARDENERS' ALMANACK. Edited by G. W. Johnson, Esq.

Besides the usual contents of an Almanack, it will contain Lists of the best Florists' Flowers and Fruits; a List of the chief Florists and Nurserymen of the United Kingdom, and very copious practical instructions in all departments of Gardening, Arranged Alphabetically to facilitate reference.

Published by the Stationers' Company, Ludgate-street, London.

GLENNY'S GARDEN ALMANAC, with Twenty fine Engravings, a Complete List of the best varieties in Fruits, Flowers, Plants, and Vegetables, and important advice to the thirty thousand readers who will see it before November is out. Advertisements must be sent immediately to George Cox, 18, King Street, Covent-Garden.—N.B. Advertisements sent for insertion must be accompanied by a Post-office order for payment. Terms: Two guineas a page; half a page, 25*s.* Small Advertisements, 7 lines or under, 10*s.* 6*d.*, and 1*s.* per line above that number.

GEOLOGICAL MINERALOGY.

KING'S COLLEGE, London.—Professor Tennant, F.G.S., will commence a COURSE of LECTURES on MINERALOGY, with a view to facilitate the Study of GEOLOGY, and of the application of Mineral Substances in the ARTS. The Lectures will be illustrated by an extensive collection of Specimens, and will commence on Wednesday morning, October 13 h, at 9 o'clock. They will be continued on each succeeding Wednesday, at the same hour.

R. W. Jelf, D.D., Principal.

LIFE OF MARY QUEEN OF SCOTS.

Early in October will be published, the Third Volume of

MISS AGNES STRICKLAND'S

LIVES OF THE QUEENS OF SCOTLAND; and English Princesses connected with the Royal Succession.

This volume of Miss Agnes Strickland's Royal Biographies contains the commencement of a personal life of Mary Stuart, which it is believed will be found more authentic and complete than any which has yet appeared. The collection and arrangement of materials for it was commenced many years ago—even before the publication of the "Lives of the Queens of England." It comprises an amount of curious and important information hitherto inedited, the fruits of long and arduous research in the State Paper Offices of England, Scotland, France, and other nations, and in the Charter-chests of the descendants of the noble families of Great Britain ancestrally connected with that momentous period. The result is a Biography which is likely to be the crowning work of Miss Strickland's great national undertaking.

Vols. I. and II. contain the Lives of Margaret Tudor, Magdalene of France, Mary of Lorraine, and Margaret Douglas, Countess of Lennox.

The Series will be completed in 6 vols. post 8vo. Embellished with Portraits and Historical Vignettes. Price 10*s* 6*d.* each.

William Blackwood and Sons, Edinburgh and London.

THE FARMER'S MAGAZINE, October. Contents—Plate 1, A Hereford Steer; Plate 2, A Southdown Ram. Jethro Tull, by C. W. Johnson; Manuring, by T. Rowlandson; Culture of Beet-root, by J. Reeve; the Spurry—how to destroy; Agricultural Biography; The Duke of Portland's Meadows; the Agricultural Districts; on various Breeds of Cattle; Production and Harvesting of Crops; the Galway Banquet; Capital in Land; Hoeing Turnips, by Philip Pusey; Diseases of Plants; Labour and the Poor—the Rural Districts; Resources of the Soil; the New Gold Fields; Weeds; Agriculture in France; the Teeth of Horses and Cattle: Reaping Machines; Schools and Gardens; Horticultural Calendar; Meteorogical Diary; Review of the Corn and Cattle Trades; Agricultural Reports, Fairs, Manures, &c.—Rogerson and Tuxford, 246, Strand.—Price 2*s.*

Just published,

THE FAMILY ECONOMIST for OCTOBER, price One Penny. The previous volumes of the Family Economist may now be had, bound in extra cloth, in two double volumes, price 3*s.* each.

MONTHLY STORY FOR YOUNG PEOPLE. 3*d.* each.

STORIES FOR SUMMER DAYS AND WINTER NIGHTS second series, just published, RISING AND THRIVING previously published 22 Stories, may be had separately, or in five volumes elegantly bound, price 1*s.* each, or the first four volumes, bound two volumes in one, extra cloth, price 2*s.* each.

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A Series of Pretty Stories for Little Children, with Illustrations by Whimper. Now ready, The Fir Tree's Story; already published—1. The Story of a Daisy. 2. Rover and his Friends. 3. Little Frank. 4. The Little Fortune Seekers. 5. The Blackberry Gathering; price 1*d.*

Also now ready, price 6*d.*, Part X. of the DICTIONARY OF DOMESTIC MEDICINE AND HOUSEHOLD SURGERY, by Spencer Thomson, M.D., L.R.C.S., Edinburgh. This work will be completed in 12 Parts.

London: Groombridge and Sons. Sold by all Booksellers.

DR. LARDNER'S HANDBOOK OF NATURAL PHILOSOPHY AND ASTRONOMY.

This day, large 12mo, price 8*s.* 6*d.* cloth,

A HANDBOOK OF NATURAL PHILOSOPHY AND ASTRONOMY. By Dionysius Lardner, formerly Professor of Natural Philosophy and Astronomy in University College, London.

Second Course: Containing Heat. Common Electricity, Magnetism, and Voltaic Electricity. With 200 Woodcuts.

**** The Third Course (completing the work) will contain Astronomy and Meteorology.

London: Taylor, Walton, and Maberly, 28, Upper Gower-street, and 27, Ivy-lane.

On the 1st of November will be published, price 1*s.*,

THE ANGLER'S ALMANAC FOR 1853: being a Hand-book and Guide to the Principal Rivers, Lakes, and Fisheries in Great Britain, Ireland, and Scotland, and containing all the information required by the Sportsman for the year, by a Practical Angler, author of many papers on the subject of Fisheries and Fishermen.

There is no Sport in which a book for constant reference is so much wanted as Angling, as those already published are too large and expensive for general purposes, or not sufficiently comprehensive. The work wanted should be of a convenient size for the pocket, as a constant companion to be referred to on all occasions.

In addition to the matter to be found in Almanacs, it will contain a Notice in the Calendar of the day on which Fishing begins in the various rivers; the Laws of Angling and taking Fish abridged; brief instructions for taking each kind of Fish in different Fisheries; Fly and Artificial Bait making; Rod and Tackle making; Instructions to make an outfit complete; directions containing lists of the principal Fishing-houses; Lists of Rod and Line makers, Winch Makers, &c.; Anecdotes of Angling and Anglers; List of the principal Rivers, Lakes, and Fisheries in the United Kingdom.

It is intended also to confine the Advertisements which will appear in it, as much as possible, to articles connected with the sport; and, therefore, preference will be given to Fishing Tackle Makers, and to those persons who have Fishing to let, or who provide accommodation to Anglers visiting neighbourhoods where Fishing is to be got, so as to give the greatest information in the smallest possible space.

N.B. The Almanac can be had bound with blank paper for memoranda, with a tuck as a pocket-book.

London: G. Cox, 18, King-street, Covent Garden; and by all Booksellers and Fishing-tackle Makers.

THE QUARTERLY REVIEW, No. CLXXXII., will be published on THURSDAY NEXT, October 7th.

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I. BRITISH BARDS AND STONEHENGE.
II. IONIAN ISLANDS.
III. IRISH SALMON.
IV. DR. CHALMERS.
V. SINDH.
VI. LORD LANGDALE.
VII. GOLD DISCOVERIES.
VIII. PARLIAMENTARY PROSPECTS.

John Murray, Albemarle-street.

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This completes the series of Elementary Botanical Works by Professor Lindley, of which "School Botany," and "The Vegetable Kingdom," form the other parts.

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These three parts form a complete manual of Botany for Medical and other Students who have made themselves acquainted with the author's "School Botany."

N.B. The Glossary may be had separately, price 5*s.*

Bradbury and Evans, 11, Bouverie-street.

Sales by Auction.

CHOICE COLLECTION OF TULIPS.

MR. ALEXANDER will sell by Auction, at the Mart (near the Bank of England), on TUESDAY, October 12, 1852, at 12 o'clock, the well-known Collection of TULIPS, the property of the late Mr. W. New (of the Derby Arms, Kirkdale). They comprise all the finest flowers in cultivation, viz., Gibbon's Princess Royal, Enchantress, Maid of Orleans, Maid of Athens, Countess of Harrington, Lady Flora Hastings, Purple Perfection, Chellaston Beauty, Britannia, Prince Albert, Sable Monarch, Wood's Van Amburgh, Thalia, Louis XVI., George Glenny, Salvator Rosa, Pandora, David, &c. Among the Roses, Anastasia, King of Scarlets, Lady Leicester, Lady Stanley, Lady Vernon, Miss Catherine, Dixon's Bion, Jeffery's Elizabeth, Mary Lamb, Headley's Rose Ellen, Countess of Eglinton, Lady Boyle, Camuse de Craix, Rose Lac, &c. The Bizarres comprise Pilot, Strong's King, Competitor, Tricolor, Shakespeare, Apelles, Marcellus, Pompe Funebre, Coronation, New's Lewis, Lord Lilford, &c. Also a quantity of fine Seedling Breeders, among which are some finely broken flowers. The whole will be sold without the least reserve.—May be viewed on the morning of Sale. Catalogues to be had at the Mart; of Messrs. Dawe, Cottrell, and Benham, Seedsmen, Moorgate-street, City; H. Alexander, Shacklewell; and also of Mrs. New, Everton Valley, Kirkdale, upon receipt of four stamps.

LAMBETH.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, BUILDERS, AND OTHERS ENGAGED IN PLANTING.

MR. J. RAWLINGS has been favoured with instructions from Messrs. Hay, Sangster, and Co., to submit to public competition by Auction, on the premises, Pleasant-place, West-square, Lambeth, on MONDAY, Oct. 4, and following days, at 11 o'clock, without reserve (in consequence of the the ground being required for great alterations), the whole of the valuable NURSERY STOCK, consisting of very fine Evergreens and Shrubs, Fruit, Forest, and Ornamental Trees, American Plants, &c. The stock comprises large Chinese Arbor-Vitæ, from 2 to 6 feet high; large Green Hollies, and all other kinds of Evergreens; a considerable quantity of splendid Standard Mulberries, and every other description of Fruit Tree, in the finest condition, as well as many thousands of Apple, Pear, Plum, and Cherry Stocks, Standard and Dwarf Roses, Climbing Plants, a quantity of Rhubarb, Seakale, and Asparagus, for Forcing, &c.; also a capital heavy Town Cart, and a quantity of Paving Stones.—May be viewed prior to the sale. Catalogues (6*d.* each, returnable to purchasers) may be had on the premises; of the principal Seedsmen; and of the Auctioneer, 5, Hoxton-square, and Ebenezer Nursery, Shacklewell, London.

HORNSEY ROAD.

TO GENTLEMEN, NURSERYMEN, FLORISTS, & OTHERS.

MESSRS. PROTHEROE and MORRIS have received instructions from Mr. Pamplin to Sell by Auction, at the Mart, Bartholomew-lane, on THURSDAY, Oct. 14th, at 1 o'clock (if not previously disposed of by private contract, in consequence of the Proprietor relinquishing the Business), the valuable LEASE of the PARADISE NURSERY, 14 years of which is unexpired, consisting of two Acres of rich Nursery Ground, with Dwelling-house thereon. The Premises are well situated, being within two miles of the Regent's-park, and adapted for carrying on a first-rate Business. The whole or part of the Greenhouses, Pits, &c., with the Stock, which is of the most saleable description, can be taken at a valuation, to suit the convenience of the purchaser.—The Premises may be viewed one week prior to the Sale. Particulars may be obtained of Mr. W. G. Lyle, Solicitor, 17, Bloomsbury-street, Bedford-square; on the Premises; and of the Auctioneers, American Nursery, Leytonstone, Essex.

CHELSEA.

TO GENTLEMEN, NURSERYMEN, FLORISTS, ETC. FOR PEREMPTORY SALE.

MESSRS. PROTHEROE and MORRIS will submit to public competition, by Auction, on the premises, Radnor-street, King's-road, Chelsea (by order of the executors of the late Mrs. Mary Harrison), on MONDAY, October 18, at 11 o'clock; the whole of the NURSERY STOCK, comprising Evergreens, Ornamental Fruit and Forest Trees, consisting of Aucubus, Arbutus, Green Hollies, Laurels, Evergreen Privet, Ribes, Limes, Planes, choice Roses, standard and dwarf, trained and untrained Peach, Apricot, Plum, Cherry, Apple, Pear, Walnut, Filbert, Gooseberry, Currant trees, &c.—May be viewed prior to the sale; Catalogues may be had on the premises; of the principal seedsmen in London; and of the Auctioneers, American Nursery, Leytonstone, Essex.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, AND OTHERS.

600 Double Camellias for absolute Sale, 1 to 3 feet; 300 Indian Azaleas; 300 Lilium lancifolium rubrum; 100 fine bushy Scarlet Rhododendrons.

MESSRS. PROTHEROE and MORRIS are instructed by Mons. A. Van Geert, of Ghent, to submit to public competition by Auction, at the Mart, Bartholomew-lane, on WEDNESDAY, October 13, at 12 o'clock, the above, which comprise all the leading varieties, and are well furnished with bloom buds. On view the morning of Sale. Catalogues may be had at the Auction Mart, and of the Auctioneers, American Nursery, Leytonstone, Essex.

UXBRIDGE, MIDDLESEX.

NURSERY, SEED, AND FLORISTS' BUSINESS.

MESSRS. PROTHEROE and MORRIS are directed by the Trustee for Sale and Mortgagee, to sell by Auction, at the Mart, Bartholomew-lane, on THURSDAY, October 14, in one Lot (if not previously disposed of by private contract), the valuable Leases and Goodwill of the UXBRIDGE NURSERY, which has been established upwards of 20 years; also the whole of the celebrated NURSERY STOCK, riding over from 12 to 13 acres, comprising Fruit and Forest Trees of the first description, and rich assortment of Evergreens, Ornamental Trees, Deciduous Shrubs, and American Plants, together with the Greenhouses, and the Choice Greenhouse Plants, Pits, Frames, Seeds, Drawers, and sundry effects. Particulars, which are being prepared, may be had of Messrs. Tustin and Paterson, Solicitors, 4, Bride-court, New Bridge-street, Blackfriars; and of Messrs. Protheroe and Morris, Auctioneers and Valuers, American Nursery, Leytonstone, Essex.

BLACKHEATH.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, &c.

MESSRS. PROTHEROE and MORRIS are instructed by Mr. Hally to sell by Auction, on the premises, Tranquil Vale, Blackheath, on MONDAY, October 11, at 11 o'clock—about 1000 Double CAMELLIAS from 2 to 5 feet, beautifully set with bloom buds; 200 strong Camellia Stocks; also choice Greenhouse and hardy ornamental Plants, comprising Indian and hardy Azaleas, Andromeda floribunda, Araucaria imbricata, Cupressus funebris and Govenianum, Cryptomeria japonica, Cantua dependens, Berberis Darwinii, Dielytra spectabilis, a few fine plants of the new Saxe-Gothæ conspicua, Pompone Chrysanthemums, &c.—May be viewed one week prior to the Sale; Catalogues may be had of the principal Seedsmen in London; on the Premises; and of the Auctioneers, American Nursery, Leytonstone, Essex.

STOVE AND GREENHOUSE PLANTS, THE COLLECTION OF AN AMATEUR.

MR. J. C. STEVENS is instructed to sell by Auction, at his Great Room, 38, King-street, Covent-garden, on FRIDAY, 8th October, at 12 for 1 o'clock, a collection of well grown specimen STOVE AND GREENHOUSE PLANTS, including Heaths, Rhododendrons, Azalea indica, and Camellias, well deserving attention.—May be viewed on the day prior, and morning of sale, and Catalogues had.

COCHIN CHINA FOWLS.

MR. J. C. STEVENS will sell by Auction at his Great Room, 38, King-street, Covent garden, on TUESDAY next, 5th of October, at 12 for 1 o'clock—COCHIN CHINA FOWLS, a very choice selection from the stock of Mr. B. Holmes of Birmingham, and of several other well-known amateurs in that neighbourhood, including some white Chickens, same stock as Yarmouth Prize Birds, and many that have taken Prizes at Cheltenham, Birmingham, &c., most of them of the favourite light colours, and of great merit—May be viewed the morning of sale, and Catalogues had of Mr. J. C. Stevens, 38, King-street, Covent-garden; who will be happy to forward them to any party enclosing a stamped directed envelope.

TO GARDENERS.

TO BE LET, A GARDEN of about three-quarters of an acre, with a convenient COTTAGE, most eligibly situated, two miles north of London, in the highest state of cultivation, well stocked with Roots, Moss and other Roses. An excellent trade has been done in it for the last 20 years by the late proprietor, who is now deceased.—Apply to J. T. Barlow, Estate Agent, &c., 47, Caroline-place, Copenhagen-street, Islington; and 15, Amherst-terrace, Shacklewell-green, near Kingsland, London.

Printed by William Bradbury, of No. 13, Upper Woburn-place, in the parish of St. Pancras, and Frederick Mullett Evans, of No. 7, Church-row, Stoke Newington, both in the County of Middlesex. Printers at their Office in Lombard-street, in the Precinct of Whitefriars, in the City of London; and published by them at the office, No. 5, Charles-street, in the parish of St. Paul's, Covent-garden, in the said County, where all Advertisements and Communications are to be addressed to the Editor.—Saturday, October 2, 1852.

THE GARDENERS' CHRONICLE

AND

AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 41.—1852.] SATURDAY, OCTOBER 9. [Price 6d.

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HORTICULTURAL SOCIETY OF LONDON.—At the Meeting in Regent-street, at 3 P M., October 19, the objects of Special Exhibition will be collections of HARDY ANNUALS, TABLE PEARS, and GREEN PEAS.

ROYAL SOUTH LONDON FLORICULTURAL SOCIETY.—The Committee of the above Society will meet at the Horns Tavern Kennington, for the purpose of receiving SEEDLING FLORISTS' FLOWERS AND PLANTS for opinion, and awarding First-Class Certificates to the deserving, on THURSDAY, the 14th October, 11th November, and 9th December, 1852 JOHN T. NEVILLE, Sec.
Ebenezer House, Peckham, Surrey.

NEW GERANIUMS, SHOW AND FANCY VARIETIES.—All the best sorts, of the latest introduction, can be obtained from
WILLIAM E. RENDLE AND CO.,
NURSERYMEN,
PLYMOUTH.
For particulars, see *Gardeners' Chronicle* for Sept. 25, page 610.

DUTCH FLOWER ROOTS.
W. E. RENDLE and Co. *have received their Annual Importation, which is offered on reasonable terms.*
Catalogues can be procured as per address above.

DOUBLE ROMAN AND PAPER WHITE NARCISSUS, 4s. per dozen.—The above bulbs, the former of which is so justly esteemed for its early blooming and excessive fragrance, and the latter for its purity and elegance, have been just received at A. CORBETT'S Italian and Foreign Warehouse, 18, Pall-mall, near Waterloo-place, London.

FINE ANEMONE ROOTS AND SEED.
TO THE NOBILITY, GENTRY, AND CLERGY.
HENRY GIBSON, Floore, near Weedon, Northamptonshire, has now on sale an unlimited stock of the finest Striped and other Anemone Roots, at the following low prices, viz., 5s. per 100, or 2l. per 1000; seed saved from the above of 1852 growth, in packets containing 2000 seeds, 5s.; smaller, containing 1000 3s. Sent free to any part of England on receipt of a Post-office order on the Weedon Post Office, payable to HENRY GIBSON.

VIOLA ARBOREA; OR, PERPETUAL TREE VIOLET (True).—The finest Stock for many years of the above, which has proved the best of all VIOLETS, is now offered to the Public by EDWARD TILEY; he can recommend it with great confidence, and has also received numerous testimonials from different parties speaking of its qualities, and giving it the highest praise. It is beautifully scented, the flowers as large as the Double Blue Hepatica, blooming freely from August to the end of May, and perfectly hardy. This is the proper time for making beds or potting, and 12 of these plants grown in pots will scent a large Greenhouse; also a small bed of them, 9 feet long by 3 wide, will be sufficient to furnish a family with Bouquets the whole of the winter and spring. Large plants, 6s. per dozen; small plants, 3s. per dozen.
VIOLA ARBOREA ALBA; OR, DOUBLE WHITE TREE VIOLET.—This is also a very fine variety, and resembles the former Violet in many particulars, with the exception of its colour. Large plants, 6s. per dozen; smaller ditto, 3s. per dozen.
RUSSIAN SUPERB VIOLET, Blue and White (True)—A very useful and fine variety; 1s per dozen.
A TREATISE on the nature and mode of Cultivation of the VIOLET.—EDWARD TILEY begs to introduce to the notice of all lovers of this flower a Treatise, which will not only give an insight into its proper mode of cultivation, but also directions for keeping it in continual bloom the whole of the winter. It will also assist many who have already grown this variety, as it introduces several distinct plans by which it may be cultivated most successfully. Purchasers to the amount of Five Shillings will have the Treatise included; or, post free to any part on receipt of 12 penny stamps.
OTHELLO CLOVE CARNATION.—To those persons whose orders came too late last season (the plants being all sold), E. T. begs to say he has a fine stock of this beautiful Clove (for colour and fragrance unequalled), and can supply any quantity at 3s. 6d. per pair, postage and packet included.
PURE WHITE CLOVE CARNATION; also a large stock of this splendid variety at 1s. 6d. per pair, postage and package free.
STRAWBERRY PLANTS can be still supplied in every variety and price, as see *Gardeners' Chronicle* for Sept. 4, 182.
The whole, or any part of the above, can be sent postage and package free, on receipt of the amount, by a post-office order, or penny stamps.
EDWARD TILEY, Nurseryman, Seedsman, and Florist, 14, Abbey-churchyard, Bath.

GUERNSEY AND BELLADONNA LILIES.
BRIDGEWATER PAGE AND CO. have the pleasure to offer fine Flowering Bulbs of the above beautiful Autumnal Lilies. Guernsey Lilies, 4s. per dozen; Belladonna ditto, 4s. per dozen; Amaryllis formosissima, 4s. per dozen; Early Double Roman Narcissus, 4s. per dozen; ditto Paper White do., 4s. per dozen; ditto largest Jonquils, 2s 6d per dozen. All orders above 10s. 6d. will be delivered free on the South-Western and Great Western Railways.
DUTCH BULBS, consisting of HYACINTHS, TULIPS, CROCUSES, GLADIOLI, &c., have just arrived in fine condition, and are offered at greatly reduced rates, Catalogues of which may be had on application to PAGE and Co., Seed Merchants, Southampton (sole Agents to the Shale Manure Company for the county of Hants).
SHALE MANURE, 3l. per ton.

DUTCH FLOWER ROOTS, at a reduced price.—
HYACINTHS, mixed, all colours... ... 21s. per 100
TULIPS, mixed, early double and single ... 6s. ,,
JONQUILS ... ... 6s. ,,
IRIS, mixed, splendid colours ... ... 4s. ,,
CROCUS, Dutch, mixed, all colours ... ... 12s. p. 1000
Lesser quantities may be had at the same rates. The above, with every other kind of flowering Bulb, equally low in price, to be had of WILLIAM DENYER, Seedsman and Florist, 32, Gracechurch-street (near the Spread Eagle), London.
No charge for packages.

NEW GERANIUMS, CINERARIAS, ETC.
SAMUEL FINNEY AND CO. are now prepared to send out the following new GERANIUMS at 45s. per doz.:—
Arethuss, Ariadne, Chieftain, Colonel of the Buffs, Christine, Commissioner, Elise, Enchantress, Exhibitor, Gem, Herald, Incomparable, Lablache, Lavinia, Magnet, Mochanna, Painter Improved, Purple Standard, Rubens, Shylock.
The following at 30s. per dozen:—
Ambassador, Beatrice, Chloe, Cynthia, Capella, Ganymede, Generallissimo, Little Nell, Major Domo, Monteith, Prince Arthur, Purpurea, Rosa, Silk Mercer, Tyrian Queen.
They have also a large Stock of all the new and best Cinerarias at 12s., 18s., and 24s. per dozen; Pansies, do. do., at 9s., 12s., and 18s. per dozen, basket and package included, and extra plants presented to compensate for long carriage. A remittance or reference required from unknown correspondents.
Gateshead Nursery, Newcastle-upon-Tyne.

NEW SHRUBBY CALCEOLARIAS,
CONSISTING OF ABOUT FIFTY VARIETIES NEVER BEFORE OFFERED TO THE PUBLIC.
J. WEEKS AND Co., CHELSEA, have now to offer a most splendid and superb Collection of SEEDLING SHRUBBY CALCEOLARIAS, which they can confidently warrant and recommend, they having been carefully saved and varied from the most unique selection in the kingdom. The sorts being all Shrubby they are perpetually in flower; and from the great variety and brilliancy of their colours, they are invaluable for the conservatory or bedding-out.
J. WEEKS and Co., KING'S ROAD, CHELSEA, LONDON.

CRYPTOMERIA JAPONICA.
A FEW THOUSAND SEEDLINGS, from 3 to 6 inches high, at 30s. per 100.
Also, IMPORTED SEED, at 20s. an ounce, which will produce upwards of 1500 Plants. Terms, CASH, being the property of a gentleman.
Apply to J. and C. LEE, Nurserymen, Hammersmith, near London.

LANGHEDGE NURSERY.
CHARLES WOOLVEN invites the attention of Fruit growers and the public generally to his large and very superior stock of Fruit-trees, comprising about 4000 standard Apples, Pears, Plums, and Cherries; fine straight stems 6½ to 8 feet in height, from 12s to 21s. per dozen. Also a good stock of dwarf and trained trees, all of the most approved kinds, from 12s. to 36s. per dozen. A capital stock of Gooseberries and Currants, all of the very best kinds, from 2s. 6d. to 3s. 6d. per dozen, now in excellent condition. C. W. also wishes to recommend to gentlemen and builders his large stock of Evergreens, Forest Trees, and other Shrubs, at equally low prices.—C. WOOLVEN, Nurseryman, Upper Edmonton, Middlesex.

NOTICE.
PETER LAWSON AND SON, of Edinburgh, have just issued special Priced Lists of FOREST TREES, SHRUBS, FRUIT, and ROSE TREES; also Bulbous Roots adapted for the present season, which may be had on application, or free by post from their Agent, JOHN C. SOMERS, 159, Fenchurch-street, London. Also, "The Synopsis of the Vegetable Produce of Scotland," in one volume, price 10s 6d.

A. PAUL AND SON beg to announce that their CATALOGUES of ROSES and HOLLYHOCKS, containing all the fine new varieties for the present season, are now ready, and may be had free on application, enclosing Two Penny Stamps for the postage.
The AUTUMNAL ROSES are still finely in bloom.
Nurseries, Cheshunt, Herts, October 9.

LOUIS VAN HOUTTE, of Ghent, Belgium, has just issued his new GENERAL CATALOGUE, which may be had on application to his Agents, Messrs. BETHAM and BLACKITH, Cox and Hammond's Quays, Lower Thames-street, London.

WILLIAM WOOD AND SON beg to inform their friends and the public that their Collection of AUTUMN FLOWERING ROSES is now finely in bloom, and will be found well worthy of a visit.
W. W. and SON'S DESCRIPTIVE CATALOGUE OF ROSES has been forwarded to all who have favoured them with their commands, and may be had on application at the Nursery, by enclosing two penny stamps.
Woodlands Nursery, Maresfield, near Uckfield, Sussex.

GOLIATH STRAWBERRY.
JAMES KITLEY wishes again to draw public attention to this most superb Strawberry, by stating facts which prove it to be without a rival. The original bed, which is 9 feet by 36 feet, and 6 years old, produced this season 90 qts. of fine large fruit; and a bed, 36 ft. by 36 ft., and 3 years old, produced 255 qts. of beautiful large high-coloured, Pine-flavoured fruit, the ground being so thickly covered as to render it impossible to step between without first removing the fruit, although the plants were 2½ ft. apart. They were the admiration and astonishment of numerous gentlemen and gardeners who visited his grounds. A Post-office order for 3s. 6d., or stamps to that amount, will secure 100 strong well-rooted plants, package included; 1s. 6d. in stamps will secure by post six fine plants to any part of the kingdom.
Also Trollope's Victoria, 1l. per 100; Black Prince, 3s. 6d.; Eleanor, 2s. 6d.; Alice Maud, 2s. 6d.; Keen's Seedling, 2s. 6d.; Hooper's Seedling, 2s. 6d.; Hautbois, 2s. 6d.; Bath Scarlet, 2s. 6d.; Elton Pine, 2s. 6d.—N.B. The Trade supplied at very low prices.
Lyncombe Vale Nursery, Bath.

GERANIUM "WILLMORE'S SURPRISE."
JOHN AND CHARLES LEE are now prepared to send out this extraordinary variety. It is a monstrous production, of good habit, with beautifully fringed leaves and leaflets. The flowers are double, of a rich crimson, with good markings; the trusses are bold and erect, and each bloom, with its monstrous calyx, remains in perfection for several weeks. It is adapted for pot culture, or bedding, and is altogether of a very pleasing aspect. Price 5s. each, or 25s. the half-dozen. The usual allowance to the Trade, besides a plant over for every three ordered.
Nursery and Seed Establishment, Hammersmith.

WEIGELA MIDDENDORFFIANA.—For the information of all persons who have purchased from the Subscribers a plant under the above name, we hereby give notice, that we have unintentionally been the medium of circulating quite a different plant to the true Weigela Middendorffiana. We possess the true species received direct from Russia, but as we had not plants sufficient for the orders we had received, we purchased in Paris a quantity under the name of Weigela lutea, which we understood to be the same plant. From these have originated all the plants of the spurious variety which have been sold by us.
All parties who have received this plant from us are requested to deduct the amount charged from their accounts, or we will replace them with the true species, free of carriage, early in the ensuing spring.
HUGH Low and Co., Clapton Nursery, near London, Oct. 9.

HYACINTHS, DUTCH BULBS, ETC.
HENRY GROOM, Clapham Rise, near London, by Appointment FLORIST TO HER MAJESTY THE QUEEN, and to HIS MAJESTY THE KING OF SAXONY, begs to say that he has received his usual supply of HYACINTHS and DUTCH BULBS, in very fine condition. His Catalogue of Bulbs, &c., will be forwarded on application.

WILLIAM HAMILTON, SEEDSMAN, &c., 156, CHEAPSIDE, LONDON.
Common mixed Crocus 1s. per 100.
Superior Dutch Mixed Crocus, 1s. 6d. per 100.
Crocus, very large and fine yellow, 2s. 6d per 100.
,, 12 distinct varieties named, 3s. per 100.
,, in separate colours, 1s. 6d. to 2s. per 100.
Tulips, fine border varieties, early and late, 5s. to 7s. 6d. per 100.
Snowdrops, very fine, 2s. per 100.
Narcissus, Soleil d'Or, 3s. per doz.
,, Dbl. Roman, 3s. per doz.
,, paper white, 3s. per doz.
,, Grand Monarque (large), 6s. per doz.
Hyacinths, excellent mixtures 3s. 6d. per doz.
,, named for pots or glasses, 6s. to 12s. per doz.
GLASS DISHES with six superior HYACINTHS ready planted in Moss, and which are easily transmitted to the country without injury, 5s.; the price increases from 5s. to 10s. 6d. according to the size of Dish and number of Hyacinths.
The above are all warranted fine, and will be delivered in the best possible condition, with extra bulbs to compensate for carriage.
WM. HAMILTON'S Catalogue, containing an immense variety of bulbous roots, &c., may be had on application.—Address, 156 Cheapside, London.

JOHN HOLLAND, Bradshaw Gardens, Middleton, Lancashire, respectfully informs his floricultural friends that his new CATALOGUE, containing priced lists of all the new varieties of Auriculas, Alpines, Polyanthus, Carnations, Picotees, Pinks, Pansies, and the "Lancashire Show Gooseberry trees," are now ready, and will be forwarded on application, enclosing a postage stamp.

FOUR of the best and most profitable STRAWBERRIES to grow are GOLIATH, ELEANOR, BRITISH QUEEN, and OLD PINE. The last is best for preservers. Plants, true, 2s. 6d. per 100, or 20s. per 1000. Also, our Seedling Plum DWARF PROLIFIC, never failing to produce a large crop, as it flowers late, thereby escaping the spring frosts. Fruit ripe in July. Plants, 3s. 6d., and one over to the trade if three are taken. Paid to London.
Catalogues of Roses and Nursery Stock upon application.
DILLISTONE and Co.'s Nurseries, Sturmer, Halstead, Essex.

NEW GERANIUMS.
ISAAC DAVIES can supply good healthy plants of the following varieties, which are a selection from those raised and exhibited last year, six of which obtained prizes at the June Exhibition, Regent's Park.
Magnet, 7s. 6d.; Purple Standard, 5s.; Elise, 5s; Herald, 5s.; Arethusa, 5s.; Ganymede, 5s.; Lablache, 5s.; Mochanna, 5s.; Cristine, 5s.; or the lot of nine for 1l 17s. 6d., box and package included, cash price. Remittance or reference respectfully requested from unknown correspondents.
Larkfield Nursery, Wavertree, near Liverpool.

1852.

LIST OF ORCHIDEOUS PLANTS INDIGENOUS TO ASSAM,

AND THE NEIGHBOURING HILLS OF KHASYA, BOOTAN, &c.

No.	Names.	Size and Colour of Flower.	Habit.
1*	Microstylis Wallichii ?...	Small, pea green	Ter.
2	Oberonia indifolia ...	Minute, yellowish	Epi.
3*	,, sp.	,, ,, ...	Do.
4	Liparis sp.	Small, yellow	Do.
5	,, sp.	,, ,, ...	Do.
6**	,, sp.	Largish, green yellow ...	Ter.
7*	,, sp.	Small, deep purple ...	Epi.
8	Otochilus fuscus ...	,, yellowish brown ...	Do.
9	,, albus	,, ,, and white	Do.
10	Pholidota imbricata ...	,, white	Do.
11	,, undulata	,, ,, ...	Do
12*	,, articulata	,, ,, ...	Do.
13*	,, sp.	,, ,, and yellow ...	Do.
14*	,, sp.	,, ,, ,, ...	Do.
15	Cœlogyne flavida ...	,, yellow	Do.
16	,, undulata	Largish, white	Do.
17*	,, fimbriata ?... ...	,, ,, and brown ...	Do.
18**	,, uniflora	,, ,, and lateritious	Do.
19	,, barbata	,, white	Do.
20*	,, præcox ?	,, ,, ...	Ter.
21*	,, maculata	Large, white, yellow, & rose	Do.
22**	,, Wallichiana ...	,, ,, and rose ...	Do.
23**	,, ocellata	,, pale yellow and deep orange	Do.
24*	,, Gardneriana	,, white and yellow ...	Epi.
25	,, cristata	,, ,, streaked with bright yellow	Ter.
26	,, sp.	Small, brown and yellow...	Epi
27**	,, flava ?	Large, yellow and brown ...	Do.
28	,, sp.	Small, brown and yellow...	Do
29*	,, sp.	,, white and brown ...	Do.
30	,, sp.	,, pale yellow	Do.
31**	,, sp.	,, white (pretty) ...	Ter.
32*	,, sp.	Largish, pale cinnamon ...	Epi.
33**	Bolbophyllum leopardinum	Large, yellow spotted with purple.	Do.
34	,, umbellatum ...	Largish, dull yellow ...	Do.
35**	,, Khasyanum ...	Small, greenish	Do.
36**	,, sp.	Largish, bright yellow ...	Do.
37*	,, sp.	Small, white, fragrant ...	Do.
38*	,, sp.	,, dull purple	Do.
39	,, sp.	,, ,, ...	Do.
40	,, sp.	,, ,, ...	Do.
41**	Cirrhopetalum sp. ...	Small, greenish, fragrant	Do.
42	,, sp.	,, dull purple	Do.
43*	,, sp.	Large, brown and yellow...	Do.
44**	,, sp.	Largish, dull purple ...	Do.
45**	,, sp.	,, ,, ...	Do.
46*	Tricoma suavis... ...	Large, white, purple & yell.	Do.
47*	Eria flava	Largish, dull yell. & brown	Do.
48	Eria sp.	Largish, white streaked with brown	Epi.
49	,, densiflora	,, ,, tinged with yellow	Do.
50	,, ferruginea	,, ferrugineous	Do.
51	,, paniculata	Small, spotted with purple	Do.
52**	,, sp.	Largish, white	Do.
53*	,, sp.	,, ,, & dull purp.	Do.
54*	,, sp.	,, ,, ,,	Do.
55*	,, sp.	Minute, rosy	Do.
56	Aporum anceps	Small, white	Do.
57	,, cuspidatum ...	,, ,, ...	Do.
58	,, sp.	,, ,, ...	Do.
59*	,, sp. ?	Largish, white, yellow, and brown	Do.
60	Dendrobium Pierardi ..	Large, pink and yellow ...	Do.
61*	,, heterocarpum ..	,, yell. and br. fragrant	Do.
62	,, Chrysanthum ..	,, lively yell. and brown	Do.
63*	,, Paxtoni	,, ,, ,,	Do.
64*	,, sp. like do. ...	,, orange and brown ...	Do.
65*	,, formosum	Very large, white and yell., fragrant	Do.
66**	,, longicornu... ..	Large, white and orange...	Do.
67	,, calceolus	Very dark yellow, rose, and purple	Do.
68*	,, fulcatum	Large, yellow and purple...	Do.
69	,, Jenkinsii	,, lively yellow	Do.
70	,, cærulescens ..	,, deep lively purple ...	Do.
71	,, nobile	,, white rosy purple ...	Do.
72**	,, Gibsonii	,, yellow and brown ...	Do.
73*	,, stuposum	Small, white	Do.
74*	,, Cambridgeanum ...	Large, lively yell. and br.	Do.
75**	,, transparens ...	,, deep lively purple ...	Do.
76*	,, like do., various ...	,, pale rose and purple	Do.
77**	,, Devonianum ...	,, lilac-rose and yellow	Do.
78**	,, Dalhousianum ...	,, rose, white, and purp.	Do.
79	,, multicaule... ...	,, white and purple ...	Do.
80**	,, Griffithii	,, pale yell. and orang.	Do.
81**	,, Farmeri	,, lively ,, ,, ...	Do.
82**	,, densiflorum pallid.	,, white and orange ..	Do.
83**	,, do. roseum ...	,, pale rose and orange	Do.
84	,, intermedium ...	,, pale yellow & brown	Do.
85*	,, sp.	,, lively orange	Do.
86*	,, sp.	,, ,, yellow & brown	Do.
87**	,, sp.	,, yellow, pink, and br.	Do.
88*	,, sp.	,, pink and yellow	Do.
89**	Spathoglottis pubescens	Largish, yellow and purple	Ter.
90	Arundina bambusifolia	Large, pale rose and lively purple	Do.
91*	Phaius grandifolius ...	,, white, brown, & pur.	Do.
92	,, Wallichii	,, ,, ,, ,,	Do.
93*	,, maculata	,, ,, rosy scented	Do.
94*	Phaius albus	Large, white, rosy scented	Do.
95**	Aputaria senilis	Largish, rose and green ...	Ter.
96**	A latifolia	?	Do.
97*	Eulophia virens	Large, green and white ..	Do.
98**	,, sp.	,, dull yellow & brown	Do.
99**	,, sp.	,, deep purple	Do.
100**	,, sp.	,, green and yellow ...	Do.
101**	,, sp.	,, purplish green ...	Do.
102	Vanda teres	Very large, rosy purple, yellow and brown	Epi.
103**	,, cristata	Largish, greenish, white, and purple	Do.
104**	,, multiflora	,, white and rose ...	Do.
105**	,, cœrulea	Very large, deep blue ...	Do.
106**	,, sp.	Largish, dull purple ...	Do.
107**	,, sp.	,, ,, and green	Do.
108**	,, sp.	,, yellow and brown ...	Do.
109**	Camarotis purpurea ...	Small, yellow and purple...	Do.
110	Micropera pallida ...	,, pale yellow	Do.
111	Saccolabium micranthum	Small, rosy	Epi.
112	,, retusum	Largish, lively spotted ...	Do.
113	,, papillosum ...	Small, pale yellow & pur.	Do.
114**	,, Calceolare	,, yellow and brown ...	Do.
115**	,, sp. like do. ...	,, pale do. and rose ...	Do.
116	,, caroifolium ...	,, rosy	Do.
117**	,, dasypogon ...	,, green and purple ...	Do.
118*	,, appendiculatum ...	,, yellow	Do.
119*	,, sp.	,, rosy and deep purple	Do.
120**	Sarcanthus sp.	... ...	Do.
121**	,, sp.	Small, rosy	Do.
122**	,, sp.	,, white and yellow	Do.
123**	,, sp.	,, ,, ,, ...	Do.
124**	,, sp.	,, ,, ,,	Do.
125**	,, sp	,, rosy red	Do.
126	Aerides affine	Large, rosy purple	Do.
127	,, odoratum	,, ,, sweet-scented	Do.
128	,, sp.	,, ,, ,,	Do.
129**	,, sp.	Large, like affine, and very sweet-scented	Do.
130	Agrostophyllium Khasyanum	Small, white	Do.
131*	Xiphosium acuminatum	Large, white	Do.
132	Acanthophippium sp. ...	,, dull purple	Ter.
133*	,, sp.	,, white, streaked ...	Do.
134*	Cymbidium giganteum...	Very large, yell. and brown	Do.
135	,, pendulum	Large, dull yell. and purple	Do.
136	,, aloifolium	,, ,, ,,	Do.
137**	,, eburneum	Very large, white	Do.
138	,, inconspicuum .	Small, brown	Do.
139	Cymbidium longipetalum	Largish, green and purple	Ter.
140*	,, cyprifolium ...	,, ,, ,,	Do.
141**	,, sp.	Large, fragrant, yellow, and white	Epi.
142**	,, sp.	,, brownish purple ...	Do.
143**	,, sp.	Very large, white	Do.
144**	,, sp.	Large, white and brown ...	Do.
145*	,, sp.	,, green and dull purple	Ter.
146**	? Phalænopsis, sp. ...	Large, yellow and reddish brown	Epi.
147	Euphorboscis pygmæa...	Minute, yellow	Do.
148	Geodorum dilatatum ...	Large, white, purple, and yellow	Do.
149*	,, sp.	,, deep rosy purple and white	Do.
150**	Platanthera sp.	Large, white	Do.
151**	Peristylis sp.	Largish, white, sweet-scented	Do.
152	Habenaria hamigera ?...	Small, green	Do.
153	,, sp.	,, yellow	Do.
154	,, sp.	,, greenish yellow ...	Do.
155*	,, sp.	,, white	Do.
156**	,, sp.	Large, white	Do.
157**	Pogonia Joliana... ...	Small, rosy white	Do.
158**	,, sp.	Largish, green	Do.
159**	,, sp.	Small, purple	Do.
160**	Cyrtosia sp.	Largish, golden yellow ...	Do.
161**	Spiranthes sp.	Small, white	Do.
162**	Zeuxine sulcata	,, ,, ...	Do.
163**	Anæctochilus Roxburghii	,, rosy white	Do.
164**	,, sp.	,, white	Do.
165**	Cypripedium venustum	Large, green and purple ...	Do.
166**	,, insigne...	,, red and yellow ...	Do.
167*	Calanthe densiflora ...	,, lively yellow	Do.
168**	,, sp.	Small, brown and yellow...	Do.
169**	,, sp.	Large, white and green ..	Do.
170**	,, sp.	,, ,, and yellow ...	Do.
171**	,, sp.	,, dull purple	Do.
172	Goodyera sp.	Small white	Do.
173	,, sp.	,, ,, ...	Do.
174	,, sp.	,, ,, dull purple ...	Do.
175**	Ophrys sp.	Largish, rosy purple ...	Do.
176**	,, sp.	,, green and purple ...	Do.
177**	Anthoginum sp.	,, rosy	Do.
178*	Bonatea sp.	Small, green	Do.

Æschynathus (3 to 4 sp.): Hoya (5 or 6 sp.); Arum (several); Lilium (1 sp.); Nepenthes (1 sp.); Ferns and Lycopodiums (150 to 200 sp.); Palms (Livistonia, Leoxaha, Caryota, Calamus, &c.) are also indigenous, and can be sent if required.

Plants not marked are common. Ditto marked with an asterisk are considered rare.

Ditto marked with two asterisks are considered very rare

The charges for a box of 4 cubic feet measurement, containing an equal selection of the three kinds, will be 5*l.* or 50 Rupees, deliverable at Calcutta. When Plants which are rare or very rare are required, the charges will be according to the kind taken; for the rare 1 r. 8 a. a Plant; for the very rare, 2 rupees a Plant. When very large plants are directed to be sent, no extra charge will be made.

When new Plants not included in the list are sent, a separate charge will be made. When two boxes or more are taken a discount of 10 per cent. will be allowed.

Plants can also be sent in glass cases, on the Wardian plan, measuring 2 feet 6 inches in length, 2 feet breadth, and 2 feet 7 inches in height, for which an extra charge of 20 rupees will be made. Glass covers can also be supplied for the other boxes, at an extra charge of 10 rupees.

Applications to be made to Messrs. Charles Cantor *and Co., in Calcutta.*

Assam, August 1, 1852

ROSE, AND OTHER CATALOGUES,

BY THOMAS RIVERS.

A DESCRIPTIVE CATALOGUE OF ROSES, containing a selection only of the finest varieties, for two postage stamps.

A Descriptive Catalogue of FRUITS, for four postage stamps. This was published October, 1851.

A Descriptive Catalogue of TREES and SHRUBS, for two postage stamps.

A Descriptive Catalogue of ORNAMENTAL TREES for LAWNS, free.

The MINIATURE FRUIT GARDEN; or the Culture of Pyramidal Pear and other Fruit Trees, for 24 postage stamps.

Nurseries, Sawbridgeworth, Herts.

NEW RHUBARB.

BAILEY'S EARLY MONARCH.

"I am highly delighted with the Early Monarch, and can confidently recommend it as the very best early Rhubarb grown. The foliage also is peculiar and very beautiful."—J. F. Wood, F.H.S.

"For colour, size, and precocity 'Bailey's Early Monarch' is most assuredly worthy of very extensive cultivation; it is a decided acquisition."—*Suburban Horticulturist.*

Plants 5*s.* each, to be had of the raiser, Mr. John Bailey, Longton, Staffordshire. A few packets of Victoria Seed hybridised with Early Monarch, 1*s.* each, or free per post for 14 penny stamps.

FRUIT TREES.

HUGH LOW AND CO. invite the attention of the Trade to their Stock of Maiden Fruit Trees. They are of unusually fine growth this season, and the collection comprises all the most approved kinds of Peaches, Nectarines, Apricots, Plums, Pears, &c., &c. Also strong healthy trees of Kaisha Apricot and Stanwick Nectarine.

H. L. and Co. will have pleasure in showing them to any parties who may visit their Nursery.

Clapton Nursery, near London, Oct. 9.

AMERICAN NURSERY.

GEORGE BAKER, Windlesham, near Bagshot, Surrey, Exhibitor of American Plants at the Royal Botanic Gardens, Regent's-park, begs to inform the Nobility and Public he has published a Descriptive CATALOGUE OF AMERICAN PLANTS, Coniferæ, Roses, Ornamental Shrubs, &c. &c., and may be obtained by enclosing two postage stamps. — Near Staines Station, Windsor Branch, South-Western Railway.

KINGHORNE'S SEEDLING EPACRISES.

JOHN AND CHARLES LEE beg to announce that they are prepared to send out these beautiful Seedlings, from which they have selected the following distinct kinds:—

E. KINGHORNII.—Tube medium length, very stout, beautifully pencilled with rose colour, pure white tip, and sepals well reflexed: a most profuse bloomer. Price 7*s.* 6*d.*

E. GRANDIFLORA RUBRA.—Tube longer, stouter, and much higher coloured than grandiflora; tips pure white; sepals expand well; very free bloomer. Price 5*s.*

E. MINIATA SPLENDENS.—Tube larger and longer than miniata, of a more brilliant colour, white tip more distinct; sepals expand well; extremely free bloomer. Price 5*s.*

PRICE OF THE SET, 15*s.*—The usual discount to the Trade, besides a set over on every three sets ordered.

These superb Epacrises are really the most useful plants offered to the Public this season. They are very great improvements, both in habit and profuseness of blooming, over all former introductions, and will prove highly valuable for exhibition.

Nursery and Seed Establishment, Hammersmith.

EDWARD GEORGE HENDERSON AND SON will be prepared to send out (the middle of this month), their new CINERARIAS and FANCY GERANIUMS, for which they solicit early orders, as the stock of some of the varieties is limited.

NEW CINERARIAS.

	s.	d.
Charles Dickens, large purple puce, good petal, light shade round the disc, each	5	0
Charlotte, white and bright carmine, equally proportionate, carmine disc, dwarf, and very gay	5	0
Conspicua, clear white, lavender disc, free and good habit	5	0
Kate Kearney, very large, clear white lilac disc, fine ...	5	0
Loveliness, bright rosy crimson, white circle round a carmine disc	5	0
Marguerite d'Anjou, dark crimson, maroon disc, good form, stout petal, dwarf spreading habit	7	6
Prince Arthur, scarlet crimson, fine large petal, a very brilliant flower	10	6
Rosalind, clear white, tipped with purple, grey disc, splendid form and habit, extra	10	6

Price of the Set, £2 2s.—Usual discount to the Trade.

NEW FANCY GERANIUMS.

	s.	d.
Criterion, bright violet carmine, laced edging of white, each lower petal spotted with carmine, good form, fine habit and truss	10	6
Fanny, upper petals fine dark rose, lower petals spotted with rose	10	6
Flora M'Ivor, black maroon upper petals, white throat and belting	10	6
Italian Beauty, rich deep carmine, or scarlet crimson, white blush edging and throat, early and very free bloomer	10	6
Lady Downes, rosy crimson, edged with white, lower petals violet rose, fine white throat, good truss, fine exhibition variety, extra	10	6
Marginata, violet crimson, with deep edging of white, lower petals all white, with a striking small spot of violet, distinct	10	6
Queen of the Fancies, violet crimson, white margin, lower petals violet rose, shading off to white, large clear white throat, smooth, well arranged flower and truss, excellent habit, extra fine form	10	6

Price of the Set, £3 3s. Usual discount to the Trade.

Wellington Road Nursery, St. John's Wood, London.—Oct. 9.

☞ BASS AND BROWN'S NEW AUTUMN CATALOGUE *is now ready, and will be sent Free on receipt of Three Postage Stamps.*

BEST NEW GERANIUMS OF LAST SEASON. STRONG PLANTS NOW READY.

BASS AND BROWN have the pleasure to offer as under the following, all new varieties of last season, raised by Messrs. Hoyle, Foster, and Dobson.

The Collection may be had for 3*l.* 15*s.*

Any 12 for 50*s.*, or left to our selection, for 44*s.*

	s.	d.
Ariadne (Foster)	5	0
Ambassador (Dobson) ...	3	6
Arethusa (Dobson)... ...	3	6
Chieftain (Hoyle)	3	6
Colonel of the Buffs (Hoyle)	5	0
Commissioner (Beck) ...	3	6
Elise (Hoyle)	5	0
Enchantress (Foster) ...	5	0
Exhibitor (Beck)	3	6
Ganymede (Hoyle)	5	0
Gem (Dobson)	3	6
Herald (Hoyle)	3	6
Incomparable (Dobson)...	3	6
Lavinia (Foster)	3	6
Magnet (Hoyle)	7	6
Mochanna (Hoyle)	3	6
Monteith (Foster)	3	6
Painter Improved (Beck)	3	6
Purple Standard (Foster)	5	0
Rubens (Foster)	3	6
Shylock (Foster)	5	0

NEW FANCY GERANIUMS

RAISED BY AMBROSE, AYLES, AND HENDERSON.

The 12 varieties for 2*l.* 2*s.*

	s.	d.
Ambassador (Henderson)	3	6
Beauty of St. John's Wood (Henderson) ...	3	6
Calban (Ayres)	5	0
Capivation (Ambrose) ...	5	0
Eletra (Ayres)	2	6
Fomosissima (Ayres) ...	5	0
Gipsey Queen (Ayres) ...	5	0
Miranda (Ayres)	5	0
Othello (Henderson) ...	3	6
Princess Royal (Henderson)...	3	6
Richard Cobden (Amb.)	5	0
Superba (Ambrose) ...	5	0

NEW SCARLET AND PINK-FLOWERING HORSE-SHOE LEAVED GERANIUMS.

	s.	d.
Amazon (Low)	2	6
Defiance (A. Henderson)	2	6
Hendersonii (Henderson)	2	6
Mountain of Light (Lee)	3	6
Obratissima grandiflorum (Henderson) ...	2	6
Shubland Pet (Henderson)...	3	6

Our varieties of previous introduction see catalogue. Our annual importation of Dutch Bulbs has arrived in excellent condition. We also beg to call attention to our very superb collections of Ranunculi, Gladioli, Iris, and an extensive stock of other roots.

Post-office orders payable to Stephen Brown, Seed and Horticultural Establishment, Sudbury, Suffolk.

AMERICAN PLANTS.

JOHN WATERER begs to announce his Catalogue of the above Plants, Roses, Conifers, &c., is now published, and may be obtained by enclosing two postage stamps. The colours of all the Rhododendrons worthy of cultivation are described in order to facilitate purchasers in selecting.

☞ The Rhododendrons, Azaleas, &c., annually exhibited at the Royal Botanic Gardens, Regent's Park, are from this establishment.—The American Nursery, Bagshot, Surrey, near Farnborough Station, South-Western Railway.

SAFFRON WALDEN NURSERY.

SUPERB DOUBLE HOLLYHOCKS.

WILLIAM CHATER'S List of the above splendid Flowers is now ready, containing a careful selection of all the newest varieties of other raisers, with those of the late Mr. Baron, first sent out by W. C., and W. Chater's own raising, most of which still stand unrivalled. The prices, colours, and heights, are faithfully affixed to each flower; also, is added, a selection of the best Scotch varieties, &c., &c., which may be had by enclosing a postage stamp.

Saffron Walden, October 9.

ROSES! ROSES!!

A. GODWIN'S DESCRIPTIVE CATALOGUE OF ROSES, for the ensuing season, is now ready, and may be had in exchange for one postage stamp.

Ashbourne, Derbyshire.

GEORGE JACKMAN, Nurseryman, Woking, Surrey, 1½ mile from Woking Station, South Western Railway, begs to announce he has just published a new and complete Catalogue of his American Plants, Ornamental Evergreens, Conifers, flowering Shrubs, Standard and Dwarf Roses, Fruit and Forest Trees, &c. &c., and may be had on application by inclosing two postage stamps.

ROSE NURSERIES, HERTFORD.

E. P. FRANCIS'S CATALOGUE OF NEW AND SELECT ROSES FOR 1852 AND 1853 is now ready, and will be forwarded gratis upon application.

Fine strong plants of Chinese Funebral Cypress, in pots, 4 feet, 10s. 6d. each.—October 9.

MUSHROOM SPAWN FOR SALE.

WM. FREEMAN returns his grateful thanks for the liberal support he has received for the last 30 years, and begs to inform the public that he has now for sale a fine sample of the above article, well worthy the attention of noblemen's and gentlemen's gardeners, as it is of the first quality. W. F. has been not only a maker for the above long period but also a practical grower; and he begs to inform the Trade that they can be supplied on the most reasonable terms. Samples sent to any part of the kingdom if required.—For particulars, &c., direct to Wm. Freeman, Gardener, Kensal New Town, Paddington, London.

GRAPE VINES FROM EYES, VERY FINE.

J. WEEKS AND CO., King's Road, Chelsea, have a most splendid collection of VINES, very strong and clean, two and three years old, from Eyes, all the best sorts for Planting or Fruiting in Pots.

Also an extensive and valuable collection of STOVE and GREENHOUSE PLANTS, with all new varieties. See our Catalogues devoted to each. Also our Illustrations on Horticultural Building and Heating by Hot-water.

J. Weeks and Co., King's-road, Chelsea.

SUPERB NEW APPLE,

BRADLEY'S GOLDEN PEARMAIN.

RICHARD BRADLEY begs to inform Nurserymen and the Public generally that it is his intention to send out this very excellent new APPLE in November next.

R. B., in offering the above, can with confidence recommend it as being a very superior variety and worthy a place in every collection. It will be found a great acquisition for Table or Kitchen. First quality, second size; season from December to February. It is an early and prolific bearer, and a very free grower.

Opinion of R. Marnock, Esq., in *Gardeners' and Farmers' Journal* for Oct. 26, 1850:—"*B H N.* Your Apple seems to be a variety very near the Margill, or between that and the Ribston Pippin. It has the general form and flavour of the one with the spotting of the other. The flesh is crisp and grateful. On the whole, we think it is an excellent dessert Apple, and looks as good as it is."

Fine healthy dwarf plants, 10s. 6d. each; half standards, 12s. 6d. each. One plant over to the Trade when three are ordered.

The stock being small, early orders are requested, to secure plants. A remittance to accompany the order from unknown correspondents, to be made payable at Southwell Post-office, Notts.—Agents: Messrs. Fisher, Holmes, and Co., Handsworth Nursery, Sheffield. Package free. All orders above 1*l.* 11s. 6d. carriage paid to London and all places within 100 miles of the nursery.—Halam Nursery, Southwell, Notts.

TO NOBLEMEN, GENTLEMEN, AND THE TRADE.

HAY, SANGSTER, AND CO. are now ready to send out their NEW EARLY NO. 1 PEA, price 2s. 6d. per quart, and can with confidence recommend it as a very superior article.

About the second week in October they will be ready to send out their New Early Scarlet PRINCE OF WALES RHUBARB, 5s. each. It is quite as early as the Prince Albert, much larger, red throughout, of exquisite flavour, and a large cropper.

Post-office Orders from those not having an account open with H., S., and Co., to be made payable to the Firm, at the Borough Post-office, or postage stamps.

For Testimonials and parties where both articles can be had, see *Gardeners' Chronicle* 13th September, 1852, page 594.

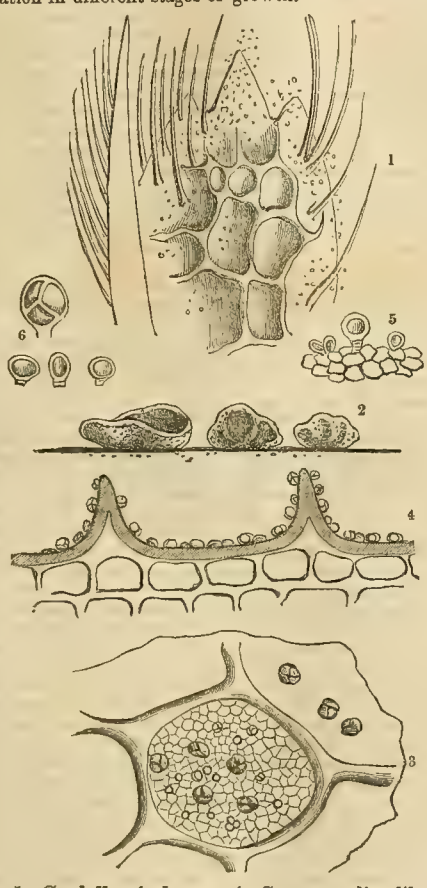
Newington Butts, London.

The Gardeners' Chronicle.

SATURDAY, OCTOBER 9, 1852.

Every parasite which attacks those species of Grasses that afford the staple food of so large a portion of mankind, or even less valuable species of the same great natural order, provided it really exercises any decided influence on health or fruitfulness, is always an object of interest to the cultivator, apart from any more purely scientific considerations. Few more remarkable, and more baneful, should it ever occur on a large scale, have ever met the attention of the mycologist than that which Cesati found in Italy in 1850, infesting to a great extent the glumes of *Andropogon Ischæmi*. Excellent specimens of this singular species have been published at No. 1587 of Klotzsch's "Herbarium Mycologicum," which enable us to give a figure of it, though necessarily an imperfect one, but sufficiently satisfactory, it is hoped, to admit of the easy recognition of the plant, should it occur to any of our readers who reside in the southern parts of England, where it is most likely to occur. Beneath the calycine glumes an oblong, dark, olivaceous body protrudes on either side, which from a very early period is clothed with obovate spores of the same colour, divided irregularly by oblique septa into three or four cells. It gradually swells, especially at the base, adhering to the centre of the glumes, becoming transversely lacunoso-plicate, so as to resemble in form the seed of a Walnut or a portion of the human brain. Sometimes, however, it exhibits detached cup-shaped bodies, resembling a little irregular *Peziza*.

It is not easy to point out the affinities of this curious fungus. Cesati has not been able to do so, who had an opportunity of examining it in its different stages of growth; and after a very diligent examination we have not been able to arrive at a perfectly satisfactory solution of the question. The most probable opinion is, that as the curious gelatinous bodies so common on several species of Juniper are merely a more complete development of the dusty *Puccinieæ*, simulating the forms of true Hymenomycetes, such as the orange Tremella, which every one must have noticed on decayed sticks, so *Cerebella* is an analogous edition of *Polycystis*, "*auctior et emendatior*," as the phrase of the bibliopoles runs. Indeed we have little doubt on the subject, though we are not in a position to prove the justice of our surmise. The structure of the gelatinous base is cellular, a structure found in many *Uredines*, and therefore by no means adverse to our view. We have given figures of the plant and its fructification in different stages of growth.



1. *Cerebella Andropogonis*, Ces., spreading like a *Merulius* over the glumes.
2. Individuals magnified 40 diameters, growing, detached, and scattered.
3. A portion as seen from above, highly magnified, showing the cellular structure and spores.
4. A section through ditto, magnified 340 diameters.
5. Origin of spores from cellular tissue.
6. Young and mature spores.

Most of the figures are from the pencil of Mr. Broome. *M. J. B.*

Are Leaves necessary to the growth of roots, stems, and other parts? is a question which it may seem superfluous to ask. It would be difficult to find a practical physiologist who entertains any doubt upon the subject; for leaves are looked upon as being no less essential to the nutriment of a plant than a stomach to the supply of an animal with the materials from which its body is elaborated. Nevertheless there are certain undeniable facts which may be thought to lead to an opposite conclusion.

In the "Journal of the Horticultural Society," Vol. V., p. 110, published in April 1850, the writer of these remarks made the following statement, when pointing out the singular fact that the Potato increases largely in bulk after the removal of its stem and leaves.

"That tubers and roots will grow for many years, although their tops are removed, is an undoubted fact, be the explanation of the process what it may. It is now 17 years since M. Dutrochet brought to the notice of physiologists the unexpected fact that in the Jura may be found the roots of Fir trees still alive and growing, at the end of 45 years after the trunks were felled. A similar example is recorded by the Rev. Mr. Berkeley in the case of an Ash tree which had been sawn over level with the ground. (See *Gardeners' Chronicle*, 1850, p. 99). Gardeners know very well that the tuberous Tropæolums, the stems of which have been accidentally broken off, will continue to grow for a long time afterwards; as also will tuberous Bindweeds. These are notorious facts, though they have never been recorded with the exactness which is desirable in scientific questions. And it so happens that I have now before me a very illustrative case, which places the matter beyond all further question.

"It chanced that in the Conservatory of Chiswick House a plant of Sello's Ipomœa was, in November, 1840, destroyed to the ground by frost, *since which period it has neither made buds nor leaves*. Nevertheless, its roots have continued increasing rapidly in size. In fact, it has been frequently repotted as its increase in size demanded it; for in 1840, at the time of the accident, it was but a small root. During this long period it has been subjected to a high temperature. At this moment the root forms a coil, not unlike a boa constrictor, 1 foot across, 6 inches deep, and weighing 7¼ lbs. Although we have no record of its weight at the time when the stem perished, yet, as it has continued to grow for nine years and a half, and was originally in a small pot, it is not unreasonable to assume that it has acquired at least seven times its original weight. Although no leaves have been formed, yet many attempts at the production of stems are visible upon the specimen, in the form of short stunted tubercles or incipient branches; and the root is now so full of vitality that I entertain no doubt of the possibility of compelling it, by artificial means, to resume its growth.

"Here, then, is a very striking proof that plants have an inherent power of growth without leaves. It is probable that in this case the bark, of which a large surface has been exposed to light, has acted as a substitute for foliage, perspiring, and assimilating food, as all green parts do, whether leaves or not. It is also probable that the surface of the root which rested upon the earth, and which still is colourless, has constantly attracted from the soil the food which the bark is assumed, in this case, to have assimilated. But if such a power can be recognised in an Ipomœa, we must also admit its existence in the tuber of a Potato, even although that tuber is not exposed to light; and the vital force of the latter must be allowed to be capable not only of converting into starch the gum which was supplied by the leaves, but of absorbing gaseous and fluid matters from the soil, and, by their assimilation, of continuing to grow, although perhaps for only a limited time."

We observe that M. Durand, of Caen, has arrived at similar conclusions, apparently without being aware of the foregoing statement. In some experiments published in the "Comptes Rendus," Aug. 16, 1852, it was found that Poplars, Apple trees, Acacias, &c., on which nothing was left except Miselto, grew in diameter notwithstanding the loss of their green organs. The two following experiments were still more conclusive.

Exp. 1. At a yard and a half above the soil, an old Elm tree was cut across before winter. The tree thus mutilated was a mere fragment of trunk under whose bark some adventitious buds were collected, so as to form a bur. The wound was covered with plastic clay. As soon as the adventitious buds began to move in the spring, they were carefully removed as fast as they appeared. Nevertheless, a layer of wood was formed. In the following years the same thing happened, that is to say, in the absence of leaf-buds, leaves, or any green parts, a layer of wood was formed every year; and it was ascertained that the roots of the Elm under experiment were not accidentally grafted with the roots of other Elms, as is said to have been the case with the Fir trees brought into notice by Dutrochet.

Lime trees operated upon in the same manner gave the same result.

Exp. 2. A ring was cut out of a Beet-root standing

above ground; the incision was made between 2 and 3 inches below the crown, where the buds and leaves grew. The crown was cut off immediately below the first leaves, excepting that a rudimentary leaf-bud was saved on one side of the plant. The bud grew; the root increased in all directions. Below the bud was formed a small protuberance, which, when examined, was found to consist of five new woody layers; but those layers did not extend round the root; they went no further than the protuberance itself. Right and left of the protuberance the plant had the same number of layers of wood as it had when the experiment commenced, which was seven. Nevertheless the diameter of the Beet-root had much increased in the parts not beneath the protuberance. Some variation was made in this experiment, but the result was the same; it was clear that bulk increased without the assistance of leaves, &c.

This class of facts appears to us to be so very important in practice that we shall return to the subject, and at the same time direct attention to some other facts, of a different although similar nature, which M. Durand has also made known. In the meanwhile we should be greatly obliged to any physiologist who can furnish us with any evidence upon this curious inquiry.

FAIRY RINGS.

No one will deny the great ability of the author of "Pickwick," and few people doubt the usefulness of "Household Words." Clothed in the mantle of genius, sayings and doings of every-day life, the mysteries of art, the hard dull things of utility, come out in a form at once refreshing and beneficial to the mind. Strange, then, is it to see that when science, to which all art is subservient, and the triumphal progress of which will mark the 19th century in all future time; strange is it, I say, that science should not receive the honour which is due to it at the hands of so excellent and useful a writer as Mr. C. Dickens. Turn, if you doubt this statement, to No. 131 of "Household Words," and at page 34 of the said number for Sept. 25, 1852, you will find an article upon "Fairy Rings," in which the author rejecting, or not alluding to, the only really rational explanations ever offered of those singular phenomena —those of the botanist and chemist—rushes with the wildness of imagination, "let loose," into a most *unscientific* and untenable revival of the old electric theory of the origin of fairy rings.

Nothing so useful to explain things apparently inexplicable as electricity. I truly believe there are people to be found who think everything in the world is due to electricity; and papers like the "Chip," in "Household Words," will perpetuate the delusions of such people.

I do not find fault with the author's opening invocation to Poetry and Fairies. If he will favour me with a call, I will take him to people living in a wild rural district who believe that the fungi on gate-posts are made by fairies; and, in fact, that the said fungi are really pots of "fairies' butter;" and, further, the said people will gravely tell you they have seen the same butter made by real live Titanic weirds. With all due deference to the author of the "Chip," there is just as much real evidence to prove that these rings are made by fairies as that they are caused by electricity. His friend who, in the fulness of originality, discovered that a ring on his lawn had exactly the outline of the tree under which he made his observations, and hence jumped at once to the conclusion that the phenomena was produced by electricity, ought to have known that thousands of "fairy rings" flourish without trees or any other agent by which electricity might be influenced. While I write I see three on my own meadow. One is a ring round a tree; the other is a ring under a tree, certainly, but situated not north and south with regard to the stem, but exactly the reverse; and the third is an equally complete circle, without a tree near it to guide the electric fluid. What will men at all conversant with the properties of electricity say to the following passage sent out in a popular publication, by a popular writer—to remove the ignorance of the people. "In the north is the great store-house of electric power; and when a supply is required in other directions, the fairy rings are halting-places on its way from head-quarters." I have heard of our friends in America talking of "bottling a sunbeam," but I think this is common sense, when compared to the above passage. Perhaps the conclusion of the "Chip," which is an old quotation from a "Quarterly Review," puts the electric theory rather more forcibly. "A person in Virginia, standing at his door during a great thunder-gust, was killed; an intermediate tree, at some distance, was struck at the same time; and when the corpse was examined, it was found that the tree was delineated upon it in miniature." (!)

Now all this is a sad—very sad going back. The cause of fairy rings has been set at rest, as any one I think, who has read Mr. Way's paper, will admit. Botanists tell us that the under-ground spawn of fungi grows only in a border radiating in every direction from the centre where the spore originally germinated; therefore, the thallus of a fungus is the commencing point of a fairy ring. But whence the ring? Why, Mr. Way has analysed these fungi, and found that they concentrate from the surrounding ground large quantities of phosphates in their tissues, and hence when they decay, the ground which has produced them is more fertile, and the Grass more green. As the original little ring of spawn only grows outwardly, it is clear that its fructification—the toad-stools—must grow in a ring, gradually increasing in diameter.

It is impossible to have a clearer or more simple and satisfactory explanation of a natural phenomenon than this union, as it were, of the botanical and chemical explanation affords us. Why then reject what is so clear, and flounder so unmistakeably in the mazes of electricity?

I cannot forgive either the author of the "Chip" for supposing that imaginary things are in reality more poetical than real ones. Poetry, whether that of Nature or of painting, or of versification, is a conception of the beautiful. Now, there is nothing in imagination, or in dreamy visionary creations of the intellect, half so beautiful as a knowledge of the laws of Nature. The sight of a fungus may, to some minds, be loathsome, but look into its natural history — its reproduction — its growth—its organisation; fancy that all these are produced, not by the invisible agency of a poetical fairy, but by the design and omnipotence of an all-wise Being —and our conception of the beautiful will be great and complete. *C. R. Bree, Stowmarket.*

BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

On a Microscopic Alga as a Cause of the Phenomenon of the Colouration of large Masses of Water, by Prof. Allman.—It appeared in little conglomerated gelatinous-like masses, and, when submitted to the microscope, it was found to consist of a number of fronds. The younger fronds were nearly spherical, and consisted essentially of a central mass of transparent gelatinous matter, surrounded by a crust composed of minute cells, containing a green colouring substance. The crust being much slower in its growth than the internal nucleus, it soon bursts, and the nucleus then, by an apparent spontaneous action, assumed a regular form, not unlike an hour-glass, which soon separated into two distinct fronds. Some of them being put into a glass tube, and placed in the window, were observed to arrange themselves in a mass on the side of the tube opposite to that exposed to the sun's rays—that side of the mass towards the light being formed into a beautiful concave curve, which might, he thought, when fully investigated, reveal some important facts as to the nature and influence of light.

On the Distribution of the Marine Algæ on the British and Irish coasts, with reference to the (probable) Influence of the Gulf Stream, by Professor Dickie.—There were, he said, forms of marine Algæ generally admitted to be characteristic of our northern coasts, and others of the southern. The remarks he was about to make referred to those generally deemed of southern type; that is, those which usually are more or less abundant in low latitudes, and, on the other hand, are absent from high latitudes. Such species, natives of our coasts, may be classed under three heads: first, those confined to the southern parts of Great Britain and Ireland; second, species of more extensive range, since they extend to the north of Ireland and south-west of Scotland; third, those found abundantly in the south of England, and ranging along the western coasts of both islands, as far as Orkney and Shetland; and the species enumerated under these three classes, and amounting to more than 20, are, so far as we can ascertain up to the present time, absent from a certain part of the east coast of Scotland. A considerable proportion of them reappear in Shetland and Orkney. The marine vegetation in these northern islands resembles that of the north of Ireland, though there is a difference between them of from 4° to 5° of latitude. The marine plants of some of the north-eastern counties of Scotland, intermediate in latitude, are of more boreal character. The drifting of tropical fruits, &c., to the western and northern parts of Ireland and Britain, is a proof of the direction and presence of the gulf stream; the development of southern forms of Algæ, at the extreme northern parts, is a proof of the same, and, moreover, seems an indication of its influence in reference to temperature. Are we to consider their absence from certain parts of the east coast of North Britain as owing to a lower sea temperature than in localities where they exist? The portion of the coast in question is precisely that which, from the generally understood course of the gulf stream may be least exposed to its influence. Investigations respecting the temperature of our seas are, however, still desiderata; and without such, an important modifying element has been overlooked having reference to the climate of the British islands.—Prof. E. Forbes said that the distribution of marine animals corresponded with those of marine plants. The same anomalies which Dr. Dickie had pointed out with regard to plants existed with regard to animals. Less attention had been given to the distribution of marine Algæ than almost any other organic existences. With the exception of the labours of Dr. Harvey, little or nothing has been done. We wanted a more accurate knowledge of the temperature of the ocean at different depths.—[This hint resulted in a subsequent recommendation from the Section that the Government would prosecute this inquiry.]—Prof. Walker Arnott said that he possessed waggon-loads of Algæ from all parts of the world, which were greatly at the service of any botanist who would work at them. The collecting part of the task had been done,—the naming and arranging were now alone necessary. Dr. Harvey could do no more than he had done at present.

WITSENIA CORYMBOSA.

Autumn blooming plants with blue flowers are by no means abundant; and this fine old plant, although one of the best of this character for greenhouse purposes, does not appear to be very generally cultivated. Its foliage and habit contrast admirably with the ordinary inmates of a greenhouse; it is easily managed, flowers freely, and the blossoms remain in perfection many weeks if in a cool, dry, airy house. Good healthy plants in 5-inch pots should be selected to commence with, as weakly ill-propagated examples are difficult to get into free growth, and in the hands of beginners only occasion disappointment. Treated as a cool greenhouse plant, it will grow and flower abundantly, and form a large specimen; but it delights in a moist gentle heat during its growing season, and when accommodated with this it makes wood very rapidly.

Where large specimens are desired without loss of time, the young plants should be placed in a close moist pit or house in February, or early in March, where the temperature may average about 55°; they should stand near the glass, and be freely supplied with air on mild days. Whilst growing, they should never be allowed to become pot bound; healthy plants may be expected to require a shift shortly after being placed in heat, and such may be shifted into pots two sizes larger than those in which they have been growing, or from 5-inch to 8-inch pots. Sprinkle over-head with the syringe on the morning and evening of bright days, and maintain a moist atmosphere, but apply water to the soil sparingly for a fortnight after potting, when the roots shall have struck into the fresh soil, and there will be less danger of over-watering. It is of the utmost importance that the plants be kept growing steadily and not allowed to sustain the slightest check after they have started into free growth, until it becomes necessary to prepare them for winter, and this is easily effected with ordinary attention. When fairly established after shifting they will require a rather liberal supply of water at the roots, but this must be administered with care, and a regular and somewhat moist atmosphere should be maintained. On the occurrence of bright days with cold drying winds, which are usually abundant in March and April, it is better to allow the temperature to rise considerably above the maximum than to permit a current of cold drying air to pass over tender-growing plants, by a free admission of air at the back and front of the house. After the middle of April the temperature may be allowed to range as high as 65° by day, but it should not exceed 55° at night. The plants may be placed in a cold frame during the summer months, but they should not be removed before the middle or end of May, as it would probably be difficult to maintain a sufficiently high temperature at an earlier period. During bright hot weather a thin shade should be thrown over the glass for a few hours in the forenoon. Sprinkle the plants over-head and shut them up early on sunny evenings, but admit air for the night.

Such of the plants as received a large shift in spring will hardly require a second during the season, but if any of them seem to want more pot room, give a small shift as early as it may appear to be necessary, in order that the plants may fill their pots with roots before winter. The shading should be discontinued early in August, the atmosphere kept drier, and the plants freely exposed to light and air, with a view to ripen the wood previous to the approach of winter. They may be wintered in a light airy part of the greenhouse, and be rather sparingly supplied with water at the root during their season of rest. If good plants are selected to begin with, and these treated the second season as directed for the first, they will be handsome specimens in 12-inch pots, and may be allowed to flower the second autumn. When the grower is satisfied with the size of the specimens they should not be placed in heat in spring, but retained in a close part of the greenhouse, and freely exposed to light until they come into flower. If having a succession of flowering plants is an object, some might be placed in a gentle warmth early in spring, and removed to the greenhouse, when they have made sufficient growth; they would be in flower early, and would be succeeded by those in the greenhouse.

The Witsenia likes a rich fibry peat, which should be broken up moderately small with the hand, rejecting all but the best, and mixing with about one-sixth of sharp silver sand. Use plenty of drainage, and in shifting make the soil rather firm about the ball, and be very careful to have both the ball and soil in a proper state as to moisture, as in using rough soil and giving a large shift it is very difficult to correct an error in this matter. Although not difficult to propagate, the operation is rather tedious. Select the stronger shoots of the current season's growth when about half ripe, insert them in sandy peat, cover with a glass, and place them in a very gentle bottom heat. The cuttings should be got in as early in the season as convenient, so as to get them established singly in small pots before winter. *Alpha.*

Home Correspondence.

British Orchids.—Having given my attention to the cultivation of British Orchids in various soils and situations, I am of opinion, owing to the unfavourable results which attended my endeavours, that they will never be generally cultivated with sufficient success to

secure them a permanent place in the flower-garden. In the neighbourhood of Chichester, however, many of the species indigenous to the locality are found capable of removal from their native places to adjacent flower-borders, without the least deterioration to their future development. Of this, "A. D." (see p. 564), whose collection under cultivation I have frequently had an opportunity of seeing, has had abundant proofs; in fact, in this locality the indigenous kinds seem to flourish in spite of the worst treatment—tubers taken up and totally denuded of soil, on being replanted, flourish with a vigour never witnessed in other situations, and sufficient to justify "A. D." in suggesting them as subjects for the flower-garden. I have, however, forwarded great quantities of the tubers of the Ophrys muscifera, apifera, and other rare species, from this neighbourhood to my friends in different parts of England with results similar to those complained of by "H. L. T.," the tubers only surviving to throw up one puny spike of flowers, to pay for the carriage and trouble of removal from their native places. With "A. D." it is different; for not only has he a flourishing collection in his flower-borders, but also a healthy assortment springing from the turf of his lawn, most of which, I believe, he planted there. In my opinion this latter mode of cultivating them is decidedly the best, and greatly enhances the value of plants of this class, which seem more adapted for private than general gratification. All admirers of British Orchids residing in situations so peculiarly adapted to their growth would do well to commence their cultivation; many of the species would amply repay any trouble bestowed upon them. The Platanthera chlorantha, so abundant in Sussex and other places, will be found, owing to the fragrance which its flowers exhale, well calculated to take the place in the bouquet or vase of the Lily of the Valley, the scent being much the same; the chief difference between the two is that the former is considerably stronger, and comes into flower exactly when the Lily of the Valley is going out. The Cypripedium calceolus was found not many years ago in Castle Edendean, and specimens of it were also observed in the gardens of one or two cottagers in the neighbourhood, but doubtless it is now extinct in that and every other British locality. I believe it has also been found in one or two places in the north of Yorkshire; if my recollection serves me right Baines enumerates it in his "Flora of Yorkshire;" those who have the work in question will have the opportunity of observing for themselves. *G. H., Woodlands Nursery, Uckfield, Sussex.*——I observe, at page 628, that "H. L. T." doubts my statement that several of the British Orchids can be grown as bedding plants. His friend and himself having both tried and failed to succeed in their cultivation, "induces him to believe that the thing is impracticable." He further supposes that I cannot have had much experience in their cultivation to propose their introduction for bedding purposes. Now, without entering upon a statement of whether my experience of their culture has been of long or short duration, suffice it to say, that it has been of sufficient length to enable me to say with confidence that, here at least, there would be no more difficulty in obtaining beds of the sorts I named at page 564 than there would be in having a bed of Tulips, Hyacinths, or any of the Narcissi, as they grow as freely and with as little trouble as any other herbaceous plant. But your correspondent says, "he has paid some little attention to the matter," and I will be courteous enough to give him credit for the statement; and to furnish him with a better opportunity of judging whether or not I have exaggerated or advanced any wild or impracticable theory, I will mention the different heights which some Orchids have attained under cultivation here this season. Orchis mascula reached from 12 to 18 inches; morio, 12 inches; maculata, from 14 to 18 inches; pyramidalis, from 9 to 14 inches; Habenaria bifolia, from 14 to 18 inches; Gymnadenia conopsea, from 14 to 18 inches; Ophrys apifera, from 12 to 15 inches; muscifera, from 10 to 15 inches; and permit me to add, they were not "drawn," but strong and healthy in proportion to their height, their flowers bright and well formed, and they have been under cultivation between three and four years. Surely this is enough to satisfy any reasonable expectation that there is little or no doubt in the matter, and after all "the thing may be practicable." Your correspondent also joins issue with me for even suggesting that a trial might be made to cultivate the Cypripedium calceolus; and endeavours to instruct us as to its scarcity. That it is scarce I am well aware, and that was one reason, independent of its value as an ornamental plant, why I hinted that a trial ought to be made to grow it; and I intimated that difficulties would have to be surmounted in its cultivation. But through what medium "H. L. T." could view what I said, to induce him to think I meant the cottagers grew beds of it, I cannot understand; and certainly if any one has made a "mistake" in the case, it is himself. Who ever dreamt of such a thing as cottagers growing beds of any kind of flower, however great a favourite? more especially such a plant as the one in question. I merely said it was occasionally seen growing in cottage gardens, and this fact he admits to be the case, by stating that "its possession was confined to a very few." However, I can inform "H. L. T.," on pretty good authority, that it has been seen growing wild in the locality he mentions, long after the time he states that enquiries were made about it. I would now invite all those in any way interested in the cultivation of native Orchids, to come forward and honestly state their experience, whether they have been successful or the reverse. This would do infinitely more to forward the end in view than trying to throw discredit on the statements of others. *A. D., Dale Park, Arundel.*

Wintering Potatoes for Planting.—I may mention that I planted Potatoes of the name of Flooks here in February last, which had been wintered in a bed-room quite dry. They were not sprouted when planted, but were free from disease, and firm. The quantity of diseased ones in the produce is very small; while Ash-leaved Kidney, close by, planted at the same time, are two-parts out of three totally rotten or diseased; the latter were kept in a damp place, and before planting vegetation had taken place. I am of opinion that keeping Potatoes firm and free from sprouting during their period of rest has much to do with the disease. I propose selecting some free from the malady this year, and keeping them, as near as I can, as the Flooks were, and as fine as the Kidneys were, and I will report the result. *Cymro.*

Rain.—The following is the amount which has fallen here during the six months ending 30th September last, and the number of days in each month on which some rain was found in the gauge. I have no means of comparing the rain-fall with that of former years in this district; but I have little doubt that the quantity of rain which fell in June and August last, and more particularly in June, was far above the average of those months, whilst that of April was far below its average. In May, July, and September the rain-fall was probably about the average amount. The rain gauge is placed between the Copped-hill and the river Wye, at an elevation of about 40 feet above the ordinary level of the river:—

Month.	Fall in Inches and Decimal parts.	Days on which some Rain was in the Gauge.	Average of 17 years at Chiswick, according to Daniell's Tables.
April	.38	4	1.55
May	1.89	8	1.67
June	5.37	21	1.93
July	2.87	8	2.44
August	4.78	18	2.37
September	3.00	12	2.97

—*H. Goodrich, near Ross, Hereford.*——The following table exhibits the amount which has fallen at Chiswick, in the present year, up to the end of September, comparatively with the average for the last 26 years:—

	1852.	26 Years' Average.
	Inches.	Inches.
January	2.71	1.67
February	1.05	1.61
March	0.25	1.40
April	0.52	1.65
May	1.74	1.74
June	4.69	1.77
July	2.27	2.37
August	3.61	2.44
September ...	3.64	2.52
Total ...	20.48	17.17
October	...	2.60
November	...	2.29
December	...	1.52
		6.41

	Inches.
Amount in January, February, March, 1852 ...	= 4.01
Which was below the average	0.67
Amount in April, May, June	= 6.95
Which was above the average	1.79
Amount in July, August, September	= 9.52
Which was above the average	2.19

It appears from the accompanying table that in February the amount of rain was fully half an inch below the average; March and April were unusually dry months; in May the rain was exactly equal to the average; in July nearly so; but in January, June, August, and September, the quantity was greatly in excess. The exact average amount for the whole year, deduced from the last 26 years' observations, at Chiswick, is 23 639 inches. If we take from this quantity that which has fallen up to the end of September, 20.48 inches, there remains little more than 3 inches to be supplied during the last three months of the year; and it will be seen from the table that they usually give more than double that quantity. ||

Heating Greenhouses with Gas.—About two months ago, a gentleman in my neighbourhood asked me what was the most economical way of heating a greenhouse 12 feet by 9? An idea struck me, that if a small gas pipe could be brought under ground from the house to the greenhouse, and then carried through the latter by piping, it would answer. This has been effected in the following cheap and easy manner. A wrought-iron box was made 2 feet square, with a door in it for opening to light the gas, as well as to give it air to burn with. This box was fixed in the brick-work, near the back of the east end of the house; from this a 3-inch pipe fixed near the top of the iron box, was led to the other end of the house, from which, after rising 6 inches higher, it was conducted back again and passed through the end of the house into the open air, where, forming a bend, it ran up the outside in the shape of a chimney, with a little cap on the top to keep out the rain. The gentleman has had this contrivance lighted several times to show it to his friends, who are all so satisfied with it that they mean to have one put up for themselves; the burner is a fish-tail, which can be regulated so as to furnish much heat, or little. No lighting till required is needed; no burning and over-heating over night; and as to economy, when full on, it burns 6 feet of gas per hour. Instead of wrought-iron pipes, however, they should have been cast-iron, with saddles on them to hold water, but even in the present case a zinc saddle might be made to answer. I had the gas lighted when I went to inspect it, and in five minutes the pipe was hot at the other end of the house. This simple apparatus will not rest here; if gas can be applied upon a small scale it can upon a large one, and no doubt in time forcing houses will be warmed by it as well as Melon and Cucumber pits, large greenhouses, conservatories, and houses of all sorts. But I hear some one say, country places cannot have it; cannot gentlemen put up gas apparatuses? only one fire would then be wanted to do the duty of the whole establishment. *James Cuthill, Camberwell.* [The difficulty with gas has always been that it burns the air, and also contaminates it by escape. It is indispensable that both these sources of evil should be most effectually guarded against—not a very easy thing to do, as is shown by the number of similar attempts which have ended in failure.]

Double Blossomed Peach.—I have a tree of this kind planted about 12 years since; it has frequently borne two or three fruit, but this year really a crop; there were between four and five dozen fruit, and above three dozen are still on the tree, or were until last night's wind, many of them of good perfumy flavour. They are not larger than an Apricot. Is not this rather an uncommon case? *Inquirer.* [The double-blossomed Peach rarely produces fruit. It has been known to do so after cold springs; when the more forward blooms are injured by frost, the later occasionally set.]

Gold Fish (see p. 630).—Permit me to inform your correspondent that he must remove all the tench and any other kind of fish he may happen to have in his pond; as fish, in general, are fond of gold fish spawn. Allow a quantity of shingly grit to remain along the sides of the pond, as the fish like to deposit their spawn on it, and also let the mud accumulate at the bottom, as it affords protection to the fish in severe frosty weather. All the brown fish (they are always dark at first), will ultimately turn of a golden colour. For the information, not only of your querist, but for the public generally, I beg to say that the male fish have always bright shining tails. This will be a guide to those who wish to get a stock of these beautiful creatures. Attention to the above directions cannot fail to ensure success. *William Welton, Brompton.*

Adulterated Food.—Thorough drainage in all towns is necessary to render the atmosphere healthy. But of what use are all precautions to defend the outward man when the interior is supplied with adulterated food? Let the air be ever so invigorating, it will not enable the constitution to bear up against the poison mixed with various articles of consumption. The impure diet eaten by all classes (more particularly the lower orders), in all large towns is more injurious than people imagine. Many maladies may be traced to unwholesome food, now attributed to imperfect draining, bad enough no doubt, though not the main cause of disease in populous cities. The flesh of over-driven animals verging on putrefaction, stale fish only fit for manure, fermenting vegetables, sausages made of any and everything, well seasoned with Cayenne pepper and red-lead, with many other articles too numerous to mention, but judiciously made up for the market. Beer made with the smallest possible quantity of malt and Hops, strengthened with drugs peculiar to the trade; spirit, whose fire and heat is increased by the most pernicious ingredients, destroying all powers of digestion in the course of a very short time. Pickles with copper, to give them a pretty colour, and the vinegar diluted with corroding acids. Men and women swallow all these in large qualities, and are surprised they require the assistance of the doctor. The only wonder is, the humane frame can at all resist such a combination of horrors. Not one-half of the list of villainous compounds to which the human stomach is doomed have been enumerated; however, sufficient may have been said to place individuals on their guard against committing a description of suicide by swallowing all kinds of filth without the trouble of inquiry. The anecdote of the pious tradesman may well be repeated at the present day with a slight addition, "John, hast thee shut up the shop, leaded the pepper, coppered the pickles, and dusted the sugar?" "Yes, master," "then come to prayers, to worship the unknown God." Surely no man who cheats his customers, and knowingly and wilfully injures that most precious of all things "health," can believe in the existence of an omnipotent and just Being. What difference is there between a man who robs you on the highway from dire necessity, or the sleek well-fed extravagant tradesman who picks your pocket, and poisons you into the bargain, for the love of that which he truly worships—money, through the agency of the very aliment you consume? The latter is more guilty in the sight of his Maker than the former, adding hypocrisy to all his other sins. *Falcon.*

Dielytra spectabilis.—The following is some account of, perhaps, the most splendid specimen of this Fumewort that has ever been grown in this country. The plant to which I allude was planted the year before last in the garden of a gentleman at Lexden Heath, near Colchester, and was then only a few inches high. During that and the last year it grew and flourished wonderfully, but this year it reached a size and form that very far surpasses anything of the kind that I ever heard of.

In the middle of August it became necessary to cut it down, on account of its enormous size, to prevent it from destroying some neighbouring Roses, and it then measured upwards of 30 feet in circumference, and 5 feet in height. I have never had an opportunity of examining it closely, but I have constantly seen and admired it from the road in passing by, and I have repeatedly heard from one who has been inside the garden that what I have here stated is entirely correct. I have also been told that between April and August it frequently bore upwards of 200 perfect spikes of flowers at once, and that it had not a single stem or branch broken by the wind, although in a very bleak and exposed situation. I should add that it is planted in the richest artificial soil that can be made, and that in winter it is left wholly unprotected. In the flower garden of the same gentleman there are also extraordinary specimens of the Myoporum tenuifolium, the two sorts of Vincas, and of the new Cantua dependans; I have not seen them myself, but I am informed by good authority that they are of a size and form far beyond anything ever attained in any of our best managed greenhouses, owing entirely, I believe, to the soil which is given to them. *A Lover of Flowers.*

James Carton.—I beg to state that James Carton and his family sailed from the port of Dartmouth direct for the diggings, at Port Philip, on Friday, October 1, in the ship Janet Mitchell; his eldest son, 16 years of age, having sailed for Sidney six weeks ago; his youngest son, a baby, six weeks old, in all 10 souls. They are well provided with clothes and other necessaries for the voyage. His passage, outfit, and extras, have cost upwards of 150*l.*, besides presents of clothes, seed, tools, &c. This notice will satisfy the parties that doubted of his going, and will also let those who have generously come forward with the ways and means know that he was seen comfortably settled on the ship's rations by Mr. Forsyth, who has taken charge of his outfit and embarkation. *R. C.*

Diseased Potatoes.—The treatment I have hitherto adopted for the preservation of my Potatoes has answered my most sanguine expectation. I do not take up the crop until the stalk has lost its green appearance, and is decayed. I throw away the putrid and soft Potatoes, and those that are covered with a brown scurf, or partially diseased, I separate from the general crop, and subject the whole to a large supply of slacked lime, lime ashes, or wood ashes thrown over and well mixed with them. The drying or antiseptic quality of the lime acts like magic on them, and checks the putrefaction in a few hours; so that the brown scurf is instantly dried up, and can be peeled off from the good part of the Potato, which may be boiled for pigs, or for other farm purposes when required. The general crop, which possibly might still have many infected ones amongst them, I keep in an outhouse, buried in the ashes until wanted, and even up to the time of replanting, without the germinating principle of the Potato being the least injured by the process. I had good mealy Potatoes the whole of last season when all my neighbours were complaining of the closeness and bad quality of their crops. I grow about 80 bags yearly, and use about 6 or 8 bushels of lime or ashes for them, which is not lost, but may be used on the farm afterwards. *Charles Roberts, Bickington, near Barnstaple.*

Large Peaches.—The following is the weight of 12 Late Admirable Peaches, gathered in the garden of H. Earle, Esq., Allerton Tower, on the 2d inst. The 12 weighed 5 lbs., the largest measuring 10 inches in circumference and weighing 8½ oz. For Peaches about London this weight may be considered small, but it is reckoned very good about Liverpool. *James Clarren.*

Tomato Disease.—I expected to have seen more replies in reference to the request, at p. 598, respecting the Tomato, as it has now become an article of extensive use. Mine were diseased the first year in which the Potatoes were affected, and they have been so, more or less, every season since. This year I had a fine promising crop, but on examining it about a month ago I could not find one fruit sound. I am in the habit of growing Tomatoes to a great extent in the open ground, and although every season many have been spoiled by the disease, I have found them a profitable crop. They have generally failed this year in this neighbourhood on all soils and in all situations. *R. Shackell, Bath.*

The Apple.—You inquire what I can mean by saying that "the Apple is the most neglected of fruits." Now I would ask if that degree of attention is generally paid to the Apple which its merits demand? Attached to most private residences you will find an orchard, it is true, but how is it managed? are the trees ever pruned in any other way than merely by taking out here and there a large limb? The dead wood is seldom or never removed; weeds are allowed to cover the ground, or the Grass grows until it is sufficiently long for hay; it is then mown, taken away, and disposed of as may be considered best. These are facts patent to all who visit the gardens of the nobility and gentry. I could, however, name a few places where the Apple receives every attention which it is necessary to give it, both in regard to pruning and manuring, and I will instance one. In a nobleman's garden, not 100 miles from the ancient town of Nantwich, may be found a fine example of Apple culture in the shape of trees—not large, rambling, and wild looking—but neat dwarf bushes, not more than 5 feet in height, with beautifully formed heads, as flat as a table, many of which have seen some 40 summers, and still they bear an abundance of fine healthy fruit, whose like would not be easily found in any other place, and all this is obtained by skilful annual pruning and manuring. I observed on my visit there the other day, several old and favourite kinds in the finest state of perfection, such as Court-pendu-plat, Devonshire Quarrenden, Downton Pippin, Dumelow's Seedling, Baxter's Favourite, Golden Reinette, Yellow Ingestrie, and many others equally valuable, amongst which I may mention Mère de Ménage, an Apple seldom met with, especially in such perfection as it is grown here. Many fruit of this sort weighed 20 oz. each, and I was informed that they had frequently been found to weigh as much as 23 oz. each. I may add, however, that everything is done in first-rate style, under the superintendence of a first-class gardener. *Derbyshire.*

Potatoes.—I send you a correct account of my Potato crop of this season, consisting of three sorts, as it displays in a remarkable manner the important fact that all sorts do not suffer to an equal extent, even though late. It will appear by the present statement, that of the Prince Regents upwards of one-third were diseased. Of the Farmer's Profit one-fourteenth only were bad; and of the Red Champion, which is the earliest of the three sorts, and very handsome, only 1 bushel in 29 was affected. The ground, which is light, was manured last year for Turnips, the greater part of which was ploughed in, and no more manure added. They were planted in March. The Farmer's Profit was raised by myself, from a few I received from a friend six years ago, and has always yielded by far the soundest crop of any, as well as the largest; sometimes they have been all sound, with scarcely any middlings and chats; and it is an excellent Potato when all other sorts are past eating. The Red Champion I also raised from a single Potato; it is a good keeper, but not so prolific as the Profit.

	Ware.	Mid.	Chats.	Bad.
	Bush.	Bush.	Bush.	Bush.
Prince Regents	209	132	47	178
Farmer's Profit	164	43	8	16
Red Champion	88	14	4	2

F. J. Graham, Cranford.

Societies.

Entomological, *Oct.* 4.—J. O. Westwood, Esq., President, in the Chair. The President announced that the Society had removed its apartments from Old Bond-street, to No. 12, Bedford-row, Holborn, where the future meetings of the Society will be held. A special vote of thanks to Miss Bromfield, for a further donation of the entomological books of her late brother Dr. Bromfield, was read and signed by the members present. Mr. Edwin Shepherd exhibited a number of rare Lepidoptera, taken near Dover in July; also a specimen of Vanessa Antiope, taken at the same place at the end of September. Mr. Samuel Stevens also exhibited another specimen of the same insect, taken at the same time at Hampstead, as well as a remarkable dark-coloured specimen of Argynnis Paphia. Mr. F. Bond exhibited the caterpillar of Anticlea Berberata, and mentioned that he had also lately seen Vanessa Antiope flying near Cambridge. Mr. Hunter brought for distribution, from the Undercliff of the Isle of Wight, specimens of the rare Mononychus Pseudacori, which resides in the larva state in the seed pods of Iris fœtidissima, within which the perfect insects are found. Mr. Weir exhibited specimens of Coleophora deaurella, taken in Clover-fields at Tunbridge Wells; and Mr. Douglas specimens of Elachista testacella, bred from Sison amomum, as recorded and figured by De Geer, also Roeslerstammia pygmæana and its larva, which resides in burrows in the leaves of the Deadly Nightshade, having the instinct to throw out the excrement from its burrow, contrary to the usual habit of mining larvæ. Mr. Hunter mentioned a new mode of collecting moths, by placing pieces of rag dipped in sugar and beer upon bushes, to which the moths resorted in great numbers. This plan was found far more economical than the old one of sugaring the stumps of trees. Mr. Douglas read the commencement of a paper by himself and Mr. Stainton on the identification of the hitherto undetermined species of minute moths whose histories are recorded by De Geer and Reaumur. The introductory portion of this paper is of considerable interest, as it gives a general view of the various modes adopted by the larvæ of different species of minute moths which burrow into leaves. Many curious new facts were given, and several corrections of Zeller's paper on the same subject published in the "Isis" in 1838. A note on the insect named gru-gru, which is eaten in the West Indies, was also communicated by Mr. Douglas. The insect had hitherto been supposed to be the larva of a Calandra, but from the account now given it appears to be that of a Prionus. A number of the insects are roasted on a skewer, and are esteemed a luscious dainty.

Royal Horticultural of Cornwall, *Sept.* 17.—At this, the last exhibition for the present year, the following prizes were awarded:—Finest Pine-apple, Queen, Mr. Vivian; 2d, Black Antigua, Mr. Friend. Best Melon, King's Own Green Flesh, Mr. Daubuz; 2d, Duncan's Green Flesh, Mr. Vivian; 3d, Bowood, Rev. Canon Rogers. Best dish of Grapes, Muscats, Black Hamburgh, Black Prince, Black St. Peter, &c., Mr. Vivian; 2d, Black Hamburgh, Muscat of Alexandria, Black Prince, Frontignans, White Sweetwater, Syrian, and Black Cluster, Rev. T. Phillpotts. Best bunch of Grapes, Muscat of Lunelle, Mr. Vivian; 2d, Syrian, Mr. Friend. Best six Peaches, Warburton, Mr. Vivian; 2d, Violette Hative, Mr. Daubuz; 3d, Bellegarde, Rev. Canon Rogers. Best six Pears, Grey Catherine, Rev. T. Phillpotts; 2d, Grey Caroline, Mr. Friend. Best six Nectarines, Elruge, Rev. T. Phillpotts. Best 12 Apples, Autumn Pearmain, Rev. Canon Rogers. Best dish of Cherries, Morello, Mr. Daubuz. Best dish of Plums, Nectarine, Rev. T. Phillpotts; 2d, Magnum Bonum, Rev. Canon Rogers. Flowers.—Best 12 Stove and Greenhouse Plants: Clerodendron affine, Gesnera picta, Thunbergia aurantiaca, Vinca rosea, Justicia albiflora, Franciscea acuminata, Leschenaultia formosa, &c., Mr. Daubuz; 2d, Plumbago capensis, P. Larpentæ, Eranthemum pulchellum, Pentas carnea, Erica vestita rosea, Cyrtoceras reflexum, Achimenes venusta, &c., Mr. W. M. Tweedy. Best 6 varieties, Clerodendron paniculatum, Dipladenia crassinoda, Torenia asiatica, Ixora javanica, Mr. Daubuz and Rev. T. Phillpotts; 3d, Allamanda cathartica, Schubertia graveolens, Tetratheca verticillata, Rondeletia speciosa major, Cyrtoceras reflexum, Mr. Friend; 4th, Æschynanthus Lobbii, Vinca rosea, Justicia carnea, Chirita zeylanica, Angelonia pubescens, Sir C. Lemon, Bart., M.P. Best specimen Stove Plant, Æschynanthus grandiflorus, Rev. T. Phillpotts; 2d, Clerodendron affine, Mr. Daubuz; 3d, Ixora coccinea, Mr. Friend. Best Greenhouse specimen, Phænocoma proliferum, Mr. Daubuz. Best 6 Orchids in flower, Dendrobium chrysanthum, Phalænopsis grandiflora, a Cattleya and Oncidium, Mr. Daubuz. Best specimen ditto, Cattleya Harrisoniæ, Mr. Friend. Best 4 Heaths, Hartnelli retorta major, Banksiana purpurea, Irbyana, Mr. Daubuz. Best specimen of ditto, Clowesiana, Mr. Daubuz. Best 6 Fuchsias, Habena, Gem of the West, Unique, Seedling, Elegantissima, Ignea, Seedling, Mr. Daubuz; 2d, Prince Arthur, Ignea, Splendida, Gem of the West, Voltigeur, Mirabilis, Mr. Friend. Best specimen ditto, Seedling 1851, Mr. Daubuz; 2d, Banks' Voltigeur, Mr. Friend. Best 12 Dahlias, Magnificent, Beeswing, Fearless, Princess Louisa, Richard Cobden, Box, Mr. Seldon, Perfecta, Princess Radziville, Sir Edmund Antrobus, Beauty of Hastings, Toison d'Or, Mr. Friend; 2d, Snowflake, Fame, Duke of Wellington, Gem, Golden Drop, Fearless, Sir F. Bathurst, Sir Edmund Antrobus, Queen of Lilacs, Mr. Seldon, Seraph, Beauty of Hastings, Mr. Jennings; 3d, Toison d'Or, Mrs. Anderson, Duke of Wellington, Magnificent, Admiral Stopford, Shylock, Duke of Cambridge, Fearless, Marchioness of Cornwallis, Empereur de Maroc, Princess Radziville, Antagonist, Mr. W. M. Tweedy. Best 6 Dahlias, Box, Cleopatra, Bathonia, Princess Radziville, Beeswing, Marchioness of Cornwallis, Mr. Daubuz; 2d, Mr. Seldon, Beeswing, Fearless, Captain Warner, Princess Louisa, Toison d'Or, Mr. Friend; 3d, Duke of Wellington, Fame, Mr. Seldon, Fearless, George Glenny, Grenadier, Mr. Jennings. Best Hollyhocks, Magnet, Miss Baron, Splendens, Snowball, Abd-el-Kader, Saffron, Bicolor, Magnum Bonum, Cornet, Rosy Queen, Formosa, Miss Forbes, Queen, Enchantress, Elegans, Sir C. Lemon, Bart., M.P. Best Asters, Mr. W. Woolcock. Best Bulbous Plants, Lilium lanceifolium album, speciosum, roseum, Mr. Daubuz. Best Verbenas, Purple rival, Perfume Madeleine, Emperor of China, Orlando, St. Margaret, Defiance, Mr. W. M. Tweedy. Extra.—Asters, Mr. Vivian. Exotics, grown in the open air, Ozothamnus thyrsiflorus, Melaleuca pubescens, and depressa, Genista odorata, Chianthus puniceus, Veronica speciosa, Thunbergia coccinea, Siphocampylus bicolor, Tecoma capensis and jasminoides, Brugmansia suaveolens, Acacia verticillata, Statice Dicksonii, Abutilon striatum, Hedychium flavum, Plumbago capensis, Pultenæa stricta, Nerium splendens, Maurandya Barclayana, Orange, Citron, Lemon, Cassia multiglandulosa, Edwardsia grandiflora, Metrosideros floribunda, Erythrina crista-galli, Grevillea acanthifolia, Abelia floribunda, Camellia Aitoni, Leptospermum ambiguum, Brugmansia atrosanguinea, Melaleuca oppositifolia, Erica baccans, Maurandya Barclayana alba, Pittosporum Tobira, Bronze Medal, Mr. Friend. Echites splendens, Mr. Daubuz.

Books Received.

Architectural Botany. By Wm. Griffith, Architect. 4to. Gilbert and Co. Pp. 10 (a pamphlet).—That natural objects were the foundation of all the beautiful forms so happily applied by the ancients to architectural decoration, is as incontestable as that the neglect or want of due appreciation of the peculiarities of natural forms led to the loss of that classical beauty which the most untutored mind admires. We are, therefore, glad to see any endeavour to revive the study, and we wish Mr. Griffith success in his attempt to show how this may best be done for architectural purposes. We must, however, hint that he has much to learn before he will become a master of his art, and that he by no means succeeds in catching the true features by which Nature characterises many of the plants he has employed in his designs. For instance, 10 bears small resemblance to Adoxa, 8 has no similitude to Passiflora, nor could any one recognise the Hop in No. 12, which looks more like a Vine loaded with Grapes. It strikes us, moreover, that independently of non-resemblance, the Adoxa pattern is unskilfully managed. Symmetry is the soul of Nature, and every departure from symmetry is fatal to beautiful form. Measured by this, the only true standard, Mr. Griffith will find that his designs are susceptible of very great improvement.

History of the Battles of Ligny, Quatre Bras, and Waterloo. 8vo. Booth.—A re-issue, in monthly parts, of a well-known popular account of these important military affairs. Mr. Jones's clever and well-known sketches accompany the letter-press, as does an autograph of the Duke of Wellington.

Practical Experience at the Diggings of the Gold Fields of Victoria. By William Hall. 2d edition. 8vo. Effingham Wilson (a pamphlet).—A recommendation to emigrants that they should select Victoria rather than Sydney as the field of their operations. In October, 1851, the author started for Mount Alexander and the diggings there; on arrival he found 2000 tents and 10,000 diggers at a place called Golden Point. The amount of their earnings seems fabulous, but Mr. Hall informs us that he speaks of what he actually saw, and the general result of the diggings confirms his statements. It would seem that all cases of disappointment should be called cases of non-perseverance. Digging is, however, desperately hard work, and idle fellows prefer thieving, for which there seems, owing to the absence of Government protection, no remedy except Lynch law; of the manner in which that is administered the following is a specimen:—"Two freed men from Van Dieman's Land, who had been hard at work for some time, and had conducted themselves so as to gain the confidence

of their more respectable neighbours, on dividing their gold, quarrelled over a nugget, and one of them struck the other with an axe and killed him. He then despoiled his murdered comrade of his gold (about 24 pounds) and was packing up his clothes to depart, when the occupier of one of the adjoining tents, who had heard the threatening language used by the villain, and suspecting something serious had taken place, looked into the tent, and saw the unfortunate victim lying weltering in his blood. He returned unperceived to his tent for his fowling-piece, and when the murderer came out, he threatened to shoot him if he attempted to move. He then called for assistance, and the ruffian was secured. A number of the diggers had by this time collected on the spot, and it was resolved to hang him, in order to deter others from the commission of the like. The culprit evinced the greatest fear on the occasion, and begged for mercy and to be taken before the Commissioner in the most abject manner; but the stern reply was—'You shall have the same mercy at our hands that you shewed your messmate.' A rope was obtained, and thrown over a branch of a tree, and he was soon dangling between the heavens and the earth. The body of the murdered man was then decently interred, one of the diggers reading the beautiful and sublime service of the Church of England over his remains. There were at least 4000 diggers present at the interment, and the attention and decorum paid during the ceremony had a striking effect on all present. The body of the murderer was then cut down, thrown into a hole, and covered up." Another fellow was tarred and feathered, and then ducked—accidentally—to death. It is, however, understood that matters are different now, and that the power of English law is efficiently maintained. This book is well worth reading.

Labels for Specimens of Ferns. By Thomas Moore. —Neat and useful for those who take a pride in the beauty of their collections. They are on the same plan as Dr. Lindley's Labels for the Herbarium, and form three quarto leaves.

Garden Memoranda.

Messrs. Jackson's, Kingston.—This nursery, which is about a mile from the New Kingston station, on the South-Western Railway, has long been celebrated for its valuable stock, comprising, among other things, fine collections of Orchids and Heaths. On the right of the entrance is a show-house, about 40 feet long, filled with flowering plants, among which, until very lately, the different Japan Lilies have been very gay. The same house also contained a good show of Fuchsias. Between this and the other glass houses, at the other side of the nursery, is a straight walk, on either side of which were some fine specimens in tubs and large pots of the beautiful Araucaria imbricata; some of the plants were as much as 5 feet high, and well furnished with branches down to the soil. These plants are kept in pots for the purpose of accommodating persons who may want specimens to plant out at once, instead of waiting five or six years for their formation. Of the value of this plant in an ornamental point of view little need be said; but we may mention that it requires a good soil to grow it in perfection, good turfy loam being most suitable for it. To the left of this walk is a span-roofed Orchid-house of considerable length, with a table in the centre and shelves on either side, filled with many choice plants. Among others we remarked Calanthe vestita, a somewhat scarce Orchid, but one of the most useful for winter blooming, producing successively long spikes of white and crimson flowers, for three months at a time. The rare Dendrobium clavatum shown by Messrs. Veitch this season was also here, associated with some fine plants of D. macrophyllum, Aerides crispum, A. roseum, and a nice example of A. maculosum, Vanda tricolor, and others. These were all suspended from the roof in baskets, and were growing luxuriantly. In the same house plants of Odontoglossum grande were beautifully in bloom, together with Miltonia Cloweesii, and a few others. At the end of this stove was a collection of variegated plants, intermixed with Ferns and Lycopods. Among the former were some of the beautiful variegated Orchids, consisting of Anæctochilus argenteus, A. intermedius, A. xanthophyllus, a very distinct and beautiful species, the foliage being more than 2 inches long, of a velvety dark colour, with a broad orange and green stripe down the centre, and ornamented with a beautiful golden net-work. These are all grown under bell glasses and kept in the shade. In the same house were also some Pitcher-plants, among which Nepenthes distillatoria was 20 feet high, growing in a pot and trained up the rafters. The next house inspected was another span-roofed one, about 30 feet long and 12 wide. It contained a collection of dwarf Cacti and a few Orchids and other things. A third span-roofed house, about the same length, was filled with Orchids and Ferns; among the former was a very fine plant of Odontoglossum grande, growing vigorously and flowering beautifully. Messrs. Jackson cultivate this better than most people. They grow it in a pot with peat and good drainage, and at the coolest end of the Mexican house. Associated with it were Cattleya Aclandiæ, C. marginata, C. superba, and C. pumila, all of which were on blocks of wood suspended from the roof. This was stated to be much the safest plan of managing these valuable species, which if put in pots are apt to lose their young shoots. Oncidium Cavendishii was also showing good spikes of flowers. This is a lovely Orchid for winter blooming, its bright yellow flowers being very striking, and they last long in perfection. Camellias promised to be very gay. Among Heaths, Erica Austiniana is a beautiful new species: it was raised between E. retorta and Jacksonii. In pits were some hundreds of the new Sikkim Rhododendrons, and among other things of interest we remarked a good collection of hardy variegated plants, and a new Pentstemon, which bids fair to become a first-rate border plant.

FLORICULTURE.

National Floricultural Society, *Oct.* 7.—Sufficient members were not present on this occasion to form a meeting, consequently no awards were made. As might be expected at this advanced period of the season, subjects of exhibition were not numerous: Mr. Ingram, gr. to her Majesty, at Frogmore, sent a new scarlet Pelargonium named Harlequin; it is a pale scarlet, with a large full truss, the individual flowers being also fine, and evidently a free-grower; its novelty, however, consisted in its very peculiar foliage—each leaf having a strong horse-shoe mark, which, in about half the foliage, is of a bright pink colour, the rest of the leaf being pale green, and all three colours singularly distributed on other portions of the foliage. Several Dahlias were present: Mr. Burgess sent Beauty of the Grove, a dull yellow, tipped with crimson purple, good in form, centre, and general outline. Mr. Turner had several varieties, among which was Plantagenet, of which there were six blooms, all in very good order, being well up in the centre, and having great depth of petal; the colour is purple, shaded with lilac; in shape it resembles, but is superior to Mr. Seldon. He also furnished Grand Duke, a bluish lilac; large, and very deep. Mr. Knight exhibited three blooms of a fancy variety, clear pale yellow in colour, distinctly tipped with white; in form it is equal to many of the selfs. Three blooms were also shown of Lochner's Claudia, which has been previously described.

York Horticultural Society.—The autumn exhibition of this Society took place on the 28th ult. The show on the whole was a very excellent one, but the floral department would have been much better a week earlier. The Dahlias, Hollyhocks, Asters, &c., showed the effects of the late stormy weather, which has been very destructive to the beauty of the gardens in the northern counties. In Dahlias (Nurserymen), Mr. Edward was first for the tray of 24 blooms, with Queen of Lilacs, Absalom, Blanchefleur, Black Diamond, Crocus, Sir R. Whittington, Earl of Clarendon, Marchioness of Cornwallis, Fearless, Queen of Whites, Miss Ward, King of Dahlias, Hero, Marquis of Worcester, John Edward, Gloire de Kaine, Queen of Dahlias, El Dorado, Mr. Seldon, Duke of Wellington, Sussex Hero, Magnificent (Keynes), General Fauchier, and Duchess. Messrs. Backhouse were first for 18 blooms, with Duke of Wellington, Marchioness of Cornwallis, Crocus, Blanchefleur, John Edward, Queen of Lilacs, Black Diamond, El Dorado, Mr. Seldon, Sir R. Peel, Queen of Dahlias, Magnificent, Duke of Cambridge, Absalom, Lord Mayor, and others. Twelve Blooms: Mr. Clark was 1st, with Lord Mayor, Admiral, Princess Louisa, Mrs. C. Bacon, Mr. Seldon, George Glenny, Magnificent, Dane Croft Hero, Fearless, Negro, Earl of Clarendon, and Sir F. Bathurst. Six Dahlias: 1, Mr. H. Powell, with Barmaid, John Edward, Purple Standard, Mrs. Hansard, Yellow Gem, and Admiral. Twelve Fancy Dahlias: 1st, Mr. Edward, with Princess Charlotte, Flora M'Ivor, King Fisher, Empereur de Maroc, Miss Ward, Laura Lavington, Mrs. Merry, Alfred, Lola Montes, Viscomte de Ressignier, Gasparine, and Mrs. Hansard; 2d, Messrs. Backhouse; 3d, Mr. Clark, with Gaiety, Miss Compton, Mrs. Labouchere, Lady Callum, Empereur de Maroc, King Fisher, Duncinee, Lady Grenville, Discount, Bella de Nogent, Floral Beauty, and Comte de Flandre. In class showing among the single blooms there was nothing worthy of notice. Mr. W. Willison showed a tray of seedlings, but they were very indifferently bloomed. There was a crimson variety in this tray called Comet, which is a promising flower. The Pansies were very poor indeed. Messrs. Backhouse showed a tray of 24 China Asters, which were very beautiful: the flowers were large and full, broad petalled, and striking in colour. Mr. Appleby obtained the first prize for Hollyhocks, both in spikes and trays; amongst them were fine blooms of Comet, Commander-in-Chief, Elegans, Magnum Bonum, Mr. C. Barron, Walden Gem, White Perfection, Meteor, and other flowers, principally Chater and Bircham's varieties. Amongst cut Roses we noticed some nice blooms of Mrs. Bosanquet, Standard of Marengo, Géant des Batailles, Paul Joseph, Souvenir de la Malmaison, Acidalie, &c. The Verbenas were barely passable. In the plant department there were several well-grown and profusely-bloomed Fuchsias; for the best collection of which Mr. Edward was first, with Purity, Cortona, Kossuth, Pearl of England, Voltigeur, and Alpha; 2d, Messrs. Bainbridge and Hewison, with Resplendent, Clapton Hero, Dr. Smith, Don Giovanni, Lady Dartmouth, and Pearl of England; 3d, ditto, with Clapton Hero, Scarletina reflexa, Dr. Grosse, Pearl of England, Sir J. Falstaff, and Alpha. Private Growers: 1st, Miss Backhouse, with Kossuth; 2d, Hon. P. Dawnay, with Prince Arthur. Though unconnected with floriculture, we may mention that the show of fruits and vegetables exceeded that of almost any previous show in this city.

The Grand Dahlia and Hollyhock Competition, open to the United Kingdom, which has been already alluded to at page 615, took place in the garden of the Caledonian Horticultural Society, Edinburgh, on the 18th ult. Although the weather and occasional frosts had proved somewhat detrimental to Dahlias and Hollyhocks (the season being rather late for the latter), still there was a splendid display of these flowers from many parts of England and Scotland; and the number of stands entered for competition was higher than on any previous occasion in Edinburgh. After a careful inspection of the various productions, the principal prizes were awarded as follows:—For the best 24 Dahlia blooms produced by nurserymen: the prize (Silver Cup, value five sovereigns) was gained by Mr. Turner, of Slough, whose stand contained beautiful blooms of Plantagenet, General Fauchier, Queen of Dahlias, Princess Radziville, George Glenny, Mr. Seldon, Sir C. Napier, Andromeda, Princess Louisa, Bob, Miss Spears, Malvina, Grantas Gem, Thames Bank Hero, Yellow Standard, Essex Triumph, Queen of Beauties, Mr. Herbert, Sir F. Thesiger, Lady Eleanor Cathcart, Sir R. Peel, Seraph, Beauty of Versailles, and Sir John Franklin; 2d, Messrs. Dickson and Sons, Edinburgh. Prize of One Guinea offered for the best 12 blooms of Fancy Dahlias, produced by nurserymen. The prize was awarded to Mr. Turner for the following sorts, the blooms being well marked and of good size:—Elizabeth, Mrs. Hansard, Princess Charlotte, Miss Compton, Lady Grenville, Claude, Phaeton, Triumphant, Claudia (Lochner's), Laura Lavington, Miss Ward, and Empereur de Maroc. For the best 12 Dahlias, produced by practical gardeners or amateurs (Silver Cup, value five sovereigns), the prize was awarded to Mr. Reid, gr. to W. Wilson, Esq., Blackhall, for Magnificent, Beeswing, Mr. Seldon, George Glenny, Sir F. Bathurst, Duke of Wellington, Sir Charles Napier, Gem of the Grove, Marchioness Cornwallis, Sir R. Whittington, Alice, and Princess Radziville; 2d, Mr. Stenhouse, Dunfermline. The best six blooms of Fancy Dahlias, produced by practical gardeners or amateurs; the prize (Half a Guinea) was gained by Mr. Stenhouse, with Mrs. Shaw Lefevre, Mrs. Hansard, Miss Blackmore, Dr. Horner, Hermina, and one unnamed. For the best six Dahlia blooms, produced by amateurs, the prize (Fifteen Shillings) was awarded to J. Mood, Esq., for Beeswing, Queen of Dahlias, Sir Robert Peel, Antagonist, Nil Desperandum, and Magnificent. For the best 12 spikes of Hollyhocks produced by nurserymen, the Silver Cup, value 5*l.*, was awarded to Messrs. A. Paul and Son, Cheshunt, for Crocea, Caructacus, Formosa, Triumphans, Queen, Gem, Watford Surprise, Comet, Sulphurea Perfecta, Miss Forbes, and two new varieties that were much admired, Professor Dick, and Lizzy; 2d, Messrs. Downie and Laird, with Susannah, Charles Turner, Lady Elizabeth, Sir. D. Dundas, Yellow Standard, Lady Dundas, Model, Walden Gem, Rosea Grandiflora, Napoleon, Sir D. Wedderburn, and Queen. For the best 12 spikes of Hollyhocks produced by practical gardeners (for which a Silver Cup, value 5*l.*, was offered), the prize was awarded to Mr. Fowlis, gr. to J. Tytler, Esq., for Susannah, Charles Turner, Magnum Bonum, Triumphant, Comet, Illuminator, Walden Gem, Lady Clarke, Sabrina, Safranot, General Bem, and William. For the best 24 cut blooms of Hollyhocks, produced by practical gardeners or amateurs, the prize (15*s.*), was awarded to Mr. Fowlis, for Walden Gem, Illuminator, Miss Innes, William, Pyramidalis, Susannah, Sir D. Wedderburn, Lady Clarke, Magnum Bonum, Marchioness of Lothian, Sudley, Lord Melville, Comet, Flying Dutchman, Aurantia, Conqueror, Seedling, Sulphurea Perfecta, Globe Claret, General Bem, Mrs. C. Bacon, Napoleon, Spectabilis, and Queen. Seedlings: Certificates were awarded to Dahlia Plantagenet (Turner's), Bob (Drummond's), and Sir John Franklin (Turner's). Mr. Keynes exhibited blooms of Lilac King (Rawlings), to which a Certificate was also voted; this is a lilac of great promise. Messrs. Paul sent blooms of their new Autumnal Rose, "Prince Albert," which was very much admired, being of a deep rich colour, and flowering in immense clusters; a Certificate was awarded. Mr. Harrison, Darlington, produced a Seedling Dahlia of a rosy lilac colour, and blooms of his Seedling Fuchsia, England's Glory, a light variety, with sepals well reflexed, to which, in the absence of the plant, it was not within the rules of the Society to grant a certificate. Several interesting seedlings were also contributed by I. Anderson, Esq., and others.

Catalogue received from Mr. Turner, of the Royal Nursery, Slough.

Miscellaneous.

Victoria Regia.—This magnificent Water-Lily has been cultivated with much success by Mr. Buist, of Philadelphia. We visited Mr. B.'s nursery lately, when it was expected one of the flowers would be open. It was, however, only partly open, but there were several other flowers about to bloom. Mr. Buist has had no difficulty whatever in raising the plant, the seed having only been planted on the 29th of April last. It has thus attained its growth and bloomed, without giving any trouble, in a little over three months. *American Paper.*

Writing Inks.—It may be stated that, as a general rule, writing inks containing logwood do not flow readily from the pen. A solution of creosote in rectified spirit of wine or pyroligneous acid is the best preservative of ink from mouldiness. *Pharmaceutical Journal*

Cape Orchids.—The terrestrial Orchids deserve more than a passing remark: they are numerous and very beautiful; in my opinion there are many here but little inferior to the most showy of the epiphytous kinds. I shall take care to forward a good parcel of roots, and then perhaps cultivators may have an opportunity of judging for themselves. In the meantime a description, however faint, may induce some to give them the attention they so well merit. Fancy then a plant with the general characteristics of an Ophrys, producing a spike of flowers as large and as thickly-set as those of Saccolabium guttatum; often indeed measuring 2 feet in length, of a bright salmon-colour intermixed with as bright a yellow. Another with plaited foliage and a nodding head of some 20 bright yellow blossoms, having a deep stain of crimson on the cucullate lip, in the manner and of the size of a Dendrobium. Again, a species with fleshy persistent leaves and an erect stem of about 2 feet, supporting from 15 to 30 large yellow flowers, the lip blotched and lined with pale purple, bearing the aspect of some robust Epidendrum; and others whose white and pink blossoms at a little distance are easily mistaken for Hyacinths. Mingled with these is often found a plant not less curious or beautiful, which I imagine to be an Orobanche (Harveya capensis, Hook. Ic. Plant. t. 118): its habits agree exactly with that parasite; it produces a flower stem of about a foot in length, bearing five or six very large pure white flowers, averaging about 3 inches in diameter; it is usually found adhering to a Thistle. With regard to the culture of African terrestrial Orchids I would observe that the soil I fancy the highest approach to their native medium will be found in the black alluvial mould of marshes or water-meadows, tempered with pure sand, which enters largely into the composition of all the soils here, where we have nothing like the peat-soil of England, nor is there much decaying vegetable matter present where these Orchids are usually found. All those from the coast are subject to a long period of drought; and unless specially marked as the inhabitants of swamps, this fact will have to be borne in mind. The dry season commonly extends from April to October, and for two months towards the end of this period they may be said to be perfectly dry, and being in most cases but just beneath the surface would be subject to extreme aridity were it not for the shelter afforded by the thick vegetation of herbs and Grasses by which they are surrounded. In October the rains begin at first but sparingly, dews however are frequent and heavy, and in November and December the ground becomes saturated; January and part of February dry weather usually prevails, to be succeeded by even more rain than before. Most of the terrestrial Orchids bloom at the beginning of each of these rainy periods, and by the end of May the leaves of such as are deciduous wither and die off. The mean temperature need not be high for them, as I frequently find the coast plants running back to an elevation of 2000 or even 3000 feet, and at this height sharp frosts are very common in our winter season. I fancy that greenhouse treatment, with the help of a close frame at the commencement of their growth, will prove all that is needed, and to keep them rather less dry than is usual with bulbs, during the torpid season. *Plant's Excursion in the Zulu Country, in Hooker's Journal of Botany.*

Calendar of Operations.

(For the ensuing week.)

PLANT DEPARTMENT.

The preparation of plants to bloom at Christmas should be taken in hand forthwith, that no hurrying at an after period may be necessary, and which generally proves unfavourable to a show of bloom. Begin with the earliest rested plants first, and those which take the longest time to bring into flower. The common and Otaheitian Orange and Daphne, if the wood is well ripened, will soon show bloom under a gentle heat, a little extra warmth may be necessary to open their flowers. Chinese Azaleas and Gardenias take a longer time, and should immediately be put to work in a house or pit where a little artificial heat can be applied and increased as the buds swell. The stock of stove plants previously prepared for winter flowering should likewise be placed in a warm, light part of the stove, where they will soon commence flowering. The different varieties of Epiphyllum truncatum are very useful at this season, and if they have formed their buds may be placed at the cool end of the stove, to expand their flower. Another useful plant for the drawing-room is the well-known Calla æthiopica, which when in bloom forms an elegant vase plant; a few at a time should therefore be potted in rich soil and placed in a warm pit, as likewise a few of the earliest potted Roman Narcissus and Van Thol Tulips. Mignonette, Neapolitan Violets, and Chinese Primroses should be placed in suitable situations to forward them into bloom, and the reserve stock kept secure from rains, but with plenty of air, in the cold frames. Give seedling Calceolarias and Cinerarias another shift, and keep down green fly; they should be kept in a medium temperature through the winter, that their growth may be progressive. In the stove let a drier atmosphere be kept as the days decrease; a night temperature of 60° will be quite sufficient to carry plants through the winter, but give air every forenoon, if possible. ORCHIDS.—The principal part will be at rest or approaching that state, and agreeably with previous directions should be placed in a cooler and drier house; or if no such can be afforded them, at the coolest end of the one they are in; if a perfect show of bloom is desirable, prevent their starting into growth at this season, which some kinds in vigorous health may attempt to do. Lælias are now in full beauty, and, with other kinds in bloom, should have a comparatively dry atmosphere, to preserve their flowers in perfection. Aerides, Vandas, and other species requiring more heat, should be kept at the warm end of the house. Attend punctually to cleanliness in every department, and look closely after cockroaches, crickets, and woodlice, which are troublesome pests in Orchid houses; the night temperature should range from 60° to 65°.

FORCING DEPARTMENT.

PINERY.—With those Pines intended to fruit through the early part of next summer and autumn, nothing can be done further than keeping up the top and bottom heat, and gradually reducing the moisture of the house, which, for some time to come, should be kept comparatively dry; this treatment, combined with a regular ventilation, will produce the best effects on strong growing plants, by inducing a state of rest, and enabling the plant in the meantime to organise the peculiar secretions necessary to obtain fine fruit next season. We do not recommend a less bottom heat than 85° at any season, being satisfied that Pines require their roots to be kept in a growing medium, when even the top heat is not so high by several degrees. If the thermometer indicates 58° or 60° in the morning, it will be sufficiently high, but fires sufficient to raise the temperature 12° or 15° should be made; this will allow for a liberal supply of air, which, during sunshine, should be considerably increased. The above treatment will answer for the younger stock, keeping up the top heat by frequent additions to the linings, where that mode of heating is practised. Water, if required at all, should only be given sparingly, using it in a tepid state. To Pines swelling their fruit still continue a moist atmosphere, which will now be obtained with less difficulty, and which in some houses or low pits it may even be desirable to moderate. Admit all the light possible by washing the glass and removing anything which may be growing over them. Air each day must not be neglected, or a loss of flavour will be the result. Moderate waterings should be given, using liquid manure; but be careful to keep water from coming in contact with the flowers of any Pines in bloom for reasons formerly adverted to. Melons, unless when grown by fire-heat, will be useless after this, and may therefore be cleared away. Those in houses swelling their fruit should be kept growing by a good heat. Keep the air, however, somewhat dry, that the remaining fruit may not be deficient in flavour. The Dampsha hybrid, and some others, will keep in a warm room a considerable time after being cut, for which purpose they should not be allowed to get quite ripe on the plant.

FLOWER GARDEN AND SHRUBBERY.

As frost may be expected daily, those plants which it is desirable to save should at once be taken up and potted. A number of plants for flower garden decoration, blooms better when of a certain age, and such, with others which it is desirable to save for propagation, should be first attended to. Last season's late struck cuttings of scarlet Geraniums, and most of the other bedding kinds, should be especially reserved; as when carefully potted and grown they bloom earlier and finer the second year; besides, there is often a difficulty in procuring cuttings of the latter in sufficient quantities to satisfy large demands, and hence, an additional reason for preserving them. Large Salvias may be transferred to pots, and, if required, will help to keep the conservatory gay for some time. Calceolarias, Petunias, Verbenas, and similar kinds which are easily propagated, should be allowed to remain till frost comes on, when they may be cleared away to the rubbish heap. Attend to the cuttings not yet struck, and which after this will root more freely if a little additional heat can be given them; those already struck should be placed in their winter quarters, arranging them according to their powers of resisting frost, that proper covering hereafter may be provided for each. Continue to make arrangements for wintering Fuchsias, Hydrangeas, Brugmansias, &c.; pot off Intermediate and Brompton Stocks for next spring, to winter in cool frames; proceed with the planting of all sorts of trees and shrubs, as the season appears very favourable at present for the purpose.

HARDY FRUIT GARDEN.

One of the greatest drawbacks to out-door gardening is the failure of wall fruit, too often arising from ill constructed or too rich borders. If it is intended to renew or renovate any borders during the present winter, immediate steps should be taken (if not already prepared) to procure a supply of sound healthy loam with the turf on it; if this is of a moderately heavy nature, a portion of the sweepings or scrapings of roads may be mixed with it for Peaches, Nectarines, Cherries, and Apricots; in its natural state it will suit Pears and Plums. Let the bottom of the intended borders be not only well drained with pipes, to carry off the excess of water, but place a foot or 18 inches of rubble beneath the compost, which need not be more than 18 inches deep for Peaches and Apricots, and 2 feet for Plums, Pears, &c. The borders should have a good slope from the wall to the walk, and dung of no kind should be used. If these precautions are followed there will not be much fear of the result. Ground for orchards and fruit tree quarters intended for planting this season should be trenched, and a dressing of short dung may be well mixed with the soil in digging, more particularly for Raspberries, Gooseberries, and other small fruit. The first point, however, will be thorough drainage, if there is the least indication of springs, or a retentive subsoil.

STATE OF THE WEATHER NEAR LONDON,

For the week ending Oct. 7, 1852, as observed at the Horticultural Gardens, Chiswick.

Oct.	Month's Age.	Barometer. Max.	Barometer. Min.	Temperature. Of the Air. Max.	Of the Air. Min.	Of the Air. Mean	Of the Earth. 1 foot deep.	Of the Earth. 2 feet deep.	Wind.	Rain.
Friday..	1 18	29.540	29.436	55	45	50.0	53½	53½	S.W.	.02
Satur. ..	2 19	29.536	29.342	59	41	50.0	53½	52	S.W.	.03
Sunday .	3 20	29.849	29.690	59	33	46.0	52	52	W.	.00
Monday	4 21	29.742	29.681	56	49	52.5	51	52	S	1.06
Tues. ..	5 22	29.486	28.987	56	39	47.5	51½	51½	W.	.10
Wed. ..	6 23	29.741	29.547	52	39	45.5	51	51	N.W.	.06
Thurs...	7 24	29.824	29.812	53	37	45.0	50½	50½	W.	.00
Average ...		29.689	29.492	55.7	40.4	48.9	51.8	51.8		1.27

Oct. 1—Fine throughout; overcast at night.
— 2—Uniformly overcast; very fine; clear.
— 3—Clear; very fine; clear and cold at night
— 4—Overcast; constant heavy rain all day; clear.
— 5—Clear and boisterous; cloudy; clear; rain at night.
— 6—Rain; showery; clear at night.
— 7—Cloudy; fine; clear and cold; uniformly overcast.
Mean temperature of the week, 5½deg. below the average.

STATE OF THE WEATHER AT CHISWICK,

During the last 26 years, for the ensuing week, ending Oct. 16, 1852.

October.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 10	61.3	44.3	52.6	12	0.63 in.	1	2	3	—	7	7	4	2
Mon 11	62.3	44.2	53.2	12	0.31	1	3	2	2	4	8	4	2
Tues. 12	60.9	43.2	52.0	14	1.00	3	3	1	—	5	5	7	2
Wed. 13	59.9	42.7	51.3	13	0.53	3	4	2	—	6	5	4	2
Thurs. 14	59.3	42.0	50.7	12	0.50	1	3	2	1	7	3	4	5
Friday 15	57.9	41.2	49.5	11	1.04	2	2	2	1	7	2	4	6
Satur. 16	58.8	42.7	50.6	11	0.52	—	2	4	1	3	5	8	3

The highest temperature during the above period occurred on the 14th, 1845—therm. 76 deg.; and the lowest on the 18th, 1843, and 15th, 1850—therm. 24 deg.

Notices to Correspondents.

BOOKS: *M.* Hooker and Arnott's "British Flora," or Babington's "Manual of British Plants," are all that can be required, unless he studies Cryptogamic plants. For them, he should take the fifth volume of Smith's "English Flora," assisted by good achromatic and simple microscopes.—*H K.* The "Folia Orchidacea" will contain eventually (*D. V.*), a complete account of all known plants of the order; but it will require some years to complete it. The first part, containing Stanhopea, Ionopsis, Coryanthes, Odontoglossum, and others, is nearly ready; and a second part is in forwardness. If you have dried plants of the order which you desire to have examined, you should send a set of them, numbered to correspond with a duplicate set in your own possession, to Dr. Lindley, 21, Regent-street; but you must remember that he has publicly announced that he cannot return anything of this kind.

CABBAGE SEED; *T M* says he had some seed from a respectable grower in England, one-half of which came up the large York Cabbage, as they ought to have done; but along with them something which he wishes to know whether it is Ragged Jack or Borecole, and whether, under peculiar circumstances of soil and climate, such a change might not be produced. The specimens received were too young to determine what they really are; but they are not the Ragged Jack, nor any other Cabbage or Borecole; for these, with the exception of some from China, have all smooth leaves; whereas, on the young plants in question, bristly hairs, like those on a Turnip leaf, were perceptible. One-half of the seeds would not have degenerated thus, whilst the other half remained true. Is not possibly the former some cruciferous plant indigenous to Ireland? If not, your English seedsman will doubtless afford you some explanation ‖

INSECTS: *W T P.* Your Vine and Fuchsia leaves are infested by the common thrips. Powdered sulphur thrown over the leaves, and fumigation with sulphur, are the best remedies.—*W M H, Bashley.* It is possible that the insect you sent (but which was not found in your note) was one of the Staphylinidæ (commonly called devil's coach-horses) but the holes in the Turnips were doubtless made by the caterpillars of a large moth, whose history will be shortly given in our entomological series. The best plan to eradicate them, and preserve the next year's crop, is to pull up the plants as soon as they flag, and handpick and destroy the grubs. *W.*

LAWNS: *Northwood.* Gas-water will remove the slimy green mould from your newly-sown lawn. ‡

MARINE GLUE: *J F.* We never give prices, or recommend tradesmen. You should apply to the dealers in glue. ‡

NAMES OF FRUITS: *H B C.* 1, Williams' Bon Chrétien; 2, 36, Marie Louise; 3, Glout Morceau; 7, 11, Catillac; 8, 9, 16, 18, Easter Beurré; 10, 28, Louise Bonne (of Jersey); 12, 14, Beurré Diel; 13, 22, Doyenné Blanc; 15, 21, Passe Colmar; 17, 23, 26 30, Gansel's Bergamot; 19, Beurré Bosc; 20, Winter Nelis; 24, Beurré d'Aremberg; 25, Seckel; 31, Brown Beurré; 32, Chaumontel. ‖—*W P L.* 5, Beurré Diel; 7, Beurré de Capiaumont; 8, Napoléon; 12, decayed; 14, Williams' Bon Chrétien, between 4 and 5 inches in length, and 8 inches in circumference—Can this be from a standard? Whether from a standard or wall, it seems to suit your northern climate well. 16 is like the preceding, but not so smooth fleshed; 17, Autumn Bergamot; 19, Beurré Rance; 20, Beurré Bosc; 27, St Germain. Your Apples cannot yet be ascertained. ‖—*A Webb.* 1, Grange's Pearmain; 2, Wormsley Pippin; 3, Downton; 4, Easter Beurré ‖—*Sub.* 1, Black Achan; 2, 4, Marie Louise; 3, Court pendu Plat; 5, Blenheim; 6, Norfolk Beaufin; 7, Chaumontel; 9, Wormsley Pippin; 10, Hall Door. ‖—*Ballandyne.* 1, Newtown Pippin; 3, Trumpington; 4 Hawthornden; 5, French Crab; 8, Manks' Codlin; 10, Ortley; 1, Standard Hawthornden; 2, Standard Nonsuch; 3, Standard Keswick Codlin; 4, Standard King of the Pippins. ‖—*A S L.* 1, Blenheim Pippin; 2, Dumelow's Seedling; 3, London Pippin; 5, Salopian; 7, King of the Pippins; 8, Early Nonpareil; 9, Trumpington, or Eve Apple of some. ‖—*J H.* 1, St. Germain; 2, Flemish Beauty; 3, specimen imperfect, probably Winter Nelis; 5 Black Achan; 6, Glout Morceau; 7, Catillac; 8, 11, Williams' Bon Chrétien; 10, Seckel; 12, Summer Bon Chrétien; 3, King of the Pippins; 4, Alexander; 5, Devonshire Quarrenden; 6, Kerry Pippin, ‖—*W.* 3, 38, 41, Golden Pippin; 6, Beauty of Kent; 7, Henri Quatre; 9, Waltham Abbey Seedling; 12, New Rock Pippin; 14, Barcelona Pearmain; 20, Court of Wick; 30, 31, Dunmore; 32, Catillac; 33, 34, Beurré Diel; 39, 51, Ross Nonpareil; 44, Boston Russet; 46, 50, 65, King of the Pippins; 47, Knight's Monarch (false); 48, Aston Town; 49, 53, Golden Reinette; 58, Braddick's Nonpareil; 59, Winter Nelis; 62, London Pippin; 63, Scarlet Nonpareil; 68, Purple Gage; 69, Early Bergamot; 71, Williams' Bon Chrétien; Apple-shaped Service, number not legible, through decay. ‖

NAMES OF PLANTS: *A B.* 2, Platyloma rotundifolia, *J. Sm.*; 3, Lycopodium (Schottii, *Hort.*); 4, L. stoloniferum. *S.*—*P S.* Cryptogramma crispa, *Bernh. S.*—*H F.* Aspidium spinulosum. *S*—*S Y.* Two magnificent varieties of Gesnera bulbosa, one of the finest of all stove plants.—*An Old Gardener.* Collomia grandiflora, a common hardy annual from Oregon.—*Shem.* Funkia Sieboldi, and Paronychia argentea. In order to propagate the latter, some of the shoots must be prevented flowering and then layered, care being taken that no blossoms appear till the layers are rooted.—*W G.* It is a rule with us not to name Cryptogamic plants, which have no relation to horticulture.—*H L.* Odontoglossum grande, and either a stray variety of Catasetum Naso or a new species.—*A B.* There is nothing to show that this is more than a green variety of the Scotch Fir; it is, however, useless to give an opinion upon specimens of Pines unaccompanied by cones, or a word of information concerning the history of the specimens.—*P S.* Colocasia odora is also called Caladium and Arum odorum. Arum Colocasia is now called Colocasia antiquorum—the two plants are totally different. The latter may be grown in mud in a tank of water in a greenhouse in summer; but the water must be drawn off in winter, or the esculent roots will rot.—*M A C.* 7, some double Helianthus; 8, Hypericum calycinum; 12, Kerria japonica; 14, some Solidago; 19, Hibiscus Trionum; 20, Gnaphalium margaritaceum; 21, Geranium nodosum? It is not possible to name such fragments with any certainty.—*J S.* Daphne collina.—*Sub.* Escallonia montevidensis.

NEW BUILDING MATERIAL: *G D.* We regret our inability to give you the information you seek. ‡

NEW SOUTH WALES: *A H.* The Superintendent of the Government Botanic Garden, Sydney, is Mr. Charles Moore.—*N B.* Very good garden seeds of any kind are useful in New Holland; but ordinary kinds are to be had there in abundance. What it may be best to take depends upon the part to which a man goes. Cotton is cultivated at Moreton Bay, where it succeeds well; but it can never pay till the price of labour falls to that of New Orleans. There is as much difference in the climate of the different parts of Australia as of Europe, and more. If you go North of Sydney you may take with you whatever forms the cultivation of the Mediterranean. Remember only that in consequence of the enormous rate of wages there, nothing can pay which can be imported from cheaper countries.

ORANGE TREES: *An Old Sub* asks if any of our correspondents can designate a standard work on the culture of the Orange tree in a climate congenial to it? His inquiry has relation to culture in our Australian colonies; a treatise, therefore upon stove or greenhouse produce would not answer the purpose. He thinks he has seen some such work as desired in the booksellers' shops in Paris. We presume that Risso's "Traité sur l'Oranger" is too long, and the article Oranger in the "Bon Jardinier" too short for his purpose.

PÆONY: *Sub.* You may move it now with advantage.

PEAR GATHERING: *Inquirer.* Pears, whether early or late, must be gathered when they will scarcely hang any longer on the tree. This is the best general criterion. There are exceptions; for example, Williams' Bon Chrétien and the Flemish Beauty must be gathered before they readily part from the tree, otherwise they become too musky. In some seasons the Glout Morceau will and may remain on the tree till after the leaves have fallen. ‖

RHODODENDRONS: *Bella Donna.* If your scarlet Rhododendron does not flower, it is because it has neither sun nor air enough when it is making its wood.—It is Marrow, a kind of Gourd, not Mallow, which is not eatable. Catalpa syringifolia only wants age to flower freely. It should stand singly on a lawn, or in some such place, and when 25 or 30 years old will flower freely in a climate as good as that of the valley of the Thames.

STILLS: *A Constant Subscriber.* You should enquire of the second-hand booksellers for some book treating upon the art of making strong waters. When a still-room was as common in country houses as a pantry, the "Still-woman's Guide" was as common as a cookery book now is. We are not ourselves acquainted with the subject; if any correspondent who understands the art of distilling on a small scale should see this note, he will probably be good enough to give you the proper title of such a book.

STOVES: *S P.* That is the most useful and economical stove for greenhouse purposes which is best set, retains the heat longest, and consumes the least fuel. In these requisites there is little difference, except price, between conical, tubular, and waggon boilers; all sorts of fancy patterns are in the market. To say more would be to recommend dealers, which, considering the general excellence of boilers now-a-days, would be an improper deviation from a necessary, and, we submit, a very proper rule, to which we adhere in all cases where the public interest will permit us.

WALKS: *H F.* The plant which infests your walks is common Nostoc. You can only remove it by keeping the walks dry, or by poisoning it with whatever will kill moss, to which plants it is somewhat related.

PERUVIAN GUANO.

CAUTION TO AGRICULTURISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

ANTONY GIBBS AND SONS, AS THE ONLY IMPORTERS OF PERUVIAN GUANO,

Consider it to be their duty to the Peruvian Government and to the Public again to recommend Farmers and all others who buy to be carefully on their guard.

The character of the parties from whom they purchase will of course be the best security, and, in addition to particular attention to that point, ANTONY GIBBS AND SONS think it well to remind buyers that—

The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 9l. 5s. per ton, less 2½ per cent.

Any resales made by dealers at a lower price must therefore either leave a loss to them, or the article must be adulterated.

THE LONDON MANURE COMPANY offers on the best terms Wheat Manure for autumn sowing, Linseed, Rape Cakes, Peruvian Guano, Urate, Superphosphate of Lime, and every other artificial manure. Also a quantity of Salt, the refuse of ammonia and saltpetre makers, considerably more valuable than the ordinary agricultural salt.

EDWARD PURSER, Sec., Bridge-street, Blackfriars, London.

MANURES.—The following Manures are manufactured at Mr. LAWES'S Factory, Deptford Creek:

Turnip Manure, per ton	...	...	£7 0 0
Superphosphate of Lime	...	...	7 0 0
Sulphuric Acid and Coprolites	...	...	5 0 0

Office, 69, King William-street, City, London.

N.B. Peruvian Guano, guaranteed to contain 16 per cent. of Ammonia, 9l. 10s. per ton; and for 5 tons or more, 9l. 5s. per ton, in dock. Sulphate of ammonia, &c.

LINSEED CAKE, Foreign and English, Rape Cake, Peruvian Guano, Gypsum, Salt, Peat Charcoal, and all other Manures of known value, on sale.—Apply to MARK FOTHERGILL, 204 A, Upper Thames-street, London.

CHARCOAL AND SEWAGE MANURE.—Promote the Health and Wealth of Town and Country by increasing the use of that valuable manure PEAT CHARCOAL, impregnated with the fertilising matter of LONDON SEWAGE. The ammonia, phosphates, and fæces are absorbed, and the water pressed out bright, palatable, and soft.

Sold at the Charcoal and Sewage Works, Stanley-bridge, Fulham, Middlesex, at 60s. per ton, 4s. per cwt., 2s. 6d. per half cwt.

M'CORMICK'S PATENT AMERICAN REAPER has received numerous Prizes during the present season; amongst others, the award of the Jury appointed by the R. A. College at Cirencester, after NINE days' trial upon all kinds of crops and in all weather.—Winton's Parkes' celebrated Steel Digging Forks, as recommended by Mr. Mechi: they save full 20 per cent. in labour; they obtained the Silver Medal at the R. A. Society's Show at Lewes, the 1st prize at the Royal Yorkshire Show at Sheffield, 1st prize at Galway, and also at the Royal Dublin Show.—Anthony's Patent American Churn has received the prize at every Meeting where it has been exhibited, including those of the R. A. Society at Exeter, Great Exhibition, and at Lewes.—Urwin's Force and Lift Pump, particularly adapted for Liquid Manure. Mr. Mechi has one in use, and it is working to perfection. Kase's Force and Suction Pump, well suited for a Farm Fire Engine or Liquid Manure Pump; it is by far the cheapest and most effective Pump now out. Galvanised Iron Lift Pumps at a very moderate price. Gutta Percha Pumps, Gutta Percha Tubing for Liquid Manure and Garden purposes. Gutta Percha Driving Bands for Machinery, Waterproof Canvas Hose coated with Gutta Percha, for Liquid Manure. Leather Hose and Bands. Richmond and Chandler's Improved Scroll Knife Chaff Machine has obtained the prize at the R. A. Society's Show at Lewes, and at every other show this season. Starbuck's American Ploughs, Grain Bruisers, and every kind of Agricultural Implement sold by

BURGESS & KEY, 103, NEWGATE-STREET LONDON.

DO YOU BRUISE YOUR OATS? A Quarter of Oats at a Guinea, well crushed, will nearly make four sacks. Immense saving, and important improvement of the animal.—OAT BRUISERS, Chaff-Cutters, Ploughs, Threshing Machines, Domestic Flour Mills, Light Carts, Mining Tools, Gold-Sifting Machine, Brick and Tile ditto, Corn Dressing ditto, Horse and Steam Machinery put up, &c. Order early. Repairs done. Inspect the operation of above articles.

M. WEDLAKE and Co., 118, Fenchurch-street, London.

Pamphlet on Feeding, 1s. List and 140 Illustrations, 1s., free per post.

CARSON'S ORIGINAL ANTI-CORROSION PAINT, especially patronised by the British and other Governments, the Hon. East India Company, the principal Dock Companies, most public bodies, and by the Nobility, Gentry, and Clergy, for out-door work at their country seats. The Anti-Corrosion is particularly recommended as the most durable out-door Paint ever invented, for the preservation of every description of Iron, Wood, Stone, Brick, Compo, Cement, &c., work, as has been proved by the practical test of upwards of 60 years, and by the numerous (between 500 and 600) testimonials in its favour, and which, from the rank and station in society of those who have given them, have never yet been equalled by anything of the kind hitherto brought before the public notice.

Lists of Colours, with Prices, together with a Copy of the Testimonials, will be sent on application to WALTER CARSON and SON, No. 9, Great Winchester-street, Old Broad-street, Royal Exchange, London.—No Agents. All orders are particularly requested to be sent direct.

KESSINGLAND WHEAT.

WILLIAM GRIFFIN, Eydon, Daventry, begs to say that he is delivering at Banbury this productive variety of Wheat, in quantities of not less than half quarters, at the rate of 52s. per quarter, including sacks.

Orders accompanied by Post-office Orders will be punctually attended to.

SEED WHEAT.

PAYNE'S DEFIANCE REVITT OR BEARDED WHEAT, which gained the prize medal at the Great Exhibition, and is also highly spoken of in Professor Lindley's lecture upon "Substances Used as Food," is offered to Wheat-growers by H. PAYNE with confidence, more especially after the many flattering letters that he has received of its merits as to produce, quality, and its being less liable to blight or mildew. The above Wheat was raised from a single ear, and has been grown with great success for six years. Testimonials from farmers and millers from different parts of the kingdom can be obtained by applying to Mr. H. PAYNE, Birdbrook-moat, near Halstead, Essex. Price 32s. per coomb of four bushels (sack included), and delivered at the Audley-end Station, Eastern Counties Railway. All orders of not less than one coomb, accompanied by a remittance for the amount, will be punctually attended to; or by Post-office order made payable to HENRY PAYNE, at Halstead, Essex.

H. P. has also a very true stock of Browick Red Wheat to dispose of, at 28s. per coomb, which he thinks the best Red Wheat grown.

THE GENERAL LAND DRAINAGE AND IMPROVEMENT COMPANY.

HENRY KER SEYMER, Esq., M.P., Chairman.
SIR JOHN SHELLEY, Bart., M.P., Deputy Chairman.

Empowered by Act of Parliament to execute all works of drainage (including outfalls through adjoining estates), to erect farm-buildings, and to carry out every kind of permanent improvement upon estates, under settlement or disability, to provide the money or to enable the landowner to employ his own capital and execute the works by his agents, under the superintendence of the Company, the amount of the outlay and the attendant expenses being charged upon the property by way of annuity, extinguishing the debt at the rate of 6l per cent. for farm-buildings, and 5l. per cent. for drainage, roads, and other improvements. W. CLIFFORD, Sec.

Offices, 52, Parliament-street, London.

HITCHIN AND HOME COUNTIES DOMESTIC POULTRY ASSOCIATION.—OPEN TO ALL ENGLAND.

The First Annual Exhibition of this Society, will be held at Hitchin, on the 20th, 22d, and 23d of NOVEMBER, 1852, when Prizes amounting to upwards of 80l. will be offered for public competition.

Hitchin is a first class station on the Great Northern Railway, 30 miles from London; at which Station is a junction with the Cambridge and Eastern Counties Railway. Regulations and Prize Lists may be had on application to the Secretary, by inclosing two postage stamps. Entries for Exhibition close on the 6th of NOVEMBER. Admittance to the private view on Saturday, November 20th, by a 5s. Ticket (not transferable), which will be available for the three days of Exhibition. And on Monday the 22d, or Tuesday the 23d, 1s. each.

S. GOODWIN, Sec.

The Directors of the Great Northern and Eastern Counties Railways have agreed to run cheap trains on the occasion, and to give free passage to all Poultry for the Exhibition (at owner's risk), and to carry back free all that is unsold.

SMITHFIELD CLUB.

NOTICE.—All Certificates for Stock and Implements intended to be exhibited at the ensuing show of the Smithfield Club, must be delivered in to the Honorary Secretary on or before SATURDAY, the 6th of NOVEMBER (none will be received after that day.)

The Printed forms of Certificates (which alone are allowed to be used), Lists of Prizes, &c., can be obtained of B. T. BRANDRETH GIBBS, Hon. Sec., Corner of Half Moon Street, Piccadilly, London.

The Agricultural Gazette.

SATURDAY, OCTOBER 9, 1852.

MEETINGS FOR THE ENSUING WEEK.

THURSDAY, October 14—Agricultural Imp. Society of Ireland.
THURSDAY, — 21—Agricultural Imp. Society of Ireland.

AUTUMN rains are now beginning to tell which is the drained and which is the undrained field. In many cases the difference between the two (other things being equal), is such that experience is necessary to give an accurate idea of it. On an average of years the quantity of rain which falls during this season is greater than that which falls during winter, spring, or summer. If the average depth of the 12 months be 2 inches apiece, that for October will be 2½ inches. The demand of plants upon this stock of water and the evaporation of it from the surface of the earth are reduced to the lowest level, and hence the miserable consequences now visible on many an undrained clay soil. The farmer accustomed only to the dry soils of Berkshire, Berwick, or Nairn, if transplanted into some of the fens of Lincolnshire, the wealds of Sussex, or the carse lands of the sister country, would be entirely at a loss; certainly the practice with which he has been the most familiar and successful hitherto, perhaps that of eating off Turnips with sheep, would be the last he would think of—and he would probably have some difficulty in crediting the effects produced by such a simple agent as an inch and a half or 2-inch draining pipe.

The grand work of the present month is the harvesting of root crops, such as Mangold Wurzel and Swedes, and the getting Wheat into the ground; and it is in these operations that such differences as we have alluded to are more particularly experienced. The ploughing of Wheat-stubble for the ensuing green crops can yet be performed without experiencing any serious inconvenience; but it is far otherwise where the teams have to be turned into the newly-ploughed fields with the harrows and the drill, if the lands are not properly drained. If they are efficiently drained, the soil will receive comparatively little injury; but where tenacious clays are undrained, the getting in of Wheat is now becoming an unpleasant affair. Such soils cling to the feet of the sower, the horseman, and the horses; the lumps of mortar which fall from the feet on such occasions are often of great size, and so worked as to be fit almost for the mould of the brickmaker; they form serious impediments to after culture. Every impression thus made is a cup for holding water; and if the harrows following fill up the majority of the holes, this does but increase the evil, for the cups become the recipients of a mass of well-worked clay, which when hardened by the sun are impervious as so many bricks. The consequences which follow such a state of things need scarcely be mentioned, for the soil becomes a solid body, so worked, that when the heat of spring returns, it becomes hardened into an almost impervious mass long before the scorching months of summer arrive to wind up the fruitless season. If the latter months of spring have been favourable for hoeing, and if an inch or two of the surface soil have been got pulverised so as to retain a sufficiency of moisture for summer, and if the first months of summer are also favourable, a fair crop may, after all, be reaped; but these are but exceptions to the general experience of that failure in the harvest field which ordinarily follows such a state of things.

A closer examination of the chain of facts which leads to such results will show that the heavy showers of July and August fill up the fissures or cracks of undrained lands long before they make any impression on those of land that has been drained, loading the whole of the subsoil with the maximum quantity of water which it can absorb. If this has taken place before the land has been ploughed after harvest, and it generally is so, the action of the sole of the plough and the trampling of the feet of the horses in the furrow, will tend to compress the whole into a perfectly solid body. On the other hand, if the soil has been properly drained, the heavy showers of the latter months of summer and the first of autumn do not fill up the fissures of the soil, though these fissures in such cases are not so large or numerous, but are conducted by them to the drains and removed faster than otherwise they would be; so that when the sowing of Wheat comes it finds the subsoil open and carrying off that excess of water which the surface soil cannot absorb. No doubt the state of the soil at this season will very much depend upon the character of the weather which has been experienced, for clay soils are very absorbent, retaining a large quantity of water whether drained or not; if light showers only have been experienced, the soil may absorb the water as fast as it falls in either case, so that the difference between the two may scarcely be distinguishable; but light showers are not the general character of those of autumn, and certainly the present season is not an exception to the general rule.

There is another important effect produced by the heavy rains of summer and autumn, which deserves consideration. They purify the subsoil of drained lands while they render that of the undrained more sour and injurious to the roots of plants. In the former case they carry off many of those mineral substances which give to soils of this class their peculiar tenacity, thus increasing their subsequent porosity, and hence their capability of being more easily and effectually drained during winter when showers are more frequent and less heavy. The quantity of mineral matter which rain-water removes on such occasions must be considerable, for in Huntingdonshire pond-water contains as much as 40 grains to the imperial gallon; while water from wells yields as much as 70 grains to the gallon, the mineral substance consisting principally of the sulphates and carbonates of lime. The quantity and quality of the substances thus carried off will, of course, depend upon the quality of the soil. Where the lands have been properly drained, such washings of the soil, together with the action of manures, and of the heat of the sun upon it, and the circulation of the air throughout it, will soon change the bluish sterile appearance of the clays of the lias, oolite, and coal measures, into that of a healthy and fertile loam. On the other hand, on undrained land, until its fissures are completely closed, heavy rains bring up those substances from the subsoil, mixing them with the active soil, rendering it sourer and more infertile; and hence very often arises the necessity of naked fallows.

It will thus be seen that it is no easy task either to enumerate the benefits arising from the proper drainage of land or to recount the evils which undrained land suffers during a season like the present.

WE have received from Mr. BAILEY DENTON, whose name is well known in connection with various permanent improvements of which land is susceptible, a number of questions on the subject of the present and prospective STATE OF WOODLAND, having particular reference to estates under disabilities and restrictions of entail. The following are the enquiries he wishes to make, and they are addressed especially to landowners and land-agents, with a view to ascertain the opinions prevailing in different localities, and the facts peculiar to such localities. The results of the enquiry he proposes hereafter to give in our columns; and as the subject is one of very considerable agricultural importance, we hope that any of our readers who may be competent to add to existing knowledge on the subject will kindly do so.

1st. Are the woodlands upon your estate profitable? (In answering this question regard should be had to the average annual return for a series of years, derived from timber, bark, and underwood (if the woods are in hand) after payment of all outgoings (rates, taxes, charges, woodmen's wages, and expenses), compared with the rent or annual value of adjacent arable or pasture land.)

2d. What has been the average annual return from woodland for the last 28 years? What periods usually intervene between falls in your locality? (If your experience does not extend to 28 years, please to state the average of any interim extending from fall to fall.)

3d. What is the approximate rent or annual value of arable or pasture land, situate adjacent to the woodland?

4th. What are the average annual charges per acre on the

woodland of your estate, such as land-tax, tithe rent charge, parochial and other rates?

5th. What are the present and what have been the recent prices of Oak, Elm, and Ash per foot; or what the ruling prices of different sizes or meetings? Of Oak bark per ton? And of (average) underwood, per rod or acre?

6th. Will the value of the woodland on your estate improve? (In answering this question regard should be had to the quality of the timber and underwood, the age and vigour of the trees, the proximity of the estate to timber markets, and the means of transport.)

7th. Do you consider that judicious planting of well-assorted timber on well-selected spots (having in view agricultural economy, beauty of landscape, preservation of game, &c.), will better meet future demands for timber, particularly with reference to repairs upon the estate, than the continuance of the present system of woodland management?

8th. If the unremunerative woodland were cleared, do you consider that the timber, underwood, &c., would pay the cost of felling, grubbing, clearing, and draining, taking the average cost of draining at 5*l.* per acre?

9th. What has been the price per statute rod or acre, in your locality, for grubbing, with or without any allowance of roots to the labourers?

The object of the inquiry is to place before the landed interest and the Government the unsatisfactory state of much of the woodland of this country, and to show that the conversion of impoverished woods into cultivated arable and pasture land is a permanent benefit, under certain restrictions and compensations, which may be fairly charged upon the inheritance; to ascertain how the obstacles to such improvements arising from restrictions of settlement may be overcome without resort to fresh legislative powers, and to provide a medium by which the trees and underwood of woodlands yielding no current profit may be converted into money and applied to the cost of the improvement; and where the expenditure shall exceed the realised amount, to charge the balance on the land for a terminable period. We would give every encouragement to the enquiry, in the hope that it may tend to secure to the owners of entailed estates the means of bringing profitless portions of their properties under useful cultivation, with advantage to their successors, as well as their tenantry and labourers.

Replies may be addressed either to the Editor of this Paper, or to Mr. Bailey Denton, 52, Parliament-street, London.

FARMING IN NORMANDY.

As you kindly accepted my former contribution respecting the farming of Belgium, you may not reject my present account of the farming in Normandy, where I spent a few weeks last autumn. I might have sent it to you earlier, and I cannot acquit myself of negligence; for in these days there is a seeking for truth in farming that ought to be gratified, though there may be little to learn in the practice of our Norman neighbours, and not much to fear from their competition. I was located at Dieppe, and walked much over the land, across the fields into their villages, and talked, more or less, as well as I could, with almost every husbandman I met. The soil of the district is a sandy loam, that contains more sand than clay, and very little lime, notwithstanding the surface soil has a foundation of chalk. It is probably a drift covering the chalk. In consequence of the predominance of sand the land is light to work; it breaks up freely, and does not consolidate into a hard top in drying after rain, so that it is free and open, admitting air and water freely. It is generally ploughed with three horses attached to an enormous plough similar to one I have seen in Kent. It is ploughed rather deep. Another consequence of the nature of the soil is, that it imbibes the heat from the sun, and becomes very dry in summer, and has not that supply of moisture that adapts it for Turnips, which are never grown, nor is natural pasturage found on the hills. Clover, Vetches, and Lucerne, are cultivated principally for hay and seed. Hay is essential to their system, and is generally well made in their open country and dry climate; is never stacked in the field, but taken to their crofts. Their great end is to get corn, Wheat, Oats, and Rye—seldom Barley. They also grow Rape seed for oil. The nature of the soil, the frequent ploughings, the open country without hedges, and the powerful sun, check the growth of weeds, so that with what we should call slovenly farming, the land is pretty clean. A fallow system is thus undesignedly worked—not the fallow of a whole year, but during part of the summer much of the soil is exposed to the sun and thereby fertilised. I apprehend they find this practically necessary, in order to invigorate a soil hard cropped by corn—for their system is decidedly a natural system—for they plough, and sow, and make little return to the soil in manure, but they vary their crops, growing Wheat, Rye, of one botanical family; Vetches, Clover, Lucerne, of another; and Rape, of another; changes of species, by which one crop saves another, as not drawing so much from the same resources. So, with their practice and their climate, the land is kept *in statu quo*, for they keep very few sheep, grow no Turnips, nor do they fold them on strong Clovers as we do, and thereby double our natural produce. I cannot speak with certainty as to their produce per acre, but Wheat cannot average more than 16 bushels, and other corn in proportion. It is decidedly poor man's farming, in a natural way—little capital being required, and the tillage easy.

Their horses are good; I saw no oxen used; and their implements simple, but well adapted for their system and soil. It would amuse our sheep masters to see their little flock of 50, tended by a stupid shepherd dressed in a cloak (with his two dogs), following them constantly, and keeping them from trespassing on the corn or Hay-grass; not a Turnip provided for winter, only a little patch of Rape for the ewes for milk, at the time of lambing. In the winter the flock of sheep is housed in a large barn, having a fixed hay-rack all round it. I travelled 100 miles by rail in an open country, and I saw only seven of these small flocks of sheep; I cannot say much in favour of the breed; at their markets you see a few rugged half-fat sheep, not three alike. Their cattle are somewhat better; milk is a great object with them for butter. The breed is something like, but a little larger and more fleshy than the Alderney. No really fat meat is exhibited, but wholesome beef may be procured. The vales of Normandy are quite a contrast to the hills—here are beautiful natural Grass, orchards, and gardens. Tall trees, cottages with Vines trained over them, and orchards. The Apple trees in great perfection; you see no old decayed ones, all are vigorous and fruit-bearing, and even in the fields on the hills you often find Apple trees. The population of Normandy is not great: there are few detached farm or cot-houses, but the villages are large, contain good substantial houses and out-houses, often brought within an enclosure of several acres, surrounded with high banks planted with trees. These form the crofts, and have many separate buildings: the capacious farmhouse with granary in the roof (the common practice with every house, the ground floor containing the bed and sitting-rooms), the pigeon-house, apple and bake-house, well-house, stable, barn, sheep-houses, and a garden and orchard; making a place of shelter for the whole stock in winter. The entrance to these crofts is generally by a large gateway of Norman style, sometimes surmounted by a room or granary. The people appear industrious and thrifty; you meet with no beggars in the country; on the whole Normandy rural life appears replete with comfort and content.

Thomas C. Brown, Cirencester, October 4.

ROTHAMSTED AND THE WRITER "R."

(*Continued from page 619.*)

Returning to the question of the use of ammoniacal manures, in addition to farm-yard manure, for the Turnips as grown in our rotations, we have now considered their effects in regard to the increase of the crop, and to its nitrogen-collecting agency. We have argued that such manures will frequently secure the full orbit of growth of the crop, when, from defective climate or other circumstances, this would not be fully attained without them. We have also particularly called attention to the fact, that, wherever the effect of ammoniacal manures has been unduly to increase the production of leaf, we may, as far as present knowledge enables us to judge, suppose that there has probably been an expenditure of some of the nitrogen thus provided by manure or a lessened gain, rather than any increased accumulation of it from natural sources by their use. We now come to another important question; namely,—the effects of nitrogenous manures upon the composition and feeding value of the crop.

In all our experiments upon the influence of manures upon the composition of the Turnip, whether upon the Norfolk White or upon the Swede—and they have been very numerous,—we have found that, *other things being equal*, the per centage of nitrogen in the produce may be much increased by the use of nitrogenous manures. We find, too, that this is to a certain extent the case with the leaf as well as with the bulb. So far as the leaf is concerned, it is obvious that the *feeding* value of the crop is not enhanced by the increase of nitrogen stored up therein; and, as we observed in our paper on Turnip culture, as any increased amount of nitrogen so obtained in the leaf had been previously supplied by manure, there is no *gain* to the farm, even a *manurial* effect, from this source, by the crop.

On the current and almost stereotyped opinions on the subject of the feeding value of different constituents of food, it would, however, be concluded that the increased per centage of nitrogenous compounds in the *root* clearly indicated a proportionally increased feeding value. Dr. Anderson in his recently published very elaborate series of analyses of Turnips, grown with different manures, and under different circumstances, agrees with ourselves in finding, that, generally speaking, the per centage of nitrogen in the produce is increased by nitrogenous manures. He, however, at the same time considers that an increased per centage of nitrogen would be the index of a proportionally increased feeding value of the crop. The idea, indeed, generally prevails among chemists, that the value of food, as such, is determined chiefly by its per centage of nitrogen.

In the course, however, of a very extensive series of feeding experiments upon sheep, pigs, and bullocks, and with *dry* foods as well as with roots—and also from the consideration of numerous human dietaries, and other matters relating to this question—we have been led to believe that the supposition, that the comparative value of foods, as such, is measurable by their per centage of nitrogenous compounds, requires considerable modification.

Stating the facts in very broad and general terms, we have found, that beyond a somewhat narrow limit—below which few current food-stuffs are found to go—the amount of nitrogenous compounds does not influence the quantity of food which an animal, under ordinary circumstances, will consume within a given time; and further, that beyond this point it has a very slight and diminishing effect in determining the increase in weight when fattening. On the other hand, other things being equal, both the amount of food consumed and that of the increase produced, are found to bear a very direct relation to the amounts in the food of certain constituents destitute of nitrogen. The relationship, indeed, is almost numerically identical in several sets of the same description of animal, under otherwise equal circumstances, but with different, though comparable descriptions of food, so far as the *amount of these constituents consumed to a given weight of animal within a given time* is concerned. The amount, however, of *nitrogen* consumed under the same circumstances, will frequently vary, in different sets of animals, as much as from one, to two, or three. Provided, however, the non-nitrogenous compounds of the food are suited to the requirements of the animal, an increase of nitrogenous compounds beyond a certain and somewhat low per centage, will give a slightly greater tendency to increase in weight; though, as already stated, beyond a narrow limit of nitrogenous supply an increased amount of it tends to the increase of the animal in a rapidly decreasing ratio. We may observe, that the result as here stated, has been obtained as clearly in the use of dry foods, as with Turnips and other succulent substances.

In Turnips, however, more especially, we have found, that when the per centage of nitrogen is much increased beyond that which is frequently found by the use of farm-yard manure, the feeding qualities of the crop may be diminished rather than increased, and sometimes so even to a very serious degree. We have pointed out, both in our paper on "Turnip culture," and in that on "Sheep feeding," that this result depends materially upon the degree of the maturity of the crop. And we have also argued, that a very high per centage of nitrogen is of itself a pretty frequent indication of immaturity as a feeding crop; and also, in a late stage of its growth, of a probable defect of such carbonaceous supply, as would favour a healthy ripening of the bulb. Thus, in our paper on "Turnip culture," we say:—

"There is then, with the highest per centage of nitrogen, more of circulating fluid, and less of deposited substance than with the lowest; and since there was, moreover, not only a less maturer bulb, but a less average produce of it in a given time, than when the nitrogenous supply was less, we are led to infer, that the high per centage of nitrogen indicates a relative deficiency of carbonaceous substance, rather than a favourably increased amount of nitrogen."

And again:—

"All the specimens in which we found a high per centage of nitrogen, were those in which there was a great development of leaf, with a comparatively small tendency to form bulb; and we believe that the high per centage was due to a deficient accumulation of carbon by the plant. Whilst, then, the high per centage of nitrogen may indicate an abundance of it in the soil, the growth of the plant has been in other respects defective. It is probable that the *full grown bulb* of such as has only a due proportion of leaf, will seldom have a per centage of nitrogen much higher than that which has been usually observed; for with an increased supply of nitrogen, there is an excessive production of leaf, and a bulb which though richer in nitrogen is not profitably developed."

We repeat, that where, for the particular climate and class of soil, the proportion of leaf is too great, there will probably frequently be a deficiency, rather than an additional accumulation of nitrogen in the crop by the use of it in manures; and, if the bulbs of such a crop be employed as food before they are fully ripe, they will probably contain a very high per centage of nitrogen, but be at the same time defective in feeding quality. We have little doubt, indeed, that the character of inferior feeding quality which guano-grown Turnips have frequently obtained, has arisen from the effects of ammoniacal manure, to which we have called attention. Again, when we remember that Dr. Voelcker has found by direct experiment, that some succulent vegetable substances may contain nearly one-fourth of their nitrogen in the form of ammoniacal salts, our own views on the point, when we say that these matters are "only brought within the range of the organism, themselves as yet unorganised, and existing as saline and other changeable fluids, to which may readily be attributed a medicinal and purgative, rather than a direct nutritive effect, elaboration to some extent being, as we are aware, an important element in the condition of food for animals;" this opinion, then, we say, would seem to require little further confirmation. In relation to this subject, however, Dr. Anderson's analyses, before referred to, are of high interest. Thus, he finds that by far the larger proportion of the nitrogen of Turnips exists in the fluid state; that is, *in the juice*. And hence, as well as from other reasons, we have additional grounds for supposing, that much of it, at least, is in an imperfectly elaborated state.

Whilst however, we consider, that the per centage of nitrogen even in dry and fully elaborated vegetable products, but especially in succulent foods, is by no means an unconditional, or even usually correct measure of *feeding* value; we at the same time admit, that in regard to both classes of substances, there is here a very wide field open for future research. We have ourselves made many nitrogen determinations in Turnips of different varieties, grown by different manures, on different soils, and in different seasons; and, whilst these have aided us in drawing the conclusions stated above, they at the same show how much there is yet to learn, as to the influence of soil, climate, and manuring, on the composition and feeding qualities of Turnips and other succulent produce.

We have argued then, in accordance with the views maintained in our papers that, although a due supply of nitrogenous manure is very important for the Turnip crop, yet, that an Excess of it may both reduce the

amount of nitrogen collected from natural sources, and lessen the feeding value of the crop. It remains, then, for the observant and intelligent practical farmer, bearing in mind the several points to which we have endeavoured to call his attention, so to adapt his system of manuring to the natural and other circumstances around him, as to secure to himself in regard to them the full benefits of the crop. Nor can it fail, that the further experience thus gained, will of itself open up new points for scientific inquiry; and thus it is, that the true relations of science and practice must result in advantages to each reflected from the other.

We have now completed the remarks called forth by the representations made by the writer "R" of our views on the subject of the growth of the Turnip in our rotations; but there yet remains one main division of the discussion; namely—his representation of our views as to the circumstances of growth of the cereals; and this we hope to take an early opportunity of entering upon. *J. B. Lawes.*

PAUPERISM.

(*Continued from page* 634.)

Englishmen long accustomed to pay heavy rates for the support of the poor may smile at the idea of an outcry against the levy of 2*d.* to the 1*l.*, for the purpose of assisting the overpowered unions, and to aid the emigration from the workhouses of persons suitable for emigrants, especially girls previously trained in household and domestic duties, with a view to their transmittance to some of our colonies. Fortunately, however, this small rate ordered by the lord-lieutenant under 12 Vic., c. 24, in December, 1850,* has been levied without a rebellion; and excellent results purchased at such inconsiderable inconvenience have followed from the imposition of this rate. The commissioners' report—"A part of the fund raised as rates in-aid has been applied by us to the assistance of emigration from the workhouses of some unions, a mode of application expressly authorised by the rate-in-aid act. To avoid as far as possible creating the expectation of being assisted to emigrate, on the part of persons who might be attracted by that prospect to the workhouse, we limited the selection to persons eligible in all respects who had been previously resident in the workhouse for the space of one year at least. By this course we have relieved some of the over-burdened unions from the expense of maintaining for an indefinite time persons able to work, but apparently having no prospect of employment on the spot; and we have at the same time provided the guardians with additional workhouse accommodation without incurring expense in hiring or erecting and fitting up new buildings." In many unions no disposition to emigrate has been manifested, and the absence of it in such localities may be deemed an evidence that no pressing necessity for it exists.

We shall place, as to some principal details, in juxtaposition the last reports of three unions selected as average representations of the relative circumstances of pauperism in some of the best parts of the United Kingdom:—

1851.	England. Newbury Union.	Ireland. Wexford Union.	Scotland. Easter Ross Combination.
Parishes	18	Parishes, 9	Electoral Divisions, 3‡
Number of acres	43,681	—	125 280
Population	20,819	17,100	51,079
Paupers in workhouses ...	176	37	1,280
Externs registered	2011	833	1
Do. casual	25	44	—
Ratio of paupers relieved to 100 inhabitants	8·2	19.50	2·50
Average weekly cost of each pauper in workhouse, clothing included	2*s.* 4½*d.*	1*s.* 7*d.*	1*s.* 4½*d.*
Average ditto of each extern, about	1*s.* 0*d.*	½	—

General Description of Dietary used in each of the above Unions.

Newbury Union:—Bread in abundance, gruel, broth, bacon, or other meat (three times a week); pea-soup, rice, or suet pudding; cheese, potatoes, and other vegetables; and to the infirm—tea, sugar, and a little butter.

Wexford Union:—Porridge of oatmeal and Indian meal, white and brown bread, sweet milk, buttermilk, soup, and tea and sugar occasionally to the aged and infirm adults.

Easter Ross Combination Parishes:—Meal, with milk or treacle-water invariably for breakfast or supper, oatcake, pea-soup, barley, broth, potatoes, rice, and occasionally herrings for dinner.

The Carnarvon dietary is nearly identical with that of Newbury, but shows a somewhat larger allowance of bread, meat, and cheese.

The variations in food tables of the different countries of the United Kingdom, as indeed those in the different unions of the same countries, are, owing to a judicious rule universally acted on, not to give a better diet in any workhouse (or rather to be a degree below it) than is the ordinary food in the locality of the class of persons relieved there.

The tabular returns from the Wexford Union present but one case of pauperism relieved out of the workhouse. The solitary recipient of such relief (a paralytic man), is the only individual who has received out-door assistance since the union was formed. In other unions the column for paupers relieved out-of-doors during the last year is blank; and the respective guardians probably consider that this circumstance affords to the public strong testimony of the generally good condition of the labouring classes in their localities. If indeed the amount of real pauperism is to be estimated by the number of individuals in the workhouses of such unions, there would be cause for congratulation; but when it is considered that few adults except those on the verge of starvation, utterly unfriended and destitute of the means of subsistence, will enter them, we must fear that there remains unrelieved a very large amount of what may be fairly termed pauperism, if the want of the necessaries and decencies of life deemed indispensable, even in the lowest grade in England, gives a just claim to relief from poor-rates. If a degree above the starvation point, at which of necessity the pauper is driven into the workhouse, be considered a satisfactory state of the poor, we must express regret that a more elevated line on the scale of human necessities is not taken as the standard point; and our strong hope that a close approximation to that level of comfort which by long usage and legislative protection has been established (with inconsiderable variations) for the English poor, will be considered as a necessary act of justice and humanity for the poor of Ireland also. In such case the alternative of the workhouse, or no relief whatever, will not be permitted to become either the law or the usage of the land.

The effort to introduce this severe system has been made in England, and it has failed. English humanity revolted from the cruelty of practically compelling the old and infirm poor who, with good reputation, have supported themselves and families by honest industry as long as their limbs could discharge their functions, to enter the workhouses. It is no fault of the labouring poor, generally speaking, that they do not save money during the years of active employment for declining age, for they very seldom possess more than barely sufficient for the wants of the passing day. The English poor-houses afford a better dietary than the Irish to the inmates; there is a strong repugnance on the part of the poor to enter them; and this feeling is, if possible, still stronger among the peasantry of Ireland, the idea of a prison with the name of workhouse. Even the most miserable of them dislike to go into them.

And it is not judicious to discourage that feeling which renders the poor unwilling to leave their own hearths, and the humblest domestic accommodation for the crowded feeding rooms and dormitories of the workhouse. Yet, it is a fact, that those who once conquer this repugnance and pass its threshold, feel ready to go there again and again, losing the desire of independence, the sentiments of self-respect, and the consciousness of degradation. These make fewer efforts at self-support in their own dwellings. The moral effect then attained by assisting those who are striving to help themselves, should be kept in view; and a proper regard should be given to the characters of the applicants for relief as much as to their need. The workhouses are admirable asylums for the able-bodied, who are wilfully idle, provided they be compelled to work in return for the food, raiment, and lodging afforded them; or deserted children, the houseless poor, and the sick who cannot be sufficiently treated and cared for; but not for other classes of poor, if they prefer their homes. It is neither politic nor humane to apply the poorhouse test in all cases as a criterion of the fitness of relief; we except the able-bodied, to whom such test should be rigidly applied. We would not, however, dissuade from the exercise of great caution in affording out-door relief in Ireland where the poor-law is new, and where the abuses* which have not been altogether subdued even in England, are to be scrupulously avoided, but in all doubtful cases we would lean to the side of charity. And it is to be remarked, that in the case of pauper families consisting of numerous individuals and of aged married couples, economy suggests the expediency of giving out-door relief, which, with their other resources, may enable the recipients to live at home, instead of going to the poor-house, at a greater cost to the rate-payers for maintenance and additional buildings.

The Irish poor do not expect, in cases of sickness or infirmity, such liberal assistance as is often afforded to persons of similar need in England. For example—a widow, with a family of two healthy lads (earning 3*s.* each per week), and a stout grown-up girl, had another daughter labouring during many months under a wasting disease. During the latter period of her illness, her weekly allowance was—

	s.	*d.*
Money	1	6
Bread	0	9
Pint of Port wine	2	0
Bread for poultices	0	9
2 lbs. of mutton	0	7
1 lb. of arrow root	0	6
Nurse (the sick girl's mother)	1	6
Bread for her as nurse	0	9
Extra nurse	1	0
Bread for extra nurse	0	9
Groceries for nurses	1	6
Extra allowance during the last week	6	0
	17	7
Funeral expenses:		
Elm coffin	11	0
Shroud...	2	0
Bearers...	2	0
Burial fees	4	6
	19	6

* From a copious mass of the almost incredible mismanagement which was tolerated in England when the first annual report of the Commissioners was published in 1835, we select one of a very curious nature.

The expense of a pauper's marriage at Compton was as follows:—

	£	*s.*	*d.*
Putting the horse and cart up at the public house, waiting for the clergyman to come home	0	1	2
To the clergyman for a license	3	3	0
William Baker, for his horse and cart	0	6	2
Clergyman not at home, expenses at the Swan Inn. Keeping Rumbold (the male pauper) in HOLT, and for wedding dinner	1	19	4½
C. Cox, constable, for gold ring for William Rumbold to be married with	0	8	0
Parson's and clerk's fees	0	15	0
	£6	16	

(Report, page 186.)

* First Annual Report of the Poor law Commisioners, p. 184.
† Ibid p. 185.

* Circumstances had once before imperatively called for a rate, and of petty amount.

This occurred recently, and though the recipient of this relief was in every respect deserving of it, we object on general principle to some of the items of expenditure; for instance a mother should not be paid for attendance on her own child, and the Irish poor unquestionably would not require it; nor would Irish mothers say "it is a hard case for we poor mothers to have to work for our religion."* Reversing the circumstances just stated, it was considered by some overseers under the former English poor that "for children to be dutiful to their old and sick parents was a great hindrance, and therefore they paid daughters for sitting up with their sick parents."†

Though a sick person should have every reasonable comfort, any practice by which the selfishness of the relatives, whose duty it is to afford at least their affectionate attendance, may be encouraged, is to be deprecated.

(*To be continued.*)

Home Correspondence.

Reaping Machines.—As you have noticed the report of the judges upon the trial of reaping machines at the Royal Agricultural College Farm, at Cirencester, in your *Gazette*, perhaps you will allow me to make known through your paper, also, a mistake which occurred in the report: not affecting the relative merits of the two machines tried, but of rather material importance to the character of the work performed by these machines. It is stated that the rakings after Hussey's machines amounted to 3½ bushels, and after M'Cormick's to 2½ bushels per acre,—a large and wasteful quantity. It ought to have been per 3 acres, which was the quantity of ground measured and raked, which would give only ⅝ of a bushel to M'Cormick's and 1⅛ bushel to Hussey's per acre. The mistake occurred in filling in the quantities, and has been explained in a letter to the *Times* by Mr. Valentine, the College farm manager, but it is desirable that it should be further known to those who may not have seen it. *J. Curtis Hayward, Quedgeley, Gloucestershire.*

Rothamsted and the Writer "R."—Excuse one word of interruption. Mr. Lawes, in *Agricultural Gazette* of 25th inst., has the following passage: "Upon the 'moisture of the atmosphere' the writer 'R' lays much stress, partly in correction of the omissions of Liebig on this point, but especially in reference to its direct influence upon the evaporation from plants, and as thereby materially affecting their growth; we think that in endeavouring to fix attention upon the seeming omission of others on this point he has himself given it an undue preponderance, &c." Will Mr. Lawes be so good as to give the passage to which this refers. We really think when any of our opinions is thus criticised by any one he might give the paragraph, and boldly point out the matter which he considers objectionable. We shall be very willing to alter or amend any of our opinions if sufficient reasons are adduced for our doing so; if not we will try and defend them. We shall wait with patience until Mr. Lawes concludes his reply, but we cannot help thinking it is a great pity that Mr. Lawes finds it necessary to introduce so much matter that is entirely extraneous; for example, we have only got the benefit of the two last paragraphs in the *Gazette* of 25th inst., where we were entitled to the whole. We would not have taken any notice of *one* instance of this mode of lengthening out his defence. *R. Russell, Kilwhiss, Sept.* 30.

Mangold, or Mangel-Wurzel, the field Beet.—There are three known varieties, one only of which, the Orange-Globe, will be noticed in this communication, and that, in consequence of a plot of such extraordinarily luxuriant health and bulk of crop as to induce a particular inquiry, which might enable the writer to describe the several leading processes adopted in its cultivation. The plot, estimated at one-third of an acre, is on the London road, not remote from the Croydon station; the site originally was a meadow, on the strong clayey hazel loam which characterises that locality. Belonging, however, to a gentleman qualified to develope all its capabilities, for producing green crops for cows, it was thoroughly and deeply worked with the spade a few years since, and then fundamentally enriched by stable manure. Every crop of the Cabbage family raised on this land since 1849 has been strikingly fine; among those one of Cow Cabbage, at perfectly regular distances, and always clean, could not be overlooked. Some lighter earth, that had been richly tilled in a neighbouring quarter, was introduced a year or two since, and now the earth has acquired a much darker tint, partly also in consequence of being dressed with garden refuse of every kind carbonised by slow combustion. Thus much potash has been introduced, a salt which the Orange Beet affects, there being, according to analysis, no less

than 31.88 per cent of it in the ash of the bulb and leaf. Guano, to a moderate extent, was used on the present occasion. The soil best adapted for Beet-root is a deep sandy loam, made rich, if not naturally so, by thorough manuring, the manure well incorporated with the earth to the very bottom of the trenches; and here, as for every crop of the farm, fold or stable manure should be generously used, upon the principle that fermentation is indispensable in order to develope those electricities, the play of which constitutes the vital activity of laboration, and intro-susception or absorption of the sap. It is all very well to pay attention to the mineral theory, but to the chemical energy excited by the decomposition of putrescent substances we must ascribe those attractions and combinations which affect vegetable growth and support. All these conditions being complied with efficiently, the seed was deposited in due time. The young plants advanced, slowly at first, owing to the dry cold weather of May, but rapidly during the soaking showers of June. In sowing, it is always desirable that the seed be fresh, obtained from the most perfect plants, and sown not later than the second week of May, about an inch deep, either along drills, or by dibble in holes 4 inches asunder, three seeds in each. When up, and out of danger from frost and insects, the young Mangold is to be singled,—to stand at least 12 inches from one another in the rows. In the plot under review the rows appear to be 18 or 20 inches apart, the plants fully 12 inches asunder in the ranks. In growing, blanks can be filled up by transplanting, provided the fibrous roots be not torn off. The Yellow, or Orange Globe is neither so long nor so apt to extend upwards above the earth as the red variety of Mangold. This preferable habit is completely exemplified in the present instance. The breadth of the roots is strikingly great, in some specimens from 6 to 7 inches across, giving 18 to 21 inches circumference at the shoulder, ascertained by measure, just below the surface level; and the plants, as a whole, being now great, the bulk of food must be prodigious. Having had opportunity to inspect the progress of this crop from its earliest stages to its present admirable condition, it has been seen that order, regularity, and destruction of weeds have included all the processes of labour that have been required, but these were strictly attended to. *J. T.*

The usual Price given for Dibbling an acre of Wheat with one of Dr. Newington's hand dibbles is 4*s.* per acre, not 1*l.* 5*s.* 10½*d.*, as stated by *H. H.*, the holes being 4 inches apart, and the rows 10; 2 pecks per acre being the usual quantity of seed, which gives about 3 grains to each hole. The crop should not be got in later than the end of October. This system of seeding answers well on poor land, if some stimulating manure be harrowed in with the seed; the plants ought to tiller before the cold weather sets in, and not much on the approach of warm weather. Hoeing and stirring may be carried on till the middle of March, and not later, otherwise the crop will become mildewed, or an uneven sample will be produced. Would *H. H.* state how much land he can hoe and stir in a day with Dr. Newington's hand hoe and cultivator,—two acres of Turnips being the usual quantity per day hoed with a proper implement. Would Mr. Smith also state his experience with this implement, and also what he has been doing with a deep stirrer invented by Dr. Newington for Mr. Smith's system of cultivation. Will any one who has Dr. Newington's drop drills, state their opinion of them. Now would also be the proper time for persons to state their experience of the hand-dibbles. Autumnal, not spring tillering is required for Wheat, but every one must use their common sense in these matters. *N.*

Barley Seeding.—I wish to explain that I do not advocate late seeding of Barley, nor of any other kind of grain; but, on the contrary, like the late Mrs. Ramsbottom, I like to take time by the "firelock," and would recommend all others to do the same. In the instance of Barley sowing, I merely gave the examples of late sowing to show that I had done so long before I knew or had heard of Messrs. Hardy and Son, and I wish now to add, that my having done so was from accident or necessity, and not from choice. To secure a good crop I would recommend early seeding, though, by accident, late seeding might be successful, as it was with me under my thin-seeding system. Let me also add, that I have received a letter from Mr. Piper in answer to one I sent him, in which he says that there was a little over two quarts of seed per acre for the crop which yielded 15 coombs, or, as he expresses it, "60 bushels." But, admitting that the seed was a little over two quarts, still we find the yield to have been enormous, namely, upwards of 800-fold. I do not ask thick-seeders to do the same, because I know they cannot; but Mr. Piper writes that his field had been Wheat every year for the eight previous years, and all those crops were very fine, averaging more than 40 bushels an acre. Let me add, that when I paid Mr. Piper a visit, about a month since, I inquired as I drove along, of all I could, what was the supposed average of the yield of Wheat this year in his neighbourhood and parish, and the answers I received gave it as between seven and eight coombs. "But," say the farmers, "we who cultivate hundred-acred farms cannot grow so much per acre as the man who cultivates only a few acres—say eight or ten." Then, I reply, my friends, divide your farms that they shall be so small that you can make every acre grow what it ought to grow; do this, and then you will import labourers and export corn, and not do as you are now doing, namely, exporting your men and importing food to support those who remain behind. It is a reproach for the most powerful nation on earth to be indebted to all the rest of the world for daily food. Why, were accident or misfortune to deprive us of the sovereignty of our seas for only one year, half England would perish with famine, and disease, the constant attendant on famine; but were all English farmers to follow the example of my friend, Mr. Piper, we should fear no evil, but have plenty of all the necessaries of life for ourselves, and much to spare for our less favoured neighbours. *Geo. Wilkins.*

Pleuro-pneumonia.—About two years ago, 11 of my cows had the pleuro-pneumonia, and nine of them died. In the spring of this year five more were taken ill of it, and they all died. Since that time eight of my cows have had this disease, and under a different, and to me a new treatment, they have all recovered. I therefore think that some of your readers may derive benefit from being made acquainted with the remedies which have been in my case so successful. The most important point, no doubt, is to begin in time and not to wait when there is suspicion of a cow's illness, in the hope that she may be better soon. None of the remedies which I am about to suggest have any permanent effect on the "note" of a cow. When the cow is ill bleed her; and if the lungs labour much, blister the sides. Give as a drink one quart of water saturated with salt. Mix a quart of ground malt and a large handful of salt, with an equal quantity of bran in a mash, and also give that to the cow; repeat the mash, with a pint instead of a quart of malt, every hour until the cow chews her cud; at all events continue the mash (reducing the malt to a pint) every two or three hours, till the cow licks herself. If the cow at any time refuses the mash, cram her with it. If on the second or third day the cow continues very ill, bleed, blister, and give salt and water as before. Fasten a warm rug on the back and loins of the cow, and let it remain there during her illness. I am indebted to a neighbour for the malt mash prescription, which he told me had never failed. I did not try it alone. One good effect of the malt appears to be that it excites the cow to determined efforts to chew her cud, and to preserve the cud is I think essential for her recovery. *Ralph A. Thicknesse, Beech Hill, Wigan, September 30.*

Pig Feeding.—I see some writers in your journal are advising the use of tallow greaves in pig feeding. A few years since, I remember Mr. Huxtable, who has been hunted to death, announced he had a pig secret, and he advised the use of tallow, I believe; at least, it was alleged to be tallow by one of your correspondents, who expressed himself rather sarcastically towards Mr. Huxtable. I have a strong suspicion that the pig secret, which was never divulged, that I know of, consisted in the use of tallow greaves. *A. B.*

Glass Milk Pans.—I have bought some of the glass milk pans sold by Phillips, made after the form and (in part) price of the Holstein milk pans, as specified by Capt. Stanley Carr (?). They are very nice; but I think they would be much improved if the sides were less upright; they would thus expose a larger surface for the cream, without being heavier or more expensive. *J. E. Gray.*

Farmers' Clubs.

Driffield:—*Rotation of Crops.*—At the last monthly meeting of this Club, Mr. John Wheatley introduced the subject. He said "The rotation of crops is a subject of great importance to us all; and my chief object is to show how necessary 'a variety of cropping' is, and the importance of a thorough knowledge of the various manure, capable of supplying the elements requisite for the successful production of the various crops. The many different soils, which are found in a country like this, render it difficult and uncertain to follow any determined course of management. Though much has been said by many writers of the day on the subject of manures, and the general management of soils, I fear there is yet a want amongst us of the due knowledge of the various manures it is prudent at all times to apply to the soil. If we wish to successfully cultivate our soils, we must not only consider the proper management of our crops, but the means to be adopted to restore back to the soil those elements of which it may have been deprived by the previous crop. We look through the columns of the different agricultural magazines and journals, and perceive that subjects are constantly agitated; but there is not one individual suggestion, one mode of practice, or one recorded result that does not form matter of doubt, disputation, and sometimes almost rude contradiction. An attempt, then, to bring about a uniformity of opinion would be hopeless; but there are general principles which cannot legitimately be disputed. The excrements of man and animals have been employed from the earliest ages for increasing the fertility of soils; and it is completely established, by all experience, that they restore certain constituents to the soil which are removed with the roots and grain, or the entire plants grow upon it. But it is too often observed that the crops are not always abundant in proportion to the quantity of manure employed, and that the produce of many plants diminishes, in spite of the apparent replacement by manure of substances removed from the soil, when they are cultivated in the same field for several years in succession. On the other hand, a field which may have become unfitted for certain kinds of plants, is not on that account unsuited for another, and upon this a system of rotations has been gradually founded, the principal object of which is to obtain the greatest possible produce in a succession of years, with the least expense of manure. A knowledge of rotation, therefore, is most important in the science of agriculture, and absolutely essential to its profitable production. What, may I ask, would have been the state of our Wold districts, had it not been for a due rotation of crops, which has so signally succeeded; and lands that were once considered valueless are now more readily occupied than those heavier soils, which, from their nature, were considered more suited to the growth of Wheat; a state to which they have been brought by a constant rotation of cropping now so generally adopted in these districts. It is the greatest mistake to think that the temporary diminution of fertility in a field is chiefly owing to the loss of the decaying vegetable matter it previously contained. It is principally the consequence of the exhaustion of potash and soda, which are only restored to the soil by the slow process of the more complete disintegration of the materials of the soil. Plants require different constituents of soil, and changing the crop from year to year will maintain the fertility of the soil, provided always that the cropping be done with judgment, quite as well as leaving the land at fallow. The Oak, or any other shrub or tree, after thriving for a generation on a particular spot, gradually sickens, and in its progress removes from the soil substances essential to its growth, and leaving others favourable to a different kind of tree, such as the Beech or the Pine. So we find from practice that one crop in artificial rotation with another extracts from the soil a certain quantity of inorganic matter; a second crop carrying off in preference that which a former one had left, and neither could nor would take up. When we grow different plants on the same soil for several years in succession, the first of which leaves behind that which the second, and the second that which the third requires, the soil will be fruitful for all the three kinds of produce. If the first plant, for example, be Wheat, which requires the soil to contain the greatest portion of silicate of potash, the plants to succeed it should be Turnips or other bulbous plants, which require little of that element. It is evident, then, that an increase of fertility, and consequent increase of produce, can only be expected where we add more to the soil of the proper material, and adopt the proper rotation of cropping. Any soil will partially regain itself by laying fallow. This is owing to the atmospheric action, and the conversion of stubbles and roots into food fitting for plants. But although the quantity of vegetable matter in a soil may be increased to a certain extent by cultivation and alternate cropping, still there cannot be the smallest doubt that a soil must, without help, ultimately lose those constituents which are removed in the solid roots and leaves of plants raised upon it. By the aid, however, of chemical research and new discoveries, those elements may, by artificial means, be supplied, and the land restored to precisely the same state as that in which it was before being exhausted. It is certainly a matter of indifference whether we employ excrements, ashes, or bones, in carrying out the principle of restoring to the soil those substances which have been taken from it by a previous crop; but unless we know accurately what those matters are, how is it possible to supply them except at random! Fermented dung may be really useful if no nitrogen be required; and I am of opinion that a time is not far distant when our fields will be manured with saline solutions, with ashes of burnt straw, or phosphoric acid prepared in chemical manufactories, instead of the present system of trampling the straw with cattle to cause its decomposition, and its quality varied exactly in proportion to the kind of food consumed upon it. A knowledge of the actual requirements of lands, and of the exact composition of the proposed manure, is obviously necessary to enable the farmer to adopt the one or the other as a fitting remedy. If our object be the full development of the grain which we know contains nitrogen, our manure then must be rich in nitrogen. It is, therefore, highly important that the manures used for the production of the cereal crops must be rich in nitrogen, and in a state capable of being taken by them as food. Nature, by the ordinary action of the atmosphere, furnishes as much nitrogen to a plant as necessary for its bare existence; but plants do not exist for themselves alone. A plant may be furnished with carbonic acid, and all the materials it may require for its mere life—we may supply it with vegetable matter in a state of decay in the most abundant quantity—yet, after all we may have done, it will not attain a complete development unless nitrogen be afforded it by a supply of suitable manure. I am fully aware that it is utterly impossible that any one system of rotation can be adopted for every description of soil; so infinitely is that variety in tenacity and quality, that I believe only those who cultivate them are able to determine, in every case, what course of crops is the most profitable to be adopted. Therefore, the system I propose speaking of may be applied not only to light but heavy soils; yet, I readily admit, there are many heavy soils to which it is not suited, and that certain localities and various circumstances may render its adoption unsuitable. What may be termed the Norfolk system, or the four-course shift—Turnips, Barley or Oats, seeds, and Wheat—though considered the most characteristic of the present rotation, has, for many years, been proving itself too limited in power, and is now regarded, by all scientific and practical farmers, as quite incomplete to fairly bring out the resources of the most favourable districts. Already it has began to fail in one crop, and though the cereal and corn crops may follow each in their turn without alteration, yet the alternate or green crops are subject to deteriorate from too frequent recurrence. The red Clover is, I think, admitted can

be no longer repeated once in four years, and the substitution of Rye-grass is but an imperfect remedy. Yet, thanks to scientific information, I am readily led to believe, that, by certain application of special artificial manures appropriated for the growth of the Clover family, it may be produced and grown as vigorously in its course as the other crops. The cause of its failure has been a subject of great bewilderment to farmers, and of much controversy amongst the scientific agriculturists. Some give a favourite opinion, ascribing the failure to an exhaustion of some constituents of the soil, which are specially required for the sustenance of Clover, and have pointed to a manurial supply of those constituents, particularly by the aid of gypsum; but I have tried gypsum, which had not the desired effect, and did not even determine where it had been applied. Anot her opinion ascribes the failure to the presence of some vegetable excretions which are poisonous to Clover, and pointing out as a remedy the chemical decomposition of the offensive matter, or the avoiding the particular crop by which they are deposited. Still, I must confess my own opinion is, that applications of manuring properties may be found fitting to produce the Clover family vigorously; for what can the land receive during its interval of rest but some constituents, either from the atmosphere or the decomposition of the roots and plants grown upon it, all of which may be supplied artificially to the soil. I am of opinion that a liberal supply of the phosphates of lime to the Turnip crop will leave sufficient in the soil to aid the Clover. I fear it is the rule rather than the exception to apply bone-dust and sulphuric acid in much less quantities than under the old system of using half-inch bones. With liberal application of superphosphates, such as 12 bushels of bone-dust diluted with acid, I have grown better crops of Clover; and this year's produce I consider the greatest test, for where my Clover is now growing, the land has not been rested for a number of years. I attribute this to the use of dissolved bone, the food for the crop extending to the Clover. I am fully convinced that a great portion of the half-inch bones rest dormant in the soil, and do not give off their fertilising properties until brought into that soluble state which sulphuric acid in so short a time produces. I likewise think much depends on the fineness of the tilth of the soil, and its fastness and solidity when the Clover is sown. In some fields in the Wold districts the Clover is frequently seen alive and healthy on the headlands, whilst it has perished in every other part of the field. It would therefore appear to owe its prosperity on the headlands to the circumstance of their having been trampled by the horses when turned round in their work, and the part of the field having become comparatively consolidated. As before stated, the failure of the Clover has been, and still continues, the bewilderment of farmers. I advise all not to spare the Turnip crop, and let the manure, whatever it may be, be soluble and ready food for the plants; and where such liberal supply is provided with judgment in its preparation, and the land acquires solidity by the treading of sheep, I do think that we may be enabled to sustain Clover against the severity of the frost, or any cause which may arise to destroy its productiveness. There are other modes which I have tried to put off this Clover crop, by an intervention of Peas; but it is very uncertain, and in many instances signally failed; and during the past and the present year I fear that some varieties are little better than worthless. I have tried the practice of growing Tares and Rye instead of the Clover crop, and depastured them with sheep till midsummer, then ploughed them up, manured and boned, and drilled with Rape and Mustard, and the crop was abundant. It was eaten off with sheep, and in the autumn sown with Wheat. I considered this was a good preparation for a heavy crop of Wheat, but it was not what I expected; there seemed to be a sickliness and a want of that strength and vigour which might have been expected from such cultivation. I fear there is some poisonous effect produced in the growth of Tares, which is detrimental to the full development of Wheat; but I am now speaking of limestone soil, and therefore would not wish it to be supposed that such a case would occur in an opposite description of soil, for I am fully satisfied of the great difference in the constituents of the various soils which cover the vast space of this country. But with a liberal and proper supply of artificial manures, such as are best appropriated to the cereal and vegetable crops, I am fully satisfied of the advantages of adding artificial manures to the soil; and whatever difference of opinion may exist respecting these most special fertilisers, I trust time and experience may prove that they are the very foundation of our good husbandry of the present day; but so prejudiced are some, that, even when facts are deliberately laid before them, they will not give credit to such undeniable results. To prove the high estimation which I entertain of the valuable properties of artificial manures, I may state that the cost actually expended on the Garton Field farm of 445 acres, during the last 15 years, has been 130 per cent. on the annual rental; and the result of such an expenditure of the tenant's capital has been a fourfold increase of productiveness, amply repaying for the heavy outlay, and the expenses incurred, which are necessarily caused by such increased productiveness."

Farm Memoranda.

CAPESTHORNE HALL, CHESHIRE: *Inspectors' Report.*—This farm contains 392 acres. The greatest portion of the soil is a good friable loam, on a marly clay; part of the remainder consists of stiff clay loam on stiff clay; part peaty soil on clay; another portion is a good sandy loam on a sandy subsoil. The crops were this year as follows:—Pasture land, 171 acres; meadow, Clover meadow, and seeds, 43 acres; Wheat after Turnips, 25 acres; do. after Clover ley, 50 acres; Oats, after leys, 9 acres; do. after Wheat 41 acres; Peas, 3 acres; Potatoes, 8 acres; Turnips, 40 acres; Cabbage, 2 acres; total, 392 acres. The rotation of cropping adopted is Wheat, Turnips, Wheat, Clover; and if after turf, Oats, Turnips, Wheat, Clover. The stock kept is 10 working horses, 15 ley and other horses, 5 bulls, 12 dairy cows, 27 feeding cows, 45 feeding steers, 25 heifers in ley, 54 stirks, 51 rearing calves, 45 pigs, 177 sheep, and 82 lambs; total, 523. In summer the stock is kept on chopped Grass and Clover, and in winter on Turnips, chopped straw, linseed, and corn. About 1500 tons of manure are made upon the farm every year, which is used for Turnips and other green crops. The whole of he liquid manure is made available by means of a tank provided for the purpose. 4 tons of guano are applied annually upon the new seeds, and 2 tons of dissolved bones are put upon the Turnip land. There has been little draining done on this farm, a great portion of the land not requiring it, nor has any part of it been marled of late. New farm buildings have been erected within the last three years; also a new covered dung pit, with sheep and pig pens, on the box feeding principle. This claimant's farm lies in a good climate, and is moderately undulated. A considerable portion of it is too much interspersed with woods and single trees for the carrying on of arable cultivation with advantage or profit, but is exceedingly well suited for grazing purposes. There has been a considerable extent of old fences eradicated, but the trees still remain. The 25 acres of Wheat after Turnips, and the 20 acres after Grass and Clover ley, is altogether a superior crop; it would average between 44 and 50 bushels per acre, being strong, thick, healthy, and well fed. About 20 acres also of old ley was a bulky crop, but not "kindly," about one-third of which would yield badly, and the other two-thirds would be productive, but coarse in the grain. Another field of Wheat, also after old Grass, on a clay soil, is nearly a failure, caused by the grub in winter and spring, and by the mildew in summer. One portion of Oats after Turnips, a clean heavy crop, and would average 70 bushels per acre. The remainder after Grass and Wheat, very good. The Peas and Potatoes were good, the latter healthy and vigorous when inspected, the former was just carted. The Peas had been in 3 feet rows. The Turnip crop was very healthy, and tolerably equal, and very clean. Part of the meadow-land has been newly laid down, and now appears productive. A great portion of the pasture is very old; some parts of it good thick herbage, other portions poor, and would be much improved by liming or boning. Another portion is both wet and poor. In short the old Grass has not had much done to it lately in the way of improvement. Some of the fences are modern and good, others nothing particular. The new farm buildings are well arranged, and their elevated site gives facilities for carting from the dung pit by a tunnel under the shippon, the road being level. The pit is 37 yards long, 7 broad, and is 10 feet deep below the level of the farm-yard. There are two rows of sheep and pig pens erected over it, 5 feet above the level of the yard, and a passage up the middle between each row, with a door and steps at each end of the passage. The yard or road round this dung pit is five yards wide, and leads to the shippons and cattle sheds, which are erected entirely round the yard. There is a steam-engine for threshing, churning, cutting hay, straw, green Vetches, Grass, and Clover. Food is steamed from the boilers. No kind of fodder is given uncut. All the gates and roads are substantial and in good order. *Reports of Prize Farms of the Manchester and Liverpool Agricultural Society.*

Review.

A Memoir on the Equinoctial Storms of March and April, 1850; an Inquiry into the Extent to which the Rotatory Theory may be Applied. By F. P. B. Martin, Esq., M.A.

WE have to acknowledge with thanks the receipt of a copy of this volume, which, though printed we presume for private circulation, we take the liberty of naming here, as a valuable contribution to that branch of meteorology to which it more especially refers. It is a successful application of the rotatory theory to the explanation of certain storms, whose character and history at the different points where observers were stationed are given in great detail. We mention this for the information of those of our readers who are particularly interested in this subject, and who will, no doubt, remember the valuable weekly meteorological report with which we were last year favoured by Mr. Martin.

Miscellaneous.

Is Farming as Profitable as Trades or Professions?—I should say decidedly not; simply because the returns are necessarily more slow. Nature will not be hurried; however highly we may manure, still our Wheat crop requires nearly a year to grow; another elapses before the whole of it finds its way to market: whilst in manufacture many returns may be made within the same period. Perhaps this is fortunate, for I know not who would forsake the beauties of nature and independence of a country life, for smoky and confined cities, except as a matter of profit. *Mr. Mechi's Second Paper.*

The Effects of Liquid Manure.—An extensive landed proprietor, in Ayrshire, writes us (the *Glasgow Daily Mail*), "You say that 20 sheep can be kept on an acre of Italian Rye-grass. I know that many more than that number can be kept on a Scotch acre of it. At present there are about 70 sheep, of about 20 lbs. a quarter, fed on a Scotch acre of Italian Rye-grass per month. When first put up in the pens, within doors, each sheep eats 12 lbs. per day of Italian Rye-grass and half a pound of Rape-cake; but as they take on fat they gradually fall off eating as much, per day, of the Italian Rye-grass; and can consume not more than 8 lbs. per day. It is quite wonderful what a quantity of Italian Rye-grass, watered with the liquid manure, can be cut from a Scotch acre. It can be cut four times in the year; and the weight of the four cuts is upwards of 40 tons of moist Italian Rye-grass."

Notices to Correspondents.

COVERED YARD: *J Waldron.* We have your MS., and will publish it.

DROPSY: *G.* If the cow has dropsy of the abdomen she should be tapped with a proper instrument, and by a competent practitioner. Youatt on Cattle and Sheep, Spooner on Sheep, and the articles on the subject in Morton's Cyclopedia, will furnish information on the diseases of cows and sheep. *W C S.*

FLOOR FOR CATTLE STALLS: *J E G.* Asphalte flooring has been recommended. We give the following recipe, not on our own experience, but on that of a correspondent "J. P. B.," who says, "Dig sifted gravel, such as is used for topping walks, and use coal-gas tar; level the ground perfectly; mix gravel and tar, two quarts of the latter to each bushel of the former, till every particle of gravel is saturated with tar. This is best done on a boarded or stone floor; spread evenly, about one inch thick; roll till hard with a heavy garden roller. When dry, add from two to five inches more, according to the purpose for which the floor is required. Roll as soon as laid, and frequently, until it is quite solid. Cost, at 6 inches deep, 9*d.* per square yard, at the following high prices:—gravel, 1*d.* per bushel; gas tar, 4½*d.* per gallon; labour, 1*s.* 6*d.* per day." There are very many varieties of bearded Wheat. Many botanical *species* of Triticum are awned. We know of no Bell's reaping machine in England; Mr. Crosskill promises to issue them next summer.

ITALIAN RYE-GRASS: *A B.* We would roll it before winter, when the land is somewhat dry. It is well to put something over the drain pipes before filling in loose earth; but merely for the purpose of hindering the earth from falling through the uncovered joints into the conduit—a reversed turf is as good a thing as can be used for the purpose. We should use a pipe of about 1½-inch bore for common drains; a larger one, of course, for mains.

SCOURING: *A Saxon in Ireland.* It has been very prevalent this year, in consequence of the luxuriance of the pastures and the prevalence of so much wet. Remove the lambs as soon as possible to drier and less luxuriant pasturage, and give a little Linseed cake daily. By way of medicine give the following:—Tincture of Opium, 1 scruple; Prepared Chalk, powdered, 1 drachm; Magnesia, powdered, 1 scruple; in thick gruel once a day. *W. C. S.*

Markets.

COVENT GARDEN, Oct. 9.

Notwithstanding the unfavourable change in the weather, Vegetables and Fruit continue tolerably plentiful. Melons are becoming scarcer. Plums, Pears, Apples, and Peaches still arrive from France. Tomatoes are nearly over. Filberts realise from 50s. to 65s. Potatoes are rising in price. Peas are over. Mushrooms continue plentiful. Cut flowers consist of Heaths, Pelargoniums, Roses, Mignonette, Bignonia venusta, and Fuchsias.

FRUIT.

Pine-apples, per lb., 3s to 6s	Lemons, per doz., 1s to 2s
Grapes, hothouse, p. lb., 2s to 6s	Pears, per doz., 1s 6d to 4s
Peaches, per doz., 10s to 15s	— per half sieve, 5s to 7s
Nectarines, per doz., 3s to 8s	Almonds, per peck, 5s
Plums, per punnet, 2s to 4s	— sweet, per lb., 2s to 3s
Figs, per doz., 1s 6d to 2s 6d	Nuts, Barcelona, per bush, 20s to 22s
Apples, dessert, p. bsh., 4s to 7s	— Brazil, do., 12s to 14s
— kitchen, do., 3s to 6s	Kent Cobs, 75s to 80s
Melons, each, 2s to 5s	

VEGETABLES.

Cabbages, per doz., 6d to 1s	Shallots, per lb., 6d to 8d
French Beans, per half sieve, 2s to 2s 6d	Garlic, per lb., 6d to 8d
Brussels Sprouts, p. hf. sieve, 1s 6d to 2s	Lettuce, Cab., per score 4d to 6d
Cauliflowers, p. doz., 6d to 2s 6d	— Cos, p. score, 9d to 1s
Greens, per doz., 1s to 2s	Radishes, per doz., 8d to 1s
Tomatoes, per hf. sieve, 4s to 5s	— Turnip, 9d to 1s 6d
Potatoes, per ton, 60s to 130s	Endive per score, 1s to 1s 6d
— per cwt., 4s to 8s	Small Salads, p. pun., 2d to 3d
— per bush., 1s 6d to 4s 6d	Horse Radish, p. bundle, 1s to 3s
Turnips, per doz., 2s to 2s 6d	Mushrooms, p. pott., 9d to 1s 3d
Cucumbers, each, 2d to 6d	— per bush., 3s to 5s
Veget. Marrow, p. doz, 6d to 1s	Sorrel, per hf. sieve, 6d to 1s
Celery, per bundle, 9d to 1s 3d	Artichokes, per doz., 4s to 6s
Carrots, p. doz., 2s 6d to 4s	Fennel, per bunch, 2d to 3d
Spinach, per sieve, 1s to 2s	Savory, per bunch, 2d to 3d
Onions, per bunch, 2d to 4d	Thyme, per bunch, 2d to 3d
— Spanish, p. doz., 1s 3d to 3s	Parsley, p. doz. bnchs., 2s to 3s
Beet, per doz., 1s to 1s 6d	Mint, per bunch, 2d to 3d
Leeks, per bunch, 1d to 2d	Basil, green, p. bunch, 3d
	Marjoram, do., 2d to 3d
	Watercresses, p. 12 bun, 4d to 6d

HAY.—Per Load of 36 Trusses.

SMITHFIELD, Oct. 7.

Prime Meadow Hay	72s to 78s	Clover ...	... 75s to 95s
Inferior do.	... 60 66	New do. ...	... 60 85
Rowen ...	... 48 55	Straw ...	... 27 32
New Hay ...	... — —	E. J. DAVIS.	

A short supply.

CUMBERLAND MARKET, Oct. 7.

Prime Meadow Hay	78s to 86s	Inferior Clover	... 75s to 84s
Inferior do. ...	... 60 72	New do. ...	... — —
New Hay ...	... — —	Straw ...	... 28 34
Old Clover ...	.. 92 98	JOSHUA BAKER.	

WHITECHAPEL, Oct. 7.

Fine old Hay	... 80s to 84s	Old Clover...	...100s to 105s
New Hay ...	... 70 75	Inferior do.	... — —
Inferior do.	... 55 65	New Clover	... 85 95
Straw ...	... 26 32	Inferior do.	... 50 70

SMITHFIELD.—MONDAY, Oct. 4.

The number of Beasts is 1000 less than on Monday last, still it is large. The average quality of the supply is very inferior. The choicest descriptions are readily sold, and in some instances make 4s., but we cannot quote it as an average. There are more buyers for middling ones, and almost all are disposed of. We have but a small supply of Sheep, and trade is fully recovered from the depression of last Monday. Some

few choice Downs make nearly 4s. 8d. Trade is also rather better for Calves; indeed, everything is pretty well cleared off. From Germany and Holland there are 2563 Beasts, 7740 Sheep, and 203 Calves; from Scotland, 40 Beasts; and 2000 from the northern and midland counties.

Per st. of 8lbs.—	s	d	s	d
Best Scots, Herefords, &c.	3	8 to 3	10	
Best Short-horns	3	6 — 3	8	
2d quality Beasts	2	6 — 3	0	
Best Downs and Half-breds	4	4 — 4	6	
Do. Shorn	0	0 — 0	0	

Per st. of 8lbs.—	s	d	s	d
Best Long-wools	3	10 to 4	2	
Do. Shorn	0	0 — 0	0	
Ewes & 2d quality	3	2 — 3	6	
Do. Shorn	0	0 — 0	0	
Lambs	0	0 — 0	0	
Calves	3	0 — 4	0	
Pigs	3	4 — 4	4	

Beasts, 5225; Sheep and Lambs, 25,640; Calves, 303; Pigs, 320.

FRIDAY, Oct. 8.

The number of Beasts is still large; trade is exceedingly heavy, especially for inferior descriptions. A few choice qualities, not being plentiful, are sold fully as dear as on Monday. The supply of Sheep is small, but equal to the demand. Monday's prices are fully supported, and an early clearance is effected. Calves are not so plentiful; they are quickly disposed of at rather more money. Our foreign supply is 485 Beasts, 2210 Sheep, and 150 Calves; there are 400 Beasts from the northern and midland, and 101 Milch Cows from the home counties.

Per st. of 8lbs.—	s	d	s	d
Best Scots, Herefords, &c.	3	6 to 3	10	
Best Short-horns	3	4 — 3	8	
2d quality Beasts	2	4 — 2	10	
Best Downs and Half-breds	4	4 — 4	6	
Do. Shorn	0	0 — 0	0	

Per st. of 8lbs.—	s	d	s	d
Best Long-wools	3	10 to 4	2	
Do. Shorn				
Ewes & 2d quality	3	2 — 3	6	
Do. Shorn	0	0 — 0	0	
Lambs	0	0 — 0	0	
Calves	3	4 — 4	2	
Pigs	3	4 — 4	4	

Beasts, 1354; Sheep and Lambs, 5,740; Calves, 337; Pigs, 510.

COAL MARKET.—FRIDAY, Oct. 8.

Townley, 15s. 6d.; West Hartley, 16s.; Wallsend Garforth, 16s.; Wallsend Hagwell, 17s. 6d.; Wallsend Hetton, 17s. 6d.; Wallsend Stewarts, 17s. 6d.; Wallsend Tees, 17s. 6d.—Ships at market, 130.

WOOL.

BRADFORD, THURSDAY, Oct. 7.—Our English wool market has exhibited indications of greater cheerfulness during the current week than for some time past, and the transactions may be considered as rather more than the average Prices have ranged firmly for nearly all classes of good combing wools, and seem to have a slight upward tendency. Stocks in the hands of staplers are unusually light for the season, and the difficulty of replacing from the country at present rates renders it probable that they will continue so. Noils and brokes find a ready sale, at improved prices.

MARK LANE.

MONDAY, Oct. 4.—The supply of English Wheat by land carriage samples to this morning's market was small; the condition of the Essex was fair, but much of the Kent was bad. The former met a quick sale, at an advance of 1s. per qr., while the latter was taken slowly at last week's rates. Foreign was inquired after, and our quotations were fully supported. Flour met a fair inquiry at late prices.—The Barley trade is firm at the rates of this day week.—Beans are 1s. per qr. dearer.—White Peas are scarce, and prices continue to advance; Maple and Grey are 1s. per qr. cheaper.—Oats bring 6d. to 1s. per qr. more money.

PER IMPERIAL QUARTER.	s.	s.		s.	s.
Wheat, Essex, Kent, & Suffolk...White	38	50	Red	32	44
— — fine selected runs...ditto	42	54	Red	38	48
— — Talavera	52	56			
— Norfolk	40	48	Red		—
— Foreign	34	54			
Barley, grind. & distil., 24s to 27s...Chev.	25	32	Malting	27	29
— Foreign ...grinding and distilling	22	25	Malting	26	29
Oats, Essex, and Suffolk	18	19			
— Scotch and Lincolnshire...Potato	18	22	Feed	17	19
— Irish ...Potato	17	20	Feed	17	19
— Foreign ...Poland and Brew	18	21	Feed	15	19
Rye	29	32	Foreign		—
Rye-meal, foreign	—				
Beans, Mazagan...29s to 31s...Tick	30	33	Harrow	30	33
— Pigeon ...32s — 35s...Winds.	33	40	Longpod	30	34
— Foreign ...Small	29	34	Egyptian	29	30
Peas, white, Essex and Kent...Boilers	38	41	Suffolk	40	42
— Maple...32s to 35s...Grey	31	33	Foreign	28	38
Maize ...White	—		Yellow	—	
Flour, best marks delivered ...per sack	37	40			
— Suffolk ...ditto	25	32	Norfolk	25	32
— Foreign ...per barrel	21	24	Per sack	28	34

FRIDAY, Oct. 8.—The arrivals of Wheat and Flour are large, but of other articles the supplies are small. This morning's market was thinly attended, and transactions were very limited, but in the business done extreme prices were realised for both Wheat and Flour. Of floating cargoes there are none on the coast, and for such as are not arrived higher prices are asked. Spring corn of all sorts continues in good demand, at the extreme prices of Monday.

ARRIVALS THIS WEEK.

	Wheat.	Barley.	Oats.	Flour.
	Qrs.	Qrs.	Qrs.	
English	2710	1880	430	890 sacks
Irish	—	—	1480	
Foreign	23790	1900	4450	1470 sacks

IMPERIAL AVERAGES.

	Wheat.		Barley.		Oats.		Rye.		Beans.		Peas.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
Aug. 28	43	7	28	2	20	3	29	9	34	4	31	1
Sept. 4	44	9	28	2	20	5	31	3	34	10	31	6
— 11	42	5	27	10	18	10	30	9	34	5	31	9
— 18	40	5	27	4	18	7	30	1	34	4	29	10
— 25	39	6	27	5	17	11	31	0	33	10	29	10
Oct. 2	38	9	27	4	17	4	30	5	33	10	30	0
Aggreg. Aver.	41	7	27	9	18	11	30	6	34	3	30	8

Duties on Foreign Grain, 1s. per qr.

FLUCTUATIONS IN THE LAST SIX WEEK'S AVERAGES.

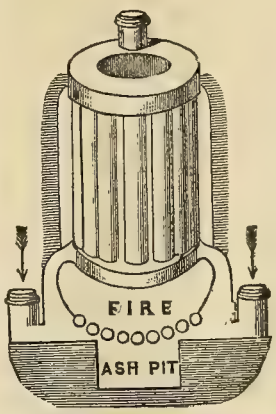
PRICE.	AUG. 28.	SEPT. 4.	SEPT. 11.	SEPT. 18.	SEPT. 25.	OCT. 2.
44s 9d	...		...	...	...	...
43 7		...	...	...	...	...
42 5	...	...		...	...	...
40 5	...	...	...		...	...
39 6	...	...	...	...		...
38 9	...	...	...	...	...	

LIVERPOOL, TUESDAY, Oct. 5.—Except fair quantities of Oats and Oatmeal from Ireland, the arrivals from other quarters of grain and flour are light this week. At this morning's market there was a moderate attendance of buyers, and a fair business, with the tendency of prices slightly in favour of the sellers. Wheat, in some instances, improved 1d. per bushel, and prime Flour 6d. per barrel. There was no alteration in the quotations of any other article of the corn trade.——FRIDAY, Oct. 1.—There has been little change in prices of grain and Flour since Tuesday, and at this day's market the attendance was moderate, with about the usual demand for consumption. Prime American Flour was saleable at 21s. to 22s. per barrel; white Indian Corn, 30s. 6d; yellow, 29s. 6d.: and mixed corn, 29s. per 480 lbs. Choice Irish new Oats sold at 2s. 7d. per 45 lbs. Egyptian Beans, 30s. per 480 lbs.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER.

TUBULAR BOILERS OF ALL SIZES, WARRANTED THE MOST EFFICIENT.

J. WEEKS AND CO., King's-road, Chelsea, HOT-HOUSE BUILDERS; Horticulture in all its branches upon the most improved principles. These Boilers are very powerful, durable, and economical. The fire warranted to last 15 hours without attention. The Furnace Bars are Hollow Tubes through which the return water passes before entering the upper part of the boiler, thereby causing a very rapid circulation, and producing double the effect from the same quantity of fuel.



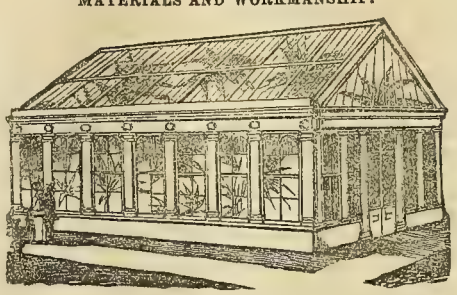
J. WEEKS AND CO., King's Road, Chelsea, CHALLENGE the whole world to make a Boiler that will produce anything like the same effect, with the same quantity of Fuel in a given time. It is one of those boilers that warms the water of their Victoria Regia Tank, which contains 20,000 gallons, and also heats several large Forcing-houses and ranges of Pits, with a small consumption of fuel.

Plans, Models, and Estimates of Horticultural Buildings; also Catalogues of Plants, Vines, Seeds, &c., forwarded on application.

J. WEEKS and Co., King's-road, Chelsea, London.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER,

AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.



GRAY AND ORMSON, Danvers Street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

G. and O. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders they can with the greatest confidence give the most satisfactory references.

Their Hot-Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating by Hot Water can be made available.

PURE WATER.

THE ASBESTOS FILTER.—MANUFACTURERS, TAYLOR AND PEARS, LATE OXLEY AND CO., 8, George-yard, Lombard-street, London.



EXTRACT FROM "LANCET," *June* 26, 1852.

"The Asbestos Filter of Messrs. Oxley and Co. is the best Filter hitherto constructed. Its superiority consists in the following circumstances:—First, The filtering media are composed of layers of Asbestos and river sand, so arranged as to admit of being readily removed and cleansed from time to time, from the impurities derived from the water which passes through them. Second, The mineral, Asbestos, is substituted for the animal substance, sponge, the advantages of the former being, that it is not liable to become, like sponge, putrescent, and that it may be easily and perfectly cleansed. As the public are still condemned to drink filthy Thames water, no family having regard for cleanliness and health should be without an efficient filter."

BERDOE'S WATERPROOF OVER-COATS AND SHOOTING JACKETS.—A very large stock of superior garments in every improved material and style, and of every degree of warmth, or lightness, guaranteed to resist any amount of rain; at charges reduced to the lowest point consistent with the principle that an article to be really cheap must be GOOD. Every size also of the WATERPROOF PALLIUM, the well known Light Over-Coat, for all seasons (price 45s.) Riding and Driving Capes, Leggings, Boys' Over-Coats and Capes, also Cloaks, Mantles, Habits, &c. for LADIES, all thoroughly impervious to rain, WITHOUT OBSTRUCTING FREE VENTILATION, the fatal objection to all other waterproofs.—W. BERDOE, TAILOR and OVER-COAT MAKER, 96, NEW BOND STREET, and 69, CORNHILL (only.)

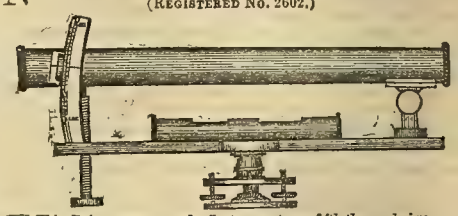
BOYD'S SELF-ADJUSTING SCYTH



BOYD'S PATENT SCYTHE and the celebrated STEEL DIGGING FORKS.—BOYD'S Scythe is capable of being adjusted to any angle by the person using it, and never requires the aid of a blacksmith; when out of use it shuts up like a clasp-knife. The *Gardeners' Chronicle* thus comments upon it:—"We gladly state that Mr. BOYD'S Scythe stands well the great test, experience, especially with his late ingenious and very useful improvement."—G. C., 15th May, 1852. The Steel Digging Forks are those celebrated by Mr. Mechi: "When a labourer has once used them, he will never work with any other implement for digging. They effect a saving of nearly 50 per cent. in labour."—Wholesale and Retail at WM. DRAY and Co.'s Agricultural Implement and Machinery Warehouse, Swan-lane, Upper Thames-street, near London-bridge.

DRAINAGE.

NEW LEVELLING INSTRUMENT.—(REGISTERED No. 2602.)



This Print represents the Instrument one-fifth the real size.

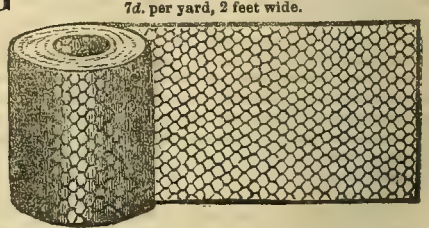
This is a simple and effective Self-recording Instrument, suitable for Levelling Drains, Sewers, or Roads, or for Measuring the Elevations and Depressions of Ground. It consists of a Telescope, Level, Graduated Arch, and Tripod Stand. The Arch is so divided as to show the rise and fall in feet and inches.

(*From the Practical Mechanic's Journal, Feb.* 1, 1851.)

"In the hands of even the most unlettered farm-servant this little instrument will afford the most correct measurements, as the operator has only to level the plate and bring his sight to bear upon the object, when the elevation or depression is given at once. It will be a most useful contrivance for draining or road-making."

Price 4*l.* 4s.—Made only by GARDENER and Co., 21, Buchanan-street, Glasgow.

GALVANISED WIRE GAME NETTING.—7*d.* per yard, 2 feet wide.



	Galvanised.	Japanned Iron.
2-inch mesh, light, 24 inches wide ...	7*d.* per yd.	5*d.* per yd.
2-inch " strong " ...	9 "	6½ "
2-inch " extra strong " ...	12 "	9 "
1⅝-inch " light " ...	8 "	6 "
1⅝-inch " strong " ...	10 "	8 "
1⅝-inch " extra strong " ...	14 "	11 "

All the above can be made any width at proportionate prices. If the upper half is a coarse mesh, it will reduce the prices one-fourth. Galvanised sparrow-proof netting for Pheasantries, 3*d.* per square foot. Patterns forwarded post free.

Manufactured by BARNARD and BISHOP, Market-place, Norwich, and delivered free of expense in London, Peterborough, Hull, or Newcastle.

HOTHOUSES, GREENHOUSES, ETC.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

E. DENCH, PATENT HOTHOUSE WORKS, KING'S ROAD, CHELSEA.—The superior qualities in every respect of these Structures having been proved in all parts of the United Kingdom, has caused a greater demand for them than E. D. could execute; he has been obliged to have perfect and powerful machinery made to meet the numerous orders, and can now execute any amount of work to great perfection, with dispatch, and for quality and price to defy all competition. Patent Hothouses, with excellent glass, 3 feet long by 1 foot wide, every front sash to open, and every top one to slide down, with pulley made of the same materials as the electric telegraph wires, which require no painting; delivered free to Wharf or Railway Station, at 1s. 2*d.* per foot super., complete, having been fitted, and every portion marked previously, making a Greenhouse 16 ft. 6 inches long, 12 ft. ratter, 400 ft., 23*l.* 6s. 8*d.*; 24 ft. 6 ins. long, do. do., 526 ft., 30*l.* 13s. 8*d.*; 28 ft. 6 ins. long, 15 ft. rafter, 712½ ft., 41*l.* 10s. 8*d.* Heating by Hot Water on the most approved and economical principles.

Patent Sashes for Pits and Peach Walls, &c., 7*d.* and 8*d.* per foot, super.

EWING'S PATENT GLASS WALLS.—The following are the Agents, and on application to whom drawings may be seen, and all other information obtained:—Messrs. Knight and Perry, Nurserymen, &c., Chelsea; Messrs. Henderson and Co., Nurserymen, Pine-apple-place, London; Messrs. Whitley and Osborn, Nurserymen, &c., Fulham, London; Mr. Glendinning, Nurseryman, &c., Chiswick, London; Messrs. Veitch and Son, Nurserymen, Exeter; Messrs. Dickson, Nurserymen, Chester; Messrs. Lawson and Sons, Nurserymen, Edinburgh; Messrs. Dickson and Turnbull, Nurserymen, Perth; Mr. M'Intosh, F.R.S., Gardener to the Duke of Buccleuch, Dalkeith; Mr. Fleming, F.H.S., Gardener to the Duke of Sutherland, Trentham, Staffordshire; Mr. Ewing, Gardener, Bodorgan, Anglesea; Messrs. Pilkington and Co., Plate, Crown, and Sheet Glass Works, St. Helen's, Lancashire.

These Walls can, when desired, be made wide enough for a person to enter, by which they become elegant hothouses on the best principle. Existing Walls covered with Glass and Iron.

GLASS FOR CONSERVATORIES,
GREENHOUSES, PIT FRAMES, &c.

JAMES PHILLIPS AND CO. beg to hand their prices of SHEET GLASS for cash:

Cut to order in Panes not above 40 inches long. Cut to any size. Per foot.		Packed in Boxes of 100 feet each.	£. s. d.
16 oz.	2½d. to 3d.	6 by 4, 6½ by 4 ...	0 13 0
21 do.	3½d. to 4½d.	7 by 5, 7½ by 5½ ...	0 15 0
26 do.	3½d. to 7½d.	8 by 5, 8 by 5½ ...	0 15 0
32 do.	6½d. to 8d.	8 by 6, 8½ by 6 ...	0 15 0
		9 by 7, 10 by 8 ...	1 0 0

Packed in Crates of 300 feet at 2½d., 16 ounces to the foot, or 14 ounces 2½d.

ANY OF THE FOLLOWING SIZES at 18s. per 100 feet:—
10 by 9, 11 by 9, 13 by 9, 14 by 9, 15 by 9, 16 by 9, 17 by 9, 18 by 9, 19 by 9, 20 by 9
12 by 10, 13 by 10, 14 by 10, 15 by 10, 16 by 10, 17 by 10, 18 by 10, 19 by 10, 20 by 10, 23 by 10, 25 by 10.
14 by 11, 15 by 11, 16 by 11, 17 by 11, 18 by 11, 19 by 11, 20 by 11, 21 by 11, 22 by 11, 25 by 11.
14 by 12, 17 by 12, 20 by 12, 21 by 12, 22 by 12, 23 by 12, 24 by 12, 25 by 12.
16 by 13, 17 by 13, 19 by 13, 21 by 13, 22 by 13, 24 by 13, 25 by 13, 26 by 13.
17 by 14, 21 by 14, 22 by 14, 23 by 14, 24 by 14, 26 by 14.

PATENT SHEET GLASS,

Sold in cases containing 25 sheets, 48 inches long by 36 inches wide—300 feet, at 3l. 9s. per case, net cash. Especial attention is directed to the size, 48 by 36 inches, containing 12 superficial feet, and weighing about 17 oz. to the foot, which is the largest ever made.

FOREIGN SHEET GLASS, of very superior quality, packed in cases of 200 feet, and in sizes varying from 36 by 26 to 44 by 30 inches, at 38s., 40s., to 42s., per case.

HARTLEY'S PATENT QUARRY GLASS.

Milk Pans, from 2s. to 6s. each, Propagating and Bee Glasses, Cucumber Tubes, Lactometers, Lord Camoys' Milk Syphons, Tiles and Slates, Wasp Traps, Plate, Crown, and Ornamental Glass, Shades for Ornaments, Fern Shades, and every article in the Trade.

HORTICULTURAL GLASS WAREHOUSE, 116, Bishopsgate-street Without, London.

Extract from a letter addressed to us by Mr. J. Patterson, of Atherstone:—"I have compared your sample of Glass with many others sent me, and I have no hesitation in saying yours is superior to any of them."

GLASS FOR CONSERVATORIES, ETC.

HETLEY AND Co. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2d. to 3d. per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices and Estimates forwarded on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLATES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to JAMES HETLEY and Co., 35, Soho-square, London.

See *Gardeners' Chronicle* first Saturday in each month.

THE CHEAPEST HOUSE FOR LEAD, GLASS, OIL, AND COLOURS.
WHOLESALE PRICES CHARGED.

H. J. AND W. WALKER, LEAD, GLASS, OIL, and COLOUR MERCHANTS, 125, Queen-street, Portsea, supply in any quantities, at wholesale prices, Crown and Horticultural SHEET GLASS, Patent and Polished Plate, Rough Plate for Conservatories and Greenhouses, Glass Milk Pans, Bee, Cucumber, and Propagating Glasses, and every description of Glass for Horticultural purposes. Ornamental and Stained Glass, Church Quarries, &c. Deep Well, Lift, and Garden Pumps. Plumbers' Brass Work, Brushes, Varnishes, and Colours at London prices.

N.B.—Experienced workmen sent to any part of the country.



AN IMMENSE STOCK OF GARDEN ORNAMENTS may now be inspected at AUSTIN and SEELEY'S Artificial Stone Works, or pattern sheets will be sent by post to any gentleman who may not have an opportunity to call.

Keppel Row, New Road, Regent's Park.

BEAUTIFUL HAIR.—Of the numerous compounds constantly announced for promoting the growth or reproduction of the Human Hair, few survive, even in name, beyond a very limited period; whilst the successful results of ROWLANDS' MACASSAR OIL during the last half century have proved beyond question that it is endowed with singularly nourishing powers in the growth and restoration of the human hair, and when every other known specific has failed. This mild yet powerful renovator insinuates its balsamic properties into the pores of the head, nourishes the hair in its embryo state, accelerates its growth, cleanses it from scurf and dandriff, sustains it in maturity, and continues its possession of healthy vigour, silky softness, and luxurious redundance, to the latest period of human life. Its operation in cases of baldness is peculiarly active, and in the growth of whiskers, eyebrows, and mustachios, it is also unfailing in its stimulative operation. For children it is especially recommended, as forming the basis of a beautiful head of hair. Price 3s. 6d. and 7s.; or family bottles (equal to four small), 10s. 6d.; and double that size, 21s.

CAUTION.—On the wrapper of each bottle are the words ROWLANDS' MACASSAR OIL, in two lines.—Sold by A. ROWLAND and SONS, 20, Hatton-garden, London; and by all Chemists and Perfumers.

SEED WHEAT.—IMPORTANT TO FARMERS.

MR. BEMAN, of MORETON-IN-MARSH, having received so many voluntary testimonials of the superiority of his two new varieties of Wheat, the PRIMA DONNA and DONNA MARIA, this season over any other, is induced again, through the medium of the press, strongly to recommend them as being capable of producing from 12 to 16 bushels per acre more than any other variety; and they certainly, this season, were more free from blight and mildew than any other, on account of growing stiffer in the straw. Price 5s. per quarter, delivered either in Gloucester, Worcester, Birmingham, Bristol, Banbury, or Oxford, in new sacks at 1s. 6d. each. Cash or satisfactory reference.—N.B. If less than one quarter is ordered price 10s. per bushel.—Agents for London, Mr. THOS. GIBBS, corner of Half-moon-street; and Mr. GEO. GIBBS, Down-street.

FOR SALE, very handsome CHINA ARBOR-VITÆ, 3 to 6 feet; variegated and green HOLLIES, 3 to 8 feet; fine bushy LAURELS, 3 to 6 feet; TREE BOX, very bushy, 3 to 5 feet, with a variety of other fine Evergreens, by the hundred or single plant, at moderate prices; CAMELLIAS, well set with flower-buds, 30s. and upwards per dozen; CHRYSANTHEMUMS, best sorts, 9s. and 12s. per doz., at CHANDLER and SON'S Nursery, Wandsworth-road, near London.

DRIED PLANTS.

TO BE DISPOSED OF, TWO SETS, of from 250 to 300 Species, collected by Mr. S. MOSSMAN in 1850, partly in the vicinities of Port Philip, Green Cape, and Sydney, and partly in Van Diemen's Land and New Zealand. They are well preserved, and have been carefully named by the late Dr. Lemann.

Apply to Mr. MOORE, Botanic Garden, Chelsea, London.

TO BE DISPOSED OF, NURSERY STOCK, extending over 20 Acres of Ground.—J. W. WARNER begs to inform his friends and the public, that it is his intention to withdraw from the Nursery Business, and to offer the whole of his Stock at greatly reduced prices, in order to clear the grounds as speedily as possible. Separate Catalogues of Roses and Nursery articles are being prepared, and will be forwarded on application.

Nurseries, Garforth, near Leeds, Oct. 9.

PURE COCHIN CHINA CHICKENS, well feathered to the toes, seven months old, and weighing from 14 lbs. to 16 lbs. the couple, at from 30s. to 42s.; and Chickens between two and three months old, at 15s per pair. Young Cocks, 7s. 6d. each.—Address, THOMAS PAGE, Chatteris, Cambridgeshire.

IRON HURDLES.

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CAUTION.—An Injunction having been granted by the Vice-Chancellor, in the case of "NASH v. CARMAN," restraining the defendant from making or selling any colourable imitation of the Plaintiff's Stove or Fuel, the public is respectfully informed that the original "Joyce's Patent Stove without a Flue, and the prepared Fuel," can only be obtained from SWAN NASH, or his authorised Agents. Every genuine Stove has the name and address of the Proprietor on a brass plate. "SWAN NASH, 253, Oxford-street."

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TO NOBLEMEN, GENTLEMEN, NURSERYMEN, &c.

MESSRS. PROTHEROE AND MORRIS are instructed by Mr. Hally to sell by Auction, on the premises, Tranquil Vale, Blackheath, on MONDAY, October 11, at 11 o'clock—about 1000 Double CAMELLIAS from 2 to 5 feet, beautifully set with bloom buds; 200 strong Camellia Stocks; also choice Greenhouse and hardy ornamental Plants, comprising Indian and hardy Azaleas, Andromeda floribunda, Araucaria imbricata, Cupressus funebris and Goveniauum, Cryptomeria japonica, Canna dependens, Berberis Darwinii, Dielytra spectabilis, a few fine plants of the new Saxe-Gothæ conspicua, Pompone Chrysanthemums, &c.—May be viewed one week prior to the Sale; Catalogues may be had of the principal Seedsmen in London; on the Premises; and of the Auctioneers, American Nursery, Leytonstone, Essex.

HORNSEY ROAD.

TO GENTLEMEN, NURSERYMEN, FLORISTS, & OTHERS.

MESSRS. PROTHEROE AND MORRIS have received instructions from Mr. PAMPLIN to Sell by Auction, at the Mart, Bartholomew-lane, on THURSDAY, Oct. 14th, at 1 o'clock (if not previously disposed of by private contract, in consequence of the Proprietor relinquishing the Business), the valuable LEASE of the PARADISE NURSERY, 14 years of which is unexpired, consisting of two Acres of rich Nursery Ground, with Dwelling-house thereon. The Premises are well situated, being within two miles of the Regent's-park, and adapted for carrying on a first-rate Business. The whole or part of the Greenhouses, Pits, &c., with the Stock, which is of the most saleable description, can be taken at a valuation, to suit the convenience of the purchaser.—The Premises may be viewed one week prior to the Sale. Particulars may be obtained of Mr. W. G. LYLE, Solicitor, 17, Bloomsbury-street, Bedford-square; on the Premises; and of the Auctioneers, American Nursery, Leytonstone, Essex.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN AND OTHERS.

500 Double Camellias for absolute Sale, 1 to 3 feet; 300 Indian Azaleas; 300 Lilium lancifolium rubrum; 100 fine bushy Scarlet Rhododendrons.

MESSRS. PROTHEROE AND MORRIS are instructed by Mons. A. Van Geert, of Ghent, to submit to public competition by Auction, at the Mart, Bartholomew-lane, on WEDNESDAY, October 13, at 12 o'clock, the above, which comprise all the leading varieties, and are well furnished with bloom buds. On view the morning of Sale. Catalogues may be had at the Auction Mart, and of the Auctioneers, American Nursery, Leytonstone, Essex.

UXBRIDGE, MIDDLESEX.

NURSERY, SEED, AND FLORISTS' BUSINESS.

MESSRS. PROTHEROE AND MORRIS are directed by the Trustee for Sale and Mortgagee, to sell by Auction, at the Mart, Bartholomew-lane, on THURSDAY, October 14, in one Lot (if not previously disposed of by private contract), the valuable Leases and Goodwill of the UXBRIDGE NURSERY, which has been established upwards of 20 years; also the whole of the celebrated NURSERY STOCK, riding over from 12 to 13 acres, comprising Fruit and Forest Trees of the first description, and rich assortment of Evergreens, Ornamental Trees, Deciduous Shrubs, and American Plants, together with the Greenhouses, and the Choice Greenhouse Plants, Pits, Frames, Seeds, Drawers, and sundry effects. Particulars, which are being prepared, may be had of Messrs. TUSTIN and PATERSON, Solicitors, 4, Bride-court, New Bridge-street, Blackfriars; and of Messrs. PROTHEROE and MORRIS, Auctioneers and Valuers, American Nursery, Leytonstone, Essex.

CHELSEA.

TO GENTLEMEN, NURSERYMEN, FLORISTS, ETC. FOR PEREMPTORY SALE.

MESSRS. PROTHEROE AND MORRIS will submit to public competition, by Auction, on the premises, Radnor-street, King's-road, Chelsea (by order of the executors of the late Mrs. MARY HARRISON), on MONDAY, October 18, at 11 o'clock; the whole of the NURSERY STOCK, comprising Evergreens, Ornamental Fruit and Forest Trees, consisting of Aucubas, Arbutus, Green Hollies, Laurels, Evergreen Privet, Ribes, Limes, Planes, choice Roses, standard and dwarf, trained and untrained Peach, Apricot, Plum, Cherry, Apple, Pear, Walnut, Filbert, Gooseberry, Currant trees, &c.—May be viewed prior to the sale; Catalogues may be had on the premises; of the principal seedsmen in London; and of the Auctioneers, American Nursery, Leytonstone, Essex.

ESCHOL NURSERY.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, BUILDERS AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will sell by Auction on the premises, Eschol Nursery, Haverstock-hill, Camden-town, on WEDNESDAY, October 27, and following days, at 11 o'clock each day, (by order of the proprietor, in consequence of the ground being let for building purposes), the whole of the valuable NURSERY STOCK, consisting of Forest, Fruit, Ornamental Trees, and Deciduous Shrubs, with a large assortment of fine Evergreens in great variety.—Catalogues are being prepared and may be had on the premises; of the principal Seedsmen in London; and of the Auctioneers, American Nursery Leytonstone, Essex.

N.B. The whole of the Greenhouses, Pits, and Utensils in trade, together with the choice Greenhouse Plants, will be submitted to public competition early in the spring.

COCHIN CHINA FOWLS.

MR. J. C. STEVENS will sell by Auction, at his Great Room, 38, King-street, Covent-garden, on TUESDAY next, October 12, at 12 for 1 o'clock—COCHIN CHINA FOWLS, many from the celebrated strains of Mr. Staggall, Mr. Holt, Mr. Stainton, Mr. Punchard, and other breeders; a few Malay and Spanish ditto, Muscovy and Wild Ducks and Drakes, several prize Fowls, Chickens, &c.—May be viewed on the morning of Sale, and Catalogues had on application to Mr. J. C. STEVENS, 38, King-street, Covent-garden, who will forward them on receipt of a stamped directed envelope.

FRUITING PINE PLANTS.

MR. J. C. STEVENS will sell by Auction, at his Room, 38, King-street, Covent-garden, on FRIDAY, October 15, at 12 for 1 o'clock, about Thirty Fruiting QUEEN PINE PLANTS, clean and healthy.—May be viewed the morning of sale.

ORCHIDS.

THE COLLECTION OF A GENTLEMAN.

MR. J. C. STEVENS is directed to announce for Sale by Auction, at his Great Room, 38, King-street, Covent-garden, on FRIDAY, Oct. 22, at 12 for 1 o'clock, a select and valuable Collection of Established ORCHIDS, including good Plants of Phalænopsis amabilis and grandiflora, Vanda insignis, teres, tricolor, and other East Indian and South American sorts.—May be viewed the day prior and morning of Sale, and Catalogues had.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MR. J. RAWLINGS will sell by Auction, at the Mart, Bartholomew-lane, on FRIDAY, October 15, at 12 o'clock, a first-class collection of DUTCH BULBS, and a variety of EVERGREENS and SHRUBS.—May be viewed the morning of Sale, and Catalogues had at the Mart, and of the Auctioneer, 5, Hoxton-square; and Ebenezer Nursery, Shacklewell, London.

CHOICE COLLECTION OF TULIPS.

MR. ALEXANDER will sell by Auction, at the Mart (near the Bank of England), on TUESDAY, October 12, 1852, at 12 o'clock, the well-known Collection of TULIPS, the property of the late Mr. W. NEW (of the Derby Arms, Kirkdale). They comprise all the finest flowers in cultivation, viz., Gibbon's Princess Royal, Enchantress, Maid of Orleans, Maid of Athens, Countess of Harrington, Lady Flora Hastings, Purple Perfection, Chellaston Beauty, Britannia, Prince Albert, Sable Monarch, Wood's Van Amburgh, Thalia, Louis XVI., George Glenny, Salvator Rosa, Pandora, David, &c. Among the Roses, Anastasia, King of Scarlets, Lady Leicester, Lady Stanley, Lady Vernon, Miss Catherine, Dixon's Bion, Jeffery's Elizabeth, Mary Lamb, Headley's Rose Ellen, Countess of Eglinton, Lady Boyle, Camuse de Craix, Rose Lac, &c. The Bizarres comprise Pilot, Strong's King, Competitor, Tricolor, Shakespeare, Apelles, Marcellus, Pompe Funebre, Coronation, New's Lewis, Lord Lilford, &c. Also a quantity of fine Seedling Breeders, among which are some finely broken flowers. The whole will be sold without the least reserve.—May be viewed on the morning of Sale. Catalogues to be had at the Mart; of Messrs. DAWE, COTTRELL, and BENHAM, Seedsmen, Moorgate-street, City; H. ALEXANDER, Shacklewell; and also of Mrs. NEW, Everton Valley, Kirkdale, upon receipt of four stamps.

Printed by WILLIAM BEARDSLY, of No. 13, Upper Woburn-place, in the parish of St. Pancras, and FREDERICK MULLETT EVANS, of No. 7, Church-row, Stoke Newington, both in the County of Middlesex. Printers at their Office in Lombard-street, in the Precinct of Whitefriars, in the City of London; and published by them at the office, No. 5, Charles-street, in the parish of St. Paul's Covent-garden, in the said County, where all advertisements and Communications are to be ADDRESSED TO THE EDITOR.—SATURDAY, OCTOBER 9, 1852.

THE GARDENERS' CHRONICLE

AND

AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 42.—1852.] SATURDAY, OCTOBER 16. [PRICE 6*d.*

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CRYPTOMERIA JAPONICA.

A FEW THOUSAND SEEDLINGS, from 3 to 6 inches high, at 30*s.* per 100.

Also, IMPORTED SEED, at 20*s.* an ounce, which will produce upwards of 1500 Plants. Terms, CASH, being the property of a gentleman.

Apply to J. and C. LEE, Nurserymen, Hammersmith, near London.

SAFFRON WALDEN NURSERY.

SUPERB DOUBLE HOLLYHOCKS.

WILLIAM CHATER'S LIST of the above splendid Flowers is now ready, containing a careful selection of all the newest varieties of other raisers, with those of the late Mr. Baron, first sent out by W. C., and W. CHATER's own raising, most of which still stand unrivalled. The prices, colours, and heights, are faithfully affixed to each flower; also, is added, a selection of the best Scotch varieties, &c., &c., which may be had by enclosing a postage stamp.

Saffron Walden, October 16.

NEW RHUBARB.

BAILEY'S EARLY MONARCH. "I am highly delighted with the Early Monarch, and can confidently recommend it as the very best early Rhubarb grown. The foliage also is peculiar and very beautiful."—J. F. Wood, F.H.S.

"For colour, size, and precocity 'Bailey's Early Monarch' is most assuredly worthy of very extensive cultivation; it is a decided acquisition."—*Suburban Horticulturist.*

Plants 5*s.* each, to be had of the raiser, Mr. JOHN BAILEY, Longton, Staffordshire. A few packets of Victoria Seed hybridised with Early Monarch, 1*s.* each, or free per post for 14 penny stamps.

NEW GERANIUMS, CINERARIAS, ETC.

SAMUEL FINNEY AND CO. are now prepared to send out the following new GERANIUMS at 45*s* per doz.:—

Arethusa, Ariadne, Chieftain, Colonel of the Buffs, Christine, Commissioner, Elise, Enchantress, Exhibitor, Gem, Herald, Incomparable, Lablache, Lavinia, Magnet, Mochanna, Painter Improved, Purple Standard, Rubens, Shylock.

The following at 30*s.* per dozen:—

Ambassador, Beatrice, Chloe, Cynthia, Capella, Ganymede, Generallissimo, Little Nell, Major Domo, Monteith, Prince Arthur, Purpurea, Rosa, Silk Mercer, Tyrian Queen.

They have also a large Stock of all the new and best Cinerarias at 12*s.*, 18*s.*, and 24*s.* per dozen; Pansies, do. do., at 9*s.*, 12*s.*, and 18*s.* per dozen, basket and package included, and extra plants presented to compensate for long carriage. A remittance or reference required from unknown correspondents.

Gateshead Nursery, Newcastle-upon-Tyne.

NEW PELARGONIUMS.

JOHN DOBSON is now sending out, in strong plants, the following first-rate varieties:—Vulcan, Spot, Pasha, Jupiter, Gertrude, Commander, and Harriet. Also 12 good show varieties for 12*s.* Plants given in to compensate for carriage.

J. D.'s Catalogue for 1852-3, with full descriptions of the above, also Fuchsias, Cinerarias, Hollyhocks, Verbenas, &c., is now ready, and may be had in exchange for two postage stamps.

Also a few hundred Tulip bulbs, the surplus stock of an amateur, at 20*s.* per 100, including Bib. Holmes' King, Cenotaph, Roi de Ceres, Roi de Egypt, Reine d' Egypt, Mountain of Snow, Alcon, Cleopatra, &c.; Biz. Tricolor, Abadda, Surpass Cantique, Lawrence's Duke of Clarence, Catafalque Surpasse, Polyphemus, Tippoo Saib, Reuben St. Louis, Bell's King and Queen, &c.; Roses, Matilda, Triomphe Royale, Hebe, Præticosa, Belle Hellena, &c.—Woodlands Nursery, Isleworth.

NEW VARIEGATED GERANIUM.

GAINES' ATTRACTION.—This is one of the most distinct variegated varieties yet introduced to the public, possessing a dark green foliage, with red markings edged with pure white; the colour of the flower a beautiful cherry, and quite different to any other variegated Geranium yet sent out, from its greenness of growth and compact habit, as it blooms in great abundance. It will be valuable for bedding or pot-culture. 10*s.* 6*d.*

N. G. begs to announce that his Descriptive List of show and fancy Pelargoniums, &c., may be had by applying at the Nursery, Surrey-lane, Battersea.

NOTICE.

PETER LAWSON AND SON, of Edinburgh, have just issued special Priced Lists of FOREST TREES, SHRUBS, FRUIT, and ROSE TREES; also Bulbous Roots adapted for the present season, which may be had on application, or free by post from their Agent, JOHN C. HOMERS, 155, Fenchurch-street, London. Also, "The Synopsis of the Vegetable Produce of Scotland," in one volume, price 10*s.* 6*d.*

CEDRUS DEODARA, ETC.

JOHN HENCHMAN has the following Seedlings to offer:—

Cedrus deodara, strong seedlings in thumb pots,			10*l.* per 1000.
Pinus longifolius,	do.	do.	1*l.* 10*s.* per 100.
Pinus excelsa,	do.	store pots,	15*s.* per 100.
Abies Smithiana,	do.	do.	15*s.* per 100.
Cupressus torulosus,	do.	do.	15*s.* per 100.

J. H. has about 50 very fine bushy Arbor-vitæ from 6 to 8 feet high, which will be sold a bargain, and are warranted to move with good balls. Packets of choice Calceolaria, Cineraria, and Pansy seed, 2*s.* 6*d.* each. Strong seedling Hollyhocks raised from Chater's, the finest named varieties, 5*s.* per dozen, and 30*s.* per 100. Many of these plants have bloomed this autumn, and will all make strong blooming plants next year.

Edmonton, near London, Oct. 16.

NEW SHRUBBY CALCEOLARIAS,

CONSISTING OF ABOUT FIFTY VARIETIES NEVER BEFORE OFFERED TO THE PUBLIC.

J. WEEKS AND Co., CHELSEA, have now to offer a most splendid and superb Collection of SEEDLING SHRUBBY CALCEOLARIAS, which they can confidently warrant and recommend, they having been carefully saved and varied from the most unique selection in the kingdom. The sorts being all Shrubby they are perpetually in flower; and from the great variety and brilliancy of their colours, they are invaluable for the conservatory or bedding-out.

J. WEEKS and Co., KING'S ROAD, CHELSEA, LONDON.

NEW GERANIUMS, SHOW AND FANCY VARIETIES.

—All the best sorts, of the latest introduction, can be obtained from

WILLIAM E. RENDLE AND CO.,
NURSERYMEN,
PLYMOUTH.

For particulars, see *Gardeners' Chronicle* for Sept. 25, page [illegible]

DUTCH FLOWER ROOTS.

W. E. RENDLE and Co. *have received their Annual Importation, which is offered on reasonable terms.*

Catalogues can be procured as per address above.

TO NOBLEMEN, GENTLEMEN, AND THE TRADE.

HAY, SANGSTER, AND CO. are now ready to send out their NEW EARLY NO. 1 PEA, price 2*s.* 6*d.* per quart, and can with confidence recommend it as a very superior article.

About the second week in October they will be ready to send out their New Early Scarlet PRINCE OF WALES RHUBARB, 5*s.* each. It is quite as early as the Prince Albert, much larger, red throughout, of exquisite flavour, and a large cropper.

Post-office Orders from those not having an account open with H., S., and Co., to be made payable at the Firm, at the Borough Post-office, or postage-stamps.

For Testimonials and parties where both articles can be had, see *Gardeners' Chronicle* 18th September, 1852, page 594. Newington Butts, London.

CHATER'S and other Growers' New and Splendid DOUBLE HOLLYHOCKS, at a reduced price, warranted true to name. Strong plants now ready for delivery, 12 for 10*s.* 6*d.*, six for 6*s.*, package included, which may be selected from the following well-known Show varieties: Queen of England, Aurantia, Belladonna, Bicolor, Conspicua, Delicata, Elegans, Formosa superb, Ne Plus Ultra, Noblissima, Obscura, Rosea spicata, Queen, Sulphurea perfecta (new), Venosa, and Brilliant. The above to be had of WILLIAM DENYER, Seedsman, &c., 82, Gracechurch-street, London.

A remittance respectfully requested.

LOUIS VAN HOUTTE, of Ghent, Belgium, has just issued his new GENERAL CATALOGUE, which may be had on application to his Agents, Messrs. BETHAM and BLACKITH, Cox and Hammond's Quays, Lower Thames-street, London.

LANGHEDGE NURSERY.

CHARLES WOOLVEN invites the attention of Fruit growers and the public generally to his large and very superior stock of Fruit-trees, comprising about 4000 standard Apples, Pears, Plums, and Cherries; fine straight stems 6½ to 8 feet in height, from 12*s.* to 21*s.* per dozen. Also a good stock of dwarf and trained trees, all of the most approved kinds, from 12*s.* to 36*s.* per dozen. A capital stock of Gooseberries and Currants, all of the very best kinds, from 2*s.* 6*d.* to 3*s.* 6*d.* per dozen, now in excellent condition. C. W. also wishes to recommend to gentlemen and builders his large stock of Evergreens, Forest Trees, and other Shrubs, at equally low prices.—C. WOOLVEN, Nurseryman, Upper Edmonton, Middlesex.

EDWARD PIERCE, Yeovil Nursery, Somerset, has for sale a large stock of the best kinds of

CAMELLIA JAPONICAS	... 6 to 9 inches	...	£5 per 100
AZALEA INDICAS	... ... 12 inches	...	£5 per 100
ERICAS	... ... 12 inches	...	£5 per 100

His Fruit Trees, Ornamental Trees, and Evergreen Shrubs, are particularly fine, stock extensive, and prices low; a very large quantity of strong Quick.—P.S. Reference with orders from unknown correspondents.—Oct. 16.

PLANTS FOR BLOOMING IN THE CONSERVATORY IN WINTER OR EARLY SPRING.

MESSRS. J. AND J. FRASER, NURSERYMEN, Lea-bridge-road, Essex, beg to offer the following, finely set with bloom buds, at the undermentioned moderate prices:—

Azalea indica, in fine sorts,	... ...	18*s.* to 30*s.* per doz.
Epacris and Ericas	,, ...	12*s.* to 18*s.* ,,
Rhododendrons	... ...	12*s.* to 18*s.* ,,
Hardy Azaleas, including fine Belgian varieties	... ...	9*s.* to 18*s.* ,,
Moss and Provence Roses	... ...	12*s.* ,,
Lilacs, Guelder Roses, Weigela roseu, &c.		12*s.* ,,

The above are all beautifully grown, well established in pots, and are fit for immediate forcing.

Remittances respectfully requested from unknown correspondents.

NEW NEMOPHILA.

NEMOPHILA AURITA ALBA OCULATA, 21*s.* PER OZ.,

AT

J. G. WAITE'S SEED ESTABLISHMENT,
181, HIGH HOLBORN, LONDON.

ANEMONES, show flowers, in 100 named varieties, one of each, 15*s.* per 100.
,, fine double scarlet, 8*s.* per 100.
RANUNCULUSES, in 100 named varieties, one of each, 12*s.* per 100.
,, Scarlet Turban, 15*s.* per 1000, large roots.
,, mixed from show flowers, splendid, 5*s.* p. 100.
GLADIOLUS GANDAVENSIS, large roots, 30*s.* per 100.
,, Queen Victoria ,, 25*s.* ,,
,, Formosissimus ,, 25*s.* ,,
At J. G. WAITE's Seed Establishment, 181, High Holborn.

GOLIATH STRAWBERRY.

JAMES KITLEY wishes again to draw public attention to this most superb Strawberry, by stating facts which prove it to be without a rival. The original bed, which is 9 feet by 36 feet, and 6 years old, produced this season 90 qts. of fine large fruit; and a bed, 36 ft. by 36 ft., and 3 years old, produced 255 qts. of beautiful large high-coloured, Pine-flavoured fruit, the ground being so thickly covered as to render it impossible to step between without first removing the fruit, although the plants were 2½ ft. apart. They were the admiration and astonishment of numerous gentlemen and gardeners who visited his grounds. A Post-office order for 3*s.* 6*d.*, or stamps to that amount, will secure 100 strong well-rooted plants, package included; 1*s.* 6*d.* in stamps will secure by post six fine plants to any part of the kingdom.

Also Trollope's Victoria, 1*l.* per 100; Black Prince, 3*s.* 6*d.*; Eleanor, 2*s.* 6*d.*; Alice Maud, 2*s.* 6*d.*; Keen's Seedling, 2*s.* 6*d.*; Hooper's Seedling, 2*s.* 6*d.*; Hautbois, 2*s.* 6*d.*; Bath Scarlet, 2*s.* 6*d.*; Elton Pine, 6*d.*—N.B. The Trade supplied at very low prices.

LYNE HOUSE Nursery, Bath.

FOUR of the best and most profitable STRAWBERRIES to grow are GOLIATH, ELEANOR, BRITISH QUEEN, and OLD PINE. The last is best for preserves. Plants, true, 2*s.* 6*d.* per 100, or 20*s.* per 1000. Also, our Seedling Plum DWARF PROLIFIC, never failing to produce a large crop, as it flowers late, thereby escaping the spring frosts. Fruit ripe in July. Plants, 3*s.* 6*d.*, and one over to the trade if three are taken. Paid to London.

Catalogues of Roses and Nursery Stock upon application. DILLISTONE and Co.'s Nurseries, Sturmer, Halstead, Essex.

AMERICAN NURSERY.

GEORGE BAKER, Windlesham, near Bagshot, Surrey, Exhibitor of American Plants at the Royal Botanic Gardens, Regent's Park, begs to inform the Nobility and Public he has published a Descriptive CATALOGUE OF AMERICAN PLANTS, Evergreen, Rose, Ornamental Shrubs, &c. &c., and may be had on receipt of two postage stamps.—Near Staines Station, Windsor Branch, South-Western Railway.

CATALOGUES.

MESSRS. H. LANE AND SON, Great Berkhamp-stead, Herts, beg to inform their Patrons that the undermentioned Descriptive Catalogues may now be had:—General and Supplementary Rose Catalogues for two postage stamps; Tree and Shrub and Fruit Catalogue for two postage stamps; Indian Azalea, Camellia, &c., for one postage stamp.

NEW GERANIUMS.

GEORGE SMITH has a first-rate Stock of the following fine varieties at 36*s.* per dozen, or two dozen for 60*s.*, selected from the following varieties:—

Ariadne	Exhibitor	Magnet
Beatrice	Ganymede	Mochanna
Bride of Abydos	Gem	Monteith
Celia	Incomparable	Painter Improved
Chieftain	Jullien	Pulchra
Chloe	Marvel (Knight)	Remus
Claudinia	Lavinia	Shylock
Elise	Little Nell	Surprise
Enchantress	Lord Mayor	Rubens
Eurydice		

NEW FANCY GERANIUMS.—36*s.* per dozen.

Ambassador	Formosissima	Othello
Alboni Superb	Gipsey Queen	Perfection
Caliban	Miranda	Painted Pet
Captivation	Marion	Torbay Hero
Celestial	John Bull	Sambo
Electa		

A Post-office Order, payable at Islington, is respectfully requested to accompany orders from unknown correspondents.

Tollington Nursery, Hornsey Road, Islington, near London.

EDWARD GEORGE HENDERSON AND SON are now prepared to send out their new CINERARIAS and FANCY GERANIUMS for this Season, which they can confidently recommend, for which early orders are solicited—as the stock of some of the varieties is limited.

NEW CINERARIAS.

	s. d.		s. d.
Charles Dickens... ...	5 0	Charlotte...	5 0
Conspicua	5 0	Kate Kearney	5 0
Loveliness	5 0	Marguerite d'Anjou ...	7 6
Prince Arthur	10 6	Rosalind	10 6

Price of the Set, £2 2s.—Usual discount to the Trade.

NEW FANCY GERANIUMS.

	s. d.		s. d.
Criterion	10 6	Fanny	10 6
Flora McIvor	10 6	Italian Beauty	10 6
Lady Downes	10 6	Marginata	10 6
Queen of the Fancies ...	10 6		

Price of the Set, £3 3s.—Usual discount to the Trade.

For description of the above see this Paper of October 9.

Wellington Road Nursery, St. John's Wood, London.—Oct. 16.

TO THE AMATEURS OF TULIPS.

HENRY GROOM, Florist, Clapham Rise, near London, begs to inform the AMATEURS that he has published a NEW CATALOGUE of the above FLOWERS, in which he has made a very considerable reduction in the prices of the leading kinds, and will be happy to forward his Catalogue on application.

CEDRUS DEODARA, ETC.

A. PAUL AND SON have a fine Stock of CEDARS, which, for beauty of growth, cannot be surpassed, and which they beg to offer as under:—

CEDRUS DEODARA	... 1 ft., 1s. 0d. each,	or 75s	per 100.
,,	... 2 ft., 2 6 ,,	10l.	,,
,,	... 3 ft., 3 6 ,,	15l.	,,
,,	4 to 5 ft., 7 6 ,,	4l.	per doz.
CEDRUS AFRICANUS	... 1 ft., 2 6 ,,	30s.	,,
,,	... 2 ft., 3 6 ,,	40s.	,,
CEDAR OF LEBANON	... 1 ft., 1 0 ,,	75s.	per 100.
,,	2 to 3 ft., 2 6 ,,	24s.	per doz.
,,	3 to 4 ft., 3 6 ,,	36s.	,,
,,	4 to 5 ft., 5 0 ,,	54s.	,,
,,	5 to 6 ft., 7 6 ,,	84s.	,,

Also the following, of various heights:—Abies Morinda, Menziesii, Douglasii; Pinus apulcensis, Ayacahuite, Excelsa, Insignis, Macrocarpa, Lambertiana; Picea nobilis, Araucaria imbricata; Cryptomeria japonica; Cupressus Goveniana, Lambertiana; Juniperus bibernica, Chinensis, Excelsa; Thuja filiformis, Wareana; Taxodium distichum, Sempervirens; Taxus adpressa, Irish Yew, Gold striped do., and numerous others equally fine plants and equally cheap. Priced Catalogues of Coniferæ furnished on application.

Nurseries, Cheshunt, Herts.—October 16.

LOCKSBROOK NURSERY, BATH.

R. SHACKELL begs again to offer the public his beautiful SEEDLING VIOLET "RUSSIAN SUPERB," which variety cannot fail to give the highest satisfaction. Strong blooming Plants, hamper and package included, 6s. per dozen; Small Plants, such as may be sent through the post, 4s. per dozen.

R. S. has almost an inexhaustible stock of Double Blue Perpetual Tree Violet. Strong fine healthy Plants, having from 20 to 30 blooms on each plant, such as would make a display at once, be will render at the low price of 2s. 6d. per dozen, hamper included; or 11s. per 100, hamper included. In quantities of not less than 1 dozen or 100. One hundred plants of this variety would supply several Bouquets per day from this time until the end of May next. A large Bouquet of each of these two varieties can be sent through the post on the receipt of 12 penny postage stamps.

Neapolitan Violet Plants	... ...	1s. per dozen.
Double White Tree Violet	... ...	3s. ,,
Ditto ditto Violet	... ...	3s. ,,
Single White Russian	... ...	3s. ,,
Old Russian Violet	... ...	5s. per hundred.

Hamper and package included. Catalogues of prin...

Post-office Orders payable to ROBERT SHACKELL, [illegible], 36, Broad-street, Bath.

PELARGONIUMS.

CHARLES TURNER, Royal Nursery, Slough, begs to offer the following NEW PELARGONIUMS, raised by FOSTER and HOYLE; strong plants of which are now ready for delivery. The usual discount to the trade. If the set is taken a liberal allowance will be made. The following were raised by EDMUND FOSTER, Esq., of Clewer Manor:

OPTIMUM, large and fine shape; full-sized truss, and smooth, with great depth and richness of colour; lower petals bright crimson, with large glossy black patch on the top petals, leaving a narrow well-defined margin of crimson-scarlet; free bloomer and good habit; has been generally and very successfully exhibited; was figured in the January number of the "Florist" for 1852. A coloured illustration may be had on enclosing eight postage stamps. 4s.

QUEEN OF MAY, very bright novel orange-scarlet, with deep spot on the top petals, with scarlet margin. 31s. 6d.

NATIONAL, a rich dark flower; crimson bottom petals; black blotch on top petals; fiery narrow margin; fine substance. 31s. 6d.

ELEANOR, compact new flower; deep rose bottom petals, maroon top petals, narrow margin of rose, white throat. 21s.

RACHAEL, free constant variety, and good grower; maroon top petals, margin and bottom petals rosy crimson; good exhibition plant. 21s.

CHALLENGER, small bright flower, free bloomer, scarlet crimson bottom petals, top petals maroon, scarlet margin. 10s. 6d.

HEROINE, rose bottom petals, black blotch on top petals, rose margin, white centre. 10s. 6d.

Varieties raised by G. W. HOYLE, Esq., of Reading:

ASTREA, white centre, deep pink lower petals mottled with orange, rich maroon and orange top, the orange showing richly towards the margin, which is rose. 21s.

OSCAR, rich scarlet-crimson, black blotch, free and constant, and of good quality. 21s.

LEONORA, fine circular flower, white centre, warm pink lower petals, rich maroon and orange blotch, and even margin of pale pink; occasionally curly. 21s.

ZARIA, a pretty novel cupped flower, warm pink ground colour, clear centre, lower petals deeply marked with a constant spot of maroon and orange, very striking, small black and orange blotch. 21s. (Figured in the "Florist" for September.)

LAGOMA, fine form, free, and coustant; lower petals rose, rich black top petals, with margin of deep rose. 21s.

PORTIA, large and showy, lower petals white, tinted with very pale rose; large carmine blotch, with white margin. 21s.

CORDELIA, good form, and novel in style, lower petals pale pink, rich top evenly edged with deep rose or carmine and light pink; not good early. 15s.

BASILISK, good quality and free, in the way of Salamander, but brighter; early bloomer. 15s.

GALATEA, large white centre, lower petals shaded with rosy lilac, dark blotch shaded on the margin with rose and lilac; early, free, and constant. 15s.

AMAZON, fine cupped flower, white centre, warm pink tinted with lilac, medium-sized black blotch, with bright orange round it. 15s.

BUTTERFLY, very profuse and constant, white centre, mottled rose and lilac lower petals, orange-red top petals, with margin of lilac; petals too narrow, but very striking. 15s.

MEDORA, white centre, warm pink lower petals, orange top petals, margin pink, good bloomer, free and constant. 15s.

ALBIRA, very profuse bloomer, very striking, but starry in shape, ground colour pale lilac, large black and purple spot on the lower petals, black and purple top petals, with margin of lilac. 10s 6d. (Figured in the "Florist" for September.)

KULLA, ground colour deep rose, large dark spot on the top petals, with distinct deep spot on the lower petals. 10s. 6d. (Figured in the "Florist" for September.)

NOVELTY (TURNER), rosy crimson bottom petals, strongly marked and veined with crimson, top petals maroon with crimson margin, showy, free bloomer. 15s.

RINGLEADER (TURNER), scarlet crimson bottom petals, maroon blotch on top petals, scarlet margin, very attractive. 10s. 6d.

Also all the approved older varieties.

Royal Nursery, Slough.

MESSRS. CHARLES CANTOR & CO., OF CALCUTTA.

1852.

LIST OF ORCHIDEOUS PLANTS INDIGENOUS TO ASSAM

AND THE NEIGHBOURING HILLS OF KHASYA, BOOTAN, &c.

No.	Names.	Size and Colour of Flower.	Habit.
1*	Microstylis Wallichii ?...	Small, pea green	Ter.
2	Oberonia indifolia ...	Minute, yellowish	Epi.
3*	,, sp.	,, ,, ...	Do.
4	Liparis sp.	Small, yellow	Do.
5	,, sp.	,, ,, ...	Do.
6**	,, sp.	Largish, green yellow ...	Ter.
7*	,, sp.	Small, deep purple ...	Epi.
8	Otochilus fuscus ...	,, yellowish brown ...	Do.
9	,, albus	,, ,, and white	Do.
10	Pholidota imbricata ...	,, white	Do.
11	,, undulata	,, ,, ...	Do.
12*	,, articulata	,, ,, ...	Do.
13*	,, sp.	,, ,, and yellow ...	Do.
14*	,, sp.	,, ,, ,, ...	Do.
15	Cœlogyne flavida ...	,, yellow	Do.
16	,, undulata	Largish, white	Do.
17*	,, fimbriata?	,, ,, and brown ...	Do.
18**	,, uniflora	,, ,, and lateritious	Do.
19	,, barbata	,, white	Do.
20*	,, præcox ?	,, ,, ...	Ter.
21*	,, maculata	Large, white, yellow, & rose	Do.
22**	,, Wallichiana ...	,, ,, and rose ...	Do.
23**	,, ocellata	,, pale yellow and deep orange	Do.
24*	,, Gardneriana ...	,, white and yellow ...	Epi.
25	,, cristata	,, ,, streaked with bright yellow	Ter.
26	,, sp.	Small, brown and yellow...	Epi.
27**	,, flava ?	Large, yellow and brown...	Do.
28	,, sp.	Small, brown and yellow...	Do.
29*	,, sp.	,, white and brown ...	Do.
30	,, sp.	,, pale yellow	Do.
31**	,, sp.	,, white (pretty) ...	Ter.
32**	,, sp.	Largish, pale cinnamon ...	Epi.
33**	Bolbophyllum leopardinum	Large, yellow spotted with purple.	Do.
34	,, umbratum	Largish, dull yellow ...	Do.
35**	,, Khasyanum ...	Small, greenish	Do.
36**	,, sp.	Largish, bright yellow ...	Do.
37*	,, sp.	Small, white, fragrant ...	Do.
38*	,, sp.	,, dull purple	Do.
	,, sp.	,, ,, ...	Do.
40	,, sp.	,, ,, ...	Do.
41**	Cirrhopetalum sp. ...	Small, greenish, fragrant	Do.
42	,, sp.	,, dull purple	Do.
43*	,, sp.	Large, brown and yellow...	Do.
44**	,, sp.	Largish, dull purple ...	Do.
45**	,, sp.	,, ,, ...	Do.
46*	Tricosina suavis... ...	Large, white, purple & yell.	Do.
47*	Eria flava	Largish, dull yell. & brown	Do.
48	Eria sp.	Largish, white streaked with brown	Epi.
49	,, densiflora	,, ,, tinged with yellow	Do.
50	,, ferruginea... ...	,, ferrugineous	Do.
51	,, paniculata... ...	Small, spotted with purple	Do.
52**	,, sp.	Largish, white	Do.
53*	,, sp.	,, ,, & dull purp.	Do.
54*	,, sp.	,, ,, ,,	Do.
55*	,, sp.	Minute, rosy	Do.
56	Aporum anceps	Small, white	Do.
57	,, cuspidatum ...	,, ,, ...	Do.
58	,, sp.	,, ,, ...	Do.
59*	,, sp. ?	Largish, white, yellow, and brown	Do.
60	Dendrobium Pierardi ...	Large, pink and yellow ...	Do.
61*	,, heterocarpum ...	,, yell. and br. fragrant	Do.
62	,, Chrysanthum ...	,, lively yell. and brown	Do.
63*	,, Paxtoni	,, ,, ,,	Do.
64*	,, sp. like do. ...	,, orange and brown ...	Do.
65*	,, formosum	Very large, white and yell., fragrant	Do.
66**	,, longicornu... ...	Large, white and orange...	Do.
67	,, calceolus	Very dark yellow, rose, and purple	Do.
68*	,, sulcatum	Large, yellow and purple..	Do.
69	,, Jenkinsii	,, lively yellow	Do.
70	,, cærulescens ...	,, deep lively purple ...	Do.
71	,, nobile	,, white rosy purple ...	Do.
72**	,, Gibsonii	,, yellow and brown ...	Do.
73*	,, stuposum	Small, white	Do.
74*	,, Cambridgeanum...	Large, lively yell. and br.	Do.
75**	,, transparens ...	,, deep lively purple ...	Do.
76*	,, like do., various ...	,, pale rose and purple	Do.
77**	,, Devonianum ...	,, lilac-rose and yellow	Do.
78**	,, Dalhousianum ...	,, rose, white, and purp.	Do.
79	,, multicaule... ...	,, white and purple ...	Do.
80**	,, Griffithii	,, pale yell. and orang.	Do.
81**	,, Farmeri	,, lively ,, ,, ...	Do.
82**	,, densiflorum pallid.	,, white and orange ..	Do.
83**	,, do. roseum ...	,, pale rose and orange	Do.
84	,, intermedium ...	,, pale yellow & brown	Do.
85*	,, sp.	,, lively orange	Do.
86*	,, sp.	,, ,, yellow &, brown	Do.
87**	,, sp.	,, yellow, pink, and br.	Do.
88*	,, sp.	,, pink and yellow	Do.
89**	Spathoglottis pubescens	Largish, yellow and purple	Ter.
90	Arundina bambusifolia	Large, pale rose and lively purple	Do.
91*	Phaius grandifolius ...	,, white, brown, & pur.	Do.
92	,, Wallichii	,, ,, ,,	Do.
93*	,, maculata	,, ,, rosy scented	Do.
94*	Phaius albus	Large, white, rosy scented	Do.
95**	Aputaria senilis	Largish, rose and green ...	Ter.
96**	A latifolia	?	Do.
97*	Eulophia virens	Large, green and white ...	Do.
98**	,, sp.	,, dull yellow & brown	Do.
99**	,, sp.	,, deep purple	Do.
100**	,, sp.	,, green and yellow ...	Do.
101**	,, sp.	,, purplish green ...	Do.
102	Vanda teres	Very large, rosy purple, yellow and brown	Epi.
103**	,, cristata	Largish, greenish, white, and purple	Do.
104**	,, multiflora	,, white and rose ...	Do.
105**	,, cœrulea	Very large, deep blue ...	Do.
106**	,, sp.	Largish, dull purple ...	Do.
107**	,, sp.	,, ,, and green	Do.
108**	,, sp.	,, yellow and brown ...	Do.
109**	Camarotis purpurea ...	Small, yellow and purple...	Do.
110	Micropera pallida ...	,, pale yellow	Do.
111	Saccolabium micranthum	Small, rosy	Epi.
112	,, retusum	Largish, lively spotted ...	Do.
113	,, papillosum ...	Small, pale yellow & pur.	Do.
114**	,, Calceolare	,, yellow and brown ...	Do.
115**	,, sp. like do. ...	,, pale do. and rose ...	Do.
116	,, caroifolium ...	,, rosy	Do.
117**	,, dasypogon	,, green and purple ...	Do.
118*	,, appendiculatum ...	,, yellow	Do.
119*	,, sp.	,, rosy and deep purple	Do.
120**	Sarcanthus sp.	... ...	Do.
121**	,, sp.	Small, rosy	Do.
122**	,, sp.	,, white and yellow ...	Do.
123**	,, sp.	,, ,, ,, ...	Do.
124**	,, sp.	,, ,, ,,	Do.
125**	,, sp.	,, rosy red	Do.
126	Aerides affine	Large, rosy purple	Do.
127	,, odoratum	,, ,, sweet-scented	Do.
128	,, sp.	,, ,, ,,	Do.
129**	,, sp.	Large, like affine, and very sweet-scented	Do.
130	Agrostophyllium Khasyanum	Small, white	Do.
131*	Xiphosium acuminatum	Large, white	Do.
132	Acanthophippium sp. ...	,, dull purple	Ter.
133*	,, sp.	,, white, streaked ...	Do.
134*	Cymbidium giganteum...	Very large, yell. and brown	Do.
135	,, pendulum	Large, dull yell. and purple	Do.
136	,, aloifolium	,, ,, ,,	Do.
137**	,, eburneum	Very large, white	Do.
138	,, inconspicuum ...	Small, brown	Do.
139	Cymbidium longipetalum	Largish, green and purple	Ter.
140*	,, cyprifolium ...	,, ,, ,,	Do.
141**	,, sp.	Large, fragrant, yellow, and white	Epi.
142**	,, sp.	,, brownish purple ...	Do.
143**	,, sp.	Very large, white	Do.
144**	,, sp.	Large, white and brown ...	Do.
145*	,, sp.	,, green and dull purple	Ter.
146**	? Phalænopsis, sp. ...	Large, yellow and reddish brown	Epi.
147	Euphorboecis pygmæa...	Minute, yellow	Do.
148	Geodorum dilatatum ...	Large, white, purple, and yellow	Do.
149*	,, sp.	,, deep rosy purple and white	Do.
150**	Platanthera sp.	Large, white	Do.
151**	Peristylis sp.	Largish, white, sweet-scented	Do.
152	Habenaria hamigera?...	Small, green	Do.
153	,, sp.	,, yellow	Do.
154	,, sp.	,, greenish yellow ...	Do.
155*	,, sp.	,, white	Do.
156**	,, sp.	Large, white	Do.
157**	Pogonia Joliana... ...	Small, rosy white	Do.
158**	,, sp.	Largish, green	Do.
159**	,, sp.	Small, purple	Do.
160**	Cyrtosia sp.	Largish, golden yellow ...	Do.
161**	Spiranthes sp.	Small, white	Do.
162**	Zeuxine sulcata	,, ,, ...	Do.
163**	Anæctochilus Roxburghii	,, rosy white	Do.
164**	,, sp.	,, white	Do.
165**	Cypripedium venustum	Large, green and purple ...	Do.
166**	,, insigne...	,, red and yellow ...	Do.
167*	Calanthe densiflora ...	,, lively yellow	Do.
168**	,, sp.	Small, brown and yellow...	Do.
169**	,, sp.	Large, white and green ...	Do.
170**	,, sp.	,, ,, and yellow ...	Do.
171**	,, sp.	,, dull purple	Do.
172	Goodyera sp.	Small white	Do.
173	,, sp.	,, ,, ...	Do.
174	,, sp.	,, ,, dull purple ...	Do.
175**	Ophrys sp.	Largish, rosy purple ...	Do.
176**	,, sp.	,, green and purple ...	Do.
177**	Anthoginum sp.	,, rosy	Do.
178*	Bonatea sp.	Small, green	Do.

Æschynathus (3 to 4 sp.): Hoya (5 or 6 sp.); Arum (several); Lilium (1 sp.); Nepenthes (1 sp.); Ferns and Lycopodiums (150 to 200 sp.); Palms (Livistonia, Leoxalis, Caryota, Calamus, &c.) are also indigenous, and can be sent if required.

Plants not marked are common. Ditto marked with an asterisk are considered rare.

Ditto marked with two asterisks are considered very rare

The charges for a box of 4 cubic feet measurement, containing an equal selection of the three kinds, will be 5l. or 50 Rupees, deliverable at Calcutta. When Plants which are rare or very rare are required, the charges will be according to the kind taken; for the rare 1 r. 8 a. a Plant; for the very rare, 2 rupees a Plant. When very large plants are directed to be sent, no extra charge will be made.

When new Plants not included in the list are sent, a separate charge will be made. When two boxes or more are taken a discount of 10 per cent. will be allowed.

Plants can also be sent in glass cases, on the Wardian plan, measuring 2 feet 6 inches in length, 2 feet breadth, and 2 feet 7 inches in height, for which an extra charge of 20 rupees will be made. Glass covers can also be supplied for the other boxes, at an extra charge of 10 rupees.

Applications to be made to Messrs. CHARLES CANTOR & CO., in Calcutta.

ASSAM, *August* 1, 1852.

ROSE NURSERIES, HERTFORD.

E. P. FRANCIS'S CATALOGUE OF NEW AND SELECT ROSES FOR 1852 AND 1853 is now ready, and will be forwarded gratis upon application.

Fine strong plants of Chinese Funebral Cypress, in pots, 4 feet, 10s. 6d. each.—October 9.

A. PAUL AND SON beg to announce that their CATALOGUES of ROSES and HOLLYHOCKS, containing all the fine new varieties for the present season, are now ready, and may be had free on application, enclosing Two Penny Stamps for the postage. The AUTUMNAL ROSES are still finely in bloom.—Nurseries, Cheshunt, Herts, October 16.

YOUELL AND CO. BEG TO OFFER THE FOLLOWING:—

FRUIT TREES.

Comprising the best varieties in cultivation, as follows:—
Apples, standard, on stems 5 to 6 feet, bushy, 15s. per dozen.
,, dwarf trained, strong, 30s. per dozen.
Pears, standard, on stems 5 to 6 feet, good heads, 18s. p. doz.
,, dwarf trained, strong, 30s. to 36s. per dozen.
Cherries, standard, on stems 5 to 6 feet, 18s. per dozen.
,, dwarf trained, strong, 42s per dozen.
Apricots, dwarf trained, very strong, 3s. 6d. to 5s. each.
Peaches and Nectarines, do. do., 3s. 6d. to 5s. each.
Plums, do. do., 2s. 6d. to 3s. 6d. each.

Fastolff Raspberry (Youell's). We still refer with pride to this excellent variety, by far the best red in cultivation; strong canes, 15s. per 100.
Large white Raspberry, of unequalled size and flavour, admirable for the dessert, 24s. per 100.
Gooseberries, the finest prize sorts, selected for size and flavour, in strong bushes, 4s. per dozen.
Currants, all the most approved sorts, viz., new White Dutch, Raby Castle, Black Naples, &c., in strong bushes, 4s. per dozen.
Strawberries, all the finest varieties.
Rhubarb, strong undivided roots of Myatt's Victoria, Linnæus, and Royal Albert, the best kinds for forcing, 8s. per doz.
Figs, Brown Ischia, strong, 2s. 6d. each.
Asparagus (Giant), 3 years, per 100, 3s. 6d.
Seakale, very strong, 2s. per dozen.
Do., fine, 5s. per 100.
Owing to the luxuriant growth these make in our sea-coast nursery, the roots are very fine and healthy.

CONIFERÆ.

Araucaria imbricata; the massive appearance and unique character of this tree, joined to its extreme hardihood, entitle it to the first place among hardy trees. We possess a large stock, and beg to offer it as follows:
12 to 15 inches ... ... 30s. per dozen.
2 feet ... ... 81s. ,,
3 feet ... ... 15s. each.
Fine large specimens 4 guineas each.
Cedrus Deodara, the sacred Cedar of the Himalayas; this tree, in appearance not unlike a Larch, but weeping and evergreen, is so highly esteemed by the natives of these regions as to become an object of reverence. With us it is perfectly hardy, and one of our most ornamental trees.
1 year, from seed ... ... 20s. per 100.
2 years, do. ... ... 30s. ,,
9 to 12 inches, do. ... ... 50s. ,,
15 to 18 inches, do. ... ... 12s. per dozen.
18 inches to 2 feet, do.... ... 24s. ,,
3 to 4 feet, splendid plants ... 60s. ,,
5 to 6 feet, fine specimens ... 21s. each.
Irish Yews, 1 to 1½ foot ... ... 6s. p.doz.
,, 2 feet ... ... 9s. ,,
,, 2 to 3 feet ... ... 12s. ,,
Taxus pyramidalis, or new upright Yew, 12 to 15 ins. 18s. ,,
,, adpressa, 6 inches ... ... 12s. ,,
,, Dovastonii, or weeping Yew ... ... 18s. ,,
,, Gold variegated ... ... 12s. ,,
Thuja pendula ... ... 18s. ,,
,, Donniana ... ... 5s. each.
Cupressus Lambertiana, 15 to 18 inches ... 2s. 6d. each.
,, Goveniana, 18 inches to 2 feet ... 3s. 6d. ,,
,, Funebris, 15 inches ... ... 3s. 6d. ,,
,, Uhdeana, 12 to 15 inches ... ... 1s. 6d. ,,
,, torulosa, 18 inches to 2 feet ... 1s. 0d. ,,
Juniperus Bedfordiana, 6 to 9 inches ... ... 6s. per dozen.
,, ,, 18 inches to 2 feet ... 18s. ,,
,, squamata, 4 inches, strong ... 9s. ,,
Pinus excelsa, or tall growing; this fine Fir, from the Himalayas, has long silvery foliage, and is of very rapid growth. It merits a place in even the smallest collection.
6 inches, in pots ... ... 6s. per dozen.
12 to 18 inches, bushy ... 12s. ,,
18 inches to 2 feet ... 18s. ,,
3 to 4 feet, very strong ... 30s. ,,
5 to 6 feet, fine specimens 60s. ,,
6 to 9 inches, bedded ... 4s. ,,
18 inches to 2 feet, bedded 9s. ,,
Pinus Gerardiana, a very robust dwarf species, from the Himalayas; it makes a pretty object in situations where very tall trees are not desirable, its maximum height being 50 feet. Strong bushy plants, 6 inches ... ... 9s. per dozen.
Pinus Cembra, 2 to 3 feet ... ... 30s. ,,
Cedrus Libanus, 18 inches to 2 feet ... ... 12s. ,,
,, ,, 2 to 3 feet ... ... 24s. ,,
,, argenteus, the silver Cedar of Mount Atlas, 12 to 20 inches ... ... 3s. 6d. each.
Picea Pindrow; this fine species of silver Fir recommends itself by its very long foliage and robust habit, closely resembling P. Webbiana.
4 inches, strong ... 12s. per dozen.
9 to 12 inches ... 24s. ,,
Picea Pinsapo, from the mountains of Spain; the leaves of this species are strong and rigid, and arranged on the stem in the manner of a bottle brush, a very distinct and beautiful species.
3 years, from seed, strong... ... ... 18s. per dozen.
Fine specimens, 2 to 3 feet in height, and as much through ... ... 15s. to 21s. each.
Picea cephalonica, 15 to 18 inches ... ... 2s. 6d. ,,
Abies morinda, a fine robust species of Spruce, of a weeping habit, from the Himalayas, 2 to 3 feet ... ... 30s. per dozen.
Abies Menziesii, a very distinct species of Spruce, with foliage silvery on the under side, 12 to 15 inches ... ... 18s. ,,
Abies Pumila, dwarf species of Spruce, forming a dwarf compact shrub ... ... 18s. ,,
Abies orientalis (true), another dwarf species, very ornamental, 6 to 9 inches, bushy ... 18s. ,,
Taxodium sempervirens, 18 to 24 inches ... 30s. ,,
Cryptomeria japonica, 1½ to 2 feet ... ... 42s. ,,
,, ,, 2 to 3 feet ... ... 60s. ,,
Podocarpus Totara, 12 to 18 inches ... ... 24s. ,,
Dacridium Franklinii ... ... 2s. 6d. each.

Quercus Fordii, a hardy and very ornamental evergreen Oak, with twisted foliage, 12 to 15 inches, 12s. per dozen.
Do. do., 18 inches to 2 feet, 18s. per dozen.
Do. do., 2 feet to 3 feet, 30s. per dozen.
Quercus lanata, fine species from the Himalayas, described as the "King of Evergreen Oaks," 6 to 9 inches, strong, 3s. 6d. each.
Quercus rotundifolia, 9 to 12 inches, 3s. 6d.
,, ballota, 9 to 12 inches, 2s. 6d.
,, Ilex var. Hamei, a very fine variety of the evergreen Oak, with very broad foliage, 18 inches to 2 feet, 3s. 6d. each.
Do. do., 2 to 3 feet, 5s. each.

The Lucombe Oak, 8 to 10 feet, fine transplanted specimens, 7s. 6d. each.
Standard Thorns, 1s. 6d. to 2s. 6d. each.
Weeping Ash, on 8 to 10 feet stems, very strong and bushy, fine specimens, 3s. 6d. to 5s. each.
Forsythia viridissima, 1 to 2 feet, strong and bushy, 12s. p. doz.
Weigela rosea, 2 to 3 feet, bushy, 18s. per dozen.
Euonymus japonicus foliis var., one of our best variegated shrubs, of dwarf and compact habit, 9 to 12 inches, bushy, 9s. per dozen.
Do. do., 12 to 18 inches, do., 12s. per dozen.
Ilex latifolia; this variety, with fine Laurel-like foliage, is quite unique among Hollies; strong plants, 12 to 18 inches, 18s. per dozen.
Ilex Sheppardii, a remarkable variety, with very broad foliage, and free blooming qualities; the finest, perhaps, of the green Hollies; strong plants, 2s. 6d.; smaller do., 12s. per dozen.
Bays, strong, 6s. per dozen.
Aucubas, 6s. to 9s. per dozen.
Roses, a fine collection of the most approved varieties for summer and autumn blooming; standards, per dozen, 18s.; half do., 15s per dozen; dwarf on own roots, 9s. per dozen.

HARDY CREEPERS.

Hedera Regneriana, or Giant Ivy, 1s. 6d. each.
,, silver-striped, 1s. each; palmated, 1s. 6d. each.
Jasminum revolutum, very strong, 1s. 6d. each.
,, fruticosum, 1s. each.
Clematis, sweet-scented, 9s. per dozen.
,, montana, 12s. per dozen.
,, Sieboldii and azurea grandiflora, 18s. per dozen.
Pyrus japonica, 9s. per dozen.
Escallonia rubra, 12s. per dozen. Pyracantha, 9s. per dozen.
Wistaria sinensis, 1s. 6d. to 3s. 6d. each.
Boursault, Ayrshire, Noisette and other climbing Roses, in strong plants, 6s. per dozen.
Magnolia grandiflora, Exmouthii, ferruginea, strong plants, 3s 6d. each.
Ceanothus americanus, hardier than C. azureus, 12s per dozen.
,, rigidus, the hardiest and best of the new Californian species, 2s. 6d. each.
Cotoneaster microphylla, admirable for walls; its white flowers and coral berries form a striking contrast to its dark green foliage, 9s. per dozen.

GREENHOUSE PLANTS.

Camellias of the finest varieties, set with buds, in good strong plants, 30s. per dozen.
Ericas, fine blooming bushy plants, in large 48s, 12s. per doz.; smaller do., 9s. per dozen.
Epacris, nice plants, in small 48s, in many fine varieties, 9s. per dozen.
Cinerarias, choice kinds, new varieties, 9s. per dozen.
Mandevilla suaveolens; this fine creeper, of robust habit, produces numerous bell-shaped, highly fragrant flowers, of the purest white in large clusters; strong plants, 1s. 6d. each.
Passiflora racemosa cærulea, the hardiest and best for a greenhouse, producing in abundance its pretty purple flowers; strong plants, 1s. 6d. each.
Passiflora Bellotti, a fine peach-coloured new variety, 2s. each.
Mitraria coccinea; this fine new shrub produced its fine scarlet bladdery flowers freely in our nursery last season, on plants in 48s. We confidently recommend it as highly ornamental; it makes a beautiful specimen; strong plants, in large 48s, 1s. 6d. each; a few fine specimens, 3s. 6d. to 5s. each.
Philadelphus mexicanus, a neat dwarf shrub, producing flowers as fragrant as the Orange, 12s. per dozen.
Aphelexis, six fine varieties, 1s. each.
Crassula Louis Napoleon Bonaparte, new deep scarlet variety, strong, 1s. 6d. each.
Statice puberula, the prettiest, perhaps, of the genus, producing its pretty blue and white flowers nearly through the season; strong plants, 9s. per dozen.
Leschenaultia formosa, 12s. per dozen.
,, biloba nana, 18s. per dozen.
Sollya Drummondii, a neat blue flowering creeper, suitable for trellises, 18s. per dozen.
Burchellia capensis, this fine old favourite, 12s. per dozen.
With many other fine species and varieties, on an average 12s. per dozen.

HARDY BULBS, HERBACEOUS PLANTS, ETC.

Gladiolus insignis, a fine robust species, producing during the summer and autumn months long spikes of glowing scarlet flowers, almost too dazzling to look upon, 6s. per dozen.
Tigridia conchiflora, the yellow tiger flower, very handsome, 3s. per dozen.
Lilium lancifolium album, the beautiful white Japan Lily, 9s. per dozen.
Hyacinths, of the finest varieties by name, for glasses or forcing, 6s. to 9s. per dozen.
Lily of the Valley, fine strong roots, 4s. per 100.
Oxalis floribunda, one of the finest of our hardy perennials, producing its pretty pink flowers in profusion through the summer and autumn, 6s. per dozen.
Oxalis elegans and elegans major, two pretty species, very free bloomers, 9s. per dozen.
Viola lutea, the yellow Violet, a very neat and distinct species, 9s. per dozen.
Hollyhocks, the choicest varieties of the principal growers, 12s. to 18s. per dozen.
Pansies (our collection comprises all the known varieties of merit), strong plants, 6s. to 12s. per dozen.
Rockets, double white, 3s. per dozen; double purple, 6s. per dozen; crimson, 18s. per dozen.
Primroses, the old double scarlet or maroon; we are fortunate in possessing a good stock of this rare though fine old plant. Strong plants, 12s. per dozen; double white, 3s. per dozen; lilac, 4s. per dozen; purple, 6s. per dozen.
New Belgian Daisies in many varieties, 4s. per dozen.
Berberis Darwinii, 18s. per dozen.
Deutzia gracilis, 18s. per dozen.

CARNATIONS AND PICOTEES.

We are probably the largest growers of these in the world; and as our soil and climate suit them admirably, they attain a luxuriance with us unknown in other places. We can supply good strong Plants of the best varieties as follows:— £ s. d.
12 pairs, the very best and newest 1 10 0
12 pairs, fine do. 0 18 0
100 pairs, very best and newest 7 10 0
100 pairs, fine do. 5 0 0
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12 pairs, finest varieties 0 18 0
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Herbaceous plants, in great variety, per 100 ... ... 1 5 0
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J. WEEKS AND Co., King's Road, Chelsea, have a most splendid collection of VINES, very strong and clean, two and three years old, from Eyes, all the best sorts for PLANTING OR FRUITING IN POTS.
Also an extensive and valuable collection of STOVE and GREENHOUSE PLANTS, with all new varieties. See our Catalogues devoted to each. Also our Illustrations on HORTICULTURAL BUILDING and HEATING by HOT-WATER.
J. WEEKS and Co., King's-road, Chelsea.

GEORGE JACKMAN, NURSERYMAN, Woking, Surrey, 1½ mile from Woking Station, South Western Railway, begs to announce he has just published a new and complete Catalogue of his American Plants, Ornamental Evergreens, Conifers, flowering Shrubs, Standard and Dwarf Roses, Fruit and Forest Trees, &c. &c., and may be had on application by inclosing two postage stamps.

DOUBLE ROMAN AND PAPER WHITE NARCISSUS, 4s. per dozen.—The above bulbs, the former of which is so justly esteemed for its early blooming and excessive fragrance, and the latter for its purity and elegance, have been just received at A. CORBETT'S Italian and Foreign Warehouse, 18, Pall-mall, near Waterloo-place, London.

NEW WHITE BROCCOLI—"DILCOCK'S BRIDE."

BAINBRIDGE AND HEWISON beg to announce that they have purchased of Mr. Dilcock the entire stock of the above, which is a Broccoli of the highest merit, surpassing every other (even the far-famed "Mammoth"), as the following will testify. It has been sold in the York market at 1s. per head.

"York Horticultural Society, June 18, 1852.

"In reply to your inquiries I find 'Dilcock's Bride Broccoli' was awarded first and third prizes 1850; first, second, and third, 1851; and first, second, and third in the present year. It ought to be grown by every gentleman's gardener, especially where any are grown for competition. Market gardeners also will find it to their profit to possess it.—Yours truly,

"R. DEMPSEY, Hon. Secretary."

The Seed will be sent out in the autumn in sealed packets at 2s. 6d. each, containing about 1300 Seeds, and may be had of themselves at York; or of Messrs. NOBLE, COOPER, and BOLTON, Seed-merchants, 152, Fleet-street, London.
Hope Nursery, York.

KINGHORNE'S SEEDLING EPACRISES.

JOHN AND CHARLES LEE beg to announce that they are prepared to send out these beautiful Seedlings, from which they have selected the following distinct kinds:—
E. KINGHORNII.—Tube medium length, very stout, beautifully pencilled with rose colour, pure white tip, and sepals well reflexed: a most profuse bloomer. Price 7s. 6d.
E. GRANDIFLORA RUBRA.—Tube longer, stouter, and much higher coloured than grandiflora; tips pure white; sepals expand well; very free bloomer. Price 5s.
E. MINIATA SPLENDENS.—Tube larger and longer than miniata, of a more brilliant colour, white tip more distinct; sepals expand well; extremely free bloomer. Price 5s.
PRICE OF THE SET, 15s.—The usual discount to the Trade, besides a set over on every three sets ordered.
These superb Epacrises are really the most useful plants offered to the Public this season. They are very great improvements, both in habit and profuseness of blooming, over all former introductions, and will prove highly valuable for exhibition.
Nursery and Seed Establishment, Hammersmith.

THOMAS CRIPPS respectfully offers the following new and select Roses:—

PERPETUALS.	Stds. s. d.	Dwfs. s. d
La Seduisante ...		3 6
Docteur Juillard ...		5 0
Lucy Barante ...		2 6
Mdm. Leclerc Guillory		5 0
William Griffiths ...		3 6
Souvenir de la Reine de Belges ...		7 6
Palais de Cristal ...		5 0
Baronne Hallez (beautiful) ...	3 0	2 0
Comte de Bourmont		7 6
Clemence Isaure ...		5 0
L'Enfant du Mont Carmel ...		5 0
Beranger ...		2 0
Charles Boissier ...		5 0
Souvenir l'Empire ...		5 0
Caroline de Sausal (fine) ...	3 6	2 6
General Negrier ...	3 6	2 0
General Brea ...		3 6
Louise Odier ...		5 0
Rose du Roi (new white) ...	2 0	1 6

PERPETUALS.	Stds. s. d.	Dwfs. s. d
Diodore		7 6
Blanche Portemer ...		5 0
Mere de St. Louis ...		7 6
Miss Meymott ...		7 6
Victoria (Paul's) ...		5 0
Isocrate		7 6
Mdm. Seigneur ...		5 0
Chereau	2 0	1 6
Gen. Cavaignac (fine)	2 6	2 0
Mdm. Fremion ...		2 6
Mdm. Hilaire ...		5 0
L'Erendard du Grand Homme		7 6
Mdm. Flory		7 6
Robert Burns ...		3 6
Eugene Sue		7 6
Auguste Mie (fine) ...	5 0	3 6
Jeanne d'Arc (fine)	3 6	3 6
Mdm. Audry ...		5 0
Isermis		5 0
Gen. Delaage ...		5 0
Gen. Drouot (moss).		
Herman Kegel (do.)		

Géant des Batailles, per dozen, for beds, stds. 15s., dwfs. 15s.
Standard Roses, in splendid variety, the selection being left to T. C., 18s. and 24s. per dozen. Dwarf do., finest varieties, 12s. to 18s. per dozen. Dwarf do., good varieties by name, 6s. per dozen.
The above, if ordered now, will be sent in November securely packed to any part. A remittance or reference is requested.
Tunbridge Wells Nursery, Kent, Oct. 16.

The Gardeners' Chronicle.

SATURDAY, OCTOBER 16, 1852.

MEETING FOR THE ENSUING WEEK.

TUESDAY, Oct. 19—Horticultural ..... 3 P.M.

NEXT Tuesday the new regulations for the Exhibitions of the HORTICULTURAL SOCIETY in Regent-street come into operation; and in order that our readers may be aware of the nature of the changes that have been made, we print the following regulations.

"The Council of the Horticultural Society hereby give notice, that, with a view to the further encouragement of good cultivation at all seasons and in all branches of gardening, Medals and Certificates of Merit will be given at the General Meetings of the Society in Regent-street, during the years 1852 and 1853, under the following regulations:—

"I. The Medals and Certificates of Merit are on no account to be increased beyond those named in the schedule. They are to be given for fine cultivation, and not for mere novelty, which is to be a secondary con-

sideration with the Judges, unless attended by great excellence.

"2. Prizes may be withheld if the objects exhibited for competition do not, in the opinion of the Judges, deserve them.

"3. Although those subjects of exhibition which are thus specially indicated are what the Council are most desirous of receiving, nevertheless other objects are also admissible, and additional prizes may even be given for them; PROVIDED THEY POSSESS VERY CONSPICUOUS MERIT. The Silver Knightian Medal will be the highest additional reward which the Judges can bestow, without the special sanction of the Council.

"4. In a future year other kinds of produce will be selected for special competition.

"5. Cut flowers are not admissible, except when it is expressly so stated.

"6. Dishes or baskets for fruit and vegetables must be furnished by the exhibitors, if they are present, or live near London. The Society will only find dishes for what comes from a considerable distance.

"7. FRUIT MUST BE PERFECTLY RIPE AND PERFECTLY COLOURED, or it will be disqualified.

"8. Vegetables must be produced in the state in which they are offered for sale in the best class of shops, and properly prepared for the cook.

"9. Foreign fruit and vegetables are admissible, but not in competition with produce of home growth.

"10. Everything must be in the room three hours before the meeting, and ready for inspection by the Judges two hours before the meeting. If anything received later is allowed to be exhibited, it will be liable to exclusion from competition.

"11. Exhibitors, and exhibitors only, can receive passes to enable them to return to the meeting-room after the prizes shall have been adjudicated. Two hours before the meeting they must quit the room, in order that the Judges may be undisturbed."

The privileges of the Fellows of the Society remain as they were, but it should be observed that no strangers can have admission without the personal or written order of a Fellow. We may also add, in order to prevent misunderstanding, that in addition to the subjects of special exhibition, on this occasion (namely hardy annual flowers, table Pears now in season, and Green Peas, all correctly named), others are admissible, as will be seen in the 3d of the above regulations.

THE tropical and temperate parts of the world abound in true PARASITES of extraordinary beauty, which derive their nutriment from the trees on which they grow. For this reason they are uncultivable; there is no means of securing under glass the arborescent vegetation which, because of its magnitude, bears their attacks without sustaining material injury. With us the Miselto, a parasite of similar nature, produces little inconvenience to the Apple, Lime, and other trees on which it is found; for they contain nutriment enough for themselves, with much to spare for the Miselto which infests them. But if Apple-trees grew in hothouses we then should hardly see the Miselto, inasmuch as trees so small as to be grown under glass would have no nutriment to spare beyond what is required for their own need, and if attacked by parasites would perish from exhaustion.

Hence there is no hope of our ever beholding in Europe the magnificent *Loranthus bicolor* of Bengal, or any of that singular tribe which to the habits of Viscum add the flowers and colours of our finest Honeysuckles. Debarred by natural causes from the cultivation of exotic parasites we seek consolation among epiphytes.

But although true parasites are beyond our attainment, and we shall no more see Loranths in hothouses than humming-birds in aviaries, yet it is desirable that the horticultural world should be made aware of a glorious plant of their order, which, with the other peculiarities of those parasites, joins that of growing in the earth.

In the Swan River Colony there lives a tree called NUYTSIA FLORIBUNDA, a beautiful plant, figured in the Appendix to the first 23 volumes of the "Botanical Register," p. xxxix., with very large thyrses of bright orange-coloured flowers. ALLAN CUNNINGHAM states that it flowers in the summer months (December and January), and such is the abundance of the orange-coloured blossoms, that the colonists at King George's Sound compare it to a tree on fire; hence it has gained the name of "Fire tree." A second species was found by the same traveller in 1817, in the more arid parts of the Blue Mountains, west from Port Jackson; he described it as a very bushy shrub, 3 feet high, flowering usually in the spring of the colony (October) but very inferior in beauty to the Swan River plant. This remarkable tree appears to be a true Loranthaceous genus, and for a long time was assumed to be a parasite, although it always grew out of the ground. A ready explanation of that fact was found in the assumption that it was a parasite upon roots; and hence no attempts have been made to introduce it. It has, however, been now ascertained to have no parasitical properties. Two letters addressed by Mr. JAMES DRUMMOND to the Hon. W. H. MACKIE, of Perth, for a sight of which we are indebted to a friend, contain the following interesting information concerning Nuytsia floribunda; dated "Hawthornden Farm, 1850."

"*May* 11.—I have already stated to you strong circumstantial evidence against the Nuytsia being parasitical; but I have at length had the satisfaction of having the plant grown from seed in an old watering-pot filled with sand in the garden here, and constantly under my own eye; the radicle is strong for the size of the plant and rather fleshy, the cotyledons are four in number, glaucous, and in form resembling the leaves of the plant; the young plants bear a strong resemblance to young Stone Pines. The young plants of the genus Loranthus are widely different in appearance and economy; their berries throw out a body having some resemblance to a root, which terminates in a sort of disk which the seed usually places flat on the bark of a tree or other substance with which it happens to be in contact; the Loranths have no descending axis of growth or root; but by some unknown attraction or affinity between them and the trees on which they grow, the latter immediately adopt them, enclose them by their bark, and send up sap to nourish them."

"*June* 15.—I send you germinating seeds of Nuytsia, showing their roots and cotyledons. To several of the young plants the covering of the seeds still adheres, which shows that there can be no mistake in the matter. The Nuytsia grows very easily from seed, although I have never been able to find a young seedling plant self sown. I think it is owing to the large winged seeds, which are very conspicuous objects, being mostly destroyed by parrots and small animals of the Marsupial and Mus families. When I say that I have not seen self-sown Nuytsias, I mean that I have not been able to find seedling plants in the vicinity of trees which bear seed. Suckers are common near the roots of old trees, which grow up and form the groups of this tree which we so generally meet with. It is, nevertheless, evident that the original trees from which these groups were produced must have been seedlings. The Nuytsia is often seen forming groups, sometimes singly on the sand plains in the interior where no other tree exists, and where the seeds must have been carried for many miles by the wind; for travelling in that way their broad wings are well adapted."

Such being the fact with this plant, we confidently anticipate a sight of it in our gardens; for if seeds of it should refuse to travel, living plants can be easily brought over for any of Mr. DRUMMOND'S correspondents.

Upon turning to our herbarium we find this memorandum in ALLAN CUNNINGHAM'S hand-writing. "A terrigenous tree, indigenous to the shores of King George's Sound, where it grows on barren rocky hills. It also inhabits the forest country about Swan River. At King George's Sound it rises to the height of 12-15 feet, and the fruit, which was originally discovered by the late Mr. BAXTER, is perfected in May." Perhaps the plant more resembles some magnificent Hakea or Grevillea than anything else, having the same kind of tough leathery leaves.

THAT must be a very fine FLORIST'S FLOWER that would induce us to introduce a notice of it into this part of our columns, which is usually reserved for discussions of higher interest. There is, however, no rule without an exception; and we feel obliged to bring forward as prominently as possible a new Fuchsia in the way of *Corallina*, the beauty of which we can scarcely find adequate language to describe. Flowers of the deepest rose colour, 3 inches long, with a deep purple corolla, stamens projecting an inch beyond the flower, the slender pale pink stalk of which is from 2 to 3 inches long; such is a single blossom. Every twig is loaded with from three to seven of these gorgeous flowers, so that the branches are forced downwards by the weight which they are unable to support. Add to this that the leaves are firm, deep green, with bright reddish stalks, and that the young wood is of the same colour, and the mind may conceive what a magnificent effect is produced by this variety, which has been well named FUCHSIA PRINCEPS by Messrs. LUCOMBE and PINCE, of Exeter, the raisers of it.

EPIPACTIS PHYLLANTHES.

THE recent notice of an Epipactis in your pages, as being sent to you by Mr. Harcourt, of Westdean House, has led me to send you a copy of the lithograph of an Epipactis, and of the MS. notes upon it, which I collected in the upper part of Phillis Wood, near Westdean, Sussex, in the years 1838-9, and described by comparison at the time. I do not doubt that Mr. Harcourt's plant and mine are the same. In its lip, flowering season, and general structure, it differs widely from E. latifolia. I named it phyllanthes, for distinction's sake. Some notes in addition I have given on the same sheet with the description. *Gerard Smith, Ashton Hayes Parsonage, September* 29.

EPIPACTIS PHYLLANTHES, G.E.S.

(GREEN-FLOWERED HELLEBORINE. PHILLIS WOOD, SUSSEX.)

Spec. char.: Root leaves sheathing, broad-elliptic-ovate: upper ovate-lanceolate, all *firm*, keeled, *smooth*. Flowers secund, cernuous. *Lip ovate, undivided, pointed, convex*, and *keeled on the back*. *Stigma rounded-angular*.

COMPARATIVE DESCRIPTION OF	
E. phyllanthes.	*E. latifolia.*
Plant, scattered in groups, or solitary, 6 to 18 inches high.	The same, on similar stations.
Roots, copious, zigzag, uniform, simple, blunt, downy.	
Stems, erect, wavy, round and purple at the base, angular and yellowish-green above. Young shoots pink. Stem occasionally glandular, downy above.	The same, but dull grey-green or purple, and *downy*.
Leaves, broadly elliptic below, with *smooth sheaths*, narrowing upwards into the lanceolate bracteas: their substance *firm*, scarcely plaited, but rather *striated*: with 1 to 3 principal, and many smaller parallel veins, edged with minute glandular hairs, obtusely pointed.	Substance thin, *plaited*. Principal veins many; *edges serrulate*.
Raceme, of alternate cernuous flowers, on longish green stalks.	*Flower-stalks* shorter, and purplish in many cases.
Germen obovate *taper*, roughish.	The same, but short.
Flower bud, triquetrous; point long *deflexed*.	*Bud* with a *short straight point*.
Sepals ovate, taper pointed, often cohering at the points, pale green; keels, darker green.	*Sepals* broader, green or purple.
Petals ovate, concave, keeled, yellowish green.	*Petals* purplish, or pink.
Lip, similar in form and texture to the petals, *ovate, pointed*, presenting a smooth gibbous convexity at the back, and *keeled*.	*Lip* of two portions. 1, The upper, cup-shaped, crenate, shining and ribbed on the convex back; 2, the lower, uniform, with an obtuse, recurved point; above, communicating by a channel which has callosities on either side with the cup-shaped superior portion.
Pollen masses, in two close, ovate cells. *Stigma* rounded angular, *point prominent*.	*Pollen masses* the same. *Stigma* squarish, *point flattened*.
Flowering at least one month earlier than E. latifolia, and in seed when E. latifolia was in full bloom.	E. latifolia had scarcely expanded its dark-green cluster, on every locality as to elevation, when E. phyllanthes was in perfection.
Flowers scentless, Sept. 1838, July 1839.	

This pretty plant was gathered from a single locality, upon the elevated part of Phillis Wood, near Westdean, Sussex, on a gravelly soil, where it occurred with Galium verum, Fragaria vesca, &c., under the shade of dwarf Sallows and Birches, first in seed in Sept. 1838, and the second time in blossom July, 1839, and was regarded as a variety of E. latifolia in which the lip had been replaced by a petaloid leaf. The form of this part has proved uniform in all the specimens examined.

I have specimens of Ophrys fucifera E.B.S. to 2649, in which the lip is replaced by a sepal; and this year I gathered at Killin, in Perthshire, a plant of Habenaria bifolia with a sepaliform lip.

But there are points in the structure, texture, and flowering season of E. phyllanthes, G.E.S., which render its distinctness from E. latifolia possible.

The lip and petals being uniform, the plant in description approximates Goodyera, and when I gathered it, it occurred to me that this might be the plant mentioned in Camden as G. repens.

Excepting the crenulated lip, the following species closely resembles our plant:—

Serapias microphylla, fol. caulinis ovato-lanceolatis, inferioribus brevissimis, flor. cernius, labello ovato acuto crenulato, cal. subæquali. Ehrhart Britrage, 4, p. 42. Habit. in sylvis montosis. Persoon. Syn. Pl. 1807, 1990, 2.

Sir James E. Smith, under E. latifolia, Engl. Flora, vol. iv, 418, 1, p. 41, observes, "a specimen in which the lip is perfectly entire, was sent me from Worcestershire many years ago as a new species."

The examination of a large number of specimens of E. latifolia has not afforded a single instance of approximation to E. phyllanthes, in the form of the lip.

This plant is evidently the same with that figured in the *Gardeners' Chronicle*, No. 34, p. 536, for August 21, 1852, as having been received from the Hon. and Rev. L. V. Harcourt, of Westdean-house, and described in that number, as well as referred to again in No. 35, p. 549, for Aug. 28.

BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

Notes on the Distribution of Animal Life in the Arctic Regions, by Mr. A. PETERMANN.—The occurrence of animals in the Arctic regions, and its bearing on the missing expedition under Sir John Franklin, is a subject which has of late excited a good deal of interest, and has given rise to the most conflicting opinions. Arctic explorers in particular have varied so much in the statements of the results of their own personal observation, that it seems almost impossible to arrive at any satisfactory conclusion. Some have maintained the existence of animals in the Arctic regions in great numbers, affording abundance of food to man; other

as stoutly insist upon the extreme scarcity, if not total absence, of animals. Mr. Petermann then proceeded to state, that the views hitherto entertained regarding this subject were narrow, circumscribed, and consequently erroneous; that individual observations in particular localities, comprised within a small space on the American side, had been received as data upon which to build general statements regarding the entire Arctic regions, though in such observations the whole Asiatic side of the Polar basin had been altogether overlooked. Arguments were then adduced, from the geographical features and natural history of those northern regions, to prove that the commonly received hypothesis, that with ascending latitudes there was a proportional descent of temperature, and a consequent decrease of animal and vegetable life, is a fallacious one. With regard to the bearing of these observations upon the Franklin Expedition, Mr. Petermann further remarked:—The general opinion is that the missing vessels have been arrested somewhere between Wellington Channel and Behring's Straits, and the Siberian shores. Most probably their position is nearer to the latter than to the former points. As these three regions abound in animal life, we may fairly conclude that the intervening portion partakes of the same character,—and, moreover, that the further Sir J. Franklin may have got from Wellington Channel, and the nearer he may have approached the north-eastern portion of Asia, the more he will have found the animals to increase in number. The direction of the isothermal lines corroborates this assumption, as they are indicative of a higher summer temperature in that region than in any other within the Polar basin. Those countries being probably uninhabited by man, the animals will have continued unthinned by the wholesale massacres by which myriads are destroyed for the sake of their skins or teeth. An interesting fact was mentioned by Lieut. Osborn,—namely, that Captain Penny, in September, 1850, had seen enormous numbers of whales running southwards from under the ice in Wellington Channel. We knew this to be also the case in the Spitzbergen sea every spring, and that these animals are numerous along the Siberian coasts. This not only proves the existence of one, or perhaps two, Polar seas, more or less open throughout the year, but also that these seas abound in animal life: to satisfy enormous numbers of whales, an amount of food is required which cannot be small. And it is well known among the Tchuktchi, on the north-eastern coasts of Siberia, where land to the north is said to exist in contiguity to, and probably connected with, the lands discovered by Captain Kellett, that herds of reindeer migrate between those lands and the continent. Taking all these facts into consideration, the conclusion seems to be a reasonable one, that Franklin, ever since entering Wellington Channel, has found himself in that portion of the Arctic regions where animals probably exist in greater plenty than in any other. Under these circumstances alone his party could exist as well as other inhabitants of the Polar regions; but we must not forget that, in addition to the natural resources, they would in their vessels possess more comfortable and substantial houses than any of the native inhabitants. So far as food is concerned, reasonable hope, therefore, may be entertained that the missing expedition would not altogether suffer by the want of it; their fate, however depends upon other circumstances as well, among which that dire scourge of mariners, the scurvy, is probably more to be feared than any other.—Sir R. I. Murchison expressed it as his opinion that the ascertained fact that there was abundance of animal life available for food in these regions, afforded among other things, one ground for hope that this adventurous party still survived, and that he, for one, would never give up that hope until their death was actually ascertained, or some other circumstances transpire sufficient to prove that his hope was a delusion; and while even a shadow of hope remained, he trusted that the British would not cease their efforts to seek out and rescue these unfortunate men from their fearful and perilous position.—Professor Owen, being requested to state his opinion concerning the paper that had been read, observed that, with regard to the various subjects discussed in the paper, he could not, for want of sufficient information, pronounce any decisive opinion; but he thought, from the facts stated respecting the temperature and the existence of animals in such abundance, there was a very strong probability that Franklin's party might still be in existence.—Mr. Reeve remarked that, in most of the Arctic expeditions of which any account had been given, the greatest difficulty encountered by explorators was that of obtaining food; not that there was any scarcity of animal life, for all the information received by him tended to confirm the statements of Mr. Petermann regarding its abundance, but these animals were generally beyond reach—they could not, in fact, be got at, though they had been seen in great numbers. As an example, he stated that in Dr. Sutherland's expedition, they could not obtain food even for the dogs which drew the sledges, and they would themselves have suffered severely had there not been an abundant stock of provisions in their ships. It was his opinion that, from the inaccessibility of food for one reason, not to mention any other, these helpless men had long since found their graves in these dreary and desolate regions.—Colonel Sabine thought that where the Esquimaux could live Englishmen could live, and that too, with much greater ease and comfort than the natives of those regions, inasmuch as they possessed a shelter to some extent from the inclemency of the climate on board their ships, and means of procuring subsistence, and that effectively, in their stores of ammunition. With regard to the probability of their escaping that pestilence among sailors, the scurvy, it was impossible for him to offer any opinion. It was certainly a very long time to be at sea; but notwithstanding, he thought there were still reasonable grounds for hope.—Sir D. Brewster confirmed the general opinion, by arguments drawn from the geology of the country, and by reference to ascertained facts respecting the temperature of those regions. — Sir R. I. Murchison alluded to the expedition under Dr. Rea, who had no difficulty whatever in procuring food for his party, and who stated that they were in a much better condition after than before their expedition to the Arctic regions.—Prince De Canino observed that, until positive evidence of the fact that these men had ceased to exist had been obtained, every one was bound by every feeling of compassion, as well as by all the ties of duty to men who had perilled their lives for the public weal, not to keep silent, but to raise his voice in demanding that some great national effort should be made to deliver them if living, and if dead, which he hoped and trusted was not the case, at least to relieve the public mind from its suspense regarding them. If it were so that Sir John Franklin and his party had found their graves in those desolate and inhospitable regions, let them have all the glory due to courageous explorators for the good of mankind.

NEW ESCULENT VEGETABLES

EXAMINED IN 1852, IN THE GARDEN OF THE HORTICULTURAL SOCIETY.

By R. Thompson.

"Hardy's Transmuted Shallot to Onion," or Hardy's Shallot Onion.—Seeds of this were presented to the Society, March 20th, 1851, by Messrs. Hardy and Sons, Maldon, Essex, accompanied with the following note:—"The transmuted Shallots, or rather Onions, raised by us from Shallot seed, and planted last winter, did not produce Potato Onions, as was presumed they might, but numerous heads of seed varying from 10 to 20 from a single bulb. They certainly possess the qualities of both Onions and Shallots in flavour, size of the Onions, and the fact of their being divisible like Shallots. The blade is very narrow, partaking of both species. The seed is small." The seeds were sown when received, March 20th; and the produce is a mixed race, varying in size, form, and colour. Some are regularly formed by concentric layers, like an Onion, and not unlike a Reading Onion. Sometimes the formation consists of two closely-conjoined, compressed, but separable bulbs; and frequently clusters are produced very like Shallots. The colour in some approaches that of the Silver-skin Onion, in others the Blood-red; but the generality are reddish-brown. They are strong-flavoured, and have the appearance of being good keepers. From the want of uniformity in the size and form of the bulbs, the crop would not be profitable for the growers for market. By a judicious selection of bulbs for seed a useful sound-keeping variety may very probably be obtained.

Florentiner Pfluckerbse Pea.—Presented to the Society by Mr. Seitze, Royal Gardens, Munich. This was stated to be a good variety of early Pea. It proves the same as the Early Frame.

Paradise Pea.—Presented by Messrs. Stuart and Mein. Sown May 17th; fit for use July 23d. About 4 feet high; pods straight, flattish, containing 6-7 Peas of good quality. An abundant bearer. Dry seeds yellowish-white. Allied to the Early Charlton.

Doré de Fitz-James Pea.—Presented by Bossin, Louesse and Co., Paris. Sown May 17th; fit for use July 20th. About 4 feet high; pods straight; flattish, in shape and size like those of the Charlton, but the pods, and also the Peas, are pale yellow. It is a curious degeneration, most probably from the Charlton; the plants are similar in growth to those of the Charlton. The quality of the Peas is very good; but the want of greenness in the pods, even in a young state, would render the sort not marketable.

Sutton's Early Goliath Pea.—Received from Messrs. Sutton and Son. Sown May 17th; fit July 18th. About 4 feet high. Pods tolerably large, containing about 7 good-sized white Peas, of excellent quality. A very good early productive Pea.

Sutton's Superb Marrowfat.—Received from Messrs. Sutton and Sons. Appears to be the same as the Woodford Green Marrow.

Early Prince of Wales Pea.—Presented by Messrs. Whalley, of Liverpool. Sown February 16th; fit June 25th. Appears to be a well-selected Early Frame.

Royal Alfred Pea.—Presented by Messrs. Weeks and Co. Sown February 16th; fit July 14th. From 3 to 4 feet high, of strong growth; pods large, nearly straight, containing 6-7 Peas of good quality. A sort of Marrow, but not so sugary as Knight's.

Trial of Early Peas.—The following are the results of sowings of different kinds of early Peas, made with the view of ascertaining their comparative merits in point of earliness:—

1. Early Frame	...	...	sown November	15;	fit June 4.
2. Early Kent	...	...	do.	do.	15; ,, 4.
3. Early Emperor	...	...	do.	do.	15; ,, 4.
4. Sangster's No. 1	...	...	do.	do.	15; ,, 4.
5. Early Charlton	...	...	do.	do.	15; ,, 24.
6. Early Long-podded Bishop's Dwarf	...	...	do.	do.	15; ,, 24.
7. Early Surprise	...	...	do.	do.	15; ,, 24.

The first four of the above may be considered identical. Sangster's No. 1 was admitted to have been sent out in mistake. Slight differences will take place in the Early Frame, and other sorts, in consequence of the mode of sowing. Hence the Early Kent and Early Emperor; but they are certainly not decidedly different permanently. They were exactly alike in the above trial. *Journal of the Horticultural Society.*

Home Correspondence.

American Aloe.—A specimen of this Aloe (Agave Americana) is now in bloom, at Moreby Hall, York, where it forms a very stately and conspicuous object. It is grown in a box nearly 3 feet square, plunged centrally on the ground level of the spacious gravel-terrace on the east wing of the mansion, in which position it has stood about 10 years, protected during the winter season by moveable glass frame-lights, within which a small stove has been placed during severe weather, to exclude frost. Previous to the formation of the flower-stem, the leaves extended between 40 and 50 feet in circumference, the heart or central part of the plant being up to the above period 2½ feet in diameter. The length of the leaves averaged from 6 to 10 feet, and they were from 12 to 16 inches wide at their lowest part in connexion with the stem. The flower scape is 20 feet in height; and at the elevation of about 10 feet the side flower branches, which are 28 in number, commence diverging horizontally from the main column. These lateral flower-stems are about 18 inches in length, progressively shortening towards the top, thus forming an elegant candelabra-like pyramid or outline. Each of the side branches again branch off into three smaller ones, which immediately converge into one large, flat, umbel-like cluster of densely crowded floral envelopes, from which issue numerous projecting yellow stamens, or male organs, surrounded by imperfectly developed floral leaves or sepals. It is calculated that the aggregate number of blossoms contained in the 28 fascicles is between 4000 and 5000. The excellent preservation of the plant for such a period, through all the vicissitudes of weather incident to such a situation, reflect credit upon the management. *W. Wood, Fishergate Nursery, York.*

Jottings on the Potato Disease.—I have never before committed to paper one observation on this topic. But now that the wild spirit of theory is somewhat abated, and sober reason is beginning to be heard and appreciated, I venture to offer my mite of experience in aid of the good cause. From repeated observations, and from deductions gleaned from the experience of others, I am convinced that the most effectual mode of securing a crop of Potatoes, now that they are yearly affected with the disease, is to check as much as possible their natural luxuriance. This can be effected by withholding manure, and planting in poor dry soils. I subjoin an instance or two out of many. In the first year of the appearance of the disease in its most violent form, a field not previously cultivated, and which consisted of a dry sandy soil, producing nothing but Heather, was broken up and planted with Potatoes. At digging time the crop was found to be affected but slightly, while all around were almost wholly destroyed. In several fields attacked in a violent manner, such roots, as from being near trees, or on poor dry spots, though scanty in produce, were invariably much less diseased than others not similarly situated. And in the present year I have a remarkable instance of the truth of this position. Early in the past spring a piece of excessively poor land of a light sandy nature was planted with early and late kinds, but principally the former. They came up well and progressed favourably until the disease attacked the tops, and quickly destroyed them. At that period the early kinds were nearly ripe; the late ones not half grown. None of them increased in size of tuber after that, but when the whole were taken up the early kinds were scarcely diseased at all; the late ones considerably. It may be well to state that no manure of any kind was given them. Now I know of no instance in the neighbourhood where there is so little disease as in those I have mentioned. There is scarcely a crop that is not a total failure, while among the early kinds of those planted without manure, in the poor soil, scarce two tubers in a bushel were affected. Nor have they evinced any tendency to decay since digging time, and they have been taken up five or six weeks. The result of my own experience and observation and that of others which I have investigated, points out the following as the most advantageous method of producing a sound crop of the now affected plant.—1. Let the sets be carefully preserved through the winter in a sound and healthy condition, in a cool place, where they will not be induced to make premature growth; and if they do commence growing, do not damage or rub off the shoots. 2. Plant as early in the season as possible, say the end of February or first week in March. 3. Use no manure. 4. Choose a dry and light soil. 5. Plant none but early kinds. 6. Keep the ground about them thoroughly free from weeds. In attending to these simple and practical rules more success will be obtained than in adhering to out-of-the-way remedies, that have neither practice, science, nor common sense to recommend them. Of autumn planting I have not experienced sufficient advantages to recommend it over that of early spring. *Crayon.*

Planting and Training Wall Trees.—The disappointment resulting from loss of blossoms every spring, even where trees are partially protected, has induced me to think that, in walled gardens the trees ought to be planted on the opposite side of the wall to that on which they are intended to bear fruit; that their branches should be led over the coping, and trained down the

other, say south side. By so doing we should have all our valuable borders to do as we liked with, and we could crop them up to the very foot of the wall. It has always been remarked by gardeners that wherever trees have been planted on a north wall and brought over and trained down the south side, the blossoms have escaped frost, unless, indeed, it has been very severe. This in a great measure would do away with spring covering; for by the present system of planting and training, we make the blossom a cup to hold water, sleet, or snow, as the case may be; and when morning frosts occur, the water freezes, and the organs essential to fructification perish. It is notorious that what blossoms do escape are sure to be those on the undersides of the shoots, and which of course look downwards. The stamens and pistils being dry, are saved. When a tree is on the north side of a wall the sun cannot act upon its stem, the sap therefore flows more regularly; the practice would also save mulching, watering, and many other annoyances, for in some places where I have been even a cat must not be seen treading upon the south border. It has been noticed that fruit gathered from trees planted after this fashion has been of a better flavour than that from trees growing in the ordinary way. I planted a good many at Broom House, Fulham, in this manner; and Mr. Knight, of the Exotic Nursery, Chelsea, a good authority in such matters, will perhaps say how they have succeeded. In addition to the above advantages, I may mention that a tree trained down a wall is never so liable to red spider as one otherwise placed, on account of the underside of the leaves being more exposed to rains and dews; neither is it so liable to mildew, on account of its main stem being protected from violent sun-heat. One thing much against fruit trees is that the majority of gardens lay in the lowest parts of the park, where they receive the earliest frosts in autumn, and the latest and severest in spring. No doubt some will object to planting on the outside of walls, as they will be unable to make up those unnatural plum-pudding borders in which they so much delight. This, however, to a great extent, might be got over. It is a well-known fact, that the late Mr. Chapman, of Vauxhall, never made a border for his Grape-vines; they were merely planted against the wall; and in the present year Mr. Chapman told me that in digging down he could not even find a root, they had passed under the wall to the other side where gardens of other people abut; and for fruit from those same Vines he has taken numerous prizes. Does anyone know where the roots of the famous Vine at Hampton-court have gone? And yet it is a fact that upon these Vines, over whose roots we have no control, the berries are always better coloured than under ordinary circumstances. Do not, however, let me be understood as wishing to depreciate modern advances in fruit growing. I am only bringing forward cases in support of my plan of planting contrary to what at present exist; besides, those borders, if any, on the outsides of walls might be abandoned, at least as far as a few stumps of Cabbages and greens are concerned. *James Cuthill, Camberwell.*

Van Mons Leon le Clerc Pear.—I have just gathered a basketful of this variety, and thinking them very fine I weighed six of them. Their weights collectively were 4 lbs. 5 ozs.; the largest weighed 13 ozs. Are these weights unusual for this Pear? *A. C. R.* [The sort has been grown quite as large, but not generally so in this climate.]

Larch.—"Is the dictum confirmed which Lord Portman, I believe, set forth in the 'Quarterly Journal of Agriculture,' that the Larch fails except on the primitive rock formations?" The above query has been addressed by "G. R. L." to the editor of "Notes and Queries." I had not heard of this dictum before, and I shall be obliged by some opinion on the subject. *Diss.*

Pear-leaf Fungi.—I inclose for your inspection a leaf and small portion of a branch affected in the first instance in June by the orange spot, and succeeded by the Æcidium cancellatum, described and illustrated by Mr. Graham, at page 629. All the Pear-trees (which are young) in the gardens here are seriously affected by this disease, several to such an extent that it would be difficult to gather a dozen entire leaves from a tree. In many instances the branches and petioles are affected as the specimen sent is, penetrating to the pith. The trees, as may readily be imagined, have a pitiable and miserable aspect. I am anxious to collect information on the subject, and to devise measures to prevent the recurrence of this formidable disease, which it is too evident must seriously affect the future welfare of the tree. Our trees here all bloomed profusely last spring, and set a fair crop of fruit, all of which dropped soon after being attacked by the fungi. The trees in the orchards around here are more or less affected, but far less so than in the case now under consideration. *C. E. Wells, Gardener to T. Gambier Parry, Esq., Highnam Court, Gloucester.*

Potatoes and Weeds.—It is my opinion that while your correspondent, at p. 629, justly condemns the practice of allowing weeds to grow among Potatoes as a preventative of the disease, he has failed to prove that either the weeds or the disease has done his crops very great injury. Under any circumstances a full crop of Potatoes and weeds could not be expected at the same time; and while he has been able, notwithstanding weeds 3 or 4 feet high, to pick up nearly a bushel of sound Potatoes from 20 square yards of orchard ground, which implies that there might be the deteriorating influence of fruit trees to boot, where is the cause of complaint? it is something like 240 bushels per acre, a splendid crop in these times. The principles involved in starving the plant through exhaustion of the ground by weeds, by cutting, or by drawing the stems, are the same; the former plan is a lingering, slovenly, and uncertain remedy; and, to be enabled to adopt the latter with success, recourse must be had to the earlier sorts planted early in early spots. Is it possible that Potatoes can increase in size after having had their stems cut close to the ground? [Undoubtedly.] Is it possible that drawing the soil over the tops of Potatoes thus treated can prevent bleeding? *Eben.*

Societies.

Linnean. Meetings which our own reporter has omitted to notice. *Nov.* 4, 1851—The President in the chair. Read a communication from J. Couch, Esq., F.L.S., recording the discovery, on the coast of Cornwall, of a species of Onchidium, allied to O. Celticum, Cuv. These mollusca were found by Mr. Couch in great abundance on a confined space of rocks at West Coombe, in Lantivet Bay, between Polperro and Fowey, congregated in small groups about a foot or two from the surface of the sea, where the waves break over them, ascending and descending with the tide, so as constantly to maintain nearly the same relative position. When wholly immersed (in an attempt to preserve them alive) in a bottle of sea-water, they did not survive the day.—Read an extract from a letter addressed to the President by W. K. Loftus, Esq., the naturalist attached to the Turco Persian Boundary Commission, dated at Kerrind, Persia, August 6th, 1851. In this locality, the neighbourhood of which abounds in plants producing fœtid gums, Mr. Loftus, acting on Mr. Brown's recommendation, had procured several different kinds, of which, and of the plants producing them, he gives some particulars in his letter. Two of these belong to the genus Dorema, Don; and a third derived from a plant, which Mr. Loftus regards as belonging to the tribe Sileridæ, is called in Kurdish "beeje." The three gums have the same general properties, and grow on a limestone soil, at the elevation of from 5000 to 7000 feet. Large quantities of gum are also produced by the wild Almond, a species of Astragalus, and the Pistacia vera, which grow abundantly in the same neighbourhood; and there is, moreover, a kind of Thistle, which exudes honey, especially from the bud, on being pierced by a species of Rhynchophora.

December 16, 1851.—The President in the chair. Read a letter from Mr. Hogg, F.R.S., F.L.S., &c., to the secretary, recording the capture of two species of pipe-fish (Syngnathus) during the last summer, the one near the mouth of the river Tees, the other in that river near Middlesborough, by the same person, a fisherman of Stockton. The first of these, Syngnathus Typhle, L., measured 15¾ inches in length, and the formula of its fins, which differs in the descriptions of Donovan and Jenyns, was as follows:—D. 39; C. 10; A. (rubbed off); P. 13? The second, S. æquoreus, L., was 17¼ inches long; its dorsal fin had 39 rays; and the caudal fin was obsolete, or rather rudimentary, the rays to the number of three (or perhaps four) being inclosed within the skin of the body; the tail was flattened at the extremity.—Read also a "Note on the Natural History of Shetland." By Adam White, Esq., F.L.S., &c. In this note, after referring to Dr. Hibbert's researches into the mineral riches of Shetland, to Dr. Fleming's contributions to its zoology, to Mr. Dunn's interesting work on its birds, and Mr. Hewitson's investigation of their eggs, and to the fruitful results of the dredgings of Mr. Barlee, Mr. McAndrew and Professor Forbes, by which so much has been done to increase our knowledge of the living inhabitants of its surrounding seas, Mr. White expresses an opinion that the zoological riches of the coasts of Shetland will be found to equal, if not to surpass, those of the Firths of Forth or of Clyde, and even of the coasts of Dorset, Devon, and Cornwall themselves. He refers to the two principal rarities in the flora of these islands (the Arenaria Norvegica, Gunner, and Ajuga pyramidalis, L.), and concludes by announcing the discovery by himself of a Lapland species of humble-bee, new to the British fauna, which occurs not uncommonly in his brother's garden at Lerwick, is still more frequent in that of Mr. Bruce, of Sandlodge, opposite Mousa, and seems even more abundant in Unst. This was immediately recognised by Mr. Frederick Smith as Bombus arcticus of Dahlbom; but as a species of Bombus had been described by Kirby, under the same specific name in the "Appendix to Captain Parry's First Arctic Voyage in 1822," and consequently ten years before the publication of Dahlbom's species, Mr. White proposes to name the latter Bombus Smithianus. He adds that, in accordance with Kirby's rule in his "Monographia Apum Angliæ," he would have preferred the specific name of Smithiellus, as indicating that it was named after a describer, and not merely a collector; but he has felt himself compelled to adopt the name of Smithianus, to prevent the possibility of confusion with another species of the family of Apidæ, to which the name Smithella has been applied.—Read further a memoir "On the Forest Trees of British Guiana and their Uses in Naval and Civil Architecture." By Sir Robert H. Schomburgk, Ph.D. &c. This memoir had been read at the meeting of the British Association at York, in October 1844; but as only a simple notice of this reading had appeared in the Reports of the Association, the secretary (in whose hands Sir Robert Schomburgk had placed it) thought it desirable to read it again before the Linnean Society, in order that an abstract might be published in the Society's "Proceedings."

Review.

The New Water Weed; Anacharis alsinastrum. Some Account of it. By W. Marshall, Esq. London. Pamplin.

In this fourpenny pamphlet Mr. Marshall gives a clever account of the manner in which the fen country has been invaded from the United States by a force to which Government can oppose no resistance, and of which the laws of nations take no cognizance.

On the 3d August, 1842, a zealous naturalist, Dr. George Johnson, observed the enemy swimming in the lake of Dunse Castle, in Berwickshire. Nobody had witnessed the landing, or the advance into the country. "The lake," Mr. Marshall informs us, "is situated upon a tributary of the Whiteadder River, which flows into the Tweed. Specimens were sent at the time to Mr. Babington; but the discovery was lost sight of, and the interest in it died away until the autumn of 1847, when it was again discovered by Miss Kirby, of Lubbenham Lodge, in reservoirs adjoining the Foxton Locks, on the Canal near Market Harborough, in Leicestershire."

Oddly enough the whole body of invaders consisted of females! It was an inroad of Amazons. Nobody thought the ladies would do any harm, and they were permitted to settle, and propagate at their pleasure. It turns out, however, that English courtesy went rather too far; for instead of squatting quietly, without disturbing their neighbours, the dames have gone on multiplying and spreading, till they have impeded navigation, stopped the passage of boats, and rendered it necessary that the Watford Branch of the Market Harborough Canal should be cleared of them. They are threatening to block up the Trent, and from the progress already made in Cambridgeshire, it is not improbable that the "funnies" on the Cam will be sent to the Fitzwilliam Museum as an addition to the antiquities of the University. But Mr. Marshall shall speak for himself concerning this female weed:—

"That it is already a source of annoyance to our watermen is evident by the universal complaints which have been made of the obstructed state of the river Cam. I am told that the river at the backs of the colleges has been so blocked, that extra horses had to be yoked on, before barges could be got up to Fosters' Mills.

"Sluicekeepers also complain that masses of it get into the pen, and when the slackers are drawn, the openings are choked, and the operation of letting boats through is greatly impeded.

"The Railway Dock at Ely became so choked with the weed, that boats could not enter until several tons of it had been lifted out. At Roswell Hill Pits, below Ely, the entrance docking was blocked, so that the gault boats could not get in till it was removed. (It was here where I found it in flower.)

"Rowers, too, find it interferes with their amusements; and swimmers remark, that it clings to them like 'scratchweed,' and that if they are overtaken by a lump of it, they are likely to be entangled and dragged by it into deep water.

"Even the fishermen complain that they can no longer ply their nets so freely as they were wont; and I am informed, on good authority, that they have discontinued setting their hook-lines (*i.e.* lines laid across the river with a series of hooks attached), because the 'new weed' either carries them away bodily, or strips them both of their baits and fish.

"Lastly, the drainage is impeded. Mr. Human, sen., our experienced officer, informs me that although the waters this season have been run off at Denver Sluice a foot lower than in previous years, the average height of the water in the river below Cambridge has been a foot higher than in ordinary seasons; and he refers at least half this difference to the obstructions occasioned by the presence of the 'Anacharis.'"

As to the habits of this agreeable visitor, we can only say that if half what we find in the following paragraph is true, the *posse comitatus* will have to be called out, unless we are all to be strangled in our own ditches.

"I have already described the weed as growing in dense submerged masses, distinguishable at once from all others by its 'leaves growing in threes round a slender stringy stem;' and although this brief description is amply sufficient to identify the troublesome pest, a short further account of its appearance and habits may not be uninteresting. The colour of the plant is a deep green; the leaves are about half an inch long, by an eighth wide, egg-shaped at the point, and beset with minute teeth, which cause them to cling. The stems are very brittle, so that whenever the plant is disturbed, fragments are broken off. Although, at present, it cannot propagate itself by seed, its powers of increase are prodigious, as every fragment is capable of becoming an independent plant, producing roots and stems, and extending itself indefinitely in every direction. Most of our water plants require, in order to their increase, to be rooted in the bottom or sides of the river or drain in which they are found; but this is independent altogether of that condition, and actually grows as it travels slowly down the stream, after being cut. The specific gravity of it is so nearly that of water, that it is more disposed to sink than float, and the cut masses may be seen under water, either on or near the bottom, rolling over and over like woolpacks, clinging to every

thing they meet with, and accumulating in great quantities at locks and bridges (hugging the piers of the latter), and grounding in shoal water. Its mode of growth may be best seen in still and narrow waters (such as the stream above the mills at Cambridge), where it seems to spring first from the two sides and bottom, meeting at length in the middle, and completely filling up the watercourse, as I have seen in some cases, almost to the exclusion of the water."

There is no doubt that this so called *Anacharis alsinastrum* is the same as the *Anacharis Nuttalli* of the North American rivers, and that it has been separated botanically upon differences without distinction. How it got here across the Atlantic is the problem that Mr. Marshall's pamphlet attempts to solve, and we think most satisfactorily. His explanation is a model of sound reasoning, for which we must refer to the pamphlet itself. All that our space allows us to add is that the weed is traced from Rugby to the Severn, the Thames, the Nene, the Ouse, the Welland, the Trent, and the Humber; and from a tub in the Cambridge Botanic Garden into the Cam. How it got to Rugby is uncertain, but there is much probability in Mr. Marshall's conjecture that it was brought there with American timber used in constructing the railways.

"We know that in North America the timber is floated in rafts down the rivers, in which case fragments of the American weed would cling to it, or seeds might find their way into the clefts of the wood, and if but one seed, or one fragment retained its vitality, in some moist cranny, till it reached its final destination, I verily believe it would be sufficient to account for the myriads of individuals that now exist in England. Indeed, from the circumstance of all the plants hitherto found being of one sex, the hypothesis of its propagation from a single seed or fragment is rendered more probable than by supposing a number of seeds or fragments to have been imported."

Garden Memoranda.

Walmer Castle Gardens, near Dover, *Sept.* 25.—The kitchen-gardens here, one of which lies on either side of the small but beautiful pleasure grounds and flower-garden, are very small. There are no hot-houses nor greenhouses; the only glass erections are two Melon and Cucumber frames. In one of the kitchen-gardens is a wall at least 20 feet high, which forms part of the offices and stabling, and against this wall are some large and well trained Vines of the Black Cluster kind. In this garden the fruit trees are remarkably healthy, with a fair proportion of fruit on them, and all in excellent keeping. The sides of this garden are surrounded by a hedge fence, consequently there are but few wall trees. Cropping is well carried on. All the walks are edged with Strawberries and gravelled with sea-gravel, which always looks light and clean. The kitchen-garden on the south side of the pleasure-grounds is walled in, with the exception of the north side, which is bounded by a belt of plantation; the walls are well covered with fruit trees. This, like the other kitchen-garden, is well cropped and in excellent keeping. The moat round the castle is also well cropped; the trees against the walls on either side of this defence are very healthy. The pleasure grounds lay on the west front of the castle, and in these the Duke used to take much delight, more especially in the woody bowers which overshade the walks. Here are some very fine specimens of evergreen Oaks and large Portugal Laurels, Cypresses, &c. In the flower-beds were Fuchsias and other flowers, which wore a brilliancy peculiar to their situation. Blossoms round London seem dull and colourless compared with those near the sea-side. The beautiful Tamarisk, than which few plants better withstand the salt spray, looked as green as spring Grass. Little alteration appeared to have taken place in these gardens since I visited them two years ago. The last time our great Duke walked in them was the day previous to his death; he wanted to pass through the lower or nearest door, but being locked, he said to one of the men, "Never mind, I will go to the other door." The head-gardener (Mr. Townsend), is one of the Duke's old soldiers, and has lived here 19 years. *James Cuthill, Camberwell.*

FLORICULTURE.

Spring Bulbs.—The following remarks on the culture of the Hyacinth, Narcissus, Tulip, Ranunculus, Anemone, and Crocus, taken from Atkinson and Barr's Catalogue, just issued, are from the pen of an experienced cultivator (whose permission we have to publish them), and therefore their correctness may be relied on.

The Hyacinth.—There is scarcely a flower in cultivation which so gratefully repays the attention bestowed upon it, and which is so accommodating, as the Hyacinth. It will thrive in almost any soil, or medium capable of retaining moisture, and will flower almost as finely when grown in water or moist sand, as when planted in the richest compost. The Hyacinth has long been a favourite with lovers of flowers in all grades of society, and deservedly so, for there is not a habitation fit for man where it will not deign to grow and bloom. Its accommodating habits and easy culture bring its beautiful spikes of sweet-scented flowers within the reach of the inhabitant of a cottage, and, in beauty and fragrance, it is not surpassed by any plant with which the wealthy can grace their drawing-rooms or flower-houses at Christmas. Much has been written respecting the culture of this lovely plant, the greater portion of which has, unfortunately, been calculated to deter persons, dependent upon such sources of information, from attempting its growth. It is usual with writers on the culture of the Hyacinth, to state that, to grow it successfully, a very rich soil is absolutely necessary. The following are the directions for the selection of proper soil, from a treatise recently published—viz., "½ turfy loam, ½ decayed cow dung, ¼ sharp or clean river sand, and ¼ leaf soil, with which a bed of the necessary size and 2 feet deep must be formed, by those who would grow Hyacinths properly." The removal of the natural soil, and procuring and replacing it with the above materials, in any case, would be a work of considerable expense, and altogether beyond the means of many lovers of early flowers. But we know, from experience, that any well-drained garden soil is easily rendered suitable for the growth of the Hyacinth. If the soil is of a strong adhesive nature, add 2 inches of sharp sand, and as much good well-decayed manure; then dig the soil 2 feet deep, taking care to nicely mix the sand and manure with the soil as the work proceeds. Friable loamy soils will require merely a liberal dressing of manure, and deep digging. And it will be found that the Hyacinth will produce equally fine spikes of blossom grown in soil prepared thus, as when planted in more expensive compost. The fact is, that the secret of having first-rate spikes of flower consists more in the selection of properly ripened bulbs than in the soil in which they may be grown. For, as in the case of other bulbous plants, there is stored in the Hyacinth the embryo of the blossom and a large amount of accumulated matter; and the production of splendid spikes of flowers is vastly more dependent upon the presence of these in perfection in the bulbs, than upon their being planted in expensive composts. The best criterion which can be offered for the assistance of purchasers in the selection of proper bulbs is, that they should be proportionably heavy for their size, firm, and plump, particularly about the crown. Size is of hardly any importance, as some varieties produce small bulbs, and others larger, and the varieties with the small bulbs produce equally fine spikes of flower as those with the largest bulbs. The proper season for planting Hyacinths in beds in the open air is the last fortnight of October, and the first of November. Select a dry day for putting in the bulbs, and if the same can be chosen for the preparation of the soil, it will be in much better condition for the growth of the plant than if worked when wet. Plant in lines, 9 inches by 12 inches apart, which will afford space between the plants when up, to work a hoe, for the destruction of weeds and keeping the surface friable, to prevent the escape of moisture in dry weather. The crowns of the bulbs should be 3 inches under the surface of the soil, and lest a severe winter should occur it is well to cover the bed with a few inches of old tan, or any light substance, to exclude frost. This should be removed, however, when the plants begin to grow through it.

Culture in Pots.—The Hyacinth is remarkably well adapted for this purpose, and with the assistance of a garden frame, with some stable manure or tan, to furnish a gentle heat, it may be had in flower at Christmas, and, with a good stock of bulbs, the display may be kept up till April or May. For early flowering, the bulbs should be planted early in September, those to flower in spring need not be planted earlier than recommended for beds. The best pots are those known as "6-inch Hyacinth pots," which, being deeper than common, afford more space for the roots. But where these cannot be conveniently procured, use 6 or 7-inch pots, such as may be at hand, and these will answer perfectly. The soil used for potting should be as rich as possible. Such as one-half fresh loam, cut from a pasture, with the turf decayed in it, and well decomposed cow or horse manure with a small portion of clean sand. Fill the pots lightly with the prepared soil, and place the bulb upon the surface, slightly pressing it into the soil. Set the pots on a dry surface, and cover with about 3 inches of old tan. After remaining here for a month or five weeks the bulbs will be sufficiently rooted to render it safe to remove them to a gentle bottom heat of about 55°, and introducing a few pots at intervals of about a fortnight, a succession of flower will be secured until those in the open air come into bloom. Persons possessing no better accommodation for growing plants than a room window will, with careful management, be able to grow and flower the Hyacinth well, if not to have it in bloom as early as those who can command a gentle heat. We need hardly observe that plants grown during the dark days of winter should be placed near the glass, and be freely supplied with air, when this can be given with safety, and those grown in windows will draw to the light unless the pots are frequently turned. Most persons know that a sitting room window forms a suitable situation for Hyacinths while in bloom, and that their beauty will be longer in fading here than in most situations; but many remove them from a close atmosphere, and suddenly expose them to cold drying currents in the sitting-room window, by which they are greatly injured. We warn the inexperienced to guard against this common error, and to avoid subjecting the plants to sudden changes at any period of their growth.

Culture in Glasses.—Of all the plants with which we are acquainted, the Hyacinth is the most suitable for this elegant although somewhat unnatural system of culture. Its roots, like those of other plants, shun the light with instinctive care, therefore dark-coloured glasses should be selected. Place the bulbs on the glasses, and fill with rain-water to within half an inch of the bulb; set them in a cellar, or any other dark cool situation. When the glasses are moderately filled with roots, which will be the case in the course of three or four weeks, remove them to where the plants will receive a moderate light, and, as soon as the leaves assume a healthy green colour, to the lightest possible situation. When in actual growth, keep them as near the glass as convenient, and turn them occasionally, to prevent long, weakly, ill-shaped stems. The water should be changed at least every week, using pure rain-water, of about the same temperature as the bulbs may be growing in. For giving vigour to the plants and colour to the flowers, we know of no better means than to dissolve in a quart of rain-water an ounce of guano and a quarter of an ounce of chloride of lime, and to pour two tea-spoonfuls of that into each bottle twice a week after the flowers begin to appear; this may also be given with advantage to those growing in pots. Bulbs grown in glasses, if to be of any use the following season, should, as soon as the beauty of the flowers is over, be removed to a bed of rich soil, in a frame, or very sheltered situation, be carefully planted and properly tended until the leaves die off. If bright sunshine or frost occur before they become accustomed to their fresh situation, afford them the protection of a slight covering. If well cared for till ripe they will be worth planting in open beds the following season, but, with the best management, they will not bloom so finely as imported bulbs.

Narcissus. — We possess many varieties of these beautiful and deliciously fragrant flowers. They may be grown in beds, in a sheltered situation, for spring flowering, and in pots, or on glasses of water, and form delightful objects either in the greenhouse or sitting-room window, in the early spring months, when sweet-scented flowers are scarce. Their treatment need hardly differ from that recommended for Hyacinths, only that the soil should be rather lighter, and it will require less manure added to it.

Tulips.—These are equally well suited for the decoration of the flower-garden at a season when few plants with high-coloured blossoms can be had in bloom in our climate, as for growing in pots for ornamenting the flower-stands; and flowering, as they do, with very little artificial heat shortly after Christmas, they form an easy and inexpensive means of enlivening the flower-house during winter. They require much the same treatment as the Hyacinth. The double and single Van Thols are the best for early flowering, and their brilliant colours and fine compact growth render them worthy of extensive cultivation; and many of the later flowering varieties are still more showy.

Ranunculuses.—These succeed best when grown in a strong, deep, perfectly drained, loamy soil. The beds should be dug 2 feet deep, and a liberal dressing of decayed manure mixed with the under soil, but this should be kept 6 inches under the surface. Plant early in November, covering the tubers about 2 inches, and it will be advisable to protect the beds from severe frost and drenching rains by a covering of old tan or dry litter, but this must be removed before the plants appear above the ground. If dry weather occurs in April or May, give the beds a liberal drenching of water, taking care to wet the foliage as little as possible, and cover the surface with half an inch of sand, which will prevent cracking, and also retain the moisture. The Turban varieties form beautiful beds in the flower-garden, and are so cheap that they should be largely planted by every person having a taste for beautiful flowers. When the leaves decay, take up the tubers and store them in a dry place until planting-time.

The Anemone.—Few plants are more beautiful, or more easily cultivated than Anemones. They enjoy a deep rich loamy soil, and but for the depredations of slugs they might be allowed to remain in the soil, until it became necessary to remove them to afford space for the healthy development of the tubers, which increase very rapidly.

Crocuses.—These early flowers are peculiarly adapted for growing in pots, and should grace every cottage window at Christmas. They should be planted rather thickly in small pots, and liberally supplied with water, while growing actively; but so accommodating are they in their habits that little need be said respecting their proper culture. When grown in the open ground the bulbs should be transplanted every third year, which is necessary to afford space for the increase they form.

We have only to add to the above that where Hyacinths are cultivated in glasses, nothing beats the bottles and supports invented by Mr. Tye, of Birmingham, for that purpose, and which are figured in our Vol. for 1851, page 291.

Catalogues received from Messrs. Atkinson and Barr, 61, High-street, Worcester; Edmondson and Co., Dame-street, Dublin; J. and J. Fairbairn, Clapham; J. Dobson, Woodlands, Isleworth; R. J. Lawrence, Hampton, Middlesex; J. Holland, Middleton, near Manchester; and E. P. Francis, of Hertford.

Dahlias: *Cala.* You may lime your ground, but nothing answers so well as trenching, and allowing it to lie up light all the winter, exposed to the action of frosts.—*A. F.* Your roots could not have been ripe. It is injudicious to lift them after the first little frost. The first week in November is a good time, if dry; thus shortening the period they have to be above ground, and also allowing the roots time to ripen. If the soil is tolerably dry, leave plenty about the tubers, and winter them in a dry cellar. The stalks should be cut down to the hard part immediately above the crown, before they are put away in their winter quarters. Dahlias can be dried up by too much air, and rotted by too damp a place: avoid both these extremes.—*Amateur.* You will find the best advice on the subject about which you enquire in Turner's "Florist, Fruitist, and Garden Miscellany" for this year.

Fuchsias: *J. O. Y.* you should not keep your cuttings entirely shut up. Give them a little air in the way you propose, in the

middle of fine days; if your frame is kept too close, the steam and damp generated will cause them to "fog off."

SEEDLING FLOWERS.

AGERATUM: *B & H.* Too much spoiled before it reached us, for us to be able to form any opinion as to its merits.

DAHLIA: *W H.* Prince of Orange is the brightest orange we have seen. The petals are bold, smooth, and well cupped; centre average; beautiful and symmetrical on the face, but deficient in depth. As a first bloom, and at so late a period of the year, we consider it of some value and much promise.

PETUNIAS: *R F, Chichester.* Very much spoiled by being packed in dry cotton, but apparently of little value.

Miscellaneous.

A Royal Botanist.—There is one king in Europe who is a good practical botanist, and who must look back upon the hours spent in the arrangement of his fine herbarium with far more pleasure than upon those wasted in a vain and retrograde course of politics. The monarch in question is his Majesty of Saxony, who, in his scientific career at least, has gained honour and respect. Many are the stories told by his subjects of their ruler's adventures when following his favourite and harmless hobby; how, more than once, astray from his yawning courtiers, he had wandered in search of some vegetable rarity across the frontier of his legitimate dominions, and, on attempting to return, was locked up by his own guards as a spy or a smuggler, since he could produce no passport nor give any more proper account of himself than the preposterous assertion that he was their king. Fifteen years ago he made a famous excursion to the stony and piratical little Republic of Montenegro. It was literally a voyage of botanical discovery, and the potentate sailed down the Adriatic in a steamer fitted out with all the appliances of scientific investigation. On its deck he might be seen busily engaged in laying out his plants, ably and zealously assisted by his equerries and aides-de-camp, and guided by the advice of eminent botanists, who accompanied him as members of his suite. Such a kingly progress had surely never been seen before, unless Alexander the Great may have relieved the monotony of conquering by making occasional natural history excursions with his *quondam* tutor Aristotle. The Montenegrins, on ordinary occasions very troublesome and by no means trustworthy people—folks who still keep many of the worst habits of the old Scottish Highlanders—were mystified into tranquillity by the peculiar proceedings of their royal visitor and his noble attendants. Resolved, however, to render due honour to so distinguished and unusual a guest, they furnished a guard of State to accompany him in all his peregrinations; and, whenever his botanical Majesty stooped to gather a new or rare specimen, the soldiers halted and, with much ceremony, presented arms. *Westminster Review.*

American Vineyards.—There are at least 1200 acres of vineyards around Cincinnati alone, giving employment to no less than 600 efficient labourers, at an annual cost of 20,000 dollars, and producing in moderately favourable seasons 240,000 gallons of wine. Most of those engaged in the culture of the Vine have families to support. It is calculated that the wine interest in Hamilton county affords subsistence, directly and indirectly, to 10,000 industrious and sober people. *American Gardeners' Chronicle.*

Calendar of Operations.

(For the ensuing week.)

PLANT DEPARTMENT.

THE present bright days and frosty nights will prove of advantage to greenhouse plants at this season, by assisting the ripening of their wood. Air should have free entrance during each fine day, regulated so as to avoid draughts, which, under any circumstances, are injurious; dry weather should likewise be taken advantage of to clean the surface soil of pot plants, and to wash the outside of the pots, to promote free evaporation from the soil during damp weather; great attention should likewise be bestowed in keeping the shelves, stages, and paths free from dirt, decayed leaves, &c. These little attentions to order will give the houses an agreeable look at a season when flowering plants are getting scarce. The conservatory and stove creepers trained under the roof will require an additional cutting in, to allow more light to pass to the plants underneath; such as have done blooming may be well thinned out at once, and the remaining shoots tied somewhat closer together. Hardenbergias, Kennedyas, and other early spring flowering creepers, should, however, not be disturbed at this season, or it will materially abridge their beauty in the spring. Before placing Gloxinias, Achimenes, and similar habited plants to rest, let each plant be labelled, that no confusion may arise when they are wanted for potting in the spring; all of the above keep much better in the pots in which they grow, and should be placed to winter in a room or shed, where there is no danger of frost. Gloxinias, and some Gesneras, in fact, require a moderate temperature to winter in, and should be frequently looked at, to see that they are free from dampness, which often destroys the best bulbs. Amaryllis and Hedychium having ripened their foliage may be placed on their sides under the stages of the stove or a warm greenhouse. Keep only moderate fires to the stove by night, and endeavour, by a low night temperature and liberal admissions of air by day, to harden the plants sufficiently to carry them through the winter without excessive fire-heat. Bring on Chrysanthemums; they will now require liquid manure frequently; thin out the terminal and lateral buds, so as to produce a succession of flowers. Allow them a light situation, that the blooms may expand freely and come a good colour.

FORCING DEPARTMENT.

VINERY.—If Grapes are expected to be ripe by the end of March, or beginning of April, no time should be lost in closing up the house, premising the border has been covered with some dry, non-conducting material this fortnight past. The stems should be dressed, if not previously done, with the composition before noticed, and tied in regular order to the trellising, unless in the case with young Vines (which, however, should never be forced so early, if it can be avoided), whose upper buds are apt to break before the lower ones; and which, in consequence, should be kept to nearly an horizontal position, till the buds are all evenly started. Fires will scarcely be necessary the first fortnight, but close early in the afternoon on sunny days, to assist the night temperature. Use the syringe freely, particularly when the house is closed in the afternoon, to create a damp atmosphere for the evening. Where pot Vines are started instead of permanent ones for the first crop, they may (after being dressed), be plunged into a pit or deep frame, and have the advantage of dung linings to swell their buds; a very slight bottom heat will be useful at first, but allow it gradually to decline, as the buds swell, or a check will occur when they are removed to their fruiting house. Still continue fires by day and abundant ventilation to late Grapes. PEACH HOUSE.—The early house may now have the necessary pruning, preparatory to putting the sashes on early next month. The other houses should be untied and exposed to the weather, unless they are for the present used as shelters to some descriptions of plants; where such is the case, as much air as is consistent with the safety of the plants should at all times be kept on. To grow Cucumbers through the winter, a good command of heat and light is essential. The winter plants should now be progressing fast. Keep the bottom heat steady at 90°, and the thermometer may reach that point during bright sun; 70° should be the maximum night temperature. In giving air, avoid letting currents of cold air come in contact with the foliage, but try to keep up a gentle circulation; and stop every appearance of mildew by sulphur. The boxes or beds should occasionally have a slight surfacing of turfy loam, to encourage surface roots; water with clear soot or diluted fowl's-dung water each alternate time, using it at the temperature of the house.

FLOWER GARDEN AND SHRUBBERY.

In most localities the frost of the 9th will have destroyed the more tender plants of the flower-garden, and such should be removed immediately. Proceed with potting such plants as it is desirable to preserve; and if practicable, a little artificial heat should be applied, to help them to make root before winter. In general a show of spring-flowering plants is fully as acceptable as the more gaudy plants of summer; and steps should now be taken to fill up the beds as they are cleared, for the purpose of contributing to the enjoyment of spring. A miscellaneous mixture of dwarf early-blooming shrubs, perennial plants, and bulbs, is most commonly planted; but in regularly laid out, or geometric flower-gardens, the disposition of colour should be carefully considered, as there is an abundance of spring-flowering plants and bulbs to form a rich and varied display, if properly arranged and carried out. Next week we will give a list of the most useful plants, &c., for the purpose; in the meantime a good stock of bulbs should at once be procured. Lawns will at this season require daily sweeping, to present anything like neatness; roll constantly, wherever the turf is hollow, to keep a firm sward. Well clean the gravel-walks for the winter, and afterwards let them be well rolled, that the water may pass freely off the surface. All operations of planting, re-laying turf, and border-making, should be actively proceeded with, as the weather may not continue so favourable long, and one day now is worth two in a month's time.

KITCHEN GARDEN.

As a supply of salading is generally in request during the winter, a stock of nearly full grown Lettuce and Endive should at once be transferred to pits or frames. Where the protection of glass can be given in frosty or wet weather, the above should be kept in reserve for use in very severe weather. Endive is blanched for salads and kitchen use by various means; but a way we prefer (after being tied up when perfectly dry) is, to cover as much as requires blanching at one time with leaves (procured as dry as possible), throwing a little long litter over, to prevent them being blown about with the wind. Sow a crop of Radish in a frame, for winter. Celery, Cardoons, and Leeks should be earthed up in dry weather. Broccolies, Borecoles, &c., may still be hoed between; as should Winter Spinach, thinning it out 16 inches apart.

STATE OF THE WEATHER NEAR LONDON,

For the week ending Oct. 14, 1852, as observed at the Horticultural Gardens, Chiswick.

Oct.	Moon's Age.	Barometer. Max.	Barometer. Min.	Temperature. Of the Air. Max.	Of the Air. Min.	Of the Air. Mean	Of the Earth. 1 foot deep.	Of the Earth. 2 feet deep.	Wind.	Rain.
Friday.. 8	25	29.902	29.872	47	28	37.5	49	49	N.	.00
Satur.. 9	26	29.969	29.961	49	31	40.0	47	48	N.E.	.00
Sunday . 10	27	29.982	29.919	55	38	46.5	47	48	N.W.	.05
Monday 11	28	30.226	30.052	57	38	47.5	48½	48½	N.	.00
Tues. .. 12	29	30.365	30.331	56	32	44.0	48½	48	N.E.	.00
Wed. .. 13	☽	30.360	30.303	54	41	47.5	47½	48½	E.	.00
Thurs.. 14	1	30.291	30.251	48	46	47.0	48	48	N.E	.00
Average....		30.156	30.098	52.3	36.3	44.3	47.7	47.3		.05

Oct. 8—Overcast; fine; overcast; clear and frosty.
— 9—Frosty; clear with bright sun; clear at night.
— 10—Slight frost; overcast throughout; rain.
— 11—Fine; very fine; clear at night.
— 12—Quite clear; fine; clear at night.
— 13—Slight haze; fine; cloudy, with dusky haze; overcast.
— 14—Foggy; uniform haze; clear above, overcast near the horizon.
Mean temperature of the week, 7½ deg. below the average.

STATE OF THE WEATHER AT CHISWICK,

During the last 26 years, for the ensuing week, ending Oct. 23, 1852.

October.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 17	58.0	43.0	50.5	8	0.18 in.	1	1	4	—	2	7	7	4
Mon. 18	58.2	43.2	50.7	13	0.85	1	2	1	1	4	5	10	2
Tues. 19	59.8	40.3	50.0	11	0.14	—	2	2	3	3	5	7	4
Wed. 20	59.3	41.3	50.3	12	0.34	1	3	—	3	4	6	7	2
Thurs. 21	58.3	39.8	49.0	10	0.61	2	3	2	3	4	4	3	—
Friday 22	58.1	44.2	51.2	17	0.50	1	—	4	1	5	9	4	2
Satur. 23	57.5	41.5	49.5	17	0.46	3	1	—	3	4	7	7	1

The highest temperature during the above period occurred on the 21st, 1850—therm. 73 deg.; and the lowest on the 21st, 1842—therm. 20 deg.

Notices to Correspondents.

BOOKS: *W R.* Standish and Noble's book on Conifers, and "The Winter Garden," by Barron, will possibly suit you.‡

CUCUMBERS: *Delta.* Cuthill's Black Spine is one of the best for early forcing as well as for general purposes.‡

EMIGRATION: *N B.* We cannot undertake the responsibility of giving you any further advice. If you are a man of intelligence, you are able to apply the information we have given; if you are not, you had better either stay at home, or keep your money from speculation.

GLAZE FOR CALICO: *Reader.* See p. 184 of our current year's volume ‡

GREENHOUSES: *P M.* On no account use Kyanised timber for a greenhouse roof, if it is ever to be exposed to a high temperature. The mercurial salt volatilises and kills plants. There is no harm in sulphate of copper. But a greenhouse roof kept well painted, and *originally well* constructed, will remain sound for 50 years. We are unacquainted with the exact quantity to dissolve in a gallon of water, but we presume that the water ought to be half saturated.

HORTICULTURAL SOCIETY: *Sub* and *A Z.* It is positively required that ALL FRUIT (and Pears are fruit), "shall be perfectly ripe and perfectly coloured, or it will be disqualified." See the printed regulations.

NAMES OF FRUITS: *J A Tinne.* 11, Blenheim Pippin; 12, Spice Apple; 13, Syke House Russet; 14, Scarlet Nonpareil; 15, Hughes's Golden Pippin; 16 resembles the Borsdorffer; 17, Brown Beurré.‖—*G H.* 2, Beurré d'Aremberg; 3, Ne Plus Meuris; 4, Winter Nelis; 5, Gelogil; 7, Uvedale's St. Germain; 8, Old Colmar; 9, Easter Beurré; 10, Duchesse d'Angoulême; 11, 12, 15, Glout Morceau; 13, Passe Colmar. The Grape with the now red-tinged leaf appears to be Oldaker's St. Peter's.‖—*E P, Cork.* 1, Aston Town; 2, Doyenné Gris; 4, London Pippin; 5, Blenheim Pippin; 6, Northern Greening.‖—*S T or S Z, Putney Heath.* 1, 9, Beurré Diel; 4, Glout Morceau; 5, Chaumontel; 6, 10, Beurré Rance; 7, Marie Louise; 8, Easter Beurré; 12, Beurré d'Aremberg; 13, Passe Colmar; 4, Golden Reinette; 6, Early Nonpareil.‖—*R D.* 1, Blenheim Pippin; 2, Dumelow's Seedling; 3, 8, Reinette du Canada; 4, Dutch Mignonne; 5, Early Nonpariel; 6, Trumpington; 7, King of the Pippins; 9, Kirke's Lord Nelson; 1, Marie Louise; 2, Beurré Rance. Your box was wrongly directed; you have 10*d.* to pay for it.‖—*Dalla.* Dumelow's Seedling, or Wellington Apple, as it is frequently called.‖—*A C.* 2, 5, 21, Beurré Diel; 3, 4, 7, Napoléon; 6, St. Germain; 8, 18, Glout Morceau; 9, Beurré Rance; 10 and a 23, Swan's Egg; another 23, Doyenné Blanc; 11, 20, 30, 32, Marie Louise; 12, Comte de Lamy; 15, Beurré Bosc; 16, Ne plus Meuris; 17, Calebosse; 19, Louise Bonne (of Jersey); 24, Flemish Beauty; 25, Easter Beurré; 26, 28, Winter Bon Chrétien; 29, Knight's Monarch; 31, Fague de Naples.‖

NAMES OF PLANTS: *W K.* Dendrobium chrysanthum.—*L.* It is the Cupressus torulosa, a very fine, tall, hardy tree; it grows fast, and is indifferent to soil, if it is not calcareous. It suits a lawn perfectly. It looks well while young. You may prune your Deodars now, or next spring when they have pushed 6 inches, and are growing fast; but the less you prune it at present the better. It will probably adjust itself.—*F D.* 1, Scarlet Arbutus! 2, double Pomegranate! 4, Escallonia montevidensis; 5, a bit of some Hesperis; 3, French Tamarisk! 6, white Jasmine! 8, Coreopsis Atkinsonii; 7, Laurustinus!!—*R Stack.* Clavaria pratensis.—*P M.* Acacia dealbata.—*M S H.* The plant is a Saracha, and corresponds sufficiently well with the figure and description in the Fl. Peruviana of S. procumbens. We are not aware that the berries of any of the species are poisonous, but none are recorded as edible except S. geniculata, which, from the character given of its inflorescence, is evidently a Physalis. Will you favour us with a few seeds?

PINES: *G A.* The cones of Pinus insignis are not very small. Open yours when ripe, and you will probably find them empty of seed.

ROSE-HOUSES: *F H S.* We see no objection to your plan, unless it be that you do not provide sufficiently for roof ventilation. We do not think fixed roofs quite answer the purpose, the cross current of air below the ridge not relieving the house fast enough in hot weather of the heated air. Your end windows are a great help, no doubt; but will they do enough? Cannot you make one sliding sash on each side the roof, in addition to the end windows. Air, air, air, and shelter, is what you must secure effectually. If you heat it, which is needless, use a brick flue. As to puttying laps, the worst of it is that the putty inevitably works out by the alternate expansion and contraction of the glass. We see no harm in iron sash bars. There is no risk with large squares, provided they do not exceed a foot in width.

THE NEW WEED: *Diss.* This is the Anacharis alsinastrum, of which Mr. Marshall has published a full account, as you will see in another column.

VINE BORDERS: *J C.* If in top-dressing your Vine border you intend to add a quantity of crushed bones, it would certainly be advisable to steep them in liquid manure previous to putting them on the border. ‡

WATER PIPES: *M W.* You had better employ tubes of glass or iron, not lead. The latter, though much used, is open to serious objections.‡

WINE GRAPES: *R S.* You had best plant the Black Burgundy, Miller's Burgundy, and Early Black July. Lashner's Seedling is said to be an early thin-skinned Grape, but we cannot speak of its merits from experience. On a wall 16 feet high the Royal Muscadine will ripen very well in good seasons, and it is probably the best white table Grape you can have for the open air. The Early White Malvasia or Grove End Sweetwater is employed on the Continent for wine-making ‖

MISC: *A H.* Portulaca Thellussoni is an annual. Gladioluses should be planted when they show symptoms of growth; for borders, a good method of treating them is to pot them, winter them in a cold frame, and plunge the pots in the border next spring. By this plan they can be removed when their stems have begun to get shabby, to some out-of-the-way place to ripen, and thus the flower-border can always be kept tidy, which could not be the case if they were planted out.‡

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The Implements are of the best and most modern invention and useful description, and a saving of 20 per cent. and upwards will be effected by any purchases made from this Stock.

REGISTERED PRIZE ENAMEL STABLE FURNITURE.
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IRON HURDLES AND GAME WIRE NETTING.

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COTTAM AND HALLEN, 2, WINSLEY-STREET, OXFORD-STREET, LONDON.

M'CORMICK'S PATENT AMERICAN REAPER has received numerous Prizes during the present season; amongst others, the award of the Jury appointed by the R. A. College at Cirencester, after NINE days' trial upon all kinds of crops and in all weather.—Winton's Parkes' celebrated Steel Digging Forks, as recommended by Mr. Mechi: they save full 20 per cent. in labour; they obtained the Silver Medal at the R. A. Society's Show at Lewes, the 1st prize at the Royal Yorkshire Show at Sheffield, 1st prize at Galway, and also at the Royal Dublin Show.—Anthony's Patent American Churn has received the prize at every Meeting where it has been exhibited, including those of the R. A. Society at Exeter, Great Exhibition, and at Lewes.—Urwin's Force and Lift Pump, particularly adapted for Liquid Manure. Mr. Mechi has one in use, and it is working to perfection. Kase's Force and Suction Pump, well suited for a Farm Fire Engine or Liquid Manure Pump; it is by far the cheapest and most effective Pump now out. Galvanised Iron Lift Pumps at a very moderate price. Gutta Percha Pumps, Gutta Percha Tubing for Liquid Manure and Garden purposes, Gutta Percha Driving Bands for Machinery, Waterproof Canvas Hose coated with Gutta Percha, for Liquid Manure. Leather Hose and Bands. Richmond and Chandler's Improved Scroll Knife Chaff Machine has obtained the prize at the R. A. Society's Show at Lewes, and at every other show this season. Starbuck's American Ploughs, Grain Bruisers, and every kind of Agricultural Implement sold by
BURGESS & KEY, 103, NEWGATE-STREET LONDON.

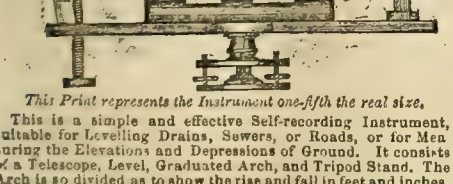
BOYD'S SELF-ADJUSTING SCYTHE.



BOYD'S PATENT SCYTHE and the celebrated STEEL DIGGING FORKS.—BOYD'S Scythe is capable of being adjusted to any angle by the person using it, and never requires the aid of a blacksmith; when out of use it shuts up like a clasp-knife. The *Gardeners' Chronicle* thus comments upon it:—"We gladly state that Mr. BOYD'S Scythe stands well the great test, experience, especially with his late ingenious and very useful improvement."—G. C., 15th May, 1852. The Steel Digging Forks are those celebrated by Mr. Mechi: "When a labourer has once used them, he will never work with any other implement for digging. They effect a saving of nearly 50 per cent. in labour."—Wholesale and Retail at WM. DEAY and Co.'s Agricultural Implement and Machinery Warehouse, Swan-lane, Upper Thames-street, near London-bridge.

DRAINAGE.

NEW LEVELLING INSTRUMENT.—
(REGISTERED No. 2602.)



This Print represents the Instrument one-fifth the real size.

This is a simple and effective Self-recording Instrument, suitable for Levelling Drains, Sewers, or Roads, or for Measuring the Elevations and Depressions of Ground. It consists of a Telescope, Level, Graduated Arch, and Tripod Stand. The Arch is so divided as to show the rise and fall in feet and inches.

(*From the Practical Mechanic's Journal, Feb.* 1, 1851.)

"In the hands of even the most unlettered farm-servant this little instrument will afford the most correct measurements, as the operator has only to level the plate and bring his sight to bear upon the object, when the elevation or depression is given at once. It will be a most useful contrivance for draining or road-making."

Price 4*l.* 4*s.*—Made only by GARDENER and Co., 21, Buchanan-street, Glasgow.

CARSON'S ORIGINAL ANTI-CORROSION PAINT, especially patronised by the British and other Governments, the Hon. East India Company, the principal Dock Companies, most public bodies, and by the Nobility, Gentry, and Clergy, for out-door work at their country seats. The Anti-Corrosion is particularly recommended as the most durable out-door Paint ever invented, for the preservation of every description of Iron, Wood, Stone, Brick, Compo, Cement, &c., work, as has been proved by the practical test of upwards of 60 years, and by the numerous (between 500 and 600) testimonials in its favour, and which, from the rank and station in society of those who have given them, have never yet been equalled by anything of the kind hitherto brought before the public notice.

Lists of Colours, with Prices, together with a Copy of the Testimonials, will be sent on application to WALTER CARSON and SON, No. 9, Great Winchester-street, Old Broad-street, Royal Exchange, London.—No Agents. All orders are particularly requested to be sent direct.

TO AMATEUR GARDENERS,
LOCAL BOARDS OF HEALTH, & SANITARY WORKS.

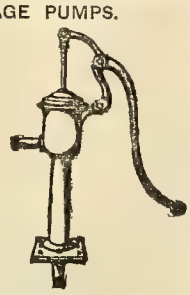


PATENT GLASS TUBES, Iron Coated with Glass, Gutta Percha, Combinated ditto, Patent Flexible India Rubber Tubing, and every other Hose for Watering Gardens. The Hydraulic Ram, Fire, Garden, and every other kind of Pump, Sluice Cocks, Hydrants, High Pressure Cocks, and all other articles to be had, Wholesale and Retail, of

FREEMAN ROE,
HYDRAULIC ENGINEER,
70, STRAND, and BRIDGEFIELD, WANDSWORTH.

P.S. Important to Farmers, &c.—F. R. begs leave to call attention to his new Water Power, which in many cases will supersede the use of the Steam Engine.

FARM AND COTTAGE PUMPS.



PATENT CAST-IRON PUMPS, for the use of Farms, Cottages, Manure Tanks, and Shallow Wells.

	£	s.	d.
Patent Pump	1	15	0
Patent Pump, with 15 feet of lead pipe attached, and bolts and nuts ready for fixing	2	10	0

Larger sizes if required.

May be obtained of any Ironmonger or Plumber in Town or Country, or of the Patentees and Manufacturers,

JOHN WARNER & SONS,
8, Crescent, Jewin-street, London.

Every description of Machinery for Raising and Forcing Water, either by Steam, Horse, or Manual power. Fire and Garden Engines, &c.
The usual allowance to the Trade.

PEAT MOSS CHARCOAL.

THE PEAT MOSS CHARCOAL COMPANY are prepared to deliver a superior Charcoal (made expressly for Agriculture and Horticulture, and not divested of any of its chemical properties), at 52*s.* 6*d.* per ton.—Apply to MARK FOTHERGILL, Agent, 204, Upper Thames-street.

Linseed and Rape Cake, Peruvian Guano, Gypsum, Salt, and all Manures of known value on sale.

MANURES.—The following Manures are manufactured at Mr. LAWES'S Factory, Deptford Creek:

Turnip Manure, per ton	£7	0	0
Superphosphate of Lime	7	0	0
Sulphuric Acid and Coprolites	5	0	0

Office, 69, King William-street, City, London.

N.B. Peruvian Guano, guaranteed to contain 16 per cent. of Ammonia, 9*l.* 10*s.* per ton; and for 5 tons or more, 9*l.* 5*s.* per ton, in dock. Sulphate of ammonia, &c.

PERUVIAN GUANO.

CAUTION TO AGRICULTURISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

ANTONY GIBBS AND SONS, AS THE ONLY IMPORTERS OF PERUVIAN GUANO,

Consider it to be their duty to the Peruvian Government and to the Public again to recommend Farmers and all others who buy to be carefully on their guard.

The character of the parties from whom they purchase will of course be the best security, and, in addition to particular attention to that point, ANTONY GIBBS AND SONS think it well to remind buyers that—

The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 9l. 5s. per ton, less 2½ per cent.

Any resales made by dealers at a lower price must therefore either leave a loss to them, or the article must be adulterated.

THE LONDON MANURE COMPANY offers on the best terms Wheat Manure for autumn sowing, Linseed, Rape Cakes, Peruvian Guano, Urate, Superphosphate of Lime, and every other artificial manure. Also a quantity of Salt, the refuse of ammonia and saltpetre makers, considerably more valuable than the ordinary agricultural salt.

EDWARD PURSER, Sec., Bridge-street, Blackfriars, London.

CHARCOAL AND SEWAGE MANURE.—Promote the Health and Wealth of Town and Country by increasing the use of that valuable manure PEAT CHARCOAL, impregnated with the fertilising matter of LONDON SEWAGE. The ammonia, phosphates, and fæces are absorbed, and the water pressed out bright, palatable, and soft.

Sold at the Charcoal and Sewage Works, Stanley-bridge, Fulham, Middlesex, at 60*s.* per ton, 4*s.* per cwt., 2*s.* 6*d.* per half cwt.

DR. S. NEWINGTON'S HAND-DIBBLES for Planting Corn scientifically, with four sets of Cups of different sizes, from seven to ten depositors in each instrument, Price from 3*l.* to 4*l.*—Mr. C. GABRIEL, Surrey Chambers, Arundel-street, Strand, London.

SEED WHEAT.

PAYNE'S DEFIANCE REVITT OR BEARDED WHEAT, which gained the prize medal at the Great Exhibition, and is also highly spoken of in Professor Lindley's lecture upon "Substances Used as Food," is offered to Wheat-growers by H. PAYNE with confidence, more especially after the many flattering letters that he has received of its merits as to produce, quality, and its being less liable to blight or mildew. The above Wheat was raised from a single ear, and has been grown with great success for six years. Testimonials from farmers and millers from different parts of the kingdom can be obtained by applying to Mr. H. PAYNE, Birdbrook-moat, near Halstead, Essex. Price 32*s.* per coomb of four bushels (sack included), and delivered at the Audley-end Station, Eastern Counties Railway. All orders of not less than one coomb, accompanied by a remittance for the amount, will be punctually attended to; or by Post-office order made payable to HENRY PAYNE, at Halstead, Essex.

H. P. has also a very true stock of Browick Red Wheat to dispose of, at 28*s.* per coomb, which he thinks the best Red Wheat grown.

SEED WHEAT.

MORTON'S RED STRAW WHITE, and the ESSEX ROUGH CHAFF, will be delivered free to any South Western Station below Basingstoke; beyond it, or to Reading, for 1*s.* 6*d.* a quarter extra; at 6*s.* a bushel or 46*s.* a quarter, for 1½ or upwards, on receipt of a Post-office order for the amount required, with 1*s.* each for sacks, made payable to WILLIAM M. HELLYER, Bashley, Lymington, Hants.

The above were grown upon poor land, are clean, true, and well saved for the season.

Also, shortly, some Peruvian Barley, at 5*s.* 6*d.* a bushel, or 42*s.* a quarter, delivered as above.

Mr. HELLYER would be glad to meet with a previously well-educated and intelligent PUPIL, either in agriculture or civil engineering. Likewise to undertake the designing and superintendence of any drainage, irrigation, or other works of agricultural engineering or land agency, that may be contemplated in this or the adjoining counties; or in any part of the country if upon a sufficiently extensive scale.

SEED WHEAT.—IMPORTANT TO FARMERS.

MR. BEMAN, of MORETON-IN-MARSH, having received so many voluntary testimonials of the superiority of his two new varieties of Wheat, the PRIMA DONNA and DONNA MARIA, this season over any other, is induced again, through the medium of the press, strongly to recommend them as being capable of producing from 12 to 16 bushels per acre more than any other variety; and they certainly, this season, were more free from blight and mildew than any other, on account of growing stiffer in the straw. Price 54*s.* per quarter, delivered either in Gloucester, Worcester, Birmingham, Bristol, Banbury, or Oxford, in new sacks at 1*s.* 6*d.* each. Cash or satisfactory reference.—N.B. If less than one quarter is ordered price 10*s.* per bushel.—Agents for London, Mr. THOS. GIBBS, corner of Half-moon-street; and Mr. GEO. GIBBS, Down-street.

SMITHFIELD CLUB.

NOTICE.—All Certificates for Stock and Implements intended to be exhibited at the ensuing show of the Smithfield Club, must be delivered in to the Honorary Secretary on or before SATURDAY, the 6th of NOVEMBER (none will be received after that day.)

The Printed forms of Certificates (which alone are allowed to be used), Lists of Prizes, &c., can be obtained of B. T. BRANDRETH GIBBS, Hon. Sec., Corner of Half Moon Street, Piccadilly, London.

HITCHIN AND HOME COUNTIES DOMESTIC POULTRY ASSOCIATION.—OPEN TO ALL ENGLAND.

The First Annual Exhibition of this Society, will be held at Hitchin, on the 20th, 22d, and 23d of NOVEMBER, 1852, when Prizes amounting to upwards of 80*l.* will be offered for public competition.

Hitchin is a first class station on the Great Northern Railway, 30 miles from London; at which Station is [illegible] with the Cambridge and Eastern Counties Railway. Regulations and Prize Lists may be had on application to the Secretary, by inclosing two postage stamps. Entries for Exhibition close on the 6th of NOVEMBER. Admittance to the private view on Saturday, November 20th, by a 5*s.* Ticket (not transferable), which will be available for the three days of Exhibition. And on Monday the 22d, or Tuesday the 23d, 1*s.* each.

S. GOODWIN, Sec.

The Directors of the Great Northern and Eastern Counties Railways have agreed to run cheap trains on the occasion, and to give free passage to all Poultry for the Exhibition (at owner's risk), and to carry back free all that is unsold.

THE BIRMINGHAM CATTLE AND POULTRY SHOW, 1852.—The FOURTH GREAT ANNUAL EXHIBITION of FAT CATTLE, SHEEP, PIGS, and the various kinds of DOMESTIC POULTRY, will be held in BINGLEY HALL, BIRMINGHAM, on the 14th, 15th, 16th, and 17th of DECEMBER next. The PRIZE LISTS, CERTIFICATES of ENTRY, and any further information, may be had from the Secretary.

The Entries CLOSE on SATURDAY, the 13th of November.

JOHN MORGAN, Jun., Secretary.

OFFICES—2, Insurance-buildings, Union-passage, Birmingham.

The Agricultural Gazette.

SATURDAY, OCTOBER 16, 1852.

MEETINGS FOR THE ENSUING WEEK.

THURSDAY, October 21—Agricultural Imp. Society of Ireland.

ONE of the most amusing errors into which the advocates of what we call an excessively THIN SEEDING of the land are apt to fall, shows itself in the importance they attach to the relation which exists between the quantity of seed and the produce from it. If they can prove that they by their methods have obtained 1000-fold, while ordinary agriculture obtains little more than 10-fold the seed, they think that the whole question is solved. Now the fact is that, *directly*, this sort of relationship has no bearing upon the merits of the case at all. An argument may be raised upon it, in which the power of plants to produce abundantly under favourable circumstances, thus illustrated, may *indirectly*, no doubt, be used to enforce the evils of wasteful conduct at seed time. But, *directly*, the fact which these gentlemen urge cannot and ought not to influence the farmer. He has to deal with a definite number of acres, and his object is to obtain as large a a net quantity of Wheat, or other grain, from it for

sale as he can. If upon that extent of land he could sow 100 sacks of grain with the certainty of its being only doubled, he would prefer doing so to taking the advice of a thin-seeder and sowing two pecks with the certainty of obtaining an hundred fold.

The question for the farmer's consideration is—what *remainder* exists for sale after *deducting* the seed? not how many fold the seed has produced: and we must add that unless any man has an experience of tens of years over hundreds of acres, to sanction any proposal in this matter which so extravagantly upsets ordinary farm practice as that which some of our correspondents have been urging, we think he had better keep it to himself.

We believe that on land in good cultivation, 1 bushel or 5 pecks of Wheat, per Imperial acre, sown now in rows from 9 inches to 1 foot apart, is likely to do as much as any other arrangement in the matter of seeding towards the production of a good crop next harvest; and we would leave all the talk about pints and quarts to those whose incomes do not depend upon their farm practice. We readily admit, with these gentlemen, that great waste of seed does exist; but we do not think that experiments in garden plots, or on single plants from single seeds, ought to have any immediate influence on the farmer.

We last week referred to the effects of excessive rains and of DRAINAGE upon clay lands at the present season of the year. Let us now glance at the connection between the drainage and the temperature of such soils. The principal influences affecting the heat of the soil are the sun, evaporation, the decomposition of animal, vegetable, and mineral substances in the soil, and vegetation. Of these, the most important are the contending forces of solar heat and evaporation. When lands are drained a greater remainder of solar heat remains with them than when undrained; for when water stagnates in the soil evaporation is increased, and carries off a greater amount of heat. It not only does so during the day, thus directly counteracting the influence of the sun, but during dry nights as well, reducing the temperature of such soils below what it otherwise would be. And hence arise other differences between soils drained and undrained, for the heat which the former imbibes from the sun promotes decomposition, and vegetation is of course benefited by the products of such processes in the soil. Again, the absence of sufficient heat in the soil not only checks this decomposition of animal and vegetable substances there, but the imperfect decomposition which alone it allows, in the absence of air, results in acid and other compounds of an injurious kind to plants. On the other hand, when rains fall upon *drained* land at this season of the year, they seldom leave the surface unfavourable to the absorption of heat from the sun sufficient to promote vegetable decomposition. Probably October is as favourable to the fertilisation of the soil, by the proper incorporation of manure with it, as any month in the year where proper drainage has been effected; for a considerable degree of moisture is desirable for the process, and on properly drained land the work of decomposition is thus maintained during October at the most favourable pitch for the fertilisation of the soil; so that, indeed, it may in some cases be necessary to delay the period of sowing Wheats, in order to avoid their being in a too forward state to meet the rigours of winter. It is very different with the undrained soil, for when more rain falls than its absorbent powers can retain, the excess flows upon the surface, shutting out the atmosphere, and by evaporation carrying off its heat.

When undrained lands are thus kept at too low a temperature for any length of time by rainy weather, after sowing as above stated, it not unfrequently occurs that much of the seed perishes, leaving the field covered with blanks, sometimes to such a degree that it has to be ploughed and resown with spring Wheat or Barley. Another calamity of a similar character, and scarcely of less magnitude, is the throwing or spewing out of Wheat plants in frosty weather during spring, a calamity also obviated by draining. Of the consequences which flow from both of these calamities, we need not say a word, they are those which confer upon such lands the title of being naturally cold and unproductive—a title which they seldom or ever deserve, for as all lands are unproductive without cultivation, and as a difference in the method of cultivation renders the one field productive and the other not, the difference in the method of cultivation is obviously the main cause of these differences of productiveness; so that the cold clay theory resolves itself into an attempt on the part of cultivators to shuffle their own torpor upon their undrained lands.

Both at this season and in spring undrained lands frequently assume a deceptive hue, appearing to the casual observer as if they were thoroughly dry, and offering an inviting season for sowing; but on entering the field the true state of things is soon perceived; for it is the clods and projecting elevations on its surface, to which alone this dry appearance is owing. These, when the weather is fine, become dry, assuming a mouldering form, and give to the whole field the appearance of a good seed-bed; but such eminences only form a small part of the surface—while they are comparatively of no depth, the water may be standing in the hollows between them.

The hoar-frosts now beginning to make their appearance in the mornings, especially in our northern provinces, distinguish very conspicuously drained from undrained lands; and they illustrate well the relations of heat and evaporation. The greater cold of the undrained lands always covers them with a greater thickness and intensity of this icy coating.

Although hoar-frosts are not so conspicuous or easily seen on ploughed as on Grass or other fields covered with plants, yet the changes of temperature are similarly experienced by the drained and undrained fallow lands, the vapour from the latter being frozen before it is so from the former. The effects produced by "black" frosts are also similar, ruining root-crops on the undrained land before they even scarcely begin to seize upon those of the drained.

But the greatest proof of the influence of drainage upon temperature undoubtedly is the earlier period of harvest, which is, in many an instance in this country, owing to it.

BRITISH ASSOCIATION—BELFAST 1852.

"*On the Composition of Food in relation to Respiration and the Feeding of Animals.*" By J. B. LAWES, Esq., and Dr. J. H. GILBERT. Read September 7th.

ABSTRACT.—The general connection of the non-nitrogenous constituents of food with respiration and the formation of fat in the animal body, on the one hand, and on the other, that of the nitrogenous constituents with the formation in the body of compounds containing nitrogen, and with the exercise of force, were now fully admitted. But, within and around these two main points there were still many open questions. It was usually maintained, and more especially when laying down rules in regard to the dieting of fattening animals, that the comparative value of food, as such, was to be measured by its per centage of nitrogenous compounds. Bearing upon this point the authors exhibited numerous tables of the results of a very extensive series of experiments upon the fattening of sheep and pigs. The several foods employed contained different proportions respectively of the nitrogenous and non-nitrogenous constituents; and the general arrangement was such, that each set of the animals to be compared had a fixed and limited quantity of one description of food, and was allowed to take *ad libitum* of another or complementary food; and thus, according to the composition of the respective foods, the animals were enabled to fix for themselves, in obedience to the demands of the system, the quantities of each class of constituents which it required. The result was, that when due allowance was made for the different respiratory and fat-forming capacities of the several digestible or assimilable non-nitrogenous constituents of the foods, and also for those which would probably become at once effete, the amounts consumed by a given weight of animal, of the same description, within a given time, and under otherwise equal circumstances, represented, in the several sets, with different descriptions of food, almost identical respiratory and fat-forming capacities; whilst on the other hand, the quantities of the nitrogenous constituents taken into the system, under the same circumstances, varied in the different cases as much as from one to two or three. Consumption, then, was regulated by the respiratory and fat-forming exigencies of the animal, rather than by the amount of nitrogenous constituents which the food supplied. This view, indeed, was only that to which we should naturally be led in applying the facts and principles generally admitted when the rationale of the respiratory process, as such, was under consideration. But in the current methods of representing the equivalents of different foods, there would seem to be some inconsistency with those facts and principles.

From the same experiments it also appeared, that the amount of increase in weight of the fattening animal also bore a much closer relationship to the amount of the assimilable non-nitrogenous constituents of the food than to that of the nitrogenous ones. A certain liberal amount of nitrogen was, indeed, very important; but, beyond a limit frequently exceeded in practice, the effect of an increased per centage of nitrogen in the food upon an increase in weight of the animal was in a rapidly decreasing ratio. The authors considered, therefore, that the rule generally laid down,—namely, that the comparative values of foods, as such, were measurable by the amounts of the nitrogenous compounds which they contained, required considerable modification. Of course, when the value of the manure was a matter of consideration, a new element was brought into the question.

Experiments in which pigs were the subjects, were next adduced, showing that the increase in weight of the fattening animal contained much less nitrogen and a larger proportion of fat than was usually estimated; and it was stated that experiments upon other animals, which would be published at some future time, also gave results in the same direction. It was also shown, by reference to direct experiments with pigs, in regard to the much debated question—namely, whether fat was formed in the animal body from vegetable substances not containing it, or whether it was only assimilated from the food?—that, in the instance cited, about four times as much fat had been stored up in the animal as it had taken of fatty substance in its food. This result was consistent in kind with that of the more recent investigations of MM. Boussingault and Persoz; which, though they had been somewhat called in question, the authors considered sufficiently conclusive. The formation of fat, even to a considerable and practically important extent, from the starch series of compounds was demonstrated by the experiment now brought forward. MM. Dumas and Boussingault had indeed, at one time, held this to be improbable; and other writers have done so more recently; but it would seem that the theoretical opinions of Professor Liebig on this point might be considered to be fully borne out.

Thus far the authors had only alluded to the feeding of fattening animals; but, having calculated many human dietaries, and also from a consideration of the management of the animal body undergoing somewhat excessive labour—as, for instance, the hunting horse, the racer, the cab horse, and the fox-hound, and also pugilists and runners—they considered that the exigencies of the respiratory system, in the cases at least of ordinary exercise of force, kept pace more nearly with the demand for the nitrogenous constituents of food than was usually supposed. A consideration, indeed, of the habits of those of the labouring classes who were under rather than over-fed, would show that they first had recourse to fat meat, such as pork, rather than to those which were leaner and more nitrogenous; thus indicating that the first instinctive call was for an increase of the respiratory constituents of food. It cannot be doubted, however, that the higher classes do consume a larger proportion of nitrogenous food, in the form of meat, though it is probable that with it more fat (which is one of the highest of the respiratory constituents of food) was taken into the system than was generally imagined. Fat and butter, indeed, may be said to have about twice and a half the capacity in this respect of starch, sugar, &c. It should be remembered, too, that the classes which consume the most meat are those which consume the most butter, sugar, and, in many cases, alcoholic drinks also. It was further worthy of remark that where labour was expended in the manufacture of staple articles of food, it had generally for its object the concentration of the non-nitrogenous or respiratory constituents. Sugar, butter, and alcoholic drinks were notable instances of this. Cheese, which at first sight might appear an exception, was in reality not so; for those cheeses which brought the highest price were always those which contained the most butter, whilst butter itself was always dearer than cheese.

In conclusion, the authors were not to be understood as in any way depreciating the value of a somewhat liberal amount of nitrogen in food; but they considered that on the current views too high a relative importance was attributed to it; and that it would conduce to further progress in this most important field of inquiry, if the current opinions on the subject were somewhat modified.

APPLICATION OF SEWAGE.

THE public ought to be particularly grateful to you, for directing attention from time to time to the important question of how town sewage may be best made to do its proper work, *i. e.*, to refertilise the land from whence in the first instance it was extracted.

There are at the present moment throughout England a number of towns (and they are rapidly increasing) which, by means of local boards appointed under the provisions of the Public Health Act, are about to carry into operation the works necessary for draining away from the sites of towns that "horrible stuff" which, fermenting in cesspools coeval with the houses themselves, has too long been allowed to poison both the air and water in their immediate vicinity. The filling up of these fever genderers and the prompt removal of all decomposable refuse from our habitations, is a great point gained, and he is a benefactor to his species who accomplishes only as much as this; but the benefit of town drainage is only complete when the sewage is turned to useful account as manure. It is not enough that we purify the town, we must also enrich the country. Parodising Shakspeare's description of mercy, we may say of sewage matter that under proper management, it "blesses him that gives and him that takes;" and one of the most important questions requiring a speedy solution is, "What is the best mode of dealing with it." It ought to be a source of fertility to the adjacent lands; it ought, moreover, to be a source of income to the towns; it ought to become a substitute for, or at least an aid to, Peruvian guano. It must contain the elements of human food, seeing that it is human food in a state of decomposition. Its component parts must be properly proportioned for the production of food, for the same reason. Experiments were not wanting to show that it is as efficacious in practice as it might be expected to be in theory, and yet, with a perversity which seems inexplicable, the indigenous human guano gives place to the exotic of birds; and while the latter commands a price of 10*l.* a ton, and its "island homes" are coveted by more governments than one, the former is apparently valueless, as it can hardly be given

away. These reflections have been occasioned by a short visit I paid to the Croydon manure tank a few days ago, where I found a regular straining apparatus in operation for the purpose of retaining the more solid parts of the town sewage, and a man employed at 25*s.* a week to superintend the preparation and delivery of the strained manure to the neighbouring farmers. I ascertained that the semi-solid manure so collected amounted to about five or six loads a week, each load being equal to 4½ cubic yards. I inquired at what price this valuable material was selling, and found to my astonishment that it was given away. The man told me that the price had been 2*s.* 6*d.* a load; but that owing to its being then harvest time, the farmers could not spare time to look after it, and so the authorities had no alternative but to give it away, to get rid of it. I wish to guard against being understood as placing the Croydon semi-fluid rinsed manure in competition with dry guano; but after making all reasonable allowances, is it not an absurdity and a shame that 4½ cubic yards of night-soil should fetch no more than 2*s.* 6*d.*, and at last be given away for want of a purchaser at any price? Now I do not believe that the Croydon farmers or any farmers are so stupid as not to appreciate the value of such a fertilising material; the reason, I apprehend, why it is not eagerly sought after, is the form in which it is offered for sale. It will not do to present it to the agriculturist in a mixture like the contents of the witches' cauldron, "thick and slab." It must be drier, more portable, and deodorised before it can be made profitable to Boards of Health, and it is the problem of how it can be rendered so, which deserves the earnest attention of intelligent practical men of the country. One sees accounts of experiments at Richmond and elsewhere, where a pinch of some magical powder precipitates and deodorises a quart of sewage, and a Frenchman promises to effect a like result with silicate of soda; but without expecting any such marvellous results as to find a substance which shall invariably precipitate all that is valuable in such a variable compound as sewage water, we cannot but regard these attempts with satisfaction, and bid the labourers "God speed." Depend on it, with guano at 10*l.* a ton, and Wheat at from 24*s.* to 36*s.* a quarter (as it is just now in the Isle of Ely), it is a matter of life and death with many, if they cannot increase the price of corn, at least by means of some economical fertiliser to produce a larger quantity of it, from the same space. *Wm. Marshall, Ely.*

[We add the following correspondence on the same subject from the columns of the *Times* newspaper.]

The question of liquefied manure is so important in a national, sanitary, and agricultural point of view, that I am induced to trouble you with the results of my six months' experience of its use. The quantity of roots and green crops is very largely increased, just in proportion to the extra supplies of liquid. One field of Mangold Wurzel (six acres) is estimated at 40 tons per acre, vast numbers of roots weighing from 20 lbs. to 25 lbs. each, without tops; but the most striking result is in the improved quality of the productions. Although the soil is naturally poor, sheep now fatten rapidly, cows keep an improved condition, and give milk and butter of the richest description. The difference in so short a period as six months is remarkable. Grass that the animals scarcely cared to eat is now eagerly and closely cropped. The liquid applied was a solution of various dead animals, from a horse to a pig, with animal and human ordure, decayed vegetables, and every kind of offal. I was not surprised to find Lord Lonsdale disappointed by the application of strong manure in dry weather. Success is dependent on an abundant liquefaction and dilution with large supplies of water. The very condition, in fact, of town sewage is that required by agriculture. On my small farm of 170 acres, my daily consumption of water for liquefaction is 40,000 gallons, which, fortunately for me, my bog-spring supplies.

Every farmer knows that undiluted urine from the animals will destroy young Clover and tender plants in hot dry weather. I see no practical difficulty in the application of town sewage to agriculture. A 500-horse power steam-engine would raise and dispose of the whole sewage of the metropolis, minus its storm water. Few people are aware that the ordinary sewage of London, irrespective of rain-water, would pass through a conduit 3 or 4 feet in diameter.* Our gigantic marine steam cylinders would, if they could, laugh at so puny an affair. The whole storm water of 88,000 acres in Lincolnshire is disposed of by a steam power of 800 horses,† and the great Bedford Level, some 220,000 acres, is drained by 1200-horse power and a few windmills. What difficulty, then, can there be with so small a comparative surface as the area of the metropolis? It is true, you must first drain men's minds of prejudice; you must show them that the heavy clay soil of the London basin must, like their flower-pots, be drained, or the liquefied manure would do mischief. There must be permeation and percolation, natural or artificial. Our chalks, sands, and hot gravel wastes, of which there are plenty around the metropolis, need no drainage, and are now ready and almost praying for those precious streams which are now poisoning our population and polluting our noble river. We have better than the Lobos Islands at home, if we choose to avail ourselves of it. Professor Way has estimated the London sewage to be worth 2,000,000*l.* annually.

Practically, a steam heart of 500 to 1000-horse power should propel through iron arteries and a thousand veins those fertilising essences of our bread and meat, the very life-blood of agriculture. Experience has taught me that all this may be done as readily with liquefied manure as with gas or water. Pray lend your powerful aid towards cleansing our towns and fertilising our fields. It may be done profitably.—I am, sir, your obedient servant, J. J. Mechi.

Mr. Mechi's letter has called forth the following:—"Sir,—Is it to be tolerated that any man is to be permitted to do what Mr. Mechi is doing? The cholera is coming, and Mr. Mechi boasts that he is pumping a 'solution of various dead animals, from a horse to a pig, with animal and human ordure, decayed vegetables, and every kind of offal,' over our fields. Within five miles of town one of the Commissioners of the Board of Health has been trying a similar scheme, but his neighbours are aware that cholera is a necessity with him, as otherwise his occupation would be gone, and so excuse him. I was glad, however, to perceive that in your report of the meeting of the Metropolitan Commission of Sewers, it appeared that a landholder at Battersea was informed that he would not be permitted to do so any longer, and it is to be hoped that what is sauce for the goose may also be applied to the gander. Surely these gentlemen should be compelled to deodorise their filth before pumping it forth, which one of your recent reports of the commissioners' proceedings shows is quite possible by Mr. Stothert's plan.—I remain, sir, your obedient servant, A Sufferer. Oct. 8."

* See page 57 of "Minutes of Information issued by the General Board of Health," July, 1852.

† See page 328, vol. xii., "Royal Society's Agricultural Journal, 'Farming of Lincolnshire.'"

CARCASS WEIGHT OF CATTLE.

We now proceed to treat of the mode of ascertaining the carcass weight from the live weight, severally, of oxen, sheep, and swine.

The weights of the several offals of oxen vary according to circumstances, as follows:—

Hide and horns	from	2½	to 7	st. of 14 lbs.
Tallow	,,	3	,, 10	,,
Head and tongue	,,	2	,, 4	,,
Feet	,,	1	,, 2½	,,
Kidneys, the pair	,,	2	,, 4	lbs.
Back collop	,,	2	,, 4	,,
Heart	,,	6	,, 9	,,
Liver, lungs, windpipe, and spleen	,,	1¼	,, 2	,,
Blood	,,	3	,, 4	,,
Stomachs, entrails, &c.	,,	10	,, 20	,,

Sometimes, though rarely, the weight of the hide and horns reaches 10 stones, and that of the tallow 20 stones. The total weight of offal, according to the foregoing statement, ranges from about 23½ stones to nearly 51 stones, and in rare instances to nearly 63 stones; but, as the minimum of every item of offal is never, and the maximum very rarely, to be met with in any case, the variation of the weight of offal will perhaps be from 30 stones to 60 stones, a discrepancy of 30 stones in the offal of the smallest and leanest, and that of the largest and fattest animals.

The first process in a modification of the proportion of the carcass weight to the live weight of oxen, to meet the circumstances which occasion a discrepancy in the same, is a classification of the different breeds, according to the extent to which the properties which characterise such may affect the proportion in question. With a view, then, to such purpose, the following divisions of the various breeds of British cattle will be found of considerable efficacy:—

First,—Those breeds which may be said to be cultivated and improved with a view to large proportion of carcass weight to their whole weight when alive; secondly,—Those breeds which naturally possess many good points in respect to a large produce of beef, but which have not received that attention to improvement of capabilities as those in the first division; and, thirdly,—Those breeds which may be considered as primeval.

The First Class will thus include—The Durham short-horns, the Herefords, and the breeds of Sussex and Devon.

The Second Class—The best sorts of the long-horned cattle in the midland counties of England, in Lancashire, and in Ireland; the cattle of Lincolnshire, Galloway, Angusshire, Ayrshire, Aberdeenshire, Fifeshire, Suffolk, and the better sorts of Welsh cattle.

The Third Class comprises the cattle of Argyleshire, the western islands of Scotland, and various breeds of mountain cattle.

By compounding the effect of condition with the properties peculiar to the different breeds, the following proportions of carcass weight to the live weight of cattle are the result of attentive observation, and have been found satisfactory in practice:—

Condition.	Per cent. of Beef of the Live Weight.		
	Class 1.	Class 2.	Class 3.
Half fat	54 to 59	50 to 55	45 to 50
Moderately fat	60 — 62	56 — 60	51 — 55
Prime to very fat ...	63 — 66	61 — 63	56 — 60
Extraordinary fat ...	67 — 72	64 — 68	61 — 66

As there is, however, an objection to the foregoing table, in the difficulty of conveying a precise idea of condition by the terms made use of, the following table of the proportion of beef to the live weights of bullocks and heifers, in condition for the butcher, may perhaps, in some measure, obviate the difficulty which applying the terms used in the former table arbitrarily may occasion:—

Proportion of Beef to the Live Weight of Oxen.

Live Weight, in stones of 14 lbs. avoirdupois.	Per cent. of Beef.			
	Class 1.		Class 2.	Class 3.
Under 180	Heifers ...	70 to 72	66 to 69	— —
— 180	Steers ...	69 — 71	66 — 69	— —
From 120 to 150	Steers ...	66 — 68	63 — 65	63 to 66
— 100 — 120	Heifers ...	66 — 68	63 — 65	63 — 66
— 100 — 120	Steers ...	62 — 65	60 — 62	57 — 62
— 90 — 100	Heifers ...	62 — 65	60 — 62	57 — 62
— 90 — 100	Steers ...	57 — 61	54 — 59	51 — 56
— 80 — 90	Heifers ...	57 — 61	54 — 59	51 — 56
— 80 — 90	Steers ...	53 — 56	50 — 53	48 — 50
— 70 — 80	Heifers ...	53 — 56	50 — 53	48 — 50
Under 70		— —	— —	45 — 47

It is not within the scope of possibility that any table, of the nature of those given above, can be constructed to meet every case; and even with the most extensive experience as to every one of the elements from which they can be constructed, still much must be left to the judgment and experience of individuals in order to obtain accurate results from their application. It is as much as can be expected from such means that accuracy can be obtained in most cases, and a tolerably near approximation to the truth in all others. When bulls are weighed to ascertain their carcass weight, a somewhat larger proportion of beef should be allowed, and for cows fattened after having several calves, and also for old bullocks, the proportions of beef to their live weight will be somewhat less than that stated in the tables. Cross-bred beasts frequently have the properties of their parents, in which case the proportion of beef to be applied must be that to which the parent belongs which it resembles most. In many instances we have met with cases of fat oxen, bred between the short-horn bull and some of the smaller sorts of Scotch cows, which inherit all the superior qualities of the sire. In one instance, in particular, we witnessed a five years' old heifer, bred from a short-horn bull and a Buchan cow, weighing only 107 stones, and her beef was 74 stones; but the offal in this animal, except hide and tallow, was almost the lightest we ever witnessed; certainly, in proportion to her weight, it might be truly considered a phenomenon.

(To be continued.)

Home Correspondence.

Charred Tan.—I quite agree with every word that your correspondent J. Prideaux has stated. It is now two years ago since a large tanner requested me to come down to Bermondsey, just to see if anything could be done with the refuse, as he called it, of the tan yards; with the exception of tan, everything else was rich in oils and alkaline matters, and nearly all was given away. I spent a day again amongst them this week, and tried all I knew to form a company to be called the Great Bermondsey Manure Company, but to no purpose, as they only laughed at me. I got next door to one who deals very largely in loam, I think he was a glue boiler; now this artful gentleman manufactures manure and sells it to some one else at 5*l.* per ton, and I was told that he is not the only one. I have no objection to this mixing of manures, only keep out the loam. Let them use Irish peat, or shale manure instead; and from the various rich manures that I saw, there is not a doubt but what Bermondsey would afford some 200 or 300 tons per week, of mixed manure, equal to guano, which could be sold at 4*l.* or 5*l.* per ton. The plan I proposed two years ago was to take some 20 acres of ground, after the company was formed, and establish drying plates to dry the tan previous to charring, and when the tan was charred to mix all the other ingredients with it. I found the largest tan-yard in Bermondsey was Mr. Hepburn's, who very kindly showed me all over his extensive premises of about 3 acres; he uses 80 tons per week of tan, with lime and other things in proportion. The nuisance of tan became so great that in order to get rid of it he put up an hydraulic press, (which requires the constant attendance of two men), to squeeze the wet out of his tan; then it is barrowed to the engine. This tan, with the assistance of a little small coal, which he buys at 9*s.* per ton, keeps a 20-horse power engine constantly at work, and in this way he gets rid of all his tan. The ashes he sells at a good price for manure and other purposes. To show the destructive process of burning, Mr. Hepburn told me that it required 6 tons of tan to make 1 ton of ashes. I was glad to get out of Bermondsey, the whole district stinks with a mixture of all sorts of gases. I was told that hardly any cholera came amongst them two years ago. I have been thus particular in naming all I saw, for there are miles out and miles in of nothing but large yards of skins heaped up upon one another, and stacks of horns of many a horned knout from the Grampian hills and Welsh mountains. Bermondsey is full of all sorts of tan factories, skin-dressers, glue-makers, vitriol-makers, and every other maker too numerous to name, not saying a word about catsup; the soup, I am told, makes this article very savoury and far superior to Mushroom catsup. The best part of the horse is used for German sausages, poor puss comes in for the worst, in fact every thing in Bermondsey seems to have found a use but the splendid manure which lies in heaps to vitiate the air—lying until some cunning carter from Kent calls in and squeezes sixpence or a shilling out of the proprietor of the yard to take away a waggon-load of rich manure. This I saw myself at Mr. Hepburn's yard; and what this cunning Kentish carter charged his master for it when he got home, I know not. The waggon-load consisted of lime, ashes, and oily matters, but no tan.

I have now laid before the public what I think of this mighty waste of the finest of manures, and shall be too glad to see the thing carried out. *James Cuthill, Camberwell.*

Spades and Shovels: West versus *East of England.*—I have in my employ both Cornish and Kentish men, each using their own tools, and I was of late much amused and afterwards interested in an animated discussion between them on the relative merits of their several shovels—the long handles against the short. The Cornish tool is long-handled, with a blade so strongly resembling the celebrated ace of spades, that I have no doubt it is the original of which so many portraits are extant; its merit, in a Cornish point of view, consists in obviating the necessity for bending the back—in its length of leverage, using the knee as a fulcrum. The Eastern men object to it for its want of capacity and being too far from its work, and difficulty of entering the soil in consequence. Several gallons of beer, I understand, have been gaged and drank in support of both sides of the question, without materially advancing the merits. Individually I oppose, mildly and discreetly, the Cornish shovel. I see error in principle, though I witness good practical results. Mentioning this matter elsewhere, I have been referred to the wisdom of the Board of Ordnance, in selecting this form of tool for the use of the Sappers and Miners. I fear this is no fair test, except of its antiquity, or of the slowness of the honourable Board to adopt change or improvement. As in several districts this shovel in its two forms is exclusively used, can any practical man from Cornwall, Devon, Kent, or Middlesex tell me why? *M., Deptford.* [We extract the following passage upon a corresponding question from *Bell's Weekly Messenger*:—"The opinion of the practical agriculturist and that of a spectator is seldom in unison on the introduction of any novel farming implement. Never, perhaps, was there a more exceptional case, however, than in that of Winton's Parkes's steel digging fork. Its five narrow prongs are of cast-steel, composed of one piece without joint or weld. These forks give place to the stones, assuming a perfect form instantly when withdrawn. A trial was recently made of Winton's Parkes's steel digging fork against that of the old broad-blade fork: the result was, the workman with the narrow tines of elastic steel earned 4*s.* while the one with the broad-blade fork earned only 2*s.* 3*d.*, out of which 6*d.* was paid for repairs. The saving does not conclude here: the weight of the respective implements varies almost 2 lbs.; such being the case, five tons more, it is estimated, was raised by the man adopting the broad-blade, or old character of fork.]

The Gapes in Poultry.—I trouble you with a few lines, which I shall feel obliged by your inserting in your Paper, as they may be useful to some of your readers who are fond of poultry, and have been unfortunate in losing their chickens by a disease called the gapes, which I believe is generally very fatal. I heard a neighbour of mine had lost 100 by it this summer. The disease, when violent, prevents them eating; if they manage to pick up a corn, they gape, and before they are able to swallow, the grain has fallen out of their mouths, so that they are literally starved to death. Medicine is useless; and the only cure I have found is to cram them three or four times a day, which keeps up their strength, and enables them in a short time to overcome the disease. This is the second summer I have tried the experiment and with complete success. The person who feeds the chickens will soon find out with a little attention those that do not eat, as they generally creep away, and are frightened at their more sturdy companions when the food is thrown to them. *M. A. F., Winchester.*

The Value of a Ton of Turnips.—Every farmer knows that the Wheat crop pays its own immediate expenses, and leaves a profit; that Barley is also remunerative, that the Clover crop is an inexpensive one; but the Turnip crop, as a basis for the other three, is costly, and entails a heavy charge beyond its immediate return. I believe I am quite safe in saying that every ton of Turnips grown in the south by the ordinary process of farming costs at least 10*s.* per ton; whilst the return, if some moderate quantity of purchased food is added, is scarcely 4*s.* per ton; and where much purchased food is used, not 1*s.* per ton is left for the Turnips. Mr. Lawes's experiments in the English Society's Journal, testing the comparative merits of various breeds of sheep, has produced, incidentally, a complete settlement of this question. The animals were allowed Clover hay and oilcake at the market price, in addition to an unlimited supply of Turnips; and the results were, that two lots paid nothing for their Turnips, after accounting for the purchased food, and the last lot, Cotswolds, only left 1*s.* per ton for the Turnips. Jobbers and dealers in this neighbourhood will sometimes give 2*s.* 6*d.* to 3*s.* 6*d.* per ton for Turnips consumed on the land, without additional food; but if they give oilcake they pay nothing for the Turnips. Although Colonel Mac Douall's tabulated statements in the last Society's Journal are very useful, and his practice sound, they by no means justify such a value for Turnips in our South country. He purchased his lean stock at 4*s.* 4*d.* per stone of 14 lbs., and sold it again when fattened at 5*s.* per stone, thus gaining a clear profit of 6*d.* per stone on the lean stock purchased. By deducting this source of profit—1*l.* 16*s.* from the 5*l.* 4*s.*—it leaves a price of 4*s.* per ton, instead of 6*s.*; and singularly enough this corresponds exactly with the intelligent tables of experiments published by Mr. Laycock at Newcastle, where he shows that he obtained 4*s.* per ton for his Turnips, and the manure. If I remember rightly, your experiments over a very long period, and large return, showed something like 3*s.* 4½*d.* per ton for roots. Col. Mac Douall is probably fortunately situated for obtaining cheap lean stock from the breeders on the waste lands of Scotland, but practically we, in the south, have often to buy our lean stock dearer, net dead weight, than we can again sell it for; and in the case of sheep especially, I am sure that 7*d.* to 8*d.* per lb. has lately been paid for lean meat, which must when fattened be disposed of at 6*d.* or 6½*d.* Breeders are certainly doing well now; but, after all, a breeding flock pulls the land, for its bone and muscle. It is quite clear that if we are to lose 6*l.* to 10*l.* per acre by our Turnip crop, that sum must be charged to the ensuing crops; and it is here that the shoe pinches. How important is it, then, that we should grow our roots as cheaply and abundantly as possible. I have long watched the most successful farmers, and have observed that those have made the most money who have used bones and bone manure abundantly; and I honestly believe that it is, taking price and all circumstances into consideration, our cheapest manure. The superphosphate acts quickly, and the half-inch bones tell strangely on the Clover and green crops that follow. The application of all my manure in a liquid form has at present given me very great advantages in root and green crops, which are beyond everything of the sort I ever yet produced; but I shall make my experience in irrigation the subject of a future communication shortly. *J. J. Mechi, Tiptree, Oct. 7.*

Societies.

Cleveland Agricultural: *Reaping Machines.*—Six machines were brought into the field. These were Mr. Hussey's, Mr. M'Cormick's, Mr. Garrett's, as improved by Mr. Palmer, of Stockton-on-Tees; Mr. Crosskill's, of Beverley; Messrs. Dray and Co.'s, of London; and Mr. John Wray's, of Leeming, near Bedale. The machine exhibited by Mr. Palmer is Hussey's with Garrett's improvements, which consist of the knife being bevilled on one edge only, and being made capable of cutting soft straw crops, such as Barley and Oats, and it has been considered better than a knife bevilled on both sides. It has an improved wheel for regulating the height of the cut, and also Palmer's roller platform, so that a man can throw off the sheaves with half the labour required from a plain platform. The weight is carried upon the horses' backs, instead of on their necks, a rod of iron being used to connect the saddles. The following is an account of Mr. M'Cormick's machine, as he himself read it upon the ground after the trial. He said, "The essential features of this machine, as distinguished from Hussey's, made by Crosskill, Dray, Garrett, and others, are the following, viz.: My machine cuts with the sickle edge and reel combined, so that a man riding upon the machine delivers the corn at the side, thus making the two operations of cutting and binding entirely independent of each other. The machine cuts 6 feet wide, and has full power to do its work at the ordinary speed of a plough team. It will cut as close to the ground as the surface will admit of, and can easily be adjusted to a high or low stubble, and will do work in the morning dew, or without regard to the weather. It is worked by two men and two horses, and the draught, by actual test made with the dynamometer, is only about equal to a two-horse plough, and is less than Hussey's, though one-fifth larger. Fifteen acres are about an average day's work (the raker and driver changing places alternately), and by calculation the machine cuts an acre to 1½ miles forward driving, estimating the machine at 5½ feet only. At Sheffield on the 2d, and at Driffield on the 13th August, in cutting about 2 acres to the two machines at the former, and at least 10 acres at the latter trial, and at Sunderland on the 25th August, the first prizes were awarded to my machine as the best in every respect; and although the Royal Agricultural Society at Lewes did award to Hussey's their first prize recently, it was done before my arrival in England, and my machine was represented by the respectable firm of Burgess and Key, of London, who naturally knew very little of the reaping machines, and constructed it exactly according to the pattern of last year, as exhibited at Cleveland, which was not adapted to cutting near the ground, but to a high stubble, as we do in the United States. While this is true, the corn was quite green at the date of the Royal Society's show, and a few rows across the field were cut, and that under circumstances so favourable as readily to admit of the worse appearing the better. I am here now to found the character of my machine upon its merits, and expect to prove fully its superior adaptation to the wants of the farmers of England, Ireland, and Scotland. Mr. Hudson, M.P., chairman of the Durham County Society, having ordered one of my machines for next year, while seeing it in operation alongside of the four others, I volunteered to cut corn for him, wet or dry, on Saturday, the 21st, and, if the weather is not very bad, will cut at least 10 acres. I may just add that my machine was exhibited at Cleveland last August, under the circumstances mentioned above, without my knowledge or consent; and the same is true as to the late exhibition at the Royal Society, when the cutting was well done, but too high. My object now, after having incurred great expense already in getting my machine before the public, is its general introduction everywhere." Mr. Hussey's machine, as exhibited and improved by Messrs. Dray, which has received several prizes, was tried, it appears, under rather unfavourable circumstances, in consequence of the horses not being proper ones for the purpose, so that they were obliged to be changed. This machine has a small wheel in front, which, it is said, takes all the bearing off the horses, and the machine is moved much more easily. Also connected with it is a simple and most effective apparatus for moving it about. This machine was commended by the jury. Mr. Hussey's own machine differs from that exhibited last year at Middlesbro', although the same in principle. It is 8 feet wide, being 3 feet wider than the original one. There are also two wheels in front. The width in question renders it impracticable to deliver the corn with a rake; and as a substitute for it, a tilting platform and flyer have been invented, by which the person on the seat, by moving a connecting rod, is able to change the position of the platform when it is full, and to throw the corn out behind. This platform falls back to its former position immediately to receive another sheaf. The principle of Mr. Crosskill's machine is well known, and in that of Mr. Wray's, as well as Mr. Hussey's, the jury were of opinion, as to some points, that much ingenuity had been displayed in their construction. In Mr. Wray's machine a revolving belt is introduced to lay the corn in swathe. Mr. Challoner gave the jury the opportunity of selecting any crop upon his farm, and in consequence the trial was more extensive and varied than it otherwise would have been. The trial was in a field containing a crop of Oats and a crop of Wheat, of about 5 acres each, and both erect and average crops.

The following is the Report of the jury:—"In the first place the jury, in conducting the trial, have paid the greatest attention, as well to the suggestions of the exhibitors as to those of the committee of this Society. The trial was commenced at 1 o'clock yesterday, and was continued up to 7 o'clock in the evening, during which time the whole of the machines brought forward were tried. Mr. Hussey's machine, in consequence of an accident, did not reach the trial field. The trial was resumed this morning at 7 o'clock, and finished at noon, Mr. Hussey's machine being tried first. The whole of the machines were put to the most severe and varied trial upon average crops of Wheat and Oats, and your jury, after timing and measuring the operations of the different machines, working them under a variety of circumstances, and balancing their merits and demerits, have come to the decision, by a majority of eight to two, that machine E, as exhibited by Mr. John Palmer, of Stockton, is entitled to the premium, and they are unanimously of opinion that machine O, as exhibited by Mr. M'Cormick, should be highly commended, and that machine M, as exhibited by Messrs. Dray and Co., should be commended. Your jury beg to add that they consider the machines A and B, as exhibited respectively by Mr. Hussey and Mr. Wray, are deserving of their approbation, inasmuch as, in some respects, there was much ingenuity displayed in their construction. It is proper to add that one of the jury was of opinion that the merit was equal between machines E and O, and that the prize ought to be divided. The jury have had the satisfaction of hearing several of the exhibitors express their unqualified approbation of the manner in which the trial was conducted throughout. Your jury cannot conclude their report without expressing their unanimous thanks to the President of the Cleveland Agricultural Society for the use of his crops on this occasion, which enabled them to make the trial the most lengthened and varied that has taken place since the introduction of the reaping machines into this country; and, further, they beg to add that the greatest praise is due to the large and respectable assembly on the ground that day for the orderly manner in which they conducted themselves during the trial.—John Peirson, Foreman.—Gainsbro, Aug. 26."

In the course of the evening the following remarks were made by Mr. Wharton, in proposing the health of the judges and jurors:—The Chairman had called their attention to certain premiums which had been offered by the North Ribblesdale Association. He did not find any fault with the remarks he had made on that subject, but at the same time he must state that they had offered on several occasions premiums not exactly similar, but of a similar character to those which are recommended. Only last year a challenge cup of 20 guineas was offered by the Society for the best cultivated farm within the district. The conditions were that it was to be open to a challenge for three years, and at the end of that period the cup was to become the whole and exclusive property of the person who had the best cultivated farm. That call was not responded to in the way that could have been wished, and he believed there had been only one entry. One great objection to this sort of premium was the great expense it entailed on the Society in visiting farms at a distance. They must have at least three judges to go round and inspect the farms, because it was very possible there might be a difference of opinion; and therefore it was absolutely necessary to have a declaring voice on a question of that sort. It was quite clear the expense would be very considerable when farms laid on opposite sides of the district, more particularly when they had not a railroad running through the centre of the district. His friend the Chairman seemed to think a very great deal about the offering of a premium for a manure pump. He (the Vice-Chairman) thought that they had no right to have liquid manure on their farms, and that it should be absorbed by the straw, which is taken in a better state to the field. From what he had seen, he was perfectly satisfied that manure made in the yard, under cover, and therefore

that upon which rain never falls, was worth double the weight of that laid in the fold-yard. He then, as at the last meeting, drew attention to the adulteration of guano, which had much increased of late, and stated it to be the opinion of Professor Way, chemist to the Royal Agricultural Society of England, that it was almost impossible for the farmer to detect these adulterations. He thought this was a most important subject, and one which the Society ought to take in hand, more especially as this district was becoming much more of a Turnip growing country than it was 10 or 15 years ago. He would launch a new scheme he meant to propose to the Society. He wished to form a guano club or society which should have the proper means of testing, by analysis, the guano which was purchased by its members. He was satisfied that a society of this sort would prove of greater benefit to the district than perhaps any other that could be established, because the profit on guano was so small, and consequently the temptation to adulterate it was so great, that he believed it hardly possible for a small dealer to deal in this article with profit to himself, and maintain the character of a respectable man and an honest dealer. He hoped shortly to call a meeting for the purpose he had named, and that the farmers generally would aid him in his endeavour to establish such a society. There were certain gentlemen present whose support he should not solicit, although he trusted he should meet with their cordial co-operation; but at the same time he must state that it was the bounden duty of the large landed proprietors of the district to come forward and support the society. In proposing the health of the judges and jurors of this Society, he would observe that no body of men had ever more difficult cards to play than to decide on the merits of the reapers on the previous day. Their duty was not merely to ascertain whether this implement or that implement did the best work, because he thought that every one who saw the work done must admit that it was more than satisfactory. The work was exceedingly good; in fact, as far as he could see, there was no work done by any of the machines which they could find any great fault with. No doubt in certain places, owing to the state of the crop, there were certain failures; that of course was not the fault of the machine, but owing to the position in which the corn was laid for cutting. He had heard the decision of the jury canvassed, and he was not at all surprised to hear a great number of different opinions on the subject. He confessed, if he had to make up his mind at this meeting to purchase a reaper, he was not prepared to say, having got through the greater part of the harvest, which he would buy for the next. He should say he would prefer waiting. — Mr. J. Peirson responded. He said that there were 13 points in all laid before the jury for their decision, and one of them was how the machine acted on hilly or uneven ground; but this could not be decided, because the ground was not adapted for doing so. On the remaining 12 points, seven were decided in favour of Garrett's machine, and five in favour of M'Cormick's, so that the jury were in no way unanimous; but there were other points they had to determine, and at last he, as foreman, put the question which, in their opinion, was the best machine, which the second, and which the third? That decision had already been laid before them, and he thought they would give the jury credit for having done their best according to their judgment. The trial was a long and most anxious one to them, and if they had erred at all, it was an error of judgment. The machine exhibited by Mr. Hussey himself was on an entirely new principle as regarded the "tipping" of the corn from the platform, but they considered it much too large for general use in this district. It cut to the width of 8 feet, and in a large and heavy crop it would be utterly impossible for two horses to work it. He understood that it had been used for cutting Flax in America, and for any light crop of Flax or Oats, he had no doubt it would act admirably. In Mr. Wray's machine was introduced a revolving belt to lay the corn in swathe. Should a machine of this description be brought into general use, it was thought that it would not be necessary to employ so large a number of hands as with Garrett's, or even with M'Cormick's. With respect to the delivery of the latter he thought it was not advisable for the corn to lie on the ground in sheaf for any length of time. The draught of the machines was another consideration, and although M'Cormick's seemed to work at a light draught, and go at a slow pace, yet they considered the draught of Garrett's machine was not much more than M'Cormick's. Another thing which made them decide in favour of Garrett's was, that the machine was never stopped during the experiments, whilst M'Cormick's machine had a stoppage on two or three different occasions. In a trial of speed on 3 roods and 18 perches of land, Garrett's machine completed its quota in 28 minutes, M'Cormick's in 36 minutes, and Dray's in 33 minutes.

Calendar of Operations.

SEPTEMBER.

DORSET FARM, *Sept* 25.—We may now write a few lines at something like leisure. Since harvest began there has not been much spare time; we finished ours about three weeks ago, and perhaps to the full as well as others; but there has been a good deal of damage done by the heavy rains, and certainly the sanguine expectations that we once cherished have not been realised in any way. The Wheat, although before harvest it was here and there a little blighted, yet I did not think that enough to materially affect an otherwise promising crop. We had no blight in ours, nor was there any on a farm that adjoins us; and this, I think, may be partly accounted for by the nature of the soil, which, lying as it does upon gravel, and that again on chalk, tends to counteract the influence likely to arise from rapid changes of weather; as such a soil is not easily made too wet, neither is it made very dry, without a long continuance of dry weather. As I said, I think this must be partly the cause why we had no blight in this neighbourhood. I know it is said that the old red straw Wheat is more hardy than some other sorts, but the farm adjoining us was sown with a different sort, and ours was partly Spalding and partly red straw. I found a few acres of Spalding that were a little dark in the straw, but it was sown after Turnips, and I often find that Wheat after them does not seem quite so healthy. We were very fortunate in securing the Wheat in good order; when we saw signs of rain approaching, we put it all in mow on the field, the mows being made no higher than we could put the sheaves in their position when standing on the ground, using a ladder only to put on the cap sheaf. This I find to be both the quickest and safest way of securing it that we have ever tried. The mows are small, and the sheaves have not to be brought far; and as no one gets on the stack, the sheaves are sure to be laid with their heads well up, so that any rain that falls upon them soon finds its way to the ground, a thing that it will not so readily do when some builders get upon the stack. Here I am tempted to notice a system of rick building recommended by a correspondent in your Paper some time ago, but shall leave that to another time. We were not so fortunate with some of our Barley that was cut early, as the rain came on it a day or two before it was fit to carry, and it lay on the ground for more than a week in very heavy rain; but as we had our Wheat all safe, we kept moving it often and kept it from sprouting. Although it is dark in colour, the quality is not much damaged, and the weight of the worst exceeds 50 lbs. per bushel; but some have been very late in getting in theirs, and it is all but destroyed; in some places they have but just finished. The only fine weather that we have had for carrying was from August 19 to September 4; and what was not secured on the latter date has been all but destroyed, for up to the 22d inst. there has not been a day on which corn could be carried dry. We have not for many years had a season that proved to us the value of despatch more forcibly. Of the Turnip crop, we will speak another time in answer to the queries put forth by the Highland Society, as far as our experience and observation goes. We shall now find employment in cleaning and preparing the land for Vetches and root crops for next year, a work which will be heavier than usual, as the season has been well adapted for propagating and maturing all kinds of weeds. *G. S.*

Miscellaneous.

Cultivation of Wheat.—October 20, 1851, were drilled the following varieties of Wheat, at the rate of about 7 pecks per acre, on plots of land contiguous to each other, after a white Clover ley:—

	Quantity per Acre.	Value per Quarter.	Value per Acre.
	B. P. G.	*s.*	£ *s.* *d.*
New Lammas, red	38 1 0	40	9 11 3
Albert, red	40 3 0	33	9 13 6
Browick, red	42 3 1	38	10 3 8
Imperial White...	39 1 0	46	11 5 8
Golden Drop, red	41 0 1	38	9 15 4
Spalding, red	41 1 0	38	9 15 11

On the same day as the above sorts were drilled I commenced another experiment on the same furlong of land, but not in quite so good condition, by drilling the following varieties of white Wheats, at intervals of 8 inches, at the rate also of 7 pecks per acre, which produced the following result:—

	Quantity per Acre.	Value per Quarter.	Value per Acre.
	B. P. G.	*s.*	£ *s.* *d.*
Imperial White...	37 0 0	46	10 12 9
Cousens's unrivalled White Wheat	34 2 1	44	9 10 5
Kent Brown Chaff White Wheat	27 3 1	46	8 0 2

The land on which these trials were made is a gravelly loam, and not in a high state of cultivation. The great difference also in the yield in the last experiment, between the least and most productive sorts, clearly indicates the necessity of endeavouring to ascertain the most remunerative kind of Wheat to grow. The superiority of the quality of the Imperial White Wheat in the first experiment, although grown on my farm for the last nine years without a change, was very great over the red Wheats, which seemed very much washed by the heavy rains before and during the harvest, whilst the Imperial White Wheat retained the beautiful bloom for which it is remarkable, and being very hardy, it scarcely sprouted. I think also the Browick red will not grow quite so quick in the sheaf in wet weather as some other softer kinds of red Wheat. Having heard much of a very productive sort of red Wheat called the Defiance, of a horned or bearded kind, I determined to try its merits against three other good varieties, which were all drilled on the same day and in the same manner, in October 1851, at the rate of about 7 pecks per acre, on plots of land adjoining.

	Quantity per Acre.	Value per Quarter.	Value per Acre.
	B. P. G.	*s.*	£ *s.* *d.*
Defiance, red	48 0 1	38	11 8 7
Golden Drop, red	41 0 1	38	9 15 4
Golden Goody, red	41 2 1	38	9 17 8
Spalding, red	41 1 0	38	9 15 11

The Defiance Wheat is generally of a coarser quality than most other red Wheats, yet this season it produced rather a better sample than the other sorts. When in shock it appears to resist the rain from penetrating, and consequently does not sprout so soon as some other kinds of Wheat. I have grown it only one season, but mean to try it again, as I consider it very productive. I have also about three acres of it grown, elsewhere, which promises to yield better than that grown in the experiment. A good sort of red Wheat is grown in this neighbourhood, and which was recommended to me for trial; it was drilled on the 30th of October, 1851, by the side of the Browick Red Wheat (the most productive sort I then had), on a piece of Red Clover ley on a gravelly soil in good condition. I found the result to be as follows:—

	Quantity per acre.	Value per qr.	Value per acre.
	B. P. G.	*s.*	£ *s.* *d.*
Browick, red	47 0 1	38	11 3 10
Sandon's, red	44 3 0	38	10 12 6

I published the result of an experiment in the *Messenger* in October, 1850, respecting hand-hoeing Wheat in the spring of that year, when it appeared that the part not hoed produced more by 2 bushels and 1 peck per acre than that part well hand-hoed. In 1851 another trial was made on the same subject, which resulted in the hoed Wheat having a very slight advantage, scarcely enough to pay the expenses of hoeing. Again, this year, I made a further experiment, and drilled two plots of land at 8-inch intervals with red Wheat, one of which was well hand-hoed in April, and the other left without having the soil in any way moved in the spring. The produce was as follows:—

	Quantity per acre. B. P. G.
Wheat well hand-hoed	42 0 0
Wheat not hoed	44 3 0

These trials seem to prove that it is useless to hoe Wheat in the spring of the year, unless the land is foul with weed. In conclusion, I must relate another experiment respecting making the land solid for Wheat, by pressing, rolling, &c. Two plots of land, about 1 rood each, were drilled with Lammas Wheat on a white Clover ley and gravel soil, and managed in every way the same, except that one part was rolled lightly, as usual, once after the drilling. The other plot was rolled with a very heavy roller three times over, care being taken that the horses did not walk each twice over in the same track, consequently the soil was made perfectly solid. When threshed, I found the result to be as under:—

	Quantity per acre. B. P. G.
Wheat land, three times heavily rolled and horse-trod	38 2 0
Wheat land, very lightly rolled	38 1 0

This experiment shows but little utility in being at much expense to get the land firm for Wheat, an advantage I have for some time doubted, although I know it is adverse to popular opinion.—I am, Sir, your obedient servant, *T. E. Pawlett, of Beeston, Biggleswade, in Bell's Weekly Messenger.*

Notices to Correspondents.

CARAWAY: *Mr. Unthank.* Sow in wide and shallow rows one gallon of seed per acre, by drill among the Wheat, in rows 3 feet apart. After Wheat harvest, work the land between the rows of young plants with the horse hoe. It is to be hoed and kept clean during the following summer, when it produces nothing. In the two following summers it is in full bearing, and may afterwards be cleared away for another Wheat crop. It is cut in July a foot or more from the ground; and when dry, threshed on the ground. You may get 8 or 9 cwt. of seed per acre and sell it for 35*s.* per cwt.

FENCING FOR SHEEP: *J M—c.* Iron hurdles are safest. But unless sheep would do harm if they escaped, the greater cheapness of netting would make it preferable. It is not so safe, but it is much cheaper.

HAY OR CHAFF: *A Z.* Please to excuse the delay of a week.

PIPER'S THICKSET: *Triticus.* Address, Mr. Piper, Colne Engaine Essex.

Markets.

COVENT GARDEN, Oct. 16.

Vegetables and Fruit in general continue plentiful. Melons, however, are becoming scarcer. Plums, Pears, Apples, and Peaches still arrive from France. Tomatoes are nearly over. Filberts realise from 50*s.* to 65*s.* Potatoes are rising in price. Mushrooms are still pretty plentiful. Cut flowers consist of Heaths, Pelargoniums, Roses, Mignonette, Bignonia venusta, and Fuchsias.

FRUIT.

Pine-apples, per lb., 3*s* to 6*s*
Grapes, hothouse, p. lb., 2*s* to 6*s*
Peaches, per doz., 10*s* to 15*s*
Nectarines, per doz., 8*s* to 8*s*
Plums, per punnet, 2*s* to 4*s*
Figs, per doz., 1*s* 6*d* to 2*s* 6*d*
Apples, dessert, p. bsh., 4*s* to 7*s*
— kitchen, do., 3*s* to 6*s*
Melons, each, 2*s* to 5*s*
Lemons, per doz., 1*s* to 2*s*
Pears, per doz., 1*s* 6*d* to 4*s*
— per half sieve, 5*s* to 7*s*
Almonds, per peck, 5*s*
— sweet, per lb., 2*s* to 3*s*
Nuts, Barcelona, per bush, 20*s* to 22*s*
— Brazil, do., 12*s* to 14*s*
Kent Cobs, 75*s* to 80*s*

VEGETABLES.

Cabbages, per doz., 6*d* to 1*s*
French Beans, per half sieve, 2*s* to 2*s* 6*d*
Brussels Sprouts, p. hf. sieve, 1*s* to 2*s*
Cauliflowers, p. doz., 6*d* to 2*s* 6*d*
Greens, per doz., 1*s* to 2*s*
Tomatoes, per hf. sieve, 4*s* to 5*s*
Potatoes, per ton, 85*s* to 140*s*
— per cwt., 5*s* to 9*s*
— per bush., 2*s* 6*d* to 4*s* 6*d*
Turnips, per doz., 1*s* to 1*s* 9*d*
Cucumbers, each, 2*d* to 6*d*
Veget. Marrow, p. doz, 6*d* to 1*s*
Celery, per bundle, 9*d* to 1*s* 3*d*
Carrots, p. doz., 2*s* 6*d* to 4*s*
Spinach, per sieve, 1*s* to 2*s*
Onions, per bunch, 2*d* to 4*d*
— Spanish, p. doz., 1*s* 3*d* to 3*s*
Beet, per doz., 1*s* to 1*s* 6*d*
Leeks, per bunch, 1*d* to 2*d*
Shallots, per lb., 6*d* to 8*d*
Garlic, per lb., 6*d* to 8*d*
Lettuce, Cab., per score 4*d* to 6*d*
— Cos, p. score, 9*d* to 1*s*
Radishes, per doz., 8*d* to 1*s*
— Turnip, 9*d* to 1*s* 6*d*
Endive per score, 1*s* to 1*s* 6*d*
Small Salads, p. pun., 2*d* to 3*d*
Horse Radish, p. bundle, 1*s* to 3*s*
Mushrooms, p. pott., 9*d* to 1*s* 3*d*
— per bush., 3*s* to 5*s*
Sorrel, per hf. sieve, 6*d* to 1*s*
Artichokes, per doz., 4*s* to 6*s*
Fennel, per bunch, 2*d* to 3*d*
Savory, per bunch, 2*d* to 3*d*
Thyme, per bunch, 2*d* to 3*d*
Parsley, p. doz. buchs., 2*s* to 3*s*
Mint, per bunch, 2*d* to 3*d*
Basil, green, p. bunch, 3*d*
Marjoram, do., 2*d* to 3*d*
Watercresses, p. 12 bun., 4*d* to 6*d*

HAY.—Per Load of 36 Trusses.

SMITHFIELD, Oct. 14.

Prime Meadow Hay	72*s* to 80*s*		Clover ...	...	75*s* to 98*s*
Inferior do.	... 60	66	New do.	...	... 70 84
Rowen ...	... 45	55	Straw	...	... 25 30
New Hay ...	... —	—			E. J. DAVIS.

A good demand for the better descriptions of both Meadow Hay and Clover; anything inferior very difficult to sell.

CUMBERLAND MARKET, Oct. 14.

Prime Meadow Hay	78*s* to 86*s*		Inferior Clover	...	70*s* to 84*s*
Inferior do. ...	... 60	72	New do.	...	... — —
New Hay ...	... —	—	Straw	...	... 28 34
Old Clover ...	... 95	100			JOSHUA BAKER.

HOPS.—Borough Market, Oct. 15.

Messrs. Pattenden and Smith report that a very extensive trade is doing in all descriptions of Hops, and at improved prices for the best samples of Middle and East Kent, and fine coloured Sussex Hops. At Weyhill Fair about 2400 pockets of Farnhams and 2600 pockets of country Farnhams were pitched, and nearly the whole have been sold. Farnhams from 5*l.* to 7*l.*; country do, 4*l.* 10*s.* to 5*l.* The London merchants have done a good trade in Kent and Sussex Hops by sample. Duty estimated at 250,000*l.*

SMITHFIELD.—Monday, Oct. 11.

The number of Beasts is nearly the same as on Monday last. There is rather a better demand for the choicest kinds, but at no quotable advance. Trade is still very heavy for middling qualities. We have a better supply of Sheep, both as regards numbers and quality; in consequence, prices are lower on the average. Although the number of Calves is by no means large, we cannot maintain late prices. The weather being milder, trade is slow for all kinds of stock. Our foreign supply consists of 1335 Beasts, 4640 Sheep, 164 Calves, and 50 Pigs; from Scotland, 40 Beasts; and 2800 from the northern and midland counties.

Per st. of 8lbs.—s d	s d	Per st. of 8lbs.—s d	s d
Best Scots, Here-		Best Long-wools . 3	8 to 4 2
fords, &c. ... 3 8	to 3 10	Do. Shorn ... 0	0 — 0 0
Best Short-horns 3 6	— 3 8	Ewes & 2d quality 3	0 — 3 6
2d quality Beasts 2 4	— 3 0	Do. Shorn 0	0 — 0 0
Best Downs and		Lambs 0	0 — 0 0
Half-breds ... 4 4	— 4 6	Calves 3	4 — 4 0
Do. Shorn 0	0 — 0 0	Pigs 3	0 — 4 0

Beasts, 5107; Sheep and Lambs, 27,990; Calves, 227; Pigs, 370.

Friday, Oct. 15.

We have a large supply of middling Beasts; trade is worse for all kinds, and several remain unsold. The number of Sheep is not large, yet sufficient for the time of year; trade is exceedingly heavy, and lower prices are submitted to in order to effect a clearance. The demand for Calves is very much smaller, and a considerable reduction in price is the result. Our foreign supply consists of 723 Beasts, 1810 Sheep, and 221 Calves; there are 400 Beasts from the northern and midland, and 83 Milch Cows from the home counties.

Per st. of 8lbs.—s d	s d	Per st. of 8lbs.—s d	s d
Best Scots, Here-		Best Long-wools . 3	8 to 4 0
fords, &c. ... 3 6	to 3 8	Do. Shorn ...	...
Best Short-horns 3 4	— 3 6	Ewes & 2d quality 3	0 — 3 4
2d quality Beasts 2 0	— 2 10	Do. Shorn ... 0	0 — 0 0
Best Downs and		Lambs 0	0 — 0 0
Half-breds ... 4 0	— 4 4	Calves 2	8 — 3 8
Do. Shorn ... 0	0 — 0 0	Pigs 2	8 — 3 8

Beasts, 1392; Sheep and Lambs, 5,500; Calves, 397; Pigs, 495.

WOOL.

Bradford, Thursday, Oct. 14.—There is no change during the week in the demand, and the staplers hold firmly.

MARK LANE.

Monday, Oct. 11.—The supply of English Wheat to this morning's market was small, and disposed of at an advance of 1s. per qr. upon the prices of this day se'nnight. Foreign met a good retail inquiry at the highest prices lately obtainable.—The value of Flour is fully supported.—The finest parcels of malting Barley were taken at last week's prices; inferior sorts are very difficult to quit, and rather cheaper. Foreign grinding is very scarce, and brings rather more money.—Beans are fully as dear.—Fine English white Peas are 1s. to 2s. per qr. dearer; Maple and Grey 1s. per qr. cheaper.—Oats meet a fair sale at the rates of this day week.

Per Imperial Quarter.	s. s.		s. s.
Wheat, Essex, Kent, & Suffolk...White	38—50	Red	32—44
— — fine selected runs...ditto	42—54	Red	38—48
— — Talavera	52—56		
— Norfolk	40—48	Red	—
— Foreign	34—54		
Barley, grind. & distil., 24s to 27s...Chev.	25—32	Malting .	27—29
— Foreign ...grinding and distilling	22—25	Malting .	26—29
Oats, Essex, and Suffolk	18—19		
— Scotch and Lincolnshire...Potato	18—22	Feed	17—19
— Irish .....Potato	17—20	Feed	17—19
— Foreign .....Poland and Brew	18—21	Feed	15—19
Rye	29—32	Foreign .	—
Rye-meal, foreign	—		
Beans, Mazagan.....29s to 31s.....Tick	30—33	Harrow .	30—33
— Pigeon .....32s — 35s...Winds.	38—40	Longpod	30—34
— Foreign .....Small	29—34	Egyptian	29—30
Peas, white, Essex and Kent.....Boilers	38—41	Suffolk...	40—42
— Maple.....32s to 35s.....Grey	30—33	Foreign .	28—38
Maize .....White	—	Yellow...	—
Flour, best marks delivered ...per sack	37—40		
— Suffolk .....ditto	25—32	Norfolk .	25—32
— Foreign..... per barrel	21—24	Per sack	28—34

Friday, Oct. 15.—To-day's market was unusually thinly attended, buyers of Wheat apparently holding off in hopes of forcing holders to accept lower rates, but the latter being remarkably firm, some portion of the arrivals will be taken to granary; prices of both English and foreign must be noted the same as on Monday, with but very little business doing. The few cargoes of Wheat on sale from the Mediterranean are held high; say Ghirka 41s., and Egyptian 34s., cost, freight, and insurance.—Barley, Beans, and Peas meet a good demand at Monday's prices.—The Oat trade is slow, and the turn cheaper,—In Flour there is but little doing.

Imperial Averages.

	Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Sept. 4.....	44 9	28 2	20 5	31 3	34 10	31 6
— 11.....	42 5	27 10	18 10	30 9	34 5	31 9
— 18.....	40 5	27 4	18 7	30 1	34 4	29 10
— 25.....	39 6	27 5	17 11	31 0	33 10	29 10
Oct. 2.....	38 9	27 4	17 4	30 5	33 10	30 0
— 9.....	38 5	27 5	17 6	28 10	34 0	30 4
Aggreg. Aver.	40 9	27 7	18 5	30 5	34 3	30 7

Duties on Foreign Grain, 1s. per qr.

Fluctuations in the last Six Week's Averages.

Prices.	Sept. 4.	Sept. 11.	Sept. 18.	Sept. 25.	Oct. 2.	Oct. 9.
44s 9d	——	...	...	...	...	...
42 5 —	...	——	...	...	...	...
40 5	...	...	——	...	...	...
39 6	...	...	...	——	...	...
38 9	...	...	...	...	——	...
38 5	...	...	...	...	...	——

Liverpool, Tuesday, Oct. 12.—We have had fair arrivals of foreign Wheat this week, but of Flour and other articles of the grain trade they are small. There was a fair attendance of buyers at this morning's market, and prices of Wheat and Flour improved 1d. to 2d. per bushel, and 6d. per barrel and sack on the quotations of this day se'nnight, with a healthy trade to both town and country. Fine new mealing Oats scarce, but there was no change made in prices of this article, or of Oatmeal. Beans and Peas rather dearer. Indian Corn in small supply, and commands full prices.——Friday, Oct. 8.—At our Corn Exchange this morning, we had a healthy demand for Wheat and Flour for neighbouring consumption, and for shipment to Ireland and coastwise. The advanced prices of Tuesday last were well confirmed to-day, and the trade generally has a stronger aspect than of late. Oats and Oatmeal were in fair request, at extreme prices. There was an improved demand for Indian Corn, at full prices. Barley, Beans, and Peas command extreme quotations.

ESTABLISHED MORE THAN 100 YEARS.

THOMAS MILLINGTON,

IMPORTER AND DEALER IN

GLASS FOR CONSERVATORIES, GREENHOUSES, GARDEN FRAMES, AND DWELLINGS.

WAREHOUSE, 87, BISHOPSGATE STREET WITHOUT, LONDON.

Cut to any size. Squares not above 40 inches long. Per foot.

16 ounces	...	...	...	0s. 2¾d. to 0s. 3d.
21	,,	...	...	0 3½ to 0 4
26	,,	...	...	0 5 to 0 6
32	,,	...	...	0 6½ to 0 8

Squares in Boxes 100 feet each.

Under 6 by 4	12s. 0d.
6 by 4, 6½ by 4	13 0
7 by 4, 7 by 6 } under 9 by 7	15 0
8 by 6, 8½ by 6½ }	
9 by 7, 8 by 8, 12 by 9, 12 by 10 }	
13 by 10, 14 by 10, 15 by 10 ... }	20 0

LARGE SHEET of No. 16, very superior, packed in cases of 100, 200, and 300 feet, at 2½d. to 2½d. per foot.
HARTLEY'S and other ROUGH PLATE, from ⅛ to 1 inch thick.

Glass Milk Pans, Preserve Jars, Bee and Propagating Glasses, Plate Glass, Patent Plate, Plain, ornamental, and Coloured, as well as every description of Window Glass now manufactured. Glass Shades, round, oval, and square, for Clocks and Ornaments. Fern Shades and Dishes.

HARTLEY'S PATENT ROUGH PLATE GLASS,

For Ridge and Furrow Roofs, Greenhouses, Railway Stations, Engine Sheds, Mills, Market-Halls, and Public Buildings generally.

For Conservatories, Public Buildings, Manufactories, Skylights, &c., &c.	One-eighth inch thick.	3-16th inch thick.	¼ inch thick.
Packed in Crates, for cutting up of the sizes as Manufactured:—	s. d.	s. d.	s. d.
30 inches wide and from 40 to 50 long	0 6	0 8	0 10
Or 20 ,, ,, 50 to 70 ,, ...			
In Squares, cut to the sizes ordered:—			
Under 8 by 6	0 4	0 6	0 7
8 by 6 and under 10 by 8	0 4½	0 7	0 8
10 by 8 ,, 14 by 10	0 5	0 7	0 9
14 by 10 ,, 1½ feet super., if the length does not exceed 20 inches	0 5½	0 7	0 9
1½ feet sup. ,, 3 ,, or if above 20, and not above 30 inches long	0 6	0 8	0 10
3 ,, ,, 4 ,, ,, 20 ,, 30 ,, ...	0 6½	0 8	0 10
4 ,, ,, 5 ,, ,, 30 ,, 35 ,, ...	0 7	0 8½	0 10
5 ,, ,, 6 ,, ,, 35 ,, 40 ,, ...	0 7½	0 9	0 10½
6 ,, ,, 8 ,, ,, 40 ,, 45 ,, ...	0 8	0 9½	0 11
8 ,, ,, 10 ,, ,, 45 ,, 55 ,, ...	0 8½	0 10	1 0
10 ,, ,, 12 ,, ,, 55 ,, 70 ,, ...	0 9	0 11	1 1
12 ,, ,, 15 ,, ,, 70 ,, 85 ,, ...	.....	1 0	1 2

PACKED IN BOXES OF 50 FEET EACH.

6 inches by 4 inches, and 6½ inches by 4½ inches ... 10s. 6d. | 8 inches by 6 inches, and 8½ inches by 6½ inches .. 13s. 6d.
7 ,, by 5 ,, and 7½ ,, by 5½ ,, ... 12s. 0d. | 9 ,, by 7 ,, and 9½ ,, by 7½, and 10 by 8 15s. 0d.

When a quantity is required, an estimate will be furnished on application.

JAMES PHILLIPS AND CO.,

HORTICULTURAL GLASS MERCHANTS, 116, BISHOPSGATE-STREET WITHOUT, LONDON.

GLASS FOR CONSERVATORIES, ETC.

HETLEY and Co. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2d. to 3d. per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices and Estimates forwarded on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLATES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to James Hetley and Co., 35, Soho-square, London.
See *Gardeners' Chronicle* first Saturday in each month.

SOHO GLASS WAREHOUSE, 26, SOHO SQUARE.

ALFRED GOSLETT begs to inform consumers of Glass for Horticultural purposes that he supplies the following descriptions, either in crates, as manufactured, at Reduced Prices, or cut to any given size:—ENGLISH CROWN and SHEET GLASS of every weight manufactured. HARTLEY'S PATENT ROLLED ROUGH GLASS, one-eighth, three-sixteenths, and one-quarter inch thick. BELGIAN SHEET GLASS, in cases, containing 200 feet, of one given size, at 40s. per case, in parcels of five cases at 38s., and in parcels of 10 cases, at 37s. per case, for Cash; or cut to order at 3d. per foot superficial. Estimates or any further particulars will be forwarded upon application.



JAMES PHILLIPS and Co., 116, Bishopsgate-street Without, beg to inform their friends they are prepared to supply

GLASS MILK PANS,

the same size as the foreign ones (17 inches in diameter) but superior in colour, make, and quality, at 2s. each, or 21s. per dozen. Lord Camoy's Milk Syphons, Lactometers, Milk Tests, Glass Cream Pots, &c., &c.
116, Bishopsgate-street Without, London.

HOTHOUSES, GREENHOUSES, ETC.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

E. DENCH, PATENT HOTHOUSE WORKS, King's Road, Chelsea.—The superior qualities in every respect of these Structures having been proved in all parts of the United Kingdom, has caused a greater demand for them than E. D. could execute; he has been obliged to have perfect and powerful machinery made to meet the numerous orders, and can now execute any amount of work to great perfection, with dispatch, and for quality and price to defy all competition. Patent Hothouses, with excellent glass, 8 feet long by 1 foot wide, every front sash to open, and every top one to slide down, with pulley made of the same materials as the electric telegraph wires, which require no painting; delivered free to Wharf or Railway Station, at 1s. 2d. per foot super., complete, having been fitted, and every portion marked previously, making a Greenhouse 16 ft. 6 inches long, 12 ft. rafter, 400 ft., 23*l.* 6*s.* 8*d.*; 24 ft. 6 ins. long, do. do., 526 ft., 30*l.* 13*s.* 8*d.*; 28 ft. 6 ins. long, 15 ft. rafter, 712 ft., 41*l.* 10*s.* 8*d.* Heating by Hot Water on the most approved and economical principles.
Patent Sashes for Pits and Peach Walls, &c., 7*d.* and 8*d.* per foot, super.

AN IMMENSE STOCK OF GARDEN ORNAMENTS

MAY NOW BE INSPECTED AT

AUSTIN AND SEELEY'S

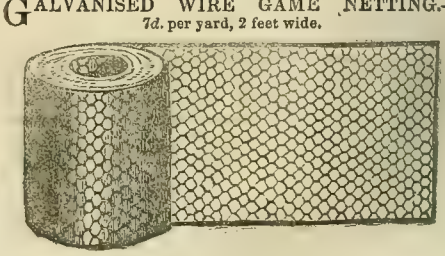
ARTIFICIAL STONE WORKS,

Or Pattern Sheets will be sent by post to any Gentleman who may not have an opportunity to call.

KEPPEL ROW, NEW ROAD,
REGENT'S PARK, LONDON.



GALVANISED WIRE GAME NETTING.—7*d.* per yard, 2 feet wide.

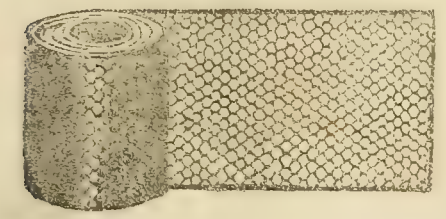


	Galvanised.	Japanned Iron.
2-inch mesh, light, 24 inches wide ...	7*d.* per yd.	5*d.* per yd.
2-inch ,, strong ,, ...	9 ,,	6½ ,,
2-inch ,, extra strong ,, ...	12 ,,	9 ,,
1⅝-inch ,, light ,, ...	8 ,,	6 ,,
1⅝-inch ,, strong ,, ...	10 ,,	8 ,,
1⅝-inch ,, extra strong ,, ...	14 ,,	11 ,,

All the above can be made any width at proportionate prices. If the upper half is a coarse mesh, it will reduce the prices one-fourth. Galvanised sparrow-proof netting for Pheasantries, 3*d.* per square foot. Patterns forwarded post free.

Manufactured by BARNARD and BISHOP, Market-place, Norwich, and delivered free of expense in London, Peterborough, Hull, or Newcastle.

CHEAP WIRE GAME AND POULTRY NETTING, 5*d.* per running yard.



GALVANISED ditto, 7*d.* per running yard, 2 feet wide.

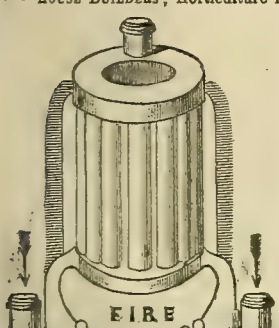
	Galvanised.	Not Galvanised
24 in. wide, 2 in. mesh,	7*d.* per yard. ...	5*d.* per yard.
30 in. ,, 2 in. ,,	9*d.* ,, ...	6½*d.* ,,
36 in. ,, 2 in. ,,	10½*d.* ,, ...	7½*d.* ,,
48 in. ,, 2 in. ,,	1*s.* 2*d.* ,, ...	10*d.* ,,

Sparrow Proof Netting, Galvanised, 3*d.* per square foot, made to any size for the same proportionate price. This article was shown at the "Great Exhibition," where it was so much admired for its light and durable appearance, and acknowledged to be the cheapest and best article of the kind ever offered. Extra strong Wire Sheep Netting, 3 feet high, 1*s.* 6*d.* and 2*s.* 3*d.* per yard. Also every description of Flower Trainers, Dahlia Rods, Garden Arches, Bordering, Flower Stands, Tying Wire, Trellis Work, Invisible Wire Fencing, Hurdles, and every description of Wire Work for Horticultural purposes.—Illustrated Catalogues of Patterns forwarded, post-free, on application to T. H. Fox, City of London Wire Work and Iron Fence Manufactory, 44, Skinner-street, and 6 and 8, Snow-hill, London.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER.

TUBULAR BOILERS OF ALL SIZES, WARRANTED THE MOST EFFICIENT.

J. WEEKS AND CO., King's-road, Chelsea, Hot-house Builders; Horticulture in all its branches upon the most improved principles. These Boilers are very powerful, durable, and economical. The fire warranted to last 15 hours without attention. The Furnace Bars are Hollow Tubes through which the return water passes before entering the upper part of the boiler, thereby causing a very rapid circulation, and producing double the effect from the same quantity of fuel.



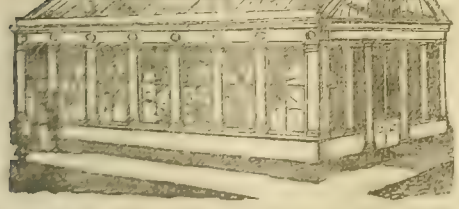
J. WEEKS AND CO., King's Road, Chelsea, CHALLENGE the whole world to make a Boiler that will produce anything like the same effect, with the same quantity of Fuel in a given time. It is one of those boilers that warms the water of their Victoria Regia Tank, which contains 20,000 gallons, and also heats several large Forcing-houses and ranges of Pits, with a small consumption of fuel.

Plans, Models, and Estimates of Horticultural Buildings; also Catalogues of Plants, Vines, Seeds, &c., forwarded on application.

J. WEEKS and Co., King's-road, Chelsea, London.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER,

AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.



GRAY AND ORMSON, Danvers Street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

G. and O. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders they can with the greatest confidence give the most satisfactory references.

Their Hot-Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating by Hot Water can be made available.

BERDOE'S WATERPROOF OVER-COATS AND SHOOTING JACKETS.—A very large stock of superior garments in every improved material and style, and of every degree of warmth, or lightness, guaranteed to resist any amount of rain; at charges reduced to the lowest point consistent with the principle that an article to be really cheap must be good. Every size also of the WATERPROOF PALLIUM, the well known Light Over-Coat, for all seasons (price 45*s.* Riding and Driving Capes, Leggings, Boys' Over-Coats and Capes, also Cloaks, Mantles, Habits, &c. for LADIES, all thoroughly impervious to rain, WITHOUT OBSTRUCTING FREE VENTILATION, the fatal objection to all other waterproofs.—W. BERDOE, Tailor and Over-Coat Maker, 96, New Bond-street, and 69, Cornhill (only).

"FRIGI DOMO."—A Canvas, made of prepared Hair and Wool, a perfect non-conductor of Heat and adapted to many Horticultural and Floricultural purposes for covering over frames where a fixed temperature is required. It is 2½ yards wide, and of any required length, at 1*s.* 4*d.* per yard run.—Manufactured only by E. T. ARCHER, Carpet Manufacturer, 451, New Oxford-street, London.

THE RHEOCLINE, OR SPRING COUCH, portable without detaching any of its parts, softer than a Feather Bed, and which can be changed in One Moment from a Couch to either a Bed or Sofa, may be seen at

COTTAM AND HALLEN'S 76, OXFORD-STREET, where also is on view a great variety of METALLIC BEDSTEADS, fitted with and without the patent RHEOCLINE, &c. &c., together with a large assortment of the patent Radiating and other STOVES, and every other description of IRONMONGERY.

A NEW STOVE.—GREAT NOVELTY.—In the construction of the BURTON REGISTER STOVE, it was the first care of the inventor, WILLIAM S. BURTON, to avail himself of the most valued of modern improvements in the art of heating, and secondly, so to modify and alter the receptacle for the coals, as at once to obtain the simplest and most perfect combustion; after a long series of experiments, he has, by the substitution of a graceful form of shell for the present clumsy and ill-adapted bars, succeeded in producing a stove which for soft and brilliant light, as well as purity and quantity of heat, is far beyond his most sanguine expectations, while for cleanliness and cheerfulness it is utterly unapproachable. Price from 5*6s.* to 15*l.* To be seen in use daily in his show-rooms, where also are to be seen

250 STOVES and 325 FENDERS (exclusive of reserved stock) all differing in pattern, forming the largest assortment ever collected together. They are marked in plain figures, and at prices proportionate with those that have tended to make his establishment the most distinguished in this country. Bright stoves, with bronzed ornaments and two sets of bars, 2*l.* 14*s.* to 5*l.* 10*s.*; ditto with ormolu ornaments and two sets of bars, 5*l.* 10*s.* to 12*s.* 12*s.*; bronzed fenders complete, with standards, from 7*s.* to 3*l.*; steel fenders, from 2*l.* 15*s.* to 6*l.*; ditto, with rich ormolu ornaments, from 2*l.* 15*s.* to 7*l.* 7*s.*; fire-irons, from 1*s.* 9*d.* the set to 4*l.* 4*s.* Sylvester and all other patent stoves, with radiating hearthplates; and kitchen ranges, which he is enabled to sell at these very reduced charges.

First—From the frequency and extent of his purchases; and

Secondly—From those purchases being made exclusively for cash.

WILLIAM S. BURTON has TEN LARGE SHOW ROOMS (all communicating), exclusive of the shop, devoted solely to the show of GENERAL FURNISHING IRONMONGERY (including Cutlery, Nickel Silver, Plated, and Japanned Wares, Iron and Brass Bedsteads), so arranged and classified that purchasers may easily and at once make their selections.

Catalogues, with Engravings, sent (per post) free. The money returned for every article not approved of.

39, OXFORD STREET (corner of Newman-street); Nos. 1 and 2, NEWMAN STREET; and 4 and 5, PERRY'S PLACE.

Sales by Auction.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MR. J. RAWLINGS will sell by Auction, at the Mart, Bartholomew-lane, on TUESDAY, Oct. 19, and following day, at 12 o'clock, a first-rate collection of Dutch Bulbs, 10,000 Ranunculus from a celebrated grower, a variety of Evergreens and Shrubs, Standard, Dwarf, and Climbing Roses, &c.—May be viewed the morning of Sale, and Catalogues had at the Mart, and of the Auctioneer, 5, Hoxton-square, and Ebenezer Nursery, Shacklewell, London.

CHELSEA.

TO GENTLEMEN, NURSERYMEN, FLORISTS, &c.
FOR PEREMPTORY SALE.

MESSRS. PROTHEROE AND MORRIS will submit to public competition by Auction, on the Premises, Radnor-street, King's-road, Chelsea, on WEDNESDAY, Oct. 20, at 11 o'clock (by order of the executors of the late Mrs. Mary Harrison), the whole of the valuable NURSERY STOCK, comprising Evergreens, Ornamental Fruit and Forest Trees, consisting of Aucubas, Arbutus, Green Hollies, Laurels, Evergreen Privet, Ribes, Limes, Planes, choice Roses, Standard and Dwarf trained and untrained Peach, Apricot, Plum, Cherry, Apple, Pear, Walnut, Filbert, Gooseberry, Currant Trees, &c. May be viewed prior to the Sale.—Catalogues may be had on the Premises; of the principal Seedsmen in London, and of the Auctioneers, American Nursery, Leytonstone, Essex.

NURSERY STOCK.

TO GENTLEMEN, NURSERYMEN, BUILDERS, & OTHERS.

MESSRS. PROTHEROE AND MORRIS will Sell by Auction, on the Nursery Ground adjoining Yorkplace, Stoke Newington, on MONDAY, October 25, and following day, at 11 o'clock each day—fine Ornamental and Deciduous Trees, Evergreens, and Flowering Shrubs—consisting of Aucubas, Portugal and common Laurels, Variegated and Green Hollies, Arbor-vitæ, Bays, Ivies, Lilacs, Arbutus, Box, Limes, Acacias, Poplars, Evergreen Privet, Azaleas, and fine Rhododendrons well set with bloom buds. A fine assortment of Fruit Trees, comprising Standard and Dwarf-trained Peaches, Apricots, Nectarines, Cherries, Plums, Pears, Gooseberries, Currants, Grape Vines, &c. May be viewed prior to the Sale.—Catalogues may be had on the Premises; of the principal Seedsmen; and of the Auctioneers, American Nursery, Leytonstone, Essex.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will sell by Auction at the Mart, Bartholomew-lane, on THURSDAY, October 21, and following day, at 12 o'clock, a first-class collection of DUTCH BULBS, comprising the finest double and single Hyacinths, Narcissus, Jonquils, Crocus, Snowdrops, Anemones, &c.; also a selected assortment of Pansies, Hollyhocks, Pinks, and perennial plants, from a first-rate grower, together with the whole of Mr. MOWATT'S choice collection of Tulips, Seedlings, Breeders, and Mixtures. A selected assortment of Standard and Dwarf Roses, American Plants, &c.—On view the morning of sale; Catalogues may be had at the Mart; and of the Auctioneers, American Nursery, Leytonstone, Essex.

ESCHOL NURSERY.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, BUILDERS AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will sell by Auction on the premises, Eschol Nursery, Haverstock-hill, Camden-town, on WEDNESDAY, October 27, and following days, at 11 o'clock each day, (by order of the proprietor, in consequence of the ground being let for building purposes), the whole of the valuable NURSERY STOCK, consisting of Forest, Fruit, Ornamental Trees, and Deciduous Shrubs, with a large assortment of fine Evergreens in great variety. Catalogues are being prepared and may be had on the premises; of the principal Seedsmen in London; and of the Auctioneers, American Nursery Leytonstone, Essex.

N.B. The whole of the Greenhouses, Pits, and Utensils in trade, together with the choice Greenhouse Plants, will be submitted to public competition early in the spring.

DEPTFORD.

TO GENTLEMEN, NURSERYMEN, FLORISTS, ETC.

MESSRS. PROTHEROE AND MORRIS are instructed (by Mr. F. WARNER) to submit to public competition by Auction, on the premises, adjoining Albert-terrace, New Cross, Deptford, on MONDAY, November 1, at 11 o'clock, the whole of the NURSERY STOCK of Evergreens and Fruit Trees, comprising Chinese Arbor-vitæ, Irish Yew, Red Cedar, Green Holly, Upright Cyprus, Pinus excelsa, morinda; Cedrus Deodara, Araucaria imbricata, Silver and Spruce Firs, Camellias, and Azalea indica, &c.; Standard and Dwarf trained Apricot, Plum, Pear, Apple, Raspberry, Gooseberry, Currant, and Strawberry (sorts), fine standard Mulberries, &c. A large quantity of Mitchell's Prince Albert Rhubarb, Asparagus, Seakale, and Early Potato (sorts); also, the erection of two sheds, sundry tools, &c.—May be viewed prior to the sale; Catalogues had on the premises; of Messrs. Dawe, Cottrell, and Benham, 36, Moorgate-street; of the principal seedsmen; and of the Auctioneers, American Nursery, Leytonstone, Essex.

ROTHERFIELD, NEAR TONBRIDGE WELLS.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS are instructed by Mr. FIELD (who is declining business), to submit to an unreserved Sale by Auction, on the premises, Steel Cross Nursery, Rotherfield, Sussex, on MONDAY, November 15th, and following days, at 11 o'clock each day, the whole of the healthy and well-grown NURSERY STOCK, consisting of about 200,000 Forest, Ornamental, and Fruit Trees; 20,000 evergreens; also 600,000 Quick; fine American Plants, together with a large quantity of Seedling Ash, Alder, &c. May be viewed prior to the Sale. Catalogues may be obtained on the premises, the George Inn, Rotherfield; Star Inn, Mayfield; Queen's Head Inn, Wadhurst, Sussex; Crown Hotel, Tonbridge; Swan Inn, Tonbridge Wells; of the principal Seedsmen in London; and of the Auctioneers, American Nursery, Leytonstone, Essex.

ORCHIDS.

THE COLLECTION OF A GENTLEMAN.

MR. J. C. STEVENS is directed to announce for Sale by Auction, at his Great Room, 38, King-street, Covent-garden, on FRIDAY, Oct. 22, at 12 for 1 o'clock, a select and valuable Collection of Established ORCHIDS, including good Plants of Phalænopsis amabilis and grandiflora, Vanda insignis, teres, tricolor, and other East Indian and South American sorts.—May be viewed the day prior and morning of Sale, and Catalogues had.

COCHIN CHINA FOWLS.

MR. J. C. STEVENS will sell by Auction at his Great Room, 38, King-street, Covent-garden, on Tuesday, 19th October, at 12 for 1 o'clock—COCHIN CHINA FOWLS, from the stock of Mr. John Cook, of Homerton, and several other Amateurs, comprising well feathered birds from the celebrated strains of Messrs. Sturgeon, Punchard, Stainton, Holt, and others, many from prize birds at Birmingham, Halifax, &c. Also a prize Muscovy Drake, Ducks, and Ducklings. May be viewed on the morning of Sale, and Catalogues had of Mr. J. C. STEVENS, 38, King-street, Covent-garden, who will be happy to forward them on receipt of a stamped directed envelope.

COCHIN CHINA FOWLS.

MR. STRAFFORD is favoured with instructions from Thomas Sturgeon, Esq., of Grays, to sell by Auction, at the Bazaar, King-street, Baker-street, Portman-square, London, on TUESDAY, November 2d, his early CHICKENS of the present year; including several White Cockerels, and also a number of Prize and Medal Birds of 1851. The Chickens are mostly bred from Birds that at Cheltenham and Birmingham, in 1850 and 1851, thrice beat all England, besides numberless minor victories. Only first-class birds will be offered, and none parted with before the sale.—Catalogues are now ready, and may be had upon application to Mr. STRAFFORD, 89, Guildford-street, Russell-square, London.

TO MARKET GARDENERS AND OTHERS.

MR. J. W. WARD is instructed by the Executrix of the late Mrs. MERCER to sell by Auction, on the premises, St. James's-road, Blue Anchor-road, Bermondsey, on TUESDAY, November 2, at 11 o'clock (without the least reserve), all the Growing Crops of a Market Gardener, consisting of 4 acres of two and three-year-old Asparagus, 5½ acres of Seakale Crowns, a quantity of Celery and Colewort Plants, Potatoes, Seeds, &c.; about 2000 Hand-glasses, 250 three-light Boxes, Wear and Box Barrows, all the usual implements of trade, the erection of Binding Sheds, strong Draught Horses, Waggons, Carts, Van, &c.—Catalogues may be had of Mr. Chapman, Spitalfields-market; at the Glove, Borough-market; White Horse, Covent-garden; Green Man, Old Kent-road; on the premises; and of the Auctioneer, 9, Walworth-road.

TO BE DISPOSED OF, NURSERY STOCK, extending over 20 Acres of Ground.—J. W. WARNER begs to inform his friends and the public, that it is his intention to withdraw from the Nursery Business, and to offer the whole of his Stock at greatly reduced prices, in order to clear the grounds as speedily as possible. Separate Catalogues of Roses and Nursery articles are being prepared, and will be forwarded on application.

Nurseries, Garforth, near Leeds, Oct. 16.

TO GARDENERS.

TO BE LET, a GARDEN, of about three-quarters of an Acre, with a convenient Cottage, most eligibly situated two miles north of London, in the highest state of cultivation, well stocked with Roots, and Moss and other Roses. An excellent trade has been done in it for the last 20 years by the late proprietor, who is now deceased.—Apply to J. T. BARLOW, Estate Agent, &c., 47, Caroline-place, Copenhagen-street, Islington; and 15, Amherst-terrace, Shacklewell Green, near Kingsland.

TO SAW-MILL ENGINEERS.

WANTED IMMEDIATELY, in the South of England, a powerful PORTABLE SAW-MILL, to be driven by a Locomotive Steam Engine. The following general Specifications will give intending Contractors an outline of what is wanted:—The house for containing the Sawing Machinery, Benches, and Engine, to be 63 feet long and 24 feet wide. The sides and ends to be constructed of strong wooden doors; the roof to be made of Galvanised Corrugated Iron; and the whole to be supported by Circular Cast-iron Pillars, and constructed in such parts that it may at any time be conveniently taken down, removed, and put up again. All the necessary Shafts, Drums, Pulleys, Spindles, Belts, and other Gearing for driving the Saws, to be of the most approved description and perfect manufacture. Two Sawing Benches are required; one of 60 feet in length, with a sliding frame 30 feet long on which to cut large timber, and another 10 feet long for cutting up small wood. The Engine must be constructed on the Locomotive principle, of 14-horse power, of the most approved description and manufacture, with sufficient solidity.—Any party who, on those general specifications, is disposed to make a distinct offer, will be furnished with a plan, minute specifications, and every other necessary information, on application to Mr. BROWN, Arniston, Fushie Bridge, Edinburgh.

AMERICAN PLANTS.

JOHN WATERER begs to announce his Catalogue of the above Plants, Roses, Conifers, &c., is now published, and may be obtained by enclosing two postage stamps. The colours of all the Rhododendrons worthy of cultivation are described in order to facilitate purchasers in selecting.

☞ The Rhododendrons, Azaleas, &c., annually exhibited at the Royal Botanic Gardens, Regent's Park, are from this establishment.—The American Nursery, Bagshot, Surrey, near Farnborough Station, South-Western Railway.

FOREST TREE SEEDLINGS.—The Subscribers respectfully intimate that their LIST of NURSERY STOCK for the season may be had on application.

William Urquhart and Sons, Dundee.

SUPERB NEW APPLE,

BRADLEY'S GOLDEN PEARMAIN.

RICHARD BRADLEY begs to inform Nurserymen and the Public generally that it is his intention to send out this very excellent new APPLE in November next.

R. B., in offering the above, can with confidence recommend it as being a very superior variety and worthy a place in every collection. It will be found a great acquisition for Table or Kitchen. First quality, second size; season from December to February. It is an early and prolific bearer, and a very free grower.

Opinion of R. Marnock, Esq., in *Gardeners' and Farmers' Journal* for Oct. 26, 1850:—"*B H N.* Your Apple seems to be a variety very near the Margill, or between that and the Ribston Pippin. It has the general form and flavour of the one with the spotting of the other. The flesh is crisp and grateful. On the whole, we think it is an excellent dessert Apple, and looks as good as it is."

Fine healthy dwarf plants, 10*s.* 6*d.* each; half standards, 12*s.* 6*d.* each. One plant over to the Trade when three are ordered.

The stock being small, early orders are requested, to secure plants. A remittance to accompany the order from unknown correspondents, to be made payable at Southwell Post-office, Notts.—Agents: Messrs. Fisher, Holmes, and Co., Handsworth Nursery, Sheffield. Package free. All orders above 1*l.* 11*s.* 6*d.* carriage paid to London and all places within 100 miles of the nursery.—Halam Nursery, Southwell, Notts.

SEED AND HORTICULTURAL ESTABLISHMENT,

SUDBURY, SUFFOLK.

BASS and BROWN'S NEW AUTUMN CATALOGUE, sent free on receipt of three postage stamps.

GERANIUMS.

	£	s.	d.
12 varieties, all best new of last season	2	4	0
20 varieties, best of the previous year	1	16	0
25 varieties, best of older date	1	8	0

Fine varieties 6*s.* to 9*s.* per dozen.

FANCY GERANIUMS.

12, all best new varieties of last season... ... ... 2 2 0
Best of previous introduction, 9*s.* to 15*s.* per dozen.

NEW SCARLET AND PINK HORSE-SHOE VARIETIES.
Six new varieties of last season, each, 2*s.* 6*d.* to 3*s.* 6*d.*
See Catalogue.

For names and separate prices of the above Geraniums, see our Advertisement in the *Gardeners' Chronicle* of September 25th and October 2d and 9th. For descriptions, see Catalogue.

CHRYSANTHEMUMS.

Strong bushy plants, well set with flower-buds.	s.	d.
12, all new varieties, best of last season	12	0
12, do. do. best Lilliputian of last season ...	12	0
GREENHOUSE PLANTS, 50 choice varieties	45	0
STOVE PLANTS, 25 choice varieties	24	0
WINTER AND EARLY FLOWERING GREENHOUSE PLANTS, 12 choice varieties	15	0
Do. do. STOVE PLANTS, 12 choice varieties	20	0
HARDY HERBACEOUS PLANTS:—		
100 distinct and fine vars., 30*s.*; 50 vars.	17	6
100 superior and new vars., 50*s.*; 50 vars.	30	0
ROCK PLANTS, 25 fine vars., 12*s.*; 12 vars.	7	6
ANTIRRHINUMS, 12 fine vars., 6*s.*; 12 superior and new	10	0
PHLOX, 12 fine vars., 6*s.*; 12 superior and new ...	9	0
Do. 25 fine vars., 10*s.* 6*d.*; 25 superior and new ...	15	0
DWARF ROCK CISTUS, 24 splendid new vars. ...	18	0

Choice collections of Cineraria, Azalea indica, Roses, Hardy Ornamental Climbers, &c. &c. See Catalogue.

CHOICE BULBS AND FLOWER ROOTS.

RANUNCULUS (free by post), with cultural instructions:—		
100 vars., superb new and best sorts	70	0
100 vars., very fine of older sorts	35	0
Oiel Noir, best black (2*s.* each), per dozen	18	0
Best Mixtures, 10*s.* and 18*s.* per 100; fine 5*s*, or, post free, 6*s.* per 100.		
ANEMONES, 50 beautiful and distinct named double...	12	6
Do. do. do. post free	14	0
Choice double mixtures, per 100 ... 6*s.* and	10	6
La Brilliante Eclatante, single bright scarlet, extra, per 100	10	6
Fine mixed single, per lb.	4	0
GLADIOLUS, 50 vars., splendid early and late kinds ...	50	0
25 vars., do. do. ...	30	0
12 splendid early vars., 10*s.* 6*d.*; 12 fine vars. ...	6	0
12 superb late vars., Ramosus habit	20	0
Beautiful early mixture (per dozen, 3*s.*), per 100 ...	20	0
Colvillii, 2*s.* per doz.; C. rubra, 3*s.* per doz.; Gandavensis, 3*s.* 6*d.* per doz.; Gan. splendens, 2*s.* 6*d.* each; Rex Rubrorum, 12*s.* per doz., Insignis, 7*s.* 6*d.* per doz.; Brenchleyensis, 3*s.* each.		
Colvillii grandis, fine new dark shaded rosy purple, each	3	6
,, conspicua, purplish rose, white stripe, very showy, each	2	6
,, roseum, bright rosy pink, deep crimson stripe, each	1	6
ENGLISH IRIS, 38 splendid and select varieties ...	25	0
Very fine mixed (2*s.* per doz.), per 100	15	0
IMPORTED DUTCH HYACINTHS, 50 vars., choice assortment	35	0
Do. do. per doz. ... ... 6*s.* to	15	0
Do. do. in colours, without names, per doz.	3	0
CROCUS, 20 splendid and very distinct new vars., 12 roots of each, with names	12	0
6 splendid named vars., 100 roots of each	17	0
Fine sorts, separate colours, per 100 ... 1*s.* 6*d.* to	2	0
TROPÆOLUM TRICOLORUM, fine tubers, each, 2*s.* 6*d.* to	3	6
TRITONEA AUREA, splendid orange Cape bulbs, each ... ... 2*s.* 6*d* to	5	0
OXALIS ELEGANS, bright purple, dark centre, new and fine, each	1	6
,, ,, MAJOR, large fine purple, each	1	6
CYCLAMEN, in 7 beautiful varieties, each ... 1*s.* to	5	0

Also an extensive collection of imported and other roots, consisting of choice early, double, and late Tulips, Narcissus, Jonquils, Lilium lancifolium, &c., for which see Catalogue.

☞ Goods free to London, or any Station on the line to Norwich, *via* Ipswich, with orders of 20*s.* and upwards, and extra roots or plants added, gratis, with orders 40*s.* and upwards.

Remittances required from unknown correspondents. Post-office orders payable to Stephen Brown.

SUPERB HOLLYHOCKS.—A Selection of the best Hollyhocks, by R. B. BIRCHAM, Hedenham Rosary, Bungay, Suffolk.

	s.	d.
Aurantia (Rivers'), salmon	1	0
Black Prince, new (Gibbon's), a good black, much more double than the old one, and produces a fine spike ...	3	6
Bicolor (Chater's), purple and white...	1	6
Commander-in-Chief (Barron's), light-edged rose ...	1	6
Comet (Chater's), bright ruby red	2	6
Delicata (Barron's), French white	1	0
Dido (Parsons'), brownish red	3	6
Elegans (Chater's), delicate blush	1	6
Enchantress (Chater's), deep pink	2	6
Formosa (Barron's), claret	1	0
Hebe (Bircham's), fine peach blossom, flowers large and full, produces a fine spike	3	6
Joan of Arc (Parsons'), silvery blush	10	6
Lady Braybrooke (Chater's), rosy crimson	7	6
Magnum Bonum (Barron's), dark maroon	3	0
Meteor (Bircham's), a crimson scarlet, centre well up, and fine guard petal, produces a fine spike, extra fine	5	0
Model of Perfection (Barron's), good white, chocolate ground	1	0
Mr. C. Barron (Chater's), pinkish salmon	3	0
Mandarin (Bircham's), nankeen, large and full, changing to pale chocolate	5	0
Napoleon (Pow's), light-edged puce	3	0
Obscura (Chater's), silvery-shaded puce	1	0
Pourpre de Tyre (Bircham's), ruby purple, splendid form, and fine texture, guard petals smooth, centre full, and well up, produces a splendid spike, decidedly the best yet raised. First Class Certificate, National Society, Sept. 18, 1851; South London, Sept. 8, 1852; see *Gardeners' Chronicle*, July 31; and the "Florist" for Sept., 1852	10	6
Penelope (Bircham's), deep rosy pink, shaded, large and full, very distinct, produces a splendid spike. A Certificate National Floricultural, Sept. 18, 1851	7	6
Pandora (Bircham's), bronze, buff and orange, large and full flower, and spike up well	5	0
Prince of Orange (Bircham's), a buff yellow, with orange at the base	3	6
Pillar of Beauty (Parsons'), bright rosy crimson	5	0
Picta (Parsons'), rosy salmon, light edged...	5	0
Queen (Barron's), beautiful blush	1	0
Queen of Denmark (Bircham's), an orange-yellow, of a new and desirable shade, producing a fine spike. A First Class Certificate awarded. See *Gardeners' Chronicle*, July 31, 1852	5	0
Rosy Queen (Chater's), rosy blush	1	6
Rosea grandiflora (Barron's), fine rosy pink	2	6
Rosea Alba (Barron's), rose and white	2	0
Spectabilis (Chater's), rose and salmon	3	6
Safrano (Parsons'), pink and salmon, buff guard petals, large and fine	7	6
Sulphurea perfecta (Rivers'), fine sulphur	1	0
Sulphur Queen (Chater's), beautiful primrose, chocolate ground, fine form	10	6
Triumphant (Parsons'), pale primrose, tinted with delicate rose	5	0
Walden Gem (Chater's), or Charles Turner (Black), deep ruby crimson, extra fine	3	6
White Perfection (Chater's), pure white	3	6
Yellow Model (Bircham's), a peculiar shade of primrose yellow, with chocolate ground, splendid form, and fine texture; flowers large, centre well up; produces a splendid spike, one of the best yet raised. First-class Certificate awarded by the National Floricultural Society, September 18, 1851. See *Gardeners' Chronicle*, July 31, and the "Florist" for September, 1852, &c. ...	10	6
If the Selection be left to R. B. B.:		
First-rate varieties of the above, per dozen ... £	2	0
Good ,, ,, ,, ...	1	0
Semi-double kinds, with brilliant colours, such as many of the Scotch varieties, under names per doz.	0	12
Fine double flowers, with splendid colours, selected when in bloom from many thousand seedlings; these are strong ground roots, but without names, per dozen	0	6

Carriage paid to London; plants added to compensate for long carriage, and every attention paid to package.

Post-office orders, payable at Bungay Office, to Robert Bircham.

A FINE OPPORTUNITY.

FOR CHEAPNESS, UTILITY, AND DISPLAY, the following are strongly recommended. Carriage paid. See below.

SELECT HARDY HERBACEOUS PLANTS and ALPINES, 100 in 50 choice sorts, our selection, 25*s.*; 100 in 100 choice sorts, our or purchaser's selection, 30*s.*

FLOWERING and EVERGREEN SHRUBS, TREES, &c., purchaser's or our choice, per 100 in 100 sorts, 2*l.*; our own choice, in 50 sorts, 1*l.*

COMMON LAURELS, 1½ to 2 feet, per 1000, 3*l.*; per 100, 8*s.* 2 to 3 feet, bushy plants, per 1000, 4*l.*; per 100, 10*s.*

PORTUGAL LAURELS, 1½ to 2 feet, per 100, or 2*s.* 6*d.* per dozen. 2 to 3 feet, extra fine, 25*s.* per 100, or 3*s.* per dozen.

EVERGREEN PRIVET, fine, 2 to 3 feet, per 1000, 40*s.*

HORSE CHESTNUTS, 5 to 6 feet, 30*s.* per 100.

ROSES, 50 splendid sorts, standards, 4*l.* per 100, or 15*s.* per dozen. 100 superb sorts, Dwarf Roses, 35*s.*, or 6*s.* per dozen, our choice; mixed do., 25*s.* per 100, or 4*s.* per dozen.

STOVE PLANTS, purchaser's choice, 50 sorts, 40*s.*; our own choice, in 50 sorts, 35*s.*

GREENHOUSE PLANTS, purchaser's choice, 50 sorts, 40*s.*; our own choice, in 50 sorts, 35*s.*

ERICAS, purchaser's choice, 50 sorts, 2*l.* 10*s.*; our choice, in 50 sorts, best, 40*s.*, or 9*s.* per dozen.

CHINESE AZALEAS, 20 fine show sorts, 20*s.*, our choice; purchaser's choice, 25*s.*, or 18*s.* per dozen.

These are all fine, healthy grown plants.

HOLLYHOCKS, fine, double coloured, 30*s.* per 100; do. seed, in packets, warranted to produce 75 in 100 double, 1*s.* 6*d.* each.

GOOSEBERRIES, finest Lancashire sorts, 70*s.* per 1000 in 100 sorts named, or 10*s.* per 100 in 50 sorts.

CURRANTS—May's Victoria, or Raby Castle Red, is the largest and best sort grown, and ought to be grown in every garden, 25*s.* per 100, or 4*s.* per dozen. Red Grape and Champagne Currants, fine, 10*s.* per 100, or 2*s.* per dozen.

APPLES and PEARS, fine, clean standards, 10*s.* per dozen, or 70*s.* per 100; choice of sorts left to us, very select.

PLUMS and CHERRIES, finest sorts, standards, 18*s.* per dozen, our choice; dwarf-trained do., 3*s.* 6*d.* each, or 36*s.* per dozen.

APRICOTS, PEACHES, and NECTARINES, fine, three years trained, of best sorts, own choice, 4*s.* each, or 40*s.* per doz.

N.B. A fine stock of Larch, Spruce, Oak, &c., size and prices on application. May's Descriptive Catalogue in three parts:—Part 1 contains Stove and Greenhouse Plants; Part 2, Hardy Herbaceous Plants, Roses, Shrubs, &c.; and Part 3 contains Fruit Trees, &c.; to be had on application.

Ornamental Grounds designed gratis, by giving measurement, &c.; and Plans furnished on the same terms, and executed on the most liberal terms. Forest planting by estimate.

*** *All orders above 2l. 10s. carriage paid to London, Liverpool, Birmingham, and Edinburgh, and all the intermediate stations within 150 miles of the Nursery.*

Address all orders and communications to Henry May, the Hope Nurseries, Leeming Lane, Bedale, Yorkshire. A remittance or reference from unknown correspondents respectfully requested.

NEW ROSES.

PRINCE ALBERT AND FAIRY QUEEN.

A. PAUL and SON beg to offer the above new and beautiful Roses, of which they at present hold the entire stock. Prince Albert Bourbon (Paul's), the flowers are, in the summer, deep scarlety crimson, in autumn rich glowing lake, 3½ inches in diameter, finely cupped and very double, the outline a perfect ring; every shoot blooms, often producing 20 to 30 flowers in a truss, and being of dwarf habit it is likely to prove one of the finest autumnal Roses for bedding. The foliage is large, thick, and handsome, and it surpasses every Bourbon Rose in colour, form, and abundance of bloom. Strong Plants in November, 10*s.* 6*d.* each.

This Rose will be figured in the "Florist" for November. It has obtained first-class certificates from the National Floricultural Society of London, and the Caledonian Horticultural Society, at Edinburgh; it has further been favourably noticed by the leading Horticultural Journals, and ordered by above 100 Nurserymen and Amateurs who have seen it in flower.

Fairy Queen Hybrid Perpetual (Paul's), soft glossy lilac, of medium size and perfect form, the summits of the petals reflexing as in Mrs. Bosanquet, and like that unique rose every shoot produces flowers; dwarf habit. Plants 7*s.* 6*d.* each. Early orders are solicited, as the stock is limited.

Nurseries, Cheshunt, Herts, 16th Oct.

WILLIAM HAMILTON, Seedsman, &c., 156, CHEAPSIDE, LONDON.

Common mixed Crocus 1*s.* per 100.	Snowdrops, very fine, 2*s.* per 100.
Superior Dutch Mixed Crocus, 1*s.* 6*d.* per 100.	Narcissus, Soleil d'Or, 3*s.* per doz.
Crocus, very large and fine yellow, 2*s.* 6*d* per 100.	,, Dbl. Roman, 3*s.* per doz.
,, 12 distinct varieties named, 3*s.* per 100.	,, paper white, 3*s.* per doz.
,, in separate colours, 1*s.* 6*d.* to 2*s.* per 100.	,, Grand Monarque (large), 6*s.* per doz.
Tulips, fine border varieties, early and late, 5*s.* to 7*s.* 6*d.* per 100.	Hyacinths, excellent mixtures 3*s.* 6*d.* per doz.
	,, named for pots or glasses, 6*s.* to 12*s.* per doz.

GLASS DISHES with six superior HYACINTHS ready planted in Moss, and which are easily transmitted to the country without injury, 5*s.*; the price increases from 5*s.* to 10*s.* 6*d.* according to the size of Dish and number of Hyacinths.

The above are all warranted fine, and will be delivered in the best possible condition, with extra bulbs to compensate for carriage.

Wm. Hamilton's Catalogue, containing an immense variety of bulbous roots, &c., may be had on application.—Address, 156, Cheapside, London.

VIOLA ARBOREA; or, PERPETUAL TREE VIOLET (True).—The finest Stock for many years of the above, which has proved the best of all VIOLETS, is now offered to the Public by Edward Tiley; he can recommend it with great confidence, and has also received numerous testimonials from different parties speaking of its qualities, and giving it the highest praise. It is beautifully scented, the flowers as large as the Double Blue Hepatica, blooming freely from August to the end of May, and perfectly hardy. This is the proper time for making beds or potting, and 12 of these plants grown in pots will scent a large Greenhouse; also a small bed of them, 9 feet long by 3 wide, will be sufficient to furnish a family with Bouquets the whole of the winter and spring. Large plants, 6*s.* per dozen; small plants, 3*s.* per dozen.

VIOLA ARBOREA ALBA; or, DOUBLE WHITE TREE VIOLET.—This is also a very fine variety, and resembles the former Violet in many particulars, with the exception of its colour. Large plants, 6*s.* per dozen; smaller ditto, 3*s.* per dozen.

RUSSIAN SUPERB VIOLET, Blue and White (True).—A very useful and fine variety; 3*s.* per dozen.

A TREATISE on the nature and mode of Cultivation of the VIOLET.—Edward Tiley begs to introduce to the notice of all lovers of this flower a Treatise, which will not only give an insight into its proper mode of cultivation, but also directions for keeping it in continual bloom the whole of the winter. It will also assist many who have already grown this variety, as it introduces several distinct plans by which it may be cultivated most successfully. Purchasers to the amount of Five Shillings will have the Treatise included; or, post-free to any part on receipt of 12 penny stamps.

OTHELLO CLOVE CARNATION.—To those persons whose orders came too late last season (the plants being all sold), E. T. begs to say he has a fine stock of this beautiful Clove (for colour and fragrance unequalled), and can supply any quantity at 3*s.* 6*d.* per pair, postage and packet included.

PURE WHITE CLOVE CARNATION; also a large stock of this splendid variety at 1*s.* 6*d.* per pair, postage and package free.

STRAWBERRY PLANTS can be still supplied in every variety and price, as see *Gardeners' Chronicle* for Sept. 4, 1852.

The whole, or any part of the above, can be sent postage and package free, on receipt of the amount, by a post-office order, or penny stamps.

Edward Tiley, Nurseryman, Seedsman, and Florist, 14, Abbey-churchyard, Bath.

TO NURSERYMEN AND OTHERS.

QUICKSETS WANTED.

WANTED, TENDERS for the supply of 1,200,000 good strong QUICKSETS, three years transplanted. The Quicksets are to be delivered in equal proportions at the Tonbridge Wells, Battle, and Rye Stations on the South-Eastern Railway, and delivery to commence immediately.—Address tenders to Mr. Richard Perry, Battle, Sussex.

TO NURSERYMEN AND PLANTERS.

H. and R. STIRZAKER have now to offer for Sale at prices unusually low, about Two Millions of TREES, consisting of Larch, Scotch, Spruce and Silver Firs, Ash, Oak, Sycamore, Elm, Beech, Birch, Thorns, &c., from 9*s.* and 12*s.* 6*d.* per 1000. About 1000 Laurestinus, 4 feet, bushy.—Catalogues to be had upon application.

Skerton, near Lancaster, Lancashire, Oct. 16.

WATERPROOF PATHS.—Those who would enjoy their Gardens during the winter months should construct their walks of PORTLAND CEMENT CONCRETE, which are formed thus:—Screen the gravel of which the path is at present made from the loam which is mixed with it, and to every part of clean gravel add one of sharp river sand. To five parts of such equal mixture add one of Portland Cement and incorporate the whole well in the dry state before applying the water. It may then be laid on 2 inches thick. An labourer can mix and spread it. No tool is required beyond the spade, and in 48 hours it becomes as hard as a rock. Vegetation cannot grow through or upon it, and it resists the action of the severest frost. It is necessary, as water does not soak through it, to give a fall from the middle of the path towards the sides.—Manufacturers of the Cement, J. B. White and Sons, Millbank-street, Westminster.

Printed by William Bradbury, of No. 13, Upper Woburn-place, in the parish of St. Pancras, and Frederick Mullett Evans, of No. 7, Church-row, Stoke Newington, both in the County of Middlesex, Printers, at their Office in Lombard-street, in the Precinct of Whitefriars, in the City of London; and published by them at the office, No. 5, Charles-street, in the parish of St. Paul's, Covent-garden, in the said County, where all Advertisements and Communications are to be addressed to the Editor.—Saturday, October 16, 1852.

THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 43.—1852.] SATURDAY, OCTOBER 23. [Price 6d.

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GRAPE VINES FROM EYES, VERY FINE.

J. WEEKS and Co., King's Road, Chelsea, have a most splendid collection of VINES, very strong and clean, two and three years old, from Eyes, all the best sorts for Planting or Fruiting in Pots.

Also an extensive and valuable collection of STOVE and GREENHOUSE PLANTS, with all new varieties. See our Catalogues devoted to each. Also our Illustrations on Horticultural Building and Heating by Hot-water.

J. Weeks and Co., King's-road, Chelsea.

AMERICAN PLANTS.

JOHN WATERER begs to announce his Catalogue of the above Plants, Roses, Conifers, &c., is now published, and may be obtained by enclosing two postage stamps. The colours of all the Rhododendrons worthy of cultivation are described, in order to facilitate purchasers in selecting.

☞ The Rhododendrons, Azaleas, &c., annually exhibited at the Royal Botanic Gardens, Regent's Park, are supplied from this establishment.—The American Nursery, Bagshot, Surrey, 4 miles from Farnborough Station, South-Western Railway, and 3 miles from Blackwater, South-Eastern Railway.

DUTCH BULBS.

WHAT CLARKE and CO. SELL FOR 10s.:—
6 fine Hyacinths for glasses; 6 good Hyacinths for pots or ground; 50 best Crocuses, in four colours; 50 double Snowdrops; 6 fine double Van Thol Tulips; 6 Early single Van Thol Tulips; 1 dozen double white sweet scented Narcissus; 6 double Jonquils; 1 dozen winter Aconites (the earliest flowering Bulb of the season); 25 good mixed Tulips for beds or borders; 1 dozen beautiful mixed double Anemones.

The Undersigned beg respectfully to submit the above complete Collection of Dutch and other Early Bulbs, which are adapted for flowering in the dull months of winter and early spring.—Clarke and Co., Seedsmen and Florists, 86, High-street, Borough, London.

CHANDLER and SONS, Nurserymen, Wandsworth Road, Surrey, beg leave to inform the public that they have A FINE STOCK OF LARGE EVERGREENS, viz.:—Hollies, Arbor-vitæ, Laurels, Box, Arbutus, &c., now fit for transplanting, at moderate prices. Also CAMELLIAS, beautifully set with flower-buds, and very healthy, at 30s. and upwards per dozen.

CHRYSANTHEMUMS coming into bloom, bushy plants, of the best sorts, 12s. per dozen.

HYACINTHS, DUTCH BULBS, ETC.

HENRY GROOM, Clapham Rise, near London, by Appointment Florist to her Majesty the Queen, and to his Majesty the King of Saxony, begs to say that he has received his usual supply of HYACINTHS and DUTCH BULBS, in very fine condition. His Catalogue of Bulbs, &c., will be forwarded on application.

T. LOCKHART, Seedsman, 84, Fleet-street, London, supplies strong Plants of the following STRAWBERRIES at 2s. 6d. per 100, viz.:—Keens' Seedling, Elton Pine, British Queen, Mammoth, Eleanor, Eliza, Bicton White Pine and Black Prince; Fertilised Hautbois and white Alpine, 5s. per 100; white Antwerp Raspberry, 16s. per 100.

Lists of Bulbs and Seeds free by post.

THE BLACK BARBAROSSA,
A GRAPE THAT DON'T KNOW HOW TO SHANK.

JOHN BUTCHER, in again bringing the above truly splendid and valuable Late Grape into the notice of Horticulturists, begs to inform them that he has this year forced the above Grape, and found it to exceed his expectations as to flavour, being far superior to the Hambro', and feels confident that this sort will eventually supersede the Hambro'. A bunch was exhibited at the Horticultural Society's Rooms, Regent-street, London, on the 19th inst. (see the report in this day's Paper). Fine Fruiting Plants, from Eyes, 10s. 6d. each; good Plants, 5s. 6d.; to be obtained of the London Agents, Messrs. Dawe, Cottrell, and Benham, Seed Merchants, 33, Moorgate-street; or Mr. I. Israel, 7, Centre Buildings, Covent Garden Market; and John Butcher, Stratford-on-Avon.

Samples of the Berries will be sent upon the receipt of 12 postage stamps, post free.—Stratford-on-Avon, October 23.

LANGHEDGE NURSERY.

CHARLES WOOLVEN invites the attention of Fruit growers and the public generally to his large and very superior stock of Fruit-trees, comprising about 4000 standard Apples, Pears, Plums, and Cherries; fine straight stems 6 to 8 feet in height, from 12s. to 21s. per dozen. Also a good stock of dwarf and trained trees, all of the most approved kinds, from 12s. to 36s. per dozen. A capital stock of Gooseberries and Currants, all of the very best kinds, from 2s. 6d. to 3s. 6d. per dozen, now in excellent condition. C. W. also wishes to recommend to gentlemen and builders his large stock of Evergreens, Forest Trees, and other Shrubs, at equally low prices.—C. Woolven, Nurseryman, Upper Edmonton, Middlesex.

CATALOGUES.

MESSRS. H. LANE and SON, Great Berkhampstead, Herts, beg to inform their Patrons that the undermentioned Descriptive Catalogues may now be had:—
GENERAL AND SUPPLEMENTARY ROSE CATALOGUES for two postage stamps;
TREE AND SHRUB AND FRUIT CATALOGUE for two postage stamps;
INDIAN AZALEA, CAMELLIA, &c., for one postage stamp.

RENDLE'S NEW TREE AND SHRUB CATALOGUE.—Our new Autumn Priced List of FOREST TREES, SHRUBS, AND FRUIT TREES, *Is now ready*, and can be had on application in exchange for one penny stamp.

The Catalogue contains PRICES of SEEDLING FOREST TREES, New and Choice SHRUBS, Transplanted FOREST TREES, FRUIT TREES, including all the newest and choicest sorts in cultivation.

Gentlemen who want to plant largely this Autumn, or who require to lay out Pleasure Grounds, will do well to procure one of these Catalogues.

LARGE SURPLUS STOCK.

We have a large Surplus Stock of the following, which will be offered on very low terms, viz.:—
Seedling PINUS AUSTRIACA.
Fine Plants of CEDRUS DEODARA.
Two-years' Bedded SCOTCH FIRS.
Fine stout Plants of PINUS EXCELSA.
Immense Stock of SEAKALE and ASPARAGUS.
TROLLOPE'S VICTORIA STRAWBERRIES, 20s. per 100, or 3s. per dozen. This variety should be grown in every garden.

Apply to WILLIAM E. RENDLE and CO., Nurserymen and Seed Merchants, Plymouth.
ESTABLISHED IN 1786.

AMBROISE VERSCHAFFELT, Nurseryman, Ghent, (Belgium), has just published his new Catalogue, which may be had of his agent, Mr. R. Silberrad, 5, Harp-lane, Great Tower-street, London.

NEW CATALOGUE OF FLORISTS' FLOWERS.

CAREY TYSO, Wallingford, Berks, begs to state that his new Descriptive Catalogue of DOUBLE ANEMONES, RANUNCULUSES, GERANIUMS, CARNATIONS, PICOTEES, PINKS, &c., is now ready, and will be sent post free for two labels; including also his
LIST OF 400 NAMED TULIPS,
which he is selling off at from One-third to One-half the prices of the current year. Beds arranged for planting at half price.

C. Tyso's Popular Treatise on the Anemone, 3d.; do. Ranunculus, 6d. SEEDS of these Flowers, 2s. 6d. per paper.

CRYPTOMERIA JAPONICA.

A FEW THOUSAND SEEDLINGS, from 3 to 6 inches high, at 30s. per 100.

Also, IMPORTED SEED, at 20s. an ounce, which will produce upwards of 1500 Plants. Terms, Cash, being the property of a gentleman.

Apply to J. and C. Lee, Nurserymen, Hammersmith, near London.

GEORGE JACKMAN, Nurseryman, Woking, Surrey, 1½ mile from Woking Station, South Western Railway, begs to announce he has just published a new and complete Catalogue of his American Plants, Ornamental Evergreens, Conifers, flowering Shrubs, Standard and Dwarf Roses, Fruit and Forest Trees, &c. &c., and may be had on application by inclosing two postage stamps.

CEDRUS DEODARA, ETC.

JOHN HENCHMAN has the following Seedlings to offer:—

Cedrus deodara, strong seedlings in thumb pots, 10l. per 1000.			
Pinus longifolius,	do.	do.	1l. 10s. per 100.
Pinus excelsa,	do.	store pots,	15s. per 100.
Abies Smithiana,	do.	do.	15s. per 100.
Cupressus torulosus,	do.	do.	15s. per 100.

J. H. has about 50 very fine bushy Arbor-vitæ from 6 to 8 feet high, which will be sold a bargain, and are warranted to move with good balls. Packets of choice Calceolaria, Cineraria, and Pansy seed, 2s. 6d. each. Strong seedling Hollyhocks raised from Chater's, the finest named varieties, 5s. per dozen, and 30s. per 100. Many of these plants have bloomed this autumn, and will all make strong blooming plants next year.

Edmonton, near London, Oct. 23.

CEDRUS DEODARA, ETC.

A. PAUL and SON have a fine Stock of CEDARS, which, for beauty of growth, cannot be surpassed, and which they beg to offer as under:—

CEDRUS DEODARA	... 1 ft., 1s. 0d. each, or 7	5s. per 100.	
,,	... 2 ft., 2 6	,,	10l. ,,
,,	... 3 ft., 3 6	,,	15l. ,,
,,	4 to 5 ft., 7 6	,,	4l. per doz.
CEDRUS AFRICANUS	... 1 ft., 2 6	,,	30s. ,,
,,	... 2 ft., 3 6	,,	40s. ,,
CEDAR OF LEBANON	... 1 ft., 1 0	,,	75s. per 100.
,,	2 to 3 ft., 2 6	,,	24s. per doz.
,,	3 to 4 ft., 3 6	,,	36s. ,,
,,	4 to 5 ft., 5 0	,,	54s. ,,
,,	5 to 6 ft., 7 6	,,	84s. ,,

Also the following, of various heights:—Abies Morinda, Menziesii, Douglasii; Pinus apulcensis, Ayacahuite, Excelsa, Insignis, Macrocarpa, Lambertiana; Picea nobilis, Araucaria imbricata; Cryptomeria japonica; Cupressus Goveniana, Lambertiana; Juniperus hibernica, Chinensis, Excelsa; Thuja filiformis, Wareana; Taxodium distichum, Sempervirens; Taxus adpressa, Irish Yew, Gold striped do., and numerous others equally fine plants and equally cheap. Priced Catalogues of Conifers furnished on application.

Nurseries, Chesbunt, Herts.—October 23.

NEW CARNATION, PICOTEE, AND PANSY.

JOHN SCHOFIELD and SON beg respectfully to inform their friends and the public that they intend sending out this Autumn the following superb Seedlings, viz.:—

Pansy FEARLESS.—This noble flower was awarded a first-class Certificate at the National. For full description of this and the following, see our Catalogue. Plants 5s. 6d. each.

Carnation MAGNIFICENT (R. F.)—This flower is a gem, and will be indispensable to all exhibitors. As the stock is very short (only 24 pairs), early orders are requested. 10s. 6d. per pair.

Picotee ANN, medium red edge; a truly valuable flower; one of the best in its class. 10s. 6d. per pair.

J. S. and Son's Stock of the most leading sorts of Carnations, Picotees, Pinks, and Pansies, are in fine condition this Autumn, and can be supplied at the following prices:—

Carnations, first class,	24s. per dozen pair;	second,		6s. to 12s.
Picotees	,,	24s.	,,	,,	6s. to 12s.
Pinks	,,	12s.	,,	,,	3s. 6d. to 6s.
Pansies	,,	15s. per dozen plants	,,		6s. to 10s.

Pansy Seed, selected from show-flowers, 2s. 6d. per packet.

A full descriptive Catalogue of the above is now ready, and may be had free on application.

Knowsthorpe, near Leeds, Yorkshire.

THE PLANTING SEASON.

A LARGE QUANTITY OF VERY STRONG SEEDLING AND TRANSPLANTED LARCH FIR, SPANISH CHESTNUTS, AND OTHER FOREST TREES.

WILLIAM WOOD and SON respectfully invite attention to their very extensive Stock of the undernamed FOREST TREES, prices of which will be forwarded on application:—

Alder	... 3 to 7 ft.	Spanish Chestnuts	... 2 to 3 ft.
Ash	... 2 to 6 ft.	Larch Fir	... 1 to 5 ft.
Beech	... 2 to 6 ft.	Scotch Fir	... 1 to 5 ft.
Birch	... 3 to 7 ft.	&c. &c. &c.	

N.B. A large stock of particularly fine, strong, well-feathered Spruce and Silver Firs, from 2 to 8 feet, peculiarly adapted for ornamental planting.

In addition to the above, W. W. and S. have to offer a fine collection of Fruit Trees, standard, dwarf, and trained; also American, Evergreen, and Flowering Shrubs; Herbaceous and Alpine Plants; also a very choice selection of rare Ornamental Trees.

Standard and Dwarf Roses, as usual, in very large quantities.

Priced Catalogues of the above Stock will be sent in exchange for four postage stamps.

Woodlands Nursery, Maresfield, Sussex.

EDWARD GEORGE HENDERSON and SON are now prepared to send out their new CINERARIAS and FANCY GERANIUMS for this Season, which they can confidently recommend, for which early orders are solicited—as the stock of some of the varieties is limited.

NEW CINERARIAS.

	s. d.		s. d.
Charles Dickens	... 5 0	Charlotte	... 5 0
Conspicua	... 5 0	Kate Kearney	... 5 0
Loveliness	... 5 0	Marguerite d'Anjou	... 7 6
Prince Arthur	... 10 6	Rosalind	... 10 6

Price of the Set, £2 2s.—Usual discount to the Trade.

NEW FANCY GERANIUMS.

	s. d.		s. d.
Criterion	... 10 6	Fanny	... 10 6
Flora McIvor	... 10 6	Italian Beauty	... 10 6
Lady Downes	... 10 6	Marginata	... 10 6
Queen of the Fancies	... 10 6		

Price of the Set, £3 3s.—Usual discount to the Trade.

For description of the above see this Paper of October 9.

Wellington Road Nursery, St. John's Wood, London.—Oct. 23.

N. GAINES begs to announce that he is now prepared to send out the following superb collection of SEEDLING, SHOW, & FANCY GERANIUMS, &c.

SHOW GERANIUMS.

	s. d.		s. d.
Mrs. Griswood	... 31 6	The following were raised by Thomas White Esq.:—	
Earl Spencer	... 21 0		
Lady Moreton	... 21 0		
Cora	... 21 0	Cœur de Lion	... 31 6
Aurantia	... 21 0	Bruno	... 21 0
Lady Thorold	... 21 0	Selina	... 42 0
Nonpareil	... 42 0	Mathilde	... 31 6
Cleopatra	... 21 0	Charming May	... 21 0
Lady Ducre	... 42 0	Annie Laurie	... 21 0
Pandora	... 21 0	Rhoda	... 21 0

FANCY GERANIUMS.

Rubina	... 21s.	Lady Mourdant	... 15s.
Patriot	... 10s 6d.		

The following were raised by the Rev. E. Trimmer:—

	s. d.		s. d.
Zurick	... 15 0	Rosenlarii	... 21 0
Grindonwald	... 15 0	Bellinzona	... 10 6
Scholler	... 15 0		

NEW SEEDLING MIMULUS, shown at the London Exhibitions.

	s. d.		s. d.
Spectatissimus	... 3 6	Majestica	... 3 6
Pulchellum	... 3 6	Alpha	... 3 6
Emperor	... 3 6	Eximius	... 3 6
Prince Arthur	... 3 6	Grandiflorum	... 3 6

Price of the Set, 21s.

NEW VARIEGATED GERANIUM—CAINES' ATTRACTION.

This is one of the most distinct variegated varieties yet introduced to the public, possessing a dark-green foliage, with red markings, edged with pure white; the colour of the flower a beautiful cherry, and quite different to any other variegated Geranium yet sent out. From its freeness of growth and compact habit, as it blooms in great abundance, it will be valuable for bedding or pot culture. 10s. 6d.

A Descriptive List of Show and Fancy Pelargoniums, &c., may be had by applying at the Nursery, Surrey-lane, Battersea, near London.

MESSRS. CHARLES CANTOR & CO., OF CALCUTTA.

1852.

LIST OF ORCHIDEOUS PLANTS INDIGENOUS TO ASSAM

AND THE NEIGHBOURING HILLS OF KHASYA, BOOTAN, &c.

No.	Names.	Size and Colour of Flower.	Habit
1*	Microstylis Wallichii ?...	Small, pea green	Ter.
2	Oberonia indifolia ...	Minute, yellowish	Epi.
3*	,, sp.	,, ,, ...	Do.
4	Liparis sp.	Small, yellow	Do.
5	,, sp.	,, ,, ...	Do.
6**	,, sp.	Largish, green yellow ...	Ter.
7*	,, sp.	Small, deep purple ...	Epi.
8	Otochilus fuscus ...	,, yellowish brown ...	Do.
9	,, albus	,, ,, and white ...	Do.
10	Pholidota imbricata ...	,, white	Do.
11	,, undulata	,, ,, ...	Do.
12*	,, articulata	,, ,, ...	Do.
13*	,, sp.	,, ,, and yellow ...	Do.
14*	,, sp.	,, ,, ,, ...	Do.
15	Coelogyne flavida ...	,, yellow	Do.
16	,, undulata	Largish, white	Do.
17*	,, fimbriata ?... ...	,, ,, and brown ...	Do.
18**	,, uniflora	,, ,, and lateritious	Do.
19	,, barbata	,, white	Do.
20*	,, præcox ?	,, ,, ...	Ter.
21*	,, maculata	Large, white, yellow, & rose	Do.
22**	,, Wallichiana ...	,, ,, and rose ...	Do.
23**	,, ocellata	,, pale yellow and deep orange	Do.
24*	,, Gardneriana ...	,, white and yellow ...	Epi.
25	,, cristata	,, ,, streaked with bright yellow	Ter.
26	,, sp.	Small, brown and yellow...	Epi.
27*/	,, flava ?	Large, yellow and brown ..	Do.
28	,, sp.	Small, brown and yellow...	Do.
29*	,, sp.	,, white and brown ...	Do.
30	,, sp.	,, pale yellow	Do.
31**	,, sp.	,, white (pretty) ...	Ter.
32**	,, sp.	Largish, pale cinnamon ...	Epi.
33**	Bolbophyllum leopardinum	Large, yellow spotted with purple.	Do.
34	,, umbellatum ...	Largish, dull yellow ...	Do.
35*	,, Khasyanum ...	Small, greenish	Do.
36*	,, sp.	Largish, bright yellow ...	Do.
37*	,, sp.	Small, white, fragrant ...	Do.
38*	,, sp.	,, dull purple	Do.
39	,, sp.	,, ,, ...	Do.
40	,, sp.	,, ,, ...	Do.
41**	Cirrhopetalum sp. ...	Small, greenish, fragrant	Do.
42	,, sp.	,, dull purple	Do.
43*	,, sp.	Large, brown and yellow...	Do.
44**	,, sp.	Largish, dull purple ...	Do.
45*	,, sp.	,, ,, ...	Do.
46*	Tricoglossa suavis... ...	Large, white, purple & yell.	Do.
47*	Eria flava	Largish, dull yell. & brown	Do.
48	Eria sp.	Largish, white streaked with brown	Epi.
49	,, densiflora	,, ,, tinged with yellow	Do.
50	,, ferruginea	,, ferruginous	Do.
51	,, paniculata... ...	Small, spotted with purple	Do.
52**	,, sp.	Largish, white	Do.
53*	,, sp.	,, ,, & dull purp.	Do.
54*	,, sp.	,, ,, ,,	Do.
55*	,, sp.	Minute, rosy	Do.
56	Aporum aneceps ...	Small, white	Do.
57	,, cuspidatum ...	,, ,, ...	Do.
58*	,, sp.	,, ,, ...	Do.
59	,, sp ?	Largish, white, yellow, and brown	Do.
60	Dendrobium Pierardi ...	Large, pink and yellow ...	Do.
61*	,, secundiflorum ...	,, yell. and br. fragrant	Do.
62	,, Carysanthum ...	,, lively yell. and brown	Do.
63*	,, Paxtoni	,, ,, ,,	Do.
64*	,, sp. like do. ...	,, orange and brown ...	Do.
65*	,, formosum	Very large, white and yell., fragrant	Do.
66**	,, longicornu... ...	Large, white and orange...	Do.
67	,, calceolus	Very dark yellow, rose, and purple	Do.
68*	,, sulcatum	Large, yellow and purple...	Do.
69	,, Jenkinsii	,, lively yellow	Do.
70	,, cærulescens ...	,, deep lively purple ...	Do.
71	,, nobile	,, white rosy purple ...	Do.
72**	,, Gibsonii	,, yellow and brown ...	Do.
73*	,, scriposum	Small, white	Do.
74*	,, Cambridgeanum ...	Large, lively yell. and br.	Do.
75**	,, transparens ...	,, deep lively purple ...	Do.
76*	,, like do., various ...	,, pale rose and purple	Do.
77**	,, Devonianum ...	,, lilac-rose and yellow	Do.
78**	,, Dalhousianum ...	,, rose, white, and purp.	Do.
79	,, multicaule... ...	,, white and purple ...	Do.
80**	,, Griffithii	,, pale yell. and orange	Do.
81**	,, Farmeri	,, lively ,, ,, ...	Do.
82**	,, densiflorum pallid.	,, white and orange ...	Do.
83**	,, do. roseum ...	,, pale rose and orange	Do.
84	,, intermedium ...	,, pale yellow & brown	Do.
85*	,, sp.	,, lively orange	Do.
86*	,, sp.	,, ,, yellow & brown	Do.
87**	,, sp.	,, yellow, pink, and br.	Do.
88*	,, sp.	,, pink and yellow ...	Do.
89**	Spathoglottis pubescens	Largish, yellow and purple	Ter.
90	Arundina bambusifolia	Large, pale rose and lively purple	Do.
91*	Phaius grandifolius ...	,, white, brown, & pur.	Do.
92	,, Wallichii	,, ,, ,, ,,	Do.
93*	,, maculata	,, ,, rosy scented	Do.
94*	Phaius albus	Large, white, rosy scented	Do.
95**	Aputaria senilis	Largish, rose and green ...	Ter.
96**	A latifolia	?	Do.
97*	Eulophia virens	Large, green and white ...	Do.
98**	,, sp.	,, dull yellow & brown	Do.
99**	,, sp.	,, deep purple	Do.
100**	,, sp.	,, green and yellow ...	Do.
101**	,, sp.	,, purplish green ...	Do.
102	Vanda teres	Very large, rosy purple, yellow and brown	Epi.
103**	,, cristata	Largish, greenish, white, and purple	Do.
104**	,, multiflora	,, white and rose ...	Do.
105**	,, cærulea	Very large, deep blue ...	Do.
106**	,, sp.	Largish, dull purple ...	Do.
107**	,, sp.	,, ,, and green	Do.
108**	,, sp.	,, yellow and brown ...	Do.
109**	Camarotis purpurea ...	Small, yellow and purple...	Do.
110	Micropera pallida ...	,, pale yellow	Do.
111	Saccolabium micranthum	Small, rosy	Epi.
112	,, retusum	Largish, lively spotted ...	Do.
113	,, papillosum ...	Small, pale yellow & pur.	Do.
114**	,, Calceolare	,, yellow and brown ...	Do.
115**	,, sp. like do. ...	,, pale do. and rose ...	Do.
116	,, caroifolium ...	,, rosy	Do.
117**	,, dasypogon ...	,, green and purple ...	Do.
118*	,, appendiculatum ...	,, yellow	Do.
119*	,, sp.	,, rosy and deep purple	Do.
120**	Sarcanthus sp.	... ...	Do.
121**	,, sp.	Small, rosy	Do.
122**	,, sp.	,, white and yellow	Do.
123**	,, sp.	,, ,, ,, ...	Do.
124**	,, sp.	,, ,, ,,	Do.
125**	,, sp.	,, rosy red	Do.
126	Aerides affine	Large, rosy purple	Do.
127	,, odoratum	,, ,, sweet-scented	Do.
128	,, sp.	,, ,, ,,	Do.
129**	,, sp.	Large, like affine, and very sweet-scented	Do.
130	Agrostophyllium Khasyanum	Small, white	Do.
131*	Xiphosium acuminatum	Large, white	Do.
132	Acanthophippium sp. ...	,, dull purple	Ter.
133**	,, sp.	,, white, streaked ...	Do.
134**	Cymbidium giganteum...	Very large, yell. and brown	Do.
135	,, pendulum	Large, dull yell. and purple	Do.
136	,, aloifolium	,, ,, ,,	Do.
137**	,, eburneum	Very large, white	Do.
138	,, inconspicuum ...	Small, brown	Do.
139	Cymbidium longipetalum	Largish, green and purple	Ter.
140*	,, cyprifolium ...	,, ,, ,,	Do.
141**	,, sp.	Large, fragrant, yellow, and white	Epi.
142**	,, sp.	,, brownish purple ...	Do.
143**	,, sp.	Very large, white	Do.
144**	,, sp.	Large, white and brown ...	Do.
145*	,, sp.	,, green and dull purple	Ter.
146**	? Phalænopsis, sp. ...	Large, yellow and reddish brown	Epi.
147	Euphorboscis pygmæa...	Minute, yellow	Do.
148	Geodorum dilatatum ...	Large, white, purple, and yellow	Do.
149*	,, sp.	,, deep rosy purple and white	Do.
150**	Platanthera sp.	Large, white	Do.
151**	Peristylis sp.	Largish, white, sweet-scented	Do.
152	Habenaria hamigera ?...	Small, green	Do.
153	,, sp.	,, yellow	Do.
154	,, sp.	,, greenish yellow ...	Do.
155*	,, sp.	,, white	Do.
156**	,, sp.	Large, white	Do.
157**	Pogonia Joliana... ...	Small, rosy white	Do.
158**	,, sp.	Largish, green	Do.
159**	,, sp.	Small, purple	Do.
160**	Cyrtosia sp.	Largish, golden yellow ...	Do.
161**	Spiranthes sp.	Small, white	Do.
162**	Zeuxine sulcata	,, ,, ...	Do.
163**	Anæctochilus Roxburghii	,, rosy white	Do.
164**	,, sp.	,, white	Do.
165**	Cypripedium venustum	Large, green and purple ...	Do.
166**	,, insigne... ...	,, red and yellow ...	Do.
167*	Calanthe densiflora ...	,, lively yellow	Do.
168**	,, sp.	Small, brown and yellow...	Do.
169**	,, sp.	Large, white and green ...	Do.
170**	,, sp.	,, ,, and yellow ...	Do.
171**	,, sp.	,, dull purple	Do.
172	Goodyera sp.	Small white	Do.
173	,, sp.	,, ,, ...	Do.
174	,, sp.	,, ,, dull purple ...	Do.
175**	Ophrys sp.	Largish, rosy purple ...	Do.
176**	,, sp.	,, green and purple ...	Do.
177**	Anthoginum sp.	,, rosy	Do.
178*	Bonatea sp.	Small, green	Do.

Æschynathus (3 to 4 sp.): Hoya (5 or 6 sp.); Arum (several); Lilium (1 sp.); Nepenthes (1 sp.); Ferns and Lycopodiums (150 to 200 sp.); Palms (Livistonia, Leoxalia, Cargota, Calamus, &c.) are also indigenous, and can be sent if required.

Plants not marked are common. Ditto marked with an asterisk are considered rare.

Ditto marked with two asterisks are considered very rare.

The charges for a box of 4 cubic feet measurement, containing an equal selection of the three kinds, will be 5*l.* or 50 Rupees, deliverable at Calcutta. When Plants which are rare or very rare are required, the charges will be according to the kind taken; for the rare 1 r. Sa. a Plant; for the very rare, 2 rupees a Plant. When very large plants are directed to be sent, no extra charge will be made.

When new Plants not included in the list are sent, a separate charge will be made. When two boxes or more are taken a discount of 10 per cent. will be allowed.

Plants can also be sent in glass cases, on the Wardian plan, measuring 2 feet 6 inches in length, 2 feet breadth, and 2 feet 7 inches in height, for which an extra charge of 20 rupees will be made. Glass covers can also be supplied for the other boxes, at an extra charge of 10 rupees.

Applications to be made to Messrs. CHARLES CANTOR & CO., in Calcutta.

ASSAM, *August* 1, 1852.

TWENTY CHOICE NAMED GERANIUMS FOR EIGHTEEN SHILLINGS, in 60-sized pots, in strong robust health.

Apply to William E. Rendle and Co., Florists, Plymouth.

For General List of Geraniums, see *Gardeners' Chronicle*, page 610, Sept. 25, 1852.

PLECTRANTHUS CONCOLOR PICTA, the finest variegated-leaved plant yet offered ... ... 7*s.* 6*d.*

TACSONIA SANGUINEA, figured in "Botanical Magazine" for October ... ... 10*s.* 6*d.*

Hugh Low and Co., Clapton Nursery.—Oct. 23.

A FINE OPPORTUNITY.

FOR CHEAPNESS, UTILITY, AND DISPLAY, the following are strongly recommended. Carriage paid. See below.

SELECT HARDY HERBACEOUS PLANTS and ALPINES, 100 in 50 choice sorts, our selection, 25*s.*; 100 in 100 choice sorts, our or purchaser's selection, 30*s.*

FLOWERING and EVERGREEN SHRUBS, TREES, &c., purchaser's or our choice, per 100 in 100 sorts, 2*l.*; our own choice, in 50 sorts, 1*l.*

COMMON LAURELS, 1½ to 2 feet, per 1000, 3*l.*; per 100, 8*s.* 2 to 3 feet, bushy plants, per 1000, 4*l.*; per 100, 10*s.*

PORTUGAL LAURELS, 1½ to 2 feet, 20*s.* per 100, or 2*s.* 6*d.* per dozen. 2 to 3 feet, extra fine, 25*s.* per 100, or 3*s.* per dozen.

EVERGREEN PRIVET, fine, 2 to 3 feet, per 1000, 40*s.*

HORSE CHESTNUTS, 5 to 6 feet, 30*s.* per 100.

ROSES, 50 splendid sorts, standards, 4*l.* per 100, or 15*s.* per dozen. 100 superb sorts, Dwarf Roses, 35*s.*, or 6*s.* per dozen, our choice; mixed do., 25*s.* per 100, or 4*s.* per dozen.

STOVE PLANTS, purchaser's choice, 50 sorts, 40*s.*; our own choice, in 50 sorts, 35*s.*

GREENHOUSE PLANTS, purchaser's choice, 50 sorts, 40*s.*; our own choice, in 50 sorts, 35*s.*

ERICAS, purchaser's choice, 50 sorts, 2*l.* 10*s.*; our choice, in 50 sorts, best, 40*s.*, or 9*s.* per dozen.

CHINESE AZALEAS, 20 fine show sorts, 20*s.*, our choice; purchaser's choice, 25*s.*, or 18*s.* per dozen.

These are all fine, healthy grown plants.

HOLLYHOCKS, fine, double coloured, 30*s.* per 100; do. seed, in packets, warranted to produce 75 in 100 double, 1*s.* 6*d.* each.

GOOSEBERRIES, finest Lancashire sorts, 70*s.* per 1000 in 100 sorts named, or 10*s.* per 100 in 50 sorts.

CURRANTS—May's Victoria, or Raby Castle Red, is the largest and best sort grown, and ought to be grown in every garden, 25*s.* per 100, or 4*s.* per dozen. Red Grape and Champagne Currants, fine, 10*s.* per 100, or 2*s.* per dozen.

APPLES and PEARS, fine, clean standards, 10*s.* per dozen, or 70*s.* per 100; choice of sorts left to us, very select.

PLUMS and CHERRIES, finest sorts, standards, 18*s.* per dozen, our choice; dwarf-trained do., 3*s.* 6*d.* each, or 36*s.* per dozen.

APRICOTS, PEACHES, and NECTARINES, fine, three years trained, of best sorts, own choice, 4*s.* each, or 40*s.* per doz.

N.B. A fine stock of Larch, Spruce, Oak, &c., size and prices on application. May's Descriptive Catalogue in three parts:—Part 1 contains Stove and Greenhouse Plants; Part 2, Hardy Herbaceous Plants, Roses, Shrubs, &c.; and Part 3 contains Fruit Trees, &c.; to be had on application.

Ornamental Grounds designed gratis, by giving measurement, &c.; and Plans furnished on the same terms, and executed on the most liberal terms. Forest planting by estimate.

*** *All orders above* 2*l.* 10*s. carriage paid to London, Liverpool, Birmingham, and Edinburgh, and all the intermediate stations within* 150 *miles of the Nursery.*

Address all orders and communications to Henry May, the Hope Nurseries, Leeming Lane, Bedale, Yorkshire. A remittance or reference from unknown correspondents respectfully requested.

SUPERB HOLLYHOCKS.—A Selection of the best Hollyhocks, by R. B. BIRCHAM, Hedenham Rosary, Bungay, Suffolk.

	s.	*d*
Aurantia (Rivers'), salmon	1	0
Black Prince, new (Gibbon's), a good black, much more double than the old one, and produces a fine spike ...	3	6
Bicolor (Chater's), purple and white...	1	6
Commander-in-Chief (Barron's), light-edged rose ...	1	6
Comet (Chater's), bright ruby red	2	6
Delicata (Barron's), French white	1	0
Dido (Parsons'), brownish red	3	6
Elegans (Chater's), delicate blush	1	6
Enchantress (Chater's), deep pink	2	6
Formosa (Barron's), claret	1	0
Hebe (Bircham's), fine peach blossom, flowers large and full, produces a fine spike	3	6
Joan of Arc (Parsons'), silvery blush	10	6
Lady Braybrooke (Chater's), rosy crimson	7	6
Magnum Bonum (Barron's), dark maroon	3	0
Meteor (Bircham's), a crimson scarlet, centre well up, and fine guard petal, produces a fine spike, extra fine	5	0
Model of Perfection (Barron's), good white, chocolate ground	1	0
Mr. C. Barron (Chater's), pinkish salmon	3	0
Mandarin (Bircham's), nankeen, large and full, changing to pale chocolate	5	0
Napoleon (Pow's), light-edged puce	3	0
Obscura (Chater's), silvery-shaded puce	1	0
Pourpre de Tyre (Bircham's), ruby purple, splendid form, and fine texture, guard petals smooth, centre full, and well up, produces a splendid spike, decidedly the best yet raised. First Class Certificate, National Society, Sept. 18, 1851; South London, Sept. 8, 1852; see *Gardeners' Chronicle*, July 31; and the "Florist" for Sept., 1852	10	6
Penelope (Bircham's), deep rosy pink, shaded, large and full, very distinct, produces a splendid spike. A Certificate National Floricultural, Sept. 18, 1851	7	6
Pandora (Bircham's), bronze, buff and orange, large and full flower, and spike up well	5	0
Prince of Orange (Bircham's), a buff yellow, with orange at the base	3	6
Pillar of Beauty (Parsons'), bright rosy crimson	5	0
Picta (Parsons'), rosy salmon, light edged	5	0
Queen (Barron's), beautiful blush	1	0
Queen of Denmark (Bircham's), an orange-yellow, of a new and desirable shade, producing a fine spike. A First Class Certificate awarded. See *Gardeners' Chronicle*, July 31, 1852	5	0
Rosy Queen (Chater's), rosy blush	1	6
Rosea grandiflora (Barron's), fine rosy pink	2	6
Rosea Alba (Barron's), rose and white	2	0
Spectabilis (Chater's), rose and salmon	3	6
Safrano (Parsons'), pink and salmon, buff guard petals, large and fine	7	6
Sulphurea perfecta (Rivers'), fine sulphur	1	0
Sulphur Queen (Chater's), beautiful primrose, chocolate ground, fine form	10	6
Triumphant (Parsons'), pale primrose, tinted with delicate rose	5	0
Walden Gem (Chater's), or Charles Turner (Black), deep ruby crimson, extra fine	3	6
White Perfection (Chater's), pure white	3	6
Yellow Model (Bircham's), a peculiar shade of primrose yellow, with chocolate ground, splendid form, and fine texture; flowers large, centre well up; produces a splendid spike, one of the best yet raised. First-class Certificate awarded by the National Floricultural Society, September 18, 1851. See *Gardeners' Chronicle*, July 31, and the "Florist" for September, 1852, &c. ...	10	6
If the Selection be left to R. B. B.:		
First-rate varieties of the above, per dozen ...	£2	0 0
Good ,, ,, ...	1	0 0
Semi-double kinds, with brilliant colours, such as many of the Scotch varieties, under names, per doz.	0	12 0
Fine double flowers, with splendid colours, selected when in bloom from many thousand seedlings; these are strong ground roots, but without names, per dozen	0	6 0

Carriage paid to London; plants added to compensate for long carriage, and every attention paid to package.

Post-office orders, payable at Bungay Office, to Robert B. Bircham.

NEW GERANIUMS, SHOW AND FANCY VARIETIES.—All the best sorts, of the latest introduction, can be obtained from

WILLIAM E. RENDLE AND CO.,
NURSERYMEN,
PLYMOUTH.

For particulars, see *Gardeners' Chronicle* for Sept. 25, page 610.

DUTCH FLOWER ROOTS.

W. E. RENDLE and Co. *have received their Annual Importation, which is offered on reasonable terms.*

Catalogues can be procured as per address above.

A. PAUL AND SON beg to announce that their CATALOGUES of ROSES and HOLLYHOCKS, containing all the fine new varieties for the present season, are now ready, and may be had free on application, enclosing Two Penny Stamps for the postage. The AUTUMNAL ROSES are still finely in bloom.—Nurseries, Cheshunt, Herts, October 23.

NEW SHRUBBY CALCEOLARIAS,
CONSISTING OF ABOUT FIFTY VARIETIES NEVER BEFORE OFFERED TO THE PUBLIC.

J. WEEKS AND Co., CHELSEA, have now to offer a most splendid and superb Collection of SEEDLING SHRUBBY CALCEOLARIAS, which they can confidently warrant and recommend, they having been carefully saved and varied from the most unique selection in the kingdom. The sorts being all Shrubby they are perpetually in flower; and from the great variety and brilliancy of their colours, they are invaluable for the conservatory or bedding-out.

J. WEEKS and Co., KING'S ROAD, CHELSEA, LONDON.

TO NOBLEMEN, GENTLEMEN, AND THE TRADE.

HAY, SANGSTER, AND CO. are now ready to send out their NEW EARLY NO. 1 PEA, price 2*s.* 6*d.* per quart, and can with confidence recommend it as a very superior article.

About the second week in October they will be ready to send out their New Early Scarlet PRINCE OF WALES RHUBARB, 5*s.* each. It is quite as early as the Prince Albert, much larger, red throughout, of exquisite flavour, and a large cropper.

Post-office Orders from those not having an account open with H., S., and Co., to be made payable to the Firm, at the Borough Post-office, or postage stamps.

For Testimonials and parties where both articles can be had, see *Gardeners' Chronicle* 18th September, 1852, page 594.

Newington Butts, London.

KINGHORNE'S SEEDLING EPACRISES.

JOHN AND CHARLES LEE beg to announce that they are prepared to send out these beautiful Seedlings, from which they have selected the following distinct kinds:—

E. KINGHORNII.—Tube medium length, very stout, beautifully pencilled with rose colour, pure white tip, and sepals well reflexed: a most profuse bloomer. Price 7*s.* 6*d.*

E. GRANDIFLORA RUBRA.—Tube longer, stouter, and much higher coloured than grandiflora; tips pure white; sepals expand well; very free bloomer. Price 5*s.*

E. MINIATA SPLENDENS.—Tube larger and longer than miniata, of a more brilliant colour, white tip more distinct; sepals expand well; extremely free bloomer. Price 5*s.*

PRICE OF THE SET, 15*s.*—The usual discount to the Trade, besides a set over on every three sets ordered.

These superb Epacrises are really the most useful plants offered to the Public this season. They are very great improvements, both in habit and profuseness of blooming, over all former introductions, and will prove highly valuable for exhibition.

Nursery and Seed Establishment, Hammersmith.

SUPERB NEW APPLE,
BRADLEY'S GOLDEN PEARMAIN.

RICHARD BRADLEY begs to inform Nurserymen and the Public generally that it is his intention to send out this very excellent new APPLE in November next.

R. B., in offering the above, can with confidence recommend it as being a very superior variety and worthy a place in every collection. It will be found a great acquisition for Table or Kitchen. First quality, second size; season from December to February. It is an early and prolific bearer, and a very free grower.

Opinion of R. MABNOCK, Esq., in *Gardeners' and Farmers' Journal* for Oct. 26, 1850:—"*B H N.* Your Apple seems to be a variety very near the Margill, or between that and the Ribston Pippin. It has the general form and flavour of the one with the spotting of the other. The flesh is crisp and grateful. On the whole, we think it is an excellent dessert Apple, and looks as good as it is."

Fine healthy dwarf plants, 10*s.* 6*d.* each; half standards, 12*s.* 6*d.* each. One plant over to the Trade when three are ordered.

The stock being small, early orders are requested, to secure plants. A remittance to accompany the order from unknown correspondents, to be made payable at Southwell Post-office, Notts.—Agents: Messrs. Fisher, Holmes, and Co., Handsworth Nursery, Sheffield. Package free. All orders above 1*l.* 11*s.* 6*d.* carriage paid to London and all places within 100 miles of the nursery.—Halam Nursery, Southwell, Notts.

THOMAS CRIPPS respectfully offers the following New and Select ROSES:—

PERPETUALS.	Stds.	Dwfs.
	s. d.	*s. d.*
La Seduisante ...		3 6
Docteur Juillard ...		5 0
Lucy Baronte ...		2 6
Mdm. Leclerc Guillory		5 0
William Griffiths ...		3 6
Souvenir de la Reine de Belges		7 6
Palais de Cristal ...		5 0
Baronne Hallez (beautiful, ...	3 0	2 0
Comte de Bourmont		7 6
Clemence Isaure ...		5 0
L'Enfant du Mont Carmel		5 0
Beranger		2 0
Charles Bolsiler ...		5 0
Souvenir d'Empire ...		5 0
Caroline de Sausal (fine)	3 6	2 6
General Negrier ...	3 6	2 0
General Bree ...		3 6
Louise Odier ...		5 0
Rose du Roi (new white)	2 0	1 6

PERPETUALS.	Stds.	Dwfs.
	s. d.	*s. d.*
Diodore		7 6
Blanche Portemer ...		5 0
Mere de St. Louis ...		7 6
Miss Meymott ...		7 6
Victoria (Paul's) ...		5 0
Isocrate		7 6
Mdm. Seigneur ...		5 0
Chereau	2 0	1 6
Gen. Cavaignac (fine)	2 6	2 0
Mdm. Fremion ...		2 6
Mdm. Hilaire ...		5 0
L'Etendard du Grand Homme		7 6
Mdm. Flory ...		7 6
Robert Burns ...		3 6
Eugene Sue		7 6
Auguste Mie (fine, ...	5 0	3 6
Jeanne d'Arc (fine)	5 6	3 6
Mdm. Andry ...		5 0
Inermis		5 0
Gen. Delnago ...		5 0
Gen. Dronot (moss),	3 6	2 6
Herman Kegel (do.)	3 6	2 6

Géant des Batailles, per dozen, for beds, stds. 15*s.*, dwfs. 15*s.*

Standard Roses, in splendid variety, the selection being left to T. C., 12*s.* and 24*s.* per dozen. Dwarf do., finest varieties, 9*s.*, 12*s.* and 18*s.* per dozen. Dwarf do., good varieties by name, 6*s.* per dozen.

The above, if ordered now, will be sent in November securely packed to any part. A remittance or reference is required.

Tunbridge Wells Nursery, Kent, Oct. 25.

NEW WHITE BROCCOLI—"DILCOCK'S BRIDE."

BAINBRIDGE AND HEWISON beg to announce that they have purchased of Mr. Dilcock the entire stock of the above, which is a Broccoli of the highest merit, surpassing every other (even the far-famed "Mammoth"), as the following will testify. It has been sold in the York market at 1*s.* per head.

"York Horticultural Society, June 18, 1852.

"In reply to your inquiries I find 'Dilcock's Bride Broccoli' was awarded first and third prizes 1850; first, second, and third, 1851; and first, second, and third in the present year. It ought to be grown by every gentleman's gardener, especially where any are grown for competition. Market gardeners also will find it to their profit to possess it.—Yours truly,

"R. DEMPSEY, Hon. Secretary."

The Seed will be sent out in the autumn in sealed packets at 2*s* 6*d.* each, containing about 1300 Seeds, and may be had of themselves at York; or of Messrs. NOBLE, COOPER, and BOLTON, Seed-merchants, 152, Fleet-street, London.

Hope Nursery, York.

LOCKSBROOK NURSERY, BATH.

R. SHACKELL begs again to offer the public his beautiful SEEDLING VIOLET "RUSSIAN SUPERB," which variety cannot fail to give the highest satisfaction. Strong blooming Plants, hamper and package included, 6*s.* per dozen; Small Plants, such as may be sent through the post, 4*s.* per dozen.

R. S. has almost an inexhaustible stock of Double Blue Perpetual Tree Violet. Strong fine healthy Plants, having from 20 to 30 blooms on each plant, such as would make a display at once, he will render at the low price of 2*s.* 6*d.* per dozen, hamper included; or 11*s.* per 100, hamper included. In quantities of not less than 1 dozen or 100. One hundred plants of this variety would supply several Bouquets per day from this time until the end of May next. A large Bouquet of each of these two varieties can be sent through the post on the receipt of 12 penny postage stamps.

Neapolitan Violet Plants	3*s.*	per dozen.
Double White Tree Violet	3*s.*	,,
Ditto ditto Violet	3*s.*	,,
Single White Russian	3*s.*	,,
Old Russian Violet	5*s.*	per hundred.

Hamper and package included.

Post-office Orders payable to ROBERT SHACKELL, Florist, 36, Broad-street, Bath.

NEW ROSES.
PRINCE ALBERT AND FAIRY QUEEN.

A PAUL AND SON beg to offer the above new and beautiful Roses, of which they at present hold the entire stock. Prince Albert Bourbon (Paul's), the flowers are, in the summer, deep scarlety crimson, in autumn rich glowing lake, 3½ inches in diameter, finely cupped and very double, the outline a perfect ring; every shoot blooms, often producing 20 to 30 flowers in a truss, and being of dwarf habit it is likely to prove one of the finest autumnal Roses for bedding. The foliage is large, thick, and handsome, and it surpasses every Bourbon Rose in colour, form, and abundance of bloom. Strong Plants in November, 10*s.* 6*d.* each.

This Rose will be figured in the "Florist" for November. It has obtained a first-class certificate from the National Floricultural Society, the Royal South London Floricultural Society, and the Caledonian Horticultural Society, at Edinburgh; it has further been favourably noticed by the leading Horticultural Journals, and ordered by above 100 Nurserymen and Amateurs who have seen it in flower.

Fairy Queen Hybrid Perpetual (Paul's), soft glossy lilac, of medium size and perfect form, the summits of the petals reflexing as in Mrs. Bosanquet, and like that unique rose every shoot produces flowers; dwarf habit. Plants 7*s.* 6*d.* each. Early orders are solicited, as the stock is limited.

Nurseries, Cheshunt, Herts, Oct. 23.

FIRST-RATE COLLECTION OF CONIFEROUS PLANTS.

WILLIAM YOUNG begs to inform noblemen, gentlemen, and others, that his collection of Coniferous Plants is this season very fine, consisting of first-rate specimens of Cedrus Deodara and Lebanon, Araucaria imbricate, Cryptomeria japonica, Taxodium sempervirens, Pinus insignis, Abies Douglasii, &c. &c., of which he would invite a personal inspection; likewise a very extensive Stock of Forest Trees of every description, consisting of fine bedded Alder, Ash, Beech, Birch, Spanish Chestnut, Hazel, Red Hart Willow, several hundred thousands of fine bedded Larch, from 18 inches to 2 feet, and 2 to 3 feet; Scotch Fira, 9 inches to 1 foot, and 18 inches to 2 feet; ditto, 3 to 4 feet; an immense quantity of strong bedded White Thorn or Quick for Fencing; and Mahonia aquifolium, or American Berberry, for cover, which will be sold cheap if taken in quantities.

Catalogues may be had by enclosing two postage stamps.

Milford Nursery, near Godalming, 2 miles from the Godalming Station of the South-Western Railway, where conveyances can always be obtained.

VIOLA ARBOREA; OR, PERPETUAL TREE VIOLET (TREE).—The finest Stock for many years of the above, which has proved the best of all VIOLETS, is now offered to the Public by EDWARD TILEY; he can recommend it with great confidence, and has also received numerous testimonials from different parties speaking of its qualities, and giving it the highest praise. It is beautifully scented, the flowers as large as the Double Blue Hepatica, blooming freely from August to the end of May, and perfectly hardy. This is the proper time for making beds or potting, and 12 of these plants grown in pots will scent a large Greenhouse; also a small bed of them, 9 feet long by 3 wide, will be sufficient to furnish a family with Bouquets the whole of the winter and spring. Large plants, 6*s.* per dozen; small plants, 3*s.* per dozen.

VIOLA ARBOREA ALBA; OR, DOUBLE WHITE TREE VIOLET.—This is also a very fine variety, and resembles the former Violet in many particulars, with the exception of its colour. Large plants, 6*s.* per dozen; smaller ditto, 3*s.* per doz.

RUSSIAN SUPERB VIOLET, Blue and White (True).—A very useful and fine variety; 3*s.* per dozen.

A TREATISE on the nature and mode of Cultivation of the VIOLET.—EDWARD TILEY begs to introduce to the notice of all lovers of this flower a Treatise, which will not only give an insight into its proper mode of cultivation, but also directions for keeping it in continual bloom the whole of the winter. It will also assist many who have already grown this variety, as it introduces several distinct plans by which it may be cultivated most successfully. Purchasers to the amount of Five shillings will have the Treatise included; or, post-free to any part on receipt of 12 penny stamps.

DOUBLE WHITE CLOVE CARNATION.—To those persons whose orders came too late last season (the plants being all sold), E. T. begs to say he has a fine stock of this beautiful Clove (both colour and fragrance unequalled), and can supply any quantity at 1*s.* 6*d.* per pair, postage and packet included.

DOUBLE WHITE CLOVE CARNATION; also a large stock of this splendid variety at 1*s.* 6*d.* per pair, postage and package free.

STRAWBERRY PLANTS can be still supplied in every variety and price, as see *Gardeners' Chronicle* for Sept. 4, 1852.

The above, or any part of the above, can be sent postage and packet free, on receipt of the amount, by a post-office order, or postage stamps.

EDWARD TILEY, Nurseryman, Seedsman, and Florist, 14 Acton-street, Bath.

NEWPORT NURSERY GROUNDS.
ESTABLISHED NEARLY A CENTURY.

WILLIAM WILKINS, at the commencement of the PLANTING SEASON, invites attention to his fine, healthy, and unusually extensive general NURSERY STOCK prepared, by periodical removals and the accumulation of fibrous roots, for planting out, so as to ensure success, which he will offer at unprecedentedly low prices.

FRUIT TREES, standard, dwarf, half and full trained, true to sort, of all the varieties recommended by the Horticultural Society, of kind and vigorous growth.

FOREST AND ORNAMENTAL TREES, CONIFERÆ, FLOWERING SHRUBS, &c.; including specimens up to 15 feet.

Standard and Dwarf ROSES, of the most admired varieties.

AMERICAN PLANTS.

A very large stock of EVERGREENS, of excellent habit, for which this Nursery has been so long celebrated; including 5000 Laurestinus, 4000 Sweet Bays, Laurels, Phillyreas, Alaternuses, dwarf and standard Portugal Laurels, Chinese and Box-leaved Privet, variegated Hollies, &c.; which, as the land is required for other stock, will be disposed of very cheap, particularly when large numbers are purchased.

CREEPING AND TRAILING PLANTS, for covering walls, trellises, &c., in great variety, well established in pots.

GREENHOUSE and HERBACEOUS PLANTS, FLORISTS and BORDER FLOWERS; RUSSIA MATS.

THORN PLANTS, for fencing, of prime quality, at low prices.

In consequence of W. W. having declined the Seed Business, and removed to a residence in his Nursery, he has been enabled to give his exclusive attention to the propagation and raising of the large stock now growing in healthy condition in his grounds; and all orders with which he may be favoured will receive prompt and careful attention, so as to merit a continuance of that distinguished patronage which he has for so many years enjoyed, and for which he returns his sincere thanks.—Newport, Isle of Wight.

The Gardeners' Chronicle.

SATURDAY, OCTOBER 23, 1852.

A DISCUSSION has found its way into our columns concerning the possibility of growing HARDY TERRESTRIAL ORCHIDS as ornamental plants. Opinion is divided as to this, one side insisting upon their being perfectly cultivable, and well suited for bedding out or forcing; the other maintaining, first, that they are not cultivable, in the horticultural sense of the term, or that if they are cultivable, they are not worth the trouble they occasion.

In this as in many other disputed matters, both sides are right; but there is more right on one side than on the other. Some are certainly not worth cultivation, except in botanic gardens, such as the species of *Epipactis* and *Cephalanthera*, *Aceras anthropophora*, *Listera ovata*, *Herminium*, and many of the *Ophryses*. Others are perhaps not cultivable at all, such as *Neottia nidus avis*, some kinds of *Epipactis*, and other fibrous-rooted species. But to say that the tuberous kinds of *Orchis* and allied genera, *Platanthera*, *Ophrys*, *Serapias*, and the like are either uncultivable or difficult to cultivate, or unworthy of cultivation, is to evince a singular unacquaintance with notorious facts. *Orchis mascula*, *latifolia*, *maculata*, *ustulata*, and *militaris*, *Gymnadenia conopsea*, &c., are frequently cultivated with perfect success for years together; and with good management they become far handsomer than in their wild state.

It is, however, a circumstance to be noted, that they all thrive best if sheltered. Treated as frame or greenhouse plants, they acquire a vigour and brilliancy of colour which they are not usually thought to possess. Although natives of our own country in many cases, and in others inhabiting climates where the winter is rigorous, yet they evidently like warmth by day, and to be guarded from a very low temperature at night. *O. mascula* and *morio* managed as greenhouse plants, well fed, skilfully put to rest when the time of annual torpor arrives, and *then taken care of*, become objects of such striking beauty as even to be thought new species by persons not critically acquainted with them. It is indeed probable that the magnificent *Orchis foliosa* of Madeira, at one time a most beautiful decoration of greenhouses, but eventually the victim of negligence, is nothing more than a noble form of our own *O. latifolia*, invigorated by a long residence in that temperate island. Possibly the explanation of the circumstance now alluded to is to be found in their natural habits among Grass, or in woods, where they are guarded from night's cold by the surrounding herbage or the overhanging foliage.

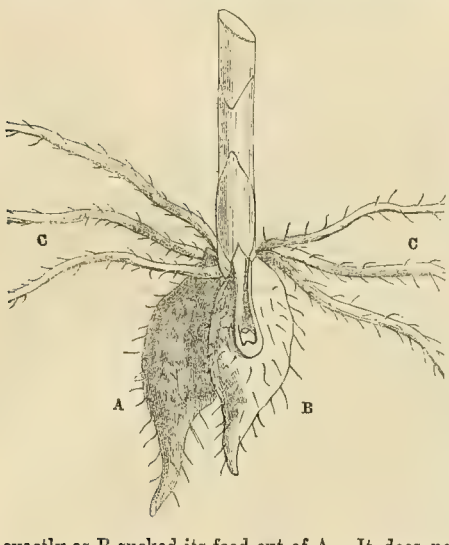
The cause of failure in the cultivation of these plants is, we believe, attributable to nothing whatever except a neglect of shelter when they are in leaf, and to ill treatment when going to rest, provided always they were originally in good health when brought under domestication, which is nineteen times in twenty not the case. For what does a person do when he sets about growing wild Orchids, except go into the neighbouring fields with a trowel when the plants are in flower, take them up with "a good ball," pop them into a basket, where their tender leaves are crushed and ruined for life, and then transfer them, with little skill or care, to a flower-pot or a flower border? Under such con-

ditions the wonder is, not that they usually languish and die, but that they ever live.

The accompanying cut, which may be taken as a type of all the tuberous Orchids, and they are most worth growing, shows their manner of growth, and explains the cause of the failure which so often attends their introduction into gardens.

When a tuberous Orchis has completed its growth, and is prepared to undergo its annual rest, it consists of a somewhat horny oblong body, or tuber represented at B, with a minute bud at one end, and probably the remains of an old tuber (A) adhering to it. The tuber B is firm, plump, and filled with grains of starch imbedded in mucilage, analogous to gum tragacanth, among which is dispersed a small quantity of a fragrant or strong-smelling matter similar to the principle which gives its peculiarity to Vanilla. Thus organised, thus prepared, it remains in the ground during the autumn, hardening under the influence of the high earth temperature of the hottest months of the year, and no doubt undergoing at the same time certain other constitutional changes, of whose exact nature nothing is known, but which result in what gardeners properly call ripeness. Then succeed the wet and cold of winter, which the Orchis tuber is now provided with the means of resisting. Spring follows, and earth temperature rises; the new growth commences, and leaves unfold. At this time A disappears, if it had not rotted off before; it had already been dead matter from the first completion of the growth of B, for the food of which it had previously served.

With the renewal of growth the following changes take place:—B having thrown up a new stem, also produces from its neck certain fibres, *c c*, which spread round it in the earth in a circle, and more or less horizontally. It also produces a new tuber from one side of its neck, which tuber may be called D. This D gradually organises itself as B did, sucking out of B the food therein contained,



exactly as B sucked its food out of A. It does not appear that after the first B has any influence upon the growth of the plant, food for the leaves being provided by *c c*, and returned by the leaves to D. All this is going on during the growth of the new tuber D, the vegetation of the leaves, the display of the blossoms, and the ripening of the seed-vessels, if any are produced.

In the midst of these important operations, the plant collector takes up the Orchid and puts it in his garden. The flowering time is preferred, because the plant is most easily found at that period. All the horizontal roots, *c c*, are necessarily cut through or mutilated, for they spread far round the central stem; the leaves are crushed when in full activity, and when all they can do is imperatively demanded by the young tuber D; and from the shock thus communicated to the constitution, the plant never recovers. D is half formed, is afterwards starved, and ends in being a shrivelled impotent body, incapable of carrying on its race, or only capable of producing an emaciated offspring.

But if the plant were not taken up till D was fully ripe, how different would be the result. The fibres, *c c*, would then be dead and useless; the leaves would have completed their important duties, and all the organisation of which D is susceptible would have been secured. In that state D would give birth to a new plant with all the constitutional vigour proper to the species. That this is so, is proved by the facility with which imported Orchis roots, collected by experienced and sagacious persons, always grow, and by the vigour of their first offspring. That this vigour may be perpetuated, and, as we have already observed, augmented, is conclusively proved by Wm. Barnes's management of *Orchis longicornu*, a southern species, which, when grown, as we some time since saw it grown at Mr. Hanbury's, is one of the most charming of greenhouse plants. We understand that Mr. Barnes is now cultivating it for sale.

Those who know terrestrial Orchids only by the species commonly wild in England, form a very inadequate notion of what they really are in the south. *Orchis undulatifolia, militaris, fusca, papilionacea, longibracteata, longicornu*, and *sambucina*, *Ophrys tenthredinifera* and *lutea*, with *Serapias cordifolia*, would form a cluster of bright colours and beautiful forms, such as it would be difficult to eclipse even among the Epiphytes of the tropics. As to any outcry about the impossibility of growing them, we can only say that it will chiefly be raised by the same class of gardeners as that which maintained the uncultivableness of Epiphytes in any way, and of Roses in pots, and of plants in general in slate boxes.

We observe that the cause of the Larch Rot has been recently inquired into by a correspondent at p. 662, who supposes Lord Portman to have stated that Larch fails except upon primitive rock formations. We cannot for our own parts add anything to what we have stated upon this subject on former occasions; but we undertake to say that the *dictum* in question does not belong to the nobleman whose name has been thus introduced, if it has any parentage whatever. On the contrary, we have good reason to know that Lord Portman entertains no opinion of the kind. What our own views are, will be found at p. 435 of our volume for 1851.

NEW ESCULENT VEGETABLES.

EXAMINED IN 1852, IN THE GARDEN OF THE HORTICULTURAL SOCIETY.

By R. Thompson.

Haricot de Prague jaspé.—Obtained from M. Vilmorin, of Paris. This is a tall running Kidney Bean, but the pods are rather thin-sided, and the seeds soon become prominent, therefore it is not to be recommended for use in a green state: the dry seeds, however, are said to be of excellent quality.

Haricot de Belgique.—Presented to the Society by Messrs. Bossin, Louesse and Co., Paris. This has black seeds, but it is quite different from the Haricot Noir de Belgique, which is a dwarf sort, and this is tall; blossoms white, pods large, 5 inches in length, and still tender. A tolerably good bearer, but not very early. Where sticks can be afforded, this variety deserves cultivation, for its quality is very good.

Bush Haricot (*Haricot solitaire.*)—Obtained from M. Vilmorin, of Paris. Seeds of this were distributed to the Fellows of the Society. Grows about 15 inches high, throwing out a number of branches nearly close to the ground, thus forming a sort of bush. The shoots successively emitted bear in succession; whilst they also shade the ground, and tend to keep it moist in dry weather. The flowers are of a pale blush. The pods are abundant, 5 inches in length, crisp, transparent, excellent. They commence to form tolerably early, and they continue long fit for gathering in succession. The dry seeds are speckled red and white. The rows should be 2 feet apart, and the plants half that distance from each other in the row. This forms a succession to the earlier sorts, especially during hot, dry weather.

Small white-seeded Haricot.—Presented by John Tinne, Esq. This appears to be a variety of the Haricot riz. The seeds are small, white, roundish-oval, like those of the Haricot riz, but larger; and the plant is earlier, more productive, and hardier, consequently better adapted for this climate. Its growth is between dwarf and tall. The blossoms are white; pods long, rather narrow, pale green, tender, but not so fleshy nor so good as various others for use in a green state. It may, however, be well substituted for the Haricot riz in cases where that variety is preferred on account of its small white seeds.

Newington Wonder French Bean.—Seeds of this were received from Messrs. Lee, and from Mr. Rendle. Both proved to be correctly the same variety; and it is an excellent one. Very dwarf, about a foot high, early and productive. The pods are moderately long, not very broad, but having thick fleshy sides, within which the seeds form but slowly, and the pods remain long crisp; their colour is dark green. It may be planted in rows 18 inches apart.

Black Belgian Kidney Bean.—Received from M. Vilmorin, of Paris. Although this variety has been previously noticed in the Society's Journal, yet the present mention of it will doubtless be excused, for it may be usefully stated that it is the best for both early and late sowing. It is dwarf, and may be sown in pots before the open ground has acquired sufficient warmth, and if planted out when this is the case it soon comes into bearing. Again, late in summer, when taller sorts would not even blossom if then sown, the sort in question will produce a good crop, that will keep in gathering condition till cut off by frost. This, and the Newington Wonder, are considered the best varieties of dwarf Kidney Beans.

Türkische Bohne (*Schlachtschwardt-Stangenbohne*).—Presented to the Society by J. Tinne, Esq., together with the original label, bearing the accompanying name, under which he had obtained the variety from the Continent. It was also stated on the label that ("*diese Sorte liefert* 12 *bis* 14 *Zoll lange und über* 1 *Zoll breite Schoten*") this sort bears pods from 12 to 14 inches in length, and upwards of an inch in breadth. They did not attain these dimensions here, the season being dry, and the ground cold in the early part of summer; but some were 10 inches long, and nearly an inch broad, and doubtless they would grow to the full size mentioned in a moist warm season. It appears to be the same as the *Haricot Sabre d' Allemagne* of Noisette's *Manuel du Jardinier*, and the *Sabre* of the *Bon Jardinier*. It grows tall. The pods are large, curved, tender even when the seeds are half grown, but the latter then render it objectionable. It does not remain so long in gathering fit for use in a green state as the Bush Haricot (*Haricot solitaire*) and several others, nor does it bear so abundantly. It has, however, good qualifications, which are thus described in the *Bon Jardinier*:—"This variety is, perhaps, the best of all; it bears tolerably well; its pods are of an extraordinary length and breadth; in a young state they make excellent *haricots verts*; when nearly full-sized they are still tender and fleshy, and may be used in this state, either fresh, being broken in small pieces, or, in winter, after being cut into narrow strips and preserved with salt." The dry seeds are tolerably large, flat, kidney-shaped, and white; and in point of quality the French rank them amongst the best, whether used new or dried. It therefore appears that this variety possesses good properties, which those who can may turn to account. But it is necessary to observe that it requires good tall sticks, and these are too expensive, excepting for those who have their own plantations to cut from. *Journal of the Horticultural Society.*

THE EPIPHYLLUM.

Many of the varieties of this genus deserve to be classed with the most beautiful and useful of ornamental plants; for under proper treatment their showy blossoms are produced very abundantly; and where it is desirable, they may be had in flower nearly the whole year round. Their culture, although simple, appears to be imperfectly understood by many, and others seem to esteem these truly interesting plants as worthy of no more attention than suffices to keep them alive.

They are increased by cuttings or by grafting; the latter method is adopted in the case of weak growing kinds, like the varieties of truncatum, which are supposed by many to flourish best when grafted on some strong-growing stock. I, however, prefer rooted plants of truncatum as well as of others, when dwarf handsome specimens are wanted.

Select strong firm pieces of the young wood for cuttings; for, although any part will emit roots, young shoots will be found to form the best plants. Lay the cuttings in a dry place, exposed to the sun for a day or two before planting, with a view to dry up the superfluous moisture. Insert them singly in small pots well drained and filled with light sandy soil, and plunge in a gentle bottom-heat in a close warm pit or frame, and water very sparingly until they have become rooted and have started into growth. When well established in their pots, shift into others a size larger; and about a fortnight after shifting remove the plants to a situation near the glass, where air can be freely admitted on favourable occasions, and where the temperature may average about 65°, which will be found more conducive to strong vigorous growth than a high moist temperature. A moderate supply of water, sprinkling over-head on the evenings of bright days, and stopping any over-gross shoot, so as to secure compact well-formed plants, are all that will be required during the summer. Early in autumn the supply of water should be gradually lessened, and the plants fully exposed to sunshine, to mature and ripen their growth.

A light airy situation in the greenhouse will suit them during the winter months, and at this season very little, or no water, should be given to the soil. At the end of the first season the plants ought to be nice compact specimens, capable of producing a good display of blossom; but unless they are wanted for small decorative plants, they should not be allowed to flower until the following season. Early in March place them in a moist growing temperature of 55°, allowing it to rise 10° or 15° with sun heat; water liberally with tepid water, to bring the soil into a moist healthy state; shift into larger pots as may be necessary, and keep the plants growing briskly until September, when they should be prepared for winter, as directed for last season. If the wood is properly matured, and the plants given a season of rest, by water being withheld, &c., as already directed for the winter, they will produce an abundant display of blossom at any season they may be introduced into a gentle heat, and few plants are more useful or easily managed for winter forcing.

Plants intended for forcing should be started early in the season, and if portions are grown at intervals during the spring and summer, ripened, and wintered, there will be no difficulty in keeping up a succession of bloom from January to July. A situation in an early Vinery, pit, or elsewhere, with a moist atmosphere, and a temperature of from 50° to 60°, will answer for forcing them. Portions should be introduced at intervals of about three weeks, and those to flower late must be retarded by being kept in the coldest part of the greenhouse, and quite dry. While in bloom the plants should occupy a rather cool dry atmosphere, as

ne flowers will last longer under such circumstances nan in a high moist temperature. When the beauty of ne flowers is over, thin full-sized specimen plants everely, cutting out any old shoots that can be spared, nd weakly young shoots, so as to lighten the speci- ens and make room for the young wood, and preserve he desired form. The plants had better be allowed a ortnight in a cool place to recruit their exhausted nergies before placing them in heat, especially such as hay have been forced early; and such plants that are ill grown need not be kept in heat longer than is neces- ary to secure sufficient young wood to afford a good isplay of blossom.

The varieties of truncatum are better adapted for utumn and winter flowering than any of the others, s this is their natural season of blooming, and they are asily managed and amongst the showiest objects in our ouses during the dull winter months. These naturally art into growth early in spring, and they should be ncouraged by a sharp moist heat, as they are weakly rowers, and ought not to be stowed away in a cool reenhouse after flowering, as is sometimes done.

The most suitable soil for the Epiphyllum is light andy turfy loam and good turfy peat, in the proportion f three-fourths of the former to one of the latter, icely broken up and mixed with sufficient sharp sand to eep it porous, and ensure free drainage after the decay f the fibre. When the specimens attain a large size nd occupy pots as large as it is convenient to afford hem, they should be liberally supplied with clear weak anure water during the growing and flowering seasons, nd the pots may be surfaced with rich compost; this ill afford sufficient nourishment for years. Light iron ames fixed to the pots form the best supports for aining on; these are easily moved with the plants in ase of repotting, and are not always breaking, as wooden takes thrust into the soil are. *Alpha.*

Home Correspondence.

Mandevilla suaveolens.—In a recent visit to the Botanic Gardens at Montpelier, I observed Mandevilla suaveolens growing over a trellis as a hardy climber. With a view to test the severity of the winter, I inquired what species of Passiflora flourished under similar treatment, and learnt that none but P. cærulea would live there out-of-doors; all others which had been tried had been killed by frost in winter. On my remarking that P. cærulea flourished in England, the gardener assured me that Mandevilla was decidedly more hardy; and that where P. cærulea flourished, he had no doubt Mandevilla would equally. In accordance with this statement, I observe that a branch of Mandevilla which has grown out through the roof of my greenhouse, is this day (October 18) in perfect flower, having been exposed about 10 days ago to a frost which injured French Beans, Convolvulus major, caused the leaves of Mangold Wurzel to droop, and so damaged flowers of Passiflora cærulea against a wall, that they did not expand. I should remark that the greenhouse is span-roofed, so that the Mandevilla was exposed both to wind and radiation without any protection whatever. I mention this to induce others to try Mandevilla, as I intend to do next year against a wall where Passiflora flourishes. I may add that the frosts at Montpelier are occasionally so severe that Cupressus lusitanica was severely injured, and Oranges and Olives killed outright. On the other hand, from the heat of the summer Nelumbium both flowers and seeds in a tank in the middle of the garden. *T. R.*

Green Peas.—I have sent a few pods of Peas for the purpose of showing how green Peas may be obtained in Scotland at a late period of the year; and if they can be had in the north with little trouble, other places may be supplied with them as well or better. I have tried frequently to have late Peas, in former years, but there is commonly a frost in September or beginning of October that has disappointed my expectation. This year there were 8° of frost in the beginning of September, which killed many things in the garden, but the late Peas escaped injury. The variety sent is Bishop's Dwarf Improved Long-pod; they were sown under the protection of a wall where early Potatoes were grown; after the Potatoes were lifted, the ground was dug, and the Peas planted about 3 inches apart, and about 15 inches from the wall; no sticks were used to support them, and they were allowed to grow upon the alley until the end of August, when they were gently turned over to the wall and there allowed to remain to grow until they were fit for use; in such a position they got heat by day to nourish them, and protection by night from frost, and by such a mode a dish of green Peas may be had late in the season; the slug sometimes feeds upon the outside of the pods, but it can be kept in subjection. *Peter Mackenzie, West Plean, Stirling, Oct.* 18. [They were tolerably good, but nevertheless inferior to all that were produced at the Horticultural Society's meeting, in Regent-street, on Tuesday last, with the exception of the foreign ones.]——I have found the best late Pea to be Carter's Victoria. It was this day quite sweet and fresh, like an early summer Pea. *J. H., Nether-place, Mauchline, Ayrshire, Oct.* 19.

How to heat a small Greenhouse cheaply.—Being fond of flowers, I put a window 10 feet by 5 feet into my lobby, with a stand in front, endeavouring by the addition of a stove to preserve some plants over the winter; the exposure was to the north, and two-thirds of them were destroyed by damping off or otherwise. Under such circumstances, I resolved to erect a small greenhouse with an exposure to the south; and here I wish the particular attention of many of your readers similarly situated with myself, that is, not overburdened with cash, and therefore who should be as moderate as possible in the erection of their greenhouse; I bought old windows 8 feet by 4½ feet, the expense of each was 9*s.*, and put glass cupolas on the top as a roof, 2½ feet in height. The size of the house is 8 feet by 8 feet, and, consequently, at the highest point 10½ feet; the total expense, after being painted was under 10*l.* The roofing consists of two cupolas, each 8 feet long by 4 feet wide, with zinc conduit, between and round the whole house. The next point to be considered was an effectual mode of heating the same, and at how little expense during the winter season. As I live in Edinburgh, in inclement weather my gardener and his wife remove from their cottage and live in my kitchen during my absence, consequently a fire is kept on there night and day; the idea struck me that a pipe placed in the fire, open at both ends, the one end open under the bottom of the grate; and which pipe, after being led the whole length of the fire-place, and being again conducted a second time through the fire, and thence through the wall into the greenhouse, might effect the purpose wanted. It has been in operation now for three years, and has succeeded most admirably without a single farthing of extra cost to me; there is a stop on the end of the pipe which enters into the greenhouse, by which the heat can be excluded when necessary. The expense of the pipe with building was under 5*l.*, its diameter is 3 inches, and the surrounding cast-iron is about half an inch in thickness. It is of great importance to have the iron pipe heavy in metal, for, supposing that the fire goes out during the night, hours will elapse before it becomes so cold as not to be a complete protection against frost. I shall be happy to give further information to any reader on his addressing me. *W. K. A., Esq.*, 48, *South B. Canongate, Edinburgh.*

Red Spider.—For several years past I have been greatly annoyed and injured by the arch enemy of gardeners—I mean the red spider. I am a Pine grower, a Grape grower, and a Melon grower. In my capacity of Pine grower, of course the red spider does not molest me. As a Grape grower I generally receive a yearly visit from him; but I have uniformly found that when I have liberally sprinkled my hot-water pipes with flowers of sulphur, he considers that he has received "legal notice," or at least a sufficient hint to quit, and vacates accordingly. But in my Melon frames he establishes himself, and founds a flourishing colony for the season. My efforts to expel him have hitherto been unavailing. Perhaps I ought to mention that my Melons have been grown in common dung frames or Macphail pits; nevertheless I have not failed to use sulphur, by sprinkling it over the foliage of the plants, and also by placing it on heated tiles in the frame; but although I have sometimes much damaged the plants by the former process—notwithstanding the care I have taken to protect them from the rays of the sun when so treated, the spider family has gone on increasing, and has ultimately deprived my plants of health and vitality, so that the fruit produced by them has been worthless. Several months will now elapse before Melons are sown, and if in the meantime any of your correspondents will favour me with a few hints, so that I may save my crop for the coming year, I shall feel greatly obliged, and I think I may add that an obligation will be conferred on some other Melon growers, since I am acquainted with several who fail in the cultivation of this fruit in consequence of the visitations of the enemy to which I have alluded. *W. D.*

British Orchids.—I have tried the following from chalky pastures in the south, carefully taken up and planted amongst soil in which native Orchids are found growing in Scotland, but without success; viz., Orchis fusca, O. macra, Ophrys apifera, O. muscifera, O. aranifera, and Aceras anthropophora. For the first two years they flowered equally as well as they did in a wild state, but their beauty decreased every year afterwards. I find the following, however, to thrive beautifully, and sometimes even improve under cultivation,—viz., Orchis maculata, O. mascula, Gymnadenia conopsea, Habenaria bifolia, and Cypripedium Calceolus. I grow the latter in peat, and find it, along with the more beautiful C. spectabile of North America, almost as easily cultivated as any common herbaceous plant. It may be interesting for those who suppose that Cypripedium Calceolus, in a wild state, is now extinct, to know that it is still found pretty abundant in a wood in the north of England (or at least was so a few months ago) to all appearance perfectly indigenous. It is growing in patches in various parts of the plantation; but in the mean time I am not at liberty to give publicity to its precise locality. *J. Rae, Hawick, Oct.* 13.——Being a great lover of British Orchids rather than a cultivator of them, I do not wish to arrogate to myself the position of an instructor regarding the best modes to be adopted in their cultivation. I am, however, convinced that no great skill is required to grow them. It should be recollected that in order to guard against puny plants with worthless flowers, they should be planted with a ball of earth whenever removed to any new and more favourable situation. Some of the less common kinds, as a boy, I well remember to have seen collected and placed in their natural soil, in a chartered place, where they were found to thrive admirably. The following varieties I am certain are perfectly cultivable, viz., Orchis morio, maculata, latifolia, mascula; Habenaria viridis, Herminium monorchis, Ophrys apifera, and O. muscifera. In this neighbourhood we are not destitute of growers of these interesting natives, which I have not unfrequently seen planted in a Fernery with a view to ennoble it at the spring season, and in this situation they have succeeded; during last season some in such a situation flowered very creditably. The sorts were Habenaria bifolia, Orchis maculata, morio, pyramidalis, latifolia; Ophrys apifera and muscifera, and Aceras anthropophora. *W. Whale, Englefield-green.*——The paper communicated by "A. D.," on the growth of British Orchids, so fully confirms my experience in the cultivation of these remarkable and beautiful plants, that I cannot withhold my testimony in corroboration of all he states; my success has been commensurate with his, although the number of species I have been able to procure has been more limited. I have this summer grown tall spikes of richly-coloured and well-formed flowers, from roots of Orchises in their third year's cultivation, and Ophrys in their second; and I cannot believe there is any sufficient reason why most, if not all the British Orchids, might not become a part of our garden flora, were due attention paid to their peculiar habits and choice of soil. We spare no pains in preparing our Tulip and Hyacinth beds, why not take equal care to secure so singularly beautiful a flower as the Cypripedium Calceolus, which ought ere this to have occupied a place in our garden lists? At a future time I may perhaps say a word or two on my very successful cultivation of English wild flowers in general; some of our natives are exquisitely beautiful, the Tulipa sylvestris we have in our garden forming a lovely and fragrant addition to our spring borders. The bulbs were removed from the Nottingham meadows (where they grow in considerable luxuriance with Crocus vernus), and planted in fresh sod beside Fritillaria meleagris; and on this same border and in similar soil grow in vigorous health Orchis mascula, morio, and pyramidalis. *A. H., Springfield, Liscard, Oct.* 18.

Purple Ischia Fig.—An offset planted in 1837 in porous soil, such as coal-ashes and brick and lime rubbish mixed with the common soil, which is heavy loam, now covers 115 square feet of an E.S.E. wall, and nailed in close, produced this year 117 ripe Figs, some weighing 4 ounces each, and last year 113. The only winter covering is a few Fir branches. *William Eade, Beldisten Rectory, near Hadleigh, Suffolk.* [This is the kind of soil in which out-of-door Figs always should be planted.]

Scarlet Runners.—About the 13th of September there was a sharp night frost here; Peas were destroyed, a row of Scarlet-runners severely injured, the gardener, a labouring man, instantly tried guano water; the plants revived, flowered and fruited anew, and till this week's frost finally destroyed them they have yielded a continually full supply. I do not hear of any others in the country having survived the earlier frost so as to bear fruit. *R. A. H., Westmoreland.*——The late frosts having entirely destroyed the tops of the Scarlet-runners, I would recommend the roots to be carefully taken up and stored away in damp sand or mould, in a dark cellar or shed, where they may remain until the first week in April, when they should be planted one foot apart; by so doing, you will pick Beans nearly a month sooner than by sowing seed. *E. Bennett, Perdiswell.*

Potato Disease.—Out of the many assigned causes of, and remedies for this disease, it appears to me very doubtful which, if any of them, can decidedly be relied on. Some ascribe the cause to over manuring, and to wet soils, others to debility and bad preparation of the sets; but we find that the disease attacks indiscriminately on rich and poor soils, the drained and undrained, and the light and heavy lands, and likewise the well and ill-prepared sets. There are, however, to be found in the worst seasons, in certain localities, patches that altogether escape, for which no one, that I am aware of, has yet been able to give a decided reason, as under the same circumstances the stated reason has proved a failure. I think the following will show that some of the causes assigned for this disease cannot be correct:—The soil here, which does not average more than 20 inches in depth, on a loose gravelly and sandy bottom, is very light; it is naturally very poor, and I am quite sure that it has never been made artificially rich, yet every year since the commencement of this malady a large proportion of both early and late crops has been destroyed in proportions of one quarter, half, two-thirds, and so on; the preparation of the sets has proved of no avail. Some four years ago a meadow of about two acres on this estate, which had been for many years laid down in Grass, and well known not to have received any manure for above 20 years, became very full of weeds. To clear it of them it was deemed necessary to plough the Grass up, which was done in the summer when nice and dry. All the turfy part was collected in heaps and burnt, after which it was spread over the ground again. After several ploughings and harrowings the land was sown with Turnips, the crop of which was cleared off in time the following spring for planting it with Potatoes; still no manure of any kind was used, and yet nine-tenths of them were so much diseased as to be only fit for pigs' food. This could not be from over manuring. I have frequently observed on this poor soil, that where most dung was used the Potatoes were most free from disease. I have seen sufficient in this neighbourhood to convince me that letting the ground become overrun with weeds will not prevent disease; therefore, I would not advise any one to try this method; for, besides the slovenly appearance, they will be consigning to the ground, in the way of seeds, what will cost them much extra labour for

many years afterwards. I consider steaming the diseased Potatoes preferable to boiling, as it clears them of much of the deleterious matter about them; if they are afterwards mashed, a little salt mixed with them, and then packed away close in a dry place, they will keep for several months, and form excellent food for pigs. The best means of preserving the undiseased Potatoes after they are dug, which I have tried, is to lay them in heaps in a dry shed; then procure some best Dorking lime hot from the kiln, sprinkle as much water on it as will just reduce it to a dry powder, then spread it in this state over the heaps of Potatoes in sufficient quantity, that after being well mixed with them they may be all covered over with a thin coating of the lime. *J. Skue, Gardener to S. Lyne Stephens, Esq., Rochampton, Surrey.*

Tanners' "Bate." — I am informed that this is a liquid infusion from pigeons' dung, and the excrement of other poultry, in which the "skins" are immersed for a given period, and quite free from any tanning principle. I shall be glad to know if any of your correspondents have had experience of its beneficial effects upon vegetable crops? Also how and when applied, and under what circumstances it could, by liberal application, be rendered beneficial to unproductive fruit trees in a mature state of growth or otherwise? *W. Wood, York.*

Window Gardening.—Ever since the introduction of cheap glass, I have seen the possibility of cheaply applying it for various economic purposes, as glass walls, lining to common walls, and otherwise. At the present time, I propose to construct the lower panes of windows, whether in shops, chambers, or other places, double, somewhat on the principle of a Ward's case, and therein to introduce Ferns, bulbs, and what not, calculated to realise a pretty, living, vegetable screen. Such an arrangement would constitute a pretty blind, and furnish a most extensive, and at the same time, varied addition to the great pleasures derivable from the kingdom of flowers, and that, too, under circumstances in which nothing of the kind has been hitherto accomplished or contemplated. The plants I insert in a little zinc pan containing earth, and make the pane moveable, with a view to introduce water. *Henry M'Cormac, M.D., Belfast.*

Societies.

Horticultural, *Oct.* 16.—Dr. Royle, secretary, in the chair. Miss Bolton, E. C. Seaman, Esq., J. Harris, Esq., W. J. Phelps, Esq., and Mr. Chater, of Haverhill, Suffolk, were elected Fellows. The new regulations adverted to last week came into operation on this occasion, and the result was an excellent exhibition; not only of subjects sent for special competition, but also of other things. Of Green Peas there were no fewer than six dishes, five being English and one foreign. Among English exhibitions the best was that from Mr. Burns, of Chevening; it consisted of Knight's Marrow, in the best possible condition, being young, tender, and in every respect excellent. Another exceedingly good exhibition came from Mr. Evershed, market gardener, Godalming. The sort was called Long Junquil, a little known Pea, but apparently of first-rate quality, the pods being large and well filled. Mr. Smith, gr. to Mrs. Reay, sent a dish of Early Warwick from Wanstead, in Essex, which were all that could be desired, being young, sweet, and good. Indeed, this and the preceding exhibition were of such excellent quality, that their receiving some mark of recognition was referred to the Council for consideration, one prize being all that the schedule permitted to be given for green Peas. From the Rev. P. V. Robinson, of Landeweduach Rectory, Helston, Cornwall, came a large podded sort, called Great Britain, which was, however, a little too old. It was stated of this, that from a sowing made in the first week in July, the first dish was gathered in the first week in the present month, and that the crop is still abundant, with blossoms coming out daily. A dish of Knight's Tall Marrow was furnished by Mr. Culverwell, gr. to H. Milbank, Esq., of Thorp Perrow, Yorkshire; these were in every way excellent, but they were shelled, and therefore could not be compared with other sorts. Finally, Mr. Lewis Solomon, of Covent-garden, communicated a dish of foreign Peas, but they were in miserable condition, the pods being small and ill filled. The sort resembled Shilling's Grotto. — Pears were produced in considerable quantity; but every exhibition either contained one or more unripe fruit, or did not consist of the number of sorts required, and therefore they were all disqualified; nevertheless, in consideration of its being the first time, and people not appearing to have understood the regulations of the Society, the non-compliance with the regulations was overlooked on this occasion, and prizes were awarded, 1st, to Mr. Robertson, gr. to Sir A. Dunbar, Bart., Duffus House, Elgin; and 2d, to Mr. Anderson, gr. to the Earl of Stair, at Oxenford Castle, Midlothian. The first of these exhibitions consisted of wonderfully fine fruit, for the far north of Scotland. It contained Winter Nelis, Sinclair, Marie Louise, Easter Beurré, extraordinary specimens of Grosse Calebasse, each fruit measuring at least 7 inches in length; Thompson's very large, Duchesse d'Angoulême, and Glout Morceau. The second comprised Marie Louise, Louise Bonne, Gansel's Bergamot, Autumn Bergamot, Autumn Bon Chretien, and a "new variety of Marie Louise." Of these only one kind was unripe. Another exhibition from Mr. Burns, of Chevening, consisted of Flemish Beauty, Comte de Lamy, Marie Louise, Gansel's Bergamot, Crassane, and Seckel. A fourth from Mr. Davis, of Oak-hill, was composed of Marie Louise, Beurré Bosc, Crassane, Duchesse d'Angoulême, Gansel's Bergamot, and Van Mons Leon le Clerc; all fine fruit but wholly unripe. Mr. Snow, gr. to the Earl de Grey, had Marie Louise, Passe Colmar, Brown Beurré, and a sort unknown. Collections also came from Mr. M'Ewing, gr. to the Duke of Norfolk, at Arundel; and Mr. Atkinson, gr. to Lady Molyneux, Stoke Farm, near Windsor; the latter were, however, too late for exhibition. Of foreign Pears (which it will be understood do not compete with English ones, but with other foreign Pears), Mr. Lewis Solomons sent a collection of large and exceedingly handsome fruit, to which a Banksian Medal was awarded; it consisted of Chaumontel, Passe Colmar, Mons le Curé, Duchesse d'Angoulême, St. Germain, and Belle Erme; of these two were unripe. The same dealer also furnished an exhibition of English sorts, large and extremely well-grown.—Of fruit shown without reference to the schedule, Messrs. Lane contributed a dish of Autumn Bergamot Pears, some Golden Drop and Blue Imperatrice Plums, and a dish of the purple Guava.—Mr. Woolley, gr. to H. B. Ker, Esq., sent Morello Cherries in good condition; and Mr. M'Ewing a dish of Keens' Seedling Strawberries, middling-sized, but rather acid.—Mr. Story, of Dartford, exhibited examples of a seedling Apple, of a bright red colour.—From Mr. Jarvis, gr. to J. Ruck, Esq., of Croydon, came two Queen Pine-apples, each weighing 3 lbs. 12 ozs.; and Mr. Povey, gr. to the Rev. J. Thornycroft, sent an old stool of Black Jamaica with two suckers on it, each carrying a ripe fruit of fair average size; it was stated that the plant which produced them had ripened off a fruit upwards of 4 lbs. weight in November last year.—Some Grapes were shown. Mr. Butcher, nurseryman, Stratford-on-Avon, received a Banksian Medal for a bunch of the Black Barbarossa, weighing 3 lbs. 9 ozs. Among sorts of second-rate quality this is certainly one of the very best, and it deserves a place in every house, not only on account of its large size, but also for its keeping so late in the season. Stillwell's Sweetwater, exceedingly well grown, with large plump berries almost transparent, was furnished by Mr. Hargen, gr. to R. W. Edgell, Esq., of Egham; and Mr. Davis sent a large basket of Muscats, consisting of fine bunches beautifully grown, as they always are under his management. Each of these exhibitions received a Certificate of Merit; and a similar award was also made to Mr. Spary, of Brighton, for good Black Hamburghs grown without fire-heat.—Of Orchids, a fine specimen of Vanda cærulea, than which we know of no plant of its colour more striking at this season, was shown by Messrs. Lucombe and Pince, to whom a Knightian was awarded for it, and a Banksian Medal was assigned to Mr. Woolley, for a smaller example of the same showy plant, but not quite the same variety as the former. The last-named exhibitor also sent the new white Trichopilia albida. The Rev. Mr. Ellis, of Hoddesdon, sent Dendrobium flexuosum in the way of D. longicornu, with white flowers striped on the lip with orange. Messrs. Lane had an Epidendrum, one of Mr. Skinner's importations, and apparently allied to E. fragrans. Of other plants, Messrs. Standish and Noble contributed a new evergreen shrub, Skimmia japonica, bearing a profusion of beautiful red berries, which, rising in clusters above the handsome foliage, are exceedingly attractive at this season. Along with it also came small examples coming into blossom, showing that only a short time is required to see it in all its beauty of both flower and fruit. It is believed to be hardy, but of this further proof is required. A Knightian Medal was awarded it. A charming Gesnera, with cherry coloured flowers having a pale throat, was exhibited by Mr. Glendinning, of Turnham-green. Judging from its foliage and general character, it appeared to be a cross between G. discolor and purpurea. A Certificate of Merit was awarded it.—Mr. Snow sent cut specimens of Aralia japonica, from a plant 12 feet high, which is at present flowering in great profusion in the open shrubbery at Earl de Grey's place, in Bedfordshire.—Mr. Cole, gr. to H. Colyer, Esq., produced Medinilla Sieboldii and a well-grown Gusmania tricolor. These, however, came too late for a prize, as did also a pretty variegated plant from Messrs. Low, of Clapton, called Plectranthus concolor picta. It is a hothouse plant, with tender pale green leaves, prettily blotched with deep brown.—Mr. Francis furnished charming cut flowers of the following Roses, from his nursery at Hertford, viz:—Bourbon Queen, Jacques Lafitte, Mrs. Bosanquet, La Reine, Devoniensis, Géant des Batailles, Bougère, Belle Allemande, Rambuteau, Elise Sauvage, Dr. Marx, Marquis of Ailsa, Saffranot, Comte de Paris, Souvenir de la Malmaison, Baronne Prevost, Standard of Marengo, Marquis Boccella, Cloth of Gold, and Dupetit Thouars.—A bouquet of hardy annuals was contributed by Mr. Wrench, of London-bridge; and Mr. Mills sent a half-ripened Cucumber a yard in length, and about 3 inches in diameter.—From the Society's garden came, among other plants, the pretty little winter Violet Grass (Cochlearia acaulis), which, if sown in an American border or similar place, grows and blooms from this season up to Christmas. A little patch of it taken up and put in a saucer in water will also keep flowering a long time, rendering it an interesting plant for the drawing-room window. Along with it were Solandra lævis, fine examples of the useful Sedum Sieboldii, the Golden Lachenalia (L. aurea), a new and very handsome species, producing long spikes of bright yellow tubular flowers; two Bromeliaceous plants, a red and a white flowered kind, from M. de Jonghe of Brussels, a small blossomed yellow Chrysanthemum called Hendersonii, which is valuable for its earliness, anticipating as it does the Chrysanthemum season by some weeks; a branch bearing half-ripe fruit of Benthamia fragifera from the conservatory, and a cut spike of the Peruvian Bark-plant (Cinchona calisaya), whose flowering in the garden for the first time in Europe has recently excited so much interest. Associated with these were also a collection of hardy annuals, in the shape of cut flowers, placed in pots. Among more remarkable kinds were blooms of Tropæolum Lobbianum, whose brilliant orange scarlet was so striking as to attract everybody's attention; Tagetes signata, a little known and rather handsome kind; Cosmos bipinnata atro-purpurea, with purple flowers somewhat resembling those of a single Dahlia; the Zebra Mallow, a beautifully striped sort; Phlox Drummondii, one of the most useful annuals for autumnal decoration; Lupinus pubescens and Hartwegii, and Calceolaria chelidonoides, a variety introduced by I. Anderson, Esq., of Edinburgh, and which promises to be an exceedingly useful and pretty kind. In addition to the above, the same establishment contributed the following Pears all ripe and fit for table, viz., Marie Louise, Beurré Bosc, Gansel's Bergamot, Seckel, Comte de Lamy, and Belle et Bonne; together with Auvergne Peas, Neapolitan Cabbage, and White Paris Cos Lettuces, two of the best sorts in cultivation, and two Gourds, one (Potiron jaune) weighing 108 lbs., and the other (Egg-shaped Gourd), weighing 22¾ lbs.

The following proposed alteration in the bye-laws, which had been read at two previous meetings, was on this occasion read a third time; viz.: "The Council hereby give notice that they propose to substitute for chapter 8, article 1, of the present bye-laws, namely: the number of honorary members shall not at any time exceed five; the following words—the number of honorary members shall not at any time exceed 10." This alteration was then balloted for, carried unanimously, and became a law of the Society.

It was announced that the next meeting would be held November 2, at 2 P.M., when the special subjects of exhibition will be Chrysanthemums (shown in sixes, in pots not exceeding 11 inches in inside diameter); Alpine Strawberries; Celery (shown in three heads).

Notices of Books, &c.

Design for the Plan of the New York Exhibition Building.—It appears that Sir Joseph Paxton's plan for an Exhibition building at New York is not to be adopted, but that a preference has been given to a design by Messrs. Carstensen and Gildemeister, forming a Maltese cross, with an octagonal basement and a central dome, 122 feet high and 105 feet in diameter. The octagon itself is 365 feet in diameter, exclusive of three entrance halls. From the design before us, for which we are indebted to the courtesy of Mr. Buschek, we should say it is a beautiful adaptation of Sir Joseph's principle of construction; but its dimensions offer little accommodation for the "industry of all nations."

Walpers' Annales Botanices Systematicæ, vol. iii. fasc. iv., includes the remainder of Orchidaceæ, and goes as far as Avena in Gramineæ.

Report from the Provisional Directors of the Watford Spring Water Company in the session of 1852. (A pamphlet.)—It appears that this project has for the present failed to establish its case before Parliament, and that the shareholders are to receive back 16*s.* out of the 27*s.* 6*d.* originally paid on each share. It is asserted upon the evidence of Drs. Lankester and Redfern that the Thames water above Teddington lock, after filtration, abounds in "19 different species of living *animals*, and also *fungi*." This looks very like overloading the company's case with evidence, and probably says more than is meant.

Garden Memoranda.

Messrs. Paul's Nursery, Cheshunt, Herts. — In visiting this nursery the other day, we spent a short time among Camellias, Azaleas, Pelargoniums, Fuchsias, and the like, in the glass-houses at the entrance, and then passed through beds of herbaceous, American, and climbing plants, to the arboretum, adjoining which Conifers are grown principally in the open ground, the practice of pot-culture having been abandoned here long ago. Judging from the appearance of Cedars, Deodars, Douglas Firs, Pinus insignis, and other popular kinds, of some of which there were several beds of a sort, no doubt could be entertained that they thrive well under this system; and no difficulty is experienced in their transplantation. Some thousands of the above kinds, from 1 foot to 6 feet high, were stated to have been lifted last autumn, and not one in a hundred had failed. On entering a second nursery, devoted chiefly to the culture of Roses and Hollyhocks, we found that the latter had done their work; that the flowers were past and the seed gathered. Not so, however, the Roses: among them several old friends, and a few new ones, were still in full bloom. Among *Hybrid Perpetuals*, we recognised Duchess of Sutherland, Baronne Prévost, and Géant des Batailles; among *Bourbons*, Gloire de Rosamène, Comice de Seine et Marne, Le Grenadier, Dupetit Thouars, Queen, and Armosa; among *Chinese*, Fabvier and Mrs. Bosanquet; among *Teas*, Safranot; and among

oisettes, Fellenberg. Of more modern or less generally known sorts we noted, among *Hybrid Perpetuals*, Noemi, Multiflora, Madame Pepin, Mere de St. Louis, Queen Victoria (Paul's), and Reine Mathilde, these six being blush or pink; and of various shades of crimson Madame Trudeaux, Robert Burns (Paul's), Comte Tobinsky, Standard of Marengo, Desgaches, and Madame Fremion. A pretty China Rose, called President d'Albecque, of a bright cherry colour, was blooming most profusely. Adverting to Bourbon Roses, first and foremost must be noticed Prince Albert (Paul's), an entirely new variety, which is now offered for sale for the first time. The colour varies from lake to carmine and Tyrian purple; the outline of the flower forms quite a circle and it appeared to be the most abundant bloomer. From a single bed of which we could have cut a bushel of flowers. Of other Bourbons, Vicomte de Cussy, Menoux, Justine, Angelina, Bucelle, Leon Oursel, Apollo, Madame Pepin, and Duchesse de Thuringe, are free late bloomers. Owing to the late peculiar season, autumnal Roses have not flowered so profusely as they sometimes do, but the growth of young plants has been remarkably vigorous, and the stock is generally clean and in good health. The work of removal had already commenced, even though many sorts were still in flower. This was alluded to by one of the workmen, who said, "I wish these Roses would cease to bloom, it hurts one to dig them up in full beauty. But there is no help for it; people will have them, for they want to get their gardens planted before cold weather arrives."

R. Hutton Esq., Putney Park.—It is well known that the noble Gynerium argenteum, figured in our volume for 1851, p. 757, was first introduced to England in the garden of this gentleman. We can now state that the parent plant has this year thrown up 3 stems, each terminated by a large waving silvery plume. It must be an object of striking beauty.

FLORICULTURE.

Preparation of Tulip Beds.—For the successful issue and full realisation of our hopes in connection with Tulip culture, the operation of "making our bed" has ever been a subject of much solicitude; nor has our perseverance gone unrewarded during the ten years it has been our pleasure to cultivate this much esteemed flower. To a country grower much of the labour here set forth as necessary to our case may doubtless be dispensed with; but we who have had to contend against an atmosphere closely allied to that of midlondon, have found the full benefit of this "groundwork" in the superstructure by a development of colour, purity, and size, which but few of our metropolitan cultivators have succeeded in obtaining. In the selection of a site, let the bed run north and south if possible; mark it out 4 feet 3 inches wide, and of a length to suit the extent of the collection to be grown; our bed consists of 100 rows, and giving each row a distance of 3 inches, the entire bed measures 30½ feet. Let all the soil be thrown out to the full depth of 2 feet below the ground level, and a further alley down the centre 12 inches wide by 12 inches deep; fill this alley with brick rubbish or other similar draining material, giving it a slight inclination and an outlet. This will secure perfect drainage, a condition of the greatest moment; immediately on the drainage, and covering the entire surface of the bottom, place a layer of partly decayed stable manure to the thickness of 6 inches; on this, after well treading down, fill in the soil or compost to a level with the surrounding ground. As respects the soil or compost much might be said; ours was naturally of a heavy tenacious character, but by thoroughly turning, and with large mixtures of Wanstead loam, three and four-year-old stable manure, silver sand, and leaf mould, but little of the original remains, and these form the staple of our medium for the certain production of our favourites. The soil is thrown out every year to be well aired; and to compensate for annual wear and tear, we add an occasional barrowful of rich old Carnation compost, maiden loam, leaf-mould, &c., avoiding anything that may "be poor, or seem poor." Every third year we go down to the lower stratum of manure, replacing it with fresh, and well incorporating the old with the superincumbent soil. Compost similarly constituted forms the mass to fill in with when the boards are fixed, the latter being 1½ inch deal, 9 inches wide, and giving the full 9 inches above the surrounding level. Even with so much exciting material, we do not drive too much colour into our blooms; it is the amount of colour obtained that has so long wedded us to this system "of high cultivation" in preference to the "starvation plan" so long stereotyped by writers. Tulips require "good growing" as much as any subject with which we are acquainted, the only care needed in the use of rich condiments is, that they be previously well subdued by atmospheric influence. One more fact before we close: last season we planted in our best bed 30 breeder roots, comprising the principal varieties of the far-famed and highly valued Chelsea seedlings; of these we have to record that 34 roots did "break." Is not this contrary to the old prestige of rooting into a rectifying state by the "poverty principle!" Doubtless, however, the entire change of soil and situation contributed much to so important a result. *J. B.*

Scilla Amœna.—This beautiful early visitant in spring has not received the attention at the hands of florists that it merits. Perhaps its commonness may have conduced to its neglect. It has, however, lately received patronage from a few whose attentions have been amply rewarded by its improved characteristics under their fostering care. Instead of the long cup, clumsy long-eared petals, by which this flower has been distinguished, and which may be well called "wind flower," for they looked as if scared by this rude element, we have now the stiff, well-rounded petals, six in number, short, so as to form a semi-hemisphere, a cup which for beauty of proportions the five or ten guinea Tulips might well be jealous. The bottoms are not so white as a good byblœmen, but pure and whole coloured—either cream, pink, or rose, surrounded half-an-inch from the base of the petals with a brilliant circle of scarlet, crimson, or blue; stripes too are to be found, if not equal in regularity to a prize Carnation, yet emulating with it for variety and brilliancy of colouring. There are flowers of scarlet and pink colour, mottled and blotched with white, which are very attractive, and help to form a gay mass in the spring not to be surpassed. In addition to these genuine single Anemones, there is another class worthy of attentive culture, namely, the semi-doubles. These have from 12 to 16 petals, and although, in some instances, they lose of necessity that exact uniformity of outline so agreeable to the connoisseur, yet they are enriched by quantities of petals of the most dazzling colours. It may be added, in commendation of the single Anemone, that unlike the Narcissus, Iris, or Tulip, which produce from one to five flowers in a season, strong roots, 3 inches across, will furnish a succession of 20 or 30 blooms. *T.*

Gaines's "Prince Arthur" Dahlia.—Since the days of the beautiful Dahlia "Scarlet Ranunculus," which seems to be now lost to our collections, I am not aware that any variety has been raised which so well promises a substitute as the one now referred to. It is a dwarf, compact, stiff-branched kind, from 12 to 24 inches in height, displaying its large, erect, rich crimson-coloured, and well-formed flowers, clear of its foliage. As a really ornamental variety admirably adapted for near or distant effect, it bids fair to become a valuable addition for decorative purposes, either in pots or otherwise, or in large or medium-sized gardens. If the young plants are prevented from being "drawn" or weakened in growth after the first potting from the cutting state, and planted obliquely in the beds or border, it will unfold its blossoms within a few inches of the ground, therefore in all respects it is a most desirable kind for a display *en masse*, or in small or large groups. *W. Wood, York.*

Catalogues received from Mr. Thomas Barnes, Danecroft Nurseries, Stowmarket, Suffolk; from Messrs. J. Schofield and Son, Knosthorpe, near Leeds; and Mr. Bragg, of the Star Nursery, Slough.

London Florists: *Omega*, You are right; bricks and mortar *are* making sad havoc with our metropolitan gardens; on all sides is a London gardener met with the sad announcement—"this land to be let for building purposes," putting to the route from time to time some of our best florists. Several localities famous for their "gardens" cease to remain, of which Spitalfields may be cited in illustration; so with Bagnigge Wells Road, where most of the Clerkenwell florists were once congregated. This war has now reached that locality, which for years has been a "stronghold" in all matters of floriculture and horticulture, viz., Edgeware Road and Maida Hill. Mr. R. Stains, long one of our leading Pelargonium growers, is forced to quit, and others, we are informed, have also got similar notice. As you say, "our citizens will indeed soon have far to travel before they can get sight of a garden."

Pinks: *Clericus*. Sappho (Colleau); Lola Montes (Costar); Criterion (Maclean); Optima (Turner); Regulator (Looker).

SEEDLING FLOWERS.

Fuchsias: *J.M.* I will not do; you must have anticipated such an opinion by your own comment on No. 2, which is "elegantly reflexed," with a smooth corolla, of good form, colour somewhat dull; we do not like the shape of the tube, which should swell more decidedly at its juncture with the foot-stalk.

Pelargoniums: *J.M.* Diadematum Morganii is of rich bright colours and of good shape, with stout petals and tightly formed pip; if of good habit, it will be desirable as an autumnal flowering sort.—*C.T.* Scarlet King is excellent in form, with great brightness; we have never seen petals so broad, or outline of pip so unbroken and circular.

Verbena: *H.F.* A fine bold truss, and flowering at so late a period would warrant its propagation for trial next season, especially as whites of merit are scarce. It arrived in good condition.

Miscellaneous.

Cissus Discolor.—This magnificent new variegated plant is a native of Java, and has been recently introduced to this country by the Messrs. Rollissons' of Tooting. It was the admiration of every one who saw it at the Chiswick and Regent's Park exhibitions during last summer, and it has been awarded several medals. The foliage is singularly beautiful. It is a climbing evergreen stove-plant, with leaves about seven inches long and three broad, their under-sides being of a beautiful reddish-purple; their upper parts richly veined with red, purple, and white, so as to be very striking, producing a fine effect in a stove or Orchid-house. I saw two fine plants of it at Messrs. Rollissons' a few weeks ago; they were growing in pots, and trained against the end-wall of a stove, in which the charming effect of the foliage was all that could be desired; and this, being an evergreen species, makes it more valuable, as of course it retains its beautiful leaves during winter as well as summer; and during the dull months we want some of these beautiful variegated plants to decorate our stoves.—I believe this plant is of tolerably easy culture, and grows well in a pot, or planted out in the stove. The way in which Messrs. Rollisson treat it is as follows:—It is grown in a pot with good drainage, the soil consists of light turfy loam and peat, adding some leaf-mould to equal parts, with some silver sand, and mixing all well together. If it is grown in a large pot, three inches of drainage are given, with rough peat or moss on the top to keep the mould from stopping up the interstices of the crocks, which is very detrimental to all plants. If they have not good drainage, so that the water can pass off quickly, they will not thrive. The pot is then filled up with mould, and the plant placed about half an inch below the rim. Afterwards a gentle watering is given to settle the mould, and the plant is placed at the hottest part of the house, and always kept shaded when the sun is powerful, which keeps the foliage of a much better colour.—When grown in a pot it should be trained round some sticks, or round a trellis, or against a wall; it also looks well up the rafters of a house. After the plant has done growing, which will be about November, allow it a season of rest, by keeping it rather dry at the roots; only giving just enough water to keep it a little moist till it is time to start it into growth, which is about February; then more water may be given, but not too much at first, until it roots freely, when it may have a good supply. *B. S. Williams in Turner's Florist, Fruitist, and Garden Miscellany.*

Cultivation of the Neapolitan Violet.—In the early part of May I take the plants from the cold frames or house, shake the whole of the soil from the roots, and divide them according to their size; large plants will divide very well into three, the small ones into two plants. These are then planted out on an east or west border in rows, 1 foot apart, and the same distance from plant to plant, taking care the border is well dug and highly manured with well decomposed hot-bed manure, or rotten cow-dung, which last I find of great service to them. After planting they must be well watered, and should the summer months prove very dry and hot, they will require to be well and frequently supplied with manure water, for if the plants do not grow strong at that season they are very liable to be attacked by the red spider, and will produce small flowers, with little or no perfume; they will also be longer before they flower. I let them remain in the beds to the middle or latter end of September, as they will not improve much after that time; they are then taken up with a little soil adhering to the roots, and potted, each plant in a 6-inch pot, filled with a compost consisting of equal portions of sandy loam, well decomposed tree leaves, and, if attainable, very rotten cow-dung; if not, rotten dung from an old hot-bed, or, what is better still, bone-dust; the pots must be well drained, and I find charcoal the best material for that purpose; by no means use peat soil. When potted they should be well watered, after which I place them in a situation well exposed to the sun, air, and light, and keep all the runners picked clean off as they appear, as I find they injure the plants if allowed to remain. I also keep all the dead leaves picked off. About the middle or latter end of October they should be placed in a frame or pit, nearly filled with old tan, or any dry material, without heat, bringing them to within 3 or 4 inches of the glass, as that is of great importance, for if they are plunged deeper in the bed, they are liable to damp off in the winter months in bad weather, and I find if the foliage is bad the flowers are bad also. During the winter they require little or no water, at least I never give them any till I see them flag, taking care then not to wet the foliage, for that should be kept dry, or they will lose it by damp. Air should be admitted freely at all times; when favourable, a covering must also be used to exclude frost from them, as that is very injurious to their flowering. By the above treatment my plants have produced me great quantities of large and strong-scented blossoms. If Violets are required later in the season than those in frames will last in flower, by a little good management they may be obtained nearly in every month of the year: my method is to take up part of my plants in July and August, and plant in a south border, in beds, the soil of which is prepared for them of equal parts of light loam, well rotted dung and river sand, carefully avoiding peat, as I have, in some instances, known it to destroy the whole of the plants; they are planted from a foot to 15 inches each way, and, if it is required, well watered; the runners and dead leaves are all picked off as they appear, and the soil of the beds kept well stirred with a Dutch hoe; at the latter end of October the beds are hooped over, for the purpose of sheltering them in bad weather, with mats. By following the above mode of treatment this favourite plant blooms with me abundantly, and I can confidently recommend it. *G. Young, in Gardeners' Record.*

Machine for Digging Potatoes.—Mr. C. C. Schaffer, of Brooklyn, has invented an improved machine for digging Potatoes, and is about to take out a patent for it. The scientific American says that the machine embraces a scoop, a bush-cylinder, and a receiving-apron, connected by a movable frame, by working which the scoop is made to enter the ground the required distance, and raise up the Potatoes which, by a cylinder having a revolving brush, are brought forward from the scoop to the receiving-apron, which carries them away, and deposits them in a receptacle at the rear of the frame. The machine is drawn forward by horses; the holder of the machine, as well as the bottom of the receptacle, being supported by wheels, to separate the dirt from the Potatoes; the brush removes the dirt so that they are not bruised or cut.—*American Gardeners' Chronicle.*

Orchard Fruit Trade in America.—The *New York Daily Advertiser* states, that the sale of fruit trees at the Rochester Nurseries alone amounted to 350,000 dollars.

Calendar of Operations.

(For the ensuing week.)

PLANT DEPARTMENT.

The stock of stove plants which we formerly recommended to be grown, to afford a show of bloom through the winter, should now have a little extra heat; unless a house is appropriated to their culture, the warm end of the stove should be selected as a suitable place to bring them into bloom; expose them to as much light as possible. Strong growing plants, as Justicias and Aphelandras, will require the assistance of liquid manure, particularly if in small pots. Begonias are now advancing into bloom; transfer a portion to a warm place to forward them; in tying them up, take care of the foliage, which, in some species, adds greatly to their beauty. Luculia gratissima, if the buds are forward, may easily be got into bloom by a slight increase of heat; few plants at this season so well repay attention as this; to the above add a few of the earliest rested Epacrises, to bloom a few weeks earlier than the general stock. Bring forward Gesneras in a moist heat, but harden them as they get into bloom, that if wanted for out-door decoration they may bear transferring without injury. A portion of the stock of Roses, Lilacs, Honeysuckles, &c., in pots, should be placed in a pit to have a slight advance of temperature; the present is a good time to procure from the nurseries or reserve garden a supply of Rhododendrons, Azaleas, and Kalmias for forcing; select plants well set with bloom, and of the desired size. Some of the hybrid scarlet Rhododendrons, as Nobleanum and others, require but slight forcing to get into bloom, and will be the best to start first. Pot them into as small pots as their roots can be got without injury, and place them out of the way of frost till wanted. A few stove climbers, including Bignonia venusta, Ipomœa Horsfalliæ, and some Passifloras, will yet remain in perfection, and should have occasional trimmings, to remove dead flowers and stop straggling shoots. Let the atmosphere in the stove be moderately dry, that a lower night temperature may be permitted. Where frost is likely to injure any free-growing house plants, cover the house or pits with mats or canvass, in preference to making very strong fires at present. Night temperature for the stove 60°, allowing an advance of 15° or 20° by day. Close early in the afternoon.

FORCING DEPARTMENT.

Vinery.—Proceed cautiously with the Vinery now commencing, and, by closing the house earlier in the day, try to do without fires for a short time. The succession Vineries as the wood ripens should have the sashes removed, unless the houses are wanted to stow away some of the newly-potted plants from the flower garden, in which case remove the decayed leaves, &c., and expose the house as much by day as possible. Pinery.—Continue to Pines now swelling liquid manure, and a good allowance of air each fine day, without which, neither colour nor flavour will be up to the proper standard. A brisk bottom heat must be maintained; for, to have fruit to swell well at this season, the roots must be kept in action. Take care of any plants now showing fruit, that they expand their blooms perfectly, to assist which, a slight increase of the daily temperature may be permitted; these will be extremely valuable next April. The whole of next season's fruiters should have from this time a drier atmosphere and plenty of air. Strawberries for forcing, having now made their growth, should have their roots protected from frost either by plunging in ashes, and protecting the tops by a temporary covering, or removing them to spare pits, to be covered with glass or shutters in severe weather. Another plan is to stick them in narrow ridges, filling the interstices between the pots with ashes or dry earth; by this plan they are kept dry, and are easily protected from frost.

FLOWER GARDEN AND SHRUBBERY.

Dahlias, Gladioluses, Tigridias, &c., should at once be taken up; after drying their roots, store them away out of the reach of frost; an underground cellar not too damp is the best place for these and similar roots to winter in. Salvia patens, Marvel of Peru, and Commelina cœlestis should be kept in sand or dry earth. Fill the beds as they become cleared, either with a mixture of spring flowering plants, or agreeably to some arranged design. The cuttings struck and placed out to harden off should be placed under protection at once. Look over the last put in cuttings, and take means to prevent their damping off. Mats, or covering of some kind, should now be provided for covering up the pits, &c., but still allow an abundance of air by day, to established plants.

FLORISTS' FLOWERS.

The splendid weather, of course, has enabled all Tulip growers to get their best collections in the ground, if not, the sooner the better. We cannot advise the old Tulip-loving exhibitor much; it is to the young growers that we hope our advice is best directed. Nothing beats, for a Tulip bed, well-decomposed turf from a loamy pasture; this with some river sand is the *ne plus ultra* for fine and clean blooms. The amateur may have strong and large flowers, but some consideration is necessary at planting time, in order (as far as good judgment goes) to ensure good blooms for exhibition. Newly planted Pink and Pansy beds will want looking over; a gentle stirring of the soil will prove highly beneficial, at the same time it must not be forgotten that there should be a reserve planted to fill up any vacancy which the winter may make. Auriculas must by no means be covered; they are hardy enough, and at this time of the year only require protection from excessive wet. Our Dahlias are all out of the ground and labelled — of course everybody who has suffered from frost has followed our example.

HARDY FRUIT GARDEN.

Where the wood is tolerably ripened, and root pruning is intended, either with wall trees or those in the open quarters, a commencement may be made with the earliest ripened trees first; we shall notice it again next week. Brush off the ripened leaves from wall trees with a light besom. Peaches and Nectarines should be gone over at two or three times. The sun and air will help considerably to ripen the wood after part of the leaves is removed.

KITCHEN GARDEN.

The principal crops of Celery and Cardoons should have their final earthing up before sharp frosts set in. The spring crop of Celery will, however, stand the winter better with only one moderate earthing up, and the remainder towards spring. A wide sheltered border should be selected for the hand-glass Cauliflowers. The soil, if not already light and rich, should be made so previously to planting; plant three or five plants under each glass, in a slight hollow, which will be useful in the spring, when they require water, and may afterwards be filled up as the plants advance. Keep the glasses on for a few days after planting, to get the plants established; afterwards expose them daily, to harden them for the winter. The smaller plants should be pricked into a frame to winter, and some of them potted in 5-inch pots for turning out in the spring. Beds of Rhubarb, Asparagus, and Seakale should be cleared of their dead stems directly the leaves are ripe; where the above are in request in December, steps should be taken to force them; a flue, or hot-water pit, is the most suitable for forcing the two former, planting the crowns thick in light rich soil over a moderate bottom heat; Asparagus should be kept as near the glass as can be managed, to improve the colour and flavour. Where pits are wanted for other things, a few roots of Rhubarb may be introduced to the warm end of the Mushroom house, or in a cellar, but we think the flavour improved by being forced under glass. The later crops of Rhubarb may be forced on the ground where they grow, using pots or boxes for covering the crowns and leaves, or leaves and dung, for the heating material. Seakale may be either forced on the ground, as advised for Rhubarb, or taken up, and the roots put in a frame thickly, on a gentle bottom heat, and blanching the shoots with any dry material, of which half-decayed leaves are perhaps the best; shutters or boards may be substituted for glass, as the only object is to keep the crown dry. French Beans in pits will now require the application of fire-heat, if such can be given, or if not, cover them well up by night; sow successional crops for transferring to the shelves of the Pine pits; attend to the Mushroom house, by making slight fires when the internal air falls below 55°; give a gentle watering to beds when dry; keep the air humid by frequently sprinkling the pipes or flues; remove the covering from newly-spawned beds, directly indications of the coming crop appear on the surface; make fresh beds as required to keep up the supply.

STATE OF THE WEATHER NEAR LONDON,

For the week ending Oct. 21, 1832, as observed at the Horticultural Gardens, Chiswick.

Oct.	Month's Age.	Barometer. Max.	Barometer. Min.	Temperature. Of the Air. Max.	Of the Air. Min.	Of the Air. Mean	Of the Earth. 1 foot deep.	Of the Earth. 2 feet deep.	Wind.	Rain.
Friday.. 15	2	30.258	30.135	54	44	49.0	48	48	E.	.00
Satur.. 16	3	30.234	30.212	52	29	40.5	48	48	E.	.00
Sunday.. 17	4	30.195	30.124	54	36	45.0	47½	48	N.E	.00
Monday 18	5	30.345	30.175	56	31	43.5	47½	48	N.E.	.00
Tues. .. 19	6	30.451	30.305	55	30	42.5	47	48	N.	.00
Wed. .. 20	7	30.357	30.151	59	33	46.0	46½	48	S.	.00
Thurs... 21	8	30.006	29.857	59	49	54.0	47	47½	S.	.26
Average....		30.263	30.138	55.6	36.0	45.8	47.3	47.9		.26

Oct. 15—Foggy; overcast; clear above, but hazy near the horizon.
16—Foggy; cold haze; clear; frosty at night.
17—Dense fog; cold haze; uniformly overcast.
18—Very fine; bright sun; clear at night.
19—Foggy; very fine; dense fog in the evening.
20—Foggy; exceedingly fine; hazy at night.
21—Foggy; hazy; slight rain; overcast; heavy rain at night.
Mean temperature of the week, 4½ deg. below the average.

STATE OF THE WEATHER AT CHISWICK,

During the last 26 years, for the ensuing week, ending Oct. 30, 1832.

October.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 24	55.7	41.1	48.4	12	0.83 in.	2	2	1	—	7	8	4	2
Mon. 25	55.3	38.8	47.1	10	0.72	4	3	4	3	3	4	3	3
Tues. 26	54.5	38.7	46.6	9	0.32	5	3	2	1	4	6	3	3
Wed. 27	54.7	40.8	47.8	20	0.92	3	4	2	0	4	3	7	3
Thurs. 28	53.9	37.7	45.8	13	1.06	—	5	2	—	4	8	3	4
Friday 29	53.7	35.5	49.6	12	0.42	3	3	3	1	6	7	1	2
Satur. 30	54.5	39.5	46.5	12	0.58	3	4	1	3	3	10	1	1

The highest temperature during the above period occurred on the 29th and 30th, 1833—therm. 67 deg.; and the lowest on the 29th, 1842 - therm. 23 deg.

Notices to Correspondents.

Berberries: *Shem.* We are not aware that standard Berberries are in the trade. They are very easily made by trimming up a strong Berberry stem to the height of 5 or 6 feet, and allowing no branches to sprout lower, also taking care to remove all suckers as they appear.

Coke Bricks: *J G and Reader.* We know nothing of these beyond what is stated on the authority of the *Weekly Times*, at p. 631.‡

Emigration: *W K W.* Hop seeds may be had in the Hop districts, as for example of Mr. Epps of Maidstone, or Masters of Canterbury, and they will travel well, if other seeds they are conveyed in a coarse bag hung in so well ventilated part of the ship. We say the same of f trees, only they may as well be buried in sand, each sort itself in a small bag, packed as tight as possible. If t are to be taken they can only go next April, with a chanc life, in Wardian cases placed on deck. If that expensive practicable method, in the present crowded state of emig tion ships is resorted to, then it would be as well to the cases ready at once, and to plant the trees, ready fo start as soon as the time comes.

Fuchsias: *J E.* Such "sports" as yours are very comm among Fuchsias. We have seen several in a similar c dition this season.‡

Glass: *Sub.* You will find Hartley's rough plate to ans your purpose best.‡

Grapes: *Red Wood.* Your Grape is the Cornichon Rouge Zeta de Vaca, which it resembles. It is not much esteem —*Sub.* You will find some account of the Barbarossa in report of the Horticultural Society's meeting in anot column.‡

Meat Biscuit: *T C.* See p. 515 of our current year's volun

Names of Fruits: *J D.* 1, St. Germain; 2, Beurré de Capi mont; 3, Marie Louise; 4, Winter Crassane; 5, Bisho Thumb; 6, Doyenné Blanc; 8, Easter Beurré; 9, Fore 10, Passe Colmar; 11, Belle et Bonné; 12, Catillac; Easter Beurré; 14, Comte de Lamy. 1, Blenheim Pippin Kerry Pippin; 3, King of the Pippins; 5, Wyken Pipp 6, Early Nonpareil; 8, Manks Codlin; 9, Northern Greeni 10, Beauty of Kent.‖—*J M D.* 1, 9, Glout Morceau; 2, Beu Rance; 3, Old Colmar; 4, 10, Beurré Rance; 5, Comte de Lam 7, 16, Passe Colmar; 8, Winter Nelis; 9, like Knig Monarch; 10, Easter Beurré; 11, Chaumontel; 12, 14, 19, Marie Louise; 15, Beurré Bosc; 17, 21, Napoléon; Duchesse d'Angoulême; 20, Beurré de Capiaumont; Doyenné Blanc; 23, St. Germain.‖—*J Allward.* 1, Duche d'Angoulême; 2, Passe Colmar; 3, Old Colmar; 4, Wi Doyenné. 1, Bath Apple; 3, Blenheim Pippin; 4, Bea of Kent; 5, Scarlet Nonpareil; 6, Court of Wick; Golden Reinette.‖—*S B G T.* 1, Seckel; 3, Marie Lou 4, Aston Town; 7, Doyenné Blanc; 9, Flem Beauty; 12, Beurré Rance, February, March; 13, Calebas 14, Chaumontel, December, January; 15, 20, 21, 22, M Louise; 18, Winter Nelis, December, January; 7, Sca Crofton; 9, 12, King of the Pippins; 10, Cluster Gol Pippin; 11, London Pippin. A Pear marked W. N. is Catillac. On some of the Pears, and more especially on Apples, there was not a trace of ink visible, consequen nothing could be done with them. The latest Pears marked as you requested; the others will be fit in the cou of a week or two.‖—*R S, Manchester.* The White Doyenné *T Binder.* 1, 13, Williams' Bon Chrétien; 2, Beurré Ran 4, Louise Bonne of Jersey; 5, 19, 28, 40, Chaumontel; 8, 42, 45, Glout Morceau; 12, 25, Easter Beurré; 21, Crassa 23, Marie Louise; 24, Uvedale's St Germain; 29, Ea Bergamot; 26, Passe Colmar; 27, Urbaniste; 29, Bro Beurré; 33, Old Colmar; 34, Passe Colmar; 35, Gans Bergamot; 36, Bishop's Thumb; 37, Aston Town; 44, St. G man; 46, Beurré Diel; 1, King of the Pippins; 47, Alexand —*Lawneswood.* 1, Minchall Crab; 2, Cornish Aromatic Round Winter Codlin; 4, Golden Reinette; 5, Chance Peach; 6, Brabant Bellefleur; 7, Alexander; 8, Downt 9, Reinette du Canada; 12, Hollandbury; 13, Vicar of Wi field; 14, Passe Colmar; 15, 19, Napoléon; 16, Aston Tow 18, Bergermcester; 20, Chaumontel; 21, Easter Bergam 22, 24, Beurré Bosc; 23, Comte de Lamy; 26, Coe's Gol Drop Plum ‖

Names of Plants: *F A P.* Your specimens of Ferns marl 1, 2, 3, belong to one species only, viz, Lastrea spinulo If you study British Ferns only, then Moore's "Histo is quite sufficient to enable you to determine all species. *S.—Agrostis* requests us to oblige him by nam the Grasses, &c., contained in a parcel as big as a pill according to their numbers, at our own convenience; and is so very kind as to say that if there should be too many name at once, he will trouble us to name them a few a time. Considering the value of time, and that naming b baria is not quite the business of the editor of a newspap we feel obliged to decline this kind proposal. Our wish i aid students; but only such students as think it worth th while to aid themselves.—*W Wood.* Absence from Lond obliges us to defer answering your inquiry till next week *V G.* As far as can be ascertained in the absence of con 1 is Pinus Brutia, and 2 Pinus halepensis.—*E M.* Plectr thus fruticosus.—*Selrake.* Platanthera chlorantha is one the plants regarded by Linnæus as the same as his Orc bifolia, or Butterfly Orchis. The name is to be found in *modern* English Flora.—*Mary.* Cristaria coccinea.—*Old S* Vallota purpurea, Cratægus Aronia.

Pears: *J E M.* Glout Morceau Pears may be allowed to ha on the tree till the leaves mostly drop, if they will do so not, of course they must be gathered when they easily p from the tree; and this remark applies likewise to the Ch montel ‖

Seeds: *G W P.* Let them be as dry as possible; then put th loosely in canvas bags, and cause them to be hung up in cabin or between decks, where air may circulate freely ab them during their voyage. Grafts will perhaps travel b well packed in damp moss.‡—*Henry.* Seeds for India sho be sent immediately, by the overland conveyance, packed damp sand, pressed tightly into a wooden box. Wood as should not be used. Charcoal dust answers well enough.

Sick Rhododendron: *Bella Donna.* We made the best gu in our power, and we regret that the suggestion was unsa factory. You will, however, easily perceive that a subject obscure as the diseases of plants is not susceptible of be dealt with in the absence of a distinct account of all symptoms. Uninformed of them, it is not possible to ans such questions. For instance, it is very likely that y Plum and Cherry trees lost their leaves from the dryness the soil; but there may have been many other causes, o to be judged of by persons on the spot—if by them.

The Azores, &c.: *A Devonian.* It is probable that the La may be heard of at Kew. Mr. Plant's agent is Mr. S. Steve Bloomsbury-street, Bedford-square. We think the vend of bulbs at the Cape of Good Hope are to be depended up as far as their knowledge goes. Horticultural specimens, su as you name, may be preserved perfectly well in weak ace acid, which is far cheaper than spirits of wine. It will o be necessary to change the acid if it becomes discolou when the subjects are first immersed.

Vineries: *C P and Cavanensis.* Span roofs are best for purposes. Under most circumstances it is better to pla young Vines than to transplant old ones. The latter, ho ever, carefully lifted and replanted, often succeed very w and will produce you a crop sooner than young Vines.‡

Vine Borders: *A Z A.* A top-dressing of bones on a bord which is covered over all the winter with a tarpaulin w be of little use unless it be forked in, or otherwise broug into contact with the roots; the bones might be steeped liquid manure, but it would be perhaps better to apply t latter to the border when the Vines are in a growing state

Worms on Lawns: *J S B.* Lime water prepared by letti water stand over caustic lime, and pouring it off clear, appli continually, will bring them out of their holes, when th must be collected and destroyed.‡

Misc.: *Gallicus.* The Dahlias and Nasturtiums have not been killed by frost at Chiswick; they, however, suffer considerably on the night of the 8th of October, from t greatest frost we have experienced this season.‡

PERUVIAN GUANO.

CAUTION TO AGRICULTURISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

ANTONY GIBBS AND SONS, AS THE ONLY IMPORTERS OF PERUVIAN GUANO,

Consider it to be their duty to the Peruvian Government and to the Public again to recommend Farmers and all others who buy to be carefully on their guard.

The character of the parties from whom they purchase will of course be the best security, and, in addition to particular attention to that point, ANTONY GIBBS AND SONS think it well to remind buyers that—

The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 9l. 5s. per ton, less 2½ per cent.

Any resales made by dealers at a lower price must therefore either leave a loss to them, or the article must be adulterated.

PEAT MOSS CHARCOAL.

THE PEAT MOSS CHARCOAL COMPANY are prepared to deliver a superior Charcoal (made expressly for Agriculture and Horticulture, and not divested of any of its chemical properties), at 52*s.* 6*d.* per ton.—Apply to MARK FOTHERGILL, Agent, 204, Upper Thames-street.

Linseed and Rape Cake, Peruvian Guano, Gypsum, Salt, and all Manures of known value on sale.

THE LONDON MANURE COMPANY offers on the best terms Wheat Manure for autumn sowing, Linseed, Rape Cakes, Peruvian Guano, Urate, Superphosphate of Lime, and every other artificial manure. Also a quantity of Salt, the refuse of ammonia and saltpetre makers, considerably more valuable than the ordinary agricultural salt.

EDWARD PURSER, Sec., Bridge-street, Blackfriars, London.

MANURES.—The following Manures are manufactured at Mr. LAWES's Factory, Deptford Creek:

Turnip Manure, per ton	...	...	£7 0 0
Superphosphate of Lime	...	...	7 0 0
Sulphuric Acid and Coprolites	...	...	5 0 0

Office, 69, King William-street, City, London.

N.B. Peruvian Guano, guaranteed to contain 16 per cent. of Ammonia, 9*l.* 10*s.* per ton; and for 5 tons or more, 9*l.* 5*s.* per ton, in dock. Sulphate of ammonia, &c.

SEED WHEAT.

PAYNE'S DEFIANCE REVITT OR BEARDED WHEAT, which gained the prize medal at the Great Exhibition, and is also highly spoken of in Professor Lindley's lecture upon "Substances Used as Food," is offered to Wheat-growers by H. PAYNE with confidence, more especially after the many flattering letters that he has received of its merits as to produce, quality, and its being less liable to blight or mildew. The above Wheat was raised from a single ear, and has been grown with great success for six years. Testimonials from farmers and millers from different parts of the kingdom can be obtained by applying to Mr. H. PAYNE, Birdbrook-moat, near Halstead, Essex. Price 32*s.* per coomb of four bushels (sack included), and delivered at the Audley-end Station, Eastern Counties Railway. All orders of not less than one coomb, accompanied by a remittance for the amount, will be punctually attended to; or by Post-office order made payable to HENRY PAYNE, at Halstead, Essex.

H. P. has also a very true stock of Browick Red Wheat to dispose of, at 28*s.* per coomb, which he thinks the best Red Wheat grown.

SEED WHEAT.—IMPORTANT TO FARMERS.

MR. BEMAN, of MORETON-IN-MARSH, having received so many voluntary testimonials of the superiority of his two new varieties of Wheat, the PRIMA DONNA and DONNA MARIA, this season over any other, is induced again, through the medium of the press, strongly to recommend them as being capable of producing from 12 to 16 bushels per acre more than any other variety; and they certainly, this season, were more free from blight and mildew than any other, on account of growing stiffer in the straw. Price 54*s.* per quarter, delivered either in Gloucester, Worcester, Birmingham, Bristol, Banbury, or Oxford, in new sacks at 1*s.* 6*d.* each. Cash or satisfactory reference.—N.B. If less than one quarter is ordered price 10*s.* per bushel.—Agents for London, Mr. THOS. GIBBS, corner of Half-moon-street; and Mr. GEO. GIBBS, Down-street.

IRON HURDLES.

STEPHENSON AND PEILL, 61, Gracechurch-street, London; and 17, New Park-street, Southwark, Manufacturers of every description of Iron Fencing, beg to call the attention of Noblemen and Gentlemen to their present prices of HURDLES:—for Sheep, 6 feet long, 3 feet high, with 5 bars, at 4*s.*; and for Cattle, 6 feet long, 3 feet 3 inches high, with 5 bars, at 4*s.* 6*d.* each.

DR. S. NEWINGTON'S HAND-DIBBLES for Planting Corn scientifically, with four sets of Cups of different sizes, from seven to ten depositors in each instrument. Price from 3*l.* to 4*l.*—Mr. C. GABRIEL, Surrey Chambers, Arundel-street, Strand, London.

RABBIT NETS, SHEEP NETS, AND FISHING NETS.—Long Hare and Rabbit Nets from 50 to 100 yards long; Sheep Nets, of New Zealand Cord or Cocoa-nut fibre, 4½*d.* per yard, 4 feet high. Fishing Nets of all kinds for home use or exportation.

R. RICHARDSON, 21, Tonbridge-place, New Road, London.

GALVANISED WIRE GAME NETTING.—7*d.* per yard, 2 feet wide.



		Galvanised.	Japanned Iron.
2-inch mesh, light, 24 inches wide	...	7*d.* per yd.	5*d.* per yd.
2-inch " strong "	...	9 "	6½ "
2-inch " extra strong "	...	12 "	9 "
1½-inch " light "	...	8 "	6 "
1½-inch " strong "	...	10 "	8 "
1½-inch " extra strong "	...	14 "	11 "

All the above can be made any width at proportionate prices. If the upper half is a coarse mesh, it will reduce the prices one-fourth. Galvanised sparrow-proof netting for Pheasantries, 8*d.* per square foot. Patterns forwarded post free.

Manufactured by BARNARD and BISHOP, Market-place, Norwich, and delivered free of expense in London, Peterborough, Hull, or Newcastle.

BOYD'S SELF-ADJUSTING SCYTHE.



BOYD'S PATENT SCYTHE and the celebrated STEEL DIGGING FORKS.—BOYD'S Scythe is capable of being adjusted to any angle by the person using it, and never requires the aid of a blacksmith; when out of use it shuts up like a clasp-knife. The *Gardeners' Chronicle* thus comments upon it:—"We gladly state that Mr. BOYD'S Scythe stands well the great test, experience, especially with his late ingenious and very useful improvement."—G. C., 15th May, 1852. The Steel Digging Forks are those celebrated by Mr. Mechi: "When a labourer has once used them, he will never work with any other implement for digging. They effect a saving of nearly 50 per cent. in labour."—Wholesale and Retail at WM. DRAY and Co.'s Agricultural Implement and Machinery Warehouse, Swan-lane, Upper Thames-street, near London-bridge.

WARNER'S PATENT FARM AND COTTAGE PUMPS.—Cast-iron Pumps, for the use of Farms, Cottages, Manure Tanks, and Shallow Wells.



	£	s.	d.
Patent Pump	1	12	0
Patent Pump, with 15 feet of lead pipe attached, and bolts and nuts ready for fixing	2	8	0

Larger sizes if required.

To Emigrants proceeding to the Gold Regions they will prove to be the most simple, durable, and the cheapest Pump hitherto introduced.

May be obtained of any Ironmonger or Plumber in Town or Country, or of the Patentees and Manufacturers,

JOHN WARNER & SONS,

8, Crescent, Jewin-street, London.

Every description of Machinery for Raising Water, Fire Engines, &c.

SMITHFIELD CLUB.

NOTICE.—All Certificates for Stock and Implements intended to be exhibited at the ensuing show of the Smithfield Club, must be delivered in to the Honorary Secretary on or before SATURDAY, the 6th of NOVEMBER (none will be received after that day.)

The Printed forms of Certificates (which alone are allowed to be used), Lists of Prizes, &c., can be obtained of B. T. BRANDRETH GIBBS, Hon. Sec., Corner of Half Moon Street, Piccadilly, London.

HITCHIN AND HOME COUNTIES DOMESTIC POULTRY ASSOCIATION.—OPEN TO ALL ENGLAND.

The First Annual Exhibition of this Society, will be held at Hitchin, on the 20th, 22d, and 23d of NOVEMBER, 1852, when Prizes amounting to upwards of 80*l.* will be offered for public competition.

Hitchin is a first class station on the Great Northern Railway, 30 miles from London; at which Station is a junction with the Cambridge and Eastern Counties Railway. Regulations and Prize Lists may be had on application to the Secretary, by inclosing two postage stamps. Entries for Exhibition close on the 6th of NOVEMBER. Admittance to the private view on Saturday, November 20th, by a 5*s.* Ticket (not transferable), which will be available for the three days of Exhibition. And on Monday the 22d, or Tuesday the 23d, 1*s.* each.

S. GOODWIN, Sec.

The Directors of the Great Northern and Eastern Counties Railways have agreed to run cheap trains on the occasion, and to give free passage to all Poultry for the Exhibition (at owner's risk), and to carry back free all that is unsold.

The Agricultural Gazette.

SATURDAY, OCTOBER 23, 1852.

MEETINGS FOR THE ENSUING WEEK.

THURSDAY, October 28—Agricultural Imp. Society of Ireland.
THURSDAY, Nov. 4—Agricultural Imp. Society of Ireland.

We have never entered at much length into the Tenant-Right question of Ireland. Whoever has taken the trouble to read through the Blue book containing the evidence given before the Agricultural Customs Committee, or even studied, at less expense of time, the Digest of the Evidence since published, will be, not improbably, of opinion with ourselves, that until some better solution of the matter, in the shape it takes on this side St. George's Channel, is arrived at, the entertainment of it, as an agricultural question, free and clear of the political relish added to the problem in its compound Irish form, is not inviting: unless, as is indeed sometimes the case, the maxim of 'ignotum per ignotius' be applicable as a solvent, instead of a discouragement.

Tenant-right is of itself, and without any extrinsic aggravation, one of those slippery subjects the difficulty of handling which, fairly and without undue partiality, few are aware of till it comes under rather close scrutiny. It looks so simple at first sight, so natural, so self-evident! Who can possibly question for a moment that the occupier of land should be the owner of his own investments made in it? Who but the bare-faced advocate of confiscation can see difficulty or objection in such a proposition as that? And if such be the plain meaning of 'Tenant-right,' who can have a hesitation about it, in England, or in Ireland?

But it commonly happens that very obvious questions have remained such for so long, owing to the troublesome counterpoise of very obvious answers. If it be a maxim of Law that 'a Tenant shall not dispute his Landlord's title,' it is not less a maxim of Common Sense as well as law that his 'rights,' of whatever kind, should not exceed it. And, unfortunately, in this predicament stands 'Tenant-right' in the large majority of cases. The 'Estate' of an Owner of land is, not uncommonly, of such a nature that the power to grant an absolute interest in money invested on the property is one which the grantor would be very glad if he could confer upon himself: and the ground upon which even a Lease for a term of years (technically inferior to an estate for life) can be granted by a Tenant-in-tail, though the term created may extend beyond the life of the lessor, is in fact because the rent reserved is his only as long as his 'estate,' in other words his life, endures. He grants nothing *from* or at the expense, or peril, of his successor. He gets the best rent he can, and the instant he is dead, the rent, and all he may have done to advance or improve it, falls to his successor. The tenant, therefore, who asks for a Lease, asks for something which the owner can in most cases grant, whatever the nature of his own estate; but he who asks for 'Tenant-right,' as SHARMAN CRAWFORD'S Bill defines the term, asks in fact for an enduring interest in the soil, the which to carve out of the 'ownership' of most owners of land, would be enough to puzzle all the lawyers in Christendom.

We live in an age of improvement; at any rate of physical *capabilities* which our ancestors never conceived or dreamt of: and we may torture ourselves for ever in trying to put the new wine of modern agriculture into the old bottles of mediæval law. Formerly a man took a farm 'to make a living *out of it*;' now he takes it to make 'an investment' *in it*. Not that farming is higher, *ceteris paribus*; but that money-capital has increased, science has increased, numbers and competition have increased, and the soil has become, necessarily, a subject-matter of competitive investment; it is, so to speak, the raw material of a more expensive process in working up, demanding a larger capital, which in its turn demands a better security, extremely surprising to the old squire, and puzzling to the old lawyer. And the name of this puzzle is 'Tenant-right.'

Without doubt a man is entitled to the profits of his investment in an English or Irish farm, as well as in a French railroad, an Austrian or Turkish loan, or an Illinois canal; but if this be true of a tenant from year to year, how much more for the 'owner' himself? But unfortunately, when LITTLETON wrote upon Tenures, and the Real-property-laws of this country were constructed, Draining-tiles were not in use, Cattle-sheds were thatched hovels, Bone-dust and Superphosphate were unheard of, Guano was as unknown as the country it comes from: the whole investment in the soil consisted in sowing three bushels on an acre to reap nine; and by this to earn enough to keep body and soul together in a somewhat rough state of combination, but sufficient to rub on with, as times went.

Meantime, however, pending improvements that must begin higher up in the landed scale, there is a portion of the British Islands where the business of taking and letting land, and of farming it too, when taken, is about as well understood as in most parts of the world; and where notwithstanding we find that the whole length and breadth of the claim of tenant right, with all the rhetoric that may be raised upon it, is by the general consent of a shrewd people, compressed and compromised into the shape of a Lease for nineteen years. After the lapse of time, and of Mr. SHARMAN CRAWFORD'S bill, the practical wisdom of our Scotch agriculturists in this particular may perhaps begin to be seen in Ireland, and the somewhat presumptuous oversight of difficulty and complexity wrapped up in the word Tenant-right be a little better appreciated than it is at present.

What is the 'right' of a 'tenant' in land, or in anything else that one man can hire of another? Clearly this: to enjoy the free and undisturbed use of it for the period, and on the terms for which he has taken it. If he has taken it for his life he makes his calculations and his investments accordingly. The same if he has taken it for twenty-one, or nineteen, or fourteen, or seven years. On what principle of justice or policy should the arm of Legislation be called in to give a man a fourteen years' interest in an investment he had made upon land, that he had taken for seven? For the greater reason, on what ground shall the Law step in to confer a perpetual interest in an investment made upon the stipulated occupation of a year? Let us suppose a case.

A wealthy man hires a farm of a small proprietor, for a year, and erects upon it a new set of farm-buildings to his own liking; everything complete, and nothing superfluous. At the end of the twelvemonth, either for a good reason or a bad one, he wishes to leave it; and he demands of the owner

either to reimburse him for his outlay, or to confer upon him a permanent claim, a rent-charge in fact upon the land for ever. The owner is a person in moderate circumstances, with a settled life-estate; his own children perhaps not succeeding him in that property: perhaps he has many farms similarly circumstanced, similarly occupied, and presenting to him similar demands cotemporaneously. Here is an extreme case of the claim of 'Tenant-right' taken to illustrate the principle.

And what is the principle? that instead of obliging a man to look before him, and demand a lease of land adequate to the investment he purposes making upon it, the Law shall step in to supply his omission and confer upon him a lien equivalent to a co-proprietorship bequeathable to his latest posterity; giving him in fact a sort of everlasting 'building-lease' that he never bargained for, and which the owner was never willing, or perhaps able, to grant. And what is true of building is equally true of any other addition or improvement that may have been made.

The British Parliament having repeatedly refused to commit, for English agriculture, this breach of the old and sound maxim, "Vigilantibus, non dormientibus, jura subveniunt," is to be asked again, next session, to do it for Ireland. So we are told by 'a large and influential conference of the leading friends of Tenant-right, in and out of Parliament, held on the 8th of last month in the City Assembly House, Dublin, with the view of bringing this question before the Legislature, both with reference to the measure that may be proposed by the opponents of Sharman Crawford's bill, and in order to secure the largest possible support to the cause?'

In an exposition of the objects of this bill, read by Mr. Wilson Gray to the Meeting, we are told, in preface, that there are three classes of tenants for whom the protection of Tenant right is required. First, for the tenant who, without any such security, has improved his farm; secondly, for the tenant who has not improved, but with such security, it is believed, would improve it; thirdly, for the tenant who has improved upon the faith of *the existence* of some such security. A rather odd division of appellants, it must be confessed. One asks for Tenant-right because he has improved, another because he has not, and a third because he has acted on the belief that it already exists.

There is a singular coincidence of this tripartite division with the three countries that have been brought into question. In Scotland, without Tenant-right, the tenant has improved; in Ireland, without Tenant-right, the tenant has not improved; and in England, without Tenant-right, the tenant has acted as if there was Tenant-right. So that you have the three phases of human action agricolous, as seen 'without Tenant-right.' What its development would be, with it, has hitherto had but local and partial exemplification, and that not of the most satisfactory kind, either in this or the sister kingdom. Such is the extent of capital that land will swallow in the shape of investment, that half a century of Mr. Sharman Crawford's 'Tenant-right' accumulated from one occupier to another would swamp the inheritance altogether, and leave to the mere '*owner*' of the bare acres little beyond a nominal interest in the soil that others had been doubling their capital upon.

All that legislation can do, or be properly asked to do, between Landlord and Tenant, is to make each party observe the covenants and agreements they have respectively entered into; not to make new contracts for them, to supply the deficiencies of their own. In the hiring and letting of land there are undoubtedly some anomalies, and in Ireland absentee-landlordism, middle-men, and potatoes have certainly shown them up in their sorriest working and results; but they will not be mended by enactments which under the name of 'Tenant-right' would discourage every man in his senses from becoming or remaining an owner of Irish land. It would be a strange measure indeed that should so propose to improve the condition of Ireland at the present juncture. The tide has, happily, set in the other way: and it may not unreasonably be hoped that the time is coming when an improved knowledge of their own practical interests may enable both the owners and occupiers of land in Ireland to adopt those arrangements, whether of Lease or otherwise, by which in England and in Scotland people contrive to make their own 'Tenant-right.' *C. W. H.*

CUTHILL ON THE POTATO.

The Potato is a native of the sea-side; it is found on the coasts of Peru and Mexico, New Zealand, &c. &c. When ripe it is like a ball of flour, rich in starch, although small in size. For a long time after it was introduced into this country it was left in the ground summer and winter, not being taken up unless wanted. In time we found that we could eat more of this tuber; we also found that they were liked by pigs and cattle; we began to use them more freely. We also discovered the plan of taking them up out of the ground when ripe, and putting them carefully away in rooms or lofts; in time our crops increased so that we could not find room in-doors for them, and we at last pitted them out of doors; this may be not more than 70 years ago. This plan of wintering the Potato was the commencement of its ruin; the increase of crops by manures was so abundant that no means were left untried that might still increase them; but strange to say, we still left them to grow in large heaps, covered thickly with straw and mould, and even thatched with a still heavier great-coat, stopping all perspiration from escaping. The consequences of such management soon showed themselves; the Potatoes heated, sweated, and afterwards began to grow; so that when the spring arrives they are found all matted together, their very life's-blood being extracted from them; they are taken out and pulled to pieces, and what nature has placed inside them for their own support is extracted and pulled away from them before planting; they are then cut into eyes, and if the Potato be a large one we have the inside left; this is given to the pigs, not even allowing a fair proportion to the eye; we dust the wounded and exhausted parts over with lime; we have our land prepared at great expense and much care, to receive this already half-killed tuber, or part of one; it is planted, but before it can grow it must fill its empty cells with water, the starch, gluten, and other matter having been sweated and grown out of it. It grows; but how? Why with a watery, Balsam-like stem, that when it is squeezed the water runs out of it. Can people wonder, then, when unfavourable weather comes on, that such a plant cannot stand it? When the plant has grown for a time, and produced tubers—some perhaps nearly ripe, while others are in a rapid state of growth—dull rainy weather prevails for a week or so; after this the sun breaks out in all its vigour upon the earth; the plant is so full of water that evaporation and elaboration is stopped, the stomates or breathing spores—small hairy vessels which admit the gases and the air to elaborate the sap—get stopped, so that the moisture which the plant does not want cannot evaporate. This being the case, the whole plant gets confused, the poisonous sap ferments, the circulation still continues, away go the tubers that are not ripe, those that happen to be nearly ripe suffer less, on account of the flow of sap being finished. The Potato, like all other plants, if mismanaged, must suffer less or more, and the more especially if the weather is favourable to such diseases. All plants are liable to mildew, according to their kind.

In order to bring back this much abused, but most useful and splendid vegetable to its original health, we must consider the climate from which it comes (and like the Lisianthus Russellianus, which has baffled the skill of the best of gardeners to keep and grow, we must look into its natural and native treatment). The Potato, then, being a native of the sea-coasts of Peru and Mexico, where a large amount of salt spray must be deposited at all times, the air much impregnated with saline gases, if this is so, then we ought to use much salt and no strong manures whatever. Much has been said and written about autumn-planting in this country. If the system which I have practised for the last 22 years cannot be followed out, then let autumn-planting be strictly followed out, only let the Potatoes be well *greened* until they are quite dark, the skin then gets so tough that no insect can touch it; but the tubers must be planted whole when the eyes begin to grow. They then grow slowly, forming a woody stem, as they do in their native country. This first woody formation never leaves the stem, even to its very top; the vessels are contracted and small; they contain much less water, as is the case in their native country; and it is a well-known fact, that the Potatoes on the coast of Peru have a dry resting season, there being no rain whatever for several weeks. This may be called their winter, but here, when planted, unprepared for the winter's rain and cold damp earth, it is quite a different thing altogether. And then, again, what manures do they get in their native state? None but salt-water spray and virgin mould; clearly showing that if we want to preserve the Potato we must take its native situation as our guide, foregoing all rich and stimulating manures, and be contented with a much smaller crop, but with a much finer flavour, and richer in starch. The Potato is like all other plants or animals, overgorging or overfeeding tends always to disease, and should unfavourable circumstances occur disease must break out. We blame everything but ourselves as having been the cause of it; one thing is certain, the poorer the land, the more woody the stem of the Potato, the less luxuriant in foliage, and the smaller the crop. But one Potato rich in starch is worth three watery ones for food; in fact, a Potato without starch is worthless, even for pigs.

I have practised my system now for 22 years; I first discovered it, as it were, by accident, when at Viscount Canterbury's, in Essex. The foreman came one wet day and said that the Potatoes in the loft were sprouting, that they wanted picking over. A thought struck me, when I saw them, that if they were put into 3-inch pots they would come earlier than by picking the sprouts then off; it was an early round sort. Some one or two thousands were potted, and kept in an empty vinery; they were planted under the south walls, and they came in very early, beating those in the frames. This was the commencement of my plan of greening and wintering, which I have followed ever since; neither have I cut a whole Potato since. I have many hundreds of letters by me thanking me for my pamphlets, some of them from persons who cultivate many acres of Potatoes. I have just had one from a person in Northamptonshire, saying that he grew 8 acres, all sound, and that he was clearing 22*l.* per acre, after all railway expenses were paid, besides saving enough seed to plant 12 acres next year, while all those around him were diseased, and the same sort too (Regents), all carefully wintered as laid down in my pamphlet. As this gentleman must be a reader of the *Gazette*, perhaps he will be kind enough to speak for himself, as well as many more who have written to me on the subject. One thing we ought never to forget,—if a thing can be well done on a small scale, it can also be done on a large one; if not, do not do it at all. *James Cuthill, Camberwell.*

CARCASS WEIGHT OF CATTLE.

(*Continued from page* 667.)

The offals of sheep weigh, in ordinary cases, as follow:—

Skin, without fleece, from	6 to 10 lb.
Tallow	5 ,, 14
Head	4 ,, 6
Feet	1½ ,, 3
Pluck	4½ ,, 6
Stomachs and entrails	9 ,, 18
Blood	4 ,, 6
Loss by killing	1½ ,, 3
Fleece	2 ,, 6
Horns	2 ,, 5

In some instances the weight of tallow in sheep is as much as 20 lbs. or 21 lbs., and the fleece of some sheep will weigh as much as 10 lbs. or 12 lbs. The total weight of the offals of sheep may be considered to vary from 40 lbs. to 90 lbs.

From our experiments on the subject, we are led to conclude that the effect of the different circumstances which we found to cause so much variation in the proportion of beef to the live weight in oxen are less notable in sheep, and we have failed to discover any increase of accuracy of result in any modification as to breed in the construction of any table of proportions, by which to ascertain the proportion of mutton to the live weight in sheep. The following table leads to results as accurate, perhaps, as the subject will admit of; that is, a tolerably close approximation to the truth in a majority of cases to which it may be applied:—

Live weight in lbs.	Per cent. in wool.	Of mutton newly shorn.
280 to 300	71 to 72	to 75
260 ,, 280	69 ,, 70	73 ,, 74
240 ,, 260	67 ,, 68	71 ,, 73
220 ,, 240	65 ,, 66	69 ,, 70
200 ,, 220	63 ,, 64	67 ,, 68
180 ,, 200	61 ,, 62	,, 66
160 ,, 180	,, 60	,, 65
140 ,, 160	53 ,, 59	,, 64
120 ,, 140	,, 57	62 ,, 63
100 ,, 120	55 ,, 56	60 ,, 61
80 ,, 100	53 ,, 54	58 ,, 59
60 ,, 80	50 ,, 52	,, 57

In the table above, the column headed "in wool," applies only to long-woolled sheep; when Southdown and other short-woolled sheep are weighed in the fleece, two to three per cent. must be added to the tabular proportion of their mutton. The column headed "newly shorn" will apply to all breeds of sheep, without material inaccuracy in the result, except to such as have very large heads and feet. As a carcass of pork includes the head, feet, skin, and the leaf or fat lining the inside, the offals are trifling in swine, consisting of the pluck, entrails, mesentery, blood, hair, &c., which, however, vary only with the size of the animal; the proportion of pork to the same live weight being always constant. The proportions, in the following table, of the carcass of well-fed hogs, suitable for bacon, or for victualling ships, to their live weights, will give results sufficiently accurate in most cases to form a fair estimate of the value of swine:—

Live weight in stones of 14 lbs. avoirdupois.	Per cent of Pork.
Above 40	87 to 88
From 35 to 40	84 — 86
30 — 35	83 — 84
25 — 30	81 — 82
20 — 25	80
15 — 20	78 — 79
Under 15	75 — 77

Having discussed the mode of ascertaining the carcass weight of oxen, sheep, and swine, from their live weight, at sufficient length, perhaps, to convey a clear comprehension of the subject, we now proceed to explain the mode of attaining the same object from dimensions. The latter-mentioned mode, however, can only be advantageously applied to oxen; as, from the nature of their covering, it is only when sheep are recently shorn that dimensions for ascertaining their carcass weight can be taken with accuracy; and in so small an animal any inaccuracy in the dimensions would, in the result of their computation, be much too great a proportional discrepancy to the true carcass weight to be of practical utility; and the difference between the live and carcass weights of swine being comparatively trifling, and their measurement being, moreover, a matter of some difficulty, the carcass weight of that description of stock is, perhaps, most readily, and also more accurately, ascertained from the live weight; the remarks about to follow, will therefore apply exclusively to oxen.

In ascertaining the carcass weight of oxen from dimensions, the body of the animal is supposed to be a cylinder, of which the girth and length of the back of the animal are the circumference and length respectively; and, having found the solid contents of the same, to assign the weight in pounds, stones, or other denomina-

tion of weight, for each solid inch or foot such cylinder may contain, as experience in the matter may have shown to be proper for the purpose.

The circumstances of shape, condition, sex and age, which we have previously noticed, as rendering a modification of formula necessary in deducing the carcass weight from the weight alive, operate quite as powerfully in occasioning the necessity of modification of the principle stated above, ascertaining the carcass weight from dimensions; and the necessity of the modification as to the shape which characterises the different breeds, although not greater, is more apparent in the latter-mentioned mode than in the former. If we compare the conformation of the short-horn with that of the kyloe, we find the wide shoulder and chest, arched ribs, broad loin, and long and square quarter in the former; whilst a thin shoulder, a narrow but deep chest, flatter ribs, smaller and lighter quarters, characterise the shape of the latter. The section, at the girthing-place of the short-horn, approaches a true circle; whilst in the kyloe, the section at the same part is an ellipsis, with a considerable difference between the transverse and conjugate diameters; besides, the bulk of the hind-quarters in the short-horn is much greater than those of the kyloe. In these points we find a gradation in the different classes into which we have divided the various breeds of British oxen, with a view to a modification to meet difference of shape when treating of ascertaining the carcass weight from the weight alive; and we adopt the same classification in treating of attaining the same object from measurement.

The dimensions to be taken are the length of the back of the animal, and its girth at the fore-ribs. The length should be taken from the junction of the cervical and dorsal processes; which point can easily be discovered when the head of the animal is gently raised, so that the poll may be just level with the shoulder, in a slight hollow immediately in front of the withers in most beasts; and in bulls and other cattle, in extraordinary condition, the exact point will be shown by a slight plaiting of the hide on the upper part of the neck; the line should then be carried backward to that point on the upper part of the tail, from whence a plumb-line will just include the whole of the beef of the buttock. The girth should be taken squarely round the body, immediately behind the elbow of the fore leg. Both dimensions must be taken in feet and inches, with the most careful accuracy, when the beast is standing perfectly at its ease. The best position in which to take the dimensions of cattle, for ascertaining their carcass weight, is that which the animal falls into on becoming voluntarily at rest after walking gently a few paces. In taking the girth, the line should be drawn as tightly as it can be done without producing any creasing or nipping in of the hide.

The computation of the dimensions.—In the first place, to find the solid content of a cylinder, of which the girth and length of the animal are respectively the circumference and length, as noticed above, the rule for which is—to multiply the square of the circumference and girth by the decimal ·07958, which is the area of the circle whose circumference is unity, and such product again by the length. Having thus found the solidity of the cylinder, the next step to ascertain the carcass weight, is to multiply such by some number representing the weight in stones of each cubic foot contained in such assumed cylinder. This weight we have found, from numerous experiments, to vary from about two and a half to four imperial stones per cubic foot; and by the use of which, the rule will become the square of the girth in feet and inches, multiplied by the length in feet and inches, and that product again by ·2 (very nearly the product of ·07958 multiplied by 2½), or by ·32 (very nearly the product of ·07958 multiplied by 4), for the weight of carcass in imperial stones in the extreme instances of our experiments. Now, to meet the gradation in the extent of the several circumstances which occasion discrepancy of carcass weight of animals of equal dimensions, the following table of multipliers has been constructed from elements obtained in our experiments on the subject; and the classification as to breed which we have adopted therein, is the same as that used in ascertaining the carcass weight of oxen from their weight alive.

Table of multipliers of the product of the square of the girth multiplied by the length, to ascertain the carcass weight of oxen in imperial stones—the dimensions being taken in feet and inches.

Condition of Beast.	Decimal Multipliers. Class 1.	Class 2.	Class 3.
For Bullocks and Heifers.			
Half-fat	·22	·225	·22
Moderately fat... ...	·24	·24	·23
Prime	·25	·245	·24
Very	·262	·26	·24
Extremely fat	·275	·27	·25
For Bulls.			
Moderately fat	·22	·25	·24
Ordinarily fat	·240	·242	·25
Very	·255	·275	·262
Extremely fat	·32	·2	·275
For Cows and Oxen not to the Condition referred to in the foregoing Lots.			
Dutch Cattle	·2	·2	·2
Hereford	·2	·2	·2
Horned	·2	·2	·2
Polled	·2	·2	·2
Short-horned	·2	·2	·2
Sheeted	·2	·2	·2
Steers, 4 to 5 years old, prime fat	·2	·2	·2

It frequently happens that cross-bred animals, got by short-horn bulls, possess, in an eminent degree, the superior properties of their sire, in which case the multipliers appropriate to them are those in the column of class 1.

The best operations of the foregoing rule may be performed by duo-decimals, the duo-decimals in the product being reduced to their equivalent decimal previous to using the decimal multiplier in the table: or the inches over feet in the dimensions may, in the first instance, be reduced to the decimal of a foot, and the whole operation then performed by multiplication of decimals.*

The result of either of the methods for ascertaining the carcass weight of stock is in imperial stones of 14 lbs. avoirdupois. *J. Ewing, in Blackie's Cyclopædia of Agriculture.*

PAUPERISM.

(*Continued from page* 651.)

[ERRATUM.—In our last article on this subject, in the 8th line from the top of column *c*, for "religion" read "children." Two lines lower down, "English poor" should be "English poor law."]

THE training and education of children in the Irish poor-houses, the orderly habits, cleanliness, morality, and religion which may be there imparted, are not to be expected in the cabins of an ignorant and degraded population. It is very important, to have at least a large garden connected with every workhouse for the exercise and healthful labours of the children more especially. To the Wexford † and Enniscorthy Union workhouses, contiguous to each other, there are small farms attached, which are cultivated by boys in a great measure; the value of the productions on the Enniscorthy Union farm, consisting of 10 acres, has been estimated by the master at 89*l.* for the last year; both the health and the conduct of the juvenile paupers has been improved by their field and garden labours. The usefulness of a farm for the pauper labour of workhouse inmates is very questionable in England on grounds such as these: 1, many farmers would discharge their labourers whenever they could spare them, in the certainty of getting them back when they wanted them; 2, the labourers would then in many instances have to walk to and from the union farm, a distance equivalent to half a day's work; 3, the interruption of the necessary workhouse discipline by the introduction of farm labourers unused to such restraint, and the embarrassments which might arise on the union farm when the farmers would require the labourers; 4, the expense of maintaining an agricultural staff.

But granting that such reasons have much force in England, where the supply of labour is usually adjusted to the constant demands by the neighbouring farmers, the very different condition of a large portion of cultivable but neglected land in Ireland (as also in the Highlands of Scotland) seems to invite the application of pauper labour as a remunerating investment. Even if higher and more pressing considerations were to have no influence, to keep able-bodied men out of the workhouse is in itself a great point to be gained; and if employment could be provided for them on union or parochial farms, in a manner which would not interfere with the requirements of the more legitimate employers, and at wages a degree lower than the ordinary local scales, the maintenance of such labourers‡ on the cultivation of waste but reclaimable land, would be desirable. The paupers who might otherwise have to walk some miles daily to the scene of their labours should, in our proposed case, be provided with sleeping-rooms and accommodation for cooking their food (at such reasonable charge as would repay the costs of the necessary buildings, by gradual reduction of the debt incurred by erecting them), and thus be enabled to take home at the end of the week the surplus earnings of it.

And in order to stimulate industry and obviate losses from broken days, through bad weather or any contingencies, piece-work should be the rule of the system: so that every advantage of time and season might be taken.

It seems idle to complain now of a superfluity of workmen in Ireland, where the population has been so thinned; but if individual enterprise should not absorb the present scanty number of labourers (and even require the overflowings, but not offscourings, of English labour), for the large area of land in want of culture, we should like to see engrafted on the present poor-law a clause remedial of pauperism in the manner just suggested; the imposition of a trifling rate-in-aid to accomplish such an object, both in Ireland and in Scotland, where an analagous necessity exists in many districts, could not be reasonably opposed by those on whom it might fall.

As a means of assisting the unemployed poor, labour-rates were resorted to, which are still in course of liquidation, and have usually varied in their proportions to poor-rates from 2½*d.* to 5*d.* in the pound, and in some localities where distress prevailed to much extent, to a greater degree. The object was good in principle, but the recipients of the relief afforded from this source was not considerable. The most idle and lazy description of labourers usually applied for the work, and did as little as possible for the money they received. In some instances, no doubt, their bodily debility from insufficiency of food prevented exertion, and the money for which they gave their *time*, if not actual labour, was but a small part of what was raised, a staff of overseers, surveyors, secretaries, inspectors, treasurers, &c., having the principal share. Generally speaking, the works executed were not of a useful description, and in many instances they were left in an unfinished state, and were to be completed by county presentments. The owners of lands on which draining (often imperfect) or other works were carried on, had no control whatsoever as to the mode of accomplishing them, and few, except the Government officials employed, derived substantial advantage from them.

The paupers, nominally set to work in Ireland, might, in many instances, have been paid, like the labourers of Hampton Tegle in England, their daily wages for standing in the parish pound like cattle, or a certain sum per day for killing sparrows. *

In the latter instance 54*l.* odd had been charged to the poor-rates in one parish under this head in three years, at the rate of 3*d.* per day. If the overseers had made an honest return there must have been 52,600 sparrows killed, which, allowing 12 sparrows to weigh 1 lb., would have made the weight 4838 lbs., or three good horse loads, and the meat of these birds would have served 55 paupers for 12 months, allowing each pauper half a lb. of sparrows per day, for three days each week! The economical overseer, it is to be presumed, had all the feathers, and a little more picking besides, for himself.

In conclusion, on the general subject of pauperism, and its remedies, as it affects the United Kingdom, we would invite attention to the English allotment system, which has proved eminently beneficial in England, and is making great progress in Ireland. No philanthropic society has effected more substantial benefit for the poor—the rural poor especially—than the London Labourers' Friend Society, formed many years ago for the purpose of stimulating the land proprietary and parochial authorities, to let out to the poor as much land as each applicant may have means to cultivate, without infringement on his hours of ordinary work. The gentry of England have nobly done their duty in promoting a humane work, in which many individuals have honorably distinguished themselves. Almost every village has now its allotment gardens; and the reduction of poor-rates and diminution of pauperism have been among the good results of the system in many parishes. But it is imperfect in its operation where too high a value is set on the land, which ought to be let to the industrious and honest poor at the rate charged to solvent farmers in the vicinity. It should be remembered that the patch of ground is the raw material from which the labour extracts an amount of food, by what may be termed his waste labour, which, if paid for in money, would be a serious item in his year's expenditure, and that it is of vital consequence to him to have this raw material for his labour supplied to him at the lowest rate. The benevolence which charges him the maximum instead of the minimum price for such a necessary is very questionable. Landlords and other classes of persons who can provide land for the poor, according to the principles and rules of the Labourers' Friend Society, cannot more effectively relieve existing and obviate the pressure of future pauperism in their localities among labourers' families able to work, than by carrying out to its full extent the allotment system. Wherever enclosures are made of commons, the local poor have an equitable claim to their share for gardens; and from this source, too, under wise and generous arrangements, very considerable relief might be afforded throughout England to the poor adjoining such enclosures. *M. D.*

* In order to render the foregoing rule the more readily comprehended, we give an example from its actual application. A short-horn heifer, three years and nine months old, bred and fed by the late Duke of Northumberland; her dimensions (as previous to her being killed at Christmas, 1841, were 6 feet 8 inches in length, and 9 feet in girth. The actual weight of her carcass was 126 stones 7 lbs. The computation of the dimensions, according to the foregoing rule, is as follows: The square of the girth, 9 feet, is 81; the product of which, multiplied by the length, 5 feet 8 inches, or 5·6̄, is 453·6̄; and the product of which, multiplied by ·275, the tabular multiplier required in the case, is 126·21, &c., or 126¼ stones, nearly, the carcass weight by computation.

† In the Wexford union, a mast with standing rigging has been put up, and an old seaman instructs the boys to climb: &c. The exercise of going aloft has been found conducive to health, and the boys who have been apprenticed to shipowners have found the advantage of such training, and have turned out very well. Tailoring works by both sexes are taught and practised.

‡ There are now about 25,000 able-bodied men and 5000 boys above the age of 15, in the Irish workhouses.

* See first annual Report of the Poor-law Commissioners for England and Wales, pp. 181 to 184.

QUANTITY OF MANURE MADE ON A FARM.

THIS depends on the rotation pursued, the mode of consuming the green crops and straw, the circumstances under which this consumption takes place, and the management of the excrementitious matter produced. We scarcely require any chemistry to teach us that the quality of dung voided by any description of fattening stock or milch cows, is the difference between the food consumed and that portion of it retained in their bodies as flesh, fat, &c., or withdrawn in the milk, perspiration, respiration; or, in other words, the dung is the food, minus the flesh, fat, milk, and insensible waste through the lungs and skin. The dung is, therefore, inferior to the food in a fertilising point of view, just in proportion to the substances extracted from the latter by animals. A 4-year-old ox extracts from the food given him only those substances which serve to increase the bulk of the soft parts of his body, and to support the vital portions of life; while a younger animal not only does both of these, but also extracts what is required for developing the hard and bony parts; hence the dung of a mature animal is more valuable than a growing one, just in proportion to the amount of matter which the latter permanently retains to build up the bony and muscular structure of his body. The quantity and quality of the manure made upon a farm depends, therefore, on the description of stock kept on it; and as the number of animals to be fed is governed by the quantity of food raised, we are brought to the consideration of

the first proposition of this section, that the quantity of manure made on a farm depends on the rotation pursued.

There are three marked systems of cultivation which have established themselves in this country, namely, the 4-course or Norfolk system, the 5-course or Northumberland system, and the 6-course, or East Lothian system.

By the first, or Norfolk system we have on a farm (say for conveniency of calculation) of 120 acres, 30 acres of Wheat, 30 acres of Turnips, 30 acres of Barley, and 30 acres of Clover and Rye-grass: assuming a fixed amount of bushels of grain for the different rotations, and calculating from a great number of data, the quantity of straw yielded per bushel on well-cultivated land, and also the quantity of green-crops grown, we shall be able to arrive at an approximation as to the whole manure actually produced and made on a farm under the different systems specified.

The average yield of Wheat upon well-cultivated farms is, according to an average taken from a great number of published experiments, where no artificial manure had been applied, 30 bushels yielding a fraction more than 100 lbs. of straw to every bushel of grain. Of Oats, the yield may be taken at 48 bushels, each bushel yielding 78 lbs. of straw. Of Barley, the yield was a little more than 41 bushels, or say 40 bushels, and 70 lbs of straw to the bushel. Swedes 17½ tons; yellow 20 tons; and white 22½ tons. Of Beans, the yield and proportion of straw to grain are more variable, and having few published data to go by, we assume the yield as 28 bushels and 30 cwt. of straw. Upon a farm of 120 acres, cultivated upon the 4-course system, there will be of straw and Turnips as follow:—

	tons.	cwt.	qrs.	tons.	cwt.	qrs
36 acres of Wheat, 27 cwt. of straw, per acre	40	10	0			
30 acres of Barley, 25 cwt. of straw, per acre	37	10	0			
7½ acres of Hay, 30 cwt. of straw, per acre	11	5	0			
Dry food and litter				89	5	0
7½ acres of Grass consumed 120 cwt.	45	0	0			
15 acres of Turnips, indoors, 20 tons	300	0	0			
15 acres fed off.						
15 acres Grass fed off.						
120						
15 acres of aftermath consumed, green, 60 cwt.	45	0	0			
Total year's food				390	0	0
				479	5	0

Supposing the stock, indoors, to consist of 4 horses to work the farm, and bullocks, box-fed, the distribution of the food and litter would be as follows:—

	tons.	cwt.	qrs.	tons.	cwt.	qrs.
4 work horses will consume of hay, as fodder, in 8 months, or 243 days, 1½ stone each, per day ...	9	2	1			
Straw as litter during that period, 1 stone per day	6	0	2			
Green* food for 122 days in summer, 6 stones each per day	18	6	0			
Straw as litter during that period, 1 stone each per day	3	1	0			
				36	9	3
16 full-sized cattle will consume and fatten upon 200 lbs. of Turnips each, per day, for 210 days ...	300	0	0			
Litter and fodder, for same period, 3 stones each per day	63	0	0			
				363	0	0
8 bullocks will consume, of cut Grass, in four months, 168 lbs. per day	71	14	0			
Litter for same period, 19 lbs. each per day	8	1	1			
				79	15	1
				479	5	0

Five-course Farm, 120 *acres*.—This rotation is very various as regards the distribution and sequence of the crops. In Norfolk it is 1st, Grass, mown once;† 2d, Grass, pastured; 3d, Wheat; 4th, Turnips; and 5th, Barley.

In Scotland it is 1st, Grass, part mown for hay, and part pastured; 2d, Grass, pastured; 3d, Oats; 4th, Turnips; and 5th, Barley and Wheat; and, in some districts, the corn crops consist solely of Oats and Barley. So far as the manure-producing elements of the inquiry are concerned, it is immaterial which system be selected for comparison, as the gross produce of straw will not vary more than a few tons over the whole corn crop. The following may be taken as a fair average of this rotation:—

	tons.	cwt.	qrs.	tons.	cwt.	qrs.
48 acres of Wheat, Oats, and Barley, in equal proportions, at 27⅔ cwt. of straw per acre	66	8	0			
7½ acres of hay, 30 cwt. per acre ...	11	5	0			
Dry food				77	13	0
3 acres of Grass, consumed by horses, 120 cwt.	18	6	0			
37½ acres of Grass fed off.						
14 acres of Turnips consumed by cattle in boxes	280	0	0			
				298	6	0
				375	19	0
Winter food of four Horses—						
Hay, 243 days, 1½ stone each ...	9	2	1			
Straw litter for same period, 1 stone each day..	6	0	2			
Summer food—						
Cut Grass for 122 days, 6 stones each per day	18		0			
Straw litter for same period, 1 stone each per day	3	0	0			
				36	8	3
15 cattle, consuming as at the rate of 200 lbs. each, will finish in 209 days	280	0	0			
Fodder and litter for same period	58	15	2½			
				338	15	2½
				£375	4	1½

(*To be continued.*)

* The horses are supposed to eat 12 lbs. of Oats each, per day, in winter, and 8 lbs. each, per day, in summer. If cake, or corn be allowed to the cattle, then fewer Turnips will be consumed, or more cattle may be fed; the number, however, will be limited by the quantity of fodder and litter which the farm produces. The above case, and those cases which follow, are arranged purposely to show the unaided manure-producing powers of different kinds of rotations; hence we have omitted all mention of hay or straw consumed by sheep folded on Turnips. Full-grown cattle will fatten in 6 months, consuming Turnips, straw, and hay as above stated; and, in the comparison of the different rotations, all mention of extra or purchased food is purposely avoided, in order not to complicate the investigation.

† In the five-course system the after-math of Clover-hay is never cut, as a second mowing would greatly injure the Grass for the succeeding year. It is, therefore, depastured, and hence the reason why no mention is made of second cutting on the above calculations. It will be obvious also, to the practical farmer, that where there is no second cutting, there cannot be a supply of cut Grass for the horses for 4 months. In practice, Vetches would require to come in to supplement the first cutting of Grass; but, for the sake of uniformity in comparison, the horses are supposed to have Grass during the 4 summer months.

Home Correspondence.

Mr. Huxtable's Pig Secret.—A very slight acquaintance with what took place at more than one of the Sutton Waldron agricultural meetings, so fully reported at the time in the *Agricultural Gazette* and other papers, would have taught your correspondent "A. B." that Mr. Huxtable's "pig secret" did not consist in giving his pigs tallow greaves, but hogs' lard, a practice fully divulged and explained by Mr. Huxtable himself in his speeches. It is true he said on one occasion, if I remember right, that since his secret had been made known, lard had become so dear, that he had been obliged to purchase greaves instead. Greaves are no doubt good, but lard is best. The "sarcasms," by the way, arose from the idea of pigs eating themselves. *S. E.*

Thin Seeding.—It is far from our purpose to attempt to controvert our esteemed friend, the Rev. G. Wilkins, but to concur in all he affirms respecting thin seeding; our principles in this particular are so coincident that they cannot clash. On the cause of Potato disease, however, we entirely differ. Severe indisposition has prevented our not before explaining our system of growing Wheat and Barley differently from Mr. Wilkins; and as our plans and particulars are now waiting the Council of the Royal Agricultural Society of England's opinion, at their meeting early in November, we cannot fairly now only advert to it. As the time is advancing for sowing, suffice to say, that two methods have been adopted by us—one is transplanting Wheat 6 inches apart, at about 3 quarts of seed to the acre, which, in consequence of its being planted too thick, has produced only 1½ peck to the rod, or 7 quarters 4 bushels to the acre; the other method is sowing or transplanting either Wheat or Barley on half-rod stetches, 1 foot square, in double rows on each side, at something less than 2 quarts per acre of Wheat, allowing 5 feet distances in the middle for the culture of Early Dwarf Potatoes or Early Dwarf Peas, to come off, or to be cut off by the end of June; thus insuring a sound crop of Potatoes, and corn, 3½ quarters per acre. This plan has answered admirably with us; and if put in practice is calculated to spare the sad loss of ground now sacrificed for the growth of ample supplies of the king of vegetables, and early Peas. Mr. Allen, of Totnes, and his farming friends, may be assured that they are yet in the shade, and that the capabilities of single grains of corn are wonderful, if due space is allowed, perhaps beyond their conception. For instance, we have forwarded to the Royal Agricultural Society a stub of Barley, which was promiscuously transplanted amongst our Wheat, containing 80 straws or ears, and produced upwards of 2000-fold; thus if the principle of thick seeding held good (say at 2 bushels per acre), it would by calculation amount to the incredible produce of 4000 bushels, or 500 quarters per acre! Another contemporary, Mr. F. Lance, asserts, in the *Cheshire Gazette*, that he has lately exhibited at the Polytechnic Institution, Regent-street, a stub of Wheat containing 90 ears, at upwards of 50 grains in each ear. *Abraham Hardy and Son, Maldon, Essex.*

Dr. Newington's Dibble.—I am greatly indebted for the information given by "N.," at page 652, as to the cost of dibbling an acre of Wheat with Dr. Newington's implement; whereat he also states the distances at which the seed should be dibbled. He requests that I will state how much land I can stir with Dr. Newington's hand-hoe. I regret not being able to give fair experience of it, owing to the dislike I find the generality of labourers entertain towards it. I think a willing workman might accomplish 1½ acre, or perhaps 2 acres a day; but I have never found them cultivate so much with it, and I now propose substituting a horse-hoe, with narrow coulters, which will stir from 2 to 3 inches deep between the rows of dibbled Wheat. *H. H.*

Asphalte Flooring.—In your answers to correspondents last week, you mention, as flooring for farm-buildings, gravel and coal-tar, at 4½*d.* per gallon. I beg to state, for the information of farmers and market-gardeners who want good, durable, and dry floors, my plan:—I I make my floor solid and level by good gravel; I then use a cheap asphalte which I buy at the Phœnix Chemical Works, Rotherhithe, at 4½*d.* per gallon or 4*s.* 6*d.* per cwt. Melt that down in an iron pot, and mix while the asphalte is hot a good quantity of dry-sifted road-dirt; then pour it out on the levelled floor, and level it down. By this means I have a floor impervious either to wet or damp, quite equal to stone, and everlastingly durable. *A Constant Reader.*

Guano and the Rot.—While guano is occupying so much attention, with respect to cost and supply, the Lobos Islands, and cheap importation, and adulteration for the purpose of deceptive cheapness—are we careful to make the best of what we now import genuine? We know how strong it is—how dangerous to touch or come near the seed in drilling—how much dilution it requires for liquid manure; and do we reduce it enough in common use? No doubt it is very effective as now used; but does it do no harm as well as good? It is the strongest animal manure concentrated by drying and full of ammonia. Dung is chiefly vegetable, seldom containing 1 per cent. ammonia, and this thoroughly diffused through the mass. Guano contains 16 per cent., and when mixed with three or four times its bulk of reducing substance, still contains 4 per cent. ammonia, only mixed, not thoroughly diffused. Since we have employed it, the rot has attacked, not Potatoes only, but Potatoes rot more with it than with cattle dung; and the Potato plant is quickly blighted in guano vapour. Other reasons are assigned for the rot, and this may not be the chief; but will it not be safer and more economical to reduce it much more, and with vegetable matter, where convenient, to assimilate it to yard dung? Many cases are on record where the mixture of guano with farm dung has answered better than either alone. Would it not even be better composted, where the ammonia would be thorcughly diffused, and a more nourishing and less exciting food supplied to the plant? All these mixtures should of course be made on the farm, the portability of guano being one of its chief recommendations. I have generally recommended salt to be mixed with guano, weight for weight, salt tending to counteract putrefaction and overgrowth; and in Wheat, to strengthen the straw, and make the grain clean and heavy. Fishery salt, or other animal-foul salt, is to be preferred; and I believe this mixture would also be the better for composting with sods and vegetable matter. For drilling, charcoal powder is probably the best admixture—peat charcoal, tan charcoal, lime-charred sawdust, or even charred (not ash burnt) clay, or cindery coal ashes; not less than six or eight times the bulk of the guano, and all the better for lying together damp five or six weeks before being used. My argument in short is, that guano is likely to go further, do more good, and less harm, if generally mixed with an equal weight of salt, and reduced by eight or more times its bulk of other materials; allowed to lie together damp some weeks, and, when convenient, composted with dung and the other customary substances. *I. Prideaux.*

Voluntary and assessed Relief.—To those who believe that the feelings of compassion are kept alive in the heart by the ocular contemplation of misery at our doors, we would recommend the perusal of that part of Mr. Chadwick's report which expresses his own experience on this very point. That distinguished poor-law commissioner gives this deliberate judgment, after his contemplation of pauperism in Dublin, before the compulsory relief of the poor became established. "I am convinced that to leave the destitute to voluntary charities, so far from encouraging, tends to destroy the finer feelings. When I first arrived in Dublin, I suffered the greatest pain from the constant sight of half-naked and squalid human beings. I at first attempted to relieve them, but soon found that it was beyond my individual means to make the slightest impression upon the mass of misery, and gave up the attempt as hopeless. Each person is actuated by the same feelings, and thus charity ceases. By degrees I became accustomed to much of the misery which, on my arrival in Dublin 12 months previously, had made me shudder. The only scenes to which I did not become callous are those which may commonly be witnessed in Dublin after nightfall. On a winter's evening, about 7 o'clock, wretched creatures without any other covering than a blanket or an old ragged cloak, may be seen stretched by the railings of kitchen windows watching, with intense eagerness, for the Potato peelings and for the scrapings of the plates, after the wealthier classes have dined—the tribe of Lazarus waiting for the crumbs. These scenes always make me rejoice in the comparatively happy lot of the working classes in my own country, who never can be reduced to utter destitution while the poor-laws exist. I had just then returned from a visit to the most pauperised county in England, Kent, and had been delighted with the comfortable, substantial, neat, pretty, well furnished cottages; with the good clothing, and the healthy, cheerful independent countenances of the inmates. I must say if there were no choice but the squalid wretchedness and the crime of Ireland, or the out-door system of England, vicious as I admit that system to be, I should not hesitate to embrace it as a very minor evil." The city of Dublin, and St. John's parish in Glasgow, where the management of Dr. Chalmers was so effective under the voluntary system, showed that it is only excellent for relieving the uncharitable at the expense of the charitable. In the metropolis of Ireland, pre-eminent for its public and private charities, the struggles made by a few philanthropists for the suppression of mendicancy and the relief of pauperism (before the enactment of the poor-law), by collecting alms for indigent housekeepers, and

providing shelter and food for mendicants, in order to keep them from the streets, proved the heartlessness and incredible meanness of several of the wealthiest and most voluptuous occupiers of the squares and principal streets, and the total inadequacy and uncertainty of the voluntary system. But to confine our remarks for the present to Scotland alone. The sixth annual report of the Board of Supervision for the relief of the poor in that kingdom (for 1851), shows a considerable progress in parishes and unions from the system of voluntary contributions to that of assessment since the board was formed, viz :—

	Assessed.	Voluntary Contributions.
August 1845	230	650
,, 1846	448	432
,, 1847	558	322
,, 1848	600	280
,, 1849	625	255
,, 1850	644	236
,, 1851	653	223

In some counties the voluntary system has been adopted to a considerable extent, in others in a low ratio ; in three, only in a solitary parish ; and in seven, not even in a single instance. The sums contributed in the churches of the assessed parishes during the last year amounted to more than 14,000*l.*, of which about 8000*l.* was applied by the kirk sessions to the relief of the poor in their respective parishes, consisting generally of persons who had fallen into temporary difficulties, with the view of preventing them from becoming chargeable to their parishes as paupers. It is not necessary to enter into the minutiæ of the modes of assessment allowable under the Scotch law ; it is sufficient to state that, of the 653 parishes, according to the report assessed, there are only 69 assessed on means and substance. It appears from a minute of the Board of Supervision, that the claim of a parochial board for assessed sums are preferable to the claim of a landlord for rent, and in case of insolvency are payable out of the first proceeds of the estate, and that the proprietor is to be assessed as owner and occupant when land is thrown upon his hands by a tenant. It appears, also, from the same authority, that in case of persons refusing to be ordained elders of the church or to be elected members of the parochial board, from a desire to avoid responsibility, the proprietor and the minister become legally and of necessity the parochial board. *M. D.*

Societies.

Surrey Agricultural.—At the late meeting of this Society, Mr. James Gadesden, of Ewell Castle, the President of the Association for the current year, occupied the chair ; and in proposing "Prosperity to the Surrey Agricultural Association," said :—Every intelligent farmer admitted that much had yet to be learnt with regard to the earth's fertility—that science was only now beginning to lend her aid in this inquiry—and most reflecting agriculturists also believed that hereafter we should see a much larger acreable produce than had hitherto been obtained from the land (cheers). It was, he believed, to the combination of science with practice, that they were to look for increased benefit. Without that combination all farming operations were but empirical, and would lead to no satisfactory results. The state of circumstances with respect to the late harvest had tended very much to impress that opinion, with additional force, on his mind, and it was now felt by many persons that in some parts of the country, where agriculture had been indifferently practised, much had yet to be learned in order to avoid such a fatality as that of the last season. It was to scientific knowledge, then, they must look for information. It was science which would give them an analytical knowledge of the soil, and enable them properly to deal with it. It was science which would inform them of the component elements of the various plants they cultivated—the cereal crops, the grasses, and the bulbous roots ; enabling them to adapt their manures to their most successful growth and production. It was science, also, which would give them the component elements of the various kinds of food used in the rearing and fattening of stock, and teach them to discriminate between the fat-producing, muscle-forming, and bone-creating portions (hear, hear). To no pursuit in life was scientific knowledge of greater value than to the cultivator of the soil. He had, therefore, observed with interest and pleasure the efforts made in that town to disseminate a love of science by the establishment of a scientific and literary institution, and the delivery of courses of lectures of that kind. It was, however, to the rising generation that they were chiefly to look for the development of the good seed thus sown, and he would earnestly urge upon their young men—the future tenant-farmers of the country—the importance of directing their attention to the acquirement of that description of knowledge, for without it he feared they would only be plodding in vain. (Cheers.) He admitted that much had already been done, but he hoped much more would be done, by their young men ; and he would especially recommend to them to take a leaf in this respect out of the manufacturer's book, to mark the manner in which he pursued his scientific inquiries—the mode in which he applied the results of his scientific investigations to practical uses, and the success, the great success, which had followed the application of those results. That within the last eight or 10 years very great advances had been made by their agricultural friends, this single fact was conclusive evidence : the great manufacturing firm of Garrett and Son, the agricultural implement makers, which 20 years ago could not find work for more than 60 or 80 men, now found constant employment for 500 or 600 men. And he understood that Barrett and Exall, Crosskill, Howard, Hornsby, and Ransomes, had all extended their engagements in the same way. He took this to be a very hopeful indication of the awakening state of the agricultural mind. Why had he adverted to topics like these ? It was for the purpose of calling their attention to the pressing necessity, fast advancing upon them, of having recourse to every possible mechanical appliance in order to reduce the cost of production. Without this, it would be impossible for them, he thought, to meet the times. They must look forward to the reaping machine superseding the sickle, and the threshing machine the flail ; the hand-hoe must give more place to the horse-hoe, and, in the level districts of this county, he anticipated seeing in a few years the smoking steam-plough—unpoetical as the thought might be—taking the place of the horse-plough. "To this complexion they must come at last ;" and if they would not adapt themselves to the altered and altering condition of things they might rely upon it their expenses would increase, and their profits and their incomes certainly decrease. Now, if there were any truth in this rough sketch of their position, surely it was their part, as wise men, to combine together for the dissemination of intelligence—to sharpen each other's wits, and to quicken each other's zeal, so as to meet these trying times like men. He did not underrate or undervalue the difficulties in the way. He knew them thoroughly. His pocket smarted under them at that moment. But he would not despair. In the branch of manufacture with which he himself had been connected, he had had to contend with difficulties just as great, created, too, like theirs, by the measures of the Government ; but he had never despaired, neither would he despair of agriculture now. Relying upon God's help, with a firm, unflinching, and persevering courage, a sinewy arm, and a clear head—

> "Nought should make them rue,
> If *farmers* to themselves did prove but true."

Mr. Drummond, M.P., in the course of some remarks on Agricultural Education, said : If a man had done learning, he had better have done living (hear, hear). He had heard of finishing schools for young ladies, and of finishing schools for governesses ; but never yet of a finishing school for farmers. A great boon had, however, been offered them, of which they had not taken advantage ; and that was the Agricultural College. He believed that of the 60 young men who were in training there, not one of them was the son of a Surrey farmer. It was very true that no man could get a new idea after 50, but he could still go on improving the ideas he had, and improving his sons in the practical details of farming, whilst the latter were devoting themselves to learning agricultural chemistry. They might depend upon it that in this respect, as in others, they must go ahead. Another thing, they did not take sufficient advantage of machinery, although it was to that they must chiefly look. Chemistry had done all it could for them, and it was to mechanics they must now turn their attention. On the whole, he would speak to them in the language of encouragement, and call upon them not to be disheartened. He had heard a great number of persons say, "Oh, I don't see the use of going to these meetings. They only want us to go, to suck our brains." Now, whenever a man talked of another wanting to suck his brains, they might rely upon it there was nothing in his brains to suck (laughter). Whilst, on the other hand, he who had anything in him that was worth having would be very anxious to impart it (cheers). The real tenant-farmers could not afford, and ought not to afford, to try mere experiments. It was not their business, nor even to spend money in new machines. They who could afford it, let them try the machine, and show it to the farmers, and when the article was perfect, then it would be time enough for the farmers to use it.

Farm Memoranda.

Prize Farm of the Manchester and Liverpool Agricultural Society.—Mr. John Warburton, Sandiway Head. *Inspectors' Report* :—This claimant's farm is 152½ acres, and is held on lease for 14 years. The description of soil is one part peaty moss, another part sandy soil, and the remainder heavy strong soil on a clay subsoil. The cultivation is as follows : Land in pasture, 63 a. 3 r. ; meadows and seeds mown, 27 a. ; irrigated, 9 a. ; not irrigated, 27 a. ; Wheat after Potatoes, 8 a ; do. after Turnips, &c., 2 a. ; Oats after leys, 8 a. ; do. after do. and Wheat, &c , 12 a., ; Barley, 5a. ; Vetches and Rye, 3 a. ; Potatoes, 9 a. ; Turnips, 6a. ; Mangold Wurzel, 5 a. ; Carrots and Parsnips, 1. a ; orchard and gardens, 1 a. ; homestead and roads, 2 a. ; total, 152 acres. Rotation of cropping : 1st, Oats ; 2d, Potatoes, Turnips, Mangold Wurzel, Carrots, &c. ; 3d, Wheat and Barley, with seeds ; 4th, Oats, after Wheat, sown with Grass seeds, the same being covered in autumn, after the Oats are cut, with bone-dust. Stock kept on this farm : 4 farm horses, 1 bull, 30 dairy cows, 10 heifers, 6 rearing calves, 175 sheep and lambs, 30 pigs ; total 256. (*Note.* From 170 to 180 sheep are sold off annually.) The horses, in summer, are three months out at Grass, and in winter are fed on cut hay and Wheat chaff, or on cut straw mixed with crushed Oats and Carrots ; for two months in spring they have Rye and Vetches given to them. The cows are out at Grass from the beginning of May until the mouth of October ; then housed and fed on straw and Turnips until calving time (say February or March), then they are fed on hay, Mangold Wurzel, and ground Oats. Claimant makes from 300 to 400 tons of manure annually, which is principally used for Potatoes, Mangold Wurzel, and Carrots, and any remaining is put on the Grass land. The whole of the liquid manure is collected in a covered tank. The claimant also buys annually 12 tons of bone-dust, 2 to 3 tons of which are used for Turnips, and the remainder is put upon Grass land for pasture. He also purchases 2 tons of guano, which, mixed with bone-dust and salt, is used for Mangold Wurzel. 10 tons of farm-yard manure, 2 cwt. of guano, and 2 cwt. of salt, is also used for Mangold Wurzel ; and for Carrots and Turnips, 10 cwt. of bone-dust, 2 cwt. of guano, and 2 cwt. of salt is used per acre. Claimant has drained eight acres annually for the last three years, and 110 acres have been drained within the last 15 years, principally with tiles and slate soles. Claimant drained eight acres of moss land last spring with pipes, the mains with 4 inches and branches 2 inches. All the expense was borne by himself, except the tiles and slates, which were provided by the landlord at a cost of 19*l.* Claimant, last year, marled 3 acres, and since the year 1834 has marled 69 acres of this farm at his own expense. He has bone-dusted all the farm, filled up 17 old pits, eradicated 300 rods of old fences, raised new ones, and found rails, posts, Quicks, &c., all entirely at his own expense. He has also filled up a bog, and drained the same, at a cost of 30*l.*, by which means 57 perches of land have been gained. He has also deepened, by an average depth of 18 inches, a small brook which runs through the farm, at a cost of 10*d.* per perch, in order to obtain fall enough to drain the land through which it passes. The length deepened was 1847 yards, and the cost 14*l.* There has also been a manure tank erected by claimant, at a cost of 25*l.*, towards which the landlord contributed 5*l.* All the meadow and pasture land on this farm is in high condition. The Wheat remarkably clean, but its produce only medium. The crop had evidently suffered from the light and open nature of the soil. Of the Oats, those after leys were a good produce, and those after Wheat were equal to the best crop the inspectors have at any time seen, both in weight and quality. The Barley was a full and clean crop ; all the green crops were in the highest state of cultivation. The house, yards, garden, and fences, were most satisfactory. *Report of the Manchester and Liverpool Agricultural Society.*

Notices to Correspondents.

Chaffed Straw and Hay : *A Z.* We should prefer this cut to the whole hay for cows as well as for horses—though our preference of it would be stronger in the latter case than in the former. The division of food is not so necessary in the case of ruminant animals. About 20 lbs. of hay and straw, in a mixture of 2 of the former and 1 of the latter, and 10 or 12 lbs. of Oats, will be good keep for a farm horse. As for straw for cattle, that altogether depends on what roots you give them. We have given them about 1 cwt. of roots, and about 14 or 16 lbs. of straw, cut into half-inch chaff, damped over with hot Linseed soup, so as to add 2 lbs. of Linseed to the straw, and then dusted over with 3 or 4 lbs. of Bean meal. There is no reason why uncut straw should be preferred to chaff in open yard any more than in stalls, that we are aware. We will endeavour shortly to state the case in a Leading Article.

"Rab ; or, Rhab" : *Woodfield.* It occurs in the list of agricultural provincialisms about to appear in a number of Blackie's Cyclopedia of Agriculture ; and the signification it there bears is "shaly subsoil." It is a term descriptive of loose shaly subsoil in South Wales, whatever formation it belongs to.

Root-Harvest : *A Young Farmer.* The following observations on this subject have already been published in a past volume :—"It will soon be time for the farmer to think of harvesting such portions of his root crops as he intends to

Fig. 1.

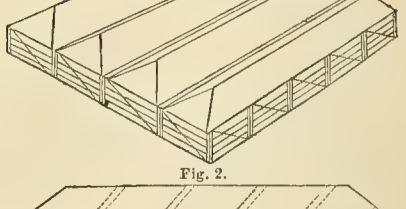
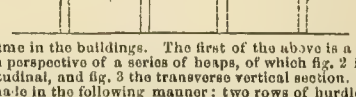


Fig. 2.



Fig. 3.



consume in the buildings. The first of the above is a drawing in perspective of a series of heaps, of which fig. 2 is the longitudinal, and fig. 3 the transverse vertical section. They are made in the following manner : two rows of hurdles are placed upon a firm piece of ground, parallel to one another, and 9 feet apart. The interval between these is filled with roots, the carts bringing them from the field being backed between them, and tilted up at the proper place. The roots are piled up above the hurdles in a ridged or roof-like form and are afterwards covered with straw, roughly drawn out as a thatch, which is kept in its place by the weight of long, poles resting upon it. At intervals of two or three yards faggots are placed in the centre of the heap, inclining backwards, and reaching from the ground to the roof (see *a, a, a*, fig. 2). These act somewhat as chimneys, and facilitate a due ventilation of the heaps, thus hindering any tendency to heating or putrefaction in the roots. When one heap is completed, another is built within a foot of it, the passage left being intended as a channel both for the egress of the water which drops from the thatch, and for the circulation of air. No

security against frost, at the sides of contiguous heaps, is required, further than that which is afforded by the interlocking of the bushy eaves of their respective roofs. When, however, a series of heaps has thus accumulated, as in fig. 1, a rough dead-wood hedge should be constructed around them (see section in fig. 2, and the space between it and the hurdles, which may be 12 or 18 inches, should be loosely filled with straw. We have annually kept many hundred tons of Swedes, Carrots, and Mangold Wurzel in this way, without losing any considerable portion by putrefaction. It fulfils the three conditions of success in the preservation of root crops through the winter—it furnishes security from the frost and wet, and at the same time provides a sufficient ventilation of the heaps. The harvesting of root crops is best done by piece-work. The harvesting of a good crop of Carrots has hitherto cost us from 17s. to 20s per acre—that of Swedes and Mangold Wurzel, from 6s. to 10s. For this sum the contractor pulls the roots, cuts off the leaves, fills the roots into carts, and gathers and loads the leaves also. In the operation of harvesting Carrots the spade is required; it is pressed into the ground, and used as a lever by the right hand, while, by the left, the root is pulled up. Each man lifts two rows as he proceeds, and four men forming a company, eight rows are thus pulled and laid regularly on the ground in two lines. Two women can top the roots, *i. e.* cut the leaves off them, as fast as this number of men can pull them; and, leaving the roots in a central row, they throw the leaves into two lateral ones, as they proceed. The carts, the number of which, varying according to the distance from the heaps, must be such as will convey the roots off the land as fast as they are ready, following close upon the cutters; a man and a boy will be able, under ordinary circumstances, to fill both roots and leaves into them as fast as those already mentioned can prepare them; and another man and a boy will be able to pile the roots up in the heaps, and thatch and finish them off as they proceed. We mention all these details, because it is all-important to the speed and economy of the operation that the forces employed in the different parts of it should be rightly proportioned to each other. The leaves, if they be already withered, may either be left on the ground and ploughed under, or, as on land already rich enough for grain crops, they may be carried away to the fold-yard and trod down by the cattle. When they are still green, they may be used as fodder. As long as leaves are green they remain useful in the growth of the plant. The only reason why we should harvest our Carrot crop before the roots have stopped growing, is their extreme sensitiveness to frost. This is so great, that it is of the greatest importance to secure before night all the roots pulled during each day; if they get frozen, though it be merely on the surface, it will be almost impossible to preserve them through the winter. We have but one more remark to make, and that is on the fact that rottenness, when it is owing to any external cause, always commences at any cut or bruised portion of the surface. It thus becomes of importance that the surface of the roots should be cut or abraded as little as possible. The root fibres should not be cut off at all, and the leaves should be cut off so far from the crown of the root, as that they may fall separated from one another. So far as our experience has hitherto gone, if these points be carefully attended to, and if such a plan of harvesting be adopted as fulfils the three requisites of success before alluded to, there is but little risk of the farmer losing much of his crop by heating or putrefaction before the spring.

WHITE MUSTARD: *J H P.* It is a well known fodder plant; of rapid growth, and useful whether as green manure or as sheep food. *See* vol. vii., p. 31, English Agricultural Society's Journal.

Markets.

COVENT GARDEN, Oct. 23.

Vegetables and Fruit in general continue plentiful, with the exception, perhaps, of Melons, which are becoming scarcer. Plums, Pears, Apples, and Peaches still arrive from France. Tomatoes are all but over. Filberts realise from 50s. to 65s. Potatoes are still rising in price. Mushrooms continue pretty plentiful. Cut flowers consist of Heaths, Pelargoniums, Roses, Mignonette, Bignonia venusta, and Fuchsias.

FRUIT.

Pine-apples, per lb., 3s to 6s	Lemons, per doz., 1s to 2s
Grapes, hothouse, p. lb., 2s to 6s	Pears, per doz., 1s 6d to 4s
Peaches, per doz., 10s to 15s	— per half sieve, 5s to 7s
Nectarines, per doz., 3s to 8s	Almonds, per peck, 5s
Plums, per punnet, 2s to 4s	— sweet, per lb., 2s to 3s
Figs, per doz., 1s 6d to 2s 6d	Nuts, Barcelona, per bush, 20s to 22s
Apples, dessert, p. bsh., 4s to 7s	— Brazil, do., 12s to 14s
— kitchen, do., 3s to 6s	Kent Cobs, 75s to 80s
Melons, each, 2s to 5s	

VEGETABLES.

Cabbages, per doz., 6d to 1s	Shallots, per lb., 6d to 8d
French Beans, per half sieve, 2s to 2s 6d	Garlic, per lb., 6d to 8d
Brussels Sprouts, p. hf. sieve, 1s to 2s	Lettuce, Cab., per score 4d to 6d
Cauliflowers, p. doz., 6d to 2s 6d	— Cos, p. score, 9d to 1s
Greens, per doz., 1s to 2s	Radishes, per doz., 8d to 1s
Tomatoes, per hf. sieve, 4s to 5s	— Turnip, 9d to 1s 6d
Potatoes, per ton, 85s to 140s	Endive per score, 1s to 1s 6d
— per cwt., 5s to 9s	Small Salads, p. pun., 2d to 3d
— per bush., 2s 6d to 4s 6d	Horse Radish, p. bundle, 1s to 3s
Turnips, per doz., 1s to 1s 9d	Mushrooms, p. pott., 9d to 1s 3d
Cucumbers, each, 2d to 6d	— per bush., 3s to 5s
Veget. Marrow, p. doz, 6d to 1s	Sorrel, per hf. sieve, 6d to 1s
Celery, per bundle, 9d to 1s 3d	Artichokes, per doz., 4s to 6s
Carrots, p. doz., 2s 6d to 4s	Fennel, per bunch, 2d to 3d
Spinach, per sieve, 1s to 2s	Savory, per bunch, 2d to 3d
Onions, per bunch, 2d to 4d	Thyme, per bunch, 2d to 3d
— Spanish, p. doz., 1s 3d to 3s	Parsley, p. doz. bnchs., 2s to 3s
Beet, per doz., 1s to 1s 6d	Mint, per bunch, 2d to 3d
Leeks, per bunch, 1d to 2d	Basil, green, p. bunch, 2d
	Marjoram, do., 2d to 3d
	Watercresses, p. 12 bun, 4d to 6d

HAY.—Per Load of 36 Trusses.

SMITHFIELD, Oct. 21.

Prime Meadow Hay	74s to 80s	Clover ...	... 80s to 95s
Inferior do.	... 60 70	New do. ...	... 65 84
Rowen ...	... 45 55	Straw ...	... 25 30
New Hay ...	... — —		E. J. DAVIS.

A short supply with a fair demand.

CUMBERLAND MARKET, Oct. 21.

Prime Meadow Hay	78s to 88s	Inferior Clover	... 75s to 84s
Inferior do.	... 60 72	New do. ...	... — —
New Hay ...	... — —	Straw ...	... 29 33
Old Clover ...	... 94 100		JOSHUA BAKER.

WHITECHAPEL, Oct. 21.

Fine old Hay	... 80s to 84s	Old Clover...	... 95s to 100s
New Hay ...	... 68 76	Inferior do.	... — —
Inferior do.	... 50 63	New Clover	... 85 95
Straw ...	... 26 30	Inferior do.	... 50 65

HOPS.—BOROUGH MARKET, Oct. 22.

Messrs. Pattenden and Smith report that the demand for fine Sussex Hops is on the increase, the very choicest bringing from 84s. to 90s. per cwt. The duty is still estimated from 255,000*l.* to 260,000*l.*

COAL MARKET.—FRIDAY, Oct. 22.

Hartley, 15s. 9d.; Eden Mein, 17s. 6d.; Wallsend Russell's Hetton, 17s. 9d.; Wallsend Haswell, 18s.; Wallsend Hetton, 18s.; Wallsend Stewarts, 18s.—Ships at market, 49.

SMITHFIELD.—MONDAY, Oct. 18.

The supply of Beasts is unusually large; trade is exceedingly slow for all kinds; however, choice descriptions do not suffer much reduction, but a large number of middling quality remain unsold. Sheep are also more plentiful; trade is worse, especially for big fat mutton. A clearance cannot be effected, although lower prices are submitted to. The supply of Calves exceeds the demand; consequently, on the average, prices are lower. Our foreign supply consists of 1924 Beasts, 6150 Sheep, 209 Calves, and 60 Pigs; from Ireland, 300 Beasts; from Scotland, 40; and 3400 from the northern and midland counties.

Per st. of 8lbs.—s d s d	Per st. of 8lbs.—s d s d
Best Scots, Herefords, &c. ... 3 6 to 3 8	Best Long-wools . 3 6 to 3 8
Best Short-horns 3 4 — 3 6	Do. Shorn ... 0 0 — 0 0
2d quality Beasts 2 0 — 2 10	Ewes & 2d quality 2 10 — 3 2
Best Downs and Half-breds ... 4 0 — 4 4	Do. Shorn ... ... 0 0 — 0 0
Do. Shorn ... ... 0 0 — 0 0	Lambs ... ... 0 0 — 0 0
	Calves ... ... 2 8 — 3 8
	Pigs ... ... 2 8 — 3 8

Beasts, 6357; Sheep and Lambs, 30,130; Calves, 271; Pigs, 440.

FRIDAY, Oct. 22.

The number of Beasts is large, and trade very slow; a considerable portion remains unsold, although still some choice qualities make as much as on Monday. There is not a very large supply of Sheep, sufficient, however, for the demand; prices remain unaltered. We are plentifully supplied with Calves; trade is very dull for them at a small reduction. Our foreign supply consists of 856 Beasts, 1990 Sheep, and 217 Calves; there are 250 Beasts from the northern and midland, and 104 Milch Cows from the home counties.

Per st. of 8lbs.—s d s d	Per st. of 8lbs.—s d s d
Best Scots, Herefords, &c. ... 3 6 to 3 8	Best Long-wools . 3 6 to 3 8
Best Short-horns 3 4 — 3 6	Do. Shorn ... ...
2d quality Beasts 2 0 — 2 10	Ewes & 2d quality 2 10 — 3 2
Best Downs and Half-breds ... 4 0 — 4 4	Do. Shorn ... 0 0 — 0 0
Do. Shorn ... 0 0 — 0 0	Lambs ... ... 0 0 — 0 0
	Calves ... ... 2 6 — 3 8
	Pigs ... ... 2 8 — 3 8

Beasts, 1367; Sheep and Lambs, 4,520; Calves, 341; Pigs, 390.

WOOL.

BRADFORD, THURSDAY, Oct. 21.—There is no change during the week in the demand, and the staplers hold firmly.

MARK LANE.

MONDAY, Oct. 18.—The supply of English Wheat from Essex and Kent to this morning's market was small, and sold on the terms of this day se'nnight. The arrival of foreign amounts to 48,695 qrs., which induces the buyers to hold off, and although there was a good inquiry the sale was limited; prices, however, must be written the same as last week. In Barrel Flour there is little doing.—The Barley trade is firm at the prices of Monday last.—A few parcels of fine English white Peas were taken at an advance of 1s. per qr., but inferior qualities are difficult to quit.—Beans and hog Peas are firm at late rates.—Oats meet a fair demand at the prices of this day se'nnight.

PER IMPERIAL QUARTER.	s. s.		s. s.
Wheat, Essex, Kent, & Suffolk...White	38—50	Red	32—44
— — fine selected runs...ditto	42—54	Red	38—48
— — Talavera	52—56		
— Norfolk	40—48	Red	—
— Foreign.....	34—54		
Barley, grind. & distil., 24s to 27s...Chev.	25—32	Malting .	27—29
— Foreign ...grinding and distilling	22—25	Malting .	26—29
Oats, Essex, and Suffolk.....	18—19		
— Scotch and Lincolnshire...Potato	18—22	Feed	17—19
— Irish .....Potato	17—20	Feed	17—19
— Foreign .....Poland and Brew	18—21	Feed	15—19
Rye	29—32	Foreign .	—
Rye-meal, foreign	—		
Beans, Mazagan.....29s to 31s.....Tick	30—33	Harrow .	30—33
— Pigeon .....32s — 35s...Winds.	38—40	Longpod	30—34
— Foreign .....Small	29—34	Egyptian	29—30
Peas, white, Essex and Kent.....Boilers	42—45	Suffolk...	44—46
— Maple.....32s to 35s.....Grey	30—33	Foreign .	32—44
Maize .....White	—	Yellow...	—
Flour, best marks delivered ...per sack	37—40		
— Suffolk .....ditto	25—32	Norfolk .	25—32
— Foreign..... per barrel	21—24	Per sack	28—34

FRIDAY, Oct. 22.—The arrivals of all grain this week have been moderate. To-day's market was fairly attended by country buyers, who took of the lower descriptions of Wheat at fully Monday's prices; in the better descriptions less business was done than on Wednesday, but former rates were fully maintained. Flour meets a current sale at our quotations. In floating cargoes from the Mediterranean a good business has been done during the week, at an improvement of 1s. per qr.; Ghirka is held for 42s., Polish Odessa 39s. 6d., Galatz, 39s., Rumelia 37s. 6d., all f. o. b., including freight and insurance.—Spring Corn of all sorts is held firmly at Monday's prices.

ARRIVALS THIS WEEK.

	Wheat.	Barley.	Oats.	Flour.
	Qrs.	Qrs.	Qrs.	
English ...	1940	2410	170	1650 sacks
Irish	—	—	100	
Foreign ...	6140	1350	6680	1630 sacks

IMPERIAL AVERAGES.

	Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Sept. 11.....	42 5	27 10	18 10	30 9	34 5	31 9
— 18.....	40 5	27 4	18 7	30 1	34 4	29 10
— 25.....	39 6	27 5	17 11	31 0	33 10	29 10
Oct. 2.....	38 9	27 4	17 4	30 5	33 10	30 0
— 9.....	38 5	27 5	17 6	28 10	34 0	30 4
— 16.....	37 10	27 8	18 0	30 1	34 1	30 4
Aggreg. Aver.	39 7	27 6	18 0	30 2	34 1	30 4

FLUCTUATIONS IN THE LAST SIX WEEKS' AVERAGES.

PRICES.	SEPT. 11.	SEPT. 18.	SEPT. 25.	OCT. 2.	OCT. 9.	OCT. 16.
42s 5d						
40 5						
39 6						
38 9						
38 5						
37 10						

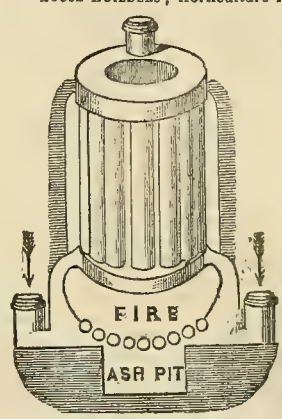
LIVERPOOL, TUESDAY, Oct. 19.—The arrivals from Ireland and coastwise during the past week have been fair of Oatmeal, but small of other articles. There was the usual attendance of the town trade at this morning's market, and only a limited consumptive demand was experienced for Wheat and Flour, at about Friday's prices, being an advance of 1d. to 2d. per 70 lbs. and 6d. to 9d. per barrel and sack since this day week. Oats and Oatmeal met with a moderate demand, at late rates. Barley, Beans, and Peas were in fair request, at an improvement of 1d. to 2d. per 60 lbs. on the former, and 6d. to 1s. per qr. on the two latter articles. Indian Corn afloat was not much inquired for.——FRIDAY, Oct. 15.—At our Corn Exchange this morning, a large business was done in Wheat and barrel Flour, at an advance of 2d. per 70 lbs. on the former and 6d. to 1s. per barrel on the latter article. Sack Flour was held at 1s. per sack more money, but the sale was limited. Oats and Oatmeal met with little attention, though offered at Tuesday's prices. The stocks of Barley, Beans, and Peas being now very limited, holders were enabled to realise extreme rates in the sales made. Indian Corn afloat was in good request, at 30s. 6d. to 31s. per qr.



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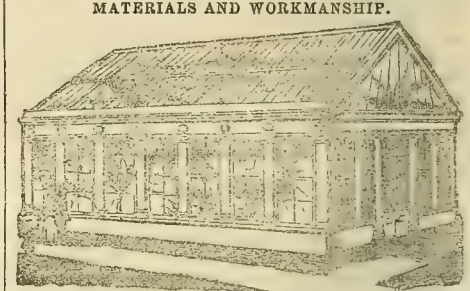
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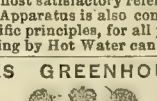
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HOTHOUSES GREENHOUSES, ETC.

BY HER MAJESTY'S ROYAL LETTERS PATENT.



BENCH, PATENT HOTHOUSE WORKS, KING'S ROAD, CHELSEA.—The superior qualities in every respect of these Structures having been proved in all parts of the United Kingdom, has caused a greater demand for them than E. D. could execute; he has been obliged to have perfect and powerful machinery made to meet the numerous orders, and can now execute any amount of work to great perfection, with dispatch, and for quality and price to defy all competition. Patent Hothouses, with excellent glass, 3 feet long by 1 foot wide, every front sash to open, and every top one to slide down, with pulley made of the same materials as the electric telegraph wires, which require no painting; delivered free to Wharf or Railway Station, at 1s. 2d. per foot super., complete, having been fitted, and every portion marked previously, making a Greenhouse 16 ft. 6 inches long, 12 ft. rafter, 400 ft., 23*l.* 6s. 8*d.*; 24 ft. 6 ins. long, do. do., 526 ft., 30*l.* 13s. 8*d.*; 28 ft. 6 ins. long, 15 ft. rafter, 712 ft., 41*l.* 10s. 8*d.* Heating by Hot Water on the most approved and economical principles.

Patent Sashes for Pits and Peach Walls, &c., 7*d.* and 8*d.* per foot, super.

"FRIGI DOMO."—A Canvas, made of prepared Hair and Wool, a perfect non-conductor of Heat and adapted to many Horticultural and Floricultural purposes for covering over frames where a fixed temperature is required. It is 2¼ yards wide, and of any required length, at 1s. 4*d.* per yard run.—Manufactured only by E. T. ARCHER, Carpet Manufacturer, 451, New Oxford-street, London.

CARSON'S ORIGINAL ANTI-CORROSION PAINT, especially patronised by the British and other Governments, the Hon. East India Company, the principal Dock Companies, most public bodies, and by the Nobility, Gentry, and Clergy, for out-door work at their country seats. The Anti-Corrosion is particularly recommended as the most durable out-door Paint ever invented, for the preservation of every description of Iron, Wood, Stone, Brick, Compo, Cement, &c., work, as has been proved by the practical test of upwards of 60 years, and by the numerous (between 500 and 600) testimonials in its favour, and which, from the rank and station in society of those who have given them, have never yet been equalled by anything of the kind hitherto brought before the public notice.

Lists of Colours, with Prices, together with a Copy of the Testimonials, will be sent on application to WALTER CARSON and SON, No. 9, Great Winchester-street, Old Broad-street, Royal Exchange, London.—No Agents. All orders are particularly requested to be sent direct.

ESTABLISHED MORE THAN 100 YEARS.

THOMAS MILLINGTON,

IMPORTER AND DEALER IN

GLASS FOR CONSERVATORIES, GREENHOUSES, GARDEN FRAMES, AND DWELLINGS.

WAREHOUSE, 87, BISHOPSGATE STREET WITHOUT, LONDON.

Cut to any size.	Squares not above 40 inches long. Per foot.
16 ounces	0s. 2½ d. to 0s. 3d.
21 ,, ...	0 3½ to 0 4
26 ,, ...	0 5 to 0 6
32 ,, ...	0 6½ to 0 8

Squares in Boxes 100 feet each.			
Under 6 by 4	12s	0d.
6 by 4, 6½ by 4	13	0
7 by 4, 7 by 6 } under 9 by 7	15	0
8 by 6, 8½ by 6½ }		
9 by 7, 8 by 8, 12 by 9, 12 by 10 }	20	0
13 by 10, 14 by 10, 15 by 10 ... }		

LARGE SHEET of No. 16, very superior, packed in cases of 100, 200, and 300 feet, at 2½d. to 2¼d. per foot.
HARTLEY'S and other ROUGH PLATE, from ½ to 1 inch thick.

Glass Milk Pans, Preserve Jars, Bee and Propagating Glasses, Plate Glass, Patent Plate, Plain, ornamental, and Coloured, as well as every description of Window Glass now manufactured. Glass Shades, round, oval, and square, for Clocks and Ornaments. Fern Shades and Dishes.

GLASS FOR CONSERVATORIES,
GREENHOUSES, PIT FRAMES, &c.

JAMES PHILLIPS AND CO. beg to hand their prices of SHEET GLASS for cash:

Cut to order in Panes not above 40 inches long. Per foot.	Packed in Boxes of 100 feet each. £. s. d.
16 oz. ... ... 2¾d. to 3d.	6 by 4, 6½ by 4½ ... 0 13 0
21 do. ... ... 3½d. to 4¼d.	7 by 5, 7½ by 5½ ... 0 15 0
26 do. ... ... 3¾d. to 4½d.	8 by 5, 8 by 5½ ... 0 15 0
32 do. ... ... 6½d. to 8d.	8 by 6, 8½ by 6½ ... 0 15 0
	9 by 7, 10 by 8 ... 1 0 0

Various sizes of 16 oz. Sheet Glass, such as 12 by 9, 12 by 10, 13 by 10, 14 by 10, and 15 by 10, packed in boxes at 18s. per 100 feet.

Packed in Crates of 300 feet at 2½d., 16 ounces to the foot, or 14 ounces 2¾ d.

PATENT SHEET GLASS,

Sold in cases containing 25 sheets, 48 inches long by 36 inches wide—300 feet, at 3l. 9s per case, net cash. Especial attention is directed to the size, 48 by 36 inches, containing 12 superficial feet, and weighing from 16 to 17 oz. to the foot, which is the largest ever made.

FOREIGN SHEET GLASS, of very superior quality, packed in cases of 200 feet, and in sizes varying from 36 by 26 to 44 by 30 inches, at 33s., 40s., to 42s. per case.

Milk Pans, from 2s. to 6s. each, Propagating and Bee Glasses, Cucumber Tubes, Lactometers, Lord Camoys' Milk Syphons, Tiles and Slates, Wasp Traps, Plate, Crown, and Ornamental Glass, Shades for Ornaments, Fern Shades, and every article in the Trade.

HORTICULTURAL GLASS WAREHOUSE, 116, Bishopsgate-street Without, London.

GLASS FOR CONSERVATORIES, ETC.

HETLEY AND Co. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2d. to 3d. per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices and Estimates forwarded on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLATES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to JAMES HETLEY and Co., 35, Soho-square, London.

See *Gardeners' Chronicle* first Saturday in each month.

SOHO GLASS WAREHOUSE, 26, SOHO SQUARE.

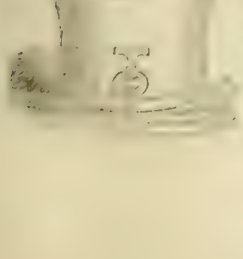
ALFRED GOSLETT begs to inform consumers of Glass for Horticultural purposes that he supplies the following descriptions, either in crates, as manufactured, AT REDUCED PRICES, or cut to any given size:—ENGLISH CROWN and SHEET GLASS of every weight manufactured. HARTLEY'S PATENT ROLLED ROUGH GLASS, one-eighth, three-sixteenths, and one-quarter inch thick. BELGIAN SHEET GLASS, in cases, containing 200 feet, or one given size, at 40s. per case, in parcels of five cases at 38s., and in parcels of 10 cases, at 37s. per case, FOR CASH; or cut to order at 3d. per foot superficial. Estimates or any further particulars will be forwarded upon application.

WATERPROOF PATHS.

—Those who would enjoy their Gardens during the winter months should construct their walks of PORTLAND CEMENT CONCRETE, which are formed thus:—Screen the gravel of which the path is at present made from the loam which is mixed with it, and to every part of clean gravel add one of sharp river sand. To five parts of such equal mixture add one of Portland Cement, and incorporate the whole well in the dry state before applying the water. It may then be laid on 2 inches thick. Any labourer can mix and spread it. No tool is required beyond the spade, and in 48 hours it becomes as hard as a rock. Vegetation cannot grow through or upon it, and it resists the action of the severest frost. It is necessary, as water does not soak through it, to give a fall from the middle of the path towards the sides.—Manufactured of the Cement, J. B. WHITE and Sons, Millbank-street, Westminster.

PURE WATER.

THE ASBESTOS FILTER.—MANUFACTURERS, TAYLOR AND PEARS, LATE OXLEY AND CO., 2, George-yard, Lombard-street, London.



EXTRACT FROM "LANCET," *June 26*, 1852.

"The Asbestos Filter of Messrs. Oxley and Co. is the best Filter hitherto constructed. Its superiority consists in the following circumstances:—First, The filtering media are composed of layers of Asbestos and river sand, so arranged as to admit of being readily removed and cleansed from time to time, from the impurities derived from the water which passes through them. Second, The mineral, Asbestos, is substituted for the ordinary charcoal sponge, the advantages of the former being, that it is not liable to become, like sponge, putrescent, and that it may be easily and quickly cleansed. As the public are still condemned to drink filthy Thames water, no family having regard to cleanliness and health should be without any efficient filter."

EMIGRANTS' TENTS, HOUSES, AND CARTS.

—Strong Canvas Tent, 12 feet square, 6 feet high in the lowest part, 5l. each; ditto, with boarded sleeping loft, a dry secure Tent, and requiring no lines to keep it up, 8l. 10s., with wirework 6 feet high all round, and wire door, 16s. extra; this is the best Tent yet invented. Tents, 10 feet square, 4l.; 9 feet, 3l.; 8 feet, 2l.; all 6 feet high in the lowest part. Soldiers' Bell Tents, 42 feet round, 3l.; Iron and Wood Houses, from 8l. Drawings and full details of Houses and Tents sent.

Carts, 6 feet long, 4 feet wide, 8l. each; ditto, 7 feet long, 4 feet wide, with hoops and awning, 11l.; when tail board and front is let down like a dog cart, you have 11 ft. by 4 ft. covered in by the awning, a tarpauling to come to the ground all round, enclosing the wheels and the whole Cart round. Gold Washing Machines, and various Tools for Emigrants' Cots, 7s.; Hammocks, with mattress and pillow, 5s. 6d. each, complete.

R. RICHARDSON, corner of Judd-street, New Road, near King's Cross, London.—N.B. Several Tents may be seen up, and Carts in course of construction.

GARDEN FRAMES, GREENHOUSES, PITS, &c.

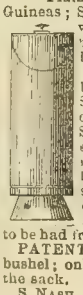
—TRANSPARENT SHEETING, a substitute for Garden Mats, admitting light to plants, and keeping out frost, 1s. per yard, runs nearly 2 yards wide; thick canvas ditto, 1s. per square yard; large waterproof capes, to protect a man from wet while stooping down, 3s.; cart and waggon covers, 2s. per square yard; made-up horses' loin cloths, driving aprons, &c. R. RICHARDSON, 21, TONBRIDGE PLACE, NEW ROAD, LONDON.

N.B. 3000 London Police Waterproof Capes, fresh dressed, 18s. and 24s. per dozen, for gardeners and farm labourers.

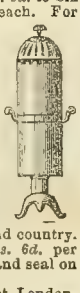
A small Fire Engine for sale, price 10l., with a quantity of Hose, &c., complete for use.

THE ONLY STOVE WITHOUT A FLUE.

—Plain, from 12s. to 25s.; Ornamental, from 31s. 6d. to Six Guineas; Stands for Stoves, 2s. 6d., 3s., and 5s. each. For which her Majesty's Royal Letters Patent have been granted. Prospectus, with Drawings and Report, forwarded free.



JOYCE'S PATENT for warming Halls, Passages, Greenhouses, Water-closets, Shops, Store-rooms, and all places requiring artificial warmth. The above Stoves do not emit smoke or unpleasant smell, and will burn without attention or replenishing from twelve to twenty-four hours. To be seen in use daily, at the sole Proprietor's, S. NASH, Ironmonger, &c., 253, Oxford-street, and at the City Depot, 119, Newgate-street, London; and to be had from the principal Ironmongers in town and country.



PATENT PREPARED FUEL for the Stoves, 2s. 6d. per bushel; only genuine with the Proprietor's name and seal on the sack.

S. NASH, 253, Oxford-street, and 119, Newgate-street, London, Sole Manufacturer of the Portable Economical Vapour Bath, for Families, Travellers, &c. &c., complete with Large Cloak, 1l. 11s. 6d. Medical Testimonials forwarded on application.

A NEW STOVE.—GREAT NOVELTY.

—In the construction of the BURTON REGISTER STOVE, it was the first care of the inventor, WILLIAM S. BURTON, to avail himself of the most valued of modern improvements in the art of heating, and secondly, so to modify and alter the receptacle for the coals, as at once to obtain the simplest and most perfect combustion; after a long series of experiments, he has, by the substitution of a graceful form of shell for the present clumsy and ill-adapted bars, succeeded in producing a stove which for soft and brilliant light, as well as purity and quantity of heat, is far beyond his most sanguine expectations, while for cleanliness and cheerfulness it is utterly unapproachable. Price from 56s. to 15l. To be seen in use daily in his show-rooms, where also are to be seen

250 STOVES and 325 FENDERS (exclusive of reserved stock) all differing in pattern, forming the largest assortment ever collected together. They are marked in plain figures, and at prices proportionate with those that have tended to make his establishment the most distinguished in this country. Bright stoves, with bronzed ornaments and two sets of bars, 2l. 14s. to 5l. 10s.; ditto with ormolu ornaments and two sets of bars, 5l. 10s. to 12s. 12s.; bronzed fenders complete, with standards, from 7s. to 3l.; steel fenders, from 2l. 15s. to 6l.; ditto, with rich ormolu ornaments, from 2l. 15s. to 7l. 7s.; fire-irons, from 1s. 9d. the set to 4l. 4s. Sylvester and all other patent stoves, with radiating hearth-plates; and kitchen ranges, which he is enabled to sell at these very reduced charges.

First—From the frequency and extent of his purchases; and

Secondly—From those purchases being made exclusively for cash.

WILLIAM S. BURTON has TEN LARGE SHOW ROOMS (all communicating), exclusive of the shop, devoted solely to the show of GENERAL FURNISHING IRONMONGERY (including Cutlery, Nickel Silver, Plated, and Japanned Wares, Iron and Brass Bedsteads), so arranged and classified that purchasers may easily and at once make their selections.

Catalogues, with Engravings, sent (per post) free. The money returned for every article not approved of.

39, OXFORD STREET (corner of Newman-street); Nos. 1 and 2, NEWMAN STREET; and 4 and 5, PERRY'S PLACE.

WATERPROOF CAPES,

so as to effectually protect a man from wet while stooping down, 3s. each, suitable for Coachmen, Gardeners, Gamekeepers, Watchers, Carmen, Horse-drivers, Porters, and Agricultural Labourers. Three thousand London Policemen's second-hand Capes, re-dressed, 18s., and 24s. per dozen. Waggon and Cart Covers, Horses' Loin Cloths, Waterproof Coats, Driving Aprons for Gigs, Dog-carts, and Omnibuses, &c.—R. RICHARDSON, 21, Tonbridge-place, corner of Judd-street, New-road, London.

N.B.—Transparent Sheeting, nearly 2 yards wide, 1s. per yard. One thousand yards thick Tarpaulin, second-hand, 1s. per square yard, made up.

ANTI-CHOLERA PRECAUTIONS.

THE COMFORT OF A FIXED WATER-CLOSET for 1l.—Places in gardens converted into comfortable water-closets by the PATENT HERMETICALLY-SEALED PAN, with its self-acting water trap valve, entirely preventing the return of cold air or effluvia. Price 1l. Any carpenter can fix it in two hours. Indispensable for health in case of the Cholera. Also Patent Hermetically-Sealed Inodorous Commodes for the sick room: price 1l. 4s., 2l. 6s, and 3l. A prospectus with engravings, forwarded by enclosing a post stamp.

At FYFE & Co.'s, 26, Tavistock-street, Covent Garden, London.

LAMPS OF ALL SORTS AND PATTERNS.

—The largest, as well as choicest assortment of PALMER'S MAGNUM and other LAMPS—CAMPHINE, ARGAND, SOLAR, and MODERATEUR LAMPS, with all the latest improvements, and of the newest and most recherché patterns, in ormolu, Bohemian, and plain glass, or papier maché, in existence—is at W. S. BURTON'S, and they are arranged in one large room, so that the patterns, sizes, and sorts can be instantly selected.

WILLIAM S. BURTON has TEN LARGE SHOW ROOMS (all communicating), exclusive of the shop, devoted solely to the show of GENERAL FURNISHING IRONMONGERY (including cutlery, nickel silver, plated, and japanned wares, iron and brass bedsteads), so arranged and classified that purchasers may easily and at once make their selections.

Catalogues, with engravings, sent (per post) free. The money returned for every article not approved of.

39, OXFORD-STREET (corner of Newman-street); Nos. 1 and 2, NEWMAN-STREET; and 4 and 5, PERRY'S-PLACE.

HEAL AND SON'S EIDER DOWN QUILTS

are made in three varieties—The BORDERED QUILT, the PLAIN QUILT, and the DUVET. The Bordered Quilt is in the usual form of bed quilts, and is a most elegant and luxurious article. The Plain Quilt is smaller, and is useful as an extra covering on the bed, as a wrapper in the carriage, or on the couch. The Duvet is a loose case filled with Eider Down, as in general use on the Continent.

List of Prices and Sizes sent free by post, on application to HEAL and SON'S Bedding Factory, 196, Tottenham Court Road, London.

BERDOE'S WINTER OVER-COATS AND SHOOTING JACKETS.

—A very large stock of superior garments in every improved material and style, and of every degree of warmth, or lightness, guaranteed to resist any amount of rain; at charges reduced to the lowest point consistent with the principle that an article to be really cheap must be good. Every size also of the WATERPROOF PALLIUM, the well known Light Over-Coat, for all seasons (price 45s.) Riding and Driving Capes, Leggings, Boys' Over-Coats and Capes, also Cloaks, Mantles, Habits, &c. for LADIES, all thoroughly impervious to rain, WITHOUT OBSTRUCTING FREE VENTILATION, the fatal objection to all other waterproofs.—W. BERDOE, TAILOR AND OVER-COAT MAKER, 96, NEW BOND STREET, and 69, CORNHILL (only.)

MOST IMPORTANT DISCOVERY.—BEAUTIFUL TEETH, and no more Toothache.

Under the immediate patronage of the Court, the Marquis of Headfort, the Clergy, Captains of the Army and Navy, Physicians, Surgeon Dentists, &c. See Testimonials with the Compound. GRAHAM'S LIQUID BOTANICAL DENTIFRICE, for preserving and beautifying the Teeth; it prevents toothache and purifies the breath. It is highly recommended to all who have artificial and defective teeth. Prepared and sold by JAMES GRAHAM, Bognor, and his agent, Mr. Sanger, 150, Oxford-street, London; and all chemists and perfumers. Price 1s. 1½d. per box.—N.B. It is also highly recommended after smoking, for purifying the breath, and is most refreshing to the mouth on a sea voyage, and is very much used. Every family should use this compound. Beware of spurious imitations.

A CERTAIN REMEDY FOR INFLUENZA, COUGHS, COLDS AND ASTHMA

SPENCER'S PULMONIC ELIXIR.

—For the nursery it is invaluable, as it is as agreeable to the palate as it is useful in all cases of hooping-cough, chin-cough, or common coughs arising from colds, teething, &c. To invalids, whose ailments are increased by frosty and foggy weather, it is a never-failing source of comfort and ease from suffering, enabling them to breathe with freedom during the keenest frost and thickest fog; in fine, it possesses every property which can be beneficial in cases of Coughs, Colds, Asthma, and all complaints of the Chest and Lungs. It is of the greatest importance in complaints of the chest to attend strictly to the state of the bowels; therefore, should they be costive, the patient should use a gentle aperient. "PARR'S LIFE PILLS" are, from their mild operation, peculiarly adapted to aid the Elixir in effecting a cure.

IMPORTANT CAUTION. NOTICE.—Persons desirous of testing the efficacy of this medicine must observe that on each bottle are the words "SPENCER'S PULMONIC ELIXIR," and that each wrapper has a fac-simile of the Proprietor's signature, *T. Roberts & Co.*

Prepared only by T. Roberts and Co., Crane-court, Fleet-street, London; and sold by E. Edwards, 67, St. Paul's Churchyard; Barclay and Sons, Farringdon-street; Sutton and Co., Bow Churchyard; Sanger and Co., Oxford-street, London; and by all respectable Medicine Vendors in the Kingdom. In bottles, at 1s. 1½d. and 2s. 9d. each.

SOUND AND WHITE TEETH

are not only indispensably requisite to a pleasing exterior in male and female, but they are peculiarly appreciated through life as a blessing highly conducive to the purposes of health and longevity. The great esteem in which the public have long held

ROWLANDS' ODONTO, OR PEARL DENTIFRICE,

precludes the necessity here of entering into a minute detail of its merits, and the singular advantages it so eminently possesses over the usual powders sold for the teeth. It is sufficient to observe that ROWLANDS' ODONTO is a pure preparation of the most efficient EASTERN HERBS, which not only has the property of rendering the above beautiful organs of the mouth dazzlingly white, but it strengthens their organic structure, and fulfils the pleasing task of rendering the breath sweet and pure. It should never (in particular) be forgotten that, when used in early life, it effectually prevents all aches in the Teeth and Gums—effaces all spots and discolourations whatsoever—eradicates scurvy—and, in a word, soon realises the chief attribute of Health and Beauty—A FINE SET OF PEARLY TEETH!

Price 2s. 9d. per box.

*** BEWARE OF SPURIOUS IMITATIONS. The genuine article has the words "ROWLANDS' ODONTO" on the Label, and "A. Rowland and Sons, 20, Hatton Garden," engraved on the Government Stamp affixed on each box. Sold by them, and by Chemists and Perfumers.

HOLLOWAY'S OINTMENT AND PILLS FOR THE CURE OF WOUNDS IN THE LEG.

—Extract of a letter from Mrs. Simpson, of Bramley, near Leeds, dated October 16, 1852. "To Professor HOLLOWAY. Sir,—I was afflicted for 18 months with a very bad leg, in which there were three deep wounds; I tried all kinds of remedies and was under the care of different surgeons here and at Leeds, but derived no benefit from their treatment. I was at length advised to resort to your Ointment and Pills, and I am happy to say that by the use of these valuable medicines my leg is completely cured and as sound as ever it was."—Sold by all Druggists, and at Professor HOLLOWAY'S Establishment, 244, Strand, London.

FRUIT TREES.

THOMAS RIVERS begs to submit to the Public a SYNOPSIS of his FRUIT TREE CULTURE. The names of varieties, with descriptions and prices, are given in his descriptive Catalogue of Fruits, just published, sent post free for six postage stamps.

APPLES. — Standards for Orchards, and Pyramids and Dwarfs, on Crab Stocks; Pyramids and Dwarfs, and Dwarfs Trained, for Gardens, on Paradise Stocks.

APRICOTS.—Dwarfs, Dwarf Trained, Standards, Standards Trained, and Dwarf Bushes in pots for culture under glass.

CHERRIES.—Standards for Orchards, Dwarfs, and Dwarfs Trained on the common wild Cherry Stock, Dwarfs for Bushes or for potting for culture under glass, Dwarfs in pots, and Dwarfs trained on the Cerasus Mahaleb stock.

CURRANTS.—Bushes and Pyramids.

FIGS.—Dwarf Bushes in a bearing state, in pots.

GOOSEBERRIES.—Bushes, 80 large Lancashire varieties, 20 small high-flavoured ditto.

GRAPES.—Vines, from eyes, in pots, for Vineries and Hothouses, fine and well ripened under glass; Ditto hardy kinds for walls, also from eyes growing in the open quarters; plants fine, 7 to 8 feet in height; Dwarf Bushes, in pots, for culture in orchard houses.

MEDLARS.—Standards, Dwarfs, and Pyramids.

NECTARINES AND PEACHES.—Dwarfs, Dwarfs trained, Standards, Standards trained, and Dwarf Bushes in pots in a bearing state, for culture under glass.

NUTS AND FILBERTS.—Dwarfs and Standards for garden culture, the latter grafted on the Spanish Hazel Nut. These form very prolific trees.

PEARS.—Standards for Orchards, Pyramids, Dwarfs, and Dwarfs trained on Pear stocks; Pyramids from one to six years old, 1*s.* 6*d.* to 3*s.* 6*d.* and 5*s.* each; the two latter descriptions capable of bearing a good crop the first summer after planting. Dwarf bushes for potting and Dwarfs trained for espaliers or walls on Quince stocks. Many acres are devoted exclusively to the culture of Pears.

PLUMS.—Standards for Orchards, Standards trained, Pyramids, Dwarfs and Dwarfs trained for espaliers or walls. The Pyramids are nearly all in a bearing state, so as to be able to give fruit the first summer after planting. Dwarf Bushes in a bearing state, and Dwarf Bushes in pots for culture under glass.

QUINCES.—Standards of the common, and Pyramids of the large Portugal Quince, the finest and most abundant bearer, even when young, of all the Quinces.

RASPBERRIES.—Canes of all the select varieties.

STRAWBERRIES.—Plants of all the varieties worthy of cultivation.

MULBERRIES.—Standards and Dwarfs. Some fine Standards can be supplied 35 to 40 years old. These are 6 to 7 feet high, perfectly straight, and measure from 8 to 16 inches in girth, 5 feet from the ground. They have all been removed within three years, and will transplant with safety.

In connection with fruit tree culture, the following works can be supplied:—THE MINIATURE FRUIT GARDEN; or, the Culture of Pyramidal Fruit Trees. Fourth edition. Sent free per post, for 24 postage stamps. THE ORCHARD HOUSE; or, the Culture of Fruit Trees in Pots under Glass. By Thos. Rivers. Per post for 30 postage stamps.

Sawbridgeworth, Herts, Oct. 23.

S. WILSON AND SON have to offer for Sale at very low prices, Scotch, Spruce, Larch, and Silver FIRS, from 2 to 6 feet; large Poplars, Horse Chestnuts, Beech, Laurels and other Shrubs and Forest Trees; dwarf-trained Peaches, Nectarines, and Plums, and Standard Roses. Also a large collection of Fuchsias, Chrysanthemums, Geraniums, and Verbenas.—Applications for prices, &c., to be made to the Nursery, Ilford, Essex.

On the 30th inst. will be published, price One Shilling, the Ninth Number of

BLEAK HOUSE. By CHARLES DICKENS. With Illustrations by Hablot K. Browne. To be completed in Twenty Numbers, uniform with "David Copperfield," &c.

Bradbury and Evans, 11, Bouverie-street.

On the 30th inst. will be published, price One Shilling, the Eleventh Number of

MR. SPONGE'S SPORTING TOUR. By the Author of "Handley Cross," "Jorrocks's Jaunts," &c. Illustrated with One Coloured Engraving and numerous Woodcuts, by John Leech.

Numbers I. to XI. may be had by order of any Bookseller or Newsvendor, and at all Railway Stations.

Bradbury and Evans, 11, Bouverie-street.

On the First of November will be Published, price 2*s.* 6*d.*,

PUNCH'S POCKET-BOOK FOR 1853. With a Coloured Plate by John Leech, and numerous Wood Engravings by John Leech and John Tenniel.

Punch Office, 85, Fleet-street.

Second Edition, 8vo, price 5*s.* 6*d.*, cloth,

GLENNY'S HAND-BOOK OF PRACTICAL GARDENING, containing Plain Instructions for every Operation connected with the Ground, including Landscape Gardening.

GLENNY'S HAND-BOOK TO THE FLOWER-GARDEN AND GREENHOUSE, containing a Calendar of Monthly Operations. Price 5*s.* 6*d.*

GLENNY'S HAND-BOOK TO THE FRUIT AND VEGETABLE GARDEN, containing a Calendar of Monthly Operations. Price 7*s.* 6*d.*

THE HORTICULTURAL MAGAZINE, in 61 Shilling Parts, or in Five Volumes handsomely bound. Price 16*s.* each, containing Directions for the cultivation of all the principal Show Flowers.

THE STANDARD OF PERFECTION FOR THE PROPERTIES OF FLOWERS AND PLANTS; originated and defined by George Glenny, F.H.S. Third Edition. Price 1*s.*

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Also, GARDENING FOR CHILDREN, by Rev. C. A. Johns. Price 2*s.* 6*d.*—Post free, 6*d.* extra, each.

George Cox, 18, King-street, Covent Garden.

Sales by Auction.

NURSERY STOCK.

TO GENTLEMEN, NURSERYMEN, BUILDERS, & OTHERS.

MESSRS. PROTHEROE AND MORRIS will Sell by Auction, on the Nursery Ground adjoining York-place, Stoke Newington, on MONDAY, October 25, and following day, at 11 o'clock each day—fine Ornamental and Deciduous Trees, Evergreens, and Flowering Shrubs—consisting of Aucubas, Portugal and common Laurels, Variegated and Green Hollies, Arbor-vitæ, Bays, Ivies, Lilacs, Arbutus, Box, Limes, Acacias, Poplars, Evergreen Privet, Azaleas, and fine Rhododendrons well set with bloom buds. A fine assortment of Fruit Trees, comprising Standard and Dwarf-trained Peaches, Apricots, Nectarines, Cherries, Plums, Pears, Gooseberries, Currants, Grape Vines, &c. May be viewed prior to the Sale.—Catalogues may be had on the Premises; of the principal Seedsmen; and of the Auctioneers, American Nursery, Leytonstone, Essex.

ESCHOL NURSERY.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, BUILDERS AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will sell by Auction on the premises, Eschol Nursery, Haverstock-hill, Camden-town, on WEDNESDAY, October 27, and following days, at 11 o'clock each day, (by order of the proprietor, in consequence of the ground being let for building purposes), the whole of the valuable NURSERY STOCK, consisting of Forest, Fruit, Ornamental Trees, and Deciduous Shrubs, with a large assortment of fine Evergreens in great variety.—Catalogues are being prepared and may be had on the premises; of the principal Seedsmen in London; and of the Auctioneers, American Nursery, Leytonstone, Essex.

N.B. The whole of the Greenhouses, Pits, and Utensils in trade, together with the choice Greenhouse Plants, will be submitted to public competition early in the spring.

DEPTFORD.

TO GENTLEMEN, NURSERYMEN, FLORISTS, ETC.

MESSRS. PROTHEROE AND MORRIS are instructed (by Mr. F. Warner) to submit to public competition by Auction, on the premises, adjoining Albert-terrace, New Cross, Deptford, on MONDAY, November 1, at 11 o'clock, the whole of the NURSERY STOCK of Evergreens and Fruit Trees, comprising Chinese Arbor-vitæ, Irish Yew, Red Cedar, Green Holly, Upright Cyprus, Pinus excelsa, morinda; Cedrus Deodara, Araucaria imbricata, Silver and Spruce Firs, Camellias, and Azalea indica, &c.; Standard and Dwarf trained Apricot, Plum, Pear, Apple, Raspberry, Gooseberry, Currant, and Strawberry (sorts), fine standard Mulberries, &c. A large quantity of Mitchell's Prince Albert Rhubarb, Asparagus, Seakale, and Early Potato (sorts); also, the erection of two sheds, sundry tools, &c.—May be viewed prior to the sale; Catalogues had on the premises; of Messrs. Dawe, Cottrell, and Benham, 36, Moorgate-street; of the principal seedsmen; and of the Auctioneers, American Nursery, Leytonstoue, Essex.

PADDINGTON.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, PELARGONIUM EXHIBITORS, AND OTHERS.

MESSRS. PROTHERGE AND MORRIS are favoured with instructions from Mr. R. Stains, to submit to public competition by Auction, on the premises, Maida Vale, Edgeware Road, Paddington, on FRIDAY, 5th November, at 11 o'clock, in consequence of the land being required for building purposes, the whole of the valuable GREENHOUSE PLANTS, comprising choice show and Cape Pelargoniums, consisting of Beck's Rosa, Foster's Shylock, Ariadne, Enchantress, Lavina, Purple Perfection, Vandyke, Rubens, Pulchra, Monteith, Hoyle's Ajax, Nectar Cup, Rous's Abbi, Fouquett's Magnificent, and all the leading varieties; a fine collection of Herbaceous Plants, Standard Roses, Box Edging, &c.; together with four capital Greenhouses, erection of Cottage, several Pits, 1, 2, and 3-light Boxes, Hand-lights, 500 feet of Hot-water Pipe, two Boilers, Furnaces, Bricks, York Paving, Tiles, 24-inch Garden Roller, Fumigator (Brown's), Syringe and Pump (Reed's), Garden Seats, Thermometers, Water Tubs, Cans, Garden-pots; a quantity of rotten Compost and Manure, a useful Nag, a capital Tumbrel Cart and Harness, and sundry other effects.—May be viewed two days prior to the sale. Catalogues had (6*d.* each, returnable to purchasers), on the premises, the Hero of Maida; of the principal Seedsmen in London; and of the Auctioneers, American Nursery, Leytonstone, Essex.

WOOLWICH.

TO GENTLEMEN, NURSERYMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS are directed to sell by Auction, on the premises, Bowater Nursery, Woolwich, on WEDNESDAY, November 10th, and following days, at 11 o'clock each day (by order of Mr. C. A. Williams, the Lease having expired), the whole of the valuable NURSERY STOCK of Evergreens, Fruit and Ornamental Trees, consisting of fine Aucuba, Arbutus, China Arbor-Vitæ, Sweet Bays, Phillyreas, Yew, varied and green Hollies, Euonymus, Privet, Laurestinus, Alaternus, Rhododendrons, Kalmia, Azaleas, Spruce Firs, Standard and Dwarf Roses, Cotoneaster, Clematis, Jasmine, Virginian Creeper, Aristolochia, Irish Ivies, Herbaceous Plants, &c., in pots, Laburnum, Poplar, Weeping Ash, Lime, Elm, Lilac, Thorns, Standard and Dwarf-trained Peach, Nectarine, Apricot, Plum, Cherry, Apple, Pear, Gooseberries, Currant, Rhubarb, &c.—May be viewed prior to the Sale; Catalogues may be had (6*d.* each, returnable to purchasers) on the premises; of the principal seedsmen in London; and of the Auctioneers, American Nursery, Leytonstone, Essex.

ROTHERFIELD, NEAR TONBRIDGE WELLS.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS are instructed by Mr. Field (who is declining business), to submit to an unreserved Sale by Auction, on the premises, Steel Cross Nursery, Rotherfield, Sussex, on MONDAY, November 15th, and following days, at 11 o'clock each day, the whole of the healthy and well-grown NURSERY STOCK, consisting of about 200,000 Forest, Ornamental, and Fruit Trees; 20,000 evergreens; also 600,000 Quick; fine American Plants, together with a large quantity of Seedling Ash, Alder, &c. May be viewed prior to the Sale. Catalogues may be obtained on the premises, the George Inn, Rotherfield; Star Inn, Mayfield; Queen's Head Inn, Wadhurst, Sussex; Crown Hotel, Tonbridge; Swan Inn, Tonbridge Wells; of the principal Seedsmen in London; and of the Auctioneers, American Nursery, Leytonstone, Essex.

CAMELLIAS AND OTHER PLANTS,

FROM THE NURSERY OF MR. JOSEPH BAUMANN, OF GHENT.

MR. J. C. STEVENS will sell by Auction, at his Great Room, 38, King-street, Covent Garden, on FRIDAY, October 29, at 12 for 1 o'clock, CAMELLIAS of the best sorts, well set with bloom, Deutzia gracilis, yellow Rhododendrons, Azalea indica, Ghent Azaleas, Gladioli, and some Orange trees, all healthy and well-grown plants.—May be viewed the day prior and morning of sale, and Catalogues had of Mr. J. C. Stevens, 38, King-street, Covent Garden.

HORNSEY ROAD.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, BUILDERS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS have received instructions from Mr. Pamplin to submit to an unreserved Sale by Auction, on the premises, Paradise Nursery, Hornsey-road, Islington, on TUESDAY, Nov. 2d, and following day, at 11 o'clock each day, the whole of the valuable NURSERY STOCK, consisting of a very superior assortment of fine Evergreens, Fruit, and Ornamental Trees, comprising Green and Variegated Hollies, Box, Arbor-Vitæ, Laurestinus, Phillyreas, Red Cedars, Arbutus, Portugal and Common Laurels, Bays, Euonymus, Alaternus, Yews, Aucuba, Cypress, &c.; also Apples, Pears, Cherries, Plums, Gooseberries, and Currants; Planes, Limes, Thorns, with fine Rhododendrons, Azaleas, Andromeda floribunda, well set with bloom, Box Edging, &c.—May be viewed and Catalogues had prior to the sale, on the premises; of the principal Seedsmen in London; and of the Auctioneers, American Nursery, Leytonstone, Essex.

N.B. The valuable Lease to be sold or let.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MR. J. RAWLINGS will sell by Auction, at the Mart, Bartholomew-lane, on TUESDAY and THURSDAY, October 26th and 28th, at 12 o'clock, a first-class collection of DUTCH BULBS, and about 500 fine Standard and Climbing Roses, comprising all the best varieties.—May be viewed the morning of sale; and Catalogues had at the Mart; and of the the Auctioneer, Ebenezer Nursery, Shacklewell.

CHOICE COLLECTION OF TULIPS.

MR. ALEXANDER will sell by Auction, at the Mart (near the Bank of England), on WEDNESDAY, Nov. 3d, at 12 o'clock, the remaining portion of the well-known Collection of TULIPS, the property of the late Mr. W. New (of the Derby Arms, Kirkdale). They comprise Gibbon's Princess Royal, Enchantress, Maid of Orleans, Maid of Athens, Countess of Harrington, Lady Flora Hastings, Purple Perfection, Chellaston Beauty, Britannia, Prince Albert, Sable Monarch, Wood's Van Amburgh, Thalia, Louis XVI., George Glenny, Salvator Rosa, Pandora, David, &c. Among the Roses, Anastasia, King of Scarlets, Lady Leicester, Lady Stanley, Lady Vernon, Miss Catharine, Dixon's Bion, Jeffery's Elizabeth, Mary Lamb, Headley's Rose Ellen, Countess of Eglinton, Lady Boyle, Camuse de Craix, Rose Lac, &c. The Bizarres comprise Pilot, Strong's King, Competitor, Tricolor, Shakespeare, Apelles, Marcellus, Pompe Funebre, Coronation, New's Lewis, Lord Lilford, &c. The whole will be sold without the least reserve. —May be viewed on the morning of Sale. Catalogues to be had at the Mart; of Messrs. Dawe, Cottrell, and Benham, Seedsmen, Moorgate-street, City; H. Alexander, Shacklewell; and also of Mrs. New, Everton Valley, Kirkdale, upon receipt of four stamps.

GREENHOUSES, ETC.

GEORGE NICHOLLS AND Co. have just completed, and have for sale, a very handsome Lean-to GREENHOUSE (of extra height), 14 feet by 10 feet 6 inches; a smaller do. 11 feet by 8 feet; also others in progress. G. N. and Co. design and erect Conservatories, Pits, and every description of Horticultural Buildings. Hot-water Apparatus on an improved and economical principle, from 7*l.* and upwards. —Address City-road (corner of Plumber-street), London.

TO NURSERYMEN, FLORISTS, ETC.

TO BE DISPOSED OF, an Old-Established BUSINESS, of more than Thirty Years' Standing, situated in one of the principal Towns North of Derby, to which is attached a First-Class RETAIL SEED SHOP.—The Premises at the Nursery are replete with every convenience for the Propagation of Hard and Soft-wooded Plants. This is an opportunity rarely to be met with, and will bear the strictest investigation. No good-will required, and none but principals treated with. If preferred, the Nursery Ground (Freehold) may be purchased, and two-thirds of the purchase money may remain on security. The above is offered in consequence of the death of the previous owner.—For particulars address A. B., Mr. Duncan Hairs, Seedsman, 109, St. Martin's-lane, London; or Mr. John Sampson, Bookseller, York.

FOR SALE, a Quantity of FRUIT TREES, in 12 and 13-inch pots, that have been grown in one of Rivers's Orchard Houses, consisting of 50 of the best sorts of Peaches and Nectarines, 18 Apricots, 12 Plums, 12 Pears, 12 Figs, and 6 Cherries. The Trees have been in their present pots 18 months, and are in famous condition for bearing next year. Many of them have borne fine fruit this season.—Further particulars may be obtained of Mr. C. Turner, the Royal Nursery, Slough.

SAFE INVESTMENT.—One or two SHARES to be disposed of in an established and important Invention for the manufacture of an Article of very large every day demand. Price for each Share 1000*l.* No liability to the Purchaser, and a large annual return is certain.—Address, Mr. Murray, 11, St. Mary Abbott's-terrace, Kensington, London.

FRUITING PINE PLANTS.

WANTED, a few clean and healthy FRUITING PINES.—Any person having the above to dispose of, is requested to forward a List of SORTS, with PRICES, to William Chater, Saffron Walden.—Oct. 23.

EXTENSIVE & VALUABLE SHEEP & ARABLE LANDS IN WEST SUSSEX.

TO BE LET, for a term of years, and occupied at any period to be agreed upon, the well-known and valuable SHEEP WALK of Lady Holt Park, in the parish of Harting, Sussex; together with the Arable Farms of Huckholt and Castle; the whole comprising upwards of 1100 acres. The tenant will also have the right of Sheep feeding on the adjoining Down of West Harting, &c., &c., of above 500 acres. The Pasture Land is in high repute as a Sheep Walk; much of the Arable Ground is of that easily managed nature (chiefly Barley and Turnip Land) now so much preferred by agriculturists; and as all the Lands have been in the hands of the proprietor for many years, the farmer who has capital has now an opportunity rarely to be met with. The House at Huckholt is comfortable; the premises and Barns are in the best repair; and the Lands will be let tithe free.

A well-selected Flock of Southdowns of about 1000 head, as well as farming Stock, including good Horses, may be purchased at a valuation.

Mr. Robert Chase, of East Harting, will go over the grounds with persons who may wish to examine them, and offers for the lease must be made by letter, addressed to Mr. William Bowstead, Uppark, Petersfield.

Ample security and undeniable references will be required.

Printed by William Bradbury, of No. 13, Upper Woburn-place, in the parish of St. Pancras, and Frederick Mullett Evans, of No. 7, Church-row, Stoke Newington, both in the County of Middlesex. Printers at their Office in Lombard-street, in the Precinct of Whitefriars, in the City of London; and published by them at the office, No. 5, Charles-street, in the parish of St. Paul's, Covent-garden, in the said County, where all Advertisements and Communications are to be addressed to the Editor.—Saturday, October 23, 1852.

THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horti[illegible]l Part Edited by Professor Lindley.

No. 44.—1852.] SATURDAY, OCTOBER 30. [PRICE 6*d.*

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HORTICULTURAL SOCIETY OF LONDON.—At the Meeting in Regent-street, at 2 P.M., Nov. 2, the objects of Special Exhibition will be CHRYSANTHEMUMS (shown in sixes, in pots not exceeding 11 inches in inside diameter); ALPINE STRAWBERRIES; CELERY (shown in three heads).

SCOTTISH GARDENERS' AND LAND-STEWARDS' ASSOCIATION, for the relief of Aged and Infirm Gardeners, Land-Stewards, and Foresters.

Patron.

His Royal Highness the PRINCE ALBERT, K.G.

ANNUAL MEETING.

NOTICE is hereby given that the Annual General Meeting of the Association will be held at No. 6, York-place, Edinburgh, on WEDNESDAY, November 10, ensuing, for the election of Office-bearers for the ensuing year, and on other business, in terms of the deed of Constitution.

ELECTION OF PENSIONERS.

The Subscribers are also informed that, after the General Meeting, as above, an election of two Pensioners on the General Funds will take place in terms of the Minutes of the General Meeting, held on 26th May last. CHARLES LAWSON, Jun., Committee Room, Hon. Sec.

6, York Place, Edinburgh, Oct. 23.

Subscribers in arrear will be pleased to observe that the Subscription for the present year (the third) was due on the 1st of June last; and that if not paid on or before the day preceding the election, the Polling Paper will not be received.

PLANTS FOR BLOOMING IN THE CONSERVATORY IN WINTER OR EARLY SPRING.

MESSRS. J. AND J. FRASER, NURSERYMEN, Leabridge-road, Essex, beg to offer the following, finely set with bloom buds, at the undermentioned moderate prices:—

Azalea indica, in fine sorts,	... ...	18*s.* to 30*s.* per doz.
Epacris and Ericas	,, ...	12*s.* to 18*s.* ,,
Rhododendrons	... ...	12*s.* to 18*s.* ,,
Hardy Azaleas, including fine Belgian varieties	... ...	9*s.* to 18*s.* ,,
Moss and Provence Roses	... ...	12*s.* ,,
Lilacs, Guelder Roses, Weigela rosea, &c.		12*s.* ,,

The above are all beautifully grown, well established in pots, and are fit for immediate forcing.

Remittances respectfully requested from unknown correspondents.

RHUBARB.

MITCHELL'S GREY EAGLE.—A new and most excellent variety, having all the best qualities combined in one, both for market and culinary purposes. 24*s.* per doz.

Also, Mitchell's ROYAL ALBERT, Myatt's LINNÆUS and VICTORIA, 6*s.* per doz. All the above are strong one year planted roots. Also some very strong two year old roots of ROYAL ALBERT for early forcing, 9*s.* per doz.

Post-office orders payable to WILLIAM MITCHELL, Enfield Highway, Middlesex.

THE HYBRID OR CHAMPAIGN CURRANT stands unrivalled for the size of its berries, length of its bunches, quality of lateness, and tartness, that no birds will touch it, though it hangs two months after ordinary kinds, without netting. Fine rooted plants, 4*s.* per dozen; ditto cuttings, 2*s.* Nice rooted Beehive, double-bearing Raspberry, warranted one of the largest and best varieties extant, per dozen, 3*s.* All post free, and secured from the post-office stamp; or larger plants of either, with packages by rail, carriage paid to London.—From ABRAHAM HARDY and SON, Seed-growers and Seedsmen, Maldon, Essex. Remittances requested.

AMBROISE VERSCHAFFELT, NURSERYMAN, Ghent, (Belgium), has just published his new Catalogue, which may be had of his agent, Mr. R. SILBERRAD, 5, Harp-lane, Great Tower-street, London.

TWENTY CHOICE NAMED GERANIUMS FOR EIGHTEEN SHILLINGS, in 60-sized pots, in strong robust health.

Apply to WILLIAM E. RENDLE and Co., Florists, Plymouth.

For General List of Geraniums, see *Gardeners' Chronicle*, Page 610, Sept. 25, 1852.

CHATER'S and other Growers' New and Splendid DOUBLE HOLLYHOCKS, at a reduced price, warranted true to name. Strong plants now ready for delivery, 12 for 10*s.* 6*d.*, six for 6*s.*, package included, which may be selected from the following well-known Show varieties: Queen of England, Aurantia, Belladonna, Bicolor, Conspicua, Delicata, Elegans, Formosa superb, Ne Plus Ultra, Nobilissima, Obscura, Rosea spicata, Queen, Sulphurea perfecta (new), Venosa, and Brilliant. The above to be had of WILLIAM DENYER, Seedsman, &c., 32, Gracechurch-street, London.

A remittance respectfully requested.

NEW PELARGONIUMS.

JOHN DOBSON is now sending out, in strong plants, the following first-rate varieties:—Vulcan, Spot, Pasha, Jupiter, Gertrude, Commander, and Harriet. Also 12 good show varieties for 12*s.* Plants given in to compensate for carriage.

J. D.'s Catalogue for 1852-3, with full descriptions of the above, also Fuchsias, Cinerarias, Hollyhocks, Verbenas, &c., is now ready, and may be had in exchange for two postage stamps.

Also a few hundred Tulip bulbs, the surplus stock of an amateur, at 20*s.* per 100, including Bib. Holmes' King, Cenotaph, Roi de Ceres, Roi de Egypt, Reine d' Egypt, Mountain of Snow, Alcon, Cleopatra, &c.; Biz. Tricolor, Abadda, Surpass Cantique, Lawrence's Duke of Clarence, Catafalque Surpasse, Polyphemus, Tippoo Saib, Reuben St. Louis, Bell's King and Queen, &c.; Roses, Matilda, Triomphe Royale, Hebe, Preticosa, Belle Hellena, &c.—Woodlands Nursery, Isleworth.

AMERICAN PLANTS.

JOHN WATERER begs to announce his Catalogue of the above Plants, Roses, Conifers, &c., is now published, and may be obtained by enclosing two postage stamps. The colours of all the Rhododendrons worthy of cultivation are described, in order to facilitate purchasers in selecting.

☞ The Rhododendrons, Azaleas, &c., annually exhibited at the Royal Botanic Gardens, Regent's Park, are supplied from this establishment.—The American Nursery, Bagshot, Surrey, 4 miles from Farnborough Station, South-Western Railway, and 3 miles from Blackwater, South-Eastern Railway.

ROSES ON MANETTII STOCKS.—Rose Mount Nursery, York, has become famous for Roses on the New Stock, Manetti; and such plants as I now have to offer are nowhere else to be found. It is not within the compass of an advertisement to enter into particulars respecting the merits of this stock, but I must say, without fear of contradiction, that the vigour of growth, the size and quantity of blooms upon this stock, is really surprising. It is a significant fact, that in no case within my knowledge, where any party has once had a few Roses upon this stock, would they again have any upon any other stock, nor (with the exception of strong-growing summer or climbing Roses), upon their own roots.

My Stock of Plants contains a choice selection of the very best, including the newest Roses in cultivation, a Descriptive Catalogue of which will be forwarded to every application enclosing a postage stamp.

THOMAS APPLEBY, Rose Mount Nursery, York.—Oct. 30.

CEDRUS DEODARA, ETC.

A. PAUL AND SON have a fine Stock of CEDARS, which, for beauty of growth, cannot be surpassed, and which they beg to offer as under:—

CEDRUS DEODARA	... 1 ft., 1 6	each, or	75*s.*	per 100.
,,	... 2 ft., 2 6	,,	10*l.*	,,
,,	... 3 ft., 3 6	,,	15*l.*	,,
,,	4 to 5 ft., 7 6	,,	4*l.*	per doz.
CEDRUS AFRICANUS	... 1 ft., 2 6	,,	30*s.*	,,
,,	... 2 ft., 3 6	,,	40*s.*	,,
CEDAR OF LEBANON	... 1 ft., 1 0	,,	75*s.*	per 100.
,,	2 to 3 ft., 2 6	,,	24*s.*	per doz.
,,	3 to 4 ft., 3 6	,,	36*s.*	,,
,,	4 to 5 ft., 5 0	,,	54*s.*	,,
,,	5 to 6 ft., 7 6	,,	84*s.*	,,

Also the following, of various heights:—Abies Morinda, Menziesii, Douglasii; Pinus apulcensis, Ayacahuite, Excelsa, Insignis, Macrocarpa, Lambertiana; Picea nobilis, Araucaria imbricata; Cryptomeria japonica; Cupressus Goveniana, Lambertiana; Juniperus hibernica, Chinensis, Excelsa; Thuja filiformis, Wareana; Taxodium distichum, Sempervirens; Taxus adpressa, Irish Yew, Gold striped do., and numerous others equally fine plants and equally cheap. Priced Catalogues of Coniferæ furnished on application.

Nurseries, Cheshunt, Herts.—October 30.

MESSRS. J. AND H. BROWN offer the following SELECTED PLANTS, FRUIT TREES, &c., which they will forward to any part:—

CHOICE FRUIT TREES.

	s.	*d.*
Fine Dwarf and Standard Peaches, Nectarines, Apricots, Plums, Pears, and Cherries, the best and most approved sorts of these respective kinds, true to name, each, 2*s.* 6*d.*, or, per dozen	24	0
Untrained or Maiden do., 1*s.* 3*d.* each, or, per dozen	12	0
Apples, Dwarfs and Standards of best sorts, p. doz., 10*s.* to	15	0
Fine Gooseberries, Currants, and Raspberries, per dozen	3	0
Fine Figs, Medlars, Quince, Walnuts, and Mulberries, each	2	0
Strong Vines, from eyes and layers, in pots, per dozen ...	15	0
25 Azaleas, new hardy Belgian varieties, on their own roots, with flower-buds, one of a sort, by name ...	20	0
25 American Azaleas, do. do.	15	0
25 Hardy American Plants, one of a sort, by name ...	10	6
12 Hardy Heaths and Kalmias, one of a sort	6	0
12 Rhododendrons, including Scarlet, White, and Rose, hardy varieties	12	0
Fine hardy Scarlet Rhododendrons, 2 feet, per dozen ...	10	0
Fine large bushy Rhododendrons, with 30 to 40 buds, each	3	6
Cedar of Lebanon, 3 feet, well grown, in pots, do. do....	10	0
12 Climbing Roses, choice sorts, in pots	6	0
12 Bourbon Roses, on their own roots, in pots	10	6
12 Tea-scented Roses, one of a sort, by name, in pots ...	9	0
12 Orchidea, good plants, including Stanhopeas, Dendrobiums, Epidendrums, Oncidiums, &c., for	30	0
50 Choice Greenhouse Plants, one of a sort, by name (this collection is highly recommended for new greenhouses, &c.)	40	0
24 Choice Ericas, one of a sort, by name	16	0
12 New Azalea Indicas, one of a sort ... 12*s.* to	25	0
12 Camellias, choice sorts, set with buds	30	0
12 Choice Chrysanthemums, new sorts, by name	6	0
12 New Dwarf Pompon Chrysanthemums, do., do. ...	8	0
12 New Perennial German Phloxes, one of a sort ...	8	0
12 Ferns, beautiful varieties, suitable for Glass Cases, Greenhouse, Stove, and hardy rock-work, each selection	10	0
6 Bulbs of Lilium lancifolium, one of a sort	12	0

Dutch Bulbs of all kinds. A fine assortment of Fruit Trees and Evergreen Shrubs, very cheap, for furnishing new gardens.

Albion Nursery, Stoke Newington, London, Oct. 30.

TO THE AMATEURS OF TULIPS.

HENRY GROOM, FLORIST, Clapham Rise, near London, begs to inform the AMATEURS that he has published a NEW CATALOGUE of the above FLOWERS, in which he has made a very considerable reduction in the prices of the leading kinds, and will be happy to forward his Catalogue on application.

GRAPE VINES FROM EYES, VERY FINE.

J. WEEKS AND Co., King's Road, Chelsea, have a most splendid collection of VINES, very strong and clean, two and three years old, from Eyes, all the best sorts for PLANTING OR FRUITING IN POTS.

Also an extensive and valuable collection of STOVE and GREENHOUSE PLANTS, with all new varieties. See our Catalogues devoted to each. Also our Illustrations on HORTICULTURAL BUILDING and HEATING by HOT-WATER.

J. WEEKS and Co., King's-road Chelsea.

TO NOBLEMEN, GENTLEMEN, AND THE TRADE.

HAY, SANGSTER, AND CO. are now ready to send out their NEW EARLY NO. 1 PEA, price 2*s.* 6*d.* per quart, and can with confidence recommend it as a very superior article.

About the second week in October they will be ready to send out their New Early Scarlet PRINCE OF WALES RHUBARB, 5*s.* each. It is quite as early as the Prince Albert, much larger, red throughout, of exquisite flavour, and a large cropper.

Post-office Orders from those not having an account open with H., S., and Co., to be made payable to the Firm, at the Borough Post-office, or postage stamps.

For Testimonials and parties where both articles can be had, see *Gardeners' Chronicle* 18th September, 1852, page 594.

Newington Butts, London.

DAWE, COTTRELL, AND BENHAM (successors to FREDERICK WARNER) beg to call public attention to their extensive collection of DUTCH BULBS, comprising Hyacinths, Crocus, Narcissus, Anemones, Ranunculus, Tulips, &c. &c. Priced Lists of which can be obtained, post free, on application.

Strawberry Plants, Fruit Trees, Roses, Rhubarb Roots, &c., of all the newest and best varieties, supplied at the advertised prices.

DAWE, COTTRELL, and BENHAM are also Agents for the sale of Butcher's Black Barbarossa Grape Vine; for description, price, &c., see *Gardeners' Chronicle*, October 25.

36, Moorgate-street; and 3, Laurence Pountney-lane, London. (Established at Cornhill, 1720.)

TO THE SEED TRADE.

BEAUTIFUL NEW CALIFORNIAN ANNUALS.

COLLINSIA [illegible]ARTWEGIOLIA (HOOKER);

MUL[illegible]OR (INDLEY.)

MESSRS. VEITCH AND SON are now prepared to supply Seed of the above-named Collinsias, which were sent them from California by Mr. Lobb, and are at present solely in their possession. They have been exhibited at the London Shows, where they obtained Certificates of Merit, and were greatly admired.

Messrs. V. and S. have also to offer Seeds of the beautiful and sweet-scented ABRONIA UMBELLATA, which is well adapted for bedding. Prices forwarded on application.

Exeter, October 30.

FUCHSIA—"ENGLAND'S GLORY."

JOHN HARRISON, in answer to numerous inquiries, begs to announce his intention of sending out in April next this truly splendid Fuchsia. The tube and sepals are a pure transparent white, the latter beautifully reflexed and no green tips; the corolla large, beautiful deep crimson, cupped and smooth, habit and foliage splendid, in short, in every point it is unexceptionably superior to every other white Fuchsia yet known. A plant of this Fuchsia was shown at the Grand National Horticultural Exhibition at Lewes 14th and 15th July last, where it obtained a First-class Certificate; and Blooms have been exhibited at nearly all the provincial shows in the country, and at various meetings in London and in Edinburgh. There is but one opinion of this Fuchsia, and J. H. warrants it to give satisfaction to every purchaser; the plants are yet in splendid bloom, and will apparently continue to bloom through the winter; parties can yet have blooms sent through the post for the cost of 12 postage stamps.

For opinions of the press see—"The Gardeners' Record and Amateur Florist," for August and September; "The Midland Florist," for September; "The Gardeners' and Farmers' Journal," for October 16.

Plants in April 10*s.* 6*d.*, or four for 31*s.* 6*d.* No discount.

The names of the gentlemen in the trade who have ordered plants by the dozen, and who will be able to supply plants will shortly be given in the *Gardeners' Chronicle* and the *Journal*.

Grange Nursery, Darlington, Oct. 30.

EDWARD GEORGE HENDERSON AND SON are now prepared to send out their new CINERARIAS and FANCY GERANIUMS for this Season, which they can confidently recommend, for which early orders are solicited—as the stock of some of the varieties is limited.

NEW CINERARIAS.

	s.	*d.*		*s.*	*d.*
Charles Dickens ...	5	0	Charlotte	5	0
Conspicua	5	0	Kate Kearney	5	0
Loveliness	5	0	Marguerite d'Anjou ...	7	6
Prince Arthur ...	10	6	Rosalind	10	6

Price of the Set, £2 2s.—Usual discount to the Trade.

NEW FANCY GERANIUMS.

	s.	*d.*		*s.*	*d.*
Criterion	10	6	Fanny	10	6
Flora McIvor ...	10	6	Italian Beauty ...	10	6
Lady Downes ...	10	6	Marginata ...	10	6
Queen of the Fancies	10	6			

Price of the Set, £3 3s.—Usual discount to the Trade.

For description of the above see this Paper of October 9.

Wellington Road Nursery, St. John's Wood, London.—Oct. 30.

SEED AND HORTICULTURAL ESTABLISHMENT, SUDBURY, SUFFOLK.

BASS AND BROWN'S NEW AUTUMN CATALOGUE, sent free on receipt of three postage stamps.

GERANIUMS.

	£	s.	d.
12 varieties, all best new of last season	2	4	0
20 varieties, best of the previous year	1	16	0
25 varieties, best of older date	1	8	0

Fine varieties 6s. to 9s. per dozen.

FANCY GERANIUMS.

12, all best new varieties of last season... ... ... 2 2 0

Best of previous introduction, 9s. to 15s. per dozen.

NEW SCARLET AND PINK HORSE-SHOE VARIETIES.

Six new varieties of last season, each, 2s. 6d. to 3s. 6d. See Catalogue.

For names and separate prices of the above Geraniums, see our Advertisement in the *Gardeners' Chronicle* of September 25th and October 2d and 9th. For descriptions, see Catalogue.

CHRYSANTHEMUMS.

Strong bushy plants, well set with flower-buds.

	s.	d.
12, all new varieties, best of last season	12	0
12, do. do. best Lilliputian of last season ...	12	0
GREENHOUSE PLANTS, 50 choice varieties	45	0
STOVE PLANTS, 25 choice varieties	24	0
WINTER AND EARLY FLOWERING GREENHOUSE PLANTS, 12 choice varieties	15	0
Do. do. STOVE PLANTS, 12 choice varieties	20	0
HARDY HERBACEOUS PLANTS:—		
100 distinct and fine vars., 30s ; 50 vars.	17	6
100 superior and new vars., 50s. ; 50 vars.	30	0
ROCK PLANTS, 25 fine vars., 12s. ; 12 vars.	7	6
ANTIRRHINUMS, 12 fine vars., 6s. ; 12 superior and new	10	0
PHLOX, 12 fine vars., 6s. ; 12 superior and new ...	9	0
Do. 25 fine vars., 10s. 6d ; 25 superior and new ...	15	0
DWARF ROCK CISTUS, 24 splendid new vars. ...	18	0

Choice collections of Cineraria, Azalea indica, Roses, Hardy Ornamental Climbers, &c. &c. See Catalogue.

CHOICE BULBS AND FLOWER ROOTS.

RANUNCULUS (free by post), with cultural instructions:—			
100 vars., superb new and best sorts	70	0	
100 vars., very fine of older sorts	35	0	
Oiel Noir, best black (2s. each). per dozen	18	0	
Best Mixtures, 10s. and 18s. per 100 ; fine 5s , or, post free, 6s. per 100.			
ANEMONES, 50 beautiful and distinct named double...	12	6	
Do. do. do. post free	14	0	
Choice double mixtures, per 100 ... 6s. and	10	6	
La Brilliante Eclatante, single bright scarlet, extra, per 100	10	6	
Fine mixed single, per lb.	4	0	
GLADIOLUS, 50 vars., splendid early and late kinds ...	50	0	
25 vars., do. do. ...	30	0	
12 splendid early vars., 10s. 6d. ; 12 fine vars. ...	6	0	
12 superb late vars., Ramosus habit	20	0	
Beautiful early mixture (per doz n, 3s.), per 100 ...	20	0	
Colvillii, 2s. per doz. ; C. rubra, 3s. per doz. ; Gandavensis, 3s. 6d per doz. ; Gan. splendens, 2s. 6d. each ; Rex Rubrorum, 12s. per doz., Insignis, 7s. 6d. per doz. ; Brenchleyensis, 3s. each.			
Colvillii grandis, fine new dark shaded rosy purple, each	3	6	
„ conspicua, purplish rose, white stripe, very showy, each	2	6	
„ roseum, bright rosy pink, deep crimson stripe, each	1	6	
ENGLISH IRIS, 38 splendid and select varieties ...	25	0	
Very fine mixed (2s. per doz). per 100	15	0	
IMPORTED DUTCH HYACINTHS, 50 vars., choice assortment	35	0	
Do. do. per doz. ... ... 6s. to	15	0	
Do. do. in colours, without names, per doz.	3	0	
CROCUS, 20 splendid and very distinct new vars., 12 roots of each, with names	12	0	
6 splendid named vars., 100 roots of each	17	0	
Fine sorts, separate colours, per 100 ... 1s. 6d. to	2	0	
TROPÆOLUM TRICOLORUM, fine roots, each, 2s 6d. to	3	6	
TRITONEA AUREA, splendid orange Cape bulbs, each ... ... 2s. 6d. to	5	0	
OXALIS ELEGANS, bright purple, dark centre, new and fine, each	1	6	
„ „ MAJOR, large fine purple, each	1	6	
CYCLAMEN, in 7 beautiful varieties, each ... 1s. to	5	0	

Also an extensive collection of imported and other roots, consisting of choice early, double, and late Tulips, Narcissus, Jonquils, Lilium lancifolium, &c., for which see Catalogue.

☞ Goods free to London, or any Station on the line to Norwich, *viz* Ipswich, with orders of 20s. and upwards, and extra roots or plants aided, gratis, with orders 40s. and upwards.

Remittances required from unknown correspondents. Post-office orders payable to STEPHEN BROWN.

VIOLA ARBOREA; OR, PERPETUAL TREE VIOLET (TRUE).—The finest Stock for many years of the above, which has proved the best of all VIOLETS, is now offered to the Public by EDWARD TILEY; he can recommend it with great confidence, and has also received numerous testimonials from different parties speaking of its qualities, and giving it the highest praise. It is beautifully scented, the flowers as large as the Double Blue Hepatica, blooming freely from August to the end of May, and perfectly hardy. This is the proper time for making beds or potting, and 12 of these plants grown in pots will scent a large Greenhouse; also a small bed of them, 9 feet long by 3 wide, will be sufficient to furnish a family with Bouquets the whole of the winter and spring. Large plants, 6s. per dozen; small plants, 3s. per dozen.

VIOLA ARBOREA ALBA; OR, DOUBLE WHITE TREE VIOLET.—This is also a very fine variety, and resembles the former Violet in many particulars, with the exception of its colour. Large plants, 6s. per dozen; smaller ditto, 3s. per doz.

RUSSIAN SUPERB VIOLET, Blue and White (True).—A very useful and fine variety; 3s per dozen.

A TREATISE on the nature and mode of Cultivation of the VIOLET.—EDWARD TILEY begs to introduce to the notice of all lovers of this flower a Treatise, which will not only give an insight into its proper mode of cultivation, but also directions for keeping it in continual bloom the whole of the winter. It will also assist many who have already grown this variety, as it introduces several distinct plans by which it may be cultivated most successfully. Purchasers to the amount of Five Shillings will have the Treatise included; or, post-free to any part on receipt of 12 penny stamps.

OTHELLO CLOVE CARNATION.—To those persons whose orders came too late last season (the plants being all sold), E. T. begs to say he has a fine stock of this beautiful Clove (for colour and fragrance unequalled), and can supply any quantity at 3s. 6d per pair, postage and packet included.

PURE WHITE CLOVE CARNATION; also a large stock of this splendid variety at 1s. 6d. per pair, postage and package free.

STRAWBERRY PLANTS can be still supplied in every variety and price, as see *Gardeners' Chronicle* for Sept. 4, 1852.

The whole, or any part of the above, can be sent postage and package free, on receipt of the amount, by a post-office order, or penny stamps.

EDWARD TILEY, Nurseryman, Seedsman, and Florist, 14, Abbey-churchyard, Bath.

MESSRS. CHARLES CANTOR & CO., OF CALCUTTA.

1852.

LIST OF ORCHIDEOUS PLANTS INDIGENOUS TO ASSAM

AND THE NEIGHBOURING HILLS OF KHASYA, BOOTAN, &c.

No.	Names.	Size and Colour of Flower.	Habit.
1*	Microstylis Wallichii ?...	Small, pea green	Ter.
2	Oberonia indifolia ...	Minute, yellowish	Epi.
3*	„ sp.	„ „	Do.
4	Liparis sp.	Small, yellow	Do.
5	„ sp.	„ „	Do.
6**	„ sp.	Largish, green yellow ...	Ter.
7*	„ sp.	Small, deep purple ...	Epi.
8	Otochilus fuscus ...	„ yellowish brown ...	Do.
9	„ albus	„ „ and white	Do.
10	Pholidota imbricata ...	„ white	Do.
11	„ undulata	„ „	Do.
12*	„ articulata	„ „	Do.
13*	„ sp.	„ „ and yellow ...	Do.
14*	„ sp.	„ „ „ ...	Do.
15	Cœlogyne flavida ...	„ yellow	Do.
16	„ undulata	Largish, white	Do.
17*	„ fimbriata?... ...	„ „ and brown ...	Do.
18**	„ uniflora	„ „ and lateritious	Do.
19	„ barbata	„ white	Do.
20*	„ præcox ?	„ „	Ter.
21*	„ maculata	Large, white, yellow, & rose	Do.
22**	„ Wallichiana ...	„ „ and rose ...	Do.
23**	„ ocellata	„ pale yellow and deep orange	Do.
24*	„ Gardneriana ...	„ white and yellow ...	Epi.
25	„ cristata	„ „ streaked with bright yellow	Ter.
26	„ sp.	Small, brown and yellow...	Epi.
27**	„ flava ?	Large, yellow and brown ..	Do.
28	„ sp.	Small, brown and yellow...	Do.
29*	„ sp.	„ white and brown ...	Do.
30	„ sp.	„ pale yellow	Do.
31**	„ sp.	„ white (pretty) ...	Ter.
32**	„ sp.	Largish, pale cinnamon ...	Epi.
33**	Bolbophyllum leopardinum	Large, yellow spotted with purple.	Do.
34	„ umbellatum ...	Largish, dull yellow ...	Do.
35**	„ Khasyanum ...	Small, greenish	Do.
36**	„ sp.	Largish, bright yellow ...	Do.
37*	„ sp.	Small, white, fragrant ...	Do.
38*	„ sp.	„ dull purple	Do.
39	„ sp.	„ „	Do.
40	„ sp.	„ „	Do.
41**	Cirrhopetalum sp. ...	Small, greenish, fragrant	Do.
42	„ sp.	„ dull purple	Do.
43*	„ sp.	Large, brown and yellow...	Do.
44**	„ sp.	Largish, dull purple ...	Do.
45**	„ sp.	„ „	Do.
46*	Tricosina suavis... ...	Large, white, purple & yell.	Do.
47*	Eria flava	Largish, dull yell. & brown	Do
48	Eria sp.	Largish, white streaked with brown	Epi.
49	„ densiflora	„ „ tinged with yellow	Do.
50	„ ferruginea	„ ferrugineous	Do.
51	„ paniculata... ...	Small, spotted with purple	Do.
52**	„ sp.	Largish, white	Do.
53*	„ sp.	„ „ & dull purp.	Do.
54*	„ sp.	„ „ „	Do.
55*	„ sp.	Minute, rosy	Do
56	Aporum anceps	Small, white	Do.
57	„ cuspidatum ...	„ „	Do.
58	„ sp.	„ „	Do.
59*	„ sp. ?	Largish, white, yellow, and brown	Do.
60	Dendrobium Pierardi ...	Large, pink and yellow ...	Do.
61*	„ heterocarpum ...	„ yell. and br. fragrant	Do.
62	„ Chrysanthum ...	„ lively yell. and brown	Do.
63*	„ Paxtoni	„ „ „	Do.
64*	„ sp. like do. ...	„ orange and brown ...	Do.
65*	„ formosum	Very large, white and yell., fragrant	Do.
66**	„ longicornu... ...	Large, white and orange...	Do.
67	„ calceolus	Very dark yellow, rose, and purple	Do.
68*	„ sulcatum	Large, yellow and purple...	Do.
69	„ Jenkinsii	„ lively yellow	Do.
70	„ cærulescens ...	„ deep lively purple ...	Do.
71	„ nobile	„ white rosy purple ...	Do.
72**	„ Gibsonii	„ yellow and brown ...	Do.
73*	„ stuposum	Small, white	Do.
74*	„ Cambridgeanum ...	Large, lively yell. and br.	Do.
75**	„ transparens ...	„ deep lively purple ...	Do.
76*	„ like do., various ...	„ pale rose and purple	Do.
77**	„ Devonianum ...	„ lilac-rose and yellow	Do.
78**	„ Dalhousianum ...	„ rose, white, and purp.	Do.
79	„ multicaule... ...	„ white and purple ...	Do.
80**	„ Griffithii	„ pale yell. and orang.	Do.
81**	„ Farmeri	„ lively „ „ ...	Do.
82**	„ densiflorum pallid.	„ white and orange ...	Do.
83**	„ do. roseum ...	„ pale rose and orange	Do.
84	„ intermedium ...	„ pale yellow & brown	Do.
85*	„ sp.	„ lively orange	Do.
86*	„ sp.	„ „ yellow & brown	Do.
87**	„ sp.	„ yellow, pink, and br.	Do.
88*	„ sp.	„ pink and yellow ...	Do.
89**	Spathoglottis pubescens	Largish, yellow and purple	Ter.
90	Arundina bambusifolia	Large, pale rose and lively purple	Do.
91*	Phaius grandifolius ...	„ white, brown, & pur.	Do.
92	„ Wallichii	„ „ „ „	Do.
93*	„ maculata	„ „ rosy scented	Do.
94*	Phaius albus	Large, white, rosy scented	Do.
95**	Aputaria senilis	Largish, rose and green ...	Ter.
96**	A. latifolia	?	Do.
97*	Eulophia virens	Large, green and white ...	Do.
98**	„ sp.	„ dull yellow & brown	Do.
99**	„ sp.	„ deep purple	Do.
100**	„ sp.	„ green and yellow ...	Do.
101**	„ sp.	„ purplish green ...	Do.
102	Vanda teres	Very large, rosy purple, yellow and brown	Epi.
103**	„ cristata	Largish, greenish, white, and purple	Do.
104**	„ multiflora	„ white and rose ...	Do.
105**	„ cœrulea	Very large, deep blue ...	Do.
106**	„ sp.	Largish, dull purple ...	Do.
107**	„ sp.	„ „ and green	Do.
108**	„ sp.	„ yellow and brown ...	Do.
109**	Camarotis purpurea ...	Small, yellow and purple...	Do.
110	Micropera pallida ...	„ pale yellow	Do.
111	Saccolabium micranthum	Small, rosy	Epi.
112	„ retusum	Largish, lively spotted ...	Do.
113	„ papillosum ...	Small, pale yellow & pur.	Do.
114**	„ Calceolare	„ yellow and brown ...	Do.
115**	„ sp. like do. ...	„ pale do. and rose ...	Do.
116	„ caroifolium ...	„ rosy	Do.
117**	„ dasypogon ...	„ green and purple ...	Do.
118*	„ appendiculatum ...	„ yellow	Do.
119*	„ sp.	„ rosy and deep purple	Do.
120**	Sarcanthus sp.	... ...	Do.
121**	„ sp.	Small, rosy	Do.
122**	„ sp.	„ white and yellow ...	Do.
123**	„ sp.	„ „ „ ...	Do.
124**	„ sp.	„ „ „	Do.
125**	„ sp.	„ rosy red	Do.
126	Aerides affine	Large, rosy purple... ...	Do.
127	„ odoratum	„ „ sweet-scented	Do.
128	„ sp.	„ „ „	Do.
129**	„ sp.	Large, like affine, and very sweet-scented	Do.
130	Agrostophyllium Khasyanum	Small, white	Do.
131*	Xiphosium acuminatum	Large, white	Do.
132	Acanthophippium sp. ...	„ dull purple	Ter.
133*	„ sp.	„ white, streaked ...	Do.
134**	Cymbidium giganteum...	Very large, yell. and brown	Do.
135	„ pendulum	Large, dull yell. and purple	Do.
136	„ aloifolium	„ „ „	Do.
137**	„ eburneum	Very large, white	Do.
138	„ inconspicuum ...	Small, brown	Do.
139	Cymbidium longipetalum	Largish, green and purple	Ter.
140*	„ cyprifolium ...	„ „ „	Do.
141**	„ sp.	Large, fragrant, yellow, and white	Epi.
142**	„ sp.	„ brownish purple ...	Do.
143**	„ sp.	Very large, white	Do.
144**	„ sp.	Large, white and brown ...	Do.
145*	„ sp.	„ green and dull purple	Ter.
146**	? Phalænopsis, sp. ...	Large, yellow and reddish brown	Epi.
147	Euphorboscis pygmæa...	Minute, yellow	Do.
148	Geodorum dilatatum ...	Large, white, purple, and yellow	Do.
149*	„ sp.	„ deep rosy purple and white	Do.
150**	Platanthera sp.	Large, white	Do.
151**	Peristylis sp.	Largish, white, sweet-scented	Do.
152	Habenaria hamigera?...	Small, green	Do.
153	„ sp.	„ yellow	Do.
154	„ sp.	„ greenish yellow ...	Do.
155*	„ sp.	„ white	Do.
156**	„ sp.	Large, white	Do.
157**	Pogonia Joliana... ...	Small, rosy white	Do.
158**	„ sp.	Largish, green	Do.
159**	„ sp.	Small, purple	Do.
160**	Cyrtosia sp.	Largish, golden yellow ...	Do.
161**	Spiranthes sp.	Small, white	Do.
162**	Zeuxine sulcata	„ „	Do.
163**	Anæctochilus Roxburghii	„ rosy white	Do.
164**	„ sp.	„ white	Do.
165**	Cypripedium venustum	Large, green and purple ...	Do.
166**	„ insigne...	„ red and yellow ...	Do.
167*	Calanthe densiflora ...	„ lively yellow	Do.
168**	„ sp.	Small, brown and yellow...	Do.
169**	„ sp.	Large, white and green ...	Do.
170**	„ sp.	„ „ and yellow ...	Do.
171**	„ sp.	„ dull purple	Do.
172	Goodyera sp.	Small white	Do.
173	„ sp.	„ „	Do.
174	„ sp.	„ „ dull purple ...	Do.
175**	Ophrys sp.	Largish, rosy purple ...	Do.
176**	„ sp.	„ green and purple ...	Do.
177**	Anthoginum sp.	„ rosy	Do.
178*	Bonatea sp.	Small, green	Do.

Æschynathus (3 to 4 sp.): Hoya (5 or 6 sp.); Arum (several); Lilium (1 sp.); Nepenthes (1 sp.); Ferns and Lycopodiums (150 to 200 sp.); Palms (Livistonia, Leoxalia, Caryota, Calamus, &c.) are also indigenous, and can be sent if required.

Plants not marked are common. Ditto marked with an asterisk are considered rare.

Ditto marked with two asterisks are considered very rare.

The charges for a box of 4 cubic feet measurement, containing an equal selection of the three kinds, will be 5*l.* or 50 Rupees, deliverable at Calcutta. When Plants which are rare or very rare are required, the charges will be according to the kind taken; for the rare 1 r. 8 a. a Plant; for the very rare, 2 rupees a Plant. When very large plants are directed to be sent, no extra charge will be made.

When new Plants not included in the list are sent, a separate charge will be made. When two boxes or more are taken a discount of 10 per cent. will be allowed.

Plants can also be sent in glass cases, on the Wardian plan, measuring 2 feet 6 inches in length, 2 feet breadth, and 2 feet 7 inches in height, for which an extra charge of 20 rupees will be made. Glass covers can also be supplied for the other boxes, at an extra charge of 10 rupees.

Applications to be made to Messrs. CHARLES CANTOR & CO., in Calcutta.

ASSAM, *August* 1, 1852.

CRYPTOMERIA JAPONICA, raised by Seeds saved by WILLIAM YOUNG, in the Milford Nursery, who begs to offer fine plants of the same, 1 foot high, 1 foot wide, and well furnished, established in pots, at 12s. per dozen, or 7*5*s. per 100.—P.S. Perfect Cones, with ripe seed, may be seen on the plants in the Nursery.

Milford, near Godalming, Surrey.

GEORGE JACKMAN, NURSERYMAN, Woking, Surrey, 1½ mile from Woking Station, South Western Railway, begs to announce he has just published a new and complete Catalogue of his American Plants, Ornamental Evergreens, Conifers, flowering Shrubs, Standard and Dwarf Roses, Fruit and Forest Trees, &c. &c., and may be had on application by inclosing two postage stamps.

NYMPHÆA ALBA AND LUTEA SEED.

THE SUBSCRIBERS beg to intimate that they can supply fine fresh Seed of the above Nymphæas, in packets, by post, free, the White at 2*s.* 6*d.*, and the Yellow at 5*s.*

A remittance or reference from unknown correspondents.

DICKSONS and Co., Waterloo-place, Edinburgh.—Oct. 30.

CRYPTOMERIA JAPONICA.

A FEW THOUSAND SEEDLINGS, from 3 to 6 inches high, at 30*s.* per 100.

Also, IMPORTED SEED, at 20*s.* an ounce, which will produce upwards of 1500 Plants. Terms, CASH, being the property of a gentleman.

Apply to J. and C. LEE, Nurserymen, Hammersmith, near London.

EDWARD PIERCE, Yeovil Nursery, Somerset, has for sale a large stock of the best kinds of

CAMELLIA JAPONICA	...	6 to 9 inches	... £5 per 100
AZALEA INDICA	...	12 inches	... £5 per 100
ERICAS	...	12 inches	... £5 per 100

His Fruit Trees, Ornamental Trees, and Evergreen Shrubs, are particularly fine, stock extensive, and prices low; a very large quantity of strong Quick.—P.S. Reference with orders from unknown correspondents.—Oct. 30.

FOREST TREE SEEDLINGS.—The SUBSCRIBERS respectfully intimate that their LIST OF NURSERY STOCK for the Season may be had on application.

WILLIAM URQUHART and SONS, Dundee.

NEW SHRUBBY CALCEOLARIAS,

CONSISTING OF ABOUT FIFTY VARIETIES NEVER BEFORE OFFERED TO THE PUBLIC.

J. WEEKS and Co., CHELSEA, have now to offer a most splendid and superb Collection of SEEDLING SHRUBBY CALCEOLARIAS, which they can confidently warrant and recommend, they having been carefully saved and varied from the most unique selection in the kingdom. The sorts being all Shrubby they are perpetually in flower; and from the great variety and brilliancy of their colours, they are invaluable for the conservatory or bedding-out.

J. WEEKS and Co., KING'S ROAD, CHELSEA, LONDON.

LANGHEDGE NURSERY.

CHARLES WOOLVEN invites the attention of Fruit growers and the public generally to his large and very superior stock of Fruit-trees, comprising about 4000 standard Apples, Pears, Plums, and Cherries; fine straight stems 6½ to 8 feet in height, from 12*s.* to 21*s.* per dozen. Also a good stock of dwarf and trained trees, all of the most approved kinds, from 12*s.* to 36*s.* per dozen. A capital stock of Gooseberries and Currants, all of the very best kinds, from 2*s.* 6*d.* to 3*s.* 6*d.* per dozen, now in excellent condition. C. W. also wishes to recommend to gentlemen and builders his large stock of Evergreens, Forest Trees, and other Shrubs, at equally low prices.—C. WOOLVEN, Nurseryman, Upper Edmonton, Middlesex.

NEW WHITE BROCCOLI—"DILCOCK'S BRIDE."

BAINBRIDGE and HEWISON beg to announce that they have purchased of Mr. Dilcock the entire stock of the above, which is a Broccoli of the highest merit, surpassing every other (even the far-famed "Mammoth"), as the following will testify. It has been sold in the York market at 1*s.* per head.

"York Horticultural Society, June 18, 1852.

"In reply to your inquiries I find 'Dilcock's Bride Broccoli' was awarded first and third prizes 1850; first, second, and third, 1851; and first, second, and third in the present year. It ought to be grown by every gentleman's gardener, especially where any are grown for competition. Market gardeners also will find it to their profit to possess it.—Yours truly,

"R. DEMPSEY, Hon. Secretary."

The Seed will be sent out in the autumn in sealed packets at 2*s.* 6*d.* each, containing about 1300 Seeds, and may be had of themselves at York; or of Messrs. NOBLE, COOPER, and BOLTON, Seed-merchants, 152, Fleet-street, London.

Hope Nursery, York.

THE PLANTING SEASON.

A LARGE QUANTITY OF VERY STRONG SEEDLING AND TRANSPLANTED LARCH FIR, SPANISH CHESTNUTS, AND OTHER FOREST TREES.

WILLIAM WOOD and SON respectfully invite attention to their very extensive Stock of the undernamed FOREST TREES, prices of which will be forwarded on application:—

Alder	... 3 to 7 ft.	Spanish Chestnuts	... 2 to 3 ft.
Ash	... 2 to 6 ft.	Larch Fir ...	... 1 to 5 ft.
Beech	... 2 to 6 ft.	Scotch Fir ...	... 1 to 5 ft.
Birch	... 3 to 7 ft.	&c. &c. &c.	

N.B. A large stock of particularly fine, strong, well-feathered Spruce and Silver Firs, from 2 to 8 feet, peculiarly adapted for ornamental planting.

In addition to the above, W. W. and S. have to offer a fine collection of Fruit Trees, standard, dwarf, and trained; also American, Evergreen, and Flowering Shrubs; Herbaceous and Alpine Plants; also a very choice selection of rare Ornamental Trees.

Standard and Dwarf Roses, as usual, in very large quantities.

Priced Catalogues of the above Stock will be sent in exchange for four postage stamps.

Woodlands Nursery, Maresfield, Sussex.

LOCKSBROOK NURSERY, BATH.

R. SHACKELL begs again to offer the public his beautiful SEEDLING VIOLET "RUSSIAN SUPERB," which variety cannot fail to give the highest satisfaction. Strong blooming Plants, hamper and package included, 6*s.* per dozen; Small Plants, such as may be sent through the post, 4*s.* per dozen.

R. S. has almost an inexhaustible stock of Double Blue Perpetual Tree Violet. Strong fine healthy Plants, having from 20 to 30 blooms on each plant, such as would make a display at once, he will render at the low price of 2*s.* 6*d.* per dozen, hamper included; or 11*s.* per 100, hamper included. In quantities of not less than 1 dozen or 100. One hundred plants of this variety would supply several Bouquets per day from this time until the end of May next. A large Bouquet of each of these two varieties can be sent through the post on the receipt of 12 penny postage stamps.

Neapolitan Violet Plants	... ...	3*s.* per dozen.
Double White Tree Violet	... ...	3*s.* ,,
Ditto ditto Violet	... ...	3*s.* ,,
Single White Russian	... ...	3*s.* ,,
Old Russian Violet	... ...	5*s.* per hundred.

Hamper and package included.

"Sir, I have often heard of your new Seedling Violet called 'Russian Superb,' and the Double Tree Perpetual, but until this season I had no opportunity of knowing how really fine they were. Now, however, having both kinds in my own garden here, I think it but only fair to tell you that I do not intend cultivating any other sort of Violet; and if you think it will be any guarantee to the public to have my opinion on their merits, you have my liberty to use it, for I can highly recommend them. Yours, &c., "D. BEATON."

Post-office Orders payable to ROBERT SHACKELL, Florist, 30, Broad-street, Bath.

NEW ROSES.

PRINCE ALBERT AND FAIRY QUEEN.

A. PAUL and SON beg to offer the above new and beautiful Roses, of which they at present hold the entire stock. Prince Albert Bourbon (Paul's), the flowers are, in the summer, deep scarlety crimson, in autumn rich glowing lake, 3½ inches in diameter, finely cupped and very double, the outline a perfect ring; every shoot blooms, often producing 20 to 30 flowers in a truss, and being of dwarf habit it is likely to prove one of the finest autumnal Roses for bedding. The foliage is large, thick, and handsome, and it surpasses every Bourbon Rose in colour, form, and abundance of bloom. Strong Plants in November, 10*s.* 6*d.* each.

This Rose will be figured in the "Florist" for November. It has obtained a first-class certificate from the National Floricultural Society, the Royal South London Floricultural Society, and the Caledonian Horticultural Society, at Edinburgh; it has further been favourably noticed by the leading Horticultural Journals, and ordered by above 100 Nurserymen and Amateurs who have seen it in flower.

Fairy Queen Hybrid Perpetual (Paul's), soft glossy lilac, of medium size and perfect form, the summits of the petals reflexing as in Mrs. Bosanquet, and like that unique rose every shoot produces flowers; dwarf habit. Plants 7*s.* 6*d.* each. Early orders are solicited, as the stock is limited.

Nurseries, Cheshunt, Herts, Oct. 23.

SEEDLING CINERARIAS AND MIMULUS.

W. IVERY begs to offer the following beautiful and distinct varieties, which he can with confidence recommend.

CINERARIA "ORLANDO," rich violet plum, with white circle round the disc, large flower, fine form; 7*s.* 6*d.*

Do. SONGSTRESS, clear white ground, beautifully edged with dark blue, fine habit; 7*s.* 6*d.*

MIMULUS "AURORA," throat lemon colour, beautifully spotted, and deeply margined with orange crimson; 5*s.*

Do. BEAUTY OF PECKHAM, throat bright golden yellow, spotted with crimson, and deeply margined with velvety crimson; 5*s.*

Do. DELICATA, throat light lemon colour, slightly spotted and deeply margined with rose; 5*s.*

Do. IGNEA, throat bright lemon colour, beautifully spotted and deeply margined with rich crimson; 5*s.*

W. I. can supply a good variety of named Cinerarias from 12*s.* to 30*s.* per dozen. Autumn Catalogues can be had on application.—Hanover Nursery, Peckham, near London.

WILLIAM HAMILTON, SEEDSMAN, &c., 156, CHEAPSIDE, LONDON.

Common mixed Crocus 1*s.* per 100.

Superior Dutch Mixed Crocus, 1*s.* 6*d.* per 100.

Crocus, very large and fine yellow, 2*s.* 6*d.* per 100.

,, 12 distinct varieties named, 3*s.* per 100.

,, in separate colours, 1*s.* 6*d.* to 2*s.* per 100.

TULIPS, fine border varieties, early and late, 5*s.* to 7*s.* 6*d.* per 100.

SNOWDROPS, very fine, 2*s.* per 100.

NARCISSUS, Soleil d'Or, 3*s.* per doz.

,, Dbl. Roman, 3*s.* per doz.

,, paper white, 3*s.* per doz.

,, Grand Monarque (large), 6*s.* per doz.

HYACINTHS, excellent mixtures, 3*s.* 6*d.* per doz.

,, named for pots or glasses, 6*s.* to 12*s.* per doz.

GLASS DISHES with six superior HYACINTHS ready planted in Moss, and which are easily transmitted to the country without injury, 5*s.*; the price increases from 5*s.* to 10*s.* 6*d.* according to the size of Dish and number of Hyacinths.

The above are all warranted fine, and will be delivered in the best possible condition, with extra bulbs to compensate for carriage.

WM. HAMILTON'S Catalogue, containing an immense variety of bulbous roots, &c., may be had on application.—Address, 156, Cheapside, London.

JOHN HARRISON having a great stock of the undernamed articles, offers them to the trade at the following very low prices. The Fastolff Raspberries are true and free from mixture, J. H. having grown no other variety in his nursery at York (which he broke out of sward ten years ago), many spurious worthless varieties of Raspberry having been sent out for this truly valuable variety.

	Per 100.	Per 1000.
Fastolff Raspberry, true	£0 7 6	£3 5 0
Victoria Currants	0 12 0	4 10 0
Black Bang-up do., the best known ...	0 12 0	4 10 0
Victoria Rhubarb, true	1 10 0	14 0 0
Linnæus do. do.	1 10 0	
Royal Albert do. do.	1 10 0	
Standard Roses, superior plants, in 100 fine varieties...	5*l.* to 7 0 0	
Dwarf do., worked upon the Manettii stock, splendid plants ...	3*l.* to 5 0 0	
Delphinium Barlowii	1 10 0	
Manettii Rose stocks... ...	8*s.* 6*d.* to 0 12 0	... 70*s.* to 5*l.*
Strong cuttings, 10 inches	.....	3 5 0

Catalogues of Roses, Ornamental Trees and Shrubs, &c., may be had on application.

Grange Nursery, Darlington, Oct. 30.

N. GAINES begs to announce that he is now prepared to send out the following superb collection of

SEEDLING, SHOW, & FANCY GERANIUMS, &c.

SHOW GERANIUMS.

	s.	d.
Mrs. Griswood	31	6
Earl Spencer	21	0
Lady Moreton	21	0
Cora	21	0
Aurantia	21	0
Lady Thorold	21	0
Nonpareil	42	0
Cleopatra	21	0
Lady Ducre	42	0
Pandora...	21	0

The following were raised by Thomas White Esq.:—

	s.	d.
Cœur de Lion	31	6
Bruno	21	0
Selina	42	0
Mathilde	31	6
Charming May... ...	21	0
Annie Laurie	21	0
Rhoda	21	0

FANCY GERANIUMS.

Rubina ... ... 21*s.* | Lady Mourdant ... ... 15*s.*

Patriot ... ... 10*s* 6*d.*

The following were raised by the Rev. E. Trimmer:—

	s.	d.
Zurich	15	0
Grindenwald	15	0
Scheller	15	0
Rosenlarii	21	0
Bellinzona	10	6

NEW SEEDLING MIMULUS, shown at the London Exhibitions.

	s.	d.		s.	d.
Spectatissimus	3	6	Majestica	3	6
Pulchellum	3	6	Alpha	3	6
Emperor	3	6	Eximius	3	6
Prince Arthur	3	6	Grandiflorum	3	6

Price of the Set, 21*s.*

NEW VARIEGATED GERANIUM—GAINES' ATTRACTION.

This is one of the most distinct variegated varieties yet introduced to the public, possessing a dark green foliage, with red markings, edged with pure white; the colour of the flower a beautiful cherry, and quite different to any other variegated Geranium yet sent out. From its freeness of growth and compact habit, as it blooms in great abundance, it will be valuable for bedding or pot culture. Pot, 6*d.*

A Descriptive List of Show and Fancy Pelargoniums, &c., may be had by applying at the Nursery, Surrey-lane, Battersea, near London.

BRITANNIA RHUBARB.—This is by far the best EARLY RHUBARB that has yet been offered to the public. It is earlier than the Royal Albert, a great deal more productive, and a better colour and flavour.

It is well known that the Royal Albert throws a flower-stem from every crown almost as soon as it begins to grow, and consequently not more than one early gathering can be got from it; on the contrary, the Britannia does not produce one flower-stem in a hundred plants throughout the season, and consequently the produce is never impeded. The leaf-stalks grow quite erect, are very numerous, stronger than the Royal Albert, and are a beautiful dark pink colour, and the flavour equal to any Rhubarb grown. The Britannia and the Victoria are the only two sorts of Rhubarb that any one need wish to grow—the former for an early, and the latter for a late crop. It has not had a certificate from the Royal Household, nor from M. Soyer or the Club Houses; but if it does not answer to all that is here said of it, purchasers shall have the price returned.

One-year-old roots are now ready for delivery at 2*s.* 6*d.* each, and for every trade order of 8 roots 12 will be sent, and no trade order for a less number will be attended to. Orders, with a remittance, will be executed in rotation; and as the stock is only small, early orders will prevent disappointment.

THOMAS APPLEBY, Rose Mount Nursery, York.

GEORGE DAVIES is now prepared to send out the following NEW GERANIUMS at 42*s.* per dozen:—

Arethusa, Ariadne, Chieftain, Elise, Enchantress, Flying Dutchman, Colonel of the Buffs, Ganymede, Incomparable, La Bleche, Mochanna, Magnet, Purple Standard.

The following at 18*s.* per dozen:—

Boule de Feu, Dazzle, Generalissimo, Clarinda, Lord Stanley, May Queen, Mount Hecla, Major Domo, Nepaulese Prince, Nectar Cup, Silk Mercer, Pride of the Isles, Tyrian Queen.

The following at 12*s.* per dozen:—

Brilliant, Constance, Cristabel, Gipsey Bride, Elegans, Magnificent, Prince of Orange, Satisfaction, Princess Emila, Virgin Queen.

The following FANCY GERANIUMS at 20*s.* per dozen:—

Delicata, Bride, Gaiety, Othello, Orestes, Marion, Prima Donna, Prince Albert, Exquisite, Reine de Fleur, Reine de France.

The following CINERARIAS at 18*s.* per dozen:—

Catherine Seaton, Nonsuch, Fearless, Prima Donna, Mrs. Charles Kean, Rosy Morn, Lady Hume Campbell, Effie Deans, Mrs. Sidney Herbert, Clair of the Isles, Blue Perfection, Clara Mouberry. Older varieties 9*s.* to 12*s.* per dozen.

ERICAS, fine blooming plants, 12*s.* to 18*s.* per dozen, including Massoni, Sprengeli, Parmentieri rosea, &c.

	s.	d.
Abelia uniflora, new	2	6
Kennedya ovata alba, pure white, new	3	6
Tegelia bituminosa, bright yellow Kennedya-like flower, new...	2	6
Weinmannia pubescens ... ... 2*s.* 6*d.* to	3	6
Gompholobium barbigerum	3	6
Sollya Drummondii...	1	6
Daphne Fortuni	3	6
,, Indica rubra	1	6
Berberis Fortuni	2	6
Clematis cærulea odorata, new	2	6

The above are cash prices, and no reduction.

Stanley and Green Lane Nurseries, Old Swan, Liverpool.—October 30.

RENDLE'S NEW TREE AND SHRUB CATALOGUE.—Our new Autumn Priced List of

FOREST TREES, SHRUBS, AND FRUIT TREES,

Is now ready, and can be had on application in exchange for one penny stamp.

The Catalogue contains PRICES of SEEDLING FOREST TREES, New and Choice SHRUBS, Transplanted FOREST TREES, FRUIT TREES, including all the newest and choicest sorts in cultivation.

Gentlemen who want to plant largely this Autumn, or who require to lay out Pleasure Grounds, will do well to procure one of these Catalogues.

LARGE SURPLUS STOCK.

We have a large Surplus Stock of the following, which will be offered on very low terms, viz.:—

Seedling PINUS AUSTRIACA.
Fine Plants of CEDRUS DEODARA.
Two-years Bedded SCOTCH FIRS.
Fine stout Plants of PINUS EXCELSA.
Immense Stock of SEAKALE and ASPARAGUS.

TROLLOPE'S VICTORIA STRAWBERRIES,

20*s.* per 100, or 3*s.* per dozen. This variety should be grown in every garden.

Apply to WILLIAM E. RENDLE and CO., NURSERYMEN and SEED MERCHANTS, Plymouth.

ESTABLISHED IN 1786.

The Gardeners' Chronicle.

SATURDAY, OCTOBER 30, 1852.

MEETINGS FOR THE ENSUING WEEK.

TUESDAY, Nov. 2—Horticultural .....2 P.M.
FRIDAY, — 5—Botanical.....8 P.M.

OUR advices from Malaga inform us that the VINE MILDEW has reached that great seat of Grape growing. Muscatels have suffered less than others, only a few very robust full-grown plants in the shade of trees having been affected. The shipping Grapes and all green sorts high trained over trellis work or on trees, called there Parras, have suffered the most. In a small town, called Alhaurin, 12 miles from Malaga, the Grapes have not suffered, but in all other parts, from Malaga to Almeria, all green Grapes have been destroyed. It is singular that the red and black Grapes of Mr. DELIUS, even interwoven with the sick plants, have not suffered at all. The worst is that the evil is still progressing, even after the gathering of the Grapes, and causes much alarm, lest next year there should be more of it. Mr. DELIUS has tried bleeding, though late, with good success; to make use of hydro-sulphate of lime is out of the question, when it is necessary to care for 60,000 or 100,000 plants. Even trees, such as the Ceratonia Siliqua, have been attacked by the same evil, losing all their leaves; but after being well cleaned, they have got the better of it. The first symptoms of this epidemic were observed after three consecutive days of fog.

We have also learned that the vineyards on the

Theiss are diseased to such an extent that there will be no Hungarian wine this year.

The cause of this new pestilence continues as much in the dark as ever; meanwhile opinions are as plentiful as blackberries. Some attribute it solely to the action of the mildew fungus; others assert that the latter supervenes upon a previously diseased state of the tissues. One says the evil arises from badly treating the plants; another, on the contrary, ascribes it to their being too highly cultivated. For ourselves, we wait with patience for a better knowledge of facts, and for the results of experiments.

This need not prevent our producing the following so called simple and economical remedy, proposed by M. Robouam (*Comptes Rendus*, September 1852.) This gentleman states that in a former memoir, read before the Academy on the 20th of October, 1851, after alluding to the use of sulphur, lime, and other remedies, and demonstrating the difficulty, or indeed impossibility of adopting them on a large scale, he pointed out a fact which he thought ought to be strongly impressed on cultivators, namely, that the shoots, leaves, and bunches of Vines shaded by Grass or other substances are green and healthy, whilst those of the same Vine, and even of the same branch, exposed to the free circulation of the air, are diseased. It therefore appeared to him that strong light and the direct action of the air were necessary for the development of the disease. This he believed to be a valuable indication of what ought to be done. "The means," he says, "are easily inferred; they are simple, and may be readily and economically employed. They are adapted for large vineyards, and instead of increasing they will probably diminish the expense. I again bring the mode under notice because I have now sufficiently tried it to know its value. It is generally and incontestably efficacious; and I shall take great pleasure in showing it to any one desirous of seeing it."

"In more than a hundred different parts of my garden, all the Vine branches which trail on the ground are healthy, as are likewise their leaves and fruit: those lying on the dug ground are of a less lively green than those on the Grass. The Vines that were pruned as usual in winter, and had the ground dug about them in spring, but which have not since been pruned, nor dressed in any way, are much less diseased than those that have received the usual attention. On the same Vine, the upper branches which have been well pruned and trained may be compared with the lower ones which have been allowed to trail along the ground; the former are all diseased, whilst the latter are perfectly healthy. In some Vines the progress of the disease can be traced increasing more and more the higher we go. I have recommended the laying the Vine along the ground, and turfing the latter. Oats also, which can be sown at any time, and which, when cut green, afford an excellent green crop, soon push again, and can be kept at a proper height, appear likely to answer the purpose."

"But," adds M. Robouam, "it should be understood that these experiments, although conclusive in a general point of view, require to be regulated by practice as regards their details."

That plants will, under some circumstances, increase in bulk, in the absence of leaves, is proved by the evidence given at p. 643. We recommend this fact to the consideration of those who maintain that a removal of the tops of diseased crops will necessarily stop all further growth. One highly important question, however, still remains unanswered—what are those circumstances?

We have no reason to suppose that roots can grow in the absence of branches and leaves, until roots have arrived at a state of complete organisation. If a plant producing tubers loses its top when the tubers are young, the latter perish or cease growing; but if the tubers are considerably advanced in formation, then they will continue to grow, notwithstanding the loss of the leaves.

It would seem from this undoubted fact that a considerable amount of vital force is required in order to render a plant independent of its green organs; but that it becomes independent as soon as that amount, whatever it may be, has been acquired. In the beginning the green organs, exposed to light, appear to possess exclusively the property of elaborating the aqueous and gaseous matters which they absorb, and of so forming the material out of which growth or increase of size elsewhere is provided for. This operation takes place at that time exclusively in the cells of the green organs, the tubes and vessels of the vegetable structure being mere recipients organised by the matters so elaborated. This power of assimilation is believed to be owing to the high vitality of the cells of the green organs; but in proportion as the subterranean parts become organised their vital force increases, and at last it becomes sufficient to enable them to act independently of the leaves or green parts. If, then, at the time when a subterranean organ is cut off from communication with the leaves, its vitality is sufficiently high, its cells not only absorb water and other matters, as was the case from the beginning, but also decompose and elaborate them, in the same way as the cells of the leaves. The result of that elaboration is increase in bulk, partly arising from the distension of the cells and the consolidation of their contents, partly from the increase of the number of the cells themselves, and also from filling the last formed cells with the matter peculiar to the species.

That underground organs do possess this power, to some extent at least, has been certain ever since it was known that starch grains were formed in cells. Physiologists say that starch is formed by the action of leaves. By this they do not mean that the grains of starch found in a ripe Potato were first formed *as such* in the leaves of the Potato plant, and then conveyed to the tubers; for that is manifestly impossible, there being no openings in the sides of the cells of a plant through which starch grains can pass. The real meaning of the statement is that the matter out of which starch grains are eventually formed within the cells of a Potato, is originally elaborated in the leaves, whence it travels downwards while fluid, until it reaches the subterranean cells, where it is finally organised.

All that is required in order to secure increase in bulk is the power of organisation; that power depends upon the presence of a sufficient amount of vital force; therefore, when a subterranean body has gained enough vital force it has gained all the organic capabilities which are necessary for increase of size, or growth, and is able to enlarge even though cut off from communication with green organs.

We do not at all intend to say that an underground organ will increase as rapidly in the absence of leaves as it will if they are present. On the contrary, in the latter case, it grows by virtue of its own vitality and that of the leaves combined. A double power is brought to bear upon its increase, and at least twice as much food in an organisable condition is presented to it for consumption. All we contend for is, that although leaves may be gone, growth will go on—and to a much greater extent than is supposed. If, then, a root-crop is from any accident deprived of its leaves, it is by no means a necessary consequence that the crop is arrested in its growth; on the contrary, provided the defoliation does not occur till towards the end of the season, growth will go on notwithstanding.

This kind of growth is, we believe, always unattended by the formation of wood or its equivalent, for which leaves seem indispensable, as we may hereafter show; but that is a different part of the question, and of more interest in a scientific than in a horticultural point of view.

STATICE IMBRICATA.

This is an extremely useful plant for decorative purposes, and under good treatment it soon forms a handsome specimen, covered with large heads of rich blue flowers from May to November; and if wintered in the cool end of a stove it may be had in bloom the whole year round. I do not, however, recommend it for winter flowering, as the dense heads of bloom are very liable to suffer from mildew, and the amount of light at that season is insufficient to colour the flowers.

Young healthy plants should be procured at once by persons intending to commence its culture; these will require merely the ordinary treatment of greenhouse plants till March. As early in that month as may be convenient remove them to a light airy situation in a house or pit where the temperature may average from 50° to 60°, and be careful to maintain a moist atmosphere. In the case of delicate subjects it is better to defer shifting for a week or two after placing them in a growing temperature, but vigorous plants like that under notice should be shifted at once, if the pots are moderately filled with roots; healthy plants in 5-inch pots may be shifted into 8-inch pots, but badly rooted examples had better be allowed a week or two to recruit before potting.

If all goes on well after potting, which will be the case if this operation is properly performed and the plants carefully watered and attended to, they will make rapid progress. When vigorous growth is once induced, air should be admitted freely on favourable occasions, to induce a robust habit of growth; with a circulation of air the temperature may be allowed to rise to 70° with sun heat, but 55° will be sufficiently high at night. Towards the end of May or early in June, remove the plants to a cold frame or pit, which can be kept rather close; this will be sufficiently warm for the plants during the summer months, and will form a more suitable habitation for them than an ordinary stove or greenhouse. Moisten overhead mornings and evenings in bright weather, and shut up the frame after sprinkling for a few hours in the evenings, but give air for the night. In very bright weather a thin shade may be thrown over the glass for a few hours, but use this very sparingly. Some of the plants will probably require a second shift towards Midsummer, when, if well rooted, they may be allowed 12-inch pots. Be careful to have the ball and soil in a moist healthy state before potting, so as to avoid checking the plants, which would induce a tendency to flower, and greatly retard the object in view; but a few flower spikes will probably be thrown up by the most healthy specimens, which should be pinched off as soon as they are observed. As soon as damp cloudy weather occurs in autumn remove the plants to a light situation in the greenhouse, and keep them rather close at first; discontinue sprinkling over-head, give very little water, with a view to properly mature the season's growth, and prepare them for winter. No more water should be given while the plants are inactive than will suffice to preserve the soil in a healthy state, and the leaves should be sponged over once or twice, to keep them clean.

The beginning or middle of April will be a proper season to remove the specimens to the close end of the greenhouse, or any light situation where a moist temperature of about 50° can be kept up. Here the plants will throw up abundance of flower-stems if properly supplied with water, and will probably be in full beauty in about five weeks after being placed under growing circumstances. During the flowering season they will require, as already stated, to have their leaves sponged over occasionally; also a free circulation of air, to prevent injury from damp, a light situation not fully exposed to the mid-day sun, and a liberal supply of clear weak manure-water, such as would be obtained by mixing 1 gallon of stable urine with 3 gallons of rain-water, or 1 lb. of good Peruvian guano with 8 gallons of soft water. When damp becomes troublesome amongst the blossoms in autumn cut out the flower-stems, remove the plants to the greenhouse, and treat them as recommended for last winter. When growth is induced the following spring the specimens may be shifted into 15-inch pots, in which, with good management and a supply of manure-water, they will last for some three seasons, but a stock of young plants should be kept up, as a specimen will sometimes, even under careful management, get into bad health, and when old specimens do so they had better be thrown to the rubbish heap.

Its propagation will probably be somewhat difficult to inexperienced persons. Cuttings should be selected of the half ripe shoots, if such they may be called, slipped off with a heel, trimmed, and planted in well-drained pots, filled with light, peaty, sandy soil, covered with a glass, and placed for a fortnight in a shady situation, in a temperature of from 50° to 60°, and then removed to a gentle bottom heat of about 75°, where they will soon emit abundance of roots, when they should be potted singly in small pots, and treated kindly till well established.

A soil consisting of three-fourths rich turfy, sandy loam, one-fourth good turfy peat, with a sufficient mixture of sharp silver-sand, to ensure the free percolation of water through the mass, is what Statices luxuriate in. The loam and peat should be in perfect order as respects moisture when used, and ought to be broken up into small pieces, so as to ensure a perfect admixture with the sand. *Alpha.*

NEW FRUITS.

EXAMINED IN 1852, IN THE GARDEN OF THE HORTICULTURAL SOCIETY.

By R. Thompson.

Duchesse de Trévise Strawberry.—Presented to the Society by M. Jamin, Bourg-la-Reine, near Paris, Sept. 6, 1851. Fruit middle-sized, ovate, deep-red; seeds small, rather deeply embedded; flesh pale red, juicy, with a brisk rich flavour. Leaves large, roundish, widely and rather obtusely serrated. Leaf-stalks moderately tall, very hairy, the hairs on these spreading horizontally, but those on the scapes and runners are adpressed. Appears to be a good bearer, ripening quite as early as Keens' Seedling. It will require to be planted as widely apart as the sort just mentioned. As far as can be judged of it in the present season, it seems deserving of cultivation, or, at all events, certainly of further trial.

Salter's Versaillaise Strawberry.—Presented to the Society by Mr. John Salter, Nurseryman, Hammersmith, Oct. 24, 1851. Fruit large, ovate, sometimes flattened or cockscomb-shaped; dark red; seeds rather deeply embedded; flesh pale, juicy, and rich. Leaves middle-sized, roundish-oval, widely serrated. Leaf-stalks, scapes, and runners hairy, the hairs spreading almost horizontally. A good bearer, ripening about the same time as Keens' Seedling, to which it will doubtless be preferred by those who like a brisker flavour than is possessed by Keens' Seedling. On the whole it is worthy of recommendation, being large and a good bearer; many of the new sorts have these properties only, but this has also good flavour.

Beadnell's Seedling Pear.—This was raised by John Beadnell, Esq., West Green Road, Tottenham, and cuttings of it were presented by him to the Society. The fruit is nearly middle-sized, turbinate, stalk short; eye a little open; skin pale yellowish-green on the shaded side, red next the sun, much speckled with whitish-grey dots. Flesh melting, exceedingly juicy and rich. It is not buttery, but so melting, when used in its full perfection, that one can scarcely say whether he is not rather drinking than eating. Its period of ripening varies between the middle of September and that of October. It does not keep long after being ripe. The tree is vigorous, and bears very abundantly. Shoots

long, bright chestnut coloured where well exposed, much spotted with whitish dots. Leaves moderately large, cordate on the young shoots, somewhat concave and acuminate, serrated; those on the spurs are elliptic. Stipules linear, rather more than half the length of the petioles. This variety cannot fail to be very acceptable, on account of its rich, abundant, and highly refreshing juice.

Shanghae Peach.—This variety was sent to the Society by Mr. Fortune, who found it growing to a very large size in the North of China. Along with a plant of it in a pot, he sent some of the Peach stones. These were sown and came up abundantly; but they had a very unpromising appearance for fruit, their foliage being narrow, and altogether unlike that of a cultivated sort. They were, however, potted, and when fit, used as stocks for the original. Several trees on these stocks were planted against a south wall, where they grew rapidly. The trees have produced better fruit this year than formerly, probably owing to unusually high temperature in July. The flowers are large, the leaves of the petals deeply coloured. Leaves crenated, with reniform glands. Fruit very large, 10 inches or more in circumference, roundish, and very handsome; pale yellow where shaded, and delicate crimson red next the sun. The flesh is pale yellow next the skin, but very deep red at the stone, to which it is attached by strong fibres; yet it is not everywhere adherent, like the flesh of the clingstone Peaches. It is juicy and rich, but it requires to be gathered a day or two before it is used. In this state some gentlemen preferred it to old esteemed sorts. It ripens about the same time as the Bellegarde. The tree is a good bearer. Buds of this sort have been distributed to the various nurserymen or other Fellows of the Society who applied for them. It must however be observed, that it requires a good aspect and warm situation. It would probably answer for forcing, with plenty of heat. Some buds of it were sent to Paris, and there its fruit is said to be splendid. Like all large fruited varieties, it ought to be well thinned. *Journal of the Horticultural Society.*

VARIATIONS AMONG CONIFERS.

About a year and a half ago I ventured to address a letter to you on the uncertainty of that system of classification which allowed too great a prominence to some of the characteristics of the genus Pinus, which by nature, and, I believe, by the accidents of culture, are variable. I sent you specimens of some remarkable variations of this kind.

The great excellence of botanical rules is, that they do not at all require the exception to prove them. They are complete in themselves, and beautifully demonstrative. Doctors botanical may differ no less than doctors medicinal. Endlicher may persist in making all Piceas into Abies, and all Abies into Piceas, to the great inconvenience of all those who have labelled a whole Pinetum after the excellent arrangements previously suggested by Dr. Lindley and Mr. Loudon; but the botanical rules by which we recognise them remain unbroken throughout the world, like all the other perfect works around us, which once were pronounced to be "very good."

The singular variety of Pinus austriaca raised in my Pinetum, and of which I sent you several specimens of three leaves in a sheath two years ago, still persists in the same course. All over the tree (about 10 feet high or more, and very dense), this difference from all its surrounding brethren is most remarkable. I also find Pinus Hartwegii still halting between two opinions between a three-leaved and a five-leaved Fir. Pinus mitis, P. variabilis, P. muricata, and others, are too well known in their similar tendencies to need remark. My Pinus insignis has many a group of four leaves, instead of its prescribed three. But I inclose specimens more remarkable than any, viz., groups of P. sylvestris three in a sheath, and P. macrophylla with six and seven. There are many of seven, and I have found them of eight in a sheath; but unluckily I broke the sheaths in pulling them from the tree, so I do not send them to you. If these of sylvestris and macrophylla were merely one or two accidental specimens, I should take no notice of them; but of the former I have gathered eight or ten examples round one bud alone, and on the macrophylla the examples are very numerous.

Your journal serves the cause of horticulture in one out of many other desirable ways by chronicling facts; I therefore venture to send you these remarks, and the accompanying specimens.

The persistent or deciduous scale—the bossed or smooth and uniform cone—the winged or naked seed, and other such features, mark more surely the natural subdivisions of the genus than what we have hitherto too much respected as a rule.

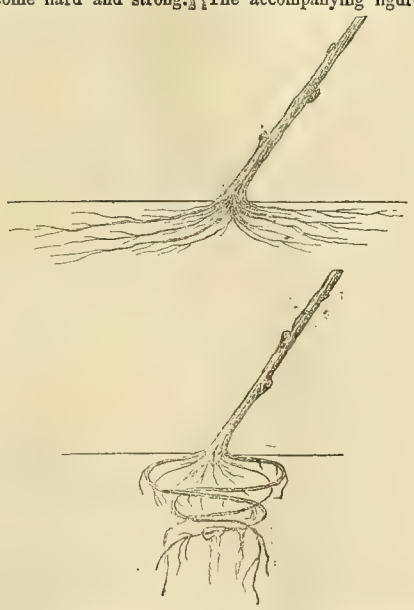
The excellencies of all natural laws surpass that of human inventions by a power of expansion and adaptation to circumstances, without the sacrifice of a principle, or even the infringement of a rule. The botany of a country is but one chord in the harmonious association of those many beings, forms, and features which give it its peculiar character. The short-leaved and muscular natives of storm-blasted Scotland are as true to their home as the pendant, graceful, easy-twining forms which spring from the deep deposits of a tropical jungle. But they both have this in common, that they breathe the same air and rejoice in the same sun. Take the rich food from these pampered southerns and they die; but the contrary with the others would not be true. I grant that a Scotch Fir would die of indigestion in a jungle, and of a headache in Egypt. But seriously there is reason to believe that by the expansive power of natural laws, it is possible that such alterations may be effected by change of climate, soil, and long lapse of time, as to harmonise the characteristics of a stranger to those of his new associates, and greatly change the external features without violating the sacred laws of its constitution.

The strong growing Cedar of Mount Lebanon may have expanded into the tall and graceful Deodar of the southern sunny Himalayas. The rich Pelargonium of our flower-gardens is but the expansion of a weed. I leave you to perhaps a vague, but a pleasant and sunny inference. I refer you to my Pinuses. *Pinus Gloucesterensis.*

Home Correspondence.

The Mimulus.—I have for years been an exhibitor at the London and provincial exhibitions, but I never remember a prize having been offered for a collection of Mimuluses. Cannot something be done to bring this beautiful flower into notice? At present it appears almost neglected; for one scarcely ever sees a plant worth looking at. I think if a prize were offered at Chiswick we should soon see this flower become more popular and in the highest state of perfection; and I am certain it would be greatly admired; for what is more handsome or showy than a well bloomed Mimulus? I have always been very fond of, and have paid much attention to its culture. It is easily propagated by cuttings, layers, or seed. The soil best adapted for it is equal portions of peat, sand, leaf-mould, loam, and cowdung. I have also found them to be particularly fond of a shady situation. Those who manage the Calceolaria well will find no difficulty in cultivating the Mimulus. *E. Bennett, Perdiswell.*

Pot-bound Roots.—It is now 10 or 12 years since a pit was planted here with Vines, most of which were young enough to allow their roots to be spread out perfectly. It appears, however, that some were either too much pot-bound, or planted at the wrong season, to admit of this operation. In destroying the plants lately I was able to examine their roots, and the result was, that those which had got the spiral curve when planted had always kept it, and would unto the end, as they had become hard and strong. The accompanying figures



represent respectively the natural and unnatural positions of the roots at the end of 10 years. *W. Brown, Mereveale, Oct.* 22.

Yucca gloriosa.—Reading in your pages a short time ago of a Yucca gloriosa, some 4 or 5 feet high, being in flower, and thought by many to be a very fine plant, has induced me to send you an account of one now growing in my nursery which measures upwards of 16 feet high, and is a sucker from one which flowered here in 1829. I have been told by many who have seen our plant that it is the largest specimen in the kingdom; it is still growing as vigorously as when it was 10 years younger. Do any of your readers know of a larger one? *G. Edwards, Wells Nursery, Somerset.*

The New Epipactis.—As the subject of the new Epipactis has been again brought forward in rather a prominent manner in the *Chronicle* (p. 660), I think it right to add a few remarks. My doubts concerning it are very far from being removed either by the editorial remark (p. 549), or the interesting paper by the Rev. G. E. Smith. I continue of opinion that Mr. Harcourt's plant is a form of my E. media. Although the ovary is usually downy in that plant, I have dried specimens before me in which it is hard to say that it is not devoid of down. I cannot look upon the absence of down from the ovary as of much consequence, but I have never seen an instance of the rachis being without it, as is stated to be the case in Mr. Harcourt's plant. The shape of the lip is the same as that of my E. media, in which also the crenation is very slight; these crenatures are nearly or quite wanting in the E. purpurata (Sm.), which I place as a variety of my E. media. I lay no stress whatever upon the more or less uniformly green flowers. It is not my intention to discuss the question if E. media and E. ovalis are or are not "trifling varieties of the variable E. latifolia," but the "new" plant is at least as near to E. media as that is to E. latifolia; indeed I think that it is much nearer. The true E. latifolia is a much less frequent plant in this country than my E. media, which is often mistaken for it by British botanists. I have no difficulty in distinguishing the former from the latter at sight, and I have found the former to be very constant to its published characters. The latter is variable to some extent, and thus rendered difficult to identify with the plants of continental botanists. A careful study of it has now satisfied me that my E. media is the E. viridiflora (Hoffm.) as figured and described by H. G. Reichenbach, in his "Orchideæ." Mr. Harcourt's plant seems to be the greenest, and E. purpurata (Sm.) the most coloured form of it. As it seems more than ever probable that my plant is not the E. media of Fries, which is perhaps more nearly allied to E. ovalis (Bab.), we, who do not think it right to lump the English E. media with E. latifolia, shall probably have to adopt Hoffman's name for it. An examination of the description of E. phyllanthes of Mr. G. E. Smith (p. 660) does not supply me with any point by which to distinguish it from E. media (Bab.) unless the "lip similar in form and texture to the petals" and "undivided" is to be considered as one. If, however, the lip is really such as these words describe, I should consider his plant to be producing flowers in a state of monstrosity, certainly not as a species or permanent variety. The meaning of his words is rendered obscure by his statement that the E. phyllanthes "is evidently the same as that figured" (at p. 532), where the lip is certainly not "undivided;" and his quotation of Sir J. E. Smith's remark concerning a "specimen in which the lip is perfectly entire," for the word "entire" is there manifestly placed in contrast with the "crenate" of the preceding sentence. *Charles C. Babington.*

Brugmansias.—I observed in your "Calendar of Operations," published on the 9th inst., that you speak of the necessity of now taking in, among other plants, the "Brugmansia." I beg to say that those under my care are allowed to remain in the ground all the winter. As soon as they are cut down by the frost some dry ashes are sprinkled over the stumps, and they are left until the spring, and begin to shoot early in May. I have now one about seven years old, which has grown this year nearly 8 feet high, and is the largest plant I have ever seen growing in the open air. I intend trying the Datura in the same way. *T. C. C., Castle Carey.*

The Storm of August the 11th.—I have but just observed an article at p. 629, respecting the effects of this storm on the foliage of various trees and shrubs on the Sussex coast. I am a witness to exactly the same effects as there described, viz., "burning the leaves of the trees either wholly or partially, taking one side of a hedge, and leaving the other intact, &c." That the effects of this storm extended from Southampton to Dorchester I can testify by my own observation, so that the only kind of trees that entirely escaped the scorching were the Hollies, which abound in the New Forest. Oak and Beech suffered as much as other trees; and young leaves succeeded those that fell off in most instances. The burnt appearance was the more remarkable, as it was produced not by a dry, but a wet wind, the rain falling in torrents the whole time. *D. S., Lymington, Oct.* 25.

Potato Disease.—Your Leading Article of the 4th September (p. 563) sustains a very general opinion that to a vitiated state of sap brought on by some unsuitable culture—be it by too high feeding the plant, or be it by injudicious treatment of the seed tubers—is to be attributed the prevalence of the epidemical pestilence which ravages our Potato fields. "Of all the causes that have been suggested, constitutional debility seems best to agree with the facts we now know connected with this question." Leaving for after consideration the reality of a constitutional debility, let us consider the two causes which have been held to have originated it. And first, the over excitement or excessive nourishment afforded by high manuring. In England, where from the use of oilcake, corn, roots, &c., in the feeding of cattle, where indeed one feeds for the dunghill, rank and highly putrescent manures are made, and where, from the Potato entering into a very limited cultivation, a large amount of such rich manures can be and is applied, concentrated in drills about the tubers and roots, some grounds are afforded for the opinion that high manuring may have brought on a constitutional debility. But how stands the case in Ireland, proverbially a low farming country, where the principal and by far more numerous cultivators of the Potato are found among the poorest and lowest farmers; where no oilcake, no corn, no roots save the Potato, and of this but little, were used for feeding; where the cattle, few in number, were kept starving through the winter days upon bare pastures, and life just kept in them by a little hay or straw at night, a little more generous treatment to Potato skins and refuse being vouchsafed to the cow giving milk; where the manure was made up of the dung of these wretchedly-fed cattle, whose condition in the spring showed their feeding in the winter; of straw rotted on bye-roads and in yards, and of bog mould; where such manure as this was spread on worn-out stubbles, in lazy-beds, between two layers of clay in the most favourable position to have its ammonia absorbed by the soil, and its slight putrefactive action

neutralised ; while the breadth of land that was under Potatoes was so disproportinate to that under other crops that the manure, such as it was, was necessarily but sparingly applied ? It were too absurd to attribute a depraved state of the Potato plant to its gross nourishment ; yet Ireland has suffered to the full extent of other countries in her Potato crops. The other cause of this assumed constitutional debility is assigned to a deterioration of the seed tubers, as Mr. Cuthill says, "from the long continued ill treatment of the tubers." It is certainly agreeable to physiological experience that cuttings carry with them a vital force proportionate to the health of the parent plant ; but the Potato plant, the produce of the seed from the Apple, is equally liable to be affected by disease, as the plant from the tuber cutting. But in what way should we expect a tuber injured by heating, and by the destruction of the first germination, to affect the growth and health of its offspring ? Should we expect the injurious consequences of this ill treatment to be deferred till it had arrived at full growth, till it had produced a future generation ? Should we not expect a puny and sickly plant, whose weak vital force could scarcely maintain itself through the ordinary casualties that vegetable life is subject to, and which would inevitably sink sooner or later under the influence of some of the asperities to which it would surely be liable, as it possessed more or less strength to withstand them ? But what do we find in the Potato plant ? Invariably a strong and luxuriant vegetation, enduring to the moment of the attack of its insidious enemy. It is a strong man in a robust maturity stricken down at once by a stronger enemy—not a weak youth, fluctuating and sinking under pulmonary consumption. Although either of these causes might be sufficient to bring on a debilitated constitution, yet, for the reasons advanced, it appears to me very questionable that they have done so. But is there any constitutional debility in the Potato, and can the disease be taken as a sure indication of it ? Is its destruction by a fungus decisive of constitutional depravity, and will not fungi grow on and destroy healthy plants ? We find, as has been remarked by Dr. Lindley, that, "in all directions, blight is making havoc ; that is to say, the fungi which produce the appearances popularly known by the name of blight." Wheat, Pear trees, Vines, Pea crops, the currants of Zante, Raspberry bushes, and, in Ireland since the appearance of it on the Potato, the Whitethorns in the hedges have, as they say, "taken the disea e." Wherever we turn fungi have fixed themselves ; indeed the whole vegetable kingdom has at once and suddenly succumbed to this puny yet irresistible enemy. Has all vegetation as suddenly become depraved ? is constitutional debility to be ascribed to all, in every country, under every treatment ? or is it to be limited to the Potato ? This surely is too absurd. The appearance of fungi has been too general, too simultaneous, too instantaneously intense, to be the effect of constitutional debility, which must come on different plants, and on the same plant under different culture and climate at various periods. For such a general, such an universal production of the mildew fungi, there must have been a cause as generally pervading the whole globe ; their spores must have found seasons peculiarly favourable to their perfection and preservation, while their destructive agencies, which prevented their undue increase, must have been absent. I can see no necessity for more, none for a predisposition of plants to foster the seeds so presented to them ; the hydroscopic powers of the parasites are sufficient to extract the nutriment from healthy plants ; and indeed, previously to their visible effects on them the Potato plants invariably make a most luxuriant appearance, and bear every evidence of being in a most healthy state. But on a debility in the seed, how are we to account for the tubers in pure bog soils escaping the infection, while the leaves and stems equally suffer with those in the clay soils ; there are now before my own eyes Potatoes (Scotch Downs), digging out in low lying fresh bog land manured with yard dung, in which not a diseased tuber is to be found, though their stalks suffered fully as much from mildew as those in an adjoining clay soil, where at least one-third of the tubers (the same Scotch Downs) are diseased. Regarding, then, fungus as the sole cause of the Potato disease, in the first case, in its appropriation of the ascending aqueous sap causing the partial death of the plant ; and afterwards, in the putrefaction it induces. I would seek first to evitate all conditions favourable to its striking and early growth in giving the plants as much air as possible, unhesitatingly refusing the detestable recommendation to let weeds grow, and next by a deep tillage, and perhaps deeply buried manures assist the plant to draw sufficient moisture from the soil to supply its own wants as well as the drain on it by the parasite. Possibly an attempt to poison the fungus by making sulphur an ingredient in the manure might be advisable. Could we wage a general war against the Potato fungus by cutting off the tops of the haulm as soon and as often as the spores are deposited on them, and burning them with quick-lime, we might work more effectually against the disease ; but as this is impracticable we must content ourselves with devising means to lessen its violence, and doing this wait for its disappearance, when it has run the course of all epidemical attacks. Perhaps the early starving process might receive some assistance by beating off the morning dew, as practised with early Potatoes in frosty spring mornings. *Jas. W. Goodiff, Granard.*

Rot in Larch.—I should be obliged if any of your correspondents would advise me what to do with a plantation of about 4 acres, which was planted in the year 1809 with Oak, Beech, Larch, Ash, Elm, and Scotch Firs ; the latter have been long thinned out, as well as many of the others. The Larch appeared to be growing particularly well, also the Oak, Ash, and Elm ; the Larch of a size to be useful in building, and having an opportunity of disposing of them for that purpose, they have been all cut down, and all were unfortunately found to be diseased nearly for 2 or 3 feet from the bottom. The Oak, Elm, and Ash are all very thriving, but not of a size to repay for falling at present ; but they are thinly scattered over the ground, and there is sufficient space for 300 or 400 young trees. The Ash have been sowing themselves, and are coming up spontaneously, like weeds. Should I be content to leave them alone ; or had I better plant thickly with young Larch and Oak. The formation is certainly not primitive, but of the new red sandstone, and the soil dry. What can be the reason of the decay ? Have they been left too close together, and being thus deprived of all side branches, have decayed for want of nourishment through the leaves ? Single Larch trees grow beautifully about the same grounds, and have not shown the same symptoms of decay, though many of them are much older trees. I should be very glad of some opinion and advice. *L. C. K.*

Vine Mildew.—I have watched the progress of this disease on Vines for these last three years, and my opinion is that it follows the rising sap ; for I find that when the first sap in the branches starts there is no appearance of mildew, but as soon as sap rises from the root mildew comes with it, developing itself first on leaves nearest the stem, and gradually progressing, till in a few days it is all over the house. I do not consider that the state of the air has anything to do with it. I have had it all round me ; and one gentleman in particular, within 100 yards of me, lost the whole of his crop one season by it ; but by following my advice this year he has had sound Grapes. About five years ago I found my Vines in a very dirty condition, with wood not larger than a tobacco pipe, and the bark hanging in strings. The first thing I did was to get a few cart-loads of loam, the parings and cleaning out of some ditches, some well rotted dung, and some lime rubbish, and I mixed all well together. I then had the old mould cleared away from the roots and the new material put in its place, being very careful not to break a fibre that could be helped, for I had the roots laid as bare as I could, and the result has been that after the first season I have had abundance of good Grapes quite free from mildew. By adding new soil to the roots, the Vines made fresh roots "at home," and sent up plenty of sweet sap, which defied all attacks of the mildew. When the latter occurs, however, it can be stopped by throwing damp sulphurous vapour into the house. I have now a young Vine that I planted two years ago, which has made a shoot this season upwards of 21 feet in length. *W. S., Hillingdon.*

The Barbarossa Grape.—I have been asked how I knew this Grape did not shank ? My Hamburghs have always done so, more or less, and most assuredly there are few houses in which shanking does not occur ; nevertheless the Barbarossa is free from it. I was at Trentham the other day, and put the question to Mr. Fleming, who has fruited it two years, and his answer was, "it did not know how to shank." There has never been a shanked berry upon the original tree. This year I grew 15 bunches, and I had not one shanked berry in any of them. It would be seen by the bunch which I exhibited in Regent-street, on the 19th inst., that not a single berry had been removed from it since it was thinned in June, proving I think, satisfactorily, the correctness of my assertion, that it never shanks. It is a large, handsome, late Grape. *John Butcher, Stratford-on-Avon.*

Snails.—I am anxious to learn from any of your correspondents if there be any effectual method of destroying snails in large numbers with small expense and trouble. I have found in the course of a tour in the south of France, the vineyards terribly infested with these voracious pests ; and I have, at the request of a proprietor, been doing my best to discover a remedy in gardening books ; but these mostly recommend a careful search early in the year, before the breeding season. This is obviously impossible in a large tract like a vineyard. I am therefore in hopes that some suggestion may be put forward by which snails may be either poisoned or otherwise destroyed without risk to the plants. Would whitewashing the stems and espaliers be of any good, or dusting lime over them ? I fear this last would prove expensive, but if successful it would quite repay the outlay. Any feasible hint would be gladly experimented with in a small scale, to test its efficiency and safety. *Viator, the Grove, Walton-on-Thames.*

Patchouli.—Having many plants of Pogostemon Patchouli, I am most desirous to know how to properly dry and preserve the leaves, as in India. I have tried several times drying them in the sun, but they shrivel up and do not retain their smell. Would any book tell me ? *A. F.* [Not that we know of.]

Potatoes from sets without eyes.—Permit me to inquire whether it is well known to gardeners that about a square inch of the substance cut out of the centre of a large Potato will produce tubers (but small), about the size of nuts, and slender haulm, from 2 feet to 4 feet long. I have some just dug up, and heard of others planted experimentally. *Subscriber.*

Window Gardening.—Your correspondent, Dr. M'Cormac, is probably not aware that his views on this subject have, in part, been anticipated. It is known to many that a highly interesting instance of the practicability of converting the lower part of a shop or house-window into an hermetically sealed case (Wardian ?) for the growth of small tropical or greenhouse plants, is to be seen in the corner (chemist) shop at the end of Sloane-street, London, forming an angle of Sloane-square. Upwards of 10 years ago, I well remember the interest which a passing notice of this shop-conservatory afforded, as a sort of relief, after the inconvenient perambulation of that long avenue of brick and mortar, which an occasional disappointment of a conveyance imposes upon the pedestrian. About the period referred to, the plants contained in this case were various Ferns, Lycopods, Aloes, &c., &c. Window gardening is probably yet in its infancy. Why should not the whole area of one window in a drawing-room be entirely devoted to this object ? The partial absence of light would not, I fancy, be greater than the exclusion arising from the usually suspended draperies or hangings. Perhaps one of the main difficulties in the successful management of large Wardian cases arises from the deficient means of maintaining or regulating the requisite degree of humid atmosphere. I have often thought that the lowest plants should rest upon a floor or trellis, elevated from the bottom of the case, which would admit of an additional feature of interest, namely, a reservoir of water, which might either be trellised over, or the garden artist might erect a small picturesque pyramid in the centre, or otherwise bridge it over with such material as that the graceful fronds and stoloniferous branches of the Ferns and Lycopods might wave their slender forms over the water. It may appear chimerical even to suggest the probability, that, ere long, the requisite temperature and humid atmosphere required for large Wardian cases will be supplied by an ingenious contrivance for heating the reservoir at the base by a communicating medium with the drawing-room fire. *W. Wood, York.*

Hunter's Prolific Cucumber.—Mr. George, gr. to J. C. Somerville, Esq., Dinder House, near Wells, has grown this variety this season, from a cutting, to the following size and weight—length, 33 inches ; girth, 10½ inches ; weight, 7 pounds. This fruit was perfectly straight, being the finest specimen ever seen in this part of England. *Geo. Edwards.* [But what is the *use* of such a fruit ? which of course was ripe when these dimensions and weight were taken.]

Notices of Books, &c.

Peter Lawson and Son's List. No. VII. Synopsis of the List of the Abietineæ. Edinburgh. Lawson.

It is not often that we find it necessary to criticise the trade-lists of nurserymen ; they are generally of too slight and unpretending a character to form part of the literature of gardening. But with Messrs. Lawson and Co.'s it is different ; their catalogues are usually so well prepared as to take rank with permanent works, and to claim the same kind of notice. Such being the case, we cannot avoid pointing out the inferiority of this new part to its predecessors, a circumstance the more to be regretted, since the present rage for Coniferous plants makes it important that all lists of them pretending to authority should be prepared with the greatest possible accuracy.

That Messrs. Lawson have put the compilation of their Coniferous Catalogue into very incompetent hands is evident, not only from the misprints and bad orthography, but from graver errors, of which the following may be taken as examples :—*Biota* (p. 6) is said to have wingless valves of the cone ; whereas it is the seeds that are wingless. *Cephalotaxus* (p. 7) is characterised by its ruminated albumen, and does not differ from Torreya in any one circumstance, according to the generic phrase given by the author of the Catalogue ; but its albumen is homogeneous, not ruminated, and thus it differs from Torreya, as well as in having 3-celled, not 4-celled anthers. *Taxineæ* (p. 7) are called drupaciferæ, instead of drupiferæ. The second section of *Podocarpus* (p. 8), is called Endocarpus, instead of Eupodocarpus, an error repeated at p. 41.

Among the *Pines*, Lady Grenville's is called Lady Granville's, and the Latin name is written Grenvillei instead of Grenvilleæ ; Pinus Orizabæ (p. 87) is called P. Orizab*io*, and translated Rustic Pine ! as if the writer did not know that its name arose from having been found on Mount Orizaba. Sir Joseph Banks's Pine (p. 21) is called Bank's. P. Fischeri (p. 23) is written Fische*ve*, and called Fisher's. *Dacrydia* are called Dacrydiæ (p. 43) ; *Microcachrys* (p. 43) is called Macrocachrys ; the origin of the name *Saxe-Gothœa* is attributed (p. 45) to Hooker instead of Lindley ; and finally *Pinus Cembra* is named after Loudon the Cembran Pine, as if it came from some place called Cembra ; but the name is in reality that employed in the Valteline, where the inhabitants term the tree Cembro or Cirmolo.

Nor are all the errors of this nature ; in what professes to be the scientific arrangement, are others of a very singular character. For instance, Endlicher, whose definitions the writer has attempted to translate, says of Chamæcyparis, "Seminum integumentum canalibus resiniferis nullis v. vix manifestis," *i.e.*, the covering of the seed is without resinous tubes or with none that can be clearly seen ; this is translated (p. 7) "Seeds *in a channel-like cover*, slightly, or not at all resiniferous !" In *Caryocedrus* (p. 7) the buds are called *perulated*, as if the writer did not know that perulatus signifies *scaly*,

when applied to leaf-buds. One more instance of this sort, and we have done. At page 8 is given a character of the genus Nageia, evidently taken from Endlicher; that author assigns to the genus (we need not quote his Latin) a receptacle formed out of the axis of a contracted spike, which axis is consolidated with bracts. In the Catalogue the "receptacle is connected with the bracts, by the axis of the short spike."

These specimens show conclusively in what manner the catalogue before us has been compiled; they are of a nature to render it useless to the public. The general design of the work is however good, and we venture to suggest that the present issue be cancelled; if the publication is stopped until the Catalogue shall have been carefully revised by some competent person, no great harm will have been done, and it will then be worthy to be classed with the six preceding lists, which have been issued by the justly eminent firm whose name it bears.

Garden Memoranda.

Horticultural Society's Garden, Turnham-green.—One of the most interesting plants at present in flower here is the Pampas Grass of Brazil (Gynerium argenteum), a good specimen of which is growing in the American garden near its entrance. This plant has 12 flower stems, each some 8 feet long, about the thickness of the thumb, and surmounted by an erect panicle of inflorescence at least 18 inches in length, which beneath bright sunshine looks like a beautiful light-coloured feather spangled with silver. The panicle is in the form of that of the beautiful Arundo Phragmites. The leaves, which are some 7 or 8 feet long, with a hard flinty skin, grow in tussocks, which in situations at all favourable soon acquire a large size; when in flower certainly few plants are more striking or magnificent in appearance than this gigantic Grass, which, being perfectly hardy, will be found to be a great acquisition to the ornamental grounds of this country. A woodcut representation of it will be found in our last year's volume, p. 757. It will be recollected that on the north side of the walk leading from the large conservatory to the American garden, the shrubs were thinned out last spring, and the border laid down in Grass as far back at least as the Conifers which it contains extended. We have now to report that the south side is about to undergo the same treatment, which will have the effect of opening up an agreeable piece of lawn on the west side of the conservatory that cannot fail to improve the appearance of this part of the garden. Many of the shrubs are already cleared off, and nothing but the wet weather which we are at present experiencing prevents the further progress of the work. Some improvements are also being effected on the east side of the arboretum, in the shape of thinning out and regulating the shrubs in the borders near the iron tent, and in making the surface of the old arboretum better correspond with that of the recently executed work on the east side of the walk, which runs from the tent just mentioned to the main entrance. This latter operation consists in levelling the ground, by removing the turf wherever it was too high, reducing the surface to the required depth, and then neatly relaying the turf.

The Chrysanthemums, which promise to be very fine this year, have been placed in the Conservatory; but they will not be in blossom for some time yet. The yellow Pompon called Hendersonii, raised we believe by Mr. E. G. Henderson, of Wellington-road, is still as full of gay flowers as it was when shown in Regent-street on the 19th inst. We direct attention to this plant again, because we have heard it stated that it is no earlier than other kinds. This is, however, a mistake, as the plant in question has received no forcing whatever, as has been alleged, but has been treated precisely as the other sorts, whose flowering it precedes by several weeks. Perpetual, or tree Carnations, have been placed along the border, which they enliven by their many-coloured blossoms. On the shelves we remarked, here and there, dense tufts in pans of Cochlearia acaulis, whose multitudes of little pale blue starry flowers have a cheerful appearance. In one of the greenhouses the handsome Veronica Andersonii was just coming into blossom. Of half-hardy winter flowering plants this is one of the very best, possessing as it does a good habit and fine foliage, from among which issue numerous flower-spikes as long as the finger and nearly twice as thick; the tops of the latter are blue, while their bases are white, and in the excellent contrast produced by these two colours consists the charm of this truly beautiful hybrid. In the propagating house the white Glycine was being successfully increased by being cleft-grafted on pieces of the root of the common kind. The same operation was also being performed with Tree Paeonies, which were worked in the same way on pieces of roots of the herbaceous sorts; managed after this manner they were said to make plants in about a month. An Allamanda led along the top of the narrow span roof of this house has been one mass of flowers all the summer, and it is still gay. In situations like this, where it is permitted to ramble almost unconstrained, it blossoms far more profusely, and has a better effect than when confined to a limited space. Dipladenia urophylla has also flowered well, and been pretty effective under similar circumstances.

As regards Mr. Ewing's glass walls, we have this time little to report, except that Tomato and other Capsicums have ripened satisfactorily in them.

In the Orchard department the fruit is already all gathered, the late frosty nights rendering this necessary, even for such kinds as Nonpareils. Pears and Apples are both found to be somewhat out of character this year, in consequence of nearly all the perfect blossoms having been destroyed by spring frosts. Nevertheless, among Apples we remarked fair examples of Blenheim Pippin from a standard, as well as one or two other kinds. Of ripe Pears, in addition to what were mentioned in our report of the Society's last meeting in Regent-street, we noticed the following, viz., Duchesse d'Angoulême, Beurré de Capiaumont, a very productive sort, from dwarf trees; it is more russeted this year than usual, and when it comes so it is better flavoured than when the skin is smooth; Belmont, one of the late Mr. Knight's Pears, is larger and better flavoured than the Beurré de Capiaumont, and it comes into use at the same time. Associated with these were Hacon's Incomparable from a wall; but it is better flavoured from a standard, and it keeps longer. The Urbaniste is also in season now.

The young trees in the orchard have made good growth this summer. Some of the espalier Cherries planted in 1850 have already reached their fourth course. It may be worth mentioning, perhaps, that some Broccoli planted without any manure in the orchard ground, which was well trenched 3 feet deep, has thriven better than that which was planted in highly manured land in the kitchen garden; but which was not so deeply trenched or worked. In the last-named garden the Auvergne Pea is still green, blooming, and producing a few pods, so that this may turn out to be one of the best Peas for late crops. As regards Celery, a row which had been roofed over with straw screens, to keep it from frost, had grown stronger and better than the rest. In the same department was a plantation of winter Spinach, consisting of the Flanders and Lettuce-leaved; both were good, but the latter could easily be distinguished from the former by its much deeper green colour, and more fleshy leaves. Among Endives the Scarole à fleur blanche, or white flowered Batavian, is an excellent sort, which blanches well, and the Chicorée fin d'été is found to have withstood the late frosts better than other dwarf curled sorts. A collection of Lettuces and Endives has been planted in protecting frames, and also both on the north and south sides of ridges, to see how they will stand the winter under these respective circumstances.

Bishopstoke, Hampshire, the residence of the Very Rev. the Dean of Winchester.—In this favoured climate the Chinese Quercus glabra has ripened acorns, and the Viburnum japonicum has also this summer produced several bunches of white flowers, which were very fragrant.

FLORICULTURE.

Can Hollyhocks be grown in Pots?—At the present time, when I think it is becoming yearly more manifest that florists' flowers, to maintain their hold on public estimation, must be shown in the shape of plants as well as in a cut state, the question which heads this article naturally presents itself. Of course the lag-behinds and stationary folks have already given their verdict, "Impossible," "Nonsense," and so forth; but men of progress may be inclined to try, and trying, are sure to succeed; for though red spider, thrips, mildew, and other ills which plants are heir to, may present themselves, all that we can say is, we have beaten them before, and we will conquer again. Although the Hollyhock is a gross feeder, and requires considerable root room, it is perhaps not more gross than some other plants which are grown for exhibition purposes, as for illustration Clerodendrons; and if we observe the same rule with the Hollyhock, and give it rich compost and manure-water; in fact, if instead of allowing a cubic yard of soil we concentrate the nutriment of that mass in a ninth part of its compass, I have no doubt that the Hollyhock may be grown to great perfection; yes, to greater perfection than when unrestricted in the open ground, inasmuch as undue grossness may be controlled, and so equalised, that instead of having a few flowers at the apex, the plant may be proportioned to the flowers, and the flowers to the plant; that is, a well grown and properly bloomed plant may be produced: of course, for exhibition purposes, a proportionate and regularly bloomed plant would be preferable to a large one with a few remarkably fine flowers, and yet the bloom-buds might be so thinned out and protected as to bring them to great perfection, both in size, colour, and quantity. I have had some plants in the open ground scarcely more than 4 feet in height, and beautifully branched, which I consider would be splendid pot subjects; and a dozen or score of them, nicely bloomed and contrasted, would form a group scarcely less remarkable and gorgeous than a bank of Azaleas in May. But it is not so much as objects of interest at exhibitions as for general gardening purposes that I would advocate the growth of Hollyhocks in pots; for, nicely managed, the purposes to which they might be applied in a decorative point of view are almost endless. Grouped together in well contrasted masses upon lawns, the pots plunged in the Grass, or even as single specimens, mixed with gardenesque examples of shrubs or dwarf trees—arranged in lines along straight walks, or upon terraces, placed in niches, or indeed arranged anywhere where a very conspicuous object is required; they would be found exceedingly effective and alike useful for the decoration of the cottage ornée, or one of the palatial houses of England. We have no plant so effective as a single specimen, or which in its symmetrical proportions accords so well with straight lines and architectural proportions of a first-rate residence, as the plant under notice. Again, the season of the Hollyhock may be much extended; for, by bringing the first lot in pots forward in a warm situation, and retarding a late lot in a north aspect, we might have plants in perfection from June until October. In fact, in no point of view could the Hollyhock be out of place. *W. P. Ayres, Blackheath.*

Dahlias.—Your Calendar writer says (p. 680), "Our Dahlias are all out of the ground;" a great contrast with those in this neighbourhood. Mine are still in great perfection, having this day (Oct. 25) gathered several blooms as full and perfect as any we have had during the season. *John Hutchinson, Truro, Cornwall.*

Stoke Newington Chrysanthemum Society.—At the quarterly meeting held on Thursday last, the President in the chair, the day of exhibition having been previously fixed for the 18th November, it was thought advisable in the present state of uncertainty as regards the Duke's funeral, that the show day be unfixed until the meeting of Parliament, when a day clear of the funeral could be chosen. The Early Henderson Chrysanthemum was staged, and also two new flowers by Mr. Taylor. Several members were elected.

Auriculas: *J H.* In mild weather give the plants all the air you can, keeping them clean by divesting them of all decayed leaves. Being now dormant, occasionally give a little water to prevent the foliage from becoming flaccid, but take care not to wet the plants themselves.

Cape Pelargoniums: *Z.* The following compost answers well for them: one barrowful of turfy loam, two barrowfuls of peat-earth, with a little well decomposed cow-dung, sifted through a coarse sieve, well intermixed with a good portion of silver-sand; drain the pots well with potsherds and moderate-sized pieces of charcoal, broken small; break the hole in the bottom of the pot, if it should not be sufficiently large to cause a thorough drainage. Where a liberal shift is given, small stones and potsherds may be used, broken small, and mixed through the soil, to ensure a thorough drainage, as much depends upon that in the successful cultivation of this class of flowers.

Catalogue received from Mr. C. Tyso, of Wallingford, Berks.

Tulips: *Pershore.* We will attend to your suggestion. They do not, however, always turn out true to name.

SEEDLING FLOWERS.

Gladiolus: *W J E.* A handsome hybrid of the gandavensis breed, with a fine spike of scarlet and yellow flowers, which are also individually large and showy; a good addition to this useful tribe of plants.

Miscellaneous.

The Orange Gardens of St. Michael's.—But for them the country would be one large field of Indian Corn. To preserve the Orange-trees from being broken by the high winds when laden with fruit, it is requisite to plant tall quick-growing trees round and across the quintas, the Portuguese name of the Orange grounds. These shelters, composed of Myrica Faya, Camphoras, Pittosporum undulata and Tobira, each possessing their own particular green, and scattered over the face of the country with an irregular hand, give a wild and varied charm to the landscape almost indescribable. It is every man's ambition to possess a quinta. They toil early and late, live on Indian Corn-bread and water day after day, in order that they may purchase a quinta in which to spend their saint-days and Sundays. Quintas are the emporiums of pic-nics; the places of retreat of the citizens in summer. Most of them contain a snug cottage; and the shelters afford plenty of shady walks. These quintas are of as many different forms and sizes as they possess owners. Every proprietor is his own designer, and a great variety of taste is displayed. On one point, however, they all agree, which is that every quinta must have a high tower and flagstaff, from which flags and pennants wave on every occasion. Orange-trees were first introduced to the Azores by the Portuguese; and as the fruit became an article of commerce in Portugal, their extension was encouraged in those islands, in all of which they grow. Fayal formerly exported nearly as many Oranges as St. Michael's. About 10 or 12 years ago the Orange-trees of Fayal became infested by a species of coccus to such an extent as to render the Oranges worthless. It was found impossible to destroy the pest, and the trees were all cut down. Terceira annually exports from 20 to 30 cargoes of Oranges; St. Mary's one or two. St. Michael's at present is the great mart for Oranges, but unfortunately there, too, the coccus has made its appearance, and several quintas have been already destroyed. It is supposed by many that the Orange-trees in St. Michael's grow spontaneously, and produce their fruit without any care. This is a mistake. Before the Orange-trees can be planted, a high wall must be built, and Pittosporum undulata planted around and across, to break the force of the winds. P. undulata is now generally used, growing quicker and possessing a more handsome appearance than the other trees employed for this purpose. A hedge of P. undulata will grow in five or six years from 20 to 30 feet high. When the walls are built and shelters planted, the ground is trenched, but any attempt is seldom made to level it, the walks following the natural undulations. This done, the Orange-trees are planted at a distance of from 25 to 30 feet apart, and the ground sown with Lupins, which are considered by the Portuguese to be a favourite food of Orange trees. Seven years elapse from planting time before the Orange trees come into full bearing; during which space the garden is cropped with broad Beans, French Beans, Melons, and Water Melons. The quintas of the poorer proprietors are always cultivated; the wealthy discontinue this practice at the expiration of the above-

named period. The Orange trees are annually pruned —thinning out their superfluous branches, so as to allow a free circulation of air, which is required for the proper maturing of the fruit. The trees bloom in March and April, and Oranges are gathered as early as November for the London markets. The Portuguese never eat them before the end of January, at which time they possess their full flavour. Orange grounds vary in size from 1 to 60 acres, and they are rarely wholly occupied by Orange trees; Limes, Citrons, Lemons, Guavas, and other fruit trees are scattered about in them. There are only two kinds of Oranges cultivated in the island, viz., the Portugal and the Mandarin; many varieties of the former exist, and they are greatly improved by the genial climate of St. Michael's. The Mandarin Orange has not been many years in the island, nevertheless there are some trees of it 14 feet high and nearly as much in diameter. This capital little Orange has lately been exported to England, where it realises a higher price than the common St. Michael's. The largest Orange tree I measured was 30 feet high, the stem being 7 feet in circumference at the base. The produce of the trees is almost incredible; props are always used to prevent the weight of fruit from breaking down the branches. I was told by Senhor Jacintho Victor Vierya, a gentleman on whose veracity I could depend, that an Orange tree in the quinta of the Barão das Laranjeiras produced 20 large boxes of Oranges, each box containing upwards of a thousand fruit. On telling Senhor Vierya of the large tree I had measured, he assured me that in the garden of the Barão (who was the father of Orange growers in the island), many larger trees had been cut down, having been destroyed by the coccus, which attacks old trees first. In the Orange grounds of the wealthy, a small portion is generally devoted to flower gardening and ornamental shrubs. Sometimes surrounding their casinho, or in a remote part of the quinta, sheltered on every side from the winds; it is in these places fine specimens of exotic plants are to be found. In a quinta belonging to the Visconde de Praya, at Roche do Cão, are two plants, Draccæna draco and arborea; the former has a clear stem 20 feet high, with a large spreading top; the stem was 6 feet in circumference, and nearly the same in thickness to the top; D. arborea was 40 feet high. In another quinta belonging to the same nobleman, in the centre of a circular Camellia garden, was the best plant of Pandanus odoratissimus I have seen. Much of the fine effect that might be expected in a large Orange garden is destroyed by the quantity of shelters that intersect the gardens, yet they possess delightful walks and avenues of Pittosporum, and are, on the whole, very enjoyable. Two hundred ship loads of Oranges are annually exported from St. Michael's, being nearly 200,000 boxes. *Wallace, in Journal of Horticultural Society.*

Blackberry Syrup, made after the following recipe, is a very valuable medicine for summer complaints of children, and if used as a medicine only, the brandy is not objectionable:—Take two quarts of juice of ripe berries, and boil in it half an ounce each of nutmeg, cinnamon, and allspice, and a quarter of an ounce of cloves, all powdered; strain and add one pound of loaf sugar and a quart of the best French brandy, and bottle and seal up. Dose for a child, two or three teaspoonfuls once in three hours. *American Gardeners' Chronicle.*

Calendar of Operations.

(For the ensuing week.)

FORCING DEPARTMENT.

Vinery.—As the heat of the earth is yet some degrees warmer than the atmosphere, let the borders of the Vineries and Peach-houses be covered with leaves or Fern as dry as they can be procured, a foot or 18 inches deep. The leaves, &c., should be made firm and afterwards thatched; this will not only serve to throw off a greater portion of the rain during the forcing period, but will help to retain a certain amount of warmth in the border; and if extra heat is afterwards required, it is easily applied. Tarpauling or waterproof canvas is, however, the best protection to borders against heavy rains; and if the expense does not interfere, should always be adopted. The above precautions are necessary where Grapes in perfection are required in January, as they assist in keeping the roots in action, and consequently the leaves and fruit remain longer in a fresh state. Make fires daily during damp weather; and admit air freely at the same time to Grapes ripe or ripening; in wet weather let the glass of the succession Pineries and Vineries be well washed, to admit as much light as possible during the dull days of winter. Peach-house.—Prune, dress, and tie in the early house, if not done. The commencement of forcing must be determined by the time when the fruit is required ripe; the end of November is a good time to commence, for the crop to ripen about the 1st of June; if required in May no time should be lost in starting them, by closing the house early in the afternoon. Fires will not be wanted for some time. Cucumbers.—Attend to the growth of the winter crop, by a good bottom and top heat, and regular attention to training. Keep the leaves rather thin. Do not allow the fruit to remain uncut, after it is of sufficient size. Plants in full bearing should be assisted with liquid manure frequently. Now will be a good time to make a sowing, to come into bearing in the spring; but by good management the winter crop will last for a considerable part of the spring.

FLOWER GARDEN AND SHRUBBERY.

Take every opportunity of removing any remaining plants from the flower-garden which it is desirable to keep over for next season. Half-hardy plants and shrubs will likewise require some protection on frosty nights. Some of the best things for this purpose we have are conical and pyramidal baskets made roughly with common Osiers; they admit air (no important part of the business), and in severe frost should be thatched very slightly, either with Fern, Beech branches with the dry leaves on, or the light spray from the Yew or Spruce Fir; in this form they are not unsightly, and are cheaply made. As the beds are cleared proceed with filling them by one or other of the methods noticed in former Calendars. If planted in the mixed style, keep the shrubs in the centres of the beds, and the bulbs and low herbaceous plants to the sides and edges, where they will easily catch the eye, and prove more attractive. The bulbs, &c., should be correctly labelled, or marked, that they may not be disturbed in subsequent cleanings. To carry out this plan effectively, a reserve garden is indispensable, to remove the plants to in the spring, as well as for propagating and preparing them for winter; therefore, if such is not already provided, a sheltered, shady piece of ground should be appropriated for the above use, the expense incurred in forming which will be amply repaid by the amount of enjoyment which the cheerful gaiety of early spring flowers affords.

HARDY FRUIT GARDEN.

The planting of fruit trees, either in the open quarters or against walls, may be commenced at once, supposing the borders to have been sufficiently prepared for their reception. In planting, add trees between old-established ones against walls; a hole of considerable size should be made for the young tree, and refilled with the fresh compost, keeping our former directions in mind as regards depth of border. In preparing new soil for planting fruit trees, endeavour to keep it as dry as possible, and choose a dry day for planting, that the soil may be in a favourable state to facilitate the growth of fresh roots this present autumn. The present time is likewise the most favourable for relifting and root-pruning such trees that are too luxuriant, and require checking, to induce a fruitful habit. We prefer lifting the trees entirely (unless they are very large) to cutting off the roots as they stand. After shortening the roots proportionably to the strength of the tree, spread them out near the surface, and fill in with compost, on which a mulching of half-rotten dung should be spread, to prevent frost from entering the ground. But while the above is often necessary with existing trees, planted in too rich or too deep borders, it should be borne in mind that it is only a palliative measure, and in the course of a few years will require repeating, unless measures are at the same time taken to make the border shallower or poorer, as the case may be. We are of opinion that most wall trees would be more fruitful, were their roots confined to borders of very limited extent, compared with what is generally the case; and by which the balance between the roots and branches could be adjusted without the trouble and expense of lifting and root-pruning. Clear off the remaining leaves from wall trees, to give the wood the advantage of sun and air to assist its ripening.

Erratum.—In Plant Department, page 680, 20 lines from top, for "out-door decoration," read "*in-door* decoration."

STATE OF THE WEATHER NEAR LONDON,

For the week ending Oct. 28, 1852, as observed at the Horticultural Gardens, Chiswick.

Oct.	Moon's Age.	Barometer. Max.	Barometer. Min.	Temperature. Of the Air. Max.	Of the Air. Min.	Of the Air. Mean	Of the Earth 1 foot deep.	Of the Earth 2 feet deep.	Wind.	Rain.
Friday.. 22	9	29.762	29.642	60	51	55.5	48	47½	S.	.14
Satur. .. 23	10	29.686	29.552	58	40	49.0	51	48½	S W.	.18
Sunday . 24	11	29.629	29.590	57	37	47.0	49	48	S.W.	.65
Monday . 25	12	29.446	29.336	50	31	40.5	48½	48	W.	.55
Tues. .. 26	13	29.377	28.877	49	30	39.5	47	47	S.	.33
Wed. .. 27	14	29.199	28.842	46	41	43.5	46	46	N W.	.06
Thurs... 28	15	29.644	29.318	49	31	40.0	46½	46	N W.	.02
Average....		29.534	29.315	52.7	37.3	45 0	48.0	47.3		1.93

Oct 22—Hazy; lunar rainbow at S P.M.; rain at night.
— 23—Cloudy; rain; overcast with white clouds.
— 24—Cloudy; rain; very fine; heavy rain at night.
— 25—Heavy and constant rain, half an inch fell between 8 A.M and 1 P.M.
— 26—Clear; slight fog; rain; boisterous; clear at night.
— 27—Rain; barometer very low; heavy dark clouds at night.
— 28—Densely overcast; rain; cloudy; clear.
Mean temperature of the week, equal to the average.

STATE OF THE WEATHER AT CHISWICK,

During the last 26 years, for the ensuing week, ending Nov. 6, 1852.

Oct. and Nov.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 31	53.0	39.2	46.1	15	0.38 in.	2	1	4	1	3	5	7	3
Mon. 1	54.5	38.5	46.5	11	0.49	—	2	5	2	2	9	7	4
Tues. 2	54.1	39.0	46.5	14	0.82	2	1	7	—	5	5	6	1
Wed. 3	53.2	38.3	45 8	13	0.41	2	3	4	2	3	5	5	2
Thurs. 4	50.3	36 0	43 1	13	0.23	4	2	—	4	4	9	1	2
Friday 5	52.5	39.0	45.7	13	0.76	1	2	1	2	5	10	4	1
Satur. 6	52.9	38.3	4 5.7	15	1.02	—	1	2	3	4	9	3	4

The highest temperature during the above period occurred on the 6th, 1834—therm. 63 deg.; and the lowest on the 3d, 1845—therm. 20 deg.

Notices to Correspondents.

Apples: *T C C.* All gardening books contain some information about cultivating Apples. Perhaps Lindley's "Guide to the Orchard" will suit you best; or you may consult Loudon's "Encyclopædia of Gardening."

Books: *Old Sub.* Lindley's "Theory of Horticulture" is not reprinting.—*D S.* The pamphlet about which you inquire may be had of any bookseller. We never recommend dealers.‡ —*E M R.* The small edition of "English Botany" will possibly suit you. We know nothing of the work you mention.‡

Espaliers: *D B.* We have read and re-read your inquiry, and confess our inability to make out what it is that you want to know. Cannot you get some one to put the question for you in a clear form?

Eutoca divaricata: *Clericus.* We have not seen this for a long time. It has probably gone out of cultivation, having little beauty in the eyes of the world. If you will sign your name and full address to a question upon the subject we will willingly print it; but we cannot undertake to be ourselves the medium of exchanges.

Gardeners: *J K.* We do not think a gardener is, unless there is a special agreement. Why should a gardener be entitled to that which other servants cannot claim? If he chooses to take a place 60 miles off he does it at his own risk and charge, unless, as we have already stated, there is some special agreement between him and his master.

Glass: *W J, Norfolk.* We believe it to be a matter of indifference whether the rough or smooth side of Hartley's glass is outwards. The little furrows do not detain dust, &c., as has been supposed.

Gold Fish in Glasses: *W H S.* We know of no book likely to assist you. Bread is said to be injurious to them. Nothing is found to be better than biscuit (either Abernethy or captains), put into the water, which should be changed two or three times a week.‡

Insects: *E S.* Your caterpillar is that of the light tussock moth (Dasychira pudibunda); it is very common, especially in Hop grounds, and has hence obtained the name of hop-dog. The moth appears in May and June. *W.—A B C D.* Your "wingless Lepidopterous self-concipient lady" is the female of the common vapourer moth (Orgyia antiqua), the male of which is to be seen flying about the streets of London in fine autumn days. The fact of female moths laying eggs is of common occurrence. The same takes place in the common poultry, as every hen-wife knows, but it is not often that the eggs produce *fertile* progeny. The Acari parasitic on an Agaric were not detected in your box. *W.—W M H.* The small insect found in a white Turnip is one of the numerous species of rove beetles (Oxytelus morsitans). We believe it frequents the decaying vegetable rather to prey upon the other minute herbivorous insects than to feed on the decaying Turnip. *W.—W B, co. Down.* You cannot do better than have your Peach wall well washed with a thick coating of lime and soot, which fills up the crevices, kills the insects, and increases the heat by the black colour. *W.*

Moss on Trees: *J L.* Lime-water will not kill moss on fruit trees, but a good coating of whitewash will, scraping the roughest of the moss off before it is applied. The proper remedy, however, is to drain the ground well and prune the trees, so as to let in sun and air.‡

Mustang Vine Stocks: *Houston, Texas.* We will answer you privately; in the meanwhile we should be greatly obliged for a supply of the stocks.

Names of Fruits: *John Rose.* 1, 4, 12, 14, 16, Passe Colmar; 2, 10, Old Colmar; 3, White Doyenné; 5, Uvedale's St. Germain; 6, Napoléon; 7, Brown Beurré; 9, 7, 20, 23, 25, Glout Morceau; 13, Chaumontel; 19, Beurré Rance; 21, Winter Nelis; 22, Easter Beurré; 24, Catillac; 26, Blenheim Pippin; 28, Pearson's Plate; 29, Cockle Pippin.‖—*G P., Doveridge Hall.* Your Pear is the Gansel's Bergamont, large enough, but the flavour is not such as the variety usually possesses.‖—*M D.* 1, 19, Seckle; 4, 22, Glout Morceau; 5, 26, 30, Beurré Diel; 6, Duchesse d'Angoulême; 7, Knight's Monarch; 20, Hacon's Incomparable; 21, Gansel's Bergamot; 23, Crassane; 24, Brown Beurré; 25, 27, 29, Passe Colmar; 28, Calebasse; 31, Beurré Rance; 32, Catillac; 1, Hollandbury; 2, Alexander; 3, Beauty of Kent; 4, French Crab; 6, Royal Russet; 7, Syke House Russet; 8, Downton; 9, Norfolk Beaufin; 11, Supreme Crab.‖—*W B.* Your Beurré d'Aremberg, No. 1, is the Brown Beurré; your Easter Beurré, No. 2, is the Louise Bonne (of Jersey); No. 3, Thompson's; and No. 4, Hacon's Incomparable, are correct; but your Golden Nonpareil Apple is the Pomme Violet.‖—*Ph., a Constant Subscriber.* 1, King of the Pippins; 2, Dumelow's Seedling; 4, Brabant Bellefleur; 5, Rhode Island Greening; 6, Ortley; 7, Reinette du Canada.‖—*J E.* Louise Bonne (of Jersey).‖—*Constant Reader.* 2, Hawthornden; 3, Codlin; 5, Ribston Pippin; 6, King of the Pippins; 8, Dutch Mignonne; 9, Turk's Cap; 10, Beauty of Kent; 12, Hughes' Golden Pippin; 16, Norfolk Beaufin; 17, Hollandbury; 1, Beurré Diel; 2, Beurré Bosc; 3, Rouse Lench; 4, 5, 10, Beurré Rance; 6, Althorp Crassane; 7, Marie Louise; 8, Beurré de Capiaumont; 9, Grande Bretagne doré; 13, Dunmore; 14, Colmar; 17, Easter Beurré; 18, Passe Colmar; 20, Uvedale's St. Germain.‖—*H. Walker.* 3, Nonsuch; 7, Chaumontel; 10, Brabant Bellefleur; 11, Crassane; 12, Bedfordshire Foundling; 14, Keswick Codlin; 16, Alfriston; 19, 85, Gravenstein; 20, 22, 27, Beauty of Kent; 21, Hawthornden; and 21, Syke House Russet; 24, Louise Bonne (of Jersey); 27, Beauty of Kent; 28, Braddick's Nonpariel; 29, Old Colmar; 30, White Doyenné; and 30, Ribston Pippin; 33, Ribston Pippin; 36, Reinette du Canada; 58, Sops of Wine; 82, Belle et Bonne; 83, Catillac; 84, Doyenné blanc; and 84, Wyken Pippin.‖—*Eben.* 1, Beurré de Capiaumont; 2, Althorp Crassane; 3, Glout Morceau, but the condition of the fruit requires to be improved.‖—*J E.* 1, Court of Wick; 2, Kirke's Lord Nelson; 3, Golden Noble; 4, French Crab; 5, Codlin; 6, Doyenné Gris; 7, Beurré Diel.‖

Names of Plants: *W M T.* There must be some mistake; the plant cannot have come from Assam. It is a variety of Catasetum tridentatum, with a clear yellow lip. Neither Catasetum nor Cycnoches exist wild in Asia.—*A Young Gardener*: 1, Clethra alnifolia; 2, Cerastium incanum; 3, Helichrysum bracteatum; 4, Chelone obliqua.—*M D.* Salvia pulchella; it will live out of doors in summer, but dies in winter without shelter. It likes sea air.—*F Hooper.* Probably some Myoporum.—*E M R.* Asplenium lanceolatum, *S.—D M.* Stilbum vaporarium (Berk. & Broome), which has also occurred in the Orchid House at Kew. It is probably an importation. *M J B.—C L P.* Ceanothus azureus.—*W G A.* Acacia melanoxylon. —*W Cr.* Phyllocactus anguliger.—*W P.* Saponaria calabrica.—*C E S.* Nerine rosea. The leaf belongs to Amicia Zygomeris.

Neilgherries: *F H L.* The letter adverted to in your note as "accompanying" it, was not in the envelope. We will answer you privately.

Out-door Figs: *H R* will be obliged by Mr. W. Eade, of Beldisten Rectory, or any other cultivator of out-door Figs, informing him of the best time and method of pruning them.

Potatoes: *Z.* We never heard of their changing colour in consequence of soil, and should doubt the statement. They vary, however, in quality, according to soil, and that may be connected with slight changes in shades of colour.—*E F L.* We have, on a former occasion, mentioned Mr. Eaton's statement, about which we know nothing. It is not possible to arrive at any satisfactory conclusion about such assertions; and the supposed remedy being *secret*, multiplied experiments, very different from the little garden trials mentioned in Mr. Harkness' report, are absolutely indispensable before the question can be regarded as settled. Let us have half-a-dozen acres treated by Mr. Eaton, in half-a-dozen of the western counties of Ireland, and wait the result of *them*.

Saracha: *H.* Many thanks. We will have it grown and tried as an esculent.

Vines: *W B C.* Hoare's directions for managing Vines out of doors are the best we know, and we are unaware of any person having been disappointed in the results; if disappointment has arisen it is ascribable to mismanagement. We see no advantage in serpentining Vines. The truth is, that a skilful Grape grower will make any plan answer.

Vine Borders: *G S.* The asphalte covering, mentioned at p. 227 of our volume for 1844, answered very well, except that it kept the border a little too dry. That however might be easily remedied by careful artificial waterings.‡

PERUVIAN GUANO.

CAUTION TO AGRICULTURISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

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The character of the parties from whom they purchase will of course be the best security, and, in addition to particular attention to that point, ANTONY GIBBS AND SONS think it well to remind buyers that—

The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 9l. 5s. per ton, less 2½ per cent.

Any resales made by dealers at a lower price must therefore either leave a loss to them, or the article must be adulterated.

THE LONDON MANURE COMPANY offers on the best terms Wheat Manure for autumn sowing, Linseed, Rape Cakes, Peruvian Guano, Urate, Superphosphate of Lime, and every other artificial manure. Also a quantity of Salt, the refuse of ammonia and saltpetre makers, considerably more valuable than the ordinary agricultural salt.

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MANURES.—The following Manures are manufactured at Mr. LAWES's Factory, Deptford Creek:

Turnip Manure, per ton	...	...	£7 0 0
Superphosphate of Lime	...	...	7 0 0
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Office, 69, King William-street, City, London.

N.B. Peruvian Guano, guaranteed to contain 16 per cent. of Ammonia, 9l. 10s. per ton; and for 5 tons or more, 9l. 5s. per ton, in dock. Sulphate of ammonia, &c.

PEAT MOSS CHARCOAL.

THE PEAT MOSS CHARCOAL COMPANY are prepared to deliver a superior Charcoal (made expressly for Agriculture and Horticulture, and not divested of any of its chemical properties), at 52s. 6d. per ton.—Apply to MARK FOTHERGILL, Agent, 204, Upper Thames-street.

Linseed and Rape Cake, Peruvian Guano, Gypsum, Salt, and all Manures of known value on sale.

MANURE.

PEAT CHARCOAL, completely saturated with London Sewage, will be found a most effective manure for any crop. It may be obtained from the Sewage Manure Works, Stanley Bridge, Fulham, Middlesex, at 60s. per ton, 4s. per cwt., and 2s. 6d. per ¼ cwt.

"Sewage manure absorbed in charcoal is a first-rate fertiliser; we have tried it on French Beans, Dahlias, Roses, and Cabbage plants; we put half a pint to each Rose and Dahlia, sowed it in the row with Beans, and put a few pinches to each plant of Cabbage. The effect is perceptible very soon, but it will be twice as efficacious the second year as the first."—*The Garden, by Mr. Glenny.*

SEED WHEAT.

PAYNE'S DEFIANCE REVITT OR BEARDED WHEAT, which gained the prize medal at the Great Exhibition, and is also highly spoken of in Professor Lindley's lecture upon "Substances Used as Food," is offered to Wheat-growers by H. PAYNE with confidence, more especially after the many flattering letters that he has received of its merits as to produce, quality, and its being less liable to blight or mildew. The above Wheat was raised from a single ear, and has been grown with great success for six years. Testimonials from farmers and millers from different parts of the kingdom can be obtained by applying to Mr. H. PAYNE, Birdbrook-moat, near Halstead, Essex. Price 32s. per coomb of four bushels (sack included), and delivered at the Audley-end Station, Eastern Counties Railway. All orders of not less than one coomb, accompanied by a remittance for the amount, will be punctually attended to; or by Post-office order made payable to HENRY PAYNE, at Halstead, Essex.

H. P. has also a very true stock of Browick Red Wheat to dispose of, at 28s. per coomb, which he thinks the best Red Wheat grown.

RABBIT NETS, SHEEP NETS, AND FISHING NETS.—Long Hare and Rabbit Nets from 50 to 100 yards long; Sheep Nets, of New Zealand Cord or Cocoa-nut fibre, 4½d. per yard, 4 feet high. Fishing Nets of all kinds for home use or exportation.

R. RICHARDSON, 21, Tonbridge-place, New Road, London.

WARNER'S PATENT FARM AND COTTAGE PUMPS.—Cast-iron Pumps, for the use of Farms, Cottages, Manure Tanks, and Shallow Wells.



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Patent Pump	1	15	0
Patent Pump, with 15 feet of lead pipe attached, and bolts and nuts ready for fixing	2	10	0

Larger sizes if required.

To Emigrants proceeding to the Gold Regions they will prove to be the most simple, durable, and the cheapest Pump hitherto introduced.

May be obtained of any Ironmonger or Plumber in Town or Country, or of the Patentees and Manufacturers,

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Every description of Machinery for Raising Water, Fire Engines, &c.

REDUCTION IN PRICE.

WEIR'S IMPROVED GALVANISED WROUGHT-IRON LIQUID MANURE PUMP.—The Fittings of these Pumps are wholly of Brass, and there is no leather or other matter which can be affected by the manure.

Price, complete, with 10 feet of Patent Flexible Amalgamated India Rubber and Gutta Percha Pipe, 4l. 15s. Terms, Cash on delivery.

EDWARD WEIR, Agricultural Engineer, 16, Bath-place, New Road, London. Removed from Oxford-street.

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PATENT GLASS TUBES, Iron Coated with Glass, Gutta Percha, Combinated ditto, Patent Flexible India Rubber Tubing, and every other Hose for Watering Gardens, The Hydraulic Ram, Fire, Garden, and every other kind of Pump, Sluice Cocks, Hydrants, High Pressure Cocks, and all other articles to be had, Wholesale and Retail, of

FREEMAN ROE,

HYDRAULIC ENGINEER,

70, STRAND, and BRIDGEFIELD, WANDSWORTH.

P.S. Important to Farmers, &c.—F. R. begs leave to call attention to his new Water Power, which in many cases will supersede the use of the Steam Engine.

SMITHFIELD CLUB.

NOTICE.—All Certificates for Stock and Implements intended to be exhibited at the ensuing show of the Smithfield Club, must be delivered in to the Honorary Secretary on or before SATURDAY, the 6th of NOVEMBER (none will be received after that day.)

The Printed forms of Certificates (which alone are allowed to be used), Lists of Prizes, &c., can be obtained of B. T. BRANDRETH GIBBS, Hon. Sec., Corner of Half Moon Street, Piccadilly, London.

HITCHIN AND HOME COUNTIES DOMESTIC POULTRY ASSOCIATION.—OPEN TO ALL ENGLAND.

The First Annual Exhibition of this Society, will be held at Hitchin, on the 20th, 22d, and 23d of NOVEMBER, 1852, when Prizes amounting to upwards of 80l. will be offered for public competition.

Hitchin is a first class station on the Great Northern Railway, 30 miles from London; at which Station is a junction with the Cambridge and Eastern Counties Railway. Regulations and Prize Lists may be had on application to the Secretary, by inclosing two postage stamps. Entries for Exhibition close on the 6th of NOVEMBER. Admittance to the private view on Saturday, November 20th, by a 5s. Ticket (not transferable), which will be available for the three days of Exhibition. And on Monday the 22d, or Tuesday the 23d, 1s. each.

S. GOODWIN, Sec.

The Directors of the Great Northern and Eastern Counties Railways have agreed to run cheap trains on the occasion, and to give free passage to all Poultry for the Exhibition (at owner's risk), and to carry back free all that is unsold.

THE BIRMINGHAM CATTLE AND POULTRY SHOW, 1852.—The FOURTH GREAT ANNUAL EXHIBITION of FAT CATTLE, SHEEP, PIGS, and the various kinds of DOMESTIC POULTRY, will be held in BINGLEY HALL, BIRMINGHAM, on the 14th, 15th, 16th, and 17th of DECEMBER next. The PRIZE LISTS, CERTIFICATES of ENTRY, and any further information, may be had from the Secretary.

The Entries CLOSE on SATURDAY, the 13th of November.

JOHN MORGAN, Jun., Secretary.

OFFICES—2, Insurance-buildings, Union-passage, Birmingham.

ROYAL SOCIETY FOR THE PROMOTION AND IMPROVEMENT OF THE GROWTH OF FLAX IN IRELAND.—The ANNUAL GENERAL MEETING will take place on FRIDAY, 5th November, in the Society's Rooms, Commercial Buildings, to receive the Annual Report of the Committee, and Annual Statement of Accounts, to elect Office Bearers for the ensuing year, and to transact such other business as may be brought forward. The Chair will be taken at Twelve o'clock by the Marquis of DOWNSHIRE, President of the Society. (By order), JAMES MACADAM, Secretary.

Belfast, Oct. 30.

THE GREAT METROPOLITAN EXHIBITION of POULTRY, PIGEONS, and RABBITS, under the most distinguished patronage, will take place at the extensive Cricket-ground, the Oval, Kennington, on SATURDAY, MONDAY, TUESDAY, and WEDNESDAY, the 1st, 3d, 4th, and 5th of January. Full particulars will shortly be announced.

The Agricultural Gazette.

SATURDAY, OCTOBER 30, 1852.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY,	Nov.	3—Agricultural Society of England.
THURSDAY,	—	4—Agricultural Imp. Society of Ireland.
THURSDAY,	—	11—Agricultural Imp. Society of Ireland.

We beg to remind those of our readers who are personally interested in the proceedings of THE SMITHFIELD CLUB, that the period during which certificates of the animals to be exhibited can be received, closes earlier than usual this year—next Saturday, Nov. 6, being the last day of it. Those, therefore, who intend exhibiting should place themselves in immediate communication with B. T. BRANDRETH GIBBS, Esq., the Honorary Secretary, Halfmoon-street, Piccadilly.

THE house-feeding of the SHEEP is surrounded with many more difficulties than that of the ox, and hence in practice has made less progress; at the same time examples are sufficiently numerous to prove that it is not an exception from the general rule that shelter from the inclemency of our climate is necessary to the health and proper development of the bodies of all our domestic animals, and that this is best obtained in properly constructed feeding-boxes, on artificial or mixed food. For example, breeders and feeders for the exhibitions of the Royal Agricultural Society and Smithfield Club have found that they cannot enter into competition on the out-door or natural system against the artificial or house-feeding—unless for the inferior quality of stock; and that before the greatest weights can be obtained in the shortest time from a given quantity of food, it is necessary to have recourse to dry, well-ventilated, and quiet feeding-boxes. And besides the cases of extra fat stock, the agricultural press teems with examples of a more general character, where results generally are recorded in favour of the system. But while the vast majority are thus recorded, there is, nevertheless, a respectable minority to the contrary; so that, as yet, public opinion is divided on the subject, and before unanimity can be expected to prevail, a more careful investigation of experiments is necessary.

In the prosecution of this important subject experimenters should never lose sight of first principles; for their experiments, however carefully performed, and however plausible may be the deductions drawn from them, can never overturn the established laws of nature, on which the system of house-feeding in feeding-boxes is based. For example, it is a well authenticated fact, that the temperature of the body of the sheep is the same, from the poles to the equator, while its position with reference to external temperature, and therefore its natural ability to keep up this degree of heat, is very different in every degree of latitude, if equally exposed in the open air; hence the quantity of food consumed must be proportionally different, to maintain the animal system at this uniform degree of temperature. In this respect the radiation of heat from the body of the sheep is not different from that from the body of man; and we know that when exposed in polar regions our sailors consume a larger quantity of food, with all the extra clothing which they wear; while, as LIEBIG observes, "some hunting and fishing tribes will with ease consume 10 lbs. of fish or flesh, and perhaps a dozen tallow candles, daily." Now, experiments can never prove that the sheep consumes less food out-doors, exposed to the inclemency of our winters, than they do when sheltered in-doors, other things being equal, but the contrary; so that if they eat equal quantities, the latter must increase faster in weight, or there must exist some peculiar cause sufficient to account for the contrary, such as an inferior quality of food, irregularity in feeding, excitement, &c.

In recording experiments of this kind too little attention, we are afraid, has been paid to the constitution of the sheep, while habits acquired from peculiar treatment, at variance with its original constitution, have been mistaken for natural characteristics, as the following observations will show.

In the first place—from the gaseous matter emitted from its body being more fetid, and from its dung and urine being more liable to give off volatile and offensive matter, and from the quantity of pure air consumed for respiration, and the capillary action of the skin being greater—the sheep requires a larger feeding-box in proportion to its size than the ox. The difference in the smell of the two may convince any one of the soundness of this conclusion. Instead, therefore, of being low, as is generally the case, the roof of the feeding-box should be lofty, as well as the dimensions of the box itself sufficiently large below, so as to procure proper ventilation. Crowded pens and low roofs are incompatible with this, summer and winter often creating stagnant volumes of heated air in the former season—in the latter, currents of cold air, worse than the extremes experienced in the open field. Not only does the sheep require a greater abundance of pure air than the ox, but it also requires a drier bed, to avoid foot-rot and other evils experienced from wetness—a demand almost impossible to be complied with, save in the feeding-box alone; for in open yards and sheds, in rainy weather, from being exposed to the full exciting influence of light, with all that is passing around, and from being more agile, and requiring a larger amount of exercise for health, the whole pen is kept continually upon the move; so that, however well littered it may have been at night, long before morning all is a puddle, worse than offensive to the fine senses of the sheep, consequently when any of the pen attempt to confine themselves under cover, and to lie down, the stench becomes intolerable, so that preference is generally given to the outside. In this position their skins become wet and their feet tender.

Again, conclusions relative to confinement, "roving disposition," and economy and expense of house-feeding, are generally vague and unsatisfactory; for confinement is but an expression of degree, sheep in all cases being *confined* to their mountain walks, their lowland pastures, or enclosures of some kind or other, as open yards or feeding-boxes: and the fact that the Southdown (one of the most timid, shy, and cautious of all our breeds) thrives best, and pays its keep the best, when confined in the feeding-box, is a practical refutation of all the objections here involved. "Art may succeed," say our objectors, "in rearing and fattening the Southdown, Leicester, and such breeds, in properly-ventilated feeding-boxes; but the natural system only suits the roving disposition of the Cheviot and black-faced breeds, which comprise the large flocks of our mountain walks; there feeding boxes could not be erected, for the want of capital, while in summer the system is impracticable, for the want of food." Objections such as these are no doubt plausible, but they will not bear a close investigation, for may not the roving disposition be not a constitutional characteristic, but one acquired from the peculiar circumstances in which the large flocks in question are placed?—being compelled by necessity to walk a certain daily round in search of food—a round as formal as the line of a railway, while self-preservation from eagles, ravens, foxes, polecats, &c., makes them more gregarious in their habits, more timid, shy, and watchful than they otherwise would be. In such positions the nervous system is kept continually in an excited state, consequently requiring a larger supply of food to maintain the system, especially in the case of young sheep, who are startled by every bird, bee, or butterfly rising on the wing; hence, in some measure no doubt,

the slowness with which they arrive at maturity, and the difficulty with which they are fed—results which disappear as we remove their causes; for the above breeds, if removed to the enclosed pastures of the lowlands, fatten faster and at an earlier age, becoming less gregarious in their habits, less roving, shy, and watchful. If we reduce the enclosure by netting, shifting the nets as the different breaks become bare, a still greater improvement is made; or we might have quoted an older system than either the field-fence or net, viz., the tether—a practice with which our readers are doubtless familiar—one under which both the black-faced and Cheviot breeds fatten with great rapidity, after a week's experience that their confinement is for their welfare. In short, Nature is always ready to adapt herself to her present exigencies, and those habits conducive to her welfare will be sooner acquired than those of a different character. The black-faced sheep, for instance, will sooner acquire the habits of the Leicester than the Leicester those of the black-faced. The other objections—that box-feeding during winter unfits the mountain sheep for its walk during summer, and that the system would not pay—are equally untenable; for the healthiest sheep is obviously the fittest for the hills at any season; while if the southdown pays for house-feeding in the finer climate of the south, the system must be a more profitable one in the less congenial regions of the north. There are no doubt many minor objections connected with this part of our subject—objections which our present limits will not allow us to discuss in detail, and therefore we shall briefly dispose of them *in toto*, in a concluding sentence, thus:—The sheep is more dependent upon man, and hence on artificial systems, than any of the other domestic animals, and is certainly not the less ungrateful for them; while, on the other hand, art has done less for it than for either the horse, ox, or swine, the majority of its family being still treated on the natural system; and however numerous may be the obstacles which art has to triumph over before house-feeding in boxes can be successfully practised, that is no reason why success may not ultimately crown her labours in the most forbidding districts; for in these we can point out thousands of acres capable of producing Furze in abundance from which art can easily return ten times the amount of matter Nature now does from her scanty herbage.

DAIRY FARMING.

In the *Agricultural Gazette* of Sept. 25, with a view to the improvement of dairy farming, allusion is made to the general progress of art and science in all other branches; and it will be admitted by every one who has seen the greater economy of food and the more successful management of cows abroad, that little here has been gained from the progress of intelligence to benefit this branch of British farming. In this country the success of a dairy is supposed to entirely depend upon the natural adaptation of the pastures and climate to cow feeding, and little assistance is given to cows in the winter, either in shelter or support, beyond what they find under hedges or in exposed hovels, or from indifferent hay and fodder straw in the yard; and it is supposed that neither good butter nor cheese can be produced except the cows are grazed upon Grass of dairying quality. So exclusively in practice is this power of producing fine butter and cheese thought to be confined to certain pastures, that nearly the whole consumption of England is the produce of six or seven counties; and if we look still closer, we shall find that only parts of these counties are so applied; nay, more, when you come to individual farms, you will be told of the differences of quality from different fields, so greatly does the produce vary with the pasture, and so limited are the parts under the present system that are thought adapted for dairying. Had we no other experience than that gained from the English dairy practice, we should undoubtedly believe that good butter and cheese are only to be obtained from cows pastured upon permanent Grasses and soils of a particular quality. But from what I have lately seen, I may ask are dry arable districts necessarily dependent on moist permanent pastures for their butter and cheese? and I can answer this question by calling to mind the large supplies of butter regularly sent to this country from abroad; rom dairies in dry sandy countries, where the cows are without pasture, in the sense understood in our pasturing districts. But without going to the continent, whence so much butter is sent us, and where the practice of housing the cows the greater part of the year, and keeping them on roots and cooked food, is general, there are examples at home offering us lessons of what may be done in this way. Sir John Conroy, in Berkshire, has his cows in boxes and fed upon cut food, and shows they may be made productive of rich butter without the aid of pasture; and at Chipstead, in Surrey, is another instance. Upon a poor dry chalk hill-farm of 210 acres, with only 5 acres of permanent pasture, maintained in Grass for the convenience of possessing a turn out, and not for any merit as Grass land, Mr. Smith has established a dairy of 30 cows with remarkable success. Here the cows for 8 months in the year are fed upon cut straw, bran, Turnips, and Mangold Wurzel, having no other assistance than the food they pick up in fine weather; the other four months they are principally dependent on cut Tares and other artificially raised green food; and yet, upon this keep, the butter produced is of the finest quality and readily finds purchasers all the year, from neighbouring occupiers and owners of farms, at prices of 14*d.* and 16*d.* per lb., according to the time of year; and so successful is the result, in a pecuniary view, that Mr. Smith is increasing the extent of his dairy as fast as the increasing fertility of the land gives him the means to keep more cows. He, this autumn, has added 6 cows to his stock, and this he has been enabled to do by the larger growth of roots and straw which the additional manure thus raised, and the preservation and application of the liquid manure which hitherto has all been lost, gives him.

As far as I can learn there is nothing singular in the keep and care of the cows, or the management of the dairy, beyond what is pointed out, and is evident on inspection of the dairy. The cows are protected all the year from the cold and damp of the night air, by shelter in the cow-houses; the dairy is plain but kept beautifully clean; the cow-houses are warm, dry, and well ventilated; and if there be a secret beyond all this, it lies in the art of preventing the butter from being flavoured with the roots given to the cows, and in the richness of the cream thrown up from milk produced by such keep. And that there is a secret most farmers will believe, when I tell them that richer cream and sweeter butter is rarely to be found at this season. But what this secret is I cannot tell them, for it is not known even to the woman's employer, and unless it lies in preparing the *milk* by warming it prior to skimming I have not any idea. And this is only a guess formed from the rich appearance of the milk in the pans. *Hewitt Davis.*

QUANTITY OF MANURE MADE ON A FARM.

(*Continued from page* 684.)

Six-course Farm, 120 *acres.*—This course in Scotland is, 1st, Wheat; 2d, Turnips; 3d, Barley; 4th, Grass; 5th, Oats; 6th, Potatoes and Beans, or one-half corn and one-half green crops. The distribution and sequence of the crops are different. In Norfolk the six-course consists of, 1st, Wheat; 2d, Barley; 3d, Turnips; 4th, Barley; 5th, Grass; 6th, Grass, or corn and green crops half and half. In both cases, however, the Turnips occupy one-sixth of the land, so that the manure-making materials in the latter will only vary in amount in proportion to the quantity of Grass consumed in the green state or made into hay. The Scotch rotation is selected in preference, because of the equal distribution of the crops, and also as no two white crops follow in succession. The amount of food and consumption may be stated as follows:—

	tons.	cwt.	qrs.	tons.	cwt.	qrs.
20 acres of Wheat at 27 cwt. of straw per acre	27	0	0			
20 acres of Barley at 25 cwt. of straw per acre	25	0	0			
20 acres of Oats at 30 cwt. of straw per acre	30	0	0			
7 acres of hay at 30 cwt. of straw per acre	10	0	0			
19 acres of Beans at 30 cwt. of straw per acre	15	0	0			
Total dry fodder and litter				107	0	0
3 acres of Grass consumed by horses, 120 cwt.	18	6	0			
10 acres fed off.						
20 acres of Turnips consumed indoors, 20 tons	400	0	0			
19 acres of Potatoes sold.						
	418	6	0			
10 acres of Aftermath consumed indoors, 60 tons	30	0	0			
Total green food				448	6	0
				555	6	0
Winter food of horses—						
4 work horses' hay, 243 days, 1½ stone each per day	9	2	1			
Straw litter, same period, 1 stone each per day	6	0	2			
Summer food of horses—						
Cut Grass for 122 days, 6 stones each per day	18	6	0			
Straw litter, 1 stone each per day	3	1	0			
				36	9	3
Winter food of cattle—						
21 cattle, 200 lbs. of Turnips each, for 213½ days	400	0	0			
Fodder and litter for same period, 3 stones each per day	84	1	1			
				484	1	1
Summer food of cattle—						
4 cattle, 168 lbs. of Grass each per day, for 100 days	30	0	0			
Straw litter for 100 days, 1½ stone each beast	3	15	8			
				33	15	8
				554	6	0
1 ton of straw over				1	0	0
				555	6	0

By the four-course rotation the whole Turnips, Grass, and straw consumed as food by the cattle, amount in round numbers to 393 tons, which give 295 tons of manure, and with the litter (5 stones) added, amount to 345 tons. The dung, from the food consumed by the horses and taken from the stalls, will depend greatly on the time occupied at work or in the stable; but taking our former data to guide us, the dung actually collected from four horses, fed as already stated, will be rather more than 34 tons annually; adding the whole dung, urine, and litter together, the result is 379 tons as the total amount of manure made on a farm of 120 acres, farmed on the four-course shift, or fully 12½ tons per acre to the 30 acres of green crop.

By the five-course the numbers will stand thus:—Turnips and consumed fodder, 300 tons = 225 tons manure + litter 40 tons = 265 tons of manure, which, added to that of the horses, give 299 tons altogether, or nearly 12½ tons per acre for the 24 acres of green crop.

By the six-course rotation Turnips, Grass, and litter consumed 458 tons = 343½ tons manure + 60 tons of litter = 403½ tons manure, which, added to that of the horses, give 437½ tons altogether, or nearly 11 tons of manure per acre for the 40 acres of green crop.

It will be observed, however, in connection with these data, that by the first rotation the land is dunged every fourth year, in the second every fifth, and in the third year, or twice during the rotation.* It is, therefore, evident that the sixth rotation produces more manure than either of the other two, notwithstanding one-sixth part of the green crop (Potatoes) is annually sold off the farm.

If we wish to increase the quantity of manure made on the farm, recourse must be had to corn-cake or Linseed in the feeding of our cattle, by which means double the number of stock may be kept, and the manure-heap thereby enriched and enlarged in proportion to the quality and quantity of the extra food consumed. It has been pretty well ascertained, however, that if more than 5 lbs., at most 6 lbs., of oilcake be given daily to each beast, a loss is sustained in the carcase without adequate compensation being obtained from the manure. This quantity, however, at which profit ceases, is larger in proportion to the character of the animal; where an ill-bred beast is fed, it will pay for but little high-feeding, while a well-bred animal will make one feel the advantages of feeding it.

There are various other modes of increasing the amount of manure-producing materials on a farm, one of which is the cultivation of winter green crops, such as Vetches, and Rye, or Rape, sown in autumn after a corn crop, then used as green food in the early part of summer, and the ground afterwards cropped with Turnips the same season. These stolen crops, as they are called, can only be profitably cultivated in warm districts, such as the southern portion of England and Ireland, and hence they have not been admitted into our calculations. We might also have alluded to the Whitfield mode of cultivation, in which the manure is greatly increased by growing large quantities of Turnips and Mangold Wurzel (about 1400† tons annually upon a farm of 240 acres), and their consumption in boxes by cattle and sheep, eating also cake-Linseed, grain or prepared food; and we might also have alluded to Mr. Mechi's system of board-feeding without litter, the straw being all cut and used as fodder, and the use of enormous quantities of extra food along with the green crop, but our space will not admit of the investigation; still enough has been said to indicate the data by which an approximation may be made regarding the amount of manure made by either of these systems. *Blackie's Cyclopedia.*

Home Correspondence.

Eydon Industrial Club.—The autumnal show of this Club took place on the 15th instant. The subjects of exhibition were numerous and good, the weather fine, and the meeting propitious. Some of the neighbouring clergy and gentry who take an interest in what tends to promote the improvement and add to the comfort and pleasure of the several classes of society, attended. The show consisted of needlework, articles of ingenuity made or contrived in Eydon, and garden and field produce in vegetables, grain, and roots; to the best specimens of which prizes were adjudged. Rewards were also adjudged for good conduct in service to boys between the ages of 10 and 16 years of age, and to young persons between 16 and 24 years. A prize of 1*l.* was distributed among the labourers who had worked for the last year on the farm of the farmer who gained the greatest number of prizes; the reason for this prize being, that credit is due to the labourers as well as the occupier who produces the best specimen of crops. To the tradesman gaining the greatest number of prizes, 10*s.* was given, and to the labourer 5*s.* The annual subscription of a labourer and his children under 16 years of age is 6*d.*, and the prizes are all small in amount but numerous, so that one labourer with his family, for prizes and service rewards, received as much as 19*s.* 4*d.* To the allotment tenant gaining the greatest number of prizes the Rev. Francis Clerke gave 5*s.*, to the next 3*s.*, to the next 2*s.* The club consists of 149 members; 231 articles were exhibited by 59 exhibitors, and 66 prizes, &c., were given to the amount of 3*l.* 18*s.* 6*d.* *F. C., Eydon.*

Cow Shed and Yard.—We have received a plan of a yard for cows and pigs from Mr. Waldron, of the merits of which the following is his description:—First, it will be asked, What will be the advantage to the farmer of this yard? First he will keep one-third head of cattle more with the same acres of land, than in turning them out, and I think there is no doubt whatever but it will be much better for the health of the cattle, not for a man to go and fill their racks full and then leave

* By the four-course 3.16 tons of manure are made annually for every acre on the farm; by the five-course 2.5, and by the six-course 3.64 tons.

† Mr. Morton states (*Agricultural Gazette*, p. 450, 1845), that "200 tons of straw used as litter for beasts, horses, sheep, and pigs, which during the winter, consume 1400 tons of roots, will turn out about 3500 cubic yards of made-manure, in the management of which the ordinary quantity of earth (say six inches deep under every manure heap) has been used. Taking a sixth part from this quantity as earth, there will be, say 2900 cubic yards, which, at one and a half yard to the ton, gives about 2000 tons of manure yearly, or one-fourth more than the roots and straw consumed—the extra quantity being obtained from the use of extra food."

them. I say feed them for two hours, a little at a time, then leave them for two hours, and fill the troughs full of water; by this plan the food can be changed as often as you please, which every cow-man knows the advantage of; and what they let fall the pigs will pick up. You have the advantage of giving them Tares, green Clover, and sweet Mangold Wurzel leaves. Your cattle are thus at home under your eye, not galloping about the field. The next point is the manure: when turned out you get very little advantage and very little worth of it; but what is it worth from the yard, say 50 cows and 100 pigs, for six months? Enough to manure 50 acres of land at 20 tons per acre; and of the manure made in this yard, two tons are equal to three tons exposed. The next consideration is the value of your pigs; without the yard, perhaps you would not keep above 10 or 12, and they running about and losing all the manure. I will put the yearly profit as under:—

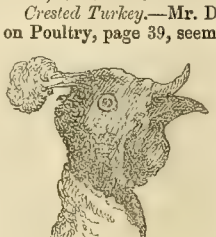
	£	s.	d.
Say 17 cows additional, able to be kept above 50, at 12*l.* per cow	204	0	0
Pigs	150	0	0
Manure, at the least	150	0	0

You will say that there is nothing put for the keep of pigs; the answer is, they do not want one thing more than the wash whey, and what grains there is made, put altogether into a tank and given them when wanted, with Mangold Wurzel leaves; by that keep you may sell them out as porkers. The next is two men additional, their pay to be struck from the 500*l.*—Now I will say by having so much manure for the farm yearly, and by trenching 2 feet deep, if properly trenched, it will want very little draining for surface water, only springs; by such culture the farm will be as a garden more than a farm, and will carry any crops that are put upon it. *J. W.*

Sewage Manure.—Your correspondent, Mr. Marshall, of Ely, says the Croydon farmers will not take the sewage manure, he supposes, from its not being in a semi-liquid state, and the problem is how it can be rendered drier, which deserves the attention of intelligent practical men of the country. This problem is easily solved, by using peat-charcoal filters, the charcoal taking up and retaining all the valuable portions of the sewage, the water passing off perfectly clear and free from smell; when the charcoal is saturated, the filters are emptied, the contents dried, put in sacks, and ready for transit to any part of the country; can be drilled in or sown broadcast, and will be found little inferior to guano and considerably less cost. Mr. T. A. Yarrow, 38, St. James's-street, I am informed, has fitted up several filters. The peat-charcoal and sewage works at Fulham are selling their manures at 3*l.* per ton, and no accumulation of stock. I agree with your correspondent, "A Sufferer," that such cesspools as Mr. Mechi's must be a great nuisance, as also the manure, however diluted, when put out, which must taint the whole air of the neighbourhood. Your correspondent states, that Mr. Stothart can purify all filth; his mode is kept secret. Peat-charcoal will do so most effectually; can be obtained at a small cost, and be applied by any person; and it only requires to be more generally known, when it will come into most extensive use both for sanatory and agricultural purposes. *F.*—[The following letter has appeared in the *Times* in reply to that of "A Sufferer," which we copied last week, complaining of the injurious effects to health which Mr. Mechi's system of irrigation, if generally carried out, would produce:—"Sir,—Your correspondent, 'A Sufferer,' does not reflect. Horses, pigs, and other animals will die. What becomes of them now? Farmers will make dung-heaps and spread them all over the country. In this district, when the fields are spratted or "five fingered," you may smell them for miles. Merchants will import 200,000 tons of birds' dung annually, to be stored in our towns and to scent our country. Is all this to be stopped, or is it to be preferred to the subterranean unsmelt transmission of liquefied manure, which, when it reaches its destination, rushes from the pipes, and at once sinks into the earth, the only natural deodorizer? Experience has taught me that carboys of acid by the dozen, and gypsum by tons, are vain attempts at deodorizing, and this is confirmed by the highest authority—the Government Board of Health. Your correspondent may wonder that sheep and cows, having a choice of Grass, will feed on that which 12 hours previously had been saturated by the much dreaded liquid; but so it is, and cows have fine noses. Every country bumpkin knows that earth will at once deodorize carrion, an oniony knife, or other offensive smell; and but for this allwise provision our overcrowded grave-yards would long since have pestiferised our cities and destroyed their populations. We may be more nice than wise, and, as your recent editorial article remarked on the Irish report, the smelling gases are not often the most poisonous. I am, Sir, your obedient servant, J. J. Mechi, *Tiptree-hall, Oct.* 11."]

Stall-feeding of Cattle.—As it appears to me that the results lately published in your valuable Journal, as deduced from various experiments on stall-feeding cattle, are fallacious, and likely to prove detrimental to the cultivation of green crops, by depreciating so much as they do the value of Turnips as food for cattle, I beg leave to make the following remarks on the subject:—Mr. Mechi states that a ton of Turnips is only worth 4*s.*, and in support of this statement, refers to the experiments of Messrs. Laycock, McDouall, and Lawes. In all these cases the value of the Turnips, when used with other food, has been arrived at by subtracting the value of the purchased food from the increased value of the animal, leaving the remainder as the value of the Turnips. Now, with great respect, this appears to me an illogical deduction, founded, as it is, on an assumption of which we have no proof whatever, that the improvement of the animal, due to the purchased food alone, has been commensurate with its cost; but, independent of our having no proof of this, which is sufficient for my present purpose, I doubt it to be a fact, for the following reasons. Before oilcake was so much used in stall-feeding as now, I have constantly heard experienced farmers value Turnips for feeding at from 9*s.* to 11*s.* per ton; and again, we find Mr. Mechi himself admitting that "where much purchased food is used, Turnips fall in value to 1*s.* per ton." Now, I am very much inclined to think that the Turnips in this case are doing their duty, and that the loss (the same in either case to the farmer) is on the oilcake instead of them. An extreme case will suffice to show that Mr. Mechi's position is untenable. Suppose an animal fed on too large a quantity of cake in conjunction with Turnips, and that the improvement in the animal proves insufficient to cover the cost of the cake, this would leave the value of the Turnips, according to him, a negative quantity. No one, in this case, would say that the Turnips were positively injurious to the animal; no, the loss has been on the cake, and always will be, until we arrive by careful experiment at the exact amount of cake which can be given to an animal with profit. For this purpose, and for ascertaining the relative values of oilcake and Turnips, we want the following experiments, which, as far as I know, have not yet been made:—1st, Between animals fed with hay, chaff, and cake alone; 2d, Animals fed with a similar amount of hay and chaff, with Turnips equal in value to the oilcake. The result will give their relative values, which we want. *R. G., Winchester.*

Crested Turkey.—Mr. Dixon, in his interesting work on Poultry, page 39, seems to consider that the crested turkey, if it ever existed, has become extinct. I saw a flock of beautiful white turkeys, about 3 miles from Congleton, and amongst them a cock 1½ year old, a sketch of whose head I made and send you. The woman who took care of them said that many of the young ones had the crest when hatched, but that they either fell off or were pecked out by the others. The feathers were about 4 inches long, bare quills, and a tuft of soft white down growing at the ends. *E. E. Wilmot, Hulme, Salfield, Congleton.*



On sprouted Wheat.—As unfortunately this year, we have all of us more or less of this article to deal with, as a sufferer myself to a great extent, I should feel most gratefully obliged to any of your correspondents who would inform me, and also my fellow-sufferers, the most economical and profitable manner of converting the same into rent. Some there are who say, "Why not make it into malt?" others, "Convert it into food for fattening cattle and pigs, and also poultry." Before, then, I begin to make my calculations as to the quantity of cake I shall require this year, or the quantity of malt for my next harvest's consumption (and you can form no idea of the native thirst of the Salopians), I should like much to have, not only your opinion upon this vexed question, but also those of any of your intelligent correspondents who so frequently and ably contribute to your very interesting *Gazette. Salopiensis.*

Thin Seeding.—I rejoice that Messrs. Hardy have published their letter, and I heartily thank them for it, as it is by such men alone that improvements in agriculture are to be made. It is by men who really know how to cultivate land, and to make the best of it, that the agriculture of this country, so favourable for its highest development, is to be rescued from the low and degraded state in which it has existed. Cannot Great Britain grow corn enough to support all its inhabitants? It can, and it ought, and it would, if her farms were cultivated with the same or with only half the skill that her gardens everywhere are. And what is a farm but a large garden? or it ought to be. And what is a garden but a small farm? But we, who cultivate our tens or twenties or thirties of acres are held in contempt by the men who hold 30 or 40 times more land than they know how to manage, or have money to manage it with. I am aware that there are many objections against dividing this country into very small farms; but there are as many in favour of such division; and the chief of which is, that were it so divided, England would export corn and cattle, and import men, women, and children; emigration societies would cease to exist, and Mrs. Chisholm's occupation would be gone. There is not a country in the whole world which ought to send its corn to market so cheaply as this country can, there being no country wherein the lands could be so cheaply cultivated, if only half the skill and industry were employed on them as is also in any one of our national manufactories. Let me, therefore, again reason a little with the readers of your journal, whom I am aware I have often addressed earnestly, but I hope not thoughtlessly or intemperately. I am, as all the world nearly knows, a determined and uncompromising advocate of thin seeding of land; but do I rely upon thin seeding only? On the contrary, have I not reiterated year after year that thin seeding is only one part of improved cultivation? Have I not published, I may say, scores of letters in which I said—"drain—drain deeply and thoroughly, so that all the rain which falls on the land may pass through it, and not run off it?" And to thorough draining, have I not as often recommended deep and thorough cultivation? And then, and not till then, have I recommended extremely thin seeding of the land. And after more than 30, I may say 40 years' experience, I now fearlessly pronounce, and stake my reputation upon it, that whoever honestly carries these recommendations out, may measure his seed-grain by the quart, and not by the bushel, as is the all-general practice in this country. He will grow annually much larger crops of finer grain of every kind; also he may cultivate, and he may grow the same kind year after year with less exhaustion of the soil, than the thick seeders cause by every crop they grow; indeed, their whole system is one continued and monotonous repetition of exhaustions and repletions from year to year, and from youth to old age, until each succeeding generation drops into the grave and is succeeded by another, and another, and another, and so on, always proceeding in the same track exactly, and as much afraid to emerge from it, as the travellers by a railroad would tremble at being driven off the rail and sent headlong down an embankment 100 feet high. I know we hear nothing but laudations on the vast strides in improvement agriculture has made in modern times; but what are they? or wherein do they exist? I put these questions seriously, and should be pleased to see them answered; I mean, however, as to the cultivation of grain crops only, as I admit that root crops are well cultivated; and why is this? The answer is this: because all the root crops grown by farmers are grown also by market gardeners, and it is on this account that I rejoice so much to know that the Messrs. Hardy (who, I hope, will be followed by many others of their class) are turning their attention to the growing of grain, and to use no more seed for their crops than their own skill and nature will require; and as I know they cultivate well, as they themselves have stated, the quantity of seed they will require will be very small indeed. To encourage them also in their undertaking, I inform them that Mr. Piper makes 6*l.* an acre of clear profit annually by his thin seeding, and that last year to convince, if he could, his neighbours of the correctness of his system, in one field he used a bushel of seed an acre; and in another the turn only of two quarts; and on the latter he had 7½ quarters of as fine white Wheat as ever was grown per acre, or 60 imperial bushels, or I would state full 900 fold; and on the former, or from the bushel, he had only 5½ quarters, or 11 coombs, or 44 fold! I add, also, that last year I seeded land with all quantities, from three quarts to a bushel, and though my crops are not yet threshed, I have a small bet with one of my churchwardens that the three quarts will produce nearer seven than six quarters of increase; and although I feel I shall be rebuked for it, I cannot but reiterate how delighted I am when I walk in my fields before harvest among my ripening grain, and am able to stoop down anywhere among my thinnest seeded, and pull up root after root, as many as I please, averaging more than 2000 grains to them of as fine Wheat as ever was grown, *i. e.*, averaging more than 2000 fold; and another example:—I have now a parishioner occupying a large farm and paying the highest rent I ever knew for such a sized farm, who was bred a gardener, was then a railroad contractor, and is now a farmer, who cultivates the best seeds with the least seed, and yet his crops of grain, pulse, roots, and green crops are the largest and best I ever before knew a farmer to grow. But let it not be forgotten that my friend was not bred a farmer, but a gardener, and his farm is, in every part of it, what every Englishman's farm ought to be, namely, a garden; and could we see such a happy state of agriculture general through our land the hardy sons of Britain would not be driven to seek employment and food in distant foreign states, but there would be found for them at home full employment and generous wages for it; and, as I have before stated, we should export the produce of our farms as we do that of our manufactories to every country where it would be required, and, probably in return should import labourers for our fields; for I am perfectly satisfied, as I have often before published, that Great Britain, if properly cultivated, could support with all the really necessary articles she requires full four times her present population. *Geo. Wilkins.*

Societies.

Witham Labourers' Friend.—The following report of the proceedings of the annual dinner of the Society is abridged from the *Chelmsford Chronicle*:—

The President, Lord Rayleigh, said he had a paper put into his hands, which might be interesting as to the details of the experiment, but the result, it seemed, was different from what it was last year, which appeared to show that one year's trial was not enough. The paper was as follows:—

"Harvest of 1852.—Trial of three ridges alongside each other, drilled Nov. 14, 1851. Former crop, Beans; broad shared and harrowed, but not ploughed for Wheat.

Seed, per Acre.	Measure.		Weight.		Weight per bush	
Pecks.	Bush.	pks	Stones.	lbs.	lbs.	oz.
8	45	3	200	10	61	6
7	50	0½	221	3	61	13
6	50	1½	223	11	62	3

Thus six pecks giving largest yield in measure and weight, as well as weight per bushel, being completely the reverse of trial made the year before. About 2 cwt. per acre of salt was sown on March 11."

The President said the result of this was in favour of thin sowing.—Mr. Dixon: That is not thin sowing.—

The President: It is thinner than 8 pecks.—Could any gentleman give them an account of the working of the drain plough for laying of the pipes? Mr. Impey had sent him a circular, and he wrote to him and told him he had an 8-acre field which he should not much mind his doing to see how it acted; but he said, if there was not more than that, it would not be worth his while to come and do it. He (Lord R.) thought he must have seen that if the 8 acres answered, they would most likely have more done.—Mr. H. Dixon said he had, with Mr. Hutley and other gentlemen, looked at the working of the implement his lordship had referred to, and there appeared to him two or three important principles which it carried out; first, it was certain as to depth, and next, as to the accuracy with which it placed the pipes: these were two essentials in draining land. The pipes they saw deposited were at about 28 inches. Another great advantage was that the windlass or moving power being placed on the headland or side of the field, no damage otherwise followed from the trampling of horses. He could not conceive there was a question about the accuracy with which the machine placed the pipes. There was one circumstance which he should state—when they saw the machine at work, some of the pipes were bad and soft, and there was a great degree of pressure in drawing them in which would break a bad pipe; if that was done, such was the power applied that the broken pieces were put on one side, and the next pipe followed and filled the place. Some gentleman had a doubt whether the pipes were in a position that was correct and proper, and holes were dug in the land to ascertain this, and he could only say that so far as he saw, the pipes were placed as correctly as they could place them with the spade. The work was so uniform that they could not vary as to depth, if they were right in estimating the fall of the land for the machine to work, and the placing of the pipes must be a certainty. Then came the question as to the cost. The advantage was not in the cost, because the cost he thought was more. But the cheapness of it was not the question; it was the convenience and the advantage it would be, for they could do a great deal of drainage rapidly without putting a horse on the land or disturbing the land in any way. He could not but say he thought it was a great improvement.—Mr. J. Hutley said, Mr. Dixon had stated there were some bad pipes in the field, but, at the same time, Mr. J. Ambrose brought some good pipes, and he stated at the time he thought they went in better. Mr. Speakman and three or four of them had a hole dug in the ground, where he thought the pipes lay so much better, and there they found a deficiency of about 9 inches. In that soil it did not matter much, but in some soils it might.—Mr. Dixon: If one pipe broke, another must come in and fill the vacuum.—The President: Then how do you account for this?—Mr. Dixon: I cannot account for it at all.—Mr. Bentall said, after these pipes were put in the drain the rope was pulled back, and if great violence was used in hooking a horse on, it might pull the pipes back; and the better the pipes were, the more it would be likely to occur. It might take place 30 or 40 feet from the end. How far was this from the end?—Mr. Joseph Hutley said, about 10 or 15 rods.—Mr. Bentall said, it might pull the pipes back that distance.—Mr. William Hutley gave "The health of Mr. H. Dixon," who, he said, was a good old neighbour to him, and who he had always found so straightforward and honourable a man that he thought he could back him against all the world. (Cheers.) He had taken some land in a good spot, and had farmed it well; he had supplied pipes for draining, so as to break up the monopoly that before existed, and had reduced the price 7*s.* or 8*s.* a thousand; he had done some good in the neighbourhood, and some good with his physic—they would not talk of those he had killed, but they might depend on it he had cured a good many. (Cheers and laughter.)—Mr. Dixon said, he was placed in rather a delicate position, as he came there to meet friends connected with agriculture and that improvement Society, but they had somewhat enlarged the basis, and had included physic. All he could say was, that he took little physic himself, and he would say to them, hereafter take as little of it as you possibly can. (Laughter.) That was a doctrine he should not have preached, perhaps, 15 or 20 years ago; but times were altered, and as they must save every farthing they could, he said, take especial care to look after your doctor's bills. In reference to farming, Mr. Hutley seemed to think that his (Mr. Dixon's) was superior land, and no doubt that his profits were large. On that he would not say much. Certainly he (Mr. D.) had made a great many pipes, some millions, and they were in the ground somewhere, and he hoped doing good. As to the general question, farming was now an interest of great importance, and if men did not farm better than they did before, he thought they would get on the wrong side of the balance sheet. There were one or two points connected with agricultural improvement that he wished to bring before them. The first question which he would notice, in which all were interested, was not an experiment but a practice, sanctioned by others, but not before seen in operation here—he spoke of the present system of Mr. Mechi, at Tiptree-hall, conveying all the manure of his yard and premises, and all vegetable and animal matters, so that nothing was lost, to a tank liquefying it, and then, by means of a steam-engine and pipes, distributing it to the different crops on the land. He had watched the effect of that system carefully. He saw it the first day it was brought into operation, and he met there men of the first talent and character, Lord Shaftesbury, Mr. Chadwick, Dr. Southwood Smith, and others, who had gone into the sanitary part of the question, and were desirous of seeing how far this plan of applying liquid manure could, in connexion with the sewerage of our towns, be made beneficial to the farmer. Mr. Mechi had carried it out with great liberality and spirit—he had not spared expense—and though he was perhaps in practice a hit or miss man, he looked on his present practice in the application of manure as of essential importance to agriculture, and he could bear testimony that the results were very satisfactory on two or three points. Some of Mr. Mechi's land was moderate, some poor, and some he would not farm if they gave it him; and one instance of the effect of the system was in the improvement of a piece of very bad Grass: it was on a piece of close compact soil, which had been dug up and burnt, leaving nothing behind but a very poor soil, and there the Grass up to the present year had been exceedingly bad, but within the last four or five months, through the application of manure on this plan, the feed of that Grass had been capable of sustaining, or feeding, a considerable quantity of cattle, and to this day it maintained its improved condition. Next as to the Clover. This year the continued rains had produced good crops of Clover, good second crops, on poor lands; but the advantage of the irrigation to Mr. Mechi's Clover had been equally as striking as it had to the Grass. What would be the result on the Wheat when nearly ripe he would not say, but he should think it would be rather prejudicial. Then as to the root crop. Mr. Mechi had two fields of Mangold Wurzel, one a crop of great magnitude, and the other a large crop; and on looking over these several times, he had observed an advantage as against his own on much better land. The roots had grown faster; the blade had kept its colour—up to this time it was a vivid green; and on looking over it a fortnight ago with a practical man, and measuring and weighing the roots, they found some weighing 24 lbs. or 25 lbs. each, and he pronounced that Mr. Mechi had from 4 to 6 tons more in that field than in any he had seen. The gentleman he alluded to was a Devonshire farmer, and they not only went through the field in every part of it, but they measured and weighed the roots; he followed the same course on his (Mr. D.'s) farm; he then went to Mr. Hutley's farm, where he made a like careful inspection; and he was an excellent judge, a man who had no bias in the matter, and he said one field of Mr. Mechi's was the best he ever saw. He said putting the two fields together, he thought Mr. Hutley and Mr. Mechi had equal crops; on the whole, though the former was one of the old school, who thought that protection for the farmer was essentially necessary, if everybody else was injured—(laughter) — the latter part of the sentence was his (Mr. D.'s) addition. On going through the crops, he decided that what he saw at Tiptree-hall was a great advance in farming, and that its application under circumstances favourable to it—for it was not all farms that could supply the necessary quantity of water—he thought would be a great advantage, and might prove beneficial to the county generally. So far, then, he thought Mr. Mechi was on a right principle, and he hoped he would carry it out, and would succeed in it; for he spent his money liberally in these matters—if he hit on anything that would be an advantage, they all benefited by it;—he asked nothing of them, and so far as he was before the public, he was a benefactor to the community. (Hear.) With respect to his (Mr. D.'s) farm, to-day he looked closely to a piece of Mangold Wurzel of his own, and the result (as near as he could bring it out, giving it rather against the land) was, that he had 30 tons an acre. He had weighed the roots and measured the ground; he had counted them at different parts of the field, and the average of roots was 80 per rod, while the average generally was not more than 40 or 50. The average weight of the roots was 5½ lbs. each; and as there were 80 to the rod, the crop was rather over 30 tons an acre, and he could not make less of it. He stated that from weighing and measuring, not as an estimated crop. He wrote to Mr. Mechi three days ago, and then said to him, "If you come before the public with a statement, give facts; measure and weigh your roots, measure your land to an inch, for to talk of estimated crops is nothing at all." (Cheers.) The mode he practised in the cultivation of his crop was this: after the plants had reached a certain stage, he sent the subsoil plough down the furrows, and the movement of the soil let in the air and moisture; he cultivated 16 inches deep; and the difference in weight where the subsoil plough was used was several tons per acre. The extra manure applied was 4 bushels of salt and 1½ cwt. of guano per acre; and the crop was 30 tons.—A Gentleman: Blades and all?—Mr. Dixon: No, without the blades. There were a few plants put in, because others had missed, and they were as large as the others, but rather more fanged.—Mr. W. Hutley inquired what effect Mr. Mechi's system had on the Wheat.—Mr. Dixon said that he thought watering it at the time it was ripening would be a prejudice rather than an advantage.—Mr. Hutley asked what effect was produced as to the smell of the matter applied.—Mr. Dixon said it was offensive, while going on, but when at the farm he had said to Dr. Southwood Smith, "Let us go down and see the condition of the soil." They took up a double handful of the soil, but could not smell anything—the earth acted as a natural deodoriser. There was plenty of scent in the air; and if this system were carried out generally, young gentlemen need not go to find smelling-bottles for their sweethearts—there would be a smelling-bottle in every parish. There was another thing to which he would call attention—the system of cultivation at Lois-Weedon. He had seen a number of gentlemen who had been there, not well disposed to believe anything about it, but after having gone into it, they were obliged to say that every statement made by Mr. Smith was perfectly true as to the cost of cultivation and the produce. For several years he had cropped the same land with Wheat, without manure, relying upon the richness of the subsoil, which was dug out and placed upon the surface in the autumn, for the crop of the following year, between the spaces left in the rows of Wheat plants, half the land being in Wheat and half thus fallowed. The crops of Wheat had never been less than 4 quarters; and in following out the same plan with winter Beans, having but one row in every 5 feet, his crop was last year 64 bushels to the acre. Therefore, he said, new prospects were opening on them—they could grow more corn, and should have a prosperous race, even of farmers. He was sorry to say the small farmer without means, and no one to help him, was going to the dogs as fast as possible; but enterprise and capital were always ready, for even under this system of free trade, which they deprecated so much, they would be a thriving race with thriving prospects; in fact, he had lived in this neighbourhood half a century, and he would say it never was in so prosperous, happy, and thriving a condition as at this moment.—The President said it seemed to be the prevailing opinion that Mr. Mechi was now on the right scent—not a very agreeable scent—and he was sorry he was not amongst them. The reason he gave was that he could not attend meetings of this kind, because he should be called on so frequently that it would make great demands on his health. He should be exceedingly sorry if anything had occurred there to induce him to make Witham an exception, but if it was general it was not so; and if that gentleman had been present he should have impressed on him that, though they were plain spoken people there, and called things by their right names, there was no intention to offer him an insult. His presence would have been highly satisfactory to them, for everybody must have felt that Mr. Mechi was a person most agreeable in society, willing to communicate his knowledge and ideas, and, as far as appearances went, to receive good-naturedly in return not perhaps a unanimous opinion in his favour. He (Lord R.) should be excessively grieved if a feeling on Mr. Mechi's part existed that there was an intention to treat him otherwise than with personal respect, however they might differ from his conclusions. He begged to drink his health, and might he continue to carry out those plans, some of which they might ridicule, and some of which they might adopt.—Mr. Dixon said he should be happy to communicate the compliment to Mr. Mechi, who was at his house.

Review.

Willich's Popular Tables. Longmans.—A most useful compilation, to which most people will want to make almost daily reference. Besides the tables presenting at sight information on the value of lifehold, leasehold, and church property, &c., a great number of miscellaneous tables of use to the commercial and the scientific man are appended. The whole will be found a most desirable companion, whether in the office or the study. It has rapidly attained a second edition, which will no doubt soon be exhausted.

Farm Memoranda.

Mr. William Palin, Stapleford Hall, near Chester.—*Inspectors' Report.*—This claimant's farm is 250 acres, and is held from year to year. There is a variety of soils in it, such as sandy loam, clayey loam, &c., and the subsoil is likewise varied. The state of cultivation of this farm is as follows: Pasture land, 116 a.; meadow and seeds mown, 15 a.; irrigated, 10 a.; not irrigated, 24 a.; Wheat after Oats on ley, 17 a.; Oats after leys, 16 a.; Potatoes, 9 a.; Vetches, followed by Turnips for winter, 4 a.; Turnips, 7 a.; Mangold Wurzel, 4 a.; Carrots and Cabbage, 2 a.; Barley, 12 a.; other green crops, viz., early Potatoes, followed by Turnips, Mangold Wurzel, &c., 7 a.; orchard and gardens, 3 a.; homesteads and roads, 4 a.; total, 250 acres. Rotation of cropping: 1st, Oats on leys; 2d, Wheat; 3d, Turnips, Mangold Wurzel, or Potatoes; 4th, Barley laid down with seeds, and pastured for four years. Stock kept on this farm: Seven farm horses, 5 colts, 1 hack, 1 pony, 2 bulls, 52 dairy cows, 23 heifers (including eight taken in during summer), 12 rearing calves, 77 sheep, 32 lambs, 45 pigs; total, 257. The horses are generally kept in the stable through the summer, during which time they are fed on Clover and Vetches. In winter they have Clover, hay, Turnips, corn, chaff, and occasionally boiled linseed. The cows are pastured in summer, and fed in the early part of winter on straw and Turnips; afterwards Mangold Wurzel, hay, and ground Oats. The whole of the liquid manure is made available, and applied to the meadows, but is occasionally carted upon the pasture land. Claimant makes from 380 to 400 tons of horse, cow, and pig dung annually, and from 160 to 180 tons of compost from a drain in the farm-yard; the former is used for green crops, the latter for meadows and pasture. Claimant has manured a great portion of the pasture-land with bone manure, at a cost of 8*l.* per acre, consequently he does not require so much manure as he formerly did. He frequently applies lime to the Grass land, at the rate of 4 tons per acre, previous to breaking up the Oats, the cost of the lime being 10*s.* per ton, at a distance of

7 miles from the farm. Claimant states he will require 50 tons this year. He occasionally buys a few tons of finely crushed bones, and some few cwts. of guano, for Turnips; and also a preparation from bones, guano, &c., called the Wolgarstene fertiliser, the cost of which has this year been about 20*l*. Generally speaking, guano has not answered on this farm. Draining: Excepting the meadow land, nearly every field or portion of field that required draining has been done several years ago. In the spring of 1849, claimant drained and levelled 6 acres of meadow land from 3 to 4 feet deep, with tiles found by the landlord. He has drained 50 acres at his own expense, with the exception of the cost of tiles. Last year the landlord drained for him 20 acres of meadow land and 20 acres of upland pasture. The drains are 24 feet apart, and 3 feet deep. Claimant carted the pipes four miles to the land, and spread a portion of the marl from the drains entirely over the field. The Wheat crop on this farm was both strong in the straw and good and healthy in the ear. We estimated it at from 36 to 40 bushels per acre. Oats after leys in every respect a first-rate crop, and the Barley was a uniform good crop throughout. The Potatoes in one field were not particularly clean, or in good order in other respects. In another field, however (and by far the greatest part of the Potato crop), they were very clean, and apparently under first-rate management. The Turnips were perfectly free from weeds, but weak in plant, and the ground had not been sufficiently pulverised. The Mangold Wurzel was also free from weeds, and in a garden-like state of cultivation. The plants, however, were but small for the time of the year, and evidently not in a way to make out heavy or average produce. The pastures and meadow land on this farm were in a good state; and the house, garden, and homestead very neat. *Note.* Whilst going over this farm, the inspectors noticed a patch of land, about 20 perches on which 40 bushels of raw bones had been applied 20 years ago. The bones were but partially broken when used. They had been applied six years before any effects could be clearly perceived; but latterly this patch appears to improve every year. *Report of the Manchester Agricultural Society.*

Miscellaneous.

Proper Temperature at which to Churn: Experiments by Professor Traill.—The results are, for conciseness, shown in the following table:—

No.	Date of Experiment.	No. of gallons.	Mean Temperature.	Time occupied in churning.	Quantity of Butter obtained per gallon.	Weight of the churned milk per gallon.
	1823.			h. m.	lb. oz. dwts.	lbs. oz.
1	Aug. 18	15	55°	4 0	1 15 7.5	8 9
2	,, 26	15	60	3 15	1 15 3.2	8 8
3	,, 30	15	62	3 0	1 14 0	8 8
4	Sept. 4	15	64	3 1	1 12 12.7	8 8
5	,, 9	15	70	2 30	1 10 10.6	8 7

About the same period a similar set of experiments on churning cream was made by Mr. John Ballantine, of Edinburgh, from which it appeared that the greatest quantity of butter from a given quantity of cream is obtained at 60°; and the best quality at 55° in the churn just before the butter comes. When the heat exceeded 65° no washing could detach the milk from the butter without the aid of salt; but when a quantity of salt was wrought well into it, and the mass allowed to stand for 24 hours, subsequently being well washed with cold spring water, the serous portion of the milk was extracted.

No.	Date.	Scotch pint of Cream.	Degree of heat in the Cream.	Degree of heat when the Butter comes.	Quantity of Butter, 16 oz. to the lb.	Time of churning.	Weight of Cream of 16 oz.	Heat of the Air at 8 P.M.
	1825.				lbs. oz.			
1	June 13	16	56°	60°	16 8	1½ hour	4 lbs. to pint.	56°
2	,, 20	16	52	56	16 0	2 hours	ditto.	52
3	,, 24	16	52	56	16 0	2 hours	ditto.	52
4	July 12	16	65	67	15 8	30 min.	3 lbs. 14 oz. do.	70
5	Oct. 29	16	50	53½	15 12	3 hours	4 lbs. 1 oz. do.	50
6	Aug. 29	16	53½	57½	16 5	1½ hour	4 lbs. ditto.	

No. 1 shows the greatest quantity of butter produced; 2 shows the best quality; 3, excellent; 4, soft, white, and milky; 5, injured by long churning; 6, excellent. The same gentleman, after an experience of 30 years, came to the conclusion that butter is yielded in the largest quantity, and of the best quality, by the entire milk, kept in the first place until it has become perceptibly acid. The time required for this purpose varies according to the heat of the weather, the temperature of the dairy, &c.; this point being ordinarily ascertained by the formation of a strong, thick brat, or scum, showing itself on the surface, which then becomes uneven. When fit, the milk is put into a churn, as much hot water being added as will bring the whole to a temperature of 65°. It is then churned at the rate of 36 to 40 strokes per minute, until the butter comes, which usually requires from three to three and a half hours, when the velocity is diminished, in order to gather the butter. *Journal of the Royal Agricultural Society, Vol. XIII.*

The arrangements for the approaching great Exhibition of Stock and Domestic Poultry in Birmingham are now in active progress, daily applications being received for certificates of entry, as well as promises of co-operation from many influential persons who have not hitherto been connected with the society. Since we last referred to the show, the management of the general business has been placed on a more formal footing; and a somewhat more complete division of the labours of those who take an active part in the conduct of its affairs has been carried into effect. The first step in this direction was the appointment of Mr. Morgan as secretary—an appointment upon which we may congratulate the committee of management, as a better selection could not have been made. The election of Mr. Bill, as collector, will, at the same time, lead to an efficient canvass for subscriptions, and, we doubt not, to a greatly extended list. At a recent meeting of the committee of management several sub-committees were also nominated, one of which will confer with the directors of the various railway companies with respect to special trains and other accommodation. These arrangements will, it may be anticipated, be more complete than in former years, as already the managers of two or three lines have declared their readiness to afford all possible facilities. The appearance of Bingley Hall, as well as the convenience of visitors, and the means of accommodating the stock, will be improved by several judicious alterations, which the trustees have instructed Messrs. Branson and Gwyther to make. Additional space, to a considerable extent, will be obtained by covering over the vacant land at the corner of Cambridge-street and King Edward's-place; the new building forming a separate compartment, in which some portion of the stock may be placed. A large and commodious refreshment-room is also in course of erection; and an alteration in the mode of lighting the principal division of the hall will add greatly to the general effect of the show. We shall have other opportunities of referring to the different matters connected with the meeting in which the public are interested; but we would to-day call the especial attention of intending exhibitors to the fact that the certificates are now being issued, and that an early application is most desirable, in order that the entries may be completed in due form. The prize lists for this year vary in some essential particulars from those in operation at the show in December last; and the regulations, as well as the instructions to the judges, have undergone a very careful revision, with the view of carrying out as completely as possible the sound principles of competition which the society has, from the first, sought to establish. In the Poultry Prize List, a greatly extended system of classification has been adopted, which it may be useful to transfer to our columns. It is as follows:—

Spanish
Dorking—Single Combed.
Dorking — Double or Rose Combed.
Dorking—White.
Cochin China—Cinnamon, and Buff.
Cochin China—Brown, and Partridge Feathered.
Cochin China—White.
Malay.
Game Fowl—White, and Piles.
Game Fowl—Black-breasted, and other Reds.
Game Fowl—Blacks, and Brassy Winged, except Greys.
Game Fowl—Duckwings, and other Greys, and Blues.
Golden Pencilled Hamburgh.
Golden Spangled Hamburgh.
Silver Pencilled Hamburgh.
Silver Spangled Hamburgh.
Poland Fowl—Black, with white crests.
Poland Fowl—Golden, with ruffs or beards.
Poland Fowl—Golden, without ruffs or beards.
Poland Fowl—Silver, with ruffs or beards.
Poland Fowl—Silver, without ruffs or beards.
Any other Distinct Breed.
Bantams:—
  Gold Laced.
  Silver Laced.
  White.
  Black.
  Any other variety.
Pigeons:—
  Carriers.
  Almond Tumblers.
  Balds, Beards, and Mottled Tumblers.
  Owls.
  Nuns.
  Turbits,
  Archangels.
  Jacobines.
  Fantails.
  Trumpeters.
  Pouters or Croppers.
  Barbes.
  Runts.
  Dragoons.
Geese.
Ducks:—
  White Aylesbury.
  Rouen.
  Any other variety.
  Muscovy.
Turkeys.
Guinea Fowl.

The mode of classification, as well as the general regulations, have given entire satisfaction to those who are interested in domestic poultry; and the changes now for the first time adopted cannot fail to increase, not only the interest, but the utility and popularity of the Exhibition.

New Subsoil Companion Plough.—The *Oxford Journal*, in speaking of the Stow-on-the-Wold and Chipping Norton Agricultural Society, says—"As soon as the ploughing was over, the company congregated to witness the trial of a subsoil companion plough, manufactured and patented by Mr. Gillett, of Brailes. This plough is so constructed that it combines all the features of an ordinary plough with the addition of a subsoil-plough, which may be used at the same time, or detached or suspended if necessary. The combination of these advantages naturally excited considerable interest, as to whether the implement could fulfil what was expected and said of it, and its trial was looked on with great anxiety. The land selected for the trial was by no means adapted for it, because it was light and rocky; and, therefore, the plough could not sufficiently develop its powers, and this was admitted on all hands; but the inventor felt satisfied that even under such disadvantages it would give a tolerable idea of its value and importance. In that conviction he was fully borne out by the trial, for the work was well executed, and the subsoil-plough, taking the lower furrow and following in the horses' track, showed at once its perfect applicability, especially for stiff, heavy land, where the horses' tread renders the ground so hard as to prevent the possibility of the water getting away. For all root crops this implement appears to be admirably adapted, and in ploughing for Beans, or after Turnips, the manure can be most advantageously ploughed in, so as to leave it near the surface, which every one is aware is a most desirable object. The general opinion of all who examined this plough, and witnessed even this trial, was, that it was one of the most valuable implements that has yet been brought before the notice of the public, for it not only possesses the advantages of ploughing and subsoiling at the same time, and with one operation, but the cost of this combined power is but a trifle beyond the ordinary plough, and the subsoil can be attached to any plough, while the draught is but slightly increased by it. The cost of the plough complete does not exceed six guineas, and of the subsoil alone, to be attached to any other plough, two guineas; so that the expense is not likely to interfere with the demand for an implement which must come into general use as soon as parties become acquainted with its merits. We understand that the patentee has already received numerous orders; and of all the improvements which have been devised for the preparation of the land to receive seed, there is not one which is so calculated to effect its purpose in a more successful manner, and there is no implement of the possession of which a farmer may be prouder. It is not anticipating too much to say, that within a twelvemonth there will be scarcely an occupier of stiff, heavy, clay soil, who will not have this implement in operation, for all those who have used it (and it has been at work a short time already) concur in saying that it does most effectually fulfil all that it professes. Great credit is due to the parties who have brought their skill and judgment to bear upon an implement which many were inclined to think admitted of no improvement, but the reverse of which has been developed in so eminent a degree that we doubt not the inventor will for many and many a year be regarded as one who has conferred a benefit on society to an extent that, perhaps, he little anticipated."

Notices to Correspondents.

Agricultural Tables: *Constant Subscriber.* The most complete set of agricultural tables of all sorts is published by Blackie and Son, of Glasgow. We know of no pamphlet publication containing what you want.

Beer: *Wimborne.* We do not know the address of the gentleman who offered a recipe for making beer from the Silesian Beet; perhaps, however, this may meet his eye, and inform him that you would be glad to know his method.

Greaves: *R. Greaves*, a Subscriber in Waterford, tells us they are to be had there in abundance. Of course, however, the particulars of this amount are matters for the advertising columns of this Paper.

Land-measure: *E K.* A Cheshire acre is 10,240 square yards.

Pig Food: *An Enquirer* asks of any one accustomed to give greaves to porkers, what quantity may be given to a pig eight or ten months old, per day?

Vinegar: *E F L* says "I have a quantity of cider bottled in perfect order, but so *little* sweet that I can get no one to drink it. How can I make vinegar of it?"

Markets.

COVENT GARDEN, Oct. 30.

Vegetables and all kinds of Fruit in season continue pretty plentiful. Melons are, however, becoming scarcer. Pears and Apples still arrive from France. Tomatoes are all but over. Filberts realise from 60s. to 65s. Potatoes have not altered in price since our last report. Mushrooms continue pretty plentiful. Cut flowers consist of Heaths, Pelargoniums, Roses, Mignonette, Bignonia venusta, and Fuchsias.

FRUIT.

Pine-apples, per lb., 3s to 6s	Melons, each, 2s to 5s
Grapes, hothouse, p. lb., 2s to 6s	Oranges, per doz., 1s to 2s
Peaches, per doz., 10s to 15s	— per 100, 6s to 12s
Pomegranates, each, 2s to 4s	Lemons, per doz., 1s to 2s
Plums, per punnet, 2s to 4s	Almonds, per peck, 5s
Figs, per doz., 1s 6d to 2s 6d	— sweet, per lb., 2s to 3s
Apples, dessert, p. bsh., 4s to 7s	Nuts, Barcelona, per bush, 20s
— kitchen, do., 3s to 6s	— Brazil, do., 12s to 14s
Pears, per doz., 1s 6d to 4s	Kent Cobs, 75s to 80s
— per half sieve, 5s to 7s	

VEGETABLES.

Cabbages, per doz., 6d to 1s	Shallots, per lb., 6d to 8d
French Beans, per half sieve, 2s to 2s 6d	Garlic, per lb., 6d to 8d
Brussels Sprouts, p. hf. sieve, 1s to 2s	Lettuce, Cab., per score 4d to 6d
Cauliflowers, p. doz., 6d to 2s 6d	— Cos, p. score, 9d to 1s
Greens, per doz., 1s to 2s	Radishes, per doz., 8d to 1s
Tomatoes, per hf. sieve, 4s to 5s	— Turnip, 9d to 1s 6d
Potatoes, per ton, 85s to 140s	Endive per score, 1s to 1s 6d
— per cwt., 5s to 9s	Small Salads, p. pun., 2d to 3d
— per bush., 2s 6d to 4s 6d	Horse Radish, p. bundle, 1s to 3s
Turnips, per doz., 1s to 1s 9d	Mushrooms, p. pott., 9d to 1s 3d
Cucumbers, each, 2d to 6d	— per bush., 3s to 5s
Veget. Marrow, p. doz, 6d to 1s	Sorrel, per hf. sieve, 6d to 1s
Celery, per bundle, 9d to 1s 3d	Artichokes, per doz., 4s to 6s
Carrots, p. doz., 2s 6d to 4s	Fennel, per bunch, 2d to 3d
Spinach, per sieve, 1s to 2s	Savory, per bunch, 2d to 3d
Onions, per bunch, 2d to 4d	Thyme, per bunch, 2d to 3d
— Spanish, p. doz., 1s 3d to 3s	Parsley, p. doz. bunchs., 2s to 3s
Beet, per doz., 1s to 1s 6d	Mint, per bunch, 2d to 3d
Leeks, per bunch, 1d to 2d	Basil, green, p. bunch, 3d
	Marjoram, do., 2d to 3d
	Watercresses, p. 12 bun, 4d to 6d

HAY.—Per Load of 36 Trusses.

Smithfield, Oct. 28.

Prime Meadow Hay	74s	to 78s	Clover ...	... 80s	to 95s
Inferior do.	... 60	70	Second cut	... 65	80
Rowen ...	... 45	55	Straw ...	... 25	28
New Hay ...	... —	—		E. J. Davis.	

Cumberland Market, Oct. 28.

Prime Meadow Hay	78s	to 86s	Inferior Clover	... 70s	to 84s
Inferior do. ...	... 63	74	New do. ...	... —	—
New Hay ...	... —	—	Straw ...	... 28	33
Old Clover ...	... 95	100		Joshua Bakes.	

Whitechapel, Oct. 28.

Fine old Hay	... —s	to 80s	Old Clover...	... 95s	to 100s
New Hay ...	... 70	76	Inferior do.	... —	—
Inferior do.	... 50	63	New Clover	... 88	95
Straw ...	... 22	28	Inferior do.	... 55	68

HOPS.—Borough Market, Oct. 29.

Messrs. Pattenden and Smith report that the demand for fine Sussex Hops is still very extensive, at improving prices; fine Weald of Kents are also 2s. to 4s. per cwt. dearer; choice Goldings are becoming very scarce, and are selling freely from 7*l.* to 8*l.* per cwt. Duty still estimated at 260,000*l.*

POTATOES.—Southwark, 25.

The committee, in commencing their report for the season, are happy to observe Potatoes are coming in much better condition, and less diseased than was expected. During the past week the supplies both foreign, coastwise, and by rail, have

been considerable, and prices decline. Yorkshire Regents, 100s. to 120s.; Lincolnshire, 90s. to 100s.; Shaws, 80s. to 90s.; Scotch Regents, 80s. to 100s.; French whites, 80s. to 90s.

SMITHFIELD.—MONDAY, Oct. 25.

We have a very much smaller number of Beasts than on Monday last; however, the supply is still abundant, and it is only in few instances that higher prices are made. The supply of Sheep is small, consequently we are enabled to effect a fair clearance. The weather and state of the dead markets cause a slow trade, and prevent much advance in price. The trade is steady for Calves at Friday's quotations. Our foreign supply consists of 2063 Beasts, 5981 Sheep, and 174 Calves; from Scotland, 50 Beasts; and 2200 from the northern and midland counties.

Per st. of 8lbs.—	s	d	s	d
Best Scots, Here-fords, &c. ...	3	8 to 3	10	
Best Short-horns	3	4 — 3	6	
2d quality Beasts	2	4 — 2	10	
Best Downs and Half-breds ...	4	0 — 4	4	
Do. Shorn	0	0 — 0	0	

Per st. of 8lbs.—	s	d	s	d
Best Long-wools.	3	6 to 3	8	
Do. Shorn ...	0	0 — 0	0	
Ewes & 2d quality	2	10 — 3	2	
Do. Shorn	0	0 — 0	0	
Lambs	0	0 — 0	0	
Calves	2	8 — 3	8	
Pigs	2	8 — 3	8	

Beasts, 5104; Sheep and Lambs, 26,220; Calves, 223; Pigs, 150.

FRIDAY, Oct. 29.

We are not over supplied with good Beasts. The weather being more favourable, and the dead markets clearer, prices on the average are better than on Monday last. The number of Sheep is small, and mostly of inferior quality; consequently, the best descriptions are readily disposed of at a slight advance on Monday's quotations. Trade is also more active for Calves at rather higher rates. Our foreign supply consists of 294 Beasts, 1840 Sheep, and 148 Calves; there are 400 Beasts from the northern and midland, and 95 Milch Cows from the home counties.

Per st. of 8lbs.—	s	d	s	d
Best Scots, Here-fords, &c. ...	3	8 to 3	10	
Best Short-horns	3	6 — 3	8	
2d quality Beasts	2	4 — 3	0	
Best Downs and Half-breds ...	4	2 — 4	4	
Do. Shorn ...	0	0 — 0	0	

Per st. of 8lbs.—	s	d	s	d
Best Long-wools.	3	8 to 3	10	
Do. Shorn ...				
Ewes & 2d quality	3	0 — 3	4	
Do. Shorn ...	0	0 — 0	0	
Lambs	0	0 — 0	0	
Calves	2	10 — 3	10	
Pigs	3	0 — 4	0	

Beasts, 1057; Sheep and Lambs, 4,320; Calves, 288; Pigs, 365.

WOOL.

BRADFORD, THURSDAY, Oct. 28.—The firmness manifested at the London sales gives a tone that no kinds of wool are to be bought better, and the staplers here hold for prices that the spinners cannot give. Noils and brokes are without change.

MARK LANE.

MONDAY, Oct. 25.—The supply of Wheat from Essex and Kent to this morning's market was small, but met a slow heavy sale at barely the terms of this day se'nnight; Lincoln, on the contrary, was much inquired for. There was a large sale for low qualities of foreign Wheat, but in the better descriptions little business was done; prices, however, may be considered 1s. per qr. higher than on this day week. The demand for Flour is less active than last week.—Barley meets a fair inquiry, at the rates of Monday last.—Beans and Peas are very scarce, and in some instances command an advance of 1s. per qr.—For Oats there is a good demand at our extreme quotations.

PER IMPERIAL QUARTER.	s. s.		s. s.
Wheat, Essex, Kent, & Suffolk...White	38—50	Red	32—44
— — fine selected runs...ditto	42—54	Red	38—48
— — Talavera	52—56		
— Norfolk	40—48	Red	—
— Foreign	34—54		
Barley, grind. & distil., 24s to 27s...Chev.	25—32	Malting .	27—29
— Foreign ...grinding and distilling	22—25	Malting .	26—29
Oats, Essex, and Suffolk	18—19		
— Scotch and Lincolnshire...Potato	18—22	Feed	17—19
— Irish .....Potato	17—20	Feed	17—19
— Foreign .....Poland and Brew	18—21	Feed	15—19
Rye	29—32	Foreign .	—
Rye-meal, foreign	—		
Beans, Mazagan.....30s to 32s.....Tick	32—34	Harrow .	32—34
— Pigeon .....33s — 36s...Winds.	38—40	Longpod	30—34
— Foreign .....Small	29—34	Egyptian	29—30
Peas, white, Essex and Kent.....Boilers	42—46	Suffolk...	44—47
— Maple.....32s to 35s.....Grey	30—33	Foreign .	32—44
Maize .....White	—	Yellow...	—
Flour, best marks delivered ...per sack	37—40		
— Suffolk .....ditto	25—32	Norfolk .	25—32
— Foreign..... per barrel	21—24	Per sack	28—34

FRIDAY, Oct. 29.—The arrivals of foreign Wheat and American Flour have been large this week; of other articles moderate. To-day's market was tolerably well attended, and a fair extent of business transacted in foreign Wheat, at the extreme prices of Monday; the late value of English is fully supported. The Flour trade is firm, and in some instances fine American barrels brought rather more money. —Barley, Beans, and Peas are scarce, and their value remains as on Monday.—The Oat trade is slow.—Floating cargoes of Wheat from the south are held firmly, and there is no disposition to do business a shade below the prices of last week.

IMPERIAL AVERAGES.

	Wheat.		Barley.		Oats		Rye.		Beans.		Peas.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
Sept. 18.....	40	5	27	4	18	7	30	1	34	4	29	10
— 25.....	39	6	27	5	17	11	31	0	33	10	29	10
Oct. 2.....	38	9	27	4	17	4	30	5	33	10	30	0
— 9.....	38	5	27	5	17	6	28	10	34	0	30	4
— 16.....	37	10	27	8	18	0	30	1	34	1	30	4
— 23.....	38	8	28	8	17	10	25	8	34	2	30	9
Aggreg. Aver.	38	11	27	8	17	10	29	4	34	1	30	2

FLUCTUATIONS IN THE LAST SIX WEEKS' AVERAGES.

PRICES.	SEPT. 18.	SEPT. 25.	OCT. 2.	OCT. 9.	OCT. 16	OCT. 23.
40s 5d	—	...	...	...	...	...
39 6	...		...	...	...	...
38 9	...	...		...	...	...
38 8	...	...	...		...	
38 5	...	...	...	...		...
37 10	...	...	...	...	...	

LIVERPOOL, TUESDAY, Oct. 26.—We have had rather large arrivals of foreign Wheat this week. The Corn Exchange this morning was tolerably well attended by home and distant buyers. A fair business was transacted in Wheat, at strong prices generally, and in a few instances the lower qualities, and some fine white, rather exceeded the rates of last Tuesday. Choice American flour is scarce, and commands full prices. Oats and Oatmeal both brought extreme rates. Indian Corn was 6d. to 1s. per qr. dearer. Beans also were 6d. per qr. higher. Barley and Peas fully supported late quotations.—FRIDAY, Oct. 22.—The arrivals from Ireland and coastwise since Tuesday have been large of Oatmeal, but small of other articles. At this day's market there was a fair attendance of town and country buyers, and a moderately good business was done in Wheat and Flour, at Tuesday's prices. New mealing Oats were without change, but old provender were in request, and, being scarce, brought ½d. per 45 lbs. more money. New Oatmeal met with a fair sale, at 22s. 6d. per load. Barley, Beans, and Peas were each held for more money, which checks sales. Indian Corn afloat was in good demand, and arrived cargoes were saleable at 31s. 6d. per qr. for Galatz, and 29s. 6d. for Ibraila.

HARTLEY'S PATENT ROUGH PLATE GLASS,

For Ridge and Furrow Roofs, Greenhouses, Railway Stations, Engine Sheds, Mills, Market-Halls, and Public Buildings generally.

FOR CONSERVATORIES, PUBLIC BUILDINGS, MANUFACTORIES, SKYLIGHTS, &c., &c.	One-eighth inch thick.	3-16th inch thick.	¼ inch thick.
	s. d.	s. d.	s. d.
PACKED IN CRATES, for cutting up of the sizes as Manufactured:— 30 Inches wide and from 40 to 50 long ... ... Or 20 " " 50 to 70 "	0 6	0 8	0 10
IN SQUARES, cut to the sizes ordered:— Under 8 by 6	0 4	0 6	0 7
8 by 6 and under 10 by 8	0 4½	0 7	0 8
10 by 8 " 14 by 10	0 5	0 7	0 9
14 by 10 " 1½ feet super., if the length does not exceed 20 inches	0 5½	0 7	0 9
1½ feet sup. " 3 " or if above 20, and not above 30 inches long	0 6	0 8	0 10
3 " " 4 " " 20 " 30 "	0 6½	0 8	0 10
4 " " 5 " " 30 " 35 "	0 7	0 8½	0 10
5 " " 6 " " 35 " 40 "	0 7½	0 9	0 10½
6 " " 8 " " 40 " 45 "	0 8	0 9½	0 11
8 " " 10 " " 45 " 55 "	0 8½	0 10	1 0
10 " " 12 " " 55 " 70 "	0 9	0 11	1 1
12 " " 15 " " 70 " 85 "	.....	1 0	1 2

PACKED IN BOXES OF 50 FEET EACH.

6 inches by 4 inches, and 6½ inches by 4½ inches ... 10s. 6d. | 8 inches by 6 inches, and 8½ inches by 6½ inches ... 13s. 6d.
7 " by 5 " and 7½ " by 5½ " ... 12s. 0d. | 9 " by 7 " and 9½ " by 7½, and 10 by 8 15s. 0d.

When a quantity is required, an estimate will be furnished on application.

JAMES PHILLIPS AND CO.,

HORTICULTURAL GLASS MERCHANTS, 116, BISHOPSGATE-STREET WITHOUT, LONDON.

HORTICULTURAL GLASS

OF EVERY DESCRIPTION.

THOMAS MILLINGTON'S WAREHOUSE,

87, BISHOPSGATE-STREET WITHOUT,

LONDON.

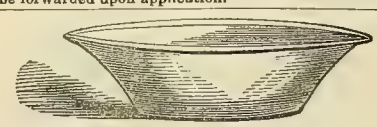
GLASS FOR CONSERVATORIES, ETC.

HETLEY AND Co. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2d. to 3d. per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices and Estimates forwarded on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLATES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to JAMES HETLEY and Co., 35, Soho-square, London.

See *Gardeners' Chronicle* first Saturday in each month.

SOHO GLASS WAREHOUSE, 26, SOHO SQUARE.

ALFRED GOSLETT begs to inform consumers of Glass for Horticultural purposes that he supplies the following descriptions, either in crates, as manufactured, AT REDUCED PRICES, or cut to any given size:—ENGLISH CROWN and SHEET GLASS of every weight manufactured. HARTLEY'S PATENT ROLLED ROUGH GLASS, one-eighth, three-sixteenths, and one-quarter inch thick. BELGIAN SHEET GLASS, in cases, containing 200 feet, of one given size, at 40s. per case, in parcels of five cases at 38s., and in parcels of 10 cases, at 37s. per case, FOR CASH; or cut to order at 3d. per foot superficial. Estimates or any further particulars will be forwarded upon application.



JAMES PHILLIPS AND Co., 116, Bishopsgate-street Without, beg to inform their friends they are prepared to supply

GLASS MILK PANS,

the same size as the foreign ones (17 inches in diameter) but superior in colour, make, and quality, at 2s. each, or 21s. per dozen. Lord Camoy's Milk Syphons, Lactometers, Milk Tests, Glass Cream Pots, &c., &c.

116, Bishopsgate-street Without, London.

GARDEN FRAMES, GREENHOUSES, PITS, &c. —TRANSPARENT SHEETING, a substitute for Garden Mats, admitting light to plants, and keeping out frost, 1s. per yard, runs nearly 2 yards wide; thick canvas ditto, 1s. per square yard; large waterproof capes, to protect a man from wet while stooping down, 3s.; cart and waggon covers, 2s. per square yard; made-up horses' loin cloths, driving aprons, &c. R. RICHARDSON, 21, TONBRIDGE PLACE, NEW ROAD, LONDON.

N.B. 3000 London Police Waterproof Capes, fresh dressed, 18s. and 24s. per dozen, for gardenere and farm labourers.

A small Fire Engine for sale, price 10l., with a quantity of Hose, &c., complete for use.

EMIGRANTS' TENTS, HOUSES, AND CARTS.—Strong Canvas Tent, 12 feet square, 6 feet high in the lowest part, 5l. each; ditto, with boarded sleeping loft, a dry secure Tent, and requiring no lines to keep it up, 8l. 10s., with wirework 6 feet high all round, and wire door, 16s. extra; this is the best Tent yet invented. Tents, 10 feet square, 4l.; 9 feet, 3l.; 8 feet, 2l.; all 6 feet high in the lowest part. Soldiers' Bell Tents, 42 feet round, 3l.; Iron and Wood Houses, from 8l. Drawings and full details of Houses and Tents sent.

Carts, 6 feet long, 4 feet wide, 8l. each; ditto, 7 feet long, 4 feet wide, with hoops and awning, 11l.; when tail board and front is let down like a dog cart, you have 11 ft. by 4 ft. covered in by the awning, a tarpauling to come to the ground all round, enclosing the wheels and the whole Cart round. Gold Washing Machines, and various Tools for Emigrants' Cots, 7s.; Hammocks, with mattress and pillow, 5s. 6d. each, complete.

R. RICHARDSON, corner of Judd-street, New Road, near King's Cross, London.—N.B. Several Tents may be seen up, and Carts in course of construction.

ANTI-CHOLERA PRECAUTIONS.

THE COMFORT OF A FIXED WATER-CLOSET for 1l.—Places in gardens converted into comfortable water-closets by the PATENT HERMETICALLY-SEALED PAN, with its self-acting water trap valve, entirely preventing the return of cold air or effluvia. Price 1l. Any carpenter can fix it in two hours. Indispensable for health in case of the Cholera. Also Patent Hermetically-Sealed Inodorous Commodes for the sick room: price 1l. 4s., 2l. 6s., and 3l. A prospectus with engravings, forwarded by enclosing a post stamp.

At FYFE & Co.'s, 26, Tavistock-street, Covent Garden, London.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER,

AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.



GRAY AND ORMSON, Danvers Street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

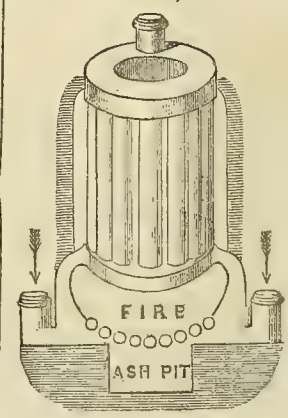
G. and O. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders they can with the greatest confidence give the most satisfactory references.

Their Hot-Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating by Hot Water can be made available.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER.

TUBULAR BOILERS OF ALL SIZES, WARRANTED THE MOST EFFICIENT.

J. WEEKS AND CO., King's-road, Chelsea, HOT-HOUSE BUILDERS; Horticulture in all its branches upon the most improved principles. These Boilers are very powerful, durable, and economical. The fire warranted to last 15 hours without attention. The Furnace Bars are Hollow Tubes through which the return water passes before entering the upper part of the boiler, thereby causing a very rapid circulation, and producing double the effect from the same quantity of fuel.



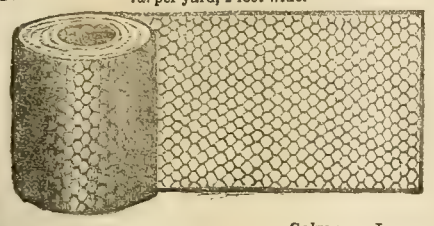
J. WEEKS AND CO., King's Road, Chelsea, CHALLENGE the whole world to make a Boiler that will produce anything like the same effect, with the same quantity of Fuel in a given time. It is one of those boilers that warms the water of their Victoria Regia Tank, which contains 20,000 gallons, and also heats several large Forcing-houses and ranges of Pits, with a small consumption of fuel.

Plans, Models, and Estimates of Horticultural Buildings; also Catalogues of Plants, Vines, Seeds, &c., forwarded on application.

J. WEEKS and Co., King's-road, Chelsea, London.

BERDOE'S WINTER OVER-COATS AND SHOOTING JACKETS.—A very large stock of superior garments in every improved material and style, and of every degree of warmth, or lightness, guaranteed to resist any amount of rain; at charges reduced to the lowest point consistent with the principle that an article to be really cheap must be good. Every size also of the WATERPROOF PALLIUM, the well known Light Over-Coat, for all seasons (price 45s.) Riding and Driving Capes, Leggings, Boys' Over-Coats and Capes, also Cloaks, Mantles, Habits, &c. for LADIES, all thoroughly impervious to rain, WITHOUT OBSTRUCTING FREE VENTILATION, the fatal objection to all other waterproofs.—W. BERDOE, TAILOR AND OVER-COAT MAKER, 96, NEW BOND STREET, and 69, CORNHILL (only.)

GALVANISED WIRE GAME NETTING.—7*d.* per yard, 2 feet wide.

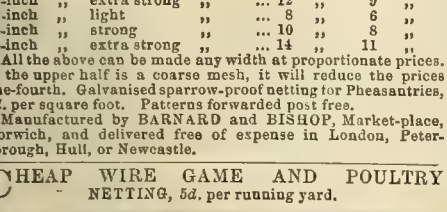


	Galvanised.	Japanned Iron.
2-inch mesh, light, 24 inches wide ...	7*d.* per yd.	5*d.* per yd.
2-inch ,, strong ,, ...	9 ,,	6½ ,,
2-inch ,, extra strong ,, ...	12 ,,	9 ,,
1-inch ,, light ,, ...	8 ,,	6 ,,
1-inch ,, strong ,, ...	10 ,,	8 ,,
1-inch ,, extra strong ,, ...	14 ,,	11 ,,

All the above can be made any width at proportionate prices. f the upper half is a coarse mesh, it will reduce the prices ne-fourth. Galvanised sparrow-proof netting for Pheasantries, d. per square foot. Patterns forwarded post free.

Manufactured by BARNARD and BISHOP, Market-place, Norwich, and delivered free of expense in London, Peterborough, Hull, or Newcastle.

CHEAP WIRE GAME AND POULTRY NETTING, 5*d.* per running yard.



GALVANISED ditto, 7*d.* per running yard, 2 feet wide.

	Galvanised.	Not Galvanised
4 in. wide, 2 in. mesh, 7*d.* per yard.	...	5*d.* per yard.
0 in. ,, 2 in. ,, 9*d.* ,,	...	6½*d.* ,,
6 in. ,, 2 in. ,, 10½*d.* ,,	...	7½*d.* ,,
8 in. ,, 2 in. ,, 1*s.* 2*d.* ,,	...	10*d.* ,,

Sparrow Proof Netting, Galvanised, 3*d.* per square foot, nade to any size for the same proportionate price. This rticle was shown at the "Great Exhibition," where it was so ouch admired for its light and durable appearance, and acnowledged to be the cheapest and best article of the kind ver offered. Extra strong Wire Sheep Netting, 3 feet high, s. 6*d.* and 2*s.* 3*d.* per yard. Also every description of Flower rainers, Dahlia Rods, Garden Arches, Bordering, Flower tands, Tying Wire, Trellis Work, Invisible Wire Fencing, Hurdles, and every description of Wire Work for Horticultural urposes.—Illustrated Catalogues of Patterns forwarded, postree, on application to T. H. Fox, City of London Wire Work nd Iron Fence Manufactory, 44, Skinner-street, and 6 and 8, now-hill, London.

"FRIGI DOMO."—A Canvas, made of prepared Hair and Wool, a perfect non-conductor of Heat and dapted to many Horticultural and Floricultural purposes for overing over frames where a fixed temperature is required. t is 2½ yards wide, and of any required length, at 1*s.* 4*d.* per ard run —Manufactured only by E. T. ARCHER, Carpet Manufacturer, 451, New Oxford-street, London.

WATERPROOF CAPES, so as to effectually protect a man from wet while stooping down, 3*s.* each, uitable for Coachmen, Gardeners, Gamekeepers, Watchers, Carmen, Horse-drivers, Porters, and Agricultural Labourers. Three thousand London Policemen's second-hand Capes, re-dressed, 18*s.* and 24*s.* per dozen. Waggon and Cart Covers, Horses' Loin Cloths, Waterproof Coats, Driving Aprons for Gigs. Dog-carts, and Omnibuses, &c.—R. RICHARDSON, 21, Tonbridge-place, corner of Judd-street, New-road, London. N.B.—Transparent Sheeting, nearly 2 yards wide, 1*s.* per yard. One thousand yards thick Tarpauling, second-hand, 4*d.* per square yard, made up.

WATERPROOF PATHS.—Those who would enjoy their Gardens during the winter months should construct their walks of PORTLAND CEMENT CONCRETE, which are formed thus:—Screen the gravel of which the path s at present made from the loam which is mixed with it, and o every part of clean gravel add one of sharp river sand. To ive parts of such equal mixture add one of Portland Cement, nd incorporate the whole well in the dry state before applying he water. It may then be laid on 2 inches thick. Any abourer can mix and spread it. No tool is required beyond he spade, and in 48 hours it becomes as hard as a rock. Vegetation cannot grow through or upon it, and it resists the ction of the severest frost. It is necessary, as water does not oak through it, to give a fall from the middle of the path owards the sides.—Manufacturers of the Cement, J. B. WHITE and Sons, Millbank-street, Westminster.

STEPHENSON AND PEILL, 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Manufacturers of Copper Cylindrical and Improved Conical Iron BOILERS, and Conservatory and Hothouse Builders, either n wood or iron, respectfully call the attention of the Nobility, Gentry, and Nurserymen to their simple but efficacious method of warming Horticultural and other Buildings by hot water. From the extensive works they have executed, references of the highest respectability can be given, and full particulars furnished on application.

WHERE TO BUY A DRESSING-CASE.—In no article perhaps is caution more necessary than in the purchase of a Dressing Case, for in none are the meretricious arts of the unprincipled manufacturer more frequently displayed. MECHI, 4, LEADENHALL STREET, near Gracechurch-street, has long enjoyed the reputation of producing a Dressing Case in the most finished and faultless manner. Those who purchase one of him will be sure of having thoroughly-seasoned and well-prepared wood or leather, with the fittings of first-rate quality. The prices range from 1*l.* to 100*l.* Thus the man of fortune and he of moderate means may alike be suited, while the traveller will find the Mechani Dressing Case especially adapted to his necessities.—4, LEADENHALL STREET.

SAFE INVESTMENT.—One or two SHARES to be disposed of in an established and important Invention for the manufacture of an Article of very large every day demand. Price for each Share 100*l.* No liability to the Purchaser, and a large annual return is certain. Address, Mr. MURRAY, 11, St. Mary Abbott's-terrace, Kensington, London

THE RHEOCLINE, OR SPRING COUCH portable without detaching any of its parts, softer than a Feather Bed, and which can be changed in One Moment from a Couch to either a Bed or Sofa, may be seen at

COTTAM AND HALLEN'S 76, OXFORD-STREET,

where also is on view a great variety of METALLIC BEDSTEADS, fitted with and without the patent RHEOCLINE, &c. &c., together with a large assortment of the patent Radiating and other STOVES, and every other description of IRONMONGERY.

A NEW STOVE.—GREAT NOVELTY.—In the construction of the BURTON REGISTER STOVE, it was the first care of the inventor, WILLIAM S. BURTON, to avail himself of the most valued of modern improvements in the art of heating, and secondly, so to modify and alter the receptacle for the coals, as at once to obtain the simplest and most perfect combustion; after a long series of experiments, he has, by the substitution of a graceful form of shell for the present clumsy and ill-adapted bars, succeeded in producing a stove which for soft and brilliant light, as well as purity and quantity of heat, is far beyond his most sanguine expectations, while for cleanliness and cheerfulness it is utterly unapproachable. Price from 5*6s.* to 15*l.* To be seen in use daily in his show-rooms, where also are to be seen

250 STOVES and 325 FENDERS (exclusive of reserved stock) all differing in pattern, forming the largest assortment ever collected together. They are marked in plain figures, and at prices proportionate with those that have tended to make his establishment the most distinguished in this country. Bright stoves, with bronzed ornaments and two sets of bars, 2*l.* 14*s.* to 5*l.* 10*s.*; ditto with ormolu ornaments and two sets of bars, 5*l.* 10*s.* to 12*s.* 12*s.*; bronzed fenders complete, with standards, from 7*s.* to 3*l.*; steel fenders, from 2*l.* 15*s.* to 6*l.*; ditto, with rich ormolu ornaments, from 2*l.* 15*s.* to 7*l.* 7*s.*; fire-irons, from 1*s.* 9*d.* the set to 4*l.* 4*s.* Sylvester and all other patent stoves, with radiating hearthplates; and kitchen ranges, which he is enabled to sell at these very reduced charges.

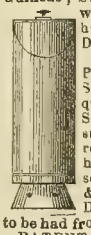
First—From the frequency and extent of his purchases; and Secondly—From those purchases being made exclusively for cash.

WILLIAM S. BURTON has TEN LARGE SHOW ROOMS (all communicating), exclusive of the shop, devoted solely to the show of GENERAL FURNISHING IRONMONGERY (including Cutlery, Nickel Silver, Plated, and Japanned Wares, Iron and Brass Bedsteads), so arranged and classified that purchasers may easily and at once make their selections.

Catalogues, with Engravings, sent (per post) free. The money returned for every article not approved of.

39, OXFORD STREET (corner of Newman-street); Nos 1 and 2, NEWMAN STREET; and 4 and 5, PERRY'S PLACE

THE ONLY STOVE WITHOUT A FLUE.—Plain, from 12*s.* to 25*s.*; Ornamental, from 31*s.* 6*d.* to Six Guineas; Stands for Stoves, 2*s.* 6*d.*, 3*s.*, and 5*s.* each. For which her Majesty's Royal Letters Patent have been granted. Prospectus, with Drawings and Report, forwarded free.



JOYCE'S PATENT for warming Halls, Passages, Greenhouses, Water-closets, Shops, Store-rooms, and all places requiring artificial warmth. The above Stoves do not emit smoke or unpleasant smell, and will burn without attention or replenishing from twelve to twenty-four hours. To be seen in use daily, at the sole Proprietor's, S. NASH, Ironmonger, &c., 253, Oxford-street, and at the City Depot, 119, Newgate-street, London; and to be had from the principal Ironmongers in town and country.



PATENT PREPARED FUEL for the Stoves, 2*s.* 6*d.* per bushel; only genuine with the Proprietor's name and seal on the sack.

S. NASH, 253, Oxford-street, and 119, Newgate-street, London, Sole Manufacturer of the Portable Economical Vapour Bath, for Families, Travellers, &c. &c., complete with Large Cloak, 1*l.* 11*s.* 6*d.* Medical Testimonials forwarded on application.

LAMPS OF ALL SORTS AND PATTERNS.—The largest, as well as choicest assortment of PALMER'S MAGNUM and other LAMPS—CAMPHINE, ARGAND, SOLAR, and MODERATEUR LAMPS, with all the latest improvements, and of the newest and most recherché patterns, in ormolu, Bohemian, and plain glass, or papier maché, in existence—is at W. S. BURTON'S, and they are arranged in one large room, so that the patterns, sizes, and sorts can be instantly selected.

WILLIAM S. BURTON has TEN LARGE SHOW ROOMS (all communicating), exclusive of the shop, devoted solely to the show of GENERAL FURNISHING IRONMONGERY (including cutlery, nickel silver, plated, and japanned wares, iron and brass bedsteads), so arranged and classified that purchasers may easily and at once make their selections.

Catalogues, with engravings, sent (per post) free. The money returned for every article not approved of.

39, OXFORD-STREET (corner of Newman-street); Nos. 1 and 2, NEWMAN-STREET; and 4 and 5, PERRY'S-PLACE.

RUPTURES EFFECTUALLY CURED WITHOUT A TRUSS.

DR. LESLIE continues to supply the afflicted with his celebrated Remedy for this alarming complaint, the great success of which, for many years past, renders any further comment unnecessary. It is easy and painless in use, causing no inconvenience or confinement, and is applicable to every variety of single and double Rupture, however bad or of long standing, in male or female of any age. The remedy will be sent, post free, on receipt of 7*s.* 6*d.* by Post-office order, payable at the General Post-office, or postage stamps, by Dr. HERBERT LESLIE, 37 A, Manchester-street, Gray's-inn-road, London.—At home daily, from 10 till 1 and 5 till 8 o'clock; Sundays excepted.

VALUABLE REMEDIES FOR THE AFFLICTED.

DR. ROBERTS'S CELEBRATED OINTMENT, called the POOR MAN'S FRIEND, is confidently recommended to the Public as an unfailing remedy for Wounds of every description, a certain cure for Ulcerated Sore Legs, if of 20 years' standing; Cuts, Burns, Scalds, Bruises, Chilblains, Scorbutic Eruptions and Pimples on the Face, Sore and Inflamed Eyes, Sore Heads, Sore Breasts, Piles, Fistula, and Cancerous Humours, and is a specific for those afflicting Eruptions that sometimes follow vaccination. Sold in pots at 1*s.* 1½*d.* and 2*s.* 9*d.* each.

Also his PILULÆ ANTISCROPHULÆ, confirmed by more than 40 years' experience to be, without exception, one of the best alterative medicines ever compounded for purifying the Blood, and assisting nature in all her operations. Hence they are used in Scrofulas, Scorbutic Complaints, Glandular Swellings, particularly those of the Neck, &c. They form a mild and superior Family Aperient, that may be taken at all times without confinement or change of diet. Sold in Boxes, at 1*s.* 1½*d.*, 2*s.* 9*d.*, 4*s.* 6*d.*, 11*s.*, and 22*s.*

Sold Wholesale by the Proprietors, BEACH and BARNICOTT, at their Dispensary, Bridport; by the London houses. Retail by all respectable Medicine Vendors in the United Kingdom.

OBSERVE.—No Medicine sold under the above name can possibly be genuine, unless "BEACH and BARNICOTT, late Dr. Roberts, Bridport," is engraved on the Government Stamp affixed to each package.

MATRIMONIAL ALLIANCE ASSOCIATION LEGALLY ESTABLISHED, 1849. Head Offices,—London: Lincoln's-Inn-Fields Chambers, and 2, Portsmouth-street, Lincoln's-Inn-Fields. Branch Offices: Liverpool, Bristol, York, Manchester, Aberdeen, and Dublin. Confidential Referee: R. Warwick, Esq.

MATRIMONIAL ALLIANCE ASSOCIATION. Conducted on the system so successfully adopted on the Continent. Legally established as a medium for the introduction of both sexes unknown to each other, who are desirous of entering into Matrimony. None but respectable parties negotiated with. Applicants may sign by initial or otherwise. Full particulars, with printed forms of application, list of agents, and instructions, sent free on receipt of six postage stamps, by HUGO BERESFORD, Esq., Secretary. Registrar's Offices: Lincoln's-Inn-Fields Chambers, and No. 2, Portsmouth-street, Lincoln's-Inn-Fields, London.

THE ROYAL EXHIBITION.—A valuable newly-invented, very small, powerful, waistcoat-pocket Glass the size of a Walnut, to discern minute objects at a distance of 4 to 5 miles, which is found to be invaluable for YACHTING, and to SPORTSMEN, GENTLEMEN, and GAMEKEEPERS.

TELESCOPES.—A new and most important INVENTION in TELESCOPES, possessing such extraordinary powers that some—3½ inches, with an extra eye-piece—will show distinctly Jupiter's Moon, Saturn's Ring, and the Double Stars. They supersede every other kind, and are of all sizes—for the waistcoat-pocket, Shooting, Military purposes, &c. Opera and Race-course Glasses with wonderful powers; a minute object can be clearly seen from 10 to 12 miles distant.—Invaluable Acoustic Instruments for relief of extreme Deafness.

MESSRS. S. AND B. SOLOMONS, OPTICIANS and AURISTS, 39, Albemarle-street, opposite the York Hotel, London.

MOST IMPORTANT DISCOVERY.—BEAUTIFUL TEETH, and no more Toothache. Under the immediate patronage of the Court, the Marquis of Headfort, the Clergy, Captains of the Army and Navy, Physicians, Surgeon Dentists, &c. See Testimonials with the Compound. GRAHAM'S LIQUID BOTANICAL DENTIFRICE, for preserving and beautifying the Teeth; it prevents toothache and purifies the breath. It is highly recommended to all who have artificial and defective teeth. Prepared and sold by JAMES GRAHAM, Bognor, and his agent, Mr. Sanger, 150, Oxford-street, London; and all chemists and perfumers. Price 1*s.* 1½*d.* per bottle.—N.B. It is also highly recommended after smoking, for purifying the breath, and is most refreshing to the mouth on a sea voyage, and is very much used. Every family should use this compound. Beware of spurious imitations.

MANUFACTURERS BY SPECIAL APPOINTMENT TO THE QUEEN.

Obtained the Prize Medal Great Exhibition, 1851.

J. S. FRY AND SONS have all the advantages which experience and a Manufactory on a large scale can command.

FRY'S FRENCH CHOCOLATES, which are used at the royal table and by the first nobility, are delicious, both taken as a beverage and for eating. Those who wish a cup of really fine delicious well-frothed Chocolate, to pass softly off the palate, should obtain these articles. Important Directions are contained in each package. Most persons have never tasted this beverage in perfection.

FRY'S CHOCOLATE BONBONS are delicious and nutritious condiments for the railway carriage, for invalids, the nursery, and the luncheon table, and especially adapted for presents. Their celebrated SOLUBLE COCOA is so moderate in price, that no person need resort to other makers. It will go farther than inferior qualities, thus purchasers obtain most for their money by using FRY AND SONS SOLUBLE COCOA, in green and gold, or in hexagon packets, will be found of excellent quality.

FRY'S HOMŒOPATHIC, DIETETIC, and GRANULATED COCOAS possess perfect solubility—light, nutritious, and delicate articles—to invalids invaluable.

J. S. FRY and SONS' name on the label of their COCOA NIBS will warrant them perfectly genuine.

FRY'S PATENT COCOA possesses a full flavour.

J. S. FRY and SONS, Bristol, Manufacture all kinds of Chocolates and Cocoas.

FRY'S Chocolate, or Cocoa Paste, Chocolate Powder, Broma, and Soluble Chocolate, require no boiling.

Sold by Tea Dealers, Grocers, and Druggists in Great Britain and Ireland. Be careful to observe that the name of "FRY and SONS" is on the packet of each article. Enquire at all Grocers for FRY and SONS' Book on Cocoa—GRATIS.

METCALFE AND CO.'S NEW PATTERN TOOTH-BRUSH and SMYRNA SPONGES.—The Tooth-Brush has the important advantage of searching thoroughly into the divisions of the teeth, and cleaning them in the most extraordinary manner, and is famous for the hairs not coming loose.—1*s.* An Improved Clothes-Brush, that cleans in a third part of the usual time, and incapable of injuring the finest nap. Penetrating Hair-Brushes, with the durable unbleached Russian bristles, which do not soften like common hair. Flesh-Brushes of improved, graduated, and powerful friction. Velvet-Brushes, which act in the most surprising and successful manner. The genuine Smyrna Sponge, with its preserved valuable properties of absorption, vitality, and durability, by means of direct importations, dispensing with all intermediate parties' profits and destructive bleaching, and securing the luxury of a genuine Smyrna Sponge. Only at METCALFE, BINGLEY, and Co.'s Sole Establishment, 130 B, Oxford-street, one door from Holles-street, London.

METCALFE'S ALKALINE TOOTH POWDER, 2*s.* per box.

CAUTION.—Beware of the words "From METCALFE'S," adopted by some houses.

TO BE DISPOSED OF, at a very low price, one of STEPHENSON'S CONICAL COPPER BOILERS, with stand complete, as good as new, having only been used a few times.—Apply to HURST and M'MULLEN, Seedsman, 6, Leadenhall-street, London; or to W. WILSON, Nurseryman, Wimborne, Dorset.

FARM TO LET.—An excellent Sheep Farm, situated 8 miles from Croydon, comprising a good Farmhouse, with Farm Buildings, and 232 acres of Arable, Pasture, and Wood Land. Rent, 8*l.* per annum. Additional Meadow Land can be had if required.—Apply to G. MORISON, Esq., Solicitor, Reigate, Surrey.

TO NURSERYMEN, FLORISTS, ETC.

TO BE DISPOSED OF, an Old-Established BUSINESS, of more than Thirty Years' Standing, situated in one of the principal Towns North of Derby, to which is attached a First-Class RETAIL SEED SHOP.—The Premises at the Nursery are replete with every convenience for the Propagation of Hard and Soft-wooded Plants. This is an opportunity rarely to be met with, and will bear the strictest investigation. No good will required, and none but principals treated with. If preferred, the Nursery Ground (Freehold) may be purchased, and two-thirds of the purchase money may remain on security. The above is offered in consequence of the death of the previous owner.—For particulars address A. B., Mr. Duncan Hairs, Seedsman, 109, St. Martin's-lane, London; or Mr. John Sampson, Bookseller, York.

KNAP HILL NURSERY, WOKING, SURREY.

HOSEA WATERER respectfully invites attention to the following:—

ARAUCARIA IMBRICATA, 2, 3, 4, and 5 feet high. We have a fine stock of large Araucarias, and as they have never been in pots, they are as robust and handsome as can well be.

CRYPTOMERIA JAPONICA, 2, 3, 4, 5, 6, 7, and 8 feet high, all from seed and in the open ground.

CEDRUS DEODARA, 2, 3, 4, 5, 6, 7, 8, 10, and 12 feet high.
" OF LEBANON, 3, 4, 5, 6, 7, to 12 feet high. The large Deodars and Cedars of Lebanon, here referred to, have been regularly removed every spring; they are magnificent specimens, and might be sent any distance with perfect safety.

ABIES DOUGLASII, from seed, 2, 3, 4, 5, 6, and 7 feet; larger and splendid plants 8 to 12 feet; all removed last spring.
" MENZIESII, 3, 4, 5, 6, and 7 feet high.
" CANADENSIS, Hemlock Spruce, fine plants, 5, 6, 7, and 8 feet high.

PICEA NOBILIS, stout plants, with good heads, own bottoms, 2½ to 3 feet, probably not to be met with in any other Nursery.

PINUS CEMBRA, 3, 4, 5, 6, to 10 feet high.
" INSIGNIS, all from seed, and most beautiful plants, 3, 4, 5, and 6 feet high. We have a fine lot of these.

CUPRESSUS MACROCARPA, or LAMBERTIANA, from seed, 2, 3, 4, 5, 6, and 7 feet high. We have a fine lot of these also.

TAXODIUM SEMPERVIRENS, 2, 3, 4, 5, and 6 feet high; beautifully furnished.

JUNIPERUS VIRGINIANA (the red Cedar), fine plants, 4, 5, 6, and 7 feet.
" RECURVA, 3, 4, 5, 6, 7, and 8 feet.
" EXCELSA, 3, 4, 5, and 6 feet.
" BEDFORDIANA, 3, 4, and 5 feet. This is a very handsome growing plant.

* UPRIGHT IRISH JUNIPER, 3, 4, 5, 6, 7, 8, to 10 feet high. These are really splendid examples of perhaps one of the most striking of all Junipers.

* UPRIGHT IRISH YEW, 4, 5, 6, 7, 8, to 10 feet high. These plants are all trimmed to one stem, and are not therefore so likely to divide on windy or snowy weather.

* CHINESE JUNIPER, 2, 3, 4, 5, 6, 7, and 8 feet high.

* CUPRESSUS THYOIDES VARIEGATA (the variegated white Cedar), most beautiful plants, 3 to 4 feet high.

* GOLDEN YEW, worked on common, 3, 4, 5, and 6 ft. high.

* Visitors to Elvaston Castle cannot have failed to remark the extraordinary effect produced by the last five plants, viz., Irish and Gold-striped Yews, Irish and Chinese Junipers, and the Variegated White Cedar; and I believe we may assert, without fear of contradiction, except Elvaston, a similar lot of plants to those here offered cannot be found in any Nursery in Britain.—Priced Catalogues will be forwarded on application.

The Knap Hill Nursery is within an hour's ride of London, being near the Woking Station, South-Western Railway, where every train stops, and from whence conveyances may at all times be had.

REMARKS ON THREE SUPERIOR KINDS OF PLUMS, originated from Seed about 10 years since, by MR. HENRY DOWLING, FRUIT GROWER, Woolston-lawn, near Southampton.

It is a well-ascertained fact, notwithstanding the trees were planted in an exposed situation, on a thin gravelly soil, that from their first coming into bearing, four years ago, to the present period, the produce has been both excellent and abundant: hence it is presumed to have arisen chiefly, if not entirely, from their being clothed with foliage prior to any bloom becoming perceptible, for similarly situated are 360 good old sorts of the same age, nearly without fruit, consequently of little or no value, and which can be corroborated by competent and respectable persons, at whose suggestion MR. DOWLING has now the honour of submitting this Advertisement to the notice of Noblemen, Gentlemen, and others.

No. 1. ANGELINA BURDETT.—Size medium; form somewhat oblong; colour rich purple, copiously covered with an azure bloom; flesh amber green, parting freely from the stone; flavour delicious; ripens upon an open standard about the middle of August. Against a wall it would no doubt eclipse all others.

No. 2. STANDARD OF ENGLAND.—Size, rather large; form oval; colour crimson red next the sun, covered with violet bloom, bright red on the shaded side; flesh slightly yellow, separating from the stone; flavour exquisite; ripens the latter end of August, and with its rivals should find ample space in every garden.

No. 3. WOOLSTON BLACK GAGE.— Size medium; form round; colour jet black, powdered with light blue; flesh yellowish green, parting from the stone; flavour equal in every respect to the Green Gage, with this superiority, that while the latter is apt to crack in a wet summer, and will not keep after being gathered, this, on the contrary, will endure, if the climate be dry, through August and September. This excellent Plum deserves an east or west wall, although it ripens well on an open standard.

From several Testimonials the subjoined are selected, as being deemed of unexceptionable authority:—

"Mr. Thomas Ingram, of her Majesty's Royal Gardens, Windsor, considers them to be of fine quality and superior flavour, and from their appearance he should imagine them to be good keeping Plums."

Mr. Robert Thompson, of the Horticultural Society's Garden, writes thus—"Your three Plums are indeed of first-rate quality, and I should recommend their extensive cultivation. As regards No. 3, I consider you have thrown the Green Gage into the shade, for it retains all the properties of that Plum, with more sugary sweetness. I have no fear of my judgment being called in question."

Mr. John Wright, late gardener to the Rt. Hon. Lord Viscount Palmerston, Broadlands, in a communication to Mr. Dowling, states that "Angelina Burdett and Standard of England Plums, are not only prolific and of surpassing flavour, but from their colour and form striking in appearance. The Woolston Black Gage, though not so attractive to the eye, still from its extreme richness of quality is admirable to the taste."

Hampshire Independent, Sept. 11, 1852.—"A meeting of gentlemen and gardeners, resident in this locality, took place on Monday, at the Antelope Inn, to test the quality of some new Plums, grown by Mr. DOWLING, Woolston Lawn, Southampton. They are certainly very choice, particularly the Angelina Burdett and the Woolston Black Gage; and, of these two kinds, after tasting the fruit, every person present gave an opinion decidedly confirmatory of the high judgment pronounced in their favour by Mr. Robert Thompson, of the London Horticultural Society's garden."

FORD and RICE, Nurserymen, Seedsmen, and Florists, New Road, Southampton, having had frequent opportunities, during the last four years, of inspecting the three parent trees in Mr. DOWLING'S fruit plantation, and being perfectly convinced of their extraordinary productiveness, as well as superlative excellence, they cannot but feel pleasure in undertaking the Agency, and in adding their humble yet zealous tribute of commendation.

It is highly gratifying to F. and R. to state that they have, to a very considerable extent, been patronised by nearly the whole of the neighbouring nobility and gentry, who have seen the trees, and tasted the fruit.

F. and R. respectfully solicit early orders to the above address, which will be duly executed in rotation. If the three sorts are taken, the price will be 15*s.* each, and for a single tree, 1*l.*—N.B. A list of the trade, comprising all orders sent by them, will shortly be advertised.

PLECTRANTHUS CONCOLOR PICTA, the finest variegated-leaved plant yet offered ... ... 7*s.* 6*d.*

TACSONIA SANGUINEA, figured in "Botanical Magazine" for October ... ... 10*s.* 6*d.*

HUGH LOW and Co., Clapton Nursery.—Oct. 30.

LANDSCAPE GARDENING REVIVED AS AN ART.

MR. THOROLD, of Thorpe Bower, near Norwich, offers his services to the nobility and gentry as a Landscape and Ornamental Gardener in the highest style, including Decorations around a House, Forming Water, Approaches, Vistas, Picturesque Scenery, correcting the efforts of Amateurs, and directing the practical execution of works.

Mr. T. has no connection with Nurserymen or any Trade whatever.

TO GENTLEMEN AMATEURS IN FRUIT GARDENING.

THE ADVERTISER offers his services and experience in cultivating a model Vineyard, upon the improved out-door growth of the Vine, to which he has devoted much attention, and is fully acquainted with choice of site and aspect, planting, training, and judicious Pruning, together with the most favourable means of counteracting what is usually attributed to defect in climate, the true system of the Vine being rarely carried out in England. Genuine Cuttings supplied for planting, the season for which is now approaching. Advice, with Illustrations, forwarded to persons having their Vines in disorder or insufficiently productive, on receipt of not less than 5*s.* in postage stamps or otherwise.—Address F. A. MORLEY, 15, Orchard Cottages, Clarence Road, Lower Clapton, Middlesex.

Sales by Auction.

DEPTFORD.

TO GENTLEMEN, NURSERYMEN, FLORISTS, & OTHERS.

MESSRS. PROTHEROE AND MORRIS are instructed (by Mr. F. WARNER) to submit to public competition by Auction, on the premises, adjoining Albert-terrace, New Cross, Deptford, on MONDAY, November 1, at 11 o'clock, the whole of the valuable NURSERY STOCK of Evergreens and Fruit Trees, comprising Chinese Arbor-vitæ, Irish Yews, Red Cedars, Green Holly, Upright Cyprus, Pinus excelsa, morinda; Araucaria imbricata, Cedrus Deodara, Silver and Spruce Firs; Standard and Dwarf-trained Apricot, Plum, Pear, Apple, Raspberry, Gooseberries, Currant, and Strawberry (sorts), fine standard Mulberries, &c.; also, the choice Greenhouse Plants, consisting of about 200 double Camellias, large Azalea indica (sorts), &c.; a large quantity of Mitchell's Prince Albert Rhubarb, Seakale, Asparagus, and Early Potatoes (sorts); with the erection of two Sheds, Wooden Fence, sundry tools, &c.—May be viewed prior to the sale; Catalogues had on the premises; of Messrs. Dawe, Cottrell, and Benham, 36, Moorgate-street; of the principal seedsmen in London; and of the Auctioneers, American Nursery, Leytonstone, Essex.

HORNSEY ROAD.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, BUILDERS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS have received instructions from Mr. PAMPLIN to submit to an unreserved Sale by Auction, on the premises, Paradise Nursery, Hornsey-road, Islington, on TUESDAY, Nov. 2d, and following day, at 11 o'clock each day, the whole of the valuable NURSERY STOCK, consisting of a very superior assortment of fine Evergreens, Fruit, and Ornamental Trees, comprising Green and Variegated Hollies, Box, Arbor-Vitæ, Laurestinus, Phillyreas, Red Cedars, Arbutus, Portugal and Common Laurels, Bays, Euonymus, Alaternus, Yews, Aucuba, Cypress, &c.; also Apples, Pears, Cherries, Plums, Gooseberries, and Currants; Planes, Limes, Thorns, with fine Rhododendrons, Azaleas, Andromeda floribunda, well set with bloom, Box Edging, &c.—May be viewed and Catalogues had prior to the sale, on the premises; of the principal Seedsmen in London; and of the Auctioneers, American Nursery, Leytonstone, Essex.

N.B. The valuable Lease to be sold or let.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will sell by Auction at the Mart, Bartholomew-lane, on THURSDAY, Nov. 4, at 12 o'clock, a first-class collection of DUTCH BULBS, comprising the finest double and single Hyacinths, Tulips, Narcissus, Crocus, Jonquils, Anemones, Gladiolus, Irises, &c.; about 5000 very choice Ranunculuses of English growth; a selected assortment of Standard and Dwarf Roses; American Plants, well set with bloom buds, and adapted for potting. May be viewed the morning of Sale.—Catalogues had at the Mart, and of the Auctioneers, American Nursery, Leytonstone, Essex.

PADDINGTON.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, PELARGONIUM EXHIBITORS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions from Mr. R. Stains, to submit to public competition by Auction, on the premises, Maida Vale, Edgeware Road, Paddington, on FRIDAY, 5th November, at 11 o'clock, in consequence of the land being required for building purposes, the whole of the valuable GREENHOUSE PLANTS, comprising choice show and Cape Pelargoniums, consisting of Beck's Rosa, Foster's Shylock, Ariadne, Enchantress, Lavina, Purple Perfection, Vandyke, Rubens, Pulchra, Monteith, Hoyle's Ajax, Nectar Cup, Rous's Alibi, Fouquett's Magnificent, and all the leading varieties; a fine collection of Herbaceous Plants, Standard Roses, Box Edging, &c.; together with four capital Greenhouses, erection of Cottage, several Pits, 1, 2, and 3-light Boxes, Hand-lights, 500 feet of Hot-water Pipe, two Boilers, Furnaces, Bricks, York Paving, Tiles, 24-inch Garden Roller, Fumigator (Brown's), Syringe and Pump (Reed's), Garden Seats, Thermometers, Water Tubs, Cans, Garden-pots; a quantity of Gold Fish and Water Lilies, rotten Compost and Manure, a useful Nag, a capital Tumbrel Cart and Harness, and sundry other effects.—May be viewed two days prior to the sale. Catalogues had (6*d.* each, returnable to purchasers), on the premises, the Hero of Maida; of the principal Seedsmen in London; and of the Auctioneers, American Nursery, Leytonstone, Essex.

ROTHERFIELD, NEAR TONBRIDGE WELLS.
TO NOBLEMEN, GENTLEMEN, NURSERYMEN, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS are instructed by Mr. FIELD (who is declining business), to submit to an unreserved Sale by Auction, on the premises, Steel Cross Nursery, Rotherfield, Sussex, on MONDAY, November 15th, and following days, at 11 o'clock each day, the whole of the healthy and well-grown NURSERY STOCK, consisting of about 200,000 Forest, Ornamental, and Fruit Trees; 20,000 evergreens; also 600,000 Quick; fine American Plants, together with a large quantity of Seedling Ash, Alder, &c. May be viewed prior to the Sale. Catalogues may be obtained on the premises, the George Inn, Rotherfield; Star Inn, Mayfield; Queen's Head Inn, Wadhurst, Sussex; Crown Hotel, Tonbridge; Swan Inn, Tonbridge Wells; of the principal Seedsmen in London; and of the Auctioneers, American Nursery, Leytonstone, Essex.

WOOLWICH.

TO GENTLEMEN, NURSERYMEN, FLORISTS, & OTHERS.

MESSRS. PROTHEROE AND MORRIS are directed to sell by Auction, on the premises, Bowater Nursery, Woolwich, on WEDNESDAY, November 10th, and following days, at 11 o'clock each day (by order of Mr. C. A. Williams, the Lease having expired), the whole of the valuable NURSERY STOCK of Evergreens, Fruit and Ornamental Trees, consisting of fine Aucuba, Arbutus, China Arbor-Vitæ, Sweet Bays, Phillyreas, Yew, varied and green Hollies, Euonymus, Privet, Laurestinus, Alaternus, Rhododendrons, Kalmia, Azaleas, Spruce Firs, Standard and Dwarf Roses, Cotoneaster, Clematis, Jasmine, Virginian Creeper, Aristolochia, Irish Ivies, Herbaceous Plants, &c., in pots, Laburnum, Poplar, Weeping Ash, Lime, Elm, Lilac, Thorns, Standard and Dwarf-trained Peach, Nectarine, Apricot, Plum, Cherry, Apple, Pear, Gooseberries, Currant, Rhubarb, &c.—May be viewed prior to the Sale; Catalogues may be had (6*d.* each, returnable to purchasers) on the premises; of the principal seedsmen in London; and of the Auctioneers, American Nursery, Leytonstone, Essex.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MR. J. RAWLINGS will sell by Auction, at the Mart, Bartholomew-lane, on WEDNESDAY and FRIDAY, November 3d and 5th, at 12 o'clock, a first-rate Collection of DUTCH BULBS; also about 500 fine Standard, Dwarf, Climbing, and Weeping Roses; a variety of Evergreens, &c.—May be viewed the morning of Sale, and Catalogues had at the Mart, and of the Auctioneer, 89, Bridport-place, New North-road, and Ebenezer Nursery, Shacklewell.

IMPORTANT CONSIGNMENT FROM BELGIUM.
TO NOBLEMEN, GENTLEMEN, NURSERYMEN, FLORISTS AND OTHERS.

MR. J. RAWLINGS has been favoured with instructions to submit to public competition, at the Auction Mart, Bartholomew-lane, on THURSDAY, Nov. 11, and following day, at 12 o'clock, about 500 double Camellias, 300 Indian Azaleas, and 200 Scarlet Rhododendrons, the whole beautifully furnished with bloom buds; also about 1000 fine Standard Roses, comprising all the leading varieties, together with a first-rate collection of Dutch Bulbs.—May be viewed the morning of Sale, and Catalogues had at the Mart, and of the Auctioneer, 89, Bridport-place, New North-road, and Ebenezer Nursery, Shacklewell.

PLANTING SEASON.

MR. J. RAWLINGS has received instructions from Mr. ROBERT NEAL, to submit to public competition by Auction, on the premises, Wandsworth-common, about the middle of November, the whole of the valuable NURSERY STOCK; further particulars of which will be given in future advertisements.

89, Bridport-place, New North-road, Oct. 30.

MR. J. RAWLINGS has been favoured with instructions to sell by Private Contract a first-rate NURSERY, near London, consisting of three Acres well stocked, several Greenhouses and Pits, a considerable quantity of Potted Plants, Seed Drawers, and Fixtures. Connexion good. Lease 18 years. Cottage on Premises, snug Seed-trade, &c. Coming in moderate. Further particulars on application.

89, Bridport-place, New North-road, London, Oct. 30.

COCHIN CHINA FOWLS.

MR. J. C. STEVENS begs to notify that the next Sale of Fancy Poultry will take place at his Great Room, 38, King-street, Covent Garden, on TUESDAY, November 9, at 12 for 1 o'clock, and will include COCHIN CHINA FOWLS, many of great merit, from the stocks of several celebrated breeders, of the favourite colours and well feathered. Gold and Silver Pheasants, White Turkeys, &c. Catalogues are preparing, and when published, will be forwarded on receipt of a stamped directed envelope.—38, King-street, Covent Garden, London.

TO MARKET GARDENERS AND OTHERS.

MR. J. W. WARD is instructed by the Executrix of the late Mrs. MERCER to sell by Auction, on the premises, St. James's-road, Blue Anchor-road, Bermondsey, on TUESDAY, November 2, at 11 o'clock (without the least reserve), all the Growing Crops of a Market Gardener, consisting of 4 acres of two and three-year-old Asparagus, 5½ acres of Seakale Crowns, a quantity of Celery and Colewort Plants, Potatoes, Seeds, &c.; about 2000 Hand-glasses, 250 three-light Boxes, Wear and Box Barrows, all the usual implements of trade, the erection of Binding Sheds, strong Draught Horses, Waggons, Carts, Van, &c.—Catalogues may be had of Mr. Chapman, Spitalfields-market; at the Glove, Borough-market; White Horse, Covent-garden; Green Man, Old Kent-road; on the premises; and of the Auctioneer, 9, Walworth-road.

CHOICE COLLECTION OF TULIPS.

MR. ALEXANDER will sell by Auction, at the Mart (near the Bank of England), on WEDNESDAY, Nov. 3d, at 12 o'clock, the remaining portion of the well-known Collection of TULIPS, the property of the late Mr. W. NEW (of the Derby Arms, Kirkdale). They comprise Gibbon's Princess Royal, Enchantress, Maid of Orleans, Maid of Athens, Countess of Harrington, Lady Flora Hastings, Purple Perfection, Chellaston Beauty, Britannia, Prince Albert, Sable Monarch, Wood's Van Amburgh, Thalia, Louis XVI., George Glenny, Salvator Rosa, Pandora, David, &c. Among the Roses, Anastasia, King of Scarlets, Lady Leicester, Lady Stanley, Lady Vernon, Miss Catharine, Dixon's Bion, Jeffery's Elizabeth, Mary Lamb, Headley's Rose Ellen, Countess of Eglinton, Lady Boyle, Camuse de Craix, Rose Lac, &c. The Bizarres comprise Pilot, Strong's King, Competitor, Tricolor, Shakespeare, Apelles, Marcellus, Pompe Funebre, Coronation, New's Lewis, Lord Lilford, &c. The whole will be sold without the least reserve.—May be viewed on the morning of Sale. Catalogues to be had at the Mart; of Messrs. DAWE, COTTRELL, and BENHAM, Seedsmen, Moorgate-street, City; of H. ALEXANDER, Shacklewell; and also of Mrs. NEW, Everton Valley, Kirkdale, upon receipt of four stamps.

COCHIN CHINA FOWLS.

MR. STRAFFORD is favoured with instructions from Thomas Sturgeon, Esq., of Gray's, to sell by Auction, at the Bazaar, King-street, Baker-street, Portman-square, London, on TUESDAY, November 2, his early CHICKENS of the present year; including several white Cockerels, and also a number of prize and Medal Birds of 1851.

The Chickens are mostly bred from birds that at Cheltenham and at Birmingham, in 1850 and 1851, thrice beat all England, besides numberless minor victories. Only first-class birds will be offered, and none parted with before the sale.

Catalogues are now ready, and may be had upon application to Mr. STRAFFORD, 89, Guilford-street, Russell-square, London.

Printed by WILLIAM BRADBURY, of No. 13, Upper Woburn-place, in the parish of St. Pancras, and FREDERICK MULLETT EVANS, of No. 7, Church-row, Stoke Newington, both in the County of Middlesex Printers at their Office in Lombard-street, in the Precinct of Whitefriars, in the City of London; and published by them at the office, No. 5, Charles-street, in the parish of St. Paul's, Covent-garden, in the said County, where all Advertisements and Communications are to be ADDRESSED TO THE EDITOR.—SATURDAY, OCTOBER 30, 1852.

THE GARDENERS' CHRONICLE

AND

AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 45.—1852.] SATURDAY, NOVEMBER 6. [PRICE 6*d.*

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SCOTTISH GARDENERS' AND LAND-STEWARDS' ASSOCIATION, for the relief of Aged and Infirm Gardeners, Land-Stewards, and Foresters.

Patron.

His Royal Highness the PRINCE ALBERT, K.G.

ANNUAL MEETING.

NOTICE is hereby given that the Annual General Meeting of the Association will be held at No. 6, York-place, Edinburgh, on WEDNESDAY, November 10, ensuing, for the election of Office-bearers for the ensuing year, and on other business, in terms of the deed of Constitution.

ELECTION OF PENSIONERS.

The Subscribers are also informed that, after the General Meeting, as above, an election of two Pensioners on the General Funds will take place in terms of the Minutes of the General Meeting, held on 26th May last. CHARLES LAWSON, Jun., Committee Room, Hon. Sec.

6, York Place, Edinburgh, Oct. 23.

Subscribers in arrear will be pleased to observe that the Subscription for the present year (the third) was due on the 1st of June last; and that if not paid on or before the day preceding the election, the Polling Paper will not be received.

AMERICAN NURSERY.

GEORGE BAKER, Windlesham, near Bagshot, Surrey, Exhibitor of American Plants at the Royal Botanic Gardens, Regent's-park, begs to inform the Nobility and Public he has published a Descriptive CATALOGUE OF AMERICAN PLANTS, Coniferæ, Roses, Ornamental Shrubs, &c. &c., and may be obtained by enclosing two postage stamps.—Near Staines Station, Windsor Branch, South-Western Railway.

GERANIUM "ATTRACTION" (KINGHORN.)

THE VARIEGATED LEAF GERANIUM, WITH A SCARLET HORSE-SHOE, which attracted so much attention at the London Shows during the past season, has been purchased of Mr. KINGHORN, by MESSRS. J. AND C. LEE, and due notice will be given when it is ready to be sent out.

This Advertisement is inserted in consequence of Mr. Gaines having taken advantage of its notoriety by naming a flower of his own "Attraction," which has never been exhibited.

Nursery, Hammersmith, near London.

DUTCH FLOWER ROOTS, at a reduced price.—

HYACINTHS, mixed, all colours	... ...	21*s.* per 100
TULIPS, mixed, early double and single	...	6*s.* ,,
IRIS, mixed, splendid colours	... ...	4*s.* ,,
CROCUS, Dutch, mixed, all colours	...	12*s.* p. 1000

EARLY ANEMONES, in splendid and great variety of colour, strong flowering roots, 5*s.* per 100; recommended in the *Gardeners' Chronicle*, No. 43, page 673.

The above, with every other kind of flowering Bulb, equally low in price, to be had of WILLIAM DENYER, Seedsman and Florist, 82, Gracechurch-street (near the Spread Eagle), London.

No charge for packages.

TO THE SEED TRADE.

BEAUTIFUL NEW CALIFORNIAN ANNUALS.

COLLINSIA BARTSIÆFOLIA (HOOKER); MULTICOLOR (LINDLEY.)

MESSRS. VEITCH AND SON are now prepared to supply Seed of the above-named Collinsias, which were sent them from California by Mr. Lobb, and are at present solely in their possession. They have been exhibited at the London Shows, where they obtained Certificates of Merit, and were greatly admired.

Messrs. V. and S. have also to offer Seeds of the beautiful and sweet-scented ABRONIA UMBELLATA, which is well adapted for bedding. Prices forwarded on application.

Exeter, November 6.

THE BLACK BARBAROSSA,

A GRAPE THAT DON'T KNOW HOW TO SHANK.

JOHN BUTCHER, in again bringing the above truly splendid and valuable Late Grape into the notice of Horticulturists, begs to inform them that he has this year forced the above Grape, and found it to exceed his expectations as to flavour, being far super or to the Hambro', and feels confident that this sort will eventually supersede the Hambro'. A bunch was exhibited at the Horticultural Society's Rooms, Regent-street, London, on the 19th ult. Fine Fruiting Plants, from Eyes, 1*s.* 6*d.* each; good Plants, 3*s.* 6*d.*; to be obtained of the London Agents, Messrs. DAWE, COTTRELL, and BENHAM, Seed Merchants, 36, Moorgate street; or Mr. I. ISRAEL, 7, Centre Buildings, Covent Garden Market; and JOHN BUTCHER, Stratford-on-Avon.

Samples of the Berries will be sent upon the receipt of 12 postage stamps, post free.—Stratford-on-Avon, November 6.

PLANTING SEASON.—TULIPS, ETC.

CAREY TYSO, Wallingford, Berks, is selling off his COLLECTION OF TULIPS at ONE-THIRD of the Catalogue prices, with a few exceptions. November is the best month for planting.

C. TYSO's new Catalogue of Double Anemones, Ranunculuses, Carnations, Picotees, Pinks, Pansies, Geraniums, &c., including his Tulip List, may be had postage free for two postage stamps; Treatise on the Anemone, four postage stamps; and ditto on Ranunculuses, eight postage stamps.

TRANSPLANTED QUICK AND GOOSEBERRY TREES.

EDMUND SALSBURY, Melbourne, near Derby, begs to call the attention of Nurserymen and others to Half-a-Million of very superior TRANSPLANTED QUICK-SETS, from Three to Five Years old, which he is offering at from 6*s* to 10*s*. per 1000; also to several Thousands of GOOSE-BERRY TREES, comprising nearly 100 of the best-known sorts, as London Companion, Leader, Thumper, &c., at from 12*s*. to 15*s*. per 100. The above are well grown, and well deserving the notice of parties who are in want of such.—Apply as above, or to Mr. HENRY CLARKE, Seed Merchant, 39, King-street, Covent Garden, London.

RHUBARB.

MITCHELL'S GREY EAGLE.—A new and most excellent variety, having all the best qualities combined in one, both for market and culinary purposes. 24*s* per doz.

Also, Mitchell's ROYAL ALBERT, Myatt's LINNÆUS and VICTORIA, 6*s*. per doz. All the above are strong one year planted roots. Also some very strong two year old roots of ROYAL ALBERT for early forcing, 9*s*. per doz.

Post-office orders payable to WILLIAM MITCHELL, Enfield Highway, Middlesex.

DAWE, COTTRELL, AND BENHAM (successors to FREDERICK WARNER) beg to call public attention to their extensive collection of DUTCH BULBS, comprising Hyacinths, Crocus, Narcissus, Anemones, Ranunculus, Tulips, &c. &c., Priced Lists of which can be obtained, post free, on application.

Strawberry Plants, Fruit Trees, Roses, Rhubarb Roots, &c., of all the newest and best varieties, supplied at the advertised prices.

DAWE, COTTRELL, and BENHAM are also Agents for the sale of Butcher's Black Barbarossa Grape Vine; for description, price, &c., see *Gardeners' Chronicle*, October 23.

36, Moorgate-street; and 3, Laurence Pountney-lane, London.

(Established at Cornhill, 1720.)

FOREST TREE SEEDLINGS.—The SUBSCRIBERS respectfully intimate that their LIST OF NURSERY STOCK for the Season is now ready for publication.

WILLIAM URQUHART and SONS, Dundee.

NEW SHRUBBY CALCEOLARIAS,

CONSISTING OF ABOUT FIFTY VARIETIES NEVER BEFORE OFFERED TO THE PUBLIC.

J. WEEKS AND CO., CHELSEA, have now to offer a most splendid and superb Collection of SEEDLING SHRUBBY CALCEOLARIAS, which they can confidently warrant and recommend, they having been carefully saved and varied from the most unique selection in the kingdom. The sorts being all Shrubby they are perpetually in flower; and from the great variety and brilliancy of their colours, they are invaluable for the conservatory or bedding-out.

J. WEEKS and Co., KING'S ROAD, CHELSEA, LONDON.

GEORGE JACKMAN, NURSERYMAN, Woking, Surrey, 1½ mile from Woking Station, South Western Railway, begs to announce he has just published a new and complete Catalogue of his American Plants, Ornamental Evergreens, Conifers, flowering Shrubs, Standard and Dwarf Roses, Fruit and Forest Trees, &c. &c., and may be had on application by inclosing two postage stamps.

JOHN KEYNES, NURSERYMAN, Salisbury, offers the following Set of SEEDLING CINERARIAS, with every confidence that they will prove first-rate gems, and give great satisfaction. Fine Plants now ready, with the usual discount to the Trade, or the set for 20*s*.

NEW FIRST-RATE CINERARIAS.

LADY BATHURST.—White edged purple, very smooth, beautiful habit. 5*s*.

LOVELINESS.—Light edged pink, very free bloomer, fine habit. 5*s*.

KING OF THE BLUES.—Blue, the best ever offered, finest habit, free bloomer, large truss, first-rate in every respect. 10*s*. 6*d*.

BRITISH QUEEN.—White, crimson tip. 5*s*.

LILAC STANDARD.—The finest lilac, beautiful colour and habit. 5*s*.

PRINCE ALBERT.—Light shaded lilac. 5*s*.

PINK.

MRS. WOOLF (KEYNES.)—A decided improvement on Lola Montes; perfect rose, leaf full and fine, first class. 5*s*. per pair, free by post.

The Cinerarias are very few; first orders will be first attended to.

NEW WHITE BROCCOLI—"DILCOCK'S BRIDE."

BAINBRIDGE AND HEWISON beg to announce that they have purchased of Mr. Dilcock the entire stock of the above, which is a Broccoli of the highest merit, surpassing every other (even the far-famed "Mammoth"), as the following will testify. It has been sold in the York market at 1*s*. per head.

"York Horticultural Society, June 18, 1852.

"In reply to your inquiries I find 'Dilcock's Bride Broccoli' was awarded first and third prizes 1850; first, second, and third, 1851; and first, second, and third in the present year. It ought to be grown by every gentleman's gardener, especially where any are grown for competition. Market gardeners also will find it to their profit to possess it.—Yours truly,

"R. DEMPSEY, Hon. Secretary."

The Seed will be sent out in the autumn in sealed packets at 2*s*. 6*d*. each, containing about 1500 Seeds, and may be had of themselves at York; or of Messrs. NORTH, COOPER, and BOLTON, Seed-merchants, 152, Fleet-street, London.

Hope Nursery, York.

TO NOBLEMEN, GENTLEMEN, AND THE TRADE.

HAY, SANGSTER, AND CO. are now ready to send out their NEW EARLY NO. 1 PEA, price 2*s*. 6*d*. per quart, and can with confidence recommend it as a very superior article.

Also their New Early Scarlet PRINCE OF WALES RHUBARB, 5*s*. each. It is quite as early as the Prince Albert, much larger, red throughout, of exquisite flavour, and a large cropper.

Post-office Orders from those not having an account open with H., S., and Co., to be made payable to the Firm, at the Borough Post-office, or postage stamps.

For Testimonials and parties where both articles can be had, see *Gardeners' Chronicle* 18th September, 1852, page 594.

Newington Butts, London.

AMERICAN PLANTS.

JOHN WATERER begs to announce his Catalogue of the above Plants, Roses, Conifers, &c., is now published, and may be obtained by enclosing two postage stamps. The colours of all the Rhododendrons worthy of cultivation are described, in order to facilitate purchasers in selecting.

☞ The Rhododendrons, Azaleas, &c., annually exhibited at the Royal Botanic Gardens, Regent's Park, are supplied from this establishment.—The American Nursery, Bagshot, Surrey, 4 miles from Farnborough Station, South-Western Railway, and 3 miles from Blackwater, South-Eastern Railway.

PLECTRANTHUS CONCOLOR PICTA, the finest variegated-leaved plant yet offered ... ... 7*s*. 6*d*.

TACSONIA SANGUINEA, figured in "Botanical Magazine" for October ... ... 10*s*. 6*d*.

HUGH LOW and Co., Clapton Nursery.—Nov. 6.

TWENTY CHOICE NAMED GERANIUMS FOR EIGHTEEN SHILLINGS, in 60-sized pots, in strong robust health.

Apply to WILLIAM E. RENDLE and Co., Florists, Plymouth.

For General List of Geraniums, see *Gardeners' Chronicle*, Page 610, Sept. 25 1852.

EDWARD GEORGE HENDERSON AND SON are now prepared to send out their new CINERARIAS and FANCY GERANIUMS for this Season, which they can confidently recommend, for which early orders are solicited—as the stock of some of the varieties is limited.

NEW CINERARIAS.

	s.	*d.*		*s.*	*d.*
Charles Dickens	5	0	Charlotte	5	0
Conspicua	5	0	Kate Kearney	5	0
Loveliness	5	0	Marguerite d'Anjou	7	6
Prince Arthur	5	0	Rosalind	10	6

Price of the Set, £2 2s.—Usual discount to the Trade.

NEW FANCY GERANIUMS.

	s.	*d.*		*s.*	*d.*
Criterion	10	6	Fanny	10	6
Flora McIvor	10	6	Italian Beauty	10	6
Lady Downes	10	6	Marginata	10	6
Queen of the Fancies	10	6			

Price of the Set, £3 3s.—Usual discount to the Trade.

For description of the above see this Paper of October 9.

Wellington Road Nursery, St. John's Wood, London.—Nov. 6.

JOHN HARRISON having a good stock of the undernamed articles, offers them to the Trade at the following very low prices. The Fastolff Raspberries are true, and free from mixture, having grown no other variety in his nursery since it was broken out of sward, many spurious worthless varieties having been sent out for this truly valuable variety.

Fastolff Raspberry, true	...	7*s*. 6*d*. per 100, or 65*s*. per 1000	
Victoria Currants	... ...	12*s*. ,, or 90*s*.	,,
Black Bang-up do., the best known	... ...	12*s*. ,, or 90*s*.	,,
Royal Albert Rhubarb	...	30*s*. ,,	
Linnæus do.	... ...	30*s*. ,,	
Victoria do.	... ...	30*s*. ,, or £14 per 1000	

Manettii Rose Stock, 3*s*. 6*d*. to 12*s*. per 100, or 7*s*. to 5*l*. per 1000; ditto, strong cuttings, 10 inches to 1 foot, 65*s*. per 1000; * ditto, extra strong, trimmed up to 3 to 4 feet, 25*s*. per 100; * 5 to 6 feet, 50*s*. per 100.

Standard Roses, superior plants, in 100 fine varieties, own selection, 5*l*. to 7*l*. per 100; ditto ditto Perpetuals, strong healthy plants, in 50 good varieties, 6*l*. to 7*l*. 10*s*. per 100.

Dwarf Roses, splendid plants, worked on the Manettii, not to be surpassed for health and vigour, own selection, 100 varieties, 3*l*. to 5*l*. per 100; ditto, Hybrid Perpetuals, in 50 varieties, own selection, 3*l*. to 5*l*. per 100.

Delphinium Barlowii, 30*s*. per 100; Umilii Seedlings, 20*s*. per 100.

Four hundred fine succession Pine Plants, clean and healthy. Prices on application.

Catalogues of Roses, Hollyhocks, Pelargoniums, Ornamental Trees and Shrubs, Fruit Trees, &c., may be had on application, enclosing a postage stamp for each.

* The strong trimmed Manettii Stocks, 3 to 4 feet and 5 to 6 feet, are excellent for working; half Standard and Standards of Bourbons, Hybrid Perpetuals, and Tea and Noisette Roses.

Grange Nursery, Darlington.—November 6.

FIRST-RATE COLLECTION OF CONIFEROUS PLANTS.

WILLIAM YOUNG begs to inform noblemen, gentlemen, and others, that his collection of Coniferous Plants is this season very fine, consisting of first-rate specimens of Cedrus Deodara and Lebanon, Araucaria imbricata, Cryptomeria japonica, Taxodium sempervirens, Pinus insignis, Abies Douglasii, &c. &c., of which he would invite a personal inspection; likewise a very extensive Stock of Forest Trees of every description, consisting of fine bedded Alder, Ash, Beech, Birch, Spanish Chestnut, Hazel, Red Hart Willow, several hundred thousands of fine bedded Larch, from 18 inches to 2 feet, and 2 to 3 feet; Scotch Firs, 9 inches to 1 foot, and 18 inches to 2 feet; ditto, 3 to 4 feet; an immense quantity of strong bedded White Thorn or Quick for Fencing; and Mahonia aquifolium, or American Burberry, for cover, which will be sold cheap if taken in quantities.

Catalogues may be had by enclosing two postage stamps.

Milford Nursery, near Godalming, 2 miles from the Godalming Station of the South-Western Railway, where conveyances can always be obtained.

LANCASHIRE SHOW GOOSEBERRIES.

JOHN HOLLAND, Bradshaw Gardens, Middleton, Lancashire, respectfully informs the public that he is now sending out strong Plants of the heaviest Lancashire Show Gooseberries at 6s. per dozen plants. Priced Lists are now ready of Auriculas, Alpines, Polyanthus, Primroses, Carnations, Picotees, Pinks, Pansies, &c. &c., and may be had in exchange for a postage stamp.

NEW FRENCH STRAWBERRIES, 3s. per dozen.

1. DUCHESSE DE TREVISE.
2. COMTESSE ZAMOISKA.
3. COMTESSE DE MARNE.

No. 1 has also been received as Vicomtesse Hericart de Thury. The "Cremont Perpetual" Strawberry is not an autumnal bearer.

THOMAS ROVERS, Nurseries, Sawbridgeworth, Herts.

MESSRS. CHARLES CANTOR & CO., OF CALCUTTA.

1852.

LIST OF ORCHIDEOUS PLANTS INDIGENOUS TO ASSAM

AND THE NEIGHBOURING HILLS OF KHASYA, BOOTAN, &c.

No.	Names.	Size and Colour of Flower.	Habit.
1*	Microstylis Wallichii?...	Small, pea green	Ter.
2	Oberonia indifolia ...	Minute, yellowish	Epi.
3*	,, sp.	,, ,, ...	Do.
4	Liparis sp.	Small, yellow	Do.
5	,, sp.	,, ,, ...	Do.
6**	,, sp.	Largish, green yellow ...	Ter
7*	,, sp.	Small, deep purple ...	Epi.
8	Otochilus fuscus ...	,, yellowish brown ...	Do.
9	,, albus	,, ,, and white	Do.
10	Pholidota imbricata ..	,, white	Do.
11	,, undulata	,, ,, ...	Do
12*	,, articulata	,, ,, ...	Do.
13*	,, sp.	,, ,, and yellow ...	Do.
14*	,, sp.	,, ,, ,, ...	Do.
15	Cœlogyne flavida ...	,, yellow	Do
16	,, undulata	Largish, white	Do.
17*	,, fimbriata?... ..	,, ,, and brown ...	Do.
18**	,, uniflora	,, ,, and lateritious	Do.
19	,, barbata	,, white	Do.
20*	,, præcox?	,, ,, ...	Ter.
21*	,, maculata	Large, white, yellow, & rose	Do.
22**	,, Wallichiana ...	,, ,, and rose ...	Do.
23**	,, ocellata	,, pale yellow and deep orange	Do.
24*	,, Gardneriana ...	,, white and yellow ...	Epi
25	,, cristata	,, ,, streaked with bright yellow	Ter
26	,, sp.	Small, brown and yellow...	Epi
27**	,, flava?	Large, yellow and brown ...	Do.
28	,, sp.	Small, brown and yellow...	Do
29*	,, sp.	,, white and brown ...	Do.
30	,, sp.	,, pale yellow	Do.
31**	,, sp.	,, white (pretty) ...	Ter.
32**	,, sp.	Largish, pale cinnamon ...	Epi
33**	Bolbophyllum leopardinum	Large, yellow spotted with purple.	Do.
34	,, umbellatum ...	Largish, dull yellow ...	Do.
35**	,, Khasyanum ...	Small, greenish	Do.
36**	,, sp.	Largish, bright yellow ...	Do.
37*	,, sp.	Small, white, fragrant ...	Do.
38*	,, sp.	,, dull purple	Do
39	,, sp.	,, ,, ...	Do.
40	,, sp.	,, ,, ...	Do.
41**	Cirrhopetalum sp. ..	Small, greenish, fragrant	Do.
42	,, sp.	,, dull purple	Do.
43*	,, sp.	Large, brown and yellow..	Do.
44**	,, sp.	Largish, dull purple ...	Do.
45**	,, sp.	,, ,, ...	Do.
46*	Tricosma suavis... ...	Large, white, purple & yell.	Do.
47*	Eria flava	Largish, dull yell. & brown	Do
48	Eria sp.	Largish, white streaked with brown	Epi
49	,, densiflora	,, ,, tinged with yellow	Do.
50	,, ferruginea... ...	,, ferruginous	Do
51	,, paniculata... ...	Small, spotted with purple	Do.
52**	,, sp.	Largish, white	Do.
53*	,, sp.	,, ,, & dull purp.	Do.
54*	,, sp.	,, ,, ,,	Do.
55*	,, sp.	Minute, rosy	Do
56	Aporum anceps	Small, white	Do.
57	,, cuspidatum ...	,, ,, ...	Do
58	,, sp.	,, ,, ...	Do.
59*	,, sp.?...	Largish, white, yellow, and brown	Do.
60	Dendrobium Pierardi ...	Large, pink and yellow ...	Do.
61*	,, heterocarpum ..	,, yell. and br. fragran	Do.
62	,, Chrysanthum ..	,, lively yell. and brown	Do.
63*	,, Paxtoni	,, ,, ,,	Do.
64*	,, sp. like do. ...	,, orange and brown ...	Do.
65*	,, formosum	Very large, white and yell., fragrant	Do.
66**	,, longicornu... ..	Large, white and orange..	Do.
67	,, calceolus	Very dark yellow, rose, and purple	Do.
68*	,, sulcatum	Large, yellow and purple..	Do.
69	,, Jenkinsii	,, lively yellow	Do.
70	,, cærulescens ...	,, deep lively purple ...	Do.
71	,, nobile	,, white rosy purple ...	Do.
72**	,, Gibsonii	,, yellow and brown ...	Do.
73*	,, stuposum	Small, white	Do.
74*	,, Cambridgeanum...	Large, lively yell. and br	Do.
75**	,, transparens ...	,, deep lively purple ...	Do.
76*	,, like do., various ...	,, pale rose and purple	Do.
77**	,, Devonianum ...	,, lilac-rose and yellow	Do.
78**	,, Dalhousianum ...	,, rose, white, and purp	Do.
79	,, multicaule... ...	,, white and purple ...	Do.
80**	,, Griffithii	,, pale yell. and orange	Do.
81**	,, Farmeri	,, lively ,, ,, ...	Do.
82**	,, densiflorum pallid	,, white and orange ...	Do.
83**	,, do. roseum ..	,, pale rose and orange	Do.
84	,, intermedium ...	,, pale yellow & brown	Do.
85*	,, sp.	,, lively orange	Do.
86*	,, sp.	,, ,, yellow & brown	Do.
87**	,, sp.	,, yellow, pink, and br.	Do.
88*	,, sp.	,, pink and yellow	Do.
89**	Spathoglottis pubescens	Largish, yellow and purple	Ter.
90	Arundina bambusifolia	Large, pale rose and lively purple	Do.
91*	Phaius grandifolius ...	,, white, brown, & pur.	Do.
92	,, Wallichii	,, ,, ,, ,,	Do.
93*	,, maculata	,, ,, rosy scented	Do.
94*	Phaius albus	Large, white, rosy scented	Do.
95**	Aputaria senilis	Largish, rose and green ...	Ter.
96**	A latifolia	?	Do.
97*	Eulophia virens	Large, green and white ...	Do.
98**	,, sp.	,, dull yellow & brown	Do.
99**	,, sp.	,, deep purple	Do.
100**	,, sp.	,, green and yellow ...	Do.
101**	,, sp.	,, purplish green ...	Do.
102	Vanda teres	Very large, rosy purple yellow and brown	Epi.
103**	,, cristata	Largish, greenish, white, and purple	Do.
104**	,, multiflora	,, white and rose ...	Do.
105**	,, cœrulea	Very large, deep blue ...	Do.
106**	,, sp.	Largish, dull purple ...	Do.
107**	,, sp.	,, ,, and green	Do.
108**	,, sp.	,, yellow and brown ...	Do.
109**	Camarotis purpurea ...	Small, yellow and purple...	Do.
110	Micropera pallida ...	,, pale yellow	Do.
111	Saccolabium micranthum	Small, rosy	Epi.
112	,, retusum	Largish, lively spotted ...	Do.
113	,, papillosum ...	Small, pale yellow & pur.	Do.
114**	,, Calceolare	,, yellow and brown ...	Do.
115**	,, sp. like do. ...	,, pale do. and rose ...	Do.
116	,, caroifolium	,, rosy	Do.
117**	,, dasypogon	,, green and purple ...	Do.
118*	,, appendiculatum ...	,, yellow	Do.
119*	,, sp.	,, rosy and deep purple	Do.
120**	Sarcanthus sp.	... ...	Do.
121**	,, sp.	Small, rosy	Do.
122**	,, sp.	,, white and yellow	Do.
123**	,, sp.	,, ,, ,, ...	Do.
124**	,, sp.	,, ,, ,,	Do.
125**	,, sp	,, rosy red	Do.
126	Aerides affine	Large, rosy purple... ...	Do.
127	,, odoratum	,, ,, sweet-scented	Do.
128	,, sp.	,, ,, ,,	Do.
129**	,, sp.	Large, like affine, and very sweet-scented	Do.
130	Agrostophyllium Khasyanum	Small, white	Do.
131*	Xiphosium acuminatum	Large, white	Do.
132	Acanthophippium sp. ...	,, dull purple	Ter.
133*	,, sp.	,, white, streaked ...	Do.
134*	Cymbidium giganteum...	Very large, yell. and brown	Do.
135	,, pendulum	Large, dull yell. and purple	Do.
136	,, aloifolium	,, ,, ,,	Do.
137**	,, eburneum	Very large, white	Do.
138	,, inconspicuum ...	Small, brown	Do.
139	Cymbidium longipetalum	Largish, green and purple	Ter
140*	,, cyprifolium ...	,, ,, ,,	Do.
141**	,, sp.	Large, fragrant, yellow and white	Epi.
142**	,, sp.	,, brownish purple ..	Do.
143**	,, sp.	Very large, white	Do.
144**	,, sp.	Large, white and brown ...	Do.
145*	,, sp.	,, green and dull purple	Ter.
146**	? Phalænopsis, sp. ...	Large, yellow and reddish brown	Epi.
147	Euphorboscis pygmæa...	Minute, yellow	Do.
148	Geodorum dilatatum ...	Large, white, purple, and yellow	Do.
149*	,, sp.	,, deep rosy purple and white	Do.
150**	Platanthera sp.	Large, white	Do.
151**	Peristylis sp.	Largish, white, sweet scented	Do.
152	Habenaria hamigera?...	Small, green	Do.
153	,, sp.	,, yellow	Do.
154	,, sp.	,, greenish yellow ...	Do.
155*	,, sp.	,, white	Do.
156**	,, sp.	Large, white	Do.
157**	Pogonia Joliana... ...	Small, rosy white	Do.
158**	,, sp.	Largish, green	Do.
159**	,, sp.	Small, purple	Do.
160**	Cyrtosia sp.	Largish, golden yellow ...	Do.
161**	Spiranthes sp.	Small, white	Do.
162**	Zeuxine sulcata	,, ,, ...	Do.
163**	Anæctochilus Roxburghii ...	,, rosy white	Do.
164**	,, sp.	,, white	Do.
165**	Cypripedium venustum	Large, green and purple ...	Do.
166**	,, insigne...	,, red and yellow ...	Do.
167*	Calanthe densiflora ..	,, lively yellow	Do.
168**	,, sp.	Small, brown and yellow...	Do.
169**	,, sp.	Large, white and green ...	Do.
170**	,, sp.	,, ,, and yellow ...	Do.
171**	,, sp.	,, dull purple	Do.
172	Goodyera sp.	Small white	Do.
173	,, sp.	,, ,, ...	Do.
174	,, sp.	,, ,, dull purple ...	Do.
175**	Ophrys sp.	Largish, rosy purple ...	Do.
176**	,, sp.	,, green and purple ...	Do.
177**	Anthoginum sp.	,, rosy	Do.
178*	Bonatea sp.	Small, green	Do.

Æschynathus (3 to 4 sp.): Hoya (5 or 6 sp.); Arum (several) Lilium (1 sp.); Nepenthes (1 sp.); Ferns and Lycopodiums (150 to 200 sp.); Palms (Livistonia, Leoxalia, Caryota, Calamus, &c.) are also indigenous, and can be sent if required.

Plants not marked are common. Ditto marked with an asterisk are considered rare.

Ditto marked with two asterisks are considered very rare.

The charges for a box of 4 cubic feet measurement, containing an equal selection of the three kinds, will be 5*l.* or 50 Rupees, deliverable at Calcutta. When Plants which are rare or very rare are required, the charges will be according to the kind taken; for the rare 1 r. 8 a. a Plant; for the very rare, 2 rupees a Plant. When very large plants are directed to be sent, no extra charge will be made.

When new Plants not included in the list are sent, a separate charge will be made. When two boxes or more are taken a discount of 10 per cent. will be allowed.

Plants can also be sent in glass cases, on the Wardian plan, measuring 2 feet 6 inches in length, 2 feet breadth, and 2 feet 7 inches in height, for which an extra charge of 20 rupees will be made. Glass covers can also be supplied for the other boxes, at an extra charge of 10 rupees.

Applications to be made to Messrs. CHARLES CANTOR & CO., in Calcutta.

ASSAM, *August* 1, 1852.

GRAPE VINES FROM EYES, VERY FINE.

J. WEEKS AND Co., King's Road, Chelsea, have a most splendid collection of VINES, very strong and clean, two and three years old, from Eyes, all the best sorts for PLANTING OR FRUITING IN POTS.

Also an extensive and valuable collection of STOVE and GREENHOUSE PLANTS, with all new varieties. See our Catalogues devoted to each. Also our Illustrations on HORTICULTURAL BUILDING and HEATING by HOT-WATER.

J. WEEKS and Co., King's-road, Chelsea.

NEW ROSES.

PRINCE ALBERT AND FAIRY QUEEN.

A. PAUL AND SON beg to offer the above new and beautiful Roses, of which they at present hold the entire stock.

PRINCE ALBERT, BOURBON (PAUL'S).—The flowers are, in the summer, deep scarlety crimson, in autumn rich glowing lake, 3¼ inches in diameter, finely cupped and very double, the outline a perfect ring; every shoot blooms, often producing 20 to 30 flowers in a truss, and being of dwarf habit it is likely to prove one of the finest autumnal Roses for bedding. The foliage is large, thick, and handsome, and it surpasses every Bourbon Rose in colour, form, and abundance of bloom. Strong Plants in November, 10s. 6d. each.

This Rose will be figured in the "Florist" for November. It has obtained a first-class certificate from the National Floricultural Society, the Royal South London Floricultural Society, and the Caledonian Horticultural Society, at Edinburgh; it has further been favourably noticed by the leading Horticultural Journals, and ordered by above 100 Nurserymen and Amateurs who have seen it in flower.

FAIRY QUEEN, HYBRID PERPETUAL (PAUL'S).—Soft glossy lilac, of medium size and perfect form, the summits of the petals reflexing as in Mrs. Bosanquet, and like that unique Rose every shoot produces flowers; dwarf habit. Plants 7s. 6d. each. Early orders are solicited, as the stock is limited.

Nurseries, Cheshunt, Herts, Nov. 6.

WILLIAM HAMILTON, SEEDSMAN, &c., 156, CHEAPSIDE, LONDON.

Common mixed Crocus 1s. per 100.
Superior Dutch Mixed Crocus, 1s. 6d. per 100.
CROCUS, very large and fine yellow, 2s. 6d. per 100.
,, 12 distinct varieties named, 3s. per 100.
,, in separate colours, 1s. 6d. to 2s. per 100.
TULIPS, fine border varieties, early and late, 5s. to 7s. 6d. per 100.
SNOWDROPS, very fine, 2s. per 100.
NARCISSUS, Soleil d'Or, 3s. per doz.
,, Dbl. Roman, 3s. per doz.
,, paper white, 3s. per doz.
,, Grand Monarque (large), 6s. per doz.
HYACINTHS, excellent mixtures, 3s. 6d. per doz.
,, named for pots or glasses, 6s. to 12s. per doz.

GLASS DISHES with six superior HYACINTHS ready planted in Moss, and which are easily transmitted to the country without injury, 5s.; the price increases from 5s. to 10s. 6d. according to the size of Dish and number of Hyacinths.

The above are all warranted fine, and will be delivered in the best possible condition, with extra bulbs to compensate for carriage.

WM. HAMILTON'S Catalogue, containing an immense variety of bulbous roots, &c., may be had on application.—Address, 156, Cheapside, London.

PUBLIC SALES.—Having been instructed that many of my English correspondents are labouring under the impression that the anonymous sales of BELGIAN PLANTS in England proceed from my Nursery, I take this opportunity to declare, that all the Public Sales made by me have been duly advertised under my name, and that during the last eight years not a Plant has been sent out without having been ordered; *and consequently since that time no Public Sale of Plants from my Nursery ever took place.*

LOUIS VAN HOUTTE.—Ghent, Nov. 6.

JAMES JEFFRIES very respectfully begs to return his most grateful acknowledgments to the nobility, gentry, and his numerous friends, for the very liberal patronage conferred upon him for so many years. J. J. is sorry to inform his numerous patrons that, in consequence of declining health, he is unable to devote that active attention which the character of his business requires; he has now retired in favour of his SON, on whose behalf he earnestly solicits a continuance of their kind and liberal support.

WILLIAM BRAME JEFFRIES, in soliciting a continuance of the liberal favours extended to his Father for so many years, trusts, by an assiduous and unremitting attention to all orders he may be favoured with, and a determination to keep and cultivate none but the most genuine articles in the Nursery and Seed Trades, with a careful and select introduction of all worthy novelties, to merit that patronage he earnestly solicits.—Ipswich Nursery, Nov. 6.

VIOLA ARBOREA; OR, PERPETUAL TREE VIOLET (TRUE).—The finest Stock for many years of the above, which has proved the best of all VIOLETS, is now offered to the Public by EDWARD TILEY; he can recommend it with great confidence, and has also received numerous testimonials from different parties speaking of its qualities, and giving it the highest praise. It is beautifully scented, the flowers as large as the Double Blue Hepatica, blooming freely from August to the end of May, and perfectly hardy. This is the proper time for making beds or potting, and 12 of these plants grown in pots will scent a large Greenhouse; also a small bed of them, 9 feet long by 3 wide, will be sufficient to furnish a family with Bouquets the whole of the winter and spring. Large plants, 6s. per dozen; small plants, 3s. per dozen.

VIOLA ARBOREA ALBA; OR, DOUBLE WHITE TREE VIOLET.—This is also a very fine variety, and resembles the former Violet in many particulars, with the exception of its colour. Large plants, 6s. per dozen; smaller ditto, 3s. per doz.

RUSSIAN SUPERB VIOLET, Blue and White (True).—A very useful and fine variety; 3s. per dozen.

A TREATISE on the nature and mode of Cultivation of the VIOLET.—EDWARD TILEY begs to introduce to the notice of all lovers of this flower a Treatise, which will not only give an insight into its proper mode of cultivation, but also directions for keeping it in continual bloom the whole of the winter. It will also assist many who have already grown this variety, as it introduces several distinct plans by which it may be cultivated most successfully. Purchasers to the amount of Five Shillings will have the Treatise included; or, post-free to any part on receipt of 12 penny stamps.

OTHELLO CLOVE CARNATION.—To those persons whose orders came too late last season (the plants being all sold), E. T. begs to say he has a fine stock of this beautiful Clove (for colour and fragrance unequalled), and can supply any quantity at 3s. 6d. per pair, postage and packet included.

PURE WHITE CLOVE CARNATION; also a large stock of this splendid variety at 1s. 6d. per pair, postage and package free.

STRAWBERRY PLANTS can be still supplied in every variety and price, as see *Gardeners' Chronicle* for Sept. 4, 1852.

The whole, or any part of the above, can be sent postage and package free, on receipt of the amount, by a post-office order, or penny stamps.

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GYNERIUM ARGENTEUM.

LUCOMBE, PINCE, AND CO. have strong established specimens of various sizes of this extremely beautiful plant. The following extract from the *Gardeners' Chronicle* of Oct. 30 will give a due idea of its beauty:

"*Horticultural Society's Garden, Turnham Green.*—One of the most interesting plants at present in flower here is the Pampas Grass of Brazil (Gynerium argenteum), a good specimen of which is growing in the American garden, near its entrance. This plant has 12 flower stems, each some 8 feet long, about the thickness of the thumb, and surmounted by an erect panicle of inflorescence at least 18 inches in length, which beneath bright sunshine looks like a beautiful light-coloured fea her spangled with silver. The panicle is in the form of that of the beautiful Arundo Phragmites. The leaves, which are some 7 or 8 feet long, with a hard flinty skin, grow in tussocks, which in situations at all favourable soon acquire a large size; when in flower, certainly few plants are more striking or magnificent in appearance than this gigantic Grass, which, being perfectly hardy, will be found to be a great acquisition to the ornamental grounds of this country."

It has flowered in the Exeter Nursery several times, and L. P. and Co. can speak in unqualified terms of its merits. Sizes and prices of the plants may be had on application to them.—Exeter Nursery, Exeter, Nov. 6.

THE PLANTING SEASON.

A LARGE QUANTITY OF VERY STRONG SEEDLING AND TRANSPLANTED LARCH FIR, SPANISH CHESTNUTS, AND OTHER FOREST TREES.

WILLIAM WOOD AND SON respectfully invite attention to their very extensive Stock of the undernamed FOREST TREES, prices of which will be forwarded on application:—

Alder	3 to 7 ft.	Spanish Chestnuts ...	2 to 3 ft.
Ash	2 to 6 ft.	Larch Fir	1 to 5 ft.
Beech	2 to 6 ft.	Scotch Fir	1 to 5 ft.
Birch	3 to 7 ft.	&c. &c. &c.	

N.B. A large stock of particularly fine, strong, well-feathered Spruce and Silver Firs, from 2 to 8 feet, peculiarly adapted for ornamental planting.

In addition to the above, W. W. and S. have to offer a fine collection of Fruit Trees, standard, dwarf, and trained; also American, Evergreen, and Flowering Shrubs; Herbaceous and Alpine Plants; also a very choice selection of rare Ornamental Trees.

Standard and Dwarf Roses, as usual, in very large quantities.

Priced Catalogues of the above Stock will be sent in exchange for four postage stamps.

Woodlands Nursery, Maresfield, Sussex.

G. ROGERS'S SEEDLING CINERARIAS and PANSIES:—

SEEDLING CINERARIAS.

LORD VERNON.—Blue, with ring of puce round the disc, extra form, very dwarf, 9 inches high, with broad level head of bloom; one of the best yet offered. Price 10*s.* 6*d.*, no discount.

BRITISH QUEEN.—White edged, pinky lilac, good form, blooms larger than half-a-crown, dwarf grower, good level head of bloom. 7*s.* 6*d.*

UTTOXETER PET.—White edged, violet lavender, extra form and good dwarf habit; a very desirable variety, extra. 7*s.* 6*d.*

DAGOBERT.—White edged, purplish rose, dark disc, very fine form, with fine head of bloom. 7*s.* 6*d.*

LADY OF THE LAKE.—White edged, rosy lilac, form extra and very dwarf; distinct and fine. 7*s.* 6*d.*

UTTOXETER GEM.—Light blue, rosy tinge round the disc, very dwarf, good habit; distinct. 5*s.*

BRILLIANT.—Bright rosy crimson, fine habit and form; a colour most desirable; extra. 7*s.* 6*d.*

The above Collection, 2*l.* 5*s.*, and twelve fine named varieties added for 3*l.* The stock of several of the above is only a few plants; early orders alone can secure them.

SEEDLING PANSIES.

PRINCE ALBERT.—Pale yellow ground, upper petals purple, lower margined purple eye large and dense; size very large, form and substance extra. 5*s.*

PRINCE OF WALES.—Deep yellow ground, upper petals puce, lower ditto margined bronzy brown; form and substance extra, size large. 5*s.*

Twelve fine named varieties and the above two seedlings for 1*l.* The full description and opinions of the above are given in G. R.'s Select List of Plants, now ready, and may be had on application. Plants of the above ready to send out on and after 10th inst.—Uttoxeter, Nov. 6.

CHEAP AND SELECT NURSERY STOCK.

THE SUBSCRIBERS beg to offer the following CHOICE STOCK at the annexed very low prices. Goods from these extensive Nurseries have given great satisfaction throughout the kingdom for many years.

			s.
12	Very best hardy Azaleas, 2 ft., bushy, with flower buds		18
12	Standard Berberis dulcis, with fine heads, do. ...	...	40
12	Abies Douglasii, 3 feet	...	80
12	do. Morinda, 3 to 4 feet, true and fine plants ...	...	20
12	do. Menziesii, 3 to 4 feet	...	20
12	Cedar of Lebanon, 2 to 3 feet, fine plants ...	...	20
12	Pinus Cembra, 3 feet, fine specimens	...	30
12	,, excelsa, 2 to 3 feet, do. do.	...	20
12	Scarlet Arbutus, 2 to 3 feet, in pots	...	18
12	Fancy Æsculus, 5 to 6 feet, handsome plants ...	...	12
12	Handsome Rhododendrons, 2 to 3 feet, scarlet, crimson, purple, white, and all shades of colours, selected from more than 100 sorts	...	20
100	Rhododendrons, hardy scarlet, 2 feet	...	50
100	do. campanulatum, from seed, extra, transplanted seven years old, stout and bushy	...	60
12	Hybrids between R. campanulatum and R. nivaticum, 3 feet		60
12	do. do. do. and R. Cunninghamii, 2 to 3 ft.		40
12	do. do. do. and R. Catawbiense, 3 feet ...		30
12	do. do. do. and R. tigrinum, 2 feet		40
12	do. do. do. and R. pallida, 2 feet		80
12	do. do. do. and R. Ruszellianum		10

(Many of these Hybrids have flowered; they are beautiful and curious; all have noble foliage, and look well in pleasure grounds.)

100	Cedar of Lebanon, 1½ to 2 feet, extra, transplanted	60
100	Flowering and Evergreen Shrubs, two of a sort	20
100	Fine double Hollyhocks	20
100	Dwarf Roses, splendid prize varieties, two of a sort	30
100	,, good mixture	20
50	Standard Roses, splendid prize varieties, 2½ ft., stem fine	60
1000	Hazels, extra, transplanted, 4 feet, for game coverts ...	30
1000	Evergreen Privets, 2 to 3 feet, strong ,,	30
1000	Laurels, 3 to 4 feet, very fine plants ,,	100
1000	Matonias, 1½ to 2 feet ... ... ,,	80
1000	Green Hollies ... ... ,,	30
1000	English Oaks, extra, transplanted, 4 to 6 feet ...	40

FRUIT TREES.		Per doz.—s.
Apples and Pears, standards, 4 to 5 feet, stem very fine	...	9
,, dwarfs, 3*s.*; trained ,,	...	30
Cherries and Plums, standards, 5 feet ,,	...	12
,, dwarfs, 3*s.*; trained ,,	...	36
Nuts, of sorts, large plants, 3 to 4 feet	...	6
Fastolff Raspberry, very strong canes ...		12*s.* 6*d.* per 100.
Rhubarb, best sorts, true, per 100 ...		25*s.* to 35*s.*

All orders should be sent as soon as possible; and a reference is respectfully solicited from unknown correspondents.

WILLIAM JACKSON and Co., Bedale, Yorkshire.

SEEDS DIRECT FROM THE GROWERS.
(CARRIAGE FREE BY RAILWAY.)

SUTTON AND SONS have the pleasure of announcing that they have succeeded in harvesting their SEEDS in good condition, notwithstanding the unfavourable weather. *The advantages of purchasing Seeds direct from the Growers* are obvious. As some sorts are scarce, early orders are requested and recommended.—For particulars address JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

HYACINTHS, DUTCH BULBS, TULIPS, ETC.

HENRY GROOM, Clapham Rise, near London, by Appointment FLORIST TO HER MAJESTY THE QUEEN, and to HIS MAJESTY THE KING OF SAXONY, begs to say that he has received his usual supply of HYACINTHS and DUTCH BULBS, in very fine condition. His Catalogue of Bulbs, &c., will be forwarded on application.

CEDRUS DEODARA, ETC.

A. PAUL AND SON have a fine Stock of CEDARS, which, for beauty of growth, cannot be surpassed, and which they beg to offer as under:—

CEDRUS DEODARA	... 1 ft., 1*s.* 0*d.*	each, or 75*s*	per 100.
,,	... 2 ft., 2 6	,, 1*l.*	,,
,,	... 3 ft., 3 6	,, 15*l.*	,,
,,	4 to 5 ft., 7 6	,, 4*l.*	per doz.
CEDRUS AFRICANUS	... 1 ft., 2 6	,, 30*s.*	,,
,,	... 2 ft., 3 6	,, 40*s.*	,,
CEDAR OF LEBANON	... 1 ft., 1 0	,, 75*s.*	per 100.
,,	2 to 3 ft., 2 6	,, 24*s.*	per doz.
,,	3 to 4 ft., 3 6	,, 36*s.*	,,
,,	4 to 5 ft., 5 0	,, 54*s.*	,,
,,	5 to 6 ft., 7 6	,, 84*s.*	,,

Also the following, of various heights:—Abies Morinda, Menziesii, Douglasii; Pinus apulcensis, Ayacahuite, Excelsa, Insignis, Macrocarpa, Lambertiana; Picea nobilis, Araucaria imbricata; Cryptomeria japonica; Cupressus Goveniana, Lambertiana; Juniperus bibernica, Chinensis, Excelsa; Thuja filiformis, Wareana; Taxodium distichum, Sempervirens; Taxus adpressa, Irish Yew, Gold striped do., and numerous others equally fine plants and equally cheap. Priced Catalogues of Coniferæ furnished on application.

Nurseries, Cheshunt, Herts.—November 6.

GEORGE DAVIES is now prepared to send out the following NEW GERANIUMS at 42*s.* per dozen:—

Arethusa, Ariadne, Caieftain, Elise, Enchantress, Flying Dutchman, Colonel of the Buffs, Ganymede, Incomparable, La Bleche, Mochanna, Magnet, Purple Standard.

The following at 18*s.* per dozen:—

Boule de Feu, Dazzle, Generalissimo, Clarinda, Lord Stanley, May Queen, Mount Hecla, Major Domo, Nepaulese Prince, Nectar Cup, Silk Mercer, Pride of the Isles, Tyrian Queen.

The following at 12*s.* per dozen:—

Brilliant, Constance, Cristabel, Gipsey Bride, Elegans, Magnificent, Prince of Orange, Satisfaction, Princess Emila, Virgin Queen.

The following FANCY GERANIUMS at 20*s.* per dozen:—

Delicata, Bride, Gaiety, Othello, Orestes, Marion, Prima Donna, Prince Albert, Exquisite, Reine de Fleur, Reine de France.

The following CINERARIAS at 18*s.* per dozen:—

Catherine Seaton, Nonsuch, Fearless, Prima Donna, Mrs. Charles Kean, Rosy Morn, Lady Hume Campbell, Effie Deans, Mrs. Sidney Herbert, Clair of the Isles, Blue Perfection, Clara Mouberry. Older varieties 9*s.* to 12*s.* per dozen.

ERICAS, fine blooming plants, 12*s.* to 18*s.* per dozen, including Massoni, Sprengeli, Parmentieri rosea, &c.

		s.	d.
Abelia uniflora, new		2	6
Kennedya ovata alba, pure white, new		3	6
Tegelia bituminosa, bright yellow Kennedya-like flower, new		2	6
Weinmannia pubescens	2*s.* 6*d.* to	3	6
Gompholobium barbigerum		3	6
Sollya Drummondii		1	6
Daphne Fortuni		3	6
,, Indica rubra		1	6
Berberis Fortuni		2	6
Clematis cærulea odorata, new		2	6

The above are cash prices, and no reduction.

Stanley and Green Lane Nurseries, Old Swan, Liverpool.—November 6.

KNAP HILL NURSERY, WOKING, SURREY.

HOSEA WATERER respectfully invites attention to the following:—

ARAUCARIA IMBRICATA, 2, 3, 4, and 5 feet high. We have a fine stock of large Araucarias, and as they have never been in pots, they are as robust and handsome as can well be.

CRYPTOMERIA JAPONICA, 2, 3, 4, 5, 6, 7, and 8 feet high, all from seed and in the open ground.

CEDRUS DEODARA, 2, 3, 4, 5, 6, 7, 8, 10, and 12 feet high.

,, OF LEBANON, 3, 4, 5, 6, 7, to 12 feet high. The large Deodars and Cedars of Lebanon, here referred to, have been regularly removed every spring; they are magnificent specimens, and might be sent any distance with perfect safety;

ABIES DOUGLASII, from seed, 2, 3, 4, 5, 6, and 7 feet, larger and splendid plants 8 to 12 feet; all removed last spring.

,, MENZIESII, 3, 4, 5, 6, and 7 feet high.

,, CANADENSIS, Hemlock Spruce, fine plants, 5, 6, 7, and 8 feet high.

PICEA NOBILIS, stout plants, with good heads, own bottoms, 2½ to 3 feet, probably not to be met with in any other Nursery.

PINUS CEMBRA, 3, 4, 5, 6, to 10 feet high.

,, INSIGNIS, all from seed, and most beautiful plants, 3, 4, 5, and 6 feet high. We have a fine lot of these.

CUPRESSUS MACROCARPA, or LAMBERTIANA, from seed, 2, 3, 4, 5, 6, and 7 feet high. We have a fine lot of these also.

TAXODIUM SEMPERVIRENS, 2, 3, 4, 5, and 6 feet high; beautifully furnished.

JUNIPERUS VIRGINIANA (the red Cedar), fine plants, 4, 5, 6, and 7 feet.

,, RECURVA, 3, 4, 5, 6, 7, and 8 feet.

,, EXCELSA, 3, 4, 5, and 6 feet.

,, BEDFORDIANA, 3, 4, and 5 feet. This is a very handsome growing plant.

* UPRIGHT IRISH JUNIPER, 3, 4, 5, 6, 7, 8, to 10 feet high. These are really splendid examples of perhaps one of the most striking of all Junipers.

* UPRIGHT IRISH YEW, 4, 5, 6, 7, 8, to 10 feet high. These plants are all trimmed to one stem, and are not therefore so likely to divide on windy or snowy weather.

* CHINESE JUNIPER, 2, 3, 4, 5, 6, 7, and 8 feet high.

* CUPRESSUS THYOIDES VARIEGATA (the variegated white Cedar), most beautiful plants, 3 to 4 feet high.

* GOLDEN YEW, worked on common, 3, 4, 5, and 6 ft. high.

* Visitors to Elvaston Castle cannot have failed to remark the extraordinary effect produced by the last five plants, viz., Irish and Gold striped Yews, Irish and Chinese Junipers, and the Variegated White Cedar; and I believe we may assert, without fear of contradiction, except Elvaston, a similar lot of plants to those here offered cannot be found in any Nursery in Britain.—Priced Catalogues will be forwarded on application.

The Knap Hill Nursery is within an hour's ride of London, being near the Woking Station, South-Western Railway, where every train stops, and from whence conveyances may at all times be had.

RENDLE'S NEW TREE AND SHRUB CATALOGUE.—Our new Autumn Priced List of

FOREST TREES, SHRUBS, AND FRUIT TREES,

Is now ready, and can be had on application in exchange for one penny stamp.

The Catalogue contains PRICES of SEEDLING FOREST TREES, New and Choice SHRUBS, Transplanted FOREST TREES, FRUIT TREES, including all the newest and choicest sorts in cultivation.

Gentlemen who want to plant largely this Autumn, or who require to lay out Pleasure Grounds, will do well to procure one of these Catalogues.

LARGE SURPLUS STOCK.

We have a large Surplus Stock of the following, which will be offered on very low terms, viz.:—

Seedling PINUS AUSTRIACA.
Fine Plants of CEDRUS DEODARA.
Two years Bedded SCOTCH FIRS
Fine stout Plants of PINUS EXCELSA.
Immense Stock of SEAKALE and ASPARAGUS.

TROLLOPE'S VICTORIA STRAWBERRIES,

20*s.* per 100, or 3*s.* per dozen. This variety should be grown in every garden.

Apply to WILLIAM E. RENDLE AND CO., NURSERYMEN and SEED MERCHANTS, Plymouth.
ESTABLISHED IN 1786.

NEW PLUMS ADVERTISED BY MR. HENRY DOWLING.—An advertisement appeared in the *Gardener's Chronicle* of October 30th, containing the following words:—

"Mr. Robert Thompson, of the Horticultural Society's Garden, writes thus—'Your three Plums are indeed of first-rate quality, and I should recommend their extensive cultivation. As regards No. 3, I consider you have thrown the Green-gage into the shade, for it retains all the properties of that Plum, with more sugary sweetness. I have no fear of my judgment being called in question.'"

The above has been inserted without my knowledge or consent; and although, years ago, I may have given some opinion respecting the Plums in question, I am certain the expressions above quoted were not used by me.

ROBERT THOMPSON.
Nov. 5. Horticultural Society's Garden, Chiswick.

The Gardeners' Chronicle.

SATURDAY, NOVEMBER 6, 1852.

WE certainly did not anticipate an early and at the same time satisfactory proof of the truth of our statement, that plants will, under certain circumstances, grow in the absence of leaves. It was not to be expected that a deeply-rooted prejudice, formed out of a misinterpretation of undisputed facts, should meet with immediate assent: yet so it is. The following most interesting letter from the Rev. Mr. SMITH, the great advocate of deep trenching and wide cropping, adds another to the proofs which exist of the accuracy of those views which have now been taken of the history of growth in roots. It will be seen that Mr. SMITH takes off his Turnips, when they have become fully organised, an enormous crop of tops, for the use of his stock; that nevertheless the roots continue to swell, and are now producing a second crop of foliage, to be applied like the first: so that this part of the Turnip crop is in some sort doubled. But our experienced correspondent must speak for himself.

"*Plants increase in Bulk in the absence of Leaves.*—You state, with all the emphasis of capital letters to every word, that plants will increase in bulk in the absence of leaves. The startling fact well merits that mark of honour; and I beg permission to add my mite of confirmation to the truth of the fact, and to show, by one instance at least, the great practical importance of the fact itself. I have made the experiment this year on an acre of Swedes, which, on my usual plan of cultivation, were managed thus:—The land—a heavy clay, with a staple originally of only 5 or 6 inches—has been gradually brought, by trenching and horse-hoeing, to a pulverised state 18 or 20 inches deep. In the autumn I buried the manure (made by cows and swine, fed on Swedes and bran, with the other usual fodder) within 2 or 3 inches of the bottom of the rows intended for my plant; and in April, over that manure, and within 5 or 6 inches of the surface, I stirred in 1 cwt. of guano. The first week in May I drilled my seed, together with a sprinkling of superphospate, in single rows 5 feet apart. The result was—as it always has been under the same system, pursued for several years—that at the beginning of September the leaves of the plant met across the 5 feet intervals, and that I am promised a yield equal, perhaps, to the measured produce of last year, which amounted to 27 tons. It will be understood by those who know the constituents and the properties of clay made friable to the depth I have described, how the continuous and inexhaustible supply of moisture in such a soil saves the plant from mildew, the common result of early sowing in shallow ground, but from which I have never suffered, even in the driest season. Now for the confirmation of your statement, that plants will increase in bulk in the absence of leaves. Early in September, when the roots had reached their state of complete organisation, when the tops had grown from 2½ to 3 feet in height, the lower leaves generally extending 5 feet wide, I began to cut the tops as they were wanted about half an inch from the crown; and from that time to this the bulbs have been proved by actual measurement to continue to grow, and are throwing out, all round the crown, a fresh supply of luxuriant leaves for another feed. From this source the bulk of keep for my cattle has been enormous; and the importance of such a supply at a time when, in common seasons, the Grass begins to fail, is beyond a doubt, especially for growing stock, since it has been proved

that the leaves of the Turnip contain more of the bone-making material than even the bulb itself. I claim no merit for this experiment as a novelty, for there is a report of a somewhat similar process in the 'Prize Essays' of the Highland Agricultural Society, vol. iii.; the only difference being that in that instance the Swedes had been transplanted. I would add, that it is there shown, besides, that, on analysis, as compared with Swedes treated in the common way, the root only suffered in value to the extent of containing a small per centage more of water, the quantity of solid matter being displaced in the same proportion, while the quality of the food remained uninjured. *S. Smith, Lois Weedon, October* 2."

It has been too much the fashion of late to desert physiology for the allurements of chemistry; and it must be owned that the results of the latter are seemingly more brilliant than of the former. But it will be found in the long run that the two cannot be separated; or that if one only is to be taken as a guide, vegetable physiology is the safer, the moment that the materialism of some modern writers is rejected, and the great principle of VITALITY and its effects fully recognised as the foundation of this branch of science. So long as people continue to refer, we must say absurdly, if not irreverently, the phenomena of vegetation to inexplicable chemical or mechanical, or other physical actions, and to nothing else, so long vegetable physiology remains incomprehensible, and little applicable to practical purposes. Admit that the phenomena of life are incapable of explanation except upon the principle of vital force exciting them, controlling them, and keeping them all in due subordination for certain wise ends which we can only appreciate by their results, and the physiology of plants immediately takes rank with that of the animal kingdom. The vital action of the cells of which plants consist is among the most important points for consideration; and we see in the case before us, how a just appreciation of it tells in practice.

The "Life of the Plant," a little memoir by HERMANN SCHACHT, who regards this subject from what we believe to be the only just point of view, although in some respects too hypothetical, is well worth studying by those who have been misled by the spurious physiology of a great authority in merely chemical matters. Mr. SCHACHT clearly points out the separate and peculiar vitality of different kinds of cells; shows how one kind is employed in absorbing and assimilating azotised matter, but is poor in hydro-carbonised compounds, and how others, as that of roots, is provided for the purpose of elaborating fecula, sugar, gum, oils, resins, colouring matters, and so on. He points out "the constant activity" of such cells in forming the matters they assimilate, and he insists upon the results which flow from their "unequal physiological activity." As soon as that activity ceases life is extinguished, and the cells remain as a mere internal skeleton, or as a framework destined to hold together and sustain the parts still living. We must endeavour to find room for a translation of this well-digested treatise.

As we see that Mr. STEVENS is about to sell, on Monday next (see advertisement), another large collection of ORCHIDACEOUS PLANTS, it may be as well to state that Epidendrum vitellinum, of which there are upwards of 200 plants, was found by the Indians on the summits of high trees in a cold damp district—for four months of the year enveloped in clouds, the temperature falling to 38° at times (in December and January), and seldom exceeding 60° in the summer months. It was in flower when gathered in the month of June—commences in May, and continues in bloom for three months, if shaded. The plants found by Mr. SKINNER's collectors were almost buried in Mosses, Lichens, Tillandsias, and Ferns, and only caught the eyes of the Indians from the brilliancy of the flowers.

ENTOMOLOGY.

THE FEATHER HORNED PINE SAW-FLY.

THE great extension of our Fir and Pine plantations and forests naturally invests with a share of interest not previously possessed by the subject, at least in this country, the history and economy of those species of insects which are injurious to the different species of the genus Pinus and other allied trees.

The various kinds of injuries to which these trees are subject, owing to the attacks of insects, may be divided into those occasioned by their attacks upon the foliage, and those in which the more solid parts of the tree are attacked. Amongst the latter we find that the roots are gnawed, and those of young trees cut off by the larvæ of the common cockchaffer; that the solid wood, the bark, and inner bark are attacked by many Coleopterous and Hymenopterous insects, especially in the larva state; and that the young shoots and buds of various kinds of Firs and Pines are infested by the larvæ of various small moths, and those of some species of small beetles, especially Hylurgus piniperda, of which an illustrated account was published in the *Gardeners' Chronicle* for 1846, p. 740.

Of the species of insects which feed upon the foliage of these trees, often to such an extent as to strip them (thereby retarding their growth, and ultimately entirely destroying them), the most injurious—namely, the Pine lappet moth, Bombyx (Dendrolimus) Pini; the black arches moth, Bombyx (Psilura) monacha; the Pine noctua, Noctua (Trachea) piniperda; and the Pine Geometra, Geometra (Bupalus) piniarius—are so comparatively rare in this country that but little general injury is produced by them. There are also several species of saw-flies belonging to the genera Lophyrus and Lyda, which, in the great Pine forests of Germany, commit much havoc, especially owing to their caterpillars living in more or less numerous societies.

During the past and present autumn we have, however, received several communications complaining of the injury committed on plantations of Pinus Mughus and P. austriaca by the larvæ of a species of saw-fly which proves to belong to the genus Lophyrus.

The caterpillars which were forwarded to us in the month of September were nearly full grown, and measured about an inch in length; they were of a dirty whitish colour, with an orange-coloured head, the face being black; each segment of the body was also marked on each side with two black spots, one above the other; the three pairs of legs attached to the three anterior segments of the body, short and black—the pair nearest the head being shorter than the others. Shortly after their arrival, some of the caterpillars shed their skins, whilst others, which had previously undergone this process, enclosed themselves in small, oval, leather-like cocoons (one of which is represented in our woodcut, affixed to one of the Fir leaves), within which they passed the winter, and underwent their transformation to the pupa, the ventral surface of which (magnified to about three times the natural length) is represented in the top left-hand figure of our woodcut. In the following month of May, the perfect insects were developed, and made their way out of the cocoons by gnawing a circular cap from one end of it.



Unfortunately only female insects have been produced from the specimens sent us, which survived and attained their perfect form, which is the more to be regretted, as the males afford the more certain specific characters in this difficult genus, and as the caterpillars sent us differ from those of all the species of the genus represented in the late works of Hartig and Ratzeburg, both of whom have paid especial attention to the insects of this genus. We are inclined, however, to regard the caterpillars as belonging to the species Lophyrus Pini, being a more strongly marked variety than that given by Hartig (Die Blattwespen, pl. 4, f. 1). The females which we have reared are of a black colour, varied with dirty yellowish white markings, the parts of the mouth and two basal joints of the antennæ being of the latter colour, as well as the dilated sides of the collar, the sides of the first and second segments, and a considerable portion of the penultimate and antepenultimate segments of the abdomen; the legs are also of the same pale colour, the hind tibiæ being dusky at the tip; the wings are hyaline, with a slightly stained dusky cloud across the middle of the fore, and outer margin of the hind wings. The expansion of the wings of the female is five-sixths of an inch. Our woodcut represents a sprig of the Pine tree, with two of the caterpillars of the natural size in different positions, a cocoon attached to one of the leaves, and a male of Lophyrus Pini of the natural size, seated on one of the leaves, the figures on the left-hand of the engraving representing a pupa magnified, one of the antennæ of the male still more highly magnified, and one of the females reared by us, about twice its natural length.

Kollar gives the following particulars relative to the early history of Lophyrus Pini, which, doubtless, entirely accords with that of the specimens now before us. After pairing the female looks out for herself a place where she can with most safety deposit her eggs, in number from 80 to 120, and where she thinks she can find the most suitable nourishment for the future caterpillars. This food is, according to circumstances, either the foliage of the end of the last year's shoot, or that of the shoot not quite expanded; she remains sitting one or two days, until her eggs are sufficiently matured, and then begins to deposit them in the following manner. She first makes an incision the whole length of the leaf with her ovipositor, and hollows out the leaf from the edge towards the middle, so that one or two eggs can lie in the narrow space; the eggs are then laid in it, and closely covered up with a tough resinous material, mixed with the substance scraped from the leaf. She proceeds in this manner till all the eggs are deposited on the several leaves. These leaves are easily distinguished by the ragged and unusually thick appearance of the places where the eggs lie. After a space of 16 or 24 days the caterpillars appear from the eggs, and are then about a line long. This insect is very gluttonous. A full-grown caterpillar requires from six to twelve strong healthy leaves daily, which it consumes from the point to the sheath. The young caterpillars leave the midrib standing, and they seldom attack a tree singly, but always in immense broods, without regard to its age. According to Muller, these caterpillars were so numerous in 1819 in some of the Pine forests of Franconia, that none of the foliage could be seen for them. They fell in thousands from the trees, collected themselves in heaps not unfrequently of the size of a man's head, and marched in dense flocks from those trees that they had stripped to those that were still green. According to the calculations of the same writer, a single pair of this saw fly (as the female lays 100 eggs) would, in 10 years, produce an offspring of nearly 200,000 billions, a number, for the support of which, all the German forests would not be sufficient.

Among the various remedies which have been suggested for the destruction of this insect, the principal one is that of hand-picking, on a large scale, by collecting the caterpillars during their journeys from tree to tree. The removal also of all the dry foliage and moss at the roots of the trees must also be carefully practised during the winter, as it is there that the insects form their cocoons. Children should also be employed to collect the perfect insects as soon as they appear in May and June. *J. O. W.*

CURCUMA ROSCOEANA.

THIS, although perhaps not one of the most easily managed plants that could be named, is nevertheless fully deserving of a place in every collection where the requisite means for its proper culture can be commanded; for few plants are gayer or more effective than this Gingerwort, whose bright orange bracts, if guarded from damp, will retain their colour for many weeks. To grow it successfully a warm moist atmosphere is necessary, and bottom-heat is of great advantage; but when had in flower early in July, which is easily done, it may be removed to a close part of the conservatory, greenhouse, or even the sitting-room window, and in either situation it will retain its beauty throughout the remainder of the summer months.

This plant has never been very plentiful in collections, and although not one of recent introduction, it is still rather expensive; a couple of plants to begin with, however, well managed, will soon afford ample stock. I will suppose that a plant is procured at once, and placed in a dry temperature of about 55°, to properly ripen its growth; early in February or as soon after as a temperature of 60° to 70° can be commanded, shake the soil from amongst the roots, injuring the latter as little as possible, and repot them in pots of about the same size, using nice, moist, healthy, fresh soil. Repotting the plants before starting them into growth may appear unnecessary, but I have found it highly advantageous. The rhizomes are impatient of water while dormant, and unless this is applied rather liberally to soil that has been kept dry for months, it cannot be got into a condition congenial to growth; but by repotting, soil in the right state as regards moisture is obtained without the necessity of frequent waterings. If the pots can be plunged in a brisk bottom heat of from 80° to 90° in a Cucumber frame, or where a moist atmosphere can be maintained, little or no water need be given to the soil for a month, by which time the buds will have started into growth, and when this is the case there will be no farther risk of losing the plants during this season's growth. The supply of water should be gradually increased with the growth of the plants, and a shift will be necessary, which may be into the flowering pots, and these need not be more than a good size larger than those in which the plants were started. I take advantage of this shift for propagating the plant, as the only means of doing so is by division of the rhizomes, and this is done with more safety after growth has commenced, but it will be advisable to defer any attempt at propagation till another season, when the plants will have increased in size, and will admit of being divided without rendering them useless for the season as flowering specimens. The growth of the shoots will hardly be checked by dividing the plants, if the soil in which they are growing is rather fine, so as to be easily shaken from amongst the roots, and a supply of soil prepared by having been placed in the same temperature as that in which the plants are for 24 hours, ready to pot them with. After dividing and potting give a moderate watering, and keep the atmosphere close till active growth is evident.

The summer treatment consists in merely maintaining a moist warm atmosphere, with a moderate supply of water. Where it is desirable to have them in flower as early in the season as possible, for the sake of enjoying their beauty in a cool place for the remainder of the summer, they should be retained in bottom-heat until the first blossoms are expanded, and gradually inured to a cooler situation and more air, previous to removing them to their flowering quarters; but plants for late flowering in the stove need not be placed again in

bottom-heat after potting, and these need not be started so early in spring. As already stated, a situation where the plants will be free from cold currents, and the flowers from damp, will suit them while in blossom; but I must also state that it will not be safe to leave them there until their beauty is over, for I have allowed plants to remain in the conservatory late in the autumn, where, although they looked gay, they were being prepared for anything but handsome specimens the following season. To secure the ripening of the rhizomes and buds, upon which the safe wintering of the plants mainly depends, they should be removed to a light dry warm situation previous to the occurrence of cold damp weather in autumn, and be but sparingly supplied with water, which should be altogether withheld as soon as the leaves and stems begin to die off.

This plant is not very particular in regard to soil. Loam and peat, in about equal proportions, with a quantity of sharp sand added, less or more, according to the quality of the soil, will be found to suit it perfectly. On account of having to shake the soil from the roots annually, it is advisable not to use it in a very turfy rough state; but except for plants intended to be broken up for propagation it should not be made over fine. *Alpha.*

GREENHOUSES AND CONSERVATIVE WALLS.—No. I.

Glass, as an auxiliary, either to the business or pleasures of horticulture, is, as yet, only in the infancy of its application. The removal of burdens, in the shape of taxes, that weighed heavily on the energies of its manufacturers, and confined its employment to a comparatively limited sphere, was the first step towards promoting it to its proper position as an agent in the industrial arts; the erection of the Crystal Palace showed us how extended might be its application in the construction of buildings appropriate for the purposes of horticulture.

It will not, I think, be too much to predict that the completion of the second edition of the Crystal Palace, at Sydenham, will open a new era in the erection of glass houses, and suggest a hitherto unthought of variety in their application. But, looking at the purposes for which horticultural erections are employed in the aggregate, a very important feature presents itself for consideration in the matter of applying artificial heat cheaply and economically. I say cheaply and economically, because many persons look on the terms as synonymous, when furnishing their houses with the means of affording it. If one might believe the statement put forth in advertisements, this application of heat is a thing of little importance as regards expense, and scarcely to be considered as an item in the estimate. Boilers of the most eccentric fashion are held forth as possessing such heat-absorbing powers that the cost of fuel to feed them is reduced to something under a penny a day, and the attendance required merely a glance once in some 24 hours. But the practical results of these Utopian schemes of heating is the best comment on their absurdity. Those who are conversant with the subject know very well the kind of evidence to be gleaned in relation to their usefulness or economy. The fact is, that a system of applying artificial heat to garden buildings, which shall be at once cheap in the cost of erection, and cleanly and efficient in its action, has yet to be discovered. We shall see what is born of the Crystal Palace.

If the object of these papers were to pursue the subject of heating horticultural buildings, there is a wide and very fertile field for discussion and research; but I propose merely to treat of such structures only as will answer every purpose intended, without the application of any artificial temperature, beyond such as can be supplied by the aid of a simple covering of glass. That for the employment of this kind of structure there is very ample and useful means will not, I think, be otherwise than favourably responded to by those who are able to pronounce on the varied purposes to which such building may be applied in the routine of gardening; and at no period in its progress more so than at present. The vast number of very beautiful shrubs which are now well known to all garden lovers, and which only require to be protected from the severity of our winters, to present us with all their varied attractions, the fickleness of our seasons, and their injurious effects on many choice kinds of fruit, with numerous other equally important matters, seem to demand a kind of erection which, while it does not infringe on any of those at present employed, shall add a new feature to both the culinary and the flower garden. In the latter especially there is great scope for the employment of such. Every year we glean some new fact relative to the degree of cold which this or that plant, hitherto considered as an inmate only of the warm greenhouse or stove, has endured uninjured; and many others which now occupy room in more expensive (because heated) houses, are known to be as well, or better adapted for a more temperate climate. It would appear that the ideas of a glass house and artificial heat are inseparable, for we generally find them practically combined. But the fact is, that the purposes to which simple glass structures could be usefully employed in gardening are very numerous. Let us endeavour to ascertain some of the more prominent. *Crayon.*

Home Correspondence.

Climate of South-west France.—In a recent journey down the west coast of France, I have been struck with the great similarity between the vegetation of that district and that of south England. With the exception of a large variety of Heath, I believe E. arborea, I saw no plant growing wild, or scarcely any which are not found in England, until I passed Bordeaux; and even as far as St. Sebastian, in Spain, there was little in the natural vegetation to remind one that we were not in England. Along the north coast of Spain orchards abound, and most excellent cyder is made—to my taste far better than the wine of the country. I also here remarked that many Apple trees were just as much cankered and as unhealthy looking as any in England, and that the state of disease is incidental to the Apple, and not an effect of our less genial climate, as is often supposed. Crossing to the eastward, along the same parallel of longitude, a vast change takes place, and before you reach Carcassone, you approach the limits of the burning south—the land of the Olive and the Vine. This district is, however, exposed to bitter winds and severe frost in winter; so severe that, in 1829, the lagoon of Cette (a salt-water lake five miles across and 20 miles long) was frozen over, and traversed on foot, and many tons of fish perished. It is, in fact, a region of an extreme climate—heat and drought in summer, and frost in winter; though a frost of the severity above recorded is rare. Cette, though surrounded by the sea and very hot in summer, is so much exposed to north and north-east winds that no fruit flourishes there. However fine the bloom of the Peach and the Almond, the fruit seldom comes to perfection, and even the foliage is injured; Olives had shrivelled, and the Pomegranates split though unripe, from the extreme drought of the summer; and such I was assured was often the case. *J. R., Sevenoaks.*

The Malvasia Grape for Wine.—In the island of Lipari, a wine is made of the Malvasia, which is an agreeable dessert wine, not luscious though sweet, with a very considerable flavour of the Madeira Grape, which enlivens the sweetness. It mixes most pleasantly with iced water. The volcanic soil doubtless has much effect there, as in other places, on the quality and flavour of the Grape. It is not much known even in Naples, and probably none has ever been sent to this country except by a relation of mine a year ago. It travels in wood very well, and would be a good importation. Feroce in the Largo San Castello, Naples, and Mr. Turner, can supply it. *J. H., Nether-place, Mauchlin, October* 18.

Education of Gardeners.—Being more in the habit, by the humble routine of my professional duties, of assisting others to publish their opinions in your columns, than to give "print" to my own, I must admit that I feel a great degree of diffidence in thus coming forward to ask your advice, and also to give my own practical experience upon the correctness of a paragraph which appears in your work, at p. 597, headed "Gardeners," wherein your correspondent "Beta" asserts, that "from information statistically and otherwise carefully collected, it is found that, as a body, gardeners are masters of more knowledge generally, and have received a better education, than most other professional classes of persons." Now, I am under the impression, that if "Beta" had called upon me to assist him in collecting his "statistical" information, he would have somewhat modified his assertion; for, although I have no personal knowledge of gardeners as a class, still I consider that I am enabled to form an opinion as to the correctness and general applicability of "Beta's" remarks, from many things which come under my notice, as bearing upon the question, viz., "their having received a better education than most other professional classes of persons." I do not touch upon their "knowledge," because this is often in a "professional" sense, found to exist in very great proportions where "education" is sadly deficient. Far be it from my intentions to dispute the assertion that gardeners are an educated class of persons; but I wish to ask you how far the term "gardener" may be carried in its real sense and meaning. All the world knows that Sir Joseph Paxton is a gardener; and no one would be presumptuous enough to challenge his "knowledge" or "education;" and in the small circle of my humble experience I may mention the names of such men as Mr. Fleming, Mr. Spencer, Mr. Fortune, Mr. Thompson, Mr. Glendinning, Mr. Cuthill, Mr. Ayres, and a host of others, if necessary, to identify the same talented class; but I wish to know if, in the wide application of the term "gardener," I am to include all those jobbers at nurseries who publish their claims to the title on an ill-painted, and often ill-spelled, sign board; which, suspended over their door, announces the fact that by them "gardens are lade out and kept in order by the day, month, or year—N.B .Carpets carefully beat, and porter's work done here." Because, if these men are recognised as "gardeners," then do I dispute "Beta's" remarks altogether; for if I may judge by the penmanship and orthography of some of these "gardeners" when advertising for situations, I should say, that they were utter strangers to both "knowledge" and "education." To illustrate my case, may I lay a verbatim specimen before you, as it appeared from the "author's" own hand, before its correction by your humble servant. This specimen will give you a very fair idea of the class to which I allude.

"AS GARDENER.—A highley respectabel marred man with one child 22 years of age who perfectly understands every branch of his profession N.B. Wife can look to dayrey and is of sober and industrus habets. Direct, &c. &c."

By this you will perceive that the situation is required for "the child 22 years of age who perfectly understands every branch of his profession," that "the wife is of sober and industrus habets" whilst not one word is said about the "highley repectabel marred man."

In conclusion, I cannot confine my critical observations to the humble journeyman gardener, seeking a situation; for very many of the lists of choice plants, grown and furnished by respectable nurserymen, require much correction before they can appear in print as advertisements; to say nothing of the seedsmen's lists, which describe the names of articles they have to dispose of in the most outlandish and un-botanical style! It may be said, that the same remarks which I have here applied to "gardeners" in the lower grades of their profession, are also applicable to every other trade. That I admit; but as yet, no champion has been bold enough to come forward and assert for them "their claims to superior knowledge and education;" and though I am ready to acknowledge that a man must possess these necessary qualifications before he can aspire to the title of being a "gardener," still, with every regard to the sincerity of your correspondent "Beta's" remarks, I must beg to differ from him as to their "superiority" of education over other professional classes. *The Printers' Devil.*

Treatment of Potatoes for Planting.—I have observed that Potatoes left in the ground during winter are generally sound, and make the best sets. Last winter I purposely left some in the ground, having protected them from rain and frost, by throwing up deep furrows on them with the plough, and leaving the Potato ridge like a roof. In the spring (last week in April), I transplanted them on some broken-up land that two years ago was old Grass, and rich enough to grow any kind of crop without manure. The result is that the produce is less infected than that of those treated in the ordinary way. This year I intend to leave all my Potatoes, intended for sets, in the ground, and to transplant them in April next. This plan resembles autumn planting; and to carry it out thoroughly, the transplanting in the spring should be effected as soon as the land is in a proper state. *J. J. Rowley, Rowthorne, Chesterfield.* [This is much the same as Shepherd's plan in the Calf of Man, long ago described in our columns.]

Black Bricks.—Will any of your correspondents inform me how I may permanently blacken bricks; the terro-metallic is so very dear that if one could by the use of manganese (how applied?) or any thing else obtain a dark colour of one tone, much more effect could be given to the otherwise raw red brick. Near Bridgewater they darken their tiles, which enables one to vary the roofs to any extent. It is surprising how rarely gentlemen's lodges have their roofs of any but one colour—red tiles or thatch. *Oxo.*

Snails (see p. 645).—In answer to your correspondent, who requests to know how to kill snails on a large scale, I beg to say that newly-slacked lime dusted over them, and on the ground, will effectually destroy them. Select a moist cloudy day for the operation. This inexpensive mode will be found most efficient, and will also benefit the land. *Cantium.*

Salvia involucrata.—If I am mistaken in believing that the accompanying flowers are of an unknown species of Salvia, I am, at least, correct in saying that it is not a common one. It was introduced (I believe) from Mexico some years since, by W. Jackson, Esq., then proprietor of the Molt, near Salcombe, where it is perfectly hardy, and one of the gayest plants in the beautiful gardens there. Seeds were also given to me, but though Combe Royal is in a very mild climate, only four miles from the sea, the plants which the imported seeds produced were killed one very severe winter. *A. Devonian.* [We have prefixed the name of this plant, which was figured in the Botanical Register, t. 1205, in the year 1828.]

The Nursery Trade.—About four years ago I applied to you for a list of Vines and Peaches for some houses I was erecting, and you had the kindness to give it me; I applied to what appeared to be a very respectable house, and who, in their advertisement in your Paper, engage to deliver all true to name; in the second year, what should have been Peaches, showed fruit, but they were all Nectarines, except two, though I had not ordered any Nectarines. This year I have allowed the Vines to bear, and they are almost without exception Black Hamburghs, though I only ordered two. What makes it more annoying, I wrote to ask if they could furnish them true to name, and they assured me they would; pray what remedy is there for all this? It is rather too bad to find, after the trouble and expense of four years, you are growing what you do not want. Pray what can I do in this case? Out of 15 Peaches ordered, I have 13 Nectarines; and though I ordered only two Black Hamburghs out of 25, they are nearly all Hamburgh, with the exception of two, which are Aleppo Grape, and are really worthless. *Clio, Otley, near Leeds.* [The County Court will afford you a simple remedy: and the newspapers will publish the case for the benefit of the public.]

French Beans.—I set mine this season in ranks about 12 or 14 inches broad, pretty thickly; when they all came up, I thinned them out to 4 inches apart. The result has been that I never saw such beautiful ranks when full-grown, with such an abundant crop. I have had sufficient every day from the time of their first coming in till October 25, for the supply of the parlour and kitchen, and now have a splendid crop left for seed *H. D. C., Dorset.* [How did it happen that the plants did not choke each other?]

Distance Apart at which Potatoes should be Planted.—Having for some time been in doubt about the proper distance at which Potato sets should be planted apart, and not being able to collect any really valuable information on the subject, either from gardener, farmer, or

labourer, I this year determined to try the produce of four rows, planted side by side, on a field manured for Potatoes last autumn. The result is subjoined, from which it still appears there is no good to be obtained from the following out of any one distance.

Row No. 1, sets 8 inches apart	... ...	54 stones.
,, 2, sets 10 inches apart	... ...	53 ,,
,, 3, sets 12 inches apart	... ...	57 ,,
,, 4, sets 14 inches apart	... ...	57 ,,

The small difference there is in the weight of the rows might occur from various causes; the principal advantage appears to me to be that the wide planting, viz., Nos. 3 and 4, produced larger tubers, consequently more valuable for sale, and there is moreover a very considerable saving in sets. My own idea has always been that there should be a clear 12 inches between each set. Should this meet the eye of any experienced Potato grower, perhaps he would throw more light on the subject; all the rows were in some measure diseased, but so equally so that when they were sorted and weighed, there was only a few pounds difference. Mr. Goodiff argues that manure is not the cause of the disease, in which opinion I am inclined to join him, provided the land is manured in the autumn. This year and last also I left two lands in my Potato field unmanured, and the only difference I could perceive was that the Potatoes on the land so left were quite as much infected as the remainder of the field, but the yield was quite one-third less. I always use long straw yard manure, over which I spread, from a tank made to collect it, a good coat of pig manure. This year, out of 500 sacks I have only 39 sacks put away, in consequence of disease, for the pigs. *A Miller and Farmer.*

Late Grapes.—We have a large house here used as a general greenhouse, planted with Vines, intended as a succession house for late fruiting, and we wish them to come in about October. The Vines have been planted five years with the following sorts, viz., Black Prince, Black Hamburgh, West's St. Peter's, White and Red Frontignan, and Sweetwater, all of which are in luxuriant health; but to our great disappointment have hitherto failed to produce a crop or form bunches of any size at all. We can command heat up to 60° when requisite. Advice and assistance are requested to point out any mode of treatment your Grape-growing correspondents may think best calculated to enable us to obtain the desired success. *J. P. D., Blandford, November* 1.

Patchouli.—Dry the leaves of Patchouli in drawers; let each leaf lie singly in the dark; turn it over once a-day for a fortnight; it will then be sufficiently dry. If this plan is adopted they will retain their scent. *J. Gregor.*

The Hubshee Grape.—I have forwarded a few berries of this Grape, which you will observe, though ripe, are almost colourless. They are taken from a bunch weighing fully 5 lbs. I had the Vine sent to me from Aurunzabad more than 10 years ago. It has always been a remarkably healthy plant, and sometimes the fruit has coloured well; can you assign any probable reason for its want of colour this season, or suggest any means by which this can be prevented? I may mention that it is in the warmest part of the house, and that a Muscat of Alexandria, which is in the coolest, has this season ripened and coloured well. *Scotus.* [The cause or causes of want of colour in Grapes is not well understood. Too much fruit in proportion to the breadth of foliage; and again, too much foliage within a given space, should be avoided.]

Out-door Figs (see p. 677).—Permit me to inform "H. R." that the best time for pruning Figs is in the end of March, provided the weather is mild and not frosty. I cut out the whole of the irregular and superfluous shoots, and never stop them, and I nail in 8 inches apart. I take off all the second or autumn Figs, as soon as they are the size of Horse Beans; if the wound is disposed to bleed, a pinch of dry soil applied to it will immediately stop it. *W. Eade, Bildestone.*

Vine Mildew.—Your correspondent "W. S." asserts, at p. 694, that mildew originates at the roots of the Vine, and that fresh dressing the border will prevent the evil; but I have seen the reverse. I have known Vines to have been taken up the house, lime-washed, and painted, a new border made under the superintendence of an experienced gardener, and the Vines grew most luxuriantly, still mildew made its appearance. "W. S." states that a gentleman within a hundred yards of him had sound Grapes this year from following his advice; he is, however, mistaken, and cannot have had any knowledge of my treatment of the mildew, not having seen the Vines since I have been here, but I understand his advice was followed by the gardener whom I succeeded in January last; the Grapes were all affected more or less, and the young wood also, when the mildew made its appearance this year. I applied sulphur differently to what I had seen; I had a good crop, and not the least injured by mildew. *J. W., Hillingdon.*

Potatoes among Peas.—This year I had a quarter of an acre of land, which I formed into nine drills 2 feet apart. The plot of ground was 40 poles in length. I placed my Potatoes in the drills 1 foot asunder. I then sowed Peas moderately thick in each drill with the Potatoes. I had a middling crop of each. The produce of Potatoes was 15 sacks, and very few were unsound. Some of the Peas were used when green, and I had 1 bushel of ripe ones. Where I strewed garden Beans the Potatoes were badly diseased, like those of my neighbours. A small farmer planted 3 acres adjoining my plot; but his were very small, and four out of five badly diseased; he had but one peck to the pole. Now I am led to conclude that the Peas acted advantageously in protecting my Potato crop. If spared until spring, therefore, I intend to adopt the same method of planting again, as I am persuaded the plan is a good one. *G. B. F., Freshford.*

Planting Timber Trees.—In reply to "L. C. K.," who asks for advice (p. 694), I say, having had similar trees on the same formation to deal with, do not plant at all; if you do, the trees at present on the ground will smother those you plant before they can become saleable. In timber management you should plant thin and keep thin, so that the ground is never over-cropped, and the sun can exert its proper influence; the timber will then not disappoint you, whatever the land may be as to quality. Will you favour me with an answer to the following question:—"Had any of the Larches, which were all diseased when cut down, a head of branches three-fourths the length of the tree when cut down?" *Hazel.*

Cupressus horizontalis.—A visit to the south of France has shown me the entire distinctness of this variety of Cypress. It resembles a Spruce Fir in outline, and at a distance might be mistaken for that tree, or for a poor evergreen variety of Taxodium distichum. Its cones also, wherever I had the opportunity of examining them, are oval, not globular. It is a decidedly ugly tree; and except in a botanical collection no one could wish to introduce it. It is however possible that it is only a variety, as it does not differ more from C. sempervirens than the loose-headed variety of Juniperus virginiana does from the close-headed upright one. *J. R.*

French Short-horn Carrot.—It does not appear to be known either to seedsmen or gardeners generally, that this Carrot, of which there are so many brought from France into Covent Garden market in the early part of the season, is easy of cultivation, and more suited to some soils than those generally grown in this country. Carrots in a young state are at all times of the year in great request here, and this one, on account of its shape, and from its being of finer texture and flavour, is much preferred to any of the others for ornamental cookery, therefore I find it to be a great acquisition. Last season I procured some seed of it, which I have found both true to its kind and of excellent quality. I have found it likewise to be a much faster grower than the common early Horn. To prove this, on the 15th August I sowed, on a well prepared piece of ground, two beds, one of each sort, side by side, 26 yards long and 5 feet wide; they vegetated and came up as nearly as possible at the same time; but I find now, November 4, that the French Horn is nearly double the size of the other, which makes it still more valuable upon the soil in this neighbourhood. The Carrots commonly grown are very subject to canker, worms, &c., so much so, that they frequently prove a complete failure, while the other has as yet entirely escaped all disease, and done remarkably well in every way. *J. Skene, Roehampton, Surrey.*

Societies.

HORTICULTURAL, *Nov.* 2.—C. WENTWORTH DILKE, Esq., in the chair. Among subjects invited for special exhibition on this occasion were Chrysanthemums; but, owing to the wet, dull, sunless weather which has prevailed during the last fortnight, none were produced, except Pompons, which are the only sorts that could be got into flower. Of these there were three exhibitions—one from Mr. Ivery, of Peckham; another from Mr. E. G. Henderson, of the Wellington-road; and a third from Messrs. Chandler, of Vauxhall. Those from the last-named firm were, however, not for competition. Messrs. Henderson's plants arrived too late, and therefore the prize offered (a Knightian medal) was awarded to Mr. Ivery, whose sorts were Autumnus, buff, with a brown centre; Sacramento, a very handsome variety—bright yellow, with a brown eye; Minon, delicate pink, with a brown centre; Hendersonii, pure yellow; Argentine, white; and Surprise, pink, with a brownish centre. Messrs. Henderson had one named Solfaterre, very like Sacramento, but perhaps larger; Ranunculus, pink; and a brown kind named La Liliputienne. The rest were not different from those above enumerated. Among Messrs. Chandler's plants was one named Le Nain Bé-Bé, a small pink sort, with a faint scent like Violets, certainly a rare occurrence among Chrysanthemums. Other matters of special exhibition consisted of Alpine Strawberries and Celery; but the new regulations appear to have taken gardeners somewhat by surprise, for both these subjects were poorly furnished. Of Strawberries there was only one dish of the White Alpine, for which a Banksian Medal was awarded to Mr. Chapman, gr. to J. B. Glegg, Esq. It was stated by Mr. C. that his plantations were now wholly confined to the white sort, which is not found to be so attractive to birds as the red variety. The same exhibitor also received a Certificate of Merit for three heads of the Withington Red Celery, a good firm kind, and certainly superior to Mr. Newton's exhibition of Nutt's White, which was coarse, soft, and dirty. Foremost among other subjects must be mentioned an exhibition of 12 young plants of Æschynanthus splendidus from Messrs. Lucombe and Pince, of Exeter. These were objects of universal admiration, their clusters of brilliant fiery red coloured flowers, numbering from 8 to 10 in a head on each plant, producing a striking effect. They appeared to have been the flowering tops taken off early this autumn, struck and grown in 3-inch pots; and certainly they richly deserve the Knightian Medal which was awarded them.—Of Orchids Messrs. Weeks and Co. sent the sweet-smelling Maxillaria picta, Zygopetalum crinitum, and the Birds'-bill Oncid (O. ornithorhynchum). Messrs. Veitch produced Calanthe vestita, a lovely late-flowering species with large white blossoms having a red eye; a charming example of Vanda cærulea, which is found to be better coloured when grown on the "cool system," and a plant named Cinchona condaminea, to which, however, it bore no resemblance. A Banksian Medal was awarded for the two first-mentioned plants.—Some Pine-apples were shown. Mr. Dodds, gr. to Sir J. Cathcart, Bart., produced two beautifully-ripened Queens, each weighing 4 lbs. 6 ozs.; and Mr. Fleming, gr. to the Duke of Sutherland, at Trentham, had three fruit of the same sort, weighing respectively 4 lbs. 14 ozs., 4 lbs. 6 ozs., and 4 lbs. 6 ozs.; the heaviest of these was perhaps scarcely ripe enough, but all of them were beautifully-formed fruit, with very small crowns. Mr. Chapman, gr. to J. B. Glegg, Esq., furnished a capitally-swelled and ripened Black Jamaica, weighing 4 lbs. 1oz., and a smooth-leaved Cayenne 6 lbs. 4 oz. The latter was an extremely handsome example of this kind of Pine, which is not so much cultivated as it deserves to be.—Grapes, both Muscat and West's St. Peter's, well grown, but very unripe, came from Mr. Martin, gr. to Sir H. Fleetwood, Bart., of Hill House, Winkfield, Berks.—A nice collection of Citrons was furnished by Mr. Pyper, gr. to E. St. Vincent Digby, Esq., of Minterne, Dorchester. It consisted of Mandarin Oranges, the produce of a second crop this year, the first being ripe in August last; some very large Madras Citrons, a sweet Lime, and fruit of the Cédratier de Salo, a thick-rinded Citron, which is not eatable, but which is valuable for its perfume. A Banksian Medal was awarded for these.—Col. Salwey exhibited an "Apricot Peach," reported to be a hybrid between an Apricot and a Peach, and to partake a little of the flavour of both. The tree had been raised at Egham Park from a stone brought from Florence, where the fruit of this variety is much esteemed. It was stated, however, to be nothing more than one of those yellow Clingstone Peaches which are common in the North of Italy, and which are not generally cultivated in this country, because our summers are too short and sunless to give them the proper flavour. The same gentleman also showed half-ripened spikes of the large yellow Italian Millet (Panicum italicum), which is used by the Germans and Italians as an article of food.—Though not a day on which Peas were specially invited by the Society, nevertheless three exhibitions were produced, all of them excellent. Mr. Burns, of Chevening, who it will be remembered gained the prize for Peas last time, sent Shilling's Grotto as good as before, showing that under favourable weather there is no difficulty in keeping up a supply of green Peas to a very late period. Mr. Muirhead, gr. to Lord C. Wellesley, at Conholt Park, furnished a large trayful of Early Frame, young and good; and Mr. Harley, gr. to the Duke of Leeds at Hornby Castle, in Yorkshire, showed 50 pods of Knight's Tall Marrow in good condition. These were all perfectly free from all traces of mildew.—Of Turnips, Mr. Chapman, gr. to J. B. Glegg, Esq., sent examples of the orange jelly variety, advertised some time ago in our columns. It was raised by Mr. Chivas, of Chester, and is certainly a Turnip of most excellent quality, the skin being thin and smooth, and the pulp solid, sweet, and good. As to its growth, it was stated that Mr. Chapman sowed some seed on the 27th of May, and had Turnips in high order for table by the 7th of July. (Tested in the kitchen this was found to be everything that the best kind of Turnip should be.)—A drawing of Hibiscus Rosa sinensis, executed by Miss Elizabeth Stone, of 66, East-street, Brighton, was shown by the Duke of Marlborough.—From the Society's garden came plants of the lovely Veronica Andersonii, a bright red-coloured hybrid Begonia raised between manicata and cinnabarina, the little Cochlearia acaulis, four Pompon Chrysanthemums, some ½ tree or Perpetual Carnations, which are very useful conservatory greenhouse plants at this season; fruit of the Duchesse d'Angoulême, Styrian, Beurré Diel, and Belmont Pears, and the following vegetables, viz., Walls' Early White Celery, which was better than any of the other sorts exhibited; Early Ulm Savoy, an excellent sort now pretty well known; two specimens of the Blue Winter Kohl Rabi, a good garden kind; Flanders and Lettuce-leaved Spinach, noticed at page 695; and ripe examples of the large Spanish Capsicum, a sort somewhat resembling a Tomato, and sweet and agreeable, being devoid of nearly all that pungency which is peculiar to other Capsicums. They had been ripened in Mr. Ewing's glass walls, where the plants had been for the last two months.

LINNEAN, *Nov.* 2.—The President in the Chair. A collection of dried specimens of the Flora Lusitanica, was presented by Dr. Welwitsch. A collection of plants collected at Moreton Bay by Mr. Strange, was presented by Mr. Pamplin. Dried specimens of Dædalea gibbosa, from Tapley Wood, were presented by Dr. Robert Dickson. A collection of Lichens and Mosses from Orilla, Canada West, was exhibited by Mr. S. Stevens. Amongst them were some fine specimens of the Tripe de Roche, a species of the genus Gyrophora, which is interesting, on account of its having been employed as food in one of our arctic expeditions. The secretary read a continuation of Mr. Henfrey's paper on the development and germination of the spores of Ferns. The part read was confined to criticisms on the observations of Suminski, Hoffmeister,

and others. The author believed that Suminski had to a certain point observed correctly, but that where his observations were necessarily imperfect, he had drawn largely on his imagination. He thought Suminski essentially wrong in supposing that the spermatozoids entered the pistillidia, and became the young plants. —The chairman drew the attention of the meeting to a proposed alteration in the bye-laws, which was necessary, in order to give the Society exemption from the payment of rates.

Books Received.

Linnæa, Vol. VIII., Part 6.—This part concludes the volume. It contains papers by Hampe on the Hepaticæ of Oersted, Bentham on Hohenacker's Nilgherry Leguminous and Acanthaceous plants, Schlechtendahl on the garden plants cultivated at Halle, in Saxony, and on the genus Anguria.

Hughes's Australian Colonies (Traveller's Library, Parts 1 and 2; Longmans) is a popular account of the history and present condition of New South Wales and its dependencies. The historical part is so superficial as to be useless, and would have been better omitted; the actual condition of the colonies is scarcely detailed enough to answer the purpose of the general inquirer; as for the account given of the vegetation of this singular corner of the world, the quality of the author's information may be judged of from his statement that the "fruit called five-corners is produced by a beautiful species of Fuchsia after the fall of the blossom," and that the native Cherry has the stone adhering to the outside. Such absurdities were natural enough among the ignorant people who first colonised Australia, but are not very creditable to a "late professor of geography," by which title Mr. Hughes is announced to the public. We presume that the author has no personal knowledge of the country he writes about, but has picked up from books the farrago of scraps which are strung together in the work before us.

Waverley Novels, Vol. VI. (Black's Library Edition) —contains the "Legend of Montrose" and "Black Dwarf," brought out in the same beautiful style as its predecessors. The illustrations are a portrait of the "Great Montrose," and Annot Lyle, soothing the fit of the madman Allan McAulay, a sweet design by F. Stone.

Ledebour's Flora Rossica, Fasc. XIII, advances from Cyperus to Alopecurus. It is announced that the next No., completing the work, and containing an index of the whole work, will appear in the course of the year.

McIntosh's Book of the Garden, Part VIII. (Blackwood)—contains a view of the conservatory at Syon House, and of a beautiful-looking range constructed by Turner, at Killikee, together with a design for an architectural flower garden, and a considerable number of woodcuts. The matters treated of are footpaths, durability of materials, and style in planting flower gardens. We fear that many readers will be perplexed by a profusion of recommendations and a clash of opinions, which Mr. McIntosh does not attempt to harmonise —the great fault of Loudon's Encyclopædia of Gardening. It is also, we think, to be regretted, that such barbarous designs should be inserted as that of an "irregular flower garden," which would be better styled a crinkum crankum crotchet—of which there is a woodcut at p. 578. Upon the whole, however, the book, with all its faults, is a fine book, and will become a standard work of reference.

Garden Memoranda.

Minterne House, the residence of E. St. Vincent Digby, Esq., is beautifully situated nearly half-way between Dorchester and Sherborne. The park is abundantly wooded, and possesses bold and abrupt undulations; numerous species of rare Conifers have attained such magnitude as proves satisfactorily that the situation is at least eligible for their growth. The grounds around the mansion are richly decorated with masses of flowering plants, interspersed here and there with rare shrubs and Conifers, the Cryptomeria japonica and Cupressus sempervirens growing here with marvellous rapidity, assuming quite the character of trees. The gardens are only of limited extent, but they contain enough both of the useful and ornamental to interest all who delight in such establishments. Our main object at present, however, is to direct attention to the fine collection of tropical Orchids, which are cultivated here with surprising success. The Orchid-house is a rather small span-roofed erection, but it is literally crammed with magnificent specimens of the best kinds. Mr. Digby is himself intimately acquainted with this lovely tribe, to which he has paid much attention; and those versed in their nomenclature will have no difficulty in seeing on whom the honour "Digbyana" has been conferred. The following are the names of a few of the specimens which struck us as being particularly fine, viz., Aerides odoratum, with 36 spikes; A. crispum, large, healthy, and good; A. virens, exceedingly vigorous; A. affine, two glorious specimens, one with 13 spikes of bloom on it; Dendrobium densiflorum, a large plant, flowering the second time this season; D. Devonianum, with shoots 3 feet long; D. chrysanthum, very large, and just coming into flower; D. formosum, a grand plant, in bloom; D. sanguinolentum, a splendid plant, coming into flower; D. Paxtoni, very fine; three glorious specimens of Saccolabium (præmorsum, Blumei, and guttatum), together with Phalænopsis grandiflora, a beautiful plant; Vanda teres and insignis, and two large examples of Cattleya Mossiæ and crispum. Associated with these were also Epidendrum Stamfordianum, a large plant; Renanthera coccinea, a fine specimen which blooms freely every year; and Oncidium papilio grandiflorum, which is always in blossom. The above are only a few specimens in a very unique collection in admirable health, evidently showing that Mr. Pyper, the gardener, thoroughly understands their management. The house was enriched with the Vanilla covered with pods, Allamanda cathartica trained over the pathways, loaded with flowers; and a noble Citron, with immensely large fruit at one end, furnishing altogether an interesting and pleasing variety. Plants like those last-named break the sameness which usually prevails in an Orchid house, and give it a novel and more natural character than can be produced by Orchids alone. *G.*

FLORICULTURE.

Gaines's Prince Arthur Dahlia.—I may perhaps be permitted to add to Mr. Wood's statement respecting this Dahlia, that it is a red flower of good form, and has a very dwarf stiff compact habit, throwing its blooms well up above the foliage. To lovers of this class of flowers I have no hesitation in saying it will prove an acquisition, as well as to those who have much bedding out, and who have objected to the Dahlia in consequence of its height. I saw a row of this variety, when a two-year-old seedling, at the Surrey-lane Nursery, and I must say it surpassed everything in that way I had ever seen. There was scarcely a plant of it 2 feet in height. Although not quite a companion in shape to Princess Radziwill, a flower that has stood the test of seven years' competition, yet I think Prince Arthur will become equally as great a favourite in the flower garden as the Princess still is at our floral exhibitions. *E. Bennett, Perdiswell.*

Dahlias, Fuchsias, and Pelargoniums.—I, too, was struck with the remark in your Calendar (p. 680), "our Dahlias are all out of the ground," as up to this time not one of mine is injured by the frost. A short time ago a polite neighbour informed me that I was welcome to some Fuchsias growing in a garden of his. I started off, not with a flower-pot and garden trowel, but with a horse and cart and two men to bring away one of them! On arriving at the garden I directed the smallest to be taken up, but I was obliged to obtain the assistance of two more men to get the plant out of the hole, and it was with great difficulty that it was got up into the cart. The sort I believe is Riccartoni, and is perfectly hardy here. In the garden adjoining where I had this plant from, are, I should imagine, some of the largest specimens in England; they are planted in the ground about 12 feet apart, near a south wall; the plant I brought away had only been planted seven years. I have had Foquett's Magnificent Pelargonium in bloom, in a 4-inch pot, since June to the present time, out of doors, and it is likely to continue in flower some time longer. A short time back I counted 83 pips on it at the same time. *H. D. C., Isle of Purbeck, Nov.* 2.

Double Balsams.—Four years ago I exhibited, at the Norwood Floricultural Exhibition, a collection of 12 distinct varieties of Balsams, and was awarded the head prize. The plants were greatly admired for their size and compactness; they were grown on a dung bed in the open air, their leaders having been stopped, and their lower shoots tied down to the edge of the pots, similar to the way in which our large Pelargoniums are grown for exhibition, which gives them decidedly the best effect. The blossoms were likewise very superior and double, which led many to ask for a little seed; how great, however, was their disappointment the following season, when, instead of the beautiful rosette so anxiously looked for, they found merely a semi-double blossom, which they could not believe belonged to the varieties I had shown. I myself have also sown seed from the same plants every year since, up to the present time; but I have never had any to equal those above adverted to, although they are far superior this year to those of the two former seasons. I have a collection of them in bloom in the plant stove at the present time that looks exceedingly gay, and many of the flowers are very good, though only grown in 3-inch pots. I have no doubt that the seed sown next season will bring them quite up to the standard of those exhibited by me at Norwood. I think this goes to prove that the older the seed is the more double the blossoms become. *Worcesteriensis.*

The Mimulus.—As I have for many years extensively cultivated the Mimulus when few other individuals considered it a flower worthy of notice, I am gratified to perceive that it is now coming into favour. In order to second Mr. Bennett's suggestion, that a prize be offered at Chiswick for the Mimulus, I beg to observe that if six or more subscribers of 10*s.* each are willing to support this object, I shall be most happy to form one of them—further, I will present plants of three new and first-rate varieties to the individual who takes the leading prize, with the understanding that if he be a florist, I will not distribute the same varieties except amongst my private friends. *A. Clapham, Scarborough.* [This could only be done by permission of the Council of the Horticultural Society; and we fear would even then end in disappointment, the flowers of Mimulus being too apt to fall off in carrying.]

Auricula: *A. P.* The following will possibly suit you:—Green-edged: Apollo (Beeston), Apollo (Hadden), Champion (Page), Colonel Taylor (Leigh), Duke of Wellington (Dickson), Freedom (Booth), Imperator (Litton), Lord Lyndoch (Lightbody), Lovely Ann (Oliver), Matilda (Dickson), Prince of Wales (Ashton), Sir John Moore (Lightbody). Grey-edged: Britannia (Hedge), Complete (Sykes), Conqueror of Europe (Morris), Conqueror of Europe (Waterhouse), Duke of Cambridge (Dickson) Lady Jane Grey (Dickson), Lancashire Hero (Cheetham), Ne plus ultra (Fletcher), Privateer (Grimes) Ringleader (Kenyon), Stafford Hero (Headley), Surprise (Buckley), Unique (Dickson), Unique (M'Lean). White-edged: Catherina (Summerscales), Countess of Wilton (Cheetham), Crucifix (Clegg), Fair Flora (Lightbody), Favourite (Taylor), Glory (Taylor), Incomparable (Taylor), True Briton (Hepworth). Selfs: Admiral of the Blues (Lightbody) Apollo (Dickson) Jupiter (Kaye), Lord Primate (Berry), Mrs. Smith (Smith). Metropolitan (Redman), Ned Sud (Scholes), Nonsuch (Barker). Othello (Netherwood).

Catalogue received from Mr. C. Rogers, Uttoxeter, Staffordshire.

Pelargoniums: *Tom Thumb.* The air of your house, we suspect, is the cause of the evil; but the leaves supply no evidence upon the subject.

SEEDLING FLOWERS.

Carnations and Picotees: *A. T.* No time is better than the present, as growers will have much of their stock now established sufficiently for sending out in pots. We will endeavour to answer your other query next week.

Dahlias: *N G, Battersea* It is now too far advanced in the season to be able to speak with certainty respecting the merits of your flower; and we should be sorry to condemn a variety that, when in true character, might prove desirable. You may, therefore, perhaps think it worth while to send us blooms again next year. The colour, a brilliant golden yellow, is much wanted.

Miscellaneous.

In-door Plants.—As the plants are placed in or near windows, there is no injurious deficiency of light; but as it comes to them most intensely on one side, they should be half turned round every day, that their heads may have a uniform appearance, and the leaves be not turned only in one direction. If the window faces the south, the intense heat and light should be mitigated during the mid-day of the summer months by lowering the blind. Whenever the out-door temperature is not below 34°, the plants will be benefited by having the window and door of the room open. They cannot have too much fresh air at any season of the year, if they are not grown under a Wardian case; for the exterior air always contains a due proportion of moisture, whilst the air of a room is as invariably drier than is beneficial to the plants. A due supply of moisture in the air, as well as in the soil, is absolutely necessary to our room plants. To obtain this in the best available degree, little porous troughs, constantly filled with water, should be kept on the stand among the pots; and the saucers of the pots themselves, if made according to Hunt's plan, may always have a little water remaining in them. The application of water to the soil requires far more attention than it usually receives. Room plants mostly are the *protegés* of ladies, who administer water with their own hands; and so long as the novelty and leisure prompt to this attention all goes well; but no room plant ever existed, perhaps, which was not, at some period of its life, left to the tender mercies of a housemaid, with the frequent usual consequences of a deluge of water, cold from the pump, after the roots had become heated and parched by days of total abstinence. Plants so treated cannot flourish. The water should be allowed to stand in the kitchen for some hours before it is applied to the plants, so that it may be as warm or warmer than the soil to which it is to be added. It may be given in dry, hot weather, every second day, and in such abundance as to pass slightly through the earth into the saucers. *American Gardeners' Chronicle.*

The Caiota (*Sechium edule, or Sicyos edulis*).—This interesting and valuable plant was introduced to St. Michael's, from Madeira—I believe it to be the Sechium edule, of Jamaica. It is perennial, and from October to February bears abundance of its delicious culinary fruit. It is esteemed by the Portuguese beyond their native Cabbage, and that speaks volumes in its favour. The substance of the Caiota is much firmer before and when cooked than that of the Vegetable Marrow; its taste partakes of the flavour of Asparagus and Cauliflower. In my opinion it is the most delicate vegetable I have ever eaten. So much is it esteemed by the Portuguese, that they think the English cannot fail to like it, and are making attempts to export it for the London market, as it will keep in a fresh state a long time. I think it could be easily cultivated in England; growing, as it does, through the summer months, and producing its fruit at a cold season, it would merely require protecting from the frost. Yielding its fruit at a time when vegetables are usually scarce, it would be invaluable to gardeners, and a great addition to the dinner-table. The Caiota attains the weight of 2 or 3 lbs., delights in a rich soil, and will grow trailing on the ground in the same manner as the Vegetable Marrow; but the approved way of cultivating it by the Portuguese is to plant it against, and allow it to run over, a high wall. It will bear pruning to any extent. The fruit of the Caiota has a rugged, roundish form, of a pale yellow colour, and somewhat resembles the fruit of the Shaddock; the pulp is pure white. *Wallace, in Journal of Horticultural Society.*

Use of Tomatoes and Elderberries.—In reply to an inquiry whether green Tomatoes can be applied to any useful purpose, I may just state how they have been used in my mother's family for several years past, and thought to be very good. As late in the season as we can obtain a sufficient quantity of ripe Tomatoes and green ones together, we make them into a jam, by using two parts of Tomatoes (after the skins have been taken off) to one part of molasses or wet sugar, and stewing them together till sufficiently done to keep

—say an hour or more. If the weather should be very warm after the jam is made, it may need heating over. We generally use more ripe Tomatoes than green ones in this way, as we take part of the green ones for making sliced pickles similar to the "Indian pickles," except that we put with the sliced Tomatoes nearly an equal quantity of Cabbage cut fine, and use less Onion. For both jam and pickles we frequently use the Tomatoes after they are somewhat frost-bitten. Elderberries are very good when dried, mixed with a small quantity of dried Currants or some other sour fruit. In preparing them for use, they require but little stewing, and should have a teaspoonful of flour moistened and stirred into them just before they are done, to thicken them a little. Vinegar is sometimes used instead of sour fruit, but it is not so good. *Ohio Cultivator.*

Calendar of Operations.

(For the ensuing week.)

PLANT DEPARTMENT.

As the display of flowers in the open air is nearly over for the season, endeavour to make the conservatory as attractive as possible; more particularly, as it will prove an additional source of enjoyment to those who cannot take out-door exercise. Fires by night will be requisite; but regular admissions of air should be kept up, both to keep the house moderately dry and the atmosphere in a pure healthy state. Chrysanthemums should be introduced as they come into bloom. Early-flowering Camellias (a few of the earliest started), Orange trees, Daphnes, and Epiphyllum truncatum will be in bloom, and will form an agreeable addition to the stove plants yet remaining. Great care should be taken to provide sufficient ventilation at this season both to stove and greenhouse plants during damp weather; and artificial heat, even in greenhouses, will perhaps be necessary to dry up damp, and to permit a free ventilation by day. It should, in fact, be a point to get the wood of hard-wooded plants ripened as soon after this as can be done, even by the help of fires, as it will save a great amount of after trouble and loss during the ensuing winter; use the sulphurator freely whenever indications of mildew appear, which will not be very troublesome if the directions above are acted upon; in addition, keep every part of the houses clean, and frequently wash the glass to admit every ray of light, which at this season is invaluable. Advantage should be taken of wet weather to thoroughly wash infected plants. Water at a temperature of 130° will prove sufficient to kill most insects; with others, a lather of brown soap and a little tobacco-water may be necessary. Pelargoniums, if pot-bound, should be potted at once, or they will lose their lower leaves. Keep the fancy kinds, however, rather under than over potted, and allow them the warm end of the house.

FORCING DEPARTMENT.

To produce good crops of forced fruits in early spring is an important part of a gardener's duties, requiring unremitting attention during the worst period of the year. Where Grapes, Peaches, Pines, &c., are in demand early, the houses by this time should be put in a state of good repair, and the heating apparatus in working order. The outside borders likewise of Vineries and Peach-houses will be protected from frost and heavy rains (for which, see last Calendar). In addition, if our previous directions on obtaining sound ripened wood have been followed out, and a sufficient period of rest been allowed, the principal difficulties to success are over, and the routine of cultivation, which will be detailed in future Calendars, will carry out the forcing to a satisfactory result. We have before stated that the successful forcing of fruits depends more on a good preparation the preceding year than on subsequent treatment, and we again beg to impress this on our readers. In commencing forcing at this period it should not be forgotten that fruit trees are started into growth with greater difficulty now than later in the season (especially such as have not been previously forced), from the comparative short period of their rest; and allowance must be made for this, in determining the time for commencing. In all cases (excepting tropical fruits) artificial heat must be very sparingly applied at first starting; endeavour to get the buds into action by a slow but progressively rising day temperature, assisted only on dull days by fire-heat, and, unless in the case of frost, doing without fires by night; by these means the buds will break strongly and regularly, and the prospect of a crop be materially advanced.

FLOWER GARDEN AND SHRUBBERY.

The state of the autumn-struck cuttings should be ascertained, and wherever indications of damping appear remove the pots to drier quarters; give air liberally to young plants in pits and frames. Scarlet and bedding-out Geraniums should be kept in houses where fires can occasionally be lighted, by which they will grow freely through the winter; as the Vineries are cleared of Grapes fill them (unless they are required for other things) with the more choice things; reserving the pits and frames for Calceolarias, Lobelias, and similar plants, not suffering equally from cold and damp. Wherever alterations are in progress lose no time in completing the transplanting of evergreens, the present mild damp weather being favourable for their removal. As soon as the greater part of the leaves is off the trees let the pleasure-ground be thoroughly cleaned and swept; the leaves (if of sufficient quantity) should be stacked up for forcing purposes, covering borders, and the like. Such parts of the lawn as are contiguous to the mansion should be swept daily, to remove leaves and worm-casts, and the gravel-walks frequently rolled to preserve a smooth surface. The present is a good time for re-arranging the herbaceous ground, which is rendered necessary every two or three years, by many of the free-growing kinds getting too large. Let the borders have a dressing of well rotted cowdung before replanting, especially for Phloxes and other strong-rooted genera.

FLORISTS' FLOWERS.

Dahlias, whose foliage had been previously frost-bitten and not then taken up, will be found to have started again at the collar. This we do not like, and to avoid it we generally consider it good policy to lift ours when the foliage is black. We do not reside in the sunny clime of Devon, therefore we cannot cut flowers when the roots of our brother florists are out of the ground; but wherever the locality may be, the destruction of the foliage must be the amateur's guide, whatever "calendar makers" may say. Tulips ought now to be planted. Various stocks are kept out late for the purpose of supplying customers, but our readers must bear in mind that every day out of the ground now is detrimental to the bulb, and, consequently, to the bloom. Many florists have delayed their purchase, to the present moment, of choice Carnations and Picotees. To these we would say, do not buy now unless in pots. All the best cultivators have had their most promising layers well established a month ago; from such plants as these the best flowers may be reasonably expected, instead of from layers without a particle of soil, and little more root attached, which we, to our cost, have often received. If Hollyhocks are to be planted this autumn it should immediately be done. Pinks and Pansies had better be let alone, unless great care can be given them; and, as a finale, we would suggest that everything connected with floriculture, previous to being laid aside, should undergo a thorough "overhauling." There are Dahlia-caps, handglasses, Carnation sticks, &c., which should be put in thorough working condition, so that little care during the winter need haunt the florist's mind.

KITCHEN GARDEN.

Carrots and Parsnips having finished their growth should be taken up and stowed away for use. Throw some fine earth among them in the pit, to keep them plump and fresh. A part of the Parsnip crop may remain in the ground longer, if other work intervene. Go over the winter Spinach with the hoe on a dry day, and follow with a dressing of soot; this useful winter vegetable requires strong stimulating manures to grow it in perfection in winter. As Cauliflowers are easily damaged by frost, go over them frequently and tie the leaves over the advancing heads; a portion of the less forward may be removed to spare pits or frames, to succeed; or laid in deeply in a sheltered place, with their heads inclining to the north, to be protected with straw or mats in frost. Clear the ground of crops as they go out of use, and trench or dig over roughly immediately. Cauliflowers under glasses and in frames may now have air freely. Attend to the preparation of Rhubarb, Seakale, and Asparagus for forcing; for directions, see p. 680. Pot a supply of Mint, Tarragon, Burnet, and Sorrel for winter use.

STATE OF THE WEATHER NEAR LONDON,

For the week ending Nov. 4, 1852, as observed at the Horticultural Gardens, Chiswick.

Oct. and Nov.	Moon's Age.	Barometer.		Temperature. Of the Air.			Of the Earth 1 foot deep.	Of the Earth 2 feet deep.	Wind.	Rain.
		Max.	Min.	Max.	Min.	Mean				
Friday.. 29	16	29.742	29.463	50	40	45.0	46	46	S.W.	.22
Satur... 30	17	29.650	29.595	59	48	53.5	46	46	S.W	.14
Sunday . 31	18	29.813	29.585	61	44	52.5	46	46	W.	.00
Monday 1	19	29.773	29.675	62	57	59.5	49	48	S.	.02
Tues. .. 2	20	29.620	29.538	60	48	54.0	51½	49½	S W.	.61
Wed. .. 3	21	29.748	29.658	56	32	44.0	51½	49½	S W.	.16
Thurs... 4	22	29.840	29.689	60	44	52.0	50	49	S.	.01
Average....		29.741	29.600	58.3	44.7	51.5	48.5	47.7		1.16

Oct 29—Clear; overcast; rain at night.
— 30—Partially overcast; densely overcast at night; rain.
— 31—Clear and fine; bright sun; overcast.
Nov. 1—Un formly overcast; drizzly; slight rain.
— 2—Rain; constant heavy rain; clear at night
— 3—Clear; exceedingly fine till noon; heavy rain.
— 4—Foggy; large white clouds; fine; overcast; slight rain.
Mean temperature of the week, 5 deg. above the average.

STATE OF THE WEATHER AT CHISWICK,

During the last 26 years, for the ensuing week, ending Nov. 13, 1852.

Nov.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 7	62.5	41.8	53.6	15	1.02 in.	—	2	2	3	4	9	3	3
Mon. 8	60.7	43.2	51.9	14	0.38	1	3	1	2	2	9	4	4
Tues. 9	59.7	44.0	51.8	11	0.24	1	1	3	2	4	8	3	4
Wed. 10	61.0	44.3	52.6	12	0.33	2	3	1	4	5	8	1	2
Thurs. 11	62.3	44.2	53.2	13	0.76	2	3	4	—	5	9	1	3
Friday 12	60.9	43.2	52.0	12	0.40	2	3	3	1	3	6	6	2
Satur. 13	59.9	42.7	51.3	15	0.66	2	5	3	1	5	4	3	3

The highest temperature during the above period occurred on the 12th, 1841—therm. 63 deg.; and the lowest on the 12th, 1843 - therm. 21 deg.

Notices to Correspondents.

Beet-root: *Reader.* The only way of keeping it over the summer months is to store it away in some cold dry place, and keep it from growing.‡

Campanula Vidalii: *J M.* Treat it like a Pentstemon, except that it must be guarded from frost in winter.‡

Conifers: *S.* Those you name will thrive perfectly well on either of the aspects you mention.‡

Copings: *X M.* For kitchen-garden walls, the best materia for the permanent coping is stone, which should project 2 inches, with a groove or *throating* underneath. Temporary copings of boards against spring frosts should not be less than 9 inches wide.‖

Frigi Domo: *Z.* This substance is a sort of canvas made of coarse wool. We have not experience enough with it to say whether it is in all respects a good substitute for mats, but we believe it to be a much warmer material, layer for layer.

Heating: *W P H.* We doubt much whether your plan of glazing will answer. At all events it is awkward. Imbedding glass in Portland or any other kind of cement is contrary to all the principles of glazing, which require that the glass should be easily removed if broken, or for any other reason. We see no objection to the tank; but you will find fine cinders a better plunging material than sawdust, unless it is charred.—*J C B.* You may heat your sitting-room with hot water in lead pipes, if you do not melt the lead by the fire.‡

Insects: *A B C D.* Female moths will deposit eggs previous to an intercourse with the male, and such eggs are occasionally prolific; but whether the progeny produced in this manner is capable of continuing its kind (as in the Aphides) has not been observed. The male vapourer moth flies in the sunshine by day.—*X Y Z.* Your Vine twig and leaves are attacked by young insects of the Vine coccus; washing the trees with hot water is the best remedy. *W.*

Kew: *** Excuse our saying that we cannot concur in the opinion you express. On the contrary, we believe that the course you suggest would be ruinous to this great, and, permit us to add, admirably-managed establishment. Had you any experience in such institutions, you would know, what you do not seem to be aware of, that blemishes are to be found everywhere, especially by those who use magnifying glasses when they seek for faults. It does not appear from your letter that you have any better claim to that which you require than any other of the 200,000 persons who last year visited the garden.

Mealy Bugs: *O L.* The address is, Percy Cross Nursery, Walham-green, Fulham.

Mustang Vine Stocks: *Houston, Texas.* We will answer you privately; in the meanwhile we should be greatly obliged for a supply of the stocks.

Names of Fruits: *C E W R.* 1, Comte de Lamy; 2, Althorp Crassane; 5, Louise Bonne (of Jersey); 7, 37, 42, 71, 113, 116, Passe Colmar; 8, 118, Vicar of Winkfield; 12, 20, 105, 115, 117, 126, Easter Beurré; 13, Bezi de la Motte; 14, Winter Nelis; 17, Suffolk Thorn; 18, 29, 35, 56, 58, 59, 62, 64, 65, 82, 83, 120, Glout Morceau; 21, 19, 41, 110, Marie Louise; 22, 25, 40, Easter Bergamot; 27, Uvedale's St. Germain; 30, Swan's Egg; 32, 75, Brown Beurré; 33, 76, Autumn Bergamot; 34, Ormskirk Bergamot; 53, 106, Beurré Diel; 43, Poire de Vigue; 46, 124, Rhenish Beauty, it ought to have been gathered earlier; 47, 106, Duchesse d'Angoulême; 48, 68, 104, Winter Nelis; 54, Napoléon; 51, 60, Beurré Rance; 52, Beurré de Capiaumont; 55, Aston Town; 66, Buchanan's Spring Beurré; 67, Old Colmar; 73, Black Achan; 107, Ne Plus Meuris; 109, Autumn Colmar; 111, Napoléon.‖—*W W D.* Your Pear is not known at present; it is probably a seedling, and will be again examined when nearer maturity.—*E F.* 1, Williams' Bon Chrétien; 2, Ormskirk Bergamot; 3, Autumn Bergamot; 4, Beurré d'Aremberg.‖

Names of Plants: *F.* Nerine rosea.—*E M F.* Salvia pulchella.—*A K.* Asplenium Ruta muraria.—*W Wood.* Veronica salicifolia.—*F and J D.* Celosia aurea, a very old plant, unwisely neglected.—*P P.* We do not recognise the leaf.—*Mary.* Gorteria rigens.—*P S.* Such shrivelled morsels cannot be named. If you have a tank in your stove your blue Water Lily should be removed there in winter. Your greenhouse cistern is too cold for it.

Pinery: *P P.* One rod of Vines up each rafter. White Muscat and Frontignans will stand the heat.

Stucco: *Kenton.* Is it really a fungus which grows out of your stucco? we apprehend some mistake. If you will favour us with a sight of the "fungus," we shall perhaps be able to suggest a remedy; supposing it to be a vegetable production.

The Potato: *T H.* When you have seen as much evidence relating to this as we have, you will probably change your opinion. The question is not what may happen here and there, but what happens on the average. We admit, however, that the communication you refer to was inserted inadvertently. You know the proverb—"When the cat's away, the mice play."

Transplanting Apple Trees: *A Country Rector.* In removing and transplanting rather large well-established Apple trees, prepare a hole large enough to admit of the roots being spread out at full length. Remove as much of the top soil as is possible without injuring the roots, and dig a trench 3 feet wide beyond the extremities of the latter, and deeper than they are, with the exception of, perhaps, obstinate tap-root. This clear trench will afford space for properly undermining the roots, and removing the soil from amongst them with a fork. The fibres should be tied in parcels with matting, so as not to be injured whilst the operation is going on. Place the tree in its new quarters as deep as it was before, and so as the roots, when spread out regularly, may slope a little downwards; introduce some fine soil among them, and water to settle it closely. Provided the trees are guarded, an orchard will not be injured by the admission of sheep. No more air should be admitted into an Apple-room than is absolutely required. Your fruit having kept well in a dark room where neither light nor air is admitted, it is not necessary to alter the conditions.‖

Vinery: *Dick,* Wood is cheaper than iron. We cannot furnish details which can be had from every carpenter. Do not let your glass be more than 1 foot wide; length unimportant; 16-oz. glass is good enough; whether the rough side is inside or outside is immaterial. Black Hamburgh, White Sweetwater, and Royal Muscadine are the best sorts for you. As to the number of plants, you must judge for yourself about that. *In time,* one single Black Hamburgh will fill such a house as yours.

Vinegar Plant: *T D.* The Vinegar-plant is the mycelium of some Penicillium. A piece of it left in sugar and water will change the latter to vinegar.

Young Men's, or Village, Mutual Improvement Societies. It is in contemplation to establish one here; and, having a large national school-room, no difficulty on the score of accommodation can arise. The heads of our plan are these: An evening class for the instruction of adults and youth in reading and writing; readings (with illustrations if necessary) on popular and instructive subjects; a select library of books and periodicals for lending or otherwise; and a cottagers' show of vegetables, fruits, and flowers once a year if practicable; also a music class, which might be available for improving and augmenting the church choir. Our clergy will co-operate with us, and your clerical and lay correspondents would also greatly assist by favouring me with advice, and also with rules and regulations governing old and prosperous societies of a similar kind; and should we, as we hope to do, succeed in elaborating our plan, we, in return, shall be most willing to act as pioneers to others. *John Pearce, Solicitor, Prangley, Heytesbury.*

Misc.: *X Y Z.* The prices of such things are so variable that it is impossible to say what such a plant as that you describe is worth. Everything depends on the demand. Lime water prepared by letting water stand over caustic lime and pouring it off clear, applied continually, will bring worms out of their holes, when they must be collected and destroyed.‡

*** As usual, many communications have been received too late, and others are unavoidably detained till the necessary inquiries can be made. We must also beg for the indulgence of those numerous correspondents, the insertion of whose interesting contributions is still delayed.

PERUVIAN GUANO.

CAUTION TO AGRICULTURISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

ANTONY GIBBS AND SONS, AS THE ONLY IMPORTERS OF PERUVIAN GUANO,

Consider it to be their duty to the Peruvian Government and to the Public again to recommend Farmers and all others who buy to be carefully on their guard.

The character of the parties from whom they purchase will of course be the best security, and, in addition to particular attention to that point, ANTONY GIBBS AND SONS think it well to remind buyers that—

The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 9l. 5s. per ton, less 2½ per cent.

Any resales made by dealers at a lower price must therefore either leave a loss to them, or the article must be adulterated.

THE LONDON MANURE COMPANY offers on the best terms Wheat Manure for autumn sowing, Linseed, Rape Cakes, Peruvian Guano, Urate, Superphosphate of Lime, and every other artificial manure. Also a quantity of Salt, the refuse of ammonia and saltpetre makers, considerably more valuable than the ordinary agricultural salt.

EDWARD PURSER, Sec., Bridge-street, Blackfriars, London.

MANURES.—The following Manures are manufactured at Mr. LAWES's Factory, Deptford Creek:—

Turnip Manure, per ton	...	...	...	£7 0 0
Superphosphate of Lime	...	...	...	7 0 0
Sulphuric Acid and Copperlites	...	...	...	5 0 0

Office, 69, King William-street, City, London.

N.B. Peruvian Guano, guaranteed to contain 16 per cent. of Ammonia, 9l. 10s. per ton; and for 5 tons or more, 9l. 5s. per ton, in dock. Sulphate of ammonia, &c.

PEAT MOSS CHARCOAL.

THE PEAT MOSS CHARCOAL COMPANY are prepared to deliver a superior Charcoal (made expressly for Agriculture and Horticulture, and not divested of any of its chemical properties), at 52s. 6d. per ton.—Apply to MARK FOTHERGILL, Agent, 204, Upper Thames-street.

Linseed and Rape Cake, Peruvian Guano, Gypsum, Salt, and all Manures of known value on sale.

MANURE.

PEAT CHARCOAL, completely saturated with London Sewage, will be found a most effective manure for any crop. It may be obtained from the Sewage Manure Works, Stanley Bridge, Fulham, Middlesex, at 60s. per ton, 4s. per cwt., and 2s. 6d. per ¼ cwt.

"Sewage manure absorbed in charcoal is a first-rate fertiliser; we have tried it on French Beans, Dahlias, Roses, and Cabbage plants; we put half a pint to each Rose and Dahlia, sowed it in the row with Beans, and put a few pinches to each plant of Cabbage. The effect is perceptible very soon, but it will be twice as efficacious the second year as the first."—*The Garden, by Mr. Glenny.*

THE GREAT EXHIBITION, 1851.

AGRI-HORTICULTURAL IMPLEMENTS,

CLASS 9, No. 259.

THE NEW AND UNIVERSALLY APPROVED

PRIZE STEEL DIGGING, MANURE, HAY, MALTING, BULB, HOP, and other FORKS, of one solid piece of Steel, without join or weld. The lightest, most durable, useful, and economical Tools ever invented.

In deep digging and trenching of stony, rocky, stiff clay, and all other lands, these Forks neither bend, strain, nor break, but retain their sharp points to the last, requiring no repairs. For field, garden, yard, and stable use, and in Hop and cane plantations, Vineyards, &c., they exceed the most sanguine expectations.

WINTON AND SONS' STEEL DRAINING TOOLS.—The London new pattern Steel Spades and Shovels do not clog, neither gap nor turn, but retain their sharp cutting edges, even against granite, and will last out four of general make.

Awarded the First Prize at the Royal Agricultural Shows at Dublin, Lewes, Galway, Great Yorkshire, 1852, and at every other place where exhibited.

The noblemen to the labourer, as well as the press, have given their unqualified commendation to these Prize Implements.

From the great increasing demand, all orders will be executed in succession.

Cast and Diamond Steel Spades, Shovels, plantation and other Hoes, cane and hedging Axes, Adzes, Trowels, Ploughshares, Crowbars, &c. Tools made to any pattern or drawing.

Spurious imitations being imposed on the public, it is of importance to observe the brand—"WINTON, DOVE MILLS, BIRMINGHAM," on each warranted Tool.

WINTON and SONS' Syscee and Lima Plate, in every article for the table, sideboard, &c., is solely amalgamated by a practical chemist, one of the firm. Its assimilation to silver itself challenges the strictest scrutiny, and when electro-plated by the patent process, surpasses it in strength and durability. Improved tin-plated Table, Basting, and other Spoons, for kitchen and cottage use.

Merchants, Factors, Shippers, and Exporters supplied.

N.B.—Enclose two postage stamps for a Catalogue and Testimonials, free by post.

Address—WINTON AND SONS, Birmingham.

IRON HURDLES.

STEPHENSON AND PEILL, 61, Gracechurch-street, London; and 17, New Park-street, Southwark, Manufacturers of every description of Iron Fencing, beg to call the attention of Noblemen and Gentlemen to their present prices of HURDLES:—for Sheep, 6 feet long, 3 feet high, with 5 bars, at 4s.; and for Cattle, 6 feet long, 3 feet 3 inches high, with 5 bars, at 4s. 6d. each.

WARNER'S PATENT FARM AND COTTAGE PUMPS.—Cast-iron Pumps, for the use of Farms, Cottages, Manure Tanks, and Shallow Wells.



	£	s.	d.
Patent Pump	1	15	0
Patent Pump, with 15 feet of lead pipe attached, and bolts and nuts ready for fixing	2	10	0

Larger sizes if required.

To Emigrants proceeding to the Gold Regions they will prove to be the most simple, durable, and the cheapest Pump hitherto introduced.

May be obtained of any Ironmonger or Plumber in Town or Country, or of the Patentees and Manufacturers,

JOHN WARNER & SONS,

8, Crescent, Jewin-street, London.

Every description of Machinery for Raising Water, Fire Engines, &c.

WINTON'S PARKES'S CELEBRATED STEEL DIGGING FORKS AND TOOLS are universally approved of. They facilitate labour 20 per cent. They have received the Silver Medal at Lewes, Dublin, Galway, Sheffield, and other places. Anthony's Patent American Churn has received the prize at every one of the numerous agricultural meetings where it has been shown. The Royal Agricultural Journal, p. 41, says, "This form of churn is the best for churning sweet cream, and will undoubtedly produce butter from milk or cream, in any form, in much less time than any churn that has yet been introduced." Pumps for manure and watering gardens. Mr. Mechi has one working admirably. These pumps are cheap, durable, and effective. Gutta percha tubing, bands for machinery, hose for pumps, and an assortment of prize and the best farm implements. Price catalogues sent on application.—BURGESS and KEY, 103, Newgate-street, London, agents for M'Cormick's American Reaper.

SEED WHEAT.

PAYNE'S DEFIANCE REVITT OR BEARDED WHEAT, which gained the prize medal at the Great Exhibition, and is also highly spoken of in Professor Lindley's lecture upon "Substances Used as Food," is offered to Wheat-growers by H. PAYNE with confidence, more especially after the many flattering letters that he has received of its merits as to produce, quality, and its being less liable to blight or mildew. The above Wheat was raised from a single ear, and has been grown with great success for six years. Testimonials from farmers and millers from different parts of the kingdom can be obtained by applying to Mr. H. PAYNE, Birdbrook-moat, near Halstead, Essex. Price 32s. per coomb of four bushels (sack included), and delivered at the Audley-end Station, Eastern Counties Railway. All orders of not less than one coomb, accompanied by a remittance for the amount, will be punctually attended to; or by Post-office order made payable to HENRY PAYNE, at Halstead, Essex.

H. P. has also a very true stock of Browick Red Wheat to dispose of, at 28s. per coomb, which he thinks the best Red Wheat grown.

HITCHIN AND HOME COUNTIES DOMESTIC POULTRY ASSOCIATION.—OPEN TO ALL ENGLAND.

The First Annual Exhibition of this Society, will be held at Hitchin, on the 20th, 22d, and 23d of NOVEMBER, 1852, when Prizes amounting to upwards of 80l. will be offered for public competition.

Hitchin is a first class station on the Great Northern Railway, 30 miles from London; at which Station is a junction with the Cambridge and Eastern Counties Railway. Regulations and Prize Lists may be had on application to the Secretary, by inclosing two postage stamps. Entries for Exhibition close on the 6th of NOVEMBER. Admittance to the private view on Saturday, November 20th, by a 5s. Ticket (not transferable), which will be available for the three days of Exhibition. And on Monday the 22d, or Tuesday the 23d, 1s. each.

S. GOODWIN, Sec.

The Directors of the Great Northern and Eastern Counties Railways have agreed to run cheap trains on the occasion, and to give free passage to all Poultry for the Exhibition (at owner's risk), and to carry back free all that is unsold.

THE BIRMINGHAM CATTLE AND POULTRY SHOW, 1852.—The FOURTH GREAT ANNUAL EXHIBITION of FAT CATTLE, SHEEP, PIGS, and the various kinds of DOMESTIC POULTRY, will be held in BINGLEY HALL, BIRMINGHAM, on the 14th, 15th, 16th, and 17th of DECEMBER next. The PRIZE LISTS, CERTIFICATES of ENTRY, and any further information, may be had from the Secretary.

The Entries CLOSE on SATURDAY, the 13th of November.

JOHN MORGAN, Jun., Secretary.

OFFICES—2, Insurance-buildings, Union-passage, Birmingham.

The Agricultural Gazette.

SATURDAY, NOVEMBER 6, 1852.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

THURSDAY, Nov. 11—Agricultural Imp. Society of Ireland.
THURSDAY, — 18—Agricultural Imp. Society of Ireland.

WE have been favoured by the Hon. Captain GREY, R.N., with a detailed statement and analysis of the CATTLE FEEDING AT HOWICK CATTLE LODGE during the past two seasons. The first portion of this statement appears in another page: it has unfortunately been received too late in the week to admit of a very careful examination of its results before the hour of our going to press: but we have the less reason to regret this, because the conclusions arrived at are presented with great clearness and minuteness, so that no one needs any guidance to them beyond that which is afforded by the Paper itself.

We shall nevertheless have some remarks to make upon the results of these experiments after the valuable report of them shall have been presented in full to our readers; and in the meantime we feel sure that we express their feeling as well as our own in thanking Captain GREY for the practical and useful series of facts which he has contributed towards the elucidation of what is more and more becoming the most important branch of farm practice.

THERE are few lessons so instructive to a practical farmer as those which may be learned from an unprejudiced and candid inspection of the various agricultural customs, practices, and operations of farming pursued in other localities than his own. Small as this country is in a geographical point of view, and uniform as are the principles which govern its laws, engineering, architecture, and manufactures, still its agriculture is so varied and empirical in every detail, that it presents a fertile field for conjecture and inquiry as to those causes which have originated so many discrepancies and antagonisms of practice. To adduce varieties of climate or of soil as principal causes of different and even opposite practices in farm operations in our little island, would appear to a continental foreigner a somewhat ludicrous verification of the greatest of all absurdities—a tempest in a teapot; yet, at the very moment we are writing, there are localities not a hundred miles apart, in one of which the soil is so saturated by recent floods and rains, that the operation of sowing Wheat cannot be accomplished with any degree of comfort either to man or beast, while in the other the weather has been so droughty for months, that wells are dry, water-mills standing, Wheat unsown for want of sufficient moisture in the ground to produce a healthy germination, and Turnip fields literally white with mildew. Again, the climates of England and Scotland are so different, that the southern portion of the former, in ordinary years, has the "appointed weeks of harvest" a month earlier than the latter; while at the same time the meteorological question becomes more complicated by the fact that the south of Scotland is nearly a fortnight earlier than the north of England. Not less surprising is the fact that in some parts of the western sea-board of both countries the annual fall of rain is nearly double that of the corresponding minute of latitude on the eastern coast. Of course very satisfactory reasons can be given by meteorologists why such climatic discrepancies should occur in localities comparatively speaking so geographically near to each other—the moist air from the broad Atlantic condensing on the mountains of western Britain, producing a moist atmosphere and frequent falls of rain, while on the other hand the arid winds from the eastern continent pass too quickly over the German sea to lick up sufficient moisture to produce complete saturation, except at lengthened intervals, and consequently the atmosphere on the eastern coast is generally dry and the fall of rain intermittent and irregular. Still further, there are differences of soil in Britain sufficient of themselves to account for the great diversity of farm practices which everywhere prevail. Our country may truly be said to be an epitome or miniature of the world in its geological characteristics—from the ancient granite up through the entire series of sedimentary rocks to the more recent deposits of silt annually accumulating under the guidance of art in the low marshes and fens of Lincolnshire. But while it is true that climatic and geological causes must necessarily control and give peculiar directions to the agricultural practices of different districts of country, so far as regards the particular crops cultivated, and the times and seasons for sowing and reaping, still we do not, nor can we discover any reason why the same plough which turns over the light trap or whinstone soils of Scotland by the traction of two active horses walking abreast will not do equally well for the light chalky, sandy, or gravelly soils of England; neither can any satisfactory reason be assigned for transporting corn from the fields, and grain to market, in an immense four-wheeled "Juggernaut," when these simple operations can be so much more cheaply and expeditiously performed by a light cart, whose weight and dimensions correspond more closely with the proportions and physical capabilities of an active horse than that huge lumbering combination of wood and iron so frequently seen crawling along our English fields and highways, drawn by a long cavalcade, yoked together, as if purposely to separate the *vis* as far from the *inertia* as possible. A flail was doubtless a very wonderful contrivance when first yielded by the sinewy arm of some primitive SAMSON, and must have been considered by certain agricultural conservatives of those days as a great innovation on the earlier custom of treading out the grain by oxen; nevertheless the flail necessitates a wearisome expenditure of human muscle and human intelligence upon a small bundle of corn, which one stroke of a steam-engine could send through a threshing machine, and separate into straw, chaff, and grain, and make the latter ready for market in less time than we have taken to pen this sentence.

Agricultural improvements in some localities is really and truly a plant of slow growth; for neither will it make any spontaneous effort to produce one additional shoot, nor will it drop off one branch however withered it may be. Occasionally some tall robust sapling grafted upon it, from a freer growing, will spring up, and produce a shaking among the old branches. A MECHI, with all the vigour and sap of the parent from which he has sprung, may infuse some degree of vitality into one portion of the old stock; but such grafts are not kindly received nor freely incorporated, and the old trunk would rather vegetate on, in its ancient condition of moribund inanity. We do not despair, however, of seeing, ere long, a thorough shaking among the dry bones of British agriculture. The dear old "crutch"—dear enough, certainly—has been removed, nay it is broken for ever, and rapidly crumbles into dust, but still the patient is alive, on the move, and showing greater signs of vitality than at any former period of her long illness—like the bed-ridden cripple who could not, or thought

she could not, move without help; but no sooner does the cry of "Fire!" salute her ears than she bounds from her bed and escapes the danger. And now that agriculture must both walk and run, whether she will or not, it is necessary that every farmer should adopt every means to improve his own practice, so as to walk with upright front and independent bearing. In the first place, remodel your system of carrying on your agricultural operations. Do not labour under the delusion that the circle of blue sky which limits your horizon contains within it all the agricultural knowledge worth having in the world. Get into a railway carriage, and visit Tiptree-hall, Castleacre, Myremill, or Auchness; and however doubtful you may be of the correctness of high-farming balance sheets, be assured you will see and learn some truth that will be useful to you in your every-day practice. *H.*

MARK LANE.

The metropolitan corn market is held in two adjoining buildings in Mark-lane, opened, the one in 1749 and the other in 1828. The old building is private property belonging to a company connected with the trade, who let the market-stands, and otherwise manage their affairs as any other private commercial company. Of late they have purchased several old houses adjoining, and expect, in the course of a few months, to double the area of the market—clearing out the old stands and erecting new. The new building belongs to the London Corn Exchange Company, incorporated by 7 Geo. IV., c. 55, and is governed by directors; a "general assembly" of the company making bye-laws. The officers of the two are a secretary and beadle for each. The market-days are Mondays, Wednesdays, and Fridays; and hours of attendance from 10 A.M. to half-past 2 P.M.

Corn-factors dispose of all kinds of grain by sample, at one month's credit, for which a commission of 1*s.* per quarter on Wheat, 9*d.* per quarter on Barley, Beans, and Peas, and 6*d.* a quarter on Oats is charged, with a commission, various in amount, to cover credit. The other charges are freight, or railway carriage, and insurance, of course varying in amount. Sellers' metage, sampling, waterage, &c., 3*s.* 6*d.* per last on Wheat, 4*s.* 6*d.* on Barley, Beans, and Peas, and 4*s.* on Oats. If warehoused, there is in addition, lighterage, landing, and delivering, 9*d.* per quarter. Rent and fire insurance, 6*s.* per 100 quarters per week for Wheat, Barley, Beans, and Peas, and for Oats 7*d.* and 4*s.* respectively; besides remetage and porterage, subsequently noticed. Sometimes the purchaser pays half the charges, but when he does so, he buys accordingly.

From the above charges, the corporation of London derives no small profit of its princely revenue, in the shape of lastage and other dues; claiming by prescription the right of measuring all kinds of grain arriving into the port of London—a work performed by sworn corn-meters and fellowship porters appointed, the former by its corn and coal committee, and the latter by the alderman of Billingsgate, who is, *ex officio*, the governor of the fellowship. Before a vessel can commence to discharge its cargo, it is necessary to take out a "Lord Mayor's order," obtainable at the Coquet Office, Mansion House, on paying for foreign corn 2*s.* 6*d.* on 5 quarters and under 50, 3*s.* 6*d.* on 50 quarters and under 100, and 5*s.* 6*d.* on 100 quarters and upwards; but if there is more than one kind of corn on board, 1*s.* extra for each. Vessels from the United Kingdom pay 1*s.* 2*d.* each, with 6*d.* on Wheat, malt, Indian corn, or Buckwheat, and 1*s.* 6*d.* on all other kinds of grain; besides a charge of ½*d.* per quarter as city dues not charged on foreign corn, and which is returnable to factors, freemen of the city. The charges at the meter's office are, on foreign Wheat, Barley, Oats, Rye, malt, Buckwheat, and Indian corn, metage ¾*d.*, fillage ¾*d.*, and lastage ¼*d.* per quarter. On Beans, Peas, Tares, Lentils, and seeds, metage ¾*d.*, fillage 1*d.*, and lastage ¼*d.* The fellowship porter's charges on foreign corn are—Wheat, Barley, Indian corn, Rye, Buckwheat, Beans, Peas, Tares, Lentils, and seeds, 2¼*d.*, Oats and malt 2*d.* per quarter. On British grain metage is ¼*d.* less than on foreign, or ½*d.* per quarter; fillage and lastage the same, with the exception of Kent and Essex, which are exempt from lastage, those two counties enjoying this privilege, from having supplied the city with corn during the plague. In the granary there is no distinction between home and foreign corn; metage is 1*s.* 4*d.* less than on board vessel, or ½*d.* per quarter, fillage ¾*d.* and 1*d.*, as before, and porterage 2*d.* on all grain.

In reports of the corn trade of Mark-lane, the two appellations of "returns" and "arrivals" are observed; the former being the quantity of corn and price returned to the Corn Comptroller's office for the *London Gazette*, and the latter, all corn arrived in the metropolis, coast or otherwise. Subjoined are tabular statements of each, from which it will be seen that the "returns" form but a very small part of the "arrivals," and that the difference between the two is greatly on the increase, showing the growing dependence of the capital on foreign corn, and the necessity of all restrictions being removed from her obtaining it. On the other hand, our statement does not include the whole of the arrivals, only one railway (the Eastern Counties) being included. Not only do the other railways give each its own supply, but the adjoining counties pour in large quantities by millers' waggons, &c. The Great Northern Railway, for instance, has this year been included in Mr. Ruston's Corn Account, and the following extract from it, for quarter ending June 26, 1852, will, in part, show a deficiency equal to the supply of an ordinary-sized town, viz.:—

Eastern Counties Railway.		Great Northern Railway.	
Wheat	23,652	Wheat	7,022
Barley	9,264	Barley	1,458
Malt	67,399	Malt	3,639
Oats	3,328	Oats	18,677
Beans	2,457	Beans	43
Peas	424	Peas	3
Flour	72,718	Flour	24,870

STATEMENT OF CORN ARRIVALS IN LONDON, *Coastwise, and by Eastern Counties Railway, for year ending Michaelmas, 1851.* (Compiled from Mr. Ruston's report.)

Description.	English. Coastwise.	English. Eastern Counties Railway.	Scotch.	Irish.	Total British.	Foreign.	Grand Total.
Wheat, qrs.	164,266	55,275	124	39	219,686	783,128	1,002,814
Barley, ,,	178,108	22,239	7,303	20	207,650	287,625	495,475
Malt, ,,	247,981	259,002	1,109	2,338	510,450	...	510,450
Oats, ,,	49,546	32,015	60,149	209,486	351,196	959,498	1,310,694
Rye, ,,	216	...	...	...	216	3,216	3,432
Beans, ,,	32,057	10,296	... 19	... 901	43,273	68,973	112,246
Peas, ,,	23,980	4,327	222	... 16	28,529	46,113	74,642
Tares, ,,	2,885	...	51	52	2,952	20,477	23,429
Linseed, ,,	743	...	...	25	795	154,161	154,956
Rapeseed, ,,	75	...	... 15	...	115	67,186	67,301
Mustard, ,,	995	...	...	...	995	1,374	2,369
Seeds, ,,	11,735	...	... 806	... 280	12,821	16,951	29,772
Flour (sacks)	148,506	274,756	...	1,999	425,001	315,864	740,865
,, (brls.)	...	...	...	75	75	168,209	168,284

Mr. Burness, in Blackie's Cyclopedia of Agriculture.

POOR-LAW AMELIORATION.

"The orderly habits, cleanliness, morality, and religion" which may be imparted to children in Irish poorhouses are equally required in the unions of England, where are gathered the families of depraved and unfortunate people, some deserted, some illegitimate, some without a surviving parent, nearly all on entering the houses demoralised, ignorant, and averse to useful employment; to this class great attention has of late years been paid by insisting upon regular attendance at school from an early age to 16 years old, by inviting and encouraging a better order of teachers, and lastly by attaching a portion of land to each union-house for cultivation by all the boys between the ages of 9 and 16 years, it having been found that however complete the instruction in reading, writing, arithmetic, &c., without *labour* their minds are not sufficiently withdrawn from bad habits to fit them for situations out of the house; for the great object which ought to be ever present to the minds of all guardians of the poor and other authorities connected with the poor-law is this, to produce such a reformation and improvement in the characters of all coming under their influence, whether old or young, but particularly the young, as will fit them for future self-maintenance, and establish among them a desire to win their way to a position, however humble, from which they may have, at least, a prospect of independence and comfort.

The success that has attended a considerable number of experiments in training boys to industry and order, by employing them at stated intervals during favourable weather on 3 or 4 acres of land attached to each union-house, entitles the plan to the careful consideration of all men, notwithstanding the exaggerated profits and partial statements which have appeared from the managers of these experiments, and which, being liable to be seized upon by short-sighted landlords as proofs that agricultural distress is unfounded, and rents quite low enough, have raised a prejudice against an extension of the system, which may be easily removed by proper inquiries being instituted as to the worth of the labour of the boys, and a fair estimate taken of the valuations placed to the credit of produce where it has been retained for consumption by the masters of the houses.

It does not appear advisable that more land should be operated upon than is adequate to the employment of the boys, unless we should be suffering under such an affliction as to render it probable there would be a great and permanent increase in the numbers of able-bodied paupers receiving in-door relief; the land engaged should be in about the proportion of an acre to every eight or ten boys, whose labour, at the rate of three hours a day for four or five days a week, would, under judicious management, be found sufficient to keep it clean, to till it properly, and to gather the crops.

The schoolmaster, where there is one, seems to be the proper officer for superintending the boys, as he will naturally exercise a more genial influence over, and possess a greater knowledge of the capacity and temper of his pupils, from having them constantly under his care, than could be expected from the master of the workhouse or any other person acting as a mere driver. Some one or two of the farmers, who generally form part of every board, would readily give directions of management, and if the schoolmaster should be, as he ought to be, a humane and intelligent man, the process of regulating the boys and making their work profitable might be rather a recreation than otherwise to himself as well as to his gang of little labourers. I agree with your correspondent "M. D." that "the usefulness of a farm for the pauper labour of workhouse inmates is very questionable in England," not exactly for the reasons he states, so much as because from the irregular number of adult or able-bodied inmates it is probable that during the summer and autumn, when their exertions would be in the greatest requisition, there would be little or no available help in the house, involving the necessity of having recourse to hired labour, which item of expenditure would soon reach an amount that would *economically* prove destructive to the whole scheme.

The "balance sheet" remains to be considered, and suggestions made for the formation of that important document, so as neither to excite the cupidity of owners or the incredulity of occupiers of land. *J. W., Peterborough.*

BRITISH ASSOCIATION, BELFAST—1852.

On the Action of those Storms to which the Rotatory Theory has been usually applied. By Mr. R. Russell, Kilwhiss. Read before the Physical Section, Sept. 2.—*Abstract.* The object of this paper was to show that there were several well-recognised meteorological conditions which were entirely opposed to a rotation and translation of the elements of storms when taken in connection with actual observations. The principal arguments urged were—1. That the mass of stagnant air in front of the supposed rotatory gales was at variance with the idea of translation. 2. That the very different thermometrical and hygrometrical states of the air on the east and west sides of the supposed circular storms in high latitudes were altogether anomalous. 3. That the calm often occurring before the change of the wind from an easterly to a northerly quarter, commonly considered as the centre or "storm's eye," was inconsistent with progression, inasmuch as every storm must be considered to drag its "eye" along with it. 4. That the east wind in these storms was merely confined to a very limited height of the atmosphere, while the north wind generally blew in the same direction at great altitudes. 5. If the fall of the barometer in these storms was caused by the centrifugal force of the air in rotation, the mercury ought to rise on the approach of storms instead of giving warning by being depressed. The author then illustrated his views of the action of these storms by referring to the particulars of the weather as registered in various parts of the British islands on certain days. The remarkable storm of January 8, 1852, was sketched out on that day; a S.W. wind prevailed from Jersey to the S. of Scotland, but the middle districts of Scotland had an easterly wind with a fall of 7 inches of snow in the forenoon, succeeded after mid-day with a S.W. wind and a large fall of snow. Along the Moray Firth, from Banff to Inverness, after mid-day it blew a hurricane from the N.E. and N., with a continuous fall of snow for 30 hours. Three feet of snow fell on the level where not blown, but many of the drifts were 30 and 40 feet in depth; immense numbers of sheep perished in the snow. It was shown that this hurricane from the N.E., on the Morayshire coast, blew for 10 hours before it reached a hundred miles to the south, and that it probably did not extend as many miles to the north, for at Stromness, in Orkney, not above 60 miles to the N. of Inverness, where the storm was particularly severe, that day was clear and frosty. The author contended that horizontal rotation of the air was fallacious, but that the vertical rotation of the eastern lower current with the upper S.W. stream, extending over a large space, would be found to be the true explanation of this phenomenon. The primary fall of the barometer was not occasioned by centrifugal force, but by a warmer and moister body of air taking the place of a colder and more condensed one. The violent north wind is a re-action in consequence of this disturbance of the equilibrium indicated by the barometer. The 11th and 12th August, 1852, were also referred to in confirmation of these opinions; the storm so severely felt in the south of England as a S.W. wind with rain, was attended with a dry N.E. wind in Scotland all beyond Melrose, in Roxburghshire.

On the reading of this paper a considerable amount of discussion took place. Professor Thomson, Professor Stokes, Dr. Tyndall, and W. G. M. Rankine, Esq., spoke in favour of the rotatory theory as being a well ascertained fact in tropical storms, and endeavoured to answer some of the objections made to the application of this theory to British storms. To the various observations made by these gentlemen, Mr. Russell replied and argued that the application of the rotary theory to British storms was altogether incompatible with the actual phenomena, and that the hypothesis was founded on insufficient data; he stated, as his own conviction, that tropical hurricanes were not rotatory, and that in this opinion he was joined by many eminent individuals; among others by Darwin and Fitzroy, and that Sir J. Herschel's ideas on the subject were quite opposed to those adopted by Sir William Reid, Mr. Redfield, and others.

DETAILS OF AN EXPERIMENT IN CATTLE FEEDING AT HOWICK CATTLE-LODGE, 1850—51.

BY CAPTAIN THE HON. FREDERICK W. GREY, R.N.

No.	Bought. Date.	Price.	Weighed. Date.	Stone of 14 lbs.	Grazed. No. of weeks	Rate per week.	Cost.	Put up. Date.	Cost.	Weight	Fed. No. of Weeks.	Oilcake. St.	Oilcake. Cost.	Bean-meal. St.	Bean-meal. Cost.	Turnips. Cwt.	Turnips. Cost.	Attendance.	Cost.	Weights. Aug. 27.	Sept. 24.	Oct. 22.	Nov. 19.	Dec. 9.				Weight gained while feeding.	Cost per stone.	Date when sold.	Total cost.	Value Received. In Money.	In Manure.	Total.	Profit.	Loss.
	1850.	£ s. d.			s. d.	£ s. d.		£ s. d.		st.			£ s. d.		£ s. d.		£ s. d.	s. d.	£ s. d.	St.	St.	St.	St.	St.	St.	St.	St.	s. d.		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
11	May 20	10 10 0	June 14	82	10	3 0	1 10 0	July 30	12 0 0	86	19	34	1 14 0	10	0 8 4	{68 Clover	0 17 0 / 15 0	9 6	4 3 10	90	95	102	109	112	...	...	...	26	3 1½	Dec. 9.	16 3 10	17 13 6	1 8 6	19 2 0	2 18 2	
12	...	10 16 0	...	84	...	...	1 10 0	...	12 6 0	88	...	...	1 14 0	...	0 8 4	{...	0 17 0 / 0 15 0	9 6	4 3 10	92	97	106	114	118	...	...	...	30	2 8½	...	16 9 10	18 12 6	1 8 6	20 1 0	3 11 2	
13	...	11 3 0	...	87	...	...	1 10 0	...	12 13 0	90	...	...	1 14 0	...	0 8 4	{...	0 17 0 / 0 15 0	9 6	4 3 10	94	102	106	111	115	...	...	...	25	3 3	...	16 16 10	18 3 6	1 8 6	19 12 0	2 15 2	
14	...	9 9 0	...	74	...	...	1 10 0	...	10 19 0	76	...	...	1 14 0	...	0 8 4	{...	0 17 0 / 0 15 0	9 6	4 3 10	80	86	93	108	102	...	...	...	26	3 1¼	...	15 2 10	16 2 0	1 8 6	17 10 6	2 7 8	
15	...	9 2 0	...	71	...	...	1 10 0	...	10 12 0	76	...	...	1 14 0	...	0 8 4	{...	0 17 0 / 0 15 0	9 6	4 3 10	80	85	92	93	102	...	...	...	26	3 1¼	..	14 15 10	16 2 0	1 8 6	17 10 6	2 14 8	
19	...	9 2 0	...	78	11	...	1 13 0	...	10 15 0	82	...	...	1 14 0	...	0 8 4	{...	0 17 0 / 0 15 0	9 6	4 3 10	88	96	104	112	116	...	...	...	34	2 4½	...	14 18 10	18 6 6	1 8 6	19 15 0	4 16 2	
																				Nov. 19.	Dec. 17.	Jan. 14.	Feb. 11.	Mar. 10.												
44	Aug. 14	11 0 0	Aug. 19	74	10	2 6	1 5 0	Oct. 22	12 5 0	82	20	25	1 5 0	9½	0 7 11	183	2 5 9	10 0	4 8 8	86	88	94	95	100	...	...	...	18	4 11	...	16 13 8	14 0 0	1 10 0	15 10 0	...	1 3 8
45	...	9 19 0	...	67	...	...	1 5 0	...	11 4 0	72	...	...	1 5 0	...	0 7 11	...	2 5 9	10 0	4 8 8	81	87	92	96	100	...	...	...	28	3 2	...	15 12 8	15 0 0	1 10 0	16 10 0	0 17 4	
47	...	11 0 0	...	74	...	...	1 5 0	...	12 5 0	81	...	...	1 5 0	...	0 7 11	...	2 5 9	10 0	4 8 8	89	93	98	100	103	...	...	...	22	4 0½	...	16 13 8	16 0 0	1 10 0	17 10 0	0 16 4	
																				Nov. 19.	Dec. 17.	Jan. 14.	Feb. 11.	Mar. 11.	Mar. 24.											
42	July 29	9 15 0	Aug. 19	71	13	2 6	1 12 6	Oct. 29	11 7 6	81	21	26½	1 6 6	10½	0 8 9	186	2 6 6	10 6	4 12 3	85	89	95	99	103	104	...	...	23	4 0	Mar. 24.	15 19 9	15 10 0	1 11 6	17 1 6	1 1 9	
																				Nov. 19.	Dec. 17.	Jan. 14.	Feb. 11.	Mar. 11.	April 8.	April 21.										
41	July 29	10 11 0	Aug. 19	77	12	2 6	1 10 0	Oct. 22	12 1 0	87	26	27	1 7 0	19½	0 16 3	227	2 16 9	13 0	5 13 0	94	98	102	106	110	114	116	...	29	3 11	April 21.	17 14 0	17 6 0	1 19 0	18 19 6	1 5 6	
52	Aug. 27	12 0 0	Aug. 27	81	8	...	1 0 0	...	13 0 0	91	...	25½	1 5 6	22½	0 18 9	...	2 16 9	13 0	5 14 0	92	96½	99	103	106	110	112	...	21	5 5	...	18 14 0	16 18 6	1 19 6	18 7 6	...	0 6 6
57	...	11 8 0	...	77	8	...	1 0 0	...	12 8 0	82	...	29½	1 9 6	15½	0 12 11	...	2 16 9	13 0	5 12 2	83	86	91	95½	99	103	105	...	23	4 9½	...	18 0 2	15 7 6	1 19 6	17 6 6	...	0 13 8
22	May 20	7 7 0	June 14	69	23	...	2 17 6	Oct. 29	10 4 6	81	26	27½	1 7 6	17½	0 14 7	216	2 14 0	12 6	5 8 7	84	86	90	94	98	103	105	...	24	4 6½	...	15 13 1	15 7 6	1 17 6	17 5 0	1 11 11	
26	...	6 16 0	...	64	23	...	2 17 6	...	9 13 6	80	...	28	1 8 0	15½	0 12 11	...	2 14 0	12 6	5 7 5	84	89	94½	99	103	108	110	...	30	3 7	...	15 0 11	16 2 6	1 17 6	18 0 0	2 19 1	
39	July 29	9 17 0	Aug. 19	72	13	...	1 12 6	...	11 9 6	85	...	28	1 8 0	15½	0 12 11	...	2 14 0	12 6	5 7 5	88	90	94½	99	103	105	106	...	21	5 11	...	16 16 11	15 13 6	1 17 6	17 11 0	0 14 1	
																				Nov. 19.	Dec. 17.	Jan. 14.	Feb. 11.	Mar. 11.	April 8.	May 6.	May 26.									
34	June 3	6 15 6	June 14	58	21	2 6	2 12 6	Oct. 29	9 8 0	81	30	31	1 11 0	25½	1 1 3	244	3 1 0	15 0	6 8 3	84	85	91	95	99	102	104	105	24	5 4	May 26.	15 16 8	15 6 0	2 5 0	17 11 0	1 14 9	
35	July 29	9 9 0	Aug. 19	69	13	...	1 12 6	...	11 1 6	78	...	31	1 11 0	...	1 1 3	...	3 1 0	15 0	6 8 3	83	85	89	93	97	101	104	105	27	4 9	...	17 9 9	15 6 0	2 5 0	17 11 0	0 1 8	
23	May 20	6 8 0	June 14	60	24	...	3 0 0	Nov. 7	9 8 0	76	29	30½	1 10 6	24½	1 0 5	345	3 1 3	14 6	6 6 8	...	82	86	90	94	97	100	102	26	4 10½	...	15 14 8	14 15 0	2 3 6	16 18 6	1 3 10	
30	June 3	6 11 0	...	56	22	...	2 15 0	...	9 6 0	77	...	...	1 10 6	...	1 0 5	...	3 1 3	14 6	6 6 8	...	83	90	94	99	103	106	108	31	4 0½	...	15 12 8	15 12 0	2 3 6	17 15 6	2 2 10	
33	...	6 11 0	...	56	...	...	2 15 0	...	9 6 0	...	...	...	1 12 6	22½	0 18 9	...	3 1 3	14 6	6 7 0	...	80	87	91	95	99	102	103	...	...	...	15 13 8	15 0 0	2 3 6	17 3 6	1 10 6	
37	...	7 19 0	...	68	...	...	2 15 0	...	10 14 0	...	...	...	1 12 6	...	0 18 9	...	3 1 3	14 6	6 7 0	...	88	94	99	103	107	111	113	...	...	...	17 1 0	16 7 0	2 3 6	18 10 6	1 9 6	
																											June 2								
54	Aug. 27	12 0 0	Aug. 27	81	8	2 6	1 0 0	Oct. 22	13 0 0	91	32	32½	1 12 6	27½	1 2 11	262	3 5 6	16 0	6 16 11	93	94	97	101	105½	111	114	116	25	5 5½	June 2.	19 16 11	16 16 0	2 8 0	19 4 0	...	0 12 11
24	May 20	6 8 0	June 14	60	23	...	2 17 6	Oct. 29	9 5 6	80	31	31	1 11 0	...	1 2 11	...	3 5 6	15 6	6 14 11	84	89	95½	99	102½	107	110	113	33	4 1½	...	16 0 5	16 4 0	2 6 6	18 10 6	2 10 1	
27	...	6 8 0	...	60	...	...	2 17 6	...	9 5 6	77	...	...	1 11 0	...	1 2 11	...	3 5 6	15 6	6 14 11	82	87	94	98	102	107	110	112	35	3 9½	...	16 0 5	16 4 0	2 6 6	18 10 6	2 10 1	
43	July 29	9 6 0	Aug. 19	68	13	...	1 12 6	...	10 18 6	89	...	...	1 11 0	...	1 2 11	...	3 5 6	15 6	6 14 11	82	85	88	91	94	97	100	102	22	6 0	...	17 13 5	14 15 0	2 6 6	17 1 6	...	0 11 11
25	May 20	7 13 0	June 14	72	23	...	2 17 6	...	10 10 6	85	...	...	1 11 0	...	1 2 11	...	3 5 6	15 6	6 14 11	...	84	92	99	103	106	109	111	26	5 1	...	17 5 5	16 1 0	2 6 6	18 7 6	1 2 1	
50	Aug. 14	10 11 0	Aug. 19	71	11	...	1 7 6	...	11 18 6	79	...	...	1 11 0	...	1 2 11	...	3 5 6	15 6	6 14 11	...	84	84	92	95	98	100	102	28	5 8½	...	18 13 5	14 15 0	2 6 6	17 1 6	...	1 11 11
32	June 3	6 15 6	June 14	8	22	...	2 15 0	Nov. 7	9 10 6	76	31	28½	1 8 6	28½	1 3 9	252	3 3 0	15 0	6 10 3	...	81	87	92	98	99	102	104	28	4 7½	...	16 0 9	15 3 0	2 5 0	17 8 0	1 7 3	
36	...	7 0 0	...	60	...	...	2 15 0	...	9 15 0	76	30	29	1 9 0	29½	1 4 7	242	3 0 6	15 0	6 9 1	...	82½	86	90	94½	99	102	104	28	4 7¼	...	16 4 1	15 0 0	2 5 0	17 5 0	1 0 11	
																											June 9								
46	Aug. 14	12 12 0	Aug. 19	85	10	2 6	1 5 0	Oct. 22	13 17 0	91	33	32½	1 12 6	29½	1 4 7	289	3 7 3	16 6	7 0 10	95	101	106	110	113	117	123	124	33	4 3½	June 9.	20 17 10	18 0 6	2 9 6	20 10 0	...	0 7 10
49	...	10 8 0	...	70	...	...	1 5 0	...	11 13 0	84	...	34	1 14 0	26½	1 2 1	279	3 9 9	16 6	7 2 4	87	91	94	97	102	106	109	110	26	5 5½	...	18 15 4	16 1 0	2 9 6	18 10 6	...	0 4 10
45	June 3	7 0 0	June 14	60	21	...	2 12 6	Oct. 29	9 12 6	81	32	31	1 11 0	29½	1 4 7	259	3 4 9	16 0	6 16 4	84	86½	93	90	94	98	102	103	22	6 2½	...	16 8 10	15 0 0	2 8 0	17 8 0	0 19 2	
31	May 20	8 0 0	...	75	23	...	2 17 6	...	10 17 6	90	...	...	1 11 0	...	1 4 7	259	3 4 9	16 0	6 16 4	91	94	100	104	108	111	114	116	26	5 3	...	17 13 10	16 16 0	2 8 0	19 4 0	1 10 2	
40	July 29	9 12 0	Aug. 19	70	12	...	1 12 6	...	11 4 6	84	...	31½	1 10 6	31½	1 6 3	265	3 6 3	16 0	6 19 0	86	89	94	98½	102	106	110	111	27	5 1½	...	18 3 6	16 4 0	2 8 0	18 12 0	0 8 6	
28	June 3	7 5 0	June 14	62	22	...	2 15 0	Nov. 7	10 0 0	82	31	32½	1 12 6	24½	1 0 5	252	3 3 0	15 6	6 11 5	...	...	90	95	98	101	104	105	23	5 8½	...	16 11 5	15 6 0	2 6 6	17 12 6	1 1 1	
		£394 7 0		569	559		£71 8 0		£395 15 0				£51 15 6		£31 0 0		£99 7 3	24 2	£209 4 9												£604 19 9	576 1 6	72 8 0	648 7 6	49 1 10	5 13 8

From the Table it appears that 36 steers cost when purchased 324*l.* 7*s.*, that they were kept on the pastures on an average 16 weeks at a cost of 71*l.* 8*s.*, and fed on Turnips, cake, and Bean-meal 26 weeks and 5 days at a cost of 209*l.* 4*s.* 9*d* ; making a total cost, when sold, of 604*l.* 19*s.* 9*d.* ; and that the money received for them was 576*l.* 1*s.* 6*d.* The manure made by them amounted, as nearly as it could be estimated, to 482 single horse-loads, valued at 3*s.* per load ; thus increasing the receipt in money and value together to 648*l.* 7*s.* 6*d.*, giving a balance of 43*l.* 7*s.* 9*d.* for interest of capital and profit.

In estimating the cost of feeding, it will be observed that 3*s.* per week is charged for the pasturage of six steers, and 2*s.* 6*d.* for the remainder. The reason of this is, that the first six were on the pastures only while the Grass was at its best, while the remainder were kept on till late in the year. The oilcake is charged at the price paid for it, and the Bean-meal (being the produce of the farm) at market price. The Turnip crop, charging it with all expenses, rent, &c., and one-third of the value of the manure used for it, cost 7*l.* per acre. The crop averaged 30 tons, and allowing two tons for waste, the cost per ton would be 5*s.*, at which rate they are charged. In order to arrive at any general results as to the amount of weight gained, cost, &c., it will be necessary to exclude the two steers, Nos. 33 and 37, which were not weighed in the month of November, being then in a fold.

The remaining 34 were weighed for the first time at three different periods, viz., June 14, August 19, and August 27 ; and with the exception of the first six put up in July, were put into the cattle lodge in the end of October and beginning of November. The average time on the pastures was 13 weeks, and in the cattle lodge 26 weeks and 4 days. The result was—

No. of Beasts.	Average Weight at commencement.	No. of Weeks.	Cost per Week.	Gain.	Per Week.	Cost per Stone.	Greatest Gain per Week.	Least do.
	stones.			stones.	lbs. oz.	s. d.	lbs.	lbs.
34	70½	Pastured ... 13.	3*s.* and 2*s.* 6*d.*	11½	12 6	2 11	21¾	4½
34	82	Fed 26.4	4*s.* 4½*d.*	26½	13 13	4 5	25	9¾

Upon examining the table it will be found that in May and June the steers then remaining did not continue to gain in weight as much as they had previously done ; and as several were sold on the 16th of April, it will be more satisfactory to show the result of feeding up to the 8th of April. Of the 34 beasts, six were put up on the 30th of July and sold in December ; the remaining 28 were put up in the end of October and beginning of November, and of these, four were sold in the months of February and March, and 24 were weighed on the 8th of April. Result :—

	No. of Beasts.	Average Weight.	No. of Weeks.	Cost per Week.	Gain.	Do. per Week.	Cost per Stone.	Greatest Average Gain per Week.	Least Do.	
		stones.		s. d.	stones.	lbs. oz.	s. d.	lbs.	lbs.	If from the cost of feeding the
Pastured ...	6	79⅓	6.4	3 0	3⅔	7½	5 7	10⅔	4½	value of the manure is deducted,
Fed.....	6	82	19	4 5	27 5.6ths	21 2⅔	3 0	29	19	the cost per stone will be 2*s.*
Pastured ...	24	68⅔	14½	2 6	14⅓	13 12	2 6¾	29½	9	In the same manner the cost
Fed	24	82 7-24ths	23	4 4	22⅓	13 8	4 6	29½	9	per stone will be 2*s.* 11*d.*

At the time the six steers were put into the cattle lodge (on the 30th July), six others purchased at the same time were weighed, and were kept on the pastures till the end of October, having Turnips given to them during the latter part of the time. The results in each case were :—

	July 30.	Aug. 27.	Gain in four Weeks.	Sept. 24.	Gain in four Weeks.	Oct. 22.	Gain in four Weeks.	Gain in twelve Weeks.
	stones.	stones.	stones.	stones.	stones.	stones.	stones.	stones.
Average of six steers put up	83	87⅓	4⅓	93¼	5¾	100½	7	17½
Do. do. on pastures ..	75⅔	81	5 5.6ths	88¼	7¼	87½	2 5.6ths	12⅔

THE DIFFERENT FORMS OF TENANT RIGHT.

[The following paper is from the pen of J. Boyd Kinners, Esq., Advocate. It is abridged from the *Fife Herald*, where it appeared last week in their report of the meeting of the Trafalgar Agricultural Society, before which it was read. We have been forced considerably to abridge it, retaining however, we believe, the most of what is essential to its integrity.]

The resolutions on this subject, which were unanimously agreed to at the last annual discussion of the Trafalgar Agricultural Society, went no further than to affirm the extreme desirableness of having the most liberal covenants possible in leases, and especially of establishing some system of compensation to the outgoing tenant, beyond that which is at present customary in this neighbourhood. But neither in the resolutions themselves, nor, so far as I can remember, in the discussions which preceded their adoption, were any of the serious difficulties which stand in the way of the practical carrying out of these resolutions alluded to; nor was anything whatsoever done towards removing or diminishing them.

These difficulties do not appear to me to be more deeply rooted than in the ignorance of this matter which generally prevails, and in the crudeness of the notions which are most commonly entertained respecting the nature and intention of the remedy sought. But whilst that ignorance exists, it is obviously impossible and unfair to expect that those who are the owners of property should yield up its possession on terms which they regard as unsafe and injurious to themselves. Great as the benefit would be which would admittedly accrue to the tenant, it is not to be looked for that the landlord should grant it to any tenant, so long as he remains in the belief that that which is asked of him exposes him to the danger of a deterioration of his property, and of having to pay even for that deterioration a sum equal to several years' rent of the land itself.

There is no doubt that such is the view which is taken of the results of a tenant right by a very great number of those on whom it depends whether a tenant right shall be established or not. It is a view in which they have been confirmed by many who have had the means of better knowledge—amongst the latest, I am sorry to say, by Mr. Caird, for whose ability and general soundness of opinion I entertain a high respect.* But in this particular instance, that gentleman seems to me to have fallen, whether from haste or from carelessness, into the error of confounding, under one name, and in one indiscriminate censure, two systems of compensation essentially different in themselves, and leading to most opposite results. By him, and by others after him, the public has been taught to regard any system of compensation whatsoever as an instrument by which good farming is not promoted, but is discouraged—by which antiquated and injurious practices are perpetuated—by which fraud is encouraged with reward and by security—by which the tenant is robbed, at the beginning of his lease, of his capital—by which the landlord is saddled with a yearly deteriorating farm, and a yearly augmenting account for compensations, which, at some time or other, if he would find a tenant at all, he must purchase up and abolish.

In common with most of the members of this society, I know these views of the results of a properly-regulated system of tenant compensation to be unfounded and unjust. But it is impossible to deny that there are *some* systems in regard to which they are perfectly correct. On us, therefore, it lies to show that the system which we advocate is open to no such charge. On us it lies to show how a system can be adapted to our own laws and our own practices, which, whilst it will be of the highest benefit to the tenant, will be of scarcely inferior advantage to the landlord. On us it lies to show how the tendency of what we desire will be the constant encouragement of the best and highest farming—to show how, under our proposed plans, it will be impossible for any practice to be kept up after its utility shall be lost by the introduction of an improved mode of husbandry—to show how the tenant's capital shall not be injuriously trenched upon—and to show how the landlord shall be enabled to secure himself, with absolute certainty, against the possibility of fraud. Until we shall have done all this, past the reach of cavil, we can have no title whatsoever to complain of any tardiness or unwillingness in the acceding to our wishes on the part of those whose interests are so deeply implicated in the safety and success of an experiment of so much novelty and importance.

In the first place, then, I wish to remove the misconceptions which arise from confounding under one common name of tenant right many systems of distinct and indeed opposite character. And there is no one with respect to which such a process is more necessary than with that of Ireland. That country is the seat of, at all events, the loudest clamour for what passes under the name of tenant right. But that which is so denominated there is a right which is perfectly peculiar to the island, and which no rational man, I will venture to assert, desires to see transplanted into any other part of this realm. It consists in the conversion of a right of lease into a right of property, not indeed entitling the tenant to an unlimited possession, but entitling him to demand from any new tenant who may enter to the farm a certain sum, as the price of yielding it up. This sum is quite irrespective of any actual improvements which he may have made. It often amounts, according to the report of the Devon commission, to from 10 to 15 years' purchase of the rent. It may be exacted as well by a tenant-at-will as by one who has had a lease. To the tenant, therefore, its effect simply is, to deprive him at his entry of a sum perhaps more than double the capital required to stock the farm—not absolutely indeed, for he, too, may recover it in turn from his successor, but at least, of its use, and of interest on it during the whole continuance of his holding. To the landlord, its effect is to limit his choice of tenants to those who are possessed of an amount of capital far beyond what is actually required to cultivate the farm, and to compel him, if unable to find such a tenant, and too poor himself to redeem the obligation, to keep on the most worthless of men, and the worst of farmers, simply because he has once obtained possession of the farm. To neither the one nor the other does it offer any incentive to the outlay of capital in effecting new improvements, or in maintaining a high cultivation.

* "English Agriculture," in 1850-51, page 505.

But this system is not, even in Ireland, of universal acceptance, being in force only in the province of Ulster. It has been attempted by Mr. Sharman Crawford, and others, in several late sessions of Parliament, to extend it by act to the other parts of the island. But hitherto the attempt has been unsuccessful. Out of Ireland, nothing resembling it has ever been, so far as I am aware, even proposed. And this brief explanation of its real nature—enough to prevent misconception—is therefore all which it is requisite to say of a system so entirely different from anything which is sought for in this country.

But in some counties in England, there exists a custom, so much more nearly resembling that of true tenant compensation, and yet of so perverted and mischievous a tendency, as to demand at our hands a much more careful consideration, in order to discover the points of distinction betwixt it and others, and to detect the source of the evils for which it has been deservedly reprobated. The county of Surrey, the Wealds of Sussex and Kent, and a small portion of North Notts, and the West Riding of Yorkshire, are, I believe, the only parts of England in which this custom has so far obtained footing as to be recognised, in the absence of any express stipulations, as the law of tenancy. How it originated in these isolated districts is not well known. It has existed, in almost the same form as it wears now, for a long period—for, at least, many generations back.

As it is now, the items for which it awards payment to an out-going tenant are very numerous, and the sums are very heavy. The particulars include payment for the value of the fallows and the manure left on the farm, and for half the value of the fallows of the preceding year, from which the out-going tenant has already reaped a crop, and for half the value of the dung which he had applied to his last crop. They include also payment for the "lays," that is for the one-year-old Clover, which may be ploughed up for Wheat by the entering tenant. Liming is also paid for in the same way as the dung, and the folding of sheep upon the land gives rise to another article of charge.

The rate at which these several items are valued, of course, varies in different instances. The fallows are reckoned at the rent and taxes of the land, with the addition of the cost of the ploughings, of which the out-going tenant is entitled to charge a fixed number. Altogether it comes to from 3*l.* to 5*l.* per acre for them. The half fallows are rated at exactly the half of the valuation of the full fallows. The Clover "lays" are sometimes valued as high as 50*s.* per acre. Altogether the total amount of the valuation seems to vary from 30*s.* to 45*s.* per acre over the farm. In practice it is almost invariably paid by the in-coming tenant—the landlord not appearing in the arrangement at all.

It is a heavy sum to be abstracted from the pocket of a tenant, at the very time when he most needs his pockets to be filled. He might not regret it, if it were given for what is really beneficial to him. But it is not. Much of it goes for what is really of injury, instead of advantage to him. Still more goes for what he ought not to be called on to pay anything, since its full value has already been reaped by his predecessor. For what really was wanted on the farm, and what would consequently have been of benefit to the new tenant, the custom of the country gives his predecessor no claim, and nothing of the sort is consequently done. It may be proper enough to pay for the fallows, from which a better crop will next year be reaped; but it is not proper to pay for their bad cultivation, as if it had been good—to pay for more ploughings than they needed—to pay for ploughings done carelessly, and done at wrong seasons, as if they had been done judiciously and well. And it certainly is indefensible to exact payment for the fallows of a whole year back—from which a full crop has been already gathered in. It may be fair to require payment for the dung left on the farm, by which the next crop is to be manured; but there is no fairness in exacting anything for the dung of the year preceding, which has already replaced itself in the straw of the last year's growth. Worse than all, those charges, unreasonable in themselves, give rise to a tenfold greater evil, in tempting facilities they hold to fraud. The statement of the quantity and quality of the dung that for a year has rotted in the ground, must be taken from the unchecked lips of the tenant alone. As well must the number and description of the ploughings that the year-old fallows received, rest simply on his averment. No valuer, however honest and skilled, can detect misstatement of matters so long passed. If he seek for further evidence from the farm-servants, it is complained that it only extends the sphere of falsehood, since it is a daily growing practice for the out-going tenant to bribe his servants to support his own false accounts by their testimony.

I can perfectly agree with Mr. Caird and others, who with him denounce this system as fundamentally and hopelessly evil. But where I am compelled to differ from Mr. Caird is, where he speaks of this vicious and false tenant right, as if it were the only possible, and the only existing species of tenant compensation; and where he imputes the evils which justly are attributable to it, to every other system which professes to have that end in view. To me, indeed, it seems inconceivable how such an error could be fallen into. For this tenant right of Surrey simply wants altogether any means of securing to an out-going tenant remuneration for any unexhausted improvements which truly deserve the name. He gets payment for his half fallows—for his half dressings with dung and lime—for his clover lays—in the same way as he gave payment for them at his entry; but for draining—except by favour on particular estates, he gets nothing—he gets nothing by right of law. For guano, and for other artificial manures, he gets nothing. For the use of oilcake he will get what the valuators may allow him, as the increased value of the dung. For any buildings he may erect—and grieviously does the Surrey farmer need them—the custom of the country gives him nothing. For expense in putting up new fences, or for removing old and useless banks of hedgerows, he will get nothing—he is happy if he get bare permission to do the work at his own cost and risk. In short, for not one single operation, which can properly be called a permanent improvement of the farm—for not one single article of imported manure—would he, by the tenant right as it now exists, be entitled to claim a shilling of recompense, though he were to be turned out before he had reaped one crop to reimburse in part his outlay—as, holding by mere yearly tenancy without a lease, he is quite liable to be.

No one who understands this to be the actual position of the tenantry of Surrey will wonder to hear that Surrey enjoys a pre-eminence amongst the worst-farmed counties in England.

(To be concluded in our next.)

Home Correspondence.

Chaff Cutting, &c.—I feel very much obliged by your promise to make the chaff question the subject of a Leading Article. It is my decided opinion that even if this plan only ensures a due and correct estimate of a farmer's "ways and means" it is of supreme importance. How easy before-hand to know what provender there is ready for the stock about to be purchased. That there is a further saving, besides that of usual waste, there can be no question; and whether it amounts to one-half or one-third, as compared to uncut hay and unbruised corn, matters comparatively little. My attention was called to this subject by a perusal of Boussingault's admirable work; and I have had abundant reason since to confirm my first impressions. My people were horrified at the idea of bruised Oats and no racking up at night; and I had to discharge several and threaten more before I could succeed. That difficulty I have overcome; but another remains, and that induced me to trespass upon your attention—it is, the feeding beasts with chaff instead of whole hay or straw. I last year, during my absence abroad, was induced by my steward to waive the practice, because the farrier declared my working oxen were reduced to the lowest ebb by this system; but I have subsequently ascertained that the working oxen on other farms did well on the same allowance, and that the oxman was opposed to it, and that the wind blew the chaff away, so that the beasts were rather ill from inanition than other causes. Not only was the system changed in favour of the invalids, but of all the store beasts in all the yards. This year I have feeding-troughs placed in all the lodges, so that the wind cannot blow the chaff away and permit prejudice to triumph, or "farrier's wisdom" to prevail. On inquiry, I find that last year the allowance per horse per week was—1½ bush. bruised Oats, 1 peck do. Beans, 2 trusses hay, 1 truss Wheat straw, cut and mixed chaff. For each ox per week, 2½ trusses of hay, 1 truss of Oat straw, cut and mixed chaff. For store cattle, 1½ truss of hay, 1 truss of Oat straw, cut and mixed chaff; for which were, as I have mentioned (prejudice triumphing), substituted 3 trusses of hay and no straw, uncut. The beasts did well under the change! I have mentioned these circumstances to you at the risk of being considered tiresome, in the hope that much will be done through your instrumentality in bringing people to the consideration of this system fairly. I wish to know in chaff-cutting what length is most suitable for beasts? for sheep? for horses? what bulk each animal requires per day? how this bulk may be composed? and what variations might be advisable to form it? for roots and corn and straw have all a relative value to pay the staple (too universally neglected!) of the farmer. I am but an amateur, one of those unfortunate country gentlemen whose farms are thrown on his hands, which nobody will take because he will not let them on terms injurious both to landlord and tenant; I am therefore compelled to keep them in cultivation, and that with the usual accompaniment of steward, bailiff, &c. I keep my eyes and ears, however, open, and sometimes I fancy I see something which might be rendered useful. *A. Z.*

Thin Seeding.—Thinking the following experiment made by myself last year will be interesting this seed-

ne to your readers, I send it without making any mment (on account of what was said in your Leading rticle last week about pints and quarts, and persons ot getting their living by farming), except saying that he grain in a hole is ½ peck per acre, and ten 5 pecks er acre. Trial of 10 rods of Wheat with one grain of Wheat to ten grains in each hole, and the holes 8 inches part every way :—

Grains.	Produce. Pks.	Pints.	Weight of Straw. lbs.
1	1	1	23
2	1	3	24
3	1	1	22
4	1	3	26
5	1	2	25
6	1	0½	28
7	1	0	26
8	1	0	27
9	1	1½	31
10	1	0½	27

The yield, according to these 10 rods, would be about 2 bushels to the acre. *John Dixon Piper, Colne Engaine.*

The Gapes in Poultry.—Having observed in your valuable Paper a letter signed "M. A. T.," on the subject of the "Gapes" in chickens, I am inclined to think the writer must have mistaken the disease; for having had considerable experience in raising poultry, I have invariably found that when thus affected they will eat the most. I believe that unless taken in the early stages the complaint is incurable, but if attended to soon after its first appearance, I have found what I consider an infallible remedy, if administered in the following manner:—Soak a small quantity of whole grits in camphine or spirits of turpentine for about an hour, and drain them a little. If offered to them early in the morning, or when very hungry, they will generally pick them up of their own accord, if not, a few grains must be forced down their throats twice or thrice a day; I have dissected several which have died of this disease, the result has always been the presence of small red worms at the top of the throat, which the medicated grits would of course destroy; but I have never noticed a deficiency of food in their crops. Remembering the old adage, that "prevention is better than cure," I would observe that if kept in a dry and moderately warm place, with a good supply of pure water, this troublesome and often fatal disease may be avoided. I will also add that I have particularly remarked that my stock of Cochin Chinas has quite escaped the malady. *H. T.*

To sow Wheat for Transplanting.—Three quarts of sound selected seed will be found sufficient to sow and transplant 1 acre of land, and equal proportions for smaller breadths. The main points of importance illustrated by transplanting Wheat are two: one is, that it will consequently grow more dwarfy, compact, and sturdy, and not so subject to fall in stormy weather; secondly, by sowing it in advance it gives ample opportunity of bringing the land intended for its reception into the utmost possible good condition by subsoiling where necessary; and the most essential of all on heavy lands is destroying black Grass, which always comes up in and not later than October, just at Wheat sowing time, and to avoid it Wheat is often sown much too late on the best of lands. For a small quantity of seed choose a hard or solid bottom, footway or the like, covering it about 3 or 4 inches with rich moulds, on which sow the seed in October for transplanting at the end of November, or at the first mild weather after that time. For a larger quantity let any piece of open ground be well packed and covered with a little rotten dung, harrowed level, and trod firmly, and the seed similarly sown. Sow it with exactness and precision, singly, for on this much depends; if any two or more plants germinate together and become cramped at an early stage of their growth, they never branch, whereas it is no uncommon circumstance that grains of corn sown singly produce two thousand-fold. The little rootlets adhering to each plant by the above treatment, if shovelled up with a spade, cannot fail to grow, and will have the appearance of the roots of a black Currant bush, or a man's wig, and will continue to make more roots than twenty growing together. *Abraham Hardy and Son, Seedgrowers, Maldon, Essex.*

The Renewal of the Tenant-right Convocation, under a banner even more disgraceful than has already procured its condemnation in all orthodox minds, is an event greatly to be deplored, and doubly redounds to the discredit of its promoters, whose vociferous clamours clearly demonstrate a want of those acquirements and prescience which would enable them to promote and conduct business in a profitable and advantageous manner. The demanding of doubtful rights for unwarranted investment at once quashes every rightful claim and offends justice. When the owner of an estate lavishly squanders away his inheritance, there is meted out to him disgrace, beggary, or a prison; but his tenant practising the same unjustifiable expenditure, seeks to escape the reward and heap it upon the shoulders of his landlord. The whole affair is comprised in one sentence —Where is your agreement? If a farmer has laid out money in the expectation of reaping a timely reward, but is disappointed and seeks remburgement for the investment, let him first authenticate his bargain. If his farm requires an outlay to make it more profitable by augmented produce, let him first obtain the sanction and cognisance of him from whom he expects reparation. If a farm needs a thorough overhauling and entire renovation, let that process take precedence of his occupation of it and connection with it, or have a mutual understanding of what is to be done, and a written agreement clearly expressing the amount to be expended, and the proportionate rate of unexpired wear at any intervening period. This is the foundation of all legal and justifiable trading, but it is also the rock upon which the farmer too often allows himself to be drifted, and then holloas from its summit for surreptitious aid when he finds his craft sinking in the surf of his own supineness. When a ship is chartered, the first sentence implies "that the said ship being tight, staunch, strong, and every way fitted for the voyage, shall with all convenient despatch proceed," &c. &c. Let this principle be applied to land, and we should read something after this fashion:—"That the said farm being thoroughly and completely well drained, fenced, divided, and possessing sufficient and convenient roads, houses, buildings, and every other accommodation necessary for the prosecution of successful farming, he the said —— is willing and does hereby agree to rent the said farm for — years, at an annual rent of £—." Both prudence and rectitude dictate that the intention of a contract should be freed from obliquity, which all who study their own interests never fail to secure prior to embarking in any undertaking; and farmers must conduct their business like other prosperous traders, and to those who lament an extramundane tenant-right, I say—Go and do likewise. *T. —, Oct.* 26.

Liquefied Manure.—[Mr. Mechi has addressed the following letter to the editor of the *Essex Standard.*] To remove all doubt as to the quantity of Mangold Wurzel on my six-acre field, I annex the details:—One good square rod contained 89 roots, average weight 8 lbs. 2 ozs. each; or 52 tons per acre. One bad square rod—89 roots, average 5½ lbs. each; or 35 tons per acre. Average of the whole field, taken at the most moderate computation, 43 tons per acre. Average of another 10-acre field, not so highly liquefied, 37 roots per rod; 30 tons per acre. Many of the roots weigh 23 lbs. to 25 lbs. each, without tops, and measure 33 to 42 inches in circumference. There were gaps in each rod measured, but still the number of roots was great, as they almost touched one another. I attribute this large production to deep cultivation by forking, but more particularly to the use of liquefied manure. Super-phosphate of lime, at the rate of 2 cwt. per acre, was drilled under the roots. I have also a very heavy crop of Swedes, the best I have seen, manured with 2 cwt. of super-phosphate of lime and liquefied manure; soil, a strong yellow plastic clay, once very deeply ploughed before winter and scarified in the spring. I have also had a very heavy crop of Cabbages. In fact, I see clearly that the liquefied manure will enable me to produce my root crops at 5*s.* per ton, and will very largely increase my other productions. We frequently make the drains run at 5 feet deep with our liquid manure. The liquor is coloured, but has only an earthy smell after filtration. One load of bullock or cow dung liquefied will manure more land than four loads dry; it acts immediately and gives a quick return. I have not the least doubt that within 50 years our rivers and brooks will be used for irrigation and for drainage; our millers will use steam. We shall then be spared the painful records of perplexed discussions and threatened actions, and shall read in lieu thereof—"Tenders for the sewage of such and such towns, lunatic asylums, and parochial unions, for the term of 21 years, will be received by the committee on such and such a day." The essence of bread and beef will thus ebb back to its original parent—mother earth; the farmer will no longer fret and stew about Lobos Islands, Peruvian monopoly, or peculative deception; ingenious compounders of "genuine" guanos will be spared the trouble of a frequent visit to the sandy loam of Wanstead flats. I fancy that I see "practical" men stamping their feet, raising their spectacles, or scratching their heads, at these my "visionary" prognostics; but like many other "impossibilities" they will certainly be fulfilled. It is a mere question of time and belief. We may as well, therefore, begin to talk about economising our manures. *J. J. Mechi, Tiptree Hall, Kelvedon, Oct. 28th.*

Mangold Wurzel.—I hope our heavy land friends have secured their crop during the fine weather; as October averages, in most years, 21 fine days, I always avail myself of the opportunity thus afforded. This year, with an average of 34 tons per acre on 18 acres, I paid 10*s.* per acre for pulling, topping, filling into carts, stacking, thatching, and earthing—I found carting and drivers. After being exposed for 14 days to atmospheric influence, they will now be thatched, and in about a month after thatching they will be earthed, leaving the final closing of the top until the middle of December. This has always answered admirably; it is a great mistake to shut them up too soon, thus producing decomposition by heated and confined moisture. *J. J. Mechi, Tiptree Hall, Nov.* 1.

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

A Monthly Council was held at the Society's House, in Hanover-square, on Wednesday last, the 3d of November. The following Members of Council and Governors of the Society were present:—Lord Ashburton, President, in the Chair; Earl of Ducie, Lord Berners, Sir John V. Shelley, Bart., M.P., Colonel Austen, Mr. Raymond Barker, Mr. Barnett, Mr. S. Bennett, Mr Blandshard, Mr. Brandreth, Captain Stanley Carr, Colonel Challoner, Mr. Druce, Mr. Gadesden, Mr. Garrett, Mr. Brandreth Gibbs, Mr. Grantham, Mr. Fisher Hobbs, Mr. Hornsby, Mr. Jonas, Mr. Kinder Mr. Lawes, Mr. Lawrence, Mr. Milward, Mr. Pusey, Professor Sewell, Professor Simonds, Mr. Simpson, Mr. G. Turner, Professor Way, and Mr. H. Wilson.

Finances.—Mr. Raymond Barker, Chairman of the Finance Committee, presented the report on the accounts of the Society, from which it appeared that the current cash-balance in the hands of the bankers was 706*l.* He also laid on the table, for the information of the members, the quarterly statements of account, showing the income and expenditure, invested capital and liabilities of the Society.

Prize Essays.—Mr. Pusey, Chairman of the Journal Committee, reported the following Awards made by the Judges of Essays:—

I. To John Donaldson, of 4, North Cumming-street, Pentonville; the Society's Prize of 20*l.*, for the best account of the Cultivation and Management of Underwood, founded upon actual experience, and discussing the following points:—1. The nature of the soil; and when it has been recently planted, the mode of preparing it. 2. The average number of plants per acre. 3. The description of underwood growing. 4. The best sorts to be planted. 5. The cost of fencing and draining. 6. The comparative produce of not less than five acres under the common, and under an improved system of management.

II. To Finlay Dun, Jun., Lecturer on Materia Medica, &c., in the Edinburgh Veterinary College; the Society's Prize of 20*l.*, for the best account of those Diseases in the Horse and the Ox which either are or may become Hereditary.

Mr. Pusey also informed the Council that the Judges had "commended" the Essay on those Diseases in the Horse and the Ox which either are or may become Hereditary, bearing the motto: "Periturœ parcito chartæ."

Veterinary Grant.—Sir John V. Shelley, Bart., M.P., Chairman of the Veterinary Grant Committee, presented the following report, which was unanimously adopted by the Council:—

The Committee having examined the Report of the Royal Veterinary College, find that, for the last year, Professor Simonds has been liberated from all duties connected with the Horse Department in the College, and has delivered to the pupils additional lectures in the branch relating to cattle, sheep, and pigs, namely, five lectures in the week instead of three; the Committee are, however, of opinion that the connection of the Society with the Royal Veterinary College might be made more practically useful.

1. By investigating particular classes of diseases or subjects as may be from time to time directed by the Council;
2. By delivering lectures in the Council-room of the Society; and,
3. By supplying a detailed report of the cases of cattle, sheep, and pigs treated in the Royal Veterinary College.

With this amended system, the Committee recommend a renewal of the grant.

On the motion of Mr. Brandreth, seconded by Mr. Simpson, it was then resolved that a grant of 200*l.*, for the current year, should be made by the Council to the Royal Veterinary College.

Implements.—On the motion of Colonel Challoner, the consideration of the conditions and general regulations of the Gloucester Implement Prize Sheet were referred to the Implement Committee, with a request that they would report their recommendations to the Council at their next Monthly Meeting.—On the motion of Mr. Pusey, seconded by Sir John Shelley, it was ordered as an instruction to that committee "that they should take into their consideration the best means for enforcing greater punctuality in the presentation of the Judges' Reports."

Age of Pigs.—Mr. Milward presented, on the part of the Stewards of the Cattle Yard at Lewes, a report on the cases referred to them by the Council on the ages of particular pigs exhibited at the last country meeting of the Society at that place.—This Report was adopted by the Council.

Vice-President. — Notification was made of the vacancy occasioned in the list of the Vice-Presidents of the Society by the death of His Grace the Duke of Wellington, which, by the standing regulation, would be filled up at the ensuing Monthly Council on the 1st of December.

Inoculation for Pleuro-pneumonia.—Communications from Lord Stanley, one of her Majesty's Under-Secretaries of State for the Foreign Department; from Sir Emerson Tennent, one of the Secretaries of the Board of Trade; from Professor Simonds, of the Royal Veterinary College; and from [illegible] Willems, of Brasselt, in Belgium, were received with thanks, and referred to the Veterinary Committee of the Society, with a request that they would report the result of their investigation on this subject at the next Monthly Council in December.

Fat Cattle.—The Earl of Ducie reported to the Council the extensive communication into which he had entered, during the autumn-recess, with the greater number of those judges who had acted at the several country meetings of the Society; and the investigations he had made into the proceedings of the Society from its establishment, in reference to the increasingly stringent, but as it had proved, ineffectual instructions of the Council to repress the evil of awarding prizes intended for breeding stock to animals obviously inconsistent, on account of their over-fed condition, with that character. He was glad to find that, with only one or two exceptions, that although no case had occurred of an animal being disqualified on account of his fatness, the whole of the judges with whom he had communicated were decisive in their opinion that something ought to be done to arrest an evil which threatened to undermine and frustrate the primary object of the Society in this branch of its operations. His lordship found that the Highland Society had already found that the same tendency to exhibit fat stock in the breeding classes was creeping in, and that very summary and exclusive measures had been taken by that Society. The Royal

Agricultural Society of England would, he hoped, be able to derive advantage from the result collaterally derived from these measures of their friends in the north; in the meantime, he conceived that he had established a *prima-facie* case for the appointment of a committee, which he hoped the Council would grant him, to take into consideration the whole question of the condition of animals qualified to be shown as breeding-stock.—The following committee was then unanimously agreed to; namely, the Earl of Ducie chairman, Lord Berners, Mr. Milward, Mr. S. Bennett, Mr. Brandreth, Sir John Shelley, Mr. Simpson, Mr. Fisher Hobbs, Mr. Brandreth Gibbs, Mr. Shaw, Mr. Druce, Mr. Kinder, Mr. G. Turner, and the Stewards of the yard.

Miscellaneous Communications. — From Colonel Seymour, a report on the trial made with artificial manures on drained and undrained land in Windsor Great Park. From Mr. Barugh Almack, a statement of the advantages of Portable Farm Buildings, suggested as a remedy in some degree for the scarcity of farm labourers. From M. Letellier, a request for opportunity to test practically his mode of preparing seed-grain. From Mr. Bryant, a letter on his plan of cultivation and manuring; and from Mr. Turner, a statement in reference to the same. Letters from Mr. Crosskill, suggesting a prize for a bone mill, and from Messrs. Gibson and Richardson, suggesting a prize for a clod-crusher. Letters from Mr. Robinson on Reaping Machine, and from Mr. Barthropp on Veterinary inquiries,—for which the Council ordered their usual acknowledgments.

The Council then adjourned to Wednesday, the 1st of December, the intermediate Wednesday being reserved for meetings of the Guano-substitute Prize Committee, the Agricultural Implement Committee, and such other Committees as may find it desirable to assemble for business connected with reports to be made at the December Monthly Council.

Review.

How to Enfranchise your Copyhold under the Copyhold Acts of 1841 *and* 1852; by James Stewart, Esq., Barrister and Secretary of the Copyhold Commission. 2d edit.; pp. 48. Stevens and Norton.

The appearance at the present time of a pamphlet by the secretary of the Copyhold Commissioners, informing lords and tenants how either may enfranchise their copyholds without the assent of the other, will probably be acceptable to both. As it is, a copyholder can only enfranchise his land if the lord consents; but, by a recent act of Parliament, after the 1st of July next a tenant will be able at any time, in the great majority of cases at least, to enfranchise his land whether the lord consents or not; and in the present pamphlet the mode of proceeding is pointed out.

Miscellaneous.

Irrigation.—The mode in which irrigation benefits meadows is still doubtful; but I have no doubt whatever that the phenomenon is a complex and not a simple one; I mean, that the causes of action are more than one, or even than two. It is important to clear up this point, as by doing so we shall then understand better how to proceed with the investigation in future. The deposition of solid matter held in suspension is unquestionably one principal mode of action, but assuredly not the only one, for a clear spring issuing from the hill-side sometimes begins to act at once upon vegetation as it were from the cradle. Not only are the waters of a muddy river and of a crystal brook different, but, as Sir Stafford Northcote's gutterer, Mr. Ellis, informed me, the effect is distinct and sometimes opposite. A thick stream, experience shows, improves the condition of land—a clear stream may even impoverish the soil, though it brings the Grass forward. There is no paradox here, if we consider that the turbid water adds permanently to the soil: the clear water, by stimulating the herbage, occasions elements of vegetable life to be withdrawn from it. If successive crops then be removed without any return of manure, the natural result will be impoverishment. It is certain, moreover, that clear water itself has two modes of action. First, by salts, it may hold in solution ammonia, for instance, derived from the farm-yard, and very probably also ammonia brought up by deep-seated springs from the depths of the earth. Here let me remark, since landowners have, I know, been deterred from attempts at irrigation by the absence of lime from their streams, that while on the one hand streams flowing from chalk-hills are undoubtedly good, softness, on the other hand, is the test of the best water in Devonshire, the classic land of hill-side irrigation. The remaining cause of action is certainly warmth, and even here the action may be also a double one. Warm springs, it is well known, are the most effective, imparting, no doubt, their temperature to the ground; but all streams probably, when made to pass over land, impede the radiation of heat, that is, check the escape of warmth from the ground. Whatever the causes may be, the effect of irrigation in improving land far exceeds any other known method. Some time ago I gave a statement of the number of sheep kept by me on a water-meadow, which was thought by many to be a mistaken one. I can now say that this year the yield of my water-meadows has been further increased; and that on a piece of poor peaty land, recently irrigated, the fifth crop of Italian Rye-grass has been already severed, two crops being cut and three fed off; all the crops bulky, and produced by the simple stream only, not by any liquid manure. The application of the water in dry summers is, I find, an important advantage gained in addition. I said formerly that it involved some risk of rot to the sheep, and I did not escape the rot altogether myself two years ago; but, by using more precautions, I find the advantage greatly preponderate. If, as appears, land can now be irrigated at the cost of 1*l.* per acre, the profit will be at least 100 per cent.; for no farmer can doubt that the yearly value of the land must be increased to the extent of 1*l.* at the lowest. I must therefore once more advise those who have streams at command, and poor land that can be flooded, to examine for themselves the west country catch-meadows, especially those recently made by Mr Smith upon Exmoor. *Mr. Pusey, in the Journal of the Agricultural Society, Vol. XIII.*

Notices to Correspondents.

Asphalte Flooring: *W P Hoblyn* asks "A Constant Reader" if the asphalte he mentions will stand as flooring for a stable, or for pavement in roads? Is it coal tar?

Carrots: *Constant Subscriber*. From 30 to 40 lbs. daily may be given to a horse at slow work.

Draining and Irrigation: *W F M*. Probably Stephens'" Book on Drainage," taken from his "Book of the Farm," is as good as any we have. On Irrigation, there is an old work by another Mr. Stephens; otherwise, the subject must be studied in the pages of our agricultural journals.

Sales of Cochin Chinas: *Pershaw*. If we should receive reports of any sales deserving notice, we would not object occasionally to publish them.

Winter Food: *A B*. We should prefer 1 acre, if a good crop, of Cow Cabbage, to 1 acre of a good crop of Dale's Turnip; but we should prefer 1 ton of Dale's Turnips to 1 ton of the Cow Cabbage. We presume that about 4 or 5 lbs. of hay cut into chaff, with half a pound of Linseed, would be a day's keep for a Dorset ewe. "W. C. S." will answer your question about foot-root next week.

Worms in Foals: *S C W*. Linseed oil, 3 or 4 oz., according to size; oil of turpentine, 1 drachm. Mix and give carefully, repeating it after a few days' interval. *W C S.*

Markets.

COVENT GARDEN, Nov. 6.

Vegetables and all kinds of Fruit in season continue pretty plentiful. Pears and Apples are sufficient for the demand. A few Tomatoes may still be obtained. Filberts realise from 50s. to 65s. Potatoes have not altered in price since our last report. Mushrooms are scarcely so plentiful. Cut flowers consist of Heaths, Pelargoniums, Roses, Mignonette, Bignonia venusta, and Fuchsias.

FRUIT.

Pine-apples, per lb., 3s to 6s	Melons, each, 2s to 5s
Grapes, hothouse, p. lb., 2s to 6s	Oranges, per doz., 1s to 2s
Pomegranates, each, 2s to 4s	— per 100, 6s to 12s
Plums, per punnet, 2s to 4s	Lemons, per doz., 1s to 2s
Figs, per doz., 1s 6d to 2s 6d	Almonds, per peck, 5s
Apples, dessert, p. bsh., 4s to 7s	— sweet, per lb., 2s to 3s
— kitchen, do., 3s to 6s	Nuts, Barcelona, per bush, 20s
Pears, per doz., 1s 6d to 4s	— Brazil, do., 12s to 14s
— per half sieve, 5s to 7s	— Cobs, 75s to 80s

VEGETABLES.

Cabbages, per doz., 6d to 1s	Shallots, per lb., 6d to 8d
French Beans, per half sieve, 2s to 2s 6d	Garlic, per lb., 6d to 8d
Brussels Sprouts, p. hf. sieve, 1s to 2s	Lettuce, Cab., per score 4d to 6d
Cauliflowers, p. doz., 6d to 2s 6d	— Cos, p. score, 9d to 1s
Greens, per doz., 1s to 2s	Radishes, per doz., 8d to 1s
Tomatoes, per hf. sieve, 4s to 5s	— Turnip, 9d to 1s 6d
Potatoes, per ton, 85s to 140s	Endive per score, 1s to 1s 6d
— per cwt., 5s to 9s	Small Salads, p. pun., 2d to 3d
— per bush., 2s 6d to 4s 6d	Horse Radish, p. bundle, 1s to 3s
Turnips, per doz., 1s to 1s 9d	Mushrooms, p. pott., 9d to 1s 3d
Cucumbers, each, 2d to 6d	Sorrel, per hf. sieve, 6d to 1s
Veget. Marrow, p. doz, 6d to 1s	Artichokes, per doz., 4s to 6s
Celery, per bundle, 9d to 1s 3d	Fennel, per bunch, 2d to 3d
Carrots, p. doz., 2s 6d to 4s	Savory, per bunch, 2d to 3d
Spinach, per sieve, 1s to 2s	Thyme, per bunch, 2d to 3d
Onions, per bunch, 2d to 4d	Parsley, p. doz. bnchs., 2s to 3s
— Spanish, p. doz., 1s 3d to 2s	Mint, per bunch, 2d to 3d
Beet, per doz., 1s to 1s 6d	Basil, green, p. bunch, 3d
Leeks, per bunch, 1d to 2d	Marjoram, do., 2d to 3d
	Watercresses, p. 12 bun, 4d to 6d

COAL MARKET.—Friday, Nov. 5.

Hollywell, 16s. 6d.; Eden Mein, 17s. 6d.; Wallsend Haswell, 18s. 6d.; Wallsend Hetton, 18s. 3d.; Wallsend Stewarts, 18s. 6d.; Wallsend Tees, 18s. 3d.—Ships at market, 34.

HOPS.—Borough Market, Nov. 5.

Messrs. Pattenden and Smith report that the demand for Sussex and fine Weald of Kent Hops is still very extensive, and prices advancing. Duty estimated at 250,000*l.*

SMITHFIELD.—Monday, Nov. 1.

The number of Beasts is smaller, and there is a more cheerful trade for all kinds. Prime Scots are pretty readily sold at 4s. The supply of Sheep is still very limited; they are consequently freely disposed of, but the mild weather operates against any considerable advance. Trade is generally better for Calves, but 4s. must be considered an extreme quotation. Our foreign supply consists of 1680 Beasts, 5870 Sheep, and 120 Calves; from Scotland, 25 Beasts; and 2400 from the northern and midland counties.

Per st. of 8lbs.—s d	s d	Per st. of 8lbs.—s d	s d
Best Scots, Herefords, &c.	3 10 to 4 0	Best Long-wools	3 10 to 4 0
Best Short-horns	3 6 — 3 10	Do. Shorn	0 0 — 0 0
2d quality Beasts	2 6 — 3 2	Ewes & 2d quality	3 2 — 3 6
Best Downs and Half-breds	4 4 — 4 6	Do. Shorn	0 0 — 0 0
Do. Shorn	0 0 — 0 0	Lambs	0 0 — 0 0
		Calves	3 0 — 4 0
		Pigs	3 4 — 4 4

Beasts, 4812; Sheep and Lambs, 25,050; Calves, 185; Pigs, 285.

Friday, Nov. 5.

The supply of Beasts is smaller than for some time past; the demand is also small, and Monday's prices are not maintained throughout; indeed, several inferior qualities remain unsold. The trade in Sheep is very unimportant, both as regards supply and demand; although we have very few on offer, they are with difficulty disposed of at barely Monday's quotations. Good Calves are rather scarce, and consequently are readily sold, but we cannot quote over 4s. Trade is still dull for middling descriptions. From Germany and Holland we have 220 Beasts, 600 Sheep, and 100 Calves; from Scotland, 30 Beasts; 450 from the northern and midland, and 117 Milch Cows from the home counties.

Per st. of 8lbs.—s d	s d	Per st. of 8lbs.—s d	s d
Best Scots, Herefords, &c.	3 8 to 4 0	Best Long-wools	3 8 to 4 0
Best Short-horns	3 6 — 3 8	Do. Shorn	...
2d quality Beasts	2 4 — 3 2	Ewes & 2d quality	3 0 — 3 6
Best Downs and Half-breds	4 2 — 4 6	Do. Shorn	0 0 — 0 0
Do. Shorn	0 0 — 0 0	Lambs	0 0 — 0 0
		Calves	3 0 — 4 0
		Pigs	3 0 — 4 4

Beasts, 958; Sheep and Lambs, 3,600; Calves, 236; Pigs, 550.

HAY.—Per Load of 36 Trusses.

Smithfield, Nov. 4.

Prime Meadow Hay	72s to 78s	Clover	80s to 95
Inferior do.	60 66	Second cut	65 80
Rowen	42 54	Straw	25 28
New Hay	— —		E. J. Davis.

Cumberland Market, Nov. 4.

Prime Meadow Hay	78s to 86s	Inferior Clover	70s to 88
Inferior do.	60 72	New do.	— —
New Hay	— —	Straw	28 34
Old Clover	95 100		Joshua Baker.

Whitechapel, Nov. 4.

Fine old Hay	76s to 80s	Old Clover	95s to 100
New Hay	70 76	Inferior do.	— —
Inferior do.	50 63	New Clover	84 92
Straw	24 28	Inferior do.	54 65

POTATOES.—Southwark, Nov. 1.

The committee report that during the past week the market has been well supplied with Potatoes, both coastwise and by rail, and trade heavy at the following quotations:—Yorkshire Regents, 80s. to 110s.; Lincolnshire, 75s. to 100s.; Shaws, 75s to 85s.; Scotch Regents, 80s. to 90s.; French whites, 60s. to 80s

ENGLISH TIMBER.—Nov. 6.

	Round Timber. Per Load.	Plank. Per Foot Cube.	Inch Board. Per Foot Super
Oak	£5 0 0 to £6 10 0	3s. 0d. to 5s. 0d.	0s. 4½d. to 0s. 6d.
Ash	3 10 0 — 4 10 0	2 6 — 3 0	0 3 — 0 4
Elm	3 0 0 — 4 0 0	1 3 — 1 9	0 2 — 0 3
Beech	2 10 0 — 3 10 0	1 3 — 1 9	0 2 — 0 3
Lime	3 0 0 — 4 0 0	1 6 — 2 0	0 3½ — 0 4½

ENGLISH AND FOREIGN BARK.

In English few transactions have taken place, and prices continue unaltered.

English timber, per p. ld. of 45 cwt.	£ s. £ s. 10 0 to 13 0	Antwerp timber, per ton	£ s. £ s. 5 10 — 6 0
Do. Coppice, do.	11 0 — 14 0	Do. Coppice	5 10 — 6 0

WOOL.

Bradford, Thursday, Nov. 4.—The firmness manifested at the London sales gives a tone that no kinds of wool are to be bought better, and the staplers here hold for prices that the spinners cannot give. Noils and brokes are without change.

Colonial Wool Sales.—The sales which have been in daily progress for the last three weeks in London, have been characterised from the commencement by a good spirit. This activity continues, and prices are now higher than during the first few days of the series. An advance from 5 to 7½ per cent. above the closing rates of the August sales has been fully established. The attendance of English buyers does not exceed the general average, while the number of foreigners present is unusually small. Nevertheless there is an eagerness to buy displayed, which leaves no room to hope that there will be any reduction in prices during the present series, which will close on the 10th inst.

MARK LANE.

Monday, Nov. 1.—The supply of Wheat from Essex this morning was small, but fair from Kent, and met a free sale at the extreme rates of this day se'nnight. Owing to the large arrivals of foreign Wheat and Flour, only a retail business was transacted at last week's prices.—Barley brings 1s. per qr. advance upon the prices of this day week.—New Beans are 1s. per qr. dearer; old are unaltered in value.—For white Peas, we reduce our quotations 2s. per qr.; Maple and Dunn remain as last week.—The Oat trade is dull at late rates.—Flour maintains its value.

Per Imperial Quarter.	s. s.		s. s.
Wheat, Essex, Kent, & Suffolk...White	38—50	Red	32—44
— — fine selected runs...ditto	42—54	Red	38—48
— — Talavera	52—56		
— Norfolk	40—48	Red	—
— Foreign	34—54		
Barley, grind. & distil., 24s to 27s...	Chev. 26—34	Malting	28—30
— Foreign ...grinding and distilling	23—26	Malting	27—30
Oats, Essex, and Suffolk	18—19		
— Scotch and Lincolnshire...Potato	18—22	Feed	17—19
— Irish	Potato 17—20	Feed	17—19
— Foreign ...Poland and Brew	13—21	Feed	15—19
Rye	29—32	Foreign	—
Rye-meal, foreign	—		
Beans, Mazagan...31s to 33s...Tick	33—35	Harrow	33—35
— Pigeon ...34s — 37s...Winds.	39—41	Longpod	30—34
— Foreign	Small 33—38	Egyptian	32—34
Peas, white, Essex and Kent...Boilers	40—44	Suffolk	42—45
— Maple...32s to 35s...Grey	30—33	Foreign	32—44
Maize	White —	Yellow	—
Flour, best marks delivered ...per sack	37—40		
— Suffolk	ditto 25—32	Norfolk	25—32
— Foreign	per barrel 21—24	Per sack	28—34

Friday, Nov. 5.—The arrivals of foreign Wheat during the week have been again large, and of Flour good. To-day's market was thinly attended, and scarcely any business transacted. In floating cargoes arrived there has been a good sale on rather enhanced terms. In English we observe no alteration. The Flour trade is firm but not active.—Barley, Beans, and Grey Peas are scarce, and command Monday's prices; we have good supplies of white Peas from abroad.—The Oat trade is dull, at rather lower prices.

Imperial Averages.

	Wheat.	Barley.	Oats	Rye.	Beans.	Peas.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Sept. 25	39 6	27 4	17 11	31 0	33 10	29 10
Oct. 2	38 9	27 5	17 4	30 5	33 10	30 0
— 9	38 5	27 4	17 6	28 10	34 0	30 4
— 16	37 10	27 5	18 0	30 1	34 1	30 4
— 23	38 8	28 8	17 10	25 8	34 2	30 9
— 30	39 2	29 5	17 6	26 0	34 7	31 5
Aggreg. Aver.	38 9	28 0	17 8	28 8	34 1	30 5

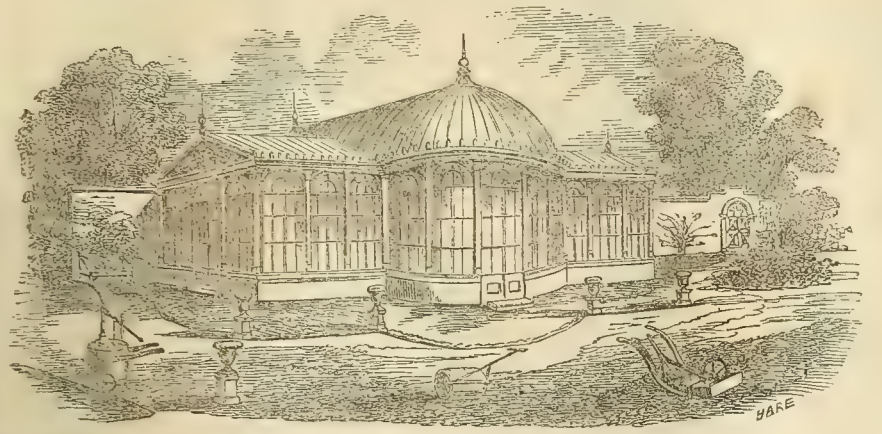
Fluctuations in the last Six Weeks' Averages.

Prices.	Sept. 25.	Oct. 2.	Oct. 9.	Oct. 16	Oct. 23.	Oct. 30.
39s 6d	—	...	...	...	...	...
39 2	...	...	...	...	...	...
38 9	...	...	...	...	...	...
38 8	...	...	...	...	...	...
38 5	...	...	...	...	...	...
37 10	...	...	...	...	...	...

Liverpool, Tuesday, Nov. 2.—The imports of British grain and Flour continue to be very light, but we have had rather large arrivals of Wheat and Flour from foreign ports. The Corn Exchange this morning was well attended. Business generally was not so active as during the past week, but prices were further improved, and an advance must be quoted on the rates of this day se'nnight of 3d. per bushel on Wheat, 6d. per barrel and sack on flour, 6d. per quarter on Indian Corn, and 1s. per qr. on Egyptian Beans. Oats and Oatmeal fully supported late prices, and a fair demand from consumers, and to hold over. Barley and Peas were unaltered in value. Linseed cakes advanced 10s. per ton.——Friday, Oct. 29.—With a diminished show of home Wheat, farmers realised an improvement of 2d. to 3d. per 70 lbs., and a tolerable clearance was effected. Flour was held for 3d. to 6d. per barrel more money. In Barley, Malt, and Peas no variation can be noted; but Beans are again rather dearer; the stock here is light, and transactions necessarily circumscribed. A large business is doing in floating cargoes, at rather improving rates, in which Wheats of all kinds participated.

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2, WINSLEY STREET, AND 76, OXFORD STREET, LONDON.



APPLICATION is requested for their NEW HORTICULTURAL LIST, containing Illustrations, Descriptions, and Prices of

Conservatories	Mowing Machines	Hand-glass Frames	Garden Engines	Flower Sticks
Greenhouses	Fountains	Game Netting	Do. Syringes	Garden Bordering
Hot Water Apparatus	Ornamental Wire Work	Hurdles	Do. Rollers	Watering Pots
Garden Vases	Flower Stands	Garden Chairs	Flower Labels	Garden Arches, &c.

IRON HURDLES, STRAINED WIRE FENCING, GAME NETTING, &c.

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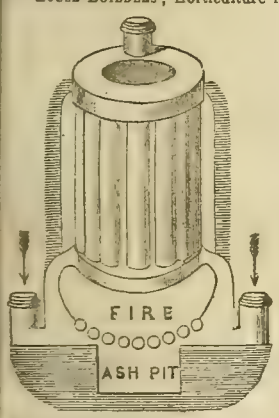
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EXHIBITION PRIZE MEDAL GATES AND ENAMELLED MANGERS.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER.

TUBULAR BOILERS OF ALL SIZES, WARRANTED THE MOST EFFICIENT.

J. WEEKS AND CO., King's-road, Chelsea, Hot-house Builders; Horticulture in all its branches upon the most improved principles. These Boilers are very powerful, durable, and economical. The fire warranted to last 15 hours without attention. The Furnace Bars are Hollow Tubes through which the return water passes before entering the upper part of the boiler, thereby causing a very rapid circulation, and producing double the effect from the same quantity of fuel.



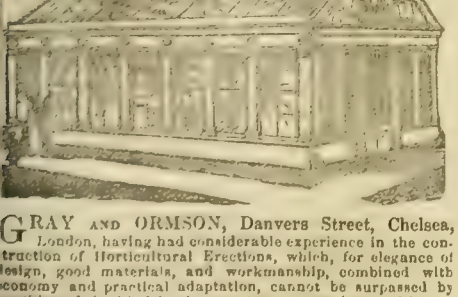
J. WEEKS AND CO., King's Road, Chelsea, CHALLENGE the whole world to make a Boiler that will produce anything like the same effect, with the same quantity of Fuel in a given time. It is one of those boilers that warms the water of their Victoria Regia Tank, which contains 20,000 gallons, and also heats several large Forcing-houses and ranges of Pits, with a small consumption of fuel.

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AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.



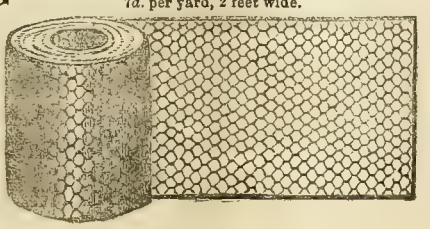
GRAY AND ORMSON, Danvers Street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

G. and O. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders they can with the greatest confidence give the most satisfactory references.

Their Hot-Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating by Hot Water can be made available.

"FRIGI DOMO."—A Canvas, made of prepared Hair and Wool, a perfect non-conductor of Heat and adapted to many Horticultural and Floricultural purposes for covering over frames where a fixed temperature is required. It is 2½ yards wide, and of any required length, at 1s. 6d. per yard run.—Manufactured only by T. E. Absalon, Carpet Manufacturer, 151, New Oxford-street, London.

GALVANISED WIRE GAME NETTING.—7d. per yard, 2 feet wide.



	Galvanised.	Japanned Iron.
2-inch mesh, light, 24 inches wide ...	7d. per yd.	5d. per yd.
2-inch " strong " ...	9 "	6½ "
2-inch " extra strong " ...	12 "	9 "
1⅝-inch " light " ...	8 "	6 "
1⅝-inch " strong " ...	10 "	8 "
1⅝-inch " extra strong " ...	14 "	11 "

All the above can be made any width at proportionate prices. If the upper half is a coarse mesh, it will reduce the prices one-fourth. Galvanised sparrow-proof netting for Pheasantries, 3d. per square foot. Patterns forwarded post free.

Manufactured by BARNARD and BISHOP, Market-place, Norwich, and delivered free of expense in London, Peterborough, Hull, or Newcastle.

GREENHOUSE & CONSERVATORY BUILDING ESTABLISHMENT.

HOT-WATER APPARATUS MANUFACTORY,
KENSALL-GREEN, HARROW-ROAD, LONDON.

JOHN TAYLOR begs most respectfully to call the attention of the Nobility, Gentry, and Gardeners, to the very superior manner in which he erects all kinds of Greenhouses, Conservatories, Forcing Pits, &c., and all other buildings for Horticultural purposes, combining all the most modern improvements with elegance and utility. His manner of heating Horticultural Buildings, Churches, Chapels, Public Buildings, Entrance Halls, &c., has received the greatest approbation from the Nobility and Gentry by whom he had been extensively engaged.

THE RHEOCLINE, OR SPRING COUCH,

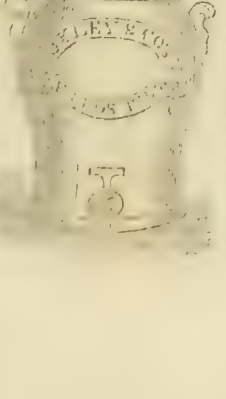
portable without detaching any of its parts, softer than a Feather Bed, and which can be changed in One Moment from a Couch to either a Bed or Sofa, may be seen at

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where also is on view a great variety of METALLIC BEDSTEADS, fitted with and without the patent RHEOCLINE, &c. &c., together with a large assortment of the patent Radiating and other STOVES, and every other description of IRONMONGERY.

PURE WATER.

THE ASBESTOS FILTER.—MANUFACTURERS, TAYLOR AND PEARS, LATE OXLEY AND CO., 8, George-yard, Lombard street, London.



EXTRACT FROM "LANCET," *June* 26, 1852.

"The Asbestos Filter of Messrs. Oxley and Co. is the best Filter hitherto constructed. Its superiority consists in the following circumstances:—First, The filtering media are composed of layers of Asbestos and river sand, so arranged as to admit of being readily removed and cleansed from time to time, from the impurities derived from the wa or which passes through them. Second, The mineral, Asbestos, is substituted for the animal substance, sponge, the advantages of the former being, that it is not liable to become, like sponge, putrescent, and that it may be easily and perfectly cleansed. As the public are still condemned to drink filthy Thames water, no family having regard for cleanliness and health should be without an efficient filter."

HORTICULTURAL GLASS

OF EVERY DESCRIPTION.

THOMAS MILLINGTON'S WAREHOUSE,

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GLASS FOR CONSERVATORIES, GREENHOUSES, PIT FRAMES, &c.

JAMES PHILLIPS AND CO. beg to hand their prices of SHEET GLASS for cash:

Cut to order in Panes not above 40 inches long.	Per foot.	Packed in Boxes of 100 feet each.	£. s. d.
16 oz.	2¾d. to 3d.	6 by 4, 6½ by 4½ ...	0 13 0
21 do.	3½d. to 4½d.	7 by 5, 7½ by 5½ ...	0 15 0
26 do.	3½d. to 7½d.	8 by 5, 8 by 5½ ...	0 15 0
32 do.	6½d. to 8d.	8 by 6, 8½ by 6½ ...	0 15 0
		9 by 7, 10 by 8 ...	1 0 0

Various sizes of 16 oz. Sheet Glass, such as 12 by 9, 12 by 10, 13 by 10, 14 by 10, and 15 by 10, packed in boxes at 18s. per 100 feet.

Packed in Crates of 300 feet at 2½d., 16 ounces to the foot, or 14 ounces 2¾d.

PATENT SHEET GLASS,

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THE GARDENERS' CHRONICLE

AND

AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 46.—1852.] SATURDAY, NOVEMBER 13. [PRICE 6*d*.

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Melampyrum arvense	726 *a*	Wine, Malvasia Grape	726 *a*
Mildew, Vine	724 *a*		

NATIONAL FLORICULTURAL SOCIETY.—The NOVEMBER MEETING will not be held, in consequence of the DUKE'S FUNERAL being fixed for the day of such Meeting. JOHN EDWARDS.

The DECEMBER MEETING will be held on the 2d, at Three o'Clock.

STOKE NEWINGTON CHRYSANTHEMUM SOCIETY.—The Sixth Annual Exhibition of this Society will be held at the Manor Rooms, Church-street, Stoke Newington, on TUESDAY, November 23d (in consequence of the Duke's funeral on the 18th), when Prizes, including Three Silver Cups, will be awarded to two-thirds of the Exhibitors in each class.

OPEN TO ALL EXHIBITORS.

Doors open at Twelve o'clock. Admission, from Twelve to Four o'clock, 1*s*.; after Four, 6*d*.

Further particulars may be had on application to the secretary, A. LAIDLAW, High-street, Stoke Newington.

SCOTTISH GARDENERS' AND LAND-STEWARDS' ASSOCIATION.

At a Meeting for the Election of Two Pensioners on the General Funds of the Association, held at the Chambers, No. 6, York-place, Edinburgh, on Wednesday, the 10th day of November inst., the following was the state of the votes at the close of the Ballot:—DONALD SMITH, aged 67, 140 votes; DAVID STEWART, aged 61, 155 votes; JOSEPH M'NAUGHTON, aged 46, 151 votes. The two Candidates Donald Smith and David Stewart, having the highest number of votes, were thereupon declared duly elected.

J. H. BALFOUR, Chairman.

Edinburgh, November 12, 1852.

NEW SEEDLING APPLE.

BROWNLEES' RUSSET, raised in 1846, of the same quality as the Royal Russet, but keeps longer and better without shrivelling; very different in growth from any of the Russets, being most vigorous and perfectly free from canker; it will be found a great acquisition for kitchen use in spring, as late as May or June. A specimen sent to the Horticultural Society was noticed as follows: "Fruit about the size of the Royal Russet, roundish, eye small, nearly close; stalk short, not deeply inserted, skin covered with a soft russet; flesh greenish white, tender, and sweet."—*Feb.* 12, 1851.

Fine dwarf trees, 3*s*. 6*d*. each, carriage paid to London; the usual allowance to the trade when three are taken. A remittance or reference expected from unknown correspondents. All orders to be addressed to WM. BROWNLEES, Hemel Hempstead, Herts.

NOTICE.

CHEAP AND SELECT NURSERY STOCK.

THE SUBSCRIBERS beg to refer all who are interested in Planting to their Advertisement of the above stock in the *Gardeners' Chronicle*, November 6, page 707.

WILLIAM JACKSON and Co., Bedale, Yorkshire.

FOREST TREE SEEDLINGS.—The SUBSCRIBERS respectfully intimate that their LIST OF NURSERY STOCK for the Season may be had on application.

WILLIAM URQUHART and SONS, Dundee.

CHOICE CINERARIAS, CHEAP.

WILLIAM RUMLEY AND SONS can supply fine strong CINERARIAS, of the under-named, at 9*s*. per dozen, or smaller plants, 7*s*. 6*d*. per dozen, hamper included, for pre-payment, viz.:—Lady H. Campbell, Ellie Deans, Coronet, Adela Villiers, Catherine Hayes, Attractive, Princess Royal, Queen of England, Amy Robsart, King of Crimsons, Annie, Bridesmaid, Carlotta Grisi, &c. Good show varieties, strong plants, 6*s*. per dozen. Post-office orders to be made payable at Richmond.—Gilling, near Richmond, Yorkshire.

N. GAINES begs to announce that he is now prepared to send out his New Seedling EPIPHYLLUM TRUNCATUM INTERMEDIA. This is a Seedling raised between E. truncatum and E. t. violaceum; it is a beautiful crimson flower, with light tube, a very fine blooming Hybrid. It may now be seen in flower at the Nursery. From 10*s*. 6*d*. to 21*s*.

NEW VARIEGATED GERANIUM—GAINES' ATTRACTION.

This is one of the most distinct variegated varieties yet introduced to the public, possessing a dark green foliage, with red markings, edged with pure white; the colour of the flower a beautiful cherry, and quite different to any other variegated Geranium yet sent out. From its freeness of growth and compact habit, as it blooms in great abundance, it will be valuable for bedding or pot culture. 10*s*. 6*d*.

A Descriptive List of Show and Fancy Pelargoniums, &c., may be had by applying at the Nursery, Surrey-lane, Battersea, near London.

CHRYSANTHEMUMS.

CHANDLER AND SONS, NURSERYMEN, Wandsworth Road, Surrey, beg to inform the public that their large collection of the above is now in flower, and will continue very fine for some weeks.

Good plants coming into flower, 12*s*. per dozen; larger size, 18*s*. per dozen. Camellias, fine healthy plants, full of flower buds, 30*s*. per dozen and upwards.

SEEDS DIRECT FROM THE GROWERS.

(CARRIAGE FREE BY RAILWAY.)

SUTTON AND SONS have the pleasure of announcing that they have succeeded in harvesting their SEEDS in good condition, notwithstanding the unfavourable weather. *The advantages of purchasing Seeds direct from the Growers* are obvious. As some sorts are scarce, early orders are requested and recommended.—For particulars address JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

DUTCH FLOWER ROOTS, at a reduced price.—

HYACINTHS, mixed, all colours	21*s*. per 100
TULIPS, mixed, early double and single	6*s*. ,,
IRIS, mixed, splendid colours	4*s*. ,,
CROCUS, Dutch, mixed, all colours	12*s*. p. 1000

EARLY ANEMONES, in splendid and great variety of colour, strong flowering roots, 5*s*. per 100; recommended in the *Gardeners' Chronicle*, No. 43, page 679.

The above, with every other kind of flowering Bulb, equally low in price, to be had of WILLIAM DENYER, Seedsman and Florist, 82, Gracechurch-street (near the Spread Eagle), London.

No charge for packages.

TO NURSERYMEN AND PLANTERS.

H. AND R. STIRZAKER, NURSERYMEN, being about to clear some ground, have to offer the following transplanted Trees, of the finest quality, being stiff and hardy grown:—300,000 Ash, 1½ to 2 feet high, 9*s*.; 2 to 3 feet, 10*s*. 6*d*; 3 to 4 feet, 13*s*.; 4 to 5 feet, 16*s*. per 1000.—100,000 Larch, 2 feet, 10*s*.; 2½ to 3 feet, 12*s*. 6*d*.; 3 to 4 feet, 15*s*. per 1000.—Silver Fir, 1½ to 2 feet, 25*s*. per 1000.—Sycamore, 1½ to 2 feet, 10*s*. 6*d*.; 2 to 2½ feet, 12*s*. 6*d*. per 1000.—Scotch Firs, 1½ to 2 feet, 10*s*. 6*d*.; 2 to 3 feet, 12*s*. 6*d*., and about a million of other Forest Trees, of sorts, equally reasonable.—Skerton, near Lancaster, Nov. 13.

GERANIUM "ATTRACTION" (KINGHORN.)

THE VARIEGATED LEAF GERANIUM, WITH A SCARLET HORSE-SHOE, which attracted so much attention at the London Shows during the past season, has been purchased of Mr. KINGHORN. Messrs. J. AND C. LEE, and due notice will be given when it is ready to be sent out.

This Advertisement is inserted in consequence of Mr. Gaines having taken advantage of its notoriety by naming a flower of his own "Attraction," which has never been exhibited.

Nursery, Hammersmith, near London.

CHOICE BULBS AND FLOWER ROOTS.

	s. *d*.	*s*. *d*.
Tropæolum tricolorum, fine tubers, each	2 6	to 3 6
,, brachyseras ,, ,,	1 6	,, 2 6
,, azureum ,, ,,		3 6
Tritonia aurea, splendid ,, ,,	2 6	,, 5 0
Oxalis elegans, new and fine ,, ,,		1 6
,, ,, major, ,, ,,		1 6
Cyclamen, in seven beautiful varieties	1 0	,, 5 0
Babiana rubra cyanea ,, ,,		3 6

Superb collections of Alstrœmeria, Ixias, Sparaixis, Oxalis, Babiana, and various other Cape Roots. For superior selections of Ranunculus, Anemone, Gladioli, English Iris, Imported Dutch Hyacinths, Crocus, and other roots. Also, for collections of choice Stove, Greenhouse, Winter Flowering Herbaceous, Rock, and other plants, see advertisements in the *Gardeners' Chronicle* of October 16th and 30th.

For particulars, see "Autumn Catalogue," supplied for three postage stamps.

BASS and BROWN, Seed and Horticultural Establishment, Sudbury, Suffolk.

RHUBARB.

MITCHELL'S GREY EAGLE.—A new and most excellent variety, having all the best qualities combined in one, both for market and culinary purposes. 24*s*. per doz.

Also, Mitchell's ROYAL ALBERT, Myatt's LINNÆUS and VICTORIA, 6*s*. per doz. All the above are strong one year planted roots. Also some very strong two year old roots of ROYAL ALBERT for early forcing, 9*s*. per doz.

Post-office orders payable to WILLIAM MITCHELL, Enfield Highway, Middlesex.

STRAWBERRY SEED.—This rarity is offered for the first time to the notice of emigrants, persons going abroad, &c., as the seed of the Strawberry may be raised with success, while it would be extremely difficult and hazardous to take out plants of this beautiful and delicious fruit, it being a great chance if they would survive a journey of two or three months, while seed may be taken of the following varieties, packed in the smallest compass, and grown in any part with success:—British Queen, Victoria, Alice Maud, Keens' Seedling, Prolific, Black Prince, Surprise, Eliza, Globe, Eleanor, Hautbois, Caroline, Elton Pine. Price 2*s*. 6*d*. each packet, or a packet of mixed seed of the above varieties, 5*s*.

RHUBARB SEED.

Also a quantity of Rhubarb Seed saved from the following first-rate varieties:—Victoria, Mitchell's Royal Albert, and Linnæus. Price 1*s*. per packet, or 2*s*. 6*d*. the three packets.

RASPBERRY SEED.

Seed also of this delicious fruit has been saved of the true varieties of the Fastolff Raspberry, Perpetual or Double-bearing Raspberry, and Antwerp Raspberry. Price 1*s*. per packet, or the three packets for 2*s*. 6*d*.

These varieties will be found of great importance to emigrants and persons leaving England. A remittance by penny postage stamps, or Post-office order, must be sent by all unknown correspondents to the amount, when the whole, or any part (as the case may be) will be forwarded immediately.

EDWARD TILEY, Nurseryman, Seedsman, and Florist, 14, Abbey Church-yard, Bath.

HYACINTHS, DUTCH BULBS, TULIPS, ETC.

HENRY GROOM, Clapham Rise, near London, by Appointment FLORIST TO HER MAJESTY THE QUEEN, and to HIS MAJESTY THE KING OF SAXONY, begs to say that he has received his usual supply of HYACINTHS and DUTCH BULBS, in very fine condition. His Catalogue of Bulbs, &c., will be forwarded on application.

CHOICE HOLLYHOCKS.

WILLIAM HUSSEY begs to offer the undernamed sorts for 12*s*., package included, viz., Comet, Delicata, Enchantress, Mount Etna, Model of Perfection, Queen, Abd-el-Kader, Rosy Queen, Formosa, Rosea grandiflora, Elegans, Obscura, Commander in Chief, Bicolor, Mr. C. Baron; also some very choice Hollyhock Seed, saved from an Amateur's Collection, who cultivates every known good variety, in packets containing 200 seeds, post free, for 24 penny postage stamps. Price List of W. HUSSEY'S Collection of Hollyhocks and other Florist's Flowers may be had in exchange for one penny postage stamp.—Horticultural Gardens, Norwich, Nov. 13.

GRAPE VINES FROM EYES, VERY FINE.

J. WEEKS AND Co., King's Road, Chelsea, have a most splendid collection of VINES, very strong and clean, two and three years old, from Eyes, all the best sorts for PLANTING or FRUITING IN POTS.

Also an extensive and valuable collection of STOVE and GREENHOUSE PLANTS, with all new varieties. See our Catalogues devoted to each. Also our Illustrations on HORTICULTURAL BUILDING and HEATING by HOT-WATER.

J. WEEKS and Co., King's-road Chelsea.

THE BLACK BARBAROSSA,

A GRAPE THAT DON'T KNOW HOW TO SHANK.

THE above Grape has been exhibited at the London Horticultural Society's Rooms, Regent-street, on the — January, 1849, for which a Certificate was given; January 19th, 1850, a Banksian Medal; November 19th, 1851, a Banksian Medal. (See *Gardeners' Chronicle*). Fine Fruiting Plants, 10*s*. 6*d*. each; good Plants, 5*s*. 6*d*.; to be obtained of the London Agents, Messrs. DAWE, COTTRELL, and BENHAM, Seed Merchants, 38, Moorgate-street; or Mr. I. ISRAEL, 7, Centre Buildings, Covent Garden Market; and JOHN BUTCHER, Nurseryman, Stratford-on-Avon.

Samples of the Berries will be sent, post free, upon the receipt of 12 postage stamps.—Stratford-on-Avon, November 13.

ROBERT M. STARK, Edgehill Nursery, Dean, Edinburgh, begs to intimate that his Lists of Prices, wholesale and retail, of NURSERY STOCK for the season, are now ready, and may be had on application. The quality of his Stock will be found to be above the average.

A large supply of Herbaceous and Alpine Plants, Hardy Ferns, and Aquatics, &c.—Nov. 13.

CORNWELL'S VICTORIA RASPBERRY.—Canes of the above to be had of GEORGE CORNWELL, Market Gardener, Barnet, at 15*s*. per 100; the usual allowance to the trade when 300 are taken. Post-office orders made payable at Barnet. N.B. A quantity of strong Currants and Gooseberries.—Barnet, Nov. 13.

JOHN KEYNES, NURSERYMAN, Salisbury, offers the following Set of SEEDLING CINERARIAS, with every confidence that they will prove first-rate gems, and give great satisfaction. Fine Plants now ready, with the usual discount to the Trade, or the set for 20*s*.

NEW FIRST-RATE CINERARIAS.

LADY BATHURST.—White edged purple, very smooth beautiful habit. 5*s*.

LOVELINESS.—Light edged pink, very free bloomer, fine habit. 5*s*.

KING OF THE BLUES.—Blue, the best ever offered, finest habit, free bloomer, large truss, first-rate in every respect. 10*s*. 6*d*.

BRITISH QUEEN.—White, crimson tip. 5*s*.

LILAC STANDARD.—The finest lilac, beautiful colour and habit. 5*s*.

PRINCE ALBERT.—Light shaded lilac. 5*s*.

PINK.

MRS. WOOLF (KEYNES.)—A decided improvement on Lola Montes; perfect rose, leaf full and fine, first class. 5*s*. per pair, free by post.

The Cinerarias are very few; first orders will be first attended to.

THE TRUE LANCASHIRE SHOW GOOSEBERRIES.

JOHN HOLLAND, Bradshaw Gardens, Middleton, near Manchester, will supply 24 strong plants for 12*s*., or 12 plants for 7*s*., package &c. included, of the below-named Gooseberries, which are the heaviest winners of the season—taken from the Gooseberry Register of 1852, viz.:—

RED.	dwts.	grs.
London	37	7
Companion	31	11
Wonderful	31	0
Slaughterman	30	0
Conquering Hero	28	9
Napoleon le Grand	26	19
Lion's Provider	26	22
Roaring Lion	26	2

GREEN.		
Thumper	28	13
Weathercock	28	12
Overall	27	6
Turnout	26	21
Queen Victoria	26	6
Random Green	25	15
Green River	25	22
Providence	25	0

YELLOW.		
Catherine	32	8
Peru	30	0
Pilot	29	6
Drill	28	15
Broom-girl	28	12
Leader	27	3
Goldfinder	26	16
Railway	26	4

WHITE.		
Snowdrop	34	5
Lady Leicester	30	4
Queen of Trumps	30	0
Cossack	28	18
Freedom	28	15
Tally-Ho	26	18
Snowball	25	12
Flora	25	7

Post-office orders to be made payable at Middleton, Lancashire.

Priced Lists are now ready of Auriculas, Alpines, Polyanthuses, Primroses, Carnations, Picotees, Pinks, Pansies, Gooseberries, &c., and may be had for one postage-stamp.

Bradshaw Gardens, Middleton, Nov. 10.

TO NOBLEMEN, GENTLEMEN, AND THE TRADE.

HAY, SANGSTER, AND CO. are now ready to send out their NEW EARLY NO. 1 PEA, price 2s. 6d. per quart, and can with confidence recommend it as a very superior article.

Also their New Early Scarlet PRINCE OF WALES RHUBARB, 5s each. It is quite as early as the Prince Albert, much larger, red throughout, of exquisite flavour, and a large cropper.

Post-office Orders from those not having an account open with H., S., and Co., to be made payable to the Firm, at the Borough Post-office, or postage stamps.

For Testimonials and parties where both articles can be had, see *Gardeners' Chronicle* 18th September, 1852, page 594.

Newington Butts, London.

DAWE, COTTRELL, AND BENHAM (successors to FREDERICK WARNER) beg to call public attention to their extensive collection of DUTCH BULBS, comprising Hyacinths, Crocus, Narcissus, Anemones, Ranunculus, Tulips, &c. &c., Priced Lists of which can be obtained, post free, on application.

Strawberry Plants, Fruit Trees, Roses, Rhubarb Roots, &c., of all the newest and best varieties, supplied at the advertised prices.

DAWE, COTTRELL, and BENHAM are also Agents for the sale of Butcher's Black Barbarossa Grape Vine; for description, price, &c., see *Gardeners' Chronicle*, October 23.

36, Moorgate-street; and 3, Laurence Pountney-lane, London.

(Established at Cornhill, 1720.)

TO THE SEED TRADE.

BEAUTIFUL NEW CALIFORNIAN ANNUALS.

COLLINSIA BARTSIÆFOLIA (HOOKER);

MULTICOLOR (LINDLEY.)

MESSRS. VEITCH AND SON are now prepared to supply Seed of the above-named Collinsias, which were sent them from California by Mr. Lobb, and are at present solely in their possession. They have been exhibited at the London Shows, where they obtained Certificates of Merit, and were greatly admired.

Messrs. V. and S. have also to offer Seeds of the beautiful and sweet-scented ABRONIA UMBELLATA, which is well adapted for bedding. Prices forwarded on application.

Exeter, November 13.

EXHIBITIONS IN THE GARDEN

OF THE

HORTICULTURAL SOCIETY OF LONDON,

FOR THE YEAR 1853.

THE EXHIBITIONS WILL TAKE PLACE ON THE SECOND SATURDAYS IN MAY, JUNE, AND JULY.

NAMELY, MAY 14, JUNE 11, JULY 9.

SCHEDULE OF THE PRIZES.

FLOWERS.

(Pots are to be measured inside, one inch below the rim.)

Division I.—IN WHICH NURSERYMEN AND PRIVATE GROWERS EXHIBIT INDEPENDENTLY OF EACH OTHER.

1. Pelargoniums; in collections of 12 new and first-rate varieties, with perfectly distinct colours, cultivated with superior skill, in 8-inch pots. GB—SG—CE.

N.B. The collections in which the varieties are most distinct *will have the preference.*

2. Six distinct Fancy Pelargoniums; in 8-inch pots. SG—CE—LS.
3. Six distinct Scarlet Pelargoniums; in 8-inch pots. CE—LS—SK. *(In July only.)*
4. Roses, in pots; in collections of 12 distinct varieties, in 13-inch pots. GB—SG—CE. *(In May and June only.)*

N.B The Judges will disqualify any collection that shall be found to contain a plant which has been recently placed in the pot from the open ground, or that is shown in a pot of any other size than 13 inches.

Division II.—IN WHICH NURSERYMEN ALONE CAN SHOW.

5. Exotic Orchids; in collections of 15 species of superior cultivation. GB—SG—CE.

Division III.—IN WHICH ALL PERSONS ARE ADMITTED TO EQUAL COMPETITION.

6. Stove or Greenhouse plants; in collections of 20 plants. LG—GK—GB—SG.

N.B. Calceolarias, Fuchsias, Orchids, and Pelargoniums are excluded from all the four classes of Stove or Greenhouse plants. Only three species or varieties of the same genus can be allowed in this and the following number, and no two specimens of the same kind.

7. Stove or Greenhouse plants; in collections of 15 plants. GB—SG—CE.
8. Stove or Greenhouse plants; in collections of 6 plants, in pots or tubs not less than 20 inches in diameter. GB—SG—CE.

N.B. Only two species or varieties of the same genus can be allowed in this number.

9. Stove or Greenhouse plants; in collections of 6 plants, in pots not exceeding 13 inches in diameter. SG—CE—LS.

N.B. Not more than one species or variety of the same genus can be allowed in this number. No one can show in more than one of the classes of Stove or Greenhouse plants except No. 8.

10. Exotic Orchids; in collections of 20 species of superior cultivation. GK—GB—SG—CE—LS—SK—SB—C.
11. Exotic Orchids; in collections of 10 species of superior cultivation. SG—CE—LS—SK—SB—C.
12. Exotic Orchids; in collections of six species. CE—LS—SK—SB—C.

N.B. Nurserymen cannot show in either of these three classes of Orchids. No exhibitor can show in more than one of them.

13. Greenhouse Azaleas; in 12 distinct varieties. GB—SG—CE.
14. Greenhouse Azaleas; in 6 of the newer kinds, in 8-inch pots. SG—CE—LS.
15. Greenhouse Azaleas; in 6 distinct varieties. SG—CE—LS.

N.B. No one can show in 13 and 15 at the same time.

16. Indian Rhododendrons, and their hybrids; in 6 distinct varieties. SG—CE—LS. *(In May only.)*
17. Cape Heaths; in collections of 10 entirely distinct varieties. GB—SG—CE.

N.B. It is expected that the same plant shall not be exhibited on more than one occasion. The Judges, in making their award, will give, both in this and the two next numbers, a marked preference to plants grown in their natural forms, without stakes or stays; and will also take distinctness of species into favourable consideration. No duplicate will be allowable. No one can take more than one prize in the three classes of Heaths.

18. Cape Heaths; in collections of 10 entirely distinct varieties, in 11-inch pots. SG—CE—LS.
19. Six distinct Cape Heaths; grown in 8-inch pots. CE—LS—SK.
20. Single specimens of very superior cultivation, excluding everything which can be shown singly in other numbers, and plants not in flower. LS—SK—SB.

N.B. No one can take more than one prize in this number.

21. Tall Cacti; six distinct varieties in flower. CE—LS—SK.
22. Roses of 50 varieties in loose bunches, each consisting of three trusses as they are gathered, so as to exhibit, as far as possible, the habit of the variety. CE—LS—SK. *(In July only.)*

N.B. No one who exhibits in this number can also compete in the following.

23. Roses, exhibited as in No. 31, and in 25 varieties. LS—SK—SB. *(In June and July only.)*

N.B. Private growers only can exhibit here. If Roses are brought for exhibition without attention to the regulations here explained, they will not be allowed to compete.

24. Fuchsias; in sixes, in distinct colours. CE—LS—SK. *(In July only.)*
25. Achimenes; in collections of six distinct varieties, exhibiting superior cultivation. LS—SK—SB. *(In July only.)*
26. Helichrysums; in sixes. LS—SK—SB.
27. Calosanths; in sixes. LS—SK—SB. *(In July only.)*
28. Ferns; very distinct hothouse kinds, not fewer than 10, to be shown intermixed with Orchids. LS—SK.
29. New Hybrid Plants, exclusive of Roses, Rhododendrons, Azaleas, and garden cross-breds, such as Gloxinias and the like. LS—SK—SB.

N.B. It is certain that much may be effected by hybridising plants in common cultivation, such as Lilacs, Honeysuckles, &c. &c. This class will be judged by the Society's officers.

30. Newly introduced or extremely rare ornamental plants in flower, not introduced by the Society. SG—CE—LS.

N.B. These Medals will be awarded by the Society's officers, and not by the usual Judges. Exhibitors will particularly observe that none but new or rare plants can be exhibited under this number. *Nothing will be regarded as new which has been exhibited in the Garden or Regent-street in a previous season*, nor garden seedlings, hybrids, nor domesticated varieties of any kind. No prizes will be given to New Plants which have been introduced through the Society.

31. Miscellaneous single plants. SK—SB—C.

N.B. Exhibitors in this class will not be thereby *entitled* to a pass ticket. Heaths, Cockscombs, Heartsease, Hydrangeas, and bouquets, together with all plants for which separate prizes are offered as single specimens, are altogether excluded from this and the following Number.

32. Miscellaneous collections of plants, exclusive of Ferns. CE—LS—SK.
33. Seedling Hybrid Pelargoniums, of entirely new crosses. SB—C.

N.B. Every seedling must be shown singly, and marked with the name it is to bear. The same seedling cannot gain a prize more than once in the season. The plants must be shown in pots, and not in a cut state.

34. Carnations; in collections of 12 distinct varieties, in 11-inch pots. CE—LS—SK. *(In July only).*
35. Picotees; in collections of 12 distinct varieties, in 11-inch pots. CE—LS—SK. *(In July only.)*
36. Yellow Picotees; in collections of 6 distinct varieties, in 11-inch pots. LS—SK—SB. *(In July only.)*
37. Pinks; in collections of 12 distinct varieties, in 8-inch pots. SK—SB—C. *(In June only.)*
38. Six distinct Calceolarias; in 8-inch pots. CE—LS—SK.

N.B. No medals are to be awarded unless the plants are in very high health and extremely well grown. *(In May and June only.)*

39. Pansies; in twelves, in 8-inch pots. SK—SB—C.
40. Alpines; in twelves. SK—SB—C.
41. Cinerarias; in sixes, in 8-inch pots. SK—SB—C. *(In May only.)*

N.B. Prizes will only be given to extremely fine specimens.

FRUIT.

ALL PERSONS ARE ADMITTED TO EQUAL COMPETITION.

For the month of May no Schedule is proposed; but Fruit will be rewarded by the Judges according to its merits, and with reference to the following Schedule of Prizes for June and July.

Fruiterers are not allowed to exhibit at all. No duplicate awards can be made in any case whatever. No person can take more than one award in each Letter, except in **B, D, H, K, L, M, N.**

N.B. All Fruit must be sufficiently ripe for Market, WELL COLOURED, and PROPERLY NAMED by the Exhibitor, as far as practicable; if the contrary, it will be disqualified.

A Collections of six Pine Apples, not including more than two of a sort. SG—CE—LS.

B Pine Apples, in single specimens:—
1. Queens. CE—LS—SK.
2. Envilles, Cayennes, Sugarloafs, Black Jamaicas, Otaheites, &c. CE—LS—SK.
3. Providences. CE—LS—SK.

C Grapes in pots; three specimens to be shown. CE—LS—SK.

D Grapes; in three bunches for private growers, and six bunches for Market Gardeners:
1. Black Hamburgh. CE—LS—SK.
2. Black Prince, or West's St. Peters. CE—LS—SK—SB.
3. White Muscadines, or Sweetwaters. CE—LS—SK—SB.
4. Muscats. CE—LS—SK—SB.
5. Frontignans, or other sorts, distinct from the foregoing. CE—LS—SK—SB.

E Peaches, in sixes. LS—SK—SB.

F Nectarines, in sixes. LS—SK—SB.

G Figs, in sixes. SB—C.

H Cherries, in dishes of 1 lb. each:
1. Black. SK—SB—C. 2. White. SK—SB—C.

I Strawberries, in pots; six pots to be shown. SK—SB—C.

N.B. They must have grown in the pots in which they are shown.

K Strawberries, one dish each:
1. British Queen, and similar kinds. SK—SB—C.
2. Keens' Seedling, and similar kinds. SK—SB—C.
3. Other kinds. SK—SB—C.

L Melons, one specimen each, for the best flavoured.
1. Green-fleshed. SK—SB. 2. Scarlet-fleshed. SK—SB.

M New varieties of any of the preceding kinds of fruit.

N Other kinds of fruit of peculiar excellence and value.

N.B. The medals under this and the preceding letter will be given at the discretion of the Society's officers.

SPECIAL PRIVILEGE OF FELLOWS.

Fellows of the Society enter free at half-past 12, and can introduce Two Friends with Tickets; or the Fellow's Privileges may be transferred to a Brother, Sister, Son, Daughter, Father, Mother, or Wife, residing in the Fellow's house, provided the person to whom the transfer is made be also furnished with a Ticket signed by that Fellow; that is to say, the privilege of entering early may be transferred, but not the privilege of free admission.

The number of 3*s.* 6*d* Tickets to which Fellows are to be entitled in 1853 is 48.

KNAP HILL NURSERY, WOKING, SURREY.

HOSEA WATERER respectfully invites attention to the following:—

ARAUCARIA IMBRICATA, 2, 3, 4, and 5 feet high. We have a fine stock of large Araucarias, and as they have never been in pots, they are as robust and handsome as can well be.

CRYPTOMERIA JAPONICA, 2, 3, 4, 5, 6, 7, and 8 feet high, all from seed and in the open ground.

CEDRUS DEODARA, 2, 3, 4, 5, 6, 7, 8, 10, and 12 feet high.
" OF LEBANON, 3, 4, 5, 6, 7, to 12 feet high. The large Deodars and Cedars of Lebanon, here referred to, have been regularly removed every spring; they are magnificent specimens, and might be sent any distance with perfect safety;

ABIES DOUGLASII, from seed, 2, 3, 4, 5, 6, and 7 feet. Larger and splendid plants 8 to 12 feet; all removed last spring.
" MENZIESII, 3, 4, 5, 6, and 7 feet high.
" CANADENSIS, Hemlock Spruce, fine plants, 5, 6, 7, and 8 feet high.

PICEA NOBILIS, stout plants, with good heads, own bottoms, 2½ to 3 feet, probably not to be met with in any other Nursery.

PINUS CEMBRA, 3, 4, 5, 6, to 10 feet high.
" INSIGNIS, all from seed, and most beautiful plants, 3, 4, 5, and 6 feet high. We have a fine lot of these.

CUPRESSUS MACROCARPA, or LAMBERTIANA, from seed, 2, 3, 4, 5, 6, and 7 feet high. We have a fine lot of these also.

TAXODIUM SEMPERVIRENS, 2, 3, 4, 5, and 6 feet high; beautifully furnished.

JUNIPERUS VIRGINIANA (the red Cedar), fine plants, 4, 5, 6, and 7 feet.
" RECURVA, 3, 4, 5, 6, 7, and 8 feet.
" EXCELSA, 3, 4, 5, and 6 feet.
" BEDFORDIANA, 3, 4, and 5 feet. This is a very handsome growing plant.

* UPRIGHT IRISH JUNIPER, 3, 4, 5, 6, 7, 8, to 10 feet high. These are really splendid examples of perhaps one of the most striking of all Junipers.

* UPRIGHT IRISH YEW, 4, 5, 6, 7, 8, to 10 feet high. These plants are all trimmed to one stem, and are not therefore so likely to divide on windy or snowy weather.

* CHINESE JUNIPER, 2, 3, 4, 5, 6, 7, and 8 feet high.

* CUPRESSUS THYOIDES VARIEGATA (the variegated white Cedar), most beautiful plants, 3 to 4 feet high.

* GOLDEN YEW, worked on common, 3, 4, 5, and 6 ft. high.

* Visitors to Elvaston Castle cannot have failed to remark the extraordinary effect produced by the last five plants, viz., Irish and Gold-striped Yews, Irish and Chinese Junipers, and the Variegated White Cedar; and I believe we may assert, without fear of contradiction, except Elvaston, a similar lot of plants to those here offered cannot be found in any Nursery in Britain.—Priced Catalogues will be forwarded on application.

The Knap Hill Nursery is within an hour's ride of London, being near the Woking Station, South-Western Railway, where every train stops, and from whence conveyances may at all times be had.

REMARKS ON THREE SUPERIOR KINDS OF PLUMS,

originated from Seed about 10 years since, by MR. HENRY DOWLING, FRUIT GROWER, Woolston-lawn, near Southampton.

It is a well-ascertained fact, notwithstanding the trees were planted in an exposed situation, on a thin gravelly soil, that from their first coming into bearing, four years ago, to the present period, the produce has been both excellent and abundant: hence it is presumed to have arisen chiefly, if not entirely, from their being clothed with foliage prior to any bloom becoming perceptible, for similarly situated are 360 good old sorts of the same age, nearly without fruit, consequently of little or no value, and which can be corroborated by competent and respectable persons, at whose suggestion Mr. DOWLING has now the honour of submitting this Advertisement to the notice of Noblemen, Gentlemen, and others.

No. 1. ANGELINA BURDETT.—Size medium; form somewhat oblong; colour rich purple, copiously covered with an azure bloom; flesh amber green, parting freely from the stone; flavour delicious; ripens upon an open standard about the middle of August. Against a wall it would no doubt eclipse all others.

No. 2. STANDARD OF ENGLAND.—Size, rather large; form oval; colour crimson red next the sun, covered with violet bloom, bright red on the shaded side; flesh slightly yellow, separating from the stone; flavour exquisite; ripens the latter end of August, and with its rivals should find ample space in every garden.

No. 3. WOOLSTON BLACK GAGE.—Size medium; form round; colour jet black, powdered with light blue; flesh yellowish green, parting from the stone; flavour equal in every respect to the Green Gage, with this superiority, that while the latter is apt to crack in a wet summer, and will not keep after being gathered, this, on the contrary, will endure, if the climate be dry, through August and September. This excellent Plum deserves an east or west wall, although it ripens well on an open standard.

From several Testimonials the subjoined are selected, as being deemed of unexceptionable authority:—

"Mr. Thomas Ingram, of her Majesty's Royal Gardens, Windsor, considers them to be of fine quality and superior flavour, and from their appearance he should imagine them to be good keeping Plums."

Mr. Robert Thompson, of the Horticultural Society's Garden, writes thus—"Your three Plums are indeed of first-rate quality, and I should recommend their extensive cultivation. As regards No. 3, I consider you have thrown the Green Gage into the shade, for it retains all the properties of that Plum, with more sugary sweetness."

Mr. John Wright, late gardener to the Rt. Hon. Lord Viscount Palmerston, Broadlands, in a communication to Mr. Dowling, states that "Angelina Burdett and Standard of England Plums, are not only prolific and of surpassing flavour, but from their colour and form striking in appearance. The Woolston Black Gage, though not so attractive to the eye, still from its extreme richness of quality is admirable to the taste."

Hampshire Independent, Sept. 11, 1852.—"A meeting of gentlemen and gardeners, resident in this locality, took place on Monday, at the Antelope Inn, to test the quality of some new Plums, grown by Mr. DOWLING, Woolston Lawn, Southampton. They are certainly very choice, particularly the Angelina Burdett and the Woolston Black Gage; and, of these two kinds, after tasting the fruit, every person present gave an opinion decidedly confirmatory of the high judgment pronounced in their favour by Mr. Robert Thompson, of the London Horticultural Society's garden."

FORD and RICE, Nurserymen, Seedsmen, and Florists, New Road, Southampton, having had frequent opportunities, during the last four years, of inspecting the three parent trees in Mr. DOWLING'S fruit plantation, and being perfectly convinced of their extraordinary productiveness, as well as superlative excellence, they cannot but feel pleasure in undertaking the Agency, and in adding their humble yet zealous tribute of commendation.

It is highly gratifying to F. and R. to state that they have, to a very considerable extent, been patronised by nearly the whole of the neighbouring nobility and gentry, who have seen the trees, and tasted the fruit.

F. and R. respectfully solicit early orders to the above address, which will be duly executed in rotation. If the three sorts are taken, the price will be 15*s.* each, and for a single tree, 1*l.* The usual discount to the Trade.—N.B. A list of the trade, comprising all orders sent by them, will shortly be advertised.

AMERICAN PLANTS.

JOHN WATERER begs to announce his Catalogue of the above Plants, Roses, Conifers, &c., is now published, and may be obtained by enclosing two postage stamps. The colours of all the Rhododendrons worthy of cultivation are described, in order to facilitate purchasers in selecting.

☞ The Rhododendrons, Azaleas, &c., annually exhibited at the Royal Botanic Gardens, Regent's Park, are supplied from this establishment.—The American Nursery, Bagshot, Surrey, 4 miles from Farnborough Station, South-Western Railway, and 3 miles from Blackwater, South-Eastern Railway.

GEORGE JACKMAN, NURSERYMAN, Woking, Surrey, 1½ mile from Woking Station, South Western Railway, begs to announce he has just published a new and complete Catalogue of his American Plants, Ornamental Evergreens, Conifers, flowering Shrubs, Standard and Dwarf Roses, Fruit and Forest Trees, &c. &c., and may be had on application by inclosing two postage stamps.

THOMAS CRIPPS having a very large and healthy STOCK of ROSES, comprising every variety of known merit, respectfully offers them at the following prices, selection being left to T. C., in which case he pledges himself to send out none but really good and established kinds:—

	Per doz.
	s. *d.*
Standards, beautiful varieties	18 0
" extra fine	24 0
Tall weeping Standards, 5 to 7 feet stems	30 0
Standard, Géant des Batailles	15 0
Dwarfs, choicest kinds ... ... 12*s.* and	18 0
Dwarf Perpetuals, budded a few inches from the ground, fine varieties	10 0
Dwarfs, good named kinds	6 0
Dwarfs, without names, mixed ... ... 3*s.* and	4 0
Dwarf Géant des Batailles, budded either on Briar or the Manetti Stock	15 0
Dwarf Rose du Roi on Manettii	15 0

A Catalogue of Roses, both general and supplementary, can be had on application, enclosing two postage stamps.

A remittance or reference from unknown correspondents is respectfully requested.

High-street and Neville Nursery, Tunbridge-wells, Nov. 13.

CEDRUS DEODARA, ETC.

A. PAUL AND SON have a fine Stock of CEDARS, which, for beauty of growth, cannot be surpassed, and which they beg to offer as under:—

CEDRUS DEODARA	... 1 ft.,	1*s.* 0*d.*	each, or	75*s.* per 100.
"	... 2 ft.,	2 6	"	1*l.* "
"	... 3 ft.,	3 6	"	15*l.* "
"	4 to 5 ft.,	7 6	"	4*l.* per doz.
CEDRUS AFRICANUS	... 1 ft.,	2 6	"	30*s.* "
"	... 2 ft.,	3 6	"	40*s.* "
CEDAR OF LEBANON	... 1 ft.,	1 0	"	75*s.* per 100.
"	2 to 3 ft.,	2 6	"	21*s.* per doz.
"	3 to 4 ft.,	3 6	"	36*s.* "
"	4 to 5 ft.,	5 0	"	54*s.* "
"	5 to 6 ft.,	7 6	"	84*s.* "

Also the following, of various heights:—Abies Morinda, Menziesii, Douglasii; Pinus apulcensis, Ayacahuite, Excelsa, Insignis, Macrocarpa, Lambertiana; Picea nobilis, Araucaria imbricata; Cryptomeria japonica; Cupressus Goveniana, Lambertiana; Juniperus hibernica, Chinensis, Excelsa; Thuja filiformis, Wareana; Taxodium distichum, Sempervirens; Taxus adpressa, Irish Yew, Gold striped do., and numerous others equally fine plants and equally cheap. Priced Catalogues of Coniferæ furnished on application.

Nurseries, Cheshunt, Herts.—November 13.

NEW ROSES.

PRINCE ALBERT AND FAIRY QUEEN.

A. PAUL AND SON beg to offer the above new and beautiful Roses, of which they at present hold the entire stock.

PRINCE ALBERT, BOURBON (PAUL'S).—The flowers are, in the summer, deep scarlety crimson, in autumn rich glowing lake, 3½ inches in diameter, finely cupped and very double, the outline a perfect ring; every shoot blooms, often producing 20 to 30 flowers in a truss, and being of dwarf habit it is likely to prove one of the finest autumnal Roses for bedding. The foliage is large, thick, and handsome, and it surpasses every Bourbon Rose in colour, form, and abundance of bloom. Strong Plants in November, 10*s.* 6*d.* each.

This Rose will be figured in the "Florist" for November. It has obtained a first-class certificate from the National Floricultural Society, the Royal South London Floricultural Society, and the Caledonian Horticultural Society, at Ediaburgh; it has further been favourably noticed by the leading Horticultural Journals, and ordered by above 100 Nurserymen and Amateurs who have seen it in flower.

FAIRY QUEEN, HYBRID PERPETUAL (PAUL'S).—Soft glossy lilac, of medium size and perfect form, the summits of the petals reflexing as in Mrs. Bosanquet, and like that unique Rose every shoot produces flowers; dwarf habit. Plants 7*s.* 6*d.* each. Early orders are solicited, as the stock is limited.

Nurseries, Cheshunt, Herts, Nov. 6.

THE NEWLY IMPORTED GERMAN DOUBLE DAISIES.—A fine and healthy stock of the above new variety of flower is now offered to the public. It is very novel and distinct in all its features, and such as will give satisfaction to all purchasers. EDWARD TILEY has selected 50 of the best of the varieties out of the 100 varieties imported, and can send them out in any quantity, from a dozen and upwards, all true to name. These will be found to surpass everything for edging borders, &c., and also if planted in a bed will equal in variety that of a fine Ranunculus, and is frequently taken for such by many who have seen them in bloom. The whole of them are grown in pots, therefore will ensure a certain growth when transplanted. Price 3*s.* per dozen, postage and package free to any part, or 1*l.* per hundred, hamper and package free.

OTHELLO CLOVE CARNATION.—A few pair of this unique variety are still left, and will be forwarded to any part at 3*s.* 6*d.* per pair.

VIOLA ARBOREA (true), 6*s.* per dozen; and RUSSIAN SUPERB VIOLETS (true), 3*s.* per dozen.

HOLLYHOCKS.—Seedlings saved from all the best varieties sent out for the last three years, 1*l.* per hundred, or 11*s.* for 50 plants. They are fine strong plants, such as will bloom fine and give every satisfaction next season.

A TREATISE ON THE NATURE, MODE, AND CULTIVATION OF THE VIOLET, giving every direction for its continual blooming the whole of the winter, &c., &c., and aiding in many respects those who have already grown them, as it embraces several distinct plans to grow Violets. Purchasers to the amount of 5*s* will have the Treatise included, or sent post free to any part on receipt of 12 penny stamps. See *Gardeners' Chronicle* for Saturday last.

STRAWBERRY PLANTS.—Prolific, 3*s.* per 100; Goliath, 3*s.* per 100; Alice Maud, ditto; Eleanor, 5*s.* per 100; British Queen, 3*s.* per 100; Eliza, 3*s.* per 100; Britannia, 5*s.* per 100; Globe, 3*s.* per 100; Black Prince, 5*s.* per 100; Trollop's Victoria, 1*l.* per 100, or 3*s.* per dozen.

The whole, or any part of the above, can be sent postage and package free on receipt of the amount by a post-office order or penny postage stamps.

EDWARD TILEY, Nurseryman, Seedsman, and Florist, 11, Abbey Church-yard, Bath, Somersetshire.

NEW WHITE BROCCOLI—"DILCOCK'S BRIDE."

BAINBRIDGE AND HEWISON beg to announce that they have purchased of Mr. Dilcock the entire stock of the above, which is a Broccoli of the highest merit, surpassing every other (even the far-famed "Mammoth"), as the following will testify. It has been sold in the York market at 1*s.* per head.

"York Horticultural Society, June 18, 1852.

"In reply to your inquiries I find 'Dilcock's Bride Broccoli' was awarded first and third prizes 1850; first, second, and third, 1851; and first, second, and third in the present year. It ought to be grown by every gentleman's gardener, especially where any are grown for competition. Market gardeners also will find it to their profit to possess it.—Yours truly,

" R. DEMPSEY, Hon. Secretary."

The Seed will be sent out in the autumn in sealed packets at 2*s* 6*d.* each, containing about 1300 Seeds, and may be had of themselves at York; or of Messrs. NOBLE, COOPER, and BOLTON, Seed-merchants, 152, Fleet-street, London.

Hope Nursery, York.

MESSRS. PLATZ AND SON, Erfurt, Prussia, respectfully inform the trade, that their Catalogue for 1853, in which will be found many new varieties, may be had on application to their agent, Mr. ROBERT KENNEDY, Bedford Conservatory, Covent Garden, London.

RENDLE'S NEW TREE AND SHRUB CATALOGUE.—Our new Autumn Priced List of

FOREST TREES, SHRUBS, AND FRUIT TREES,

Is now ready, and can be had on application in exchange for one penny stamp.

The Catalogue contains PRICES of SEEDLING FOREST TREES, New and Choice SHRUBS, Transplanted FOREST TREES, FRUIT TREES, including all the newest and choicest sorts in cultivation.

Gentlemen who want to plant largely this Autumn, or who require to lay out Pleasure Grounds, will do well to procure one of these Catalogues.

LARGE SURPLUS STOCK.

We have a large Surplus Stock of the following, which will be offered on very low terms, viz.:—

Seedling PINUS AUSTRIACA.
Fine Plants of CEDRUS DEODARA.
Two years Bedded SCOTCH FIRS.
Fine stout Plants of PINUS EXCELSA.
Immense Stock of SEAKALE and ASPARAGUS.

TROLLOPE'S VICTORIA STRAWBERRIES,

20*s.* per 100, or 3*s.* per dozen. This variety should be grown in every garden.

Apply to WILLIAM E. RENDLE AND CO., NURSERYMEN and SEED MERCHANTS, Plymouth.

ESTABLISHED IN 1786.

DOWLING'S NEW PLUMS.—In reply to Mr. ROBERT THOMPSON'S Advertisement in the *Gardeners' Chronicle* of Saturday last, I have to state that I am both ready and willing to attest on oath that the testimonial of which he complains is a verbatim copy from the original letter, addressed by him to the then proprietor of the Exotic Nursery, New Road, Southampton. At the same time I cannot refrain from admitting that when I was about transcribing it, I almost felt inclined to omit, "I have no fear of my judgment being called in question," thinking that such an unqualified expression—even though emanating from so high a source, might by many persons be deemed as verging rather too closely on the presumptuous, and I can now only express my regret that *it* was not altogether suppressed.

The subjoined "note" from Mr. Robert Thompson came to hand on Tuesday, the 9th instant; and I venture to indulge the hope that the public, on hearing both sides, will so far be convinced of my honesty of purpose, as not only to "pluck out the poisoned shaft," but in the exercise of its wonted liberal feeling, to confer upon me in future, and to a greater degree, the honour of its patronage and support.

Woolston Lawn, Nov. 10, 1852. HENRY DOWLING.

[COPY.] "Horticultural Society's Garden, Nov. 6, 1852.

"SIR,—I beg to enclose the accompanying testimonials from Mr. Ingram and Mr. Wright, forwarded to me by Mr. Ford. I regret that I found it necessary to object to part of an advertisement having reference to me, as you will see by the *Gardeners' Chronicle* of this date. I should have been most happy to have done justice in a proper manner to the merits of the Plums in question. I am inclined to suppose, that in passing through different hands, mistakes have arisen in reconstructing my original note. Presuming that such is the case, if I can authorise a version of it in order to clear up the matter satisfactorily, I shall feel pleasure in doing so.

"I am, Sir, your most obedient servant,

"Mr. Dowling. "ROBERT THOMPSON."

The Gardeners' Chronicle.

SATURDAY, NOVEMBER 13, 1852.

A HIGHLY interesting paper has lately appeared in the "Annales des Sciences Naturelles," by M. TRÉCUL, which, perhaps, goes further than anything which has yet been brought forward to settle the long-disputed question as to the origin of the woody tissue, or, in other words, the increase of vegetables in diameter. The theory of fibres descending from the buds has been adopted by many first-rate botanists, and has been worked out by GAUDICHAUD and others with extraordinary talent, and the most ingenious explanations have been given of such facts as were apparently most opposed to its truth. As in many other instances, where contending theories have engaged the attention of accurate observers, of which the views of SCHLEIDEN and his opponents as to the origin of the embryo may be quoted as an example, much light has been thrown upon many obscure points in vegetable physiology, the advantage of which will remain when the controversy in question has lost its interest. M. TRÉCUL has shown most clearly that when a large portion of bark has been taken off from the trunk of a tree, all union between the divided edges of the bark being carefully prevented by the removal of every stray fibre, that a new layer of woody tissue and bark is formed at detached points, into which the medullary rays are continued directly without the slightest interruption, while fresh bark is formed on the woody tissue by that wonderful vital action by which one form

of cell is capable of giving origin to another, however different.

The observations of M. Trécul, which seem beyond all possibility of question, are confirmatory of a fact which has before been mentioned in our Journal, and which has been repeatedly mentioned to botanists interested in the point in private conversation. An Oak of nearly a hundred years' growth at King's Cliffe, was deprived of a great portion of its bark by some mischievous boys, so as to leave no connection whatever between that on the upper and lower portions of the tree. As the Oak was in full vegetation, and in consequence of favourable atmospheric conditions the denuded surface was not rapidly dried, an attempt was made on the part of the tree to repair the damage. As in M. Trécul's Nyssa, fresh tissue was thrown out at various points into which the medullary rays were continued without intermission; and in a short time, by the increased confluence of the several points which were clothed with new bark, it was evident that, barring accidents, the injury would in a few years be more or less completely remedied. After two or three years, however, the surface was again wilfully exposed, and the tree ultimately died. The fact of the penetration of the medullary rays, which nobody supposes to be formed by the descending tissue, directly into the new patches of wood, is one of the greatest importance, though the woody tissue is, in Monsieur Trécul's case, with equal certainty a lateral development from the already existent longitudinal cells. After a time, as the patches increase, new medullary rays are formed from the woody fibres, which have no connection with the others. *M. J. B.*

Our readers are aware that the Horticultural Society offered Medals for Chrysanthemums, shown in sixes, at their meeting on the 2d of this month, and that the gloomy unfavourable weather had so entirely stopped the opening of these flowers, as to prevent any varieties being shown except a few Pompones. We are glad to announce that the Council have, in consequence of this unforeseen difficulty, agreed to give Medals for Chrysanthemums at the meeting on December 7, when the growers will have a good opportunity of showing their strength. As there is to be an exhibition of autumn flowering Heaths, table Pears, and forced vegetables, on the same day, in addition, a large meeting may be expected.

Exhibitors must, however, recollect that everything for competition must be in Regent-street at the latest by 11 A.M., that is to say, three clear hours before the meeting, which takes place at 2. If the plants do not arrive in time, they will run a great risk of not being received, the new arrangements for the Society's exhibitions rendering it absolutely necessary that the room should be in perfect order by two hours before the meeting, at the very latest.

We have also the satisfaction to announce, for the information of the Fellows of the Society, that their much-valued special privilege of entering the Gardens of the Society on exhibition days at half-past 12, with one friend—or of transferring the privilege to a brother, sister, son, daughter, father, mother, or wife, residing in his house—has been extended, so that each Fellow, or his representative within the above-mentioned limits, may introduce two friends early, instead of one.

The last number of the *Revue Horticole* speaks of a new remedy for the Vine Mildew. Mons. Duval, a gardener at Chaville, near Sèvres, says that recollecting how dirty water (*eau impure*) destroys the common Mushroom if the beds are watered with it, and finding that the Vine disease was produced by a Mushroom, though not by an Agaric, it occurred to him that what is fatal to the one should also be so to the other. The most certain cure he thought would be syringing with what he calls "eaux chargées de substances hétérogènes," the meaning of which expression we learn from the context.

One of M. Duval's customers was a person who kept a washing establishment at Ivry, near Paris. He complained that for two years past he had made nothing of his Vines, and expressed his fear that he would be equally unfortunate in the present season. So, as matters could not be worse, M. Duval proposed that the Vines, after having been pruned, should be well washed with lie, taking care that the operation was performed after sunset; and repeated two or three times at a few days' interval. It was at the same time arranged that some plants should not be thus treated, in order that the effect of the syringing might be better observed. We are assured that the success of the experiment was complete. All the parts of the Vine washed with lie were (October 16) in the most satisfactory state; those not washed were diseased—one might even say very much diseased.

Another resident at Ivry received the same advice, but neglected it, under the expectation that his Vines would not be again attacked. Nevertheless, by the time the Vines were out of flower, the *Oidium* appeared. Then it was that M. Duval's plan was tried; lie was applied to the leaves and young fruit, which were completely covered with the white powder of the mildew. Even here the application was attended with success, and the Vines produced a perfectly ripe crop of Grapes.

M. Duval justly observes that this method has advantages which do not belong in the same degree to the sulphur remedy, inasmuch as it is more easily applied, and less expensive. That it deserves a good trial there is no doubt. The only question is what he precisely means by *eau de lessive*, which we have translated lie. We are not much helped by M. Duval's grandiloquent phrase *eau chargée de substances hétérogènes;* but as the gentleman who first tried it was a "blanchisseur" or washerman, there can be no doubt that he used the waste fluid produced in such establishments. Now that water is not mere soap-suds; had it been, we presume he would have called it *eau de savon;* but it is a mixture of soap-suds and some alkaline solution, either potash or soda—as we do not happen to be familiar with the washerman's art we cannot say which; but as wood-ashes are universally employed for washing in countries where wood is used for fuel, we cannot be far wrong in assuming that the lessive or lie consisted of dirty soap and water, plus potash-water, called lie in this country, when wood-ashes are used in addition to soap.

DISLEAFING PLANTS TO INCREASE THEIR BULK.

In connection with this interesting subject permit me to state a few facts which have come under my observation, and which your recent notices, and Mr. Smith's experiments, have called to mind. Some years ago I had a very fine tuber of Tropæolum tricolor, which from some cause quite inexplicable refused to grow for three successive years, and during that time it never produced the slightest vestige of a shoot. Each year it was potted with the other bulbs in September, and it annually increased in size. No measurement was taken at the time, but I am quite sure I am within the mark when I state that the tuber increased three inches in circumference in the three years in which it was dormant. In the fourth year it started into growth again, but in the spring the plant was not only weak but sickly, and was, consequently, thrown away. I may remark that I always place the tubers of Tropæolum under the soil, and hence, being in the dark, it could not have elaborated sap for its own nourishment, which it might have done to a small extent if the tuber had been exposed to light. During the three years it was dormant the plant never produced a root; and hence another fact, that tubers under certain circumstances will increase in size without either roots or leaves. Since that time I have frequently noticed in my stock of tubers of Tropæolum, more especially of T. brachyceras, some which did not grow for a season, and I strongly suspect I have some at the present time which intend to take a season's rest.

Many years ago, when my physiological knowledge was first budding, and "Outlines of Horticulture" formed my text book and daily companion, I recollect pointing out to an old farmer in Nottinghamshire, who, though no Mechi, still contrived to get better crops than his neighbours, the absurdity of stripping the under leaves of his Kohl Rabi and Mangold Wurzel, for the purpose of increasing the size of the bulbs. I told him that a plant could only increase in size by the elaboration of the sap in the leaves, through proper exposure to light, and consequently the more leaves a plant had, if they were fully exposed to solar and atmospheric influences, the larger it must become. "Ah," said the old man, "thou't a very knowing lad, but when thou hast lived as long as I ha', thou'l find that too mony leaves are useless, and that it's better to gie 'em to the cow and the pig than let 'em rot on t' plant." I am not yet so full of years as my ancient preceptor; but the truth is no longer "looming in the future," but is an established and tangible fact, that under certain circumstances, and after a certain time or extent of growth, plants do increase more in growth by a partial, or (according to Mr. Smith's experiments), entire removal of the foliage than by allowing it to remain rotting on the plant. Every cottager has observed the rapid increase in the size of his Onions after the mutilation of the foliage by bending the tops down; and the practice of trampling over the Parsnip beds about the end of September and through October, is as old as the hills. A gentleman, only yesterday, who grows White Belgian Carrots for his horses, &c., told me that he always commenced to cut the tops in September, and that he always finds those first cut to produce the largest Carrots, and that the difference in bulk between the cut and uncut is fully one-third in favour of the cut. This difference must not, however, be placed entirely to the credit of the cutting; for, as no doubt the strongest are cut first, due allowance must be made for that fact in estimating the comparative produce.

This year, fearing that the loss of my crop of late Potatoes was inevitable, I had the points of the haulm trimmed, and between the rows, which were four feet apart, I sowed Orange Globe Mangold Wurzel as late as the middle of June, and where the Mangold failed, Skirving's Swede Turnip in the middle of July. At the same time (in June) I sowed Mangold Wurzel between some nursery rows of young Gooseberry and Currant trees, and this last grew so rapidly, that to save the fruit trees from being entirely smothered, I was obliged as early as the end of August to begin to defoliate the Mangold, taking away gradually all but the vertical leaves; and I have no doubt the few rods defoliated (though the ground has neither been trenched nor manured for four years, while that upon which the full foliaged stock is growing was trenched three feet deep in the spring) has a crop of nearly 10 tons per acre more than that upon which the foliage was left entire; the crop of the defoliated being at the rate of 60 tons per acre, the other little more than 50 tons. Now, when it is considered that one piece has yielded a basket of leaves daily for my cow for some weeks past, say two months, and that still it carries a heavier crop of roots than that not defoliated, I think it is a very significant fact; for if a two months' supply of good green food can be had, and at the same time a much heavier crop of roots, surely that is one of those "ways to wealth" which no one can afford to despise.

As a rule, however, the defoliating principle must not be wildly carried out. We must not, like the young lady who found a Quince a great improvement in an Apple pie, fancy that an Apple pie all Quinces would be still better, and thus crop off all the leaves directly they are large enough to crop. But we must recollect that leaves are the lungs of plants, and that there is no more certain way of destroying the strongest plant than to divest it constantly of its foliage. Hence as a rule it should be observed that all plants to be profitably defoliated must have arrived at full growth, that is, they must have arrived at that state when the first formed leaves begin to play a secondary part, and sink behind their young and more aspiring rivals. In the case of Mangold Wurzel, I should say that after the middle of August every leaf which sinks below an angle of 45° with the crown of the plant might be profitably taken away, and so fast as they fall below that angle they may be removed afterwards. I cannot go the length of Mr. Smith, and cut all the leaves off at once, as I fear that is the "Apple pie all Quinces;" for though the bulbs may increase in size I fear it is only by an accumulation of water, while it is quite certain the new foliage must be made at the expense of the organisable matter in the plant. To remove the old and inert foliage, and thus allow breathing room for the young and active leaves, is a very different matter; in the one case we have plants crowded together with decayed and decaying foliage, some of it possibly returning effete and unhealthy sap to the plant; in the other case we have, comparatively, plants standing as single specimens, surrounded by a clean, pure, and healthy atmosphere, with full facilities for both light, heat, air, and water, to exert their proper influences. These are important considerations, which growers of specimen plants fully understand; and even deep-trenching, wide-cropping, and thin-seeding, will not attain their maximum of success until each plant is kept scrupulously clean, free from decaying foliage, and has room proportionate to the size it has to attain. In the case of plants grown for their roots, such as Mangold or Turnips, is it not likely that after the inert foliage has been removed, the plant, by the exposure of a large portion of its root, has a surface as large for the action of the atmosphere and the elaboration of sap as when all the foliage was on; and thus, by partially disleafing, we gain a quantity of food, and at the same time increase the elaborating and accumulating resources of the plant. If one of my specimen Pelargoniums is crowded with small shoots and foliage, I cut the weakest shoots away, tie the plant out, and thin the foliage, and in a few days there is a marked improvement in the strength of the shoots and the size of the leaves. The same rule applied to Mangold Wurzel, a Turnip, a Kohl Rabi, or cow Cabbage, will be attended by the same result, and possibly the same profits; for, depend upon it, it is as much against the nature of a plant to be surrounded by its own putridity as it is against the nature of man to go unwashed; the strong may prosper, but the weak must die.

I once knew a gardener, certainly one of the old school, but, nevertheless, a very good Grape grower, who used to apply the disleafing principle to the management of his Vines, especially those for early forcing. Directly Autumn's King began to discolour the foliage he used to prune the Vines, and divest them of every leaf; and he always contended that the buds swelled materially afterwards, and that they broke when forcing commenced more freely than Vines pruned after the foliage had fallen. The practice of the London market gardeners in the management of their Rhubarb is another example of disleafing without injury. In this neighbourhood they pull each piece six or eight times in the season, and each time every leaf is plucked off until the ground is almost as bare as if there was no crop upon it; and yet crop after crop, and extraordinary crops too, are the result. That—

> "There is more between heaven and earth, Horatio,
> Than has been dreamed of in our philosophy,"

is still a truth; and unpalatable as it may seem, Science has filched Practice of that fair fame, blind though it was, which even-handed Justice compels her to yield back again. *Wm. P. Ayres, Brooklands Nursery Blackheath, Nov. 8.*

MYOSOTIS AZORICA.

This beautiful Azorean Forget-me-Not is a very eful greenhouse as well as showy bedding plant, which think deserves to be more extensively known than it

It is very easily managed, forms a good-sized ecimen, produces its flowers in great abundance, and tains them for a long time. Its colour is a deep rplish blue; I therefore consider it a very valuable quisition, more especially for the decoration of the nservatory or greenhouse, and it would be very itable for the sitting-room window of the amateur. he following hints may be useful to such as are com- encing its cultivation.

It may now be procured from most nurseries, and ed may be obtained readily. If it is to be raised om seed, it will require the ordinary treatment of reenhouse plants in that state. It enjoys a close, oist frame. It will hardly be possible to grow it to ich a size as to be worth notice as a flowering plant uring the first season. When moderately strong, it ay be potted off into 4-inch pots, and when the plants ave filled these with roots, shift into 7-inch pots. fter they have become established, they may be moved to a situation near the glass in the greenhouse, here they may remain during autumn and winter. hey will now be strong bushy plants, forming a good undation for the next season's specimens, particularly several plants have been put into one pot. I enerally put three or five in a pot. After they have irly commenced growth in spring, shift them into 2-inch pots, and place them in the warmest corner of ie greenhouse. They will soon make vigorous growth, nd may be neatly trained to small stakes. With rdinary management and care, they will soon be some 8 inches high and 2 feet through; and about the eginning or middle of July they will be covered with owers, like our pretty Forget-me-Not, but larger and uch darker.

I find a mixture of loam and peat to suit it perfectly, dding, of course, a portion of silver-sand, according o the nature of the soil; and the latter had better be sed in as rough and fibrous a state as it can be had; ut I imagine amateurs begin to be aware that this is point worth attention in the culture of pot-plants enerally. The greenhouse or sitting-room window vill suit it perfectly when in flower; and the plants fter flowering may be cut back and taken care of for nother season, or thrown away to make room for oung ones; the latter will generally be found to make he best specimens. *Alpha.*

ON THE IMPOSSIBILITY OF PREDICTING THE WEATHER.

(Flore des Serres et des Jardins de L'Europe.)

The remarkable state of the weather in the summer f 1852 has excited public attention. It has given rise o a series of predictions more or less inauspicious, which ave been circulated everywhere, in the workshops of owns as well as in the farm-houses in the country. he ground was parched with a suffocating heat, there as not a breath of air in motion, and both animals and egetables were in a sort of vacuum. On such a day, nd at such an hour, the end of the world was announced o take place. All this was absurd, but, *Credo quia bsurdum*—I believe because it is absurd—is applicable o the French. With many such ridiculous rumours, or which the continued tropical heat appeared sufficient oundation, in the minds of ignorant people, they have ot hesitated to mix up the name of one of our most llustrious philosophers. Many persons still believe hat M. Arago had predicted the unusually high tem- erature which we have experienced. Such being the ase, it appears to us that it would be interesting to eproduce, with his permission, a curious notice pub- ished in "*L'Annuaire du Bureau des Longitudes pour* 1846," by our great astronomer, on the impossibility of redicting the weather. We ought to remark, that, not- withstanding his endeavours to show on what slight oundation such predictions rested, yet they are still mputed to him. We are also certain, that notwith- tanding our publication of his remarkable work, the public will not be deterred in future from blindly rediting predictions. It is truly said that children are not guided by the experience of their fathers. In spite of the incredulity of learned men, and in spite of all proof, human nature will cherish the belief of impos- sibilities. M. Arago says:—

Is it possible, in the actual state of our knowledge, to predict the weather for any par- ticular time, in any given place? May we expect, however, that some day this problem will be solved!

Being occupied, by inclination and duty, in meteor- ological studies, I am frequently asked whether, by means of astronomical observations, I could know a year beforehand what would be, in any given place, the annual temperature, the temperature of each month, the quantity of rain compared with the usual mean, the prevailing winds, &c.

I have already presented to the readers of the "*Annuaire*" the results of the researches of scientific men and of astronomers relative to the influence of the moon and comets on the weather. These results clearly demonstrate, I think, that the lunar and cometary influences are almost insensible, and hence that the pre- diction of the weather will never become a branch of *astronomy properly so called.* In fact the moon and comets have at all times been considered the prepon- derating celestial bodies in a meteorological point of view.

Since these results were published I have considered the problem in another light. I have endeavoured to find out whether the works of men, and events which it is impossible to foresee, may not occasion, accidentally, considerable modifications of climate, and particularly as regards temperature. I am aware that facts support an affirmative reply. I did not intend to publish this result until I finished my work; but I must confess I have been induced to take an early opportunity of *openly protesting against the predictions which have been annually attributed to me, both in France and other countries.* Not one word was ever uttered by me, either in intimacy or in the course of my lectures during more than 30 years; never was there a single line published with my assent that could authorise any person to ascribe to me the idea that it was possible to tell with any degree of certainty what the state of the weather would be, a year, a month, a week, I will say even a single day beforehand. I trust the vexation which I have felt at seeing my name attached to a number of *ridiculous predictions* will not lead me, by a sort of reaction, to give an exaggerated importance to the causes of perturbation which I have enumerated! I believe I can at this moment state the main result of my investigations to be: Never, *be the progress of science what it may, will learned men, that are honest and careful of their reputation, hazard it by predicting the weather.*

A declaration so explicit gives me a right to expect that they will not any longer make me play the part of Nostradamus or of Matthew Laensberg, but I am far from flattering myself with any illusion on this subject. Hundreds of persons, who had even gone through all the degrees of University studies, assailed me in 1846, as they had previously done, with questions truly deplor- able for our epoch. "Shall we have a severe winter? Do you think we shall have a hot summer, a wet autumn? This long-continued drought is very destruc- tive; when is it going to cease? They say that the *ruddy moon* [the first full moon after the new moon in April] will this year cause much damage; what is your opinion?" &c. &c. Notwithstanding my want of con- fidence in predictions, I may venture to foretell that such questions will be repeated.

Limits of the variation of the mean annual and monthly temperatures in our climate.—The meteorological condition of any given place is much less variable than is generally supposed by those who judge by their own feelings, by vague recollections, or by the harvests. At Paris, for example, the mean *temperatures of the years* vary but little.

The mean annual temperature of Paris from 1806 to 1826 inclusive was 50·14° Fah. The *highest* of 21 annual means exceeded the average by only 2·34°; the *lowest* annual mean was found to be below the average only 2½ deg. Fah. As far as the *annual mean tem- peratures* are concerned, the systematic meteorologists will be aware that very slight disturbance could be pre- dicted from them; only such as a variation of 2½ or 3 degrees of temperature would produce.

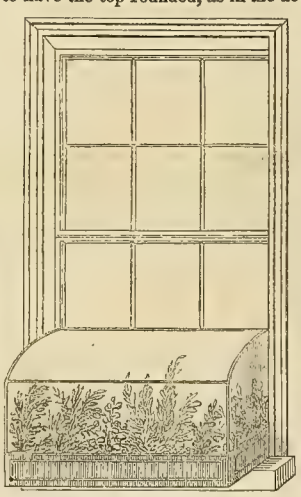
Although the mean temperature of any year differs but little from the average of a number of years, yet it is otherwise with the months. The difference between the general and particular means is, in January and December, as much as 8 or 9 degrees Fahrenheit. In consequence of these variations, if we compare the extreme mean temperatures of each month with the average temperatures of the others, we find—That the month of January is sometimes as temperate as that of March, on the average; that the month of February resembles occasionally the mean of the second fortnight of April, or that of the first fortnight of January; that the month of March sometimes resembles the mean of April, and sometimes that of the second fortnight of January; that the month of April never reaches the temperature of May; that the mean of May is fre- quently warmer than certain months of June; that the month of June is sometimes warmer than certain months of July; that the mean of July is sometimes warmer than some months of August; that the mean of August is occasionally slightly colder than some months of September; that the mean of September is some- times colder than some months of October; that the mean of October may be as much as 5½ degrees colder than some months of November; that the mean of November may be 10 degrees colder than the warmest months of December; that the mean of December may be 12½ degrees colder than January.

(To be continued.)

Home Correspondence.

Veronica Andersonii.—This beautiful Veronica is well worthy of all that has been said of it. I received a plant of it, about 6 inches high, from a nursery last March. It was repotted into a 10-inch pot in a soil composed principally of light loam, with a little leaf-mould, and small pieces of charcoal. The drainage was made perfect, a matter of much importance, where, as in this case, a large shift is given. It was then placed in a cool Vinery, and fully exposed to light and air, where it remained till the end of May. By that time it was pushing freely from every eye. It was then taken out of doors, plunged in a Strawberry bed, and fully exposed to sunshine. No further attention was bestowed on it, with the exception of giving it enough of clear soft water. By the first week in August it had become a very handsome specimen, 3 feet in height, with branches regularly developed from the pot upwards. It was then taken into the greenhouse. The central stem produced two spikes of flowers the first week in September, and all the other branches (upwards of 30) followed in quick succession, throwing out a similar number of spikes. All the shoots have continued in flower ever since, and appear as if they will continue in that condition for some time to come. Many of the spikes have been 6 inches in length. I know of no autumn-flowering plant that possesses so many recommendations as this, and it is of such easy culture that any one may grow it. *G. Dickson, Manchester.*

Window Gardening.—Referring to the communica- tions from your correspondents Dr. M'Cormick and Mr. Wood, which appeared in the *Gardeners' Chronicle* of 23d and 30th ult., I may mention that the use of Ward's cases as substitutes for short blinds for sitting- room windows is by no means an uncommon thing here. There are a couple a few doors from my own residence, which have been in existence for ten years, and since the reduction in the price of glass, such things have become quite common, so much so that in my own immediate neighbourhood I know of upwards of 20 windows in which the use of short blinds is dispensed with by the introduction of these cases. I myself have two in use, and I can assure your readers that when filled, either with flowering plants or Ferns, Lycopods, Myrtles, &c., they form a much prettier and, of course, more interesting blind than anything else, and the original cost is about the same, or less, than that for wire blinds so much in use. Those which I have are not closely glazed, as they have no extra glass next the window, and they are also provided with a narrow folding slip at top (which when shut rests on the cross astragal of the window) for air, as I had them con- structed to hold flowering plants; and for this purpose they answer admirably, provided you have accom- modation for a garden-frame, in which to bring forward the plants, so as to keep the cases always gay; but with- out this accommodation I would recommend having the cases made tight and filled principally with Ferns, &c. I may mention, however, that in a close case all the spring bulbs flower admirably (of course renewed annually), such as Snowdrops, Crocuses, Jonquils, Hyacinths, &c., and at that season some of these cases here are very gay. Tea and China Roses also do pretty well for a short time. These cases are made with a wooden-box at bottom, lined with zinc, resting on and projecting from 3 ins. to 6 ins. beyond the window sill; the frame-work of the case should also be zinc, as it can be made so much lighter looking; the prettiest form is to have the top rounded, as in the accompanying sketch.



Regarding the heating of these cases, I would sug- gest a double bot- tom, the lower part filled with water, and a small jet of gas placed under it; of course the wooden bottom would be dispensed with; the merest point of flame would keep the heat at 80° or 90° in ordinary weather; and to provide for moisture a small pipe to come up through the soil, open at top, would give off vapour, and also serve to fill and mark the height of the water in the box or tank below. A friend of mine has a case con- structed as suggested by "W. W.," viz., the lower part filled with water for gold-fish, with a pretty zinc trellis over the water for pots of Ferns, &c.; of course air is admitted for the fish, but yet the Ferns, Lycopods, &c., grow well. *J. Church, jun., Glasgow.*

Rhubarb Preserve.—I have made some after the following manner (and were I going out to Australia I should be but too glad of a little of it to spread on one those hard, dry biscuits every day while on my voyage):—I first remove the outer skin, the stalk is then cut up into inch lengths; then put into the pre- serve pan, and simmered for a quarter of an hour; then equal weights of sugar are added to it. The mass is then boiled for an hour. This is necessary on account of the large quantity of water Rhubarb con- tains, and if a gill of the best brandy is put in during the last quarter of the hour of boiling, with about half a pound of the best marmalade, the flavour is much improved. When done, it is the colour of Greengage preserve, and is quite as good flavoured, with about the same consistency. *James Cuthill, Camberwell.*

Tenacity of Vegetable Life.—In a leading article, at p. 692, there are some observations on vegetable life, which remind me of occurrences that took place under my own observation several years ago. At the time I allude to, having a desire to reduce the depth of soil of a Vine border, I had recourse to the following expedient. Below the soil (which had been entirely removed) I spread a layer of brick rubbish, and over it again a layer of short strong branches of the Dutch Elm; upon which I replaced the compost soil to the depth of 4 feet or upwards. In the course of the following autumn I

found the whole border full of roots (many of which were then in a state of decay), and which, after a careful search, proved to be from the Elm branches. Though I felt surprise at the time, the result might have been foreseen; the exciting causes being the warmth of the soil transmitted from the front flue of the house, and by the partial admission of air, for which I had provided. Another instance of vitality was observed in the branch of an old Pear tree, trained against a south wall: this branch had (many years previously) been injured near its intersection with the stem; but it had continued to live, although the point of union had dwindled to the smallest portion possible of indurated wood, devoid of either bark or alburnum. A third instance is still more remarkable of the tenacity of vegetable life under peculiar circumstances; the stem of a Thorn, growing in the middle of a hedge, had been severed from its root at some indefinite time previously; nevertheless, it had continued alive without any visible means of support, and when it fell under my observation showed no immediate symptoms of death. I shall add only one more instance of these freaks of Nature: a Thorn tree, visible from here, on being removed to its present situation, did not, during the first year (to the best of my knowledge), burst a single bud; the year following it grew, and developed leaves and branches, nearly to the extremity of the old shoots. *B., November 5.*——The following may be interesting, as bearing on the continued vitality of the roots of plants without the assistance of leaves. A sickly Catalpa tree was transplanted in the autumn of 1850, and during the whole of the next spring and autumn it did not put out a single leaf, and appearing hopelessly dead, was late in the year cut off close to the ground; but to my surprise last July it put out from the bottom of the old stock four young shoots, plainly showing that the roots must have been alive the whole time, but not sufficiently vigorous to supply the old stock with the required sap; but increasing in vigour, have since been able to organise new wood and form a perfect plant with stem and leaves. *Vigilax.* [These cases are not quite analogous to what happens when root crops are deprived of leaves.]

Large Cucumbers (see p. 694).—Mr. George Edwards appears to think it something extraordinary that Hunter's Prolific Cucumber should grow 33 inches in length, and weigh 10 lbs. But, as you very justly observe, "What is the use of such a fruit? which of course was ripe when these dimensions and weight were taken." Permit me to inform Mr. E. that I saw last September a Norfolk Hero Cucumber, 21 inches in length, as green as Grass, and fit to go before any nobleman's table. I also saw at the same place one left for seed, 33 inches in length, but I should say it did not weigh 5 lbs.; these fruit were grown in a greenhouse without artificial heat, and trained on the trellis with greenhouse Grapes. *G. T., Rose-cottage, Rivenhall, Essex, Nov. 5.*

The Malvasia Grape, for Wine.—Your correspondent "J. H." says, "that this wine is not much known even in Naples, and probably none has ever been sent to this country." Now, I beg to state that most of the Eolean Islands are volcanic, and that the Malvasia wine is made in one or two more islands, besides Lipari, which is the largest (18 miles in circumference); that this wine is sent chiefly to Naples, Sicily, and Malta; that many years ago I imported some for my own use; that I was the only one who, I think, introduced this Vine in our hothouses, and a few of them bore beautiful Malvasia Grapes in Staffordshire, and I have a few in my hothouse at Woodfield, near Manchester. With regard to the quality of the wine in question, I quite agree with your correspondent. It is a beautiful dessert wine, and it ought to be imported largely. It is, to my taste, superior to Malmsey. The price at Lipari is some 2*s.* 6*d.* per gallon. It will not spoil by a transit of some 2000 miles, and is not medicated or adulterated (whichever you like) as the Spanish and Portuguese wines are. *J. W. Hopkins, Chester.*

Asphalte.—I would feel much obliged to any of your correspondents who could give a receipt for the composition employed at the stations on the railway between Lancaster and Leeds. It seems a species of asphalte with coarse gravel in it; it makes a capital footpath and looks well; and if not very expensive it would be a most useful thing for walks, floors, &c. *E. F. L.*

Melampyrum arvense.—I should be much obliged to any of your correspondents who would favour me with seeds of the above plant. I do not observe it in any seedsman's catalogue that I possess, and I presume it is quite useless to ask for it among the trade. *George E. Frere, Royden Hall, Diss, Norfolk.*

Rot in Larch.—In reply to your correspondent, "Hazel," who inquires "whether any of the diseased Larches which were cut down had a head of branches three-fourths the length of the tree?" I have only to say, that I believe not one of them had a head of branches one-fourth the length of the tree when cut down. Since I last wrote I have cut down about 20 Larch in another plantation, merely for the purpose of thinning, and not one was found to be diseased, though the plantation is not a quarter of a mile from the other, and the soil apparently the same, but the trees were younger. *L. C. K.*

Planting Potatoes.—The use of small Potatoes for planting can only be recommended in cases where large ones cannot be obtained. To plant an acre with large Potatoes 4 oz. each, at 1 yard apart, requires 21⅛ bushels of 56 lbs.; present value of earliest selected kinds about 5*l.* To plant it with sizes 2 oz. each, at the same distances, of course requires 10¾ bushels; value at present prices about 3*l.* And to plant it with sets of common size now in use, about 1 oz. each, at half the distance, takes something like 10 bushels, at a present value of, say, 1*l.* 10*s.* for earliest varieties. Experience has taught us repeatedly that large sets produce the most lucrative crops, and ripen their tubers sooner; causing a freer and earlier growth both before and after they appear above ground. It is to be regretted, however, that but few can avail themselves of this opportunity. *Hardy and Sons, Maldon, Nov. 8.*

Skimmia japonica.—It is stated in your report of the Horticultural Society's meeting in Regent-street (p. 678), that "this new evergreen shrub is thought to be hardy, but of this further proof is required." Permit me to say that it is hardy here, having borne the "pelting of the pitiless storm" during the last seven years, without any protection, and the whole of that time it has retained that fine, dark, glossy green appearance, for which it is so remarkable. It is now showing numerous clusters of incipient flowers, which are of a greenish-yellow colour, and fragrant. *J. M., Walton Nursery, Liverpool.* [Skimmia japonica, the real kind, has not been in England seven years. We presume that our correspondent speaks of Sk. Laureola.]——You state that Skimmia japonica, exhibited by us on the 16th of October last, "is believed to be hardy, but of this further proof is required." How such a report obtained circulation we are at a loss to know, for the plant is really as hardy as a common Laurel. Small specimens but a few inches high, and with the leaves touching the soil, endure the frost and damp, and all the vicissitudes of winter, with impunity. In justice to ourselves, and to the character of the plant, we beg to contradict the report, and emphatically to pronounce it perfectly hardy. *Standish and Noble, Bagshot, Nov. 9.* [Upon this we have three things to observe: Firstly, that our reporter did not deny the hardiness of this plant, nor did Dr. Lindley; what he said was, that further proof is required before the point can be considered quite settled. Secondly, there has been no winter severe enough to try the plant thoroughly since its introduction. Thirdly, the plant has not yet been grown in a sufficient number of places, and under circumstances sufficiently different, to render its hardiness certain. Our own belief is, that the plant will bear our frosts; but it is mere belief, which cannot be offered or accepted as certainty.]

Brugmansias.—In reply to "T. C. C., Castle Cary," (see p. 693), I beg to state that I alluded, in the Calendar to which he refers, to Brugmansia suaveolens and bicolor, cultivated in large pots for decorative purposes. That they both do better planted out in warm places I admit; but they are likewise valuable as pot plants for certain positions, where planting out could not be effected. *The Writer of the Calendar.*

The Tangerine Orange.—The "Jardim Portuense" contains the following description of a large Tangerine Orange-tree, which I have ventured to translate and send. "In the beautiful garden of the Senora Baroneza de Villar exists a Tangerine Orange tree of extraordinary dimensions, being more than 27 palmos high (a palmo is about 9 inches), 31 palmos in diameter, and 97 in circumference. In this country there is not another Tangerine of equal size, and very few exceed half the above dimensions. It does not appear to be young, but it is certainly not more than 80 years old. It is in excellent condition, and produces good fruit. Its extraordinary growth and fine preservation appear to be owing to the shelter it has from the cold winds and sea breeze, its greatest enemies. The greater part of the Tangerines in Oporto are daughters of the one at Villar, whose origin is not known." *P. Wallace.*

Snails.—I have had a seemingly good suggestion respecting their destruction from a working gardener, viz., to place a number of Cabbage leaves at distances about 2 yards apart, between the rows, during the frosty or snowy nights of winter. He believes that these leaves will attract the snails from their hiding-places, and if in the morning a search be made on each leaf by a party of boys or women, and the snails picked off, and thrown into a covered pail and buried in lime, they will in a week be entirely destroyed. *Viator, Walton-on-Thames.*——In order to destroy slugs, snails, or worms, on a large or small scale, procure a quantity of grains; they must be fresh from the brewery, then any time in the afternoon put down in the infested places half a handful, at 2 or 3 yards apart; and about 10 o'clock the same night visit the ground with a lantern and candle, and a bucket of quick-lime. If there are any slugs, &c., they will be found feeding on the grains, when a little lime from the bucket will settle them. Repeat the dose until you find no visitors. *D.*

Gynerium argenteum.—This noble plant has thrown up 32 magnificent flower-stems 11 feet high here this season. During the summer it had a good supply of liquid manure. There is also a plant of it at Celbridge growing on the banks of the Liffy, whose flower-stems have reached the great height of 15 feet. The roots have made their way to the water's edge. *M. C., Phœnix-park, Dublin, Nov. 4.*——This gigantic Grass is now flowering in perfection in the nursery grounds belonging to Messrs. Dicksons, of Chester. The flower-stems are 17 in number, and measure 11 feet in height, the base of the plant being 3½ feet in circumference; the leaves average 10 feet in length, and hang from the plant in an elegant semi-circular form. The plant in question was small when planted about six years ago, and has grown luxuriantly in a soil in which many plants far less beautiful would have perished, the subsoil being a stiff irony clay, into which its Amaryllis-like roots have penetrated a considerable depth. If this plant was placed on a mound sufficiently high to allow the leaves to hang down without touching the ground, it would form an object at once striking and effective. *D. Freeman, Nov. 9.*

How to Heat a Small Greenhouse Cheaply.—In reply to Mr. W. Gill, I have to state, in reference to my heating apparatus described at p. 677, that an inch or half-inch pipe will not answer, as the space in the greenhouse would not be affected by such a small stratum of heated air; what I mean by this is, that the heated air would be cooled by the extra amount of cold air with which the heated air would be amalgamated. From experience, I find that a cast-iron pipe about half an inch thick, and 3 inches in diameter in the bore, will keep a greenhouse in the severest frost above the freezing point. As to the average heat, I would say that even in very cold weather the thermometer seldom marks under 45° Fah., *alias* 13° above freezing. *W. K. A.*

Late Grapes.—If "J. P. D." (see p. 710) will clear his plants out of the house as early in spring as possible, and let the Vines make an early and a liberal growth, he will not fail to obtain well ripened wood, and afterwards by the same treatment I make no doubt he may get a crop of well ripened Grapes. *W. B., Maidenhead.*

The Stanwick Nectarine.—A few words about this remarkable and peculiar variety, at this planting season, may be acceptable to some of your readers. For these two seasons past I have been struck with its almost evergreen habit, its leaves remaining fresh and green till far in December; from this I suspected it would prove a late variety, but I did not suppose it would be so very late as I now find it to be. One or two plants in pots, in one of my span-roofed orchard houses, bore fruit this season; in the same house, and near them, were trees, also in pots, of the Elruge and Violette Hative Nectarines: these ripened their fruit at the usual season, viz., the first and second weeks in September. The fruit of the Stanwick Nectarine remained on the tree hard and green till past the middle of October, and then cracked and did not ripen. A tree on a south-west wall at Poles, near Ware, has also borne fruit this season, which cracked and did not ripen kindly, and the same has also occurred at the Royal Gardens, Frogmore, where a tree on a wall in a favourable soil and situation has not ripened its fruit; it seems, then, that this really fine Nectarine will not ripen in this country without fire heat. The specimens sent from Stanwick were remarkably delicious, as I can testify; for, after having eaten four of them, I planted the stones, from which I have now four fine trees, exactly like, in foliage and habit, the trees from the parent stock. I have no doubt that this late Nectarine will be the parent of a new race of late high-flavoured melting Nectarines, by crossing it with the Violette Hative and Elruge; but it is to be regretted that by a great oversight it was omitted to be mentioned when its qualities were given to the world, that the specimens tasted were ripened with the aid of fire heat, as nearly every one interested in fruits hoped, and indeed expected, that it would be fit for general cultivation. However, as the proceeds of the sale of the trees are to be devoted to charity, which "covers a multitude of sins," let us hope that that fact will cover one mistake. *Thomas Rivers.*

Beet-root.—All my friends like the way my Beet-root is dressed. Let the roots be carefully washed so as not to break the skin; have some boiling water ready; boil one hour; when cold skin them, and cut in slices in a dish; pepper and salt each layer; when all cut, pour over some vinegar, with a little Cayenne pepper; after a few hours pour over an equal quantity of water. *H. D. C.*

Societies.

ENTOMOLOGICAL, *Nov.* 1.—J. O. WESTWOOD, Esq., F.L.S., President, in the chair. The meeting was held in the Society's new apartments, No. 12, Bedford-row. Amongst the donations was a series of British spiders, carefully preserved and named, from Mr. Meades; and a collection of British anoplura, named by Mr. Denny, the monographer of that tribe of insects, presented by the Rev. L. Jenyns. A splendid specimen of Sphinx Nerii, captured at Brighton, was exhibited by Mr. Winter. A fine series of rare Lepidoptera, from Scotland, was exhibited by Mr. Weaver, including Oporabia neglectaria, Plemyria lapidata, the supposed new Scotch Psyche, &c. Various rare Coleoptera, from the same locality, were also exhibited by Mr. Weaver, including Boletophagus crenatus and Dendrophagus crenatus, two genera new to this country, Pytho depressus, Hylæcetus Dermestoides, and Cetonia ænea, with the cocoons of the last-named species, the larvæ of which reside in ants' nests, feeding on the immature ants, and remaining three years in that state. Messrs. Boyd and Edwin Shepherd exhibited numerous rare Lepidoptera from the Isle of Wight and the neighbourhood of Dover; and Major Shepherd a hermaphrodite specimen of the blue butterfly Polyommatus Alexis, the right side and wings of which were male and the left female. The President exhibited a mass of white cottony matter, consisting of a number of small cocoons, which had been collected on the body of the caterpillar of a Sphinx, at Hong-Kong, by Mr. J. C. Bowring, and within which some specimens of a parasitic Eurytoma were still entangled. Mr. F. Moore exhibited the transformations of a minute Muscideous Dipteron, which he had reared from a decaying Walnut. Mr. Sydney Saunders exhibited a fine series of illustrations of the habits and transformations of six species of Stylopidæ, recently

bserved by himself in Albania, as well as various other stances of parasitism in the Hymenoptera and Diptera. he President gave some account of M. Blanchard's ork upon the Organisation of the Animal Kingdom, me of the elaborate plates of which were upon the ble. A notice was communicated by Mr. F. Moore lative to a gigantic spider's web observed in India, ithin which small birds were entangled, and then eyed upon by the young spiders. Mr. Douglas exhited a number of illustrations of the habits of various af-mining caterpillars, and read a translation, with otes by himself and Mr. Stainton, of Réaumur's emoir on that subject. He also read a note of an ticle recently published upon the Potato disease, attrited to the growth of fungi. Mr. Spence communited a notice by Col. Moody of a disease in New olland caused by the attacks of a minute fly upon e eyes of the inhabitants, and a successful mode of eventing it by the use of an open net-work veil or ramouche. Mr. Spence pointed out the similarity of is mode of prevention to the plan adopted by the cient Egyptians (as detailed by Herodotus), and by e modern Italians, as set forth by himself in the first lume of the Society's Transactions for preventing the trance of flies into apartments by hanging fishing nets the open windows.

Notices of Books, &c.

Old Roads and New Roads, the title of the first of a series shilling volumes published by Chapman and Hall under title of "Reading for Travellers," is exactly the ok for the amusement of a man of education. Lively d learned, poetical and practical—this book is to the olar fatigued with trash like a bottle of rich ngarian wine to a man who has been condemned to thin potations of France and the Rheingau. Take for tance the following introductory matter :—

'Perhaps the very antiquity of roads, and the wide of generations comprised in the subject, have erred competent persons from attempting it; yet refore is it only the more strange that incompetent sons have not essayed 'this great argument,' since y generally rush in where their betters fear to tread. istory of roads is, in great measure indeed, a history civilisation itself. For highways and great cities not rely presuppose the existence of each other, but are o the issues and exponents of two leading impulses in nature of man. Actuated by the one—the centrial instinct—the shepherd races of Asia founded their at capitals on the banks of the Euphrates and the nges : impelled by the other—the centrifugal instinct hey passed forth from their cradle in the Armenian ghlands, westward as far as the Atlantic, and east-'d as far as the Pacific. We have indeed indications oads earlier than we have accounts of cities. For s before Arcadian Evander came as a 'squatter' to unt Palatine, was there not the great road of the perboreans from Ausonia to Delphi, by which, with h revolving year, the most blameless of mankind veyed to the Dorian Sun-god their offerings? And oon as Theseus—the organiser of men, as his name orts—had slain the wolves and bears and the biped ians of the Corinthian Isthmus, did he not set up a ction-post, informing the wayfarer that 'this side Peleponnesus, and that side was Ionia?' Centuries of ught and toil indeed intervened between the path across plain or down the mountain-gorge and the Regina rum, the Appian Road; and centuries between the e stone-heap which marked out to the thirsting way-r the well in the desert, and the stately column ch told the traveller, 'This is the road to Byzantium.'

In the land of 'Geryon's sons,' the paths which ed the sierras were attributed to the toils of rcules. In Bœotia, at a most remote era, there was road carriage-road from Thebis to Phocis, and at one its inter-sections by a second highway the homicide of us opened the 'long process' of woes, which for e generations enshrouded, as with 'the gloom of hquake and eclipse,' the royal house of Labdacus. have some doubts about the nature, or indeed the tence, of the road along which the ass Borak conid Mahommed to the seventh heaven : but we have grounds for questioning the fact of the great cause-, which Milton saw in his vision, leading from demonium to this earth, for have not Sin and Death travelling upon it unceasingly for now six thousand rs!

From that region beyond the moon, where, according Ariosto—and Milton also vouches for the fact—all gs lost on earth are to be found, could we evoke a ghiginian ledger, we would gladly purchase it at the of one or two Fathers of the Church. It would rm us of many things very pleasant and profitable to known. Among others it would probably give some ing of the stages and inns upon the great road which from the eastern flank of Mount Atlas to Berenice, he Red Sea. This road was in ill odour with the ptians, who, like all close boroughs, dreaded the roach of strangers and innovations. And the Carthaginian caravans came much too near the gold-mines he Pharoahs to be at all pleasant to those potentates: as

——'much I wis
To the annoyance of King Amasis,'

it is bootless to pine after knowledge irretrievably ed in oblivion. Otherwise we might fairly have ed to have stood beside King Nebuchadnezzar when o unadvisedly uttered that proud vaunt which ended in his being condemned to a long course of vegetable diet. For doubtless he gazed upon at least four main roads which entered the walls of Babylon from four opposite quarters :—

'From Arachosia, from Candaor east,
And Margiana, to the Hyrcanian cliffs
Of Caucasus, and dark Iberian dales:
From Atropatia and the neighbouring plains
Of Adiabene, Media, and the south
Of Susiana, to Balsara's havens.'

We pass over as a mad imperial whim Caligula's road from Baiæ to Puteoli, partly because it was a costly and useless waste of money and labour, and partly because that emperor had an awkward trick of flinging to the fishes all persons who did not admire his road. It was a bad imitation of a bad model—the road with which Xerxes bridled the 'indignant Hellespont.' Both the Hellespontine and the Baian road perished in the lifetime of their founders; while the Simplon still attests the more sublime and practical genius of Napoleon. We should have also greatly liked to watch the Cimbri and Ambrones at their work of piling up those gigantic earth-mounds in Britain and in Gaul, which under the appellation of Devil's-dykes, are still visible, and, as monuments of patient labour and toil, second only to the construction of the Pyramids."

We need say nothing more to induce our readers to inquire after "Old Roads and New Roads."

FLORICULTURE.

The Cineraria.—Flowering from Christmas to June, and forming handsome specimens for decorative purposes at a comparatively small expense, both as regards attention and accommodation; and also furnishing a profusion of finely-shaped many-coloured flowers for bouquets, which the Cineraria does, it well deserves to be, as it is, one of the most popular flowers of the day. It is of easy culture, and in most cases is well managed; but, nevertheless, in some instances where ample means exist, and also, doubtless, a desire to produce respectable specimens, it exhibits effects of the worst possible treatment. The following hints may enable such growers to produce creditable examples of this extremely useful plant. The ordinary method of propagating the Cineraria is by root suckers, which are produced abundantly by plants after blooming, when placed in a shady situation and properly attended to with water. The old plants should be broken up as early in August as suckers can be had strong enough; the latter should be potted singly in 4-inch pots, and placed in a shady part of a cold frame till well established, which will be in less than a fortnight. The plants should then be placed near the glass, and receive abundance of air, with a view to secure "stocky" growth. During autumn, and until severe weather occurs, a cold frame will form the most suitable situation for promoting rapid growth; but some attention will be necessary—not to wet the foliage any more than can be helped, and also to avoid cold currents of air, which turn the leaves foxy, and greatly injure the plants. At the same time, however, admit sufficient air to prevent weakly growth. Water should be applied early in the day when necessary, giving a good soaking, and air admitted on the sheltered side of the frame, to dry the atmosphere and foliage. During autumn and winter the Cineraria is somewhat liable to mildew, especially some varieties; keep, therefore, a sharp out-look for this enemy, and apply sulphur the moment it appears to the parts affected. Mildew is greatly encouraged by a confined over-moist atmosphere, which is also very congenial to aphides, which will be sure to make their appearance under such circumstances. As soon as they are perceived apply tobacco smoke; but if the plants are kept in good health neither evil will be very troublesome. As soon as frost is likely to occur the glass should be protected every night with straw screens, or some efficient covering; for, remember, the Cineraria will not stand much frost, and neglect in covering may do irreparable damage. With respect to potting, the plants should be allowed plenty of root room until near their period of flowering, and they ought never to be pot-bound during the growing season. Liberal shifts may be given to healthy thriving plants, but weak varieties should not be over-potted. Specimens may have 10-inch pots at the second shift, which will be sufficiently large for the winter, and in March they may be moved into 12 or 15-inch pots, according to the sized specimens desired. The plants should be removed to the front of the greenhouse, or to some light airy situation where they will be secure from frost and damp. As before stated, keep them free from insects and mildew, and remove any decaying leaves as they appear. When the flower-stems begin to elongate they should be pegged or tied out, so as to keep the specimens open for the admission of light and air, and manure-water will be highly beneficial at this stage. When the plants are in flower they should occupy an airy place, where they will receive abundance of light without being exposed to the full force of the forenoon's sun; but this applies only to plants flowering after the sun becomes powerful in spring. Those blossoming in winter like full exposure to the little sunshine and light which can then be afforded them. Where specimens are wished to flower in winter, cuttings should be selected about April, planted in light sandy soil, placed in a temperature of about 55°, and grown as freely as possible during the summer and autumn, and allowed to become pot bound towards November, when if placed in a temperature of about 50° they will be found to flower freely, and will be exceedingly useful for furnishing cut flowers. Seeds sown in April produce useful plants for winter flowering, as they grow more vigorously during the summer. When the beauty of the specimens is over remove the flower-stems, unless seed is wanted, and then only a few spikes need be left. Place the plants in a shady situation, and keep them clear of insects and properly supplied with water until a supply of suckers is obtained, when the old plants may be thrown away. Good fresh turfy loam, in the proportion of two parts to one of two years old cow-dung, well intermixed with a quantity of clean sharp sand, according to the nature of the loam, to ensure efficient drainage, forms an excellent compost for the Cineraria. For small plants leaf soil or sandy peat may be substituted for the cow-dung. *S.*

Pompone Chrysanthemums.—I have a plant of Rénoncule, in a 12-inch pot, upwards of 4 feet through, and 3 feet high, and it has more than 500 expanded and expanding flowers on it. It is also well clothed with healthy green foliage. This is the gem of all the Pompones which I have seen. It is a free flowerer, and the blossoms are as double as those of the most double Daisy. *G. Dickson, Manchester.*

Catalogue received from Messrs. Howden Brothers, Inverness.

Miscellaneous.

Deodorising Manure.—I will state some curious facts which I have observed in examining urine, and perhaps they may help us to the solution of the larger problem. This fluid in its recent state contains urea, and phosphates of soda, lime, and magnesia, which latter are held in solution by the free acid existing in it. When kept, urine putrefies or ferments, and the urea is changed into carbonate of ammonia, which neutralises the excess of acid, and a precipitate of the triple phosphate of ammonia and magnesia is deposited. If we add a solution of a salt of magnesia to this urine, a further precipitate of the same salt is produced. Starting with these facts, I kept some urine in an open vessel until the urea was converted into carbonate of ammonia, and then converted the carbonate into a sulphate, by adding sulphuric acid until the liquid was neutralised. A very offensive odour was, however, given off during this operation; and the sulphate of ammonia being very soluble, I was obliged to evaporate a large amount of fœtid liquor to obtain a comparatively small product. Trying to deodorise the liquor by various means, I found the addition of a mixture of the sulphates of magnesia and lime precipitated all the phosphates and nearly all the ammonia. The supernatant liquor was poured off, and on evaporation was not nearly so offensive as the former liquor, and contained a small quantity of the double sulphate of magnesia and ammonia. The first precipitate readily dried on exposure to the air, and, although certainly not inodorous, did not give off any noxious gases. I found it to consist of sulphate of lime, carbonate of lime, the ammonio-phosphate of magnesia, the double sulphate of ammonia and magnesia, and traces of organic matter, which no doubt gave the peculiar urinous smell to the compound. About this time I was asked to remedy a most offensive smell in a stable, arising from the decomposition of urine and dung. I tried the mixture of Epsom salts and plaster of Paris, and the most wonderful effects followed; the stable-keeper was delighted. Previously, the stable was damp and unwholesome, and if closed for a few hours the ammoniacal vapours were suffocating. After sprinkling the sulphates underneath the straw and along the channel of the drain, there was no longer any smell, and, as he declared, the walls of the stable became much drier. If this be really the case, it opens up another source of manure for the farmer; for the dungheap must be much enriched by the phosphates and ammonia fixed and swept up with the straw, which would otherwise have run to waste into the drain. I have no doubt the same salts are formed as in the case of the decomposed urine. An economical preparation of the magnesian limestone dissolved in sulphuric acid, and with the aid of the superphosphate of lime prepared by the action of sulphuric acid on coprolite, might be employed to precipitate all that is valuable in the sewage of towns, while the supernatant liquid might be run off harmless into the ordinary channel of drainage. We should thus, to a great extent, fix the more volatile and odorous portions of the sewage; and at the same time obtain in the precipitate a manure, valuable for its containing the very ingredients required by plants, and yielding up its elements to the action of the changes of climate and temperature. We possess in our own country an inexhaustible supply of the mineral constituents which make guano so valuable, in beds of phosphatic deposits and mountains of magnesian limestone; and we allow 4,000,000 tons of night-soil to be annually wasted on our shores. We well deserve to be taxed by a foreign government, while we neglect these precious stores at home. If agriculturists would take in hand practically the discoveries of their more theoretical brethren of the towns, and not cast aside every suggestion because of the first failure, they might render themselves independent of the Peruvian or any other government for guano. *Extract from a Paper on Mineral Manures by Mr. Lindsay Blyth, read before the Chemical Discussion Society.*

Sale of Orchids.—What kind of prices the plants mentioned at page 703 realised, will be gleaned from the following:—Epidendrum vitellinum (very fine specimens), fetched from 2*l.* to 7*l.* 10*s.*; E. aurantiacum, from 1*l.* to 2*l.* 10*s.*; E. alatum, from 1*l.* to 2*l.* 0*s.*

Schomburgkia tibicinis (fine plants), from 1*l.* to 6*l.* 5*s.*; Barkeria spectabilis, from 1*l.* to 2*l.*; B. Skinneri, from 1*l.* to 2*l.* 4*s.*; an unknown Mormodes, 1*l.* Other lots fetched from 1*l.* to 1*l.* 5*s.*

Fried Tomatoes.—Slice and fry in good sweet butter, or without if you prefer. The rind should be first carefully removed. Or take a piece of good pork, cut into small pieces, and add an Onion, of a size proportionate to the family; cut up fine and fry them brown; put in the Tomatoes, cover them up and fry till well done. This method is highly recommended, and many who cannot endure Tomatoes prepared in any other way, admire them when fried thus. *Ohio Cultivator.*

Calendar of Operations.

(*For the ensuing week.*)

PLANT DEPARTMENT.

When finally regulating greenhouse plants for the winter, endeavour to keep those plants requiring the same general treatment together, either in the same house or (where the collection is extensive) by devoting a separate house to their culture. Where such is the case, Heaths, Epacrises, and the greater part of New Holland plants requiring nearly the same management, may occupy one; and where one house has to hold a general collection, the above should occupy the front shelves and other situations near the glass, to have the benefit of light and air; again, Camellias, Chinese Azaleas, the Orange tribe, Daphnes, &c., may occupy the same house, if required. There will yet remain a number of plants of intermediate habit, which, for the want of more ample accommodation, may be grown with any of the above. But Pelargoniums, Cinerarias, Calceolarias, and similar plants with soft or succulent leaves, will require to be kept in a temperature of not less than 45°, and hence the necessity of providing them with a separate house, where the application of fire-heat will not interfere with the growth of other plants, and where, in addition, they can have the greatest available amount of light. When the above matters are settled, the principal points to be attended to for the next three months will consist in a careful attention to watering, and adjusting the supply of air so as to keep up a free circulation through every part of the house, without exposing the plants to draughts or strong currents. Unless the nights are very cold, air should be kept on, sufficiently to keep up a gentle circulation, more particularly with hard-wooded plants. But this should be done with the air of the house in a dry state, to effect which let the watering and cleaning to each house be done early in the day, that everything may get dry before closing time, as it is well known plants will bear without injury a far greater degree of cold in a dry atmosphere than in a moist one. Specimens, and indeed all plants which it is desirable to keep in a good form, should be frequently turned round, to keep them from getting ill shaped. Carefully train Tropæolums as they advance, covering the trellis or wires regularly from the bottom. Hardenbergias, Kennedyas, &c., should have the same attention during their growth.

FORCING DEPARTMENT.

Pinery.—Pines still swelling their fruit will require occasional waterings, but unless on very fine days the syringe should be dropped. Admit air freely each fine day, and allow a slight admission at all other times, keeping up the temperature in dull weather by a little extra fire heat. At this season the bottom heat generally falls below what is required to carry on the remaining fruit. If the Pines are expected to ripen their fruit by the end of January, it will suffice to remove a portion of the fermenting material from between the pots, and to fill up the space with fresh warm tan. As but little water will be required for Pines at this stage, the pots may be covered 2 or 3 inches as well, which will assist to create a slight additional warmth round the roots for the remainder of their growth. Where, however, the Pines have only recently shown fruit, means should be taken to renovate the bottom heat sufficiently to last till the fruit gets ripe, as nothing is more detrimental to swelling fruit than disturbing Pines after they are started. If leaves are employed, let them have a good sweating in a heap before putting them in the pit. We have never found leaves heat sufficiently to burn the roots of Pines at this season; but if any danger from this is apprehended, place two bricks flat, with a space between, under each plant in plunging; to give a tidy appearance to the house, as well as for preventing the top leaves from getting too dry, a few inches of tan should be spread over the surface, and beat firm. If tan only is used, the pots should not be plunged entirely at first, but placed in hollows, with a ridge of tan between, to be levelled down as the heat declines. Pines intended to show fruit during next spring should not be disturbed at present, as it would start them into a fresh growth, a point at this time to be carefully guarded against; these and the younger successions should have a dry atmosphere, excluding both the steam from linings, and evaporation from the heating apparatus. The night temperature may remain at 58° to 60°, with an advance by day; the supply of air must in some measure be guided by the weather, but a little at all times should be allowed. Early Vinery.—Syringe twice or thrice each day with tepid water; as the nights are warm, no fires need yet be made, unless frost intervenes, but a little each dull day to raise the temperature a few degrees will be necessary. Proceed with getting the next house in order, as well as with forwarding the early Peach house for forcing when the time arrives.

FLOWER GARDEN AND SHRUBBERY.

If the beds are not yet filled with their occupants for the winter, lose no time in getting them in, as frost may now be expected. Where the land is not too wet, alterations of grounds and planting should be carried on with dispatch, but on no account attempt planting when the soil is in a state of puddle; depend on it the drier soil is when placed around the roots of newly planted trees (provided they are judiciously watered in), the sooner will they emit fresh roots. Mulching is, however, requisite to keep out frost; and earlier in the season, to prevent evaporation. As tree leaves are always in request, either as a fermenting material or for leaf-soil, they should at this season be carefully collected; if they are required only as a manure, they may be stowed away in any bye-places and left to rot; but, as is generally the case, they are in demand as a cheap mode of furnishing bottom-heat to Pines, as well as for forcing various vegetables, some pains should be taken to keep them dry; for this purpose they should be stacked up in some back place or behind the garden walls, where access can be had to them at all times; and, after allowing time for them to settle, put on a coat of thatch to effectually secure them from rains; by these means, they will be found in a state fit for use for a twelvemonth to come.

FLORISTS' FLOWERS.

Auriculas will often at this time of the year throw up premature blooms; with amateurs, who do not exhibit, this may not be of much consequence; but where a regular bloom is desired at the proper season it is advisable to remove the pips, so that the plant may not weaken itself at this period of the year. Very little water and plenty of air is necessary at this season. Polyanthuses, in the open border, may have the soil drawn over the roots, decayed leaves removed, slugs and snails trapped, which, in such moist weather as we have lately had, devour the hearts, if not destroyed. We have seen these plants cultivated with great success by drawing the foliage together, and surrounding the plants with fresh moss, at the same time placing a small hand-glass about 4 inches above the plant, upheld by three cleft sticks; this plan prevents excessive frost, or an excess of moisture, injuring the plants.—Take care of Carnations and Picotees in frames; recollect that stagnant air is a fertile source of spot and mildew, two maladies to which this class of plants are liable. Some florists cover their Tulip beds after planting, for a time, to save their bulbs from an excess of moisture; a good plan, and worth adopting in very rainy seasons.

KITCHEN GARDEN.

Attention should now be directed to the preservation of such vegetables as are too tender to withstand hard weather, by providing a quantity of protecting materials to be ready for use on the approach of frost. The branches and sprays of evergreen trees (particularly the Fir tribe) are useful to place over Cauliflowers, Lettuce, and various other vegetables which are growing in the open quarters; a stack of dry Fern or straw should be in readiness for the like purposes; at the same time fill all the spare frames with Lettuce, Cauliflowers, and Endive for use during mid-winter, when those temporarily protected are over. On the approach of winter a good stock of Endive may be taken up and stowed thickly on the Peach-house, or Vinery floors, or even under a dry shed; take advantage of dry weather, to give a final earthing up to Celery. Look over the root stores, and see that Potatoes, Carrots, Beets, &c., are in a dry state for the winter. The earliest crop of Peas may now be sown on a warm sheltered quarter; at this season sow rather thicker than usual, and protect them from the ravages of mice; a few Mazagan Beans may likewise be planted.

STATE OF THE WEATHER NEAR LONDON,

For the week ending Nov. 11, 1852, as observed at the Horticultural Gardens, Chiswick.

Nov.	Moon's Age.	Barometer. Max.	Barometer. Min.	Temperature. Of the Air. Max.	Min.	Mean	Of the Earth. 1 foot deep.	2 feet deep.	Wind.	Rain.
Friday.. 5	7	29.391	29.306	63	40	51.5	50	49	S.	.05
Satur.. 6	24	29.843	29.737	58	52	55.0	50	49	S.W.	.03
Sunday. 7	25	29.979	29.862	60	54	57.0	51	49	S.W	.15
Monday 8	26	30.146	30.048	62	56	59.0	52	50	S.W.	.00
Tues. .. 9	27	30.164	30.045	59	48	53.5	53	52½	S.W	00
Wed. .. 10	28	30.032	29.937	50	42	46.0	52½	50	N.W.	.05
Thurs.. 11	29	29.706	29.408	54	48	51.0	50½	50	S.	1.02
Average....		29.894	29.763	58.0	48.5	53.3	51.3	48.5		1.33

Nov. 5—Overcast and windy; exceedingly fine, clear at night.
— 6—Rain; very fine in forenoon; overcast; boisterous at night.
— 7—Cloudy and boisterous; constant rain; clear and windy.
— 8—Very mild, lowest temperature 56 deg. in past night; overcast throughout.
— 9—Uniform haze; overcast; clear at night.
— 10—Uniformly overcast; rain at night.
— 11—Drizzly; rain; heavy and constant rain at night.

Mean temperature of the week, 9 deg. above the average.

STATE OF THE WEATHER AT CHISWICK,

During the last 26 years, for the ensuing week, ending Nov. 20, 1852.

Nov.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 14	49.0	35.3	42.2	13	0.67 in.	5	3	2	4	2	5	3	2
Mon. 15	48.7	35.7	42.2	12	0.32	12	4	3	2	4	7	3	1
Tues. 16	48.9	34.0	41.4	10	0.41	5	3	1	3	4	5	3	2
Wed. 17	48.2	35.6	41.9	13	0.40	4	4	1	1	6	6	2	2
Thurs. 18	49.0	35.0	42.0	17	0.41	2	4	1	2	4	7	3	3
Friday 19	49.0	35.7	42.4	14	0.87	1	4	2	3	2	9	3	2
Satur. 20	49.3	36.3	42.8	9	0.33	1	6	2	—	4	4	6	4

The highest temperature during the above period occurred on the 16th, 1841—therm. 60 deg.; and the lowest on the 16th, 1841—therm. 15 deg.

Notices to Correspondents.

Books: *A Subscriber.* The small edition of English Botany consists of seven volumes, 8vo. filled with coloured plates. It can be obtained through any bookseller under the name of Sowerby's English Botany. It contains no Cryptogamic plants. The last edition of Donn's Catalogue, by Don, is what you want. It is the business of booksellers to furnish prices, and you should apply to them.—*J S.* You will find an enumeration of all the books you are likely to require at p. 368 of our volume for 1848.‡

Diseases: *G W.* Your Yew trees are covered with Sphæria Taxi, Sow., which has not, however, at present arrived at its perfect growth. Such productions often require a month's exposure to damp weather to assume their perfect form. The cells now exhibit only a uniform cellular mass like that of a Sclerotium. There is no remedy for such visitations, the causes which promote their growth in certain seasons being wholly unknown. Yours is not, however, by any means a singular case. *M. J. B.*

Firs: *C D.* When Silver Firs have two leaders, remove one, gradually, simply stopping it in the first year, removing one-third in the second year, and so on, if the tree is large. If small, the useless leader should be stopped in August, and finally removed in November.

Fruit Trees: *A Caledonian.* The following will probably succeed as dwarf standards in the North Riding of Yorkshire. *Pears:* Williams' Bon Chrétien, Jersey Gratioli, Louise Bonne (of Jersey), Eyewood, Broom Park, Knight's Monarch, Thompson's Shobden Court, March Bergamot. These will succeed on Quince stocks. *Apples:* Early Harvest, Wormsley Pippin, Blenheim Pippin, Court of Wick, Syke House Russet, Claygate Pearmain, Hubbard's Pearmain, Pearson's Plate, Scarlet Nonpareil, Sturmer Pippin. *Plums* for a north wall: Early Orleans. *Cherries* for ditto: Kentish, Morello ‖—*J G.* Two Pear trees for an east aspect, and to ripen in December and January, may consist of the Glout Morceau, and Passe Colmar.‖

Glass: *Sub.* If you will refer to our Number for September 4, of the present year, you will find it satisfactorily proved that rough plate glass answers for greenhouses perfectly.‡

Gourds: *J J Pr.* The weight of the fruit you mention is not at all unusual. Such Gourds sometimes weigh a couple of hundred weight.

Grapes: *A B.* They might be grown in a span-roofed greenhouse on the north side as well as the south, and greenhouse plants as well, provided the Vines are confined to the rafters and closely pruned. See an article on late Grapes in another column.‡

Hollies: *H.* Your plants which were removed in the beginning of last October, and which have lost all their leaves, will no doubt recover, provided you let them alone. The falling of the leaves is a good sign.‡

Kitchen Garden: *Monmouth.* You state that the situation where you intend to form a kitchen garden lies rather high, 300 or 400 feet above the level of the sea; that the soil is 5 or 6 feet deep; that Pears and Apples grow freely in the adjoining field; that in the proposed site the Hawthorn, Crab, Brambles, and Ferns grow most luxuriantly; but no marsh plants are seen. Taking all these circumstances into consideration, we conclude it is quite unnecessary to incur the expense of draining; but the amount thus saved may be profitably laid out in regularly trenching the ground to the depth of 3 feet.‖

Manure: *J A.* Gas water will destroy the vitality of the seeds of weeds, in a dung-heap, if poured over them, and the mass is allowed to heat. It much improves manure. We do not know whether gas lime would answer as a manure for Asparagus, in moist boggy soil, instead of, or in connection with soot. Perhaps some reader who has tried the experiment will favour us with the result of his experience.

Mushrooms: *Monmouth.* As your spring-formed Cucumber bed, which has of late supplied you abundantly with Musbrooms, is still producing and full of spawn, it will be advisable not to disturb it. Water, but very slightly, with luke-warm water, if the bed should become too dry; and maintain a gentle heat by linings.‖

Names of Fruits: *W S E C.* 1, 4, 13, Beurré Diel; 2, Glout Morceau; 3, Easter Beurré; 6, 11, Winter Nelis; 9, Beurré d'Aremberg; 10, Beurré Rance; 12 appears to have been Williams's Bon Chrétien. The Grape is doubtful. Passiflora edulis.‖—*T C S.* 1, Hubbard's Pearmain; 2, Downton; 13, Hughes's Golden Pippin; 1, Bishop's Thumb; 2, Brown Beurré; 3, Washington; T. C. S., Beurré d'Aremberg.‖—*M C* 1, Glout Morceau; 2, Beurré Diel; 3, Duchesse d'Angoulême; 1, Gloria Mundi Apple ‖—*J C.* 2, Marie Louise; 4, 11, 13 Beurré Diel; 6, Doyenné Gris; 9, 14, Glout Morceau; 15, Bon de Caissoy; 16, probably Napoléon; 17, Beurré de Capiaumont. —*W S.* 2, Chaumontel; 3, 4, Beurré Diel; 6, Glout Morceau; 7, Easter Bergamot; 8, Doyenné Blanc; 9, 10, Marie Louise; 11, Seckel; 12, Easter Beurré; 14, Gansel's Bergamot; 16 Beurré d'Aremberg; 18, Moorfowl Egg; 19, Passe Colmar; 21, Uvedale's St. Germain. ‖—*F.* The Doyenné Blanc. Pears grafted on Apple stocks will not succeed. ‖—*X.* From the description and figure which you have sent, it does not appear that you have got the true Smooth-leaved Cayenne Pine Apple. The form of the latter is pyramidal.‖—*S R.* 1, Beurré de Capiaumont; 2, 6, Marie Louise; 3, 10, Glout Morceau; 4, Old Colmar; 5, Chaumontel; 7, Ne Plus Meuris; Seckel; 9, Winter Nelis; 1, King of the Pippins; 3, Wyke Pippin; 4, 9, Blenheim Pippin; 5, 16, Golden Reinette; Easter Pippin or French Crab; 7, 12, Dumelow's Seedling 10, Court pendu Plat; 13, Downton; 15, Royal Russet. —*J M.* 2, St. Germain; 4, Beurré d'Aremberg; 5, Crassane 6, 10, Flemish Beauty, which has not been gathered soon enough; 11, Passe Colmar; 12, Black Achan; 13, William Bon Chrétien, probably; 15, Glout Morceau; 17, Bac 1, Rymer Apple; 3, Reinette du Canada; 4, King of th Pippins; 5, 6, Court-pendu Plat; 7, Beauty of Kent; Male Carle. ‖

Names of Plants: *L N R.* Polypodium calcareum, Sm. *S. Troublesome.* It is Cupressus torulosa; it grows a great height, but it will form an ornamental objec for some years at least on rather a small lawn. If we treated it will continue (as it is at present) covered wi branches to the bottom, like a Deodar. The letter to whi you allude never reached us.—*A B.* Leaves without flowe cannot be named.—*W M T.* Cymbidium ensifolium, fro China.

Strawberries: *C F W.* Kitley's Goliath and Myatt's Eleano are distinct from sorts previously in cultivation. T Goliath is a tolerably good bearer, reckoning by weight, n number; for, owing to their very large size, its fruits wou require to be piled above each other, were they only half numerous as those of some other kinds. In flavour, t above sorts somewhat resemble the Elton.‖

Vines: *W L.* The cause of the mildew is unknown; t remedy, sulphur, has been mentioned, we are sorry to s almost weekly, in our columns.

Willows: *W B.* We should plant young, clean-stemm sound, Willow plants (the Salix alba, if you want timbe and cut out the bad trees by degrees, if it is true that th will not make timber; but of that an opinion can only formed on the spot. Lombardy Poplar is bad, Canad Poplars are better; but have you any market for such timb after you have got it?

Misc.: *Coccus.* The treatment of the plants you mention been given in detail at pp. 52 and 84 of the current ye volume.‡

PERUVIAN GUANO.

CAUTION TO AGRICULTURISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

ANTONY GIBBS AND SONS, AS THE ONLY IMPORTERS OF PERUVIAN GUANO,

Consider it to be their duty to the Peruvian Government and to the Public again to recommend Farmers and all others who buy to be carefully on their guard.

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Any resales made by dealers at a lower price must therefore either leave a loss to them, or the article must be adulterated.

THE LONDON MANURE COMPANY offers on the best terms Wheat Manure for autumn sowing, Linseed, Rape Cakes, Peruvian Guano, Urate, Superphosphate of Lime, and every other artificial manure. Also a quantity of Salt, the refuse of ammonia and saltpetre makers, considerably more valuable than the ordinary agricultural salt.

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N.B. Peruvian Guano, guaranteed to contain 16 per cent. of Ammonia, 9l. 10s. per ton; and for 5 tons or more, 9l. 5s. per ton, in dock. Sulphate of ammonia, &c.

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THE PEAT MOSS CHARCOAL COMPANY are prepared to deliver a superior Charcoal (made expressly for Agriculture and Horticulture, and not divested of any of its chemical properties), at 52s. 6d. per ton.—Apply to MARK FOTHERGILL, Agent, 204, Upper Thames-street.

Linseed and Rape Cake, Peruvian Guano, Gypsum, Salt, and all Manures of known value on sale.

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"Sewage manure absorbed in charcoal is a first-rate fertiliser; we have tried it on French Beans, Dahlias, Roses, and Cabbage plants; we put half a pint to each Rose and Dahlia, sowed it in the row with Beans, and put a few pinches to each plant of Cabbage. The effect is perceptible very soon, but it will be twice as efficacious the second year as the first."—*The Garden, by Mr. Glenny.*

WINTON'S PARKES'S CELEBRATED STEEL DIGGING FORKS AND TOOLS are universally approved of. They facilitate labour 20 per cent. They have received the Silver Medal at Lewes, Dublin, Galway, Sheffield, and other places. Anthony's Patent American Churn has received the prize at every one of the numerous agricultural meetings where it has been shown. The Royal Agricultural Journal, p. 41, says, "This form of churn is the best for churning sweet cream, and will undoubtedly produce butter from milk or cream, in any form, in much less time than any churn that has yet been introduced." Pumps for manure and watering gardens. Mr. Mechi has one working admirably. These pumps are cheap, durable, and effective. Gutta percha tubing, bands for machinery, hose for pumps, and an assortment of prize and the best farm implements. Price catalogues sent on application.—BURGESS and KEY, 103, Newgate-street, London, agents for M'Cormick's American Reaper.

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The Pantheon Fountain, designed by S. Smirke, Esq. 38l.

A Roman Ground Basin enriched with leaves, and with wreathed torus, 5 ft. 6 in. diameter, with Lotus flower for the centre; the whole 4 ft. 4 in. from the ground. 28l.

A Ground Basin, 7 ft. diameter, with an enriched rim, and a group of Boys in the centre, supporting a plain vase. 24l.

A design suitable for a niche about 6 or 7 feet high. 9l.

A Vase of leaf pattern, 5 ft. diameter, with a centre of corresponding design; the whole standing 5 ft. 9 in. high. 18l.

A Plain Ground Basin, 8 ft. diameter, in the centre of which a shell, 3 ft. diameter, supported by a handsome pedestal, 4 feet high. 16l.

A Flat Bowl, 6 ft. diameter, with group of three tritons supporting a shell and dolphins. 18l.

A Pair of Shells on rock, intended for a water basin, edged with flints. 12 guineas.

A Plain Ground Basin, 12 ft. diameter, and plain Tazza, supported by three storks. 30l.

A Plain Ground Basin, 6 ft. diameter, with plain centre piece. 12l.

An enriched Ground Basin, 7 ft. diameter, with two Tazzas of corresponding style, supported by entwined Griffins. 28l.

A Vase, 4 ft. diameter, with figure of a Boy and Dolphin in centre. 10 guineas.

A Ground Basin, 10 ft. diameter, with a double shell centre piece, 5 ft. high. 21l.

A Plain Ground Basin, 8 ft. diameter, with enriched Tazza, 3 ft. 10 in. diameter. 22l.

A Design entirely of a leaf pattern, 6 ft. 9 in. in diameter. 21l.

A Ground Basin, with enriched rim, in centre of which a twisted cable, supporting a shell and small figure. 17l.

A Tazza in the Elizabethan style, 3 ft. 6 in. diameter, on a suitable pedestal; height, 4 ft. 6 in. 9l.

An enriched Pan or Ground Basin, 4 ft. 6 in. diameter, to be used for aquatic plants. In the centre a stone basket of wicker pattern, from which rises a cluster of white lilies, executed in copper, and painted like nature. The lilies support a glass fish basin, in the centre of which is a quiet jet of water: executed for the late Sir P. Sykes. 30l.

A Ground Basin, 10 ft. diameter, with moulded base and Tazza for the centre, 3 ft. 7 in. diameter, and small centre flower; 6 ft. 8 in. high. 28l.

A Grecian Tazza, 3 ft. diameter, on a round pedestal (this basin is deep enough for gold fish). 6l.

A Ground Basin, with enriched rim, 7 ft. diameter, and a centre flower with florets; height 4 feet. 21l.

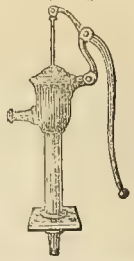
A Bowl with scalloped rim, 6 ft. diameter, in the centre three entwined griffins, supporting a cluster of shells; height, 5 ft. 6 in. 26l.

A Ground Basin, enriched with sculpture in the Roman style, 4 ft. diameter, on lion's claws (iron). In the centre a small leaf Tazza elevated on a stalk and lotus flower. 12l.

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Patent Pump	1 15 0
Patent Pump, with 15 feet of lead pipe attached, and bolts and nuts ready for fixing	2 10 0

Larger sizes if required.

To Emigrants proceeding to the Gold Regions they will prove to be the most simple, durable, and the cheapest Pump hitherto introduced.

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Every description of Machinery for Raising Water, Fire Engines, &c.

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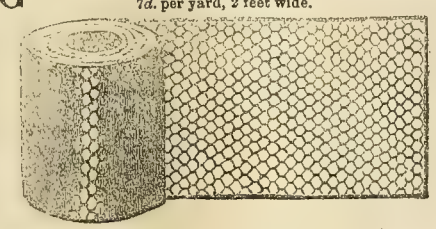
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P.S. Important to Farmers, &c.—F. R. begs leave to call attention to his new Water Power, which in many cases will supersede the use of the Steam Engine.

GALVANISED WIRE GAME NETTING.—7d. per yard, 2 feet wide.



		Galvanised.	Japanned Iron.
2-inch mesh, light, 24 inches wide	...	7d. per yd.	5d. per yd.
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2-inch ,, extra strong ,,	...	12 ,,	9 ,,
1½-inch ,, light ,,	...	8 ,,	6 ,,
1½-inch ,, strong ,,	...	10 ,,	8 ,,
1½-inch ,, extra strong ,,	...	14 ,,	11 ,,

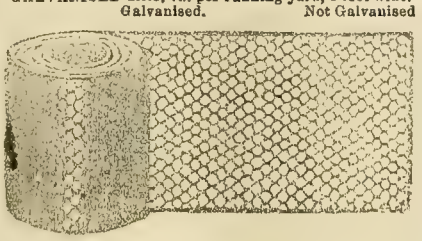
All the above can be made any width at proportionate prices. If the upper half is a coarse mesh, it will reduce the prices one-fourth. Galvanised sparrow-proof netting for Pheasantries, 3d. per square foot. Patterns forwarded post free.

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GLASS MILK PANS,

the same size as the foreign ones (17 inches in diameter) but superior in colour, make, and quality, at 2s. each, or 21s. per dozen. Lord Camoy's Milk Syphons, Lactometers, Milk Tests, Glass Cream Pots, &c., &c.

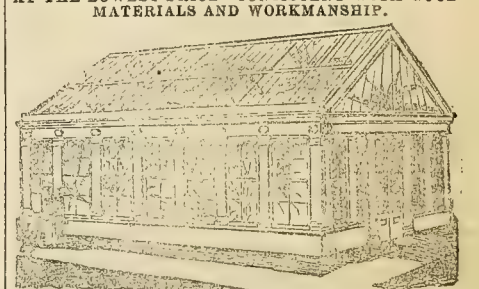
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THE GREAT METROPOLITAN EXHIBITION OF POULTRY, PIGEONS, AND RABBITS, open to Great Britain under most distinguished patronage, will take place at the extensive Cricket-ground, the Oval, Kennington, on the 1st, 3d, 4th, and 5th of January next. A much larger amount of prizes will be awarded than has ever been given at any other exhibition. The prize lists, regulations, certificates of entry, and any further information, can be had from the Secretary. The entries close on Wednesday, the 8th Dec.—WILLIAM HOUGHTON, Secretary, Offices, the Oval, Kennington.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER,

AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.



GRAY AND ORMSON, Danvers Street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

G. and O. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders they can with the greatest confidence give the most satisfactory references.

Their Hot-Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating by Hot Water can be made available.

HITCHIN AND HOME COUNTIES DOMESTIC POULTRY ASSOCIATION.—OPEN TO ALL ENGLAND.

The First Annual Exhibition of this Society will be held at Hitchin, on the 20th, 22d, and 23d of NOVEMBER, 1852, when Prizes amounting to upwards of 80l. will be offered for public competition.

Hitchin is a first class station on the Great Northern Railway, 30 miles from London; at which Station is a junction with the Cambridge and Eastern Counties Railway. Regulations and Prize Lists may be had on application to the Secretary, by inclosing two postage stamps. Entries for Exhibition close on the 6th of NOVEMBER. Admittance to the private view on Saturday, November 20th, by a 5s. Ticket (not transferable), which will be available for the three days of Exhibition. And on Monday the 22d, or Tuesday the 23d, 1s. each.

S. GOODWIN, Sec.

The Directors of the Great Northern and Eastern Counties Railways have agreed to run cheap trains on the occasion, and to give free passage to all Poultry for the Exhibition (at owner's risk), and to carry back free all that is unsold.

The Agricultural Gazette.

SATURDAY, NOVEMBER 13, 1852.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

THURSDAY, Nov. 18—Agricultural Imp. Society of Ireland.
THURSDAY, — 25—Agricultural Imp. Society of Ireland.

It is one of the most satisfactory features of the REPORTS ON CATTLE FEEDING with which Captain GREY has favoured our columns, that the results which they record correspond with what may be called an average experience. It is surely exceedingly desirable—so at least all real students of agriculture believe—that our practical farmers, the intelligent men whose sayings justly guide opinion at our market tables, should not leave the agricultural press in the hands of those, whether they be amateurs or not, who have merely *extraordinary* statements to communicate. There is no class of truths in which *maxima* has such little influence on *average* as they have in the case of agricultural truth; and as the latter are, after all, the only safe ground on which practical advice can be founded, we submit that those who, by long experience, have acquired a knowledge of these averages, should feel it a duty to assist in the correction of the crudities and anomalies in which our agricultural literature abounds. We know intelligent men engaged in the business of farming — able, themselves, as a correspondent puts it, to undertake every field process between the preparation of the land for the seed and the thatching of the

crop—able also to give the *rationale* of every one of these processes—and able, from their own experience over tens of years and thousands of acres, and from the experience of others, as recorded in the volumes of a well furnished and well studied agricultural library, to give a sound judgment on any of the so-called novelties of the agriculture of 1852—men who are competent to fill the chair of agriculture at any of our universities—who, nevertheless, contribute nothing publicly to the formation of sound public opinion on agricultural subjects.

If public spirit be in any sense a duty, then the silence of such men must be culpable: and so we believe it to be. But it is a very common sort of culpability; and so far as our knowledge goes, one which is chargeable more frequently upon Scotchmen than on Englishmen. There is a great fund of undisplayed knowledge, especially amongst Scotch farmers, which has yet to find expression for the benefit of agricultural readers; and we do hope that the first-rate example which has been set all by the Hon. Captain GREY, in the record and publication of an ordinary farm experience, in one of the most important sections of it, will induce many imitators. The following is the history of the process which he has recorded.

In cattle-feeding, as ordinarily carried on, an ox is purchased on such a date for a certain sum of money: it is grazed for so many weeks at a certain weekly cost, calculable for the rent and other charge upon Grass land: it is "put up" towards winter and fed on Turnips and straw (*a*) for so many weeks at a certain weekly cost, depending upon the quantity of roots and straw given, and upon the acreable cost and crop of Turnips and straw respectively; by and bye it receives a certain allowance of oil-cake or grain daily with its other food, the expense of which is easily ascertainable: it receives daily attendance as regards feeding and cleaning, and a supply of litter (*b*), all of which involve an easily ascertained weekly expenditure of money; and when fat so much beef is ready for sale, and so much manure is ready for use upon the farm. Throughout the process cost may be easily recorded, and at its close the amount of this cost may be easily compared with the amount of the returns in meat and manure which have resulted from it. But however easy it may be to do all this, how many well detailed cases of its having been done do we find? Is it not the case that so inexact and variable is opinion on these very points—the cost of beef and the value of manure—that not one, we believe, has yet been published that has not been attacked. Well, it is just through such a process as we have detailed that Captain GREY carries his readers. Over two years and with a herd of about 40 head of feeding oxen, the details of his experience and the results of his experience are exactly given. For both, we refer to the very clear statement which he has appended to the tables of figures which form the substance of his communication. We have referred to the whole in general terms more for the purpose of urging his example upon others than for the purpose of at present criticising his performance. This we may do hereafter in detail; meanwhile we would just refer to two omissions in his statement of cost, to which our attention has been drawn—and which seem justly chargeable upon it—those marked *a* and *b* in our enumeration above, namely, fodder and litter, the former of which we presume should have been included as adding to the cost, and the latter also, if credit be taken for the manure at 3*s*. a load. To these and some other points we shall refer on another occasion.

THE subject of FARM BUILDINGS is at all times an interesting one, but at a period when cattle are being taken up from Grass for the purpose of being house fed, it is doubly so; for in the household accommodation of the ox is one of those questions where practice is wofully at variance with science. When our cattle are turned out to Grass in spring, there is scarcely any difference in practice, comparatively speaking, from the Land's End to John O'Groat's; but at present not only do provinces differ among themselves, but individual provinces can scarcely be found containing two examples alike, so widely does practice differ on a subject where unity ought to prevail. For instance, in one example we find a dozen or two of oxen promiscuously feeding in an open yard, some of them differing widely in constitution from the others, and hence requiring to be differently fed. Under this system the strongest generally take possession of any shelter there is, leaving the weaker and least able to withstand the storm, exposed to currents of wind more piercing than what are experienced in the open plain itself. In another instance, stalls sloping backwards are the rule, so that, whether standing or lying, cattle are never at ease; and, in a third case, a few oxen are fattening for the butcher, standing or lying at ease, enjoying the benefits of the feeding-box. Then we have the differences in the character of the yards, stalls, and boxes, with a still greater variety in the departments of food, management, and manure, forming altogether a diversity of practice by no means easily reconcilable with the dictates of science. In the manufacturing world nothing of this kind occurs; for, from pin-making up to steam-boat building, the general rule illustrated is the importance and value of chemical and mechanical science: to fall behind in the march of improvement in these trades, not only is, but is felt to be, the shortest road to ruin. In the agricultural world, loyalty to the sceptre of science is the exception, not the rule, especially as regards farm buildings.

The combustion which takes place in the support of animal heat has justly been compared to the action of a fire, and the phenomenon which takes place in upholding the daily waste of the system is of a similar character; consequently, while we are complaining of "bad times," we are burning our stack-yards to warm ourselves.

The grand problem of the farmer being to procure from the soil the greatest amount of animal and vegetable produce, according to the demands of the public, our main difficulty resolves itself into the necessity of more capital being invested in the erection of suitable farm buildings, for the rearing and feeding of cattle, in order to enable the farmer to turn his crops to the best advantage.

The principal advantage of the feeding-box over the stall, or any of the old systems of shelter for feeding cattle, is the economy of food and manure which it affords. The ox rests better while it is enabled to take that amount of exercise necessary to health; with proper treatment, it enjoys a purer atmosphere than in the stall, and is equally well, if not better, sheltered from the inclemency of the weather, enjoying a more uniform temperature. It receives its food in quantity and quality as its size and constitution demand, and eats it without molestation, ruminating more perfectly, and working it up into a greater increase of weight, while it is less expensive for attendance, and produces a superior quality of manure. Such is the train of advantages which the feeding-box possesses—advantages of the highest importance, considering our present exigencies, and therefore we shall notice them somewhat more in detail.

There is nothing which checks the growth of young cattle, or the progress of fattening ones, more than excitement of any kind. Thus, we often see the ox standing or trying to stand across its stall, or hanging backwards as far as its chain will allow, and when lying, manifesting similar symptoms of uneasiness from which it is endeavouring to get relief; but as oxen which are taking on fat the fastest are generally those which make the most disturbance in examples of this kind, the nervous excitement produced by standing in an inclined position with the fore quarters highest, or by lying upon an uneven bed full of inequalities, is traced to an erroneous source; for it is not unfrequently taken as the index of laying on fat, instead, on the contrary, of consuming it. So easily is the animal system affected by excitement, that that produced by light is sufficient to counteract the laying on of fat to a very great degree, as proved by many an observation and experiment. To increase the weight of the ox in the greatest degree from a given quantity of food, not only must it rest easy in its box, but light also must be excluded or lessened.

The next advantage which the feeding-box possesses over the stall is that the ox is enabled to take that amount of exercise which health demands. A certain degree of exercise is essential to health, for muscles grow exactly in proportion to the amount of exercise which they receive, and this degree of exercise is not obtained in the stall. In growing cattle, the size of the bone is not unfrequently affected in the stall, and, were it not for the relief which cattle obtain at Grass in summer, results would be more conspicuous. But the case of the confined ox is even worse than this; for muscles which do not grow are liable to change their molecular constitution, impairing the quality of the butcher-meat, as the stalls of many a butcher practically exemplify. Hence the maxim at Smithfield—that symmetry is an index of quality.

Cleanliness is equally essential to health as exercise; and although charges have been brought against the feeding-box, that the ox is more liable to dirty itself in it than in the stall, unless with a larger allowance of litter, yet we have always experienced the contrary; but, granting the truth of this conclusion in particular instances, it only calls for the use of a little more litter, or even of the currycomb and brush, which are much neglected by the farmer, for rubbing promotes the circulation equally with exercise.

Ventilation and temperature are the next topics for consideration, and can be better effected in the feeding-box than in the stall. If the manure in the box is properly consolidated, there is less smell arising from it than in the stall, or even the open yard. The amount of decomposition or volatile matter given off in the latter two examples is much greater than is generally imagined, while in the former much less gaseous matter escapes into the atmosphere. In other respects, there is no comparison between the ventilation of the stall and feeding-box; for cattle in the former are invariably crowded too closely together, while in the latter, they are better separated; and, for similar reasons, temperature is more uniform and easily controlled.

The last topics are expenses and manures—topics not the least important. On the latter we need not say a word, experience having already decided the question; and, with regard to the former, the expense of erecting feeding-boxes, if greater than that of erecting stalls, is well repaid by the superiority of the results which grow out of it.

THE DIFFERENT FORMS OF TENANT RIGHT.

(*Continued from page* 716.)

No one will dream of citing Surrey as an example of the evil that a sound system of tenant compensation inevitably produces. Surrey is an excellent example of the evil of the want of such a system, and of the added evil of the filling its place by an irrational and unfair system.

Fortunately, however, there are other districts in England, from which evidence of a more positive character can be drawn. In Lincolnshire there has gradually grown up, within the memory of the present generation, a system of tenant compensation so universal as at last to have become, in accordance with the genius of the English law, a recognised legal right. Under this system, all improvements to the farm, whether of the nature of permanent or only temporary, are calculated as requiring a certain number of years in order to remuuerate their author. If the tenant leaves before the expiry of that period, he receives a proportion of the cost of his unexhausted improvements, calculated according to the number of years of that period that have yet to run. Thus, if five years be the period considered sufficient to reimburse a tenant for draining—which is the common allowance in Lincolnshire, where he both finds the tiles and puts them in—the total expense of the operation will be divided into five parts; if he leave at the expiry of one year after the work is executed, he will receive four-fifths of its cost; at the expiry of two years he will be entitled to three-fifths; of three years, to two-fifths; of four years, to one-fifth; and when five years have elapsed, his claim will have fallen.

The number of years during which a similarly proportioned allowance for the various descriptions of improvement in common use is given, are as follows:*

For drainage, where the tenant also finds the tiles, five or six years; for drainage, where the landlord gives tiles, three years; for claying the soil, cost 30*s*. to 40*s*. per acre, four or five years; for chalking or marling, cost 60*s*., seven years; for oilcake to cattle, one-half the last year's bill is given if it does not exceed the oil-cake bills of the last three years; for guano, &c., an allowance is given for a year or two, but these manures being of so recent introduction, the period seems not yet definitely fixed; for bones, three years is the common allowance.

The one fundamental and essential circumstance, therefore, in which, as to the tenant, this system of compensation established in Lincolnshire differs from the tenant rights of Ireland and of Surrey, is, that in Lincolnshire the tenant is remunerated for his unrecovered outlay in the improvement of the farm, in Ireland and in Surrey he is not. And as to the landlord, the simple distinction is this, that in Lincolnshire the burden of the payment for actual improvements is a merely temporary one, diminishing with every year, and at the end of a very few years entirely disappearing; whereas in Ireland and in Surrey the burden of the payment for what cannot be called improvements, and what are very often injuries, is a perpetual one, never diminishing, and only to be got rid of by being discharged in full.

It can, therefore, be no matter of surprise that the several systems are looked upon with very different eyes by those whom they affect—that whilst those of Ireland and Surrey are denounced by the one party or other as ruinous, that of Lincolnshire should be lauded by both as eminently beneficial—that whilst the march of improvement and the necessity for high farming are gradually abolishing the two former, the same causes should lead to the confirming and extension of the latter.

This circumstance is indeed the most satisfactory piece of evidence we possess, or can wish, of the working of the Lincolnshire tenant compensation. I have mentioned that, although not universally uniform in all its particulars, it has grown to be a matter of legal right within that county. But many large proprietors, in different parts of England, who have observed its effect where it is thus compulsory, are voluntarily introducing it on their estates elsewhere. Thus, the Earl of Yarborough, a very extensive land-holder in Lincolnshire, and of course subjected there to the operation of the compensation system, has within the last 15 years

* Evidence of Messrs. Hesseltine, Beasley, and Willmott.

transplanted it to his estates in the Isle of Wight, where it was before unknown. The Duke of Devonshire has also newly introduced it on his Chatsworth estates. On some large properties in Suffolk, it has been recently established. Such acceptance, by men under no compulsion to agree to it, but, on the contrary, at perfect liberty to refuse to grant it if they deemed it disadvantageous to themselves, shows the opinion which is held of it by those landholders who have had the best opportunity and amplest means of judging of its results in actual and long-continued practice.

No difficulty seems to be commonly found in assessing the sums to which the tenant is entitled. For purchased manures &c., the receipts produced sufficiently attest the cost. For drainage and similar works, if they have not been done originally under the landlord's inspection, the report of mutual arbiters, or an umpire, on the true value of the work, affords the basis of estimation. It does not seem that in ordinary cases in this county any fraud takes place, or is dreaded. And it appears very decidedly, that no landlord ever has to complain of the tenant having laid out too much money in the improvement of the farm. The complaint is that they are only too cautious in such expenditure. Usually the amount of the valuation of the unexhausted improvements is paid by the entering tenant, and many of them declare that no payment is ever made by them more cheerfully, or with more assurance of the money being amply returned.

It is urged by Mr. Caird that the effect of such a system in promoting good farming has been overrated. And he supports the assertion by comparing (p. 506) the farming of Lincolnshire with that of Norfolk, where no compensation is given, and in which he says the cultivation is of a character equal, if not superior, to that of the former county. But it must not be forgotten that, whilst in Norfolk leases are universal, in Lincolnshire they are hardly to be found. It may well be that a farmer with a lease shall farm as well as he who has none, and has only in its place à claim for payment of unexhausted improvements. But it seems to me much that such a bare claim should enable a mere tenant-at-will to compete at all with the holder of an absolute right for years ; and to compete so, by Mr. Caird's own admission, that it is hard to decide on which side the victory lies. The proper comparison to institute would be, not betwixt a claim for compensation and a lease, but betwixt a claim for compensation without a lease, and the want both of such claim and of a lease too. In such comparison Lincolnshire would exhibit an incontestable superiority to any county in England against which it could be tried. And the only practical question which can interest the farmers of Fife, arising out of the comparison, would be, whether a system which is of such immense advantage under a tenancy-at-will, would not work a benefit similar in nature, if perhaps less in degree, were it applied where there already exists the partial security of a lease needing but that supplement to render it complete.

Impressed with the advantage which has been found to result from the Lincolnshire system, Mr. Pusey, the late M.P. for Berkshire, for several sessions of Parliament, brought in a bill to extend the same legal right to every part of the country. But, after encountering a severe opposition in its passage through the House of Commons, the bill was always thrown out by the Lords —generally without even the ceremony of a discussion.

It is obvious that the establishing, *by law*, of a system of tenant compensation, would be a task of the greatest nicety and difficulty. But I do not think any such questions properly come before the society. And I beg to be distinctly understood as expressing no opinion in one way or the other on the propriety of establishing any form of tenant compensation by law. That which I have done is to lay before this society an explanation of the real position of the question—of the different species which have been unfairly classed under one name—and of the true nature of that one which has wrought visible good where it has been in force, and which is being daily extended into new localities by those who have seen its working in the old. And the purpose with which I have done this has been, that the question might be fairly raised, whether that which has been done by private agreement elsewhere, may not be done to equal advantage by private agreement in Fife—by private agreement, under which all the difficulties of a general law are escaped—under which the parties may regulate the stipulations which they come under to suit their own particular circumstances, prospects, and designs—under which good character and skilled industry will receive that reward and indulgence which no general law can ever give them—and under which, whatever has been found of use elsewhere, may be imported here, modified to suit the customs to which we are used, the legal rights which we already enjoy, and the systems of cultivation which have been found best suited to this particular locality. If what I have written—which makes no pretence to originality or research, but is simply a plain statement of facts which any one who chose to take the trouble might have learned for himself, and which I have been at pains to enable any one now to verify for himself—shall be found of any service towards that end, I shall be very glad. *J. B. Kinnear, in Fife Herald.*

ON STRAW AS MANURE.

In my former communications on this subject I sought to show that, as a component of the manure heap for top-dressing of Grass-land, straw had no value; each season tends to confirm me in my conclusion, and I have, moreover, received the assurance of several who have attained a much clearer insight into the workings of science than I can pretend to, and to whose theoretical opinion I pay great deference—that they approve of my views and practice.

I now venture a step further : I look over the fence of my neighbour, the producer of straw, and tell him that he is not altogether using his produce to the greatest advantage. I have an interest in doing so, for though I have given up his straw for bedding, I am still using it to a greater extent than, perhaps, any of my neighbours, on permanent Grass farms, in the shape of fodder for my cattle, throughout the Grass season, when some portion of my cattle are soiled, but more particularly during the months of September and October, when the whole of my dairy and feeding stock, 48 in number, are housed, being fed on mown Grass; they are supplied with 150 lbs. to 160 lbs. per day of straw-chaff, or pollard, which I obtain at a lower price, and which has the like properties with straw, from my neighbour the miller. The greater proportion of this straw material I purchase.

I come now to notice a distinctive feature in the economy of producers of permanent Grass, as compared with those of the cereals ; the former use for food the whole of our produce, whilst the latter commit a great proportion of theirs again to the ground in the state in which it was grown, or only changed by decomposition, to serve, or intended to serve, as manure. The practice of the Grass grown is in accordance with the theory that our produce contains the elements of nutrition, and in the excrements the means of renewing their growth ; if we are satisfied with the quality of our Grasses, we prefer the excrements from our cattle fed from our Grass to any manure whatever. No holder of a Grass farm, even if he buy in nothing, is willing to admit that his land deteriorates if it get back the whole of his manure ; and though I cannot altogether admit this on some of our poorer lands, and with the far from economical mode in which it is commonly used, yet our richer pastures, which 50 years ago are said to have carried a bullock per acre, still support their character of maintaining the same stock, without, in the meantime, having received any top-dressing beyond what is derived from the cattle depasturing on them. I may be told that the atmosphere is a main source of the food of the permanent Grasses ; I am not aware that it is less so of the cereals.

If we wish to change the character of our Grasses, we resort to lime or bones, which induces white Clover, Cow-grass, and other succulent herbage ; if we desire an early or quicker growth, we apply guano, soot, or other similar manures, which encourage the stronger and coarser to the displacement of the shorter or under herbage.

Mr. Pusey, in his *résumé* of agricultural progress, states, on the authority of Isloch, that a sheep, from 100 lbs. of straw, voids 40 lbs. of excrements, thus consuming of the carbon of straw, out of every 100 lbs., 60 lbs. ; or, from every 100 acres, the produce of 60 acres. (Experiments of my own, with the analyses of Professor Way, show a result of somewhat more than 50 lbs. of dry material out of 100 lbs. of fodder.) Mr. Pusey adduces this as a caution against the too great consumption of straw for fodder ; but, in the case of manure undergoing previous fermentation, I think he omits a serious item in his calculation ; I mean the loss which straw undergoes by decomposition. I can find no authority to show in what degree this takes place ; it would vary under different circumstances, with slower or more rapid fermentation ; but, by whatever process, the result would be—*carbon* or *charcoal* in very reduced quantities, with silex and other mineral matters. I have already stated that I know of no data showing what proportion of 100 lbs. of straw would remain subsequent to decomposition, yet observation would dispose me to think that it would not much exceed the 50 lbs., as deduced from the experiment of fodder consumed by my cattle. I make no pretension to scientific attainments—my sphere is practice ; yet I would ask if I am right in supposing that the diminution which straw undergoes by the process of decomposition is not consequent on the conversion of carbon into carbonic acid, which seeks the atmosphere ? and I would ask, too, if I am not right in supposing that it is the same carbonic acid which, in the process of digestion, is extracted from the system, and aids to sustain the animal heat ? If my conclusions are at all true, they tend to weaken or altogether do away with Mr. Pusey's caution against the too great consumption of straw for fodder ; they tend also to show that the nearer approach the producer of the cereals makes to the practice of the grower of Grass, as regards the consumption of his produce for food, the more economical is his procedure. The virtues of straw as food are as much wasted by decomposition as those of a joint of beef or mutton would be by a similar process. There appears to me to be a very vague notion as to the value of straw as manure ; it is known to be principally carbon, say 70 to 80 per cent., the remainder chiefly silex, with a little potash, &c. Now, it is worthy of remark that, in science, carbon holds a doubtful, and, in practice, a neglected position. We are told by men of science that ammonia and phosphate of lime have known ascertained values as fertilisers ; Prof. Way estimates the former at 6*d.*, and the latter at ¾*d.* per lb. : but I know of no such defined value being assigned to carbon, or old straw thatch, even in this neighbourhood, where straw is by no means plentiful, and may be obtained without payment, whilst sawdust and tanners'-bark are in a great measure neglected. I have been informed of the latter having been applied extensively, and in considerable doses, with no observable effect. We find the vendors of manure advertising their materials as containing so much per cent. of ammonia, or so much per cent. of phosphate of lime, or both ; but they do not set forth the carbon they contain. I read of many contrivances for making straw into manure ; it is not practicable to change its properties ; they may add the nitrogen or ammonia, and the phosphates of their solid and liquid manures, but the carbon of straw remains carbon still : it serves as a convenient vehicle for what are known to be valuable fertilisers. It will, however, be admitted that, in the common mode of treatment, the straw in the manure-heap tends to more rapid fermentation and consequent decomposition, and if applied in too great proportion, and not treated with care, it may, I feel satisfied, be sometimes the means of robbing, instead of enriching, the manure-heap, by the waste of ammonia caused by fermentation.

The question has a material bearing on the conditions of our leases ; in my own neighbourhood, at no inconvenient distance, and intersected by a railway, is a district of strong land on the sandstone, replete with silex, three-fourths of it in tillage, and well adapted for the production of grain crops, and other cereals. The holdings are of limited extent, from 150 to 300 acres each ; on a farm of 200 acres about 50 acres will be in Wheat and 30 acres in Oats and Barley, the remainder in seeds, fallow, with 40 to 50 acres of permanent Grass, meadow and pasture. The root crop is cultivated to some little extent, with autumn cleaning and cultivation (to which in land of this description too much importance can scarcely be attached), the root crop might be extended with advantage : as it is, with a produce of straw of 120 to 150 tons, they maintain but little stock in proportion : during the winter months, 30 head of breeding stock in milk or in various stages of growth may be taken as an average of what will be maintained on a farm producing this quantity of straw, allowing a ton for each animal, which, with the hay, Turnips, &c., will be ample for consumption as food, there will remain more than 100 tons, which will again be committed to the ground, in the state in which it was grown, having served no other purpose, except in part adding to the comfort of the animals as bedding, and to serve or intended to serve as manure. A farm of about 200 acres in extent will be rented at about 1*l.* per acre, or for the whole 200*l.* a year. The straw which he had hitherto been tied by the conditions of his lease to use on the premises, besides what the cattle consume for fodder, say 100 tons, is worth in a market to which there is easy access 200*l.*, or, deducting 10*s.* a ton for expenses, 150*l.* Now, I have no hesitation in saying that the producer derives not even an approximate benefit from his produce of straw. In my own practice, I use peat soil as a component of the manure heap ; both as manure for Grass and tillage land, it possesses the essential qualities of straw—carbon and silex : being found on a sandstone formation, it costs me, in a tolerably dry state, 1*s.* 7*d.*, while straw will cost me 40*s.* per ton : the former will have a considerable proportion of moisture, while straw will lose in perhaps an equal proportion by decomposition. It must be taken into consideration that I use boards and no straw for bedding, the excrements, liquid and solid, require some admixture to render them of sufficient consistency to be carted away. I bestow a quantity of peat soil every day through the openings of the boards, which prevents any unpleasant odour. I know of no cattle sheds less, if so little objectionable in this respect as my own, with open boards. I apply the compost, in all its freshness and vigour, to my Grass land ; to my root crop, I add guano. I feel satisfied that the fresh dung, with all its fermenting properties, together with the guano, are sufficient to decompose the peat, and to do away with the only objection that can be made to it as a component of the manure heap. I entertain a great and increasing regard for my peat soil, for though obtained at a cost of less than 2*s.* per ton, I prefer it weight for weight to straw, which I am unable to obtain at less than 40*s.* per ton.

My own farm practice will be found in some respects peculiar. I use or seek to use all my produce, including straw, as provender. In the district I have described as being principally in tillage, it will be seen that only one-fourth of the straw is so used. Now, I submit that this matter deserves the consideration both of the landlord and tenant of this and other similar circumstanced districts. It will be observed that a farmer who produces 130 tons of straw has 100 tons of this beyond what he uses as provender ; I think it more than can be so used with advantage. Let the owner consider to allow his tenant to sell off 20 or 30 tons on condition that he purchases with the proceeds such manure as he deems suitable, guano, bones, or if he prefer carbonaceous, it will be found in Rape-cake. I feel satisfied that both parties will be benefited by the compact, and in addition to themselves a considerable number of town side and Grass land farmers, by having brought into their markets a greater abundance of what they require—straw !

The legislature has opened our ports to the productions of other countries, which are in some respects more favourably situated in regard to climate than our own. We are bound to consider every suggestion which may tend to enable us to meet the competition, I hold the relaying the conditions restricting tenants to consume the whole of their produce, particularly straw, to deserve consideration : and in this I am supported by the opinion of an eminent professor, who tells me in a letter I have recently received from him, that he holds such restrictions to be behind the enlightenment of the age. *Y.*

ANALYSIS OF THE FEEDING OF CATTLE IN HOWICK CATTLE-LODGE, IN THE SEASON ENDING MAY, 1852.

BY CAPTAIN THE HON. FREDERICK W. GREY, R.N.

No. of Beast.	Bought. Date.	Price.	Weighed. Date.	Stones 8 lb.	Grazed. No. of weeks.	Rate per week.	Cost.	Put up. Date.	Cost.	Weight	No. of Weeks.	Fed. Oilcake. St.	Cost.	Bean-meal. St.	Cost.	Clover. Weeks.	Cost.	Turnips. Cwt.	Cost.	After-dance.	Cost.	Weights. July 29	Sept. 28	Nov. 18	Dec. 16	Jan. 13	Feb. 10	March 9	April 6	Gain in feeding	Cost per stone.	Date of selling.	Total cost.	Value Received. In Cash.	In Manure.	Total.	Profit	Loss.
		£ s. d.				s. d.	£ s. d.		£ s. d.	st.			£ s. d.		£ s. d.		£ s. d.	Cwt.	£ s. d.	s. d.	£ s. d.	lbs									s. d.		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
18	May 10	9 18 0	May 30	65	7	2 0	0 14 0	June 27	10 12 0	68	24	21½	1 1 6	18½	0 15 5			73	0 18 9	12 0	4 11 8	75	83	90	94	...	...	...	...	26	3 6½	Dec. 16	15 3 8	15 14 6	0 14 0	16 8 6	0 18 2	
30	...	10 16 0	...	71	7	...	0 14 0	...	11 10 0	75	24	21½	1 1 6	18½	0 15 5			73	0 18 9	12 0	4 11 8	79	87	96	100	...	...	...	...	25	3 6½	...	16 1 8	16 0 0	0 14 0	16 14 0	...	0 6 7
38	...	9 10 0	...	59	22	...	2 4 0	Oct. 13	11 14 0	73	9	11	0 14 0	9	0 7 6			73	0 18 9	11 0	4 16 1	73	...	84	88	...	...	...	...	25	3 10½	...	15 13 4	15 15 0	0 14 0	15 15 0	...	0 13 10
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41	May 26	7 11 6	...	59	7	...	0 14 0	...	9 5 6	74	20	24½	1 4 0	32	1 6 8	2	1 4 0	206	2 11 6	19 6	8 12 11	75	...	82	86	92	96	96	99	24	4 6½	...	15 0 10	14 19 1	0 13 6	15 12 7	2 7 11	
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28	May 26	7 1 6	...	64	7	...	0 14 0	June 27	9 15 6	74	20	24½	1 4 0	32	1 6 8	2	1 4 0	206	2 11 6	19 6	8 12 11	73	...	80	84	88	90	93	97	24	4 6½	...	14 16 1	14 19 0	0 13 6	15 12 7	0 19 6	
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42	May 26	7 9 0	...	59	24	...	2 8 0	...	9 1 6	78	24	30½	1 10 3	31	1 5 10	2	1 4 0	206	2 11 6	19 6	8 12 11	66	...	73	79	84	87	91	94	24	4 6½	...	13 9 6	13 0 0	0 13 6	13 13 6	0 3 6	
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From the Table it appears that 50 beasts, costing, when put up to feed, 551*l.* 18*s.* 4*d.*, weighed in the aggregate 3916 stones, thus costing 2*s.* 9¾*d.* per stone of live weight.

They were fed, on an average, 24.9 weeks, or in all 1196 weeks; and in that time gained 1189 stones live weight, at a cost of 4*s.* 7*d.* per stone.

Their total weight, when sold, was 4105 stones, and their cost then amounted to 825*l.* 15*s.* 1*d.*, or 3*s.* 2¾*d.* per stone, while the money received was 736*l.* 0*s.* 2*d.* = 2*s.* 10½*d.* per stone.

Assuming the dead weight to have been $\frac{56}{100}$ of the live weight, the cost per stone of dead weight would be 5*s.* 9½*d.*, and the money received 5*s.* 1¾*d.*

If to the money received the value of the manure made is added, the cost and receipt balance each other within 1*s.*

If we further analyse the different lots of beasts we find—

1. Ten beasts put up June 27, weighed on the 30th of May an average of 65.2 stones, costing 9*l.* 15*s.* 10*d.*, or 3*s.* per stone. They were grazed four weeks, gaining 4.2 stones each. In 24 weeks' feeding, to Dec. 16, they gained 24.2 stones, and weighed 93.6; having gained in the whole 28 weeks 28.4 stones each.

2. Twenty-nine beasts kept on the pastures till November weighed on an average on the 30th of May 60 stones, each costing 8*l.* 11*s.* 1*d.*, or 2*s.* 10¼*d.* per stone. They were grazed 22⅔ weeks, gaining 19.8 stones each. In 5.4 weeks' feeding, to Dec. 16, they gained 5.1 stones, and weighed 84.6 stones, having gained in the whole 24.9 stones in 28 weeks.

3. Of the 10 beasts put up June 27 four were sold Dec. 16, weighing 98.5 stones, for 15*l.* 10*s.*, having cost 16*l.* The value of the manure made 1*l.* 16*s.* 9*d.* each.

4. The remaining six weighing 104.2 stones were sold in the end of March and beginning of April for 15*l.* 3*s.* each, having cost 13*l.* 12*s.* 6*d.* each. Value of manure 2*l.* 18*s.* 6*d.*

5. Of the 29 beasts 19 were put up in the beginning of November, and sold at the same time as the last, weighing 100.2 stones each, for 14*l.* 8*s.* 1*d.*, having cost 15*l.* 18*s.* 5*d.* each. Value of manure 1*l.* 11*s.*

The comparison then will stand thus—

4 beasts put up June 27, sold Dec. 16, at a loss of 10*s.*, or with manure profit	£1	6	9
6 beasts put up June 27, sold March, at a loss of 3*l.* 9*s.* 6*d.*, or with manure loss	0	11	0
19 beasts put up Nov., sold March, at a loss of 1*l.* 10*s.* 4*d.*, or with manure profit	0	0	8

It thus appears that of the 10 summer soiled beasts the four sold in December made a good return, while those kept on till March were sold at a considerable loss.

The 19 beasts, grazed at a less cost, were sold at a more remunerative price, and therefore, if it were not for the advantage of the supply of rich manure obtained by soiling, it would be more profitable to graze than to soil.

Home Correspondence.

Irrigation.—[The following letter by Mr. Mechi is in reply to an inquiry on the above-named subject. It has been forwarded to us, as its publication may be useful.] In a short time I shall publish (possibly in the *Agricultural Gazette*) my experience in irrigation. So long as I can get a solution, it matters not whether fermented or not, for we know that the product of the sheepfold gets its fermentation and decomposition in the soil, the great agricultural stomach. In fact the manure of to-day is often, in my case, in the land to-morrow. All my animals being on open boarded floors, with the pits under them paved with single brick set in cement, the manure is flushed and liquefied by a jet of water, like that from a fire-engine, and thus passes into the tank. I find one tank sufficient. It is not costly, being 30 feet in diameter, circular, and only 4½-inch thick set in cement. The dome is of 9-inch, and springs from a 16-inch basement on the soil, so as not to press entirely on the 4½-inch work. It is best to begin these large circular wells or tanks from the top, or rather spring of the arch; it prevents the earth falling in, and is cheaper. My great tank contains at present 10 dead horses, about 18 calves and cows, besides other dead animals purchased at low prices. On one side of the tank flows in, through a 6-inch pipe, a stream of water 18 feet from the bottom. Whilst this is flowing in, an air-pump, acting on a radius of pipes in the bottom of the tank, keeps the whole mass on the boil, if I may so express myself. A 3-inch gutta percha suction pipe, pierced with many side holes of half an inch diameter, draws in the liquid at a considerable depth, and of course it passes through the plunger pumps to its destination. I find it most important to substitute for the solid plug in the end of the suction a piece of open sacking. The liquid filtered through this carries away the solid matter passing in at the side holes; without this we were sadly plagued. Another grand discovery is, ample air vessels; if of 3 feet diameter, and 4 or 5 feet high, it would not be too large, for the compressed air, abundant in quantity, impinges upon the liquor in the pipes, giving it impetus, and acting as a mediating spring between two incompressible bodies, the liquor and the engine; preventing those dangerous and sudden jars and concussions to which we were at first subjected. So well and gradually is the power laid up in the air vessel, that after the engine is stopped, the jets continue in action for five to ten minutes. We work with a pressure of 70 lbs. per inch on the iron pipes. Another great improvement is working two to three jets in various fields—or at one time. We thus are enabled to drive our pumps two or three times as fast, ou

artery having now three veins instead of the single vein of ordinary arrangements, and we thus triple our irrigation. With a large pump 10 fields could be as easily irrigated as one. It is a mere question of rather more gutta percha piping. I attach almost as much importance to water as to manure. I have 43⅓ tons Mangold per acre on a 6½ acre field. Of course when not at work I leave my tank filled up to saturate the mass of meat and manure, so as when macerated to produce some strong tea or soup. I am now getting to be a green crop farmer. *J. J. Mechi.*

Lard as Food for Pigs.—I observe in the last two numbers of the *Agricultural Gazette* some remarks as to Mr. Huxtable's "pig secret." I consider the best practice to be to give hogs' lard to the large breed of pigs, which breed are not much inclined to form fat; and to give tallow greaves to the small Chinese breed, they having a tendency to form fat. As to profit, that must depend on the price of lard, greaves, and pork. *S.*

Greaves.—In the *Gazette*, a correspondent informs us that greaves for pig feeding are to be found in abundance at Waterford. It is a pity that he has not acquainted us with the names of dealers in that article. At present I cannot purchase greaves in London under 12*l.* per ton, and at that price, I believe, they will be found to be better than any corn at its present price for pig, duck, chicken, or goose feeding. "Enquirer" asks—what quantity of greaves may be given to porkers? I generally begin with half bran or damaged corn and half greaves; but I am not particular on this point after the animal has got used to this food, which is settled in a very few days. It is, of course, a very stimulating food, and a hard-run pig must be dieted accordingly. I purchased a short time since, in London, a quantity of dried desiccated meat in large cakes at 9*l.* per ton, and I find on boiling it yields a capital soup, on which my pigs thrive and are doing well. These cakes are large solid blocks, and so dry and hard that I have no doubt they would keep sound, if not exposed to too much moisture, for several months. If parties holding this sort of food were to advertise it, I have no doubt it would get into use; but people may feel a prejudice at meat feeding. However, they forget that every pig-keeper has a tub for swill which generally constitutes, in many cases, the bulk of a pig's food. Many of your readers have, doubtless, visited Brighton; if they are early risers they will see that the swill-tubs of that fashionable town yield a sort of "wittels" and drink combined. I suppose the purveyors of the Brighton mahogany would be critical in the selection of his sirloins since he has to cater for a very refined taste. *X., Nov. 5.*

American Agriculture.—A tenant of mine, Mr. James Webb, of Westcott, in the county of Cornwall, has kindly permitted me to make public the accompanying portions of a letter from his son, which I think will prove interesting. The writer went out to Canada last spring, and I know him to be a practical farmer who was well up to his work, from preparing the ground for a crop, to thatching it in the yard.—"When I got to Queenstown I fell in with a Yankee farmer, who told me they were giving better wages in the States than in Canada, so as I intended to work the harvest, I crossed the Niagara river by a suspension bridge of 968 feet span, and 70 feet above the water. They commenced harvest in that neighbourhood the 21st of July. I went to work in the county of Niagara, and got 1½ dollar a day, with board and lodging, for a fortnight. I was employed binding Wheat after a reaping machine, and sometimes working it, which I can do first-rate. Scythes in the States are scarcely ever used. Almost all the corn is cut by reaping machines, except Indian Corn. In every respect the machine is a beautiful thing in a harvest field; they cut from 15 to 20 acres a day. The Wheat is generally drilled in, and when cut leaves the prettiest stubble I ever saw. I have seen a great many different kinds for the different crops of grain, also one for cutting Grass. Almost everything is done by machinery in this country. The Yankees did not seem in much hurry about their field work, which vexed me sometimes. The harvest lasted a fortnight, and after it was over the people I worked with offered me 20 dollars a month (besides board, washing, and lodging), to remain with them. I returned to Toronto to see the Grand Provincial Show. Everything is exhibited here, cattle of all sorts, poultry, flowers, vegetables, all kinds of tradesmen's work, fancy articles, music, paintings, &c.; in fact, all the productions of this country. But here the entire horses and bullocks are not so good a show as with you, though some were very fine; one yoke of oxen, three years old, weighed 42 cwt.; another, six years old, weighed 56 cwt. They were of the Durham breed." *Thomas Sibbald.*

Floods: their Causes and Effects.—As thorough draining has been stated to be one of the causes of floods, it may be well to correct so erroneous an opinion. The effect of thorough draining is to cause the rain at all seasons to sink into the ground, and to prevent any of it from running off the surface; and as its descent is gradual, and the drains continue to discharge long after rain has ceased to fall, much more time is occupied in the discharge than in the fall. The tendency of draining, therefore, is to equalise the discharge of rain into the main water-courses, and to lessen the liability to floods. Undrained land at this season soon becomes saturated with moisture, and then all the rain that falls on it runs off as fast as it comes; it is, in fact, then in the condition of a full sponge, or overflowing basin, which can take in no more, and throws off all that is poured on to it as fast as it falls; whilst drained land may be compared to the dry sponge, or cracked basin, which, not holding water, is admitting all that is poured on to it at the same time that it is slowly discharging. The true cause of floods is to be found in obstructions (artificial and natural) to the free courses of rivers. The mischief to health, and to adjoining properties, from mill-dams, weirs, and embankments, has been a subject of complaint for very many years. The injury to the public, and loss to adjoining landowners and occupiers, from these causes, is very poorly represented by the gain to individuals; and it is to be hoped that the Boards of Health will rapidly sweep away these obstructions to better drainage. But there is another cause of floods that is much more difficult to deal with, namely, the gradual rise or silting up of the beds of our rivers, from the sluggishness of their courses through flat districts, and where they meet with tidal obstruction, and the consequent loss of the natural drainage of the land beside them. In this way, for instance, the present channel of the Thames has been raised many feet, and may in many parts be said to have become artificial; for, were it not for the high banks which keep it to its old channel, it would have long since broken into a fresh course, and, in doing so, would have given drainage to large districts which are now without it. In this way has the drainage of large districts throughout England been destroyed; and I see no remedy for the very serious mischief throughout the country to health and comfort generally, as well as to private property, that this want of drainage causes, save by means of some general measure which shall provide new channels to receive the water from the drainage which is so much wanted, but which cannot be effected without other outfalls than those now available. *Hewitt Davis, November 9.*

Societies.

WEXFORD.—At the late meeting of this Society, Mr. D. BEATTY said that the introduction of brood animals in the present depressed state of prices, he conceived to be of the last importance to the farmer, but strange, the small farmers cannot be brought to think so, who argue that they may suit gentlemen and strong farmers, but that they were not at all suited to their condition. He hoped to be able to disabuse their minds of this fallacy, by a couple of examples of the value and importance of high bred animals. At the last Enniscorthy show—which was so eminently creditable to the district—a pig was shown by a man named Murphy, which was 18 months old, and had two litters—one with her at the exhibition, numbering 10. Murphy sold some of the young pigs at the show for 1*l.* each, and got 4*l.* from his (Mr. B's) father for the sow. Putting aside the fact of the first litter, here was a pig that realised for its owner the sum of 16*l.* in 18 months—viz., 10*l.* for the litter, 4*l.* for the sow, and 2*l.* for the prize. He would give another instance of a similar kind, quoted from a little work entitled "The Origin and Varieties of Domestic Pigs." A farmer in England reared a well-bred sow, whose original cost was 12*s.* In the course of two years it had two litters, of which he sold to the amount of 14*l.* in eight weeks after she farrowed; and shortly afterwards the difference between that sum and 27*l.* 12*s.* Now, deducting the expenses of keep at 5*l.* 8*s.*, here was a clear profit, in two years on one pig, of 22*l.* 16*s.* 8*d.* These facts clearly demonstrate that the propagation of well-bred pigs will pay remuneratively. Another fallacy was abroad that, since the failure of the Potatoes, pigs became expensive. His pigs, though of Saxon origin, were naturalised Paddies, and were as good judges of a Potato as the pure natives; still they never got any other food than Mangold Wurzel and Cabbage, and they were in prime condition. Warmth, cleanliness, and regularity in supplying their food, were main points. Their object should be to encourage the highest breed of stock of every description.—Mr. George Le Hunte, as another of the successful candidates, congratulated them both on account of the admirable show they had that day, and on the accession to their ranks of the new recruit who had enlisted under their banners; and who last addressed to them such practical and useful observations. As one of the main objects of their meetings is to elicit useful facts, he would state, in a few words, what he had done himself. He had a farm thrown on his hands in a very bad and exhausted state, quite divested of manure. It was not situated in this country, but across the Channel in Wales. Well, how did he proceed? He purchased some bone-dust and guano at home, putting 7 bushels of the first and 2 cwt. of the latter, with a little ashes, to the acre, on which he sowed Turnip seed. A better crop was never seen in that part of the country, for it really astonished the Welsh themselves. He sold 12*l.* worth of the produce, and divided the remainder between the cattle in the store yard and some wedders, which he purchased to fatten. This year he had a fine corn crop after it; and he was sure that he had as much return from the acre as his neighbours had from six. (Hear and cheers.) He always took great pains in the selection of his seeds, and he must say, that he did not think that farmers were sufficiently careful of the selection of their Grass seeds. *Wexford Independent.*

Notices to Correspondents.

AGRICULTURAL SHOWS: *F B T.* The only attempt at a collection that we know of is in Johnson and Shaw's Farmers' Almanac.

ANALYSIS: *F S W.* It will cost from 1*l.* to 3*l.* or more to obtain an analysis of a soil. You should apply, if a member, to the English Agricultural Society on the subject. To plough 5 inches and subsoil 15, will take at least six hours to perform at one operation.

AN UNGUENT FOR FOOT-HALT IN SHEEP: *A B.* Barbadoes tar, 3 oz.; hog's-lard, 1 oz.; to be melted together, and the following afterwards stirred in—sulphate of copper, finely powdered, half an ounce; acetate of copper, half an ounce. *W. C. S.*

BOOKS: *J N N.* Low, on the Management of Landed Property, will give you the details of general estate management. To study botany and chemistry you should purchase Dr. Lindley's works, and Professor Johnston's Agricultural Chemistry.

DAIRY FARMING: *X Y Z* says that in an article in our paper of Oct. 30th, by Mr. Davis, on Dairy Farming, he states the price of butter at Chipstead, Surrey, to be 1*s.* 2*d.* and 1*s.* 4*d.* per pound, while in Herts, 30 miles from London, the best of butter from Alderney cows can only fetch 11*d.* per pound.

DISEASED UDDER: *Bucolic.* If there is heat and tenderness about the udder, the part should be fomented with warm water twice a day, and a little camphor ointment rubbed in afterwards. If there is hardness without heat, then rub in once a day to the hard swellings the following ointment: Hydriodate of potash, 1 drachm; lard, 1 oz.; mix. Two teats will not yield the same amount of milk as the whole four, although more than half. If both teats are lost, feed the cow, if she will pay for feeding. It often happens that after calving, the milk does not flow in one or two teats, but afterwards a passage takes place. *W. C. S.*

FEEDING VALUE OF CARROTS, &c.: *Rusticus.* You will see the actual value of some of the roots named in the Tables published by Captain the Hon. F. Grey, in another page; of course, the actual power of food to produce beef, mutton, &c., will vary with the particular breed, age, &c., of the animals fed. For the relative value of these different foods, according both to scientific and practical men, see the following table, which we take from Dr. Vœlcker's paper on nutrition, in a forthcoming number of Blackie's Cyclopædia of Agriculture.

Articles of Food.	Theoretical Values. Boussingault. Water in 100 parts.	Nitrogen in 100 parts of dry substance.	Nitrogen in 100 parts of undried substance.	Nutrition equivalent.	Theoretical Values. Fresenius. Relative proportion of nitrogenised to non-nitrogenised substances.	Nutritive equivalent.	Practical Values, as Estimated by Direct Feeding Experiments, According to— Block.	Petri.	Meyer.	Thaer.	Pabst.	Schwerz.	Middleton.	Boussingault.	Schwertzer.
Meadow hay	11.0	1.34	1.15	100	...	100	100	100	100	100	100	100	100	100	100
Lucerne	16.6	1.66	1.38	83	...	...	...	90	...	90	100	100	...	...	...
Red Clover hay	19.1	1.70	1.54	75	1 : 6.08	77.9	100	90	...	90	100	100	...	...	...
Red Clover (green)	76.0	...	0.64	311	...	...	430	...	...	450	425	...	...	...	...
Rye straw	18.7	0.30	0.24	479	1 : 24.40	527 12/13	200	500	150	666	350	...	...	...	267
Oat straw	21.0	0.36	0.30	383	1 : 12.50	445 5/13	200	200	150	190	200	400	...	...	200
Barley straw	11.0	0.30	0.25	460	1 : 29.30	471 8/13	193	180	150	150	200	400	...	...	200
Wheat straw	26.0	0.36	0.27	426	1 : 14.20	433 6/12	200	330	150	450	300	...	...	...	233
Pea straw	8.5	1.45	1.79	64	...	...	165	200	150	130	150	...	...	...	...
Buckwheat straw	11.6	0.54	0.48	240	...	...	...	200	...	...	...	...	...	...	...
Lentil straw	9.2	1.18	1.08	114	...	...	160	200	...	130	150	...	...	...	...
Vetches, mown in flower and dried	11.0	1.16	1.04	101	...	...	...	125	...	...	100	...	...	...	...
Potato stalks	76.0	2.30	0.55	209	...	...	...	300	...	...	...	...	...	...	...
Mangold leaves	88.9	4.59	0.50	230	...	...	600	...	...	...	600	...	...	...	616
Carrot leaves	70.9	2.94	0.85	135	...	...	...	...	...	...	...	...	...	...	...
Swedes	91.0	1.83	0.17	676	...	...	...	300	...	300	250	200	...	...	...
Mangold Wurzel	...	...	...	...	1 : 7.26	391⅓	366	400	250	460	250	333	...	...	366
White Silician Beet	85.6	1.43	0.18	669	...	...	...	...	...	...	...	...	...	...	...
Carrots	87.6	2.40	0.30	382	1 : 7.84	542.1	366	250	225	300	250	270	338	380	300⅔
Potatoes	75.9	1.50	0.36	319	1 : 9.	330 2/12	216	200	150	200	200	200	...	...	200
Potatoes kept in pits	76.8	1.18	0.30	383	...	...	400	...	...	...	...	...	...	...	...
Vetches (seed)	14.6	5.13	4.37	26	...	...	30	54	...	66	40	...	...	...	32
Beans	7.9	5.50	5.11	23	1 : 2.8	34 2/3	30	54	50	73	40	...	...	...	30
Peas	8.6	4.20	3.84	27	1 : 2.14	34⅓	30	54	48	66	40	...	...	...	30
Lentils	9.0	4.40	4.00	29	1 : 1.87	32 1/12	...	...	...	...	...	...	...	...	...
Indian corn	18.0	2.00	1.64	70	1 : 6.55	...	...	52	...	...	...	...	...	59	...
Buck Wheat	12.5	2.40	2.10	55	1 : 6.05	93 5/12	...	64	...	...	...	...	...	...	...
Barley	13.2	2.02	1.76	65	1 : 4.25	...	33	61	53	76	50	...	...	...	35
Oats	12.4	2.22	1.92	60	1 : 4.08	58 1/12	39⅓	71	...	86	60	...	...	...	87¼
Rye	11.5	2.27	2.00	58	1 : 4.42	58 1/10	33	55	51	71	50	...	...	...	33⅓
Wheat	10.5	2.35	2.09	55	1 : 2.42	38 6/10	27	52	46	64	40	...	...	...	30
Bran	13.8	2.77	2.30	50	...	...	...	...	...	...	...	...	...	...	...
Rice	13.1	1.39	1.20	96	1 : 11.8	147⅔	...	...	...	...	...	...	...	...	...
Linseed-cake	13.4	6.90	5.20	22	...	...	42	108	...	...	...	...	...	...	43
Rape-cake	10.5	5.50	4.92	23	...	...	...	...	...	...	...	...	...	...	...
Hemp-cake	5.0	4.78	4.21	27	...	...	...	...	...	...	...	...	...	...	...
Poppy-cake	6.8	5.70	5.30	21	...	...	...	...	...	...	...	...	...	...	...

Diseases of Horse, Cow, and Sheep: *W R.* The volumes on the Horse, Cow, and Sheep, published by the Society for the Diffusion of Useful Knowledge. They are large octavo volumes of 600 pages.

Dr. Newington's Dibble: *A G.* It is, we believe, sold by Mr. Gabriel, C.E., Surrey Chambers, Arundel-street, Strand, of whom all information may be had.

Food for Lambs: *A B.* We have long been in the habit of soaking hay and straw chaff in hot Linseed soup and dusting Bean-meal over it, and using it as food for cattle. Your starchy seeds require steeping in hot water to render them thoroughly soft and absorbent, and Oats will be no exception to the rule. We would crush or grind the Oats, and throw it over the wetted hay or straw chaff, just as we have done the Bean-meal.

"Patent Manure and Patent Wood Meal:" *J., Fleet-street.* We know of neither. If any one does, perhaps he will give you his opinion.

Piggeries: *X Y Z.* Boarded flooring has answered for piggeries, and fattening hogs and store pigs have done on them without litter.

Poultry: *J P R.* The Nankin bantam should be small, of a pure Nankin colour throughout, clean legged; single combed are preferred, but the rule is not so imperative as in the Sebright. The carriage should be proud, the head and tail brought as near together as possible. They should only have four toes, and are not worth more than one-sixth of the value of the gold and silver laced.—*F W.* Double combs are as pure as single in Dorking fowls, and it may be proved by the fact that both combs may be found in the same brood from the same parents; a preference in them is a matter of fancy only.—*H D M, Truro.* The coops for exhibiting poultry should be deal boards everywhere, save the front, which should be of wire netting. They should be 3 feet wide, 3 feet deep, and the same height; not less any way, but larger, if convenient. The wire in front should come down to within 1½ inch of the floor. I believe Messrs. Maplebeck and Lowe, of Birmingham, supply the wire netting, drinking vessels, &c., to most of the exhibitions, and have consequently much experience in them.—*W S.* The best method to obtain what you want will be to attend some of the poultry shows, and note the prices, after which you can judge whether you will employ a dealer or not.—*A B.* The golden pencilled fowls you mention are from a sickly stock. Chalk and Cayenne pepper are good remedies against diarrhœa; but whenever it appears I should always advise to change the food entirely, by giving some of an opposite character to that the fowls have been eating. I must know more of black Cochins before I can give an opinion as to their purity. I do not at present think them a distinct breed. *J. Baily*, 113, *Mount-street.*

Erratum.—At page 717, in the article on "Sowing Wheat," at line 21, for *packed* read *hacked*.

Markets.

COVENT GARDEN, Nov. 13.

Vegetables and what Fruit is in season continue pretty plentiful. Pears and Apples are sufficient for the demand. Tomatoes may still be obtained. Filberts realise fair prices. Potatoes have not altered in value since our last report. Mushrooms are getting scarcer. Cut flowers consist of Heaths, Pelargoniums, Roses, Mignonette, Bignonia venusta, and Fuchsias.

FRUIT.

Pine-apples, per lb., 3s to 6s	Oranges, per doz., 1s to 2s
Grapes, hothouse, p. lb., 2s to 6s	— per 100, 6s to 12s
Pomegranates, each, 2s to 4s	Lemons, per doz., 1s to 2s
Plums, per punnet, 2s to 4s	Almonds, per peck, 5s
Apples, dessert, p. bsh., 4s to 7s	— sweet, per lb., 2s to 3s
— kitchen, do., 3s to 6s	Nuts, Barcelons, per bush, 20s
Pears, per doz., 1s 6d to 4s	— Brazil, do., 12s to 14s
— per half sieve, 5s to 7s	— Cobs, 75s to 80s
Melons, each, 2s to 5s	

VEGETABLES.

Cabbages, per doz., 6d to 1s	Shallots, per lb., 6d to 8d
French Beans, per half sieve, 2s to 2s 6d	Garlic, per lb., 6d to 8d
Brussels Sprouts, p. hf. sieve, 1s to 2s	Lettuce, Cab., per score 4d to 6d
Cauliflowers, p. doz., 6d to 2s6d	— Cos, p. score, 9d to 1s
Greens, per doz., 1s to 2s	Radishes, per doz., 8d to 1s
Tomatoes, per hf. sieve, 4s to 5s	— Turnip, 9d to 1s 6d
Potatoes, per ton, 85s to 110s	Endive per score, 1s to 1s 6d
— per cwt., 5s to 9s	Small Salads, p. pun., 2d to 3d
— per bush., 2s 6d to 4s 6d	Horse Radish, p. bundle, 1s to 3s
Turnips, per doz., 1s to 1s 9d	Mushrooms, p. pott., 9d to 1s 3d
Cucumbers, each, 2d to 6d	Sorrel, per hf. sieve, 6d to 1s
Veget. Marrow, p. doz, 6d to 1s	Artichokes, per doz., 4s to 6s
Celery, per bundle, 9d to 1s 3d	Fennel, per bunch, 2d to 3d
Carrots, p. doz., 2s 6d to 4s	Savory, per bunch, 2d to 3d
Spinach, per sieve, 1s to 2s	Thyme, per bunch, 2d to 3d
Onions, per bunch, 2d to 4d	Parsley, p. doz. bnchs., 2s to 3s
— Spanish, p. doz., 1s 3d to 3s	Mint, per bunch, 2d to 3d
Beet, per doz., 1s to 1s 6d	Basil, green, p. bunch, 3d
Leeks, per bunch, 1d to 2d	Marjoram, do., 2d to 3d
	Watercresses, p. 12 bun, 4d to 6d

COAL MARKET.—Friday, Nov. 12.

Eden Mein, 17s. 9d. Wallsend Hetton, 18s. 6d.; Wallsend Stewarts, 18s. 6d.—Ships at market, 302.—Verry little done to-day.

HOPS.—Borough Market, Nov. 12.

Messrs. Pattenden and Smith, Hop Factors, report that in consequence of the old Hop Duty having been officially announced at only 244,824*l.* 2*s.* 5½*d.*, has caused another decided advance in the price of all Hops. The district duty stands as follows:—

Canterbury	£52,746 16 11½
Rochester	97,150 1 3½
Sussex	63,640 7 11½
Worcester	12,617 12 6½
Farnham	16,305 14 10½
Kingdom	2,363 8 10½
Total	£244,824 2 5½

SMITHFIELD.—Monday, Nov. 8.

We have rather a short supply of Beasts, choicest descriptions are more readily sold, and in a few instances a little more money is obtained, but there is no quotable advance. There are a few more Sheep than on Monday last; trade is scarcely as good as on that day, and on the average prices are lower. Trade is dull for Calves, and middling kinds are lower. From Germany and Holland there are 1279 Beasts, 2870 Sheep, and 192 Calves; Scotland, 200 Beasts; and 2500 from the northern and middling counties.

Per st. of 8lbs.—s d	s d	Per st. of 8lbs.—s d	s d
Best Scots, Here-fords, &c. ... 3 10	to 4 0	Best Long-wools . 3 8	to 4 0
Best Short-horns 3 6	— 3 10	Do. Shorn ... 0 0	— 0 0
2d quality Beasts 2 6	— 3 2	Ewes & 2d quality 3 0	— 3 6
Best Downs and Half-breds ... 4 4	— 4 6	Do. Shorn ... 0 0	— 0 0
Do. Shorn ... 0 0	— 0 0	Lambs 0 0	— 0 0
		Calves 2 8	— 3 0
		Pigs 3 0	— 4 4

Beasts, 4704; Sheep and Lambs, 25,550; Calves, 223; Pigs, 380.

Friday, Nov. 12.

The supply of Beasts, although not large, is fully adequate to the demand. Choicest descriptions fully maintain Monday's quotations, but trade is very dull for other kinds, and several remain unsold. The number of Sheep is exceedingly small, but there is a very heavy trade; and although prices remain unaltered, they are with difficulty disposed of. Calves are not so plentiful; good ones are fully 2*d.* per 8 lbs. dearer. The foreign supply consists of 187 Beasts, 540 Sheep, and 166 Calves. The number of Milch Cows is 105.

Per st. of 8lbs.—s d	s d	Per st. of 8lbs.—s d	s d
Best Scots, Here-fords, &c. ... 3 8	to 4 0	Best Long-wools . 3 8	to 4 0
Best Short-horns 3 6	— 3 10	Do. Shorn	... ...
2d quality Beasts 2 6	— 3 2	Ewes & 2d quality 3 0	— 3 6
Best Downs and Half-breds ... 4 4	— 4 6	Do. Shorn ... 0 0	— 0 0
Do. Shorn ... 0 0	— 0 0	Lambs 0 0	— 0 0
		Calves 2 8	— 4 2
		Pigs 3 0	— 4 4

Beasts, 820; Sheep and Lambs, 2,670; Calves, 311; Pigs, 210.

HAY.—Per Load of 36 Trusses.

Smithfield, Nov. 11.

Prime Meadow Hay	74s to 80s	Clover ...	... 85s to 100s
Inferior do.	... 66 70	Second cut	... 70 90
Rowen ...	... 45 55	Straw ...	... 24 28
New Hay ...	... — —		E. J. Davis.

A brisk trade for both Meadow Hay and Clover of good quality, but anything inferior very difficult to sell.

Cumberland Market, Nov. 11.

Prime Meadow Hay	78s to 86s	Inferior Clover	... 75s to 84s
Inferior do. ...	... 65 72	New do. ...	... — —
New Hay ...	... — —	Straw ...	... 28 34
Old Clover ...	... 94 98		Joshua Baker.

Whitechapel, Nov. 11.

Fine old Hay	... 72s to 80s	Old Clover...	... 85s to 95s
Inferior do.	... 55 65	Inferior do.	... 55 75
New Hay ...	... — —	New Clover	... — —
Straw ...	... 22 28	Inferior do.	... — —

WOOL.

Bradford, Thursday, Nov. 11.—There is very little, if any, change during the week. The active buying of a few weeks past appears to have put the spinners in supply, and the prices now sought act as a barrier to sales being made.

MARK LANE.

Monday, Nov. 8.—The supply of English Wheat to this morning's market was small, and disposed of on the full terms of this day se'nnight. Notwithstanding the large arrivals of foreign Wheat, we experienced a good demand for low priced descriptions for the country. Dantzig was also rather more in demand and former prices supported; fine qualities of red are neglected.—Barley, Beans, and English Peas were taken at the prices of this day week, but for foreign white Peas, of which there is a good arrival from Denmark, there is very little demand at a decline of 1*s.* to 2*s.* per quarter.—The Oat trade is slow, and Irish are 6*d.* per quarter cheaper.—The Flour trade is firm at late rates.

Per Imperial Quarter.	s. s.		s. s.
Wheat, Essex, Kent, & Suffolk...White	38—50	Red	32—44
— — fine selected runs...ditto	42—54	Red	38—48
— — Talavera	52—56		
— Norfolk	40—48	Red	—
— Foreign	34—54		
Barley, grind. & distil., 24s to 27s...	Chev. 26—34	Malting .	28—30
— Foreign ...grinding and distilling	23—30	Malting .	30—33
Oats, Essex, and Suffolk	17—20		
— Scotch and Lincolnshire...Potato	22—24	Feed	16—22
— Irish ..... Potato	20—22	Feed	18—19
— Foreign ..... Poland and Brew	18—21	Feed	15—19
Rye	29—32	Foreign .	—
Rye-meal, foreign	—		
Beans, Mazagan.....31s to 33s.....	Tick 33—35	Harrow .	33—35
— Pigeon .....34s — 37s...	Winds. 39—41	Longpod	30—34
— Foreign	Small 33—38	Egyptian	32—34
Peas, white, Essex and Kent.....	Boilers 40—44	Suffolk...	42—45
— Maple.....32s to 35s.....	Grey 30—33	Foreign .	32—44
Maize	White —	Yellow...	—
Flour, best marks delivered ...per sack	37—40		
— Suffolk ..... ditto	25—32	Norfolk .	25—32
— Foreign..... per barrel	21—24	Per sack	28—34

Arrivals in the Port of London last Week.

	Wheat.	Barley.	Malt.	Oats.	Beans.	Peas.
Flour, 12301 sks — 11898 brls	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.
English	2393	5778	4735	100	603	573
Irish	—	—	35	13845	—	—
Foreign	47357	2367	—	12142	3276	3650

Friday, Nov. 12.—The arrivals of both English and foreign grain this week are small, but good of barrel Flour; to-day's market was thinly attended, and a small business only transacted. We observe no alteration in the value of either English or foreign.—Foreign Flour is in fair request at our quotations. A large business was done in floating cargoes of Black Sea Wheat in the early part of the week at prices, 39*s.* 6*d.* for Polish Odessa, up to 41*s.* 6*d.* for Taganrog Ghirka, but the market has been since quieter.—The value of Barley, Beans, and Peas, remains as on Monday.—Oats are a slow sale at the prices of that day.

Arrivals this Week.

	Wheat.	Barley.	Oats.	Flour.
	Qrs.	Qrs.	Qrs.	
English ...	2430	1640	150	1510 sacks
Irish	—	—	1560	
Foreign ...	5370	2430	3160	9080 brls

Imperial Averages.

	Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Oct. 2.....	38 9	27 4	17 4	30 5	33 10	30 0
— 9.....	38 5	27 5	17 6	28 10	34 0	30 4
— 16.....	37 10	27 8	18 0	30 1	34 1	30 4
— 23.....	38 8	28 8	17 10	25 8	34 2	30 9
— 30.....	39 2	29 5	17 6	26 0	34 7	31 5
Nov. 6.....	39 5	29 9	18 3	24 10	35 3	33 5
Aggreg. Aver.	38 9	28 5	17 9	27 7	34 4	31 1

Fluctuations in the last Six Weeks' Averages.

Prices.	Oct. 2.	Oct. 9.	Oct. 16	Oct. 23.	Oct. 30.	Nov. 6.
39s 5d	...	...	...	...	...	
39 2	...	...	...	...		...
38 9		...	...	...	...	...
38 8	...	...	...		...	...
38 5		...	...	...	...	...
37 10	...	...		...	...	

Liverpool, Tuesday, Nov. 9.—At market, to-day, a moderate demand at last Tuesday's currency, for Wheat. Oats, short supply, and brought full prices. Barley and Peas unchanged in value. Beans, 6*d.* per qr. less. Previous rates for Flour and Oatmeal.——Friday, Nov. 5.—The imports of grain and Flour continue small, and, as regards Wheat and Flour, are exceeded by the exports to Ireland and coastwise. At this morning's market business proceeded somewhat slowly, but a strong feeling in present rates prevailed, and the transactions in every article were at fully the quotations of Tuesday.

HORTICULTURAL GLASS

OF EVERY DESCRIPTION.

THOMAS MILLINGTON'S WAREHOUSE,

37, BISHOPSGATE-STREET WITHOUT,

LONDON.

GLASS FOR CONSERVATORIES, ETC.

HETLEY and Co. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2*d.* to 3*d.* per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices and Estimates forwarded on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLATES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to James Hetley and Co., 35, Soho-square, London.

See *Gardeners' Chronicle* first Saturday in each month.

SOHO GLASS WAREHOUSE, 26, SOHO SQUARE.

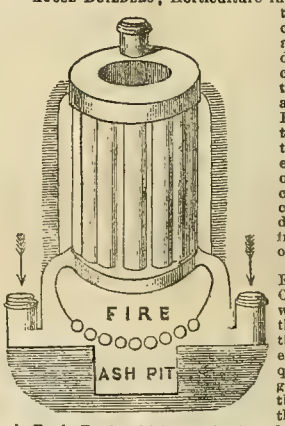
ALFRED GOSLETT begs to inform consumers of Glass for Horticultural purposes that he supplies the following descriptions, either in crates, as manufactured, at Reduced Prices, or cut to any given size:—ENGLISH CROWN and SHEET GLASS of every weight manufactured. HARTLEY'S PATENT ROLLED ROUGH GLASS, one-eighth, three-sixteenths, and one-quarter inch thick. BELGIAN SHEET GLASS, in cases, containing 200 feet, of one given size, at 40*s.* per case, in parcels of five cases at 38*s.*, and in parcels of 10 cases, at 37*s.* per case, for Cash; or cut to order at 3*d.* per foot superficial. Estimates or any further particulars will be forwarded upon application.



HORTICULTURAL BUILDING AND HEATING BY HOT WATER.

TUBULAR BOILERS OF ALL SIZES, WARRANTED THE MOST EFFICIENT.

J. WEEKS and Co., King's-road, Chelsea, Hothouse Builders; Horticulture in all its branches upon the most improved principles. These Boilers are very powerful, durable, and economical. The fire warranted to last 15 hours without attention. The Furnace Bars are Hollow Tubes through which the return water passes before entering the upper part of the boiler, thereby causing a very rapid circulation, and producing double the effect from the same quantity of fuel.



J. WEEKS and Co., King's Road, Chelsea, CHALLENGE the whole world to make a Boiler that will produce anything like the same effect, with the same quantity of Fuel in a given time. It is one of those boilers that warms the water of their Victoria Regia Tank, which contains 20,000 gallons, and also heats several large Forcing-houses and ranges of Pits, with a small consumption of fuel.

Plans, Models, and Estimates of Horticultural Buildings; also Catalogues of Plants, Vines, Seeds, &c., forwarded on application.

J. WEEKS and Co., King's-road, Chelsea, London.

BAKER'S PHEASANTRY, Beaufort-street, King's Road, Chelsea, by special appointment to her Majesty and H. R. H. Prince Albert.—ORNAMENTAL WATER FOWL, consisting of black and white Swans, Egyptian, Canada, China, barnacle, brent, and laughing Geese, Shieldrakes, Pintail, Widgeon, summer and winter Teal, Gadwall, Labrador, Shovellers, gold-eyed and dun Divers, Carolina Ducks, &c., domesticated and pinioned; also Spanish, Cochin China, Malay, Poland, Surrey, and Dorking Fowls; white, Japan, pied, and common Pea-fowl, and pure China Pigs; and at 3, Half-moon Passage, Gracechurch-street, London.

STEPHENSON and PEILL, 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Manufacturers of Copper Cylindrical and Improved Conical Iron BOILERS, and Conservatory and Hothouse Builders, either in wood or iron, respectfully call the attention of the Nobility, Gentry, and Nurserymen to their simple but efficacious method of warming Horticultural and other Buildings by hot water. From the extensive works they have executed, references of the highest respectability can be given, and full particulars furnished on application.

WATERPROOF CAPES large enough to protect effectually from wet a man while stooping down, 3*s.* each; Coats, 4*s.* 6*d.* to 7*s.* 6*d.*; the London Police Capes, fresh dressed, 18*s.* and 24*s.* per dozen; Horse-loin Cloths, 7*s.* for Shaft Horses, and 9*s.* 6*d.* for fore horses; Driving Aprons, 7*s.* 6*d.* to 12*s.*; Waterproof Waggon and Cart Covers, size for Waggons, 1*l.* 6*s.* 8*d.*; for Millers' Cart, 1*l.*

N.B. Waterproof Transparent Sheeting for Pits and Greenhouses, 1*s.* per yard, nearly two yards wide.

Robert Richardson, 21, Tonbridge-place, New-road, London.

BARON LIEBIG ON PALE ALES.—"If I wished to associate with any individual brewer my remarks on the alleged adulteration of bitter beer with strychnine, it would have been only natural to have mentioned another brewery, in which alone, and not in Mr. Allsopp's, I was engaged in investigating the Burton mode of brewing; and it was also in that brewery, and not in Mr. Allsopp's, that the Bavarian brewers acquired all the instructions they obtained at Burton. The admiration I expressed of this beverage, in my letter to Mr. Allsopp, is advertised in such a manner as to lead to the inference that my praise was exclusively confined to Mr. Allsopp's beer. This was not the case; my remarks referred to that class of beer. "Justus Liebig.

"Giessen, 24th July, 1852."

N.B. The Baron's Original Letter is in the hands of Mr. Miller, at the Jerusalem Coffee House, Cornhill, where it may be seen by anyone taking an interest in the matter.

HARTLEY'S PATENT ROUGH PLATE GLASS,

or Ridge and Furrow Roofs, Greenhouses, Railway Stations, Engine Sheds, Mills, Market-Halls, and Public Buildings generally.

For Conservatories, Public Buildings, Manufactories, Skylights, &c., &c.	One-eighth inch thick.	3-16th inch thick.	¼ inch thick.
CKED IN CRATES, for cutting up of the sizes as Manufactured :—	s. d.	s. d.	s. d.
30 inches wide and from 40 to 50 long	0 6	0 8	0 10
20 ,, ,, 50 to 70 ,, ...			
SQUARES, cut to the sizes ordered :—			
Under 8 by 6	0 4	0 6	0 7
by 6 and under 10 by 8	0 4½	0 7	0 8
by 8 ,, 14 by 10	0 5	0 7	0 9
by 10 ,, 1½ feet super., if the length does not exceed 20 inches	0 5½	0 7	0 9
eet sup. ,, 3 ,, or if above 20, and not above 30 inches long	0 6	0 8	0 10
,, ,, 4 ,, ,, 20 ,, 30 ,, ...	0 6½	0 8	0 10
,, ,, 5 ,, ,, 30 ,, 35 ,, ...	0 7	0 8½	0 10
,, ,, 6 ,, ,, 35 ,, 40 ,, ...	0 7½	0 9	0 10½
,, ,, 8 ,, ,, 40 ,, 45 ,, ...	0 8	0 9½	0 11
,, ,, 10 ,, ,, 45 ,, 55 ,, ...	0 8½	0 10	1 0
,, ,, 12 ,, ,, 55 ,, 70 ,, ...	0 9	0 11	1 1
,, ,, 15 ,, ,, 70 ,, 85 ,, ...	.....	1 0	1 2

PACKED IN BOXES OF 50 FEET EACH.

ches by 4 inches, and 6½ inches by 4½ inches ... 10*s.* 6*d.* | 8 inches by 8 inches, and 8½ inches by 6¼ inches .. 13*s.* 6*d.*
,, by 5 ,, and 7½ ,, by 5½ ,, ... 12*s.* 0*d.* | 9 ,, by 7 ,, and 9½ ,, by 7½, and 10 by 8 15*s.* 0*d.*

When a quantity is required, an estimate will be furnished on application.

JAMES PHILLIPS AND CO.,

IORTICULTURAL GLASS MERCHANTS, 116, BISHOPSGATE-STREET WITHOUT, LONDON.

ECHI'S AUSTRALIAN DRESSING CASES, 4, Leadenhall-street, London.—These contain a pair of hi's razors and strop, with other necessary articles of toilet he most approved quality. They vary from 25*s.* upwards, rding to their ornamentation. Those who inspected Mr. hi's manufactures at the Great Exhibition will appreciate portability and finish of his various productions.

HE ROYAL EXHIBITION.—A valuable newly- invented, very small, powerful, waistcoat-pocket Glass, eize of a Walnut, to discern minute objects at a distance of 5 miles, which is found to be invaluable for YACHTING, to SPORTSMEN, GENTLEMEN, and GAMEKEEPERS. ELESCOPES.—A new and most important INVENTION 'ELESCOPES, possessing such extraordinary powers that e—3½ inches, with an extra eye-piece—will show distinctly ter's Moon, Saturn's Ring, and the Double Stars. They rsede every other kind, and are of all sizes—for the waist- -pocket, Shooting, Military purposes, &c. Opera and e-course Glasses with wonderful powers; a minute object be clearly seen from 10 to 12 miles distant.—Invaluable ustic Instruments for relief of extreme Deafness. ESSRS. S. AND B. SOLOMONS, Opticians and Aurists, Albemarle-street, opposite the York Hotel, London.

ATENT REVERSIBLE OVER-COATS, &c., which obtained the Great Exhibition Prize Medal.—W. NOE, 96, New Bond-street and 69, Cornhill (only). Novelty, ity, Economy, all unite in commending this invention to eral Adoption. The Patent Cloth having two perfect and lly dissimilar faces, can be worn either side outwards; s each garment being equivalent to two, at the cost of one. Over-Coats of every kind, the new Anglesea and all other es, Shooting and Morning Coats, this discovery is especially ropriate; also for Ladies' Cloaks, Mantles, &c. A variety he materials and garments kept for selection; also one of largest stocks in London of superior Over-Coats of every cription, Capes, Shooting Jackets, Boys' Over-Coats, &c., guaranteed to resist any amount of rain.

NEW STOVE.—GREAT NOVELTY.—In the construction of the BURTON REGISTER STOVE, it the first care of the inventor, WILLIAM S. BURTON, to l himself of the most valued of modern improvements in the of heating, and secondly, so to modify and alter the eptacle for the coals, as at once to obtain the simplest and t perfect combustion; after a long series of experiments, nas, by the substitution of a graceful form of shell for the sent clumsy and ill-adapted bars, succeeded in producing a e which for soft and brilliant light, as well as purity and ntity of heat, is far beyond his most sanguine expectations, le for cleanliness and cheerfulness it is utterly unapproach- . Price from 5*os.* to 15*l.* To be seen in use daily in his w-rooms, where also are to be seen

50 STOVES and 325 FENDERS (exclusive of reserved stock) all differing in pattern, ning the largest assortment ever collected together. They marked in plain figures, and at prices proportionate with se that have tended to make his establishment the most linguished in this country. Bright stoves, with bronzed aments and two sets of bars, 2*l.* 14*s.* to 5*l.* 10*s.*; ditto with olu ornaments and two sets of bars, 5*l.* 10*s.* to 12*s.* 12*s.*; nzed fenders complete, with standards, from 7*s.* to 3*l.*; steel ders, from 2*l.* 15*s.* to 6*l.*; ditto, with rich ormolu ornaments, m 2*l.* 15*s.* to 7*l.* 7*s.*; fire-irons, from 1*s.* 9*d.* the set to 4*l.* 4*s.* vester and all other patent stoves, with radiating hearth- tes; and kitchen ranges, which he is enabled to sell at these y reduced charges.

irst From the frequency and extent of his purchases; and econdly—From those purchases being made exclusively cash.

WILLIAM S. BURTON has TEN LARGE SHOW ROOMS communicating), exclusive of the shop, devoted solely to show of GENERAL FURNISHING IRONMONGERY cluding Cutlery, Nickel Silver, Plated, and Japanned Wares, n and Brass Bedsteads), so arranged and classified that chasers may easily and at once make their selections. atalogues, with Engravings, sent (per post) free. The ney returned for every article not approved of.

, OXFORD STREET (corner of Newman-street); Nos. nd 2, NEWMAN STREET; and 4 and 5, PERRY'S PLACE.

METCALFE AND Co.'s NEW PATTERN TOOTH-BRUSH and SMYRNA SPONGES.—The Tooth-Brush the important advantage of searching thoroughly into the tions of the teeth, and cleaning them in the most extra- inary manner, and is famous for the hairs not coming e.—1*s.* An Improved Clothes-Brush, that cleans in a third t of the usual time, and incapable of injuring the finest nap. etrating Hair-Brushes, with the durable unbleached Rus- n bristles, which do not soften like common hair. Flesh- shes of improved, graduated, and powerful friction. Velvet- shes, which act in the most surprising and successful nner. The genuine Smyrna Sponge, with its preserved nable properties of absorption, vitality, and durability, by ans of direct importations, dispensing with all intermediate ties' profits and destructive bleaching, and securing the ury of a genuine Smyrna Sponge. Only at METCALFE, OLEY, and Co.'s Sole Establishment, 130*B*, Oxford-street, d door from Holles-street, London.

METCALFE'S ALKALINE TOOTH POWDER, 2*s.* per box. ATION.—Beware of the words "From METCALFE'S," ted by some houses.

THE ONLY STOVE WITHOUT A FLUE.—Plain, from 12*s.* to 25*s.*; Ornamental, from 31*s.* 6*d.* to Six Guineas; Stands for Stoves, 2*s.* 6*d.*, 3*s.*, and 5*s.* each. For which her Majesty's Royal Letters Patent have been granted. Prospectus, with Drawings and Report, forwarded free.



JOYCE'S PATENT for warming Halls, Passages, Greenhouses, Water-closets, Shops, Store-rooms, and all places requiring artificial warmth. The above Stoves do not emit smoke or unpleasant smell, and will burn without attention or replenishing from twelve to twenty-four hours. To be seen in use daily, at the sole Proprietor's, S. NASH, Ironmonger, &c., 253, Oxford-street, and at the City Depot, 119, Newgate-street, London; and to be had from the principal Ironmongers in town and country.



PATENT PREPARED FUEL for the Stoves, 2*s.* 6*d.* per bushel; only genuine with the Proprietor's name and seal on the sack.

S. NASH, 253, Oxford-street, and 119, Newgate-street, London, Sole Manufacturer of the Portable Economical Vapour Bath, for Families, Travellers, &c. &c., complete with Large Cloak, 1*l.* 11*s.* 6*d.* Medical Testimonials forwarded on application.

EUREKA.—In FORD'S EUREKA SHIRTS are united the best material and first-rate workmanship, together with that special excellence of fit which is their distinguishing characteristic. Their superiority to all others is still maintained; and gentlemen who desire the luxury of a perfect fitting shirt are invited to try them. The prices are, for the first quality, six for 40*s*; second quality, six for 30*s.*; coloured shirts, for boating, shooting, and ordinary wear, 27*s.* the half dozen. List of prices, and instructions for measurement, post-free, and patterns of the new coloured shirtings free, on receipt of six stamps.—RICHARD FORD, 38, Poultry (late 185, Strand).

HOLLOWAY'S PILLS a most excellent remedy for the cure of Headache, Bile, Dimness of Sight, Deranged Stomachs and Disordered Livers; likewise in restoring strength and vigour to debilitated constitutions.—The extraordinary cures effected daily by these wonderful pills, after all other means fail, have been the sole cause of bringing them into the highest repute, and stamping them as the finest medicine ever discovered. Princes and nobles gladly avail themselves of their use both at home and abroad, proudly attesting their excellent qualities, and recommending them to their afflicted fellow-creatures throughout the world, whether suffering from Dropsy, Indigestion, or any other irregularity to which the human frame is liable.—Sold by all Druggists; and at Professor HOLLOWAY'S Establishment, 244, Strand, London.

SOUND AND WHITE TEETH are not only indispensably requisite to a pleasing exterior in male and female, but they are peculiarly appreciated through life as a blessing highly conducive to the purposes of health and longevity. The great esteem in which the public have long held ROWLANDS' ODONTO, or PEARL DENTIFRICE, precludes the necessity here of entering into a minute detail of its merits, and the singular advantages it so eminently possesses over the usual powders sold for the teeth. It is sufficient to observe that ROWLANDS' ODONTO is a pure preparation of the most efficient EASTERN HERBS, which not only has the property of rendering the above beautiful organs of the mouth dazzlingly white, but it strengthens their organic structure, and fulfils the pleasing task of rendering the breath sweet and pure. It should never (in particular) be forgotten that, when used in early life, it effectually prevents all aches in the Teeth and Gums—effaces all spots and discolourations whatsoever—eradicates scurvy—and, in a word, soon realises the chief attribute of Health and Beauty—A FINE SET OF PEARLY TEETH! Price 2*s.* 9*d.* per box.

*** BEWARE OF SPURIOUS IMITATIONS. The genuine article has the words "ROWLANDS' ODONTO" on the Label, and "A. Rowland and Sons, 20, Hatton Garden," engraved on the Government Stamp affixed on each box. Sold by them, and by Chemists and Perfumers.

Sales by Auction.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will sell by Auction, at the Mart, Bartholomew-lane, on WEDNESDAY, November 17th, at 12 o'clock, a first-rate Collection of DUTCH BULBS—consisting of the finest Double and Single Hyacinths, Narcissi, Jonquils, Anemones, Crocuses, Snowdrops, and Tulips; about 5000 extra fine mixed Ranunculuses of English growth. Also a selected assortment of Standard and Dwarf Roses, American Plants well set with bloom-buds, &c.—May be viewed the morning of Sale. Catalogues can be had at the Mart, and of the Auctioneers, American Nursery, Leytonstone, Essex.

NOTICE.

MR. J. C. STEVENS begs to notify, that in consequence of a delay in the arrival of the vessel from Ghent, the Sale of Mr. Joseph Baumann's CAMELLIAS, AZALEAS, RHODODENDRONS, &c., advertised to take place yesterday, was unavoidably postponed till TUESDAY NEXT, 16th instant.—3, King-street, Covent Garden, Nov. 13.

ROTHERFIELD, NEAR TONBRIDGE WELLS.
TO NOBLEMEN, GENTLEMEN, NURSERYMEN, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS are instructed by Mr. FIELD (who is declining business), to submit to an unreserved Sale by Auction, on the premises, Steel Cross Nursery, Rotherfield, Sussex, on MONDAY, November 15th, and following days, at 11 o'clock each day, the whole of the healthy and well-grown NURSERY STOCK, consisting of about 200,000 Forest, Ornamental, and Fruit Trees; 20,000 evergreens; also 600,000 Quick; fine American Plants, together with a large quantity of Seedling Ash, Alder, &c. May be viewed prior to the Sale. Catalogues may be obtained on the premises, the George Inn, Rotherfield; Star Inn, Mayfield; Queen's Head Inn, Wadhurst, Sussex; Crown Hotel, Tonbridge; Swan Inn, Tonbridge Wells; of the principal Seedsmen in London; and of the Auctioneers, American Nursery, Leytonstone, Essex.

BROMPTON.
TO NOBLEMEN, GENTLEMEN, NURSERYMEN, BUILDERS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS are instructed by the solicitors to the estate, to submit to an unreserved sale by Auction, on the premises, Fulham-road, Brompton, on FRIDAY, November 19, and following day, at 11 o'clock each day (to clear the ground immediately), the valuable NURSERY STOCK on two acres of ground, consisting of Ornamental, Fruit, and Forest Trees, choice Evergreens, American Plants, and Deciduous Shrubs; also five newly-erected Greenhouses, three ranges of Pits, and a quantity of 2 and 3-light Boxes; together with the whole of the Greenhouse Plants, comprising fine Double Camellias well set with bloom-buds, Geraniums, &c.; Erection of Shop, capital Seed Drawers and Counter; a large quantity of excellent Loam, Peat, Garden Pots, &c.—May be viewed prior to the sale. Catalogues may be had on the premises; of the principal Seedsmen in London; and of the Auctioneers, American Nursery, Leytonstone, Essex.

HIGHGATE.
TO NOBLEMEN, GENTLEMEN, NURSERYMEN, BUILDERS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will submit to public competition by Auction, on the premises, Fitzroy-park Nursery, Highgate, near the Gate House, on FRIDAY, November 26, at 11 o'clock, by order of Mr. STEIN, in consequence of the ground being required for building purposes, the whole of the thriving NURSERY STOCK, consisting of Evergreens and Ornamental Trees, viz., 10,000 fine Aucubas, Sweet Bays, Red Cedars, Laurestinus, Rhododendrons, Azaleas, Limes, Chestnuts, &c.; two Boxes and Lights; eight Iron Hand-Glasses; capital Nest of Seed Drawers, &c.—May be viewed prior to the sale; Catalogues had on the premises; of the principal Seedsmen in London; and of the Auctioneers, American Nursery, Leytonstone, Essex.

POSTPONEMENT OF SALE.

MR. J. RAWLINGS begs to announce, that in consequence of the inclemency of the weather, the vessel containing the consignment from Belgium of Camellias, Roses, Azaleas, &c., did not arrive until too late for Friday's Sale. They will, therefore, be positively sold on MONDAY next, Nov. 15, 12 o'clock, at the Auction Mart.

89, Bridport-place, New North-road, Nov. 13.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MR. J. RAWLINGS will Sell by Auction, at the Mart, Bartholomew Lane, on WEDNESDAY and FRIDAY, November 17th and 19th, at 12 o'clock, a first-rate collection of DUTCH BULBS, also about 500 Standard and weeping Roses, five named Hollyhocks, Cinerarias, a variety of Climbing Plants, Evergreens, &c.—May be viewed the mornings of Sale, and Catalogues had at the Mart, and of the Auctioneer, 89, Bridport-place, New North-road, and Ebenezer Nursery, Shacklewell, London.

WANDSWORTH COMMON.
VALUABLE NURSERY STOCK.

MR. J. RAWLINGS has received instructions from Mr. ROBERT NEAL, to submit to public competition by Auction, on the premises, Wandsworth Common, on MONDAY, November 22d, 1852, and following days, at 11 o'clock, without reserve, the whole of the valuable NURSERY STOCK, consisting of very fine Evergreens and Shrubs; Fruit, Forest, and Ornamental Trees. A considerable quantity of American Plants; thousands of Standard, Dwarf, and Climbing Roses; fine specimen Cryptomeria japonica, Araucaria imbricata, Climbing Plants, &c.; also, a quantity of Garden Pots, Fine Mould, &c.—May be viewed prior to the sale; catalogues (1*s.* each, returnable to purchasers) may be had on the premises; of the principal Seedsmen; and of the Auctioneer, 89, Bridport-place, New North-road; and Ebenezer Nursery, Shacklewell.

NEW FOREST.
BY ORDER OF THE COMMISSIONER IN CHARGE OF HER MAJESTY'S WOODS AND FORESTS.

TO BE SOLD BY AUCTION, at Lyndhurst, by Mr. CHARLES NORTON, on THURSDAY, the 25th day of November, 1852, at One o'clock in the afternoon, precisely, about 1200 loads of Round Oak Timber.

For further particulars, and for Catalogues of Sale, apply to L. H. CUMBERBATCH, Deputy-surveyor.

New Park, Lymington, October 30, 1852.

OAK TIMBER.—HAINAULT FOREST.
TO SHIP BUILDERS, TIMBER MERCHANTS, CONTRACTORS, AND OTHERS.—235 naked Oak Trees, lying in the King's Woods, Hainault, Essex.

MESSRS. DRIVER have been honoured with instructions from the Right Hon. T. F. KENNEDY, the Commissioner in charge of Her Majesty's Woods and Royal Forests, to offer for sale by public Auction, at the Angel Inn, Iford, on THURSDAY, December 2, at 1 for 2 o'clock precisely, in 16 Lots, 235 OAK TREES, felled last season, adapted for Ship Builders, Timber Merchants, Railway Contractors, and others requiring good sound Timber. 225 of the Trees are drawn together in Collier Row Bottom, and 9 on Fence Piece, parts of the King's Woods, Hainault, county of Essex, most conveniently situate for water carriage by River Thames, at Barking, either to the Metropolis or elsewhere, or by railway, being about 4 miles from the Romford and Iford stations on the Eastern Counties Line, and about 10 miles from London by the high road. Every tree is marked and numbered with white paint, denoting the lots, and may be viewed on application to Mr. M'CLETCHIE, Barking-side, near Iford, of whom Catalogues may be had; also at the offices of the Commissioner of Her Majesty's Woods and Royal Forests, No. 2, Whitehall-place; at the Angel, Iford; White Hart, Romford; King's Head, Chigwell; at the Auction Mart, Bartholomew-lane; of Messrs. CLUTTON, 8 Whitehall-place; and of Messrs. DRIVER, Surveyors and Land Agents, 5, Whitehall, London.

PINE PLANTS.

TO BE DISPOSED OF, Fifty Ripley Queens, Fifty Black Jamaicas, Twelve smooth-leaved and Twelve prickly Cayenne succession plants. These are warranted perfectly clean, and in the best condition either for shifting into larger pots or for planting out.—Apply to Mr. GLENDINNING, Chiswick Nursery, near London.

STRAWBERRY PLANTS.

CUTHILL'S PRINCE OF WALES, 1*l.* per 100; the BLACK PRINCE, 5*s.* per 100.

CUTHILL'S Pamphlet on the Potato, with various first-rate Fruits and Vegetables, price 2*s.*, or by post, 2*s.* 4*d.*

CUTHILL'S Market Gardening Round London, price 1*s.* 6*d.*, or by post, 1*s.* 8*d.* To be had of JAMES CUTHILL, Camberwell; or HAMILTON and ADAMS, Paternoster Row, London.

N.B. A Lad, not less than 17 years old, wanted.

AMERICAN NURSERY.

GEORGE BAKER, Windlesham, near Bagshot, Surrey, Exhibitor of American Plants at the Royal Botanic Gardens, Regent's-park, begs to inform the Nobility and Public he has published a Descriptive CATALOGUE OF AMERICAN PLANTS, Coniferæ, Roses, Ornamental Shrubs, &c. &c., and may be obtained by enclosing two postage stamps.—Near Staines Station, Windsor Branch, South-Western Railway.

MESSRS. CHARLES CANTOR & CO., OF CALCUTTA.

1852.

LIST OF ORCHIDEOUS PLANTS INDIGENOUS TO ASSAM

AND THE NEIGHBOURING HILLS OF KHASYA, BOOTAN, &c.

No.	Names.	Size and Colour of Flower.	Habit.
1*	Microstylis Wallichii ?...	Small, pea green	Ter.
2	Oberonia inditolia ...	Minute, yellowish	Epi.
3*	,, sp.	,, ,, ...	Do.
4	Liparis sp.	Small, yellow	Do.
5	,, sp.	,, ,, ...	Do.
6**	,, sp.	Largish, green yellow ...	Ter.
7*	,, sp.	Small, deep purple ...	Epi.
8	Otochilus fuscus ...	,, yellowish brown ...	Do.
9	,, albus	,, ,, and white ...	Do.
10	Pholidota imbricata ...	,, white	Do.
11	,, undulata	,, ,, ...	Do
12*	,, articulata	,, ,, ...	Do.
13*	,, sp.	,, ,, and yellow ...	Do.
14*	,, sp.	,, ,, ,, ...	Do.
15	Cœlogyne flavida ...	,, yellow	Do.
16	,, undulata	Largish, white	Do.
17*	,, fimbriata ?...	,, ,, and brown ...	Do.
18**	,, uniflora	,, ,, and lateritious	Do.
19	,, barbata	,, white	Do.
20*	,, præcox ?	,, ,, ...	Ter.
21*	,, maculata	Large, white, yellow, & rose	Do.
22**	,, Wallichiana ...	,, ,, and rose ...	Do.
23**	,, ocellata	,, pale yellow and deep orange	Do.
24*	,, Gardneriana ...	,, white and yellow ...	Epi
25	,, cristata	,, ,, streaked with bright yellow	Ter.
26	,, sp.	Small, brown and yellow...	Epi.
27**	,, flava ?	Large, yellow and brown...	Do.
28	,, sp.	Small, brown and yellow...	Do.
29*	,, sp.	,, white and brown ...	Do.
30	,, sp.	,, pale yellow	Do.
31**	,, sp.	,, white (pretty) ...	Ter.
32**	,, sp.	Largish, pale cinnamon ...	Epi.
33**	Bolbophyllum leopardinum	Large, yellow spotted with purple.	Do.
34	,, umbellatum ...	Largish, dull yellow ...	Do.
35**	,, Khasyanum ...	Small, greenish	Do.
36**	,, sp.	Largish, bright yellow ...	Do.
37*	,, sp.	Small, white, fragrant ...	Do.
38*	,, sp.	,, dull purple	Do.
39	,, sp.	,, ,, ...	Do.
40	,, sp.	,, ,, ...	Do.
41**	Cirrhopetalum sp. ...	Small, greenish, fragrant	Do.
42	,, sp.	,, dull purple	Do.
43*	,, sp.	Large, brown and yellow...	Do.
44**	,, sp.	Largish, dull purple ...	Do.
45**	,, sp.	,, ,, ...	Do.
46*	Trichosma suavis... ...	Large, white, purple & yell.	Do.
47*	Eria flava	Largish, dull yell. & brown	Do.
48	Eria sp.	Largish, white streaked with brown	Epi.
49	,, densiflora	,, ,, tinged with yellow	Do.
50	,, ferruginea	,, ferruginous	Do.
51	,, paniculata... ...	Small, spotted with purple	Do.
52**	,, sp.	Largish, white	Do.
53*	,, sp.	,, ,, & dull purp.	Do.
54*	,, sp.	,, ,, ,,	Do.
55*	,, sp.	Minute, rosy	Do
56	Aporum anceps	Small, white	Do.
57	,, cuspidatum ...	,, ,, ...	Do.
58	,, sp.	,, ,, ...	Do.
59*	,, sp. ?	Largish, white, yellow, and brown	Do.
60	Dendrobium Pierardi ...	Large, pink and yellow ...	Do.
61*	,, heterocarpum ...	,, yell. and br. fragrant	Do.
62	,, Chrysanthum ...	,, lively yell. and brown	Do.
63*	,, Paxtoni	,, ,, ,,	Do.
64*	,, sp. like do. ...	,, orange and brown ...	Do.
65*	,, formosum	Very large, white and yell., fragrant	Do.
66**	,, longicornu... ...	Large, white and orange...	Do.
67	,, calceolus	Very dark yellow, rose, and purple	Do.
68*	,, sulcatum	Large, yellow and purple...	Do.
69	,, Jenkinsii	,, lively yellow	Do.
70	,, cærulescens ...	,, deep lively purple ...	Do.
71	,, nobile	,, white rosy purple ...	Do.
72**	,, Gibsonii	,, yellow and brown ...	Do.
73*	,, stuposum	Small, white	Do.
74*	,, Cambridgeanum ...	Large, lively yell. and br.	Do.
75**	,, transparens ...	,, deep lively purple ...	Do.
76*	,, like do., various ...	,, pale rose and purple	Do.
77**	,, Devonianum ...	,, lilac-rose and yellow	Do.
78**	,, Dalhousianum ...	,, rose, white, and purp.	Do.
79	,, multicaule... ...	,, white and purple ...	Do.
80**	,, Griffithii	,, pale yell. and orange	Do.
81**	,, Farmeri	,, lively ,, ,, ...	Do.
82**	,, densiflorum pallid.	,, white and orange ...	Do.
83**	,, do. roseum ...	,, pale rose and orange	Do.
84	,, intermedium ...	,, pale yellow & brown	Do.
85*	,, sp.	,, lively orange	Do.
86*	,, sp.	,, ,, yellow & brown	Do.
87**	,, sp.	,, yellow, pink, and br.	Do.
88*	,, sp.	,, pink and yellow ...	Do.
89**	Spathoglottis pubescens	Largish, yellow and purple	Ter.
90	Arundina bambusifolia	Large, pale rose and lively purple	Do.
91*	Phaius grandifolius ...	,, white, brown, & pur.	Do.
92	,, Wallichii	,, ,, ,, ,,	Do.
93*	,, maculata	,, ,, rosy scented	Do.
94*	Phaius albus	Large, white, rosy scented	Do.
95**	Aputaria senilis	Largish, rose and green ...	Ter.
96**	A. latifolia	?	Do.
97*	Eulophia virens	Large, green and white ...	Do.
98**	,, sp.	,, dull yellow & brown	Do.
99**	,, sp.	,, deep purple	Do.
100**	,, sp.	,, green and yellow ...	Do.
101**	,, sp.	,, purplish green ...	Do.
102	Vanda teres	Very large, rosy purple, yellow and brown	Epi.
103**	,, cristata	Largish, greenish, white, and purple	Do.
104**	,, multiflora	,, white and rose ...	Do.
105**	,, cœrulea	Very large, deep blue ...	Do.
106**	,, sp.	Largish, dull purple ...	Do.
107**	,, sp.	,, ,, and green	Do.
108**	,, sp.	,, yellow and brown ...	Do.
109**	Camarotis purpurea ...	Small, yellow and purple...	Do.
110	Micropera pallida ...	,, pale yellow	Do.
111	Saccolabium micranthum	Small, rosy	Epi.
112	,, retusum	Largish, lively spotted ...	Do.
113	,, papillosum ...	Small, pale yellow & pur.	Do.
114**	,, Calceolare	,, yellow and brown ...	Do.
115**	,, sp. like do. ...	,, pale do. and rose ...	Do.
116	,, caroifolium ...	,, rosy	Do.
117**	,, dasypogon ...	,, green and purple ...	Do.
118*	,, appendiculatum ...	,, yellow	Do.
119*	,, sp.	,, rosy and deep purple	Do.
120**	Sarcanthus sp.	... ...	Do.
121**	,, sp.	Small, rosy	Do.
122**	,, sp.	,, white and yellow ...	Do.
123**	,, sp.	,, ,, ,, ...	Do.
124**	,, sp.	,, ,, ,, ...	Do.
125**	,, sp	,, rosy red	Do.
126	Aerides affine	Large, rosy purple	Do.
127	,, odoratum	,, ,, sweet-scented	Do.
128	,, sp.	,, ,, ,,	Do.
129**	,, sp.	Large, like affine, and very sweet-scented	Do.
130	Agrostophyllium Khasyanum	Small, white	Do.
131*	Xiphosium acuminatum	Large, white	Do.
132	Acanthophippium sp. ...	,, dull purple	Ter.
133*	,, sp.	,, white, streaked ...	Do.
134*	Cymbidium giganteum...	Very large, yell. and brown	Do.
135	,, pendulum	Large, dull yell. and purple	Do.
136	,, aloifolium	,, ,, ,,	Do.
137**	,, eburneum	Very large, white	Do.
138	,, inconspicuum ...	Small, brown	Do.
139	Cymbidium longipetalum	Largish, green and purple	Ter
140*	,, cyprifolium ...	,, ,, ,,	Do.
141**	,, sp.	Large, fragrant, yellow, and white	Epi.
142**	,, sp.	,, brownish purple ...	Do.
143**	,, sp.	Very large, white	Do.
144**	,, sp.	Large, white and brown ...	Do.
145*	,, sp.	,, green and dull purple	Ter.
146**	? Phalænopsis, sp. ...	Large, yellow and reddish brown	Epi.
147	Euphorboscis pygmæa...	Minute, yellow	Do.
148	Geodorum dilatatum ...	Large, white, purple, and yellow	Do.
149*	,, sp.	,, deep rosy purple and white	Do.
150**	Platanthera sp.	Large, white	Do.
151**	Peristylis sp.	Largish, white, sweet-scented	Do.
152	Habenaria hamigera ?...	Small, green	Do.
153	,, sp.	,, yellow	Do.
154	,, sp.	,, greenish yellow ...	Do.
155?	,, sp.	,, white	Do.
156**	,, sp.	Large, white	Do.
157**	Pogonia Joliana... ...	Small, rosy white	Do.
158**	,, sp.	Largish, green	Do.
159**	,, sp.	Small, purple	Do.
160**	Cyrtosia sp.	Largish, golden yellow ...	Do.
161**	Spiranthes sp.	Small, white	Do.
162**	Zeuxine sulcata	,, ,, ...	Do.
163**	Anæctochilus Roxburghii	,, rosy white	Do.
164**	,, sp.	,, white	Do.
165**	Cypripedium venustum	Large, green and purple ...	Do.
166**	,, insigne...	,, red and yellow ...	Do.
167*	Calanthe densiflora ...	,, lively yellow	Do.
168**	,, sp.	Small, brown and yellow...	Do.
169**	,, sp.	Large, white and green ...	Do.
170**	,, sp.	,, ,, and yellow ...	Do.
171**	,, sp.	,, dull purple	Do.
172	Goodyera sp.	Small white	Do.
173	,, sp.	,, ,, ...	Do.
174	,, sp.	,, ,, dull purple ...	Do.
175**	Ophrys sp.	Largish, rosy purple ...	Do.
176**	,, sp.	,, green and purple ...	Do.
177**	Anthoginum sp.	,, rosy	Do.
178*	Bonatea sp.	Small, green	Do.

Æschynanthus (3 to 4 sp.): Hoya (5 or 6 sp.); Arum (several) Lilium (1 sp.); Nepenthes (1 sp.); Ferns and Lycopodiums (150 to 200 sp.); Palms (Livistonia, Leoxalia, Caryota, Calamus, &c) are also indigenous, and can be sent if required.

Plants not marked are common. Ditto marked with an asterisk are considered rare.

Ditto marked with two asterisks are considered very rare.

The charges for a box of 4 cubic feet measurement, containing an equal selection of the three kinds, will be 5*l.* or 50 Rupees, deliverable at Calcutta. When Plants which are rare or very rare are required, the charges will be according to the kind taken; for the rare 1 r. 8 a. a Plant; for the very rare, 2 rupees a Plant. When very large plants are directed to be sent, no extra charge will be made.

When new Plants not included in the list are sent, a separate charge will be made. When two boxes or more are taken a discount of 10 per cent. will be allowed.

Plants can also be sent in glass cases, on the Wardian plan, measuring 2 feet 6 inches in length, 2 feet breadth, and 2 feet 7 inches in height, for which an extra charge of 20 rupees will be made. Glass covers can also be supplied for the other boxes, at an extra charge of 10 rupees.

Applications to be made to Messrs. CHARLES CANTOR & CO., in Calcutta.

ASSAM, *August* 1, 1852.

DUTCH FLOWERING BULBS, &c.

JAMES CARTER, SEEDSMAN and FLORIST, 238, *High Holborn, London, begs leave to recommend the following* CHOICE BULBS *for planting in November and December.* 10, 12, 25, *or* 50 *Bulbs may be had at the same rate as per* 100.

HARDY BULBS.

	Separate. Per 100.	*Mixed.* Per 100.
	£ s. d.	£ s. d.
Anemone, 100 finest double	1 0 0	...0 6 0
,, 10 sorts for clumping	0 16 0	...0 6 0
,, double scarlet	0 16 0	...0 10 0
,, single do.	0 10 0	...0 6 0
,, ,, all colours		0 4 0
,, hortensis, 50 sorts...	1 0 0	...0 6 0
,, 4 sorts for clumping	1 0 0	...0 6 0
Crocus, in 10 sorts, per 1000, 15*s.* ...	0 1 6	...0 1 3
,, new seedlings, per 1000, 30*s.* ...	0 3 0	...0 2 0
,, largest yellow	0 2 0	
Crown Imperials, 12 sorts	2 10 0	...1 10 0
Fritillarias, 20 varieties		0 16 0
Hyacinths, double and single	3 10 0	...1 6 0
Iris, superb English	1 4 0	...0 12 0
,, fine Spanish	0 15 0	...0 4 0
Jonquils, largest double	0 15 0	
,, single	0 10 0	
Narcissus Polyanthus, 10 sorts	1 16 0	...0 16 0
,, border, 10 sorts	0 12 0	...0 7 0
,, double Daffodils	0 5 0	
,, pheasant-eyed	0 5 0	
Ranunculus, 100 finest double	1 0 0	...0 7 0
,, 100 finest new Scotch	2 0 0	...0 10 0
,, 100 Turban, 10 sorts	0 10 0	...0 5 0
,, superb scarlet	0 2 6	
Snowdrops, double	0 2 0	
,, single, extra large	0 2 0	
Tulips, 100 splendid early	1 8 0	...0 10 0
,, 100 splendid double	1 6 0	...0 10 0
,, 100 finest late		0 10 0
,, 100 good...		0 5 0
,, 100 Parrot, in 4 varieties		0 6 0

FOR GREENHOUSE.

	Separate. Per doz.	*Mixed.* Per doz.
	£ s. d.	£ s. d.
Amaryllis, 6 fine sorts	2 2 0	...1 10 0
* Babiana, 12 sorts	0 6 0	...0 3 0
Cyclamen, 4 sorts	0 15 0	...0 10 0
* Gladiolus cardinalis	0 3 6	
,, Colvillii	0 2 6	
,, formosissimus	0 5 6	
,, gandavensis	0 5 6	
,, natalensis (psittacinus)	0 1 6	
,, oppositiflorus (floribundus) ...	0 3 6	
,, ramosus	0 3 6	
,, rosa-mundi	0 5 6	
,, Victoria Regina	0 5 0	
,, new seedling gandavensis ...	0 15 0	
,, new seedling ramosus, from 15*s.* to	1 4 0	
* Ixias, 8 sorts	0 2 6	...0 2 0
* Oxalis, 6 sorts	0 2 6	...0 2 0
* Sparaxis, 6 sorts	0 2 6	...0 2 0
* Tigridia Pavonia, 3 sorts	0 3 0	...0 2 6
* Watsonias, 4 sorts	0 5 0	...0 3 6

* *Proper for a frame, greenhouse, or the open borders.*

SUNDRY BULBS.

	Per dozen.—*s. d.*		Per dozen.—*s. d.*
Amaryllis lutea	2 6	Leucojum vernum ...	3 6
,, formosissima	5 6	Lilium lancifolium album	2 6
* Babiana, fine blue ...	2 6	,, punctatum, 3*s.* 6*d.* and	5 0
,, new crimson	2 6	,, rubrum ... 2*s.* and	3 6
* Bobartia aurantiaca ...	2 6	Narcissus, double Roman	3 0
Bulbocodium vernum ...	2 6	,, paper white ...	3 0
Colchicums, mixed	2 0	Scilla, splendid blue ...	5 0
Crown Imperials, in 12 varieties... ...	3 0	Trichonema bulbocodium	2 6
Fritillarias, white ...	3 6	* Tritonia aurea, each, 3*s.*	25 0
,, yellow ...	3 6	* ,, 12 in 4 sorts	3 6
* Iris pavonia, major ...	2 6	* ,, fine mixed ...	2 0
Leucojum æstivum ...	3 6	24 Cape Bulbs, in 8 sorts	10 0

Those with a * *are proper for a frame, greenhouse, or the open border, with a little protection; the others are quite hardy.*

GEORGE DAVIES is now prepared to send out the following NEW GERANIUMS at 42*s.* per dozen:—

Arethusa, Ariadne, Caiefrain, Elise, Enchantress, Flying Dutchman, Colonel of the Buffs, Ganymede, Incomparable, La Bleche, Mochanna, Maguet, Purple Standard.

The following at 18*s.* per dozen:—

Boule de Feu, Dazzle, Generalissimo, Clarinda, Lord Stanley, May Queen, Mount Hecla, Major Domo, Nepaulese Prince, Nectar Cup, Silk Mercer, Pride of the Isles, Tyrian Queen.

The following at 12*s.* per dozen:—

Brilliant, Constance, Cristabel, Gipsey Bride, Elegans, Magnificent, Prince of Orange, Satisfaction, Princess Emily, Virgin Queen.

The following FANCY GERANIUMS at 20*s.* per dozen:—

Delicata, Bride, Galety, Othello, Orestes, Marion, Prima Donna, Prince Albert, Exquisite, Reine de Fleur, Reine de France.

The following CINERARIAS at 18*s.* per dozen:—

Catherine Seaton, Nonsuch, Fearless, Prima Donna, Mrs. Charles Kean, Rosy Morn, Lady Hume Campbell, Effie Deans, Mrs. Sidney Herbert, Clair of the Isles, Blue Perfection, Clara Mouberry. Older varieties 9*s.* to 12*s.* per dozen.

ERICAS, fine blooming plants, 12*s.* to 18*s.* per dozen, including Massoni, Spranguli, Parmentieri rosea, &c.

Stanley and Green Lane Nurseries, Old Swan, Liverpool.—November 13.

EDWARD GEORGE HENDERSON AND SON are now prepared to send out their new CINERARIAS and FANCY GERANIUMS for this Season, which they can confidently recommend, for which early orders are solicited—as the stock of some of the varieties is limited.

NEW CINERARIAS.

	s.	*d.*		*s.*	*d.*
Charles Dickens...	5	0	Charlotte	5	
Conspicua	5	0	Kate Kearney ...	5	
Loveliness	5	0	Marguerite d'Anjou	7	
Prince Arthur ...	10	6	Rosalind	10	

Price of the Set, £2 2s.—Usual discount to the Trade.

NEW FANCY GERANIUMS.

	s.	*d.*		*s.*	*d.*
Criterion	10	6	Fanny	10	
Flora McIvor ...	10	6	Italian Beauty ...	10	
Lady Downes ...	10	6	Marginata ...	10	
Queen of the Fancies	10	6			

Price of the Set, £3 3s.—Usual discount to the Trade.

For description of the above see this Paper of October 9.

Wellington Road Nursery, St. John's Wood, London.—Nov. 1

Printed by WILLIAM BRADBURY, of No. 13, Upper Woburn-place, in the parish of St. Pancras, and FREDERICK MULLETT EVANS, of No. 7, Church-row, Stoke Newington, both in the County of Middlesex, Printers, at their Office in Lombard-street, in the Precinct of Whitefriars, in the City of London; and published by them at the office, No. 5, Charles-street, in the parish of St. Paul's, Covent-garden, in the said County, where all Advertisements and Communications are to be ADDRESSED to THE EDITOR.—SATURDAY, NOVEMBER 13, 1852.

THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 47.—1852.] SATURDAY, NOVEMBER 20. [PRICE 6d.

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ROYAL BOTANIC SOCIETY, REGENTS' PARK.—The following are the days fixed for the EXHIBITIONS of FLOWERS and FRUIT in the Gardens of this Society next year.

GENERAL EXHIBITIONS, WEDNESDAYS, May 25th, June 8th, and 29th.—AMERICAN PLANTS, MONDAYS, June 13th and 20th.

Many of the early Rhododendrons will be in flower on the first two days. The Rhododendrons and American Plants in general and the Roses on the three last days.

NORTH LONDON HIGHGATE FLORICULTURAL SOCIETY.—The ANNUAL CHRYSANTHEMUM EXHIBITION of this SOCIETY, Open to all England, will be held in the ASSEMBLY ROOMS, at the Gate House Hotel, Highgate, on THURSDAY, the 25th instant. Exhibitors' productions to be arranged ready for the Censors by 11 o'clock. Admission from 1 to 4 o'clock 1s. each; from 4 to 7 o'clock 6d. each.

N.B.—Tickets obtained before the day 6d. each.

For Schedules of Prizes, Tickets of Admission, &c., apply to the Hon. Sec., Mr. C. P. Lochner, Warwick House, Harrow Road, Paddington. Omnibuses to and from Highgate Hill and all parts of London every 10 minutes.

BIRMINGHAM GRAND ANNUAL CHRYSANTHEMUM AND PLANT EXHIBITION, open to all Growers resident within 20 miles of the Town, will be held at the CORN EXCHANGE, HIGH-STREET, on MONDAY, the 29th day of NOVEMBER, 1852.

NEW SEEDS—GROWTH OF 1852.

WILLIAM E. RENDLE AND CO., SEED MERCHANTS, Plymouth, *have much pleasure in stating that they are now laying in their new Stocks of Seeds, direct* FROM THE GROWERS.

Catalogues can be had on application on receipt of one penny stamp.

Early Peas, Beans, and all Seeds for Early or Forcing Crops can be obtained immediately.—Apply to WILLIAM E. RENDLE and Co., Seed Merchants, Plymouth.

E. G. HENDERSON AND SON will, on application, forward their new AUTUMN CATALOGUE post free. The following new plants, priced, &c., will be seen at pages 15 and 16, which we beg to draw attention to as worthy of cultivation:—

STOVE PLANTS.—Æschynanthus splendens, Bilbergia chrysoides, Centradenia divaricata, Cissus discolor, Dracæna nobilis, Echites Harrisii, Gesnera zebrina compacta, new Gloxinias, Ixora aurantiaca, Plectranthus concolor picta, Rhodoleia Championii.

GREENHOUSE PLANTS.—Comollinum aurantiacum (this beautiful Zinnia like flower is figured in the Flore des Serres et des Jardins de l'Europe), Cyclamen persicum rubrum, Cyclamen repandum true (these bulbs have been imported from Italy direct), Cytisus onosperma, Dictyanthus Pavonii, Jasminum grandiflorum plenum, Magnolia fragrantissima; Viola stipulacea, Lilium Wallichianum, 15s. and 21s. each.

St. John's Wood Nursery, Nov. 20.

FRUIT TREES, comprising the best varieties in cultivation, as follows:—

Apples, standard, on stems 5 to 6 feet, bushy, 15s. per dozen.
" dwarf trained, strong, 30s. per dozen.
Pears, standard, on stems 5 to 6 feet, good heads, 18s. p. doz.
" dwarf trained, strong, 30s. to 36s. per dozen.
Cherries, standard, on stems 5 to 6 feet, 18s. per dozen.
" dwarf trained, strong, 42s. per dozen.
Apricots, dwarf trained, very strong, 3s. 6d. to 5s. each.
Peaches and Nectarines, do. do., 3s. 6d. to 5s. each.
Plums, do. do., 2s. 6d. to 3s. 6d. each.

Fastolff Raspberry (Youell's). We still refer with pride to this excellent variety, by far the best red in cultivation; strong canes, 15s. per 100.

Large white Raspberry, of unequalled size and flavour, admirable for the dessert, 24s. per 100.

Gooseberries, the finest prize sorts, selected for size and flavour, in strong bushes, 4s. per dozen.

Currants, all the most approved sorts, viz., new White Dutch, Raby Castle, Black Naples, &c., in strong bushes, 4s. per dozen.

Strawberries, all the finest varieties.

Rhubarb, strong undivided roots of Myatt's Victoria, Linnæus, and Royal Albert, the best kinds for forcing, 8s. per doz.

Figs, Brown Ischia, strong, 2s. 6d. each.

Asparagus Giant, 3 years, per 100, 3s. 6d.

Seakale, very strong, 2s. per dozen.

Do., fine, 5s. per 100.

Owing to the luxuriant growth the latter make in our seaside nursery, the roots are very fine and healthy.

For particulars of Conifers, Hardy Ornamental Shrubs, Hardy Climbers, Greenhouse Plants, including Camellias, Azaleas, &c., for winter blooming, YOUELL and Co. beg to refer to their advertisement of October 16.

Royal Nursery, Great Yarmouth.

THE WAX-INSECT TREE FROM CHINA.

NURSERYMEN AND OTHERS are informed that an imported Plant of this interesting Tree (the only one in Europe), is to be disposed of. See *Gardeners' Chronicle*, August 21.—Address, R. F, Office of this Paper.

JUDSON'S RICHMOND VILLA BLACK HAMBURGH VINE.

ARTHUR HENDERSON AND CO. have the pleasure of informing their patrons and friends that they have good plants of this valuable and much-esteemed Vine, at 7s. 6d. and 10s. 6d. each.—N.B. For full particulars of the distinguishing characteristics of this Vine, we beg to refer our customers to the *Gardeners' Chronicle* of October 25, 1851.

Pine-apple Place, London.—Nov. 20.

HYACINTHS, DUTCH BULBS, TULIPS, ETC.

HENRY GROOM, Clapham Rise, near London, by Appointment FLORIST TO HER MAJESTY THE QUEEN, and to HIS MAJESTY THE KING OF SAXONY, begs to say that he has received his usual supply of HYACINTHS and DUTCH BULBS, in very fine condition. His Catalogue of Bulbs, &c., will be forwarded on application.

AMERICAN NURSERY.

GEORGE BAKER, Windlesham, near Bagshot, Surrey, Exhibitor of American Plants at the Royal Botanic Gardens, Regent's-park, begs to inform the Nobility and Public he has published a Descriptive CATALOGUE OF AMERICAN PLANTS, Coniferæ, Roses, Ornamental Shrubs, &c. &c., and may be obtained by enclosing two postage stamps.—Near Staines Station, Windsor Branch, South-Western Railway.

RHUBARB.

MITCHELL'S GREY EAGLE.—A new and most excellent variety, having all the best qualities combined in one, both for market and culinary purposes. 24s. per doz.

Also, Mitchell's ROYAL ALBERT, Myatt's LINNÆUS and VICTORIA, 6s. per doz. All the above are strong one year planted roots. Also some very strong two year old roots of ROYAL ALBERT for early forcing, 9s. per doz.

Post-office orders payable to WILLIAM MITCHELL, Enfield Highway, Middlesex.

NEW FRENCH STRAWBERRIES, 3s. per dozen.
1. DUCHESSE DE TREVISE.
2. COMTESSE ZAMOYSKA.
3. COMTESSE DE MARNE.

No. 1 has also been received as Vicomtesse Hericart de Thury. The "Cremont Perpetual" Strawberry is not an autumnal bearer.

THOMAS RIVERS, Nurseries, Sawbridgeworth, Herts.

SEEDS DIRECT FROM THE GROWERS.
(CARRIAGE FREE BY RAILWAY.)

SUTTON AND SONS have the pleasure of announcing that they have succeeded in harvesting their SEEDS in good condition, notwithstanding the unfavourable weather. *The advantages of purchasing Seeds direct from the Growers* are obvious. As some sorts are scarce, early orders are requested and recommended.—For particulars address JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

GEORGE JACKMAN, NURSERYMAN, Woking, Surrey, 1½ mile from Woking Station, South Western Railway, begs to announce he has just published a new and complete Catalogue of his American Plants, Ornamental Evergreens, Conifers, flowering Shrubs, Standard and Dwarf Roses, Fruit and Forest Trees, &c. &c., and may be had on application by inclosing two postage stamps.

NEW SHRUBBY CALCEOLARIAS,
CONSISTING OF ABOUT FIFTY VARIETIES NEVER BEFORE OFFERED TO THE PUBLIC.

J. WEEKS AND CO., CHELSEA, have now to offer a most splendid and superb Collection of SEEDLING SHRUBBY CALCEOLARIAS, which they can confidently warrant and recommend, they having been carefully saved and varied from the most unique selection in the kingdom. The sorts being all Shrubby they are perpetually in flower; and from the great variety and brilliancy of their colours, they are invaluable for the conservatory or bedding-out.

J. WEEKS and Co., KING'S ROAD, CHELSEA, LONDON.

THE TRUE LANCASHIRE SHOW GOOSEBERRIES.

JOHN HOLLAND, Bradshaw Gardens, Middleton, near Manchester, will supply 24 strong plants for 12s., or 12 plants for 7s., package &c. included, of the below-named Gooseberries, which are the heaviest winners of the season—taken from the Gooseberry Register of 1852. viz.:—

RED.	dwts. grs.	YELLOW.	dwts. grs.
London	37 7	Catherine ...	32 8
Companion ...	31 11	Peru	30 0
Wonderful ...	31 0	Pilot	29 6
Slaughterman	30 0	Drill	28 15
Conquering Hero	28 9	Broom-girl ...	28 12
Napoleon le Grand	26 19	Leader	27 3
Lion's Provider	26 22	Goldfinder ...	26 16
Roaring Lion ...	26 2	Railway	26 4
GREEN.		**WHITE.**	
Thumper ...	28 18	Snowdrop ...	34 5
Weathercock ...	28 12	Lady Leicester	30 4
Overall	27 6	Queen of Trumps	30 0
Turnout ...	26 21	Cossack ...	28 18
Queen Victoria	26 6	Freedom ...	23 15
Random Green	25 15	Tally-Ho ...	26 18
Green River ...	25 22	Snowball ...	25 12
Providence ...	25 0	Flora	25 7

Post-office orders to be made payable at Middleton, Lancashire.

Priced Lists are now ready of Auriculas, Alpines, Polyanthuses, Primroses, Carnations, Picotees, Pinks, Pansies, Gooseberries, &c., and may be had for one postage-stamp.

Bradshaw Gardens, Middleton, Nov. 20.

AMERICAN PLANTS.

JOHN WATERER begs to announce his Catalogue of the above Plants, Roses, Conifers, &c., is now published, and may be obtained by enclosing two postage stamps. The colours of all the Rhododendrons worthy of cultivation are described, in order to facilitate purchasers in selecting.

☞ The Rhododendrons, Azaleas, &c., annually exhibited at the Royal Botanic Gardens, Regent's Park, are supplied from this establishment.—The American Nursery, Bagshot, Surrey, 4 miles from Farnborough Station, South-Western Railway, and 3 miles from Blackwater, South-Eastern Railway.

TO NOBLEMEN, GENTLEMEN, AND THE TRADE.

HAY, SANGSTER, AND CO. are now ready to send out their NEW EARLY NO. 1 PEA, price 2s. 6d. per quart, and can with confidence recommend it as a very superior article.

Also their New Early Scarlet PRINCE OF WALES RHUBARB, 5s. each. It is quite as early as the Prince Albert, much larger, red throughout, of exquisite flavour, and a large cropper.

Post-office Orders from those not having an account open with H., S., and Co., to be made payable to the Firm, at the Borough Post-office, or postage stamps.

For Testimonials and parties where both articles can be had, see *Gardeners' Chronicle* 18th September, 1852, page 594. Newington Butts, London.

THOMAS CRIPPS having a very large and healthy STOCK OF ROSES, comprising every variety of known merit, respectfully offers them at the following prices, selection being left to T. C., in which case he pledges himself to send out none but really good and established kinds:—

	Per doz.
Standards, beautiful varieties	18s. 0d.
" extra fine	24 0
Tall weeping Standards, 5 to 7 feet stems	30 0
Standard, Géant des Batailles	15 0
Dwarfs, choicest kinds ... ... 12s. and	18 0
Dwarf Perpetuals, budded a few inches from the ground, fine varieties	10 0
Dwarfs, good named kinds	6 0
Dwarfs, without names, mixed ... ... 3s. and	4 0
Dwarf Géant des Batailles, budded either on Briar or the Manettii Stock	15 0
Dwarf Rose du Roi on Manettii	15 0

A Catalogue of Roses, both general and supplementary, can be had on application, enclosing two postage stamps.

A remittance or reference from unknown correspondents is respectfully requested.

High-street and Neville Nursery, Tunbridge-wells, Nov. 20.

NEW SEEDLING APPLE.

BROWNLEES' RUSSET, raised in 1846, of the same quality as the Royal Russet, but keeps longer and better without shrivelling; very different in growth from any of the Russets, being most vigorous and perfectly free from canker; it will be found a great acquisition for kitchen use in spring, as late as May or June. A specimen sent to the Horticultural Society was noticed as follows: "Fruit about the size of the Royal Russet, roundish, eye small, nearly close; stalk short, not deeply inserted, skin covered with a soft russet; flesh greenish white, tender, and sweet."—*Feb.* 12, 1851.

Fine dwarf trees, 3s. 6d. each, carriage paid to London; the usual allowance to the trade when three are taken. A remittance or reference expected from unknown correspondents. All orders to be addressed to WM. BROWNLEES, Hemel Hempstead, Herts.

THE NEWLY IMPORTED GERMAN DOUBLE DAISIES.—A fine and healthy stock of the above new variety of flower is now offered to the public. It is very novel and distinct in all its features, and such as will give satisfaction to all purchasers. EDWARD TILEY has selected 50 of the best of the varieties out of the 100 varieties imported, and can send them out in any quantity, from a dozen and upwards, all true to name. These will be found to surpass everything for edging borders, &c., and also if planted in a bed will equal in variety that of a fine Ranunculus, and is frequently taken for such by many who have seen them in bloom. The whole of them are grown in pots, therefore will ensure a certain growth when transplanted. Price 3s. per dozen, postage and package free to any part, or 1l. per hundred, hamper and package free.

MYOSOTIS AZORICA.—A large and healthy stock of this delightful little flower (for particulars of which see article on same by "Alpha," at page 725 of Saturday's *Chronicle*, Nov. 13, 1852); also fine plants of MYOSOTIS VANGLEEKI, which is another splendid variety. Both are particularly adapted for pot culture; the former is a very dark blue, the latter a beautiful light blue; persons once growing them will never be without them. Price 3s. per dozen, postage free.

OTHELLO CLOVE CARNATION.—A few pair of this unique variety are still left, and will be forwarded to any part at 3s. 6d. per pair.

VIOLA ARBOREA (true), 6s. per dozen; and RUSSIAN SUPERB VIOLETS (true), 3s. per dozen.

HOLLYHOCKS.—Seedlings saved from all the best varieties sent out for the last three years, 1l. per hundred, or 11s. for 50 plants. They are fine strong plants, such as will bloom fine and give every satisfaction next season.

A TREATISE ON THE NATURE, MODE, AND CULTIVATION OF THE VIOLET, giving every direction for its continual blooming the whole of the winter, &c., &c., and aiding in many respects those who have already grown them, as it embraces several distinct plans to grow Violets. Purchasers to the amount of 5s will have the Treatise included, or sent post free to any part on receipt of 12 penny stamps. See *Gardeners' Chronicle* for Saturday last.

STRAWBERRY PLANTS.—Prolific, 3s. per 100; Goliath, 3s. per 100; Alice Maud, ditto; Eleanor, 5s. per 100; British Queen, 3s. per 100; Eliza, 3s. per 100; Britannia, 5s. per 100; Globe, 3s. per 100; Black Prince, 5s. per 100; Trollop's Victoria, 1l. per 100, or 3s. per dozen, postage free.

The Hollyhocks and Strawberry Plants will be sent in hamper or package free, and when a quantity is ordered, plants will be sent over to compensate for the cost of carriage.

The whole, or any part of the above, can be sent postage and package free on receipt of the amount by a post-office order or penny postage stamps.

EDWARD TILEY, Nurseryman, Seedsman, and Florist, 14, Abbey Causeway, Bath, Somersetshire.

THE TRUE FASTOLFF RASPBERRY, first introduced to the Horticultural world by YOUELL AND CO., can be supplied by them in strong canes at 15s. per 100. Usual discount to the Trade.

ROYAL NURSERY, GREAT YARMOUTH.

CORNWELL'S VICTORIA RASPBERRY.—Canes of the above to be had of GEORGE CORNWELL, Market Gardener, Barnet, at 15s per 100; the usual allowance to the trade when 300 are taken. Post-office orders made payable at Barnet. N.B. A quantity of strong Currants and Gooseberries.—Barnet, Nov. 20.

MESSRS. CHARLES CANTOR & CO., OF CALCUTTA,

1852.

LIST OF ORCHIDEOUS PLANTS INDIGENOUS TO ASSAM

AND THE NEIGHBOURING HILLS OF KHASYA, BOOTAN, &c.

No.	Names.	Size and Colour of Flower.	Habit.
1*	Microstylis Wallichii?...	Small, pea green	Ter.
2	Oberonia inditolia ...	Minute, yellowish	Epi.
3*	,, sp.	,, ,, ...	Do.
4	Liparis sp.	Small, yellow	Do.
5	,, sp.	,, ,, ...	Do.
6**	,, sp.	Largish, green yellow ...	Ter.
7*	,, sp.	Small, deep purple ...	Epi.
8	Otochilus fuscus ...	,, yellowish brown ...	Do.
9	,, albus	,, ,, and white	Do.
10	Pholidota imbricata ...	,, white	Do.
11	,, undulata	,, ,, ...	Do
12*	,, articulata	,, ,, ...	Do.
13*	,, sp.	,, ,, and yellow ...	Do.
14*	,, sp.	,, ,, ,, ...	Do.
15	Cœlogyne flavida ...	,, yellow	Do
16	,, undulata	Largish, white	Do.
17*	,, fimbriata?... ...	,, ,, and brown ...	Do.
18**	,, unitlora	,, ,, and lateritious	Do.
19	,, barbata	,, white	Do.
20*	,, præcox?	,, ,, ...	Ter.
21*	,, maculata	Large, white, yellow, & rose	Do.
22**	,, Wallichiana ...	,, ,, and rose ...	Do.
23**	,, ocellata	,, pale yellow and deep orange	Do.
24*	,, Gardneriana ...	,, white and yellow ...	Epi.
25	,, cristata	,, ,, streaked with bright yellow	Ter.
26	,, sp.	Small, brown and yellow...	Epi
27**	,, flava?	Large, yellow and brown ..	Do.
28	,, sp.	Small, brown and yellow...	Do
29*	,, sp.	,, white and brown ...	Do.
30	,, sp.	,, pale yellow ...	Do.
31**	,, sp.	,, white (pretty) ...	Ter.
32**	,, sp.	Largish, pale cinnamon ...	Epi.
33**	Bolbophyllum leopardinum	Large, yellow spotted with purple.	Do.
34	,, umbellatum ...	Largish, dull yellow ...	Do.
35**	,, Khasyanum ...	Small, greenish	Do.
36**	,, sp.	Largish, bright yellow ...	Do.
37*	,, sp.	Small, white, fragrant ...	Do.
38*	,, sp.	,, dull purple	Do.
39	,, sp.	,, ,, ...	Do.
40	,, sp.	,, ,, ...	Do.
41**	Cirrhopetalum sp. ...	Small, greenish, fragrant	Do.
42	,, sp.	,, dull purple	Do.
43*	,, sp.	Large, brown and yellow...	Do.
44**	,, sp.	Largish, dull purple ...	Do.
45**	,, sp.	,, ,, ...	Do.
46*	Trichosma suavis... ...	Large, white, purple & yell.	Do.
47*	Eria flava	Largish, dull yell. & brown	Do
48	Eria sp.	Largish, white streaked with brown	Epi.
49	,, densiflora	,, ,, tinged with yellow	Do.
50	,, ferruginea	,, ferruginous	Do.
51	,, paniculata... ...	Small, spotted with purple	Do.
52**	,, sp.	Largish, white	Do.
53*	,, sp.	,, ,, & dull purp.	Do.
54*	,, sp.	,, ,, ,,	Do.
55*	,, sp.	Minute, rosy	Do.
56	Aporum anceps	Small, white	Do.
57	,, cuspidatum ...	,, ,, ...	Do.
58	,, sp.	,, ,, ...	Do.
59*	,, sp.?...	Largish, white, yellow, and brown	Do.
60	Dendrobium Pierardi ...	Large, pink and yellow ...	Do.
61*	,, heterocarpum ...	,, yell. and br. fragrant	Do.
62	,, Chrysanthum ...	,, lively yell. and brown	Do.
63*	,, Paxtoni	,, ,, ,,	Do.
64*	,, sp. like do. ...	,, orange and brown ...	Do.
65*	,, formosum	Very large, white and yell., fragrant	Do.
66**	,, longicornu... ...	Large, white and orange...	Do.
67	,, calceolus	Very dark yellow, rose, and purple	Do.
68*	,, sulcatum	Large, yellow and purple...	Do.
69	,, Jenkinsii	,, lively yellow	Do.
70	,, cærulescens ...	,, deep lively purple ...	Do.
71	,, nobile	,, white rosy purple ...	Do.
72**	,, Gibsonii	,, yellow and brown ...	Do.
73*	,, suposum	Small, white	Do.
74*	,, Cambridgeanum ...	Large, lively yell. and br.	Do.
75**	,, transparens ...	,, deep lively purple ...	Do.
76*	,, like do., various ...	,, pale rose and purple	Do.
77**	,, Devonianum ...	,, lilac-rose and yellow	Do.
78**	,, Dalhousianum ...	,, rose, white, and purp.	Do.
79	,, multicaule... ...	,, white and purple ...	Do.
80**	,, Griffithii	,, pale yell. and orange	Do.
81**	,, Farmeri	,, lively ,, ,, ...	Do.
82**	,, densiflorum pallid.	,, white and orange ...	Do.
83**	,, do. roseum ...	,, pale rose and orange	Do.
84	,, intermedium ...	,, pale yellow & brown	Do.
85*	,, sp.	,, lively orange	Do.
86*	,, sp.	,, ,, yellow & brown	Do.
87**	,, sp.	,, yellow, pink, and br.	Do.
88*	,, sp.	,, pink and yellow ...	Do.
89**	Spathoglottis pubescens	Largish, yellow and purple	Ter.
90	Arundina bambusifolia	Large, pale rose and lively purple	Do.
91*	Phaius grandifolius ...	,, white, brown, & pur.	Do.
92	,, Wallichii	,, ,, ,, ,,	Do.
93*	,, maculata	,, ,, rosy scented	Do.
94*	Phaius albus	Large, white, rosy scented	Do.
95**	Aputaria senilis	Largish, rose and green ...	Ter.
96**	A. latifolia	?	Do.
97*	Eulophia virens	Large, green and white ...	Do.
98**	,, sp.	,, dull yellow & brown	Do.
99**	,, sp.	,, deep purple	Do.
100*	,, sp.	,, green and yellow ...	Do.
101**	,, sp.	,, purplish green ...	Do.
102	Vanda teres	Very large, rosy purple, yellow and brown	Epi.
103*	,, cristata	Largish, greenish, white, and purple	Do.
104**	,, multiflora	,, white and rose ...	Do.
105**	,, cœrulea	Very large, deep blue ...	Do.
106**	,, sp.	Largish, dull purple ...	Do.
107**	,, sp.	,, ,, and green ...	Do.
108**	,, sp.	,, yellow and brown ...	Do.
109**	Camarotis purpurea ...	Small, yellow and purple...	Do.
110	Micropera pallida ...	,, pale yellow	Do.
111	Saccolabium micranthum	Small, rosy	Epi.
112	,, retusum	Largish, lively spotted ...	Do.
113	,, papillosum ...	Small, pale yellow & pur.	Do.
114**	,, Calceolare	,, yellow and brown ...	Do.
115**	,, sp. like do. ...	,, pale do. and rose ...	Do.
116	,, caroifolium ...	,, rosy	Do.
117**	,, dasypogon ...	,, green and purple ...	Do.
118*	,, appendiculatum ...	,, yellow	Do.
119*	,, sp.	,, rosy and deep purple	Do.
120**	Sarcanthus sp.	,, ...	Do.
121**	,, sp.	Small, rosy	Do.
122**	,, sp.	,, white and yellow	Do.
123**	,, sp.	,, ,, ,, ...	Do.
124**	,, sp.	,, ,, ,,	Do.
125**	,, sp	,, rosy red	Do.
126	Aerides affine	Large, rosy purple	Do.
127	,, odoratum	,, ,, sweet-scented	Do.
128	,, sp.	,, ,, ,,	Do.
129**	,, sp.	Large, like affine, and very sweet-scented	Do.
130	Agrostophyllium Khasyanum	Small, white	Do.
131*	Xiphosium acuminatum	Large, white	Do.
132	Acanthophippium sp. ...	,, dull purple	Ter.
133*	,, sp.	,, white, streaked ...	Do.
134*	Cymbidium giganteum...	Very large, yell. and brown	Do.
135	,, pendulum	Large, dull yell. and purple	Do.
136	,, aloifolium	,, ,, ,,	Do.
137**	,, eburneum	Very large, white	Do.
138	,, incospicuum ...	Small, brown	Do.
139	Cymbidium longipetalum	Largish, green and purple	Ter
140*	,, cyprifolium ...	,, ,, ,,	Do.
141**	,, sp.	Large, fragrant, yellow, and white	Epi.
142**	,, sp.	,, brownish purple ...	Do.
143**	,, sp.	Very large, white	Do.
144**	,, sp.	Large, white and brown ...	Do.
145*	,, sp.	,, green and dull purple	Ter.
146**	? Phalænopsis, sp. ...	Large, yellow and reddish brown	Epi.
147	Euphorboscis pygmæa...	Minute, yellow	Do.
148	Geodorum dilatatum ...	Large, white, purple, and yellow	Do.
149*	,, sp.	,, deep rosy purple and white	Do.
150**	Platanthera sp.	Large, white	Do.
151**	Peristylis sp.	Largish, white, sweet-scented	Do.
152	Habenaria hamigera?...	Small, green	Do.
153	,, sp.	,, yellow	Do.
154	,, sp.	,, greenish yellow ...	Do.
155*	,, sp.	,, white	Do.
156**	,, sp.	Large, white	Do.
157**	Pogonia Joliana	Small, rosy white	Do.
158**	,, sp.	Largish, green	Do.
159**	,, sp.	Small, purple	Do.
160**	Cyrtosia sp.	Largish, golden yellow ...	Do.
161**	Spiranthes sp	Small, white	Do.
162**	Zeuxine sulcata	,, ,, ...	Do.
163**	Anæctochilus Roxburghii	,, rosy white	Do.
164**	,, sp.	,, white	Do.
165**	Cypripedium venustum	Large, green and purple ...	Do.
166**	,, insigne...	,, red and yellow ...	Do.
167*	Calanthe densiflora ...	,, lively yellow	Do.
168**	,, sp.	Small, brown and yellow...	Do.
169**	,, sp.	Large, white and green ...	Do.
170**	,, sp.	,, ,, and yellow ...	Do.
171**	,, sp.	,, dull purple	Do.
172	Goodyera sp.	Small white	Do.
173	,, sp.	,, ,, ...	Do.
174	,, sp.	,, ,, dull purple ...	Do.
175**	Ophrys sp.	Largish, rosy purple ...	Do.
176**	,, sp.	,, green and purple ...	Do.
177**	Anthoginum sp.	,, rosy	Do.
178*	Bonatea sp.	Small, green	Do.

Æschynathus (3 to 4 sp.): Hoya (5 or 6 sp.); Arum (several) Lilium (1 sp.); Nepenthes (1 sp.); Ferns and Lycopodiums (150 to 200 sp.); Palms (Livistonia, Leoxalia, Caryota, Calamus, &c.) are also indigenous, and can be sent if required.

Plants not marked are common. Ditto marked with an asterisk are considered rare.

Ditto marked with two asteriaks are considered very rare.

The charges for a box of 4 cubic feet measurement, containing an equal selection of the three kinds, will be 5*l.* or 50 Rupees, deliverable at Calcutta. When Plants which are rare or very rare are required, the charges will be according to the kind taken; for the rare 1 r. 8 a. a Plant; for the very rare, 2 rupees a Plant. When very large plants are directed to be sent, no extra charge will be made.

When new Plants not included in the list are sent, a separate charge will be made. When two boxes or more are taken a discount of 10 per cent. will be allowed.

Plants can also be sent in glass cases, on the Wardian plan, measuring 2 feet 6 inches in length, 2 feet breadth, and 2 feet 7 inches in height, for which an extra charge of 20 rupees will be made. Glass covers can also be supplied for the other boxes, at an extra charge of 10 rupees.

Applications to be made to Messrs. CHARLES CANTOR & CO., in Calcutta.

ASSAM, *August* 1, 1852.

KNAP HILL NURSERY, WOKING, SURREY.

HOSEA WATERER respectfully invites attention to the following:—

ARAUCARIA IMBRICATA, 2, 3, 4, and 5 feet high. We have a fine stock of large Araucarias, and as they have never been in pots, they are as robust and handsome as can well be.

CRYPTOMERIA JAPONICA, 2, 3, 4, 5, 6, 7, and 8 feet high, all from seed and in the open ground.

CEDRUS DEODARA, 2, 3, 4, 5, 6, 7, 8, 10, and 12 feet high.
,, OF LEBANON, 3, 4, 5, 6, 7, to 12 feet high. The large Deodars and Cedars of Lebanon, here referred to, have been regularly removed every spring; they are magnificent specimens, and might be sent any distance with perfect safety;

ABIES DOUGLASII, from seed, 2, 3, 4, 5, 6, and 7 feet, larger and splendid plants 8 to 12 feet; all removed last spring.
,, MENZIESII, 3, 4, 5, 6, and 7 feet high.
,, CANADENSIS, Hemlock Spruce, fine plants, 5, 6, 7, and 8 feet high.

PICEA NOBILIS, stout plants, with good heads, own bottoms, 2½ to 3 feet, probably not to be met with in any other Nursery.

PINUS CEMBRA, 3, 4, 5, 6, to 10 feet high,
,, INSIGNIS, all from seed, and most beautiful plants, 3, 4, 5, and 6 feet high. We have a fine lot of these.

CUPRESSUS MACROCARPA, or LAMBERTIANA, from seed, 2, 3, 4, 5, 6, and 7 feet high. We have a fine lot of these also.

TAXODIUM SEMPERVIRENS, 2, 3, 4, 5, and 6 feet high; beautifully furnished.

JUNIPERUS VIRGINIANA (the red Cedar), fine plants, 4, 5, 6, and 7 feet.
,, RECURVA, 3, 4, 5, 6, 7, and 8 feet.
,, EXCELSA, 3, 4, 5, and 6 feet.
,, BEDFORDIANA, 3, 4, and 5 feet. This is a very handsome growing plant.

* UPRIGHT IRISH JUNIPER, 3, 4, 5, 6, 7, 8, to 10 feet high. These are really splendid examples of perhaps one of the most striking of all Junipers.

* UPRIGHT IRISH YEW, 4, 5, 6, 7, 8, to 10 feet high. These plants are all trimmed to one stem, and are not therefore so likely to divide on windy or snowy weather.

* CHINESE JUNIPER, 2, 3, 4, 5, 6, 7, and 8 feet high.

* CUPRESSUS THYOIDES VARIEGATA (the variegated white Cedar), most beautiful plants, 3 to 4 feet high.

* GOLDEN YEW, worked on common, 3, 4, 5, and 6 ft. high.

* Visitors to Elvaston Castle cannot have failed to remark the extraordinary effect produced by the last five plants, viz., Irish and Gold-striped Yews, Irish and Chinese Junipers, and the Variegated White Cedar; and I believe we may assert, without fear of contradiction, except Elvaston, a similar lot of plants to those here offered cannot be found in any Nursery in Britain.—Priced Catalogues will be forwarded on application.

The Knap Hill Nursery is within an hour's ride of London, being near the Woking Station, South-Western Railway, where every train stops, and from whence conveyances may at all times be had.

REMARKS ON THREE SUPERIOR KINDS OF PLUMS, originated from Seed about 10 years since, by MR. HENRY DOWLING, Fruit Grower, Woolston-lawn, near Southampton.

It is a well-ascertained fact, notwithstanding the trees were planted in an exposed situation, on a thin gravelly soil, that from their first coming into bearing, four years ago, to the present period, the produce has been both excellent and abundant; hence it is presumed to have arisen chiefly, if not entirely, from their being clothed with foliage prior to any bloom becoming perceptible, for similarly situated are 360 good old sorts of the same age, nearly without fruit, consequently of little or no value, and which can be corroborated by competent and respectable persons, at whose suggestion MR. DOWLING has now the honour of submitting this Advertisement to the notice of Noblemen, Gentlemen, and others.

No. 1. ANGELINA BURDETT.—Size medium; form somewhat oblong; colour rich purple, copiously covered with an azure bloom; flesh amber green, parting freely from the stone; flavour delicious; ripens upon an open standard about the middle of August. Against a wall it would no doubt eclipse all others.

No. 2. STANDARD OF ENGLAND.—Size, rather large; form oval; colour crimson red next the sun, covered with violet bloom, bright red on the shaded side; flesh slightly yellow, separating from the stone; flavour exquisite; ripens the latter end of August, and with its rivals should find ample space in every garden.

No 3. WOOLSTON BLACK GAGE.—Size medium; form round; colour jet black, powdered with light blue; flesh yellowish green, parting from the stone; flavour equal in every respect to the Green Gage, with this superiority, that while the latter is apt to crack in a wet summer, and will not keep after being gathered, this, on the contrary, will endure, if the climate be dry, through August and September. This excellent Plum deserves an east or west wall, although it ripens well on an open standard.

From several Testimonials the subjoined are selected, as being deemed of unexceptionable authority:—

"Mr. Thomas Ingram, of her Majesty's Royal Gardens, Windsor, considers them to be of fine quality and superior flavour, and from their appearance he should imagine them to be good keeping Plums."

Mr. Robert Thompson, of the Horticultural Society's Garden, writes thus—"Your three Plums are indeed of first-rate quality, and I should recommend their extensive cultivation. As regards No. 3, I consider you have thrown the Green Gage into the shade, for it retains all the properties of that Plum, with more sugary sweetness."

Mr. John Wright, late gardener to the Rt. Hon. Lord Viscount Palmerston, Broadlands, in a communication to Mr. Dowling, states that "Angelina Burdett and Standard of England Plums, are not only prolific and of surpassing flavour, but from their colour and form striking in appearance. The Woolston Black Gage, though not so attractive to the eye, still from its extreme richness of quality is admirable to the taste."

Hampshire Independent, Sept. 11, 1852.—"A meeting of gentlemen and gardeners, resident in this locality, took place on Monday, at the Antelope Inn, to test the quality of some new Plums, grown by Mr. DOWLING, Woolston Lawn, Southampton. They are certainly very choice, particularly the Angelina Burdett and the Woolston Black Gage; and, of these two kinds, after tasting the fruit, every person present gave an opinion decidedly confirmatory of the high judgment pronounced in their favour by Mr. Robert Thompson, of the London Horticultural Society's garden."

FORD AND RICE, Nurserymen, Seedsmen, and Florists, New Road, Southampton, having had frequent opportunities, during the last four years, of inspecting the three parent trees in Mr. DOWLING'S fruit plantation, and being perfectly convinced of their extraordinary productiveness, as well as superlative excellence, they cannot but feel pleasure in undertaking the Agency, and in adding their humble yet zealous tribute of commendation.

It is highly gratifying to F. and R. to state that they have, to a very considerable extent, been patronised by nearly the whole of the neighbouring nobility and gentry, who have seen the trees, and tasted the fruit.

F. and R. respectfully solicit early orders to the above address, which will be duly executed in rotation. If the three sorts are taken, the price will be 15s. each, and for a single tree, 1*l.* The usual discount to the Trade—N.B. A list of the trade, comprising all orders sent by them, will shortly be advertised.

CATALOGUES.

MESSRS. H. LANE AND SON, Great Berkhampstead, Herts, beg to inform their Patrons that the undermeationed Descriptive Catalogues may now be had:—

GENERAL AND SUPPLEMENTARY ROSE CATALOGUES for two postage stamps;

TREE AND SHRUB AND FRUIT CATALOGUE for two postage stamps;

INDIAN AZALEA, CAMELLIA, &c., for one postage stamp.

FORRES NURSERIES.

THE SUBSCRIBERS have for sale an extensive stock of all sorts of FOREST TREES. As great care has been bestowed in raising the different sorts from the most approved varieties of their species, the plants are healthy and of fine quality. The Subscribers have had the honour to receive the numerous premiums hitherto awarded by the Highland and Agricultural Society for the cultivation of the true Native Highland Scotch Pine; and their present stock of this tree and of Larches comprehends several millions of plants, of every size and age suitable for being transplanted. An overstock of fine two years transplanted Larches, 2 to 3½ feet, at a very reduced price. Lists of Forest, Fruit, and Ornamental Trees and Shrubs will be furnished on application, and the trade supplied at the wholesale rate. Goods are carefully packed, and in forwarding plants every information will be readily afforded regarding their mode of treatment, and to those who may desire it advice will be furnished respecting the formation and management of Plantations, by Mr. Grigor, author of the Highland and Agricultural Society's Prize Essays, "On Raising Forest Plants," "On Forest Planting and on Trees adapted to various Soils and Situations," "On Raising and Managing Hedges," "On Forest Pruning," "On the Native Pine Forests of Scotland," "On Planting within the Influence of the Sea," and on various other subjects connected with Arboriculture.

JOHN GRIGOR and Co., Nurseries, Forres, N.B.

P.S. Strong roots of Aquilegia glandulosa, free by post, at 2*s.* 6*d.* per pair, or at the Nurseries 60*s.* per 100.

JOHN KEYNES, NURSERYMAN, Salisbury, offers the following Set of SEEDLING CINERARIAS, with every confidence that they will prove first-rate gems, and give great satisfaction. Fine Plants now ready, with the usual discount to the Trade, or the set for 20*s.*

NEW FIRST-RATE CINERARIAS.

LADY BATHURST.—White edged purple, very smooth beautiful habit. 5*s*

LOVELINESS.—Light edged pink, very free bloomer, fine habit. 5*s*.

KING OF THE BLUES.—Blue, the best ever offered, finest habit, free bloomer, large truss, first-rate in every respect. 10*s*. 6*d*.

BRITISH QUEEN.—White, crimson tip. 5*s*.

LILAC STANDARD.—The finest lilac, beautiful colour and habit. 5*s*.

PRINCE ALBERT.—Light shaded lilac. 5*s*.

PINK.

MRS. WOOLF (KEYNES.)—A decided improvement on Lola Montes; perfect rose, leaf full and fine, first class. 5*s*. per pair, free by post.

The Cinerarias are very few; first orders will be first attended to.

NEW ROSES.

PRINCE ALBERT AND FAIRY QUEEN.

A. PAUL AND SON beg to offer the above new and beautiful Roses, of which they at present hold the entire stock.

PRINCE ALBERT, BOURBON (PAUL'S).—The flowers are, in the summer, deep scarlety crimson, in autumn rich glowing lake, 3½ inches in diameter, finely cupped and very double, the outline a perfect ring; every shoot blooms, often producing 20 to 30 flowers in a truss, and being of dwarf habit it is likely to prove one of the finest autumnal Roses for bedding. The foliage is large, thick, and handsome, and it surpasses every Bourbon Rose in colour, form and abundance of bloom. Strong Plants in November, 10*s*. 6*d*. each.

This Rose will be figured in the "Florist" for November. It has obtained a first-class certificate from the National Floricultural Society, the Royal South London Floricultural Society, and the Caledonian Horticultural Society, at Edinburgh; it has further been favourably noticed by the leading Horticultural Journals, and ordered by above 100 Nurserymen and Amateurs who have seen it in flower.

FAIRY QUEEN, HYBRID PERPETUAL (PAUL'S).—Soft glossy lilac, of medium size and perfect form, the summits of the petals reflexing as in Mrs. Bosanquet, and like that unique Rose every shoot produces flowers; dwarf habit. Plants 7*s*. 6*d*. each. Early orders are solicited, as the stock is limited.

Nurseries, Cheshunt, Herts, Nov. 20.

NEW EARLY PEA.

PAUL'S "DWARF PROLIFIC."

A. PAUL AND SON beg to call attention to the above excellent early PEA, which is a seedling between the Early Frame and Thompson's Dwarf, producing a longer pod and larger Pea than the former, and being far more prolific. The qualifications which recommend it above others are these:—It is very hardy; rarely exceeds 2 feet in height, and consequently requires no sticks; it bears abundantly from the ground to the summit, and produces luteral shoots, which keep it a long time in season. They have permission from Mr. Brown, Gardener to Sir H. Meux, Bart., of Theobald's Park, and Mr. Scott, gardener to Wynn Ellis, Esq., of Pouisbourne Park, to say that they have grown it for two years, and consider it a first-rate Pea, and the best of all known varieties for a second crop. May be obtained in quart packets, 2*s*. 6*d*. each, from A. PAUL and SON, Nurseries, Cheshunt, Herts; from Messrs. Noble, Cooper, and Bolton, 152, Fleet-street, London; and Messrs. Hurst and M'Millen, 6, Leadenhall-street, London.

N.B. A general assortment of Agricultural and Horticultural Seeds, of the best quality and most approved races, at London prices. Catalogues free by post on application.

Nurseries, Cheshunt, Herts.

CHOICE BULBS AND FLOWER ROOTS.

	s. d.	s. d.
Tropæolum tricolorum, fine tubers, each ...	2 6	to 3 6
,, brachyceras ,, ,, ...	1 6	,, 2 6
,, azureum ,, ,, ...		3 6
Tritonia aurea, splendid ,, ,, ...	2 6	,, 5 0
Oxalis elegans, new and fine ,, ...		1 6
,, ,, major, ,, ,, ...		1 6
Cyclamen, in seven beautiful varieties	1 0	,, 5 0
Babiana rubra cyanea ,, ,, ...		3 6

Superb collections of Alstœmeria, Ixias, Sparaxis, Oxalis, Babiana, and various other Cape Roots. For superior selections of Ranunculus, Anemone, Gladioli, English Iris, Imported Dutch Hyacinths, Crocus, and other roots. Also, for collections of choice stove, Greenhouse, Winter Flowering Herbaceous, Rock, and other plants, see advertisements in the *Gardeners' Chronicle* of October 16th and 30th.

For particulars, see "Autumn Catalogue," supplied for three postage stamps.

BASS and BROWN, Seed and Horticultural Establishment, Sudbury, Suffolk.

MESSRS. PLATZ AND SON, Erfurt, Prussia, respectfully inform the trade, that their Seed Catalogue for 1853, in which will be found many new varieties, may be had on application to their agent, Mr. ROBERT KENNEDY, Bedford Conservatory, Covent Garden, London.

STRAWBERRY SEED.—This rarity is offered for the first time to the notice of emigrants, persons going abroad, &c., as the seed of the Strawberry may be raised with success, while it would be extremely difficult and hazardous to take out plants of this beautiful and delicious fruit, it being a great chance if they would survive a journey of two or three months, while seed may be taken of the following varieties, packed in the smallest compass, and grown in any part with success:—British Queen, Victoria, Alice Maud, Keens' Seedling, Prolific, Black Prince, Surprise, Eliza, Globe, Eleanor, Hautbois, Caroline, Elton Pine. Price 2*s*. 6*d*. each packet, or a packet of mixed seed of the above varieties, 5*s*.

RHUBARB SEED.

Also a quantity of Rhubarb Seed saved from the following first-rate varieties:—Victoria, Mitchell's Royal Albert, and Linnæus. Price 1*s*. per packet, or 2*s*. 6*d*. the three packets.

RASPBERRY SEED.

Seed also of this delicious fruit has been saved of the true varieties of the Fastolff Raspberry, Perpetual or Double bearing Raspberry, and Antwerp Raspberry. Price 1*s*. per packet, or the three packets for 2*s*. 6*d*

These varieties will be found of great importance to emigrants and persons leaving England. A remittance by penny postage stamps, or Post-office order, must be sent by all unknown correspondents to the amount, when the whole, or any part (as the case may be) will be forwarded immediately.

EDWARD TILEY, Nurseryman, Seedsman, and Florist, 14, Abbey Church-yard, Bath.

WANTED, a SMALL FARMER, acquainted with Gardening, or a GARDENER acquainted with Farming, for Foreign Service, at a very healthy station. Salary, 100*l*. a year, with some allowances.

He must be married, without the probability of children, industrious, of frugal habits, and with a character that will bear the strictest investigation.

Applicants may send their testimonials, in writing, to A. N., at the Office of this Paper.

The Gardeners' Chronicle.

SATURDAY, NOVEMBER 20, 1852.

MEETINGS FOR THE ENSUING WEEK.

MONDAY,	Nov.	22—Geographical	8½ P.M.
TUESDAY,	—	23 { Civil Engineers	8 P.M.
		{ Medical and Chirurgical	8½ P.M.
		{ Zoological	9 P.M.
WEDNESDAY,	—	24 { Microscopical	8 P.M.
		{ Society of Arts	8 P.M.
		{ Royal Soc. of Literature	8½ P.M.
THURSDAY,	—	25 { Numismatic	7 P.M.
		{ Antiquarian	8 P.M.
		{ Royal	8½ P.M.
FRIDAY,	—	26—Philological	8 P.M.
SATURDAY,	—	27 { Royal Botanic	3½ P.M.
		{ Medical	8 P.M.

COUNTRY SHOW.—Tuesday, Nov. 23: Stoke Newington Chrysanthemum.

ABOUT six years ago, when everybody was seeking for substitutes for the Potato, the French Government despatched an agent to North America, for the purpose of investigating the qualities of the "BREAD-ROOTS" known to occur among the Indians, and to furnish them with a part of their subsistence. M. LAMARE-PICQUOT, to whom this enquiry was intrusted, in consequence we believe of his having already brought into notice one of the productions in question, returned with a quantity of seeds and roots collected among the Scioux Indians, produced by a plant which he called the PICQUOTIANE, but which proved to be a leguminous plant, with tuberous roots, long before known under the name of Psoralea esculenta.

The Picquotiane is said to be used by the Indians without cooking, to sow itself naturally in the prairies of North America, and to prefer a dry sandy soil such as forms the humus of the Upper Mississippi. Neither prolonged dryness nor long periods of wet are said to injure it; and in its native country its roots are exposed to a temperature of from + 5° to — 13° Fahrenheit, a degree of cold unknown in this country. They are represented to be easily preserved, not suffering from damp, nor subject to the attacks of insects. They consist largely of farinaceous matter, capable of being converted into bread, like Wheat flour, by means of the same kind of leaven. The rind is said to suit domestic animals, as the core does man. We are finally assured that the roots possess no noxious quality, and that M. PAYEN'S analysis gives in the first place—

Bark and liber	28.22
Fibre and woody centre . . .	4.57
Alimentary farinaceous substances	67.21
	100.00

The farinaceous substance was found to consist of—

Nitrogenous matter	4.09
Mineral matters	1.61
Starch (plus traces of cellulose and fatty matter)	81.80
Water	12.50
	100.00

Thus it resulted from chemical analysis, that of the entire root nearly 7-10ths was eatable, and that of the eatable matter 4 per cent. was nitrogenous, and more than 80 per cent. amylaceous.

We have now before us, by favour of Mrs. WAKEFIELD, samples of this Picquotiane in different states. 1. A small, hard, wild root, the size and form of a pigeon's egg, with its tough bark partially removed, to show the white tender core. 2. Sections of the dried root, barked, cleaned, and prepared in the Indian manner for storing up; these are very like the halves of large blanched Almonds, with the exception of one which is 2 inches long, and 1¼ inch broad. They are friable, with the flavour of dried nuts, very sweet and pleasant. A third sample consists of the root crushed before going to the mill. In general appearance it resembles coarse Sago meal; but the microscope shows it to consist of an infinite multitude of spherical grains not larger than those of Maize. Finally we have it as it comes from the mill in the form of flour; in this state its colour is slightly yellow.

Thus far the evidence produced by M. LAMARE, concerning his Picquotiane, is satisfactory. The next question relates to its productiveness when cultivated; and here it must be owned that the testimony is unfavourable. The results obtained up to the present time, says the "Bon Jardinier," 1852, are unsatisfactory. Multiplication by the tubers does not appear practicable with this as with plants having compound tubers; so that the quantity to be employed for sets would be the same as the total of the crop. Propagation by cuttings is a horticultural process inapplicable to agriculture. Mutiplication by seeds would therefore seem to be the only available process; but unfortunately the plants which have been experimented on yield very few seeds. Out of nine plants which the writer planted only one seeded; and as each pod produced only a single grain, the whole produce of that plant was not more than a dozen grains. The roots of the young plants raised from these seeds were not more than a quarter of an inch in their greatest breadth; whence, and from other evidence, it may be inferred that the imported roots, as large as a hen's eggs, must have been five or six years old; so that the Picquotiane would seem to possess none of the properties required in an agricultural plant. It is not impossible, indeed, adds the writer, that cultivation may improve these qualities, but that must be ascertained by long and careful trials.

We know not with what skill these trials were conducted in France: but if they were not made with more intelligence than one which we witnessed some years since in England, they must be taken to leave the question where it was. For ourselves we can only say that there is no apparent reason why the Picquotiane should not improve in the hands of sagacious gardeners, as well as other things. At all events it deserves a fair trial; the means of making which we have no doubt would be furnished by M. LAMARE-PICQUOT, whose residence in Paris is Rue Guy-Labrosse, No. 11, and to whom experimentalists should address themselves.

WE are requested to announce that Signor W. GASPARRINI, the Professor of Botany at Naples, is desirous of selling, for the sum of 166*l*. 13*s*. 4*d*., his herbarium of Phanerogamous and Cryptogamous plants.

This herbarium contains about 8000 species put up in good white paper, and classed according to the Natural System. It includes all the species found up to the present time in the kingdom of the Two Sicilies, and almost all gathered by the Professor himself. Of each species there is a great number of well dried and complete specimens, with notes as to their time of flowering, their native place, where gathered, &c. These notes, together with the names of the species and varieties, and frequent observations upon the various genera, are written in Latin.

Of the species not indigenous to the Two Sicilies, the greater number have been received in exchange from other parts of Europe, from Greece, America, &c. Few are cultivated specimens. The herbarium was formed and arranged with the view to publish a "*Synopsis Floræ utriusque Siciliæ*," a project which the Professor is now obliged to abandon, and it might serve for the same purpose with somebody else.

Professor GASPARRINI'S address is Naples, Strada Miracoli, No. 45. He is a botanist of eminence and an acute physiologist, and was recently elected one of the 20 foreign members of the Horticultural Society.

SKIMMIA JAPONICA.

THIS fine new evergreen shrub, which is attracting a good deal of attention in your columns and elsewhere, was discovered by me in the winter of 1848, and introduced to England in 1849. I met with it in a nursery near Shanghae, and it was there the rarest and most prized plant of the collection to which it belonged. The nurseryman told me that it was brought to him from a high mountain, in the interior, named Wang-shan, and consequently the plant is called by the Chinese the Wang-shan-*Kwei*. The last term was given it on account of the fragrance of its flowers, which the Chinese consider as sweet as the *Kwei*-wha or Olea fragrans

These scented flowers are produced in great profusion in early spring, and are succeeded by bunches of red berries, like those of the English Holly. The plant exhibited to the Horticultural Society, in Regent-street, by Messrs. Standish and Noble a week or two ago, gave but a faint idea of the beauty of the species. The berries of that plant were scarcely ripe; later in the season they become much larger, and are then of a deeper and clearer red.

My own opinion is that this fine bush will prove perfectly hardy in this country. It cares nothing for the cold winds and sharp frosts about Shanghae, and no doubt endures a much lower degree of temperature on the inland mountains already named, where it is found wild, than in places nearer the coast. Although this is my opinion, I think your reporter was perfectly justified in "erring on the safe side," and saying that more proof of its hardiness in this country is required. I recollect well when I wrote an account of Weigela rosea, some years ago, in the Journal of the Horticultural Society, I advised the possessor of that beautiful shrub to keep it in the greenhouse until its hardiness was proved by the Society. Well, there was no harm done in that instance, although every one knows now how hardy Weigela rosea is.

I may now notice the letter of your Liverpool correspondent, in which he tells you that Skimmia japonica has borne the "pelting of the pitiless storm" during the last seven years. As you justly remark, your correspondent must be writing of Skimmia Laureola. In my opinion, however, his letter goes a long way to prove the hardiness of Skimmia japonica, as it comes from a much colder country than Dr. Wallich's S. Laureola. It proves, also, what I have long feared, that many persons in the trade will, by mistake, send out S. Laureola with the name of S. japonica, as the names have been mixed and confused. Until Dr. Lindley set the matter right in "Paxton's Flower Garden," an idea had got abroad that the Chinese and Himalayan plants were identical; but in reality no plants can be more different, in so far as their ornamental properties are concerned, although they may resemble each other in their stems and leaves. The Himalayan plant has been in the garden of Mr. Luscombe for some years, and yet I am informed by that gentleman that it scarcely ever opens its flowers, and never produces berries. The beauty of the Chinese plant not only consists in its being a nice dwarf evergreen bush, but also in the profusion of its sweet-scented flowers, and in the abundance of its Holly-like berries. The former is a plant of no value for ornamental purposes, while the latter will, no doubt, form in a few years one of the most attractive winter plants our gardens can boast of. Fancy if you can our borders or parterres dotted in mid-winter with a little evergreen bush, only two or three feet high, and covered all over with bright red berries, each of which is as large as those of the common Holly. In greenhouses too, it will be invaluable for decorative purposes, where its flowers, although not showy, will fill the air with the most delicious odour, and its berries will be most attractive in the dull months of winter.

Those of your readers who wish to add the plant to their collections, have, in the description I have just given, the means of knowing when the true Skimmia japonica has been sent them, or whether they have received the Himalayan plants in its stead. I think you will agree with me, that the discoverer of a fine, new, ornamental plant, may justly complain of mistakes of this kind. It is only a very short time since another blunder of this description, was committed with the new Cephalotaxus, discovered by me in the north of China. Sir William Hooker described and figured that plant in the "Botanical Magazine," and pronounced it to be quite new, and a tree of great beauty. And yet, notwithstanding that high authority, I find that large quantities of Cephalotaxus Harringtoni have been sent out with the new name of C. Fortuni, attached to them. Nurserymen ought to guard against such mistakes, as they are not only annoying to the purchasers of plants, but tend greatly to confuse our nomenclature. *R. F.*

ON THE IMPOSSIBILITY OF PREDICTING THE WEATHER.

(*Continued from page 725.*)

Disturbing causes of terrestrial temperatures, not susceptible of being foreseen.—The atmosphere which on any given day reposes on the sea, becomes in a short time, in mean latitudes, the atmosphere of continents, in consequence more especially of the prevalence of westerly winds. The atmosphere imparts in a great measure its temperature to the solid or liquid bodies with which it comes in contact. Whatever modifies the normal temperature of the sea will therefore occasion, sooner or later, disturbances in the temperature of the atmospheres of continents. Are there not causes entirely beyond the scope of human foresight which may sensibly modify the temperature of a considerable portion of the ocean? This problem is closely connected with the meteorological question which I have proposed. Let us attempt its solution.

No one can doubt that the fields of ice of the northern polar regions, that the immense frozen ocean, exercises a marked influence on the climate of Europe. In order to appreciate numerically the importance of this influence, we must take into account, in the first place, the extent and position of these fields; now, these are two elements so variable that they cannot be brought under any certain rule.

The east coast of Greenland was formerly accessible and well inhabited. All at once an impenetrable barrier of ice interposed between it and Europe. During many centuries Greenland could not be visited. What happens? About the year 1815, the ice experienced an extraordinary breaking up, and, taking a southern direction, left the coast free for many degrees of latitude. Who could have ever predicted that such a dislocation of fields of ice would take place in one year rather than another?

The floating masses of ice which cause the greatest reaction on our climates are those which are called *icebergs*. These mountains of ice proceed from the glaciers, properly so called, of Spitzbergen or the shores of Baffin's Bay. They detach themselves from the general mass with a noise like thunder, when the waves undermine them, and the rapid congelation of rain-water in their crevices produces an expansion sufficient to split and push forward those immense weights. Such causes, like their effects, must always remain beyond the reach of *human foresight*.

Those who recollect the recommendations which guides never fail to make on approaching certain walls of ice or certain masses of snow, on the sloping brows of the Alps; those who have not forgotten that, according to the assertions of these experienced men, the report of a pistol, or an individual shout, is sufficient to cause dreadful catastrophes, will agree in the opinion which I have just expressed.

Icebergs frequently descend to very low latitudes, sometimes covering immense spaces. We may then suppose that they sensibly disturb the temperature of certain zones of the oceanic atmosphere, and this disturbance will of course be communicated to islands and continents. It will not be out of place to cite some examples:

On the 4h of October, 1817, in lat. 46° 30′ North, in the Atlantic, Captain Beaufort met with mountains of ice moving towards the south. On the 19th of January, 1818, on the west of Greenspond, Newfoundland, Capt. Dymond met with floating islands of ice. Next day the ship was so surrounded that no opening was perceptible, even from the top of the mast. The general height of the ice above the water was about 14 feet. The ship was carried towards the south for 29 days, and at last got clear of the ice in lat. 44° 37′, 120 leagues to the east of Cape Race. During this singular captivity, Capt. Dymond observed more than a hundred icebergs. On the 28th of March, 1818, in lat. 41° 50′ North, 50° 50′ West from Greenwich, Capt. Vivian experienced throughout the day an excessively cold North wind, which made him suspect the approach of ice. Next day, in fact, he perceived a multitude of floating islands, which occupied a space of more than seven leagues. "Many of these islands," said the Captain, "were from 200 to 250 feet above the surface of the water." The brig Funchal, of Greenock, encountered some fields of ice at two different times during her passage from St. John's, Newfoundland, to Scotland; first on the 17th of January, 1818, about 15 miles from the port which she had just left, and afterwards, in the same month, between the 47th and 48th degrees of latitude. The first field was upwards of seven miles in breadth; but its northern limit could not be seen. The second was also very extensive, and carried an immense iceberg on its centre. On the 30th of March, 1818, the Fly, sloop of war, passed between two large islands of floating ice in latitude 42° North. On the 2d of April, 1818, Captain Parry encountered some icebergs in latitude 42° 20′ North. In 1845 the Rochefort was shut up, in the end of April and beginning of May, during 21 consecutive days, in a mass of floating ice, which stretched along the Banks of Newfoundland, and was moving in a southerly direction.

The sea becomes less heated than the land, which is chiefly owing to the water being transparent. Whatever occasions variations in this transparency will therefore cause a sensible change in the temperature of the sea; immediately after in that of the atmosphere above the ocean; and at a later period the continental atmosphere will be affected. Does there exist beyond the scope of science causes which may disturb the transparency of the sea to a great extent? I reply as follows:—Mr. Scoresby has stated that in the northern regions the sea is sometimes of a deep olive-green colour; that this tint is owing to Medusæ and other animalculæ; and that wherever this green prevails, the water has very little transparency. Mr. Scoresby sometimes met with stripes of olive green, from 150 to 300 miles in length, and from 25 to 37 miles in breadth. The currents carry these from one place to another. We cannot suppose that they exist permanently, for Captain Phipps, in the account of his voyage to Spitzbergen, does not mention them. As I have just stated, the green and opaque sea ought to acquire a different temperature from that of the transparent sea. This is a cause of variation of temperature which we cannot bring under our calculation. We can never foretell whether in such and such a year these millions of millions of animalculæ will be more or less abundant, and whether or not their migration will be towards the south.

The phosphorescence of the sea is owing to animalculæ of the Medusæ genera. The phosphorescent regions occupy very large spaces, sometimes in one latitude, sometimes in another. Now, as the waters of the phosphorescent spaces resemble a jelly, as their transparency is almost entirely annihilated, they may become, by the abnormal heating to which they are subject, a notable disturbing cause of the temperature of the oceanic and continental atmospheres. Who can tell beforehand the place which this cause of thermic variation will occupy, who can foresee its intensity? *M. Arago, in Flore des Serres et des Jardins de l'Europe.*

(*To be continued.*)

KEEPING ROOTS, WITH SOME REMARKS ON WINTER VEGETABLES.

During an interview which I had some time ago with Joseph Hume, Esq., M.P., he directed my attention to the Beet-root, which he stated was a great favourite of his; since then I have been considering the best plan of keeping roots over winter, such as Beet, Parsnips, Carrots, Turnips, Scorzonera, Salsify, &c. It is well known that all these roots are tender and digestible when cooked in October, while towards the new year they begin to boil tough, and are indigestible; this has led me to believe that we are wrong in our mode of wintering these roots, which we treat somewhat unnaturally. The usual plan is to take them up when they have done growing, and to store them away in some dry place, mixing dry mould or sand with them; this draws out that moisture with which nature has furnished them (leaving them in a shrivelled condition), to assist the next year's growth, or to help to cook themselves; take the Potato for instance. This valuable tuber boils mealy and fine when ripe and just dug out of the earth, but towards the new year it boils tough and close unless it is peeled and steeped in cold water 10 or 12 hours before boiling; the steeping in cold water fills up the cells and again floats the granules of starch; and when the water in the cells gets heated, either by boiling, or steaming, or by dry heat, the starch absorbs the water and begins to swell, bursting the cells, and what water is not wanted for the absorption of the starch is discharged—proving, I think, that the water in the pot, or heat of any sort, is merely the medium of communicating heat, and that the water in the Potato cooks itself (starch being quite insoluble in cold water). If this, then, is the case with the Potato, the same natural laws must be followed with regard to other roots, and if therefore they cannot be left in the ground where they grow, let them be taken up and again put in thickly in a more convenient place, so that none of the natural moisture may escape, just covering them over with straw to keep out frost; and in the spring, when they begin to show symptoms of growth, take them up and put them in a cold place, to prolong their season. In towns, however, where vegetables are much exposed, I strongly advise steeping many hours before cooking; and as they form an important part in the animal economy too much attention cannot be given them. I have never left the Potato in the ground on purpose for cooking during winter, but this year I intend to do so, merely covering it over with a little straw to keep out frost, as is done in the case of July planted Potatoes to come in in winter. Every gardener knows that in ground where Potatoes have been, there are always some left. I have boiled such leavings for several springs and found them far superior to exhausted and dried-up Potatoes that were lifted in autumn. It must be borne in mind that when a Potato is once properly ripened it never absorbs any more moisture, and the starch cannot be harmed, as that is, as I have said, insoluble in cold water. I think, therefore, that the day is not far distant when we shall only lift our Potatoes and roots out of the ground as they are wanted for use. Lord Middleton, with whom I once lived, grew a great number of acres of Carrots for deer. These were lifted, heaped up in a yard, and covered over with Ferns, and towards spring, under this treatment, they were as firm and good as when fresh dug up. The principal Parsnip growers for the London markets never take up their crop until the day previous to sending to town. Managed in this way they boil soft and are delicious, but when exposed in shops for several days they lose all their natural moisture, and if not again steeped, look hard, tough, and are quite indigestible. It has often been remarked how well the market gardener in winter forces his Rhubarb, Seakale, and Asparagus, merely by a little bottom heat, and the use of straw, rain, and air being permitted to act upon them. How delicious and tender they boil, compared with those grown in a pit heated by hot water or flues, and carefully guarded by glass, mats, &c.! Gentlemen coming to town find those things so good that they complain at home. Take Celery again. Market gardeners always use strong unfermented dung for this crop, such as horse, cow, and all other rich manures; in fact, all vegetables grow rapidly with plenty of rich moisture at their roots, Celery in particular. Then the management must be considered; the London growers never mould up their Celery until it is three parts grown. In this way the sun, air, and rain all act freely on their roots, and when they do mould up it is done with a spade, and not kneaded in with the hands.

I ought to mention, however, that market-gardeners have no bailiffs to contend with, as to who is to have the next barrowful of dung. In my anxious desire to produce good vegetables, while in private service, I have often been obliged to steal manure in the absence of the bailiff. Gardeners are expected to furnish good things without the means, as if it were possible to obtain them by magic. The market-gardener is continually amongst his crops with spades, forks, and hoes. Vegetables quickly grown invariably pay him best, and they are always the best flavoured, more tender, easier to cook, and more digestible; and as Mr. Errington said in his review of my market-gardening papers: "These men are sharpened by high rents and severe competition, which make them the best gardeners in the world."

The above proves, I hope, that no fruit or vegetable can

acquire that goodness of which it is capable without liberal cultivation, and a fair proportion of rich manure water. If things are left to natural laws they are never so mismanaged as when we interfere with them. We can greatly assist Nature, but the moment we attempt to pervert her operations we have to pay dear for it by eating indigestible food. The foregoing remarks go far to prove that autumn-planted Potatoes have a better chance of retaining their strength than tubers taken up and put by in heaps, carefully covered with straw and mould; and to prevent such Potatoes rotting in the ground, they ought always to be planted whole; insects and wet cannot then injure them.

In conclusion, I hope soon to see many new winter dishes at our tables not now in use, such as boiled Mustard, ripe Vegetable Marrows, and even those ripe green-skinned Peas, steeped in warm water for twelve hours, to float the starch and swell the gluten. They make a capital dish. The summer brings plenty. It is in the winter that we ought to try to provide more food. I am sorry still to find writers recommending the old hackneyed plan of growing that famous winter vegetable Seakale. The London market gardeners are as yet the only persons who have improved upon its growth. If private gardeners were to take to their plan of cultivating it, instead of having it once or twice a week, families would enjoy it every day all the winter, and at no more expense. *James Cuthill, Camberwell.*

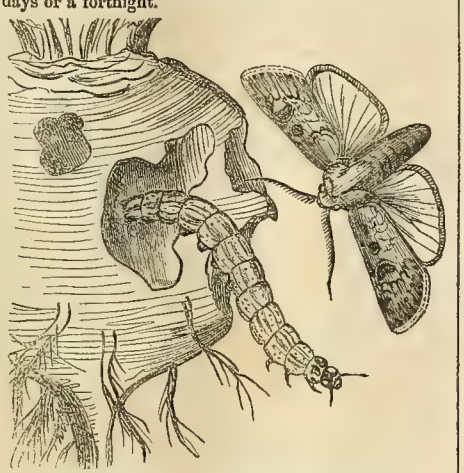
ENTOMOLOGY.

The Common Dart Moth.

The periodical development of vast numbers of individuals of certain species of obnoxious insects is one of those phenomena of the science of entomology which require more attention than has yet been bestowed upon them. To a certain extent, indeed, there seems to be no fixed number of years for the reappearance of these pests; and perhaps if we regard the peculiarities of the atmospherical changes, as mainly influencing their development, we shall not be far from correct. The extent, however, of the atmospheric influences upon the hatching of the eggs of insects has never been thoroughly investigated; and the few facts which have been observed would evidently lead the enquirer to curious and unexpected results.

In certain seasons the Turnip crops are injured to a very great extent by a large fleshy species of grub or caterpillar, which gnaws holes in the bulb, and so injures or even entirely consumes the interior of it, leaving only a portion of the rind untouched. It is during the autumn and early winter months that the chief mischief is effected, and it is then, of course, that the injury is the more annoying, as the plants, having survived all the attacks of their enemies during their growth, have at length matured their bulbs, which are now ready for housing. So numerous are they, indeed, occasionally, that we have seen a Turnip field in Oxfordshire in which scarcely a single plant could be pulled up without having several of the caterpillars within their burrows in the bulb, or at least without the bulb being burrowed. In consequence of such attacks upon the Turnip, this insect was proposed as the subject of the Entomological Society's prize essay for 1839. It is not, however, by eating into the bulb that these grubs are injurious to the plant, since we learn from Mr. Le Keux's excellent prize essay upon the Turnip fly, in the second volume of the "Transactions of the Entomological Society of London," that the grubs gnaw the crown of the root across, and will also eat the leaves of the plant. "The grub," says that writer, "is also a very formidable assailant in the more advanced state of the plant, near to which it forms a round hole in a vertical direction (in appearance like that of an earth-worm, but open at the top), about two or three inches deep in the earth. At the bottom of this it remains during the day (unless it be dark and moist), and at night emerges from its burrow and commences an attack upon the plant by eating round the neck of it, and eventually detaching the upper part from the root, or a single leaf is eaten through at the stem, and when fallen on the ground the nearest edge is dragged to the burrow, where it is drawn in and devoured during the day." Although the larva is generally full-grown in August and September, various instances are recorded of its being also found both as late as November and December, and as early as the first week in June; it is also certain that they do not confine their ravages to the Turnips, but attack the roots of a great variety of plants; and in Germany, Kollar informs us ("Treatise on Insects injurious &c.," translated by the Misses Loudon, p. 94), that it is called the winter corn moth, from its attacking both the leaves and the roots of corn in the winter; and by eating them off it destroys the crop, so that whole fields have to be ploughed up. It will also attack the roots of Lettuce, Spinach, Beet, &c.

The caterpillar, when full grown, measures more than an inch and a half in length, cylindrical, like a small quill, with six pectoral, eight ventral, and two anal feet. It is of a shining dirty greyish ochre colour, with a dark double line along the middle of the back, and a lighter one on each side; the body is clothed with a few short bristly hairs, which chiefly arise from minute black points, placed at different parts; the head is horny and ochre coloured, and the segment succeeding the head is brown, with three pale lines down its back. It passes the winter within an egg-shaped ball of earth, at the depth of two or three inches below the surface, and on the return of spring it leaves its cell and again renews its attacks on the roots of vegetables till about the month of May, when it assumes the chrysalis state, being of a rich brown colour and very glossy. The moth appears in about a month afterwards, varying from the end of June to the beginning of August in the period of its arriving at the winged state. The perfect insect is a moth belonging to the family Noctuidæ and genus Agrotis, and is specifically named A. segetum, the common dart moth, from the dart-like marking upon the fore-wings of the typical varieties of the perfect insect. It measures about an inch and three-quarters in the expansion of its fore wings, which are of a clay colour and freckled with brown, with two contiguous slender waved black lines near the base, a ring with a black circle and a dark centre on the disc, accompanied by a large dark-coloured ear-shaped mark, and a row of black marks adjoining the base of the fringe. It is, however, extremely varied in the colour of the wings and the distinctness of their markings; many of the varieties having been described as distinct species. The hind wings are pale white, with a slight opalescent tinge; the antennæ of the males are feathered, while those of the female are simple. The latter deposits her eggs in the earth in the month of July and August, and the young caterpillars are hatched in the course of ten days or a fortnight.



Various remedies have been suggested to prevent the attacks of these grubs. Mr. Le Keux found that a quarter of an ounce of salt dissolved in a quart of water and poured upon a Turnip-root infested by them would quickly have the effect of driving them away. Children might also be advantageously employed in digging them out of the ground, as they are easily found, Mr. Le Keux having collected upwards of 30 in half an hour; but the keenest searcher for, and destroyer of them is the rook, which ought consequently to be protected; poultry and ducks may also be similarly employed. It has also been suggested that great numbers may be collected by searching for them after dusk with a lantern, upon the leaves of the Turnips, as it is then that they leave their burrows and come above ground. Slacked lime or dry soot laid at the roots of the plants will also be found excellent preservatives; hot soap-suds, also, poured over the plants will cause them to quit their burrows, when they must be immediately caught and killed. *J. O. W.*

Home Correspondence.

Plants increase in Bulk in the absence of Leaves.—Surely no one could have doubted that leaves, fully developed, might be removed without much injury, from plants not intended for flowering or seed. It is what all agriculturists do who feed their Clovers and Grasses. I have this season beheaded thousands of Cabbages, whose bare stalks have thrown out a number of very useful shoots. If our object is to prevent maturity, we cannot do better than remove the leaves, but woe betide the unfortunate wight who takes off young leaves, or partially developed ones, during the growing season. With a burning sun and a moist substratum, how indiscreet it would be to remove those great evaporating and breathing surfaces that leave in the circulation of the plant solid food for man or beast. I have known great injury result from such operations. In my case, irrigation would supply to the roots the carbonic acid and ammonia that would be obtained by the leaves, but the cutting operation should not be performed under ordinary circumstances during medium or early growth. In this part of Essex we often hear that better Wheat is grown after Clover twice mowed than on Clover closely fed all the summer. This is easily explained; sheep being continually seeking out the youngest leaves or shoots, prevent the development of root; and the root of the Clover is of course the food for the ensuing crop of Wheat—the more leaf the more root, and *vice versâ*. Wise farmers avoid close and early feeding with sheep; they bite so near to the ground. It is on this account that Grass fields will support more of cows or bullocks, their thick lips prevent their taking the very youngest shoots. I am sorry to see you "snub" our great agricultural friend Liebig; I do consider him the Sir Isaac Newton of agricultural science and progression. *J. J. Mechi, Tiptree-hall, Kelvedon, Essex.*

Cuthill's Plan of Growing Potatoes.—Amongst all the various methods that have been tried for the improvement of Potato growing, none appear so practicable, and at the same time so efficacious and inexpensive as that given to the public by Mr. Cuthill, of Camberwell. Newspapers and journals, both English and foreign, have for years past contained antidotes and systems of cultivation without end; some, doubtless, have answered in certain districts, as is proved by the evidence of the parties adopting such plans; but that they are not based on sound principles seems evident, because, how frequently do we next season read of some great failure of a crop grown on the same system. It is difficult to call to mind all of even the most feasible propositions that have been published; but having been a close observer of them, from a great anxiety I have always had to obtain the best information on the subject, I can remember none that go so thoroughly into the matter as Mr. Cuthill. The basis of his success is proper treatment and preservation of the seed; and it is due to him to say that since I have adopted his plan of thoroughly ripening the roots required for that purpose, I have had not only a very considerable falling off in the quantity of diseased tubers, but the yield has also been much greater. My plan of "greening" the sets is to allow them to remain on the land for some days after the large Potatoes have been picked off. Instead, then, of storing them in pits, I spread them thinly on a barn floor, or any other cool dry airy place on the premises, taking an opportunity now and then of turning the lot over, so that they all come in for a share of air and light, by which means they are not forced by their own heat into making weak shoots, which are broken off when the seed (sets), is taken from the pit. I have no interest in writing on this subject beyond the desire of supporting a system that appears to answer. This year the Potatoes almost immediately adjoining my land are scarcely worth raising, and of bad quality; out of 500 sacks, I have but 39 diseased, and 86 small tubers for seed; the rest are fine and mealy, and have been sold at 95*s.* per ton in Covent-garden. In my own garden I had six varieties of Potatoes; our early Kidneys from my own "greened seed" were sound, five other new varieties bought this season in London were nearly all diseased, fully three-fourths, both in my own garden and also in the garden of a gentleman some miles from here, to whom I gave a portion of each lot. Should any one doubt the utility of the above plan, I should strongly advise them to try it on a small scale, and wish them the same success that has hitherto attended the adoption of it with me. *E. Compton, Water Newton, Wansford, Nov.* 8.

British Orchids and other Native Plants.—I was glad to see a Leading Article, at p. 675, devoted to British Orchids and their culture, and the experience and opinions of other correspondents have added much to the subject. I am, however, somewhat surprised at your Hawick correspondent affirming the Cypripedium calceolus to be pretty plentiful in a certain locality which he declines naming. I mentioned some weeks ago that Castle Eden Dean, an extensive range of woodland (seemingly natural), on the east coast of Durham, was the only place where this singularly beautiful plant was known to be found in a wild state some years ago. That a more extended research may have detected it in other localities is probable; a lapse of 20 years being sufficient to make many discoveries. I feel constrained to observe, however, that the taste for British plants is not greater now than it was then, and that that enthusiasm which carried a young gardener over dozens of miles in search of rare species of plants is certainly on the decline; a pleasure excursion by rail to some fashionable place being more the order of the day. However, in regard to uncommon plants, I can tell your Hawick correspondent that the little unassuming plant which bears the name of the great Swedish botanist was, at the period I speak of, found in a plantation at the southern extremity of Elsdon Moor (about the centre of Northumberland). This humble plant I remember seeing growing in a greenhouse somewhere, and it is, I believe, pretty common in Scotland, but it disappears as the journey is made southwards. Following out other rare plants, can any one tell me where the Ground Pine, Ajuga Chamæpitys, is to be found? A gentleman informed me he had seen it on an elevated position in Kent some years ago, but more recently he had been unable to find it; and I know that the Bee and other pretty flowering Orchis are becoming more scarce, in consequence of their extensive removal by parties trying to cultivate them. Now, though I have always been an ardent admirer of British plants, I have seldom seen them at all pleasing when in a cultivated state; witness the miserable attempts to grow and flower the Menyanthes trifoliata; the Pyrola, little better; and the Hydrocotyle vulgaris, Narthecium ossifragum, and Drosera rotundifolia are never so interesting as when found wild, while the more gay flowering plants seem so far behind exotics as ornaments to our parterres, that their cultivation has mostly ceased, except with those who wish for novelty rather than beauty. In the gardens of this class we may occasionally see beds of Veronica Chamædrys, Myosotis vulgaris, Glechoma hederacea, Lysimachia nemorum and some other plants, which some have had the temerity to put on the "bedding list;" yet after all, their appearance is so like that of weeds that it is difficult to persuade an ordinary observer that they are the legitimate occupants of the beds. I am far from saying, however, anything in the way of discouraging the growth of such interesting plants as British Ferns and Orchids; and in reporting the failures of those who have attempted the latter, I hope to have only stimulated the aspiring cultivator to increased exertion, to overcome those difficulties which his

predecessors have met with. That they may be cultivated, I never denied; in fact in this age it is hazardous to say what cannot be effected. What I have endeavoured to show was, that some are so scarce and so uncertain that I fear their growth and cultivation can only be carried on at a sacrifice which their intrinsic worth would hardly justify; still others may think differently. *H. L. T.*

Millet.—The following account of the uses and cultivation of Millet is translated from the "Bon Jardinier." "Panis d'Italie, ou Millet en grappe. Italian Millet. Panicum italicum et M llet commun. Panicum miliaceum. The culture and use of these two plants are nearly the same. Neither one nor the other is ever cultivated as food for man, except in the south of Europe. They require a good soil, better light than strong, well worked and manured. They are sown thin and broadcast, rather late—that is, in the north and centre of France from the commencement of May to the end of June—as they are very impatient of frost. It is expedient to weed and hoe them. These plants furnish a good green forage when sown thick; their straw, particularly that of the common Millet, is likewise an excellent food for oxen." To the above I may add that I have seen the Italian Millet cultivated in the Island of St. Michael's for the purpose of making brooms; the stalks were allowed to ripen well, gathered and cleaned, cut into lengths, and split into small splinters, possessing almost the toughness and elasticity of whalebone. They were then converted into a variety of useful and ornamental brooms for domestic purposes. The grains were used for feeding birds, and for other minor purposes. *P. Wallace.*

Extraordinary High Tide.—On Friday, the 12th inst., the tide rose higher in the Thames, at Chiswick, than it has been known to be at any time in the present century, at least. It rose to a great height on the 28th December, 1821; but in no later instance has it been so high until Friday last, when it was 4½ inches higher. Judging from the fall of rain, the quantity of land-water finding its way to the Thames must be greater now than it was in 1821. The water in a well in the garden of the Horticultural Society, at Chiswick, is 6 feet nearer the surface of the ground than it was at this time last year. Trees that have had the extremities of their roots in dry loam for years are at last irrigated from below. *R. Thompson.*

Out-door Figs.—Contrary to the advice given at p. 710, I would recommend "H. R." not to remove the autumn-formed Figs, for if the winter should prove mild many of them will swell off early in spring, and he will be able to gather ripe Figs by the end of July at least, which has been the case here. We have three trees trained on the wall of a stable, and they have borne abundance of ripe fruit since July, quite equal to any that are grown under glass. Our trees are covered with Figs now, which I shall leave to take their chance for another year. *G. Archer, Finedon Hall, Nov.* 11.

Hardy Gardening under Glass—My attention has been attracted for the last few years to the loss of some of our finest fruits by spring frosts, particularly in the southern and midland counties of England; and as a good deal has been brought before our notice of late, respecting the protection of these trees, I beg to suggest a plan which may perhaps bring out something of importance on the subject from experienced gardeners. The plan in question would not only afford permanent protection for our trees most liable to be injured, but would alter the general appearance of gardens, and do away in a great measure with those clumsy and expensive brick walls, which at best are only a one-sided protection. Although vast improvements have been made within the last few years, in gardens, they still appear to me too mixed and confused. How frequently, for instance, do we see in a range of glass greenhouses, Vineries, Peach-houses, and sometimes Pine-pits, all huddled together; the Vine and Peach borders often covered with litter, frequently a flower garden in front of these houses, and the borders mixed up with herbaceous plants, Currants, &c. This I consider to be neither in accordance with good taste nor with proper management. I should say that an arrangement like the following would be more in character:—first, conservatory, or show houses, should be adjacent to the mansion or pleasure ground; secondly, the fruit garden should be divided into two departments, the tender and hardy; and, lastly, the vegetable ground should be also a separate department. I will now proceed to exemplify my plan for the permanent protection of tender fruit trees, and which I consider to be alike convenient, efficient, and economical. I would propose having successive rows of span-roofed houses, running parallel with each other south and north: say, No. 1, Peaches and Nectarines; 2, Apricots, Cherries, Plums, tender Pears, &c., to come in succession. Houses situated in this way would command the morning, mid-day, and afternoon sun; consequently, fine and well-flavoured fruit might be expected, while there would be every convenience for ventilating, training, fumigating, syringing at any time, and in any kind of weather. Another grand point attained would be well-ripened wood, without which there can be little success. There being a double row of trees in these houses, there would be, consequently, a double chance, and a large produce in a limited space might be expected. If it were desirable, forcing-pits and houses might be built, in harmony with the orchard-houses, and then there would be a forcing and tender fruit garden complete. The hardy fruit garden, comprising Apples, the hardier sorts of Pears, Cherries, Plums, Currants, &c., should have the trees planted in rows, and either trained on trellises or on pyramidal frame-work, according to taste. Thus there would be every convenience for root-pruning, which, by the way, is of far more importance to fruit trees than many persons are aware of, while the trees would be exposed to the full influence of the weather, their season of bloom retarded, and consequently saved. I have been strengthened in this opinion from observing that trees, planted in what is termed a favourable situation, against the south side of a wall, are the first to be cut off in spring, and often when provided with the usual protection; while, on the other hand, trees of a similar sort, planted in the open ground, have been safe from injury. I am inclined to think that at the cheap price of glass, and with the proposed modification of walls, gardens of the kind I have just described could be laid out at a corresponding expense to that encased by the old plan; of course the extent of these alterations would be regulated according to the means and requirements of those contemplating to make them. Garden walls have long appeared to me to have a gaol-looking appearance in a nobleman's or gentleman's park; of course walls or fences can never be entirely dispensed with, but in the above plan they would not be required for affording the means of training or protecting fruit trees from the weather, and certainly they could be greatly modified. I think there is ample room for a little controversy among practical gardeners on this subject. Gardens laid out in the way I have mentioned would certainly have a beautiful and agreeable effect. On leaving the pleasure ground you would enter the tender fruit garden; then you would proceed to the hardy fruit garden, and lastly you would visit the kitchen garden. I would have the trees trained immediately under the glass on either side of the span-roofed houses, which I would set on arches, so as to admit the roots reaching the outside border. The houses might be ventilated at top and at bottom, the latter by means of wooden sliding shutters; but if desired, the ventilation might be on the most modern and approved principle, and wrought by machinery. *James Russell, Gardener to Lieut.-Colonel Ames, The Hyde, St. Alban's, Nov.* 10.

Snails (see p. 645).—The best way of keeping down snails with which I am acquainted is frequent hoeing between the crops, both summer and winter, when the weather will permit, and more especially during hot and sharp cold windy weather. Never let decayed vegetables lie about the ground; one of the greatest encouragements for snails is that slovenly plan of trimming vegetables on the ground where they grow; in every garden there ought to be a bricked pit to receive all rubbish and vegetable trimmings. For the last 14 years I have followed this plan strictly, of leaving no decayed vegetables lying about the ground, and no corners for rubbish; and since that time I have not known what it is to be troubled with snails. *G. Taber, Rose Cottage, Rivenhall, Witham.*

The Guernsey Lily.—This showy autumn-flowering Amaryllid is exceedingly useful for supplying cut flowers, or for intermixing with small plants, which hide its long and somewhat unsightly stems, and show off its brilliant blossoms to advantage. The plant has never been very extensively cultivated in this country, owing doubtless to the fact that, under the ordinary mode of treatment, the bulbs are of no further use after flowering; and hence a supply has to be purchased annually, incurring a considerable expense, for the bulbs have always been comparatively costly. There is, however, no good reason why the necessity for these annual outlays should continue; for, with proper treatment, the bulbs will flower year after year, and produce a plentiful crop of offsets. The bulbs should be procured early in September and planted at once, say three in a 6-inch pot, using light sandy soil in a moist healthy state, and the pots should be placed in a cold frame near the glass, or on a front shelf of a greenhouse, or wherever they may be likely to receive abundance of light and air. Growth will commence at once, and the soil should be kept properly moistened, and the flower-stems supported by neat stakes. While in bloom place them in a dry cool airy situation and give a liberal supply of water. When the beauty of the flowers is over, instead of starving the bulbs in the handful of soil in which they have been blossomed, as is usually done, have ready a box 12 inches deep and of a convenient size, in which to plant them in the following manner. Having first properly drained the box by placing in the bottom an inch of broken potsherds, covered with a layer of turfy pieces of soil, and having a quantity of good, fresh, nicely broken up, sandy loam at hand, turn the bulbs out of the pots, and single them out with as little injury as possible to the few roots they may have. Plant them in rows 6 inches apart and 6 inches asunder in the rows, spreading out their roots in as natural a form as can be done, keeping the crown of the bulb about level with the surface of the soil, and this as high as the edges of the box. Give a gentle watering after planting, with a view to settle the soil, and place the box in a cold frame near the glass, or where more convenient, provided a temperature of 40° can be maintained, with plenty of air on mild days. The necessary attention during winter will be simply that required for greenhouse plants generally. Managed in this way the space occupied will not be very considerable, and it is evident that there will be ample room for the roots, and every necessary condition towards the growth and ripening of the bulbs. When the foliage shows indications of decay, which will be the case towards the middle or latter end of April, gradually discontinue water, and when the leaves die off, either take up the bulbs and store them in a dry place, or remove the box to a cool dry situation until the proper season for promoting growth has arrived. They may be left in the box to flower, or potted in the usual manner. It will be necessary, however, to transplant every second or third year, otherwise the bulbs will be too close together, will be imperfectly matured, and, in consequence, will flower weakly. *A. B.*

Societies.

Royal Horticultural of Cornwall.—The annual meeting of this Society took place at Truro, on Monday last, by adjournment from the 28th ult. The report was adopted, and the usual annual business transacted. Sir C. Rashleigh was elected President for the ensuing year, and the treasurer and secretary were reappointed. Some slight alterations were made in the prize list, and the exhibitions for the ensuing year were appointed to be held, the first two at Truro, on the 17th of May and the 8th of July, and the third at Falmouth on the 13th of September.

Notices of Books, &c.

How should an Income Tax be levied? By J. G. Hubbard, Esq. (A pamphlet.) Longmans.—A most able explanation of the practical mode of obviating the hardships and equalising justly the burden of the income tax. The author's conclusions are:—

"1. That direct taxation, if it be continuous, should be levied upon *income*.

"2. That incomes may be divided into three classes:—1. The products of property. 2. The products of property and labour combined. 3. The products of labour.

"3. That the incomes of the 1st and 2d class are exclusively the proper subjects of taxation.

"4. That the limit of expenditure in each class should be the limit of assessment for taxation.

"5. That the vast increase in the property or capital of the country establishes the fact that a large proportion of annual income is saved.

"6. That for the purpose of their relative assessment, incomes of the first class may be assumed to be expended in the proportion of 9-10ths, and incomes of the 2d class in the proportion of 6-10ths.

"7. That if, while on incomes of the 1st class the rate of assessment is 9, the assessment on incomes of the 2d class is more than 6, the latter is partially an assessment on capital.

"8. That when, as in the case of terminable annuities, capital and interest are combined in the same payment, the income tax should be levied on the interest only.

"9. That income of the 1st class is not affected in its liability to the highest scale of assessment, by the tenure of the possessor."

A few words on the Crystal Palace Question. By C. J. Vaughan, D.D., Head Master of Harrow School. (A pamphlet.) Murray.—Whether or not the public should be allowed to frequent the Crystal Palace on Sundays is a question on which we cannot touch. We may, however, give Dr. Vaughan's opinion upon the subject. The reverend author says that "it cannot be pretended, when the question is fairly examined, that the perpetuation of the Jewish Sabbath is either enjoined, or by implication encouraged, in the words or writings of the first disciples and Apostles of our Lord. How shall we account for the total omission, amidst precepts so multiplied upon every point of Christian duty, of all reference to the obligation of the Sabbatical rest? From whom, if not from the apostles, could the Gentile Christians derive their knowledge of its existence? Yet no direction is anywhere to be found for its observance, nor yet any reproof for the neglect of it. In the only passages in which a clear reference to it occurs in the Epistles, the language employed is that either of indifference to its retention, or even of rebuke for its revival. We do indeed find traces in the New Testament of the existence of *another* day of weekly observance; a day on which the disciples came together to break bread; on which it was natural to collect their offerings; to which (before the last of the apostles was called to his rest) was already appropriated the title of the Lord's Day. But that this day was neither identical with the Jewish Sabbath, nor substituted for it by any formal act of transfer, is sufficiently proved by the remarkable circumstance, that there were in the primitive age churches in which *both* were observed—Saturday in remembrance of the Mosaic Sabbath, Sunday in commemoration of the Redeemer's resurrection. By what right shall we assume that, when the former observance died out, the latter was invested with its distinctive attributes? or that, in congregations where the former had never been practised, the latter had been, all along, synonymous with an institution with which (to judge from existing records) they had never been made acquainted."

Further on Dr. Vaughan observes that "the question is not, what is it lawful, what is it wrong, to do on the Sunday? how can I so employ it as to avoid breaking God's law and incurring God's displeasure? but rather, how can I derive from it all possible good? how can I turn to the best account, for myself and others, in sou

and body, the blessing which God has thus conferred upon me?"

He then remarks that "whatever tends to refresh the mind and body without the stimulus of an undue excitement, will be, in itself, a desirable occupation for the Christian Sunday."

"I have no sympathy," he adds, "with an outcry founded in whole or in part upon what appears to me to be an untenable notion of the nature of our Christian Sunday. And I confess that I could forgive a statesman who should receive on the present occasion with deep suspicion the remonstrances of men who but three years ago fostered and aggravated the same outcry on a plea which the slightest examination would have shown to be fallacious. Those who have lent themselves in former instances to swell the chorus of an ignorant and fanatical clamour, have no claim to attention now but that which the actual merits of their case may furnish them."

In conclusion, he declares AGAINST the Crystal Palace being accessible on Sundays.

We have no doubt our readers will wish to know in what manner this apparently illogical argument is conducted, for which we must refer to the pamphlet itself.

Garden Memoranda.

THE NEW CRYSTAL PALACE AT SYDENHAM.—It is now pretty well known that the site chosen for the re-erection of the Crystal Palace is an irregular parallelogram of about 300 acres, extending from the Brighton Railway, where it has a frontage of 1300 feet (between the Sydenham and Anerley stations), to the road which borders the top of Dulwich-wood, where it has a frontage of 3000 feet. The fall from this point to the railway in question is stated to be about 200 feet. It was at once felt that the most eligible position for the new building was on the summit of this hill, and immediately adjoining the road. The building placed in so commanding a situation will be visible from London on the one side, and from a vast extent of country on the other. The only little inconvenience attending its erection on a hill is the want of water to supply the various fountains with which the terrace garden and park are to be decorated. This, however, is to be overcome by boring for it at the bottom of the park near the railway, and raising it in pipes underground by steam power to a large reservoir at the north end of the building, to the top of a tower, on which it will be again pumped up, so as to give sufficient fall for the gigantic purposes to which it will be afterwards applied. Notwithstanding the wetness of the weather, the heavy operations connected with the formation of the terrace garden and the ground work in the park are now in rapid progress. About 1000 labourers have been employed for the last three weeks in levelling the ground, and forming basins for the various fountains, &c. As yet, however, nothing has assumed its proper form; and therefore, to an ordinary observer, all is in the meantime apparently confusion. We understand, however, that everything will be on a grand scale, so as to correspond with the noble building itself. We learned from Mr. Milner, to whom the carrying out of the work has been entrusted, that on the park side of the palace, and running parallel with it during its whole length, will be a raised terrace walk 48 feet broad, which will be approached from the basement floor of the building immediately under the centre transept (for it is to have three) by a flight of granite steps 120 feet wide. This walk will be furnished on the side farthest from the palace with balustrades and bastions, which will overlook a Grass slope 50 feet wide; and then a terrace garden ornamented with flower beds on Grass, fountains, shrubs, and trees, and intersected in various directions by broad gravel walks. This garden will be 300 feet in breadth, closed in at the ends by the two projecting wings of the palace, and cut off from the park by an ornamental terrace wall, also furnished with bastions and balustrades. The two projecting wings of the building will terminate in two towers, each 96 feet in height, from which, as well as from the various bastions, a fine view of the terrace gardens, the park, and the wide spreading valley beyond, will be obtained. The most extensive view of the surrounding country, however, which is on all sides highly picturesque, will be had from the building itself, along whose whole length we learn there is to be an open colonnade. A walk 96 feet broad will lead, by a flight of steps of the same width, from the centre of the terrace garden to a fountain and circular basin, 192 feet in diameter, at a little distance in the park: and after passing round this basin, will proceed in the direction of Penge Church, till it terminates in another circular basin and series of magnificent fountains, whose equals will only be found in such great gardens as that of Chatsworth itself. To give some idea of the magnificence of the display that may be expected to be found here, we may mention that the centre column of water will rise 230 feet in height; around that will be four fountains, each 120 feet in height, and these again will be surrounded by 16 others, each 72 feet in height. Nor is this all; there are other groups as grand, besides multitudes of smaller decorations of a similar character, which in themselves will doubtless be worthy of Sir Joseph Paxton's skill and experience in the construction of such matters. On the south-east side of the great fountain just described will be a lake covering 5 acres of ground; other ornamental water will chiefly consist of two stripes on either side of the principal walk, just below the first fountain. These are to be each 450 feet in length, and will be fashioned into cascades, which will fall into broader pieces of water on the right and left of the walk, and lying at right angles to it, each 1000 feet long. These two latter pieces will each contain fountains of great power and beauty, so that there will certainly be no want of decorations of this kind, which tend so much to set off pleasure-grounds to advantage. On two little knolls on either side of the principal walk, but at some distance from it, will be a flower garden with an arbour or some erection of that kind in the centre, and all round these, as well as in the neighbourhood of the fountains, and indeed all in front of the terrace garden down to the south-east extremity of the ornamental water, will be dress ground, interwoven with walks, margined with flower beds and shrubs, of which it will be seen an immense quantity will be required both for this portion of the park and for the terrace garden. Report says that 50,000 scarlet Pelargoniums have been contracted for. Sir Joseph Paxton, however, we believe possesses classified lists of what plants of the kinds wanted, English nurseries are capable of supplying; but with respect to purchases little definitely has been done, with the exception of the buying Messrs. Loddiges' collection mentioned at page 616. It will thus be seen that the gardening operations connected with this great undertaking are as yet comparatively in their infancy, and that the directors will have much to do before all that we have mentioned above shall have been completed. Beyond the dress ground will be the open park, the Anerley side of which, where there is a considerable extent of wood and thicket, will be converted into a kind of gypsy ground, by forming walks through the wood; but not otherwise materially altering its natural character. This will afford an agreeable and cool retreat from the scorching heat of a summer's sun. By way of conclusion we may mention that a new branch railway from Sydenham will set the visitor down on the south-east side of the park, at the end of a glass covered walk, 48 feet broad, which will connect the station with the palace.

MESSRS. LANE'S, GREAT BERKHAMPSTEAD, HERTS.—We visited this nursery about 10 days ago, and were delighted to find some of our most favourite autumn Roses still in bloom. A beautiful bouquet was gathered of the following kinds, viz:—Noisette: Ophirie, a fine pale salmon-coloured variety; and Aimée Vibert. Hybrid Perpetuals: Duchess of Sutherland, La Reine, Comte Robinski, Marquis of Ailsa, Jacques Laffitte, the glorious Géant des Battailes, and Standard of Marengo. Among Bourbons there were Madame Angelina, and others; and among Teas, Comte de Paris and Safranot, which is so fine in the bud state. The Hybrid Perpetuals, Bourbons, and Noisettes have flowered very late here this season, and have retained their foliage well, owing doubtless partly to the comparative absence of spot or rust, which is apt to attack Roses in autumn and cause them to shed their leaves early, and partly to the nature of the situation in which they grow. We were glad to learn that Géant des Batailles, which we need scarcely say is one of the most brilliant varieties we have, is not only one of the earliest but also one of the latest of Roses. A large span-roof house has lately been erected here for the accommodation of half-hardy plants, and among other things of interest in it we noticed a large quantity of standard and pyramidal Bays, and Portugal Laurels, which have been so much enquired after of late, and which are so well fitted to take the place of Orange trees on lawns, or where the Italian style of gardening is adopted, &c. There were also here quantities of fine plants of the handsome yellow Rhododendrons which Messrs. Lane exhibited with so much effect in the Crystal Palace and elsewhere last year. This house also formed a shelter for Peaches and Nectarines in pots, as well as for multitudes of Roses in 6-inch pots for forcing purposes, and for turning out into beds in the flower garden in spring. Specimen Tea Roses, in pots, for exhibition, were housed; but the other kinds will remain out of doors till towards Christmas. Camellias and Azaleas were exceedingly healthy, and promised an abundant crop of bloom. Among general hardy nursery stock, which, as well as Roses, is largely grown here, a little tree of the Nepaul Cotoneaster frigida was particularly striking, on account of the bright-green leaves and handsome red berries with which it was covered. This and other trees and shrubs valuable for the beauty of their fruit, are certainly not so much cultivated as they should be; for they give a pleasing effect to the shrubbery at a season when such is most wanted.

FLORICULTURE.

HOLLYHOCKS IN POTS.—At p. 695 Mr. Ayres has asked the question—"Can Hollyhocks be grown in pots?" I should think there can be no doubt that they can be grown in pots, provided people felt inclined to try them; but to place a Hollyhock in a pot would, I consider, be putting such a coarse-leaved plant in rather an unseemly situation, and the pot, in my opinion, might be far more profitably employed. To me the Hollyhock is the least attractive of all florist flowers for pot culture. To give the beautiful Clerodendron as an example of Hollyhock growing in pots is a badly chosen illustration, seeing that we can cultivate the one in any corner in the open air, while the other must be grown in a stove. If Hollyhocks were cultivated in pots it would scarcely be necessary to place them under glass, so that the healthy state of the plants would bid defiance to thrips, spider, &c., which do not attack them in the open ground. Mr. A. is of opinion that by growing in pots the flowering season might be prolonged to October, but a Hollyhock garden would be badly managed if it was not gay during that month. An acre or more of the flower-garden here is set apart for dwarf flowering shrubs, and among these is planted a great quantity of Hollyhocks, whose season of blooming is from July to the middle of November. Indeed they were in better bloom last November than they are this, owing to the quantity of rain that has fallen. The way I manage is to propagate by cuttings every year, which is easily effected in a cold frame or in any shady situation. The cuttings should be potted off singly early in April, and nursed in a cold frame until they have become well rooted. The first planting out should be about the middle of May, when they should be well spread over the garden among the old plants. Early in June another planting should be made, by which a succession of bloom may be had until severe frost sets in. After the old plants have done blooming they should be cut down, when the young ones will make the garden look almost as gay as if the flowering season had only just commenced. *Thorp Perrow.*

THE TULIP TRADE has been altogether unusually brisk this autumn, and larger sales have been effected than people not intimately acquainted with the "fancy" could conceive; there is scarcely a Tulip locality in which the demand had not been found to be greater than the supply. The famous Chellastons may now be considered as fairly distributed throughout the land. Princess Royal, Maid of Orleans, Pilot, Anastasia, Chellaston Beauty, Countess of Harrington, Lady Stanley, Midland Beauty, and Prince Albert, constitute some of the more prominent sorts which have been much sought after, and which are, beyond doubt, all acquisitions. The search for older varieties has also been well kept up. Captain White, Royal Sovereign, Bion, Heroine, &c., forming the forward rank, nor must it be denied that the greatest run has been on the feathered flowers, a taste for which the metropolitans have been mainly instrumental in bringing about, and which are really needed to maintain a well varied and effective collection. The coming blooming time will be one of peculiar interest, inasmuch as so many changes having been made, there will be numbers of new faces in our several collections, a desideratum long required with this particular class of flowers. The operation of planting, if not already done, should be proceeded with as soon as the excessive rains which we are daily experiencing are over, and the ground is in a workable state; but we have had so much wet lately that it will be some time before that occurs. Fortunate will that grower be who may have taken time by the forelock and got in his store by the middle or end of last month, for since then there has scarcely been a day that would permit the most cautious cultivator to plant with anything like satisfaction. Beds finished, however, had better be protected from too much wet, which we have known in some instances to injure the bulbs. *J. E.*

VIOLETS.—Mr. Tiley, of Bath, has just published an interesting treatise on these delightful flowers. He says, "The Tree Violet is perfectly hardy and can be grown in open borders with success; it blooms freely twice a year, viz., from September to the end of October, also from the beginning of March to the end of May. The Neapolitan Violet will be found to thrive in perfection, if treated in the way described in this treatise, for frames and pots, not being a hardy variety and seldom doing well in the open ground. The Russian Superb is also one of the finest of single Violets, with very large flowers and long stems and most delightful fragrance; unfortunately it is not very hardy, but to have it in bloom in perfection during the winter months it should be planted out in a frame in the manner before noticed. The compost I always use and consider the best for potting Violets is: one barrow of decayed turfy loam, half a barrowful of rotten leaf-soil, one-third of a barrow of rotten manure, one-fourth ditto of rough sand, and about one peck of lime and soot, the whole well turned and mixed together; the soot and lime will tend to the health of the plants as well as destroy all insects, worms, &c."

BIRMINGHAM SHOW: *B Mayle.* Nov. 15 was, according to the regulations, the last day on which your entry could be made. CATALOGUE received from Mr. Gaines, Surrey-lane, Battersea. THE HOLLYHOCK: *Z.* Propagation by division is best carried out in autumn, immediately that the flowering is over. A large well-ordered plant may sometimes be divided into several, but in general three or four is a more advantageous number. Nothing, certainly, is gained by breaking the old plants into too many pieces: every separate part should carry with it a good share of roots. Seedlings and others that may bloom late cannot be divided till spring. Marcn is, perhaps, the best time, and the fragments, if not broken too fine, will flower well during the first autumn.

Miscellaneous.

On Spring Budding or with the Pushing Eye, and on the advantages which in certain Cases may be derived from it.—Without enumerating the great number of plants which florists know how to turn so profitably to account, by budding with a pushing eye, let us only see what a Rose grower does who has a choice and scarce variety which it is his interest to propagate speedily. He accelerates, by all the means at his disposal, the growth and perfect development of the first young shoots, and he succeeds in obtaining, in June, and sometimes even in May, eyes with which he can bud fresh

stocks; it is of course understood that he uses eyes ready to push into shoots. The plants so budded will supply him, towards the end of summer, with other young shoots furnished with dormant eyes, such as will only push next spring, and with these he can bud more stocks and obtain plants that will flower in the following season; and in the course of a year he finds himself in possession of a considerable stock, of a variety of which he had only a single plant at the outset. Now, what a Rose-grower does for his favourite flower can be done for other plants; and I may be permitted to state my own experience on the point:—In the beginning of May, 1852, I received from M. Bernian, nurseryman at Orleans, a plant of a new variety of Lilac, which he has named L. Triomphe d'Orléans. On the 24th of the same month I cut off a small shoot, from which five buds were worked. Four of them took, and one of them is now 28 inches long, and would afford me 22 eyes fit for budding; and if I were to bud them now I could therefore have, next spring, a score of plants, the produce of one of the buds worked last May. Admitting that the success was not always so great, and that each of the four first buds produced shoots affording only 16 eyes, still I should next spring find myself possessed of 64 plants. I have not in any way exaggerated what I have done; and I may leave the task of deducing the consequences to nurserymen interested in the subject. *Carrière, in Revue Horticole, October*, 1852.

Picadilla.—Wash and chop a pailful of green Tomatoes, also one dozen Onions and eight green peppers. Put altogether and sprinkle two handfuls of salt over them, letting them stand over-night. In the morning drain off the juice and throw out. Put in one teacupful of white Mustard seed and three tablespoonsful of cloves, and grated Horse-radish to your taste. Put vinegar over all, and scald it thoroughly, stirring it often. Take it from the fire, and drain off the vinegar and throw out. Pack it down in a stone jar and pour cold vinegar over it. It is then fit for the table. *Ohio Cultivator.*

Silk Grass of Honduras.—We yesterday saw a handkerchief made from this Grass, which, for fineness of texture and durability, far exceeds any linen we have ever seen. It is one of a number made in London from a sample of this very common Grass in Honduras, Yucatan, &c., sent there by the gentleman who exhibited it to us as an experiment. The Grass is a finer variety of that from which the hammocks in Central America are made, and it is thought, can be made an article of considerable export. *American Gardeners' Chronicle.*

Calendar of Operations.

(For the ensuing week.)

PLANT DEPARTMENT.

The stock of plants to bloom at Christmas, and consisting partly of stove plants grown for the purpose, as detailed in former Calendars, and partly of forced shrubs and bulbs, should have attention paid to their wants, particularly the latter, which are now undergoing a kind of forcing to get them into bloom. As these latter are plants varying somewhat in their habits, a difference must be made in their treatment, so as to get them in bloom at the desired period. To effect this, Chinese Azaleas, and the Orange tribe, may be assisted by a little extra heat, being careful to apply it gradually. At the same time, if a forcing house is devoted to their culture, a portion of the stock of Roses (especially the best varieties of Teas), Lilacs, Syringas, Deutzias, and other hardy shrubs from the reserve pit may be introduced to the cool end of the house, or to a light place in an early started Vinery or Peach-house; if they can be afforded a slight bottom heat they will benefit by it. A few of the more easily forced American plants, including the earliest flowering Rhododendrons and Azaleas should be added; they will make a great addition to the display in January. Bring forward Hyacinths and Van Thol Tulips in a gentle bottom heat. Double Roman Narcissus blooms early without much forcing. Crocuses, Neapolitan Violets, Mignonette, and Cyclamen persicum, answer best placed on shelves at the back of Vineries, &c., to catch every ray of light, and to insure them from damp. There are a number of other things which are more or less in demand for the conservatory and drawing-room during the winter, which should be attended to with the foregoing. As the amount of light is now sensibly diminished, such conservatory climbers as have done flowering may be thinned out, and the remaining shoots tied closer together to admit all the light possible to the plants below them. The same treatment will apply to climbers in other plant houses; it should, however, be a rule not to prune them at this season, or a premature growth might spoil their blooming in perfection next year. The present wet weather will render our directions last week on ventilation especially necessary to be carried out.

FORCING DEPARTMENT.

Vinery.—Late Grapes will require fires to be made daily, and the houses thrown open, to dry up damp. Remove decayed berries every two or three days, and protect the borders from heavy rains. The Early Vinery should have a little fire daily, but during the present extraordinary warm weather fires by night will not be necessary, unless the Vines are very forward, when sufficient only to keep the thermometer at 45° should be put on. Syringe with warm water, and maintain a humid atmosphere by sprinkling the heating apparatus when at work, and the paths, floors, &c. If there is a very moderate heat in the covering of the border it need not be disturbed, but protected from the present drenching rains. The second house may be got in readiness to begin when wanted. Early Peach-house.—If Peaches are required very early the house may be closed at once, and the dressing and training finished; premising the pruning was completed some time back, there are several varieties of Peaches and Nectarines, which, after having been forced a few years, make but few wood buds, except at the base of the shoot and the terminal one; with such, it will be safer to leave the wood unshortened till they break, when they can be cut back to a promising wood-bud. If the inside border is poor or exhausted, cover over with two or three inches of rotten cow-dung, and water with liquid manure when dry; the outside border should have a good coat of leaves or Fern well thatched, placed over, to preserve a moderate amount of heat, and to keep it dry; no fires need be applied for the present, but take advantage of sunny days by closing an hour or two earlier. Fig-house.—Unless Figs are in demand very early, forcing may be deferred till next month. If the summer management has been rightly carried out, no further pruning will be requisite, beyond thinning out old or gross wood. As Figs are more subject to the attacks of insects than most forced fruits, the wood should be well brushed over with the mixture recommended for Vines. If the interior wood-work is not painted, it should be washed thoroughly, and the walls whitewashed, adding a little sulphur to the wash; these precautions will save much after trouble by destroying any insects, or their eggs, which may be lodged in the crevices of the walls, &c. See to the stock of Strawberries for forcing, that they are protected from heavy rains; a few Alpines in pots may be introduced to empty Vineries or Peach houses, to prolong the season; they will, if supplied with a little heat, continue bearing through the winter.

FLOWER GARDEN AND SHRUBBERY.

Provided the flower garden beds are filled with the spring flowering plants, a regular cleaning up of the adjoining Grass and gravel walks should take place, that the whole may have a neat appearance through the winter; if the walks are much soiled, a surfacing of fresh gravel should be spread over the principal ones in connection with the flower garden, which will keep up a degree of freshness at a season when good keeping and neatness are the only equivalents for floral beauty that can now be offered. The heavy rains have in this neighbourhood completely put a stop to all out-door work, including the removal of earth. The stock of cuttings and newly-potted plants will require care to prevent their damping off; a good plan is to raise the sashes up at back and front and let them remain, as the weather may change suddenly; be prepared with plenty of covering material for use when wanted.

FLORISTS' FLOWERS.

The dripping wet weather that we have lately had has been anything but favourable for Auriculas. A vigilant eye must be kept on the state of the drainage; if the surface of the soil assumes a soddened appearance, immediate examination must take place. Some amateurs have brick frames, with sliding doors in the sides; when they are opened, a thorough circulation is kept up, an indispensable requisite in the successful cultivation of the Auricula. Pinks.—Examine the beds; sometimes in windy weather, long or straggling plants will get broken over at the surface; to prevent accidents of this kind small twigs or branches should be inserted in the ground on each side, as supports. Rabbits are often exceedingly mischievous, eating them off. When all other remedies have failed, rags dipped in melted sulphur, and suspended on cleft sticks a foot high, will be found the very best preventative. Tulip growers generally have been much delayed by the continuous wet. We would advise them to wait a day or two, so that the beds may get tolerably dry before putting in the bulbs. Excess of moisture at first planting, we know, from dear-bought experience, to act very prejudicially on them.

HARDY FRUIT GARDEN.

Whenever the ground becomes dry enough for treading on without injuring the borders, let the pruning of hardy fruit trees, as Apples, Pears, Plums, &c., be put in hand, more particularly if there is a large amount of this kind of work to be done—begin with the orchard and open quarters first; Currants and Gooseberries are better left till towards spring, as birds in hard winters are very destructive to their buds; Raspberries may have the old wood cut away, reserving the shortening of the young wood till spring.

Erratum: In Plant Department, at p. 728, 12 lines from top, for "same house," read "a separate house."

STATE OF THE WEATHER NEAR LONDON,

For the week ending Nov. 18, 1852, as observed at the Horticultural Gardens, Chiswick.

Nov.	Moon's Age.	Barometer.		Temperature.					Wind.	Rain.
				Of the Air			Of the Earth.			
		Max.	Min.	Max.	Min.	Mean	1 foot deep.	2 feet deep.		
Friday.. 12	1	29.558	29.487	49	44	46.5	49½	49½	E.	.13
Satur... 13	2	29.496	29.412	48	44	46.0	49	48½	E.	.22
Sunday . 14	3	29.362	29.225	54	46	50.0	48½	48	E.	1.24
Monday 15	4	29.071	28.989	58	49	53.5	49	48½	S.W.	.34
Tues. .. 16	5	29.057	28.848	60	49	54.5	50	49	S.	.12
Wed. .. 17	6	29.189	29.070	56	42	49.0	50	49	S.W.	.11
Thurs... 18	7	29.713	29.279	40	27	33.5	49	48	S.W.	.00
Average ...		29.349	29.187	52.1	43.0	47.5	49.3	48.6		2.16

Nov. 12—Rain; boisterous with rain; densely overcast.
" 13—Uniformly overcast; foggy; rain.
" 14—Rain; very fine; constant heavy rain throughout the night.
" 15—Rain; fine with sun occasionally; heavy rain at night.
" 16—Fine throughout; clear at night.
" 17—Fine throughout; boisterous with rain in the night.
" 18—Densely clouded; fine with sun; overcast; clear and frosty at night.

Mean temperature of the week, 5 deg. above the average.

STATE OF THE WEATHER AT CHISWICK,

During the last 26 years, for the ensuing week, ending Nov. 27, 1852.

Nov.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds.							
						N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 21	49.7	38.7	44.2	17	0.37 in.	4	3	4	2	1	5	5	2
Mon. 22	49.4	36.0	42.7	16	0.62	3	2	4	2	3	6	5	1
Tues. 23	48.5	35.7	42.1	11	0.36		4	3	1	3	8	4	3
Wed. 24	48.0	33.1	40.5	9	0.50	3	4	2	2	2	7	2	3
Thurs. 25	46.3	33.4	39.8	13	0.27	3	3	3	2	3	7	2	3
Friday 26	46.9	33.0	39.9	12	0.54		2	6	1	3	10	1	3
Satur. 27	46.8	35.0	40.9	12	0.88	1	2	4	1	4	8	3	3

The highest temperature during the above period occurred on the 21st, 1833, and 27th, 1843—therm. 59 deg.; and the lowest on the 26th, 1849—therm. 18 deg.

Notices to Correspondents.

*** The Publisher will give full price for Nos. 37, 38, 39, 40, 44, and 45, for the present year.

Apples: *J D.* We fear they are attacked by the fungus that has this year been destroying Pears. If so, no remedy is known. You might try sulphur.

Books: *S H C.* The Journal of the Horticultural Society can be had of all booksellers. Fellows receive it gratis. The privileges of Fellows can be learned by addressing a note to the secretary, 21, Regent-street.

Cucumbers: *Concha.* Your inquiry is an advertisement.

Dittany of Crete: *C S N L.* We are so unfortunate as to be unable to decipher your name and residence. If you will furnish your name and address in full, we will print your inquiry, but we cannot make ourselves a medium for exchange.

Greenhouses: *W R.* Give us more particulars, and your real address, and we will communicate with you privately.

Insects: *J P.* Your moths are as follows:—Noctuidæ. 8, Cosmia trapetzina; 13, Graphiphora punicea; 10, Acronycta Psi; 11, Miselia Compta; 15, Xanthia Citrago; 12, Ceratopacha diluta; 17, Agrotis segetum var.; 1, Ophiusa lusoria. Geometridæ. 2, Harpalyce centum-notata; 3, Larentia Chenopodiata; 5, Alcis repandata; 6, Camptogramma bilineata; 7, Harpalyce sylvaticata; 9, Cyclophora ocellaria; 14, Euthalia elutata; 16, Cidaria miaria. Pyralidæ. 18, Paracolax nemoralis; 4, Aglossa pinguinalis.—*Pomarium.* Your Apple twigs are infested with the American blight. Spirits of tar, hot soap-suds, or even clean water, repeatedly rubbed with a brush into the crevices of the trees will get rid of them.—*G B N H.* The excrescences on the roots sent are galls formed by the Cynips Quercus radicis. *W.*

Lagerstræmias: *Diamond.* They require to be forced like stove plants, and ripened like greenhouse plants, till their wood is perfectly hard. They must also have *age*, and not too much pot-room.

Longans: *Gallicus.* The dried fruit, as imported, is always dead. They are propagated with difficulty by layers or cuttings.

Myrtles: *H L.* The precise manner in which the colour of your Myrtle leaves has been discharged cannot be ascertained. But if lime and sulphur, or sulphur alone, has been allowed to find its way into the soil, that will account for the appearance. You had better take precautions to prevent the possibility of such an accident; and at the same time lay bare the fibrous roots, again covering them with good soil, such as you would use in a Peach border. This will afford you the best chance of restoring the trees to health.

Names of Plants: *W G A.* We have no other answer to give; as we have repeatedly said, plants, especially seedling plants, cannot be named with certainty unless in flower.—*B B.* Asplenium Trichomanes.—*Anon.* Adiantum æthiopicum, L. *S.*

Names of Fruits: *J W J.* 1, Doyenné Gris; 3, Brown Beurré; 5, 27, Duchesse d'Angoulême; 6, Uvedale's St. Germain; 9, 30, St. Germain; 11, Wortuless; 12, Winter Nelis; 13, 24, Marie Louise; 15, Catillac; 21, Glout Morceau; 22, Passe Colmar; 23, Beurré Diel; 25, Bergamotte Cadette; 26, Comte de Lamy; 32, Easter Beurré.‖—*H W, Londonderry.* 4, Hollandbury; 5, Black Achon; 7, Althorp Crassane? 8, Beurré Rance; 9, Beurré d'Aremberg; 10, Scarlet Crofton; 11, Downton Nonpareil; 12, "Red King," not known by any other name; it is different from and more handsome than the King Apple of English collections; 18, which you say is called "*Nans Nebs*, much esteemed for export." In answer to your question, we think thus of it: middle-sized, roundish, fair to the eye and so far good for the market; but it is not rich, it wants briskness; 14, 15, both appear to be the Winter Nelis; compare the leaves, and see if they are not narrower than those of other Pear trees.‖—*W.* 1, 10, Glout Morceau; 3, Bon Chrétien Fondante; 3, 11, Ne Plus Meuris; 4, 5, Old Colmar; 6, Swan's Egg. The Apple is the Wyken Pippin.‖—*H S.* 2, Beurré Diel; 3, Beurré d'Aremberg; 1 seems worthless.—*C W.* On your Grape from out of doors the sulphur has killed the mildew; but as the berries are only beginning to colour, the variety cannot be ascertained. The forms of the bunch and berries correspond with those of the Frontignans; and probably the sort is the Grizzly Frontignan. In these Grapes the Frontignan flavour can be detected even before the berries change colour; but we find it not after frosty nights.‖—*J B N P.* 2, Gravenstein; 3, Franklin's Golden Pippin; 4, Golden Noble; 5, resembles Kerry Pippin; 8, Tower of Glammis; 11, probably Hawthornden; 13, Golden Pippin; 14, Nelson Codlin; 15 Barcelona Pearmain; 16, Syke House Russet.‖—*E W S.* 1, Scarlet Nonpareil; 3, Golden Reinette; 4, Minchal Crab; 6, Margil; 7, not known; very austere. The others appear to be local varieties, unknown near London.‖

Paper: *T J S.* We assure you that any stationer can procure you such paper, of good quality, if he chooses to give himself the trouble. The size is immaterial, within a quarter or half inch either way.

Pears: *Dr. M.* Your Pears will ripen and become melting if you place them in a proper temperature; in a tolerably warm kitchen, for example. In such a situation they should be closely packed in a box lined with very dry straw.

Peat Charcoal. *H G.* We should not have allowed any fluid to escape, but have detained the whole, adding as much more charcoal, from time to time, as might be necessary for absorption. You may apply it when you like; it is an excellent manure for all the purposes you mention.

Seeds: *W S M R.* Bury your seeds in sand. Leave them in a heap till March, and then sow them half an inch deep in nice mellow soil.

Tamarisks: *A G.* They succeed just as well inland as on the coast. You will probably find no sensible difference, although we sometimes fancy that the Tamarisks on the coast are a deeper colour.

Vines: *J W.* We cannot say whether the Muscat Jésus is exactly the same as the White Frontignan, but it is closely allied to the latter. M. Vibert says the Muscat Jésus is known under four or five different names. He describes it as an excellent Grape, but apt to crack. It appears to be confused with the Chasselas Musqué by some French authors. The other Grape you mention is unknown.‖

Misc: *J O S.* The address is Bodorgan, Anglesea.

PERUVIAN GUANO.

CAUTION TO AGRICULTURISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

ANTONY GIBBS AND SONS, AS THE ONLY IMPORTERS OF PERUVIAN GUANO,

Consider it to be their duty to the Peruvian Government and to the Public again to recommend Farmers and all others who buy to be carefully on their guard.

The character of the parties from whom they purchase will of course be the best security, and, in addition to particular attention to that point, ANTONY GIBBS AND SONS think it well to remind buyers that—

The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 9l. 5s. per ton, less 2½ per cent.

Any resales made by dealers at a lower price must therefore either leave a loss to them, or the article must be adulterated.

THE LONDON MANURE COMPANY offers on the best terms Wheat Manure for autumn sowing, Linseed, Rape Cakes, Peruvian Guano, Urate, Superphosphate of Lime, and every other artificial manure. Also a quantity of Salt, the refuse of ammonia and saltpetre makers, considerably more valuable than the ordinary agricultural salt.

EDWARD PURSER, Sec., Bridge-street, Blackfriars, London.

MANURES.—The following Manures are manufactured at Mr. LAWES'S Factory, Deptford Creek:

	£	s.	d.
Turnip Manure, per ton	7	0	0
Superphosphate of Lime	7	0	0
Sulphuric Acid and Coprolites	5	0	0

Office, 69, King William-street, City, London.

N.B. Peruvian Guano, guaranteed to contain 16 per cent. of Ammonia, 9l. 10s. per ton; and for 5 tons or more, 9l. 5s. per ton, in dock. Sulphate of ammonia, &c.

PEAT MOSS CHARCOAL.

THE PEAT MOSS CHARCOAL COMPANY are prepared to deliver a superior Charcoal (made expressly for Agriculture and Horticulture, and not divested of any of its chemical properties), at 52s. 6d. per ton.—Apply to MARK FOTHERGILL, Agent, 204, Upper Thames-street.

Linseed and Rape Cake, Peruvian Guano, Gypsum, Salt, and all Manures of known value on sale.

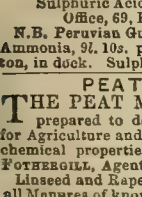
MANURE.

PEAT CHARCOAL, completely saturated with London Sewage, will be found a most effective manure for any crop. It may be obtained from the Sewage Manure Works, Stanley Bridge, Fulham, Middlesex, at 60s. per ton, 1s. per cwt., and 2s. 6d. per ¼ cwt.

"Sewage manure absorbed in charcoal is a first-rate fertiliser; we have tried it on French Beans, Dahlias, Roses, and Cabbage plants; we put half a pint to each Rose and Dahlia, sowed it in the row with Beans, and put a few pinches to each plant of Cabbage. The effect is perceptible very soon, but it will be twice as efficacious the second year as the first."—*The Garden, by Mr. Glenny.*

WINTON'S PARKES'S CELEBRATED STEEL DIGGING FORKS AND TOOLS are universally approved of. They facilitate labour 20 per cent. They have received the Silver Medal at Lewes, Dublin, Galway, Sheffield, and other places. Anthony's Patent American Churn has received the prize at every one of the numerous agricultural meetings where it has been shown. The Royal Agricultural Journal, p. 41, says, "This form of churn is the best for churning sweet cream, and will undoubtedly produce butter from milk or cream, in any form, in much less time than any churn that has yet been introduced." Pumps for manure and watering gardens. Mr. Mechi has one working admirably. These pumps are cheap, durable, and effective. Gutta percha tubing, bands for machinery, hose for pumps, and an assortment of prize and the best farm implements. Price catalogues sent on application.—BURGESS and KEY, 103, Newgate-street, London, agents for M'Cormick's American Reaper.

WARNER'S PATENT FARM AND COTTAGE PUMPS.—Cast-iron Pumps, for the use of Farms, Cottages, Manure Tanks, and Shallow Wells.



	£	s.	d.
Patent Pump	1	15	0
Patent Pump, with 15 feet of lead pipe attached, and bolts and nuts ready for fixing	2	10	0

Larger sizes if required.

To Emigrants proceeding to the Gold Regions they will prove to be the most simple, durable, and the cheapest Pump hitherto introduced.

May be obtained of any Ironmonger or Plumber in Town or Country, or of the Patentees and Manufacturers,

JOHN WARNER & SONS,

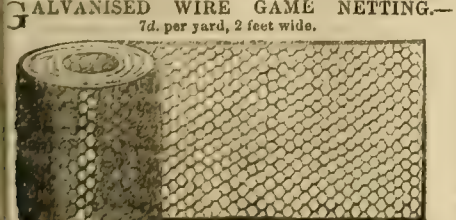
8, Crescent, Jewin-street, London.

Every description of Machinery for Raising Water, Fire Engines, &c.

IRON HURDLES.

STEPHENSON AND PEILL, 61, Gracechurch-street, London; and 17, New Park-street, Southwark, Manufacturers of every description of Iron Fencing, beg to call the attention of Noblemen and Gentlemen to their present prices of HURDLES:—for Sheep, 6 feet long, 3 feet high, with 5 bars, at 4s.; and for Cattle, 6 feet long, 3 feet 3 inches high, with 5 bars, at 4s. 6d. each.

GALVANISED WIRE GAME NETTING.—7d. per yard, 2 feet wide.



	Galvanised.	Japanned Iron.
1-inch mesh, light, 24 inches wide ...	7d. per yd.	5d. per yd.
1-inch ,, strong ,, ...	9 ,,	6½ ,,
1-inch ,, extra strong ,, ...	12 ,,	9 ,,
1-inch ,, light ,, ...	8 ,,	6 ,,
1-inch ,, strong ,, ...	10 ,,	8 ,,
1-inch ,, extra strong ,, ...	14 ,,	11 ,,

All the above can be made any width at proportionate prices. The upper half is a coarse mesh, it will reduce the prices one-fourth. Galvanised sparrow-proof netting for Pheasantries, 1d. per square foot. Patterns forwarded post free.

Manufactured by BARNARD and BISHOP, Market-place, Norwich, and delivered free of expense in London, Peterborough, Hull, or Newcastle.

PURE WATER.

THE ASBESTOS FILTER.—MANUFACTURERS, TAYLOR AND PEARS, LATE OXLEY AND CO., 8, George-yard, Lombard-street, London.



EXTRACT FROM "LANCET," *June 26, 1852.*

"The Asbestos Filter of Messrs. Oxley and Co. is the best Filter hitherto constructed. Its superiority consists in the following circumstances:—First, The filtering media are composed of layers of Asbestos and river sand, so arranged as to admit of being readily removed and cleansed from time to time, from the impurities derived from the water which passes through them. Second, The mineral, Asbestos, is substituted for the animal substance, sponge, the advantages of the former being, that it is not liable to become, like sponge, putrescent, and that it may be easily and perfectly cleansed. As the public are still condemned to drink filthy Thames water, no family having regard for cleanliness and health should be without an efficient filter."

"FRIGI DOMO."—A Canvas, made of prepared Hair and Wool, a perfect non-conductor of Heat and adapted to many Horticultural and Floricultural purposes for covering over frames where a fixed temperature is required. It is 2½ yards wide, and of any required length, at 1s. 4d. per yard run.—Manufactured only by E. T. ARCHER, Carpet Manufacturer, 451, New Oxford-street, London.

THE BIRMINGHAM CATTLE AND POULTRY SHOW, 1852.—The FOURTH GREAT ANNUAL EXHIBITION of CATTLE, SHEEP, PIGS, and the various kinds of DOMESTIC POULTRY, will be held in BINGLEY HALL, BIRMINGHAM, on TUESDAY, WEDNESDAY, THURSDAY, and FRIDAY, the 14th, 15th, 16th, and 17th days of DECEMBER. The PRIVATE VIEW and the ANNUAL DINNER on TUESDAY, December 14.

Admission, on Tuesday, 5s.; and on Wednesday, Thursday, and Friday, 1s.

The Agricultural Gazette.

SATURDAY, NOVEMBER 20, 1852.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

THURSDAY,	Nov.	25—Agricultural Imp. Society of Ireland.
WEDNESDAY,	Dec.	1—Agricultural Society of England.
THURSDAY,	—	2—Agricultural Imp. Society of Ireland.

IN the management of fat stock two problems are involved. To manufacture from a given quantity of produce the largest quantity of butcher-meat, and TO MANUFACTURE THE OFFAL INTO MANURE with the least possible waste—two questions inseparable from each other—for as "muck is the mother of meal," it consequently follows that the quantity of produce, and hence butcher-meat, depends upon the economy of manure. It is to this latter branch of the subject which we now propose addressing ourselves, and to only one particular division of it, viz., the offal of fat stock. Referring our readers to some valuable tables lately quoted from the article "MEAT" in Blackie's "Cyclopedia of Agriculture," relative to the weight of offal and the proportion which it bears to the live weight of oxen, sheep, and swine, it will readily be perceived that a question in reference to manure is here involved of no mean magnitude to British agriculture, paying, as she now does, such an enormous annual sum to the Peruvian Government for guano. For example:—

In the metropolis there are in round numbers about 240,000 fat oxen, 1,500,000 sheep and lambs, 30,000 calves, and 40,000 swine, annually slaughtered. Now, in the tables to which reference has been made, if the mean between the two extremes is taken as the general average, which will be near enough the truth for the sake of argument, it will give 40 stones of 14 lbs. each for the weight of the offal of every fat ox, and say 56 lbs. for sheep, so that every four oxen will yield one ton of offal, and every 40 sheep the same quantity, or for the whole oxen slaughtered 60,000 tons, and sheep 37,500; total, 97,500 tons, exclusive of calves and pigs; and including these we may safely say, in round numbers, 100,000 tons for the metropolis, and for the whole kingdom 600,000 tons of offal, supposing the metropolis one-sixth of the whole—an hypothesis, probably not very far from the truth—are annually produced.

Such being the quantity of offal, the next question which demands solution is its value as a manure, and the price which we at present get for it—a practical question not the least important of the many practical questions involved.

Of the value of such a compound as the above would make, were the whole chopped and thoroughly mixed, there cannot be a doubt, and that it would be even equal to the best Peruvian guano is probable; and the propriety of manufacturing such a compound will of course depend upon the answer we have to append to the other division of the question, and the price of guano. Now the present price of offal in the metropolis, from the inquiry which we have made, is considerably less than that for guano weight for weight, the 40 stones yielded by a bullock not realising as many shillings, while the best Peruvian guano is selling at upwards of a penny per pound, being twopence per stone dearer than the offal in question. Hence the conclusion as to the propriety of disposing of it, as we now do, at less than its value as a manure.

Hides, tallow, hearts, tongues, and kidneys are, however, worth more than guano, and as these constitute nearly a third of the whole weight, and little short of the whole price, the economy of the balance of the offal becomes a more interesting question, for it will be found that farmers give away annually in the metropolis between 60,000 and 70,000 tons of it for nothing; and throughout the whole kingdom, in round numbers, about 400,000 tons! Probably some price is derived in the provinces, but it is certainly less than that paid for guano, or than it is worth for its fertilising powers, while in the capital it is far more of plague than profit. No doubt the whole is sold for something, but the price does not reach the pocket of the farmer—being a windfall to some other party. The blood and contents of the stomach and intestines, for instance, where cattle are slaughtered by regular slaughtermen, belong to them. In the offal shops, again, the tripe may be seen black, blue, and green, rolled up in "*two a penny*" bundles for "cats and dogs' meat;" backs, collops, livers, lungs, &c., may be seen in the same box; consequently, after paying house-rent, and the other *et cæteras* of a metropolitan expenditure, what can the farmer expect for manure of this kind, however valuable? The blood is scarcely a better bargain to those whose perquisite it is, amounting as it does to the round sum of 11,000 tons annually; for Mr. CARPENTER in his evidence before a committee of the House of Commons states, that he slaughtered about 50 bullocks weekly, and only got 20l. per annum for the 31 tons 17½ cwt. which they yielded; and Mr. WYLD, 20s. weekly, for the blood of from 170 to 180 beasts, = 3 tons 16½ cwt.!! Where butchers slaughter in their own slaughter-houses, the blood is retained in tubs or wells sunk in the flooring, and removed by sugar refiners, &c., on terms similar to what it is from the common slaughter-house. "Some butchers," says Mr. SHARP in his evidence, "feed pigs on it, sending round their carts to their neighbours and removing what offal they can get, which they receive gratis. The contents of the stomachs and intestines, amounting to between 15,000 and 20,000 tons, we learn from the same quarter, are collected into heaps and sold for as many shillings. Tripe shops and offal shops contract to remove the balance, from 30,000 to 40,000 tons, at so much per head, but the figure is so small, that parties generally thought shame to answer the question—How much? In short, the whole practice is antiquated, belonging to a period long gone by; and from the moment the ox is sold, its offal, from the hair on the tail, the perquisite of the drover, to the tip of the horns, is blown in every direction but that in which it should be blown; which is undoubtedly the pocket of the farmer who has been at the expense of producing it, and whose hungry acres are starving for the want of it.

To the farmer the real value of the offal as a manure, or indeed in any sense, is the produce which it would yield if properly applied to the soil; and here experiments are wanting to test the price below which offal should not be sold off the farm. What is it which gives to guano and other manures rich in nitrogen their present value, but the removal of the offal in question and the other animal products from the soil, leaving it deficient of nitrogen! Why purchase from Peru some 500,000 tons of the former at 4,500,000l., and dispose of 600,000 tons of the latter, perhaps of greater value, at 1,200,000l.? Would not the application of the latter to the soil reduce the value of the former, bringing both to something like a fair medium price? Of the soundness of the practice here involved there cannot be a doubt, and from the quantity of nitrogenous matter which the 60,000 to 70,000 tons in the capital contain, supposing hides and leather otherwise disposed of, the corporation of London are intrusted with the reduction of a great national proposition to practice, and a very remunerating one for itself in the erection of a new cattle market, a proposition in which more than farmers have a twofold interest.

The English Agricultural Society has offered a prize of 1000l. for the invention of a manure of equal value to guano, costing not more than 5l. per ton. And we are told by the *Economist* that London capitalists, with a truer sense of the commercial interests involved, are ready to offer a prize of 100,000l. for such an invention as this. We venture to recommend to both the consideration of the

enormous waste to agriculture by the present mode of mismanaging the offal passing through the hands of our butchers.

THE ISLE OF WIGHT.

After an absence of 30 years from this portion of Hampshire, I went there last August to mark the changes which so large a measure of time has made there, and note the present condition of a fertile district so long distinguished as "the garden of England."

To any person familiar with the characteristics of the Channel Islands—of Jersey more especially, and accustomed to see small enclosures, frequent orchards and hedge rows, liliputian homesteads, numerous cottages, and small villas with gardens, everywhere, producing splendid varieties of fruits and vegetables; the high Chalk-hills of the Isle of Wight, its extensive pasture plains, and large fields of arable land divested of the original *bocage* (yet embellished here and there with patches of coppice and plantations, and with well timbered demesnes in some localities), bearing golden crops throughout miles of unbroken extent, afford a very different impression. Each of the *tableaux* has its peculiar beauties, but assuredly those which are contemplated from the ridge of the very elevated sheep-downs from Brading to Arreton, are incomparably nobler on a summer or autumnal day than any prospect which "the Queen of the Channel Islands" affords.

But I am not going to institute detailed comparisons between beauteous rivals, nor to lavish admiration on our fair domains of Southern Hampshire, in the manner of a tourist compiling a guide book, nor to enter upon the field of geological discussion for which this district furnishes an ample text; but simply to offer such remarks on the style and economy of farming pursued there, as limited time and opportunities permitted me to form.

But first a word or two concerning the fitness of the popular designation of the "garden of England," applied to the Isle. If we are to understand by the term "garden"—according to Johnson, "a piece of ground enclosed, and cultivated with extraordinary care, planted with herbs or fruits for food, or laid out for pleasure," the district in question has no similitude to this; but if we extend the signification to a place particularly fruitful, productive, or delightful, we need not disallow the claim, though no parts of the locality in question have that peculiar character of husbandry like that of Belgium, which has a real and close resemblance to garden culture. Even garden allotments for the farm labourer are "few and far between" the ordinary gardens, with gigantic Fuchsias and Salvias, and other plants requiring a genial clime, around the porch or walls of the cottages, are frequent and indicative of a taste for the pleasures of gardening. But these constitute but small patches on a large area of cleared farm land.

In the neighbourhood of Sandown (an unenclosed common, but a few years ago with two or three habitations), which is now a populous bathing village of high reputation, the supply of fruits and vegetables is scanty, of indifferent quality, and extravagantly dear. No public garden adjoins the long street of neat and elegant villas, whose occupants during the season would gladly purchase the produce of gardens to a great amount. The supply is brought from the small and ill-kept gardens of cottagers and small farmers from other localities. As to the early sorts of Potatoes, I saw none even in July and August at Sandown; those in use were the late kinds, prematurely dug.

It cannot be denied that the same degree of slovenliness which characterises so frequently the gardens and allotments of the common labourer, evidenced by the rampant growth of weeds between drills of Potatoes and rows of Cabbages, and in the surrounding hedges, is observable in this very charming district. But this remark should be qualified by the admission that my season of observation was that when weeds are generally rife, and that the atmospheric influences of last summer were extremely favourable to their growth; besides, it was then a very busy period. As may be inferred from the fact that a large aristocratic class occupy mansions and picturesque seats (on the northern side more particularly), some of the best specimens of cottage and general gardening are to be found in this isle, and especially in the vicinity of Ryde, Cowes, and Newport. A similar remark applies to the immediate neighbourhood of Ventnor, which, with its rivals on the northern side, has made a progress in every respect most wonderful.

In a district of country so variable as to soil and elevation, with chalk hills from 500 to 850 feet in height, and embanked and depastured marshes of hazel loam resting on dark-coloured clay, with here and there thin beds of fine sand or gravel intervening, and tracts of clay, red loam, sandstone, and marls, there is of necessity much diversity of management. Sheep farming is conducted on a considerable scale, and Turnip culture in due proportion; and until railways and steamboats brought more distant markets within quicker reach of London, the early lambs of the Isle of Wight were very profitable items in the farmer's account. In so mild a climate an early lambing was safely and systematically practised. But omitting this and references to the grazier's department, and his feeding of cattle on the rich summer pasture lands, I shall notice the tillage husbandry which came under my immediate view.

The agriculture is conducted on a large scale of operations, in numerous instances there are farmers holding from 500 to 1000 acres, principally of tillage land; and though some years ago the class of very small tenant farmers was numerous, their farms have been, generally, consolidated into farms of larger size.

From the rich calcareous loams, the cereal crops are of course usually good; they appeared to me in most parts magnificent; but gross mismanagement in some instances marred the bountifulness of Providence. Weeds abounded among the corn; the Turnip husbandry is good, and the ground is sufficiently hoed and kept free from weeds, which in frequent instances luxuriated through the Clovers. Occasionally, Thistles determinedly contested the possession of the ground with a feeble crop of Barley; and in the pasture fields, which are very numerous on the farms occupied by petty farmers, weeds were maturing their growth apparently without any danger of decapitation. Where hedgerows betrayed an unusual neglect of clipping and plashing, and horses were grazing together with cattle and sheep on foul pasture land or Clover leys, I concluded that the land was owned or occupied by poor people; but it became apparent to me that, in most cases, the teams were turned out to Grass during that busy season, in order that the carters and ploughmen might assist in mowing or saving the corn.

The waste of manure occasioned by this grazing system is considerable, yet in many of the farm-yards there was abundance of dung; though, as if to diminish its efficacy, the juices might be seen, as in most counties (more or less), to flow away with every torrent of rain, by the wayside, to the nearest stream. *M. D.*

(To be continued.)

ON THE ADVANTAGES OF PORTABLE FARM BUILDINGS,

SUGGESTED AS A REMEDY, IN SOME DEGREE, FOR THE SCARCITY OF FARM LABOURERS.

On the 24th of July, 1852, a friend wrote for my opinion as to the best plan for a complete set of new farm buildings, and, as I had reason to suppose that they were to be erected on a farm not yet enclosed, or in any manner fettered by roads or other artificial works, it seemed that, as these would be unusual circumstances, the more caution was necessary to begin in a right manner, because if the best plan was not adopted there would not be the usual and unanswerable excuse of old buildings being in the way.

It seemed obvious that, as the general fault of old plans was that they did not leave space for adopting all subsequent improvements, it would be desirable to discover, if possible, some new plan that would expand and adapt itself to circumstances, so as to admit of future improvements, as well as include all those known when the buildings were first erected. Each building should be, not only the right thing in itself, so far as knowledge in such matters has advanced, but also so contrived, if possible, that it may be, on each occasion for using it, in the very best place on the farm for economising labour, and whatever else is valuable, so as to obtain the largest value in produce at the smallest cost.

Knowing that some of the best plans hitherto produced have obvious faults of position, when tried by this economical test, and believing it to be almost impossible to fix a whole set of buildings so as to prevent the chance of this being proved by experience, or by improvements in the modes of carrying out agricultural operations, I was forced to the conclusion that to make the buildings portable, or removable from one part of a farm to another, would be one of the most likely means, if not the only means, whereby to correct errors of position, and to give room for expanding or contracting the plan as circumstances might prove to be necessary.

I have known cases in which it was clearly proved that some of the best farm machinery was worse than useless (leaving the cost of the machinery itself out of the question), because more extra expense was incurred by bringing the farm produce to and taking it from the machinery than the value of the work done by the use of the machinery; but if this machinery had been "portable" it could have been applied with decided advantage. Thus it appears that the word "portable" expresses a very important quality; and as Mr. Thompson, one of our implement stewards, has very properly intimated a wish to diminish the use of the word "impossible," perhaps I may be allowed to suggest that it is very desirable to draw general attention to the importance of the word "portable," as without it I do not see how we can have the right buildings and the right implements in the best places for general use. If necessary, every building on a farm might be made so as to be portable; therefore, the chief question will be—What is likely to prove beneficial under the circumstances of any particular case? and to decide that question, all the circumstances of the farm must not only be known, but have due consideration, as what might pay in some situations would not in others.

It may be said, with truth, that portable farm buildings would be more generally beneficial in the colonies, or in other countries where the land is at present unenclosed and in its natural state; but the same remark would apply more or less to almost every other agricultural improvement, and particularly to all such as relate to railways, tramways, trucks, carriages, and modes of conveyance generally; but as some of the inhabitants of other countries are likely to adopt real improvements whether we do or not, that is a reason why we should apply them so far as they are likely to be beneficial under our circumstances, but no further.

In a case where all was to commence, that is, where there were no roads, fences, gates, ponds, nor buildings, it might, but I do not say it always would, be desirable to have all the buildings moveable. Where the reverse of all this was the case, and the farms were also small and compact, probably there would generally be so much the less necessity for moveable buildings. Where the farms were large, and the land scattered, or far from the present buildings, it might be good economy to have new and portable buildings for the outlying fields. In no case should present buildings be pulled down hastily, especially if they are in good repair, and likely to cost little by remaining where they are. In short, I wish it to be clearly understood that I do not advocate rash and costly changes, or any changes that after due consideration are not likely to be profitable. When new buildings are intended, I would suggest for consideration whether any of the new buildings, or any portion of each building, should be made so as to be "portable." The Crystal Palace of 1851 was a practical proof that in some cases it may be well to make parts of a building in some degree moveable, so as to make the materials useful for different purposes.

If any one doubts the value of having farm buildings moveable, let him bear in mind what a saving of labour there would be, in some cases, by having portable cattle-boxes, &c., to take to one end of the farm, instead of bringing the Turnips and straw, &c., from that end of the farm, and then taking them back again as manure. Unnecessary labour causes other labour that would not otherwise be necessary; for instance, unnecessary carting on roads causes labour in repairing them. By avoiding the first error, and consuming the produce, or part of it, near to where it was grown, the number of operations saved would vary according to circumstances, so I will not attempt to enumerate them; but in some cases the saving in the cost of labour, and in the quality of the corn by harvesting it more rapidly, might be equal to the whole rent of the land.

It may be said that, to do this, the cattle and their "boxes," &c., would want a labourer to look after them; and "Where would he live?" My answer is—Why should not he live in a portable cottage close by his work, if that would pay the landowner and occupier the best as a means of enabling them to cultivate the land? When 1000 men can live in a portable building at sea, surely a labourer, and his wife if necessary, may be provided with a portable residence on land that would contain more comforts and conveniences than they are accustomed to.

If horses had portable stables close by their work, they would lose less time in going to and from it, therefore they would be able to do more real and necessary work in the same time. They could be comfortable in the stable close by when not wanted on the land, and what is more, they could be making the best manure by eating a green crop of Lucerne, Tares, or whatever else was most likely to be profitable to grow close by, and the manure so made would be close by where it was wanted.

Besides all the numerous advantages which might be derived from having healthy horses in portable stables, it should be borne in mind that, if illness attacked any of them, it would be very important to be able to move the sick stable and horses from the rest. This last consideration would apply more or less to all sorts of stock; and although I have only gone into some details respecting cattle and horses, those who reflect on the subject will generally agree that in some cases portable buildings would be desirable for every kind of stock that is common on English farms.

I have no doubt it is quite practicable to make every necessary farm-building moveable, and in many cases I am quite certain that it would pay well to make part of them portable, especially now that there is a probability of an increasing scarcity of farm labourers—which proves how important it is to employ such as there are on labour that is really necessary and profitable. If "portable" farm-buildings saved the labour of men, they would also save the work of about twice as many horses, and thus the question becomes one of great importance to the community at large as well as to individuals.

I am not aware that any one has previously suggested the trial of portable farm-buildings, and I am prepared to receive the usual proportion of ridicule as a proposer of a new plan; but I wish to submit it to the fair consideration of all persons who take an interest in such subjects and I am more particularly desirous of drawing the attention of agricultural implement makers to the idea that, if some farm buildings, such as cattle-boxes, were made portable, they would afford to them another source of profitable employment for their capital and skill, and a means of being useful to others to an almost unlimited extent. *Barugh Almack*, 41, *Albion-street, Hyde Park, London.*

[The above is the substance of a letter addressed by Mr. Almack to the Secretary to the Royal Agricultural Society—the receipt of which was acknowledged in the recent report of their late meeting.]

THE HOUSING AND FEEDING OF CATTLE.

In the last 15 years I have housed and fed upwards of 1200 cattle, besides having been intrusted with the constructing of numerous straw-yards, byres, &c. In treating of the subjects under discussion, I shall, in the first place, with reference to the housing, consider the merits of three methods, viz., feeding-byres, feeding-yards, and feeding loose-boxes. Feeding-byres should only contain one row of cattle, standing crossways in the

on of the side walls. There ought to be passages, before and behind, for the convenience of the in laying the food before them, and clearing the way, &c. Troughs at the heads of the animals o necessary, and these may either be made of ent, cast-iron, or dressed stone, for containing corn, or cake, with racks immediately above them lder. The walls should be a good height for the say 8 or 9 feet; and the latter, if made of tiles, have the second row from the ridge raised up es at the lowest end, for the purpose of allowing eat or steam that generates to escape; or oof, if covered with slates, should have ven- g holes—of which there are many kinds, formed the ridge. Great attention must be paid to the ent ventilation of every byre; for, when such is se, the health of the cattle is greatly promoted, onsequently, the profit from feeding proportionately ced. To attain this end, I make in the side walls, efore and behind the cattle, windows or boles with doors on them every 12 feet or so apart; and imes in double-headed byres, in these boles I make nd or false door of perforated zinc, so that the ht can be regulated at pleasure. When a stormy is blowing against any side of the byre, the doors boles can be shut on that side, and those on the ite side opened; or, if an ordinary wind, I open the wooden door, and allow the zinc ones to be ht into play. With these doors, and a careful r to regulate them, the cattle will never be seen ing and perspiring, as is frequently the case in where no attention has been paid to the most im- nt matter of ventilation. In cause-waying byres, inches of a fall is necessary to prevent stagnant r from remaining about the feet of the cattle, and a ed drain or gutter behind is requisite for conveying urine to the tank. The divisions or stalls can r be made of a stone slab or wood. The former I d recommend, as being the most durable, although st more costly.

how come to the second method referred to, viz.:— ling-yards. When these are intended for six or ten e, they should be made with a southern exposure if ible, and have as much shedding as to allow them all fortably to rest in. If the east, west, or north sides not covered by sheds, attention ought to be paid to these uncovered sides sheltered by walls sufficiently to protect the stock from piercing winds and storms. ssed stone troughs for roots, corn, or cake, be made inside along the back wall; and boles as nerly described, with hinge-doors to open outwards y 12 feet or so, for supplying food, with a fodder immediately above. It is very useful to have a r-trough in the corner of the yard; for, although om required in winter, while the stock is receiving a allowance of roots, yet, in spring or summer, when e and other fodder become drier, it may then be d of great service. It is of great importance to the fort of the cattle to have the bottom of the yard ed, or, at least, with an even surface, to avoid pools stagnant water such as are often seen. Let also ters be placed round the eaves of the house or ds, to carry away the rain water, that it may not rate the manure and wet the bedding of the cattle.

Feeding loose-boxes now come to be considered as the rd of the series referred to, and when these are for or two cattle, they ought either to be altogether under f, or have a yard similar in size outside to the space hin, and should also be provided with troughs and ks, as in the yard first described. The cattle can her be fed by having a bole through the wall for each , or by means of a passage along the inside of the ls. Either plan most convenient to the root-shed or re may be adopted.

Having given a general outline of what I consider to the best methods of erecting houses of each kind for tening cattle, I shall now proceed to explain what in opinion is the most effectual system or plan for fat- ing, and the food I find best calculated for the attain- nt of that end in the shortest period. I shall suppose beginning of October as the time the cattle ought to housed, and that they are put up so as to require at st six months' feeding, and be worth at that time, say . or 10 guineas each. For the first fortnight I e nothing but Turnips (tops and bulbs), with a ular supply of Oat-straw fodder, as well as a piece of k salt to each beast. This they have constantly ore them while feeding. At the end of the first night, I give them in the morning, at 6 o'clock, 2 lbs. ilcake, and immediately afterwards as many Turnip bs as they can eat, taking care that their troughs are pty by 11 o'clock, A.M. I continue the 1 o'clock t of Turnip-tops and bulbs same as before. At the l of the first month, I feed in the morning, as last cribed, then at 1 o'clock P.M. give 2 lbs. of oil-cake h, after which what Turnip bulbs they can consume. fore putting in the Turnips, I have a basketful of Oat or Wheat-straw to each beast laid on its ugh; so that while eating their Turnips, they at the e time take up the cut straw, which greatly assists ir digestion, as they masticate their Turnips better, l fewer of them serve. At the end of six weeks, I e along with the oil-cake in the morning 2 lbs. of und corn, &c.—generally Oats, Barley, and Beans ed; with a supply of Turnips and cut straw. The l day bait is the same as in the course preceding. the expiry of two months, I add 2 lbs. of the mixture heir last of oil-cake, and at 1 o'clock in every other pect the feed given is the same as last. I continue course until within six weeks from the time the cattle are supposed to be ready for market. To each two, at suppering time or 8 o'clock, I give half a stone of good Rye-grass and Clover hay, adding 1 lb. more to each of the two baits of oil-cake—of course, taking care that the Turnip roots, which are generally supplied whole or uncut, are all stored and given to the cattle free from frost and exposure to rain. As to the varieties of Turnips best suited to the different stages of feeding, I give for the first three months the Yellow, and the last three Swedish. Cleanliness is of the greatest consequence, and I am most particular in causing the feeder to have the byres well swept out every time the dung is removed—the troughs especially I have cleaned out twice a-day. In six months the cattle with such treatment should be plump, fat, and of excellent quality, ready for the market. If a second lot of cattle is put up, similar treatment should be observed as explained, when the cattle were housed in October. Continue the roots as long as they last. Winter Tares or Grasses should then be ready to supply their place. With the same attention bestowed on the different lots in byres, yards, and loose-boxes, and with regular feeding at the same hour, upon the same food during the six months, and supposing the stock of the same class and equal value when first housed, as well as equally good growers, my experience has shown that universally the byre cattle brought the highest price when sold. I have had many opportunities of testing to my own satisfaction, with such byres and straw-yards, as I have described the merits of these two methods of feeding. I am, however, not so much acquainted with the loose-box system, for although I have recently had them erected, I have not yet had sufficient experience to test their merits with the other two systems. When the winter months were comparatively mild and warm, like our last season for example, I have found that yard-cattle come pretty close to the byre ones in value when sold, but certainly not equal. I may here mention, as a corroboration of my views on this subject, that my friend Mr. William Young, junior, of Grange Distillery, told me the other day that he was taking down most complete cattle straw yards, constructed to hold four large cattle each, and converting them into byres. These yards had a southern exposure, well sheltered, and in every way protected from stormy weather; but Mr. Young said he was perfectly satisfied that straw-yard cattle were, with equal attention, at least two months behind those of the byre in being as fat. I am in favour of having about the same extent of housing in byres as in straw-yards and loose-boxes on a farm; because different tenants may have different methods of rearing, the one may altogether feed cattle, while his successor may both winter and feed some. There might be a deal said on the advantages the byre possesses over the straw-yard for feeding cattle; while, on the other hand, the straw-yard might in certain circumstances present others over the byre, were each of their defects and properties thoroughly explained.

[The above remarks were made by Mr. Gow, of Raith, at one of the discussional meetings of the Highland and Agricultural Society. We publish them now as being appropriate to the season, and as not having previously appeared in our columns.]

Home Correspondence.

Tenant-right.— I think "T." might have spared the subject of tenant-right such severe criticism as he has bestowed upon it in his communication in your paper of Nov. 6th. Let him remember if the question is to be set at rest the landlord must come forward and offer such an agreement as will make it unnecessary to demand anything like compensation for lasting improvements. It is useless to talk of its being a matter of agreement, as "T." describes it, till this is done, for many if not most leases made within the last eight years, contain no clauses that secure compensation for lasting improvements, and so long as landlords refuse to have any clauses of this kind in their covenants, they will certainly hear a considerable outcry for tenant-right. I am perfectly aware that some landlords, whose names are perfectly well known, do everything that justice and liberality can demand, and, I believe, are ready to support a tenant-right bill. But there are far more numerous instances of landlords who are not so liberal, apply the screw freely, and oppose tenant-right in every shape. *J. R. M.*

Thin-seeding.—It has been well observed in a late leading article of this Paper, that "The question for the farmers' consideration is—what remainder exists for sale after deducting the seed? not how many fold the seed has produced." This is surely the vital question, and if thin-seeding does not answer it in the affirmative, it does nothing; and although some thin-seeders have laid much stress on the saving of seed, and have entered into long calculations to show the immense number of quarters such saving would give to the consumption of the country, we can scarcely conceive that the acreable amount can have escaped their consideration; they must have contemplated in thin-seeding, an equal, if not a higher amount of disposable grain at harvest. But thin seeders do not need to rest on this broad basis, a yet broader one remains to them.—a giving to, and fixing in the seed an increased and increasing habit of production consequent on thin-seeding and the careful culture that must attend it. Gardeners know that a sport can be fixed, and we have seen true Wheat produced by the careful culture of an otherwise worthless grass, its ears having been thus made to yield year after year an increasing number of plumper and better filled grains. We cannot, therefore, doubt that this thin-sowing, this garden tillage of Wheat will, I might almost say, *ad infinitum*, increase its productiveness, we can conceive no limit to it. It is very true that, in the ordinary tillage of our land, very thin seeding is inadmissible, we must sow a sufficiency of seed to allow for all the casualties to which a crop in such land is liable, and which must be in proportion to the tillage which has been, and is, during the growth of the crop, accorded to it. But even in our coarsest tillage we may take advantage of thin-seeding in the saving of seed, by sowing the seed which has acquired by garden tillage and thin sowing an increased constitutional productiveness. Mr. Wilkins obtains his 4000-fold increase, perhaps, not more by his thin-seeding than by this increased constitutional productiveness induced by the thin-sowing of his mummy Wheat; and I see no reason why he may not, persevering in the same course, obtain 8000-fold. Possibly, had he directed his efforts to a finer description of Wheat he might have made it equally productive. Although within certain limits, on land but very indifferently prepared, I have found as the width between the rows of grain crops was greater and consequently less seed was used, a gradually increasing produce ensued; yet this may not have always resulted from the quantity of seed being diminished, for one instance occurred in which at rows equi-distant a double quantity of seed produced a larger return, yet this was a solitary exception in an experiment in which various quantities of seed were sown in equally distant rows. It is very possible that the acreable produce of land under ordinary tillage does not depend so much on the quantity of seed sown as on the variety of other circumstances, the condition and nature of the soil, the previous and after tillage, the mode of culture, the depth at which the seed is deposited, and more still, perhaps, especially under defective tillage, on other matters, which are not within the reach of our observation, and from which in all our experiments, even with the greatest care, we find results that puzzle our ingenuity, cheat our attempts, and render our trials uncertain. In rows at 21 inches asunder, I have found single grains, dropped 4 inches apart in the row, which is only about 10 lbs. to the acre, yield one-third more than sixteen times the quantity of seed. In equal squares of ground I have ever found a greater number of stems in rows 2 feet asunder than in broadcast, the heads heavier, and of course less seed sown. Wheat appears to germinate more surely, and tiller more freely, with very light than with more heavy coverings; in the deeper coverings, it seems, it must approach very near the surface by an underground stem before it tillers, and that it then tillers only from the apex of that stem, and from sundry examinations I conclude that the shorter this under-stem is, the greater is the number of overground stems that proceed from it. To ensure an equalness of ripening, this tillering should take place before the winter sets in, which would require a September or October sowing, and it is very likely that the tillering process might be promoted by drawing clay to the plants about the time it commences; thus a greater number of stems and perfect heads may be produced from a thin sowing than from a thick one at a greater depth. Messrs. Hardy and Sons have by their garden tillage produced 7½ qrs. of Wheat to the acre, with a very small quantity of seed; and although we cannot expect men who have not had the education of gardeners to adopt at once their nice tillage, yet, in the practice of Mr. Smith, farmers have an example of tillage that they may follow, at least in its principle; there can be no difficulty in making those of their grain crops which are not sown with seeds fallow ones; this will bring a fineness and cleanliness of tilth, with a disintegration of the under-soil, and facilitate an absorption by the soil of nitrogen and of carbonic acid from the atmosphere, which, besides affording their proper elements of nutrition, will, under these conditions of the soil, ensure an ample supply of inorganic matters in a fit state to be taken up by plants, and enable farmers to produce, from less seed and less manure than they have been accustomed to use, crops that may rival those which the Hardys now obtain by their superior skill. This is a great national object, for by it we may be rendered independent of foreign supply, and wealth to the landed interest secured without protection; it would also lessen the necessity for extraneous manures; every farm might thus be rendered self-supporting. To this end a wide-rowed system is equally applicable with Mr. Smith's—the principle is the same; the ground between these rows may be as deeply worked as the fallowed spaces in Mr. Smith's, and at the same expense. Mr. Smith's plan would, however, allow of stolen crops of Rape, Turnips, and early Cabbage being sown and planted between the grain-sown ground for winter and early spring feeding—of which more anon. With this continuous fallowing, this fine tilth, the thinnest sowing of its advocates may be adopted, with a security and profit unquestionable. *J. M. Goodiff, Granard, Nov.* 12.

Do not House Black-faced Sheep.—Being much interested in the rearing and feeding of sheep, perhaps you will allow me to make a few remarks on the interesting article on the house-feeding of sheep, in the *Agricultural Gazette* of Oct. 30, which I have just read. That the black-faced breed, for health, quality, and size, is equal if not superior to any other breed, there is not a doubt; and if we take into consideration the hardiness of the breed, and quality of the mutton, it has no equal. It surprises me that these qualities are so much overlooked by breeders and feeders. I believe many farmers are prejudiced against the black-faced breed, because nets and common hurdles are not sufficient to

enclose them. It ought to be made known that there are at least two very distinct species of black-faced sheep reared in Scotland, and one breed is very much inferior to the other. This inferior breed is raised chiefly in the upper parts of Perth, Banff, and Inverness-shires; they are easily known by their long legs and tufted faces; their horns grow backwards or cock up; whereas the horns of the south country, or Lanark breed, always turn round to their eyes, and it requires a sharp look-out in summer to prevent the horns from growing into their head and eyes; they are quite docile and as easily enclosed as the Leicesters, their frame is of a squarer cast and much larger (I have known 30 lbs. of tallow taken out of a tup of the latter breed, which was not anything like being fat); they are also of a more rapid growth, and come sooner to maturity. The other, or highland breed, are of a wild, restless nature, and it is with difficulty they are kept within fences, and they do not readily fatten on Turnips or enclosed Grass; they have a great instinct for "home," so much so, that some of them have been known to swim across the Frith of Forth, and afterwards find their native habitat, at the distance of nearly 100 miles, and all without a guide. After being bred in the lowlands, to the third and fourth generation, they still retain their restless nature, which evidently shows there is something more in their nature than the excitement of "eagles, ravens, foxes, and polecats." Although it be a well-authenticated fact that the temperature of the body of sheep, as well as of man, is the same from the poles to the equator, yet, there is abundance of facts and failures to prove that the black-faced breed will not succeed so well when housed as they do in the natural system. I have seen it tried in different parts of Scotland, and found that those that were properly housed in winter looked better in spring than those that had been exposed on the moors, but I have always found that the sheep exposed on the moors throve better the following season than the housed ones; I have seen this tried experimentally with the same stock. I am quite sure that flockmasters in mountain districts will bear me out in the opinion that housing of sheep during winter "unfits them for their summer walks;" it is very different with the south-down on the rich pasturage and the mild climate of the south; but turn the southdown out, after being housed all winter, to find its living on the Eriophorum vaginatum (Cotton-grass), at an elevation of 2000 or 3000 feet above the sea level, it would be found very different from the downs of the south. There is much can be done by draining in mountain districts to improve sheep-walks; and if the excellent suggestion in the article referred to, of sowing or planting Furze wherever it would grow, were carried out, it would more than ten times increase the amount of matter; flockmasters would then find that they had discovered a plan far cheaper and much better adapted to the nature of the black-faced sheep than the old-fashioned practice of housing. I am confident no artificial housing or feeding will pay on hill pasture. True, the Rev. A. Huxtable gave an account at an annual meeting of the Sturminster Agricultural Society, 1847, of some experiments with hill-reared lambs, which would go to prove that hill-feeding would pay. He (Mr. Huxtable) stated that he weighed four lambs on Nov. 8, and in three weeks he weighed them again, and the increase was 48 lbs.; this is an average of 12 lbs. to each lamb in three weeks, or 4 lbs. per week of live flesh. *C. M. D., Kingsweston, Bristol, Nov. 9.*

Cut Straw Chaff.—I have 10 Wheat stacks and a barn full; the whole, or nearly the whole will be consumed by the animals, which being on open boarded floors require no litter. The straw is cut about 3-16ths of an inch long, and becomes split at the same time. It is thus remarkably fine. The long straws are sifted from it. It is carried to three coppers of 150 gallons each, and there moistened with linseed soup; about 20 lbs. of crushed linseed, macerated 24 hours, is sufficient for 40 year-olds off. The waste steam from the engine passes around and under these cast-iron pans, and the mass is given hot to the animals the ensuing morning. One ounce of salt to each animal is mixed with the chaff. When opened, the mass of chaff smells like brewing. Formerly, my horsekeepers praised Oat straw, but now if they have anything but Wheat straw chaff they grumble sadly at the change; it is such "hearty" stuff they say. If hay is cut very fine, straw chaff should be mixed with it, to prevent its "balling" on the stomach. By intermixing cut Mangel with straw chaff, it prevents scouring or looseness. When farmers use steam-power more generally, we shall not see straw wasted as it now is. Great is the outcry amongst my folks, if we happen to be out of chaff. They say the animals won't do so well, give them what they will. Sheep do well on our heavy wet clays in the day-time, coming in to open boarded floors at night to eat rape-cake, and if they choose it, cut straw. It is lying down at night on cold wet clays, that does not suit sheep, and produces fever in their feet. On our principle, we never have any foot complaints. We find a mixture of straw chaff with cut succulent green food most advantageous. It prevents its being "physic" instead of food. *J. J. Mechi, Nov. 8.*

Taste of Turnips in Butter.—Mr. Hewitt Davis has done good service by calling attention to Mr. Smith's practice, at Chipstead, in Surrey, of keeping a dairy upon an arable farm. He has, also, borne testimony to the purity of the butter produced from milk obtained from cows fed upon roots and artificial grasses. Mrs. Smith, it appears, has discovered some method of churning sweet butter from root-fed cows, a secret worth knowing. Your Journal has frequently contained so-called specifics for the purpose, but, upon trial they have proved incapable of removing the disagreeable flavour produced by the cows having access to Turnips. If Mrs. Smith is enabled to set us all right upon this desirable point, she is worthy of high pay for her discovery. I, for one, shall be very glad to give my sovereign for knowledge I have sought for in vain, and I trust that some other of your readers will also encourage Mrs. Smith to disclose her valuable recipe. *S. G. R.*

Societies.

FIFESHIRE: TRAFALGAR AGRICULTURAL.—This Society held its annual meeting the other day. It will surprise some of our thin-seeding friends in the north of England to learn that the point to be decided with reference to their pet subject in the south of Scotland is not whether a peck or a bushel is the best seeding per acre, but whether one or two sacks of Oats as seed per Scotch acre will yield the best return. Mr. Gulland, Wemyss, offered a sweepstakes in 1850, that 4 bushels of Oats, sown, per Scotch acre, on poor land, would yield a better produce than 8 bushels sown under similar conditions. The late Mr. Hill, maintaining the contrary, accepted the sweepstakes, and a number of others took up the same. Experiments were made by Mr. Dingwall, Ramornie, and Mr. Buist, Hattonhill, and also by Mr. Haxton, Drumnod; but owing to the last mentioned gentleman having sowed the quantity of oats by the imperial acre, his results could not be taken:—

In Mr. Buist's Experiments—

4 bushels sown yielded...28 bushels per acre—33 lbs. per bushel.
8 bushels sown yielded...36 " " —34½ lbs. "

In Mr. Dingwall's Experiments—

4 bushels sown yielded...45 bushels per acre—38½ lbs. per bushel.
8 bushels sown yielded...49 " " —39 lbs. "

In the course of the evening a paper on tenant right, from the pen of Mr. Kinnear, advocate, was read and discussed; the paper itself we have published in another section of this journal. The following is a report of the discussion which followed its perusal, abridged from the columns of the *Fife Herald*:—

Mr. R. RUSSELL, the secretary, moved the following resolution: "The members of Trafalgar Society, having heard the very able statement by Mr. Kinnear, of 'the nature and results of the different systems of tenant right at present legalised by custom, or established by agreement, in various districts in England, and also in Ireland,' resolve, that they consider the general views put forth by Mr. Kinnear as not only just and sound, but that the intelligent and discriminating manner in which the whole matter has been handled, is calculated to dispel many of the prejudices in which this subject has hitherto been involved." Mr. Russell said: Practically speaking, we have never meant anything else by the term tenant right, than liberal covenants. I fully concur with Mr. Kinnear, that "no rational man desires to see the Irish system transplanted into any other part of the realm." I think, however, it is the only part of the realm where a legal enactment is at all pressing, of such a nature as would place matters on something like a rational footing. But, coming more closely to our own circumstances, and in cautioning us to avoid the evils which have crept in in some counties, Mr. Kinnear has very properly laid bare these abominations, because they have been stumbling blocks in the path of some of whom better things might have been expected. The fundamental error of the Surrey system lies in making valuations of certain acts of husbandry, which are assumed to be worth a certain sum of money. But the Lincolnshire system rests upon the secure foundation of giving a market value for an agricultural commodity, which is a necessary one at the time the valuations are made. The opinions of Mr. Caird are now cited against the Lincolnshire customs, for he has placed good and bad in one category. They are all calculated, he says, "to perpetuate bad husbandry, by stereotyping costly practices which modern improvements have rendered obsolete." But how this can apply to the Lincolnshire tenant right no one can understand but himself. Just look at the list of improvements for which allowances are made, as enumerated by Mr. Kinnear. We have drainage, claying, marling, oilcake, guano, and bones. The first on the list is drainage; and if modern improvements really render drainage obsolete, will an out-going tenant expend 20*s.*, for the special purpose of making his successor pay him 5*s.* or 10*s.* in return? not very likely. Will it be his interest, on similar terms, to chalk, clay, or marl, if either of these practices become useless? this would be costly stereotyping indeed. And, last of all, if the present practice of manuring should be numbered with the things that were, as some are so sanguine as to believe, will the Lincolnshire tenant right interfere or retard the progress of our art, even when the fertilizers of Peru are at a discount? We answer, not in the least; nay, even should the costly practice of high farming, with liberal covenants to the bargain, be demanded as a sacrifice to modern improvements, the Lincolnshire tenant right will not stand in the way of consigning the whole to oblivion. You will thus perceive that, while the Surrey system is a real iniquity and a check upon improvements, the Lincolnshire system possesses within itself the elements of its own regeneration. I would merely call your attention to the allowance which is made for drainage in Licolnshire, which only extends over five or six years. Now this might do very well for good land, but it is a vast deal too short for poor. I am not prepared to recommend any allowance for drainage or other permanent improvements under our long leases. But in Ireland, where everything is to do on their s farms, drainage and other permanent improvements o to be allowed; but for large farms long leases sh be adopted, because, unless one has a more perma interest in the land of Ireland than a 19 years' l affords, it is a mere dream to think that Scotch farn will ever accomplish results worth consideration. we only wish to be allowed for such items of cur expenditure as will promote good farming, and shall be mutually beneficial to landlord and tenant, cannot see what objections could be made to legalise Lincolnshire customs; but, at the same time, I do see that such a procedure would be of general bene I must say, however, that I think our southern brot farmers exercised a curious choice in turning their ba upon Mr. Pusey and not sending him to Parliament, no one has had the welfare of the tenantry so much heart or wrought so zealously for their interests. Fife we pay high rents, but we have also many adv tages; our steadings, in general, will stand compari with most counties, and our covenants cannot be said be very illiberal. I merely think our leases are quite up to the times, and that they would be mu better rather to anticipate the progress of agricult by affording judicious incentives to good farming th to lag behind the requirements of the day. Mr. Russ concluded by moving the adoption of the foregoing reso tion. The resolution was agreed to unanimously.—M Honeyman moved the next resolution, as follows That the custom, partially followed in Scotland, paying the out-going tenant for the value of the unco sumed Turnip crop grown in the last year of the lea should in all cases be adopted. Mr. Honeyman sa he considered this motion to be perfectly consistent wi common sense and justice. Turnips was a crop alwa very difficult to dispose of. He believed he could appe to any auctioneer present if such was not the case they did not find Turnip crop very difficult to sell. thought it was the interest of all parties that the Turn crop should not be removed. The out-going tena could not dispose of it advantageously; and, if it w retained on the farm, it would certainly contribute mo to its improvement than if it were removed, and wou thus be more beneficial to both proprietor and in-comi tenant.—Mr. Russell, Newsmills, said, before the res lution passed the meeting, he felt bound to state that disagreed with it—could not allow it to be said that had passed unanimously. If they proposed that th in-coming tenant should be bound to take the uncon sumed Turnips, why not compel him to take the stra too? Cattle could not live on Turnips alone, they mu have something else along with them. But he though it was a matter entirely for private arrangement. Th outgoing tenant should be left to dispose of the Turnip as he thought fit, and allow the in-coming tenant purchase them if he had a mind. Some in-comin tenants might be very much opposed to takin them. He knew a gentleman in the county wh fed his cattle on Potatoes alone. He certainly though this matter would be better left alone altogether —Mr. R. Russell said, he thought it an important part o Scotch tenant right that the in-coming tenant should b compelled to take the unconsumed Turnips that were upon the farm. As to straw, he could easily get a quan tity of straw for his cattle to eat along with them. H thought it should go out as the voice of the meeting that the in-coming tenant should be compelled to take the Turnips that were on the farm.—Mr. Anderson, Star, said he was persuaded it was necessary to have payment for the unconsumed Turnips. They could not have all their green crop composed of Potatoes in the last year of their lease. A certain amount of green crop the terms of their lease compelled them to have during the last year of their lease; and if Potatoes were not grown, Turnips and Beans were the only other crops allowable. If, then, the in-coming tenant did not take these Turnips off their hands, they were almost a complete loss.—The resolution was then declared carried, Mr. Russell dissenting.—Mr. T. Landale, Colzie, then proposed the third resolution, which was as follows: "That the more recent and liberal enactments of the English law, in regard to farm buildings, should be further extended and made applicable to Scotland." In order to a full appreciation of the resolution, it is necessary to quote these recent enactments of the English law, and I will therefore read to the meeting the clause of the act (14 and 15 Vict., c. 25, section 3) to which the resolution refers, and on which it is founded. The act was passed in July 1851, and entitled "An Act to Improve the Law of Landlord and Tenant in relation to Agricultural Tenants' Fixtures." Clause 3, the one referred to, enacts:—"That if any tenant of a farm or lands shall, after the passing of this act, with the consent in writing of the landlord for the time being, at his own cost and expense, erect any farm-building, either detached or otherwise, or put up any other building, engine, or machinery, either for agricultural purposes or for the purposes of trade and agriculture (which shall not have been erected or put up in pursuance of some obligation in that behalf), then all such buildings, engines, and machinery, shall be the property of the tenant, and shall be removable by him, notwithstanding the same may consist of separate buildings, or that the same or any part thereof may be built in or permanently fixed to the soil, so as the tenant making any such removal do not in anywise injure the land or buildings belonging to the landlord, or otherwise do put the same in such plight and condition, or as good plight and condition, as the same were in before the erection of anything so removed; provided, never-

that no tenant shall, under the provision last d, be entitled to remove any such matter or s aforesaid, without first giving to the landlord or at one month's previous notice in writing of his n so to do; and thereupon it shall be lawful for dlord, or his agent on his authority, to elect to se the matters and things so proposed to be d or any of them, and the right to remove the all thereby cease, and the same shall belong to ndlord; and the value thereof shall be ascer- and determined by two referees, one to be chosen a party, or by an umpire to be named by such s, and shall be paid or allowed in account by the d who shall have so elected to purchase the same." sual observer, this clause seems to confer a great a tenants. But on examination it will be found confers no boon at all, as the consent of the land- writing is required before any of these buildings ires can be erected. Surely no such clause was to secure the landlord. He is not bound to take ldings from the tenant except he chooses; and ise binding the tenant not to injure the rest of ldings in removing those of his own erection, confirms the security of the landlord. I there- nsider the act as childish, and a little better than at all; in fact, the clause referred to renders , like many others, a dead letter in the statute It is like giving a tenant liberty to shoot hares a license, on obtaining written permission from dlord. The whole act is, however, even as it better than nothing; but then in the concluding it is specially provided that the act shall not to poor Scotland. How is this? If it is neces- provide by any law, however imperfect, good nodation for stock in England, is it not much ecessary in Scotland, with a colder temperature re variable climate? Is it that the steadings m offices in England are worse than those in d? No; for while in some parts of England ay be, and are, notoriously bad and insufficient present improved mode of husbandry, it is quite known that they are not, and cannot be, and more defective than some even in our untry. All I would ask is to be put on an ooting with our English brethren. Do this, and the words, "with consent of the landlord," and fer a boon on the farmers of Scotland, which, may not to those who have fine steadings and accommodation appear great, will yet be such e highly appreciated by not a few in even our ingdom of Fife.—Mr. H. Pitcairn begged to the resolution.—Mr. Landale had explained and l most completely the right of the tenant pensation for what useful buildings he might rected on his farm. The resolution was, little conversation, agreed to unanimously.— igwall then rose to propose the fourth resolution t the practice which exists in Lincolnshire, of compensation for unexhausted manures, might antageously adopted in Scotland, and that an ce of one-half of all purchased manures, and f of the bill for oilcake and other feeding-stuffs last year, should be paid for, provided these do eed the average of the last four years." Mr. ll said, the resolution proposed the adoption of n of recompense to the tenant which had wrought Lincolnshire, and seemed very well adapted for provement of farming in general. If it had eneficially on farming there without leases, he think it could be doubted that it would work as h leases in this country. Such a proposition self clear to every one without any discussion. nnear had given them in his paper the details of colnshire tenant right—the recompense that was for claying, chalking, marling, oilcake, guano, he scale so given was perhaps a little too com- , and the resolution proposed, instead of entering se details, to charge half of the last year's bill for ed manures and feeding-stuffs. By this means going tenant would have a fair allowance for his and would be encouraged to maintain it up to the r of his lease. The tenant will have a security ven him of a recompense for improvements made, while the landlord will not have the ad- taken of him by the tenant making any unne- improvements during the last year of his lease. A. Landale, in seconding the resolution, said he know whether they were entitled to ask that the the bill should be given for guano, for he rather that the power of that manure was expended in t year. With respect to bones he thought one- both for the in-coming and out-going tenant.— neyman begged to say, with respect to one half last year's bill being allowed for oil-cake, that if going tenant fed his cattle during the first six of the last year with oil-cake, he received its the dung. The second six months his cattle n Grass, and oil-cake would not be used. He , therefore, it would be a hardship for an ng tenant to pay for oil-cake, for if he had to the manure left upon the farm, competent judges place a higher value upon it than if it were rotten straw. The out-going tenant had reaped from all the oil-cake he had used previous to his last crop into the ground, and he thought it fair to make the in-coming tenant pay for the which had been used, when at the same time to pay for the Turnips that were grown by of the manure of it.—Mr. R. Russell said, he ot agree with Mr. Honeyman. Oil-cake was a very slowly decomposing manure, and would not be worn out for three or four years. And although it might be said that it was too much to charge for only one year, yet it was to be considered that the out-going tenant had been going on in the same way for some years before enriching the land. It then became a premium for good cultivation. He thought the Lincolnshire plan of allowing one-half of the last year's bill for oil-cake was a very good plan, and quite fair for all parties.—Mr. Honeyman replied, that if Mr. Russell went to take a farm, and saw that that farm was in high condition, he would bid for it accordingly. If he saw that the farm was in poor condition, he would not be disposed to offer such a high sum. It thus came to be an affair of the landlord, not of the in-coming tenant; and he thought the sum to be paid for oil-cake and other manures during the last year of the lease should fall upon the landlord, not on the tenant.—Mr. R. Russell said, Mr. Honeyman and himself were, in effect, saying the same thing. If the landlord would pay the out-going tenant for the high condition of the farm, he could not invest his money more profitably. All that was wanted was a fair recompense for the improvements of the out-going tenant.—Mr. Honeyman, after a little further conversation, said he begged to tender his dissent from the resolution. He believed that it was yet an unsolved problem whether oil-cake benefited the in-coming tenant to the extent of one-half.

Review.

Pauperism and Poor-laws. By Robert Pashley, Q.C. 8vo, pp. 428. Longmans.

The mere fact that the sum raised by rates and annually expended in England and Wales, in the relief of the poor, has during the last 10 years been on an average no less than five millions and a quarter sterling, the average population during the same time being about 17 millions, is sufficient to show that the actual state of pauperism in this country, and the causes which lead to the increase and decrease of poverty, demand the most serious attention of every one interested in the welfare of his countrymen. The author of the work now before us, whose well-known acquaintance with its subject-matter requires no mention here, has endeavoured to throw light upon those momentous questions. After wading through innumerable blue books, and carefully comparing the state of the poor in England with that in other countries, Mr. Pashley has come to the conclusion that much of the existing pauperism is due to defective legislation, and to that alone, and consequently that under a better code of laws the evils which afflict the poor and the community at large would be materially diminished.

Our space does not allow us to follow the author step by step through the trains of argument by which he arrives at his several conclusions, nor can we take upon ourselves to examine their validity and truth; but we must endeavour to lay before our readers such a sketch of the contents of the work as will, we hope, lead them to its careful perusal.

In the first three chapters the author gives the number and cost of paupers in England and London, and compares together the pauperism in agricultural and manufacturing districts. From these chapters we have selected the following facts, as worthy of the readers' attention. Out of a population of 17,000,000, it appears that 1,000,000 persons *constantly* receive relief, or, in other words, are maintained at the expense of their neighbours, and that 3,000,000 (or from 1 in 5 to 1 in 6 of the whole population) receive relief to a greater or less extent in the course of a year. The number of children under 16 relieved for a longer or shorter period, out of the poor-rate, in the course of a given year, is estimated at 1,000,000, and the number of able-bodied male adults similarly relieved at no less than 300,000. This large body of paupers is maintained by funds proceeding from three different sources, viz., parochial and other old charities, voluntary contributions, and poor-rates, yielding respectively 1,200,000*l.*, 2,000,000*l.*, and from 5,000,000*l.* to 6,000,000*l.* yearly; or altogether between eight and nine millions of money per annum. By comparing the amount of poor-rates expended in the relief of the poor during the years 1748, 1749, 1750, with that similarly expended during the three corresponding years of the present century, it appears that whilst the population has increased threefold the poor-rates expended in the relief of the poor have increased eightfold! In 1750 this outlay was little more than 2*s.* a head on the whole population, whilst it is now nearly three times as great. A rapid increase of pauperism, more rapid in proportion than the increase of population, is found to have taken place, not only during the last century but ever since the principle of the present system of poor-laws has been carried into practice; such was the case prior to the time of Elizabeth, as well as since the reign of Charles II., whenever in short the poor man has been restricted from carrying his only property, his labour, freely into the market, and has been liable, if daring to seek labour out of the place of his *legal settlement*, to be *removed* to it, at whatever distance he may be from it, and of how little value soever his labour may there be. The law of settlement and removal, as it has existed for the last two centuries, and, notwithstanding recent modifications, still exists—has been one great cause of the increasing and continuing pauperism of this wealthy and prosperous country. To the same cause must be attributed the otherwise unaccountable fact that the burden of relieving the poor presses most heavily—not, as in other countries, upon densely populated towns, but upon the fair fields of agriculture. Mr. Pashley shows that in Scotland, Switzerland, Würtemberg, France, and other countries in which anything like our law of settlement and removal is unknown, the denser the population the heavier the burden of relieving the poor, which is as might be expected; but in England it is far otherwise. It appears from the author's investigations that in 1847 the average year's expenditure in relief of the poor amounted as a poundage on the rateable value of real property for all England and Wales to 1*s.* 7*d.* in the pound, for the agricultural districts to 2*s.* 2½*d.*, and for the manufacturing districts to 1*s.* 2¾*d.* only; so that, in respect of this pound rate, the agricultural district is greatly above, whilst the manufacturing is far below the general average. The contrast of the agricultural districts with London is also against the former; in the year ending Lady-day 1850 in London, with a population of 2,362,236, the sum of 741,722*l.* was expended in the relief of the poor, being in the proportion of 6*s.* 3¾*d.* per head on the population; whilst in the same year, in 10 counties, taken to represent the agricultural district, and having a population of 2,514,637, the sum of 1,137,250*l.* 1*s.* was similarly spent, being in the proportion of 9*s.* 0½*d.* per head. This state of things is caused by the work of man alone, and as it has been produced, so it may be removed, by legislation. To the same cause must be attributed another remarkable fact, closely connected with the foregoing. With slight exceptions, increase in proportion of crime seems, on the continent, simply to follow the increase in the town element of the population; but in England a greater proportion of criminals is found in agricultural districts than in our most densely peopled commercial and manufacturing counties. Mr. Pashley says: "The experience of many years has shown that a large part of the crime which leads to trial at quarter sessions and assizes is committed from the pressure of poverty alone. An increase in the physical well-being of the people is ever accompanied by a diminution of crime. Wages remaining the same, a diminution in the price of bread is a sure forerunner of a diminution in the number of criminal offences. This result has been manifest enough, in many counties, since the repeal of the Corn-laws. If, therefore, we compare different *agricultural* counties with one another, we may expect to find that the counties of the greatest amount of pauperism will be those of the greatest amount of crime. 'My poverty, not my will, consents,' may unhappily be the plea of many of the poverty-struck depredators on property, who are yearly imprisoned in gaols." Poverty, then, engenders crime, and so far as the law of settlement and removal has tended to produce the former, so far is it also chargeable with being the cause of the latter.

It is curious that although the evils consequent on the defective state of the poor-laws have been long ago pointed out and expressly recognised by the legislature, their root has been suffered to remain until the present day. So long ago as the reign of William III., a statute was passed with the following remarkable preamble: "Forasmuch as many poor persons chargeable to the parish, township, or place where they live, merely for want of work, would in any other place where sufficient employment is to be had, maintain themselves and families, without being burdensome to any parish, township, or place;" but "they are for the most part *confined to live in their own parishes, townships, or places, and not permitted to inhabit elsewhere, though their labour is wanted in many other places, where the increase of manufactures would employ more hands*," &c.; and a similar statement of the existence of a great crying evil is to be found in the preamble to 35 Geo. III., c. 101. It is true that by the statute passed in 1846, which provided that no person should be removed from any parish in which he should have resided for five years next before the application for a warrant of removal, much of the hardship of the previous law was mitigated; but this statute left the law of settlement untouched, and suddenly threw upon the towns the burden of supporting an enormous number of paupers resident there, but settled and previously provided for by funds raised elsewhere. Norwich, for example, was thus fixed with an absolute increase of about 5000*l.* a year, in the cost of maintaining its resident poor, all at once rendered irremovable; Exeter and Canterbury suffered similarly; in Leeds the increase of the annual burden was about 3000*l.* The effect of this law upon *close* parishes, belonging to one or two individuals, who, though well able to bear the burden of maintaining the poor employed upon their own estates, thrust it as much as possible upon their neighbours' shoulders, is examined at some length by the learned author, who concludes his interesting chapter on "Pauperism and Poor-laws since 1834," and his no less interesting history of pauper-legislation, and of the modes in which the poor have been relieved from the earliest to the present time, with the following observation: "Upon the whole it may fairly be said that the statute 8 and 9 Vic., c. 66, although a beneficial mitigation of the previous law, so far as it tended to strike off from the poor man the fetters of his settlement, has inconveniently increased some of the evils which were previously endured by both paupers and ratepayers, and now furnishes an additional ground for repealing the law of settlement altogether, and for modifying the gross injustice found in the present distribution of the burden of relieving the poor."

Most of our readers are doubtless aware of the

existence of the gross injustice here alluded to; but we cannot refrain from giving some of the many striking illustrations of it, collected in the work before us. In the metropolis, as is well known, the burden of pauperism is comparatively light in some of the wealthier, whilst it is extremely oppressive in some of the poorer parishes. As an example of the inequality in the poor-rates of the city parishes, the following may suffice: St. Mildred, Bread-street, pays no poor-rate whatever; in St. Nicolas Olave the rates are 8*s.* in the pound, on the rateable value of the 51 houses which constitute the parish. In the country the case is much the same. The author gives a table "containing 40 parishes in rural districts of Dorset, Norfolk, Sussex, and Wilts, 20 of which parishes expend yearly in relieving their poor the sum of 79*l.* only, or 1¼*d.* in the pound on their rental; and the other 20 expend yearly for the like purpose 12,408*l.*, or 6*s.* 2½*d.* in the pound on their rental. The burden of pauperism in the latter parishes is therefore about 60 times as heavy as in the former.

We have probably said enough to satisfy our readers, if they required to be satisfied on such a point, that the poor-laws of this country have been and are the source of much evil to the community; but it must not be imagined that all the ills resulting from them have been enumerated. One of the greatest is certainly the defective accommodation afforded to the poor, itself a source of many further evils. The war which, in the eighteenth century, was waged against cottages, those *nests of beggars' brats*, as they have been called, had the effect of fearfully overcrowding such "nests" as were not destroyed. Let any one read Mr. Pashley's 14th chapter, on "the effect of the law of settlement on the dwellings of labourers in agriculture," let him cast his eye over the extracts given from the report of the special assistant poor-law commissioners, let him remember that it is no uncommon thing for whole families, father, mother, and children of both sexes and all ages, to live and sleep together in one and the same room, and that many cottages are inconveniently crowded with more than one family, and then let him wonder if he can at the depravity of morals, drunkenness, and crime which naturally flow from such a state of things.

Drunkenness, like crime, is at once the cause and effect of poverty, and prevails most where pauperism is greatest. An uncomfortable home and a total incapacity to employ any leisure time in mental improvement, are the most general immediate causes of habitual intoxication. According to Mr. Porter, the self-imposed taxation of the working classes in the United Kingdom in gin, whisky, and rum, is annually 28,810,203*l.* What proportion of this amount is spent by those who can neither read nor write, we cannot say, but from the police returns of the number of persons taken into custody in the metropolis, for being "drunk," or "drunk and disorderly," there can be little doubt that by far the largest proportion is spent by the uneducated members of society. It appears that out of upwards of 16,000 persons in one year taken into custody in London, for the above offences, more than 14,000 were either unable to read or write at all, or could do so but imperfectly. Drunkenness is one of the many evil consequences arising from want of education, and so important is it that our poor should be educated, that without some general and effectual scheme for this purpose, it is doubtful whether their condition could be materially bettered by any change in our laws. Mr. Pashley has shown what sort of an education the poor children obtain in the schools to which they have now access. But important as the education question is, the length to which the present notice has already attained forbids us to follow our author further into its consideration, and compels us to pass to that part of his work in which he considers the various remedies by which the evils he has pointed out have been proposed to be mitigated or removed, and in which his own proposal, having a similar object, is stated and explained.

The first remedy considered is that of abolishing removals, and substituting money orders, which is open to these amongst other objections—that it leaves the law of settlement untouched, does nothing to diminish parish litigation, and allows money raised in one place to be expended by the officers of another, who consequently have no interest in keeping the amount as low as possible. The remedy, by substituting a *union* for a *parish* as the district of a pauper's settlement, is objected to as based upon the vicious principle of settlement, and especially because, having been for a long time actually tried in practice, it was found inefficient, and was accordingly rejected. This remedy would, moreover, require a considerable change in the staff of union officers, would materially reduce the interest of each guardian in examining into any case of alleged destitution in his own parish, and would leave untouched many of the evils which have resulted from recent statutes. The author proceeds to investigate further proposed remedies, such as union rating, a charge on the consolidated fund, a national rate on real property, a national property tax, a special income tax, an assessment of tithe commutation rent-charge, and a transfer to the state of all establishment or union charges—to all of which he objects, for reasons which their several supporters will do well to consider, but which we, for want of space, cannot recapitulate.

The author's own proposal we give in his own words, merely adding that he is a strenuous advocate for the education of the lower classes, and for defraying the necessary expenses out of funds raised compulsorily. "My proposal," he says, "is, that the law of settlement be wholly repealed; that the various provisions for raising and administering relief be consolidated into one statute; that the yearly sum needed for such relief continue to be raised by parochial rates on real property; that two-thirds of this sum be raised by a pound rate, equal throughout the whole country, and the remainder by a further pound rate, raising in every parish a sum equal to one-third of the actual expenditure of such parish."

"If the whole net rental of real property in England, when correctly estimated, should amount to 120,000,000*l.* yearly (and it certainly does amount to some such sum), it follows that a year's relief of the poor, taken at the extravagantly high amount of 6,000,000*l.*, will be raised by a pound rate of 1*s.* upon such rental. Of this 1*s.*, every parish, by the proposed plan, would equally contribute 8*d.* in the pound on its net rental. Thus, by an equal charge of a moderate amount, two-thirds of the whole sum needed, or 4,000,000*l.*, would be raised. The remaining 2,000,000*l.* would be contributed by property in different parishes, in exact proportion to the pauperism found in each parish."

Such is the remedy proposed; its practical working is considered at some length by its author, who also states and answers certain objections which might be urged against it. It has at least the advantages of equalising to a very great extent the burden of relieving the poor, of not requiring a new staff of officers, and of preserving that interest in the distribution of the poor-rates, which is the only safeguard against their misappropriation. The remedy, as well as the whole work, we earnestly recommend to the attention of our readers, and of all those who are interested in relieving the burdens on agriculture.

Notices to Correspondents.

GAS TAR: *Clericus* asks what material he could mix with common tar, or gas tar, to cover wood, canvas, or woollen substances, so that it would dry hard and quickly, and how much of the drying material to the gallon of tar.

GUANO: *J W.* We would not sow the guano till the spring; sow it broadcast the first fine weather in March, and hoe or harrow it in. If you determine on sowing now, you may do so broadcast one hour, and sow the next, harrowing between times. The only thing to be sure of is that the seed is not in contact with the manure, and that is sufficiently ensured by sowing them separately and harrowing between.

LEVEL OF THE LAND: *Ignoramus.* The level of the land above the sea, or above any other station, is ascertained by a process termed levelling, and the use of a levelling instrument, which costs perhaps 10*l.* 10*s.* It may be ascertained in an imperfect manner by barometrical observations. The mountain barometer costs 5*l.*

SUBSTITUTE FOR YEAST: *C D.* The best and sweetest substitute for brewers', or home-made table-beer, yeast (barm), is unquestionably the substance called German yeast. This is used by first-rate bakers, and is sold in great quantities to private families. It is really made by the Dutch, being, as is understood, nothing more than the grounds left after the distillation of genuine Hollands gin. It is procured of Wilkin and Pugh, Spread Eagle-yard, Gracechurch-street, London. In extremely hot summer weather the substance becomes decomposed, and the mass melts down; its only ascertained defect.

THE CONTENTS OF A RICK: *A Sub.* Our ricks contain about 120 cubic yards, and will yield from 80 to 120 bushels of Wheat, and from 160 to 200 bushels of Oats. There is no rule for determining the contents in grain of a corn rick, but it must vary with length of straw, &c.

ERRATA: For "Isloch" cited by Mr. Pusey, in the article on "Straw as a Manure," *Agricultural Gazette*, No. 46, read "Bloch." And in another place where it is said that it is the same carbonic acid which in the process of digestion "is extracted from," read "absorbed by" the system. It would perhaps be more correct to say that the carbon of straw or other food is by the process of digestion assimilated with the carbon of the system, and then exhaled as carbonic acid. Omit "or" before old straw thatch, and in the same sentence omit "and." Towards the close, for "relaying," read "relaxing" the conditions.

Markets.

COVENT GARDEN, Nov. 20.

Vegetables and what Fruit is in season continue pretty plentiful. Pears and Apples are sufficient for the demand. A few Tomatoes may still be obtained. Filberts realise fair prices. Potatoes have not altered in value since our last report. Mushrooms are getting scarcer. Cut flowers consist of Heaths, Pelargoniums, Roses, Mignonette, Bignonia venusta, and Fuchsias.

FRUIT.

Pine-apples, per lb., 3s to 6s
Grapes, hothouse, p. lb., 2s to 6s
Pomegranates, each, 2s to 4s
Apples, dessert, per bushel, 4s to 7s
— kitchen, do., 3s to 6s
Pears, per doz., 1s 6d to 4s
— per half sieve, 5s to 7s
Melons, each, 2s to 5s
Oranges, per doz., 1s to 2s
— per 100, 6s to 12s
Lemons, per doz., 1s to 2s
Almonds, per peck, 5s
— sweet, per lb., 2s to 3s
Nuts, Barcelona, per bush, 29s
— Brazil, do., 12s to 14s
— Cobs, 75s to 80s

VEGETABLES.

Cabbages, per doz., 6d to 1s
French Beans, per half sieve, 2s to 2s 6d
Brussels Sprouts, p. hf. sieve, 1s to 2s
Cauliflowers, per doz., 6d to 2s 6d
Greens, per doz., 1s to 2s
Tomatoes, per hf. sieve, 4s to 5s
Potatoes, per ton, 85s to 140s
— per cwt., 5s to 9s
— per bush., 2s 6d to 4s 6d
Turnips, per doz., 1s to 1s 9d
Cucumbers, each, 2d to 6d
Celery, per bundle, 9d to 1s 3d
Carrots, p. doz., 2s 6d to 4s
Spinach, per sieve, 1s to 2s
Onions, per bunch, 2d to 4d
— Spanish, p. doz., 1s 3d to 3s
Beet, per doz., 1s to 1s 6d
Leeks, per bunch, 1d to 2d
Shallots, per lb., 6d to 8d
Garlic, per lb., 6d to 8d
Lettuce, Cab., per score 4d to 6d
— Cos, p. score, 9d to 1s
Radishes, per doz., 8d to 1s
— Turnip, 9d to 1s 6d
Endive per score, 1s to 1s 6d
Small Salads, p. pun., 2d to 3d
Horse Radish, p. bundle, 1s to 3s
Mushrooms, p. pott., 9d to 1s 3d
Sorrel, per hf. sieve, 6d to 1s
Artichokes, per doz., 4s to 6s
Fennel, per bunch, 2d to 3d
Savory, per bunch, 2d to 3d
Thyme, per bunch, 2d to 3d
Parsley, p. doz. bnchs., 2s to 3s
Mint, per bunch, 2d to 3d
Basil, green, p. bunch, 3d
Marjoram, do., 2d to 3d
Watercresses, p. 12 bun, 4d to 6d

COAL MARKET.—FRIDAY, Nov. 19.

Holywell, 16s. 6d.; Eden Main, 17s. 6d.; West Hartley, 15s. 6d.; Wallsend Haswell, 18s. 3d.; Wallsend Hetton, 18s.; Wallsend Stewarts, 18s. 3d.; Wallsend Tees, 18s.—Ships at market, 133

HOPS.—BOROUGH MARKET, Nov. 19.

Messrs. Pattenden and Smith, Hop Factors, report that price of Hops has advanced from 6*s.* to 8*s.* per cwt. last week, and that the market is in a very brisk state fo kinds of new Hops.

SMITHFIELD.—MONDAY, Nov. 15.

The number of Beasts is much smaller, and consequ all kinds are dearer, although trade is slow. The supp Sheep is also very short; they are more quickly disposed an advance of fully 2d. per stone on all descriptions. Calves meet with a ready sale at our quotations. From many and Holland there are 956 Beasts, 4180 Sheep, 139 Calves; Scotland, 360 Beasts; and 2500 from the nort and middling counties.

Per st. of 8lbs.—s d	s d	Per st. of 8lbs.—s d	s d
Best Scots, Herefords, &c. ...	3 10 to 4 0	Best Long-wools	4 2 to
Best Short-horns	3 6 — 3 10	Do. Shorn ...	0 0 —
2d quality Beasts	2 0 — 3 4	Ewes & 2d quality	3 4 —
Best Downs and Half-breds ...	4 6 — 4 8	Do. Shorn	0 0 —
Do. Shorn	0 0 — 0 0	Lambs	0 0 —
		Calves	3 4 —
		Pigs	3 4 —

Beasts, 4454; Sheep and Lambs, 23,640; Calves, 187; Pigs

FRIDAY, Nov. 19.

The upward tendency of the trade on Monday last caused an increased supply of Beasts to-day. Trade is yet choicest kinds pretty generally realise Monday's q tions, but inferior descriptions are lower. The numb Sheep, although still small, is much larger than on F last; we have only a slack attendance of buyers, and Mon prices cannot thoroughly be maintained. There is a fair s of Calves; choicest are readily disposed of, but trade is for inferior. The foreign supply consists of 201 Beasts Sheep, and 189 Calves; 700 Beasts from the northern midland counties; Milch Cows, 95.

HAY.—Per Load of 36 Trusses.

SMITHFIELD, Nov. 18.

Prime Meadow Hay	75s to 80s	Clover	85s t
Inferior do. ...	65 70	Second cut ...	75
Rowen	42 54	Straw	24
New Hay	— —		E. J. DA

CUMBERLAND MARKET, Nov. 18.

Prime Meadow Hay	78s to 86s	Inferior Clover ...	70s
Inferior do.	60 70	New do.	—
New Hay	— —	Straw	28
Old Clover	90 93		JOSHUA BAR

WOOL.

BRADFORD, THURSDAY, Nov. 18.—There is very little, i change during the week. The active buying of a few past appears to have put the spinners in supply, and the now sought act as a barrier to sales being made.

POTATOES.—SOUTHWARK, Nov. 15.

The committee report that during the past week the m has not been so well supplied as the previous week; bu last two days there have been considerable arrivals, ow the northerly winds, which will again cause a falling prices. The following are this day's quotations:—Yor Regents, 80s. to 120s.; Lincolnshire, 75s. to 110s.; Regents, 80s. to 90s.; French whites, 80s. to 90s.; Dut to 60s.

MARK LANE.

MONDAY, Nov. 15.—The supply of English Wheat t morning's market was small, and in very bad condition best were a ready sale at last week's prices, but great dif was experienced in quitting the remainder at our quot The demand for foreign Wheat was very limited, and q retail, but its value remains unaltered.—The top price of has been reduced to 40s.—There was a better supply of at market, which could only be disposed of at a reduc 1s. per qr.—White Peas are 2s. per qr. cheaper. Gr Beans are fully as dear.—The Oat trade is slow, at late

Per Imperial Quarter.	s. s.	
Wheat, Essex, Kent, & Suffolk...	White 38—50	Red .....
— — fine selected runs...	ditto 42—54	Red .....
— — Talavera	52—56	
— Norfolk	40—48	Red .....
— Foreign	34—54	
Barley, grind. & distil., 26s to 29s...	Chev. 26—34	Malting .
— Foreign ...grinding and distilling	23—30	Malting .
Oats, Essex, and Suffolk	17—20	
— Scotch and Lincolnshire...	Potato 22—24	Feed .....
— Irish	Potato 20—22	Feed .....
— Foreign .....Poland and Brew	18—21	Feed .....
Rye	29—32	Foreign .
Rye-meal, foreign	—	
Beans, Mazagan.....31s to 33s.....	Tick 33—35	Harrow .
— Pigeon .....34s — 37s...	Winds. 39—41	Longpod
— Foreign	Small 32—37	Egyptian
Peas, white, Essex and Kent.....	Boilers 38—41	Suffolk...
— Maple.....32s to 35s.....	Grey 30—33	Foreign .
Maize	White —	Yellow...
Flour, best marks delivered ...	per sack 37—40	
— Suffolk	ditto 25—32	Norfolk
— Foreign.....	per barrel 21—24	Per sack

FRIDAY, Nov. 19.—The arrivals of British Grain th have been moderate, and good of foreign, also of Flou day's market was very thinly attended, and trade lifeles value of English and fine foreign Wheat is unaltered, lower descriptions are the turn dearer.—There has bee business done in floating cargoes of Wheat from the and 43s. c. f. and I. has been paid for Odessa Ghirk Flour trade is steady, with a fair demand for superfi rican at fully late rates.—In the value of Spring C observe no alteration.—Oats are a slow sale.

IMPERIAL AVERAGES.

	Wheat.	Barley.	Oats.	Rye.	Beans.
	s. d.	s. d.	s. d.	s. d.	s. d.
Oct. 9.....	38 5	27 5	17 6	28 10	34 0
— 16.....	37 10	27 8	18 0	30 1	34 1
— 23.....	38 8	28 8	17 10	25 8	34 2
— 30.....	39 2	29 5	17 6	26 0	34 7
Nov. 6.....	39 5	29 9	18 3	24 10	35 3
— 13.....	39 11	30 2	18 7	27 5	35 4
Aggreg. Aver.	38 11	28 10	17 11	27 2	34 7

FLUCTUATIONS IN THE LAST SIX WEEKS' AVERAG

Prices.	Oct. 9.	Oct. 16	Oct. 23.	Oct. 30.	Nov. 6.
39s 11d—	...	...	...	...	...
39 5	...	...	...	...	
39 2	...	...	...		...
38 8	...	...		...	...
38 5		...	...	...	...
37 10	...		...	...	...

LIVERPOOL, TUESDAY, Nov. 16.—The arrivals from and coastwise during the past week have been mo Oatmeal, and small of other articles. At market, to-d was a fair attendance of the town and country trade, buyers from a distance. On Wheat an advance was est of 2d. per 70 lbs., but the transactions were limited; I in barrel Flour a large business was done, and 1s. t per barrel more money was paid. Mealing Oats and were limited in request, and without change. Barley and Peas were taken in retail to a fair extent, at l Indian Corn on the spot was neglected, but cargoes af in fair request.

HORTICULTURAL GLASS

OF EVERY DESCRIPTION.

THOMAS MILLINGTON'S WAREHOUSE,

87, BISHOPSGATE-STREET WITHOUT,

LONDON.

CHEAP WINDOW GLASS WAREHOUSE,

30, Princes street, Leicester-square. Established 1793.

ROBERT METTAM having purchased the above long-established Business, begs to call the attention of Builders and the Trade in general to the low prices of Patent Plate, Crown, Sheet, and Horticultural Window Glass. Estimates furnished for Rough Plate, Stained, Ground, and Ornamental Glass. Builders' Sashes Glazed at 3d. per foot super. Price Lists forwarded on application, post free.

N.B. Glaziers' Diamonds, 15s. and 18s., sent post free on receipt of post-office orders.

GLASS FOR CONSERVATORIES,

GREENHOUSES, PIT FRAMES, &c.

JAMES PHILLIPS and CO. beg to hand their prices of SHEET GLASS for cash:

Cut to order in Panes not above 40 inches long.	Per foot.	Packed in Boxes of 100 feet each.	£. s. d.
16 oz.	2¾d. to 3d.	6 by 4, 6½ by 4½ ...	0 13 0
21 do.	3¼d. to 4½d.	7 by 5, 7½ by 5½ ...	0 15 0
26 do.	3¾d. to 7½d.	8 by 5, 8 by 5½ ...	0 15 0
32 do.	6½d. to 8d	8 by 6, 8½ by 6½ ...	0 15 0
		9 by 7, 10 by 8 ...	1 0 0

Various sizes of 16 oz. Sheet Glass, such as 12 by 9, 12 by 10, 13 by 10, 14 by 10, and 15 by 10, packed in boxes at 18s. per 100 feet.

Packed in Crates of 300 feet at 2½d., 16 ounces to the foot, or 14 ounces 2½d.

PATENT SHEET GLASS,

Sold in cases containing 25 sheets, 48 inches long by 36 inches wide—300 feet, at 3l. 9s. per case, net cash. Especial attention is directed to the size, 48 by 36 inches, containing 12 superficial feet, and weighing from 16 to 17 oz. to the foot, which is the largest ever made.

FOREIGN SHEET GLASS, of very superior quality, packed in cases of 200 feet, and in sizes varying from 36 by 26 to 44 by 30 inches, at 38s., 40s., to 42s. per case.

Milk Pans, from 2s. to 6s. each, Propagating and Bee Glasses, Cucumber Tubes, Lactometers, Lord Camoys' Milk Syphons, Tiles and Slates, Wasp Traps, Plate, Crown, and Ornamental Glass, Shades for Ornaments, Fern Shades, and every article in the Trade.

HORTICULTURAL GLASS WAREHOUSE, 116, Bishopsgate-street Without, London.

SOHO GLASS WAREHOUSE, 28, SOHO SQUARE.

ALFRED GOSLETT begs to inform consumers of Glass for Horticultural purposes that he supplies the following descriptions, either in crates, as manufactured, at Reduced Prices, or cut to any given size:—ENGLISH CROWN and SHEET GLASS of every weight manufactured. HARTLEY'S PATENT ROLLED ROUGH GLASS, one-eighth, three-sixteenths, and one-quarter inch thick. BELGIAN SHEET GLASS, in cases, containing 200 feet, of one given size, at 40s. per case, in parcels of five cases at 38s., and in parcels of 10 cases, at 37s. per case, for Cash; or cut to order at 3d. per foot superficial. Estimates or any further particulars will be forwarded upon application.

GLASS FOR CONSERVATORIES, ETC.

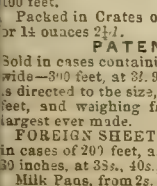
HETLEY and Co. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2d. to 3d. per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices and Estimates forwarded on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLATES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to James Hetley and Co., 35, Soho-square, London.

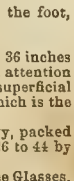
See *Gardeners' Chronicle* first Saturday in each month.

WATERPROOF PATHS.—Those who would enjoy their Gardens during the winter months should construct their walks of PORTLAND CEMENT CONCRETE, which are formed thus:—Screen the gravel of which the path is at present made from the loam which is mixed with it, and to every part of clean gravel add one of sharp river sand. To five parts of such equal mixture add one of Portland Cement, and incorporate the whole well in the dry state before applying the water. It may then be laid on 2 inches thick. Any labourer can mix and spread it. No tool is required beyond the spade, and in 48 hours it becomes as hard as a rock. Vegetation cannot grow through or upon it, and it resists the action of the severest frost. It is necessary, as water does not soak through it, to give a fall from the middle of the path towards the sides.—Manufacturers of the Cement, J. B. White and Sons, Millbank-street, Westminster.

THE ONLY STOVE WITHOUT A FLUE.—

Plain, from 12s. to 25s.; Ornamental, from 31s. 6d. to Six Guineas; Stands for Stoves, 2s. 6d., 3s., and 5s. each. For which her Majesty's Royal Letters Patent have been granted. Prospectus, with Drawings and Report, forwarded free.





JOYCE'S PATENT for warming Halls, Passages, Greenhouses, Water-closets, shops, Store-rooms, and all places requiring artificial warmth. The above Stoves do not emit smoke or unpleasant smell, and will burn without attention or replenishing from twelve to twenty-four hours. To be seen in use daily, at the sole Proprietor's, S. Nash, Ironmonger, &c., 277, Oxford-street, and at the City Depot, 119, Newgate-street, London; and to be had from the principal Ironmongers in town and country.

PATENT PREPARED FUEL for the Stoves, 2s. 6d. per bushel; only genuine with the Proprietor's name and seal on the sack.

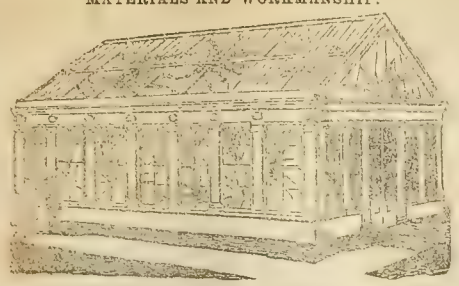
S. Nash, 258, Oxford-street, and 119, Newgate-street, London, Sole Manufacturer of the Portable Economical Vapour Bath, for Families, Travellers, &c. &c., complete with Large Cloak, 1l. 11s. 6d. Medical Testimonials forwarded on application.

RUPTURES EFFECTUALLY CURED WITHOUT A TRUSS.

DR. LESLIE continues to supply the afflicted with his celebrated Remedy for this alarming complaint, the great success of which, for many years past, renders any further comment unnecessary. It is easy and painless in use, causing no inconvenience or confinement, and is applicable to every variety of single and double Rupture, however bad or of long standing, in male or female of any age. The remedy will be sent, post free, on receipt of 7s. 6d. by Post-office order, payable at the General Post-office, or postage stamps, by Dr. Herbert Leslie, 37 A, Manchester-street, Gray's-inn-road, London.—At home daily, from 10 till 1 and 5 till 8 o'clock; Sundays excepted.—Notice! No letters are replied to unless they contain a remittance.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER,

AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.



GRAY and ORMSON, Danvers Street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

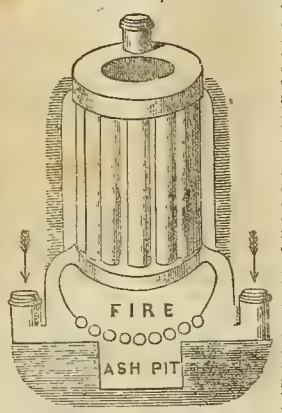
G. and O. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders they can with the greatest confidence give the most satisfactory references.

Their Hot-Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating by Hot Water can be made available.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER.

TUBULAR BOILERS OF ALL SIZES, WARRANTED THE MOST EFFICIENT.

J. WEEKS and CO., King's-road, Chelsea, Hothouse Builders; Horticulture in all its branches upon the most improved principles. These Boilers are very powerful, durable, and economical. The fire warranted to last 15 hours without attention. The Furnace Bars are Hollow Tubes through which the return water passes before entering the upper part of the boiler, thereby causing a very rapid circulation, and producing double the effect from the same quantity of fuel.



J. WEEKS and CO., King's Road, Chelsea, CHALLENGE the whole world to make a Boiler that will produce anything like the same effect, with the same quantity of Fuel in a given time. It is one of those boilers that warms the water of their Victoria Regia Tank, which contains 20,000 gallons, and also heats several large Forcing-houses and ranges of Pits, with a small consumption of fuel.

Plans, Models, and Estimates of Horticultural Buildings; also Catalogues of Plants, Vines, Seeds, &c., forwarded on application.

J. WEEKS and Co., King's-road, Chelsea, London.

TABLE AND DESSERT KNIVES, IN CASES.

MECHI, Cutler, 4, Leadenhall-street, has an excellent variety of perfectly new Patterns in Ivory, Pearl, and Agate DESSERT KNIVES in CASES, and every description of Table Knives, excellent in quality and reasonable in price. Also a variety of Knife Sharpeners, several new patterns. Wharncliffe Penknives, Scissors, Razors, Strops, Paste, and Shaving Brushes, &c. His Razor-strops and Paste are well worth the attention of those who find shaving difficult.

MOST IMPORTANT DISCOVERY.—Beautiful TEETH, and no more Toothache. Under the immediate patronage of the Court, the Marquis of Headfort, the Clergy, Captains of the Army and Navy, Physicians, Surgeon Dentists, &c. See Testimonials with the Compound. GRAHAM'S LIQUID BOTANICAL DENTIFRICE, for preserving and beautifying the Teeth; it prevents toothache and purifies the breath. It is highly recommended to all who have artificial and defective teeth. Prepared and sold by James Graham, Bognor, and his agent, Mr. Sanger, 150, Oxford-street, London; and all chemists and perfumers. Price 1s. 1½d. per bottle.—N.B. It is also highly recommended after smoking, for purifying the breath, and is most refreshing to the mouth on a sea voyage, and is very much used. Every family should use this compound. Beware of spurious imitations.

A CERTAIN REMEDY FOR INFLUENZA, COUGHS, COLDS, AND ASTHMA.

SPENCER'S PULMONIC ELIXIR.—For the nursery it is invaluable, as it is as agreeable to the palate as it is useful in all cases of hooping-cough, chin-cough, or common coughs arising from colds, teething, &c. To invalids, whose ailments are increased by frosty and foggy weather, it is a never-failing source of comfort and ease from suffering, enabling them to breathe with freedom during the keenest frost and thickest fog; in fine, it possesses every property which can be beneficial in cases of Coughs, Colds, Asthma, and all complaints of the Chest and Lungs. It is of the greatest importance in complaints of the chest to attend strictly to the state of the bowels; therefore, should they be costive, the patient should use a gentle aperient. "PARR'S LIFE PILLS" are, from their mild operation, peculiarly adapted to aid the Elixir in effecting a cure.

Important Caution. Notice.—Persons desirous of testing the efficacy of this medicine must observe that on each bottle are the words "SPENCER'S PULMONIC ELIXIR," and that each wrapper has a fac-simile of the Proprietor's signature, *T. Roberts & Co*

Prepared only by T. Roberts and Co., Crane-court, Fleet-street, London; and sold by E. Edwards, 67, St. Paul's Churchyard; Barclay and Sons, Farringdon-street; Sutton and Co., Bow Churchyard; Sanger and Co., Oxford street, London; and by all respectable Medicine Vendors in the Kingdom. In bottles, at 1s. 1½d. and 2s. 9d. each.

MANUFACTURERS  APPOINTMENT BY SPECIAL TO THE QUEEN.

Obtained the Prize Medal, Great Exhibition, 1851.

FRY'S NEW FRENCH CHOCOLATES are used at the Royal table, and by the first Nobility. CHOCOLATS DE LA REINE VICTORIA, du PRINCE ALBERT, and other varieties à la Française.

FRY and SONS introduce to the public their French Chocolates, prepared according to principles alike dictated by their own ample experience and the results of the most refined foreign taste, carried out by the utmost care and skill in their manufacture. They confidently recommend these Chocolates as eminently combining that richness and delicacy of flavour with those remarkably salubrious qualities which are essential to Chocolate in all its forms.

J. S. FRY and SONS' CHOCOLATE PASTILLES, CHOCOLAT DE VOYAGE, and other BON BONS, are strongly recommended as delicious and nutritious condiments for the railway carriage, the nursery, the invalid chamber, or the luncheon table, &c. &c. It is needful to observe that the name of Fry and Sons is upon every packet and box, and to attend to the *directions* enclosed. The above articles may be ordered from all Tea Dealers, Grocers, and Confectioners throughout Great Britain and Ireland, of whom Fry's Churchman's and other Cake Chocolates, their Patent, Homœopathic, Soluble, and other Cocoas may be had as usual. The public are especially invited to read their pamphlet entitled "Chocolate and Cocoa, their properties and uses as manufactured by Fry and Sons," containing full directions for preparing these articles for the table, an account of the Cocoa Tree, &c. &c., to be obtained gratis, where Fry and Sons' articles are sold, or on application at 12, Union-street, Bristol. Their French Chocolates are particularly adapted for presents.

MATRIMONIAL ALLIANCE ASSOCIATION. LEGALLY ESTABLISHED, 1849. Head Offices,—London: Lincoln's-Inn-Fields Chambers, and 2, Portsmouth street, Lincoln's-Inn-Fields. Branch Offices: Liverpool, Bristol, York, Manchester, Aberdeen, and Dublin. Confidential Referee: R. Warwick, Esq.

MATRIMONIAL ALLIANCE ASSOCIATION. Conducted on the system so successfully adopted on the Continent. Legally established as a medium for the introduction of both sexes unknown to each other, who are desirous of entering into Matrimony. None but respectable parties negotiated with. Applicants may sign by initial or otherwise. Full particulars, with printed forms of application, list of agents, and instructions, sent free on receipt of six postage stamps, by Hugo Beresford, Esq., Secretary. Registrar's Offices: Lincoln's-Inn-Fields Chambers, and No. 2, Portsmouth-street, Lincoln's-Inn-Fields, London.

ASHLEY'S ANTI-DEPILATORY EXTRACT, for strengthening and preventing the Hair falling off; prepared and sold wholesale and retail by Ashley, Perfumer, Brixton, in bottles; half-pints, 2s. 6d; pints, 4s. 6d.; quarts, 7s. 6d. Also Ashley's CLEANSING POMADE for freeing the head from scurf and keeping it clean, in pots, 1s. and 2s. each. Also Ashley's MEDICATED POMADE, warranted to cure the ringworm, scald heads, and all kinds of scorbutic eruptions; in pots, stamp included, 1s. 6d and 2s. 6d. each. References of the highest respectability can be given. Wholesale Agents: Barclay and Son, Farringdon-street; Sutton and Co., Bow Churchyard; Edwards, 67, St. Paul's Churchyard; Keating, 79, St. Paul's Churchyard; Butler and Harding, 4, Cheapside; Sanger, 150, Oxford-street; and may be had retail from all respectable Chemists in town or country.

J. Ashley can be consulted at his residence for 5s. on Mondays, from 2 to 6 o'clock. He has had unfailing success in the cure of ringworms, scald heads, &c.

METCALFE and Co.'s NEW PATTERN TOOTH-BRUSH and SMYRNA SPONGES.—The Tooth-Brush has the important advantage of searching thoroughly into the divisions of the teeth, and cleaning them in the most extraordinary manner, and is famous for the hairs not coming loose.—1s. An Improved Clothes-Brush, that cleans in a third part of the usual time, and incapable of injuring the finest nap. Penetrating Hair-Brushes, with the durable unbleached Russian bristles, which do not soften like common hair. Flesh-Brushes of improved, graduated, and powerful friction. Velvet-Brushes, which act in the most surprising and successful manner. The genuine Smyrna Sponge, with its preserved valuable properties of absorption, vitality, and durability, by means of direct importations, dispensing with all intermediate parties' profits and destructive bleaching, and securing the luxury of a genuine Smyrna Sponge. Only at Metcalfe, Bingley, and Co.'s Sole Establishment, 130, Oxford-street, one door from Holles-street, London.

METCALFE'S ALKALINE TOOTH POWDER, 2s. per box.

Caution.—Beware of the words "From Metcalfe's," adopted by some houses.

A NEW STOVE.—GREAT NOVELTY.—In the construction of the BURTON REGISTER STOVE, it was the first care of the inventor WILLIAM S. BURTON, to avail himself of the most valued of modern improvements in the art of heating, and secondly, so to modify and alter the receptacle for the coals, as at once to obtain the simplest and most perfect combustion; after a long series of experiments, he has, by the substitution of a graceful form of shell for the present clumsy and ill-adapted bars, succeeded in producing a stove which for soft and brilliant light, as well as purity and quantity of heat, is far beyond his most sanguine expectations while for cleanliness and cheerfulness it is utterly unapproachable. Price from 5l. to 15l. To be seen in use daily in his show-rooms, where also are to be seen

250 STOVES and 325 FENDERS (exclusive of reserved stock) all differing in pattern, forming the largest assortment ever collected together. They are marked in plain figures, and at prices proportionate with those that have tended to make his establishment the most distinguished in this country. Bright stoves, with bronzed ornaments and two sets of bars, 2l. 14s. to 5l. 10s.; ditto with ormolu ornaments and two sets of bars, 5l. 10s. to 12l. 12s. bronzed fenders complete, with standards, from 7s. to 3l.; steel fenders, from 2l. 15s. to 6l.; ditto, with rich ormolu ornaments, from 2l. 15s. to 7l. 7s.; fire-irons, from 1s. 9d. the set to 4l. 4s. Sylvester and all other patent stoves, with radiating hearth plates; and kitchen ranges, which he is enabled to sell at these very reduced charges.

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Sales by Auction.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will sell by Auction, at the Mart, Bartholomew-lane, on THURSDAY, Nov. 25th, at 12 o'clock, a first class collection of DUTCH BULBS, consisting of the finest Double and Single Hyacinths, Narcissus, Jonquils, Anemones, Crocus, Snowdrops, and Tulips; about 2000 extra fine mixed Ranunculuses of English growth; also a selected assortment of Standard and Dwarf Roses, Ornamental Trees and Shrubs, American Plants well set with bloom buds, &c.—May be viewed the morning of Sale. Catalogues had at the Mart, and of the Auctioneers, American Nursery, Leytonstone, Essex.

HIGHGATE.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, BUILDERS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will submit to public competition by Auction, on the premises, Fitzroy-park Nursery, Highgate, near the Gate House, on FRIDAY, November 26, at 11 o'clock, by order of Mr. STEIN, in consequence of the ground being required for building purposes, the whole of the thriving NURSERY STOCK, consisting of Evergreens and Ornamental Trees, viz., 10,000 fine Aucubas, Sweet Bays, Red Cedars, Laurestinus, Rhododendrons, Azaleas, Limes, Chestnuts, &c.; two Boxes and Lights; eight Iron Hand-Glasses; capital Nest of Seed Drawers, &c.—May be viewed prior to the sale; Catalogues had on the premises; of the principal Seedsmen in London; and of the Auctioneers, American Nursery, Leytonstone, Essex.

CAMELLIAS, RHODODENDRONS, AZALEAS, ETC.

THIRD SALE FROM MR. JOSEPH BAUMANN, OF GHENT.

MR. J. C. STEVENS begs to announce that on TUESDAY, 30th November, he will sell by Auction, at his Great Room, 38, King-street, Covent Garden, at 12 for 1 o'clock, another consignment of CAMELLIAS, AZALEAS, RHODODENDRONS, Deutzia gracilis, and various other Plants, from the Nursery of Mr. JOSEPH BAUMANN, of Ghent, the whole of which will be sold without any reservation.—On view the morning of Sale, and Catalogues had.

TO NURSERYMEN, SEEDSMEN, AND CULTIVATORS OF THE PINE TRIBE.

MR. J. C. STEVENS begs to notify that he has just received from Central America a consignment of FIR CONES, comprising many highly ornamental species that are quite new to this country; and from the localities from which they have been collected, will no doubt prove hardy in this country. They will be Sold by Auction, at his Great Room, 38, King-street, Covent-Garden. During the month of December further notice will appear.

38, King-street, Covent-garden, Nov. 20.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, BUILDERS, AND OTHERS.

MR. J. RAWLINGS has received instructions from Mr. ROBERT NEAL, to submit to public competition by Auction, on the premises, Wandsworth Common, on MONDAY, November 22d, 1852, and following days, at 11 o'clock, in consequence of the ground being required for other purposes, the whole of the valuable NURSERY STOCK, consisting of very fine Evergreens and Shrubs; Fruit, Forest, and Ornamental Trees, American Plants, &c. The whole in fine condition and worthy the attention of private buyers and the Trade.—May be viewed prior to the sale; catalogues may be had on the premises; of the principal Seedsmen in London; and of the Auctioneer, 89, Bridport-place, New North-road; and Ebenezer Nursery, Shacklewell.

OAK TIMBER.—HAINAULT FOREST.

TO SHIP BUILDERS, TIMBER MERCHANTS, CONTRACTORS, AND OTHERS.—235 naked Oak Trees, lying in the King's Woods, Hainault, Essex.

MESSRS. DRIVER have been honoured with instructions from the Right Hon. T. F. KENNEDY, the Commissioner in charge of Her Majesty's Woods and Royal Forests, to offer for sale by public Auction, at the Angel Inn, Ilford, on THURSDAY, December 2, at 1 for 2 o'clock precisely, in 16 Lots, 235 OAK TREES, felled last season, adapted for Ship Builders, Timber Merchants, Railway Contractors, and others requiring good sound Timber. 225 of the Trees are drawn together in Collier Row Bottom, and 9 on Fence Piece, parts of the King's Woods, Hainault, county of Essex, most conveniently situate for water carriage by River Thames, at Barking, either to the Metropolis or elsewhere, or by railway, being about 4 miles from the Romford and Ilford stations on the Eastern Counties Line, and about 10 miles from London by the high road. Every tree is marked and numbered with white paint, denoting the lots, and may be viewed on application to Mr. M'CLETCHIE, Barking-side, near Ilford, of whom Catalogues may be had; also at the offices of the Commissioner of Her Majesty's Woods and Royal Forests, No. 2, Whitehall-place; at the Angel, Ilford; White Hart, Romford; King's Head, Chigwell; at the Auction Mart, Bartholomew-lane; of Messrs. CLUTTON, 8, Whitehall-place; and of Messrs. DRIVER, Surveyors and Land Agents, 5, Whitehall, London.

TO GENTLEMEN, CONTRACTORS, BUILDERS, AND OTHERS.

MR. JOHN WILLMER will sell by Auction, without reserve, on the Premises, on TUESDAY, November 30, and two following days, the valuable STOCK of the well-known SUNBURY NURSERY, the ground being required to be cleared. The stock comprises Green Hollies, from 3 to 5 feet; Striped Hollies, 3 to 10 feet; Yews, 3 to 8 feet; Spruce Firs, 3 to 10 feet; Striped Box, 3 to 5 feet; Portugal Laurels, 3 to 5 feet; Common Laurels, 3 to 8 feet; Aucubas, 3 feet; Bays, 3 to 6 feet; Laurestinus, 3 to 4 feet; Arbutus, 4 to 6 feet; fine large plants of Yucca gloriosa; standard, dwarf, and trained Fruit Trees; fine Lancashire Gooseberries, Currants, standard Roses; also Elms, Horse Chestnuts, Limes, Oak, and other Forest Trees, from 8 to 14 feet.—May be viewed one week prior to the sale, and Catalogues had (6d. each, returnable to purchasers), at the Red Lion, Hampton; Greyhound, Richmond; Griffin, Kingston; Coach and Horses, Brentford; Red Lion, Southall; Grapes, Uxbridge; Swan, Windsor; Railway Tavern, Staines; North Star, Slough; Crown, Chertsey; Three Tuns, Weybridge; on the premises; and of the Auctioneer, Sunbury, Middlesex.

NEW FOREST.

NOTICE IS HEREBY GIVEN, that the Sale of Timber advertised to take place at Lyndhurst, on THURSDAY, the 25th day of NOVEMBER, is unavoidably postponed, and that due notice will be given when the sale will take place. By Order of the Commissioner in charge of the Royal Forests and Woodlands.

J. H. CUMBERBATCH, Deputy-Surveyor.
New Park, Lymington, Hants, Nov. 20.

COCHIN CHINA FOWLS.

MR. J. C. STEVENS will sell by Auction, at his Great Room, 38, King-street, Covent-garden, on TUESDAY next, 23d November, at 12 for 1 o'clock precisely, COCHIN CHINA FOWLS, many of them are from celebrated strains, and of light colours; Sebright Bantams, and other Fancy Poultry.—On view the morning of Sale, and Catalogues had.

POULTRY.

WANTED to purchase, a JET BLACK BANTAM COCK, with Double Rose Comb.—Apply to N. B. R., *Independent* Office, Devizes, Wilts.

FANCY POULTRY, &c.—A few well feathered-legged light coloured COCHIN CHINA FOWLS, from best strains, 3 to 5 months old, 10s., 20s., and 30s. per pair; pure white-crested Black Polands, also Gold and Silver Spangled ditto, 2½ guineas per pair; Black Spanish, with pure white face, 40s. and 50s. the pair; Sebright Bantams, both gold and silver laced, 30s. the pair. A few very large and heavy Minorca Hens, just imported from Spain, noted for being constant layers of very large eggs, 15s. each; Malay Chickens, 5 months old, 5s. each; a pair of beautiful Aylesbury Ducks, from First Prize Birmingham Birds, 1l. Fancy Pigeons in great variety.

Post-office Orders payable to GEORGE BOOTHBY, Louth, Lincolnshire, will receive immediate attention.

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TO BE LET, a very desirable FARM, of 550 acres, situate within three miles of the town of Shrewsbury, one half Meadow and Pasture, and the other half Arable, suited to the Turnip and Barley system of husbandry. The Buildings are newly erected, and most extensive and complete.—Apply to Messrs. SCARTH and JACKSON, Solicitors, Shrewsbury.

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Mr. T. has no connection with Nurserymen or any Trade whatever.

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Tea Spoons, per dozen.....	18s.	23s.	36s.
Dessert Forks ,, ...	30s.	42s.	58s.
Dessert Spoons ,, ...	30s.	42s.	62s.
Table Forks ,, ...	40s.	55s.	70s.
Table Spoons ,, ...	40s.	55s.	75s.

Tea and coffee sets, waiters, candlesticks, &c., at proportionate prices. All kinds of re-plating done by the patent process.

CHEMICALLY PURE NICKEL, NOT PLATED.

	Fiddle.	Thread.	King's.
Table Spoons and Forks, full size, per dozen	12s.	28s.	30s.
Dessert ditto and ditto	10s.	21s.	25s.
Tea ditto	5s.	11s.	12s.

WILLIAM S. BURTON has TEN LARGE SHOW ROOMS (all communicating), exclusive of the shop, devoted solely to the show of GENERAL FURNISHING IRONMONGERY (including cutlery, nickel silver, plated, and japanned wares, iron and brass bedsteads), so arranged and classified that purchasers may easily and at once make their selections.

Catalogues, with engravings, sent (per post) free. The money returned for every article not approved of.

39, OXFORD-STREET (corner of Newman-street); Nos. 1 and 2, NEWMAN-STREET; and 4 and 5, PERRY'S-PLACE.

Printed by WILLIAM BRADBURY, of No. 13, Upper Woburn-place, in the parish of St. Pancras, and FREDERICK MULLETT EVANS, of No. 7, Church-row, Stoke Newington, both in the County of Middlesex. Printers at their Office in Lombard-street, in the Precinct of Whitefriars, in the City of London; and published by them at the office, No. 5, Charles-street, in the parish of St. Paul's, Covent-garden, in the said County, where all Advertisements and Communications are to be ADDRESSED TO THE EDITOR.—SATURDAY, NOVEMBER 20, 1852.

THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Par[illegible]ted by Professor Lindley.

No. 48.—1852.] SATURDAY, NOVEMBER 27. [PRICE 6*d*.

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HORTICULTURAL SOCIETY OF LONDON.—At the Meeting, in Regent-street, at 2 P.M., December 7, the objects of SPECIAL EXHIBITION may be AUTUMN FLOWERING HEATHS (shown in sixes, in pots not more than 11 inches in inside diameter); TABLE PEARS (perfectly ripe, correctly named, in collections of six, two specimens of each sort to be produced); CHRYSANTHEMUMS (shown in sixes, in pots not exceeding 11 inches in inside diameter); and FORCED VEGETABLES.

ROSES FOR THE TRADE.

T. APPLEBY, Rose Mount Nursery, York, begs to announce to the trade that he has a fine stock of splendid plants of that superb Rose PAUL RICAUT, and also of all the most popular sorts of Hybrid Perpetuals, Bourbons, Chinas and Tea-scented, such as are usually required in quantities. The Hybrid Perpetuals and Bourbons are all on the Manettii Stock. When ordered in quantities they will be charged half Catalogue price, and for smaller parcels the usual discount will be allowed.

ROSES.—Standards, best kinds, 18*s*. to 20*s*. per dozen; Dwarf Roses, 6*s*. to 12*s*. per dozen; Evergreen Shrubs, from 1 to 6 feet high, as Chinese Arbor-vitæ, Aucuba, Arbutus, Tree Box, green and variegated Holly, Sweet Bay, Laurestinus, Rhododendrons, Cedars, Pinus, Cartoon Laurel, Portugal Laurel, &c. Fruit Trees in bearing. DENYER'S Victoria and Green-gage Plums, Apples, Pears, Cherries, Peaches, Nectarines, Apricots, &c.

A Priced Catalogue sent on application to EDWARD DENYER, Nurseries, Loughborough Road, Brixton, near London, by enclosing a twopenny stamp.

SUPERB HOLLYHOCK SEED.—Well ripened Seed, warranted to be saved exclusively from Comet, Elegans, Obscura, Mr. C. Baron, Penelope, Rosea grandiflora, Meteor, Walden Gem, Magnum Bonum, Spectabilis, Saffrano, Delicata, Euchantress, Picta, Queen, Bicolor, Dido, Charles Turner, For nosa, Hebe, Model of Perfection, Rosea Alba, Sulphurea Perfecta, White Perfection, Blue Beard, Mulberry Superb, Snowball, and Queen of England.

A good mixture of the above, in packets containing UPWARDS OF 200 SEEDS, will be forwarded post free, upon the receipt of 2*s*. 6*d*. worth of postage stamps, by R. B. BIRCHAM, Hedenham Rosary, Bungay, Suffolk.

CHRYSANTHEMUM SHOW.

W. IVERY begs to inform his Friends and the Public that his new Pompone and other varieties are in full bloom, and can be seen, Sundays excepted, gratis.

Hanover Nursery, Peckham, near London.

NEW CUCUMBER.—The GARDENER, Cadbury-house, Castle Cary, Somerset, begs to inform his brother gardeners, that he has a few seeds to spare of a very superior Cucumber, which he anxiously desires, and feels, that every gardener who grows Cucumbers should be in possession of. It is a black spine, a great bearer, very short in the heel, first-rate for winter and early spring growth; grows from 24 to 30 inches, and entirely free from that bitter so much complained of in Cucumbers. In a word, the experience of 40 years enables him to say it is the best Cucumber he ever saw.

On the receipt of 30 Postage stamps, three *perfect* seeds will be duly forwarded.

NOTE.—To prevent disappointment, no person will be supplied who is in any way connected with the seed trade.

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CONSISTING OF ABOUT FIFTY VARIETIES NEVER BEFORE OFFERED TO THE PUBLIC.

J. WEEKS AND Co., CHELSEA, have now to offer a most splendid and superb Collection of SEEDLING SHRUBBY CALCEOLARIAS, which they can confidently warrant and recommend, they having been carefully saved and varied from the most unique selection in the kingdom. The sorts being all Shrubby they are perpetually in flower; and from the great variety and brilliancy of their colours, they are invaluable for the conservatory or bedding-out.

J. WEEKS and Co., KING'S ROAD, CHELSEA, LONDON.

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Also their New Early Scarlet PRINCE OF WALES RHUBARB, 5*s*. each. It is quite as early as the Prince Albert, much larger, red throughout, of exquisite flavour, and a large cropper.

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For Testimonials and parties where both articles can be had, see *Gardeners' Chronicle* 18th September, 1852, page 594.

Newington Butts, London.

NEW YELLOW GLOBE AMARANTHUS.

J. CARTER begs to inform his Customers, and the Trade in general, that he has SEED of a new GOMPHRENA or GLOBE AMARANTHUS to offer, which he can recommend as one of the greatest novelties introduced of late years.

It resembles the Gomphrena globosa, or common Globe Amaranthus, but is of a freer and stronger habit, and the heads of flowers are more luxuriant. The colour is a *deep rich orange yellow*, forming a striking contrast with the purple and white. It is a native of New Mexico, and exclusively in J. CARTER'S possession.

Further particulars may be had, on application by letter, to JAMES CARTER, Seedsman and Florist, 238, High Holborn, London.

NEW SEEDS—GROWTH OF 1852.

WILLIAM E. RENDLE AND CO., SEED MERCHANTS, Plymouth, *have much pleasure in stating that they are now laying in their new Stocks of Seeds, direct* FROM THE GROWERS.

Catalogues can be had on application on receipt of one penny stamp.

Early Peas, Beans, and all Seeds for Early or Forcing Crops can be obtained immediately.—Apply to WILLIAM E. RENDLE and Co., Seed Merchants, Plymouth.

DOWLING'S NEW PLUMS.

HENRY DOWLING, Woolston-lawn, Southampton, respectfully announces to the nobility, clergy, and gentry, that he has commenced taking up his three celebrated sorts of PLUM TREES, for the purpose of executing orders which have been received by himself, or his agents, and at the same time of suggesting that the earlier the application is made for any that may be required, the greater of course will be the choice of selection. For a description of their names, size, colour, flavour, productiveness, and period of ripening, together with testimonials of unexceptionable authority, see *Gardeners' Chronicle* of the last and two previous weeks.

TRANSPLANTED LARCH ... 1½ TO 2 FEET.
Ditto Ditto ... 2 TO 3 „

There is a large stock of the above at the Inverness Nurseries, prices of which on the ground, or delivered at the ports of Glasgow, Edinburgh, or London, may be had by applying to HOWDEN BROTHERS. Inverness Nov. 27.

JUDSON'S RICHMOND HILL BLACK HAMBURGH VINE.

ARTHUR HENDERSON AND CO. have the pleasure of informing their patrons and friends that they have good plants of this valuable and much-esteemed Vine, at 7*s*. 6*d*. and 10*s*. 6*d*. each.—N.B. For full particulars of the distinguishing characteristics of this Vine, we beg to refer our customers to the *Gardeners' Chronicle* of October 25, 1851.

Pine-apple Place, London.—Nov. 27.

MESSRS. PLATZ AND SON, Erfurt, Prussia, respectfully inform the trade, that their Seed Catalogue for 1853, in which will be found many new varieties, may be had on application to their agent, Mr. ROBERT KENNEDY, Bedford Conservatory, Covent Garden, London.

NOTICE.
CHEAP AND SELECT NURSERY STOCK.

THE SUBSCRIBERS beg to refer all who are interested in Planting to their Advertisement of the above stock in the *Gardeners' Chronicle*, November 6, page 707.

WILLIAM JACKSON and Co., Bedale, Yorkshire.

SEEDS DIRECT FROM THE GROWERS.
(CARRIAGE FREE BY RAILWAY.)

SUTTON AND SONS have the pleasure of announcing that they have succeeded in harvesting their SEEDS in good condition, notwithstanding the unfavourable weather. *The advantages of purchasing Seeds direct from the Growers* are obvious. As some sorts are scarce, early orders are requested and recommended.—For particulars address JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

GEORGE JACKMAN, NURSERYMAN, Woking, Surrey, 1½ mile from Woking Station, South Western Railway, begs to announce he has just published a new and complete Catalogue of his American Plants, Ornamental Evergreens, Coniters, flowering Shrubs, Standard and Dwarf Roses, Fruit and Forest Trees, &c. &c., and may be had on application by inclosing two postage stamps.

NEW ROSES.
PRINCE ALBERT AND FAIRY QUEEN.

A. PAUL AND SON beg to offer the above new and beautiful Roses, of which they at present hold the entire stock.

PRINCE ALBERT, BOURBON (PAUL'S).—The flowers are, in the summer, deep scarlety crimson, in autumn rich glowing lake, 3½ inches in diameter, finely cupped and very double, the outline a perfect ring; every shoot blooms, often producing 20 to 30 flowers in a truss, and being of dwarf habit it is likely to prove one of the finest autumnal Roses for bedding. The foliage is large, thick, and handsome, and it surpasses every Bourbon Rose in colour, form and abundance of bloom. Strong Plants in November, 10*s*. 6*d*. each.

This Rose was figured in the "Florist" for November. It has obtained a first-class certificate from the National Floricultural Society, the Royal South London Floricultural Society, and the Caledonian Horticultural Society, at Edinburgh; it has further been favourably noticed by the leading Horticultural Journals, and ordered by above 100 Nurserymen and Amateurs who have seen it in flower.

FAIRY QUEEN, HYBRID PERPETUAL (PAUL'S).—Soft glossy lilac of medium size and perfect form, the summits of the petals reflexing as in Mrs. Bosanquet, and like that unique Rose every shoot produces flowers; dwarf habit. Plants 7*s*. 6*d*. each. Early orders are solicited, as the stock is limited.

Nurseries, Cheshunt, Herts, Nov. 20.

AMERICAN NURSERY.

GEORGE BAKER, Windlesham, near Bagshot, Surrey, Exhibitor of American Plants at the Royal Botanic Gardens, Regent's-park, begs to inform the Nobility and Public he has published a Descriptive CATALOGUE OF AMERICAN PLANTS, Coniferæ, Roses, Ornamental Shrubs, &c. &c., and may be obtained by enclosing two postage stamps.—Near Staines Station, Windsor Branch, South-Western Railway.

CHOICE BULBS AND FLOWER ROOTS.

										s.	*d*.		*s*.	*d*.
Tropæolum tricolorum, fine tubers, each									...	2	6	to	3	6
„	brachyseras	„	„	...	...					1	6	„	2	6
„	azureum	„	„	...	...								3	6
Tritonia aurea, splendid		„	„	...	...					2	6	„	5	0
Oxalis elegans, new and fine			„	...	...								1	6
„	„	major,	„	„	...	...							1	6
Cyclamen, in seven beautiful varieties									...	1	0	„	5	0
Babiana rubra cyanea			„	„	...	...							3	6

Superb collections of Alstrœmeria, Ixias, Sparaixis, Oxalis, Babiana, and various other Cape Roots. For superior selections of Ranunculus, Anemone, Gladioli, English Iris, Imported Dutch Hyacinths, Crocus, and other roots. Also, for collections of choice Stove, Greenhouse, Winter Flowering Herbaceous, Rock, and other plants, see advertisements in the *Gardeners' Chronicle* of October 16th and 30th.

For particulars, see "Autumn Catalogue," supplied for three postage stamps.

BASS and BROWN, Seed and Horticultural Establishment, Sudbury, Suffolk.

NEW SEEDLING APPLE.

BROWNLEES' RUSSET, raised in 1846, of the same quality as the Royal Russet, but keeps longer and better without shrivelling, very different in growth from any of the Russets, being most vigorous and perfectly free from canker; it will be found a great acquisition for kitchen use in spring, as late as May or June. A specimen sent to the Horticultural Society was noticed as follows: "Fruit about the size of the Royal Russet, roundish, eye small, nearly close; stalk short, not deeply inserted, skin covered with a soft russet; flesh greenish white, tender, and sweet."—*Feb*. 12, 1851.

Fine dwarf trees, 3*s*. 6*d*. each, carriage paid to London; the usual allowance to the trade when three are taken. A remittance or reference expected from unknown correspondents. All orders to be addressed to WM. BROWNLEES, Hemel Hempstead, Herts.

GYNERIUM ARGENTEUM.

LUCOMBE, PINCE AND Co., have strong established specimens, of various sizes, of this extremely beautiful plant. The following extract from the *Gardeners' Chronicle* of October 30, will give a due idea of its beauty:—

"HORTICULTURAL SOCIETY'S GARDEN, TURNHAM GREEN.—One of the most interesting plants at present in flower here is the Pampas Grass of Brazil (Gynerium argenteum), a good specimen of which is growing in the American garden, near its entrance. This plant has 12 flower stems, each some 8 feet long, about the thickness of the thumb, and surmounted by an erect panicle of inflorescence at least 18 inches in length, which, beneath bright sunshine looks like a beautiful light-coloured feather spangled with silver; the panicle is in the form of that of the beautiful Arundo phragmites. The leaves, which are some 7 or 8 feet long, with a hard flinty skin, grow in tussocks, which in situations at all favourable soon acquire a large size; when in flower, certainly few plants are more striking or magnificent in appearance than this gigantic Grass, which being perfectly hardy, will be found to be a great acquisition to the ornamental grounds of this country."

It has flowered in the Exeter Nursery several times; and L. P. and Co. can speak in unqualified terms of its merits. Sizes and prices of the Plants may be had on application to them. Full particulars of the requisite culture will be furnished with the plants.—Exeter Nursery, Nov. 27.

LOCKSBROOK NURSERY, BATH.

R. SHACKELL begs again to offer the public his beautiful SEEDLING VIOLET "RUSSIAN SUPERB," which variety cannot fail to give the highest satisfaction. Strong blooming Plants, hamper and package included, 6*s*. per dozen; Small Plants, such as may be sent through the post, 4*s*. per dozen.

R. S. has almost an inexhaustible stock of Double Blue Perpetual Tree Violet. Strong fine healthy Plants, having from 20 to 30 blooms on each plant, such as would make a display at once, he will supply at the low price of 2*s*. 6*d*. per dozen, hamper included; or 11*s*. per 100, hamper included. In quantities of not less than 1 dozen or 100. One hundred plants of this variety would supply several Bouquets per day from this time until the end of May next. A large Bouquet of each of these two varieties can be sent through the post on the receipt of 12 penny postage stamps.

Neapolitan Violet Plants	...	...	3*s*. per dozen.
Double White Tree Violet	...	...	3*s*. „
Ditto ditto Violet	...	...	3*s*. „
Single White Russian	...	...	3*s*. „
Old Russian Violet	...	...	5*s*. per hundred.

Hamper and package included.

"Sir,—Blooms of your 'Russian Superb,' and a large White Seedling Violet, both seedlings of your raising, were safely received this morning. Having grown a few plants of the 'Russian Superb' myself this season, I have no hesitation in informing you I consider it by far the best hardy Violet cultivated. It blooms most profusely through seven months of the year. The blooms are very large, of a fine blue colour, and most exquisitely fragrant; and as the habit of the plant is strong and good, it must supersede the old varieties. It is well known the Neapolitan requires the shelter of a frame to bloom it in perfection; your present seedlings will enable every one to enjoy the luxury of these charming flowers, without the aid of glass, through the winter months.—I remain, Sir, yours very truly, "JOHN SPENCER.

"Bowood Park, Nov. 13.

"Mr. ROBERT SHACKELL, Locksbrook Nursery, Bath."

Post-office Orders payable to ROBERT SHACKELL, Florist, 66, Broad-street, Bath.—Locksbrook Nursery, Bath, Nov. 27.

KNAP HILL NURSERY, WOKING, SURREY.

HOSEA WATERER respectfully invites attention to the following:—

ARAUCARIA IMBRICATA 2, 3, 4, and 5 feet high. We have a fine stock of large Araucarias, and as they have never been in pots, they are as robust and handsome as can well be.

CRYPTOMERIA JAPONICA, 2 3 4, 5, 6, 7, and 8 feet high, all from seed and in the open ground.

CEDRUS DEODARA, 2, 3, 4, 5, 6, 7 8, 10, and 12 feet high.

" OF LEBANON, 3 4, 5, 6, 7, to 12 feet high. The large Deodars and Cedars of Lebanon, here referred to, have been regularly removed every spring; they are magnificent specimens, and might be sent any distance with perfect safety;

ABIES DOUGLASII, from seed, 2, 3, 4, 5, 6, and 7 feet. larger and splendid plants 8 to 12 feet; all removed last spring.

" MENZIESII 3, 4, 5, 6, and 7 feet high.

" CANADENSIS, Hemlock Spruce, fine plants, 5, 6, 7, and 8 feet high.

PICEA NOBILIS, stout plants, with good heads, own bottoms, 2½ to 3 feet, probably not to be met with in any other Nursery.

PINUS CEMBRA, 3 4, 5, 6, to 10 feet high.

" INSIGNIS, all from seed, and most beautiful plants, 3, 4, 5, and 6 feet high. We have a fine lot of these.

CUPRESSUS MACROCARPA, OR LAMBERTIANA, from seed, 2, 3, 4, 5, 6, and 7 feet high. We have a fine lot of these also.

TAXODIUM SEMPERVIRENS, 2, 3, 4, 5, and 6 feet high; beautifully furnished.

JUNIPERUS VIRGINIANA (the red Cedar), fine plants, 4, 5, 6, and 7 feet.

" RECURVA, 3, 4, 5, 6, 7, and 8 feet.

" EXCELSA, 3, 4, 5, and 6 feet.

" BEDFORDIANA, 3, 4, and 5 feet. This is a very handsome growing plant.

* UPRIGHT IRISH JUNIPER, 3, 4, 5, 6, 7, 8, to 10 feet high. These are really splendid examples of perhaps one of the most striking of all Junipers.

* UPRIGHT IRISH YEW, 4, 5, 6, 7, 8, to 10 feet high. These plants are all trimmed to one stem, and are not therefore so likely to divide on windy or snowy weather.

* CHINESE JUNIPER, 2, 3, 4, 5, 6, 7, and 8 feet high.

* CUPRESSUS THYOIDES VARIEGATA (the variegated white Cedar), most beautiful plants, 3 to 4 feet high.

* GOLDEN YEW, worked on common, 3, 4, 5, and 6 ft. high.

* Visitors to Elvaston Castle cannot have failed to remark the extraordinary effect produced by the last five plants, viz., Irish and Gold-striped Yews, Irish and Chinese Junipers, and the Variegated White Cedar; and I believe we may assert, without fear of contradiction, except Elvaston, a similar lot of plants to those here offered cannot be found in any Nursery in Britain.—Priced Catalogues will be forwarded on application.

The Knap Hill Nursery is within an hour's ride of London, being near the Woking Station, South-Western Railway, where every train stops, and from whence conveyances may at all times be had.

VINES FOR VINERIES, FROM EYES IN POTS.—The following varieties are all true to name, propagated from bearing trees on the premises. They are from 3 to 4 feet in height, with well ripened shoots, grown under glass, and from two to three years old. 3s. 6d. each, except those priced.

Barbarossa, 5s.
Black Prince.
Black Prince, Hamburgh (Williams).
Chaptal.
Chasselas Musqué (or St. Albans).
Chasselas, rose.
Frontignan, black.
do. grizzly.
do. white.
Hamburgh, black.
do. The Pope, early.
do. Mill-Hill, 5s.
Hamburgh, Wilmot.
Malvasia, or Grove End Sweet Water.
Muscadine, Royal.
Muscat of Alexandria.
Noir d'Espagne.
Purple Constantia.
Raisin de Calabre.
Saint Peter's, Oldaker's.
Sweet Water, Dutch.
Sweet Water, Prolific.
Tokay, Charlesworth.
White Nice.
White Romain.

VINES FOR WALLS, FROM EYES, NOT IN POTS, from 5 to 7 feet, 1s. 6d. each, except those priced; these are all hardy and early kinds.

Burgundy, or Miller.
Early Hardy Red.
Knight's Sweet Water, great bearer.
Macready's Early White, do.
Madeleine Blanche, very early.
Madeleine Noir, do.
Mignonne White Cluster
Piquepoule Noir. [(Williams).
Purple Fontainbleau, great bearer. 2s. 6d.
Scotch White Cluster.
White Ripling.
Nice Cluster (William).

Carriage paid to London.—THOMAS RIVERS, The Nurseries, Sawbridgeworth, Herts.

THE NEWLY IMPORTED GERMAN DOUBLE DAISIES.—A fine and healthy stock of the above new variety of flower is now offered to the public. It is very novel and distinct in all its features, and such as will give satisfaction to all purchasers. EDWARD TILEY has selected 50 of the best of the varieties out of the 100 varieties imported, and can send them out in any quantity, from a dozen and upwards, all true to name. These will be found to surpass everything for edging borders, &c., and also if planted in a bed will equal in variety that of a fine Ranunculus, and is frequently taken for such by many who have seen them in bloom. The whole of them are grown in pots, therefore will ensure a certain growth when transplanted. Price 3s. per dozen, postage and package free to any part, or 1l. per hundred, hamper and package free.

MYOSOTIS AZORICA.—A large and healthy stock of this delightful little flower (for particulars of which see article on same by "Alpha," at page 725 of Saturday's *Chronicle*, Nov. 13. 1852); also fine plants of MYOSOTIS VANGLEEKI, which is another splendid variety. Both are particularly adapted for pot culture; the former is a very dark blue, the latter a beautiful light blue; persons once growing them will never be without them. Price 3s. per dozen, postage free.

OTHELLO CLOVE CARNATION.—A few pair of this unique variety are still left, and will be forwarded to any part at 3s. 6d. per pair.

VIOLA ARBOREA (true), 6s. per dozen; and RUSSIAN SUPERB VIOLETS (true), 3s. per dozen.

HOLLYHOCKS.—Seedlings saved from all the best varieties sent out for the last three years, 1l. per hundred, or 11s. for 50 plants. They are fine strong plants, such as will bloom fine and give every satisfaction next season.

A TREATISE ON THE NATURE, MODE, AND CULTIVATION OF THE VIOLET, giving every direction for its continual blooming the whole of the winter, &c., &c., and aiding in many respects those who have already grown them, as it embraces several distinct plans to grow Violets. Purchasers to the amount of 5s will have the Treatise included, or sent post free to any part on receipt of 12 penny stamps. See *Gardeners' Chronicle* for Saturday last.

STRAWBERRY PLANTS.—Prolific, 3s. per 100; Goliath, 3s. per 100; Alice Maud, ditto; Eleanor, 5s. per 100; British Queen, 3s. per 100; Eliza, 3s. per 100; Britannia, 5s. per 100; Globe, 3s per 100; Black Prince, 5s. per 100; Trollop's Victoria, 1l. per 100, or 3s. per dozen, postage free.

The Hollyhocks and Strawberry Plants will be sent in hamper or package free, and when a quantity is ordered, plants will be sent over to compensate for the cost of carriage.

The whole or any part of the above, can be sent postage and package free on receipt of the amount by a post-office order or penny postage stamps.

EDWARD TILEY Nurseryman, Seedsman, and Florist, 14, Abbey Church-yard, Bath, Somersetshire.

WANTED, TO PURCHASE,
GOOD PINE APPLES,
CHOICE DESSERT PEARS,
SMALL MUSHROOMS,
CHOICE FLOWERS,
&c. &c. &c.

Apply to GEORGE TAYLOR, Jun., Fruit Salesman, St. John's Market, Liverpool.

BRITANNIA RHUBARB.—No nobleman's or gentleman's Garden can be complete without this Rhubarb, and to Market Gardeners it is invaluable. It is the earliest and best in colour, flavour, and produce that has ever been offered to the public. See Advertisement in *Gardeners' Chronicle*, October 30.

THOMAS APPLEBY, Rose Mount Nursery, York.
This Advertisement will not be repeated.

Messrs. Charles Cantor & Co. of Calcutta.

1852.

LIST OF ORCHIDEOUS PLANTS INDIGENOUS TO ASSAM

AND THE NEIGHBOURING HILLS OF KHASYA, BOOTAN, &c.

No.	Names.	Size and Colour of Flower.	Habit.
* 1*	Microstylis Wallichii?...	Small, pea green	Ter.
2	Oberonia iadifolia ...	Minute, yellowish	Epi.
3*	,, sp.	,, ,, ...	Do.
4	Liparis sp.	Small, yellow	Do.
5	,, sp.	,, ,, ...	Do.
6**	,, sp.	Largish, green yellow ...	Ter
7*	,, sp.	Small, deep purple ...	Epi.
8	Otochilus fuscus ...	,, yellowish brown ...	Do.
9	,, albus	,, ,, and white ...	Do.
10	Pholidota imbricata ...	,, white	Do.
11	,, undulata	,, ,, ...	Do
12*	,, articulata	,, ,, ...	Do
13*	,, sp.	,, ,, and yellow ...	Do.
14*	,, sp.	,, ,, ,, ...	Do.
15	Coelogyne flavida ...	,, yellow	Do.
16	,, undulata	Largish, white	Do.
17*	,, fimbriata?... ...	,, ,, and brown ...	Do.
18**	,, unidora	,, ,, and lateritious	Do.
19	,, barbata	,, white	Do
20*	,, præcox?	,, ,, ...	Ter.
21*	,, maculata	Large, white, yellow, & rose	Do.
22**	,, Wallichiana ...	,, ,, and rose ...	Do.
23**	,, ocellata	,, pale yellow and deep orange	Do.
24*	,, Gardneriana ...	,, white and yellow ...	Epi
25	,, cristata	,, ,, streaked with bright yellow	Ter
26	,, sp.	Small, brown and yellow...	Epi
27**	,, flava?	Large, yellow and brown ..	Do.
28	,, sp.	Small, brown and yellow...	Do
29*	,, sp.	,, white and brown ...	Do.
30	,, sp.	,, pale yellow	Do.
31**	,, sp.	,, white (pretty) ...	Ter.
32**	,, sp.	Largish, pale cinnamon ...	Epi
33**	Bolbophyllum leopardinum	Large, yellow spotted with purple.	Do.
=34	,, umbellatum ...	Largish, dull yellow ...	Do.
=35**	,, Khasyanum ...	Small, greenish	Do.
=36**	,, sp.	Largish, bright yellow ...	Do.
=37*	,, sp.	Small, white, fragrant ...	Do.
=38*	,, sp.	,, dull purple	Do
39	,, sp.	,, ,, ...	Do.
40	,, sp.	,, ,, ...	Do.
41**	Cirrhopetalum sp. ...	Small, greenish, fragrant	Do
42	,, sp.	,, dull purple	Do.
43*	,, sp.	Large, brown and yellow...	Do.
44**	,, sp.	Largish, dull purple ...	Do.
45**	,, sp.	,, ,, ...	Do.
46*	Tricosina suavis... ...	Large, white, purple & yell.	Do.
47*	Eria flava	Largish, dull yell. & brown	Do
48	Eria sp.	Largish, white streaked with brown	Epi
49	,, densiflora	,, ,, tinged with yellow	Do.
50	,, ferruginea	,, ferruginous	Do
51	,, paniculata... ...	Small, spotted with purple	Do.
52**	,, sp.	Largish, white	Do.
53*	,, sp.	,, ,, & dull purp.	Do.
54*	,, sp.	,, ,, ,,	Do.
55*	,, sp.	Minute, rosy	Do
56	Aporum anceps	Small, white	Do.
57	,, cuspidatum ...	,, ,, ...	Do
58	,, sp.	,, ,, ...	Do.
59*	,, sp.?...	Largish, white, yellow, and brown	Do.
60	Dendrobium Pierardi ...	Large, pink and yellow ...	Do.
61*	,, heterocarpum ...	,, yell. and br. fragrant	Do.
62	,, Chrysanthum ...	,, lively yell. and brown	Do.
63*	,, Paxtoni	,, ,, ,,	Do.
64*	,, sp. like do. ...	,, orange and brown ...	Do
65*	,, formosum	Very large, white and yell., fragrant	Do.
66**	,, longicornu... ...	Large, white and orange ..	Do.
67	,, calceolus	Very dark yellow, rose, and purple	Do.
68*	,, sulcatum	Large, yellow and purple..	Do.
69	,, Jenkinsii	,, lively yellow	Do.
70	,, cærulescens ...	,, deep lively purple ...	Do.
71	,, nobile	,, white rosy purple ...	Do.
72**	,, Gibsonii	,, yellow and brown ...	Do.
73*	,, stuposum	Small, white	Do.
74*	,, Gambridgeanum...	Large, lively yell. and br	Do.
75**	,, transparens ...	,, deep lively purple ...	Do.
76*	,, like do., various ...	,, pale rose and purple	Do.
77**	,, Devonianum ...	,, lilac-rose and yellow	Do.
78**	,, Dalhousianum ...	,, rose, white, and purp.	Do.
79	,, multicaule... ...	,, white and purple ...	Do.
80**	,, Griffithii	,, pale yell. and orang.	Do.
81**	,, Farmeri	,, lively ,, ,, ...	Do.
82**	,, densiflorum pallid.	,, white and orange ...	Do.
83**	,, do. roseum ...	,, pale rose and orange	Do.
84	,, intermedium ...	,, pale yellow & brown	Do
85*	,, sp.	,, lively orange	Do.
86*	,, sp.	,, ,, yellow & brown	Do.
87**	,, sp.	,, yellow, pink, and br.	Do.
88*	,, sp.	,, pink and yellow	Do.
89**	Spathoglottis pubescens	Largish, yellow and purple	Ter.
90	Arundina bambusifolia	Large, pale rose and lively purple	Do.
91*	Phaius grandifolius ...	,, white, brown, & pur.	Do.
92	,, Wallichii	,, ,, ,, ,,	Do.
93*	,, maculata	,, ,, rosy scented	Do.
94*	Phaius albus	Large, white, rosy scented	Do.
95**	Aputaria senilis	Largish, rose and green	Ter
96**	A latifolia	?	Do.
97*	Eulophia virens	Large, green and white ...	Do.
98**	,, sp.	,, dull yellow & brown	Do.
99**	,, sp.	,, deep purple	Do.
100**	,, sp.	,, green and yellow ...	Do.
101**	,, sp.	,, purplish green ...	Do.
102	Vanda teres	Very large, rosy purple, yellow and brown	Epi.
103**	,, cristata	Largish, greenish, white, and purple	Do.
104**	,, multiflora	,, white and rose ...	Do.
105**	,, cærulea	Very large, deep blue ...	Do.
106**	,, sp.	Largish, dull purple ...	Do.
107**	,, sp.	,, ,, and green	Do.
108**	,, sp.	,, yellow and brown ...	Do.
109**	Camarotis purpurea ...	Small, yellow and purple...	Do.
110	Micropera pallida ...	,, pale yellow	Do.
111	Saccolabium micranthum	Small, rosy	Epi.
112	,, retusum	Largish, lively spotted ...	Do.
113	,, papillosum ...	Small, pale yellow & pur.	Do.
114**	,, Calceolare	,, yellow and brown ...	Do.
115**	,, sp. like do. ...	,, pale do. and rose ...	Do.
116	,, caroifolium ...	,, rosy	Do.
117**	,, dasypogon ...	,, green and purple ...	Do.
118*	,, appendiculatum ...	,, yellow	Do.
119*	,, sp.	,, rosy and deep purple	Do.
120**	Sarcanthus sp.	... ...	Do.
121**	,, sp.	Small, rosy	Do.
122**	,, sp.	,, white and yellow	Do.
123**	,, sp.	,, ,, ,, ...	Do.
124**	,, sp.	,, ,, ,,	Do.
125**	,, sp	,, rosy red	Do.
126	Aerides affine	Large, rosy purple... ...	Do.
127	,, odoratum	,, ,, sweet-scented	Do.
128	,, sp.	,, ,, ,,	Do.
129**	,, sp.	Large, like affine, and very sweet-scented	Do.
130	Agrostophyllium Khasyanum	Small, white	Do.
131*	Xiphosium acuminatum	Large, white	Do.
132	Acanthophippium sp. ...	,, dull purple	Do.
133*	,, sp.	,, white, streaked ...	Do.
134*	Cymbidium giganteum...	Very large, yell. and brown	Do.
135	,, pendulum	Large, dull yell. and purple	Do.
136	,, aloifolium	,, ,, ,,	Do.
137**	,, eburneum	Very large, white	Do.
138	,, inconspicuum ..	Small, brown	Do.
139	Cymbidium longipetalum	Largish, green and purple	Ter
140a	,, cyprifolium ...	,, ,, ,,	Do.
141**	,, sp.	Large, fragrant, yellow, and white	Epi.
142**	,, sp.	,, brownish purple ...	Do.
143**	,, sp.	Very large, white	Do.
144**	,, sp.	Large, white and brown ...	Do.
145*	,, sp.	,, green and dull purple	Ter.
146**	? Phalænopsis, sp. ...	Large, yellow and reddish brown	Epi.
147	Euphorboscis pygmæa...	Minute, yellow	Do.
148	Geodorum dilatatum ...	Large, white, purple, and yellow	Do.
149*	,, sp.	,, deep rosy purple and white	Do.
150**	Platanthera sp.	Large, white	Do.
151**	Peristylis sp.	Largish, white, sweet-scented	Do.
152	Habenaria hamigera? ...	Small, green	Do.
153	,, sp.	,, yellow	Do.
154	,, sp.	,, greenish yellow ...	Do.
155*	,, sp.	,, white	Do.
156**	,, sp.	Large, white	Do.
157**	Pogonia Joliana... ...	Small, rosy white	Do.
158**	,, sp.	Largish, green	Do.
159**	,, sp.	Small, purple	Do.
160**	Cyrtosia sp.	Largish, golden yellow ...	Do.
161**	Spiranthes sp.	Small, white	Do.
162**	Zeuxine sulcata	,, ,, ...	Do.
163**	Anæctochilus Roxburghii	,, rosy white	Do.
164**	,, sp.	,, white	Do.
165**	Cypripedium venustum	Large, green and purple ...	Do.
166**	,, insigne,... ...	,, red and yellow ...	Do.
167*	Calanthe densiflora ...	,, lively yellow	Do.
168**	,, sp.	Small, brown and yellow...	Do.
169**	,, sp.	Large, white and green ...	Do.
170**	,, sp.	,, ,, and yellow ...	Do.
171**	,, sp.	,, dull purple	Do.
172	Goodyera sp.	Small white	Do.
173	,, sp.	,, ,, ...	Do.
174	,, sp.	,, ,, dull purple ...	Do.
175**	Ophrys sp.	Largish, rosy purple ...	Do.
176**	,, sp.	,, green and purple ...	Do.
177**	Anthoginum sp.... ...	,, rosy	Do.
178*	Bonatea sp.	Small, green	Do.

Æschynanthus (3 to 4 sp.); Hoya (5 or 6 sp.); Arum (several) Lilium (1 sp.); Nepenthes (1 sp.); Ferns and Lycopodiums (150 to 200 sp.); Palms (Livistonia, Leoxalis, Caryota, Calamus, &c.) are also indigenous, and can be sent if required.

Plants not marked are common. Ditto marked with an asterisk are considered rare.

Ditto marked with two asterisks are considered very rare.

The charges for a box of 4 cubic feet measurement, containing an equal selection of the three kinds, will be 5l. or 50 Rupees, deliverable at Calcutta. When Plants which are rare or very rare are required, the charges will be according to the kind taken; for the rare 1 r. 8 a. a Plant; for the very rare, 2 rupees a Plant. When very large plants are directed to be sent, no extra charge will be made.

When new Plants not included in the list are sent, a separate charge will be made. When two boxes or more are taken a discount of 10 per cent. will be allowed.

Plants can also be sent in glass cases, on the Wardian plan, measuring 2 feet 6 inches in length, 2 feet breadth, and 2 feet 7 inches in height, for which an extra charge of 20 rupees will be made. Glass covers can also be supplied for the other boxes, at an extra charge of 10 rupees.

Applications to be made to Messrs. CHARLES CANTOR & CO., in Calcutta.

ASSAM, *August* 1, 1852.

FRUIT TREES, ROSES, ETC.

WILLIAM WOOD AND SON have to offer this season a very large stock of particularly fine healthy Standard Apples, Pears, and Plums, with clean straight stems and fine bushy heads, comprising all the leading sorts, which are warranted true to name. Per doz.

Standard Apples	10s.
Standard Pears	15s.
Standard Plums	12s.
Pears, on Quince stocks, 2 years from the bud, very fine	18s.

Dwarf and Trained Fruit Trees of every description.

ROSES. Per dozen.

Extra tall Standards, 6 to 8 feet, stems budded with from 3 to 6 best varieties of Climbing and Perpetual Roses on the same stem	42s. to 60s.
Extra superior selected Standards	18s. to 24s.
Fine Dwarfs and Dwarf Standards	10s. to 16s.
Fine Dwarfs, on own roots, 2 of each sort	6s.
Climbing and Noisettes	9s. to 12s.
Mixed Roses, without names, Dwarfs	30s. per 100

Extra Plants presented to compensate for carriage.

Woodlands Nursery, Maresfield, near Uckfield, Sussex.

"PINUS AUSTRIACA,"
THE BLACK AUSTRIAN PINE.

LUCOMBE, PINCE, AND Co. have now on sale a large stock of very fine, healthy, strong plants of this truly desirable PINE, from 9 inches to 2 feet high, which, having been frequently transplanted, are very well rooted, and consequently quite safe to remove to any distance, and are of a superior quality (great attention having been paid to their cultivation); price, from 20s., 40s., and 50s. per 1000. They have also some of larger sizes, from 3 to 6 feet high, equally safe to move, owing to proper attention having been paid to their roots, at proportionately higher prices.

This noble and most serviceable Pine thrives in bleak and exposed situations (even in poor soils), growing rapidly, and producing dense shelter, in places where other trees will not grow. It also succeeds admirably close to the sea, resisting there the spray and roughest winds.

L., P., and Co. beg leave also to say, that their general stock of Forest Trees, Fruit Trees, Coniferæ, Hardy Shrubs, &c., is exceedingly fine; Priced Lists of which will be forwarded on application.

Exeter Nursery, Exeter, November 27.

NEW EARLY PEA.
PAUL'S "DWARF PROLIFIC."

A. PAUL AND SON beg to call attention to the above excellent early PEA, which is a seedling between the Early Frame and Thompson's Dwarf, producing a longer pod and larger Pea than the former, and being far more prolific. The qualifications which recommend it above others are these:—It is very hardy; rarely exceeds 2 feet in height, and consequently requires no sticks; it bears abundantly from the ground to the summit, and produces lateral shoots, which keep it a long time in season. They have permission from Mr. Brown, Gardener to Sir H. Meux, Bart., of Theobald's Park, and Mr. Scott, gardener to Wynn Ellis, Esq., of Ponsbourne Park, to say that they have grown it for two years, and consider it a first-rate Pea, and the best of all known varieties for a second crop. May be obtained in quart packets, 2s. 6d. each, from A. PAUL and SON, Nurseries, Cheshunt, Herts; from Messrs. Noble, Cooper, and Bolton, 152, Fleet-street, London; and Messrs. Hurst and M'Mullen, 6, Leadenhall-street, London.

N.B. A general assortment of Agricultural and Horticultural Seeds, of the best quality and most approved races, at London prices. Catalogues free by post on application.

Nurseries, Cheshunt, Herts.

AMERICAN PLANTS.

JOHN WATERER begs to announce his Catalogue of the above Plants, Roses, Conifers, &c., is now published, and may be obtained by enclosing two postage stamps. The colours of all the Rhododendrons worthy of cultivation are described, in order to facilitate purchasers in selecting.

☞ The Rhododendrons, Azaleas, &c., annually exhibited at the Royal Botanic Gardens, Regent's Park, are supplied from this establishment.—The American Nursery, Bagshot, Surrey, 4 miles from Farnborough Station, South-Western Railway, and 3 miles from Blackwater, South-Eastern Railway.

ROSES UPON MANETTI STOCKS,
ESTABLISHED IN POTS FOR FORCING.

T. APPLEBY, Rose Mount Nursery, York, has a fine stock of the above, one year established in pots, and in the following classes:—Hybrid Perpetual, Bourbon, China and Tea-scented. They are very fine plants, and will only be charged 6d. per plant above the Catalogue prices.

It has been satisfactorily proved by many noblemen's and gentlemen's gardeners in this neighbourhood, that Roses force very much better upon this stock than upon their own roots. The growth is more robust, and the flowers more numerous and larger.

T. A. also begs to call the attention of Rose connoisseurs to his Advertisement in the *Gardeners' Chronicle* of October 30, and recommends those parties who wish to give the Manetti stock a trial upon their particular soils and localities, to lose no time in giving their orders, as this is the best time for planting, and the stock of some sorts will soon be exhausted.

The Gardeners' Chronicle.

SATURDAY, NOVEMBER 27, 1852.

MEETINGS FOR THE ENSUING WEEK.

MONDAY,	Nov.	29	Botanical (Anniversary)	8 P.M.
			British Architects	8 P.M.
TUESDAY,	—	30	Royal (Anniversary)	4 P.M.
			Civil Engineers	8 P.M.
WEDNESDAY,	Dec.	1	Society of Arts	8 P.M.
			Geological	8½ P.M.
THURSDAY,	—	2	National Floricultural	3 P.M.
			Zoological	3 P.M.
			Antiquarian	8 P.M.
SATURDAY,	—	4	Asiatic	2 P.M.
			Medical	8 P.M.

AMMONIA and its uses to plants are matters of such very great interest, that we lose no time in laying before our readers the substance of a memoir upon the subject, as it has been reported in a late number of the *Comptes Rendus*. M. VILLE, the author of the memoir in question, has been already favourably known for his researches into the influence of nitrogen on vegetation, of which some account will be found in one of our previous volumes. He has now addressed himself to the investigation of the action of ammonia.

"If," he says, "we add ammonia to the atmosphere, vegetation becomes remarkably active. Even in such a dose as four 10,000ths (*décimilliemes*) the influence of the gas becomes perceptible at the end of from 8 to 10 days, and from that time forward the intensity of its action increases. Leaves which were in the beginning pale, become more and more green, and eventually turn almost black; their stalks become long and stiff, and their surface broad and shining. At last, when vegetation is over, the crop is found to be much more considerable than in plants growing in pure air; it is also found that weight for weight they contain almost twice as much nitrogen." Thus it appears that ammonia exercises a double influence upon plants; 1, it favours their growth; 2, it renders their produce more nitrogenous.

In 1850 the produce obtained in pure air amounted to 64.19 gr., and those in ammoniacal air to 110.06 gr. The first contained 1.266 gr. of nitrogen, the last 4.313 gr. In 1851 the produce in pure air being 68.72 gr., containing 0.494 of nitrogen; the same produce, in ammoniacal air, amounted to 135.20 gr., containing 1.501 of nitrogen. In 1852 30 grains of Wheat produced in pure air 11.86 gr. of straw, and 47 grains of corn, which weighed 1.06 gr. In ammoniacal air the same number of grains produced 21.99 gr. of straw and 75 grains of corn weighing 1.89. The straw in pure air contained 0.043 nitrogen, in ammoniacal air 0.165. All these had been dried before weighing at 120° CENT.

M. VILLE then proceeds to say that in addition to these effects, ammonia produces others equally worthy of notice. In fact it would seem that by means of this agent we may not only increase the activity of vegetation, but modify it, diminishing one class of functions and exaggerating others.

If plants are exposed to the influence of ammonia several months before flowering, there is nothing particularly remarkable in their vegetation; it is more vigorous than in pure air, but the ordinary succession of growth is not disturbed. It will sometimes even happen that while plants refuse to fruit in pure air they do so completely in air dosed with ammonia. But if the conditions of the experiment are changed, if we wait till a plant is about to come into flower before ammonia is added, the phenomena become of quite another kind. Under such conditions flowering is arrested, and vegetation takes a new start. One might say that the plant travels back to its former ground; the stem lengthens and branches in all directions, becomes covered with innumerable leaves, and then, if the season is not too far advanced, the suspended flowering takes place—but all the blossoms are blind.

If this experiment is tried upon a cereal plant whose hollow stem is incapable of branching, then the precise nature of the phenomenon is modified. The lengthening of the stem is stopped, and the plant immediately tillers, throwing up stems which soon become higher than the parent stem. In this case, again, no seeds are produced.

It is needless to say that all M. VILLE's experiments were carried on under glass. He regards the value of ammonia in hothouses as being now ascertained beyond all doubt. When the air is dosed with 0.025 gr. per cubic yard it was found that most striking effects were produced upon Orchidaceous plants. It is to be observed, however, that the use of ammonia during the heat of summer may produce serious accidents, and he advises the discontinuance of it through the months of June, July, and August. The accidents alluded to consist in the leaves becoming yellow, and drying up, even although the atmosphere is saturated with moisture; the top leaves are thus attacked, and the plant dies. This is supposed to be owing to the balance between the action of the leaves and roots being destroyed.

In general roots are intended to furnish plants with mineral matters. If such substances are absorbed beyond a certain limit the plant is unable to use what it receives, and saline efflorescences form on the surface of the leaves. This is frequently observed on Cucurbitaceous plants when the weather becomes dry after heavy rains. But when, owing to a combination of different circumstances, the leaves are more active than the roots, organic elements are what are chiefly absorbed; but these elements cannot be assimilated unless a sufficient quantity of mineral matter is absorbed. Thereupon there comes to pass a striking phenomenon; what the roots are unable to supply the plant furnishes from its own stores; and the substance of a certain number of leaves is RESORBED. Such resorption of old organs for the use of young ones is not uncommon in nature. If we pull up a Purslane plant, when in flower, and put it in the shade on a sheet of paper, vegetation goes on, and the seed forms and ripens. But in this case the mineral substances contained in the seed cannot be derived from the soil, and must of necessity be given up by the tissues of the plant itself. The accidents above referred to belong to the same category of phenomena.

These statements cannot but give rise to serious considerations. The use of ammonia in the air of hothouses is by no means unknown in this country, and the effect of its employment, as described by M. VILLE, is precisely what might have been expected from the known laws of vegetable life. Nevertheless the application of these facts in a safe and useful manner is a point to which gardeners are quite unaccustomed, and to which we invite their attention. We shall ourselves return to the subject. In the meanwhile we cannot but express our hope that so very interesting a memoir as that which is now noticed will be speedily given to the world in its integrity. The report of which we have attempted to give our readers the substance, leaves much to desire as regards the details of M. VILLE's experiments, and of the manner in which they were conducted.

WE have authority for stating that the East India Company have determined to renew their important attempts at introducing Tea into the Himalayas, along with Chinese skilful in the art of preparing the leaves, and that Mr. FORTUNE is again charged with the operations. It is understood that he will sail in about a month.

THE CYCLAMEN.

FEW winter flowering plants are more useful than the varieties of this charming genus. Strong healthy specimens produce a plentiful succession of their singularly formed blossoms, which, if guarded from damp, will remain for several weeks together in perfection. All the varieties are compact in growth, of easy culture, and hence they are well suited for persons whose accommodation is limited, or whose knowledge of plant cultivation is not great. Those about to add a few varieties to their collection cannot purchase them at a better season than the present; for if sound healthy plants are obtained now, there will be no risk of their decaying (instead of starting into growth), as frequently happens with plants that have been kept quite dry during the summer.

Good healthy plants procured now will probably have commenced growth, and should be kept rather close for a week, when it will be advisable to examine the state of the roots, and, if well furnished, shift into pots a size larger; otherwise repair the drainage, and defer shifting until the roots indicate a want of pot room; and then a moderate shift only should be given. At this season the plants should be placed near the glass, and should receive a sufficient supply of water to keep the soil in a nice moist healthy condition. Provided frost is excluded, the temperature in which they are grown is of little consequence, except where plants are wanted in flower without loss of time; and as the blossoms appear before the foliage is well developed, there will be little difficulty in securing these at any period from November to April. Keeping the plants cool and rather dry will retard their blossoms until March, and placing them in a temperature of from 45° to 50° will bring them into full beauty in a very short time. The plants may be kept in a cold pit, where they will be safe from the frost, until they commence flowering, and then they should be removed to a sitting-room window, where, with care to protect them from currents of cold air, they will be quite at home, and will be beautiful objects for some two months. The best situation, however, for Cylamens, while growing and in flower, is near the glass in a greenhouse or pit, where the temperature may average from 40° to 50°, and where air can be admitted without its passing over the plants, as is the case in most sitting-room windows.

It is a too common practice to treat Cyclamens with neglect directly the beauty of the flowers is over, and to give them little attention, and sometimes hardly a drop of water until the following autumn, when they are wanted in flower. This is the very reverse of what they require, and annually occasions the loss of many bulbs. The plants should be allowed a light, airy situation in the greenhouse or pit, and kept properly supplied with water until May, when they may be removed to a shady situation out of doors; and when the leaves decay, very little water need be given until it is desired to excite the plants into growth; the soil, however, should never be allowed to become quite dry. My own practice is to plunge the pots in coal ashes during the summer, which in case of long continued droughts, are watered, so as to afford a little moisture to the soil in the pots. The plants should be moved to the greenhouse in September, and surface-dressed or potted as may be necessary.

Propagation is more readily effected by seeds than by any other method, for although large bulbs occasionally produce several crowns, there is considerable risk in separating them, as decay is apt to follow the track of the knife. Seeds, however, soon grow into useful plants. They should be collected when ripe, and sown in well-drained pots, filled with a mixture of loam, leaf-soil, and sharp sand, and set in a safe situation till autumn. They germinate soonest by placing the pots in September in a temperature of about 50°, taking care to keep the soil well supplied with water. If well looked after during winter, they will be nice little

plants towards April, and may be potted singly in 5-inch pots, taking care not to injure the roots in separating the plants. They should be placed in a close shady situation until established in their pots, and then set in a light airy part of the greenhouse. When the weather becomes warm and settled, they may be planted in raised beds of prepared soil on a warm border; and during summer will require no further attention than an occasional watering in case of the soil getting dry, which, however, will seldom occur. In September, take them up with as little injury as possible to the roots, and treat them during the winter and spring as recommended for old plants. If managed in the same manner the second summer they will be good sized bulbs, and will afford an abundance of blossoms the following winter.

Two parts fresh, turfy, friable loam, to one of turfy peat or decayed leaves, with a liberal mixture of sharp sand, form a suitable compost for the Cyclamen. *Alpha.*

ON THE IMPOSSIBILITY OF PREDICTING THE WEATHER.

(*Continued from page* 740.)

Supposing the atmosphere immovable and perfectly serene; supposing also the soil to be everywhere endowed with the same powers of absorbing, giving out, and retaining heat, we should then observe, in consequence of the solar action, in the course of the year, a regular uninterrupted series of increasing temperatures, and a similar series of decreasing temperatures. Each day would have its invariable temperature. Under each determined parallel the days of maximum and minimum heat would be respectively the same.

This regular and hypothetic order is disturbed by the motion of the atmosphere; by clouds, more or less extended, more or less persistent; by the different properties of the soil. These give rise to elevations or to depressions of the normal heat of days, months, and years. The perturbations not operating alike in every place, we may expect to see the primitive figures differently modified, and to find comparative inequalities of temperature, where, according to the nature of things, the most perfect equality ought to prevail.

The extent of these combined disturbing causes will be best shown by the comparison of *mean periods* in which the maximum and minimum temperatures are manifested in different places. The following are some of the results:—

	Maximum.	Minimum.	
St Gothard, 10 years	August 11	December 24	51 and 3 days after the solstice.
Rome, 10 years	August 6	January 8	46 and 18 days after the solstice.
Jena, 18 years	August 1	January 3	41 and 14 days after the solstice.
Petersburgh 10 years	July 22	January 8	31 and 18 days after the solstice.
Paris, 21 years	July 15	January 14	25 and 25 days after the solstice.

These differences refer to localities; but when unknown local circumstances have so much influence, is it not natural to suppose that the modifications which they receive from the hand of man may considerably alter, in the course of a few years, the meteorological type of every city in Europe.

I come now to show, that local circumstances that are either obscure or but little remarked may exercise constant and sensible influences on the distribution of maxima and minima temperatures throughout the year. When science shall be in possession of a large mass of exact and comparable meteorological observations, made *simultaneously* in different places—when these observations shall have been discussed with intelligence, we shall probably see that local circumstances play a more important part than scientific men seem disposed to attribute to them. I could even point out at this moment several circumscribed places which have sometimes completely escaped the rigorous cold with which the surrounding countries have been struck. The *Sables-d'Olonne*, for example, and the adjoining country for 15 miles round, constituted, during the winter of 1763-64, a sort of *thermic oasis*. The Rhone was frozen near its mouth; an intense cold, more than 18° Fah. below freezing, interrupted all agricultural work in the countries traversed by this river; whereas at *Sables* the weather was mild: this little canton was spared by the frost.

There is another fact still more extraordinary than the preceding, for it occurs every year. There is in Siberia, M. Erman informs us, *a whole district*, of which the sky during winter is constantly serene, and where there falls not a single particle of snow.

I am inclined to pass over the question of perturbations of terrestrial temperature, which may be connected with the *more or less abundant emission of solar light and heat*, whether the variations of emission depend on the number of dark or of light spots, with which the surface of this luminary is found *fortuitously* marked, or whether they may arise from some entirely different and unknown cause; but I cannot omit calling the attention of the reader to the obscurations to which our atmosphere is occasionally subject, without any assignable cause. These obscurations, by preventing the solar light and heat from reaching the earth, ought to produce a considerable effect on the seasons.

Extensive portions of our atmosphere are often invaded by substances which greatly disturb its transparency. These substances sometimes proceed from the eruptions of volcanoes. For instance, the immense column of ashes which, in 1812, after being thrown up to a great height from the crater in the island of St. Vincent, made noon-day like night in the island of Barbadoes.

Clouds of dust occasionally appear in regions where no volcano exists. Canada, more especially, is subject to such phenomena. They there attribute them to the burning of the forests. This explanation is not, however, always in accordance with facts. Thus, at Quebec, on the 16th of October, 1785, clouds of dust so obscured the sky that no one could see to walk at noon. These clouds extended over a space of 250 miles in length, and 200 in breadth; they appeared to come from Labrador, a country not much wooded, and they possessed none of the characters of smoke.

On the 2d of July, 1814, similar clouds to those in question enveloped, on the open sea, the ships which were proceeding to the river St. Lawrence. The darkness continued from 2 o'clock in the morning till 3 o'clock in the afternoon.

With regard to the object of our proposition, it is of little importance whether we attribute these cloudings, so dense as to entirely obstruct the solar rays, to the burnings of forests and commons, or to terrestrial emanations; their formation, their arrival in a given place, will not be less within the foresight of science. The accidents of temperature, meteors of all kinds, of which these dense clouds may be the cause, never figure beforehand in the annals of meteorology. The accidental obscuration of the sky, in 1783, included a space so extensive (from Lapland to Africa), that some attributed it to the matter of the tail of a comet, which they said had mixed with our atmosphere. It cannot possibly be maintained that an accidental state of the atmosphere which permitted the sun, for nearly two months, to be looked at with the naked eye at noon, was without influence on terrestrial temperature.

Forests cannot fail to exercise a sensible influence on the temperature of surrounding regions. The snow, for instance, remains longer in them than in the open country. The destruction of forests ought, therefore, to produce a modification of climate. How much, in any given case, may this influence of forests affect the thermometer? The question is very complicated; it *has never been solved.*

The valleys, in all very mountainous regions, are swept by daily periodical breezes, felt more especially in May, June, July, August, and September. These breezes rise in the valleys from 7 or 8 o'clock in the morning till 3 or 4 o'clock in the afternoon, when they attain their maximum force; but they still exist till 6 or 7 o'clock in the evening. They have usually the velocity of a wind, and sometimes that of a violent wind. They ought, therefore, to exercise a considerable influence on the climates of adjoining countries.

What is the cause of these breezes? It evidently consists in the manner by which the mountain masses are heated by the solar rays, and their radiation into the valleys. Supposing these masses are naked, and you will have a certain effect; substitute dense forests for the barren rocks, and the phenomenon will assume another character, as regards, at least, its intensity. This is only one of twenty ways in which the clearing of woods may affect climate. Before the almanac-makers begin to arrange their *predictions*, they ought to put themselves in communication with all the wood-cutters in every country.

In North America the interior of the continent has, under the same latitude, a different climate from that of the coast. Near the lakes the difference is less. We may, therefore, expect that the drying of a lake will modify the climate of the surrounding country, and that a great inundation, in consequence of the unforeseen bursting of dykes, or banks, will produce, for a time, a contrary effect.

If any one complain that I enumerate causes, which, taken individually, do not seem to produce much effect, I reply, we have to consider a combined influence. According to Howard the mean temperature of London exceeds that of the surrounding country by nearly 2° Fahrenheit. The difference, however, is not every year the same. *M. Arago, in Flore des Serres et des Jardins de l'Europe.*

(*To be continued.*)

TRADE MEMORANDA.

Who is Mr. N. Seymour, of 67, Tower-street, Westminster-road? It is the place from which the Rev. Mr. Bradley's letters were dated. Are the two gentlemen kinsmen?

Home Correspondence.

Improved Cultivation of Autumnal Roses. — How many lovers of Roses are annually disappointed by their favourite varieties, and Hybrid Perpetuals, and Bourbons, being seized towards the end of August either with that black spot, the fatal precursor of disease in the Potato, or mildew, or rust, so that the leaves soon fall, and the buds which should give blosssom in September, shrivel and become abortive. The following simple mode of culture has worked a cure here for these last three years, and will, I trust, do so with the Roses of your readers. I have hitherto only noticed its effects on dwarfs and dwarf standards, *i.e.*, stems from 1 to 2 feet in height. Take up the trees every year early in November, or indeed at any time while the weather is mild, in that or the following month. Shorten all the long roots; open a hole about 18 inches in diameter, and 1 foot deep, give to each tree a large shovelful of rich compost, say rotten dung and loam; if the soil be light, the same and sand, either pit or road; if it be heavy and tenacious, plant in the usual way, and your work is done. If you wish your Roses to bloom early the following summer, prune them when you remove them; but if you wish for a good autumnal show do not prune them till the beginning of April, *i.e.*, if the spring is of about its usual forwardness, and later or earlier according to the season. A variation of the above mode may be made by giving the border a good dressing of manure and stirring it with a fork to 15 or 18 inches in depth, and then replanting the trees; but I should prefer the former mode of giving to "each tree its plateful of meat," which will be quite food enough for one season. I have had this autumn a large bed of dwarf standard Bourbon Roses, covered with their beautiful green leaves and vivid flowers, all through the months of September and October; and even to-day, Nov. 17, most of them are as verdant as ever. These were removed last winter. I have also gathered to-day from the open air a beautiful bouquet of those two fine Roses, Géant de Batailles and Standard of Marengo. It is now many years since, in one of the early editions of the "Rose Amateur's Guide," I recommended the removal and root pruning of standard Roses once in two or three years, when planted in unfavourable soils. The above annual removal of dwarf standard Roses is therefore only an old idea, with a little fresh polish. In the case of dwarf Apples on paradise stocks, how vexatious it is to find your Ribstone Pippin and Nonpareil trees, after two or three years of promise, all gradually decaying and becoming a mass of canker, as they do in many gardens. Treat them exactly as recommended for dwarf standard Roses, you will not have large trees, but you will have them healthy and fertile beyond belief; as dwarf bushes, and as pyramids, Apple trees treated in this manner become objects of much interest. If extra fine fruit are wished for, cover the surface round the trees 2 inches deep with old tanners' bark, and give liquid manure. *Thos. Rivers, Sawbridgeworth, Herts.*

Fir Smut.—About five weeks ago I found in a Fir plantation three Larch trees blackened in places with large patches of some vegetable parasitic growth, of which I enclose a specimen. The Grass, earth, and base of the above-mentioned trees were all encrusted with this black leprosy. I put some of it under a microscope, but could not make out any fructification. On revisiting the spot lately I found that the parasite, whatever it be, had not spread, though it was still alive, and smelt very strong, as at first, of seaweed. A little above the black incrustations were congregated flocks of winged and wingless aphides, of a large size, of which I also enclose a few specimens; finally, round these aphides a colony of wasps had established themselves, and were patrolling the district, keeping in their herds, but whether to milk as the ants do their kine, or to feed Polyphemus-like on their persons, I watched, but could not make out. My object in mentioning all these particulars together is to ascertain, if I can, whether the subjects of them be in any way connected. 1. What is the Cryptogamic family to which the smut belongs? 2. Whether the inclosed aphides have been heretofore found upon it? and, lastly, what known use or uses wasps may make of aphides? I should have observed that throughout the plantation, except only on those three particular trees, I found neither wasp, aphis, or smut. *D. A. V.* [The "large patches" consist of dead Fir leaves, overrun and glued together by a dark blackish-green plant, the nature of which, owing to its dry, shrivelled state, we are unable to determine. It may be some Collema. The connection between the "patches," the aphides, and the wasps, we must submit to the consideration of our correspondents; we are unable to explain it, unless it be that the aphides are attracted by the patches, and that the wasps eat the aphides]

Potato Disease.—There are some sorts of Potatoes that have their tuber stems much longer than others, *i. e.*, throw their tubers farther from the plant stem; and there are also some kinds that resist disease more than others. Now, my observations have led me to believe that it is precisely these long tuber-stemmed Potatoes that suffer least from disease. I would wish to call the attention of gardeners to this subject, and invite them to give their opinions on it in your columns. We have also found from the first that Potatoes planted in raw bog have suffered comparatively but little from disease, and latterly that they have been almost exempt from it. This year, contrary to what has hitherto been the general opinion, several instances have been observed of the tubers in the more clayey soils being less affected than in the lighter ones. Now, if my observations be corroborated by those of others, I think we shall be led to conclude that the antiseptic properties of soils intercept and absorb the putrefaction induced by mildew in its progress through these long tuber-stems. We may thus account for the tubers of the longer tuber-stemmed Potatoes being free from disease in bog, notwithstanding that the leaves and stems be affected with mildew in the same degree as in other soils, and, also, for their being less affected in clays than in lighter soils. It will also direct us to the means of arresting in its march this putrefaction, by applying antiseptic matters only to the roots, and reserving stronger or nitrogenous manures as top-dressings to stimulate the growth of the plant stems. *J. M. Goodiff, Granard.*

Gynerium argenteum.—I have seen a plant of this magnificent Grass growing on the banks of the Dargle river, which blossomed this season, throwing up 47 flower-stems not less than 20 feet high; the plant measured 9 feet in circumference. Many who came to

feast their eyes on the beauties of the Dargle were struck with its picturesque appearance, and were surprised that it so long escaped the notice of botanists. Many will be desirous to see it next season, for I am sure it will be an object of great curiosity. *T. D. H., Phœnix Park, Dublin, Nov.* 20.

Ajuga Chamæpitys.—One of your correspondents asks, at page 741, if any one can tell him where this is to be found. I can inform him that it grows abundantly on the hills above Cuxton, a village about three miles from Rochester. *I.*

Disleafing of Plants.—A fortnight since in a field of rapidly growing Turnips near my house, I marked out four roots, each of which would admit a dogs' brass collar to slip over it. I then carefully, but completely, cut off all the leaves from two of them, and stuck down two stakes by the side of each of the other two. I have now just been to examine them with my collar, and the result has been that the two deprived of leaves have not in the least increased in size, the collar slipping over them rather easier than before; but the two retaining their leaves have increased considerably, so much so, that the collar would not go over either of them. From this experiment, I consider it is shown, that Turnips do not increase in size when completely deprived of their leaves; and I have no doubt that it would be the same with Mangold Wurzel, Parsnips, and Carrots. I think also, that all the leaves cannot be successively taken from any of these roots without nearly or entirely destroying their quality. With reference to tubers, such as Potatoes and Jerusalem Artichokes, the case is different; when either of these tubers is planted in very dry ground, it will throw out roots and form young tubers, but these will increase only in size so long as they are fed from the parent tuber; and as the parent has no leaves it will very soon be exhausted and perish. The young tubers may, however, afterwards vegetate, namely, produce stems and leaves, and a crop; but should these stems and leaves be cut off, the tubers will at once cease to grow. *G. Wilkins.*

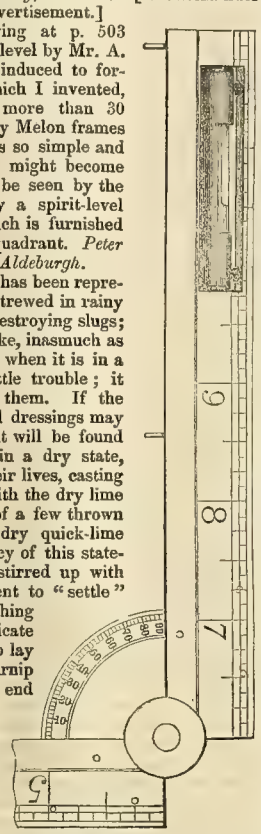
Weeping Willow (Salix Babylonica).—At Englefield Lodge there has been for time immemorial a magnificent specimen of this graceful tree, which stood near the top of a pond, whose water helped to furnish its numerous fibres with nourishment; a few evenings ago, however, a gentle breeze arose in the north-east and entered this place of quietude, kindly warning our favourite of its hasty dissolution, for in a few hours the winds gradually increased, till they assumed on Friday, the 12th inst., the violence of a hurricane, snapping the top and trunk of our tree asunder, and now it stands a spectacle of disfiguration. *William Whale, Englefield-green.*

Chamberlain's Ridge Cucumber.—From one plant of this, grown on a bank in the open air, I cut 143 handsome young fruit from a foot to 18 inches in length, besides quantities thinned out for pickling. The fruit is of a beautiful dark green colour, eats crisp, and is excellent for table use. Our market gardeners who have grown it admit it to be the most prolific and hardiest variety of Cucumber for open air culture that has yet been introduced into this neighbourhood. *John Southern, Manchester, Nov.* 17.

Education of Gardeners.—It is always interesting to find the educational acquirements of any class discussed, but more especially so those of men belonging to one's own profession. I do not consider myself at all capable of giving an opinion on the education of my fellow garden labourers throughout the country, as I received but limited schooling myself; but at the same time I venture to inform "Beta" (see p. 597) that I do not consider "that gardeners generally have received a better education than most other professional classes of persons"—on the contrary, there is even reason to doubt their having received an education equal to that of other professional classes, which is owing to the many obstacles they have in general to encounter in their school-going days, before they can obtain the necessary education a gardener would require; but, on the other hand, I am pretty confident, owing to the proximity gardening has with education, that gardeners generally wonderfully improve the education that may have been given them in their younger days. Your correspondent, "Mr. Printer's Devil," seems doubtful whether or not he ought to distinguish jobbers at nurseries, who lay out and keep gardens by the day or year, by the title of gardener; but in Johnson's Dictionary it is set down that "a gardener is one who attends on a garden;" this proves that we are at liberty to use the title gardener to all people working in a garden; and until another title is agreed upon, by which men, high in their profession, such as have been named by him at p. 709, can be known from jobbers or attendants to gardens, they will have to rest content with their present appellation. I would not consider it fair or just to make any attempt to wrest the title gardener from the brows of men who have not had the good fortune of receiving a liberal education or professional knowledge. With all due respect to the "Printer's Devil" (whose company I would like to court) I think he might well extend his critical observations over nurserymen and seedsmen, as well as over the humble journeyman gardener, to the letters of scholars in repute, and of political and scientific correspondents, whose letters when sent to the press must be corrected of their bad grammar and orthography. How often are they not sent without points or capitals to designate the divisions of the sentence, and if any, generally out of place? Few except the printer know how many hours a compositor, and after him a proof reader has to spend in reducing to readable condition manuscripts that would often defy the writers themselves. *Cockmalean.*

Hunter's Prolific Cucumber.—Owing to the flattering accounts made to me by a "seedsman" respecting this variety, I was induced to give an order for a packet. It was forwarded in due course. Only two of the seeds came up. It was grown with all care, and it turned out to be a second edition of the "Beehive Strawberry," or, in other words, perfectly worthless. *The Gardener, Cadbury House, Castle Cary, Somerset.* [The remainder of this letter was an advertisement.]

Rule Level.—Observing at p. 503 some account of a new level by Mr. A. Forsyth, I have been induced to forward a contrivance which I invented, and have had in use more than 30 years, in setting out my Melon frames at a proper angle. It is so simple and portable that I think it might become generally useful, as will be seen by the woodcut. It is simply a spirit-level fixed in a foot rule, which is furnished at its joint with a quadrant. *Peter Kendall, Marine Villa, Aldeburgh.*



Destroying Slugs.—It has been represented that quick-lime strewed in rainy weather is effectual in destroying slugs; this is, however, a mistake, inasmuch as they will escape from it when it is in a wet state, with but little trouble; it will then only annoy them. If the weather is dry repeated dressings may prove destructive, but it will be found that even when it is in a dry state, they can escape with their lives, casting off a coating of slime, with the dry lime sticking to it. A trial of a few thrown into a pot containing dry quick-lime will confirm the accuracy of this statement. To bury them stirred up with it, is, we admit, sufficient to "settle" them. We know of nothing better calculated to eradicate them than in autumn to lay thin slices of fresh Turnip hollow, by placing one end on a stone, or concave, Cabbage or Savoy leaves, laid amongst crops infested with them or elsewhere (by the side of paths is most convenient), examining them on a mild and moist evening, two hours after dark, or at day-break; thousands may thus be secured, and if repeated occasionally they may be extirpated altogether, from either the garden or the farm. In spring, where a pond or brook is at hand a brood of young ducks will devour them in good earnest, but they must be trained to their work, which is easily effected by giving them half proportions of corn, or any food to their liking, several times in the day, first near the pond, next a rod or two distant, accompanied with the usual kindness or chucking at feeding times; then again, further and further, here a little food and there a little; thus by degrees they will traverse constantly and regularly a whole garden, or field, or farm, in search of food and slugs, provided those small rations of food are regularly laid here and there daily, without omission. By the usual weedling and feeding at night they are easily enticed to their resting-place, where, if preferred, an entrance just large enough for them to creep out at, may be left for their exit at day-break, in order that they may search for food. Care must be taken that the entrance is not large enough to admit dogs, foxes, &c. If they can be trusted out, they will prefer to rest and thrive best in the pond or sedges by nights, to be off betimes in the morning, when the slugs are out feeding. *Hardy and Son, Maldon.*

——I should in the first instance try the effect of a coat of Barley-awns (or chaff), which would prevent locomotion, and for the time at least effect the object in view, if not permanently; nor could its application do any harm to any growing plants. I know this has been tried with perfect success. Barley-awns or chaff are easily procured in this district, and, I doubt not, can be had for a trifling consideration in most places. *W. Thorold, Norwich.*

Societies.

LINNEAN, *Nov.* 16.—Dr. WALLICH in the chair. Lord Ripon, the Rev. Edward Tagart, and Barthold Seeman, Esq., were elected Fellows. The conclusion of Mr. Henfrey's paper, on the Development of the Spores of Ferns, was read. It consisted of a recapitulation of the remarks in the previous part of the paper, in which the author stated that he entirely concurred in Suminski's view, that in Ferns there existed two classes of cells, sperm cells and germ cells, and that the term Cryptogamia could now no longer be strictly applied to them. The secretary announced, amongst many other works, the presentation of copies of the "Zoology and Botany of the voyage of H.M.S. Herald," under Captain Kellett. Dried specimens of Tritoma Burchellii, and two species of Eucomis were presented by Mr. Thomas Moore. Specimens of the fruit of Emblic Myrobolaus (Emblica officinalis), from Ceylon were presented by Dr. Pereira. Specimens of Hyænanche globosa, Xanthoxylum piperitum, Amomum Korarima, a species of Momordica, and a species of Melia from China, and a seed allied to Gynocardia, imported from China under the name of Tae-fung-toze, were presented by Daniel Hanbury, jun., Esq. A fruit of Paulownia imperialis was presented by Richard Kippist, Esq. Specimens of the fruit of Cobbett's Hickory-nut, grown by Mr. Pamplin, of Walthamstow, were presented by Mr. W. Pamplin, of Frith-street. Specimens of Helix obvoluta and Athyreum fontanum, collected at Ashford, Hants, were presented by the Rev. W. Hawkey.

MICROSCOPICAL, *Nov.* 24.—G. JACKSON, Esq., in the chair. Messrs. Redwood, Brown, Osborne, Ludlow, and Tischmacher, were elected members. A paper was read by Mr. Hodgson on the reproduction and delineation of microscopic forms. The author gave the history of attempts at producing representations of microscopic objects by means of the Daguerreotype and Talbotype. He considered that all these efforts were deficient as compared with sketches taken by means of the Camera lucida. The paper was illustrated by a number of specimens produced by various hands of microscopic objects on Daguerreotype plates and on paper. A beautiful series of representations of public buildings in France were also exhibited by Mr. Baillieu. A long discussion followed, from which it was evident the feeling amongst practical microscopists was entirely opposed to the views of the author of this paper. Mr. Bowerbank referred to some specimens of Photography by Mr. Delves, of Tunbridge Wells, equal to any drawing that could be made. He believed that by means of a Photographic negative any number of plates might be produced. Mr. Shadbolt exhibited a Photograph which he had obtained by means of a camphine lamp which exhibited very accurately the object placed under the microscope. Mr. Hogg stated his conviction that any number of impressions might be obtained by Photography, and this would soon become a recognised method of printing. Up to the present time Mr. Fox Talbot possessed a patent which prevented this method being employed, but as he had now presented it to the public, attempts to use the Talbotype in this manner would be made. Mr. Venley and the chairman made some observations on alterations in the structure of the miscroscope, by which better images might be procured by the Photographic process.

BOTANICAL OF EDINBURGH, *Nov.* 11.—The President in the chair. Several donations were announced. Professor Balfour exhibited a Map, by J. Lynam, Esq., entitled "The Climates of the Earth, their characteristic vegetation, and the zones of the cultivation of useful plants, as limited by altitude and latitude, shown in the elevation of the principal mountains of Europe, Asia, and America, accurately laid down by scale from the writings of Humboldt, Meyen, Boissier, Hooker, Watson, &c." He also showed from R. Wigham, Esq., Norwich, specimens of Lastrea cristata and var. uliginosa, L. spinulosa, and Polystichum angulare, together with a selection of specimens from a parcel of Bourgeau's Spanish collections recently received for the University Herbarium. The following papers were read:—1. *On the Development of Tubular Structure in Plants.* By R. Hobson, M.D. Cantab, Leeds. Communicated by Dr. Balfour. The object of this paper was to show the mode in which tubular structure is formed by the aggregation of cells in a linear series, and the subsequent absorption of the partition walls. The structure selected for observation was the moniliform hair found on the claw of the spurred petal of the Heartsease (Viola tricolor). The author stated that "If the structure of the tube is traced under the microscope from the root or base upwards, the lower part will be found fully formed (tubular), having gradually substituted a tubular for its previously cellular formation. A little higher up, absorption of the partition walls (the united portion of the cells) is yet incomplete, being in transitu from cell into tube, whilst the remaining part is entirely cellular to the extreme point, which point is, in fact, a simple cell. There may be distinctly seen in a portion of this multicellular tube, near to its base, marks sufficient to prove that those points of the cells which have been primarily in union to form the tube have now been absorbed, or in some other way removed, and that this absorption or removal has taken place precisely in an equal degree from the centre of the different septa, or united portions of the cells, towards the periphery of the tube, to the extent required to perfect Nature's 'handiwork.' The marks to which I allude are triflingly apparent annular contractions." The author made some observations also, as to the time occupied in the formation of the tubes. He remarked:—"In order to ascertain whether the mutation of cell into tube occupied much time, I instituted a comparison between the tubular portion of the hair on the full blown flower, and that on the flower just opening, and found that the lower portion of the tube on the former (the full blown flower), had generally become tubular to the amount of from eight to 10 cells in each hair, which usually consisted of from 25 to 30 cells, whilst that of the latter (the opening flower), had become tubular only to the extent of about two or three cells. It therefore seems that the time occupied between the first opening of the flower and its fading period, is sufficient to convert six or eight cells into tube; and it is probable that in the earlier part

of the season, during more genial weather, the fading stage would be delayed, and consequently, that in proportion as the blooming period is prolonged, the length of the tubular formation would be increased; but it seems doubtful whether these tubes ever became tubular throughout their entire length. On the two contiguous petals on the inner and inferior part of each, on a prominence where the claw takes its origin, there is a ridge of hair of a totally different character from that on the claw of the spurred petal, being at all ages pervious throughout, dilating gradually from its base to within a trifle of its extremity, when it again gradually lessens in diameter, until it terminates almost spherically. There is not any second cell to be detected in any portion of these tubes, even before the flower opens; their origin and termination seem to be a simple cell, lengthening and dilating, and therefore they are clearly unicellular. In the multicellular tube, it is evident that in order to secure a tubular structure, Nature clearly manifests her intention, by generating a single linear series of cells, and that this multicellular tube shall be a cone, she as clearly manifests her determination by generating cells, gradually decreasing in transverse diameter from the base to its apex; and it would seem that where she has completed her cellular arrangement as regards their position and formation, her subsequent care is, by some peculiar and amalgamating process, to unite the adjoining cell walls into one compact septum, denominated a partition wall. As regards this septum, it is not unreasonable to hope that repeated and minute microscopical investigations of the progressive growth and formation of the multicellular tube, at different periods of its age, may furnish material data on which to found a knowledge of the probable mode of its absorption or removal. To discover whether the comparative increase of growth of the opening and fading flower kept pace with cellular conversion into tube, I measured the transverse diameter of the tubular portions of the two stages of growth of a cultivated plant, and found that the average transverse tubular diameter of the hair of the multicellular tube of an ordinary full blown flower in September, was 1-1540th, whilst the tubular diameter of the opening flower was 1-2320th, giving an increase during the blooming period of 1-774th. The average of the tubular diameter of the unicellular tubes, which had been exposed to light and air in the full bloom flower of the cultivated plant was 1-928th, whilst the tubular diameter of the opening flower was 1-1546th, giving an increase during the blooming period of 1-618th. On measuring the transverse diameter of the multicellular tube of the full blown flower in its native state, I found it to be 1-3437th, whilst that of the opening flower was 1-2566th, giving an increase during that portion of the blooming period of 1-871th. The diameter of the unicellular tube of the wild flower, which was full blown, measured 1-182th, whilst that of the opening flower was 1-1370th, giving an increase of 1-688th." The paper was illustrated by drawings and by specimens under the microscope. 2. *On the Cumberland Forms of Myosotis.* By Mr. J. B. Davies. 4. *On the Plants found in Cumberland in June* 1852. By Mr. J. B. Davies.

Review.

A Popular History of British Zoophytes or Corallines. By the Rev. D. Landsborough, D.D. Reeve and Co. Royal 16mo; pp. 404.

This is another of the popular works intended by the same publishers as familiar introductions to different branches of Natural History. Of some of its predecessors we have on former occasions spoken favourably, and we must not withhold our approbation from the present, which was much wanted and is very well done. The young are more especially indebted to the author, for in its absence we know not to whom *they* could turn for information regarding Corallines and Zoophytes. There are 20 good coloured plates, representing altogether 80 subjects, in preparing which the author expresses his obligations to Mr. Busk, whose knowledge and accuracy are, we need not say, fully recognised by naturalists.

Dr. Landsborough's style is too diffuse for our taste, but we dare say it is the better suited for his peculiar class of readers. As examples of it, we take a few passages relating to popular subjects.

"The smallest fragment of coral is an object of interest. It is covered with perforations, but these punctures are not intended merely to add to its beauty. Every one of these little holes, or cells as they are called, was the habitation of an industrious polype. During its whole life it was building up its beautiful abode, and that without any painful effort on the part of the inmate, which was all the while enjoying itself amidst the eastern waves, spreading out its numerous tentacula in search of food abounding in the waters; or if threatened with being made the prey of some rapacious neighbour, ready on the slightest warning to retreat into its coral cave, where it was safe as amidst the munition of rocks.

"When we admire a specimen of coral on our mantelpiece or in the cabinet of the curious, few are aware that we see not half its beauty. We have before us a portion of a beautifully built city; but where are its gay and active inhabitants? When in its native position in the deep, the numerous inabitants appeared in bright array at the portals of their houses, like a happy assemblage of living flowers, not inferior in beauty to the flowers which adorn our gardens. Many of our sailors, who bring home to their friends beautiful fragments of coral, are not aware that they were once inhabited; for as they were collected when left uncovered by the tide, the inmates were unseen, having retreated into their moist cells till the waves should revisit them. A ship-master told me that on his first voyage to the South Seas, being delighted with the beautiful corals which abounded on the shore, he resolved to bring home presents to his friends in Scotland, and laid in a good supply; but he had not been many days at sea when his collection became so unsavoury that he was glad to throw the whole into the deep. On a second voyage he profited by past experience, and having enclosed his corals in a net he plunged them into the sea, and fastening the net by a rope to the stern, he allowed it to be dragged in the wake of the vessel for several days. When hauled up at the end of this time, the corals were found to be sweet and pure. The little scavengers of the deep had entered the minutest cell, and had eaten up what, in consequence of putrefaction, would soon, as on a former occasion, have sent forth an offensive odour."

"There are various kinds of ciliated polypes; but we mean to confine our attention to that section of them to which Lamarck has given the name of *Vorticella*, and only to a few of these, for he has described no less than 28 species. According to his description, they are very minute, gelatinous, and transparent, having no tentacula, but having around the mouth cilia, which do not lay hold of their prey, but which, by an oscillating or rotatory motion of inexpressible rapidity, cause the water containing the animalcules on which they feed to enter their mouth as a little whirlpool or vortex, and hence the diminutive term, *Vorticella*.

"The first that I ever observed was one of the most beautiful and most conspicuous of them—the arborescent *Vorticella*. I had brought from a pond a handful of aquatic plants, and having put them into a vase with fresh-water, I soon found, as I expected, that I had made several green Hydras prisoners. While I was watching their movements, I observed a sudden jerk in something that had been too small to attract my attention so long as it remained motionless. Fixing my eye on it, it increased in size, and having remained motionless for a little, by another sudden jerk it became so small that it was almost invisible. Having watched these changes for some time, I saw that it had life, and bringing it near to the side of the glass, and employing a pretty powerful lens, I saw that what to the naked eye had seemed a little transparent haze, was a beautiful little creature, unlike anything I had ever observed before. It was in the form of a little crystal shrub, the branches of which were dichotomously divided, every branch terminating in what resembled a little bell-shaped flower. Further observations led me to know that the sudden changes of size were effected by a beautiful peculiarity of organisation, — that the stem and the branches, finer than the thread of a spider's web, were not straight, but spiral, like the springs formed of spiral wires; that it could coil and uncoil these elastic springs at pleasure; that it rose to its full dimensions when seeking its food; and that when the rough wave conveying some rougher substance was passing over it, I conjectured that it might be consulting its safety by shrinking almost into nothing, as brave soldiers show their wisdom by falling flat on the battle-field when cannon-balls and grape shot are passing over them, that when the enemy have wasted their strength, they may rise and rush upon them."

"The next that came under my notice was also in fresh-water—*Vorticella stentoria*. This is quite a giant among this pigmy race, for when fully developed it measures—not half a fathom, nor half a foot, nor half an inch,—but half a line, which is the twenty-fourth part of an inch. This, as well as some others, has been separated from the *Vorticella* by generic name, and there is good ground for the distinction, for it is not fixed by a stem like the *Vorticella* proper, but is without a stem, and in shape resembles a trumpet or horn, not unlike the figure of a cornucopia. Though generally seen in a state of attachment, it can disengage itself and launch into the deep, and swim with considerable rapidity, for the numerous cilia that adorn its ample mouth act as so many paddles. When swimming, the sharp point of attachment is drawn up, so that instead of resembling a horn it is like a round-bottomed bag. The ciliated band round the mouth is somewhat spiral, giving additional elegance to its appearance; and it may be useful as well as elegant, acting probably as a purse-string; and woe to the little monads on whom that devouring purse closes,—there is no escape. The *Stentors* are of different colours, some red, others green or blue, and some of them have the body as well as the mouth garnished with cilia, doubtless to increase their powers of locomotion."

"The power that Hydroid Zoophytes, as well as not a few other marine animals, have of emitting phosphorescent light, is a very remarkable property. It has now been observed by many, and is well deserving of even more attention than it has yet received.

"It has been questioned whether this phosphorescent fluid is a secretion of life and health, or the result of some partial decay and decomposition. Dr. Johnston thinks that this has not yet been ascertained, but seems rather disposed to favour the latter opinion. 'No species,' he says, 'has been seen luminous in its natal site, and when undisturbed; but after being torn from their attachments, or tossed ashore or trodden upon, or carried away to the home of the experimenter, and variously irritated, then the tiny lamps shine forth momentarily, die away again, and are not relit unless some new shock or injury is given.' From any experiments that I have made, I would say that the livelier and fresher they were, the more capable they were of luminosity. The Sea-pen is of the *Asteroida*, but I found it as luminous as those of the *Hydroida*. I had not the opportunity, indeed, of trying the experiment on it in the sea, but when quite alive in a vase of seawater, I found that it emitted, when smartly touched, a flash of phosphorescent light. When I brought Hydroid Zoophytes from the sea in a close vasculum, the seawater adhering to the seaweeds kept them as much alive during the transit, occupying less than half an hour, as if they had remained on the rocks on which the seaweeds grew, and where many of them, during every ebb-tide, are quite deserted by the sea. Taking them into a darkened room half an hour after they were removed from the rocks, I found the phosphorescent light, when they were shaken, quite brilliant. The experience of Mr. William Thompson, of Belfast, an accurate observer, seems to have been the same. He remarks, 'I do not think it probable that the luminosity of Zoophytes is caused by partial decay and decomposition as I have, especially in the month of January, 1834, and frequently since, observed many species to put forth their lights vigorously a very few hours—certainly within three—after I had dredged them from the bottom of the sea. They were not sooner looked at, because it was not dark till about that time after their capture. Torn from their attachments these certainly were, but they were treated tenderly, and placed in a huge vasculum, and in it conveyed to our quarters. The Zoophytes parasitic on Algæ, brought home in the same way, made their positions known by exhibiting their tender and beautiful lights.' My friend, Mr. Hassall, has the following interesting remarks, in the 'Annals of Natural History,' and there states that he had ascertained that *all* the transparent Zoophytes possess highly luminous properties. 'This fact,' he subjoins, 'I first discovered in a specimen of *Laomedea gelatinosa*, and subsequently in a great variety of other species. If a portion of it, adhering to the seaweed to which it is attached, be taken from the water and agitated, a great number of bright phosphorescent sparks will be emitted; these sparks proceed from each of the denticles of the coralline containing polypi, and the phenomenon is equally apparent whether the specimen be in or out of water. I lately had an opportunity of beholding this novel and interesting sight of the phosphorescence of Zoophytes to great advantage, when on board one of the Devonshire trawling-boats, which frequent this coast. The trawl was raised at midnight, and great quantities of corallines were entangled in the meshes of the network, all shining like myriads of the brightest diamonds.'"

If the reader would know what *Asteroida*, *Hydroida*, and *Laomedea* are, he must consult Dr. Landsborough's pages and plates.

Garden Memoranda.

Messrs. Sutton and Sons', Reading, Berks.—This important seed establishment is situated in the Marketplace of the fine old town of Reading, which is easily and speedily reached from London by the Great Western Railway. The shop is fitted up with all the appliances and conveniences for dispatch, which an extensive business demands. Bulbs, with which it is chiefly furnished at present, are all labelled with printed labels, as are also the seeds, which are put up in packets ready for placing in collections at the shortest possible notice. The excellent mode of labelling everything with printed labels is worthy of especial remark, as by this plan the possibility of committing mistakes must be greatly diminished. Behind the shop is an extensive double range of warehouses, which are occupied by garden and agricultural seeds, more especially Turnip and Grass seeds, of both of which Messrs. Sutton have one of the best collections in the country. In the saving of these, as well as of all other seeds, the greatest possible care is taken, in order that they may be all found true to name. Beyond the warehouses is a small garden in two compartments, both furnished with glass houses and pits. Here the vitality of the different kinds of seeds is tested, and the gayer kinds of plants kept for decorating the shop and for sale in pots. In the first compartment we remarked two pitfuls of nice Pelargoniums and Cinerarias, which were set on a sparred stage, with a chamber below, in which the air circulates freely, being admitted under the trellis work, both at front and back, through apertures opened and closed by sliding shutters. Bulbs in pots plunged in old tan were coming forward in a frame covered with calico, which has stood the tear and wear of 10 years, and still it answers the purpose, although it is now beginning to give way. It was not oiled or dressed with any composition whatever, that having been found to rot the calico, causing it (although it throws off the water a little better) to last a much shorter time than that to which no glazing composition has been applied. In the second department was a neat half-span roofed Pelargonium house, well ventilated at front and back, and filled with promising plants in 8-inch pots. The front shelf was covered with beautiful examples of Lee's Flower of the Day, whose handsomely variegated foliage renders it attractive at all seasons. In front of this house were numerous pits filled with Crimson, China, Fairy and other Roses; Mignonette, Calceolarias, Carnations, and plants of that description. Some of these pits had only been recently erected, and were glazed with panes at least a foot in length, which

have the advantage of permitting more light to pass through them than smaller ones. The borders here, as well as in the other compartment, were filled with the better kinds of Conifers, both in pots and planted out, and which looked exceedingly healthy, considering they were growing in a town. Ivys are much wanted, and therefore cultivated largely in pots here, both walls of a passage connecting the two gardens just mentioned being covered with them. The principal nursery, however, belonging to this establishment lies on the south side of the town, in a fine level situation, where there is a good soil 6 feet deep on gravel, so that, notwithstanding all the rains we have lately experienced, when the whole valley of the Thames is one sheet of water, this ground is comparatively dry, and can be worked with facility. Here Roses, fruit trees, evergreens, and Conifers are chiefly cultivated, together with here and there patches of the most choice vegetables for trial. Forest "stuff" is not encouraged, the ground being too valuable to be occupied by that kind of cropping, which can be cheaply "bought in" from other quarters. This firm have also given up the saving of Rye, Vetches, and Clover, in order that undivided attention may be given to the finer seeds, such as those of Turnip and Grass. Of the latter, examples of all that are valuable to the farmer, or for forming permanent pastures, are collected here, and correctly labelled, so that an opportunity is afforded of inspecting their different characters while growing in the same soil, and under precisely the same treatment. In the horticultural portion of a piece of land set apart as "sample ground," we remarked rows of Broccolies, Cabbages, Lettuces, &c., all growing side by side, and labelled with their names in full; also beds of choice Beets, Carrots, &c., for transplanting for seed. Upwards of 30 varieties of Peas had been grown here, but they were cleared off, with the exception of Sutton's Goliath, which was still producing pods and blossom, although it was sown on the 22d of August. It is therefore a good Pea for a late crop, and it appears to be very productive; its flavour resembles that of Knight's Marrowfat. Many sorts of Potatoes had been cultivated here, but now stored away. Messrs. Sutton stated that from notes made at the time of digging up, Soden's Early Oxford and the Early Walnut-leaf Kidney were the earliest, and that the Red Ash-leaf, Dr. Nelson's Favourite, and British Queen, were the most productive second early varieties. Of agricultural crops, a compartment was allotted to Turnips, containing about 40 varieties of Swedish, hybrid, and other kinds. Of the former, the best appeared to be Sutton's Purple-top and Rivers's Stubble Swede. Among hybrids, Sutton's, Skirving's, Dale's, and Rivers' Yellow Stone are all especially worthy of mention. Chivas's Orange Jelly was particularly fine, both as regards smoothness and colour; and Ballantine's Yellow is likewise a promising kind. The largest Turnip in the grounds was the new Lincolnshire Red, so called from its being brought originally from that county by Philip Pusey, Esq., who presented the stock to Messrs. Sutton. Of Mangolds and Beet (which were of great size), we noticed a large red variety called the Elvetham Long Red, a new sort introduced by Messrs. Sutton; also very finely formed Yellow Globe Mangold, besides the large Crimson Beet, and the White Silesia Sugar Beet. There were also Kohl Rabi, Drumhead, and other Cabbages, White Belgian Carrots, and a very large new red variety, which seemed likely to vie with the White Belgian itself for size. An interesting feature connected with Messrs. Sutton's establishment is a library and reading-room, which adjoins the office on the first floor over the front shop; this is furnished with all the leading periodicals and standard works on gardening, together with Chambers's works, the monthly volumes, and other books belonging to the Religious Tract Society. One of the shopmen acts as librarian, and there is a list of the books hung up in the room, which is open to all the men and boys on the establishment.

FLORICULTURE.

Violets.—According to your notice of his Treatise, at p. 743, Mr. Tiley says the Russian Superb Violet requires the same treatment as the Neapolitan. As the Russian Superb is a species of my own raising, and has been successfully cultivated in large quantities in my garden for these five years past, I am enabled decisively to contradict the statement. No flower can possibly be hardier, and instead of its requiring the shelter of glass, or any protection whatever from the weather, it would be greatly injured by such treatment. It blooms profusely from September to March in the most open situations, which indeed are selected as preferable for it, and the scent is superior to that of any Violet with which I am acquainted. *R. Shackell, Bath.*

Stoke Newington Chrysanthemum Society, *November 25.*—The exhibition on this occasion fully maintained the high character which its predecessors have so long held, and it was well attended. The following is a list of the awards:—Class 1, Specimen Plants: 1, Mr. Scruby, with a large somewhat overgrown example of Defiance; it was at least 5 feet through, well clothed with foliage, and abundantly flowered; but the blooms, numbering at least 300, were certainly much inferior to those represented by the cut specimens; 2, Mr. Bundel, with Madame Poggi. Several plants of Queen of England were staged, the best coming from Mr. Scruby; 2, Mr. Holmes; 3, Mr. James. Class 2, six Plants: 1, Silver Cup, Mr. Holmes, with Madame Cameron, Christine, Annie Salter, Pilot, Defiance, and Mount Etna; of these the third and fifth were best; 2, Mr. Scruby, with General Negrier, Madame Cameron, Defiance, Belle de Versailles, Annie Salter, and Christine; 3, Mr. Elliott, with Defiance, Madame Cameron, Minerva, Madame Poggi, General Negrier, and Annie Salter. Other collections were staged. Class 3, six Pompones: Some of the plants in this class were marvels of unique cultivation, especially four of the six constituting the third collection. 1, Mr. Holmes, with Le Jongleur, Henri Chauvière, D'or, La Fiancée, Elize Mieliez, and Modèle; 2, Mr. Argent, with Minon? Le Nain Bé-Bé, Soltaterre, Angelina, Surprise, and Autumnus; 3, Mr. G. Smith, Hornsey, with Autumnus, Solfaterre, Modèle, Asmodée, Ninon, and Surprise. Class 4, 24 Blooms: Silver Cup, Mr. G. Taylor, who had King, Queen of England, William Tell, Beauty, Defiance, Queen of England (the best in the exhibition of that variety receiving a special award), King, Nell Gwynne, Lysias, Nonpareil, Goliath, Nonpareil, Lysias, Beauty, Two-coloured Incurved, Plutus, Rosa Mystica, Duke, Dupont de l'Eure, Plutus, and Two-coloured Incurved; 2, Mr. Shields, with King, Queen of England, Goliath, King, Lysias, Nonpareil, Defiance, Racine, Beauty, Madame Audré, Gem, Dupont de l'Eure, Pio Nono, Plutus, Rabelais, and The Warden; 3, Mr. Scruby, with Madame Chauviere, Christine, Cloth of Gold, Madame Audré, Goliath, Phidias, Annie Salter, Dupont de l'Eure, Beauty, Duke, Pio Nono, Nonpareil, Plutus, Goliath, and Vesta; 4, Mr. Elliott, with Princess Marie, Cloth of Gold, Orlando, Queen of England, Temple of Solomon, Pilot, Cyclops, Beauty, Nonpariel, Goliath, Phidias, Dupont de l'Eure, Lucidum, The Warden, Formosum, and Jenny Lind; 5, Mr. James, with Queen of England, Defiance, King, The Warden, Phidias, Beauty, Goliath, Duke, Campestroni, Nonpariel, Dupont de l'Eure, Plutus, Twoo-cloured Incurved, Annie Salter, and Sydenham; 6, Mr. E. Sanderson, with Clustered Yellow, Phidias, Queen of England, Ancxa, Cloth of Gold, King Formosum, The Warden, Dupont de l'Eure, Duke, Sydenham, Madame Audré, Madame Corbé, Annie Salter, Aristides, and Rebecca; as regards this class, the rule is 24 blooms, not more than two blooms of any one variety.—Class 5, 12 Blooms, distinct: 1, Silver Cup, Mr. Scruby, who sent Christine, Annie Salter, Duke, King, Rabelais, Beauty, Pio Nono, Queen of England, Rosa Mystica, Dupont de l'Eure, Plutus, and Nonpareil; 2, Mr. G. Taylor, with Beauty, Goliath, King, Nonpareil, Defiance, Lysias, Astre Brilliant, Nell Gwynne, Dupont de l'Eure, Duke, Pio Nono, and Plutus; 3, Mr. Bundel, with Pio Nono, Queen of England, Pilot, Themis, Duke, Beauty, Goliath, Nonpareil, Plutus, Gem, and Clustered Yellow; 4, Mr. G. Smith, with William Tell, Goliath, Cloth of Gold, Queen of England, Duke, King, Pio Nono, The Warden, Dupont de l'Eure, Plutus, Formosum, and Nell Gwynne; Mr. Sanderson, Mr. Elliott, Mr. Hutton, Mr. Holmes, and others, were also exhibitors in this class. Class 6, six blooms: In this 13 collections were produced—1, Mr. G. Taylor, with Beauty, Goliath, Nonpareil, King, Dupont de l'Eure, and Plutus, 2, Mr. Hutton, with Dupont de l'Eure, Formosum; Plutus, Nonpareil, Defiance, and Duke; 3, Mr. James, with Queen of England, Phidias, Defiance, Goliath, Nonpareil, and Dupont de l'Eure. Mr. Holmes, Mr. Williams, Mr. Elliott, Mr. Sanderson, Mr. Scruby, and Mr. Kirby, also sent collections, which contained nearly the same varieties as those above mentioned. Class 7, six blooms, competed in only by members who had never taken a Chrysanthemum prize: 1, Mr. Algar, with Nonpareil, Goliath, King, Dupont de l'Eure, Beauty, and Plutus; 2, Mr. Farrier; 3 Mr. G. Hutton; 4, Mr. Monk; 5, Mr. Michail. New flowers let out by Mr. J. Salter: 1, Mr. G. Taylor, with Miss Kate, Nell Gwynne, and Fortune; 2, Mr. James, with Nell Gwynne, Versailles, Defiance, and Fortune. Anemone blooms, six varieties: 1, Mr. Scruby, with Fleur de Maria, Gluck, Naucie de Sarmé, Margaret d'Anjou, Deborah, and Superbeur fleur. 2, Mr. G. Smith, with Margaret d'Anjou, Fleur de Marie, Gluck, Montebello, Nancie de Sarmet, and Astre de jour. Mr. W. Ivery, of Peckham, contributed a nicely-flowered and well-varied collection of Pompones, among which were La Pactolé, Perfecta, Circe, Asmodeus, Solfaterre, Autumnus, La Fiancée, Geraldo, Criterion, Elize, Mignonette, Daphnis, &c. A new and rich deep yellow named Chevalier Dumege, of the large flowered class was also sent by Mr. Ivery.

Carnations and Picotees: *A T.* You may safely add to your collection General Monk (Puxley), C. B.; Magnificent (Schofield), R. F.; Lady Macbeth (May), h. red; Ann (Schofield), medium red; Bridesmaid (Matthews), l. purple; Haidee (Fellowes), l. purple; Victoria Regina (Marris), h. rose or scarlet; Countess (Fellowes), h. purple; Julia (May), h. rose; and Unexpected (Marris), h. rose.—*W. W.* Owing to the long wet weather we have had, the "plagued spot" is running riot to an extent such as few of us can remember, and none desire again to witness. The preventive is, give all the air possible, never losing even a few minutes during a dry day. Pick off the spotted leaves. The thick fleshy-foliaged sorts, as Dodwell's Alfred purple Picotee, &c., need particular attention, and require at this time less moisture at the root than the more delicate growing kinds; but all should be kept dry as far as possible both above and below, and general cleanliness must not be neglected. We fear March will be a trying time for these flowers.

Catalogue received from Messrs. Henderson and Son, Wellington-road Nursery, St. John's Wood.—*W E R.* Received.

Hollyhocks: *Alpha.* To assist in preventing damping off, remove all decaying leaves as soon as detected. Keep the light tilted for the purpose of giving air; by no means plant out now; wait until spring. You can obtain all the sorts enumerated from any respectable dealer.

Pansies: *A L.* If your plants are vigorous the production of a few stray blooms will not harm them. Stock should be kept disbudded, which tends to promote strength.

Pinks: *W H.* There is little remedy now; you should have attended to the instructions given at planting time. Try however the effect of deepening the alleys, or even forking up their surface. Both processes will assist in drying the beds. Do not "earth up" up your plants; support the longest by a twig.

Tulips: *Alarmist.* As yet no danger need be apprehended. We only planted our best bed (100 rows), on the 15th inst., which is 12 days later than usual. *J E.*

Miscellaneous.

Perthshire Horticultural Society.—We learn from the *Perthshire Advertiser* that the members of this Society have presented Mr. David Jackson, the acting clerk of that association, with a silver watch, with gold chain and appendages, and a massive silver pen and pencil-case, as tokens of the high estimation in which his hitherto unrewarded services are held. Mr. Jackson had performed the duties of his office for the last seven years, during all which period his attendance to the Society's transactions had been unremitting, and was entirely a labour of love.

Feral Moss Roses.—On the first introduction of the old red Moss Rose, it was sent over with some plants of Orange trees from the Italian States to Mr. Wrench, then a nurseryman and gardener at Broomhouse, Fulham, in or about the year 1735. It remained in that family nearly 20 years, without being much noticed or circulated until a nurseryman of the name of Grey, of the Fulham nursery now Messrs. Osborn's, brought it into note. In speaking of the first production of the white Moss Rose, which took place in the year 1788, the first birth was from a sucker or under-ground shoot. My father, Henry Shailer, nurseryman, of Little Chelsea, an extensive grower of Moss Roses,* perceiving it to be a *lusus naturæ* from a stool of the red Moss, cut it off and budded it on the white Provins, or Rose La Blanche Unique. The buds flowered the following season a pale blush; he budded them again the following season; it became much whiter; it was then figured in Andrew's "Rosery," under the name of Shailer's White Moss. He then sold it out, the first plants to Lord Kimbolton, then to the Marquis of Blandford, Lady de Clifford, the Duke of Gloucester, &c., at five guineas per plant. He continued to sell it at that price for three years; he then entered into a contract with Messrs. Lee and Kennedy of Hammersmith, they taking as many plants as he could grow for three years at 20*s.* per plant, binding him not to sell to any one else under 42*s.* per plant. After cutting down the shoots which produced the white Moss, it threw up two weak shoots which he budded from, they flowered the second season from the buds; that was the birth of the striped Moss Rose, a most beautiful and delicate variety, but when grown very strong, apt to go back to the original parent. The first production of the single red Moss Rose in 1807, was a sport of nature; my father sent some plants of Moss Roses down to a nurseryman of the name of Essex, in Colchester; on the receipt of a letter from that person, I went with my father to see it when it was in bloom; I took some cuttings away with me to bud, and fetched the original plant away in the following autumn to our nursery at Little Chelsea; from there we sent the first plants out at 5*s.* On the first production of the old scarlet Moss Rose, which is a semi-double, it flowered on a plant given by my father to his brother, Mr. F. Shailer, of Cook's Ground, and Queen's Elm, Chelsea, in 1808, nurseryman; the first production of the Moss de Meaux, was from a sport of nature from the old De Meaux, in the neighbourhood of Bristol, but brought into a high state of perfection by Messrs. Lee of Hammersmith. The birth of the Sage-leaf Moss Rose, I must claim myself; it was a sport of nature; I discovered it on a Sunday afternoon, in the month of June, 1813; I sold the whole stock to Messrs. Lee, of Hammersmith. It has a delicate shell-like form, and is a beautiful blush; it is now nearly extinct. The Rose Blanche Unique, or White Provins, was discovered by Mr. Daniel Grimwood, of Little Chelsea, nurseryman; he was on a journey of business in the county of Norfolk, in the month of July, 1775, when riding very leisurely along the road, he perceived a Rose of great whiteness in a mill, he alighted, and on close inspection he discovered it to be a Provins Rose; he then sought an interview with the inmate of the mill, who was an elderly female; he begged a flower, which was instantly given him; in return he gave her a guinea. In cutting off the flower he cut three buds; he went to the first inn, packed it up, and sent it direct to my father, at his nursery, Little Chelsea, who was then his foreman, requesting him to bud it, which he did, and two of the buds grew; in the following autumn he went down to the same place, where for five guineas he brought the whole stock away; he then made an arrangement with my father to propagate it, allowing him 5*s.* per plant for three years; at the expiration of that time he sold it out at 21*s.* per plant, my father's share amounting to upwards of 300*l.* Mr. Grimwood sent the old lady at the mill a superb silver tankard, &c., to the amount of 60*l.* The Shailer's Provins, or Rosa gracilis, so named by Messrs. Lee, was raised from the seeds of the spineless or Virgin's Rose, sown by myself in 1799, and flowered in 1802; we raised numerous varieties from seed up to 1816: generally selling them to Messrs. Lee, who sent them out under their own naming. I can vouch for the truth of the above. *H. Shailer, Chapel Nursery, Battersea Fields*; *in Gardeners' Record.*

Broccoli. — Broccolies are now so numerous that it is difficult to select kinds suitable to keep up a succession through the autumn and winter months:—1. Snow's Superb Early White: heads middle-sized, well protected with leaves; hardy. If sown early in March, the first week in May, middle of June, and the end of August, the produce will be fit for table during the months of November, December, January, and March; and if the season be mild, the last sowing will succeed the spring Cauliflower. 2. Walcheren: this closely resembles Cauliflower, being white, excellent, and large. If sown the third week in March, it will be in season through August and September. Sown in May, it will come into use in December and January. If the weather is mild, it is very serviceable for sowing with autumn Cauliflower for use in June. 3. White Cape: this is a very useful variety, of intermediate size; if true, forming compact heads. If sown in April and May, it is in season throughout January and February. 4. Adams' Early White: is large and good, and rather new if sown in April and May. It is in season in February and the beginning of March. 5. Grange's Early White (Syn., Bath White, Marshall's Early White, Invisible White): if sown at three different periods, viz., April, May, and June, it is in use from the end of October to February, according to the season. 6. Early Purple Cape (Syn., Grange's Early Purple Cape, Blue Cape): sown in May and June, it continues in use from

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* Faulkner's History of Chelsea.

September till January. It sown in the latter end of August, and the young plants pricked out on a dry sloping bank, it will stand the winter with little protection, and will come into use about the middle of June. *R. Marr, Frogmore, in Turner's Florist, Fruitist, and Garden Miscellany.*

Calendar of Operations.

(*For the ensuing week.*)

PLANT DEPARTMENT.

As the principal part of the bulbous and herbaceous-rooted stove plants will by this time be at rest, their room may be filled with spare Ferns and Lycopods from the Orchid-house; the graceful habit of these plants, when mixed with the remaining stove plants, will present a pleasing variety through the winter months. Some of the small-leaved species are useful ingredients for bouquets at this season, and others make elegant plants for placing in tazzas and baskets, to decorate rooms, vestibules, &c. To preserve the bloom of plants in perfection for any length of time in the present damp weather, the internal air must be kept comparatively dry, increasing the fire heat slightly in wet weather, to allow for extra air being kept on, to keep down damp. ORCHID-HOUSE.—Most of the species will be at rest, and should be provided with a house wherein a dry and moderate temperature can be maintained, to preserve the plants in a dormant state. Some of the more hardy kinds may be wintered in a temperature ranging between 45° and 60°, along with Cacti and other succulent plants; during this stage they may be fully exposed to the light with benefit. It will not, however, be safe to risk the natives of warmer climes in so low a temperature, and their rest should be induced as much by a suspension of humidity as by lowering the temperature, while those from the hottest parts of the tropics should not be permitted in a temperature lower than 60° even during the winter; these latter will require syringing occasionally on bright days. Plants in pits will require to be freely ventilated, and if there is a possibility of applying fire-heat, make use of that as a means of preserving them from damp and mildew; the same treatment will be requisite to greenhouse plants in general, as we fear many hard-wooded plants have not ripened their wood, and will be subject to mildew in consequence.

FORCING DEPARTMENT.

VINERY.—It will be of the greatest importance to next season's crop, if our previous directions on keeping the outside borders of Vineries protected from heavy rains have been carried out, otherwise the excess of rain which has fallen within the last month, will in all probability rot off the more active roots of the Vine in ill-drained, or too deep borders, and, we fear, will produce failures in abundance next season. Where no protection has been applied, no time should be lost in covering them with the best means at hand for throwing off future wet. The fermenting material on the early house border will most likely have received a check from the late rains, in which case an addition of dry litter or leaves should be put on, to promote a slight warmth, taking care either to cover with tarpauling, or to thatch it again afterwards. If the buds begin to swell, increase the day temperature slightly; but while the weather keeps mild, as at present, be cautious in making fires by night. EARLY PEACH-HOUSE.—If the house is started, close early in the day, and syringe with tepid water at the same time; the successional houses may be pruned and dressed, to be in readiness for starting when required; the sashes should always be put on before the trees are dressed, as it will prove more efficacious in destroying insects when allowed to remain on the wood for some time. PINES grown by dung-heat should have their linings examined and kept in working order by the addition of fresh litter; keep up a good ventilation to prevent drawing in the present dark weather. CUCUMBERS.—To keep these in bearing through the winter a steady bottom heat of about 85° is indispensable, for although they will succeed in less warmth, the fruit swells faster, when the roots are kept active by a brisk bottom heat; expose the foliage to as much light as your house will admit; keep the shoots thin, and water when they require it with liquid manure the temperature of the bed; encourage the growth of surface roots by occasional surfacings with light and very rich compost. Mildew must be kept down by dusting with dry sulphur whenever it appears; the house should not fall below 70° by night, and may advance to 90° in sunshine; a gentle and regular ventilation should be maintained day and night.

FLOWER GARDEN AND SHRUBBERY.

Nothing can be attempted in the way of out-door work, except cleaning up, whenever the weather will permit. The stock of plants, cuttings, &c., for next season, will require extra attention to keep them from damp, and to prevent any tendency to growth which the present mild weather may induce. Keep the stock hardy by giving them air night and day, which will help to prepare them for hard weather when it comes. See that Dahlia roots and flower garden bulbs in general, out of ground, are in a dry place and properly labelled. When nothing can be done out-doors employ the hands in making labels, layering-pegs, and in painting wire trellising, tree guards, garden seats, and anything which may now be out of use. Cuttings of China, Noisette, and Bourbon Roses may now be put in in the reserve garden, as well as Honeysuckles, Ribeses, and various other hardy shrubs. Mulch the ground after the cuttings are in, to keep out frost.

FLORISTS' FLOWERS.

There are many casualties to prevent in the growth of florists' flowers, besides ensuring their superior cultivation; during the past week we have had a fine bed of young Pansy plants eaten over close to the ground by short-tailed field mice. Their devastation was only stayed by entrapping the whole party; similar precautions must be taken wherever plants are attacked. Tulip bulbs are suffering where not planted; the very first opportunity must be seized to get them in. Auriculas, Carnations, and Pinks, in pots, should have all the air possible; just sufficiently moist is essential for all, but excess is highly prejudicial. Seedling Polyanthuses, in beds, must be carefully examined; they are not only drawn out of the ground by worms, but are also ravaged by slugs—many valuable varieties have been lost for want of a little attention at this season of the year. Fasten all the plants well, and top-dress with decayed vegetable mould.

KITCHEN GARDEN.

The land is now so saturated with wet, that digging and trenching should not be attempted, except on the driest soils; and for the same reason, the sowing and planting of crops should be postponed till a more favourable time arrives. If draining is requisite to any part of the premises it should now be put in hand; as may the formation or repairing of walks, roads, &c.; these, and forwarding on wet days any work under cover, which will save time hereafter, is all that can be done; for it is worse than useless working upon land in its present state. See that a mild steady heat is kept up to Rhubarb, Kale, and Asparagus; the more slowly they are brought forward the better will their quality be when fit for the table. Successional crops should be commenced agreeably with the demand. French Beans in pits will require fire heat to keep them in bearing, sow successional crops in small pots every fortnight, for the Pine-houses or pits; when potted, place them near the glass. Keep a humid atmosphere in the Mushroom house; fires will be necessary; give air daily—it not only preserves them from damping off, but the Mushrooms are more solid, juicy, and higher in flavour; preserve the droppings from the stable-yard under cover for successional beds; turn them over three or four times weekly to keep them from heating; when sufficient is ready, beds may be made as wanted.

HARDY FRUIT GARDEN.

Whenever the state of the weather will permit of the soil being worked, it is a great advantage to fork the ground about the fruit bushes lightly over, and at the same time to work in some well-rotted manure amongst the roots; the same operation buries the leaves, and gives to the whole a neat and orderly appearance. The requisite pruning, staking, and tying should be first performed, to prevent the necessity of treading upon the ground, after it has been forked. If the Raspberry canes were not thinned in the autumn, they should now be reduced to four of the strongest on each stool, rejecting any which may have been deteriorated, by producing fruit in autumn; and, as a matter of course, entirely removing all the old canes. The stakes should then be examined, and renewed, if necessary, fixing them perfectly upright in straight lines, and cutting them to one uniform height, that the whole may bear evidence of good workmanship. When forking in the top-dressings, a little pains should be taken to destroy the embryo suckers which are visible on any of the roots.

STATE OF THE WEATHER NEAR LONDON,

For the week ending Nov. 25, 1852, as observed at the Horticultural Gardens, Chiswick.

Nov.	Moon's Age.	Barometer.		Temperature.					Wind.	Rain.
				Of the Air.			Of the Earth.			
		Max.	Min.	Max.	Min.	Mean	1 foot deep.	2 feet deep.		
Friday.. 19	8	29.763	29.548	53	36	44.5	48	48	S.E.	.23
Satur.. 20	9	29.550	29.304	53	43	48.0	47	47	S.	.35
Sunday . 21	10	29.096	29.034	54	45	49.5	47½	47½	S.E	.10
Monday 22	11	29.299	29.042	47	29	38.0	48	48	E.	.04
Tues. .. 23	12	29.518	18.963	44	38	41.0	46½	46½	S.W.	.18
Wed. .. 24	13	29.572	29.266	47	27	37.0	46	46	N.	.00
Thurs.. 25	14	29.947	29.689	54	41	47.5	44½	44½	S.	.32
Average ...		29.578	29.264	50.3	37.0	43.6	46.8	46.8		1.13

Nov. 19—Foggy; overcast; rain.
— 20—Dense fog; constant rain; slightly overcast at night.
— 21—Densely and uniformly overcast; rain
— 22—Densely overcast; very dark between 9 and 10 A.M.; clear with slight frost at night.
— 23—Fine; overcast; cloudy.
— 24—Densely overcast; clear and frosty at night.
— 25—Foggy; fine; rain at night.

Mean temperature of the week, 1½ deg. above the average.

The depth of rain is taken daily at 8 A.M.; the barometrical observations at 8 A.M.; 1 P.M.; 9 P.M. The thermometers are self registering.

STATE OF THE WEATHER AT CHISWICK,

During the last 26 years, for the ensuing week, ending Dec. 4, 1852.

Nov. and Dec	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds.						
						N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 28	48.0	36.2	42.1	13	1.21 in.	2	2	2	2	7	4	5	2
Mon 29	47.6	35.0	41.3	14	0.56	2	1	4	3	3	10	2	1
Tues. 30	48.3	36.2	42.5	15	0.31	1	3	1	2	3	9	5	2
Wed. 1	48.5	36.9	42.7	11	0.25	1	2	2	3	2	6	8	2
Thurs. 2	47.8	35.1	41.9	12	0.51	1	2	1	1	4	8	7	2
Friday 3	47.2	35.8	41.5	11	0.17	1	3	2	1	3	8	7	1
Satur. 4	46.9	36.2	41.5	11	0.28	4	2	—	2	4	9	4	1

The highest temperature during the above period occurred on the 30th, 1835—therm. 68 deg.; and the lowest on the 29th, 1846—therm 16 deg.

Notices to Correspondents.

APPLES: *X Y Z.* Your seedling Apple, No. 1, is middle-sized, roundish, slightly tinged with brownish-red next the sun. Flesh tender, with a brisk sharp flavour. On this account it would be preferred by some. No. 2 is not worthy of cultivation.‖

ARTIFICIAL MANURE: *H J S.* You should immediately consult your solicitor. Your question is strictly legal; but we cannot imagine that you can be compelled to remove unless the parish can prove that your manufacture is a nuisance, or dangerous to public health, which, upon your showing, it is not.

BOOKS: *Flora.* Might we beg of you to use in future something less ethereal than sky-blue ink, which does not agree well with old eyes. The kind of books which you ask for are not to be had. Botanists describe plants and tell you their history. Gardeners teach their cultivation. Short rules for cultivation are introduced into some botanical works, such as any of our botanical monthly periodicals; but they are mere hints and are useless to any except gardeners. It is the same with Cacti. A work on their genera and species with coloured plates may be had of the German booksellers under the name of Pfeiffer and Otto Abbildungen, &c., blühenden Cacteen, 1843–1847, 4to; and many are figured in the Botanical Magazine and Botanical Register.—*J P.* We never recommend dealers or give prices, which is the business of advertisers.‡

CAMELLIAS: *C D.* Camellias (the common double red for instance), are as hardy as the double white, and we see no reason why you should not venture to turn out a plant that is about four years old into a border against a wall, where a white one has done well, and bloomed beautifully for many years.‡

DITTANY OF CRETE. A correspondent who values much the two Dittanies, and who has lost them, would be glad to meet with some opportunity of recovering them; viz., Origanum Dictamnus and Tournefortii. Address, Mr. Henry Watson, Hexton Gardens, near Silsoe, Beds.

FRUIT TREES: *An Old Subscriber.* Dwarf trees are preferable to standards, provided the ground is not required for undercropping. Standards may be planted 30 feet apart, dwarfs 15 to 20 feet. Pyramid Pears answer very well, and may be recommended where the space is limited; but they require much time and attention in summer. They may be 15 feet apart. Espaliers are preferable. You will find information respecting pyramid training in the Journal of the Horticultural Society for 1847. The streaked Apple you sent is the Beauty of Kent; the other is the Fall Pippin.‖

GRAPES: *A B.* It is possible to grow plants the greater part of the year, and have a good crop of later Grapes in the same house by closely pruning them, and keeping them confined to the rafters; but if the plants *could* be removed in spring so as to enable you to give the Vines a little artificial heat at that season, it would be all the better.‡

INSECTS: *J P.* Your moths were named last week.—*T B.* Your Pear tree is attacked by scale. Wash it well with water of the temperature of from 150° to 160°.

NAMES OF FRUITS: *Chichester.* The small Pear, which was accompanied with wood and leaves, does not appear to be a cultivated sort. It is probably some seedling. The leaves resemble those of some of the Pear stocks.‖—*J Livesey.* 1, Northern Greening; 4, Norfolk Beaufin; 7, Dumelow's Seedling; 8, Minchall Crab; 9, Golden Reinette; 14, Blenheim Pippin; 15, Fearn's Pippin; 16, 17, Alexander; 18, Beauty of Kent; 22, Trumpington; 23, Dutch Mignonne; 28, Yorkshire Greening; 29, Rymer; 30, Easter Pippin or French Crab; 32, Lamb Abbey Pearmain; 35, Barcelona Pearmain; 1 Beurré Diel; 2, Uvedale's St. Germain.‖—*T Barnes.* 1, 2, 4, 7, 8, 19, 23, Beurré Diel; 3, Swan's Egg; 5, Chaumontel; 6, 9, 18, 27, Passe Colmar; 11, 20, 31, 32, Old Colmar; 14, Easter Beurré; 21, Glout Morceau; 22, 30, Beurré Rance; 25, Napoleon; 39, Worthless.‖—*E Parsons.* The Dutch Mignonne‖—*Lattenbury Hill.* Your "Pirum librale, or Pound Pear," is the Uvedale's St. Germain. It has been grown in England to the weight of 3 lbs. 3 oz.‖—*H B.* 1, Cluster Golden Pippin; 2, 3, Old Nonpareil; 4, Probably Blenheim Pippin; 5, Gravenstein: 6, Dumelow's Seedling; 7, Coe's Golden Drop; 8, Blenheim Pippin; 9, Yellow Ingestrie; 11, Margil; 13, Cornish Gilliflower; 17, Keswick Codlin; 19, 22, 31, Brown Beurré; 24, Catillac; 25, Seckel; 27, 29, Winter Nelis; 28, Marie Louise; 30, St. Germain; 32, Spanish Bon Chretien; 34, Gansel's Bergamot.‖

NAMES OF PLANTS: *J P, Paris.* The specimens were much withered. Tin is necessary for the case of plants sent a long way: or, which answers very well, they may be placed between paper and pressed firmly together, as it about to be dried for the herbarium. Cotton wool should on no account be used. 1, Polypodium phymatodes. Angræcum superbum is probably the plant so called by Du Petit Thouars; the spur is much longer and more attenuated than in A. virens. 3. The *real* Oncidium altissimum. 4, Bletia Havanensis. 6. The pale variety of Lycaste plana. 5. Oncidium incurvum; the specimen bearing this name is the same. 7. Oncidium Suttoni, or tenue; apparently the first. 8. Oncidium Ocampoi we are unacquainted with; Oncidium dichromaticum is a new Odontoglossum near O. ramuloeum—but very distinct.—*Y Z.* Clematis cirrhosa.—*Alpha.* Plants not in flower cannot be named.

ONIONS: *G H.* The stem, bearing a cluster of little bulbs, is a specimen of the tree Egyptian, or bulb-bearing Onion.‖

PEACH TREES: *G S B.* The Peach tree may be struck from cuttings of well ripened shoots with a portion of two year old wood at the base. They ought to be taken off in January at the latest, and placed in bottom-heat. But trees so raised would not answer for pot culture; for the Peach on its own root is more unmanageable than when worked on the Plum stock. The roots of the Peach are thick, comparatively naked, and it proves unsuitable for stocks in this country. You must therefore resort to the Plum stock for trees in pots.‖

PLANTING: *J Stewart.* It is perfectly absurd to say that trees and shrubs will not thrive in Ireland if they are raised in England. We cannot entertain any such idle question. It is very likely that somebody in Ireland may complain of English trees, just as many in England complain of Scotch trees, and with equal want of reason. All you have to do is to pay a fair price to respectable men, and every one of those whom you name is undoubtedly so.

SWEET WILLIAMS: *T.* Your seedlings are attacked by Uredo caryophyllacearum. We fear there is no remedy for it; it is very difficult to know how to deal with such things.‡

TEA: *Gallicus.* We do not know the average produce in weight of an acre of Tea.

TOBACCO: *H V.* Tobacco-ashes are a manure of the same value as wood-ashes. Rotten Tobacco-leaves ought to be better. The former should be used in exactly the same way as similar ashes, either dissolved in water, or mixed with earth for a few weeks before application.

VENTILATION: *J W P.* It is better to ventilate by shutters at the top of the back wall, than by the old plan of lowering the glass frame lights. The latter is, however, good for summer. Both methods are very far from being what we want.‡

MISC.: *A M.* A new supplement has lately been added to Loudon's Encyclopedia of Plants. The name of the plant from which the Cuba matting is obtained is unknown. The gutta percha plant is Isonandra Gutta.‡

PERUVIAN GUANO.

CAUTION TO AGRICULTURISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

ANTONY GIBBS AND SONS, AS THE ONLY IMPORTERS OF PERUVIAN GUANO,

Consider it to be their duty to the Peruvian Government and to the Public again to recommend Farmers and all others who buy to be carefully on their guard.

The character of the parties from whom they purchase will of course be the best security, and, in addition to particular attention to that point, ANTONY GIBBS AND SONS think it well to remind buyers that—

The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 9l. 5s. per ton, less 2½ per cent.

Any resales made by dealers at a lower price must therefore either leave a loss to them, or the article must be adulterated.

THE LONDON MANURE COMPANY offers on the best terms Wheat Manure for autumn sowing, Linseed, Rape Cakes, Peruvian Guano, Urate, Superphosphate of Lime, and every other artificial manure. Also a quantity of Salt, the refuse of ammonia and saltpetre makers, considerably more valuable than the ordinary agricultural salt.

EDWARD PURSER, Sec., Bridge-street, Blackfriars, London.

MANURES.—The following Manures are manufactured at Mr. LAWES'S Factory, Deptford Creek:

Turnip Manure, per ton	... ...	£7	0 0
Superphosphate of Lime	... ...	7	0 0
Sulphuric Acid and Coprolites	... ...	5	0 0

Office, 69, King William-street, City, London.

N.B. Peruvian Guano, guaranteed to contain 16 per cent. of Ammonia, 9l. 10s. per ton; and for 5 tons or more, 9l. 5s. per ton, in dock. Sulphate of ammonia, &c.

MANURE.

PEAT CHARCOAL, completely saturated with London Sewage, will be found a most effective manure for any crop. It may be obtained from the Sewage Manure Works, Stanley Bridge, Fulham, Middlesex, at 60s. per ton, 4s. per cwt., and 2s. 6d. per ¼ cwt.

"Sewage manure absorbed in charcoal is a first-rate fertiliser; we have tried it on French Beans, Dahlias, Roses, and Cabbage plants; we put half a pint to each Rose and Dahlia, sowed it in the row with Beans, and put a few pinches to each plant of Cabbage. The effect is perceptible very soon, but it will be twice as efficacious the second year as the first."—*The Garden. by Mr. Glenny.*

WINTON'S PARKES'S CELEBRATED STEEL DIGGING FORKS AND TOOLS are universally approved of. They facilitate labour 20 per cent. They have received the Silver Medal at Lewes, Dublin, Galway, Sheffield, and other places. Anthony's Patent American Churn has received the prize at every one of the numerous agricultural meetings where it has been shown. The Royal Agricultural Journal, p. 41, says, "This form of churn is the best for churning sweet cream, and will undoubtedly produce butter from milk or cream, in any form, in much less time than any churn that has yet been introduced." Pumps for manure and watering gardens. Mr. Mechi has one working admirably. These pumps are cheap, durable, and effective. Gutta percha tubing, bands for machinery, hose for pumps, and an assortment of prize and the best farm implements. Price catalogues sent on application.—BURGESS and KEY, 103, Newgate-street, London, agents for M'Cormick's American Reaper.

TORQUAY POULTRY EXHIBITION.—An Exhibition of POULTRY, open to all England, will be held at Torquay on the 14th and 15th of JANUARY, 1853. Particulars of which will be shortly advertised.

A. FAUL and J. C. STOCK,
Torquay, Nov. 27, 1852. Honorary Secretaries.

THE BIRMINGHAM CATTLE AND POULTRY SHOW, 1852.—The FOURTH GREAT ANNUAL EXHIBITION of CATTLE, SHEEP, PIGS, and the various kinds of DOMESTIC POULTRY will be held in BINGLEY HALL, BIRMINGHAM, on TUESDAY, WEDNESDAY, THURSDAY, and FRIDAY, the 14th, 15th, 16th, and 17th days of December. The PRIVATE VIEW and the ANNUAL DINNER on TUESDAY, December 14. Admission—on Tuesday, 5s.; and on Wednesday, Thursday, and Friday, 1s.

PRIZE CATTLE SHOW OF THE SMITHFIELD CLUB, 1852.—The ANNUAL EXHIBITION of Prize Cattle, Seeds, Roots, Implements, &c., commences TUESDAY morning, and closes FRIDAY evening, 7th, 8th, 9th, and 10th DECEMBER; Bazaar, King-street, and Baker-street. Open from Daylight till Nine in the Evening.—Admittance, 1s.

The Agricultural Gazette.

SATURDAY, NOVEMBER 27, 1852.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY, Dec. 1—Agricultural Society of England.
THURSDAY, — 2—Agricu tural Imp. Society of Ireland.
WEDNESDAY, — 8—Agricultural Society of England.
THURSDAY, — 9—Agricultural Imp. society of Ireland.

WE present to our readers, as a curiosity deserving attention, the following extract from an "Inventory and valuation of tillage, seeds, Saintfoin, roots, &c.," by the out-going tenant's own valuer, in the case of ——— Farm, in the county of Hants:—

1. *Ashley Ring*, 15 acres; Rape and Grass.
   Ploughed once—six times harrowed—twice rolled.
2. *Down Barnfield*, 3 acres.
   Ploughed once—six times harrowed—twice rolled.
3. *Roller Homefield*, 6 acres.
   Ploughed once—eight times harrowed—three times rolled.
4. *Lower Furlong*, 9½ acres.
   Ploughed once—eight times harrowed—three times rolled.
5. *Forest Coppice*, 7 acres; Rape.
   Ploughed once — eight times harrowed — twice dragged—once hoed.
6. *Part of Forest Coppice*, 9 acres; Turnips.
   Once ploughed — eight times harrowed — twice dragged—once hoed.
7. *Part of Forest Coppice*, 7½ acres; Turnips.
   Ploughed once—10 times dragged—four times harrowed after the plants were up—once hoed.
8. *Part of Forest Coppice*, 12½ acres; Turnips.
   Ploughed three times—four times dragged—six times harrowed—three times rolled—twice harrowed after the plants were up.

And so on! This is only a specimen of the 20 or more fields specified, whose cultivation is thus described in detail. And the valuation was made this autumn. The farm is, as might be expected, exceedingly out of condition, and the Turnip crop resulting from the management described was valued at about 1*l.* per acre.

There are several considerations arising out of this document:—(1.) What exceedingly different ideas farmer and gardener must have in those parts of the proper way to grow Turnips! one ploughing and *ten* harrowings as the preparation of the land—four harrowings and one hoeing as the treatment of the growing plants! What a contrast to the forking, seeding, hoeing, and singling of the crop in a garden! How exceedingly wasteful of labour this farmer has been! The harrow is the most imperfect machine that the farmer employs; and 10 harrowings, one after the other, would be more than useless—they would be most injurious. The cultivator or grubber, surely, was the implement for use in this case; successive harrowings, with the repeated tramplings of draught animals, would more and more harden the land and unfit it for the reception of the seed. (2.) What a striking commentary upon the system of payment to out-going tenants prevalent in that county! Labour paid for, whatever result there may be to show for it, and therefore recklessly performed; the evidence of its performance carefully preserved at home, but none to show in the field. (3.) How perfectly instances of this kind justify the remarks, made at page 713, on the general backwardness of agriculture, notwithstanding the vigorous onslaught upon sloth and prejudice made by many of our agricultural improvers.

If a true statement could be given of English agriculture in 1852, many a district and many a farmer would no doubt come to light, so as to eclipse the farms and the men who now shine brightest as agricultural teachers; but we have no doubt that large districts, with their cultivators, would remain like ——— Farm, Hampshire, and its out-going tenant, to justify any amount of sarcasm, whether on those who hold up British agriculture as perfection, or on those who insist that it has already reached the end of its resources, and must succumb to the first extraordinary trial.

THE following remarkable instance of drains stopped by the growth within them of annual roots deserves attention. The writer, Mr. SHERRARD, of Reigate, says:—

"Being a decided advocate of the deep system of draining in all soils, I have carried out my views in a liberal spirit on a farm in this neighbourhood, of strong land, in some cases pure clay; and as I am also a disciple of the high-farming school, I have, in addition to a thorough deep draining, from 4 to 5 feet deep and 20 to 27 feet apart, subsoiled from 12 to 14 inches, manured and subsequently limed a portion of my land for root crops—Swedes, Cabbages, and Mangold Wurzel—and to my great mortification I now find those fields where the Mangold Wurzel is growing almost as wet as they were before they were drained, though perfectly dry before the Mangold Wurzel was sown. I have taken up some of the main pipes, 5 feet deep, and to my horror found them almost full of Mangold Wurzel roots, of a bright pink colour, smelling strongly of the Mangold Wurzel, and coming out of the 3-inch pipes in a perfect rope of fine thread-like roots, completely stopping up the drain, and causing all the mischief I have described. Now I am most anxious to know, first of all, whether such is a common or known evil; and next, what is the remedy? Will the roots wither away and pass off with the water, after the Mangold Wurzel has been carried off, or must I pull up all the drains? This would cost more than the original draining, and would, in my opinion, prevent many people from draining at all, or at least growing this crop (the long red Mangold Wurzel). The crop itself has evidently suffered very materially from the wet state of the land, as it promised in the early season to be a magnificent field, but turns out about 24 tons only to the acre, as near as I can weigh them. There are two fields of 5 and 4 acres, and both are equally bad. One field has been pulled these 10 days, but still the land is as wet as ever; the other is still unpulled. Can the cause be the unceasing rain we have had since May last?"

The drain pipes will, we imagine, require to be pulled up and replaced; not over the whole field, but wherever the mischief occurs. We do not suppose the whole drainage to be thus spoiled—the whole is no doubt at present useless, but it is owing, probably, to a stoppage at a few places, and not throughout the whole system of pipes. The mischief here described is certainly not unknown, but it is not common. We suppose that it is more to be expected on stiff clays than on soils where there is more likely to be a uniform and regular descent of rain throughout the whole mass of soil and subsoil to the drain. We should be inclined to expect that the mischief will not recur when once the substance of the soil is rendered uniformly friable; and we should recommend that in replacing the tiles, the earth be somewhat firmly replaced in the trench, so as to hinder that porosity immediately over the drain to which the stoppage was probably owing. If there were immediately over the drain in this field of very stiff soil a row of Mangold Wurzel, the constant current of water setting down through the porous contents of the trench would induce the unnatural growth of the root fibres towards and in the pipes, so as ultimately to stop the conduit. If the drains had been filled firmly, so as to hinder any current towards them, except at a considerable depth in the subsoil, the root fibres would have had no such encouragement to an unnatural growth. We do not mean to state all this positively, but merely to suggest it as an explanation of the unfortunate result to which Mr. SHERRARD calls our attention. We also think it probable that the roots in the drains will rot in the course of a few months.

FINGERS AND TOES IN TURNIPS.

AT the risk of being thought a little presumptive, I have ventured to offer a few words in reply to the questions put forth by the Highland Society, published in your Paper of 31st July. The questions seem to me so plain, and well calculated to bring forth useful information, that, I think, all that can give any ought to do so. No one will deny that much does now depend on the success of the Turnip crop. In the first place, it is an expensive one to put in, and it is one on which the profitable fatting of stock materially depends; if it fail, cattle have to be sent to market before they are ready, and the straw cannot be turned to good account. There are some of the questions that I will not be able to answer so clearly as may be necessary, but others will no doubt fill up the want; and so all put together will bring out facts that may tend to point out a remedy for the disease

1. I do not think that the variety of Turnip has much to do with it, except that the most rapid growing, and tenderest sorts, seem rather most affected. I have never seen Swedes hurt with it to any extent, even in land that generally did affect Turnips.

2. The nature of the soil on which it most prevails is stiff, rather black, adhesive, and deep; but the under strata very close and glutinous. The course of cropping for the last 20 years or more has been on the four-course rotation, viz., Wheat, Turnip, Barley, and Clover; and there has generally been part of the Wheat stubble sown with winter Vetches, and I have never seen any club root after them; but this is because we have always put them where we thought the land was not liable to produce it, so as to have an opportunity of working the rest well up during the winter.

3. I have never noticed any difference as to the time of sowing; but sowing in wet weather has a very powerful effect in developing its evils; and wet weather soon after, before the land consolidates, gradually acts in the same way.

4. The kind of manure that we generally apply is 1½ cwt. of superphosphate of lime, with 2 or 3 bushels of bones not dissolved. The whole made up by earth or ashes to 50 or 60 bushels, so as to be able to part it over the land equally.

5. The disease first shows itself about five or six weeks after sowing, or about the time that the plants are fit to hoe a second time; the weather at different seasons being various, and I am unable to attribute the cause to it at all.

6. The disease has always been partial, occurring always in the same part of the field; one end of the drills, in many cases, being very much affected or quite destroyed, and the other quite sound and a good crop, which circumstance goes far to prove that neither season, date of sowing, nor manure, has anything directly to do with it.

7. I have not observed insects upon the plant until after it showed signs of disease, when they appear more as effect than cause.

8. Turnips have been cultivated on the same land more than twenty years, at the intervals I have stated above; viz., once in four years, with sometimes a little exception, by breaking up a piece of Clover as soon as the hay was off, and sowing it with Turnips after one ploughing. And if the land is at all of a stiff nature the disease prevails more here, which I think is owing to the ground not being well pulverised and exposed to the action of sun and air.

9. Lime has been very little used, but chalk has at different times, and with the best results, as it alters the texture of the land altogether; rendering the stiff black land light and friable, and where it has been applied in sufficient quantity to do this the disease does not show itself again so far as I am aware.

10. As I have said before, I do not think that the manure has much to do with it.

11. It is affected by the preceding crop only so far as that affects the texture of the soil.

12. I cannot speak as to the effects of Potatoes as a preceding crop, as that is very uncommon, they being planted in the same rotation, but, if I may hazard a

conjecture, they are likely to have a good effect, as they tend to open the soil.

13. The land to which my experience applies has not been drained, neither does it require it, as it lies on a subsoil of gravel, which rests again on chalk.

14. The fields in which it occurs have not been recently subsoiled, and some of them, I believe, never have; we have subsoiled some fields, but I am not aware that they were previously subject to it, but those fields in which it does prevail have not been subsoiled since I knew them, and I believe never have; and I have no doubt but subsoiling will go some way to check it.

15. I have seen the crop very much affected by working the land when wet, but I believe the more it is worked when dry the better.

16. I have not observed any effects from rolling down after sowing.

17. I have never applied the dung to the stubble in the autumn, except so far as folding sheep upon it; neither do I think it advisable to do so, as we could not take advantage of exposing it by ploughing, &c., to the air in winter so well.

18. I do not think that the method or time of hoeing has anything to do with it, only that hoeing when the land is wet in this as in all cases is bad.

19. I have not experienced any benefit from top-dressing after the plants have been thinned.

20. I have found it prevail more on Clover that has been fed than on what has been mowed, but cannot attribute the cause to the mowing or feeding, as the land that was fed seemed from its nature more likely to be affected.

21. As I have said before, I have always found the softest and most rapid growing sorts to be most affected, and I do not think the time of sowing has much to do with it.

I think from what I have stated above it will appear that the texture of the land is the only cause affecting the disease. When the land has a tendency to get hard immediately below the surface, it prevents the roots from getting downwards, the tops continue to perform their part of the growing contract, and the root pushes out its fibres in order to fulfil its part, but they are unable to penetrate in search of their mineral food; at last, the root, after trying all round without success, gets overpowered from above, pushes out to an unnatural size, and the fibres die, thus cutting off all nourishment from the earth. I do not know what chemistry says upon the subject, but if my theory is anything like correct, the soil most liable to the disease ought to possess an extra quantity of glutinous material, and the plant affected should have more than a fair proportion of the nourishment which it derives from the atmosphere. If the land is wet, and from this cause stiff, then the materials may not be what I suppose exist in the soil.

I shall now state briefly what I think are the causes, as well as preventives. Causes:—Imperfect drainage, adhesive soil, and working land when wet. Preventives:—Draining if necessary to lay the land dry, liming or chalking, frequent ploughing and subsoiling, and abundant exposure to sun, air, and frost. *George Sinyer, Dorchester.*

THE ISLE OF WIGHT.

(*Continued from page* 746)

But there is some admirable farming. As I stood on a part of the chain of hills which separates the northern from the southern divisions, viewing the undulating slopes and rich flats on the latter side, and elevated hills at the back of the fine demesne of Appuldercombe and above Ventnor, and also from Culver Cliffs to the verge of Newport, the farms of Arreton and Hazely in particular exhibited extremely fine agricultural views. The vast fields of yellow Wheat in great luxuriance, alternating with other shades of ripening corn, and the bright green of the Swedish Turnip, and the large allotment field for Mr. F. Roche's labourers, resembling the coloured squares of a gigantic chess board, appeared to me a splendid farmer's prospect. Mr. Roche farms on a very large scale, and in a superior style.

Previously to the storms of the 11th and 12th August last, some of the most luxuriant Wheat and Oats was over-ripe and yet uncut. It must have suffered seriously.

Either want of hands or an indolent sort of confidence in the continuance of the very fine weather which had preceded that date, must have occasioned the postponement of the cutting of his corn. I took the liberty of pointing the attention of one or two farmers (previously to the change of weather) to the obvious fact that the Wheat, more particularly in a certain field, was then over-ripe. One of these individuals said that when the mowers had cut down another field of corn they would attack that; "the wind to be sure might rise and blow hard, but he did not think it would; at all events he could not get men." "Do any Irish labourers come to help you at this season?" "No! we are out of the way here, no strangers come to the Island, and many of our own people have gone to America and Australia; hands, in fact, are scarce."

Conflicting statements were made to me respecting the condition of the labourer. Several disinterested persons asserted that they were, in general, badly treated by the farmers, who used them not as men and brethren, but as mere machines, caring nothing for their comforts, paying them the lowest possible wages, and only employing them when they could not possibly do without them.

On close inquiry, however, I ascertained that 8*s.* a week has been the regular wages; that on one farm, more particularly, when an attempt was made to lower the wages to 7*s.* a week, the labourers struck, left the employer, and burnt one of his hayricks, which obliged him to keep up the old rate. Mr. F. Roche has been paying from 8*s.* to 9*s.* standing weekly wages, and he gives to each family of his interesting village a good house and garden allotment free. Such was the scarcity of labourers for the abundant and simultaneously ripened crops, that many men obtained from 2*l.* 10*s.* to 3*l.* the harvest month with ample diet.

I believe, then, the fact to be, that the rural labourers of the Isle of Wight, though in some localities they may not be regularly employed, are as well off as in any of the southern counties. The desire for emigrating has seized upon the young and healthy labourers, but without any especial causes of dissatisfaction in that Isle. As there is an admitted paucity of labourers there, it is impossible that labour should not be fairly rewarded; and though some employers may be disposed to screw the wages of the labourer very tightly, they will be unable to do so, from the absence of competition among the employed class. If the workman on one farm learns that he will be better paid on another, he will of course leave the worse for the better situation; and if he be not sufficiently remunerated at home, he will carry his capital of muscles and sinews to one of the colonies. In either case, the condition of the labourer in the Isle of Wight, as elsewhere, bids fair for advancement.

The exodus of the English working poor has commenced, and if its stream should run even at a fourth part of the rate of issue from Ireland, the results will be soon felt, and the remaining agricultural population of Great Britain will feel their power and value, and estimate them accordingly in the market. Machinery will necessarily come more extensively into operation; and, with full employment for the hands that may remain to us, poor-rates and pauperism (arising from a redundancy of the agricultural operatives) will probably diminish, and the farmer will be in a better position in every respect than when affected by the pressure of a surplus number of labourers, whom he must either employ in some measure or help to maintain by poor-rates.

The practice of mowing Wheat in the Isle of Wight (as is now, indeed, the general mode of cutting Barley and Oats throughout the south of England) has arisen from the paucity of labourers in harvest. If it were not from the necessity of the case, I think this Hampshire mode of cutting Wheat very objectionable. Fine crops of Wheat lie in swathe for many days, because the quantity of Convolvulus, Thistles, and Couch-grass intermixed with it, rendered it unsafe to bind and stook it immediately after the scythe; and then frequent rain added more mischief. It would appear, then, that the hoeing of the Wheat plants had not been as frequent and effectvie as in more palmy days of farming was probably afforded. The very small farmers (of whom there are still many in the Isle, notwithstanding the efforts to consolidate small holdings) cannot, or will not, employ hired labourers, except in the most niggardly manner; they generally perform the field-work themselves, from want of capital, and cannot give the necessary hoeings to their Wheat crop. From the great progress of house-building at the watering-places, and the prevalence of ornamental suburban gardening, town and village labourers can be in no want of remunerating employment; but, relatively with the extent of its area, the number of the working classes in the Isle is small. The number of labourers' cottages is strikingly inconsiderable in the country parts. There is a deficiency of accommodation for the work-people on most of the farms; those of Hazely and Arreton are among the exceptions to this remark. Are the farmers able to remedy this want? From the generally low price of Wheat (the staple grain), it is not to be supposed that the farmers are accumulating capital, and able to farm high; I believe that most of them are content if they can keep their heads above water. There is, indeed, some evidence of the want of superfluous wealth among them in the fact that a stack of old corn is not to be seen. I neither saw one nor heard of any unthreshed grain in barn. But perhaps a local fashion, more than necessity, has induced the practice of threshing out and selling off all the grain that is to be sold, either before Christmas or very soon afterwards.

The threshing is not performed by the flail. Fixed machines on the large farms, and small portable ones hired out on the small farms, execute this branch of labour; and thus that regular winter employment given by a great proportion of the Berkshire farmers to threshers with the flail is not afforded to the labourers of the Isle of Wight, which is one of the causes of their complaint of want of steady occupation in the winter. Though I fully acknowledge as a general principle the wisdom of using mechanical powers to aid or supersede the employment of human hands and feet, in all matters of drudgery, some means of employing manual labour on a farm in seasons when out-of-door work is impracticable or ruinous to the health of the labourer, must be resorted to, in order to retain his services and keep him from the poor-house; and the use of the flail provides for the want to a great degree. The farmer should not be like the huntsman,

> "Who throws off his pack,
> For he knows when he wills he can whistle them back."

But this is what some of the Isle of Wight farmers are c cused of not desiring to do. If the pack, however, a ke it into their heads to follow the gold scent to Australia, the odour of a red herring will not keep them within the bounds of the little island, where the masters may vainly whistle for them if they want them. *D.*

BOXES, YARDS, AND BYRES.

Owing to the great increase in the cultivation and produce of green crops by draining, and the use of guano and other improvements, the fattening of stock has now become a very important branch of agriculture. On the best modes of feeding and housing fattening cattle, the greatest diversity of opinion prevails; arising no doubt in some measure from the difference of climate, but principally from the want of careful and accurate experiments by which the merits of the various modes might be fully compared. It is now, however, well ascertained that moderate warmth, ease, and comfort, are highly conducive to the fattening of cattle; while, on the other hand, cold, and exposure to the inclemency of our winter weather, retards their progress. Thus the same quantity and quality of food produces much greater results in the one case than the other. Therefore, the condition in which our cattle are kept, has a material influence on the returns they yield us for their food. So it is of primary importance for us to adopt the best modes of feeding and housing our fattening cattle, as it is only by doing so that the greatest amount can be realised for our Turnip crops. Open yards with shelter sheds has long been a favourite mode in East-Lothian, and is possessed of various advantages. In the first place, the expense of labour in feeding and attending to the cattle, is much less than it is in byres; besides the facility with which straw can be converted into manure is greater, and where the climate is fine, the fresh air and moderate exercise which the cattle have in this way, being highly conductive to their health and comfort, tends also to promote their fattening. But on the other hand, when several cattle are put together, they do not always agree, and in their struggles for superiority they sometimes injure each other severely; and when Potatoes and grain or oilcake are given them, the strong take more than their share, while the timorous and weak are in a great measure deprived of their portion. In these respects, byres are much superior to open yards, for each ox having his own stall is secured in his own proportion of food, and is not liable to be interfered with or to be annoyed by his neighbour; besides it is considered by many, that in byres cattle do not consume so much food as they do in open yards. On looking over a work on agriculture, I find this opinion corroborated by an experiment made by a Mr. Ellman, of Glynde, who found that nine oxen fed loose in a yard, by eating as well as destroying, consumed as much as 12 when tied up. The waste of food when the cattle are fed loose is indeed always considerable, and much is frequently so trodden under foot (especially if they are receiving cut Grass) as to be only thrown upon the dung-heap. Thus open yards and byres are possessed of separate and peculiar advantages, but these I find can be combined in the highest degree, and also all the inconveniences of both obviated, by using well-arranged single boxes. On the one hand, the single box secures to the ox his proper allowance of food, and shields him from the attacks of any fretful or churlish-tempered neighbour as well as a close stall in a byre. And besides, the economy of food in boxes is at least equal to what it is in byres; while on the other hand, the expense of labour in feeding and attending to the cattle is not more than it is in open yards, and the freedom of motion, if not equal to what it is in yards, is, I believe, sufficient for the health and comfort of the cattle; for it is surprising as they get into condition, how sportive they become, and how much they enjoy themselves within the narrow limits of their box. Again, although the facility of converting straw into manure in open yards was advantageous when few Turnips were grown, yet, owing to the great increase in the cultivation of green crops, this is now no benefit, but the economising of the straw has become of much importance; therefore in this point also boxes are preferable to open yards. Thus well-arranged single boxes enjoy all the advantages of byres, with those of the court-yard superadded. Here allow me to refer to a valuable experiment made by Mr. Reid, of Drem, last season, in order to compare the merits of box-feeding with the court-yard. Ten cattle were carefully divided, five were put into boxes, and the others were put into an open yard with shelter sheds. Those in the boxes consumed one-fifth less food than the others, and when slaughtered were the finest in quality, and also contained 50 lbs. more tallow in all. The court-yard ones, however, were 2 or 3 lbs. each heavier than the box-fed ones; but Mr. Reid considered that they had fully this advantage at the commencement of the experiment. My own experience is quite in accordance with this result, but in order to test the different modes more fully I am preparing to divide a lot of 24 West Highland cattle, so that eight will be put into single boxes, eight into a byre, and eight into an open yard. With regard to the manure, the superiority of box-made to open yard is at once manifest. The open yard being exposed to all the snow and rain of winter, the manure is frequently so over-saturated with moisture that much of its strength and fertilising power is washed away; but the box manure being quite covered from the rain, cannot be diluted by it, and the boxes being so constructed that no liquid can escape, the whole essence of the manure is saved. Tanks, no doubt, may be constructed to receive the liquid as it flows from the court-yard, but I have scarcely ever found a liquid top-dressing

ofitable in East Lothian; which, I imagine, arises a great measure from the aridity of the climate, for, er the application of a liquid dressing, the surface of e soil becomes incrusted, which is unfavourable for its tracting moisture from the atmosphere. Where the imate is humid, I am aware liquid dressings are applied the crop with much advantage; but even in this se, by using boxes, the whole expense of tank, and the plication of the liquid manure to the soil is saved. My xes are, for the most part, quite open in front, and e ranged in double rows, with a space between the rows which Turnips may be stored in a quantity sufficient keep the cattle for two or three months. The Turnips ing stored in front of the boxes is extremely convenient r the cattle-feeder. It is my impression, that when e climate is fine, boxes ought to be quite open in front -one range of my boxes being covered in, with the xception of various openings for the admission of fresh r and ventilation. Last season, part of a lot of cattle ere put into them, and the remainder into those open in ont. Those in the boxes open in front were scarcely ver seen to perspire, while their neighbours in the overed-in boxes were almost always covered with erspiration. When the whole were sold, those in ne covered-in boxes were much inferior to the others. Had this experiment been made in a more rigorous limate, I believe the result would have been different, s in that case those in the covered-in boxes would only ave been in a comfortable state of warmth, while the thers would have been too cold. My single boxes are feet by 10 feet, my double ones 10 feet by 12 feet. In ne erection of boxes, although they may be quite open n front, it is essential to prevent all currents of air laying through them, by boarding up every third or ourth subdivision of the range, and also to have them o constructed that no part of the liquid can escape, therwise the manure in the box will be too dry. With egard to the feeding of cattle, I may take this opportunity of mentioning that I find it highly advantageous o give them a mixed, varied, and more nutritious diet han Turnips alone, and also that it is of much importnce to give them their corn or cake with a large dmixture of cut straw. I find that an ox of about 0 stones imperial, on getting 6 lbs. of bruised grain or ilcake in this manner, consumes only about half the Turnips he would otherwise do, and fattens much more uickly. If the grain or oilcake be given alone, only a mall portion of the large stomach of the ox can act pon it, but if given mixed up with some other bulky nd less nutritious substance, such as cut straw, the nourishment contained in the food is much more readily nd completely assimilated; nor is this the only advanage, for the capacious paunch of the ox being filled up with the cut straw, he does not fall on the Turnip with uch a keenness of appetite as he would otherwise do, nd thus there is a great economy of Turnip also. Nor s the cutting of the straw a very expensive affair. I find that a good straw cutter cuts the straw into 1¼ inch lengths as fast as we thresh — threshing at the rate of 6 or 7 qrs. of Oats per hour. The straw-cutter is driven by the steam-engine, and is conveniently placed in the straw-barn, for receiving the cut straw as it comes from the threshing-mill; only two additional hands are required for the straw-cutter. Thus the cutting of the straw (every expense included) does not exceed 6*d.* per 100 stones. I am cutting the straw to be used as litter for several of the boxes, in order to see if the more minute subdivision of the manure will be any advantage. It will at least be in a better condition for spreading over the land. But to return to the question in hand, several years ago, when Beans were unusually depressed, I gave 6 lbs. of bruised Beans to each one of a lot of 60 cattle. For several months they did well, but about the end of that period their coats became rough, they did not seem to relish their food, several had a slight cough, and at length one or two ceased eating entirely. It was considered to be pleuropneumonia by those who were familiar with that disease. In order to ascertain if possible the true nature of the complaint, I caused one of the animals to be slaughtered. The heart and lungs were found in a healthy condition, but the liver was much enlarged, and there was an uncommon accumulation of bile. This, I believe, arose in a great measure from the bruised Beans not being mixed up with cut straw or chaff, or some other bulky and slightly nutritious substance. For the nutriment contained in the Beans was evidently in too concentrated a form for the stomach of the ox properly to act upon it, and thus not being fully digested, functional disorder was induced, and ultimately disease of the liver. Observing that the one that refused his food frequently licked the roots of the Turnips, I caused a shovelful of fresh earth to be placed before him, on which he immediately commenced, and licked it up with much apparent relish, after which he ate a few Turnips also. Seeing this, I caused fresh earth to be put into the troughs of all the others (which were going in open yards), and almost every one on discovering it at once commenced to it. Nor need we be greatly surprised at this, when we consider that an ox depasturing in a meadow, cannot avoid occasionally swallowing a small portion of earth, as the Grass must frequently be pulled up by the root, especially if the weather is soft. But it would appear that his organism is so arranged, that this small portion of earth, instead of being injurious, rather imparts a healthful stimulus to his digestive organs. After this, I lessened the quantity of Beanmeal to 2 lbs., and gave 4 lbs. oil-cake instead, and in the course of other three months they were disposed of, being then in prime condition for the market. [The above remarks are by Mr. Christie, of Westbank, and were made at one of the discussional meetings of the Highland and Agricultural Society; for a report of which, at the time of its occurrence, we had not room in our columns.]

Home Correspondence.

Dairy Farming.—In the *Agricultural Gazette*, p. 698, Oct. 10, Mr. Hewitt Davis alludes to Mr. Smith's farming at Chipstead, in Surrey. Now if Mr. Davis would favour dairy farmers, through your Journal, with a detail of Mr. Smith's method of feeding, it might be of service to some who are not satisfied with the old plan of two acres of pasture and one of meadow for each cow, such being the estimated quantity of land required in some parts of Cumberland. Mr. D. states that the cows for eight months of the year are fed on cut straw, bran, Turnips, and Mangold Wurzel. How often are they fed during the day, and what quantity of each is required for one cow? Is the cut straw boiled, and the bran put into it? Respecting the flavour of Turnips in butter, a little dissolved saltpetre put into the new milk will always prevent it. *J. F.*

Farm Building, Feeding, and Manure.—In your *Gazette* of the 13th, there appeared three articles, one on the subject of Farm Buildings, one on Straw as Manure, the other being a letter from Mr. Mechi. Now it would seem that in the first, straw is taken to be of great value as manure, or in the process of the manufacture of that article; in the second as of no value for that purpose, but that it is for fodder of much more value than is generally thought; and the system adopted by Mr. Mechi would seem to place it much in the same light as the author of the second article referred to. The modes, however, which those two gentlemen adopt differ entirely, one using a vast quantity of peat or other dry matter to absorb the liquid portion, thereby solidifying it, and rendering it more bulky for removal to the land, and the other mixing the liquid and solid portions and adding water in varying proportion, and removing the whole to the land by pumping it through pipes, and distributing it over the land by gutta percha hose (a mode which has been so ably described and demonstrated to be economical in the reports of the general Board of Health). Deficient in public spirit as those are who have the means of giving information, it may seem doubtful to some if it be a duty in them to do so, and there are few inducements for any one to place his information generally before others; there are not a few of those who possess the information who feel their own want of the qualification to transmit it to others; there are others who have not the time to sit down and indite their own everyday transactions, and there are very many who are not aware that they are pursuing any practice which differs in any respect from what is adopted by their fellows throughout the greater part of the kingdom, until by some chance they are transported into a fresh neighbourhood. I fully believe that what you have added to the qualifications of the practical Cornishman, and claimed for the Scotsman, as having more of uncirculated knowledge above the Englishman to be perfectly correct, and I think there are some good reasons why we might expect more of the rational from the former than the latter. The wealthy English farmer has, until a very recent date, at least, had no institution open for him, except the old grammar-school and the universities, where an education of any kind could be had, and they were never calculated to fit him either for the business or scientific knowledge of a farmer; and those who from their pecuniary position were more likely to put their hand to the manual operations, so as likely to become proficients therein, have been placed even in a worse position. The Scottish system of education has been much more open to all, because much cheaper and more suitable for farmers, and, indeed, for all the ordinary business of life, because it deals with physical science in each of its departments, and affords to all the opportunity of obtaining really useful knowledge. Thus, whether it be the small farmer, or like the Cornish practical man of 1000 acres, the Scot has acquired some amount of scientific knowledge; and though he be wealthy, the thrifty and simple manners of the country have induced him not to lose sight of the various manual operations. It would appear that your opinion is much in favour of the box-feeding system, both as being the most healthy and much preferable as the mode of converting the produce into manure. Now, as compared with the open-yard feeding, I should feel disposed to agree with you; and it may be that in those districts where a large bulk of straw is produced, and where the number of cattle kept is proportionally small, it may answer the purpose, but, if there be any truth in what Mr. Y. says, it would be more profitable to eat the straw with a portion of other food, and thus to maintain a larger number of animals; and if the system were adopted of mixing the manure with water, and thus reducing it into such a form as to render it possible to be pumped over the land, I imagine that the number of animals kept would prove still greater. Probably we have not yet any sufficiently established number of examples of this sort to come to any general conclusions; but I think there are many instances, without either going to the extreme of eating all the straw, either the system of Mr. Y. or Mr. Mechi, where the number of cattle kept is such that the box system could not be pursued, because there would not be a sufficient quantity of straw for litter, and this would be found to be the case in most of our breeding districts. It is quite true that we find too many instances of want of due economy of straw in those districts, as well as of want of due care for manure; and that we also find vast numbers of cattle which have neither well-ventilated nor well drained houses; and again, for the increased number of animals vastly more house-room is needed; and if they are not to be accommodated with more economy of space than the box system offers, I fear that the necessary capital could seldom be afforded, as it must enhance the price of young stock to such an extent as to render their rearing more costly than the grazier can afford. Now in stalls an animal can have sufficient room in 35 superficial feet; and if the stall be formed level or nearly so, and behind the animal there be a curbstone raised some six inches above the walk behind, the beast can very easily be kept clean and dry, and he will not stand uneasily, as he would do if the stalls slope from front to back, as they do in a stable, and very little litter will then be required to keep the animals comfortable. If it can be proved that all the straw can be beneficially eaten by stock, which I think it may possibly be one of these days, then we must keep all the excrements under cover (and without that be done in regard to the dung made by stall-fed animals, the trial with dung made by cattle in boxes against stall-made dung is not fairly tried), and as there would then be required a large quantity of fibrous or other dry matter to absorb the liquid portion, I am much inclined to believe that the system which has been adopted by Mr. Kennedy at Myremill and Mr. Telfer near Ayr (whose cows lie upon mats of cocoa-nut fibre) would be found more economical, as there is no question now but the cost of transit from the buildings to the various parts of the farm, is much less by this mode than any other. *B.*

The Records of Cattle-feeding at Howick Lodge.—I have carefully examined the very elaborate statement, in your Paper of the last two weeks, of the experience of the Hon. Capt. Grey on cattle feeding. Notwithstanding the apparent minuteness of these tables, composed of somewhere about 9000 figures, they fail, in my opinion, to convey the information required, or to answer the question so often asked, viz., Does it pay the farmer to grow Turnips to make beef? I cannot find a clear answer in his statement to this query. In the first place Capt. Grey does not debit his cattle with the straw consumed as food and litter, though he takes credit for the manure. In attempting to set before the public a statistical statement of facts connected with this important subject, I am surprised Capt. Grey should measure his manure by so indefinite a standard as a cart-load; for a cart-load may be half a ton, a ton, or a ton and a half. The manure being so important an aliment in the profit or loss in feeding, it ought to be stated in positive weight. It would have been desirable if Capt. Grey had added one more column to his statement and given the dead weight as well as live weight, as every farmer may not be able to put the live weight into beef. If Capt. Grey adds the value of the straw consumed for food and litter, which I find to cost 10½*d.* per week for each beast (as per my statement, published in the *Daily News*, Aug. 27, and in your Paper of Sept. 13), his system of feeding will not appear to be a very profitable pursuit. His beef, produced by stall or box feeding, according to his own statement, averages 6*s.* 6*d.* per stone of 14 lbs., while it has not for the same period averaged more than 5*s.* in the market. We will take the statement for 1850 and 1851. Capt. Grey makes the stall-fed beef cost 4*s.* 5*d.* per stone live weight; if we add to this 45 per cent., the cost of beef produced will be 6*s.* 4¾*d.* per stone. Add also to the total cost 967 weeks' straw for food and litter, 10½*d.* per week, or 42*l.* 6*s.*, this will bring the balance down to 1*l.* 1*s.* 9*d.*, instead of 43*l.* 7*s.* 9*d.* In the statement for 1851 and 1852, the stall-fed beef costs 4*s.* 7*d.* per stone live weight; add to this 45 per cent., and the cost of beef will be 6*s.* 7¾*d.*

Add to total cost, 1196 weeks' straw, at 10½*d.* per week	£52	6	6
Cost of beasts and food	825	15	1
Total cost	878	1	7
Cr.—By beasts sold	£736	0	2
Manure	89	14	0
Loss	52	7	5
	878	1	7

In feeding the latter lot of beasts there are consumed 412 tons of Turnips, which Capt. Grey values at 5*s.* per ton; but if he deducts the 52*l.* 7*s.* 5*d.* which he has lost on the lot, he will find he has only realised 2*s.* 6*d.* per ton for his Turnips. It is evident from Capt. Grey's statement that his system of house-feeding is expensive and unprofitable; and if he had not taken advantage of the grazing, which he puts down at 1*s.* 6*d.* to 2*s.* 6*d.* per week, the two years' house-feeding would have shown a very considerable loss. *Jos. Laycock, Wintaton, Newcastle-on-Tyne.*

Farmers' Clubs.

DARESBURY.—The annual meeting and show of stock of the Daresbury Farmers' Club was held at the Ring o' Bells, Daresbury, on Thursday last. The Secretary read the reports of the Inspectors of Farms, Turnips, &c. These documents are important and practical, and though they occupy considerable space, we feel bound to subjoin them:—

Report of the Inspectors of Farms, &c. Premium 1.—To the resident tenant of any farm (chiefly dependent upon farming) of not less than 50 statute acres, who shall have the same in the neatest and most exact order, and under the best course of management, 5*l.* (Three claimants, one withdrawn.)

No. 1. (Inspected 20th Aug.)—This claimant's farm

contains 83½ acres, and is held on a yearly tenure. The soil is chiefly a strong loam on a subsoil of clay, with some portions of sandy loam. The state of cultivation is as follows :—Pasture 39 acres, meadow 3 acres, Clover meadow 15 acres, Italian Rye-grass half an acre, Potatoes 8 acres, Wheat 3 acres, Oats 14 acres, homestead and gardens 1 acre. The usual rotation of cropping is—1st, Oats (and sometimes Potatoes) ; 2d, Potatoes ; 3d, Wheat; 4th, Oats ; then laid down to Grass with Clover and other seeds, mown once, and afterwards kept in pasture 8 or 9 years. Upon the whole the Grass land was in very fair condition, with the exception of part of one field, which had been recently laid down without sufficient seeds. A great portion of the pasture land has been manured with bones, the effect of which is very evident in the improved quality and increased quantity of the herbage. The old meadow land was in good order ; and the Clover meadows were in fair condition. The latter had been manured with raw bones after the rate of 10 cwt. per acre, and at a cost of from 5*l.* 17*s.* 6*d.* to 6*l.* per ton. The Potatoes were in a good state of management : the early ones had been sold in July, and yellow Scarisbrick Turnips had been sown after them, towards the end of that month ; the late Potatoes were a good crop, but the disease had made its appearance amongst them. The Wheat (which was in the stooks) was in good condition, and would be more than an average crop ; the stubble was very clean. The Oats were an excellent crop ; part of them—which claimant called the "Black Scotch Bavarian"—were very heavy, and appeared to be of a most productive kind. The stock kept upon the farm consists of 3 farm horses, 1 colt, 20 milch cows (all of them in good condition, and the greater part of them well bred short-horns), 1 feeding cow, 14 pigs (6 nearly fat, 7 to be killed in spring, and 1 breeding sow), 6 rearing calves, and 1 bull. The cows are all depastured in summer, the bull and 1 horse are kept up and fed on green food. It is supposed that 250 tons of manure are made annually upon this farm, besides the liquid manure, which is collected in an open reservoir (11 yards by 11 yards) behind the buildings. At the lower end of this reservoir a tub perforated with holes is placed, into which the liquid drains, and is thence pumped into a liquid-manure cart, and conveyed upon the adjoining Grass land. The claimant expends annually from 25*l.* to 30*l.* in the purchase of bones and guano ; the former being applied to Clover root and Oats, and the latter to Turnips, along with farm-yard manure. He also purchases from 6 to 8 tons of Wheat and Oat straw, and about 40*l.* worth of provender, consisting chiefly of Egyptian Beans and bran. Draining has been going on, gradually, on this farm for several years, but some fields still require this improvement. During the past year the claimant has drained a field of 4 acres at his own expense, except half the cost of tiles, which was paid by the landlord. Nearly the whole of the farm has now been drained, and many new fences have been planted. The whole of the hedges on this farm are properly trimmed ; and the house, garden, &c., were neat and in good order. The outbuildings, at least some of them, were out of repair, and several gates were wanting on different parts of the farm. There is great credit due to this claimant and his mother for their general good management, one strong proof of which may be found in the cheese room ; and we have no doubt that ere long, by continued perseverance, he will become a successful competitor.

2.—This farm is about 176 acres ; of which 66 acres are pasture, 36 acres meadow, 11 acres Clover meadow, 24 acres Oats, 2 acres Oats and Vetches, 12 acres Wheat, 20 acres Potatoes, 1 acre Mangold Wurzel, 1 acre homestead and gardens, and 3 acres plantations, occupation roads, &c. The farm is held from year to year, lies nearly within a ring fence, and the homestead is conveniently situated for the occupation of the land. The soil is principally a sandy loam, of but medium quality, on a subsoil of sand, with some peat and clay. The customary rotation of cropping is—1st, Oats ; 2d, green crops; 3d, Wheat; 4th, Oats, and then laid down to Grass for seven or eight years, or more, part being pastured and part mown. The greater part of the pasture land has been boned during the last two or three years, and, with the exception of a few acres which want draining, and are rather poor, the whole is clean and in a good state of management. Nearly 20 acres were boned last year with 15 cwt. of boiled bones per statute acre. On 10 acres of this the Grass root is not looking very well, the seeds having been hurt by a heavy crop of Barley with which they were sown. 7¾ acres were boned this spring; this portion is now a good root of Grass. 27½ acres of meadow land have been laying from four to five years, were boned on the Clover root, and are all at the present time in very fair condition. The remainder, a field of 8 acres, deserves especial notice ; it was laid down in 1850 after early Potatoes, and is already an excellent Grass-root ; this year it has been mown once and afterwards pastured, and it is now looking remarkably well. 12 cwt. of boiled bones per acre were applied to it, part last autumn and the rest in spring ; which has no doubt fertilised the land very much, but the successful cultivation of the plot must in a great measure be attributed to the high condition and clean state of the land on which the seeds were sown, and their freedom from the prejudicial influence to which they are subjected when sown with corn crops. The Clover meadow was also very good and clean. It had been manured last year, and the seeds sown were about 5 lbs. of red Clover, 5 lbs. of Cow-grass, 2½ lbs. Trefoil, ½ measure of Rye-grass, and 2 bags of claimant's own hay seeds per statute acre. The Oats were a good crop, though not so heavy as one portion of the other claimant's ; the land was clean and part of it laid down to Grass. The Wheat crop was clean, and was the heaviest and best we have seen this year. It was sown after Potatoes, and was chiefly of the Irish kind—of white Wheat with red chaff. The whole was standing remarkably well — a feature which appears to be characteristic of this kind of Wheat, and one which is of very great importance. The reapers had commenced cutting the crop at the time of inspection (August 20). Of the Potatoes, 12 acres were late ones, sown in drills, were quite free from weeds, and would be a very fair crop unless injured by the prevailing disease, which we detected in the stem, and which we fear has since materially affected the root. There had been 8 acres of early Potatoes, and, after they were got up, about 3 acres of the land had been transplanted with the Swede Turnips and Mangold Wurzel, and 5 acres sown with orange jelly and yellow Scarisbrick Turnips. The stock kept on this farm is 5 horses, 40 dairy cows, 1 bull, 1 yearling ditto, 10 heifers and stirks, 21 pigs (2 breeding sows included, and several feeding), and 14 rearing calves; total, 90. The horned cattle are depastured in summer, and the horses are fed on green food in the stable during the day and depastured at night. It is estimated that about 400 tons of manure is made annually, which is applied to green crops. Claimants have also bought and applied to green crops annually, for the last 7 years, 1 ton of guano, at 10*l.* per ton ; and 10 tons of boiled bones have also been purchased annually, on an average of the like period, for Clover roots ; the price is now 4*l.* 4*s.* per ton. The liquid manure at present runs to waste, except what is absorbed by peat and sand carted to the farm-yard for that purpose. For the draining done during the last 7 years an annual average purchase has been made of 12,748 tiles, about 13 inches long, which have been laid, where necessary, on slate soles. The distance of the drains apart is generally from 7 to 9 yards. In the way of general improvements 50 rods of open trenches, and low places in the fields, have been drained and filled up ; and during the last 4 years, 130 rods (of 8 yards) of old fences have been eradicated, and the old ditches drained and filled up ; and 105 rods (of 8 yards) of new Thorn fences have been planted. A road to the stackyard, 22 yards long and 10 feet wide, has been paved, and two pits filled up and made into land, the whole having been done principally at claimants' expense. The house, farm-buildings, gates and fences are kept in a neat and satisfactory state. The general management of this farm, and the improved condition of it within the last few years, reflect great credit upon the claimants—Messrs. Joseph and Peter Beecroft, of Hatton (tenants of Mrs. Watt), and we have much pleasure in recommending that the prize be awarded to them.

Draining.—Premium 2. To the resident tenant upon a rack rent, of any farm, not being less than 30 acres, who shall have expended the greatest sum of money in the most judicious manner, in draining, within one year, previously to the 1st September, 1852 (the size of the farm and the operations of the work being duly considered by the inspectors), 3*l.* (Three claimants, one withdrawn.) No. 1.—Claimant's farm contains 176 acres, of which two fields have been drained containing together 12 acres. The drains are laid with common 3-inch tiles on the parallel system, from 8 to 9 yards apart, and 36 to 40 inches deep. There is a main drain laid with 700 5-inch tiles. Total length of drains, 7588 yards. The cost was stated to be as follows :—20,200 3-inch tiles, at 25*s.* per 1000, 18*l.* 10*s.* ; 700 5-inch tiles, at 50*s.* per 1000, 1*l.* 15*s.* ; slate soles, on which the tiles were laid, 1*l.* 7*s.* 1½*d.* ; and 23*l.* 10*s.* for cutting, laying, and filling up 948½ rods (of 8 yards) at 6*d.* per rod. Total cost, 52*l.* 1*s.* 1½*d.*, or 4*l.* 9*s.* 6*d.* per acre, exclusive of the cost of carting the tiles a distance of about 1½ mile. The owner paid for nearly all the tiles. The land drained is a dark sandy soil on a variable subsoil of sandy clay, containing in some places "foxbench" and quicksand. The draining, which was no doubt much wanted, appears to have been effectually done. The land was cropped with Potatoes at the time of inspection (the greater part of them earlier ones), and all were in a clean and flourishing state. The claimants are Messrs. Beecroft, of Hatton, who, having got the prize for the best cultivated farm, are by Rule 13 disqualified from gaining any premium for draining, but we have thought it right to report what they have done, and have much pleasure in commending it. No. 2.—This claimant's farm is 380 acres, of which one field of 25 acres has been drained during the year ending the 12th May last. In this case 1½-inch pipes were used, and were laid on the parallel system, about 10 yards apart and 3 feet deep, the main drain being 3½ feet deep ; total length of drains, 12,648 lineal yards. The pipes were paid for by the landlord, leaving the cost to the claimant 2*l.* 10*s.* per acre, besides which the tiles had to be carted one mile. The land drained is a strongish gravelly loam, on a clayey subsoil. The drains were running well at the time of inspection (20th August) and the land was much benefited by their operation ; but we are inclined to think that 10 yards apart is an extreme distance for subsoil of this description. The claimant, who has now drained 50 acres the last two winters, is Mr. Richard Janion, Rocksavage, near Runcorn, to whom we award the prize.

Dung-water Reservoirs. — Premium 3. To the resident tenant upon whose farm shall be constructed in a substantial and durable manner, the best reservoir for the reception of dung water, either for floating meadows or pastures, or for carrying off in water carts, 2*l.* (One claimant.) The claim is for an open reservoir, 12 fe by 9, by 4½ feet deep, made on sloping ground in meadow, a short distance from the farm buildings. has been formed by simply excavating the ground, a making an embankment with the material on the low side. The sides of the embankment are faced wi stone. The liquid is let off when required by means a plug fixed at the bottom of the embankment. Two three hundred yards to the east, and at a considerab elevation above the reservoir, are some ponds near three quarters of an acre in extent, which contain a goo supply of water at all seasons. If needs be this wate can be raised and retained a yard or more above i ordinary level, all of which is under control, and ca be made available at any time for irrigation. Fro these ponds the water is conducted by means of an ope ditch until it reaches the farm buildings ; it then pass through the farm-yard by means of soughs, and s carries away in solution all the liquids from the priv pig-sties, shippons, and stables into the reservoir, fro whence is irrigated nearly all the meadow (upwards 8 acres) in which the reservoir is situate. There is n very great merit to be rewarded in this instance ; b we consider the claimant (Mr. John Fairhurst, of Bell fields, Appleton, tenant to Thomas Lyon, Esq.) to b entitled to the prize. HENRY WHITE.

Warrington, Oct. 6. THOMAS B. RYDER.

Mr. Ryder said that as one of the inspectors he kne the Society was doing good. There were many acre yet to be drained, many useless hedges to be eradicate and the stock might be much improved ; but still th Society was doing its work and doing it well.—Many the members wishing to leave by train, the Chairma vacated his seat, and the proceedings of the meetin closed.

CHERTSEY.—At the late annual meeting of this society in reply to the toast of "The members for the county, Mr. Drummond, M.P., said,—"This is an agricultura association, and it is as a farmer I address you. I ar exceedingly glad to meet you, and to find that you hav not, as other agricultural associations have in this county died a natural death. I do hope you will continue, unde every circumstance, to meet. No matter whether yo become few or continue many, still meet—do not giv up. It is of very great importance that we should mee in this way once a year. Now, every one of us, farmer or not, have been beaten by that man [a labourer wh produced a magnificent sheaf of Barley, the produce of single grain]. (A Voice—'Oh ! he couldn't do again.') I say there is none of us, not the best farme here, but has been beaten by that man. Why, you neve got 5000 for one—(A laugh)—5375 grains from on grain of Barley. Now, till we can all do that, don't le us fancy we have finished learning to farm. That' what we have got to do. What one man can do anothe can—can't he ? To be sure he can. He's got just a many hands and legs. I remember a labourer onc talking to a gentleman, who seemed to know what h was about ; and, when he left him, some one said to th labourer, 'That's a sharpish sort of fellow.' 'Oh yes, said the labourer, 'a gentleman's got a head as well a another man, if he only knew how to use it.' (Laughter. Well, now, so has a farmer got a head ; and, if he onl knew how to use it, he might get 5000 grains from one Now, we are all manufacturers. I don't understand th difference between agricultural and manufacturing in terests. We are all manufacturers. Did you ever se a silkworm ? Is it not very ingenious to make tha nasty yellow spider's-looking web into a lady's elegan silk dress ? That's what the manufacturer does. Wha has the farmer got to do ? He has to turn a dunghil into a loaf of bread. Is not that a manufacture just a extraordinary ? But he must do it. We have bee talking for some time past about the great advantages o reducing the cost of production and the price of labour But, by all this emigration that is going on, the price o labour will be enormously increased. What are yo going to do then—because everybody used to say tha nothing could save us but reducing the price of labour Well, we must have recourse to more machinery. Yo can't carry on farming as it has been carried on for th last 500 years. No business in the world can be carrie as it was 500 years ago ; and it is nonsense to suppos that ours can either. We must go on improving—fo you may depend upon it that chemistry and those thing have done as much as they can do. It is to mechanica aid alone, then, that you must look. We are exceedingl behindhand in it in the south of England, to what the are in the north. I see every now and then advertise ments about the prices of production, and farmers accounts, and so on ; and I see everywhere put dow farmers' charge for interest on his capital, 10 per cent. or, if he is a very modest man, 7 per cent. Now, I wan to know in what business in the world a man can ge 10 per cent on his capital. What right, then, has th the farmer to expect it, when no tradesman or mercantil man can obtain it ? You should expect no more for i when invested in farming than if it were in the publi funds, and that is a bare 3 per cent. As for farming, i always must be the poorest trade carried on, and for th best of all reasons, that it is the most agreeable. D you not know what Cobbet said ? He said, 'Who would be a nightman if he did not get more for being a night man than being a farmer.' (Laughter.) Isn't it quite clear that being the most agreeable of all occupations there must be more persons trying to enter into it ? An old man once said to me, 'Ay, my boy, once farmer talked of making a living, now they talk of making fortune.' Depend upon it he never can make a fortune He may lead a very pleasant, healthy, and sometimes

ble occupation ; but that must be by greater help e has got now ; and for that help he must look to nery and improved mechanical contrivances."

Review.

ical Hints to Unpractical Lecturers to the Working sses. By Philo-tecton. F. Baron, 43, Skinner-et, Snow-hill, London.

little tract is one of the issues of the Working s Educational Union. We can, to some extent, personal experience, and still further from that of s, recommend it, as containing a number of very suggestions. The main purpose of the Educational n is the assistance of lecturers, and of lecturing to ng men. The series of diagrams that they have ly published are admirable contributions to this and the Hints now published will still further o the accomplishment of the end which the society view. It is by lectures, conversational meetings, eading societies, that the leisure hours of the ng man will be turned to the best account ; that is, sing him to possess the ability to read, write, and , which must, of course, be taught them in classes, s it is to children. And anything which, tending nder lectures attractive and interesting, helps to erbalance the fatal attractiveness of the public-s of our villages, and low theatres of our towns, be valued by all with any pretensions to philan-y. We have no doubt the tract now noticed will dely circulated, and as extensively useful.

ccount of a New Variety of Wheat—a Hybrid ween Piper's Thickset and the Hopetown. Intro-ed by Mr. Hugh Raynbird.

tract, which is an account of a new sort of Wheat ly published in our advertising columns, as being le by Mr. Raynbird, deserves notice as the history uccessful attempt to make use of the powers of lising, already well known in the horticultural , for the benefit of farmers. Mr. Maund, of sgrove, and a few other gentlemen have before xhibited the patience and perseverance necessary cess in this walk of agricultural improvement, and Mr. Raynbird, of Laverstoke, in Hampshire has llowing testimony to bear upon the subject :—

Much has been done by improving the various s of cattle, yet, with the same care in the judicious ion of agricultural seeds as of live stock, no doubt sult would be equally satisfactory. It is a matter emands our serious attention, for if we can by eans add but one bushel per acre to our produce, in the aggregate of the whole country become an of vast importance. In very many cases I have he produce from seed of a good variety exceeding e extent of 7 or 8 bushels that of another kind near it, under exactly the same circumstances of nd tillage, and the same with roots to the extent of ny tons ; thus it seriously affects the individual r, and it becomes of vast importance to the public ally that only the best and most productive of ultural plants should be cultivated.

ut whatever may be done by selection and cultiva-it is by hybridisation alone that varieties capable rmanently retaining their peculiarity of form can tained ; and the new seeds that are so constantly ht before the public must either be old sorts with names, or owe their origin to accidental impreg-n. Cultivation and selection may for a time alter orm of plants, but under a different system of ent they return to their original state ; with ds it is otherwise. It is a matter of some import-that the form and character of plants may be ned or altered with so much ease ; the operation y requires patience and careful selection.

he Hybrid Wheat, which is now offered to the notice, is a red Wheat, with stiff straw of a m size, and is similar to one of the best specimens n at the Great Exhibition. It owes its origin, as a ct variety, to the following circumstances :—In ar 1846, I grew in a garden at Hengrave, near St. Edmund's, Suffolk, a few plants of Piper's set Wheat, a red variety, then recently introduced r. Piper, of Colne Engaine, in Essex, and remark-for its short thickly clustered ear, its short stiff , its productiveness in a favourable season, and its ty to blight in an unfavourable one, rather than e quality of its produce. I thought that some of bad qualities might be neutralised and new ies be obtained, partaking more or less of the good ies of both parents ; and with this view I inoculated scribed in the Illustrated Official Catalogue of the Exhibition), the Thickset Wheat with pollen y taken from the Hopetown variety, a well-known Wheat of fine quality, with long straw, and with r much longer, though not nearly so closely set as of the Piper's Thickset ; in fact, forming to the a perfect contrast. From this I obtained a few lled grains, which I planted early in the autumn e same year, and by division of the roots I greatly sed the number of plants. The produce was many both of red and white Wheat ; some of the ears a perfect resemblance to the Piper's Thickset ; partook of the character of the Hopetown in thing except in the colour of the chaff ; others had he ear thin and open ; and the rest close set, thus, same ear, showing the characteristics of each kind. he cultivation of the Hybrid Wheat has been up to the present time, and by careful hand-g an even sample is now obtained."

Miscellaneous.

Guano.—A correspondent in the "Notes and Queries" says :—"He believes that the earliest English mention of this substance was in 1670 ; and that it is to be found in a little work then printed, called the 'Art of Metalls,' translated from the Spanish. Although the title page of that edition does not mention the name of the translator, he is known to have been Edward Montagu, Earl of Sandwich. The title was thus—'The First Book of the Art of Metalls;' written in Spanish by Albano Alonzo Barba, Master of Art, born in the town of Lepe in Andulasia, curate of St. Bernard's parish, in the imperial city of Potosi, in the kingdom of Peru, in the W. I., in the year 1640. Translated into English in the year 1669 : London, sm. 8vo, 1670." At p. 16 is the passage to which "P. C. S. S." alludes, viz. : "Cardanus, among his curiosities, makes mention of another kinde of earth, anciently called Britannica (from the country where it is found) ; they were fain to dig very deep mines to come at it. It was white ; and after they had separated the plate it contained, they manured their tilth-fields with the earth, which were put in heart thereby for a hundred years after. Out of islands in the South Sea, not far from the city of Arica, they fetch earth that doth the same effect as the last afore-mentioned. It is called guano (*i. e.*, dung) ; not because it is the dung of sea fowls (as many would have it), but because of its admirable virtue in making ploughed ground fertile. And that which is brought from the island of Iqueyque is of a dark grey colour, like unto tobacco ground small. Although from other islands near Arica they get a white earth, inclining to sallow, of the same virtue. It instantly colours water whereinto it is put, as if it was the best ley, and smells very strong. The qualities and virtues of this, and of many other simples of the new world, are a large field for ingenious persons to discourse philosophically upon, when they shall bend their minds to the searching out of truth, rather than riches."

Irrigation.—[A writer in the *Essex Herald* has been taking Mr. Mechi to task for his proceedings in connection with this subject. The character of his strictures may be judged of by the following reply to them.] There is no consolation for Pro-bono-publico. The Mangel crop is, what O'Connell called, "a great fact." They were carted (and that's a comfort) before this wet weather set in, and there actually were from 60 to 80 carts per acre. As to the lugubrious tale about poisoning water, and agricultural labourers' delicate stomachs, 'tis evident that poor Pro-bono has been sadly gulled by some wicked wag. 'Tis rich, too, to consider that a labourer who probably stands for weeks turning over and intermixing a rank and reeking dunghill, should at half a mile distant be "struck comical" by the mere sniff or whiff of the same substance in a liquefied form. But no! 'tis not the smell—'tis the novelty that offends our old friends of the old school ; anything new they can't endure, but I can't help it—I must fulfil my destiny ; I must carry into my agricultural pursuits the same sentiments of common calculation and common sense, and the same disdain for antiquated prejudice, as marked my ordinary business career. I feel that it will make Pro-bono unhappy to know that all my people on the farm are particularly healthy and remarkably hearty feeders. The very youth who holds the jet actually said yesterday, whilst demanding an increase of wages, "This somehow makes me feel wonderful hungry, and tho' I eat *five* 4 lb loaves a week, I could manage another if I had the wages." But *I* don't wonder at our excellent sanitary condition, when I find medical men inhaling ammonia as an antidote to infection on their return from fever cases and other dire diseases ; poisons are acids—as well explained by Liebig, and well understood by our intelligent medical practitioners. And the bites of adders are counteracted by ammoniacal vapours and solutions, as the most powerful alkaline neutraliser. By the by, the story of flavouring the brook a mile below me arose from an odd circumstance, strongly condemnatory of the old dunghill system. About two years ago, in an evil moment, I was induced to make a real old-fashioned dunghill, of rich pig and other "muck," and placed it on a very stiff clay headland, ready for the field. Well, I stupidly forgot that the field had been deep drained. Of course our heavy-land friends would say it was of no use draining such stiff clays. Well, down came some heavy rains, and up came a report from some good neighbours a mile below me that their tea no longer tasted of Hyson or Souchong. It seemed odd enough, but, on inspection, we found that the essence of the old-fashioned dung-heap had percolated through the drains, across a 6-acre field, and changed the water a mile below. If, after this, any farmer places any reliance in well-washed dung-heaps, or disbelieves the evidences of percolation, I shall have "no hope in the agricultural future." *J. J. Mechi, Tiptree-hall, Kelvedon, Essex, Nov. 5.*

Calendar of Operations.

NOVEMBER.

LAMMERMOIR SHEEP FARM, *Nov. 9.*—Our last communication is of such an ancient date, that we have forgotten the month when it was written. The weather, even in the Lammermuirs, has been very different from that experienced in the south of England. The temperature during July, August, and September, ranged high ; and the end of deluges of rain, just a sufficiency of moisture in the shape of gentle showers to keep the pastures, as well as grain and green crops, fresh and growing. Our pastures have been luxuriant, and, as a consequence stock are everywhere in good condition ; yet even this roughness has an attendant drawback in the shape of footrot on the softer and grassier grounds. This troublesome and injurious disease is unusually prevalent this autumn, and has been aggravated by frequent fogs and heavy dews. Having the marshy grounds thoroughly surface-drained, attention in keeping the pens clean where the sheep are brought for sorting, and also frequent sprinkling of these with quicklime, will do much towards prevention, while the greatest attention is required on the part of the shepherd, in using the proper remedies when the first symptoms appear, and thus endeavour to prevent it assuming that virulent form, which, besides being frequently incurable, causes it to spread like wildfire among the rest of the flock. Almost every shepherd, or at least those of every district, has some specific lotion, ointment, or powder of his own. That which we have used with good effect for some years is a lotion composed of equal quantities of tincture of myrrh, oil of rignium, butyr of antimony, spirits of wine, and spirit of salt. Let the foot be well cleaned, all matter and loose hoof removed, and the affected parts anointed with the mixture, applied with a feather. In most cases, at the commencement of the disease, we have found that two or three dressings effect a cure. Our sheep have also suffered much from maggot during the beginning of autumn. Whether this arose from the higher temperature of several past seasons, or is aggravated, as many of the shepherds affirm, by the shelter now afforded by numerous plantations, we do not pretend to say, but certainly these pests were almost unknown in our higher grazings until within the last few years. Their attacks are by no means confined to animals with dirty tails, for we have seldom anything of this, but are made indiscriminately and on all parts of the body. Ewes, and ewe hogs, however, are the most frequent victims, and as the maggot appears to prefer those whose tails and high locks are wet and stained with urine, we have sometimes thought that an occasional swim through the washing-pool might tend to check the nuisance, by removing the offensive smell arising either from this local impurity or from the undue accumulation of "yolk" over the whole fleece, produced during very warm weather. Yet never having made the experiment ourselves, we cannot speak positively on the subject ; but apart altogether from this particular object, we are strongly of opinion that the growth and general improvement of the fleece, as well as the health of the animal, would be greatly improved by occasional washings. At present this operation is performed but once a year—a few days previous to shearing—when the accumulated filth of the previous 12 months (less that washed off by the occasional heavy rains), must be removed. In the case of mountain sheep, which are always upon the green sward, this is in general no difficult matter ; but with lowland breeds, which, upon an average, are folded on Turnips for six months of the year, during which time the fleece is stained by constant contact with the soil, and filled with dust during dry windy weather, one washing, however carefully performed, cannot be expected to render the wool perfectly clean. We would not, of course, subject them to such a process during the winter months, but would begin with the first genial weather in spring. Two advantages at least would, we conceive, attend such a practice—the improvement of the fleece, and the better health of the animal. Under the present system three or four days elapse between washing and shearing, both that the fleece may be thoroughly dried, and to give time for the return of the yolk, as without its presence in some measure, the wool would be hard to the touch, while under the plan of occasional ablutions, as the fleece would be generally in a tolerably clean state, the final washing would not require to be so severe, and a longer interval might be allowed to elapse before shearing, thus affording time for the yolk being thoroughly diffused through the fleece, without at all injuring the quality. With regard to the effect of such a practice on the health of the flock, it is universally admitted that horses, cattle, and other domestic animals thrive best when kept clean and frequently rubbed down ; and, reasoning from analogy, the same results should attend similar treatment in the case of sheep. But since their fleece entirely prevents the use of currycomb or brush, some substitute might be sought for. We know of no other but that now hinted at ; and should this suggestion meet the eye of any one who may have adopted some such plan, or who considers it deserving of trial, we trust that he will publish the result of his experience in the *Agricultural Gazette*, as there is one reader at least who will be greatly obliged by fuller information on this point. While speaking of wool, we are tempted to put a question, in which all sheep breeders, especially in high districts, are interested. How does it happen that we so seldom see a farm-steading having a house specially devoted to the storing of the clip? A barn, a cattle-byre, a hay-loft—any odd corner, in short, appears to be considered sufficient for this purpose ; such at least is the result of our observation, as far as it has extended. We know one of the largest grazings near this, where the only wool-house for nearly 3000 fleeces is a granary, without a light, measuring 22 feet by 18 feet, and 7 feet high! Into this place the wool must be squeezed, without the possibility of leaving a vacancy between the different kinds, either to prevent mixing and confusion, or to enable buyers to make a minute examination of the whole parcel. As the clip forms an important item in the return from a sheep farm—equal to at least one-third of the rent—such a glaring defect ought surely to be remedied. The expense of erecting a suitable wool-house should certainly devolve upon the proprietor, though few tenants would object to taking a share in the shape of the carriage of materials. The size of the building must depend upon the number of fleeces to be accommodated, but in every case there ought to be abundance of room, with divisions into which the different kinds of wool may be conveniently put without undue packing and squeezing, so that the whole clip may be easily examined, and present a neat, uniform, and clean appearance. The floor should be boarded and railed above the general level, and the walls plastered, to avoid damp, while there should also be a sufficiency of light to show off the wool to advantage. An apparatus to assist in packing should not be forgot ; buyers are not long in discovering the best managed clips, and such will always command the readiest market. Like other sheep farmers, we have nearly completed the busy season of sales. The wool has been sold and sent off, the lambs weaned and marketed, and the ewes drafted and disposed of. As usual, we have this year sold almost all our stock privately ; when circumstances admit of this mode of doing business, we believe it will be found the safest in the long run. The animals are not knocked up by travelling to distant markets, and there is less danger of those infectious diseases, so frequently contracted at public markets. On these accounts alone, most buyers will give a higher price to get them direct from the breeder. These bargains being generally made a few days before the principal markets of the district, a reference up or down is sometimes left to these, though more frequently the price is settled there and then. It does occasionally happen that an unexpected rise takes place at these fairs, in which case the private seller is a loser ; though even then, if the parties are yearly purchasers, they rarely refuse to make some allowance for this in the following year, and *vice versâ*. Last year's crop having been disposed of, our attention must now be directed to a succeeding generation ; with this view, our stock of rams has been made up, and laid upon Turnips, to keep them fresh till they are wanted. In selecting such animals for a large lot of ewes, it is nearly impossible to procure them all of first class quality, though the nearest approximation to this should be the aim. While the quality of the rams must be adapted to that of the ewes and the nature of the grazing, it is very desirable that they should be all bred from the same stock as this, and not by picking up sheep here and there from different breeders and districts, is the only way of producing an uniform lot of lambs ; but as it is difficult to procure a sufficient number

from the same stock, a substitute may be found in procuring one or more first class sheep, to be put to selected lots of your own ewes. From this produce the best lambs are to be kept, which will afford a sufficient number of good lambs for a succeeding season, care being taken to avoid in-and-in breeding; such a course, inducing delicacy of constitution, would be ruinous among mountain sheep. When the object is to breed fat lambs for the butcher, fine symmetry in the ram is not of such importance as good feeding properties and plenty of bone; but if the crosses are intended to be fed off an arable farm, symmetry must be more attended to, combined with good bone and an abundant covering of superior wool. Upon wide mountain pastures, where the shepherd cannot always be at hand during the lambing season, special attention must be paid to the head of the ram. Let this be small and fine, with well-set ears; indeed, an animal with such a head will rarely have an inferior carcase. The general time for turning out the rams to the ewes in hill districts is Nov. 22; each sheep is allowed about 50 ewes, and remains among them for six weeks. We are busy with our bathing operations, which, with good weather, will be completed in about 10 days; the present rain, however, is much against the success of the process. This over, the jackets will be put on the hoggs. *A Lammermuir Farmer.*

Notices to Correspondents.

FREEMARTINS: *Anon.* They have been disqualified in every case within our knowledge for competition with "Oxen and spayed heifers." *J K.*

GERMAN YEAST. The address of Messrs. Wilkin and Pugh, wrongly given last week, is St. Mary Axe, London.

MANAGEMENT OF STOCK: *A B.* Perhaps "Hillyard's Practical Farmer and Grazier" is the sort of book for you.

MANGOLD WURZEL, &c.: *Danum.* Even though the heap be wet through, if there have been no frost on the exposed roots, there is sap; but we would take advantage of the first fine weather to uncover them and leave them uncovered, while it be dry and not frosty, and afterward cover over with dry straw laid carefully to act as thatch. We would purchase the thick liquid refuse at the price named, and use it in a compost with bonedust for Turnips.

MILL: *C S.* You should apply to Messrs. Ferrabee, in Stroud, for information on this subject.

SUNDRIES: *Scrutator.* Your communication is, we submit, more proper for the columns of the *Builder*, to which we have forwarded it.

Markets.

COVENT GARDEN, Nov. 27.

Notwithstanding the excessive wet weather which we are at present experiencing, Vegetables and what Fruit is in season continue pretty plentiful. Pears and Apples are sufficient for the demand. Pears consist of Glout Morceau, Winter Nelis, Chaumontel, and Crassane. A few Tomatoes may still be obtained. Filberts are realising fair prices. Potatoes have not altered in value since our last report. Mushrooms are getting scarcer. Cut flowers consist of Heaths, Pelargoniums, Roses, Mignonette, Bignonia venusta, and Fuchsias.

FRUIT.

Fine-apples, per lb., 3s to 6s	Oranges, per doz., 1s to 2s
Grapes, hothouse, do., 4s 6d to 6s	— per 100, 6s to 10s
Pomegranates, each, 2s to 4s	Almonds, per peck, 5s
Apples, dessert, p. bush, 6s to 10s	— sweet, per lb., 2s to 3s
— kitchen, do., 5s to 8s	Nuts, Barcelons, per bush, 20s
Pears, per doz., 1s 6d to 4s	— Brazil, do., 12s to 14s
— per half sieve, 5s to 7s	— Cobs, 75s to 90s
Melons, each, 2s to 5s	— Spanish, do., 16s to 18s
Lemons, per doz., 1s to 2s	Chestnuts, p. bush., 8s. to 16s

VEGETABLES.

Cabbages, per doz., 6d to 1s	Garlic, per lb., 6d to 8d
Brussels Sprouts, p. hf. sieve, 1s to 2s	Lettuce, Cab., per score 4d to 6d
Cauliflowers, per doz., 6d to 2s 6d	— Cos, p. score, 9d to 1s
Greens, per doz., 1s to 2s	Radishes, per doz., 8d to 1s
Tomatoes, per hf. sieve, 4s to 5s	— Turnip, 9d to 1s 6d
Potatoes, per ton, 85s to 140s	Endive per score, 1s to 1s 6d
— per cwt., 5s to 9s	Small Salads, p. pun., 2d to 3d
— per bush., 2s 6d to 4s 6d	Horse Radish, p. bundle, 1s to 3s
Turnips, per doz., 1s to 1s 9d	Mushrooms, p. pott., 9d to 1s 3d
Cucumbers, each, 2d to 6d	Sorrel, per hf. sieve, 6d to 1s
Celery, per bundle, 9d to 1s 3d	Artichokes, per doz., 4s to 6s
Carrots, p. doz., 2s 6d to 4s	Fennel, per bunch, 2d to 3d
Spinach, per sieve, 1s to 2s	Savory, per bunch, 2d to 3d
Onions, per bunch, 2d to 4d	Thyme, per bunch, 2d to 3d
— Spanish, p. doz., 1s 3d to 3s	Parsley, p. doz. bnchs., 2s to 3s
Beet, per doz., 1s to 1s 6d	Mint, per bunch, 2d to 3d
Leeks, per bunch, 1d to 2d	Basil, green, p. bunch, 3d
Shallots, per lb., 6d to 8d	Marjoram, do., 2d to 3d
	Watercresses, p. 12 bun, 4d to 6d

COAL MARKET.—FRIDAY, Nov. 20.

Eden Main, 16s. 3d.; Wallsend Riddell, 15s. 3d.; Wallsend Haswell, 17s. 6d.; Wallsend Hetton, 17s.; Wallsend Stewarts, 17s.; Wallsend Tees, 17s.—Ships at market, 277.

HOPS.—BOROUGH MARKET, Nov. 26.

Messrs. Pattenden and Smith, Hop Factors, report that for the last few days the demand for Weald of Kent and Sussex Hops has not been quite so extensive, but prices remain firm, and there is a large business doing in Mid and East Kent bags. The London brewers being anxious to secure a supply, the quantity this year being very limited, fine Weald of Kent and Sussex Hops are nearly all cleared off the market.

WOOL.

BRADFORD, THURSDAY, Nov. 25.—The price of English Wool continues firm, with an advancing tendency in some descriptions; the country dealers "holding their own" with characteristic tenacity. Colonial wool remains steady, at the prices fixed at the recent sales. Business, however, is not large; for although a decided improvement has arisen in the spinning trade, as compared with its condition three months ago, yet the higher prices obtained for yarns do not encourage spinners to buy freely of the raw material. A scarcity of yarns made from the best qualities of English Wool, such as are used for 6-quarter cobourgs from 20s. to 32s. per piece in the grease, is observable, and a further advance in prices may be expected with the next month's contracts.

SMITHFIELD.—MONDAY, Nov. 22.

The supply of Beasts is larger, and on the average trade is rather worse than on Monday last. There is a considerable increase in the supply of long-woolled Sheep, but Downs and Half-breds are not so plentiful as of late; trade is slow, and last Monday's quotations are barely maintained. Good Calves are readily sold at Friday's rates; but trade is heavy for other kinds. The foreign supply consists of 843 Beasts, 4890 Sheep, and 128 Calves; from Scotland, 200 Beasts; and 3000 from the northern and midland counties.

Per st. of 8lbs.—s d	s d	Per st. of 8lbs.—s d	s d
Best Scots, Hereford, &c. ... 3 8	to 4 0	Best Long-wools . 3 10	to 4 2
Best Short-horns 3 6	— 3 10	Do. Shorn ... 0 0	— 0 0
2d quality Beasts 2 10	— 3 2	Ewes & 2d quality 3 2	— 3 8
Best Downs and Half-breds ... 4 4	— 4 6	Do. Shorn ... 0 0	— 0 0
Do. Shorn ... 0 0	— 0 0	Lambs 0 0	— 0 0
		Calves 3 0	— 4 4
		Pigs 3 4	— 4 4

Beasts, 4776; Sheep and Lambs, 25,150; Calves, 211; Pigs, 365.

FRIDAY, Nov. 26.

The supply of Beasts is not very large; trade is, however, slow, except for choice descriptions, which, being scarce, make about as on Monday last. Inferior qualities are lower, and several remain unsold. Although the number of Sheep is small, it is fully adequate to the demand; Monday's quotations are generally realised, but trade is slow. Good Calves are not plentiful; they are readily disposed of at late rates, and in some instances make rather higher prices. From Germany and Holland there are 272 Beasts, 830 Sheep, and 250 Calves; 300 from the northern and middling counties; and 110 Milch Cows from the home counties.

Per st. of 8lbs.—s d	s d	Per st. of 8lbs.—s d	s d
Best Scots, Hereford, &c. ... 3 8	to 4 0	Best Long-wools . 3 10	to 4 2
Best Short-horns 3 6	— 3 8	Do. Shorn	
2d quality Beasts 2 8	— 3 0	Ewes & 2d quality 3 2	— 3 8
Best Downs and Half-breds ... 4 4	— 4 6	Do. Shorn ... 0 0	— 0 0
Do. Shorn ... 0 0	— 0 0	Lambs 0 0	— 0 0
		Calves 3 0	— 4 4
		Pigs 3 4	— 4 4

Beasts, 928; Sheep and Lambs, 3 790; Calves, 340; Pigs, 325.

HAY.—Per Load of 36 Trusses.

SMITHFIELD, Nov. 25.

Prime Meadow Hay	75s to 80s	Clover ...	80s to 100s
Inferior do. ...	60 70	Second cut ...	70 90
Rowen	40 55	Straw	25 28
New Hay	— —		

E. J. DAVIS.

The supply short, with a brisk demand for both Clover and Meadow Hay of good quality; inferior descriptions very difficult to sell.

WHITECHAPEL, Nov. 25.

Fine old Hay	... 75s to 80s	Old Clover...	... 90s to 98s
Inferior do.	... 55 70	Inferior do.	... 65 80
New Hay ...	... — —	New Clover	... — —
Straw ...	.. 24 28	Inferior do.	... — —

POTATOES.—SOUTHWARK, Nov. 22.

The committee report that during the past week the market has been but sparingly supplied coastwise, but the arrivals by rail are considerable; prices remain much the same as last week. The following are this day's quotations:—Yorkshire Regents, 80s. to 120s.; Lincolnshire, 75s. to 100s.; Scotch Regents, 80s. to 90s.; French whites, 80s. to 90s.; Dutch, 55s. to 60s.

MARK LANE.

MONDAY, Nov. 22.—The supply of Wheat from Essex and Kent this morning was very small, and the condition most wretched. Nevertheless, the whole was disposed of at the full prices of this day se'nnight. For the middling qualities of foreign the demand was very extensive, but the sale of Dantzic and fine red was very limited. Prices of all descriptions are fully maintained. Business in floating cargoes was checked by the high pretensions of holders. For Flour there is a good demand at fully last week's prices, and an advance of 6d. to 1s. per barrel obtained from needy buyers.—Barley, Beans, and Peas remain unaltered.—The Oat trade is dull, and in some instances rather lower rates have been accepted.

PER IMPERIAL QUARTER.	s. s.		s. s.
Wheat, Essex, Kent, & Suffolk... White	38—50	Red	32—44
— — fine selected runs... ditto	42—54	Red	38—48
— — Talavera	52—56		
— Norfolk	40—48	Red	—
— Foreign	34—54		
Barley, grind. & distil., 26s to 29s... Chev	26—34	Malting .	28—30
— Foreign ...grinding and distilling	23—30	Malting .	30—38
Oats, Essex, and Suffolk	17—20		
— Scotch and Lincolnshire... Potato	22—24	Feed.....	16—22
— Irish ..... Potato	20—22	Feed.....	18—19
— Foreign .....Poland and Brew	18—21	Feed.....	15—19
Rye	29—32	Foreign .	—
Rye-meal, foreign	—		
Beans, Mazagan.....31s to 33s.....Tick	33—35	Harrow .	33—35
— Pigeon .....34s — 37s...Winds.	39—41	Longpod	30—34
— Foreign ..... Small	32—37	Egyptian	32—34
Peas, white, Essex and Kent.....Boilers	38—41	Suffolk...	40—42
— Maple.....32s to 35s.....Grey	31—33	Foreign .	32—42
Maize ..... White	—	Yellow...	—
Flour, best marks delivered ...per sack	37—40		
— Suffolk ..... ditto	25—32	Norfolk .	25—32
— Foreign..... per barrel	21—24	Per sack	28—34

FRIDAY, Nov. 26.—The arrival of foreign Wheat this week is considerable, but moderate of other articles. Although the attendance was not large, or the business transacted considerable, more disposition to purchase was evinced, and an advance of 1s. per qr. established. Floating cargoes of Wheat from the Black Sea are taken at a slight advance.—There is a fair inquiry for Flour, and holders demand an advance of 6d. to 1s. per barrel for American.—The supply of Barley is large, and the trade dull at Monday's prices.—Beans and Peas are unaltered in value.—Oats are a dull sale at late rates.

ARRIVALS THIS WEEK.

	Wheat.	Barley.	Oats.	Flour.
	Qrs.	Qrs.	Qrs.	
English ...	2110	10550	6130	2280 sacks
Irish	—	1160	12100	
Foreign ...	31560	2690	14480	— brls

IMPERIAL AVERAGES.

	Wheat.		Barley.		Oats.		Rye.		Beans.		Peas.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
Oct. 16.....	37	10	27	8	18	0	30	1	34	1	30	4
— 23.....	38	8	28	8	17	10	25	8	34	2	30	9
— 30.....	39	2	29	5	17	6	26	0	34	7	31	5
Nov. 6.....	39	5	29	9	18	3	24	10	35	3	33	5
— 13.....	39	11	30	2	18	7	27	5	35	4	32	6
— 20.....	40	0	30	6	18	9	29	9	35	6	33	3
Aggreg. Aver.	39	2	29	4	18	2	27	4	34	10	31	11½

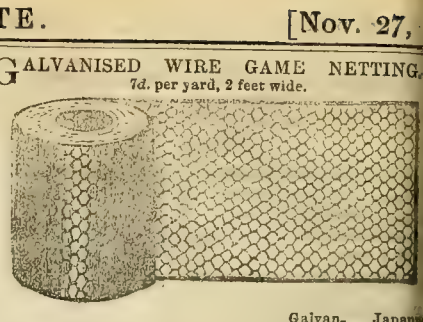
Duties on Foreign Grain, 1s. per qr.

FLUCTUATIONS IN THE LAST SIX WEEKS' AVERAGES.

PRICES.	Oct. 16	Oct. 23	Oct. 30.	Nov. 6.	Nov. 13.	Nov. 20.
40s 0d	...	...	...	...	...	
39 11	...	...	...	...		...
39 5	...	...	...		...	...
39 2	...	...		...	...	...
38 8	...		...	...	...	...
37 10 —		...	...	...	...	...

LIVERPOOL, TUESDAY, Nov. 23.—The imports of grain, meal, and Flour are rather increased this week from Ireland and from foreign ports. The Corn Exchange this morning was well attended, but the demand for Wheat and Flour was less active than on Friday, and the improvement in price then made of 1d. to 2d. per bushel, and 1s. per barrel and sack, was scarcely supported. Oats and Oatmeal were in fair request, and were 1d. per bushel and 6d. per load dearer. Indian Corn was held for rather higher terms. Barley, Beans, and Peas were scarce, and each command extreme rates.—FRIDAY, Nov. 19.—The arrivals from Ireland and coastwise during the past week have been insignificant, and from foreign ports only moderate. At market, to-day, there was a fair attendance of the town and country trade, and a good business was done in Wheat and Flour, at an advance of 1d. to 2d. per 70 lbs. on the former, and 9d. to 1s. per barrel and 6d. per sack on the latter article. Oats and Oatmeal met with an improved demand, at generally full prices, although in some instances more money was obtained. Barley, Beans and Peas were in fair request, at late prices. Indian Corn attracted rather more attention, and both cargoes afloat and parcels on the spot were the turn in favour of the seller.

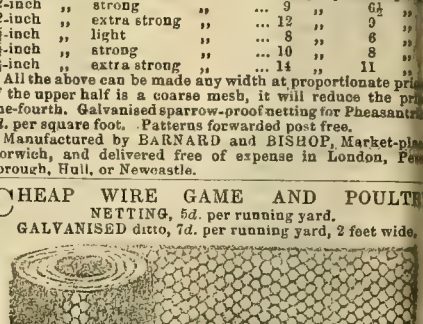
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7d. per yard, 2 feet wide.



	Galvanised.	Japanned Iron.
2-inch mesh, light, 24 inches wide ...	7d. per yd.	5d. per yd.
2-inch " strong " ...	9 "	6½ "
2-inch " extra strong " ...	12 "	9 "
1⅝-inch " light " ...	8 "	6 "
1⅝-inch " strong " ...	10 "	8 "
1⅝-inch " extra strong " ...	14 "	11 "

All the above can be made any width at proportionate pri
If the upper half is a coarse mesh, it will reduce the pr
one-fourth. Galvanised sparrow-proof netting for Pheasantr
3d. per square foot. Patterns forwarded post free.
Manufactured by BARNARD and BISHOP, Market-pla
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CHEAP WIRE GAME AND POULTR
NETTING, 5d. per running yard.
GALVANISED ditto, 7d. per running yard, 2 feet wide.

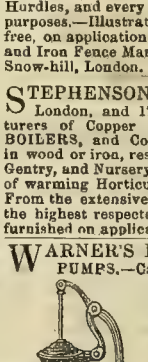


	Galvanised.	Not Galvanised.
24 in. wide, 2 in. mesh, 7d. per yard.	...	5d. per yard.
30 in. " 2 in. " 9d. "	...	6½d. "
36 in. " 2 in. " 10½d. "	...	7½d. "
48 in. " 2 in. " 1s. 2d. "	...	10d. "

Sparrow Proof Netting, Galvanised, 3d. per square
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article was shown at the "Great Exhibition," where it wa
much admired for its light and durable appearance, and
knowledged to be the cheapest and best article of the
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1s. 6d. and 2s. 3d. per yard. Also every description of Flow
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From the extensive works they have executed, reference
the highest respectability can be given, and full particul
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PUMPS.—Cast-iron Pumps, for the use of Far
Cottages, Manure Tanks, and Shal
Wells. £ s.
Patent Pump 1 15
Patent Pump, with 15 feet of lead
pipe attached, and bolts and nuts
ready for fixing 2 10
Larger sizes if required.



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Every description of Machinery for Raising Water,
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70, STRAND, and BRIDGEFIELD, WANDSWO
P.S. Important to Farmers, &c.—F. R. begs leave to
attention to his new Water Power, which in many cases
supersede the use of the Steam Engine.

REDUCTION IN PRICE.
WEIR'S IMPROVED GALVANISED WROUGH
IRON LIQUID MANURE PUMP.
The Fittings of these Pu
are wholly of Brass, and t
is no leather or other ma
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For Conservatories, Public Buildings, Manufactories, Skylights, &c., &c.	One-eighth inch thick.	3-16th inch thick.	¼ inch thick.
KED IN CRATES, for cutting up of the sizes as Manufactured:—	s. d.	s. d.	s. d.
3 inches wide and from 40 to 50 long	0 6	0 8	0 10
0 „ „ 50 to 70 „			
QUARES, cut to the sizes ordered:—			
Under 8 by 6	0 4	0 6	0 7
7 6 and under 10 by 8	0 4½	0 7	0 8
7 8 „ 14 by 10	0 5	0 7	0 9
7 10 „ 1½ feet super., if the length does not exceed 20 inches	0 5½	0 7	0 9
et sup. „ 3 „ or if above 20, and not above 30 inches long	0 6	0 8	0 10
„ „ 4 „ „ 20 „ 30 „	0 6½	0 8	0 10
„ „ 5 „ „ 30 „ 35 „	0 7	0 8½	0 10
„ „ 6 „ „ 35 „ 40 „	0 7½	0 9	0 10½
„ „ 8 „ „ 40 „ 45 „	0 8	0 9½	0 11
„ „ 10 „ „ 45 „ 55 „	0 8½	0 10	1 0
„ „ 12 „ „ 55 „ 70 „	0 9	0 11	1 1
„ „ 15 „ „ 70 „ 85 „	.....	1 0	1 2

PACKED IN BOXES OF 50 FEET EACH.

hes by 4 inches, and 6½ inches by 4½ inches ... 10s. 6d. | 8 inches by 6 inches, and 8½ inches by 6½ inches .. 13s. 6d.
„ by 5 „ and 7½ „ by 5½ „ ... 12s. 0d. | 9 „ by 7 „ and 9½ „ by 7½, and 10 by 8 15s. 0d.

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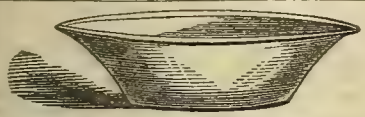
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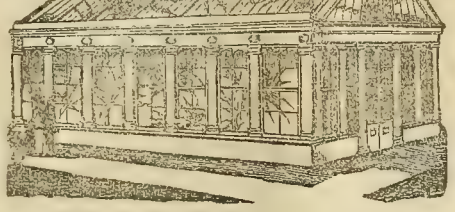
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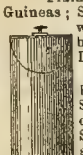
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Lot 3.—39 Oak Timber Trees felled in ditto ditto, but rejected in the square; numbered with the scribe, viz.:—5, 8 24, 27, 33, 38, 48, 52, 72, 77, 84, 100, 101, 104, 106, 107, 113, 116, 117, 121, 139, 150, 151, 152, 170, 176, 185, 189, 192, 202, 209, 214, 217, 222, 231, 237, 242, 244, and 248, averaging 125 feet, calliper measure.

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Lot 10.—100 Oak Timber Trees in the Rodge Wood, ditto ditto, numbered 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 83, 84, 85, 86, 87, 88, 90, 91, 92, 93, 94, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 108, 109, 110, 112, 113, 115, 116, 117, 118, 119, 120, 121, 122, 124, 125, 126, 127, 130, 131, 132, 133, 134, 136, 137, 138, 139, 141, 143, 144, 145, 147, 148, 150, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, averaging 18 feet meetings, girth measure.

Lot 11.—100 ditto ditto, felled in ditto, ditto ditto, numbered 176, 178, 179, 180, 181, 182, 184, 185, 186, 187, 188, 189, 191, 192, 193, 194, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 207, 208, 211, 212, 213, 214, 216, 217, 218, 219, 222, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 269, 270, 271, 272, 273, 275, 276, 279, 280, 281, 282, 285, 286, 294, 295, 296, 297, 299, 300, 303, 304, averaging 18 feet meetings, girth measure.

Lot 12.—100 ditto, felled in ditto, ditto ditto, numbered 305, 306, 307, 308, 309, 310, 311, 313, 314, 315, 317, 318, 319, 320, 321, 324, 325, 329, 331, 333, 334, 335, 337, 339, 340, 341, 342, 343, 344 345, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 362, 363, 366, 367, 368, 370, 372, 378, 380, 381, 382, 383, 384, 386, 390, 392, 394, 395, 397, 398, 400, 402, 403, 405, 406, 408, 412, 414, 416, 418, 420, 423, 427, 428, 431, 432, 435, 439, 442, 444, 445, 447, 448, 450, 451, 455, 458, 462, 463, 471, 474, 475, 477, 478, 480, 482, and 483, averaging 20 feet meetings, girth measure.

Lot 13.—50 ditto ditto, felled in ditto, ditto ditto, numbered 484, 485, 486, 487, 490, 491, 494, 495, 496, 497, 499, 502, 503, 504, 505, 508, 509, 511, 513, 515, 518, 519, 520, 521, 522, 524, 525, 526, 528, 529, 531, 532, 534, 535, 537, 538, 539, 540, 541, 543, 544, 545, 547, 549, 550, 551, 555, 557, 558, and 559, averaging 20 feet meetings, girth measure.

Lot 14.—53 ditto ditto, felled in ditto, ditto ditto, numbered 560, 564, 565, 566, 567, 569, 571, 572, 575, 579, 580, 584, 586, 590, 591, 593, 594, 595, 597, 598, 599, 600, 601, 603, 604, 605, 606, 609, 610, 612, 614, 616, 617, 618, 619, 621, 623, 625, 626, 629, 631, 632, 633, 634, 635, 636, 638, 641, 643, 644, 645, 646, and 650, averaging 21 feet meetings, girth measure.

For a view of the Lots in Dean Forest, apply to Mr. LANGHAM, Ellwood; and of those in Highmeadow, to Mr. TURNBULL, Braceland, subject to conditions then to be produced.

BRITISH BIRDS AND BIRDS' EGGS.

MR. J. C. STEVENS will Sell by Auction, at his Great Room, 38, King-street, Covent Garden, on FRIDAY, Dec. 3, at 12 for 1 o'clock, the COLLECTION OF BRITISH BIRDS' EGGS, formed by the late Miss Fisher, of Westcott, near Dorking; and also the Duplicates of a well known Amateur, comprising many great rarities, and some British Birds in cases.—May be viewed the day before the sale, and Catalogues had.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will sell by Auction, at the Mart, Bartholomew-lane, on FRIDAY, December 3d, at 12 o'clock, a first-class collection of DUTCH BULBS, consisting of the finest Double and Single Hyacinths, Narcissus, Jonquils, Anemones, Crocus, Snowdrops, Tulips, Ranunculuses, &c.; also a selected assortment of Standard and Dwarf Roses, Ornamental Trees and Shrubs, American Plants well set with bloom buds, &c.—May be viewed the morning of sale; Catalogues had at the Mart and of the Auctioneers, American Nursery, Leytonstone, Essex.

CAMELLIAS, RHODODENDRONS, AZALEAS, ETC.

THIRD SALE FROM MR. JOSEPH BAUMANN, OF GHENT.

MR. J. C. STEVENS begs to announce that on TUESDAY, 30th November, he will sell by Auction, at his Great Room, 38, King-street, Covent Garden, at 12 for 1 o'clock, another consignment of CAMELLIAS, AZALEAS, RHODODENDRONS, Deutzia gracilis, and various other Plants, from the Nursery of Mr. JOSEPH BAUMANN, of Ghent, the whole of which will be sold without any reservation.—On view the morning of Sale, and Catalogues had.

TO NURSERYMEN, SEEDSMEN, AND CULTIVATORS OF THE PINE TRIBE.

MR. J. C. STEVENS begs to notify that he has just received from Central America a consignment of FIR CONES, comprising several highly ornamental species that are quite new to this country; and from the localities from which they have been collected, viz., the frontiers of Mexico to the city of Guatemala, at an altitude of from 6,000 to 10,000 feet above the level of the sea, will no doubt prove hardy in this country. They will be Sold by Auction, at his Great Room, 38, King-street, Covent-Garden, on TUESDAY, 7th December, at 12 o'clock, *very precisely*, in consequence of the meeting in Regent-street being held at 2 o'clock. Catalogues are preparing, and will be forwarded in due course.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, BUILDERS, AND OTHERS.

MR. J. RAWLINGS has received instructions from Mr. ROBERT NEAL, to submit to public competition by Auction, on the premises, Wandsworth Common, on MONDAY, November 29th, 1852, and following days, at 11 o'clock, in consequence of the ground being required for other purposes, the whole of the valuable NURSERY STOCK, consisting of very fine Evergreens and Shrubs; Fruit, Forest, and Ornamental Trees, American Plants, &c. The whole in fine condition and worthy the attention of private buyers and the Trade.—May be viewed prior to the sale; catalogues may be had on the premises; of the principal Seedsmen in London; and of the Auctioneer, 89, Bridport-place, New North-road; and Ebenezer Nursery, Shacklewell.

OAK TIMBER.—HAINAULT FOREST.

TO SHIP BUILDERS, TIMBER MERCHANTS, CONTRACTORS, AND OTHERS.—235 naked Oak Trees, lying in the King's Woods, Hainault, Essex.

MESSRS. DRIVER have been honoured with instructions from the Right Hon. T. F. KENNEDY, the Commissioner in charge of Her Majesty's Woods and Royal Forests, to offer for sale by public Auction, at the Angel Inn, Ilford, on THURSDAY, December 2, at 1 for 2 o'clock precisely, in 16 Lots, 235 OAK TREES, felled last season, adapted for Ship Builders, Timber Merchants, Railway Contractors and others requiring good sound Timber. 225 of the Trees are drawn together in Collier Row Bottom, and 9 on Fence Piece, parts of the King's Woods, Hainault, county of Essex, most conveniently situate for water carriage by River Thames, at Barking, either to the Metropolis or elsewhere, or by railway, being about 4 miles from the Romford and Ilford stations on the Eastern Counties Line, and about 10 miles from London by the high road. Every tree is marked and numbered with white paint, denoting the lots, and may be viewed on application to Mr. M'CLETCHIE, Barking-side, near Ilford, of whom Catalogues may be had; also at the offices of the Commissioner of Her Majesty's Woods and Royal Forests, No. 2, Whitehall-place; at the Angel, Ilford; White Hart, Romford; King's Head, Chigwell; at the Auction Mart, Bartholomew-lane; of Messrs. CLUTTON, 8, Whitehall-place; and of Messrs. DRIVER, Surveyors and Land Agents, 5, Whitehall, London.

TO NURSERYMEN.

TO BE SOLD, the Lease and Good-will of an established and thriving NURSERY, in a first-rate situation at the west end of London. The Valuation of Stock and Coming-in will require but a small amount of cash. It possesses a Jobbing business, wherein 10l. per week is actually paid by the present proprietor for labour alone.—Apply by letter, prepaid, or personally, to Mr. HARVEY, 95, Hatton Garden, London; or Mr. JOHN KERNAN, Seedsmen, Great Russell-street, Covent Garden, London.

NURSERY BUSINESS,

IN THE NEIGHBOURHOOD OF CLIFTON, near BRISTOL.

TO BE DISPOSED OF, with immediate possession, the above excellent Nursery. It consists of about Five Acres of Land well stocked, and in first-rate cultivation, with Greenhouses, &c. There is a capital Dwelling-house, Stable, and other offices attached, and the whole is held on Lease, at a low rental, of which about 12 years are unexpired. As the stock is in course of sale a very small capital will suffice for the purchase. The present proprietor declines the business from ill health. It will be at the option of the purchaser to take the orders already supplied. This is an opportunity seldom to be met with for any person wishing to enter into business as a Nurseryman and Florist.—For terms and all further particulars apply to Mr. J. G. HOBBS, Solicitor, Broad-street, Bristol.

WANTED, to RENT, a GRASS FARM, from 50 to 100 Acres.—Full particulars to be addressed to W. K., 60, Gracechurch-street, London.

WALTON CASTLE FARM,

NEAR CLEVEDON, SOMERSET.

TO BE LET, from Lady-day next, this desirable CORN AND SHEEP FARM, situate only one mile from Clevedon, and from the Clevedon Station on the Bristol and Exeter Railway, and 12 miles from Bristol; comprising a good Farm-House, with complete Farm-Buildings, three Cottages, and 500 Acres of Land, whereof 3½ Acres are Homestead, 15 Pasture, 256 Arable, and 81½ Acres Down. The Soil is principally on a Limestone, well adapted for Sheep and Turnip Husbandry, and some of the Pasture Land is of very good quality. Satisfactory references as to Capital and Farming Character will be required.

For further Particulars, apply to J. P. STURGE and SON, Land Agents and Surveyors, Broad-street, Bristol.

Printed by WILLIAM BRADBURY, of No. 13, Upper Woburn-place, in the parish of St. Pancras, and FREDERICK MULLETT EVANS, of No. 7, Church-row, Stoke Newington, both in the County of Middlesex. Printers at their Office in Lombard-street, in the Precinct of Whitefriars, in the City of London; and published by them at the office, No. 5, Charles-street, in the parish of St. Paul's, Covent-garden, in the said County, where all Advertisements and Communications are to be ADDRESSED TO THE EDITOR.—SATURDAY, NOVEMBER 27, 1852.

THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 49.—1852.] SATURDAY, DECEMBER 4. [Price 6d.

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GENUINE SEEDS.

LUCOMBE, PINCE, AND CO. beg leave to inform the public, that their Stock of VEGETABLE SEEDS is now ready for sending out.

Their Seeds may be fully relied on, as being in every respect of first-rate quality, and true to their sorts.

Catalogues may be had on application.

Exeter Nursery.—December 4.

FLOWER ROOTS AT A REDUCED PRICE.—

TULIPS, mixed, early double and single ... 6s. per 100
IRIS, mixed, splendid colours ... ... 4s. „
CROCUS, Dutch, mixed, all colours ... ... 12s. per 1000
LILIUM LANCIFOLIUM RUBRUM, strong flowering roots ... ... 2s. each.
EARLY ANEMONES, in splendid and great variety of colour, strong flowering roots, 5s. per 100; recommended in the *Gardeners' Chronicle*, No. 43, page 679.

The above to be had of William Denyer, Seedsman and Florist, 82, Gracechurch-street (near the Spread Eagle), London.

No charge for packages.

TO THE SEED TRADE.

ABRAHAM HARDY AND SON'S PRICED WHOLESALE CATALOGUE of Home-grown SEEDS and earliest SEED POTATOES is now ready, and may be had on application, enclosing one penny stamp.

Maldon, Essex, Dec. 4.

MESSRS. PLATZ AND SON, Erfurt, Prussia, respectfully inform the trade, that their Seed Catalogue for 1853, in which will be found many new varieties, may be had on application to their agent, Mr. Robert Kennedy, Bedford Conservatory, Covent-garden, London.

JUDSON'S RICHMOND VILLA BLACK HAMBURGH VINE.

ARTHUR HENDERSON AND CO. have the pleasure of informing their patrons and friends that they have good plants of this valuable and much-esteemed Vine, at 7s. 6d. and 10s. 6d. each.—N.B. For full particulars of the distinguishing characteristics of this Vine, we beg to refer our customers to the *Gardeners' Chronicle* of October 25, 1851.

Pine-apple Place, London.—Dec. 4.

AMERICAN PLANTS.

JOHN WATERER begs to announce his Catalogue of the above Plants, Roses, Conifers, &c., is now published, and may be obtained by enclosing two postage stamps. The colours of all the Rhododendrons worthy of cultivation are described, in order to facilitate purchasers in selecting.

☞ The Rhododendrons, Azaleas, &c., annually exhibited at the Royal Botanic Gardens, Regent's Park, are supplied from this establishment.—The American Nursery, Bagshot, Surrey, 4 miles from Farnborough Station, South-Western Railway, and 3 miles from Blackwater, South-Eastern Railway.

ROSES.—Standards, best kinds, 18s. to 20s. per dozen; Dwarf Roses, 6s to 12s. per dozen; Evergreen Shrubs, from 1 to 6 feet high, as Chinese Arbor-vitæ, Aucuba, Arbutus, Tree Box, green and variegated Holly, Sweet Bay, Laurestinus, Rhododendrons, Cedars, Pines, Common Laurel, Portugal Laurel, &c. Fruit Trees in bearing. Denyer's Victoria and Green gage Plums, Apples, Pears, Cherries, Peaches, Nectarines, Apricots, &c.

A Priced Catalogue sent on application to Edward Denyer, Nurseries, Loughborough Road, Brixton, near London, by enclosing a twopenny stamp.

FRUIT TREES, ROSES, ETC.

WILLIAM WOOD AND SON have to offer this season a very large stock of particularly fine healthy Standard Apples, Pears, and Plums, with clean straight stems and fine bushy heads, comprising all the leading sorts, which are warranted true to name.

	Per doz.
Standard Apples	10s.
Standard Pears	15s.
Standard Plums	12s.

Pears, on Quince stocks, 2 years from the bud, very fine 18s.

Dwarf and Trained Fruit Trees of every description.

ROSES.

	Per dozen.
Extra tall Standards, 6 to 8 feet, stems budded with from 3 to 6 best varieties of Climbing and Perpetual Roses on the same stem	12s. to 60s.
Extra superior selected Standards	18s. to 24s.
Fine Dwarfs and Dwarf Standards	12s. to 16s.
Fine Dwarfs, on own roots, 2 of each sort	6s.
Climbing and Noisettes	9s. to 12s.
Mixed Roses, without names Dwarfs	30s. per 100

Extra Plants presented to compensate for carriage.

Woodlands Nursery, Mayfield, near Uckfield, Sussex.

TO PLANTERS, ETC.

LARGE BUSHY SPRUCE FIRS ... 5 to 9 ft.
FINE ENGLISH ELMS (grafted) ... } 10 to 15 ft.
FINE SPANISH CHESTNUTS ... }
FINE BIRCH ... ... } 8 to 10 ft.
FINE BEECH ... ... }

The above are well rooted; have been grown thin on the ground, and may be had on very low terms (if a quantity are taken), by apolying to J Ogden, Nurseries, Coventry.—Dec. 4.

SEEDS DIRECT FROM THE GROWERS.

(CARRIAGE FREE BY RAILWAY.)

SUTTON AND SONS have the pleasure of announcing that they have succeeded in harvesting their SEEDS in good condition, notwithstanding the unfavourable weather. *The advantages of purchasing Seeds direct from the Growers* are obvious. As some sorts are scarce, early orders are requested and recommended.—For particulars address John Sutton and Sons, Seed Growers, Reading, Berks.

NEW SEEDS—GROWTH OF 1852.

WILLIAM E. RENDLE AND CO., Seed Merchants, Plymouth, *have much pleasure in stating that they are now laying in their new Stocks of Seeds, direct* from the Growers.

Catalogues can be had on application on receipt of one penny stamp.

Early Peas, Beans, and all Seeds for Early or Forcing Crops can be obtained immediately.—Apply to William E. Rendle and Co., Seed Merchants, Plymouth.

TO NOBLEMEN AND GENTLEMEN.

HYBRID RHODODENDRONS.—The Subscribers have on hand a large and valuable stock of the above, consisting of Scarlet, Pink, White, and fine spotted varieties unnamed, raised by the late Mr. James Cunningham, who was well known as a celebrated grower. Strong bushy plants, from 2 feet to 4 feet high, 42s. per dozen, or 15l. per 100.

Also Stove and Greenhouse Plants, Hardy Shrubs, &c. &c., in great variety and at moderate prices.

Cunningham, Fraser, and Co., Comely Bank Nursery, Edinburgh.—Dec. 4.

NEW SHRUBBY CALCEOLARIAS,

CONSISTING OF ABOUT FIFTY VARIETIES NEVER BEFORE OFFERED TO THE PUBLIC.

J. WEEKS AND Co., Chelsea, have now to offer a most splendid and superb Collection of SEEDLING SHRUBBY CALCEOLARIAS, [illegible] can confidently warrant and recommend, they having been carefully saved and varied from the most unique selection in the United Kingdom. The sorts being all Shrubby they are perpetually in flower; and from the great variety and brilliancy of their colours, they are invaluable for the conservatory or bedding-out.

J. WEEKS and Co., King's Road, Chelsea, London.

COLLINSIA BARTSIÆFOLIA AND MULTICOLOR, ABRONIA UMBELLATA, NEMOPHILA OCULATA ALBA, 1s. per packet, to be had from WM. HAMILTON, Seedsman, &c., 156, Cheapside, London.

W. H. has still on hand a few Glass Dishes with Hyacinths planted in Moss; these Dishes can be packed so as to transmit to the country without injury. Dishes, with Six Hyacinths, 5s. each.

Ranunculus, Anemones, Gladiolus, Liliums, and other Roots, Priced Catalogue of which may be had on application. A first-rate collection of Standard Roses 18s. per doz., Hollyhocks 12s. to 18s. per doz., Fruit Trees, &c. &c.

The November Prolific Peas 5s. per quart.

ROSES.

ROSES extending over 10 acres of ground, may be selected by purchasers from 18s. to 20s. per dozen, comprising all the leading varieties; dwarf do., 6s. to 12s. per doz. Fine varieties, in pots fit for forcing, 12s. to 18s. per doz. CAMELLIAS, well set with flower-buds, 30s. per doz., and upwards. ERICAS, leading varieties, 12s. to 18s.; fine specimens fit for exhibition, in 11-inch pots. A large stock of DIELYTRA SPECTABILIS and every description of Nursery Stock.

Catalogues of all the New Roses in cultivation may be had on application.—G. Clarke, Streatham-place Nursery, Brixton Hill, near London.

NEW WHITE BROCCOLI—"DILCOCK'S BRIDE."

BAINBRIDGE AND HEWISON beg to announce that they have purchased of Mr. Dilcock the entire stock of the above, which is a Broccoli of the highest merit, surpassing every other (even the far-famed "Mammoth") as the following will testify. It has been sold in the York market at 1s. per head.

"York Horticultural Society, June 18, 1852.

"In reply to your inquiries I find 'Dilcock's Bride Broccoli' was awarded first and third prizes 1850; first, second, and third, 1851; and first, second, and third in the present year. It ought to be grown by every gentleman's gardener, especially where any are grown for competition. Market gardeners also will find it to their profit to possess it.—Yours truly,

"R. Dempsey, Hon. Secretary."

The seed can be procured wholesale of themselves at York; or of Messrs. Noble, Cooper, and Bolton, 152, Fleet-street, London; or Messrs. Charlwood and Cummins, Covent Garden, London; and retail of all the principal seedsmen throughout the country, in sealed packets containing 1300 seeds at 2s. 6d. each.—Hope Nursery, York.

SUPERB HOLLYHOCK SEED.—Well ripened Seed, warranted to be saved exclusively from Comet Elegans, Obscura, Mr. C. Baron, Penelope, Rosea grandiflora, Meteor, Walden Gem, Magnum Bonum, Spectabilis, Sulfurea, Delicata, Enchantress, Picta, Queen, Bicolor, Did, Charles Turner, Formosa, Hebe, Model of Perfection, Rosea Alba, Sulphurea Perfecta, White Perfection, Blue Beard, Mulberry superb, Snowball, and Queen of England.

A good mixture of the above, in packets containing upwards of 200 Seeds, will be forwarded post free, upon the receipt of 2s 6d worth of postage stamps, by R. B. Bircham, Helenham Rosary, Bungay, Suffolk.

AMERICAN NURSERY.

GEORGE BAKER, Windlesham, near Bagshot, Surrey, Exhibitor of American Plants at the Royal Botanic Gardens, Regent's-park, begs to inform the Nobility and Public he has published a Descriptive CATALOGUE OF AMERICAN PLANTS, Coniferæ, Roses, Ornamental Shrubs, &c. &c., and may be obtained by enclosing two postage stamps.—Near Staines Station, Windsor Branch, South-Western Railway.

CHOICE BULBS AND FLOWER ROOTS.

	s. d.	s. d.
Tropæolum tricolorum, fine tubers, each ...	2 6	to 3 6
„ brachyceras „ „ ...	1 6	„ 2 6
„ azureum „ „		3 6
Tritonia aurea, splendid „ „ ...	2 6	„ 5 0
Oxalis elegans, new and fine „		1 6
„ „ major, „ „		1 6
Cyclamen, in seven beautiful varieties ...	1 0	„ 5 0
Babiana rubra cyanea „ „		3 6

Superb collections of Alstrœmeria, Ixias, Sparaxis, Oxalis, Babiana, and various other Cape Roots. For superior selections of Ranunculus, Anemone, Gladioli, English Iris, Imported Dutch Hyacinths, Crocus, and other roots. Also, for collections of choice Stove, Greenhouse, Winter Flowering Herbaceous, Rock, and other plants, see advertisements in the *Gardeners' Chronicle* of October 16th and 30th.

For particulars, see "Autumn Catalogue," supplied for three postage stamps.

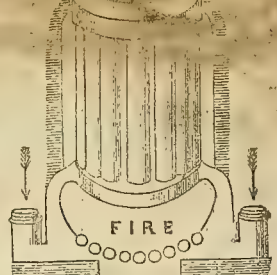
Barr and Brown, Seed and Horticultural Establishment, Sudbury, Suffolk.



HORTICULTURAL BUILDING AND HEATING BY HOT WATER.

TUBULAR BOILERS OF ALL SIZES, WARRANTED THE MOST EFFICIENT.

J. WEEKS AND CO., King's-road, Chelsea, Hot-house Builders; Horticulture in all its branches upon the most improved principles. These Boilers are very powerful, durable, and economical. The [illegible] wanted [illegible] without attention. The [illegible] are a hollow Tube through which the return water passes before entering the upper part of the boiler, thereby causing a very rapid circulation, and producing double the effect from the same quantity of fuel.



J. WEEKS AND CO., King's Road, Chelsea, CHALLENGE the whole world to make a Boiler that will produce anything like the same effect, with the same quantity of Fuel in a given time. It is one of those boilers that warms the water of their Victoria Regia Tank, which contains 20,000 gallons, and also heats several large Forcing-houses and ranges of Pits, with a small consumption of fuel.

Plans, Models, and Estimates of Horticultural Buildings; also Catalogues of Plants, Vines, Seeds, &c., forwarded on application.

J. WEEKS and Co., King's-road, Chelsea, London.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER,

AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.



GRAY AND ORMSON, Danvers Street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

G. and O. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders they can with the greatest confidence give the most satisfactory references.

Their Hot-Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating by Hot Water can be made available.

NOTICE.

CHEAP AND SELECT NURSERY STOCK.

THE SUBSCRIBERS beg to refer all who are interested in Planting to their Advertisement of the above stock in the *Gardeners' Chronicle*, November 6, page 707.

WILLIAM JACKSON and Co., Bedale, Yorkshire.

GEORGE JACKMAN, NURSERYMAN, Woking, Surrey, 1¼ mile from Woking Station, South Western Railway, begs to announce he has just published a new and complete Catalogue of his American Plants, Ornamental Evergreens, Conifers, flowering Shrubs, Standard and Dwarf Roses, Fruit and Forest Trees, &c. &c., and may be had on application by inclosing two postage stamps.

Messrs. Charles Cantor & Co. of Calcutta.

1852.

LIST OF ORCHIDEOUS PLANTS INDIGENOUS TO ASSAM

AND THE NEIGHBOURING HILLS OF KHASYA, BOOTAN, &c.

No.	Names.	Size and Colour of Flower.	Habit.
1*	Microstylis Wallichii ?...	Small, pea green	Ter.
2	Oberonia indifolia ...	Minute, yellowish	Epi.
3*	,, sp.	,, ,, ...	Do.
4	Liparis sp.	Small, yellow	Do.
5	,, sp.	,, ,, ...	Do.
6**	,, sp.	Largish, green yellow ...	Ter
7*	,, sp.	Small, deep purple ...	Epi.
8	Otochilus fuscus ...	,, yellowish brown ...	Do.
9	,, albus	,, ,, and white	Do.
10	Pholidota imbricata ..	,, white	Do.
11	,, undulata	,, ,, ...	Do
12*	,, articulata	,, ,, ...	Do
13*	,, sp.	,, ,, and yellow ...	Do.
14*	,, sp.	,, ,, ,, ...	Do.
15	Cœlogyne flavida ...	,, yellow	Do.
16	,, undulata	Largish, white	Do.
17*	,, fimbriata ?... ..	,, ,, and brown ..	Do.
18**	,, uniflora	,, ,, and lateritious	Do.
19	,, barbata	,, white	Do
20*	,, præcox ?	,, ,, ...	Ter
21*	,, maculata	Large, white, yellow, & rose	Do
22**	,, Wallichiana ...	,, ,, and rose ...	Do.
23**	,, ocellata	,, pale yellow and deep orange	Do.
24*	,, Gardneriana ...	,, white and yellow ...	Epi
25	,, cristata	,, ,, streaked with bright yellow	Ter
26	,, sp.	Small, brown and yellow...	Epi
27**	,, flava ?	Large, yellow and brown ..	Do
28	,, sp.	Small, brown and yellow...	Do
29*	,, sp.	,, white and brown ...	Do.
30	,, sp.	,, pale yellow	Do.
31**	,, sp.	,, white (pretty) ...	Ter.
32**	,, sp.	Largish, pale cinnamon ...	Epi
33**	Bolbophyllum leopardinum ...	Large, yellow spotted with purple.	Do.
34	,, umbellatum ...	Largish, dull yellow ...	Do.
35**	,, Khasyanum ...	Small, greenish	Do
36**	,, sp.	Largish, bright yellow ...	Do.
37*	,, sp.	Small, white, fragrant ...	Do.
38*	,, sp.	,, dull purple	Do
39	,, sp.	,, ,, ...	Do
40	,, sp.	,, ,, ...	Do.
41**	Cirrhopetalum sp. ...	Small, greenish, fragrant	Do
42	,, sp.	,, dull purple	Do.
43*	,, sp.	Large, brown and yellow...	Do.
44**	,, sp.	Largish, dull purple ...	Do.
45**	,, sp.	,, ,, ...	Do.
46*	Tricosma suavis... ...	Large, white, purple & yell.	Do.
47*	Eria flava	Largish, dull yell. & brown	Do
48	Eria sp.	Largish, white streaked with brown	Epi
49	,, densiflora	,, ,, tinged with yellow	Do.
50	,, ferruginea	,, ferruginous	Do
51	,, paniculata... ...	Small, spotted with purple	Do.
52**	,, sp.	Largish, white	Do
53*	,, sp.	,, ,, & dull purp	Do.
54*	,, sp.	,, ,, ,,	Do.
55*	,, sp.	Minute, rosy	Do
56	Aporum anceps	Small, white	Do.
57	,, cuspidatum	,, ,, ...	Do
58	,, sp.	,, ,, ...	Do.
59*	,, sp. ?	Largish, white, yellow, and brown	Do.
60	Dendrobium Pierardi ...	Large, pink and yellow ...	Do
61*	,, heterocarpum ..	,, yell. and br. fragrant	Do.
62	,, Chrysanthum ...	,, lively yell. and brown	Do.
63*	,, Paxtoni	,, ,, ,,	Do.
64*	,, sp. like do. ...	,, orange and brown ...	Do
65*	,, formosum	Very large, white and yell., fragrant	Do.
66**	,, longicornu... ...	Large, white and orange...	Do.
67	,, calceolus	Very dark yellow, rose, and purple	Do.
68*	,, sulcatum	Large, yellow and purple...	Do.
69	,, Jenkinsii	,, lively yellow	Do.
70	,, cærulescens ...	,, deep lively purple ...	Do
71	,, nobile	,, white rosy purple ...	Do.
72**	,, Gibsonii	,, yellow and brown ...	Do.
73*	,, stuposum	Small, white	Do.
74*	,, Cambridgeanum ...	Large, lively yell. and br	Do.
75**	,, transparens ...	,, deep lively purple ...	Do.
76*	,, like do., various ...	,, pale rose and purple	Do.
77**	,, Devonianum ...	,, lilac-rose and yellow	Do.
78**	,, Dalhousianum ...	,, rose, white, and purp.	Do.
79	,, multicaule... ...	,, white and purple ...	Do.
80**	,, Griffithii	,, pale yell. and orang	Do.
81**	,, Farmeri	,, lively ,, ,, ...	Do.
82**	,, densiflorum pallid.	,, white and orange ..	Do.
83**	,, do. roseum ...	,, pale rose and orange	Do.
84	,, intermedium ...	,, pale yellow & brown	Do.
85*	,, sp.	,, lively orange	Do.
86*	,, sp.	,, ,, yellow & brown	Do.
87**	,, sp.	,, yellow, pink, and br.	Do.
88*	,, sp.	,, pink and yellow	Do.
89**	Spathoglottis pubescens	Largish, yellow and purple	Ter.
90	Arundina bambusifolia	Large, pale rose and lively purple	Do.
91*	Phaius grandifolius ...	,, white, brown, & pur.	Do.
92	,, Wallichii	,, ,, ,, ,,	Do.
93*	,, maculata	,, ,, rosy scented	Do.
94*	Phaius albus	Large, white, rosy scented	Do.
95**	Aputaria senilis	Largish, rose and green ...	Ter
96**	A. latifolia	?	Do.
97*	Eulophia virens	Large, green and white ..	Do.
98**	,, sp.	,, dull yellow & brown	Do.
99**	,, sp.	,, deep purple	Do.
100**	,, sp.	,, green and yellow ...	Do.
101**	,, sp.	,, purplish green ...	Do.
102	Vanda teres	Very large, rosy purple yellow and brown	Epi.
103**	,, cristata	Largish, greenish, white, and purple	Do.
104**	,, multiflora	,, white and rose ...	Do.
105**	,, cœrulea	Very large, deep blue ...	Do.
106**	,, sp.	Largish, dull purple ...	Do.
107**	,, sp.	,, ,, and green	Do.
108**	,, sp.	,, yellow and brown ...	Do.
109**	Camarotis purpurea ...	Small, yellow and purple...	Do.
110	Micropera pallida ...	,, pale yellow	Do.
111	Saccolabium micranthum	Small, rosy	Epi.
112	,, retusum	Largish, lively spotted ...	Do.
113	,, papillosum ...	Small, pale yellow & pur.	Do.
114**	,, Calceolare	,, yellow and brown ...	Do.
115**	,, sp. like do. ...	,, pale do. and rose ...	Do.
116	,, caroifolium ..	,, rosy	Do.
117**	,, dasypogon ...	,, green and purple ...	Do.
118*	,, appendiculatum ...	,, yellow	Do.
119*	,, sp.	,, rosy and deep purple	Do.
120**	Sarcanthus sp.	... ...	Do.
121**	,, sp.	Small, rosy	Do.
122**	,, sp.	,, white and yellow	Do.
123**	,, sp.	,, ,, ,, ...	Do.
124**	,, sp.	,, ,, ,,	Do.
125**	,, sp.	,, rosy red	Do.
126	Aerides affine	Large, rosy purple	Do.
127	,, odoratum	,, ,, sweet-scented	Do.
128	,, sp.	,, ,, ,,	Do.
129**	,, sp.	Large, like affine, and very sweet-scented	Do.
130	Agrostophyllum Khasyanum	Small, white	Do.
131*	Xiphosium acuminatum	Large, white	Do.
132	Acanthophippium sp. ...	,, dull purple	Ter.
133*	,, sp.	,, white, streaked ...	Do.
134*	Cymbidium giganteum...	Very large, yell. and brown	Do.
135	,, pendulum	Large, dull yell. and purpl	Do.
136	,, aloifolium	,, ,, ,,	Do.
137**	,, eburneum	Very large, white	Do.
138	,, inconspicuum .	Small, brown	Do.
139	Cymbidium longipetalum	Largish, green and purple	Ter
140*	,, cyprifolium ...	,, ,, ,,	Do.
141**	,, sp.	Large, fragrant, yellow and white	Epi.
142**	,, sp.	,, brownish purple ..	Do.
143**	,, sp.	Very large, white	Do.
144**	,, sp.	Large, white and brown ...	Do.
145*	,, sp.	,, green and dull purple	Ter.
146**	? Phalænopsis, sp. ...	Large, yellow and reddish brown	Epi.
147	Euphorboscis pygmæa...	Minute, yellow	Do.
148	Geodorum dilatatum ...	Large, white, purple, and yellow	Do.
149*	,, sp.	,, deep rosy purple and white	Do.
150**	Platanthera sp.	Large, white	Do.
151**	Peristylis sp.	Largish, white, sweet scented	Do.
152	Habenaria hamigera ?...	Small, green	Do.
153	,, sp.	,, yellow	Do.
154	,, sp.	,, greenish yellow ...	Do.
155*	,, sp.	,, white	Do.
156**	,, sp.	Large, white	Do.
157**	Pogonia Joliana... ...	Small, rosy white	Do.
158**	,, sp.	Largish, green	Do.
159**	,, sp.	Small, purple	Do.
160**	Cyrtosia sp.	Largish, golden yellow ...	Do.
161**	Spiranthes sp.	Small, white	Do.
162**	Zeuxine sulcata	,, ,, ...	Do.
163**	Anœctochilus Roxburghii ...	,, rosy white	Do.
164**	,, sp.	,, white	Do.
165**	Cypripedium venustum	Large, green and purple ..	Do.
166**	,, insigne...	,, red and yellow ...	Do.
167*	Calanthe densiflora ...	,, lively yellow	Do.
168**	,, sp.	Small, brown and yellow...	Do.
169**	,, sp.	Large, white and green ..	Do.
170**	,, sp.	,, ,, and yellow ...	Do.
171**	,, sp.	,, dull purple	Do.
172	Goodyera sp.	Small white	Do.
173	,, sp.	,, ,, ...	Do.
174	,, sp.	,, ,, dull purple ...	Do.
175**	Ophrys sp.	Largish, rosy purple ...	Do.
176**	,, sp.	,, green and purple ...	Do.
177**	Anthoginum sp.	,, rosy	Do.
178*	Bonatea sp.	Small, green	Do.

Æschynanthus (3 to 4 sp.): Hoya (5 or 6 sp.); Arum (several) Lilium (1 sp.); Nepenthes (1 sp.); Ferns and Lycopodiums (150 to 200 sp.); Palms (Livistonia, Leoxalia, Caryota, Calamus, &c.) are also indigenous, and can be sent if required.

Plants not marked are common. Ditto marked with an asterisk are considered rare.

Ditto marked with two asterisks are considered very rare.

The charges for a box of 4 cubic feet measurement, containing an equal selection of the three kinds, will be 5*l.* or 50 Rupees, deliverable at Calcutta. When Plants which are rare or very rare are required, the charges will be according to the kind taken; for the rare 1 r. 8 a. a Plant; for the very rare, 2 rupees a Plant. When very large plants are directed to be sent, no extra charge will be made.

When new Plants not included in the list are sent, a separate charge will be made. When two boxes or more are taken a discount of 10 per cent. will be allowed.

Plants can also be sent in glass cases, on the Wardian plan, measuring 2 feet 6 inches in length, 2 feet breadth, and 2 feet 7 inches in height, for which an extra charge of 20 rupees will be made. Glass covers can also be supplied for the other boxes, at an extra charge of 10 rupees.

Applications to be made to Messrs. CHARLES CANTOR & CO., in Calcutta.

ASSAM, *August* 1, 1852.

HORTICULTURAL GLASS

OF EVERY DESCRIPTION.

THOMAS MILLINGTON'S WAREHOUSE,

87, BISHOPSGATE-STREET WITHOUT,

LONDON.

IMPORTANT REDUCTION IN THE PRICE OF GLASS MILK PANS.

JAMES PHILLIPS AND CO. beg to submit their reduced price of Milk Pans, Propagating Glasses, and Cucumber Tubes (for cash).

MILK PANS.

	s.	d.		s.	d.
6 inches diameter	0	4 each.	18 inches diameter	2	6 each.
8 ,,	0	6 ,,	20 ,,	3	0 ,,
10 ,,	0	9 ,,	22 ,,	3	6 ,,
12 ,,	1	0 ,,	24 ,,	4	0 ,,
14 ,,	1	6 ,,	26 ,,	5	0 ,,
16 ,,	2	0 ,,			

PROPAGATING GLASSES.

	s.	d.		s.	d.
2 inches diameter	0	2 each.	12 inches diameter	1	4 each.
3 ,,	0	2½ ,,	13 ,,	1	8 ,,
4 ,,	0	3 ,,	14 ,,	2	0 ,,
5 ,,	0	4 ,,	15 ,,	2	6 ,,
6 ,,	0	5 ,,	16 ,,	3	0 ,,
7 ,,	0	6 ,,	17 ,,	3	6 ,,
8 ,,	0	7 ,,	18 ,,	4	0 ,,
9 ,,	0	8 ,,	19 ,,	5	0 ,,
10 ,,	0	10 ,,	20 ,,	6	0 ,,
11 ,,	1	0 ,,			

Cucumber Glasses One Halfpenny per running inch.

Horticultural Glass Warehouse, 116, Bishopsgate-street Without, London.

GLASS FOR CONSERVATORIES, GREENHOUSES, PIT FRAMES, ETC.

HETLEY AND CO. are supplying 16-oz. Sheet Glass of British Manufacture, packed in boxes, containing 10 square feet each, at the following REDUCED PRICES for cash. A reduction made on 1000 feet.

Sizes.—Inches.				Inches.			Per foot.	Per 100 feet.
			Under	6	by 4	at	1½*d.*	is £0 12 6
From	6	by 4	,,	7	,, 5	,,	2*d.*	,, 0 16 8
	7	,, 5	,,	8	,, 6	,,	2½*d.*	,, 0 18 9
	8	,, 6	,,	10	,, 8	,,	2½*d.*	,, 1 0 10
	10	,, 8	,,	12	,, 9	,,	2¾*d.*	,, 1 2 11

Larger sizes, not exceeding 40 inches long.

16 oz. from 3*d.* to 3½*d.* per square foot, according to size.
21 oz. ,, 3½*d.* to 5*d.* ,, ,, ,,
26 oz. ,, 3½*d.* to 7½*d.* ,, ,, ,,

PATENT ROUGH PLATE, THICK CROWN GLASS, and PATENT PLATE GLASS for Horticultural purposes, at reduced prices, by the 100 square feet.

GLASS TILES AND SLATES made to any size or pattern, either in Sheet or Rough Plate Glass.

Propagating Glasses, Bee-hive Glasses, Cucumber Tubes, Glass Milk Pans, Glass Water Pipes, and various other articles not hitherto manufactured in glass.

PATENT PLATE GLASS.—The present extremely moderate price of this superior article should cause it to supersede all other inferior window glass in a gentleman's residence. No alteration connected with the sash is required.

GLASS SHADES, as ornamental to, and for the preservation of every description of goods susceptible of injury by exposure. Prices, since the removal of the excise duty reduced one-half. List of Prices and Estimates forwarded on application to JAMES HETLEY and Co., 35, Soho-square, London.

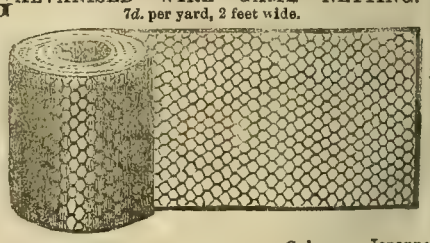
EWING'S PATENT GLASS WALLS.—The following are the Agents, and on application to whom drawings may be seen, and all other information obtained:—Messrs. Knight and Perry, Nurserymen, &c., Chelsea; Messrs. Henderson and Co., Nurserymen, Pine-apple-place, London; Messrs. Whitley and Osborn, Nurserymen, &c., Fulham, London; Mr. Glendinning, Nurseryman, &c., Chiswick, London; Messrs. Veitch and Son, Nurserymen, Exeter; Messrs. Dickson, Nurserymen, Chester; Messrs. Lawson and Sons, Nurserymen, Edinburgh; Messrs. Dickson and Turnbull, Nurserymen, Perth; Mr. M'Intosh, F.R.S., Gardener to the Duke of Buccleuch, Dalkeith; Mr. Fleming, F.H.S., Gardener to the Duke of Sutherland, Trentham, Stafford-shire; Mr. Ewing, Gardener, Bodorgan, Anglesea; Messrs. Pilkington and Co., Plate, Crown, and Sheet Glass Works, St. Helen's, Lancashire.

These Walls can, when desired, be made wide enough for a person to enter, by which they become elegant hothouses on the best principle. Existing Walls covered with Glass and Iron.

IRON HURDLES.

STEPHENSON AND PEILL, 61, Gracechurch-street, London; and 17, New Park-street, Southwark, Manufacturers of every description of Iron Fencing, beg to call the attention of Noblemen and Gentlemen to their present prices of HURDLES:—for Sheep, 6 feet long, 3 feet high, with 5 bars, at 4*s.* 3*d.*; and for Cattle, 6 feet long, 3 feet 3 inches high, with 5 bars, at 4*s.* 9*d.* each.

GALVANISED WIRE GAME NETTING.—7*d.* per yard, 2 feet wide.



	Galvanised.	Japanned Iron.
2-inch mesh, light, 24 inches wide ...	7*d.* per yd.	5*d.* per yd.
2-inch ,, strong ,, ...	9 ,,	6½ ,,
2-inch ,, extra strong ,, ...	12 ,,	9 ,,
1⅝-inch ,, light ,, ...	8 ,,	6 ,,
1⅝-inch ,, strong ,, ...	10 ,,	8 ,,
1⅝-inch ,, extra strong ,, ...	14 ,,	11 ,,

All the above can be made any width at proportionate prices. If the upper half is a coarse mesh, it will reduce the prices one-fourth. Galvanised sparrow-proof netting for Pheasantries, 3*d.* per square foot. Patterns forwarded post free.

Manufactured by BARNARD and BISHOP, Market-place, Norwich, and delivered free of expense in London, Peterborough, Hull, or Newcastle.

NEW SEEDLING APPLE.

BROWNLEES' RUSSET, raised in 1846, of the same quality as the Royal Russet, but keeps longer and better without shrivelling; very different in growth from any of the Russets, being most vigorous and perfectly free from canker; it will be found a great acquisition for kitchen use in spring, as late as May or June. A specimen sent to the Horticultural Society was noticed as follows: "Fruit about the size of the Royal Russet, roundish, eye small, nearly close; stalk short, not deeply inserted, skin covered with a soft russet; flesh greenish white, tender, and sweet."—*Feb* 12, 1851.

Fine dwarf trees, 3*s*. 6*d*. each, carriage paid to London; the usual allowance to the trade when three are taken. A remittance or reference expected from unknown correspondents. All orders to be addressed to WM. BROWNLEES, Hemel Hempstead, Herts.

ESSEX HERO CUCUMBER.—This celebrated black spine Cucumber is a good bearer, may be cut very handsome; from 20 to 24 inches in length. Three seeds will be sent for 12 postage stamps.

VICTORY OF BATH MELON, first-rate flavour, very early, and a free setter. Six seeds will be sent for 12 postage stamps. Fifty seeds of a good useful Cucumber will be sent for 12 postage stamps.—J. HAYES, Florist, Farnham, Surrey.

FOR CHEAPNESS, UTILITY, AND DISPLAY, the undermentioned are strongly recommended:—

1000 Beech, 3 ft.	15*s*.	1000 Elms, 2 to 3 ft.	15*s*.
1000 Horse Chestnut, 2 to 4 ft.	15	1000 Scotch Fir, 2 ft.	15
1000 Spruce Fir, 2 ft.	15	1000 Highland Pines, 2 ft.	17
1000 Green Hollies, 1 to 2 ft.	30	1000 Larch, 2 ft.	10
1000 Oak, 4 ft.	14	1000 Sycamore, 3 ft.	20
1000 Evergreen Privet, 3 ft.	30	1000 Common Laurels, 2 ft.	60
100 Oaks, 6 to 10 ft.	5	100 Poplars Ontario, 6 to 10 ft.	5
100 Spanish Chestnut, 6 ft.	5	100 Horse Chestnut, 8 ft.	5
100 Larch, 6 to 8 ft.	3	100 Elms, 6 to 8 ft.	3

If the above are ordered, one-tenth will be given over on the quantity ordered, to compensate for carriage.

*100 Flowering and Evergreen Shrubs	35*s*.	*100 sorts Hardy Herbaceous Plants	25*s*.
*100 Portugal Laurels, 2 ft.	15	*100 Laurestinus, 2 ft.	30
*100 Evergreen Box, 2 ft.	25	*100 Evergreen Oaks, 2 to 3 feet	25
*100 Double Hollyhocks	20	*100 Finest Gooseberries	10
*100 Red Champagne Currants	10	*100 Black Grape Currants	10
*100 May's Victoria Currants	25	*50 Standard Apples	30
*50 Standard Roses, named	10	*50 Dwarf Roses, named	18

All Orders above 2*l*. 10*s*., for those marked *, Carriage paid to London, Liverpool, Birmingham, and Edinburgh, and all the intermediate Stations within 150 miles of the Nursery.

Address all Orders and Communications to HENRY MAY, the Hope Nurseries, Bedale, York. A remittance or reference from unknown correspondents is respectfully requested.

VINES FOR VINERIES, FROM EYES IN POTS.—The following varieties are all true to name, propagated from bearing trees on the premises. They are from 3 to 4 feet in height, with well ripened shoots, grown under glass, and from two to three years old. 3*s*. 6*d*. each, except those priced.

Barbarossa, 5*s*.	Hamburgh, Wilmot.
Black Prince.	Malvasia, or Grove End Sweet Water.
Black Prince, Hamburgh (Williams).	Muscadine, Royal.
Chaptal.	Muscat of Alexandria.
Chasselas Musqué (or St. Albans).	Noir d'Espagne.
Chasselas, rose.	Purple Constantia.
Frontiguan, black.	Raisin de Calabre.
do. grizzly.	Saint Peter's, Oldaker's.
do. white.	Sweet Water, Dutch.
Hamburgh, black.	Sweet Water, Prolific.
do. The Pope, early.	Tokay, Charlesworth.
do. Mill Hill, 5*s*.	White Nice.
	White Romain.

VINES FOR WALLS, FROM EYES, NOT IN POTS, from 5 to 7 feet, 1*s*. 6*d*. each, except those priced; these are all hardy and early kinds.

Burgundy, or Miller.	Mignonne White Cluster
Early Hardy Red.	Piquepoule Noir. [(Williams).
Knight's Sweet Water, great bearer.	Purple Fontainbleau, great bearer. 2*s*. 6*d*.
Macready's Early White, do.	Scotch White Cluster.
Madeleine Blanche, very early.	White Ripling.
Madeleine Noir, do.	Nice Cluster (Williams).

Carriage paid to London.—THOMAS RIVERS, The Nurseries, Sawbridgeworth, Herts.

THE NEWLY IMPORTED GERMAN DOUBLE DAISIES.—A fine and healthy stock of the above new variety of flower is now offered to the public. It is very novel and distinct in all its features, and such as will give satisfaction to all purchasers. EDWARD TILEY has selected 50 of the best of the varieties out of the 100 varieties imported, and can send them out in any quantity, from a dozen and upwards, all true to name. These will be found to surpass everything for edging borders, &c., and also if planted in a bed will equal in variety that of a fine Ranunculus, and is frequently taken for such by many who have seen them in bloom. The whole of them are grown in pots, therefore will ensure a certain growth when transplanted. Price 3*s*. per dozen, postage and package free to any part, or 1*l*. per hundred, hamper and package free.

MYOSOTIS AZORICA.—A large and healthy stock of this delightful little flower (for particulars of which see article on same by "Alpha," at page 725 of Saturday's *Chronicle*, Nov. 13, 1852; also fine plants of MYOSOTIS VANGLEEKI, which is another splendid variety. Both are particularly adapted for pot culture; the former is a very dark blue, the latter a beautiful light blue; persons once growing them will never be without them. Price 3*s*. per dozen, postage free.

OTHELLO CLOVE CARNATION.—A few pair of this unique variety are still left, and will be forwarded to any part at 3*s*. 6*d*. per pair.

VIOLA ARBOREA (true), 6*s*. per dozen; and RUSSIAN SUPERB VIOLETS (true), 3*s*. per dozen.

HOLLYHOCKS.—Seedlings saved from all the best varieties sent out for the last three years, 1*l*. per hundred, or 11*s*. for 50 plants. They are fine strong plants, such as will bloom fine and give every satisfaction next season.

A TREATISE ON THE NATURE, MODE, AND CULTIVATION OF THE VIOLET, giving every direction for its continual blooming the whole of the winter, &c., &c., and aiding in many respects those who have already grown them, as it embraces several distinct plans to grow Violets. Purchasers to the amount of 5*s* will have the Treatise included, or sent post free to any part on receipt of 12 penny stamps. See *Gardeners' Chronicle* for Saturday last.

STRAWBERRY PLANTS.—Prolific, 3*s*. per 100; Goliath, 3*s*. per 100; Alice Maud, ditto; Eleanor, 5*s*. per 100; British Queen, 3*s*. per 100; Eliza, 3*s*. per 100; Britannia, 5*s*. per 100; Globe, 3*s* per 100; Black Prince, 5*s*. per 100; Trollop's Victoria, 1*l*. per 100, or 3*s*. per dozen, postage free.

The Hollyhocks and Strawberry Plants will be sent in hamper or package free, and when a quantity is ordered, plants will be sent over to compensate for the cost of carriage. The whole, or any part of the above, can be sent postage and package free on receipt of the amount by a post-office order or penny postage stamps.

EDWARD T. RY, Nurseryman, Seedsman, and Florist, 14, Abbey Church-yard, Bath, Somersetshire.

TO NOBLEMEN, GENTLEMEN, AND THE TRADE.

HAY, SANGSTER, AND CO. are now ready to send out their NEW EARLY NO. 1 PEA, price 2*s*. 6*d*. per quart, and can with confidence recommend it as a very superior article.

Also their New Early Scarlet PRINCE OF WALES RHUBARB, 5*s*. each. It is quite as early as the Prince Albert, much larger, red throughout, of exquisite flavour, and a large cropper.

Post-office Orders from those not having an account open with H., S., and Co., to be made payable to the Firm, at the Borough Post-office, or postage stamps.

For Testimonials and parties where both articles can be had, see *Gardeners' Chronicle* 13th September, 1852, page 594. Newington Butts, London.

The Gardeners' Chronicle.

SATURDAY, DECEMBER 4, 1852.

MEETINGS FOR THE ENSUING WEEK.

MONDAY,	Dec.	6—Entomological	8 P.M.
TUESDAY,	—	7—Horticultural	2 P.M.
		7—Linnean	8 P.M.
SATURDAY,	—	11—Royal Botanic	3 P.M.

THE recent floods are unprecedented in the memory of the present generation. Disastrous inundations from sudden thaws are of frequent occurrence in particular localities; these, however, depend more on a rapid change of temperature than on any very extraordinary fall of snow or rain extending over a long period. But the floods of which we have heard so much within the last month from all parts of the country are to be entirely attributed to the actual quantity of rain that has been falling during the last six months. It appears from a report in the *Times* of the 30th ult., that at a meeting of the Royal Dublin Society, Mr. MOORE, curator of the Botanic Garden at Glasnevin, stated the results obtained from the registry of the rain-gauge in that garden during the last six weeks. The quantity of rain which fell during 26 days was 6½ inches, being one-fourth of the amount which falls annually in the locality. The greatest quantity which fell in a single day was on the 11th of November, when the amount was almost 1½ inch; on the 12th of November it rained nearly a quarter of an inch, on the 13th more than half an inch, and on the 14th nearly three quarters of an inch.

Thus it appears that at Dublin, on these four consecutive days, the depth of rain was rather more than 2 inches. But it will be seen from the following table that, at Chiswick, the amount on the corresponding days was upwards of 2½ inches.

Depth of Rain which fell at Chiswick in November, 1852.

	in. pts.		in. p's.
Nov. 1	0.02	Nov. 16	0.12
„ 2	0.61	„ 17	0.11
„ 3	0.16	„ 18	—
„ 4	0.01	„ 19	0.24
„ 5	0.05	„ 20	0.35
„ 6	0.05	„ 21	0.10
„ 7	0.15	„ 22	0.04
„ 8	—	„ 23	0.18
„ 9	—	„ 24	—
„ 10	0.06	„ 25	0.22
„ 11	1.02	„ 26	0.70
„ 12	0.13	„ 27	—
„ 13	0.22	„ 28	0.08
„ 14	1.24	„ 29	—
„ 15	0.34	„ 30	—
	4.06		2.14

The total amount in November was 6.20 inches; there having been only seven rainless days. So much rain has not fallen near London, in November, nor in any one month, with the exception of July 1834, for at least 55 years. In Howard's "Climate of London," it is recorded that in November, 1798, there fell 4.27 inches; in 1800, 1804, 1810, 1821, the respective amounts for November were 5.32, 5.59, 5.32, 4.67 inches. These are the highest amounts between 1797 and 1825, inclusive; but the highest, that of 1804, was more than half an inch below the quantity which fell in the November just past.

The following tables, exhibiting the amount of rain which has fallen in every month, and in every year for the last 27 years, together with the averages for each month and year, have been prepared with much care, and will, we doubt not, be read with interest.

Monthly Depth of Rain at Chiswick for 10 *years, from* 1826 *to* 1835 *inclusive.*

	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Annual Amount.
	ins. pts.	ins. pts.	ins. pts	ins. pts.	ins. pts.	ins. pts	ins. pts.	ins. pts.	ins. pts.	ins. pts	ins. pts.	ins. pts	ins. pts.
1826	0.27	1.71	1.62	0.83	2.39	0.38	2.07	2.00	3.71	2.14	2.89	1.77	21.83
1827	0.57	0.79	2.50	0.71	2.24	0.82	1.31	1.66	3.37	4.06	1.06	3.09	22.16
1828	3.71	0.94	0.59	2.44	1.40	1.94	4.38	4.35	4.03	1.18	1.12	1.77	27.85
1829	0.30	1.07	0.75	4.49	0.52	2.37	5.23	4.07	3.71	1.60	1.86	0.15	26.12
1830	1.54	1.33	0.18	2.84	2.47	2.62	1.46	3.05	3.21	0.98	3.05	1.54	24.27
1831	1.02	2.27	1.91	1.96	2.21	1.37	2.52	1.59	4.19	3.81	1.70	2.38	26.93
1832	1.32	0.23	1.50	0.95	2.16	2.89	0.89	3.62	1.12	3.09	1.94	1.88	21.59
1833	0.52	3.98	1.22	2.71	0.68	2.63	1.56	1.93	1.55	2.35	2.38	4.29	25.80
1834	2.87	0.37	0.86	0.65	1.19	1.63	6.34	2.73	0.83	0.43	1.75	0.74	20.39
1835	0.72	2.61	1.97	1.07	3.38	1.99	0.41	0.18	4.60	4.05	1.94	0.25	23.17
Average	1.284	1.530	1.310	1.870	1.864	1.864	2.617	2.518	3.032	2.369	1.969	1.786	24.013

Monthly Depth of Rain at Chiswick for 10 *years, from* 1836 *to* 1845, *inclusive.*

	Jan.	Feb.	March	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Annual Amount.
	ins. pts	ins. pts	ins. pts	ins. pts.	ins. pts.	ins. pts.	ins. pts.	ins. pts.	ins. pts	ins pts	ins. pts.	ins. pts.	ins. pts.
1836	2.01	1.61	3.30	2.38	1.01	1.66	1.78	1.97	3.81	3.62	3.60	1.48	28.73
1837	3.03	2.01	0.54	1.13	1.07	1.31	1.78	3.04	0.91	2.39	1.32	1.35	19.88
1838	0.27	2 22	0.86	0.52	0.92	3.65	2.19	1.23	2.08	2.36	3.55	1.72	21.57
1839	1.27	2.19	1.95	1.46	0.82	3.00	2.92	1.35	3.92	2.23	4.37	2.32	28.30
1840	2.48	1.25	0.28	0.06	2.18	1.48	1.68	1.62	2.45	1.35	3.59	0.45	18.87
1841	2.60	0.76	1.32	1.58	2.16	2.45	3.56	2.69	3.71	4.61	3.41	2.12	30.97
1842	1.06	1.32	1.81	0.15	1.73	1.58	1 52	2.81	3.39	1.71	4.47	0.76	22.31
1843	1.33	2.35	0.47	1.62	5.26	1.62	1.67	3.28	0.98	4.19	2.13	0.58	25.48
1844	2.25	2.27	2.44	0.33	0.25	0.97	2.10	1.84	1.31	4.13	3.06	0.39	21.34
1845	2.97	0.93	1.25	0.95	2.89	1.36	2.31	2.79	1.77	1.39	2.11	2.61	23.33
Average	1.927	1.691	1.422	1.068	1.829	1.908	2.151	2.312	2.433	2.798	3.161	1.378	24.078

Monthly Depth of Rain at Chiswick for 6 *years, from* 1846 *to* 1851, *inclusive.*

	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual Amount.
	ins. pts.	ins. pts.	ins. pts.	ins. pts	ins. pts.	ins. pts	ins. pts.	ins. pts.	ins. pts.	ins. pts.	ins. pts.	ins. pts.	ins. pts.
1846	2.85	1.47	1.09	3.93	1.35	0.80	1.78	4.50	1.76	5.54	1.43	1.21	27.71
1847	1.31	1.34	0.41	0.92	1.59	1.31	0.79	1.50	1.66	1.75	2.26	1.81	16.65
1848	1.16	3.12	3.05	3.06	0.28	3.20	2.21	4.70	2.20	2.93	0.90	2.03	28.84
1849	1.73	2.52	0.85	2.21	3.53	0.31	2.82	1.60	2.49	2.18	1.32	1.28	22.84
1850	1.43	0 95	0.13	1.79	1.84	1.40	2.68	0.97	2.36	1.55	2.03	1.15	18.28
1851	3.07	0.90	3.57	1.65	0.76	1.33	3.90	2.03	0.42	2.01	0.55	0.62	20.79
Average	1.925	1.716	1.516	2.260	1.555	1.391	2.363	2.550	1.815	2.660	1.415	1.350	22.518

From these Tables it appears that the average quantity for the whole year, for the period of 10 years, ending 1835, was a very small fraction more than 24 inches; and in the next period of 10 years, ending 1845, the average annual fall was also about 24 inches. But in the period of six years ending 1851, the average was only 22½ inches; so that in these six years there was a deficiency amounting to very nearly 9 inches. Let us now see how the balance stands up to the end of November, 1852:

	Inches.		Inches.
Jan.	2.72	July	2.27
Feb.	1.06	August	3.71
March	0.25	Sept.	3.64
April	0.52	Oct.	3.87
May	1.74	Nov.	6.20
June	4.69	Total	30.67

So that we have already had this year upwards of

6½ inches above the annual average, notwithstanding the very limited quantities which fell in the months of March and April; and if we should have 2½ ins. during the present month, the deficiency of 9 inches on the preceding six years would be completely made up. Upwards of 24 inches, it will be observed, have fallen since June.

On referring to the tables, it will be seen that the only instance of any monthly depth of rain being in excess of that which has fallen in November of the present year was that of July, 1834; but that was preceded by comparatively dry months, and occurred at a period of the season when a large portion would be carried off by evaporation. But, on the present occasion, the air itself has been so saturated with moisture that evaporation has been reduced to its natural minimum. The total amount of rain in that year was considerably below the average.

It is understood that at the meeting of the Horticultural Society on Tuesday next, M. Esprit Fabre's Wheat obtained from Ægilops, to which we have so often alluded, will be exhibited; and also specimens of the Rev. Mr. Smith's Turnips, referred to a fortnight ago (see p. 707).

THE TROPÆOLUM.

Some of the varieties of this genus are plants of almost matchless beauty, and a few, as Lobbianum for instance, are valuable for winter flowering. The latter is quite as easily managed as the common Nasturtium, except that, growing and flowering as it does during winter, it requires, and well deserves, the shelter of glass and an average temperature of about 45°. Cuttings of this variety strike readily, and it also produces seed in abundance. Young plants propagated by either methods should be well established in 7-inch pots early in August, at which time they should be shifted into flowering pots or planted out in the conservatory border; the latter situation is the most suitable for them, but potted in moderately large pots in good fresh rich soil, and liberally supplied with water, they will grow and flower throughout the winter and early spring in great perfection. Frequent attention will be necessary to train the shoots and to properly distribute them over the space to be covered by them; and this should be attended to immediately the plants are planted out or placed in the flowering-pots. When planted out it will not be necessary to renew them annually; they should be cut back rather closely when they begin to present a ragged appearance, which they will probably do towards May, and they should be kept rather dry at the root until autumn, and then watered and encouraged to make wood.

Such kinds as Jarratti, azureum, brachyceras, &c., however, require very different treatment. Persons commencing the culture of these should procure the tubers in September, and pot them at once in small pots, using moist light sandy soil for the purpose. Place the pots in a rather close situation, and give very little water until the tubers commence growing, when they should be placed in a light part of a pit or house where the temperature may average from 40° to 50°, and they can be moderately supplied with water. As soon as they are fairly started they will require a shift, and in order to be able to commence training the shoots early, this should be into the flowering pots. The size of these must depend upon the size and vigour of the tubers—for moderate sized ones 10-inch pots will be sufficiently large, and 12-inch will suffice for the largest that may be obtained. As a general rule beginners will do well to avoid over-potting. The soil employed should be rather moist, and the plants should be kept close, and sprinkled over-head with the syringe on the mornings of fine days; this will prevent the necessity of giving much water to the soil until the plants get into vigorous growth, and then there will not be so much danger of over-watering. Neat wire trellises should be affixed to the pots to train the plants on, and this should not be deferred until the stems become entangled, for when that is the case they cannot be separated without much trouble and considerable injury; keep the shoots regularly disposed over the trainers, and take care to get the bottoms well furnished at the outset. These varieties grow most freely during winter, and unless encouraged at that season it will be nearly impossible to get them into vigorous growth, after the weather has become bright in spring, or to obtain good-sized specimens. During the winter they should occupy a situation near the glass in a house or pit where the temperature may average about 45°, and where air can be admitted on favourable occasions without exposing the plants to cold currents. Keep them properly supplied with water, and a sprinkling over-head on the mornings of fine days will be beneficial, particularly where a moist atmosphere is not regularly maintained. If green-fly makes its appearance, as it probably will on the points of the shoots, fumigate with tobacco the moment it is observed. Avoid subjecting the specimens to a high temperature in spring, which would throw them into flower, but keep them growing steadily, with as little alteration of temperature as is convenient; use the syringe more freely, however, as the days become brighter. The best situation for the plants while in flower is in a cool greenhouse, where they can be guarded from the direct rays of the mid-day sun, and where the atmosphere will be somewhat dry. After flowering they should receive very little water, and when the stems decay cut them off, and store the pots in a safe dry cool place until planting time, when the tubers should be potted in small pots, as directed for last season.

Most of the varieties produce seed, which should be sown as soon as it is ripe, and when up the plants should be kept in a nice moist growing temperature; a somewhat close cold frame is the most suitable situation during summer. They will not be of much value for flowering until the third season, when, if they have been properly managed and all has gone on well, they will form useful specimens. Cuttings are best obtained from strong tubers, which throw up a number of branches. Stiff short shoots taken off near the tuber, planted in sandy peaty soil under a bell-glass, and placed in a gentle warmth of about 60°, will root freely, and with careful management will soon attain a useful size. It is of consequence to keep up a supply of young plants, as the tubers are rather expensive to purchase, and they are uncertain subjects. Sometimes an apparently healthy well-matured tuber will resist all efforts to induce it to start into growth, and after remaining dormant for a whole season, make a vigorous push the following year, or probably die off after making growth sufficient to indicate that all was right; and they are apt to rot during their period of rest, unless perfectly matured, and even then the loss of a fine tuber will sometimes occur.

Good rich turfy peat and loam, in about equal proportions, with a good portion of sharp silver sand, form a suitable soil for the Tropæolum. The loam and peat should be carefully broken up with the hand, rejecting all but the best, and well intermixing it with the sand. Some growers add a portion of some richer material, as decayed night-soil; but I prefer using weak manure-water, and I think the tubers are more apt to go off suddenly when grown in a rich stimulating compost. *Alpha.*

ON THE IMPOSSIBILITY OF PREDICTING THE WEATHER.

(*Concluded from page 756.*)

Electricity.—Among the causes which have considerable influence on climatic phenomena, we must include electricity. Let us proceed, moreover, to inquire whether the operations of man may not disturb the electric state of a whole country. Clearing a wooded mountain is the destruction of as many conductors as there are trees cut down; it is the modification of the electric state of a country; it is the accumulation of one of the elements necessary for the formation of hail, in a locality where, previously, this element was inevitably dissipated by the silent and incessant action of the trees. Observations support these theoretic deductions.

According to detailed statistics, the loss sustained by hail in the continental states of the King of Sardinia, from 1820 to 1828, inclusive, amounted to 46 millions of francs, about 1,840,000*l.* sterling. Three provinces, those of Val d'Aoste, La Valée de Suze, and La Haute Marienne, do not appear in the tables; they were not injured by the hail. *These three provinces have the best wooded mountains.*

Atmospheric electricity gives rise to phenomena of great extent, apparently originating, however, from purely local causes. Their propagation is also carried on under circumscribed influences, in particular, and sometimes very limited spaces. On the morning of the 13th of July, 1788, a hail-storm commenced in the south of France, crossed the whole country in a few hours, and then extended into the Netherlands and Holland. The grounds struck by the hail in France were situated in *two parallel bands*, in the direction from south-west to north-east. One of these bands was 435 miles in length, the other about 500.

The mean breadth of the western band was about 10 miles; the other only 5 miles. The interval between these two bands had nothing but rain; its mean breadth was 12½ miles. The storm moved from south to north at the rate of 40 miles an hour.

The amount of damage occasioned in France, in the 1039 parishes struck by the hail, was shown by an official inquiry to be 25 millions of francs, or about one million sterling.

This was certainly a scourge as regards the material damage; and a great atmospheric perturbation, from the influence which the displacement of the air and the fall of hail on the surface of two long and broad bands would exercise on the normal temperature of a great number of places. Could all this have been foretold by the most learned meteorologists?

The two bands had *their origin* in the *Pays d'Aunis* and in *La Saintonge*. Why there rather than elsewhere? Why did not the storm commence on any other point of the parallel of latitude passing through its meridional extremities? The reply is, according to some, because in Aunis, as well as in Saintonge, on the 13th of July, 1788, the conditions of *electricity and of temperature* were highly favourable for the production of a hailstorm and a concomitant hurricane, in a direction from south-south-west to north-north-east. Admitted; but these thermic and electric conditions, favourable to the origin of the storm, are they not intimately connected with agricultural operations, with the existence of certain masses of trees, with the state of irrigation, with circumstances varying according to the wants and the caprice of man? As regards temperature, the reply will not be doubted by any one. On the other point, the connection is quite as evident when it is recollected that evaporation is an abundant source of electricity, and that various scientific men have even ranked vegetation among the generating causes of this same fluid in the atmosphere.

If it is true, as we have been led to believe, that *in certain cases* the flame and smoke which issue from a blast furnace, or from the chimney of a factory, may rob the atmosphere of all its electricity for a number of miles round, the *prophets* in meteorology will find themselves in a new fix; it will be necessary that they should know beforehand the intentions of iron-masters and of manufacturers. According to the theory of Mr. Espy, the ascending current engendered by a factory chimney is sufficient to give rise to whirlwinds.

Rain.—They pretend to have remarked in Italy, that the annual quantity of rain has gradually increased in proportion to the increase in the number of Rice fields; and that the number of wet days has followed a corresponding augmentation. Can it be supposed that such circumstances are taken into account by the *prediction makers!*

In the tropical regions of America, the natives consider earthquakes as the welcome forerunners of fruitful rains. Humboldt even states that in the province of Quito, violent shocks bring on suddenly the *rainy season*, and frequently long before it usually takes place. It is not probable that the influence of earthquakes is wholly confined to the vicinity of the equator. The prediction of rain would then be supposed to depend on a previous knowledge of the number and force of the shocks in the region for which the *ephemerist adapted his work.*

I read in Bacon:—"Some historians maintain that when Guyenne was in the power of the English, the inhabitants of Bordeaux and the adjoining cantons presented a petition to the King of England, praying that he would prohibit his subjects in Sussex and Hampshire from setting fire to the heaths in the end of April, as they usually did; for the operation, they said, caused a wind which was very injurious to their Vines." I do not know whether this request was well founded, for the distance between Bordeaux and Sussex is very considerable; but I must say that at the present day some learned men are inclined to make fires play a not less extraordinary part. In the United States, Mr. Espy, adopting the opinions prevalent among the Aborigines of the new world, from Canada to Paraguay, has recently proposed to produce *artificial rain* in times of drought, by means of large fires. In support of his plan, Mr. Espy cites the opinion of the Indians of Paraguay, who, according to the reports of the missionaries, set fire to the vast prairies when their crops are threatened by droughts, and they pretend that they can thus raise even *thunder-storms;* the opinion of the colonists of Louisiana, and the success from time immemorial of burning the prairies in that State; the opinion of the inhabitants of Nova Scotia as regards the consequences of burning the forests; the opinion and practice of the colonists of the counties of Delaware and Oswego, &c. &c.

Mr. Espy states that he has ascertained from various sources, that the climate of Manchester has gradually undergone sensible modifications in proportion to the increase of manufactories. Since this town has become, as we may say, one vast furnace, *it rains there more or less every day.* Those who pretend that the deterioration of climate is not so considerable, assure us that *it rains* at Manchester *only six days out of the seven.* Supposing these facts to be proven, the predictions of rain for any given place would often be upset by accidental fires and by those of workshops.

Space and time would fail me for indicating the multitude of local causes which may exercise great influence on the direction and force of the wind. I shall treat on this delicate question in another notice. In the meantime, I shall confine myself to a remark suitable for the information of those, unprovided with meteorological instruments, who are guided by the state of the crops and that of vegetation. It may be thus stated: The wind exerts on plants a *direct action*, often very injurious, and which should be carefully distinguished from the climatic action. It is for shelter against this direct action that *curtains* of wood are particularly useful. The *direct* influence of wind on the phenomena of vegetation is nowhere more strikingly exemplified than in the Isle of France. The south-east wind, which is very healthy for men and animals, is, on the contrary, destructive to trees. There fruits are never found on branches directly exposed to this wind; these only exist on the opposite side. Other trees are affected even in their foliage, having only half their top; the other has disappeared by the action of the wind. Orange and Citron trees become superb in the woods; in the open plains they are always weak and stunted. *M. Arago, in Flore des Serres et des Jardins de l'Europe.*

LATE PEARS.

The following varieties of Pears are not yet much known, although they have been some few years in this country; a few words respecting them may, therefore, be acceptable.

Bergamotte d'Esperen: this is in shape, size, and colour much like the Autumn Bergamot, which everybody knows; the tree is very hardy, and grows well on the Quince, bearing profusely as a pyramid or espalier, and deserves a south wall in a cold climate. My specimens commenced to ripen in the beginning of March last, and continued good till the end of April (in some seasons they will keep till the end of May). They

were quite melting and very juicy, with a most agreeable flavour; not so rich as some of the autumn Pears, but really good.

Bezy d'Esperen: this is another Pear raised by the late Major Esperen, of Malines; it is of nearly the same shape and colour as the preceding, but larger; my specimens ripened towards the end of last January, they were melting, juicy, rich, and excellent: the tree is very hardy, growing most freely on the Quince, and bearing well as a pyramid; this and the Bergamot appear to be of the Winter Nelis tribe, by their leaves and slender shoots, and also in the colour and form of their fruits. I think it very probable they are both seedlings, raised from that finest and best of our winter Pears.

Belle de Noël or Belle après Noël (Esperen): this should be, and generally is, a Christmas Pear, but my specimens ripened about the middle of last January; they were flattened, and something of the Bergamot shape, about as large as a middle-sized Crassane Pear; colour bright yellow, red on the sunny side, and very handsome. This is a very rich and high flavoured melting Pear, not a vigorous grower on the Quince, but forms a pretty pyramid, and bears well. For all the above, walls with west, south-east, or east aspects, in the middle and southern parts of England, would be eligible, where it is not convenient to grow them as pyramids or espaliers. *Thomas Rivers, Sawbridgeworth.*

EUROPEAN AND NORTH AMERICAN TREES TRANSPORTED TO MADEIRA.

By Prof. Oswald Heer.

M. Heer, of Zurich, so well known by his observations on the botanical geography of the Swiss mountains, having been compelled by the state of his health to make some stay at Madeira, has employed his time whilst there in studying, in various points of view, the vegetation of that island, the climate of which is remarkably equable throughout the year.

Since his return he has laid before the Société Helvétique des Sciences Naturelles several interesting observations relative to the periodical phenomena of vegetation. After remarking that all the woody plants of Madeira are evergreen trees or shrubs, blossoming very often during the cool season, he observes how much the species introduced from more northern countries contrast with these indigenous species in their mode of vegetation.

The Oak and the Beech, for instance, continue to lose their leaves during the winter, although the weather is then milder than it is in several parts of Europe during the summer. Thus, at Funchal, the leaves of Oaks (Quercus pedunculata) planted in some public gardens and promenades began to grow yellow at the end of October, and gradually became dried up to the 1st January. Some isolated trees began to shoot by the 10th January, and were green again on the 6th February; but all the others remained in a state of repose and were not generally covered with new leaves until the 20th of February. In Mr. Gordon's garden, at an elevation of 1800 feet, they were a month later.

The leaves of the Beech became yellow at Funchal by the 8th November, at Mr. Gordon's garden by the 23th October. The leaves, or at least the greater part of them, remained in a dry state upon the trees, until they began to shoot in the spring, which was about the 1st April. At Funchal, the terminal buds were open by the 8th April, and the lateral a little later.

At Glaris, the period of repose of the Beech on an average is 194 days; in Madeira, where the cold season is like the summer at Glaris, it is 149 days. The difference is only 45 days. The Oak in Switzerland has a period of repose nearly equal to that of the Beech, whilst at Madeira it is only 110 days, or 49 days less than the Beech. M. Heer supposes this difference may arise from the Beeches of Madeira having been introduced from England and the Oaks from Portugal, so that the latter would have previously acquired the habit of losing their leaves later and vegetating sooner than in the centre of Europe.

M. Heer ought perhaps to have added, what he no doubt knows, that sudden variations of temperature in 24 hours, especially the instantaneous diminution to 32° Fahr. or lower, are one of the great causes of the fall of the leaves in Switzerland. The absence of these variations retards the phenomenon in the west of Europe, and still more in Madeira.

In the facts stated by M. Heer—facts of which we previously had examples in the hothouse culture of tropical plants—there is a proof of that important physiological law, too often forgotten by meteorologists, that the same temperature or the same sum of temperatures, combined with the season, does not always produce the same effect upon organised beings.

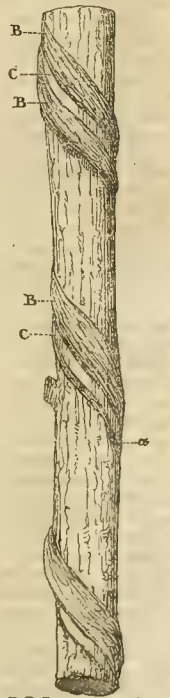
Every species is as it were a machine which performs its functions under the influences of external causes, modified by particular internal conditions. These vary not only between one species and another, between one race of a species and another, and even up to a certain point between one individual and another, but also between one period and another the same heat, after the repose of vegetation for instance, not producing the same effect as in other circumstances.

In Madeira, the Platanus occidentalis, a native of the United States, loses its leaves very slowly from the middle of October, or rather they gradually become yellow and fall afterwards from the action of wind and rain. The repose is complete in January, February, and up to April, during a period of 87 days. The Liriodendron tulipifera, also a native of North America, has a complete repose of 151 days.

The Apple and Pear trees generally begin to lose their leaves in December. They come into flower at Funchal by the 7th of April, and their fruit is collected in August. There are, however, varieties of Apple and Pear trees which flower and produce fruit twice in the year, and one variety of Apple is perpetually in flower and fruit. The Peach trees about the 4th of November already exhibit some flowers amongst their leaves; they they then, to the great astonishment of M. Heer, continued blossoming in abundance during the months of December and January, and the fruit came to maturity from the 23d of February to the end of the summer. In February there were flowers on the upper parts of the trees and fruit below, and it was also then the leaves were renewed, the interval between the falling and shooting of the leaves being scarcely sensible. The Vines around Funchal began to lose their leaves about the 24th October. The soil of the vineyards in winter offered the singular appearance of being covered with the flowers of Oxalis speciosa (a Cape plant) and of Calendula arvensis. New leaves appeared by the end of March, and by the 8th April the Vines were completely in leaf, with young floral Grapes. The flowers open at the end of April and the beginning of May, and the vintage takes place in September. The repose lasts 157 days.—A. De Candolle, in "Bibl. Univ. de Genève," Août 1852, p. 325.—*Annals and Magazine of Natural History.*

Home Correspondence.

Spiral Ringing of Branches. — The accompanying woodcut is intended to represent the effect, after one season's growth, of spiral decortication practised one spring on an upright shoot of common Laurel, about an inch in diameter, and the space devoted to the experiment was about a foot in length. The width of the excortication was 1 inch transversely with the stem, leaving, of course, a space of 2 inches in the same direction of unremoved bark between the convolutions of the incision, which was carried two-and-a-half times round the stem. Upon the lower edge of the band of unremoved bark, throughout the length of the upper convolution, there is a uniform deposit of alburnous matter, which at a third of the length of the second (lower) coil, marked *a*, is smallest in quantity. At about the same length in the upper edge of the bark, after gradually diminishing from the commencement downwards, it entirely disappears for the remainder of the distance. From the point *a* on the lower edge, the deposit grows gradually greater as we approach the lower terminus. This, as will be understood, corresponds to that edge of the excortication on which there is no deposit whatever. Above *a* the alburnum prepared by the leaves and deposited in its devious route on both edges of the bark, still shows by the vastly larger quantity accumulated on the lower edge, how directly downward it always tends, and this tendency seems to be given it by the action of the bark locally at every point, without the necessity for such locality being directly connected with the leaves, &c. perpendicular above it. The large mass formed below *a* on the lower edge of the bark, goes also to prove this local action of the bark, for, from a point slightly lower than *a*, I consider the downward flow of alburnum to have been quite insufficient to account for so large an accumulation of it as is there seen. This, then, must have been prepared from the ascending sap by the bark assuming the functions of leaves; principally the young bark, probably, as it formed upon the "callus." But that none was formed upon the other edge, I think proves that the upright force of alburnum is little or nothing; and its appearance upon the upper side of the bark, above *a*, is to be ascribed to a lateral spreading in a downward course, rather than to (what it would at first seem) an upward working. The bark must possess the power of elaborating sap where increase of substance takes place in the absence of the influence of foliage, as it seems to have done in the present instance in the part below *a*. This spiral ringing might perhaps be practised more safely upon stone fruit trees than the common method, with a view to induce fertility in them, but the coil ought not in any case, for such purposes, to be extended further than the edges are capable of healing in some degree, or the life of the subject would seem to be endangered by it. In some former experiments made on the Laurel, carrying the ring or excortication round three and four times in each, the branches were all killed down in the following severe winter, although some of them were 2 inches in diameter. Where roots are wanted from branches for the purpose of plant-making, this spiral method of ringing them would seem to have an advantage over the common one in presenting a greater extent of root-producing surface. *J. Russell, Kew.*



B B B, new growth.
C C, naked wood.

Skimmia Laureola.—At p. 739 is a communication from "R. F." detailing the account of his discovery of Skimmia japonica in China, and going on to fear that the nurserymen may disappoint their friends by substituting for it S. Laureola. The stated grounds for implying the inferiority of the latter are its habit of growth and its want of the brilliant red Holly-like berries which form the ornament of S. japonica. Now it seems to me that both these objections will prove unfounded. I have seen S. Laureola in many sites in the Himalaya, from 7000 to 10,000 feet above the sea, growing in woods in rich vegetable mould, sometimes 7 feet high, and assuredly somewhat straggling, but on more exposed places becoming an erect compact bush of 2 or 3 feet, and in all cases producing from autumn until spring a profusion of the very same description of berries which recommend the Chinese shrub. The foliage is almost disagreeably odoriferous when bruised, and the only difference I am aware of seems to lie in the flowers, which in S. Laureola I do not recollect to be very fragrant, certainly not so agreeably and powerfully so as "R. F." describes those of the Chinese shrub. *E. M., Edinburgh.*

Misletoe Thrush.—I am not aware that I ever saw a Misletoe thrush (Turdus viscivorus) in Wales. Last autumn a small flock was seen in Carmarthenshire chased by a carrion crow (Corvus corone), who at one fell swoop struck one, which fell dead and bleeding. I fancy that must be a very unusual occurrence, as the Misletoe thrush is represented as being powerful and courageous. Mudie says "they are pugnacious and resolute in defending their families from predatory birds;" again, "and with the missel thrush this defiance is no idle boast, for the sneaking magpie, the light-winged kestrel, and even the sparrowhawk are at those times compelled to keep their distance, as the thrush is too vigilant to be surprised." *F. D., Pershore.*

Ammonia.—I have been in the habit of filling the saddles upon my hot-water pipes with diluted horse manure water for these 10 years past. The steam produced from this rich water has a most beneficial effect upon Cucumber and Melon plants. *James Cuthill, Camberwell.*

Hunter's Prolific Cucumber (see p. 757.)—Surely the gardener at Cadbury House, Castle Cary, Somerset, could not have had this Cucumber true to name. I had it with all the leading varieties in a Cucumber house this year, and it produced the finest fruit throughout the season, as three of them took the first prize at Colchester, which is famed for Cucumber growers, and it was the admiration of the growers in this neighbourhood. *Henry White, Chelmsford.*

Plants increase in Bulk in the Absence of Leaves.—In my school days I remember meeting with a paragraph in an agricultural work, published, I believe, some time about 1794, which the recent discussion on this subject has brought to my recollection. The author's words were these—"The tops of a good acre of Carrots will produce 4 tons of hay, which all kinds of cattle are very fond of, and upon which they thrive exceedingly. The tops shoot out very luxuriantly as soon as cut. They are cut with a scythe, and care is taken not to injure the crowns of the plants by cutting too close. The roots will increase in weight the same as Parsnips if so cut." The idea of Carrot-top hay I imagine to be somewhat novel, even in this age of experiments. It appears that there would be a crop of tops for green food in addition to the first or hay crop. *W. Hudson.*

Window Gardening.—I have read Mr. Wood and Mr. Church's remarks on this subject with interest. With us window gardening has not received the attention which it merits, and which it has received in some parts of France, Flanders, and Germany. I did not, however, mean to speak of window gardens, as ordinarily managed, but simply of a series of double panes in section thus, ⊓ across the window, so as to permit the growth of Ferns and certain bulbous plants in the interstices. It would be only necessary to groove or chamfer the inner portion of the frames or sashes, when the pane, being cut to its proper dimension, would slide into its place, and retain it, without prejudice, otherwise, to blind or shutter. It is then requisite to provide a shallow, narrow zinc pan to contain a little moist earth, to insert a Fern or two, and the whole is complete. The pane may at any time be lifted out, while the expense is so trifling as to permit the adoption of the arrangement in the humblest household. *Henry M'Cormac, M.D., Belfast, Nov. 22.*

Badly Coloured Grapes.—Having seen in "Notices to Correspondents" that you consider the causes of the non-colouring of Grapes to be but imperfectly understood, and agreeing with you that such is the case, I have thought that it might be a proper subject for discussion; I therefore put the following case for the consideration of your readers. We have two Vineries here, both planted six years ago, the border is composed of a rich friable loam with dung and leaf-mould, it is 10 feet wide and 3 feet higher at the back than the surrounding soil. I have never grown a crop on the border of either house, but have encouraged the roots to the surface by mulching with half rotten leaves, which they appear to like; for they are so near the top that they can easily be seen by merely moving the leaf-mould with the fingers—good, white, useful roots. Now the mode of treatment has been as follows:—On the 24th December last I put on the border of house No. 1 sufficient dung and leaves to give a gentle warmth, so as to put the roots in action; this slight heat was

continued until the Grapes were fit for table, which was about the 18th of June; the first fire was lighted on the 1st January, beginning very gradually, and never forcing hard; the Vines broke very well indeed, showing plenty of fruit. I took off upwards of 50 bunches before they were in bloom, leaving from 15 to 20 on each Vine. When ripe they weighed from 1 to 3 lbs., and were of good flavour but badly coloured, being nearer red than black; the house had air at the back, continually night and day, with plenty of moisture in the atmosphere at all times; but when they began to change colour, water was not used quite so freely; they were pruned on the spur system, one Vine being trained up each rafter, and Strawberries, Beans, &c., grown in the house. In Vinery No. 2, the Grapes were ripe in the beginning of September, therefore of course they did not receive much firing, the border had no warmth from dung or leaves, a little being merely put on for protection. The Vines were pruned in the same way as No. 1, planted at the same time, and the border composed of the same materials, but in this case the Grapes are beautifully coloured, being as black as I could wish them. Strawberries were grown here also, and Peaches fruited in tubs, and on trees planted out; this house is heated with a flue, the other with hot-water pipes. Now can any of your Grape growing correspondents explain the cause of this difference in colour, one house producing black Grapes, the other nearly red ones? *W. H. Wheeler, Gardener, Aldershot, near Farnham, Surrey.*

Storing Roots (see p. 740).—I am glad Mr. Cuthill has directed attention to this subject, for the usual method of preserving vegetable roots in sand packed away in a dry shed very much deteriorates their flavour, as well as renders them tough and nearly unfit for table. I would recommend that part of the stock for late use be stored on the following plan, which has succeeded well with me. A piece of ground should be set apart in some secluded part of the garden, choosing a north aspect for the purpose. As the roots are taken up, lay them in the ground closely packed together, but not more than two layers thick, mixing the soil between them, where they are to remain in store for very late use; cover them with 10 inches of soil or so, and on this spread some non-conducting material, such as ashes or stable litter. Roots thus preserved will be as fresh and well-flavoured in February as in November. A late sown crop of Early Horn Carrots preserved in this manner forms a good substitute for forced Carrots in spring. I have never wintered Beet and Salsify buried in the open ground, but part of my stock this year is on trial. I am very doubtful about wintering Beet in the open ground, as I have often found it to decay whenever wet has reached it. The best Parsnips I ever ate were left in the ground where they grew with a covering of soil on them, to keep the sun from acting on them after frost. Carrots will succeed equally well in this way. My old friend Mr. Elworthy, of Nettlecombe, for years preserved his Artichokes in the ground, and they cooked as good in spring as in autumn. To winter a large stock of Potatoes in the ground would be tedious; yet I think the same result might be obtained. In digging over a border last week which last year was planted with Ash-leaved Kidney Potatoes, I found a quantity of healthy fine-looking tubers, that were buried deeply in the ground, while those near the surface were all diseased at taking-up time. *C., Thorp Perrow, Bedale.*

Melastomads.—I observe in Dr. Thomson's N. W. Himalaya and Tibet, where he treats of the vegetation of Simla, that the Melastomaceæ are said to be wanting. This is not quite exact, as Osbeckia stellata occurs luxuriantly, though rarely, in the warmer valleys to the north of the station. *E. M., Edinburgh.*

Paste.—Can any one favour me and the public with a receipt for making a kind of paste which is cheap, strong, sets quickly, keeps well, and is not liable to become sticky in damp weather, as is the case with all preparations of gum? *W. Dy.* [Common paste well made, and mixed while hot with a saturated solution of corrosive sublimate is strong, and keeps well; but it sets slowly.]

Fresh-water Fish.—There is a shilling pamphlet published by Reeve and Co., Covent-garden, called the "Artificial Production of Fish," by Piscarius, giving a very interesting account of successful experiments made by two French peasants, Remy and Gehan, in the department of the Vosges, in the rivers of that district, which have resulted in stocking their waters with millions of trout, where they had previously become scarce; and in this very flooded season I should think the opportunity most favourable for introducing the same practice into the rivers of the United Kingdom; and I do not hesitate in calling your attention to it and soliciting your aid to its adoption, through the medium of the *Gardeners' Chronicle*, which, though intended to illustrate another branch of natural history, is open to useful suggestions upon all. *George N. Whateley, Cork.* [We have already mentioned this pamphlet, at p. 502 of the present volume. As we then said, it contains good practical instructions how to re-stock our ponds and rivers with fresh-water fish, but it takes no notice of Mr. Boccius, and his operations in a similar direction, which it ought to have done.]

Alliance of the Geranium and Hollyhock not a Modern Discovery.—The following article from Haydn's Dictionary, little as it may affect wicked infidels (like nine-tenths of your readers), will, doubtless, comfort the minds of all "true believers." Ἡ ὦθεν.—"It is an eastern tradition that the prophet Mahomet, having one day washed his garment, threw it upon a plant of the Mallow, for the purpose of drying; and when the garment was taken away the Mallow was found to have been transformed, by contact with so sacred an object, into a magnificent Geranium, a plant which had never previously existed!" *O. P., Nov.* 30.

Eau de lessive.—In a recent Number you mention this as probably useful in clearing Vines of vermin, but you seem doubtful as to its exact nature. It is prepared thus: a large tub with a cavity at the base is filled nearly to the top with foul linen; on this is placed a thick layer of wood-ashes, on which water is poured for about 24 hours, and having penetrated the ashes and clothes, and cleansed the latter partially, escapes by the vent, and is what the French term *Eau de lessive.* The clothes are afterwards washed in soap and water, but soapsuds form no ingredient in the *Eau de lessive*, which is a highly acrid fluid. *E. M., Edinburgh.*

Societies.

Botanical of London, *Nov.* 29. — Anniversary meeting. The President in the chair. The Secretary read the Report of the Council, from which it appeared that 14 new members had been elected during the year, and that the Society consisted of 302 members. The distribution of British and foreign specimens had been carried on with success; and thousands of specimens received for distribution in January next; the appointment of a curator had greatly facilitated these important objects; many valuable works had been presented to the library. The Report was unanimously adopted; after which a ballot took place for the council, when the chairman was re-elected president. J. Ball, Esq., M.P.; F. P. Pascoe, Esq.; F. L. Sand, Esq.; J. T. Syme, Esq., were elected new members of the council. The secretary and librarian were re-elected and the president nominated J. Miers, Esq., F.R.S., and A. Henfrey, Esq., F.R.S., vice presidents.

Linnean: Meeting which our own reporter has omitted to notice. *May* 4.—The President in the chair. Mr. Hogg, F.L.S., communicated a letter "On the artificial introduction of a breed of Salmon into the river Swale, and a tributary stream in Yorkshire," which appeared in the *Durham Advertiser* for April 16th in the present year, under the signature of Isaac Fisher, together with an unpublished letter from the same gentleman in answer to a request from Mr. Hogg for further information; and added some observations of his own upon the same subject. From the letter published in the *Durham Advertiser*, it appeared that Mr. Richard Harrison, of Richmond, had procured from the river Tees a brood of spawn, taken and milted from the living fish, which he deposited on the 29th of December last in a small tributary of the river Swale. On the 21st of March two of the ova were brought to the house of Mr. Fisher and placed in a vessel of water, the fœtal signs were clearly distinguished, and in two days more they became living fish; he is consequently satisfied that the salmon is now restored to the river Swale, from which it has of late years been banished. In answer to Mr. Hogg's inquiries Mr. Fisher states further that the ova and milt were obtained in the Tees, according to the directions given by Boccius, Shaw, and "Ephemera," in his "Book of the Salmon." They were taken from three female and two male fishes on the night of the 27th of December, and not deposited in the gravel of a small rivulet until the 29th of the same month. Part of the ova were also placed in a gravel bed in the river Swale; but of the result of this part of the experiment Mr. Fisher has no present information. In one part the ova were placed too deep in the gravel, and on examination were found to be addled; while there is every reason to believe that those which were placed about 3 inches in the gravel have all been hatched. A live fish brought from the spawning-bed leaped out of the vessel in which it was kept and speedily died, and the two mentioned in the published letter also died in the course of about ten days, probably in consequence of the disturbance to which they were exposed from the curiosity of those who came to see them, and who were desirous of observing the extreme velocity with which they moved round the vessel, even while the vitelline bag was still attached to the abdomen. The spawning-bed was formed in a small run of spring-water which is never affected by the frost; it was cleared of minnows, young trout, &c., and at each end of a space of about 20 yards, whins were placed of a good height, kept down with stones, to prevent the entrance into it of other fish. After some observations respecting minnows, Mr. Fisher adds: "We have proved the fact that the river Swale may be again stocked with salmon, provided we can make arrangements with the proprietor of a mill-wear 25 miles from this place, to let the fish, on coming up from the sea, have 'free-gap' from time to time." On these letters Mr. Hogg observes that it seems to him there can be little (if any), doubt that, with the precautions indicated, a vast increase of salmon might be obtained, and a sure and valuable source of wealth be secured in many suitable streams in which no salmon are at present found; and the same artificial process of breeding might likewise be applied to trout with an equally advantageous result. He suggests that the breeding might also be carried on in large wooden boxes or cases, having a layer of gravel at the bottom 4 or 5 inches deep, in which the ova and milt, or impregnated ova, might be buried, and the cases filled with pure water, which might be kept constantly fresh by allowing a small stream to run into them. When the fry had grown sufficiently strong, they might be conveyed to any distance in tubs filled with water, which might be occasionally renewed, and having tops perforated with holes. On the subject of the distribution of the species of fresh-water fishes, Mr. Hogg refers to the presence of trout and other fishes in mountain streams and alpine lakes, for which it seems difficult to account; but he suggests, that as the presence of unusual plants in similar circumstances is only to be accounted for by the seeds having been dropped by birds, the problem with regard to fishes might be naturally solved in an analogous manner, their fry having been conveyed to these distant localities by means of water-birds. *Annals and Magazine of Natural History.*

Notices of Books, &c.

Miquel, Analecta Botanica indica (3 parts, 4to. Amsterdam) contains plates and descriptions of select Indian plants, many of which are from Borneo.

H. G. Reichenbach, de Pollinis Orchidearum genesi ac structurâ et de Orchideis in artem ac systema redigendis. 4to. Leipsig.—This is a valuable and elaborate treatise upon the minute structure of the pollen of Orchids, and upon some other peculiarities in them, intermixed with good critical observations. We are glad to recognise among our German friends so acute an observer as M. Reichenbach giving his attention to this difficult order. Two anatomical plates illustrate the author's views.

Wight, Icones Plantarum Indiæ Orientalis, Vol. V., Part 2, 4to; Madras.—This part of Dr. Wight's most useful work goes as far as plate 1920, and contains Amaranths, Chenopods, Polygonads, Begoniads, Laurels, and Spurges. The plates continue to be excellent specimens of Indian drawing and lithography. It is much to be regretted that the editing Griffith's botanical papers was not put into Dr. Wight's hands, instead of being intrusted to the gentleman in whom the Court of Directors have been most unfortunately advised to repose their confidence.

John Waterer's Catalogue of American Plants, grown in his nursery at Bagshot, contains all the best varieties, with, in some instances, a considerable reduction in price.

Sir Edward Seaward's Narrative of his Shipwreck. (Longman's Travellers' Library, Parts 34 and 35.)—An abridgment of a very interesting story, and one of the most acceptable of the present series of railway books.

Hallam's Literary Essays and Characters. (Murray's Railway Reading.)—A small volume pregnant with wisdom, and full of learning in its most delightful form. It is a skilful selection from the author's well-known "Introduction to the Literature of Europe."

Life and Character of the Duke of Wellington. By Lord Ellesmere. (Murray's Railway Reading).—This is the substance of a discourse delivered to a literary institution by the noble author, who paints the character of the great warrior, not only with the hand of a master, but of one perfectly familiar with his subject. Lord Ellesmere's personal intimacy with the Duke has enabled him to produce a brilliant and most interesting portrait, in all respects worthy of the glorious original.

Heinrich Maurer, Versuch einer Monographie der Stachelbeeren. 8vo., Jena, 1852.—A monograph of Gooseberries filling 146 8vo pages, written with all the formalities observed in the most pretending work of natural history, is quite a horticultural phenomenon. The materials were collected by the late Dr. Lorenz v. Pansner, Staatsrath to His Imperial Majesty the Emperor of all the Russias, Ritter, and so forth, and have been put in order by Mr. Maurer, a nurseryman at Jena; we have no doubt that the world will respect the work accordingly. There is an advertisement, and a preface and an introduction; after which the work is treated chromatically, geometrically, physiologically, phytologically, carpologically, botanically, geographically, systematically, horticulturally. Surely "Bright's Venus, Jolly Copes, Muffey's Black Prince, Smith's Sparkler, the Jolly Angler, and the Troubler," were never before thus honoured.

Black's Library Edition of the Waverley Novels.—Two more volumes of this beautiful issue have been published since our last notice, containing the "Heart of Mid-Lothian" and the "Bride of Lammermoor." The illustrations, excellent as they have always been, we think improve as the work advances.

Booth's History of the Battle of Waterloo, &c., is now completed with a treble part, containing, in addition to Jones's clever etchings, a good plan of the field, and a useful map of the country that was the seat of operations.

Garden Memoranda.

Horticultural Society's Garden, Turnham-green. —We have seldom visited this establishment without finding the white Butterfly-plant (Phalænopsis amabilis), in bloom, and the present occasion formed no exception; for even at this dull season it is almost as gay as in the height of summer. By means of this, the blue Vanda, the charming Calanthe vestita, Lady's Slippers, Lælias, Cœlogynes, and a few other late-flowering species, an Orchid house might be rendered exceedingly attractive during the whole winter long, when other plant-houses are comparatively flowerless. In the greenhouse adjoining, the most effective plant by far was the Anderson Speedwell, Veronica Andersonii, which has been in flower for the last month, and whose long spikes of two-coloured blossoms are still all that could be desired. Assuredly this is a most useful greenhouse plant at this season, as is also the old-fashioned Coronilla glauca, whose bright yellow flowers continue in beauty all

the winter, and both are so easily managed that with very little ingenuity every cottager might have them in perfection in his window. The flower-spikes of the large Lælia superbiens in the curvilinear stove are progressing satisfactorily. They are six in number, and will probably expand their blossoms about the end of January. Of plants in bloom in this stove, few were so gay as the old Eranthemum pulchellum, whose deep blue flowers contrasted well with the scarlet inflorescence of Sericographis Ghiesbreghtiana, which is also a capital winter plant. The old purple Justicia speciosa was likewise in full bloom, as was Gesnera Herbertii, a hybrid in the way of G. zebrina, but whose foliage is not so apt to curl and become crumply as that of the latter. Siphocampylus Manettiæflorus, Pentas carnea, Abutilon vitifolium, and Dichorizandra thyrsiflora were also in blossom, altogether making a very agreeable display. In the propagating house was a beautiful new Sonerila introduced to the Society by its secretary, Dr. Royle. It comes, we believe, from the Nilgherry Hills, and on account of its compact habit of growth it will certainly be a most excellent addition to a small stove. Its clusters of lively pink blossoms rise on slender hairy footstalks some 4 inches above the neat Melastoma like leaves, and produce a very pleasing effect. A singular peculiarity connected with it is that the number of petals is not fixed, some of the flowers having three, while almost an equal number have four petals. The yellow stamens in the centre of the flowers also add considerably to their beauty. An interesting experiment is being made here in regard to the growth of Orchids. A quantity of them has been potted in coke-dust; and, although perhaps somewhat premature to speak conclusively as to the result, yet they looked as if this material agreed with them better than anything in which they have hitherto been grown; for they were making vigorous growth and throwing out numbers of healthy roots. The superintendent was led to turn his attention to this matter from his observing that newly-imported Orchids rooted more rapidly when laid on a cinder-bed over a hot-water tank than under any other circumstances.

In the little greenhouse near the carpenter's shop, two plants of Tropæolum Lobbianum were still exceedingly brilliant, their large orange scarlet flowers being very striking. This was Baumann's variety, which is better than the common kind. Selago distans was just coming into bloom, in which condition it will remain for many months; and although not very showy, yet it is almost indispensable to a greenhouse which is required to be gay in winter. In the adjacent stove were fine masses of the old scarlet Achimenes, loaded with flowers, together with the blue and white flowered Klugia zeylanica, Lantana mutabilis, Bilbergia Moreliana, Manettia bicolor, and the following Orchids—Lælia Barkeri, with a fine spike terminating in four beautiful blossoms; Cymbidium giganteum, with three flower spikes; the sweet smelling Maxillaria picta, a capital specimen; Oncidium bicallosum, a large, clear yellow flowered species; and the new Maxillaria pallidiflora, more interesting than showy. A fine plant of Zygopetalum Mackayi was just coming into flower.

In the great conservatory the large stock of Chrysanthemums with which it is at present furnished is in full bloom, and well worth inspection, more especially the Pompones, many of which are new and very handsome; the latter were received from Mr. Van Houtte, of Ghent, unfortunately without names, and therefore we are unable to specify them. The plan of growing Chrysanthemums in comparatively small pots and supplying them with liquid manure in place of pot room has answered perfectly, the plants being well grown, and furnished with foliage down to the pots. The large red Brugmansia here is in as good bloom now as it has been at any time during the summer, and a very striking object it is, as is also a huge specimen of the orange-flowered Cestrum (C. aurantiacum), which is a plant that every conservatory bed of any size should possess. On the shelves were some nice pots of Mignonette, obtained by sowing the seed in the open ground some time in the latter end of summer, lifting the plants and potting them, and placing them for a time in a frame to establish themselves. They were afterwards brought into the conservatory, where they are now coming nicely into bloom.

The only plants in the open air to which we have thought it worth while to direct attention were the Pampas Grass, which is still in fine bloom, and an example of the naked-flowered Jasmine (J. nudiflorum), on the conservative wall. The leafless branches of the latter, clothed with bright yellow flowers as large as a shilling, have a lively and cheerful appearance.

As regards heating, we may just notice in passing that the tank system in the early Vinery having failed, it is about to be replaced with some other means of warming, and experiments are now being made with materials suited for the construction of flues.

One end of Mr. Ewing's glass walls has been permanently planted with fruit trees. Against the trellis facing south have been put a Peach, Nectarine, four Vines, and a Fig; and on the north aspect are a Fig, Apricot, Pear, and a large plant of Psidium Cattleyanum, which was brought out of a Vinery and placed there some time ago. The fruit on it, which were small and green when transplanted, are now quite ripe and beginning to drop. The Peach and Nectarine are large trained trees from a wall, and therefore well fitted to speedily prove the utility of growing these fruits under the conditions in which they have just been placed. The out-door Figs along the top of the kitchen garden are being divested of their dead wood and suckers, and tied into bundles, preparatory to being encased in straw for the winter.

With respect to vegetables, it often happens that when Celery is planted early, it "runs," or becomes soft and spongy, which it is not so apt to do when planted late; but in the latter case it is liable to be injured by frost. With a view to keep off the latter, therefore, and to obtain Celery in its best state, a row of it and Cardoons have been roofed over with light wooden spars, so as to support mats which will be put on in time of frost, but which will be removed whenever the weather is mild. They are forcing Asparagus in the natural bed in the open ground, by removing the soil from the alleys, and supplying its place with hot dung, at the same time placing a thatched roof over the top of the bed.

During the late wet weather, when little could be done in the open ground, all in-door operations have been proceeded with; and among other things, straw-screens for spring protection have been prepared. These are made some 10 or 12 feet long and 3 feet wide, held together by three longitudinal bands of tar-twine, and attached to light square wooden spars, or supports, at the ends. This kind of protection was found so useful last spring, both for fruit trees against walls and for other purposes, that in future it would be a matter of great inconvenience to be without them. They are cheaply and easily made with Rye straw, which has been found better for the purpose than Wheat straw, the latter being more hard and brittle.

In conclusion, we are sorry to report that Pears in the fruit room, although the latter has been kept cool and equable in temperature, are keeping but very indifferently. Some of them are being destroyed by a fungus, which appears on the skin in the shape of small black specks, and for which there seems to be no remedy. Some kinds are sadly affected by it, while others close beside them have escaped. Glout Morceau, Easter Beurré, and Beurré d'Aremberg, appear to have suffered most.

FLORICULTURE.

The Mimulus.—I imagine that, ere long, this genus will occupy a much more general and conspicuous position in the greenhouse and flower garden than it does at present. By suitable management the varieties of M. rivularis, and other true hybrids, with their extremely rich crimson belts and spots, on a clear yellow or orange ground, may be found to furnish a very desirable contrast with the numerous dark tints and colours of the Cineraria tribe during the early spring months. I well remember the interest excited on receiving blooms of Mimulus "Smithii" some 20 years ago, but this soon gave way to still more beautiful varieties. The easy culture of this tribe is proverbial, and yet, at that time, it was found that some modes of management succeeded much better than others, the recollection of which led me about two years ago to apply a somewhat similar treatment to herbaceous Calceolarias, which at the period just referred to were not so easily managed as at present. In the late autumn months the most vigorous and healthy of our Calceolarias and Mimuluses were shifted from small pots into those of 8 or 10 inches in width, using open porous rich soil, with an additional portion of about one-fourth coarse clean river sand, as the winter compost, giving plenty of drainage, and omitting all pressure of the soil in potting. The ordinary routine being completed, I finished by covering the entire surface of the mould, to about a level with the pot's rim, with coarse clean river sand. The points of difference in the composts were, that coarse heath-mould formed a portion of that for the Calceolarias, and about equal parts of open loam, partially dried leaf-mould, or highly decomposed manure, with one-fourth of river sand, were used for the Mimuluses, and in some cases adding lumps of broken sandstone to the surface stratum. The plants grew amazingly under these conditions, and it was truly interesting to notice the favourable appearances which exhibited themselves on applying water freely over the whole plant through a rose, at stated periods, twice or thrice a-week, especially when aided by a genial temperature, which it was my custom to secure to the deficiently-ventilated range of houses, by occasionally applying artificial heat throughout the day in mild dry weather. The further application of the same treatment may be stated as follows: admitting the plants of Mimulus to have just finished blooming in spring, in the greenhouse, I recommend the flower stems to be partially cut back, and after allowing the plants to rest in a cooler frame or pit for a short time, plant all that are vigorous in the open borders, adding rich soil; and if the weather be moist at the time surface with sand between the crowns, encouraging throughout the summer an additional growth rather than bloom. About October or November strong healthy crowns will be produced, which may be detached in compact clusters of three or more; these should be prepared for the following winter or spring growth in the greenhouse as described, by placing them in pots 4 inches in diameter, or larger if required, using about equal portions of loam, leaf-mould, and river sand, each pot being surfaced with the last material. A cool close frame or pit will form their abode until winter or spring, only pouring water over them freely at stated periods in the mornings of mild dry weather, until required for larger pots in the greenhouse or conservatory. A somewhat stronger compost or soil may be used for the last potting. Those who adopt surfacing with sand during winter for plants in the greenhouse or conservatory, should dispense with it as the spring advances, previous to the last potting. During the season of bloom each pot should be supplied with a dish, from which the plants may receive an extra supply of moisture once or twice a week. The surplus plants or stools which remain in the open borders may be entirely covered over in winter with coarse river sand, to the depth of 4 or 6 inches above the leaves, which, as the spring advances, will burst through with great vigour, and the plants will bloom profusely, the sand being an excellent preservative from snails, &c. *W. Wood.*

National Floricultural Society, *Dec* 2.—The only flowers staged on this occasion consisted of a collection of Pompone Chrysanthemums, from Messrs. E. G. Henderson, of Wellington-road, St. John's-wood.

North London Floricultural Society, *Nov* 25.—This exhibition falling as it did so soon after the Stoke Newington Chrysanthemum show was, as might be expected, largely composed of plants produced there; we have only, therefore, in the following account to notice what was not present on that occasion. The feature of most interest, perhaps, was a collection of 12 Pompones, exhibited by Mr. Robinson, gr. to J. Simpson, Esq., of Thames Bank, Pimlico; this was deservedly first; it contained Fenella, La Fiancée, Pouledetto, Geralda, Adonis, and Modele. Six duplicates, the produce of cuttings taken the third week of last May, were exquisite examples of what can be done by a good cultivator in a short space of time. Mr. G. Smith was second with Solfaterre, Nimon (?), Asmodée, Modele, Autumnus, and Surprise; 3, Mr. Holmes, with Le Jougleur, Elise Mielez, La Fiancée, Modele, d'O., and Henri Chauviere. Mr. W. Ivory also contributed a collection containing some valuable sorts. In six pots of large-flowering varieties, Mr. W. Holmes was first, his Defiance taking the 10*s.* prize offered for the best plant in the room; 2, Mr. G. Smith, with Defiance, Christine, Annie Salter, Madame Poggi, Queen of England, and Pilot. Six varieties grown in 8-inch pots: 1, Mr. Weatherall; 2, Mr. Graver. A plant of Gluck was by far the best in these groups. Cut blooms were staged in great numbers. Amongst successful exhibitors Mr. Jones stands first, closely followed by Mr. Scruby, in whose 24 a bloom of Plutus received the 10*s.* prize as the best in the room; then followed Mr. G. Smith. The Anemone blooms staged by Mr. Smith and Mr. Holmes were very good. Messrs. Weatherall, Graver, and Rowson, represented the "maiden class" with collections that did them credit. *J. E.*

Catalogues received from Messrs. Cole and Sharp, Aston, lane, Birchfield, near Birmingham; R. B. Bircham, Bungay-Suffolk; W. Masters, Canterbury; Drummond and Son, Stirling; G. Lighbody, Falkirk; and H. Mayle and Co., Birmingham.

Chrysanthemums: *E M G.* Not worth propagating. Such "sports" are very common with this class of flowers.

Miscellaneous.

The Bourbon Rose.—About 35 years ago, a French botanist, M. Bréon, visited the Island of Bourbon, and found growing in a garden at St. Benoist, a Rose altogether new to him. The flowers were rosy carmine, beautifully cupped, and the petals remarkable for their size and smoothness. Our botanist did not fail to appreciate this *nouveauté*, and sending it to Paris it was there multiplied, and scattered abroad; this was the original Bourbon Rose. It is not a species, but an accidental hybrid, supposed to have sprung up between the common China Rose and the red Four-seasons. Some of your readers will doubtless remember the Rose Ile de Bourbon, or Bourbon Jacques—for under both these names it was disseminated; and it is from this Rose, variously hybridised, that all the Bourbon Roses have been obtained. For the first few years most of the seedlings raised were of the same colour as the original; some were finer, and many more double; one of which, Augustine Lelieur, remains a good Rose to this day. The first variation was the production of kinds of a clear and beautiful silvery tint, then of a dark purple and crimson hue, till now we have flowers as brilliant in colour, and equal in form, to almost any Rose. The Bourbon Roses generally are hardy and easy of culture; the short-wooded, free-blooming kinds, require two annual dressings of manure and close pruning; they are then the most beautiful of autumn Roses, flowering better and more abundantly late in the season than in summer, fine flowers often expanding at the end of October. *W. Paul, in Turner's Florist, Fruitist, and Garden Miscellany.*

Climate and Fruits of St. Michael's.—The climate of St. Michael's is remarkably regular, the thermometer during the summer months ranging from 76° to 80° and 84° Fahr. A few days in the summer of 1851 it stood at 94° in the shade, but the summer was unusually hot. At this period the night temperature ranges from 65° to 70° and 76°. During the winter months the day temperature is from 60° to 70°, often rising with strong sunshine as high as 76°. In the valleys, the night temperature at this season ranges from 50° to 60°. In January, I have sometimes remarked the thermometer at 40°, but these were rare occurrences. I have adopted this form of giving the temperature for the sake of brevity, making it summer from May to October, and winter from November to April. The only native fruits of St. Michael's are a Vaccinium and a wild Alpine Strawberry. At the present time, besides Oranges, there are numerous Apples, Pears, Plums, Peaches, Nectarines, Apricots, Figs, Grapes, and Strawberries, which all do well under proper treatment; Gooseberries and Currants will not grow. Of exotic fruits there are three kinds of Guava (Psidium pyriferum, polycarpon, and Cattleyanum, the two last-named being the best); the Custard Apple (Anona cherimolia), whose fruit is much liked by some; the Date Plum (Diospyros lotus, Kaki, and Virginicus; the former

only has produced fruit, which, when first put into the mouth, has an agreeable taste, but it immediately becomes so astringent as to render it unfit to be eaten). Jambosa vulgaris (Rose Apple) produces a quantity of fruit not very desirable. The Pomegranate (Punica granatum) bears freely. All the different kinds of Granadilla bear abundance of fruit, which is much esteemed by the Portuguese. The Loquat (Eriobotrya japonica) is only second to the Orange, being noble in appearance, and frequently outrivalling the Orange tree in size, while its branches are laden with delicious rich golden fruit in April and May, when the Oranges are all sent to England. The Loquat is the only fruit of its season, and in the opinion of many it is superior to an Orange. Physalis edulis has become wild; it is found in every hedge-row, and is much used for preserving. Musa paradisiaca, sapientum, Cavendishii, abound in every part where there is a valley or shelter for them. The fruit is seldom left to ripen on the plants, it being found more convenient to cut them and hang them up in a room, where they are quickly matured by the aid of a little sweet oil put in a small hole cut in the end of the stalk. *Wallace, in Journal of Horticultural Society.*

Treatment of Amaryllis Belladonna in Pots.—This is a plant of the easiest growth, generally blooming in September and October, and adding much at that season to the beauty of the greenhouse or parlour. The soil best suited to the bulb is composed of half sandy loam, one quarter leaf-mould, and one quarter old hotbed manure, with sand in the proportion of nearly one-third of the whole. The bulbs should be potted in August or September, and those with flower-buds will soon throw up a spike of elegant flowers. Give good drainage, with broken potsherds, coarse at the bottom and finer above, and fill the pots with the compost; place in the bulb, setting it down so as to leave about one-third of the top above the surface; finish with a good watering through a fine rose, or with a syringe, and place the pots in a frame or in the greenhouse, where the bulbs will speedily take root, and produce their flowers. *Hovey's Magazine of Horticulture.*

Calendar of Operations.

(*For the ensuing week.*)

PLANT DEPARTMENT.

The conservatory should now be kept as gay as the limited number of plants in bloom at this season will permit. Remove Chrysanthemums as their flowers fade, to make room for other things. The earliest started Camellias and Epacrises will be advancing into bloom, as will the useful Erica hiemalis and Willmoreana. Oranges and Daphnes should be introduced as they show bloom; their fragrance will prove a boon at this season. Neapolitan Violets, Mignonette, and Cyclamen persicum, will assist, with the forwardest Roman Narcissi, in making the house agreeable till the more showy forced plants come into flower. Let the borders be frequently stirred and raked over to preserve a fresh appearance, and attend to the greatest cleanliness in every part. The night temperature may stand at 45°, and may range up to 60° on sunny days; let the ventilation be regular, avoiding currents of cold air. To obtain as much light as possible, the creepers under the roof may again be reduced, and tied closer together, washing the glass at the same time, if necessary. Where stove plants are largely grown, there will be a considerable number at this season, which, after flowering and ripening their wood, will require wintering in a moderate and dry temperature. If the collection is extensive, there should be a house devoted to this purpose; and as light is not essential to plants at rest, it might have a north aspect, when it would prove equally useful in the summer, either for retarding plants in bloom, or for growing such tender-leafed plants as are injured by exposure to the direct rays of the sun. Where, however, such accommodation does not exist, late Vineries will answer to keep Clerodendrons, Allamandas, Justicias, &c., while in a dormant state, as well as Hedychiums, Alpinias, Gesneras, and similar plants. The fire-heat required to preserve the Grapes will generally prove sufficient, unless during frost, when a little extra heat should be put on to keep the thermometer not less than 45°. The woody plants should be watered very sparingly, but the bulbous rooted and herbaceous sorts may be allowed to get nearly dry. Forcing Pits.—Pay attention to the stock of forcing shrubs and bulbs in these structures; directly the more forward are moved on to warmer houses, or the conservatory, fill up the spare room with a fresh supply, so as to keep up a regular succession. If fire-heat is employed be very moderate in its application to plants recently brought in. Pits not artificially heated should be carefully covered at night, to exclude frost. The stock of forcing plants yet out should (if not done previously), be at once plunged in some dry material to preserve their roots from frost.

FORCING DEPARTMENT.

Early Vinery.—Gradually increase the temperature as the buds swell to allow the night temperature to reach 55°, and an advance of 10° or 15° by day; by the time the Vines are fairly broken a slight advance on the latter may be allowed with a bright sun. At the time of breaking, and afterwards, great caution should be used in giving air, to prevent draughts. If, however, a proper system of ventilation is established, independent of the sashes, much trouble and anxiety will be avoided, for nothing can be more injurious than direct currents of cold air coming in contact with the tender leaves of the Vine (or other forced fruits) through the winter and early spring. Syringe the stems two or three times daily, with tepid water; and frequently sprinkle the flues or hot-water pipes to promote a moderately humid air in the house; this should, however, never be done when the pipes are very hot, as the steam will be likely to injure the foliage. Late Vineries.—Where Grapes are now hanging, the spurs should be shortened back to the bunch, to admit more light and air; the West's St. Peter's Vine, however, often retains its leaves late, and they should be preserved, as they help to keep the berries fresh and plump, and are useful for dishing up the dessert. Continue fires on damp days, admitting air at the same time. Pinery.—Keep a genial growing heat, with air on all opportunities to Pines swelling their fruit. The stock for fruiting next year will be at rest, and a dry atmosphere and abundance of air will be all that can be done for some time to the general stock; where, however, a portion is wanted to show early in January they should be commenced by slightly increasing the bottom-heat a week or so before the heat of the house is raised, and as they will be dry at the root, a moderate watering or two should be given at the same time. For successions see our directions at p. 728. Peach-house.—If the early house is commenced the trees will require damping with the syringe once or twice daily. A little fire may be made on frosty nights if the thermometer falls below 35°, and sufficient made by day to raise the temperature to 50°. See that the outside border is secure from wet by a good coat of dry materials, and the inside border, if dry, well soaked with water (slightly aired), which is sometimes the case when the sashes have been allowed on for some time.

FLOWER GARDEN AND SHRUBBERY.

Have everything in the shape of protectives ready for covering half hardy plants on the approach of frost, as much damage to young plants in the open ground may be apprehended; the excess of wet during the past autumn has been unfavourable for ripening wood, and consequently rendered them more liable to suffer from its effects. Beds of Tea Roses should be protected by placing Fern between the shoots, or branches of the common Furze; place a good coat of saw-dust, dry half rotten leaf-mould, or old tan over Fuchsias, Aloysias, Hydrangeas, &c., left in the ground through the winter; if saw-dust or leaf-mould is used, cover them over with a little earth to prevent their being blown away, and to hide their appearance. If the stems of the above are large they should be tied together, and then wound round with a hay-band, sticking a few evergreen branches round them to make them less conspicuous. Beds of the choicer kinds of Liliums and Cape bulbs should likewise have a covering of the same materials to exclude frost. Roses may be planted whenever the ground will permit, and pruning of the more hardy and common sorts may be commenced; let the shrubbery borders after they are cleaned from leaves, &c., have a forking over for the winter; the leaves and rubbish of each year should be preserved in a bye place to rot, and should be spread over the ground for a dressing before they are forked over. Let the gravel walks be well rolled before frost comes on.

HARDY FRUIT GARDEN.

Proceed with pruning Pears, Apples, Plums, and Cherries at all opportunities, taking those in the open quarters first, and afterwards the espaliers and wall trees. As soon as the quarters are done let the ground have a dressing of rotten cow-dung, or fresh loam, and afterwards dug over for the winter; if the land is of a heavy nature, leave it as rough as possible. Espaliers should be looked over after pruning; the stakes made good, and the trees again securely tied to them; where permanent iron-wire railing is used for espaliers, a coat of mineral black, or anti-corrosive paint should be laid on when the wires, &c., are dry, before the trees are trained. Cherries, Gooseberries, and Currants have often their buds destroyed in severe weather by birds; take the opportunity of a damp day and well dust the shoots with a mixture of dry soot and quicklime, sufficiently to cover the buds; we have found two or three dustings during the winter prevent in a great measure the ravages of these pests.

KITCHEN GARDEN.

The principal work in this department will be in affording protection to such vegetables as are likely to be injured by frost. Cauliflower, and Walcheren Broccoli, Celery, Endive, Parsley, and various other things, will require a covering of some kind on the approach of frost. If not already done, lose no time in filling all the spare pits and frames with Cauliflower, Lettuce, and Endive for winter use. Parsley and Sorrel in pots, should be placed in an empty Vinery or Peach-house, for use in severe weather. Mint, Tarragon, Burnet, Basil, &c., will require being placed in a little heat to bring them along. Plant a batch of the early Ash-leaf, or other good early Potato in small pots, for turning out into a pit, or into larger pots in January. The Mushroom house will serve to sprout them. The first crop of forced Rhubarb and Asparagus should have a little air each fine day (if growing under glass), after they are started; the latter, especially, should be exposed to all the light possible; keep up a mild steady heat, and prepare beds for second crops. Seakale should be kept dark and quite dry, as it is liable to damp off. In cutting the shoots, leave the side shoots for a second crop; remember, the more slowly it is forced, the finer and more tender it will be. Give air each mild day to young Cauliflowers and Lettuces under glass. A sprinkling of soot now and then will keep out slugs, and help to improve their growth.

STATE OF THE WEATHER NEAR LONDON,

For the week ending Dec. 2, 1852, as observed at the Horticultural Gardens, Chiswick.

Nov. and Dec.	Moon's Age.	Barometer. Max.	Barometer. Min.	Temperature. Of the Air. Max.	Min.	Mean	Of the Earth 1 foot deep.	2 feet deep.	Wind.	Rain.
Friday.. 26	0	29.483	29.426	56	38	47.0	46	45	S.W.	.70
Satur... 27	16	29.822	29.692	49	39	44.0	47	46	W.	.00
Sunday.. 28	17	29.670	29.450	51	28	39.5	45½	45½	N.W.	.08
Monday 29	18	29.680	29.507	39	34	36.5	44	44	N.	.00
Tues. .. 30	19	29.954	29.783	42	25	33.5	43	43½	N.	.00
Wed. .. 1	20	29.947	29.800	48	39	43.5	43	43½	S.W.	.05
Thurs... 2	21	29.870	29.838	48	35	41.5	43	43½	W.	.00
Average ...		29.776	29.642	47.6	34.0	40 8	44.5	44.4		.83

Nov. 26—Boisterous with rain; warm S.W. wind throughout; heavy rain at night.
— 27—Clear; fine; clear at night
— 28—Clear; showery; uniformly overcast; frosty.
— 29—Overcast and cold throughout.
— 30—Clear and cold; overcast.
Dec. 1—Frosty; fine, with sun till noon; overcast; rain.
— 2—Partially overcast; fine; overcast,
Mean temperature of the week, nearly 1 deg. below the average.

STATE OF THE WEATHER AT CHISWICK,

During the last 27 years, for the ensuing week, ending Dec. 11, 1852.

Dec.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 5	47.3	35.0	41.1	15	0.12 in.	—	1	1	1	2	10	7	4
Mon 6	46.7	35.3	41.0	14	0.14	1	1	1	1	4	11	6	1
Tues. 7	47.3	36.7	42.0	15	0.14	2	1	3	2	5	4	5	4
Wed. 8	46.1	33.6	39.8	13	0.16	1	3	2	1	2	9	8	2
Thurs. 9	45.6	35.5	40.6	10	0.03	2	5	2	1	1	10	4	1
Friday 10	46.4	34.4	40.4	8	0.20	—	3	2	1	6	7	4	3
Satur. 11	46.0	32.5	39.3	8	0.62	—	1	1	8	5	6	5	3

The highest temperature during the above period occurred on the 10th and 11th, 1848—therm. 60 deg.; and the lowest on the 6th and 6th, 1844—therm 14 deg.

Notices to Correspondents.

Cocoa-nut: *J C.* This fruit is called "Coker-nut" by people, because they know no better.

Fruit trees: *W G A.* We do not suppose that sheep would readily bark fruit trees in an orchard after the application of tar. But whether they would do so or not is immaterial, for the tar would kill the trees, more especially if gas-tar were employed.‖—*T G H.* Twelve Pears for standards, and to form a succession: Williams' Bon Chrétien, Jersey Gratioli, Fondante d'Automne, Comte de Lamy, Louise Bonne (of Jersey), Marie Louise, Beurré Diel, Thompson's, Glout Morceau, Passe Colmar, Easter Beurré, and Beurré Rance. Two Baking Pears: Catillac and Double de Guerre. Six Table Apples: Summer Golden Pippin, Golden Reinette, Early Nonpareil, Court of Wick, Pearson's Plate, Scarlet Nonpareil. Six Kitchen Apples: Dutch Codlin, Hawthornden, Dumelow's Seedling, Bedfordshire Foundling, Mère de Ménage, Rymer. Plums: Royale Hâtive, Green-gage, Jefferson. Cherries: Mayduke, Elton, Bigarreau. Gooseberries: Red Champagne, Red Warrington, Red Turkey, Keens' Seedling Red; Woodward's Whitesmith, Early White; Pitmaston Green-gage, Massey's Heart of Oak; Yellow Champagne, Rumbullion. Peaches: Royal George, Bellegarde, Barrington; Elruge and Violet Hâtive Nectarines.‖

Luminous Plants: *E M.* We regret to say that no determination has been arrived at concerning the luminous plant, called by the Brahmins Jyotismati, discovered in the Ooraghum Hills of Madura, near Trichoor, in Southern India, and exhibited April, 1845, at a meeting of the Royal Asiatic Society, as noted in our columns of or about that date. Indian botanists alone can investigate the matter, and they do not seem to have applied themselves to it. All that we know is that the dead rhizome was luminous while in our possession. It emitted a light not distinguishable from pale phosphorescent gleams.

Names of Plants: *Thos. F W.* Diosma ciliata.—*C M H.* Pernettya mucronata; bears a white blossom and a purple berry. The other is a variety of Phillyrea obliqua; it produces small green flowers, but will not fruit. Both are hardy.—*T D H.* The so-called Franciscea is a plant with which we are quite unacquainted. No Eucalyptus is determinable without adult leaves, and flowers. If your Assam plant milks, it is a Ficus.

Pears: *S F W.* Where there is a sufficient depth of soil, Pear trees thrive very well on the new red sandstone. The substance of manure will soon wash down through the sandy subsoil; it will therefore be advisable to add a quantity of strong but not too adhesive loam. On such a subsoil you will do well to make your borders 3 feet deep.‖

Pine-apples: *Kenton.* The fruit you have sent appears to have been extremely well grown; but it looks as if it were over-ripe. Such appearances are, however, not uncommon where there is more damp in the Pine-house than the ventilation, or light, or temperature, all or either, can enable the plants to digest. Under such circumstances plants may be very vigorous, fruit beautifully swelled, and no sign of decay visible up to the time of actual ripeness, but such fruit will not keep; on the contrary, it decays at the core, or in the places where seeds sometimes come, just as in your case. We presume that you do not find the fruit wrong during fine bright warm weather, when there is plenty of light, and air can be given freely, which for a month past has been impossible.

Potatoes: *A Subscriber.* If you wish to know whether wet will rot Potatoes in winter, just put some in a bag, and throw it into a pond, weighting it enough to keep them under water, and out of the reach of ice. Be advised, and do not mistake accidents for consequences. Read also the result of Mr. Roy-Mabille's experiments, formerly reported by us at length.

Pots: *Mary Anne.* Plants succeed equally well in glazed pots and in those made of common red earthenware.‡

Scotch Firs and Pinasters: *R G.* These trees cannot be lopped with advantage in April and May; to make them grow well and handsomely, the operation should only be done in the autumn or winter.

St. Domingo: *R S.* Parcel this moment arrived, but not unpacked.

Vines: *Amateur.* Prune the laterals on your young Vines nearly close to the well-swelled buds at their bases, and then you may consider the pruning operation finished.‖

Walls: *N W H.* The mixture you have applied to your wall will not injure your trees. If the latter are infested with insects, then you should wash them well with a mixture of tobacco, soft soap, and water.

Misc: *J W.* We are not aware that any Registry-office exists in London such as that about which you inquire.‡

PERUVIAN GUANO.

CAUTION TO AGRICULTURISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

ANTONY GIBBS AND SONS, AS THE ONLY IMPORTERS OF PERUVIAN GUANO,

Consider it to be their duty to the Peruvian Government and to the Public again to recommend Farmers and all others who buy to be carefully on their guard.

The character of the parties from whom they purchase will of course be the best security, and, in addition to particular attention to that point, ANTONY GIBBS AND SONS think it well to remind buyers that—

The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 9l. 5s. per ton, less 2½ per cent.

Any resales made by dealers at a lower price must therefore either leave a loss to them, or the article must be adulterated.

THE LONDON MANURE COMPANY offers on the best terms Wheat Manure for autumn sowing, Linseed, Rape Cakes, Peruvian Guano, Urate, Superphosphate of Lime, and every other artificial manure. Also a quantity of Salt, the refuse of ammonia and saltpetre makers, considerably more valuable than the ordinary agricultural salt.

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MANURES.—The following Manures are manufactured at Mr. LAWES'S Factory, Deptford Creek:

Turnip Manure, per ton	... ...	... £7	0 0
Superphosphate of Lime	... ...	... 7	0 0
Sulphuric Acid and Coprolites	...	... 5	0 0

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N.B. Peruvian Guano, guaranteed to contain 16 per cent. of Ammonia, 9l. 10s. per ton; and for 5 tons or more, 9l. 5s. per ton, in dock. Sulphate of ammonia, &c.

MANURE.

PEAT CHARCOAL, completely saturated with London Sewage, will be found a most effective manure for any crop. It may be obtained from the Sewage Manure Works, Stanley Bridge, Fulham, Middlesex, at 60s. per ton, 4s. per cwt., and 2s. 6d. per ¼ cwt.

"Sewage manure absorbed in charcoal is a first-rate fertiliser; we have tried it on French Beans, Dahlias, Roses, and Cabbage plants; we put half a pint to each Rose and Dahlia, sowed it in the row with Beans, and put a few pinches to each plant of Cabbage. The effect is perceptible very soon, but it will be twice as efficacious the second year as the first."—*The Garden, by Mr. Glenny.*

WINTON'S PARKES'S CELEBRATED STEEL DIGGING FORKS AND TOOLS are universally approved of. They facilitate labour 20 per cent. They have received the Silver Medal at Lewes, Dublin, Galway, Sheffield, and other places. Anthony's Patent American Churn has received the prize at every one of the numerous agricultural meetings where it has been shown. The Royal Agricultural Journal, p. 41, says, "This form of churn is the best for churning sweet cream, and will undoubtedly produce butter from milk or cream, in any form, in much less time than any churn that has yet been introduced." Pumps for manure and watering gardens. Mr. Mechi has one working admirably. These pumps are cheap, durable, and effective. Gutta percha tubing, bands for machinery, hose for pumps, and an assortment of prize and the best farm implements. Price catalogues sent on application.—BURGESS and KEY, 103, Newgate-street, London, agents for M'Cormick's American Reaper.

SMITHFIELD CATTLE SHOW.

W. SKIRVING, Walton Nursery, Liverpool, begs to acquaint his friends and the public, that he will attend the ensuing Smithfield Cattle Show, to exhibit Roots of his Improved SWEDE and other TURNIPS, and to take orders for the Seed of them, and all other approved kinds of Agricultural Seeds.

W. S. will also exhibit specimens of these new and highly interesting hardy Trees, ARAUCARIA IMBRICATA, CEDRUS DEODARA, and CRYPTOMERIA JAPONICA, of which he holds an extensive Stock, of various ages and sizes, all grown from seed in the open ground, and transplanted into beds or pots in the Nursery.—Liverpool, Dec. 4.

PRIZE CATTLE SHOW OF THE SMITHFIELD CLUB, 1852.—The ANNUAL EXHIBITION of Prize Cattle, Seeds, Roots, Implements, &c., commences TUESDAY morning, and closes FRIDAY evening, 7th, 8th, 9th, and 10th DECEMBER: Bazaar, King-street, and Baker-street. Open from Daylight till Nine in the Evening.—Admittance, 1s

THE BIRMINGHAM CATTLE AND POULTRY SHOW, 1852.—The FOURTH GREAT ANNUAL EXHIBITION of CATTLE, SHEEP, PIGS, and the various kinds of DOMESTIC POULTRY, will be held in BINGLEY HALL, BIRMINGHAM, on TUESDAY, WEDNESDAY, THURSDAY, and FRIDAY, the 14th, 15th, 16th, and 17th days of DECEMBER. The PRIVATE VIEW and the ANNUAL DINNER on TUESDAY, December 14.

Admission on Tuesday, 5s.; and on Wednesday, Thursday, and Friday, 1s.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.—The DECEMBER GENERAL MEETING will be held at the Society's House, in Hanover Square, on SATURDAY, the 11th December, at 11 o'clock in the Forenoon.

By Order of the Council,

JAMES HUDSON, Secretary.

The Agricultural Gazette.

SATURDAY, DECEMBER 4, 1852.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

TUESDAY	Dec.	7—Smithfield Club Cattle Show.
WEDNESDAY	—	8—Agricultural Society of England.
THURSDAY	—	9—Agriculture Imp. Society of Ireland.
FRIDAY	—	10—Birmingham Cattle and Poultry Show.
WEDNESDAY	—	15—Agricultural Society of England.
THURSDAY	—	16—Agricultural Imp. Society of Ireland.

THERE are many details connected with the great work of the farm, at the present season of the year, which deserve closer attention than they generally receive. THE COOKING OF FOOD FOR CATTLE is, if possible, a work of more importance than the cooking of food for the human family; the former affects the quantity, the latter only the quality of human food. The manner in which food is often thrown before beasts of every kind is altogether unpardonable; for although the digestive organs of our domestic animals differ widely from those of man, these animals being capable of building and maintaining their bodies out of raw materials of a coarse character, yet they are not less nice in their taste than we are. Indeed they are even more so, as is proved by the manner in which they avoid or select the plants of our pastures, and choose Grass grown after one species of manure before Grass grown after another. Nor are they less dependent on the proper mixture of their food, as is shown by the manner in which the stomachs of different individuals are differently affected by the same kind of food—which produces bone, muscle, and fat in different degrees and proportions in different cases. Man knows his own necessities in this respect, and chooses accordingly; but cattle are differently situated, especially when house fed, where the selection and cooking of their food is left in no degree to their natural instinct.

The subject divides itself into two parts,—the selection of the raw materials of food, and their preparation and mixing or cooking afterwards, when about to be served up for consumption.

In the harvesting of hay and corn crops, that which is only fit for litter ought to be kept separate from that which is to be consumed by cattle: a rule which the interest of the farmer requires to be reduced to practice, also in reference to the different qualities of corn; for the corn grown on laid straw—whether it be Wheat, Barley, Oats, Peas, or Beans, is always of an inferior quality—often unfit for any other purpose than to be given to pigs or poultry, and hence ought not to be mixed in the stacking with that grown on clean standing straw. The two should be stacked separately, so that the corn and straw of each may be appropriated to purposes according to their respective qualities. Practice, in the hurry of harvest operations, is not unfrequently short-sighted in this matter; for the stacking of the good and bad together, and then cutting them up into chaff, so as to compel cattle to eat both, or the using of the fine straw along with the coarse as litter, is an obviously faulty practice. It is not improbable that the reaping-machine may necessitate many farmers to adopt a sounder practice than they now follow, from the fact of its passing over lying beds, and leaving them to be cut up afterwards; but be that as it may, the little extra expense in effecting a separation in the harvest field, if judiciously gone about, is not to be set against the benefits to be afterwards gained. Good Oat straw is often better than bad hay for cattle, and better relished by them; and as good quality in both hay and corn-harvest is often the exception, it ought to be kept carefully separate by itself.

In reference to the second head of our subject, we may remark that too much attention seems to have been shown to mere chaff-cutting and Turnip-cutting, and to the proper apportionment of each—*i. e.*, to the weight which each beast should receive daily—as if the mouths of horses, oxen, and sheep were of some specific and definite dimensions, to which the length of these bits of straw and pieces of Turnip must be properly fitted; while the proper mixture of these and other substances, which in itself constitutes really the art of cooking, has been left in the background, as if the peculiar demands of the alimentary organs, especially of ruminant animals, was, in practice, a question of only second-rate importance—a conclusion the most remote from the facts of the case; for however carefully prepared and weighed out the different constituents of food may be; if given separately or even improperly mixed together, too much of one kind is liable to be consumed, and too little of another, the consequence of which is a derangement of the system, and waste of food. It is only when a proper mixture takes place that the food becomes palatable, digestible, and nutritive in the highest degree, inducing the animal to eat and work up the largest quantity of it into its system. Of course from the diversity of constitution and of season no definite rule can be given as to how much of this, that, and the other should be mixed, nor how much of the compound should be given daily to produce the greatest effect. These are points on which experience alone can decide. The only rule which should obtain is that which agrees best with each individual; and after this has once been ascertained, the practice based upon it should be followed up with unvarying fidelity. No doubt were experiments and constitutional characteristics faithfully recorded, they would, in some measure, serve as a guide to future practice, but practice is so surrounded with changing circumstances of endless variety that experience as well as judgment is necessary to make the corresponding changes of diet before it can be served up to either the horse, the ox, the sheep, or the pig, with any certainty of success.

It would thus appear that a period not far distant is indicated when every farmer who carries on business to any considerable extent will have his cattle cook, whose shop will form an essential department, second, indeed, to none on the farm—that the various elements of food, such as hay, straw, different kinds of corn, oilcake, roots, &c., will, on passing through his hands, be manufactured separately, in the first instance, and afterwards mixed according to the wants of the individual animals whose tastes, appetites, and requirements he will have carefully to study.

ON THE APPLICATION AND EFFECTS OF MANURE.

IN my communication which appeared in your Paper No. 46, I instanced the practice of the grower of permanent Grass as supporting the theory that the excrements of animals supply the most valuable manure to the plants which furnish their food. I now seek to occupy your columns with some observations and data derived from my practice as an occupier of Grass lands which seem to favour such conclusions. The Grass, district in which I reside is of considerable extent; you may travel 40 or 50 miles in one direction without seeing, except here and there, an isolated field in tillage. It comprises land of varied staple and capability; the poorer and higher farms are used for breeding stock or agistment; the richer and warmer, particularly those on the banks of streams and rivers, for fattening. Without inquiry into the claims of the poorer class of soils to maintain their fertility, I proceed to describe the statistics and treatment of the richer pastures which from year to year support their character of maintaining the same stock.

The holders or tenants commence the buying in of their stock, as opportunity serves, during March, and complete this towards the close of May. These cattle are well-grown heifers or cows which have been in milk, suitable for fattening, and are sent to the neighbouring markets from September to November; interspersed with them is a proportion of ewes with lambs or wedders, which are disposed of during the same period. As the fattening cattle are drawn off, they are replaced with "stores" for the next season, and with ewes for lambing which continue on depasture as long as the food and weather allow, the sheep sometimes through winter. I think it fair to assume that these pastures carry a bullock or heifer per acre during six months of the year. I now proceed to consider the amount of manure supplied in excrements to these Grass lands. I find, from observations made at different seasons, and extending over a series of several weeks, that cows or heifers weighing from 40 to 50 stone each yield at the rate of 10 tons a-year, solid and liquid excrements; with dry fodder the weight is nearly similar, which is explained by stating that with dry food the cattle drink 60 to 70 lbs. a-day of water, which is wholly, or nearly so supplied to them by the watery components of green food, Grass, Turnips, &c. From an analysis by Mr. Way it appears that 82 per cent. of this excrement is moisture. Allowing the fæces its due proportion, there will be in each 100 lbs.—of fæces, 33⅓—of liquid, 66⅔; total, 100. It is important to consider in what state this manure is supplied; the more volatile property nitrogen or ammonia is chiefly in the liquid, whilst the mineral or non-volatile is almost wholly in the fæces. From the quantities stated it will be seen that these pastures receive each season per acre—Of liquid 7500 lbs., charged with 60 lbs. of ammonia; and of fæces 3750 lbs., charged with 74 lbs. of phosphate of lime, not taking into account other ingredients. It will be observed that with every pound of this nitrogen is discharged more than 130 lbs. of water, which serve as a vehicle to its destination the soil, aptly termed the stomach of vegetation. It is applied in small quantities at all times and seasons; if in wet weather it will be immediately washed into the ground; if in drought, it will, I think, be absorbed likewise, with some little detriment from the caustic quality of the nitrogen scorching the Grass. The attention of the husbandman is required at times, and in wet weather, to spread the fæces which are washed in by the rain. The nitrogen enters the soil as urea, when, by fermentation and decomposition, it becomes ammonia—food for plants. I am not aware that there is any difference in the result of this fermentation as compared with what takes place in the dunghill, except that in one case the ammonia is fixed in the soil, as we are taught by Prof. Way, whilst in the other some portion of it escapes in the atmosphere. Let a joint of mutton or beef be placed underground, and another on the surface, fermentation and decomposition will ensue, and when complete the residuum in each will be bone—mineral matter; the process will, I apprehend, be precisely similar, varying only in speed.

Will not the chemist tell you that the components of the joints have undergone a change? The carbon has become carbonic acid, and the nitrogen ammonia, with this essential difference, that the nitrogen of the joint on the surface will have gone to enrich the common fund in the atmosphere, while that in the joint underground, will be retained to nourish vegetation. Let me here ask what has become of the carbon? (of which more than one-half of the flesh consists.) Will it not in each case have sought the atmosphere? We hear of many contrivances to arrest the flight of ammonia, but of none to stay that of carbonic acid—another instance of the neglect of carbon. If it can be shown that the urea of the liquid sufficiently penetrates and is absorbed by the soil, I hold that the application of manure on pasture, under the circumstances described, is

economical, and together with what is derived from the atmosphere sufficient.

It will be seen that about 60 lbs. of ammonia is supplied to an acre each season. When guano is used to a meadow, 3 cwt. per acre, containing 50 lbs. of ammonia, is thought adequate; the aftermath is eaten off by cattle, which gives some addition in their excrements. With a somewhat similar quantity of ammonia in the application, there is a marked difference in the effect. With the excrements from the Grass we go on for a series of years without perceiving or acknowledging any deterioration, whilst with guano we find a change of produce, the coarser Grasses are encouraged to the displacement of the finer, a continued application of guano year after year is not deemed advisable.

My practice, which I have before described in your columns, is in accordance with the views I have now stated; instead of straw amongst my manure, which tends to encourage fermentation, I use peat soil, which retards or prevents it. I commence mowing my meadows towards the close of May; so soon as favourable moist weather allows, they are dressed with fresh unfermented dung, which I use means to distribute and brush into the ground. By the time my second mowing is finished, October, nearly the whole of my meadows are manured with the excrements derived from their produce. It may sometimes happen that within a few hours after the grass has been cut, the excrements from that grass are again applied to the space where it was grown to cherish its reproduction.

I offer these observations to the consideration of your readers; to me they appear to support the theory to which I referred at the commencement—that the excrements of an animal supply the most valuable manure for the plants which furnish their food, and they also tend to confirm me in my conclusions in favour of the use of fresh dung, and that the fermentation of manure previous to its application is attended with waste. *Y.*

THE IRISH POTATO CROP 1852.

When the editor of this Paper made his annual call for the return of crops, it was a general apprehension, from the early appearance and virulence of the disease in the Potato, that the loss of the crop would be all but total, it was commonly said that it had never been so bad since 1846; this apprehension appears now to be far from realised. In this part of Ireland, after the first attack and loss, which was certainly severe and great, the putrefactive action of the mildew on the tubers does not appear to have progressed, and I believe this to be the case everywhere. In the Potatoes then dug out as large a proportion was certainly diseased as is now (in this neighbourhood, if we exclude bog, which was all but free from disease, averaging under one-fourth); we are not, however, justified in calculating the loss at only this amount, for it is to be recollected that from the early period at which the growth was checked by the death of leaf and stem, a much greater loss has been sustained. Possibly if we reckon that the crop falls two-thirds short of what it would have been, had there been no disease, we shall be pretty near the thing.

From the breadth of land under Potatoes this year, had there been no disease, there would probably have been an ample supply of Potatoes, and consequently of cheap food for the support of the whole of our diminished population; as it is, our Oatmeal, and yet more the cheaper American produce, Indian meal, must still be resorted to, as at present constituting cheaper articles of food than Potatoes. In the former case, and it was expected, Potatoes would have been sold at 2*d.* or little more the stone in the country markets—they now are selling at an average of 5*d.*; at this price they become a luxury, which only the wealthier can enjoy; yet so much more agreeable than grain are they to the Irish palate, that every one who can afford it, and every little farmer that has grown them in sufficient quantity chiefly exists upon them (also from their refuse in the feeding of swine and poultry some benefit is obtained, and such is the feeling in respect of them, that it is a common saying, "There is no plenty in the house without them.") They still constitute a very great—the greatest—element of enjoyment under the Irish peasant's roof-tree. How then stands the question with regard to the propriety of continuing their culture? Here, in a year of early attack of fungus, it is to be observed, although it seems to escape general attention, that these years of early attack alternate with years of later attack, and therefore of more abundant produce; we harvest the third part of a full crop, and this third of a crop is equivalent in food to a full crop of Oats (according to the average crops of the country), in a year, then, of greatest failure, it is equally profitable for home consumption, to the man who grows them, to plant an acre of Potatoes as to sow an acre of Oats; to him who plants them for sale they are yet more valuable, for at so low a price as 4*d.* a stone they will bring him in double the price that his Oats will. But the balance will appear still stronger in favour of the Potatoes, when we take into account the greater enjoyment they afford as an article of food, and that this enjoyment is afforded to those who possess none of the luxuries and very few of the comforts of life; it must also be taken into account, and a most essential item it is—the amount of tillage they compel the farmer to lay out on the land. We take the ordinary tillage of the country. For Oats after Oats the farmer in Ireland merely ploughs the stubbles, harrows in the seed, and shovels up the loose clay that has fallen in the furrows after the harrows. For Potatoes he ploughs, harrows, and shovels the furrows as for Oats, but, in addition, he digs the furrows to the full depth of the staple, and shovels the clay over the beds, at a second operation, some six weeks or two months after the first, leaving a surface exposed for that time to immediate atmospheric action; a fresh surface, taken from 6 to 12 inches depth, is then exposed to aerial influences for three or four months; and then comes the raising of the crop by digging and mixing the whole, breaking the smallest lumps, to separate the Potatoes from them; and after this the careful tiller will throw up the clay which in the digging has fallen into the furrows on the beds; a further operation is not unfrequently performed in digging and throwing up the subsoil of the furrows; the beds are thus kept dry through the winter, and the clay in them left in a loose state, to be acted on by winter frosts. In spring the beds are levelled, ploughed, and sown.

It will be said that all the advantages of this Potato tillage may be obtained by substituting Turnips. They may, but does such a deep, thorough and disintegrating process take place in the common tillage of Turnips? It does not, and will not, in Ireland. But Turnips are a very sorry food for man, and it is for man's food that the generality of farmers in Ireland till their land; the mildness of the climate and the grassiness of the land enable them to graze through the winter; in some parts even the milch cattle are never housed. The necessity of Turnips for cattle food is not much felt, and, more than this, they have not the stock to consume any large amount of Turnips. The stock of cattle is much kept down by the custom of slaughtering the bull calves as soon as they are dropped, as they do not, from the inferiority of breed, pay for rearing. Potatoes must then continue in Ireland the chief, almost the only, fallow crop—these or nothing. The system is bad, but until we can mend it, by improving our stock and making them worth rearing—and the landlords in Ireland, as a whole, are good for nothing in this matter—it is all moonshine to talk of making Turnips on fallow crops and growing food for cattle. The culture of Turnips we should endeavour to slip into the course—not to substitute them for Potatoes. For man food—the only object for which they have been cultivated in Ireland, with exceptions to be found here and there, only among the wealthier classes—they are a very sorry article. It was a queer way to improve the degenerated Irish peasant, depraved by feeding from the same dish with his pig, to take him to the cattle byre. It had been more consistent to have taken a leaf out of Mr. Smith's book, and made the Irishman's Oats his fallow crop.

But of the Potato disease:—There cannot be a doubt that, like all epidemics, it will gradually wear itself out. It is evidently shifting and changing; it is less virulent than it was, at least, its putrefactive energy is diminished; the tubers neither suffer so much in the ground, nor when winter stored. Even the diseased ones progress slower to decomposition; the Potato has also recovered its true flavour. We are daily discovering kinds that better withstand the disease, while our tillage remains the same. The returns made to the *Farmers' Gazette*, of Dublin, in August last, enumerate 23 kinds as then, in some localities, perfectly free from disease, or but slightly affected. We also find that the kinds which most resist disease are quite, or very nearly so, free from disease when planted in bogs.

There have been this summer about 3 acres of Potatoes more immediately under my own eyes. In the pure bog they are free from disease; in the lightest soil (the earliest planted) they are most diseased; in heavy clay land, low lying, manured with raw bog mould and yard dung, they are not much diseased; but by far the best, the largest, the heaviest crop, and the least diseased, are some from which we expected least: they were planted in medium soil, manured with raw bog mould in the last week in April, when about 3 inches high a very little yard manure was spread among them, and the beds then shovelled from the furrows. The leaves and stems of these Potatoes retained their verdure and healthy appearance nearly three weeks longer than others (attributable perhaps, in part, to their being later), and contrary to what has hitherto been the general opinion, it is very commonly observed that the late planted Potatoes have this year suffered least from disease.

From my observations I am disposed to believe that the kinds in which the tubers suffer least are those which have the longer tuber stems, that is, those which produce their tubers the farthest from the plant stem; this has certainly been the case this year with the Ash-leaved Kidneys, Kemps, and Scotch Downs; my attention was not drawn to this view till the present season. If this is corroborated by the observations of others, and I would entreat all who have given attention to the disease in various kinds of Potatoes, to state in the columns of the *Agricultural Gazette* what they have observed in this respect, we shall be led to conclude that the putrefactive working of the mildew is intercepted more or less by the medium through which the tuber stem passes, as it possesses more or less antiseptic properties; thus we shall account for the tubers in bog suffering less than in other soils, notwithstanding the stems have been as much blighted, as also for the heavier lands having of late years, since the long tuber-stemmed Potatoes have been cultivated, as has been observed by the country people hereabouts, produced sounder tubers than the lighter lands, and which I have found to be the case as above stated. It will also tend to set at rest the question as to whether the disease proceeds from the leaf or from the root, and it will lead us to stay the putrefactive process by the cultivation of those kinds which throw their tubers the farthest from the stems, and by applying, near the roots, manures possessing high antiseptic properties, reserving the stronger manure for after application to stimulate the growth of the stems. *J. M. Goodiff, Granard.*

FARMING IN THE AZORES.

Some account of the system of farming practised by the inhabitants of the Azores may not prove uninteresting to the readers of the *Agricultural Gazette*. I take the liberty of sending this for insertion. The soil of the islands of the Azores is generally a light friable loam, the climate mild and humid, and vegetation usually in action the whole year round.

The implements used by the Azoreans for agricultural purposes are of the rudest description. Their one-handed ploughs, wooden harrows, and oxen yokes, are the true copies of those used by the ancient Roman agriculturist. No doubt an English ploughman would be highly amused at seeing one of these almost wooden ploughs at work, which operation is performed in the following manner: the plough is attached to the yokes on the necks of the oxen, by a pole, rising from the share at about the same angle as the plough-handle. Cords are fastened to the horns of the bullocks, and are held in the same hand as the plough; in the other hand the lavrador carries a goad from 12 to 14 feet in length, made of tough lance-wood, imported from the Brazils. The plough-shares are equal-sided, and force the earth at once right and left. As the fields are not laid up in ridges, as practised in England, the ploughman again sets in upon the same furrow from which he broke out.

The divisions of land are generally very small and narrow, particularly in the vicinity of towns, often containing less than an acre of ground. Yet I have seen, after a wet seed time, seven or eight of these ploughs, each drawn by a pair of oxen, plying about in one of these small compartments with as much ease as a city omnibus driver directs his vehicle through the streets.

The above-named implements, with another kind of plough worked by two men, one drawing and the other pushing, used for stirring up light soils for crops of French Beans, &c.,—two kinds of Sachos-hoes, one having a broad blade, from 12 to 15 inches in width, the other a sort of triangular hoe, used for sowing Indian Corn among the crops of broad Beans; the larger hoe being used for extirpating the weeds amongst the Indian Corn,—these form the principal implements for tilling the ground in the Azores, which, in any other country less favoured in soil and climate, would prove indifferent auxiliaries in aiding to draw from mother earth the bounties she bestows upon us.

The principal time for commencing agricultural operations is about the middle of November; at this season the Azorians are enjoying what they term the Verao do San Martim, St. Martin's Summer, a period when, after the autumnal rains, the weather becomes as serene and calm as a fine September month in England, this fine weather often lasting till Christmas. The work now done is preparing the ground for sowing Wheat and Tremoco, Lupins. There is no system of rotation-cropping.

Lupins are the great fertilising agent of the Azorean farmers, who have as yet little studied the economy of a good manure-yard. In fact the idea, for the Portuguese, involves too much trouble and labour, consequently much material that might be converted into good manure is burnt or left to litter about the ground. On the other hand, the Tremoça is sown at once upon the spot where it is afterwards to be cut down and ploughed in, and produces abundant crops of corn. From my own experience I cannot affirm which would give the best result, manure or Lupins. I have often asked, on seeing a fine crop of Indian Corn, what manure was used? The answer was invariably, Atremoçaram na bern—It was well Lupined. As I have before stated, the Azorean larrador takes advantage of St. Martin's summer to sow Lupins, that they may grow to manure the spring crops. In December ground is prepared and sown with Broad Beans, but in sheltered places the work is often deferred till January. Broad Beans are an important and valuable crop to the Azorean farmer, when they escape being destroyed by the sea-breeze, and a kind of red blight termed by the Portuguese Alfora, an evil which too often occurs. At this time are also planted Potatoes for early spring use. The time considered the best for sowing Wheat in the high districts is the middle of January, in lower districts a month later. From this time the toil of the larrador partly ceases, with the exception of an occasional hoeing of the Beans and keeping the Wheat clear of weeds, till March the season for getting in the principal crop of Indian Corn; it is on this crop the farmer puts his whole trust, and now the full force of labour of oxen and men are brought into the fields. The Lupins by this time have attained a height of 2 to 3 feet, in the valleys and sheltered places, those on the high lands about half that height. Previous to ploughing them in, they are chopped off about mid-height with sickles or any other convenient instrument. As the farmers are not generally overstocked with implements of labour, the ploughing is now begun, I may almost say any way, one yoke of oxen setting in at one place, others in another, often in a contrary direction, and what with whooping and hallooing to cheer and

direct the bullocks, their comical dress and long lance poles, a stranger would be very likely to imagine himself amongst a lot of madmen. As the oxen are fine strong animals, and the ploughs enter but lightly into the soil, the work is soon done; after which, unless the seed time is much advanced, they allow it to remain about fifteen days, when it is again ploughed into drills, a man following the plough and dropping in the seed, about two feet apart, and three or four grains at a time. The drills are drawn as straight as possible, the plough returning as I have before described, covers in the seed as it is sown; after which the harrow is passed over the ground and the whole is left tolerably smooth. The Indian Corn speedily germinates, when the fields are again looked over to note if any of the seed has missed coming; if so, it is again sown.

These operations now bring us into April; at this time, if the Bean crop has had good luck, the pods are getting well filled, and a second sowing of Indian Corn is begun among the Beans. This is done with the triangular hoe I have already mentioned; the sower being supplied with a bag, full of seed, goes carefully between the rows, digging the soil a little with his hoe, and dropping in the corn. By the end of April and the beginning of May the Indian Corn first sown, or, as it is termed by the natives, *Milho temporo*, is from 6 to 8 inches high, and ready for its first hoeing; this is done with the broad short-handled hoe. In this work the field labourer takes great delight; any one who cannot handle a sacho is little esteemed. The first time of hoeing, great care is taken not to injure the young plants; thinning them—leaving one when robust, and two if weakly. All weeds are hoed up, and the soil carefully drawn to the necks of the plants.

As May advances the Beans ripen, and are carefully gathered off into bundles. When sufficiently dry for threshing, they are carried to any convenient spot, and threshed in the open air: this work is frequently done in the public streets. In this, as in almost every other work, the natives take advantage of nature to assist them. A windy day is chosen for Bean threshing, which is done in the following manner:—A large area is cleared of dirt and stones; the Beans are spread out, and the men with their flails (similar to those used at home), form in a line, and march across, keeping stroke as they go. On arriving at the opposite side they again form; the haulm is shaken up, and thus they continue shouting and singing till the work is done. The Beans are then gathered into a heap, and winnowed by holding them up to fall a considerable height, whilst the wind blows the dirt and rubbish away. The greater part of this crop is exported to Lisbon almost as soon as it is gathered in. In the year 1847 the quantity of Beans exported from the Island of St. Michael's was 180,080 alqueires (an alqueire is about a peck English measure), realising to the farmer 260 reis per alqueire, nearly 1*d.* English money.

May is also the time for sowing French Beans, a produce of great value for home consumption, likewise for exportation. Those who wish to make the most profit of their ground sow French Beans between the rows of Indian Corn, after it has received its first hoeing, in fact, the greater part are grown in that manner, but land too poor to produce any other crop, will grow French Beans; the Orange gardens also are much used for this crop.

As June advances, the Indian Corn is hoed a second and third time; that sown among the Beans rarely requires hoeing more than once, as the dry hot weather has now fairly set in.

The rapidity of growth of Indian Corn is truly surprising; that planted early in March, by the end of June, attains a height of 5 to 6 feet.

As the climate of England is not everywhere suitable for the cultivation of this valuable cereal, a short description of it will better aid those who have not seen it growing, to understand the variety of useful purposes to which Indian Corn is appropriated. It will be remembered that Mr. Cobbett some 30 years ago made a great clamour about the introduction of Indian Corn or Maize into Ireland, to be cultivated as a substitute for their potatoes, or "lumpers," as Mr. Cobbett drolly apostrophised them. If I remember right, it was after the partial failure of the Potato crop, added to a bad harvest in 1822, producing famine, with its usual attendants, fever and starvation, that caused Mr. Cobbett to urge so strongly the cultivation of Indian Corn; and in all probability, had his advice been taken, the more recent disastrous and truly deplorable events of famine and starvation would have been avoided: particularly as the temperate climate of the south and south-western districts of Ireland would, I have little doubt, be highly favourable to the cultivation of Maize.

Indian Corn-bread and Portugal Cabbage form the staple articles of food of the robust and healthy Azorean peasant and middle classes, and are even found at the tables of the comparatively opulent. The bread, when well prepared, is an agreeable and wholesome food; the Portuguese labourers of the islands give preference to it beyond Wheaten bread. I have often asked which they preferred; the answer was—"Indian Corn-bread is more substance and gives people more strength to work."

After this rather wide digression from my subject, I will proceed briefly to describe the Indian Corn as a plant. It is the Zea Mays of botanists, of which there are many varieties, producing grains of white, yellow, red and purple colours. Many are natives of the warmer climates of America. The tall growing kinds are cultivated in the Azores, usually growing from 6 to 7 feet high, producing a spike or panicle of male flowers at the summit of the stem, whilst the female flowers show at the apex of the ear, or maçaroca, as it is termed by the natives. The ears are mostly two in number, sprouting out one about the middle of the stem, the other at the base of the male flower stalk. The ears are enclosed in an involucrum of leathery boat-shaped leaves or husks, varying in number generally from 12 to 14. The stem is clothed with long wavy sword-shaped leaves, their bases amplexicaule and deeply decurrent. The stalk at the base of a strong plant is about 2 inches in diameter. Most people, no doubt, have seen its handsome and well-studded ears, when divested of their leathery coating, which will render any further account unnecessary. I may add, the whole plant is peculiarly interesting, and particularly worthy of the attention of the physiologist.

As the present moment offers a good opportunity of describing the various useful purposes to which the different parts of this valuable plant are applied, I will do so.

In July (and with later crops at a later period), when the pollen has performed its fertilising duties, the spikes with the leaves attached are broken off, and used as green food for horses, oxen, and donkeys; of the latter there are about 15,000 on the Island of St. Michael, and they are the most valuable beasts of burden. The price of a good donkey is from 10*l.* to 15*l.* sterling, and upwards.

In August, when the Indian Corn is nearly ripe, the leaves below the ears are stripped off, and hang upon the stalks to dry for winter fodder—the only fodder stored by the natives for winter use. Horses imported from England eat it when first offered to them, and appear to like it. When the corn is ripe, the husks or leaves are taken off; these also are sometimes used as food for cattle, and said to be better than the stalky leaves, but the greater portion are wanted for packing Oranges. The stems of the Indian corn are at last dried, and used as fuel by the poor people. In a future paper I will finish this brief sketch of Azorean farming. *P. Wallace.*

Home Correspondence.

On the Manufacture of Offal into Manure (p. 745).—The way to remedy the grievance is to provide slaughter-houses on every farm, and let the purchaser slaughter the cattle himself, and leave the offal behind him; or, in large farms, journeymen butchers could be employed to kill and pack the meat for market, and this would get rid of the Smithfield question at the same time, though not without a vast deal of vapouring, but not more than was induced by the opposition to free trade. And it should be borne in mind that the farmer will have a margin of from 1*s.* to 2*s.* per stone of 14 lbs. to work upon, that being the difference between the wholesale and retail prices, though in carrying out the details it would not all reach his pocket; at all events, since railways afford a quicker means of getting meat to market, the chances are much in favour of success. It will of course require perseverance to carry out so great a change; but as it would not injure the consumer, all parties would be benefited, and the manure and offal then could remain on the farm. *W. Thorold.*

Thin Seeding.—Would it not be fairer for gentlemen honestly to refute the system of which thin seeding is a part, than to take one solitary part of the system for the purpose of turning the whole into ridicule? The thin seeders are not so weak-headed as their numerous opponents take them to be; they advocate a system of agriculture which they prove to be more profitable both for the farmer and the country at large than any other system yet known; but a thousand times over have they deprecated the notion that the whole or but a fractional part of this system consists in thin seeding only. Then, why do not my friends, Mr. Goodiff and others, fairly attack and refute the system, and not keep eternally harping on one point of it which they think vulnerable? I deny *in toto* that the question for the farmer's consideration is that which Mr. Goodiff echoes it to be. Mr. Piper has shown, over and over again, that after allowing for rent, rates, tithes, labour, &c., he makes an annual clear profit of six pounds an acre by the system he has pursued; that by his system he can grow Wheat, Wheat, Wheat, on the same land for a succession of years; but does he pretend to do this by thin seeding only? Certainly not; but at the same time, let me observe, that he could not accomplish half so much were he to be a thick seeder. It is therefore, my friend, Mr. Goodiff, let me repeat, for the hundredth time, a question of general profit for the farmer's consideration, and not a mere question as to the quantity of seed to be used. I myself in four years grew in a field 176 bushels of Wheat per acre, and at the end left my land in as good heart as it was in when I commenced; but could I have done so, had I thick-seeded it? No such thing; but the first year of thick seeding would have exhausted the soil too much for a subsequent crop of the same kind of grain. The thin seeders, therefore, husband their strength by looking forward for more than one crop, and this they are enabled to do by never exhausting their land by growing straw instead of corn; they are also enabled by horse power to aid the growth of the crops during the greater part of the year by cultivation, whereas thick seeded land can scarcely be touched by horse power during the year without producing thereby great mischief. But, Mr. Editor, I must not exhaust the patience of your readers further than to add a few remarks on what Mr. Goodiff has said respecting my growing 4000 fold of Wheat. To prevent misunderstanding, I emphatically instanced other kinds of Wheat as well as the Egyptian; but particularly did I single out Morton's Red-strawed White Wheat; why, then, if my friend does not like the Egyptian, has he not attacked the other kinds? I have stated that by common field cultivation, not, as Mr. Goodiff writes, by garden cultivation, but by common field cultivation, I can pull up from Wheat which stands as thickly on the ground as Wheat can grow root after root from single grains of seed producing 2000-fold increase, and of any common kind of Wheat; but I have used the above Red-strawed White, and as I can do this every year I maintain that it is a demonstrative proof of the general benefit of the system by which it is accomplished, and especially since it is well known that the general increase in England does not exceed 12-fold; and I further add, without fear of refutation, that of every 20 grains of Wheat sown in England not more than one brings forth fruit to perfection. Nay further, all thick seeders, and they are legion, state that by their system they are obliged to sow ten times more seed than is really requisite, because so much of it dies in the ground, or is devoured by insects or birds, and I know not what besides, whilst every grain nearly which the thin seeders plant brings forth some 30-fold, some 60, some 100, and some even thousands, and all to perfection. Let my friend, therefore, employ his excellent talents against the whole system we advocate, and not echo the thousand-fold attack upon one fractional part of it. One word, also, as to the quality of the Egyptian Wheat. If my friend will send a dozen kinds of Wheat for analysis to an analytical chemist of which the Egyptian shall be one, let me inform him, that the result will prove the Egyptian to be the best; and if he will make bread of the Egyptian, let me also inform him that himself and household will prefer it to all other kinds; nay, I go further, and inform him that his dogs will prefer meal made from this Wheat, and will do better upon it, than upon meal from any other kind of Wheat. And why is this? I answer advisedly, because analysis proves it to possess more gluten than any other known kind of Wheat; hence I conclude, without fear of refutation, that the Mummy Wheat I have recommended is the oldest, the most prolific, and the most nutritious of all known kinds of Wheat; my opinion also is, that it is the parent stock of all known kinds, or that all other kinds have sprung from it. *Geo. Wilkins.*

Greaves.—Having read in the *Agricultural Gazette* of the 13th ult., about greaves for feeding pigs, I would be much obliged to the witer "X." if he would state what quantity of greaves, and how they are prepared for pigs. I purchased some lard greaves at 5*s.* per cwt., and have given them in small quantities about ¼ lb. per day for each pig, boiled in Indian meal stirabout, made very thick. I also had some steeped in water, and when soft, put on the stirabout in the feeding troughs, but I found it had such an abominable stench, that I thought it could not be good in that way. Lard greaves are the kind that are sold for 5*s.* per cwt.; there is not much tallow melted here. "X." would oblige by stating would lard greaves answer as well as tallow greaves I find that a pig eats about 30 lbs. per day of Indian meal stirabout, as thick as blanc mange. *S., Waterford.*

Liquid Manure.—Perhaps some of your correspondents can tell me how to make the most of my liquid manure. Having only a small quantity, I cannot afford to go to any great expense in collecting and distributing it. The question I must ask myself before investing is, Will it pay? I have been thinking of making a tank, perhaps 6 feet deep; in this placing 2 feet of clay, and then filling up within a foot of the surface with turf and peat ashes, of which I can command a few. From the bottom of my tank I will lay some draining tiles to carry off the water after being filtered through the superincumbent mass. My object simply is to retain all that is valuable, allowing the water to pass off in a pure state. I anticipate some of your chemical friends will give me a few useful hints. I should also like to hear the results of the experience of those of your correspondents who have been draining largely. Although much attached to deep draining, I must admit that on the soil in this part of the kingdom drains 2½ feet deep answer best; I ought to say that the clay is very near the surface, even within 6 inches in some parts. It varies in thickness from one foot to six. It is the practice here to put the clay upon the pipes, in order to exclude the soil; in my opinion, where there is a good fall the turves are preferable, as the water will wash out any soil that might enter by the joints. *B. P., Nov.* 23. [If the *liquid* is to be conveyed to the land in the solid form at all, why not adopt box feeding, and so retain it in the straw, instead of going to the expense of tank and filtering apparatus?]

Stoppage of Drains by the roots of the Mangold Wurzel.—Your correspondent Mr. Sherrard has suffered from the stoppage of his drains by the roots of his Mangold Wurzel, and in reply to his request for information on the subject I will furnish him with the result of my experience. I have been a grower of this root for 30 years in quantities gradually increasing from 5 acres to more than three times that amount. The whole of my land is drained, and I have never suffered in my own crops from a stoppage of the drains. In a piece which I let in small allotments one of the tenants complained that his land was wet; on examination I found the tiles choked, precisely as Mr. Sherrard describes his to have been. I dug holes down to the drains, at about 10 yards distance from each other, and having introduced a slender Willow pole, and loosened the roots, the force of water drove them to the lower opening, and I cleared the drain

without a very heavy expense. This happened during a very wet summer, when the water was running through the tiles during the whole season; the roots, therefore, found regular nourishment from the water. I feel confident this obstruction never takes place when the drains are dry during most of the summer. Probably Mr. Sherrard's drains have a constant flow of water; if so, I think he must not trust to any change in the state of the soil from lapse of time; my drains are full 4 feet deep, and had been put in more than 20 years. If by putting in one drain, say 6 feet deep, he can prevent the others running in summer, he may be safe, otherwise I should recommend his setting a row of Cabbages or Turnips on each side of the drain. I do not think the Orange Globe sends its roots so deep as the Long Red, and the use of that variety might obviate the difficulty. *Charles Paget, Ruddington Grange, Notts, Nov.* 29.

Peppermint.—The regular cultivators of Peppermint in the fields are not perhaps aware of the pertinacity of this plant. Early in the year 1847, now above five years ago, the writer had occasion to pass through a field of strongish loam, near Carshalton-park, Surrey. He took up a little stray plant by the foot-path, brought it several miles in a piece of paper, and set it in a garden bed of very light vegetable earth. It grew; and though the summer proved extremely dry, its creeping roots spread considerably. In the next and following years it obtained such firm possession as to be a troublesome intruder. The herb or its flower being in no way useful an attempt was made to obliterate it. Growing close to a Laurel hedge, a portion of the creeping roots lay concealed among the fibres, and in the following spring the Peppermint reappeared. It is now a thick, strong mass; and though often trodden on, and a good deal overshadowed, it has grown on through the dry summer season. Perhaps some growers may take advantage and derive profit from this statement. As a mere hint it is suggested that, when in full flower, the spikes might be cut close off, dried in an airy place without sun, and then digested in strong Scotch whiskey or proof spirit of wine. Would not a good spirituous peppermint be thus obtained? A teaspoonful of it in six times the quantity of water, might prepare a stomachic far better than the common peppermint water of the shops. *T.*

Taste in Milk.—In your last *Agricultural Gazette* a correspondent complains that he could never give his dairy cows Turnips without spoiling the butter and the milk. I have given my milch cows for 50 years Turnips regularly in the winter, and both milk and butter have been perfectly good. The Turnips are Swedes or Aberdeen, and I take them up in October and carefully cut off every bit of leaf and root, and stack them in a dry cellar in my cow yard; if every bit of leaf be not carefully cut off it will taint the milk. Should your correspondent wish for further information I will readily answer his queries; or if he doubt my statement, will send him a pat of butter to any place which he will appoint. *John Gould, Amberd.*

Taste of Turnips in Butter.—If your correspondent of this week, who wishes for information on this subject, will direct his dairymaid to adopt the following very simple remedy, he need henceforth have no more of that disagreeable and unpleasant taste in his butter, occasioned by his cows feeding upon Turnips—viz., let his dairymaid, before going to milk her cows, place on the fire her kettle filled with water; and on her return to the dairy with the new milk, add to every gallon of milk a sixteenth, or half-pint of boiling water; stir both a minute or two, and after the usual interval pour them out into the lead, earthen, or (as the case may be), glass bowls. I practised this method the whole of last winter (and am doing the same now), when my cows had as many Swede Turnips as they could eat, and not the slightest trace of the Turnip flavour can be discovered. The water must be boiling when added, or the experiment fails. *Charles Norris, Wood Hall, near Halifax, Nov.* 23.

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

A Monthly Council was held at the Society's House in Hanover-square, on Wednesday last, the 1st of December. The following members of Council and Governors of the Society were present: Lord Ashburton, President, in the chair; Sir John Villiers Shelley, Bart., M.P., Sir Charles Lemon, Bart., M.P., Colonel Austen, Mr. Raymond Barker, Mr. Barnett, Mr. Hodgson Barrow, M.P., Mr. Brandreth, Mr. Burke, Captain Stanley Carr, Mr. W. G. Cavendish, Colonel Challoner, Mr. Evelyn Denison, M.P., Mr. Brandreth Gibbs, Mr. Grantham, Mr. Fisher Hobbs, Mr. Hornsby, Mr. Lawrence, Mr. Marshall, M.P., Mr. Milward, Mr. Mainwaring Paine, Professor Sewell, Professor Simonds, Mr. Simpson, and Professor Way.

Jonathan Rigg, Esq., of Chester-place, Hyde-park-square, London, was elected a Governor of the Society

The following new members were elected:—

Elwes, John Henry, Colesbourne House, Cheltenham
Vernon, Hon. Aug. Henry, Upper Belgrave-street, London
Bodenham, Charles, Hereford
Harding, George, Ternhill, Market-Drayton, Salop
Haygarth, Rev. J. S., Pres. of Royal Agri. Coll., Cirencester
Glasier, William Richard, 41, Charing Cross, London
Playford, Edward Harlee, East Wyke, Farnham, Surrey
Hellier, Thomas Shaw, Woodhouses, Wolverhampton
Addison, Richard, the Prior's Mesne, St. Briavell's, Glouc.
Hutchings, Rev. R. S., Monkton Wyld, Charmouth, Dorset.
Sparrow, John William, Penn Hall, Wolverhampton
Brown, James, Aniston, Co. Edinburgh
Morrish, William, Dartmoor, Devonshire
Huskinson, T., Epperstone, Southwell, Notts.
How, John, Barnstaple, Devonshire
Goddard, Henry, Lincoln
Clark, William, Shareshill, Wolverhamton
Jones, Mordecai, Brecon, South Wales
Howard, James, Bedford
Yates, William, Hadley Park, Wellington, Salop.

Finances.—Mr. Raymond Barker, Chairman of the Finance Committee, laid before the Council the monthly report on the accounts of the Society, from which it appeared that the current cash balance in the hands of the bankers was 935*l.*

Pleuro-pneumonia.—Mr. Raymond Barker, chairman of the Veterinary Committee, then laid before the Council the following report connected with the inquiries on the subject of inoculation for pleuro-pneumonia, and direct investigations into the nature and cure of that fatal malady.

The Veterinary Committee have had under their consideration the various communications referred to them by the Council. They beg to offer the following recommendations:—

1. That Professor Simonds be allowed the personal expenses incurred by him during his recent journey into Belgium, undertaken for the purpose of making himself acquainted, as the Veterinary-inspector of the Society, with the actual facts of the process of inoculation, reported to be actively in operation on the dairy cattle of that kingdom, with a view to mitigate the severity of the symptoms of pleuro-pneumonia so prevalent at the present time in various parts of the continent.
2. That Mr. Paget's handsome and liberal offer to place his entire herd of dairy-cows in Nottinghamshire at the disposal of the Society for direct experiments, to be instituted for the Society in that county, and also at the Royal Veterinary College, be accepted with the best thanks of the Council; and that the Society bear the charge of bringing up to town and keeping such animals as may be selected for the proposed experiments.

Mr. Barker explained that Prof. Simonds' Report of his visit of inspection into Belgium had been ordered by the Journal Committee to be printed for insertion in the forthcoming part of the Journal of the Society; and that Prof. Simonds had that morning made a report on his examination of Mr. Paget's herd, and of his selection of animals for experiment, which would then be read to the Council and afterwards referred to the Journal Committee. This report having been read accordingly, Mr. Denison, M.P., favoured the Council with a statement of the circumstances under which his friend Mr. Paget had applied to him on this subject, and consented to place his animals at the disposal of the Society. On the motion of Mr. Denison, seconded by Sir John Shelley, the Council agreed to a vote of their warmest thanks to Mr. Paget for this instance of his great liberality to the Society, in affording it so invaluable an opportunity of investigating under the most favourable circumstances the nature and progress of this fearful malady.

Guano-substitute Prize.—Sir John Shelley, Bart., M.P., brought up from the Guano-substitute Committee the following Report of that Committee on the conditions recommended to be adopted for the Society's Prize, and agreed to at a meeting of the Committee held on the 10th of November last, of which Sir John Shelley was the Chairman: namely,—

I.—Terms of the Prize.

"One Thousand Pounds and the Gold Medal of the Society will be given for the discovery of a Manure equal in fertilising properties to the Peruvian Guano, and of which an unlimited supply can be furnished to the English Farmer at a rate not exceeding 5*l.* per ton."

II.—Conditions of Competition.

1. That in the offer of 1000*l.* and the Gold Medal of the Society, as a Prize for the discovery of a Manure equal in every respect in its fertilising properties to Peruvian Guano, the 1000*l.* shall be offered in one undivided sum.
2. That the standard of such Peruvian Guano shall be assumed to be the average result obtained by Prof. Way, the Consulting-Chemist to the Society, and published in his paper in the 10th volume of the Journal, pages 205—208.
3. That each competitor claiming the prize shall send in with his sample a chemical analysis under seal, together with such practical proofs of the successful application of the manure to growing crops of grain, roots, and Grasses, as he can produce duly certified by growers. That such samples of manure shall be liable to be subjected to all such further tests, and for such period of trial, as the Council may deem requisite.—N.B. All claimants shall, on application made to them by the Secretary, be expected to supply, free of expense to the Society, such quantity of their respective manures as may be required for trial.
4. That no claim for the prize will be entertained unless the claimant can satisfy the Council that an unlimited supply of the manure at a price not exceeding 5*l.* per ton, will at all times be within the reach of the agriculturists of the United Kingdom.

This Report was unanimously confirmed and adopted by the Council.

Gloucester Meeting.—The Earl of Ducie, chairman of the General Gloucester Committee, transmitted to the Council the following report.

The General Gloucester Committee have to report to the Council:—

1. That every arrangement has been completed for the preparation of the land for the trials of implements at the ensuing country meeting.
2. That Mr. Henry Manning's offer, to undertake the contractor's work at Gloucester at the same rate of charge as in former years, has been accepted.
3. That the period for holding the Gloucester meeting be fixed as the week commencing Monday, the 11th of July, 1853.

This Report was received and adopted.

Trial of Implements.—Colonel Challoner, chairman of the Implement Committee, laid before the Council the following Report, which was adopted by the Council.

The Committee have had referred to them by the Council the consideration of the Conditions and Regulations of the Gloucester Implement Prize Sheet, and a special instruction on the best means for enforcing greater punctuality in the presentation of the judges' reports at the conclusion of the business of each country meeting.

The Committee have in the first instance confined their attention to the consideration of the Conditions of the Prizes; and they accordingly recommend the adoption of the conditions of last year with the following alterations:—

1. That in adjudicating the relative merits of the drills for general purposes, and the Turnip drills for flat and ridged work, especial consideration shall be given to their power of depositing small and large quantities.
2. That in adjudicating on the merits of the portable steam-engines, reference shall be had to the portability of the engines, without losing sight of the strength required for safety, and which, in the opinion of the committee, will be best secured by the free use of wrought-iron in lieu of cast.
3. That every exhibitor of drain-tile or pipe machines will be expected to bring with him a die 2¾ inches in diameter, and a button or triblet of 2 inches in diameter, with dies of other sizes varying from 1 to 4 inches or larger, and buttons or triblets of corresponding dimensions.

The Committee beg to recommend that in future the trial of the steam-engines be commenced one day earlier; and that the following special regulation be included in the prize sheet, namely:—

Exhibitors are requested to be in attendance during the trials, and in the implement-yard, while the judges are inspecting the implements, in case any explanation may be required from them: and they or their servants must give every facility to the stewards and judges, by having their implements ready for inspection and trial; and any exhibitor, after having had due notice, will be liable either to have his implement tried at his own risk, in his absence, or to have it removed altogether from the show, as the stewards may decide, and without any responsibility attaching to the Society in consequence.

The Committee think it will be desirable to postpone the consideration and final settlement of the General Regulations of the Show and the Instructions for the Judges and stewards until the monthly meeting of the Council in February.

Vice-President.—On the motion of Mr. Raymond Barker, seconded by Sir John Shelley, Bart., M.P., the vacancy occasioned in the list of the Vice-Presidents of the Society by the death of his Grace the Duke of Wellington, was filled up by the unanimous election of Sir John V. B. Johnstone, Bart., M.P., to that office.

Member of Council.—In the absence of the Hon. R. H. Clive, M.P., Mr. Raymond Barker moved the resolution of which Mr. Clive had duly given notice, that Mr. Francis Woodward, of Little Comberton, near Pershore, Worcestershire, be elected one of the General Members of Council, in the vacancy created by the transfer of any name from that list to the list of Vice-Presidents, which, being seconded by Mr. Fisher Hobbs, was carried unanimously, and Mr. Woodward's name was placed accordingly in the list of the Council, in the vacancy created by the election of Sir John Johnstone to a Vice-Presidency.

Steward of Cattle.—On the motion of Mr. Milward, seconded by Mr. Brandreth, Mr. William Simpson was unanimously chosen one of the stewards of the cattle yard at the country meetings of the Society, in the place of Mr. Samuel Jonas, who retires this year by rotation.

Standing Committees.—The following standing committees for the year 1853 were agreed to:

Finance Committee.—Colonel Austen, Mr. Raymond Barker, Mr. H. Blanshard, Mr. Brandreth, Colonel Challoner, Mr. Jonas, Mr. Wilson.

House Committee.—The President, Chairman of Finance Committee, Sir John Villiers Shelley, Bart., M.P., Mr. Raymond Barker, Mr. Brandreth, Colonel Challoner, Mr. Brandreth Gibbs, Mr. Fisher Hobbs, Mr. Kinder.

Journal Committee.—Mr. Pusey (Chairman), Duke of Richmond, Lord Braybrooke, Lord Portman, Hon. R. H. Clive, M.P., Sir John V. Shelley, Bart., M.P., Sir C. Lemon, Bart., M.P., Sir John V. B. Johnstone, Bart., M.P., Mr. Burke, Mr. Childers, M.P., Mr. E. Denison, M.P., Mr. Hyett, Mr. Miles, M.P., Mr. Milward, Mr. Shaw, Mr. Thompson.

Chemical Committee.—Mr. Pusey (chairman), Lord Portman, Sir John V. B. Johnstone, Bart., M.P., Mr. Dyke Acland, Dr. Daubeny, Mr. Hoskyns, Mr. Hudson (of Castleacre), Rev. A. Huxtable, Mr. Hyett, Mr. Jonas, Mr. Lawes, Mr. Miles, M.P., Mr. J. M. Paine, Mr. Shaw, Mr. Sheridan, M.P., Mr. Thompson.

Veterinary Committee.—Mr. Raymond Barker (chairman), Duke of Richmond, Lord Portman, Sir John V. Shelley, Bart., M.P., Sir J. V. B. Johnstone, Bart., M.P., Mr. S. Bennett, Mr. Brandreth, Col. Challoner, Mr. E. Denison, M.P., Mr. Hamond, Mr. Fisher Hobbs, Mr. Miles, M.P., Mr. Milward, Mr. Pym, Prof. Sewell, Prof. Simonds, Mr. Shaw, Prof. Spooner, Mr. Thompson, Mr. Brandreth Gibbs.

General Gloucester Committee.—Earl of Ducie (Chairman), Duke of Richmond, Earl of Chicheater, Lord Portman, Hon. R. H. Clive, M.P., Sir John V. Shelley, Bart., M.P., Sir M. W. Ridley, Bart., Sir J. V. B. Johnstone, Bart, M.P., Col. Austen, Mr. Raymond Barker, Mr. Barnett, Mr. Brandreth, Colonel Challoner, Mr. Gibbs, Mr. Hamond, Mr. Fisher Hobbs, Mr. Hudson (of Castleacre), Mr. Jonas, Mr. Jones, Mr. Lawrence, Mr. Milward, Mr. Pusey, Mr. Shaw, Mr. Simpson, Mr. Woodward.

Implement Committee.—Colonel Challoner (chairman), Earl of Ducie, Lord Portman, Sir John V. Shelley, Bart., M.P., Sir M. W. Ridley, Bart., Mr. Brandreth, Mr. Garrett, Mr. Gibbs, Mr. Hamond, Mr. Fisher Hobbs, Mr. Hornsby, Mr. Miles, M.P., Mr. Shaw, Mr. Thompson.

Guano-substitute Committee.—Earl of Ducie (chairman), Hon. R. H. Clive, Sir John Villiers Shelley, Bart., M.P., Mr. Raymond Barker, Colonel Challoner, Mr. Hamond, Mr. Fisher Hobbs, Mr. Hudson (of Castleacre), Mr. Shaw, Mr. Thompson, Mr. Pusey.

Fat Cattle Committee.—Earl of Ducie (chairman), Lord Berners, Sir John V. Shelley, Bart., M.P., Mr. Barnett, Mr. Bennett, Mr. Brandreth, Mr. Druce, Mr. Gibbs, Mr. Fisher Hobbs, Mr. Kinder, Mr. Milward, Mr. Shaw, Mr. Simpson, Mr. George Turner.

Fines' Committee.—The Earl of Ducie (Chairman), Mr. Barnett, Mr. Brandreth, Colonel Challoner, Mr. Druce, Mr. Brandreth Gibbs, Mr. Fisher Hobbs, Mr. Jonas, Mr. Milward, Mr. Shaw, and Mr. Simpson.

Fines.—The report on fines incurred for non-exhibition at the Lewes meeting was referred to the Fines' Committee.

International Postage.—A communication from the International Postage Association was referred for consideration to the next monthly Council.

The Council then adjourned to their weekly meeting for practical communications and discussions, to be held on Wednesday next, at which, as usual, all members of the Society would have the privilege of attending.

Highland and Agricultural, *Nov.* 17.—Sir John M'Neill, the chairman of this the first monthly meeting of the society, stated, that the subject of Dr. Anderson's address was the *Adulteration of Manures*. Dr. Anderson said,—It was unnecessary for him to observe that adulteration was almost entirely confined to the high

ced manures, such as guano and superphosphates, and s seldom attempted on the rarer manures, which do t afford a sufficiently extensive field for the enterpris- adulterator. He should commence with guano, ich was the most important, and that in the adultera- n of which much ingenuity had been displayed. He lieved adulteration to be almost entirely confined to ruvian guano ; and sand, gypsum, and chalk, were merly employed for the purpose. The detection of se by the eye was so easy that they are now seldom ployed ; and the chief adulterations now are with a rt of yellow loam, found on the banks of the Thames, d with coprolites, either ground or treated with a all quantity of sulphuric acid,—at least, a good many mples have been examined, the composition of which uld only be explained on some such supposition. The neral composition of adulterated guanos may be best dered intelligible by three analyses, one of genuine ruvian, a second adulterated with sand, and a third which he believed that a complicated adulteration, her with dissolved coprolites, or a mixture of ground prolites, with gypsum, had been employed :—

	No. 1.	No. 2.	No. 3.
Water	12.98	15.32	12.06
Organic matter, and ammoniacal salts	53.32	22 61	34.14
Phosphates	18.79	13 37	22.08
Sulphate of lime	...	...	11.08
Alkaline salts	14 87	11.01	12 81
Sand	0.04	37.69	7 83
	100.00	100 00	100.00
Ammonia	17.47	5 26	9.77

he last of these represents a sort of adulterated guano, which large quantities are sold in Scotland, and of ich quantities were imported from the Thames, and believed also from other places, but none of which, so as he knew was adulterated in Scotland. He had no ubt that many cases in which this adulteration was actised escaped detection, as it is an excellent imita- n of the genuine article, and instances had occurred which the detection was occasioned by very trifling cumstances. A curious case occurred this year in nsequence of some articles in the *Gardeners' Chronicle*, which reference was made to the probability of the rgo of the Pandora, which had sailed about a fortnight fore from the Thames for Berwick, being spurious. is guano had meanwhile been sold in Berwick, with- t a moment's question, and the publication of this ticle led to an analysis, which showed a large adulte- tion. Now, had it not been for this article the adul- cation would never have been detected. In this case e guano was sold without analysis, but he believed at analyses are sometimes employed by dealers, though they indicate inferiority, and that they trust to e imperfect acquaintance possessed by farmers of the mposition of the different varieties of genuine guano. e had on one occasion received repeated samples of ulterated guano from one person, whom he had since certained to be an adulterator, and he was impressed th the opinion that these analyses had been somehow other employed to sell the guano, although they stated to be adulterated. In order to defend themselves ainst adulteration, it was of importance that the test analysis should be resorted to, but there were some haracters which, though not certain indications of the nuineness of a Peruvian guano, were worth the atten- n of farmers. The guano should not be too dark loured, nor have a too strongly ammoniacal odour, should contain lumps of a lighter colour than the wdery part ; should not be gritty when crushed tween the fingers, and a bushel of it should weigh out 50 lbs. These characters are of some value, t of far greater importance was dealing with men character, and buying by analysis. While nothing more common than the adulteration of Peruvian ano, it is rarely practised with the other varieties, but rge quantities of very inferior quality are sold. Cases d occurred to him in which Chilian guano had con- ined as much as 60 per cent. of sand, but in these ses the guano had been imported in that state, and ved its inferiority to the cupidity of the collectors who d scraped up all they could get. In these cases thing but analysis could be of the slightest use, as e characters of such guanos differ in different parts the same cargo, and in selecting samples of such anos for analysis, we could not too strongly impress them, the importance of obtaining a fair average, by king portions from different parts of the cargo, and ixing them well together. Next to guano, dissolved nes and superphosphate were probably adulterated to e largest extent. He might remind them, that by ese names, we originally understood, bones which had en treated with a certain quantity of sulphuric acid, hich converts the phosphates more or less completely to a soluble state. At present, however, these sub- ances are never made exclusively from bones, but a rtain quantity of coprolites is always employed. In me instances, they are made entirely from coprolites ; d, in these cases, woollen rags, or animal refuse, d some salts of ammonia are added as sources nitrogen. The substance, when of good quality, sold for about 7*l.* per ton, and ought to contain om 30 to 35 per cent. of phosphates, of which om 10 to 15 per cent. is soluble in water, and nitro- nous matters capable of yielding from 2 to 4 per cent ammonia. The remainder is sand, gypsum, sulphuric id, and animal matters, and water, in variable pro- rtions. Now, the value of superphosphates is mainly pendent upon the quality of soluble phosphates, but it happens that large quantities of the so-called super- hosphates are sold in Scotland which do not contain y superphosphate at all. These samples emanate from a class of inferior manufacturers, who employ a deficient quantity of sulphuric acid, and a quantity of coprolites, and they reduce the sulphuric acid so low, that it does no more than decompose the carbonate of lime which they contain, without dissolving any of the phosphates. The detection of such samples is easily effected by pouring upon them two or three times their bulk of boiling water, filtering of the fluid, and then adding ammonia, when, if the manure contain soluble phosphates, a milkiness appears in the fluid, which is absent if there are none. Immense quantities of such manure are sold, and we heard of one establishment of which the sales amounted to about 40,000*l.* a-year. The adulteration of other manures need not occupy our attention long, as few of them are of sufficient importance, and many of them do not admit of admixture of any foreign matters without detection. He had seen bone-dust adulterated with oyster shells, and with a mixture of common salt, and sulphate of soda. Nitrate of soda was also adulterated with common salt, and sulphate of ammonia with sulphate of soda, but these he believed to be rare. There was also a class of inferior manures sold under various names, but mostly consisting of dissolved bones mixed with kelp, nitrate of soda, &c., the principal peculiarity of which is, that they are inferior to the genuine dissolved bones, and are generally sold at a higher price. On these manures he could not go into details, and he believed it was less necessary, as he had observed that farmers were now very cautious in purchasing them, and he believed comparatively small quantities were now sold. He concluded with observing, that the great point was for farmers to be cautious in ascertaining that the manures they purchase have been submitted to analysis, and that they deal only with men of established character, by which means he believed that adulteration would be greatly reduced, although it could scarcely be expected that it would be entirely put a stop to.—Mr. Finnie, Swanston, after a few general remarks, said—Twice, in my own experience, have I been the dupe of such nefarious practices. On one occasion I purchased nitrate of soda, and when too late for me, I could observe no visible effect upon the crop to which it had been applied. I got a sample of some that had been left over analysed by Mr. Kemp, and that gentleman pronounced it to have been largely mixed up with common sea-salt and sand. This was before Professor Johnston became chemist to the Agricultural Chemistry Association. On another occasion I bought guano from a party in Leith, but profiting from experience, had a sample analysed by Professor Johnston ; and although I escaped myself, still many that got portions of the same cargo would be sufferers. Now in neither of these cases could I for one moment believe that the respectable parties who acted as agents were cognisant of the roguery that existed. Last year a Mid-Lothian farmer asked me to inspect a field of Turnips, different portions having been manured with different purchases of guano. One portion was a failure, another a good crop ; and, no later than last week, a farmer from Stirlingshire called for me and said—"You ridiculed me when I told you that the field of Turnips you saw upon my farm, and which you thought so little of, had been manured with so many cwts. of Peruvian guano per acre. Fortunately (he adds) I have got some that was left over analysed, and I am now in a position to sue for damages ;" but more fortunate would it have been for him had he put the horse before the cart, and saved his crop of Turnips. But I ask, sir, what redress is likely to be obtained that will compensate for a lost Turnip crop ? Nothing, in my opinion, will more effectually cripple, nay, ruin a farmer than the loss of his green crop break ; it is not only the loss of the Turnips, but every other crop for rotation goes to swell the amount. After Professor Johnston's appointment, a very apparent check was given to the attempt to palm off those adulterated manures, and why ?—just because farmers for a while would buy nothing but what would bear the searching test of the chemist's crucible ; but for some years back they seem to have relapsed into a careless acquiescence in the belief that all is safe, and these impostors finding there is no stir in the camp have commenced their attack anew, and hence all this outcry about lost crops. I know the fact that hundreds and hundreds are paid by some farmers for guano and other special manures without ever requiring any test of their purity ; thus, in short, placing a few shillings which it would cost them for an analysis against the possible failure of their whole green crop. Take the length and breadth of Britain, I believe hardly a farmer is ignorant of the invaluable services which have been rendered to agriculture by the exertions of the Highland Society. But in my humble opinion one of the most important of all has been their appointment of an analytic chemist. Upon what, may I ask, does the success of the practical agriculturist depend, but on a plentiful supply of rich manure ; and the object of the chemical department is not only to assist farmers by the aid of scientific principles, how they can more perfectly manage the manure made upon the farm, but also to protect them in obtaining those, they have no alternative but to purchase ; thus, in fact, giving the agricultural community comparative security in the very article upon which their whole year's exertions depend. It is possible I may hear some landlords saying what folly it is for our tenants to run such risks when they can be so easily avoided ; but, sir, may I not with propriety retort how foolish and short-sighted so many landlords are who stand aloof and give not one farthing to support our chemical department, so invaluable an auxiliary to successful farming, and thus by their example lull their tenants into the belief that the chemist and his crucible are unworthy of their consideration. Philanthropists are not wanting who hesitate at no act of self-denial, who spare no trouble, and grudge no expense, in so laudable an object as bringing science to bear on the education of the masses in large towns, and surely it is an anomaly that in the landward district of the country, where there is so much wealth and intelligence, an attempt to bring science to bear on that art we practise is left to languish and decay, thus defeating two most important results—on the one hand, the obtaining of an increased produce from the land, and on the other, the elevating to a higher intellectual standing agriculturists of the present and future generations. I have no fear of farmers becoming too theoretical. I never visited a farm-steading yet, where I saw the dungheap properly attended to, and anxiety displayed as to a safe selection of what manures required to be purchased, but the farmer had some theory, or in other words, had some scientific principles to guide him. There is a vast difference between substituting theory for practice, and calling science to the aid of practice. I trust, therefore, as we have been privileged to secure the services of so eminent and talented a chemist as Dr. Anderson, both landlord and tenant will show themselves sensible of it, and thus encourage him in the arduous task he has undertaken, of entering upon a field of inquiry, one may say, hitherto unexplored.—Mr. Thomson, Peffer Mill, rose and requested permission to make a short statement of what had occurred to himself, and which was in corroboration of what had been so well stated by Dr. Anderson and Mr. Finnie. In the spring of this year, along with several others, he was simple enough to buy a good many tons of what was stated to be guano rich in phosphates. From its appearance and the respectability of the parties offering it for sale, he was led to buy a considerable quantity of it. After having got it home a day or two, and having tried it by some simple tests, he began to have strong suspicions as to whether in point of fact there were any of the constituents of guano in its composition. His suspicions having been thus awakened, he at once took a portion of the stuff to Dr. Anderson's laboratory for the purpose of having it analysed, so that he might be set right as to his doubts. This was done in Dr. Anderson's absence by his principal assistant. In two or three days after this he called, and his astonishment may be supposed, when he was informed by what was supported—and held out to be phosphates, was simply silicate of alumina (pipe clay), and a mixture of brown earth and sand, which he stated to be perfectly valueless as a manure. As a matter of course, having got this information, he immediately applied to the parties from whom it was bought, to have this stuff taken away and the money returned. This request, however, in the first instance, was refused, but upon his taking higher grounds, and threatening to have a sample taken before witnesses, and sent to Dr. George Wilson for his analysis, which he would publish in all the Edinburgh papers as a warning to all his brother farmers, so as to guard them in future from being imposed upon, the parties consented to take back the stuff, and sent back the money. Now, if he or any other farmer had been so unfortunate as to have used this stuff to any extent as a manure for any of their green crops or otherwise (and to his knowledge there were large quantities of it used), what could be expected but a great loss, and a perfect failure wherever it was used ? Indeed, it was of no more value than road mud. Before sitting down, he requested to be allowed to warn all his brother farmers throughout the country, not only to be careful from whom they bought guano (no doubt there are many parties who deal in the article that are above suspicion), but upon no consideration even make a purchase from any one, without getting a printed analysis representing its value as a manure, and, immediately upon getting it home, get a fair sample of it analysed by some competent person, and thereby compel guano manufacturers to offer nothing for sale but the real Simon pure.—Sir John Hall expressed his belief that those who dealt directly with Antony Gibbs and Co. were safe from adulteration.

Miscellaneous.

Quarter-ill in Cattle at Ardfert Abbey.—During winter, 1851-2, Mr. Crosbie lost nine cattle by the quarter-ill, and as neither the cause which may have produced the disease, nor a remedy for its removal, has been ascertained, in order to obtain further information on the subject, he wishes a statement to be made of the description of cattle that died, and the manner in which they were fed, &c., in the hope that its publication may lead to a satisfactory solution. Up to the 25th March he was in the occupation of three different farms, as follows :—First, home-farm, containing 700 acres of prime land ; second, out-farm, 100 acres of good ground ; third, a newly-improved farm, of over 100 acres of mountain land ; and, as it was on the mountain farm the disease appeared, and may be said to have continued, the condition of this farm would require to be particularly explained. In the year 1844, Mr. Crosbie took this farm into his own possession, it being at the time in a state of nature, and producing nothing but Heath. He had it drained, partly subsoiled, all tilled, and manured with dung and lime, green and grain-cropped, and laid out with Clover and Grass seeds, and all of these crops it produced abundantly. The soil is principally a peaty surface, on a white clay subsoil ; it

was cropped last year (1851) with 20 acres of Turnips 20 acres of Oats, the remainder being meadow and pasture. On the home farm, 64 calves, mostly of the short-horned breed, some of them pure, some half-bred, and a few Kerries, were reared. On the 1st of November 50 of these were sent to the mountain farm, where they were fed on good after-Grass by day, and were turned into a shed and yard by night. They were put to Turnips and hay about the middle of November, and, with the exception of five of the best of them that were tied up in a separate house, they were turned out a few hours daily until the place was supplied with food and litter. They throve well until the middle of December, when one of them was taken suddenly ill, and died in the course of six or eight hours. When opened, the left fore-quarter was affected, and the heart and lungs were likewise affected. In the course of two days another was attacked, and died as suddenly, the hind-quarter only being diseased. The veterinary surgeon pronounced it decidedly the quarter-ill. They were all bled, and got a dose of salts, tartar emetic, and ginger. The five best calves were removed to another farm, and their place filled with five out of the shed, when, in a few days, another of those in the shed died; the lungs of this one being affected. They were then changed to another farm, with the exception of the five that were kept constantly in the house. There was no new case on this farm during the time they were left on it, that is, about three weeks. They were sent back to the mountain farm, as the house accommodation and food were there, and thinking there might be no more cases; but in 10 or 12 days another of them was attacked and died, the hind-quarter being affected. They continued well up to the 25th of March; and the other out-farm being let, 12 of the two-year-old beasts that were fed on that farm were sent up to the mountain farm, when they got fulness of hay and Turnips. On the 4th of April another of the calves died of the quarter-ill. They were again all bled, and got a dose of salts. On the 12th of April another died; on the 15th of April another died, which almost dropped down in a moment in the field. They were kept constantly in the shed and yard since, and put on short allowance of Turnips. No more of the calves have died since, but on the 16th of April one of the two-year-old bullocks, sent up on the 25th March, took ill and died suddenly of the same distemper, when the other 11 two-year-olds were brought to Ardfert, put up in a house on the 17th, fed on cut Grass and hay, and let out to water daily; yet, on the 22d, one of them died after a few hours' illness, the hind-quarter being very bad. We bled the other 10, and gave them 1 lb. of salts each, smeared with tar, and changed them to another house, where they will be fed on cut Grass and hay, and watered inside doors until we see how they may do under such management. Now, how will you account for this? Is it too high feeding? No; because the 10 that were kept in were better fed than those that died, and are much fatter, and none of them have been taken ill. Is it in the land? No; because about five years ago we had a few cows which died at Ardfert of the same distemper, and by removing the others to the mountain farm a stop was put to it. Is it because short-horned cattle are unfit for mountain land, even when improved and house accommodation provided? No; because the calves of the Kerry breed died equally with the short-horns. Well, then, is it infectious? when a beast that was brought from another farm, on 25th March, took ill on the 16th April; and another brought the seeds of the disease to Ardfert. What are we to do now, if any more get ill? We have an experienced veterinary surgeon; still the cattle die. We have different farms, and variety of food. *Journal of the Royal Agricultural Improvement Society of Ireland.*

Cheesemaking.—At the agricultural dinners the toast, "Practice with science," is often drunk, but science has never yet been called in to aid in the practice of cheese-making. The proper heat of the milk when the "steep" is put in is guessed by the dipping in of the finger. The quantity of rennet (or what is best known here as "bag-skin"), to produce a given quantity of "steep" (or liquid for turning the milk into curd), is guessed. The proper time for breaking up the curd is guessed. Whether all the whey is got out of the curds or not is guessed. The proper temperature of the curds after being ground or crushed is guessed. The length of time they are left to drain is guessed. The quantity of salt mixed with the curd (if any) is guessed. The length of time the cheese is kept in the press is guessed, as is also the weight necessary to be laid on. The strength of the brine or quantity of salt used is guessed. The result of this is, that cheese are often over-salted and sometimes under-salted. And the temperature of the cheese-room and its ventilation is all chance. Here then is a field of operations for the various agricultural societies, and one they would do well to take up. Here improvements might be made, if not without any outlay, with the most trivial. Thousands of pounds yearly might be realised by the Lancashire farmers if they could be taught to make good Lancashire cheese. This is the first step, and till this is accomplished it is folly to talk of making Cheshire cheese. Besides the relative value of Lancashire and Cheshire cheese often varies, and the former have been known at certain periods to fetch even higher prices than the latter. I cannot conclude these hasty remarks without calling the attention of the landowners to the importance of providing proper cheese-rooms. Every large farm ought to have two cheese-rooms, one with a northern exposure for summer, and the winter room exposed to the south; or some contrivance for moderating the heat in summer and increasing it in winter. Thatched buildings are also better than slated ones, the extremes of heat and cold in slated buildings being very great. *Observer, Preston Guardian.*

Notices to Correspondents.

"Carrageen": *J M B D.* We know nothing about Carrageen or Irish Moss for feeding, but should be glad to learn; 12 to 16 bushels of bone-dust per acre is a common dressing for Turnips, but 6 or 8 bushels acted on by sulphuric acid will do as much good. It has proved beneficial to Potatoes—but is more especially a Turnip manure.

Carrots: *Subscriber.* Wash them and put them in the trough before the horses; they will soon eat them up—but more slowly, and therefore more usefully than if chopped in small pieces. If you can get them to eat Swedes they will do as well on them as on Carrots; but it is not every horse that will eat Swedish Turnips. Thanks for your hint about Poultry, which shall be attended to as far as possible.

Drain-tile Machine: *J C.* I am not aware there is a great or certain superiority attaching to any of the best tile and pipe-making machines. Those made by Mr. Whitehead, of Preston; Mr. Scragg, of Calverley, near Tarporley, Cheshire; and Mr. Clayton, Dorset-square, London, are all well known as performing quick and excellent work, both in screening clay and making pipes. If a cheap as well as effective machine is wanted for a small tilery, apply to Mr. Williams, Bedford. *H. K.*

Linseed: *Young Feeder.* It is not sold in the ground state. It would heat and spoil very soon if kept in large quantities ground.

Mangold Wurzel: *Young Subscriber.* Transplant the bulbs into land unmanured, but in good heart, a yard apart, burying them well, and hoe the ground in spring and summer, and gather the seed stems one by one as they get brown in autumn, and dry them well and thresh them.

Pigs: *S.* It is not best "to take off the skins of large pigs" immediately after being killed. Gloucestershire bacon has the skin *on*.

Pollards: *H D'Arcy.* We do not know what is meant by this term, as "Y." used it at page 731. Perhaps he will be kind enough to explain. The shells on Oats are at least as useful for food as straw-chaff. They are generally sold to distillers, at 4*d.* to 6*d* per four bushels, who mix them with spent grains and sell the mixture for fattening cattle.

Screener: *Aberdeen.* Messrs. Spiller and Taylor, of Battersea, have not exhibited, that we are aware, their machine at any agricultural meeting, excepting that in the Hyde Park building. We are not aware if it is manufactured separately for farmers' use. But perhaps this notice may elicit information.

Errata: At page 761 in the first line of the article on "Fingers and Toes," for "presumptive" read "presumptuous." Also at page 763, column *c*, 51st line from the top, for "aliment" read "element."

Markets.

COVENT GARDEN, Dec. 4.

The excessive wet weather having somewhat abated, trade begins to get brisker. Vegetables and Fruit continue pretty plentiful. Foreign Grapes fetch from 1s. 6d. to 2s. 6d. per lb. Pears and Apples are sufficient for the demand. The former consist of Glout Morceau, Winter Nelis, Chaumontel, and Crassane. A few Tomatoes may still be obtained. Cobs and other Nuts are realising fair prices. Potatoes have not altered in value since our last report. Mushrooms are scarcer. Cut flowers consist of Heaths, Primulas, Roses, Mignonette, Bignonia venusta, and Fuchsias.

FRUIT.

Pine-apples, per lb., 3s to 6s	Oranges, per doz., 1s to 2s
Grapes, hothouse, do., 4s 6d to 6s	— per 100, 6s to 10s
Pomegranates, each, 2s to 4s	Almonds, per peck, 5s
Apples, dessert, p. bush, 6s to 10s	— sweet, per lb., 2s to 3s
— kitchen, do., 5s to 8s	Nuts, Barcelons, per bush, 20s
Pears, per doz., 1s 6d to 4s	— Brazil, do., 12s to 14s
— per half sieve, 5s to 7s	— Cobs, 100s
Melons, each, 2s to 5s	— Spanish, do., 16s to 18s
Lemons, per doz., 1s to 2s	Chestnuts, p. bush., 8s. to 20s

VEGETABLES.

Cabbages, per doz., 6d to 1s	Shallots, per lb., 6d to 8d
Brussels Sprouts, p. hf. sieve, 1s to 2s	Garlic, per lb., 6d to 8d
Cauliflowers, per doz., 1s to 2s 6d	Lettuce, Cab., per score 4d to 6d
Greens, per doz., 1s to 2s	— Cos, p. score, 9d to 1s
French Beans, per 100, 3s	Radishes, per doz., 3d to 1s
Tomatoes, per hf. sieve, 4s to 5s	— Turnip, 9d to 1s 6d
Potatoes, per ton, 85s to 140s	Endive per score, 1s to 1s 6d
— per cwt., 5s to 9s	Small Salads, p. pun., 2d to 3d
— per bush., 2s 6d to 4s 6d	Horse Radish, p. bundle, 1s to 3s
Turnips, per doz., 1s to 1s 9d	Mushrooms, p. pott., 9d to 1s 3d
Cucumbers, each, 2d to 6d	Sorrel, per hf. sieve, 6d to 1s
Celery, per bundle, 9d to 1s 3d	Artichokes, per doz., 4s to 6s
Carrots, p. doz., 2s 6d to 4s	Fennel, per bunch, 2d to 3d
Spinach, per sieve, 1s to 2s	Savory, per bunch, 2d to 3d
Onions, per bunch, 2d to 4d	Thyme, per bunch, 2d to 3d
— Spanish, p. doz., 1s 3d to 3s	Parsley, p. doz. bnchs., 2s to 3s
Beet, per doz., 1s to 1s 6d	Mint, per bunch, 2d to 3d
Leeks, per bunch, 1d to 2d	Basil, green, p. bunch, 3d
	Marjoram, do., 2d to 3d
	Watercresses, p. 12 bun, 4d to 6d

COAL MARKET.—Friday, Dec. 3.

Hollywell, 16s. 6d.; Eden Main, 16s.; Wallsend Riddell, 15s.; Wallsend Haswell, 17s.; Wallsend Hetton, 16s. 9d.; Wallsend Lambton, 16s. 3d.; Wallsend Tees, 16s. 6d.—Ships at market, 176.

HOPS.—Borough Market, Dec. 3.

Messrs. Pattenden and Smith, Hop Factors, report that the demand for Hops continues good, at prices about 2s. per cwt. higher than last week, with a very limited supply on offer.

WOOL.

Bradford, Thursday, Dec. 2.—There continues to be a steady demand for English Wool, with prices tending upwards. This is more especially the case in the country, where both farmers and dealers are asking and obtaining advanced rates. The general feeling is that prices have reached a point which the trade here cannot support; but yet, if the present large consumption continues, it is not likely that prices will recede. There is but little wool left in the farmers' hands, and the staplers therefore seem disposed to hold their stocks until they can get an advance equivalent to that which has been established in the country. The colonial wool trade may be characterised in terms similar to the above.

HAY.—Per Load of 36 Trusses.

Smithfield, Dec. 2.

Prime Meadow Hay	75s	to 80s	Clover ...	... 80s	to 100s
Inferior do.	... 65	70	Second cut	... 65	85
Rowen ...	... 45	55	Straw ...	... 25	30
New Hay ...	... —	—		E. J. Davis.	

Cumberland Market, Dec. 2.

Prime Meadow Hay	78s	to 86s	Inferior Clover	... 70s	to 84s
Inferior do. ...	... 65	72	New do. ...	... —	—
New Hay ...	... —	—	Straw ...	... 28	32
Old Clover ...	... 95	100		Joshua Baker.	

Whitechapel, Dec. 2.

Fine old Hay	... 72s	to 80s	Old Clover...	... 90s	to 100
Inferior do.	... 50	70	Inferior do.	... 70	80s
New Hay ...	... —	—	New Clover	... —	—
Straw ...	... 22	28	Inferior do.	... —	—

SMITHFIELD.—Monday, Nov. 29.

The number of Beasts is considerably larger; however, trade is cheerful for the choicest qualities, at scarcely any abatement. The weather being more favourable, a fair clearance is effected. The supply of Sheep is about the same as of late; trade is slow, but there is very little alteration in the quotations. Good Calves are readily disposed of at fully late rates. The foreign supply consists of 656 Beasts, 3960 Sheep, and 200 Calves; from Scotland, 380 Beasts; and 3600 from the northern and midland counties.

Per st. of 8lbs.—	s	d	s	d	Per st. of 8lbs.—	s	d	s	d
Best Scots, Here-					Best Long-wools	3	10	to 4	2
fords, &c. ...	3	8	to 4	0	Do. Shorn ...	0	0	—	0
Best Short-horns	3	6	— 3	8	Ewes & 2d quality	3	2	— 3	6
2d quality Beasts	2	8	— 3	2	Do. Shorn ...	... 0	0	—	0
Best Downs and					Lambs ...	... 0	0	—	0
Half-breds ...	4	4	— 4	6	Calves ...	... 3	4	— 4	4
Do. Shorn ...	... 0	0	— 0	0	Pigs ...	... 3	4	— 4	4

Beasts, 5273; Sheep and Lambs, 25,530; Calves, 253; Pigs, 230.

Friday, Dec. 3.

We have a few more Beasts than on Friday last, still the number is not large for the time of year. Choicest qualities meet with a ready sale at Monday's quotations. Trade is slow for infer or kinds. There is a very small demand for Sheep, and although the number is by no means large, they cannot all be sold, notwithstanding there is a disposition to take lower rates. From Germany and Holland there are 237 Beasts, 800 Sheep, and 255 Calves; from France 40 Sheep; and 120 Milch Cows from the home counties.

Per st. of 8lbs.—	s	d	s	d	Per st. of 8lbs.—	s	d	s	d
Best Scots, Here-					Best Long-wools	3	8	to 4	0
fords, &c. ...	3	8	to 4	0	Do. Shorn ...	...		...	
Best Short-horns	3	4	— 3	8	Ewes & 2d quality	3	0	— 3	6
2d quality Beasts	2	6	— 3	0	Do. Shorn ...	0	0	— 0	0
Best Downs and					Lambs ...	... 0	0	— 0	0
Half-breds ...	4	4	— 4	6	Calves ...	... 2	0	— 4	0
Do. Shorn ...	0	0	— 0	0	Pigs ...	... 3	4	— 4	4

Beasts, 1053; Sheep and Lambs, 3,190; Calves, 337; Pigs, 215.

POTATOES.—Southwark, Nov. 29.

The committee report that during the past week the market has been liberally supplied both coastwise, foreign, and by rail, and very little alteration either in trade or prices, except for very fine samples of Regents, which are very scarce. The following are this day's quotations:—Yorkshire Regents, 80s. to 120s.; Lincolnshire do., 75s. to 110s.; Scotch do., 80s. to 90s.; Scotch Reds, 75s. to 80s.; French whites, 80s. to 90s.; Dutch, 55s. to 60s.

MARK LANE.

Monday, Nov. 29.—The supply of English Wheat to this morning's market was very small, and although the condition was most wretched, it was taken freely at an advance of 1s. to 2s. per qr. upon the prices of this day se'nnight. Foreign being held for a similar improvement restricted business, buyers being unwilling to concede it. The top price of town-made Flour was raised to 43s. per sack, and barrels obtained 1s. advance.—Fine malting Barley brings last week's prices; all other descriptions are 1s. per qr. cheaper. Beans and Peas are unaltered in value.—Oats are a slow sale and rather cheaper.

Per Imperial Quarter.	s.	s.		s.	s.
Wheat, Essex, Kent, & Suffolk...	White	38—52	Red	32—45	
— — fine selected runs...	ditto	42—54	Red	38—48	
— — Talavera		52—56			
— Norfolk		40—48	Red	—	
— Foreign		36—54			
Barley, grind. & distil., 25s to 28s...		Chev. 26—34	Malting .	27—30	
— Foreign ...grinding and distilling		26—29	Malting .	30—33	
Oats, Essex, and Suffolk.....		17—20			
— Scotch and Lincolnshire...	Potato	22—24	Feed	16—22	
— Irish	Potato	20—22	Feed	18—19	
— Foreign .....Poland and Brew		18—21	Feed	15—19	
Rye		29—32	Foreign .	—	
Rye-meal, foreign		—			
Beans, Mazagan.....31s to 33s.....	Tick	33—35	Harrow .	33—36	
— Pigeon .....34s — 37s...	Winds.	39—41	Longpod	30—34	
— Foreign	Small	32—37	Egyptian	32—34	
Peas, white, Essex and Kent.....	Boilers	38—41	Suffolk...	40—42	
— Maple.....32s to 35s.....	Grey	30—33	Foreign .	32—42	
Maize	White	—	Yellow...	—	
Flour, best marks delivered ...per sack		37—43			
— Suffolk	ditto	25—32	Norfolk .	25—32	
— Foreign.....	per barrel	21—25	Per sack	32—36	

Friday, Dec. 3.—Although the market this morning was only thinly attended, a good disposition to purchase Wheat was apparent, and holders again advanced their pretensions. English and foreign red must be written 1s. per qr. dearer. Floating cargoes are held for 2s. per qr. advance. Foreign Flour is in good request, at an advance of 1s. per sack and 6d. to 1s. per barrel.—For Barley there is a good inquiry, at fully Monday's prices.—Beans and Peas are unaltered in value.—The Oat trade is firm at late rates.

Imperial Averages.

	Wheat.		Barley.		Oats		Rye.		Beans.		Peas.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
Oct. 23.....	38	8	28	8	17	10	25	8	34	2	30	9
— 30.....	39	2	29	5	17	6	26	0	34	7	31	5
Nov. 6.....	39	5	29	9	18	3	24	10	35	3	33	5
— 13.....	39	11	30	2	18	7	27	8	35	4	32	6
— 20.....	40	0	30	6	18	9	29	9	35	6	33	3
— 27.....	40	5	30	7	18	6	27	1	35	2	32	3
Aggreg. Aver.	39	7	29	10	18	3	26	10	35	0	32	3

Duties on Foreign Grain, 1s. per qr.

Fluctuations in the last Six Weeks' Averages.

Prices.	Oct. 23.	Oct. 30.	Nov. 6.	Nov. 13.	Nov. 20.	Nov 27.
40s 5d	...	...	...	...	...	
40 0	...	...	...	...		...
39 11	...	...	...		...	...
39 5	...	...		...	...	...
39 2	...		...	...	...	...
38 8 —		...	...	...	...	...

Liverpool, Tuesday, Nov. 30.—The arrivals from Ireland and coastwise during the past week have been large of Oatmeal, but limited of other articles. At this day's market there was a large attendance of town and country millers, who showed considerable disposition to get into stock. Wheat and barrel Flour met with a brisk demand, at an improvement of 2d. per 70 lbs. on the former, and 6d. per barrel, and 6d. to 1s. per sack on the latter article. Oats and Oatmeal were in fair request, at ½d. per 45 lbs. and 6d. per load more money. Barley, Beans, and Peas sold freely in retail, at fully late rates. Indian Corn attracted rather more attention, and an advance of 3d. to 6d. per qr. was realised.——Friday, Nov. 26.—The arrivals from Ireland and coastwise since Tuesday have been large of Oatmeal, and small of other articles; from foreign ports we have only 3260 quarters of Wheat, 660 sacks and 803 barrels of Flour. At market, to-day, there was but a small attendance of the town and country trade, and the business done was therefore limited. Holders of Wheat and Flour were firm, and the full prices of Tuesday realised. Oats and Oatmeal were the turn dearer. Barley, Beans, and Peas were saleable in retail at late rates. Indian Corn met with more inquiry, and rather more money was obtainable for both floating cargoes and parcels in store.

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AT TWENTY PER CENT. BELOW THE USUAL COST.

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RE-ARRANGING THEIR

MANUFACTORY AND SHOW ROOMS FOR THE SALE OF

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REGISTERED PRIZE ENAMEL STABLE FURNITURE.
PRIZE EXHIBITION GATES.
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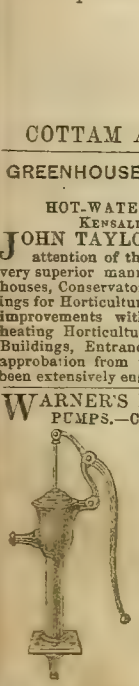
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GREENHOUSE & CONSERVATORY BUILDING ESTABLISHMENT.
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KENSALL-GREEN, HARROW-ROAD, LONDON.

JOHN TAYLOR begs most respectfully to call the attention of the Nobility, Gentry, and Gardeners, to the very superior manner in which he erects all kinds of Greenhouses, Conservatories, Forcing Pits, &c., and all other buildings for Horticultural purposes, combining all the most modern improvements with elegance and utility. His manner of heating Horticultural Buildings, Churches, Chapels, Public Buildings, Entrance Halls, &c., has received the greatest approbation from the Nobility and Gentry by whom he had been extensively engaged.

WARNER'S PATENT FARM AND COTTAGE PUMPS.—Cast-iron Pumps, for the use of Farms, Cottages, Manure Tanks, and Shallow Wells.



	£	s.	d.
Patent Pump	1	15	0
Patent Pump, with 15 feet of lead pipe attached, and bolts and nuts ready for fixing	2	10	0

Larger sizes if required.

To Emigrants proceeding to the Gold Regions they will prove to be the most simple, durable, and the cheapest Pumps hitherto introduced.

May be obtained of any Ironmonger or Plumber in Town or Country, or of the Patentees and Manufacturers,

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Every description of Machinery for Raising Water, Fire Engines, &c.

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THE ASBESTOS FILTER.—MANUFACTURERS, TAYLOR AND PEARS, LATE OXLEY AND CO., 8, George-yard, Lombard street, London.
Price 15s.



EXTRACT FROM "LANCET," *June 26, 1852.*

"The Asbestos Filter of Messrs. Oxley and Co. is the best Filter hitherto constructed. Its superiority consists in the following circumstances:—First, The filtering media are composed of layers of Asbestos and river sand, so arranged as to admit of being readily removed and cleansed from time to time, from the impurities derived from the water which passes through them. Second, The mineral, Asbestos, is substituted for the animal substance, sponge, the advantages of the former being, that it is not liable to become, like sponge, putrescent, and that it may be easily and perfectly cleansed. As the public are still condemned to drink filthy Thames water, no family having regard for cleanliness and health should be without an efficient filter."

"FRIGI DOMO."—A Canvas, made of prepared Hair and Wool, a perfect non-conductor of Heat and adapted to many Horticultural and Floricultural purposes for covering over frames where a fixed temperature is required. It is 2¼ yards wide, and of any required length, at 1*s.* 4*d.* per yard run.—Manufactured only by E. T. ARCHER, Carpet Manufacturer, 451, New Oxford-street, London.

WATERPROOF PATHS.—Those who would enjoy their Gardens during the winter months should construct their walks of PORTLAND CEMENT CONCRETE, which are formed thus:—Screen the gravel of which the path is at present made from the loam which is mixed with it, and to every part of clean gravel add one of sharp river sand. To five parts of such equal mixture add one of Portland Cement, and incorporate the whole well in the dry state before applying the water. It may then be laid on 2 inches thick. Any labourer can mix and spread it. No tool is required beyond the spade, and in 48 hours it becomes as hard as a rock. Vegetation cannot grow through or upon it, and it resists the action of the severest frost. It is necessary, as water does not soak through it, to give a fall from the middle of the path towards the sides.—Manufacturers of the Cement, J. B. WHITE and Sons, Millbank-street, Westminster.

BIDDELL'S THIEF DETECTOR.—A daring robbery prevented at the west end, by their use, and highly recommended by the Magistrates. A regulated alarm given without the least danger, and the door or window still secured from entrance. No traveller or emigrant who values his life and property should be without them; only the size of a mouse with the strength of an elephant. To judge of its merits you must see the effect. Price only 1*s.* 6*d.*, 2*s.*, and 3*s.* each; warms 6*d.* a box. To be had of all Ironmongers, &c., throughout the kingdom, and of the Patentee, 33, Great Sutton-street, [illegible].

MECHI'S RAZORS, STROP, AND PASTE FOR 11*s.* 4, Leadenhall-street, London.—Pair of Razors, 7*s.*; Strop, 3*s.* 6*d.*; Paste, 6*d.* The Razors warranted, or exchanged if not approved. Those who find shaving painful and difficult will do well to try the above, it being well known that MECHI has been eminently successful in rendering shaving an easy operation. Superior Shaving Brushes, Naples Soap, and every article of first-rate quality for the Toilet.—CAUTION. Do not buy any Strop as genuine unless MECHI's name is on it, there being so many counterfeits. Elegant case of Razors for presents, from 25*s.* to 10 guineas. Ivory-handled and Scotch Strops.

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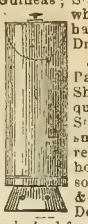
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	Fiddle Pattern.		Threaded or Brunswick Pattern.		King's Pattern.
Tea Spoons, per dozen.....	18*s.*	...	23*s.*	...	36*s.*
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Tea and coffee sets, waiters, candlesticks, &c., at proportionate prices. All kinds of re-plating done by the patent process.

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These clever and interesting little Catechisms, by a well-known writer on Rural Economy, are admirably adapted for diffusing an improved knowledge and practice of Farming and Gardening among the smaller class of cultivators.

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THE GARDENERS' CHRONICLE

AND

AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 50.—1852.] SATURDAY, DECEMBER 11. [PRICE 6*d.*

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TO NOBLEMEN, GENTLEMEN, AND THE TRADE.

HAY, SANGSTER, AND CO. are now ready to send out their NEW EARLY NO. 1 PEA, price 2*s* 6*d.* per quart, and can with confidence recommend it as a very superior article.

Also their New Early Scarlet PRINCE OF WALES RHUBARB, 5*s.* each. It is quite as early as the Prince Albert, much larger, red throughout, of exquisite flavour, and a large cropper.

Post-office Orders from those not having an account open with H., S., and Co., to be made payable to the Firm, at the Borough Post-office, or postage stamps.

For Testimonials and parties where both articles can be had, see *Gardeners' Chronicle* 18th September, 1852, page 594. Newington Butts, London.

ASH AND LARCH FIR.

JOHN AND CHARLES SHARPE beg to state that they have immense quantities of Ash transplanted 2 to 3 ft. and 4 ft., very fine. Also, Larch Fir, 1 to 1½ ft., 2 ft., and 3 to 4 ft., at very low prices.

Delivered on the Great Northern, Midland, Manchester, Sheffield, Lincolnshire, Ambergate, and Nottingham Railways. Nurseries, Sleaford.

COLLINSIA BARTSIÆFOLIA AND MULTICOLOR, ABRONIA UMBELLATA, NEMOPHILA OCULATA ALBA, 1*s.* per packet, to be had from WM. HAMILTON, SEEDSMAN, &c., 156 CHEAPSIDE, LONDON.

W. H. has still on hand a few Glass Dishes with Hyacinths, planted in Moss; these Dishes can be packed so as to transmit to the country without injury. Dishes with Six Hyacinths, 5*s.* each.

Ranunculus, Anemones, Gladiolus, Liliums, and other Roots, Priced Catalogue of which may be had on application. A first-rate collection of Standard Roses 18*s.* per doz., Hollyhocks 12*s.* to 18*s.* per doz., Fruit Trees, &c., &c.

The November Packet of Peas 5*s* per quart.

COLE'S SUPERB GIANT WHITE CELERY.

WM. COLE, Dartford, Kent, begs to inform his friends and the public, that he is ready to send out a new White Celery, which he has every confidence in recommending as being decidedly superior to his Superb Dwarf Red, sent out, with universal satisfaction, three years' back. The Crystal White is a dwarf kind, rarely exceeding (under the best management) 18 inches in height; it is very solid, crisp, and fine flavoured, and if sown at the same time as the red variety will come into use a month earlier, and continue good a month later. It has been seen by some of the first gardeners in the country, and pronounced to be a superior article. It may be obtained of W. C., as above; or from the following agents, at 2*s.* 6*d.* per packet, free by post:—

London: Messrs. Hurst and M'Mullin, Leadenhall-street; Messrs. Daws, Cottrell, and Benham, Moorgate-street; Messrs. Minier and Co., 60, Strand; Mr. Duncan Hairs, St. Martin's-lane, Charing Cross; Mr. Denyer, Gracechurch-street.—Messrs. Garaway, Mayes, and Co., Bristol; Mr. Bunyard, Maidstone; and Mr. Turner, Slough.

FOR CHEAPNESS, UTILITY, AND DISPLAY, the undermentioned are strongly recommended:—

1000 Beech, 3 ft.	15*s.*	1000 Elms, 2 to 3 ft.	15*s.*
1000 Horse Chestnut, 2 to 4 ft.	15	1000 Scotch Fir, 2 ft.	15
1000 Spruce Fir, 2 ft.	15	1000 Highland Pines, 2 ft.	17
1000 Green Hollies, 1 to 2 ft.	30	1000 Larch, 2 ft.	10
1000 Oak, 4 ft.	14	1000 Sycamore, 3 ft.	20
1000 Evergreen Privet, 3 ft.	30	1000 Common Laurels, 2 ft.	60
100 Oaks, 6 to 10 ft.	5	100 Poplars Ontario, 6 to 10 ft.	5
100 Spanish Chestnut, 6 ft.	5	100 Horse Chestnut, 8 ft.	5
100 Larch, 6 to 8 ft.	3	100 Elms, 6 to 8 ft.	3

If the above are ordered, one-tenth will be given over on the quantity ordered, to compensate for carriage.

*100 Flowering and Evergreen Shrubs	35*s.*	*100 sorts Hardy Herbaceous Plants	25*s.*
*100 Portugal Laurels, 2 ft.	15	*100 Laurestinus, 2 ft.	30
*100 Evergreen Box, 2 ft.	25	*100 Evergreen Oaks, 2 to 3 feet	25
*100 Double Hollyhocks	20	*100 Finest Gooseberries	10
*100 Red Champagne Currants	10	*100 Black Grape Currants	10
*100 May's Victoria Currants	25	*50 Standard Apples	30
		*50 Dwarf Roses, named	18
*50 Standard Roses, named	10		

All Orders above 2*l.* 10*s*, for those marked *, Carriage paid to London, Liverpool, Birmingham, and Edinburgh, and all the intermediate Stations within 150 miles of the Nursery.

Address all Orders and Communications to HENRY MAY, the Hope Nurseries, Bedale, York. A remittance or reference from unknown correspondents is respectfully requested.

BAKER'S PHEASANTRY, Beaufort-street, King's Road, Chelsea, by special appointment to her MAJESTY and H. R. H. PRINCE ALBERT.—ORNAMENTAL WATER FOWL, consisting of black and white Swans, Egyptian, Canada, China, barnacle, brent, and laughing Geese, Shieldrakes, Pintail, Widgeon, summer and winter Teal, Gadwall, Labrador, Shovellers, golden-eyed and dun Divers, Carolina Ducks, &c., domesticated and pinioned; also Spanish, Cochin China, Malay, Poland, Surrey, and Dorking Fowls; white, Japan, pied, and common Peafowl and pure China Pigs; and at 3, Half-moon Passage, Gracechurch-street, London.

GREAT WHEAL VOR UNITED MINES, CORNWALL.

(TIN AND COPPER.)

CONDUCTED ON THE COST-BOOK PRINCIPLE.

IN 200,000 PARTS OR SHARES OF £1 EACH.

THESE MINES being worked on the above principle SUBSCRIBERS will not be required to sign any deed, and their liability will be absolutely limited to the number of shares subscribed for.

COMMITTEE.

Charles James Anthony, Esq. | Henry Ranking, Esq.
Captain Crease, R.N. | H. W. Schneider, Esq.
John Oliver Hanson, jun., Esq. | Charles Trueman, Esq.
E. V. Neale, Esq. | Augustus A. Vansittart, Esq.

Bankers—London, Messrs. Barnett, Hoare, and Co.; Messrs. Sir W. P. Call, Bart., Marten, and Co.; Helston, the Union Bank.

Solicitors—Messrs. Jenkinson, Sweeting, and Jenkinson, London; Messrs. Grylls and Hill, Helston.

Broker—Mr. Thomas Moxon, 3, Austin-friars, London.

Temporary offices—1, Royal Exchange-buildings.

These Mines, formerly worked to so much advantage, are situate chiefly in the parish of Breage, near Helston, in the county of Cornwall, embracing Old Wheal Vor, Carleen, Polladras, Polrose, and other Mines, in the gray slate formation adjoining the granite, and constitute a continuous run, above two miles long by one broad, of ground which long experience has proved to be one of the richest mineral districts in the world.

They are held under mining leases for 21 years from his Grace the Duke of Leeds, Charles Trelawny, Esq., Christopher Wallis Pophara, Esq, Sir John Y. Buller, Bart., and others, at the very moderate dues of 1-36th for the principal portion of the ground, and 1-24th for the remainder.

The Mines (to which much new and rich mineral property has been added) during the whole term of the former workings, and up to the time of the cessation of the works, yelded large profits.

The official returns from the ore books show that during the last workings upwards of 2,000,000*l.* sterling of Tin and Copper ore (yielding large dividends) have been returned from these Mines, and they are still capable of producing as much more—a large proportion of the richest part being still unexhausted, and a still larger proportion unexplored.

The causes (now happily no longer in existence) which, about eight years ago, led to their being stopped, were principally the following:—

1. Chancery suits amongst the adventurers themselves, arising from an illegal, or presumed illegal, sale of shares (but not affecting the title to the Mines), which were obstinately contested for about 30 years, lessening the profits by above 200,000*l.*

2. In consequence of the above state of things (after the leases had run out) grants from six months to six months only could be obtained from the Lords for working the Mines—a circumstance alone sufficient to prevent the former adventurers from developing their wealth, or making the ou lay which was absolutely necessary for renewing the machinery and pitwork, which, from lapse of time and mere wear and tear, had become unequal to its duty—but the replacing of which would have required an expenditure, which no company whatever, as half-yearly tenants, could have ventured to incur.

There are numerous large tin and copper lodes, of ascertained richness and value, running through the whole length of this property, all of which can be made immediately available; and which, when properly worked, will return large profits to the adventurers.

The advantages which the proposed Company will have over the former adventurers are numerous and important; it will suffice to mention the following:—

They will acquire extensive works far exceeding in value the sum of 50,000*l.* to be given for them.

There are large quantities of ore, which can be raised out of the ground already opened, when, by the erection of the machinery the water has been drained to a shallow level; and a steady and constantly increasing supply can be afterwards kept up.

There are large quantities of ore of an inferior quality left by the former adventurers, in the various levels from the surface to the bottom of the mine,—neglected when tin ore was at the rate of 35*l.* per ton, but which, with tin ore at 45*l.* per ton (the present price being 60*l.* per ton), will return a handsome profit.

At the period when the mines stopped working, the vast mass (or, as it is termed, "more,") of tin in the main lode, which produced such extraordinary returns, was left going down in the bottom of the mine as large and as valuable as it ever was.

Under the improved system of mining, which will be adopted (and mining was never so well understood or so economically conducted as at the present moment), great savings will be effected in the following items:—

On the cost of materials	£25 per cent.
On labour cost, from the use of a man-engine for conveying the miners, without any useless expenditure of time and strength, to and from the bottom of the mines	15 ,,
On the cost of dressing the ores	20 ,,
On the cost of drawing the produce to the surface, owing to the modern improvements in the machinery used for such purposes	80 ,,

The proposed company will also have the benefit of long leases, enabling them to develope the resources of the mines in a lasting and miner-like manner.

The levels already driven, shafts sunk, and ground opened at a great expense, will be of incalculable value in extending levels on the course of the lodes, and driving "cross cuts" to intersect the parallel (or "side") lodes at different depths.

From the attention of the former adventurers having been engrossed by the amazing riches of their main lode, these side lodes, though proved to be exceedingly rich wherever they have been touched, were never worked to any depth. (Vide Statement of John Richards.)

When this is done the same rich discoveries may be expected, as so recently rewarded the adventurers in the United Mines in Gwennap, where, under similar circumstances, the discoveries made in the side lodes immediately returned large profits.

Estimates compiled from sources entirely to be relied upon, show that an expenditure of 100,000*l.* will suffice to bring these mines into a perfect and lasting working condition; which expenditure is apportioned as follows:—

For machinery, including steam engines of the highest power, for pumping, hauling stamping, crushing, and a man engine ...	£43,000	
Materials...	12,000	
Labour Cost	25,000	
		£80,000
Leaving for Contingencies		20,000
		£100,000

The returns, calculated with tin ore at only 45*l.* per ton (the actual rate being now 60*l.* per ton), estimated as follows:—

For the first year (while the drainage of the mines is proceeding)	£20,000
For the second year	60,000
For the third year	80,000

And afterwards progressively, with a prospect of still further increase in subsequent years.

The mines are divided into 200,000 shares of 1*l.* each, thus forming a sum of 200,000*l.*, of which 100,000*l.* will be devoted as specified to bringing the mines into full and efficient working condition; 50,000*l.* will be available for working capital, and the remaining 50,000*l.* will be the consideration to be paid to the grantees, of which sum 7000*l.* will be paid in cash for the immediate expenses incurred by them; the remaining 43,000*l.* will be paid in 43 000 paid up shares, which will remain under the control of the Committee until dividends shall have been declared to the amount of 10 per cent. on all the shares of the Company.

This arrangement has been proposed by the grantees in order to mark in an emphatic manner their confidence in the result.

The shareholders shall have the power, at their first meeting, to appoint two Auditors, who shall also be shareholders, one of whom shall go out by rotation annually, but be eligible for re-election.

Reports from mine agents of character, capacity, and experience, and from practical miners who have worked in these mines for the greater portion of their lives, are appended to the prospectuses, which may be obtained of the Committee, at the temporary offices of the Company, 1, Royal Exchange-buildings, or from the Brokers, to either of whom applications for shares, in the annexed form, may be made.

Great Wheal Vor United Mines, 1, Royal Exchange-buildings.

To the Committee.

Gentlemen,—I request you to allot to me ——— shares in the above undertaking upon the terms of your prospectus, and I agree to accept the same, or such less number as may be allotted to me, and to pay the sum of 1*l.* sterling per share thereon when required, and to abide by the rules, conditions, and regulations of the cost book of the said mines.

Name .....
Address and occupation .....
Reference.....
Date .....

No reference will be accepted unless it be given to a banker or stock broker.

HARTLEY'S PATENT ROUGH PLATE GLASS,

For Ridge and Furrow Roofs, Greenhouses, Railway Stations, Engine Sheds, Mills, Market-Halls, and Public Buildings generally.

FOR CONSERVATORIES, PUBLIC BUILDINGS, MANUFACTORIES, SKYLIGHTS, &c., &c.	One-eighth inch thick.	3-16th inch thick.	¼ inch thick.
PACKED IN CRATES, for cutting up of the sizes as Manufactured:—	*s. d.*	*s. d.*	*s. d.*
30 inches wide and from 40 to 50 long	0 6	0 8	0 10
Or 20 ,, ,, 50 to 70 ,, ...			
IN SQUARES, cut to the sizes ordered:—			
Under 8 by 6	0 4	0 6	0 7
8 by 6 and under 10 by 8	0 4½	0 7	0 8
10 by 8 ,, 14 by 10	0 5	0 7	0 9
14 by 10 ,, 1½ feet super., if the length does not exceed 20 inches ...	0 5½	0 7	0 9
1½ feet sup. ,, 3 ,, or if above 20, and not above 30 inches long ...	0 6	0 8	0 10
3 ,, ,, 4 ,, ,, 20 ,, 30 ,, ...	0 6½	0 8	0 10
4 ,, ,, 5 ,, ,, 30 ,, 35 ,, ...	0 7	0 8½	0 10
5 ,, ,, 6 ,, ,, 35 ,, 40 ,, ...	0 7½	0 9	0 10½
6 ,, ,, ■ ,, ,, 40 ,, 45 ,, ...	0 8	0 9½	0 11
8 ,, ,, 10 ,, ,, 45 ,, 55 ,, ...	0 8½	0 10	1 0
10 ,, ,, 12 ,, ,, 55 ,, 70 ,, ...	0 9	0 11	1 1
12 ,, ,, 15 ,, ,, 70 ,, 85 ,, ...	.....	1 0	1 2

PACKED IN BOXES OF 50 FEET EACH.

6 inches by 4 inches, and 6½ inches by 4½ inches ... 10*s.* 6*d.* | 8 inches by 6 inches, and 8½ inches by 6½ inches .. 13*s.* 6*d.*
7 ,, by 5 ,, and 7½ ,, by 5½ ,, ... 12*s.* 0*d.* | 9 ,, by 7 ,, and 9½ ,, by 7½, and 10 by 8 15*s.* 0*d.*

When a quantity is required, an estimate will be furnished on application.

JAMES PHILLIPS AND CO.,

HORTICULTURAL GLASS MERCHANTS, 116, BISHOPSGATE-STREET WITHOUT, LONDON.

THE RHEOCLINE, OR SPRING COUCH, portable without detaching any of its parts, softer than a Feather Bed, and which can be changed in One Moment from a Couch to either a Bed or Sofa, may be seen at

COTTAM AND HALLEN'S, 76, OXFORD-STREET,

where also is on view a great variety of METALLIC BEDSTEADS, fitted with and without the patent RHEOCLINE, &c. &c., together with a large assortment of the patent Radiating and other STOVES, and every other description of IRONMONGERY.

COGAN'S GLASS CHURN (with the last improvement) was exhibited at the SMITHFIELD CATTLE SHOW, and consists of a Pail to assist the temperature; and all persons having purchased a Churn should at once order the Temperature Pail. Lord Camoy's Syphons, Glass Milk Tests, Glass Butter Slabs, Glass Pails, Glass Milk Pans, and other Dairy Glass; Stout Glass of every description for Hothouses, Conservatories, Greenhouses, and Horticultural Glass generally.—For Catalogues (priced) apply to Messrs. COGAN and Co., 43, Leicester-square, London.

HORTICULTURAL GLASS

OF EVERY DESCRIPTION.

THOMAS MILLINGTON'S WAREHOUSE,

87, BISHOPSGATE-STREET WITHOUT,

LONDON.

GLASS FOR CONSERVATORIES, ETC.

HETLEY AND Co. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2*d.* to 3*d.* per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices and Estimates forwarded on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLATES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to JAMES HETLEY and Co., 35, Soho-square, London.

See *Gardeners' Chronicle* first Saturday in each month.

CLARK'S METALLIC HOTHOUSE WORKS.

55, LIONEL-STREET, BIRMINGHAM.

THOMAS CLARK, in returning his grateful acknowledgments to the nobility, gentry, and public at large, for the distinguished patronage with which they have honoured his Establishment during the long period of 34 years, begs to inform them that he has disposed of the Business to Mr. WILLIAM SHAKESPEAR, by whom it will in future be carried on, and to whom he trusts their favours will be continued, as he can confidently recommend him as his successor.

WILLIAM SHAKESPEAR, in taking to the above Business, so long and successfully carried on by Mr. Clark, respectfully solicits a continuance of the liberal support so long bestowed upon his predecessor, and begs most respectfully to announce to the nobility, gentry, and public in general, that he intends to erect Horticultural Buildings of Wood as well as Metal, and to assure them that no exertion shall be wanting on his part to secure their patronage and encouragement, by moderate charges and prompt attention to all orders with which he may be entrusted.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER,

AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.



GRAY AND ORMSON, Danvers Street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

G. and O. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders they can with the greatest confidence give the most satisfactory references.

Their Hot-Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating by Hot Water can be made available.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER.

TUBULAR BOILERS OF ALL SIZES, WARRANTED THE MOST EFFICIENT.

J. WEEKS AND CO., King's-road, Chelsea, Hothouse Builders; Horticulture in all its branches upon the most improved principles. These Boilers are very powerful, durable, and economical. The fire warranted to last 15 hours without attention. The Furnace Bars are Hollow Tubes through which the return water passes before entering the upper part of the boiler, thereby causing a very rapid circulation, and producing double the effect from the same quantity of fuel.



J. WEEKS AND CO., King's Road, Chelsea, CHALLENGE the whole world to make a Boiler that will produce anything like the same effect, with the same quantity of Fuel in a given time. It is one of those boilers that warms the water of their Victoria Regia Tank, which contains 20,000 gallons, and also heats several large Forcing-houses and ranges of Pits, with a small consumption of fuel.

Plans, Models, and Estimates of Horticultural Buildings; also Catalogues of Plants, Vines, Seeds, &c., forwarded on application.

J. WEEKS and Co., King's-road, Chelsea, London.

"FRIGI DOMO."—A Canvas, made of prepared Hair and Wool, a perfect non-conductor of Heat and adapted to many Horticultural and Floricultural purposes for covering over frames where a fixed temperature is required. It is 2¼ yards wide, and of any required length, at 1*s.* 4*d.* per yard run.—Manufactured only by E. T. ARCHER, Carpet Manufacturer, 451, New Oxford-street, London.

GEORGE JACKMAN, NURSERYMAN, Woking, Surrey, 1½ mile from Woking Station, South Western Railway, begs to announce he has just published a new and complete Catalogue of his American Plants, Ornamental Evergreens, Conifers, flowering Shrubs, Standard and Dwarf Roses, Fruit and Forest Trees, &c. &c., and may be had on application by inclosing two postage stamps.

MESSRS. COLE AND SHARP are now sending out CINERARIA TYRIAN PRINCE (Cole's).—Intense blue; dark disk; first-rate form and good habit. They can strongly recommend this variety to the notice of all cultivators of the Cineraria, it being the best in its class, and consequently a desirable addition to this family of plants. Price 7s. 6d. each. Aston Lane Nursery, Birchfield, near Birmingham.

Messrs. Charles Cantor & Co. of Calcutta.

1852.

LIST OF ORCHIDEOUS PLANTS INDIGENOUS TO ASSAM

AND THE NEIGHBOURING HILLS OF KHASYA, BOOTAN, &c.

No.	Names.	Size and Colour of Flower.	Habit.
1*	Microstylis Wallichii?...	Small, pea green	Ter.
2	Oberonia indifolia ...	Minute, yellowish	Epi.
3*	,, sp.	,, ,, ...	Do.
4	Liparis sp.	Small, yellow	Do.
5	,, sp.	,, ,, ...	Do.
6**	,, sp.	Largish, green yellow ...	Ter
7*	,, sp.	Small, deep purple ...	Epi.
8	Otochilus fuscus ...	,, yellowish brown ...	Do.
9	,, albus	,, ,, and white	Do.
10	Pholidota imbricata ...	,, white	Do.
11	,, undulata	,, ,, ...	Do
12*	,, articulata	,, ,, ...	Do.
13*	,, sp.	,, ,, and yellow ...	Do.
14*	,, sp.	,, ,, ,, ...	Do.
15	Cœlogyne flavida ...	,, yellow	Do.
16	,, undulata	Largish, white	Do.
17*	,, fimbriata?... ...	,, ,, and brown ...	Do.
18**	,, unifiora	,, ,, and lateritious	Do.
19	,, barbata	,, white	Do.
20*	,, præcox?	,, ,, ...	Ter.
21*	,, maculata	Large, white, yellow, & rose	Do.
22**	,, Wallichiana ...	,, ,, and rose ...	Do.
23**	,, ocellata	,, pale yellow and deep orange	Do.
24*	,, Gardneriana ...	,, white and yellow ...	Epi.
25	,, cristata	,, ,, streaked with bright yellow	Ter.
26	,, sp.	Small, brown and yellow...	Epi.
27**	,, flava?	Large, yellow and brown...	Do.
28	,, sp.	Small, brown and yellow...	Do.
29*	,, sp.	,, white and brown ...	Do.
30	,, sp.	,, pale yellow	Do.
31**	,, sp.	,, white (pretty) ...	Ter.
32**	,, sp.	Largish, pale cinnamon ...	Epi.
33**	Bolbophyllum leopardinum ...	Large, yellow spotted with purple.	Do.
34	,, umbellatum ...	Largish, dull yellow ...	Do.
35**	,, Khasyanum ...	Small, greenish	Do.
36**	,, sp.	Largish, bright yellow ...	Do.
37*	,, sp.	Small, white, fragrant ...	Do.
38*	,, sp.	,, dull purple	Do.
39	,, sp.	,, ,, ...	Do.
40	,, sp.	,, ,, ...	Do.
41**	Cirrhopetalum sp. ...	Small, greenish, fragrant	Do.
42	,, sp.	,, dull purple	Do.
43*	,, sp.	Large, brown and yellow...	Do.
44**	,, sp.	Largish, dull purple ...	Do.
45**	,, sp.	,, ,, ...	Do.
46*	Tricosina suavis... ...	Large, white, purple & yell.	Do.
47*	Eria flava	Largish, dull yell. & brown	Do.
48	Eria sp.	Largish, white streaked with brown	Epi
49	,, densiflora	,, ,, tinged with yellow	Do.
50	,, ferruginea	,, ferruginous	Do
51	,, paniculata	Small, spotted with purple	Do.
52**	,, sp.	Largish, white	Do
53*	,, sp.	,, ,, & dull purp.	Do.
54*	,, sp.	,, ,, ...	Do.
55*	,, sp.	Minute, rosy	Do.
56	Aporum anceps	Small, white	Do.
57	,, cuspidatum ...	,, ,, ...	Do
58	,, sp.	,, ,, ...	Do.
59*	,, sp.?...	Largish, white, yellow, and brown	Do.
60	Dendrobium Pierardi ...	Large, pink and yellow ...	Do.
61*	,, heterocarpum ...	,, yell. and br. fragrant	Do.
62	,, Chrysanthum ...	,, lively yell. and brown	Do.
63*	,, Partoni	,, ,, ,, ...	Do.
64*	,, sp. like do. ...	,, orange and brown ...	Do.
65*	,, formosum	Very large, white and yell., fragrant	Do.
66**	,, longicornu... ...	Large, white and orange...	Do.
67	,, calceolus	Very dark yellow, rose, and purple	Do.
68*	,, sulcatum	Large, yellow and purple...	Do.
69	,, Jenkinsii	,, lively yellow	Do.
70	,, cærulescens ...	,, deep lively purple ...	Do.
71	,, nobile	,, white rosy purple ...	Do.
72**	,, Gibsonii	,, yellow and brown ...	Do.
73*	,, stuposum	Small, white	Do.
74*	,, Cambridgeanum ...	Large, lively yell. and br.	Do.
75**	,, transparens ...	,, deep lively purple ...	Do.
76*	,, like do., various ...	,, pale rose and purple	Do.
77**	,, Devonianum ...	,, lilac-rose and yellow	Do.
78**	,, Dalhousianum ...	,, rose, white, and purp.	Do.
79	,, multicaule... ...	,, white and purple ...	Do.
80**	,, Griffithii	,, pale yell. and orang.	Do.
81**	,, Parmeri	,, lively ,, ,, ...	Do.
82**	,, densiflorum pallid.	,, white and orange ...	Do.
83**	,, do. roseum ...	,, pale rose and orange	Do.
84	,, intermedium ...	,, pale yellow & brown	Do.
85*	,, sp.	,, lively orange	Do.
86*	,, sp.	,, ,, yellow & brown	Do.
87**	,, sp.	,, yellow, pink, and br.	Do.
88*	,, sp.	,, pink and yellow	Do.
89**	Spathoglottis pubescens	Largish, yellow and purple	Ter.
90	Arundina bambusifolia	Large, pale rose and l vely purple	Do.
91*	Phaius grandifolius ...	,, white, brown, & pur.	Do.
92	,, Wallichii	,, ,, ,, ...	Do.
93*	,, maculata	,, rosy scented	Do.
94*	Phaius albus	Large, white, rosy scented	Do.
95**	Aputaria senilis	Largish, rose and green ...	Ter
96**	A. latifolia	?	Do.
97*	Eulophia virens	Large, green and white ...	Do.
98**	,, sp.	,, dull yellow & brown	Do.
99**	,, sp.	,, deep purple	Do.
100**	,, sp.	,, green and yellow ...	Do.
101**	,, sp.	,, purplish green ...	Do.
102	Vanda teres	Very large, rosy purple yellow and brown	Epi.
103**	,, cristata	Largish, greenish, white, and purple	Do.
104**	,, multiflora	,, white and rose ...	Do.
105**	,, cærulea	Very large, deep blue ...	Do.
106**	,, sp.	Largish, dull purple ...	Do.
107**	,, sp.	,, ,, and green	Do.
108**	,, sp.	,, yellow and brown ...	Do.
109**	Camarotis purpurea ...	Small, yellow and purple...	Do.
110	Micropera pallida ...	,, pale yellow	Do.
111	Saccolabium micranthm	Small, rosy	Epi.
112	,, retusum	Largish, lively spotted	Do.
113	,, papillosum ...	Small, pale yellow & pur.	Do.
114**	,, Calceolare	,, yellow and brown ...	Do.
115**	,, sp. like do. ...	,, pale do. and rose ...	Do.
116	,, carolifolium ...	,, rosy	Do.
117**	,, dasypogon ...	,, green and purple ...	Do.
118*	,, appendiculatum ...	,, yellow	Do.
119*	,, sp.	,, rosy and deep purple	Do.
120**	Sarcanthus sp.	... ...	Do.
121**	,, sp.	Small, rosy	Do.
122**	,, sp.	,, white and yellow ...	Do.
123**	,, sp.	,, ,, ,, ...	Do.
124**	,, sp.	,, ,, ,,	Do.
125**	,, sp.	,, rosy red	Do.
126	Aerides affine	Large, rosy purple	Do.
127	,, odoratum	,, ,, sweet-scented	Do.
128	,, sp.	,, ,, ,,	Do.
129**	,, sp.	Large, like affine, and very sweet-scented	Do.
130	Agrostophyllium Khasyanum	Small, white	Do.
131*	Xiphosium acuminatum	Large, white	Do.
132	Acanthophippium sp. ...	,, dull purple	Ter.
133*	,, sp.	,, white, streaked ...	Do.
134*	Cymbidium giganteum...	Very large, yell. and brown	Do.
135	,, pendulum	Large, dull yell. and purple	Do.
136	,, aloifolium	,, ,, ,,	Do.
137**	,, eburneum	Very large, white	Do.
138	,, incospicuum ...	Small, brown	Do.
139	Cymbidium longipetalum	Largish, green and purple	Ter
140*	,, cyprifolium ...	,, ,, ,, ...	Do.
141**	,, sp.	Large, fragrant, yellow, and white	Epi.
142**	,, sp.	,, brownish purple ...	Do.
143**	,, sp.	Very large, white	Do.
144**	,, sp.	Large, white and brown ...	Do.
145*	,, sp.	,, green and dull purple	Ter.
146**	? Phalænopsis, sp. ...	Large, yellow and reddish brown	Epi.
147	Euphorboscis pygmæa...	Minute, yellow	Do.
148	Geodorum dilatatum ...	Large, white, purple, and yellow	Do.
149*	,, sp.	,, deep rosy purple and white	Do.
150**	Platanthera sp.	Large, white	Do.
151**	Peristylis sp.	Largish, white, sweet-scented	Do.
152	Habenaria hamigera?...	Small, green	Do.
153	,, sp.	,, yellow	Do.
154	,, sp.	,, greenish yellow ...	Do.
155*	,, sp.	,, white	Do.
156**	,, sp.	Large, white	Do.
157**	Pogonia Joliana	Small, rosy white	Do.
158**	,, sp.	Largish, green	Do.
159**	,, sp.	Small, purple	Do.
160**	Cyrtosia sp.	Largish, golden yellow ...	Do.
161**	Spiranthes sp.	Small, white	Do.
162**	Zeuxine sulcata	,, ,, ...	Do.
163**	Anæctochilus Roxburghii	,, rosy white	Do.
164**	,, sp.	,, white	Do.
165**	Cypripedium vonustum	Large, green and purple ...	Do.
166**	,, insigne...	,, red and yellow ...	Do.
167*	Calanthe densiflora ...	,, lively yellow	Do.
168**	,, sp.	Small, brown and yellow...	Do.
169**	,, sp.	Large, white and green ..	Do.
170**	,, sp.	,, ,, and yellow ...	Do.
171**	,, sp.	,, dull purple	Do.
172	Goodyera sp.	Small white	Do.
173	,, sp.	,, ,, ...	Do.
174	,, sp.	,, ,, dull purple ...	Do.
175**	Ophrys sp.	Largish, rosy purple ...	Do.
176**	,, sp.	,, green and purple ...	Do.
177**	Anthoginum sp.	,, rosy	Do.
178*	Bonatea sp.	Small, green	Do.

Eschynanthus (3 to 4 sp.); Hoya (5 or 6 sp.); Arum (several Lilium (4 sp.); Nepenthes (1 sp.); Ferns and Lycopodiums (150 to 200 sp.); Palms (Livistonia, Leoxalta, Caryota, Calamus, &c.) are also indigenous, and can be sent if required.

Plants not marked are common. Ditto marked with an asterisk are considered rare.

Ditto marked with two asterisks are considered very rare.

The charges for a box of 1 cubic foot measurement, containing an equal selection of the three kinds, will be 5*l.* or 50 Rupees, deliverable at Calcutta. When Plants which are rare or very rare are required, the charges will be according to the kind taken; for the rare 1 r. 8 a. a Plant; for the very rare, 2 rupees a Plant. When very large plants are directed to be sent, no extra charge will be made.

When new Plants not included in the list are sent, a separate charge will be made. When two boxes or more are taken a discount of 10 per cent. will be allowed.

Plants can also be sent in glass cases, on the Wardian plan, measuring 2 feet 6 inches in length, 2 feet breadth, and 2 feet 3 inches in height, for which an extra charge of 20 rupees will be made. Glass covers can also be supplied for the other boxes, at an extra charge of 10 rupees.

Applications to be made to Messrs. CHARLES CANTOR & CO., in Calcutta.

ASSAM, *August* 1, 1852.

WINTER CUCUMBER SEED.

TILEY'S CAPTIVATION ... per packet 2*s.* 6*d.*
TILEY'S PHENOMENON ... ... ,, 2*s.* 6*d.*
CHAMBERLAIN'S ESSEX HERO ... ,, 2*s.* 6*d.*
LORD KEYNON'S WINTER-BEARING CUCUMBER, per packet ... ... 2*s.* 6*d.*
GORDON'S WHITE SPINE (the best of all White Spines), per packet... ... ... 1*s.* 6*d.*
TILEY'S VICTORY OF BATH, per packet ... ... 1*s.* 6*d.*

Good sound Seeds of the above first-rate varieties of Cucumbers can be obtained at the above prices on receipt of the amount in penny postage stamps. Free to any part.

EDWARD TILEY, Nurseryman, Seedsman, and Florist, 14, Abbey Churchyard, Bath

PETER LAWSON AND SON'S PRICE LISTS OF SEEDS, FOREST, FRUIT, AND ROSE TREES, are now ready, and may be had on application, or free by post from the Agent, J. C. SOMMERS 179 Fenchurch-street, London.

MESSRS. PLATZ AND SON, Erfurt, Prussia, respectfully inform the trade, that their Seed Catalogue for 1853, in which will be found many new varieties, may be had on application to their agent, Mr. ROBERT KENNEDY, Bedford Conservatory, Covent-garden, London.

MESSRS. COLE AND SHARP, Aston Lane Nursery, Birchfield, near Birmingham, beg to submit the following GLADIOLI:—

MRS. CHARLOTTE BEALE (Willmore's).—Bright salmon; pink shaded in lower petals. This is the largest Gladiolus yet raised, the flowers measuring 4½ inches across. Price 1*l.* 1*s.* (It obtained a First-class Certificate at the meeting of the National Floricultural Society, September, 1852.)

COLEI (Willmore's).—Colour deep pink, with a crimson stripe in lower petals; a strong grower, producing a spike of flowers 2 feet long. Price 15*s.*

STUART AND MEIN'S PARADISE PEA.—A very superior New Early Pea, a distinct variety, of large size; a most abundant bearer, and excellent flavour, partaking of the marrow.

"Sown May 17, fit for use July 23. About 4 feet high, pods straight, flattish, containing 6-7 Peas of good quality. An abundant bearer." From Journal of the Horticultural Society. See *Gardeners' Chronicle*, Oct. 16, 1852.

"Your Paradise Pea I consider to be distinct, well flavoured, and an abundant cropper, growing about 4 feet high. I certainly think it an acquisition to the Peas now in cultivation."—George Wemyss, gardener to Sir George Scott Douglas, Bart., of Springwood Park.

"I take the Paradise Pea to be distinct from any at present cultivated, grows about 4 feet high; strong and erect in the straw, an immense bearer, pods fleshy, large and straight; Peas above the medium size, of excellent quality, and altogether a great acquisition."—John Taylor, gardener to the Right Hon. Lord Chief Justice Campbell.

2*s.* 6*d.* per quart.

Agents:—Messrs. CHARLWOOD and CUMMINS, 14, Tavistock Row, Covent Garden, London; Messrs. NUTTING and SONS, Cheapside, London; and Messrs. LAWSON and SON, Edinburgh. Paradise Nurseries, Kelso, Roxburghshire.

The Gardeners' Chronicle.

SATURDAY, DECEMBER 11, 1852.

MEETINGS FOR THE ENSUING WEEK.

MONDAY,	Dec.	13	British Architects ... 8 P.M. Geographical ... 8½ P.M.
TUESDAY,	—	14	Civil Engineers ... 8 P.M. Medical and Chirurgical ... 8½ P.M. Zoological ... 9 P.M.
WEDNESDAY,	—	15	Society of Arts ... 8 P.M. Geological ... 8½ P.M.
THURSDAY,	—	16	Antiquarian ... 8 P.M. Royal ... 8½ P.M.
SATURDAY,	—	18	Asiatic ... 2 P.M. Medical ... 8 P.M.

IT has long been the opinion of competent judges that of all the European stations where a southern garden would be valuable, Malta is the best. In that favoured climate, where the Orange finds a western, and the Rose a southern home; and where the heats of Africa are moderated by the humidity of an insular atmosphere, it has been thought that the vegetation of warmer regions might be gradually inured to more northern climates, and thus a step be gained in accustoming plants of the south to the less congenial seasons of the north. Without stopping on this occasion to examine the question of acclimatisation, we put on record, with much gratification, the fact that effectual means have at last been taken to secure for the island the most important conditions required for all horticultural experiments, namely, a class of intelligent native gardeners.

To the late Governor, Mr. MORE O'FERRALL, this first indispensable step was owing. He found the Government garden at Sant Antonio a ruinous place, and horticulture at the lowest ebb. By putting the garden in charge of a public officer, and causing the produce to be sold and credited to a fund for the maintenance of the establishment, he succeeded in infusing life into the management, and in bringing the place into order and good condition. The plans of his predecessor have been adopted and extended by Sir WM. REID, the present Governor, to whose fostering care the cultivation of Bermuda is under such lasting obligations. We learn that this gallant officer has applied the system to a charming valley called the Boschetto, once a country seat of the Grand Masters, and a place that might have satisfied RASSELAS himself. From a state of neglect in which it has long remained it is now about to become a garden, managed on the same principle as that at Sant Antonio.

It is in these gardens that Sir WILLIAM REID has formed "a school for gardeners," where about 40 bare-legged, shoeless boys receive instruction in such branches of knowledge as are calculated to raise the

character of the Maltese gardener. An eye-witness speaks to us of the eager delight with which the children apply themselves to such learning. Even a little Museum for them is already in existence, in humble imitation of that at Kew.

Men may thus perceive that military governors can cultivate the arts of peace as well as civilians—and sometimes better. Their habits of command and the discipline they know how to assume are not necessarily confined to the field or the barrack, but may be extended to objects of which even a gentleman in drab must approve. And when they are employed as they have been by the distinguished officer now entrusted with the charge of Malta, they afford one of the best of human means for the extension of knowledge and civilisation.

We are among those who prefer the evidence of our senses to all other evidence; and although admirers of a theory we are still greater admirers of a fact. When therefore we read the assertions of some of our correspondents who maintain that roots will not grow, under any circumstances whatever, after their leaves are removed, and the opinions expressed by others that if they do increase they will form nothing but wood—in other words will become "sticky," although we receive such communications with all the deference they deserve, we nevertheless bow still lower to the proofs which Lois-Weedon offers that they are altogether mistaken. We candidly confess that we prefer the Rev. Mr. Smith's four-acre field of Turnips, and the unquestionable amount of produce obtained from it, even to the Rev. George Wilkins' notable experiment with a dog-collar (see p. 757).

In order to satisfy the public concerning the real quality of these famous Turnips, grown at Lois-Weedon in rows 5 feet apart, and whose leaves, because they touched in the rows by the beginning of September, were then stripped for cattle-food, we ventured to ask the able author of a "Word in Season" to send us an average sample of his crop as it is in this present month of December. What he sent was exhibited before the Horticultural Society last Tuesday; a pair of beautiful Swedish Turnips, firm, plump, juicy, not at all woody, but possessing every requisite of the best roots, and weighing 9 lbs., and 9 lbs. 4 oz. respectively. This we submit is a conclusive answer to the ideas, expectations, and assertions of those who criticise Mr. Smith's operations. Be it observed, too, that these were sent as fair *average* Turnips, and by no means the largest that could have been selected.

What the weight may be per acre of this crop cannot at present be determined, in consequence of the wetness of the land. A similar crop was, however, ascertained by careful weighing, to amount last year to 27 tons per acre, besides 240 bushels of early Potatoes in the intervals; it is estimated that the crop of the present season will prove 20 to 24 tons.

We are not in possession of the balance-sheet of the able experimentalist at Lois-Weedon, but some opinion upon the subject may be formed from the following fact. Seven acres of Grass and four of arable land support six cows, two carriage horses, and many swine. If we take the

Produce of six cows to be worth .	£60
Keep of two horses . .	60
Profit upon pigs (ascertained) .	30
	£150

And deduct expenses, we have evidently a very large profit, the cause of which can only be an immense production of roots and leaves.

VEGETABLE LIFE THE RESULT OF THE SIMULTANEOUS AND REGULAR ACTION OF CELLS OF UNEQUAL VALUE.

By M. Hermann Schacht.

(Translated from the Ann. des. Sc. Nat., xvii. 292; 3d series.)

A plant is a body composed of one or more cells; it is only in the lowest species that the cells are of the same value, *i.e.*, of the same chemical and physical nature, and of the same physiological importance. Even in Fungi and Algals only the most imperfect have cells which are at once organs of vegetation and reproduction; the more perfect species of these orders are, like lichens, composed of cells of different value. With respect to plants higher up in the scale of vegetation, they are all composed of numerous cells, totally different in a physical and chemical, as well as in a physiological point of view. The life of these plants depends upon the regular action of these cells of unequal value, arranged and developed in a determinate manner, but varying with the plant. The life of the different cells explains every diversity in vegetable life.

The organisation of plants is far simpler than that of animals. Plants have no peculiar circulating system composed of tubes joining each other; liquids can only be carried throughout the whole of a plant by diffusion; the so-called vessels (tubes which are modified cells) only enclose air when in their perfect state. But a plant has no need of a special circulating system; by means of its cells of unequal value it can direct its juices and all their chemically dissimilar parts to the places in which they are respectively wanted. Let us now see by what facts this statement is borne out.

Every plant at its earliest period of organisation is composed of cells of the same value; in a short time the different tissues may be traced; in the embryo of the ripe seed rudiments of the bud and of the root, and faint outlines of vascular bundles may, in the great majority of cases, be distinguished. Thus from this period the two fundamental tissues of a plant are visible; in other words, two sorts of cells of totally different value. One of these tissues serves principally to produce cells (this is the organising tissue, the cambium), the other serves principally to form nutritive matters, such as starch, sugar, chlorophyll, &c. (this is the nourishing tissue, the parenchyma properly so called). The organising tissue, in the act of producing cells, is situate at the extremities of the bud and root; it also forms the first stage of vascular bundles. When the seed germinates, the bud, as well as the root, is lengthened. It is from the same tissue that all those different sorts of cells are developed, by means of which the vascular bundles and parenchyma are extended. A cylindrical layer of this tissue is distributed in all the more perfect plants, in such a manner as to divide the parenchyma into pith and bark, as well upwards in the stem as downwards in the root. In all our trees, and as a general rule in all plants whose stems increase in size during their whole lives, this cylindrical layer (which I shall call the thickening zone) is active so long as life remains; it is by means of it that the stem enlarges; the cells of the tissue, forming towards the interior new wood, and towards the exterior new bark. In the higher Cryptogams and in Endogens, on the other hand, the thickening zone is active only for a short period of time; consequently the stems of these plants do not enlarge beyond a certain point; later, they grow in one direction only, namely, in height.

The peculiar arrangement of the vascular bundles in the roots of Cryptogams and Monocotyledons, is a consequence of the limited duration of the life of their thickening zones; a row of cells of this zone in such cases generally forms a compact cellular circle around the pith.

By means of the thickening zone, the vascular bundles of Monocotyledons grow at the same time as the stem and the root; to it is also due the lateral ramification of the vascular bundles in the genus Dracæna; but as soon as this zone becomes woody the vascular bundles cease to grow, except at their extremity. At first the vascular bundle and the thickening zone, as well as the extremity of the stem and of the root, are composed of nothing but cells capable of development; from them are successively formed all the kinds of cells which are found in vascular bundles; first of all, spiral or ringed vessels make their appearance, then the woody cells, those of the liber, and according to the species of plant, reticulated, scalariform and pitted vessels. One portion of the primitive cells of the vascular bundle remains unchanged; it constitutes the essential part of the bundle (the cambium of vascular bundles, the *vasa propria* of M. Mohl). The arrangement of this cambium characterises the kinds of vascular bundles; in Cryptogams it surrounds the cell vessels; the woody cells and those of the liber are absent, and pitted vessels are never present. The cambium of the vascular bundle in Monocotyledons is situate in its centre, and is surrounded by vessels and woody cells of the liber; pitted woody cells are of very rare occurrence. The vascular bundles of Cryptogams and Monocotyledons can only increase laterally by ramifying. In Dicotyledons the cambium is also found in the middle of the vascular bundle, but it answers to the thickening zone; by the zone it continues always capable of development; its cells grow on both sides towards the interior into woody and vascular cells, towards the exterior into cells of the bark and liber. The thickening zone and the cambium of vascular vessels alike give birth to the medullary sheath (the beginning of the woody zones of our trees), and to the annual layers (woody formations of later periods of growth). The root of Dicotyledons grows like their stem; but the root never has leaves, because the upper part of all true roots has, instead of a rudimentary bud, a radicular hood.

During the formation in the interior of the germinating plant of vascular bundles, of woody cells, and cells of the liber out of the organising tissue of the vascular bundle, there may be seen forming in or from the superficial parenchyma the cells of the epidermis, and later in or under them the cells of the cork; thenceforth the plant is furnished with cells of very different value. The organising tissue situate at the extremities of the stem and root, in the thickening zone and at the base of the leaves, consumes, in the first instance, azotised matters; its contents become rose-coloured if acted upon by sugar and sulphuric acid, whilst the contents of the neighbouring cells, which have other functions to perform, do not take the same colour. The sides of the cells of this tissue are delicate, and its membrane is composed of pure cellulose. The cambium of the bundles of Cryptogams and Monocotyledons behaves in an analogous manner, although it ceases to form new cells; as a rule, this cambium is surrounded by woody air-cells, and is, as it were, isolated by them. The parenchyma, or the nourishing tissue, limited in the stem to the pith and bark, contains few azotised, but a proportionally greater quantity of carbonaceous substances. In it are found starch, inuline, dextrine, sugar, chlorophyll, and other colouring matters, and crystals are formed in its interior. The cells of the epidermis give out the radicular hairs of the root, which absorb from the soil their food dissolved in water, which is indispensable to all organisation; by diffusion, they communicate the matters absorbed to the neighbouring cells, and these, in their turn, send those matters through their membrane upwards into the stem. The hairs of the root die early with the epidermis from which they spring; the root becomes covered with cork; its extremity continues to grow and to send out fresh hairs.

The epidermis of the stem and of the leaves undergoes a different modification; the external sides of its cells become thickened generally more than the internal; they offer, especially when corky, resistance to the evaporation of the liquids in the parts filled with sap; they would completely prevent all evaporation, were there not in the cells special contrivances (the stomates) which allow gaseous and vaporised substances to be exhaled as well as absorbed: the epidermis is thus of immense importance to plants. In the root, it, by its hairs, absorbs the soluble matters in the soil; in the stem and on the leaves it prevents evaporation by its secreted layer or cuticle, and especially by the corky modification of the external membrane of its cells, whilst the stomates allow an exchange of gases and vapours. The activity of the epidermis of the stem is, as a general rule, also limited to a certain period of time; as soon as it dies, it is replaced by cork, which, when completely formed, prevents all evaporation; it is possible that its porosity may condense the gases at the surface of the plant.

The tissue destined solely for assisting growth is the most active of all the tissues of a plant; next comes the cambium of the vascular bundles (the *vasa propria* of M. Mohl); both are rich in azotized matters, poor in hydro-carbon compounds; they never form starch or similar substances; they probably obtain their azotized contents from the soil in the first instance, and the cambium of the vascular bundles conducts them to the very top of the stem. The parenchyma or the tissue which forms the nutritive matters is also active, but in another way; it forms starch and substances allied to it, oils, resins, colouring matters, organic acids, &c.; carbon is what it principally requires, and this it probably obtains from the atmosphere by means of the leaves, which are provided with an active epidermis, and of the young bark; it is well known that, in the presence of light, plants absorb carbonic acid and give out oxygen. The sides of the cells of the parenchyma are thicker than the sides of the cells of the organising tissue and of the *vasa propria*; their membrane is formed of tolerably pure cellulose, and the cells only produce other cells to a very limited degree. The cells of the liber do not appear to live longer than the period of growth; they elaborate substances similar to those found in the parenchyma, as well as products peculiar to themselves—caoutchouc, alkaloïds. So long as they are active their membrane is entirely composed of pure cellulose—they never form new cells. The cells of the wood and vessels live but a very short time, during which they are very active, consuming all the substances which reach them, and thereby render their membrane thick and woody; at a later period both enclose air; they never form new cells or nutritive substances; by their becoming woody the cellulose appears to be transformed into xylogene, containing less oxygen. The cells of the cork have a still shorter life; as soon as their wall, at first composed of cellulose, is changed into cork, their contents disappear; they are like dead cells, but they continue, nevertheless, to be of great importance to the plant, as do the cells of the wood and cell vessels, which also enclose air; (the corky matter may be distinguished from xylogene by oxidising agents; chlorate of potash and nitric acid convert it into a waxy substance, whilst they dissolve xylogene). I have already spoken of the epidermis.

The chemical nature of the sides and contents of cells, as well as the mode of elaboration, naturally determine the proportion of matter to be absorbed. A plant cannot choose what it will absorb; it must take what it finds in the soil. But it can, by virtue of the chemical composition of its cell walls and juices, absorb one substance more quickly than another, and, consequently, take up in a given time more of one than of another. Some experiments made on diffusion with the membrane of a one-celled Algal, Caulerpa prolifera, have furnished me with striking proofs of this: water advanced towards a solution of sugar, whilst, in another experiment, alcohol advanced towards water. What is true of the cellular hairs on the root, with reference to this subject, is also true of the rest of the living tissue of a plant; at the top of the stem new cells are constantly being formed; and there the proteine compounds are more especially consumed, rendering a new supply of these matters necessary; this is effected by means of the cambium of the vascular bundles, which extends from the extremity of the root to that of the stem. The greater the consumption of these substances at the extremity of the stem the stronger is the ascending current of the juices. One cell takes the juices from another and acts by diffusion on the others; the disturbance of equilibrium between the contents of the cells, which is constantly caused by the never-ceasing production of new cells at the extremity of the stem, maintains the ascending current of the sap in the cambium; the last, surrounded by woody cells or endowed with some other sort of activity, is, to a certain extent, isolated by the sides. The constant activity of the

parenchyma in the formation of assimilated matters, &c., also produces a continual change of substances in the pith and bark; there is no equilibrium between the cells except during the time when vegetation is in a state of repose. The parenchyma of the leaves and of the bark obtains its nourishment principally from the atmosphere; it is connected with the parenchyma of the root by the medullary rays, which also connect the bark with the pith. In all probability there is a descending current of juices through the parenchyma. The evaporation which takes place at the surface of a plant gives rise to a change of the sap of the cells. Diffusion takes place in all directions in the parenchyma, none of the cells of which are isolated from the others. The cambium of the woody bundles, on the other hand, is generally surrounded by air cells, and to a certain extent isolated; diffusion in it can consequently take place in two directions only, upwards and downwards, but not laterally. When a plant is in its normal state of activity it does not absorb more than it consumes; the Vine and Birch only bleed in the spring when there are between the wood and bark more substances in solution than can be elaborated in the absence of leaves. This abnormal state is the result of chemical action inside the plant; when warm weather arrives, the starch collected in the autumn in the bark and sap wood is converted into sugar and dextrine; diffusion takes place through the hairs of the roots; the earth loaded with moisture yields water in abundance; the transformation of starch continues, and with it diffusion. The sap, which cannot be immediately consumed, forces its way into the woody and vascular cells previously filled with air. But as soon as the extremity of the stem regains its activity, as soon as a sufficient number of leaves are developed, the sap disappears from these cells, and retains its former course; thenceforward the Vine and Birch cease bleeding.

Different chemical substances are met with, stored in different parts of plants in very various quantities. The seed of cereals is rich in phosphates; certain rows of cells in the same seeds contain proteic compounds in considerable quantity, whilst other cells are principally filled with starch. The haulm of Grasses and the stem of Horse-tails have some cells filled with silica, whilst in adjoining cells scarcely a trace of this substance can be found. These facts can only be explained by the inequality in value of the cells; their chemical nature and their physiological activity permit them to appropriate to a great extent some one thing, some another. The various tissues of a plant are all directly united, the parenchyma, which produces starch, extends from the root throughout the stem to its extremity; the epidermis and cork are continuous; the vascular bundles are immediately connected to each other; accordingly all the conditions for a change of juices necessary to each species are present. The property which certain cells have of absorbing and elaborating in a peculiar manner one substance more abundantly than another, produces an ascending and descending current, the existence of which may be presumed, although it is not capable of direct proof; and may also be the cause of each living cell forming different currents for chemically different substances. It is possible that each cell may direct the substances it holds in solution upwards, laterally, or downwards, according to the demands of the neighbouring cells. The current of sap will consequently be directed according to the wants, and the degree of vital activity of cells of unequal value. If a plant were composed of cells of the same value, no change of juices could take place within it, without a true circulating system. In the higher sorts of Fungi, Lichens, and Algals, there are cells of unequal value; there is at the same time an opposition between the consumption of azotized matters on the one hand, and of carbonaceous matters on the other hand, the result of which is a regular exchange of juices.

The woody and vascular cells whose vital activity has ceased are by no means superfluous; they serve as well to support plants, acting as a sort of skeleton, as to absorb the gases secreted by the active tissues. Whilst young these cells themselves assist in a determinate way in the changing of the juices. The cork cells, though themselves dead, are of no less service to a plant.

The life of vegetable cells is a chemico-physiological phenomenon; one cell takes and elaborates substances differently from others. The life of the higher species of plants results from the regular action of cells of unequal value for the formation of new organs and of new matters. The ultimate object of vegetation is the production of seeds; the bud which has yielded the flower, and later still, the fruit, has accomplished its purpose; its life is ended.

THE ORANGE.

Most gardens contain an Orange tree or two; but judging from the appearance of the majority of them, the prevailing opinion amongst cultivators seems to be that it is worthless for ornament, and deserves a place in collections merely on account of its fruit. I am not about to recommend its culture for this purpose, which would be something like communicating a means of exchanging a sovereign for a shilling. I am convinced, however, that as ornamental plants, Oranges have been greatly undervalued. In the estimation of ladies, at least, their snowy white deliciously fragrant blossoms, are Flora's gems, and every gardener knows that however beautiful and fragrant the flowers of a bouquet may be, it is all the more prized when it contains "a sprig of Orange blossom." Considering this preference by those whose taste it is the interest of gardeners to study, and the capabilities of the plants for forming first-rate specimens, is it not singular that so little attention has hitherto been bestowed upon it? For pot culture the weaker-growing varieties, as myrtifolia, japonica, nobilis, &c., are preferable, as it is not necessary to resort to means injurious to the health of the plants to keep them within moderate limits, which might be the case with the stronger growing kinds; and if the plants are propagated by cuttings, there will be no danger of over luxuriant growth.

Cuttings of the half-ripened wood planted in light sandy soil, and placed in a bottom heat of about 70°, and well attended to, with shading, &c., will root with certainty; but if put in about October, and placed in a temperature of from 50° to 60° till spring, and then removed to a sharp bottom heat, hardly one will fail. When sufficiently rooted, pot singly in 4 or 5-inch pots, according to the strength of the plants, &c., and, if convenient, place them in a gentle bottom heat in a pit or frame warmed by stable manure, where they will grow rapidly if kept close and moist, and shaded from the forenoon's sun; if dung heat cannot be conveniently obtained, any close moist situation will answer. The plants should be kept growing as rapidly as possible till October, and shifted as may be required, when they should be gradually accustomed to a free circulation of air, sunshine, and a drier atmosphere, to ripen and harden the wood. Remove them to a light dry part of the greenhouse for the winter months, and avoid over-watering while they are all but dormant.

Orange trees when grown in heat are sometimes attacked by brown scale, and if these pests make their appearance, take advantage of the firm state of the foliage in winter to remove every vestige of them, and to thoroughly clean the leaves of all impurities. This will probably be a somewhat tedious operation, but it need not discourage beginners, for the plants are not particularly liable to the attacks of scale, except when grown in a confined moist atmosphere. As early as convenient in spring the plants should be removed to where a bottom heat of about 70° can be afforded, and treated during the spring and summer as recommended for last season, only that less shade should be used, and any gross shoot stopped, so as to secure a nice bushy habit of growth; and manure-water, such as is obtained from a stable or farmyard tank, may be given alternately with soft clear water with advantage. By the time the second season's growth is made the plants should be handsome little specimens, which if the wood is properly ripened will flower abundantly in spring, and be useful for many purposes. But where large specimens are desired without loss of time it will be better to disregard the blossoms, and grow the plants another season, or more, as may be necessary, in heat. The weaker-growing varieties will grow faster if grafted on stocks of the strong-growers. When the plants attain such a size as may be considered useful, means should be used to get the wood well ripened previous to winter, in order to provide for a good display of blossoms. A cool, light, airy situation in the greenhouse, with but little water to the soil, will suit best, until it is desired to bring them into flower, when they may be removed to a moist temperature of from 50° to 60°, where the blossoms will soon be developed. The beauty of these will be greatly prolonged by removing the plants to a dry airy situation, where the temperature may average about 45°. Give a moderate supply of water to the soil, using manure-water occasionally.

When the season of beauty is over prune the plants, cutting out any weakly shoot, and shortening over-vigorous ones; and see that the foliage is perfectly clean. Insects will be much more easily eradicated now than when the plants are covered with tender leaves. Perhaps the speediest and most effective way of proceeding in this matter, is to lay the plants on a clean mat and syringe with water of the temperature of 150° or 160°, turning the plants so as to make sure of copiously washing every part of the foliage; this will, however, neither kill nor remove brown scale, and these must be brushed off with a dry brush afterwards. Such of the plants as may be pot-bound should be shifted, and others which may not require shifting, surface-dressed with a rich compost, such as a mixture of turfy loam, sand, and decayed cow or sheep dung, first removing the surface soil as deep as it can be done without injury to the roots. The best situation for the plants to make their growth is a light pit where a gentle bottom heat of 65° or 70° can be afforded them. This is by no means absolutely necessary, for the plants will succeed very well in a close part of the greenhouse, or elsewhere, provided they can be kept rather close and copiously syringed; but a gentle bottom heat induces a vigorous bushy habit of growth, and sufficient wood is obtained, in a comparatively short time, when the plants can be removed to a cool airy part of the greenhouse, or a sheltered situation out of doors; and managed in this way insects will hardly attack them, and the plants will be covered with well-matured wood, and ready to display their blossoms whenever excited by a moist warm temperature, and will often flower in the ordinary greenhouse temperature shortly after Christmas.

Securing a succession of flowering plants is a very easy matter, and requires no farther care than to grow the stock at two or three seasons of the year, and to slightly force some and retard others. Indeed I hardly know a plant that is more accommodating in this respect, or that is more easily had in flower all the year round.

For plants which I grow for their blossoms merely, I use as soil nice turfy loam and peat, in the proportion of about three-fourths of the former to one-fourth of the latter, with a liberal sprinkling of broken bones and sharp silver sand. *Alpha.*

TRADE MEMORANDA.

Who was, or is, Mr. D. L. Stevens, 96, Southwark-bridge Road?

Home Correspondence.

Stoppage of Drains.—In the agricultural portion of your paper, p. 761, Mr. Sherrard asked what he had better do to get rid of Mangold Wurzel roots in drains. I would advise him to do nothing, and they will soon disappear. I find that many Broccoli plants on a low part of my ground look very sickly, in consequence of the heavy rains saturating the soil, and on pulling some of them up, which requires but little strength, the roots and even the bark are left in the ground, and the lower part of the stem is rotten. Such being the case, I doubt not the Wurzel roots will macerate very soon, and gradually pass away. A day or two since, a much more extraordinary stoppage occurred in one of my main drains leading from a large pond. Early in the morning I noticed that it was running the tile full; a few hours later it had stopped, and the water risen nearly a foot; on thrusting a stick up, it would not pass more than 18 inches. Soon after I told one of my men to push a pole up as hard as he could, and he rammed it with much force several times, about 4 feet up, without making any passage for the water. I then had the drain opened; in doing which my man put his hand into a hole made by breaking a tile, but very soon drew it back again, saying he felt something, and turned rather pale. Suspecting what it was, I then felt the thing myself, and immediately had the drain blocked up both in the front and rear. The tiles were then lifted, and behold the monster 3 feet 1 inch long, and nearly 8 inches in circumference, weighing just 3 lbs., a prodigious eel! It completely filled up the tiles, and on this account could not employ its natural sinuous motion to advance, except very slowly. It was nearly dead from the battering it had received. I suspect, from the water not running freely, that there is another rather smaller a little farther on. I have taken two at different times travelling from the same pond on the Grass, 2 lbs. weight each. *F. J. Graham, Cranford.*

Skimmia japonica.—Apart from any degree of prejudice which we may be supposed to entertain in favour of this plant, and we honestly confess it to be a pet of ours, we do not think that the statement of "E. M.," even supposing the plant to which he alludes as fruiting so abundantly on the Himalayas to be S. Laureola, can in any way weaken the attractions of S. japonica. The undoubted fact that S. Laureola has been many years in this country without attracting any notice by its blossoms, or having ever produced a berry, when placed in opposition to the circumstances of S. japonica yielding both, and attracting general notice from their beauty immediately after its importation, is, we think, sufficient to produce a unanimous verdict in favour of the latter; and of its hardiness we, at least, have no doubt. Time, we are confident, will prove its value in that respect; and of its precocity we need only say, that a small "cutting plant" that was placed in the open border for experimental purposes last season, produced both flowers and fruit when its entire height was not more than six inches. And even supposing S. Laureola does ultimately ripen berries in this country, which, it must be confessed, is somewhat doubtful; and if, which appears to be the fact, that it lacks the delightfully fragrant flowers so conspicuous in S. japonica; then it can only be placed, in point of beauty, at a respectful distance from its Chinese relative. *Standish and Noble, Bagshot.*—— Your correspondent, "E. M.," seems to have misunderstood the remarks I made upon these plants at p. 739. I am one of those who look upon all plants as beautiful, and therefore can have nothing to say against S. Laureola; but in the article referred to, I was comparing the Chinese and Himalayan species with reference to their ornamental qualities in the gardens of this country. The question, therefore, is not what S. Laureola may be in the Himalaya, but what it has proved to be in England. Before your correspondent comes to the conclusion that my objections to it are "unfounded," I have to ask him to tell me, for the benefit of your readers, first, how long it has been cultivated in this country? second, where it has flowered profusely? and third, where it has been seen, or where it can now be seen, covered with its Holly-like berries? And, for the sake of comparison, I shall answer these questions as regards the Chinese Skimmia japonica. It has been introduced about three years; since that time it has flowered profusely twice, and twice it has been literally loaded with pretty red berries. A few weeks ago, the imported plant was exhibited at the Horticultural Society's Rooms in Regent-street, and the highest medal now given there was awarded it. The berries are now much riper than they were then, and the plant looks much more striking. *R. F.*

Badly coloured Grapes (see p. 773).—I am fully convinced that the red colour of Grapes is the effect of too much fire heat; although every other good property is attainable by a high temperature, even when exposed to free ventilation, they do not acquire that beautiful hue so desirable in the black kinds. I have seen instances of the Black Portugal refusing to colour when grown with the White Muscat, which requires a higher temperature than most other kinds. If the Vines are not

over cropped, and the atmosphere of the house kept in a proper state as regards heat and moisture, with a constant circulation of air, I believe that Grapes will always colour, although they may be wanting in other qualities. *Joseph Williamson, Castle Gardens, Whitehaven.*

——I should say that the bad colour of your correspondent's Grapes, in house No. I (see p. 773), arose from the roots being too close to the warm material on the border at the season in which they are said to have ripened; the natural heat of the soil would ripen Grapes better than artificial warmth, unless the border was as much under the control of the gardener as the atmosphere of the house. The roots being near the surface, a little mulching could be applied to guard against extreme dryness or cold. Bad colouring has occurred with me where the roots have had artificial heat applied to them, the atmosphere being moderately moist and plenty of air given. Under these conditions, Black Hamburghs have swelled to a large size, but they were reddish, and the fruit, though sweet, was watery enough. This happened one year, while in the season previous, and that following, when no heat was given the roots at ripening time, the Grapes in the same house were well coloured and flavoured. *M. G., December 7.*

Liquid Manure.—The plan I adopt in collecting this for my kitchen garden is to procure two of the largest sugar hogsheads I can get, for which I pay 2*s.* 6*d.* each. I then take their bottoms out, and sink them into the ground where most wanted, the bottom and sides are then well rammed; my subsoil being a clayey gravel they are soon rendered perfectly water-tight. They contain about 160 gallons each, and are very durable. In my farm-yard I have a liquid-manure tank, into which as little rain-water enters as possible, my farm-buildings being supplied with gutters to carry it off. The two hogsheads are supplied by a water-cart, into which we pump the liquid manure, and by means of a trough outside the garden they are readily filled. I apply it by means of a waterpot to all green crops and root crops, except Potatoes, unadulterated, pouring it between the rows, and also to Raspberries. For Strawberries it is half diluted with rain water. For greenhouse plants and Pines it is mixed with two-thirds water. All the above are much benefited by its application. *S. Rosling, Hemel Hempstead.*

The Weather and the Potato Crop.—The weather in Scotland has been exceedingly wet for some weeks, and the barometer singularly variable; but there has been little or no damage from inundations, such as have devastated some parts of England. The Potato crop in Perthshire has suffered from disease more than for several years. The loss is generally estimated at one-third, though a few persons rate it at a fourth, and some a fifth. In the middle of summer the premonitory sign which has attended the disease more or less throughout, the breaking off of the blossoms at the joint of the peduncle, indicating, I imagine, constitutional debility, was observed. The year 1851 was remarkable both for dryness and for the absence of thunder-storms; and the Potato crop of that year was freer of disease than usual, and kept better through the winter than in any year since its prevalence. The increased disease this year, coincident with extraordinary frequency of thunder-storms, seems to point to the electrical condition of the atmosphere as having an influence on the health of the Potato plant, with a constitution enfeebled by a long course of excessive stimulation. *J. S. H.*

Weeping Willows.—Residing in the north of Scotland I ordered of a nurseryman some Weeping Willows, and he sent me plants of the Bedford Weeping Willow (Salix Russelliana pendula). In his catalogue I also see "American Weeping Willow" mentioned, but not Salix Babylonica. I am anxious to know if the "Bedford Weeping," or "American Weeping Willows," when grown, will have the same appearance as the S. Babylonica, and whether this last is too tender for this climate. The young plants of the "Bedford" I have (about 3 feet high) do not now show any signs of weeping. I am thinking of forming a collection of Willows—what shall I call it? A collection of Pines is called a Pinetum, but I am at a loss what name to give a collection of Willows. *Salix, Inverness-shire.* [Salicetum.]

Scale and other Insects on Trees, Shrubs, and Plants.—The following recipe has been found very successful in destroying scale, thrips, and other insects that infest stove, greenhouse, hardy herbaceous plants, and also trees and shrubs in the open ground:—Prepare 1 hogshead of lime-water (use half a bushel of lime to this quantity of water), add 4 lbs. of flowers of sulphur, 6 quarts of tobacco water, and 4 lbs. of soft soap; let the whole be well mixed and incorporated together and applied by dripping or syringing, or in the case of trees or shrubs, by squirting from an engine. Allow the composition to dry and remain on for about a week or 10 days, then wash it off effectually with clean water. *J. Weeks, King's-road, Chelsea.*

Artificial Production of Fish.—At p. 774 there is an article on the artificial production of fish in fresh water. This subject is an additional proof, if any were wanted, that many valuable hints and suggestions thrown out in various publications fall to the ground unheeded and neglected. I send an extract which shows that as far back as 1764 the same suggestions regarding the artificial production of fish in fresh water were brought forward by Prof. Jacobi, of Berlin; and I think I have read that in China the roe and milt of fish, intermixed, are carried from one province to another in jars. Within the last few years various individuals have directed their attention to the subject, but the most surprising part is, that those who should be most interested in the matter are supine. Great care is taken to preserve game, but to produce fish is below notice. The following is the extract to which I have alluded:—"Mr. Jacobi, of Berlin, made a discovery many years ago regarding the artificial fecundation of fishes, which has never met with the attention it deserves. (*Vide* Mem. Berolin, An. 1764.) He found that in salmon and trout the roe is not fecundated till after ejection; that when both are extracted from dead fishes, the roe by mixture can be fecundated by the milt, and when placed under water in a proper situation can be brought forth into life. He further discovered that this artificial fecundation can be accomplished with the roe and milt of fishes which have been dead two, and even three days. This discovery with proper care might certainly be rendered most beneficial, by transferring and planting valuable fishes in ponds, lakes, and rivers where they are wanted. The translation of fishes from one country to another is a very difficult and expensive operation, and has, therefore, been seldom accomplished; but by transporting the fecundated roe their translation might be easily effected, and at little expense, to a great extent, with much emolument in every country. Such ponds, lakes, and rivers as contain few or no valuable fishes, might be replenished with the very best kinds. The salmon, the bull trout, the spirling, and the grayling might all be planted in our rivers where they are at present wanted. In like manner, the Loch Leven trout and the char, the two most valuable lake fishes, might be established in many lakes in Scotland, which do not at present contain any fishes of such value."—P. 349 to 350 of Vol. II. of the Prize Essays and Transactions of the Highland Society of Scotland. *G. J.*

Night Coverings, Condiments, and Peaches.—I have a Vinery, without artificial heat, containing Frontignan as well as hardier Grapes, but for fear of spring frosts I have hitherto given much air in spring, so as to prevent the Vines breaking until the first week in April. Now, it is probable that by using a canvas covering at nights, I might allow them to break earlier. But before going to the expense of the covering, with all its paraphernalia of roller, box, &c., I should feel obliged by your informing me how many degrees of temperature I am likely to gain on bright frosty nights by adopting it. The glass is double thickness crown. The Frontignans have hitherto ripened perfectly; but though planted inside, and on a shallow, dry substratum, they shank very much. Can the seeds, either of the Cherry Tomato or Spanish Capsicum be procured in England? The former is used in New York as a favourite preserve, and the latter is the sole flavouring substance of the delicious Chorizo sausages, so, at least, a Spaniard told me a short time ago; and as these sausages cost in England 4*s.* a pound, it would certainly be cheaper to make them at home, if one can but obtain the pepper. One question more and I have done. In forcing Peaches we are prevented from imitating the dry climate in which they ripen best, viz., Malta, Persia, &c., from fear of red spider. Now, how do the trees escape there? Is there no red spider, or do the trees thrive in spite of it? *G. S. B.* [By means of shutting up your Vinery when frosty nights are to be feared, and covering with canvas, or with a warmer substance called *frigi domo*, you may reckon on 10° of higher temperature. Your Frontignans are doubtless too dry at the root. If English nurserymen cannot supply seeds of the Cherry Tomato, they or you can easily obtain both from M. Vilmorin, of Paris. Where the Peach tree grows naturally, as in Persia, or in a congenial climate like that of Malta, its vigour will render it not liable to be much injured by the red spider.]

Rain.—The quantity at this place (Pembroke dockyard) in November was 9.026 inches. The quantity at Bowness, Windermere, during the same month, was 9.910. Here we had 29 days on which there was rain in my gauge, at Bowness only 24. Thus Bowness, that on an average has more than double the quantity that falls here, had this month only .884 more, and five fewer rainy days. I find on referring to my register, which I began to keep at Bowness in 1847, that the quantity of 9 inches in the month has been exceeded in the following instances:

				Inches.
1847 ... October ...	9.713 ...	22 wet days ...	Total 1847 ...	56.815
,, ... November	10.726 ...	25 ditto.		
1848 ... February	13.404 ...	25 ditto.	Total 1848 ...	72.350
,, ... December	10.483 ...	20 ditto.		
1849 ... January...	10.388 ...	21 ditto.		

I left Windermere in the middle of 1849, but a friend there has furnished me with monthly returns ever since. His gauge was on rather lower ground, about ¼ of a mile nearer the lake than mine, and from his returns I find:—

				Inches.
1849 ... October ...	9.286 ...	20 wet days ...	Total 1849 ...	61.557
1850 ... February	9.361 ...	23 ditto.	Total 1850 ...	64.284
1851 ... January ...	13.288 ...	28 ditto.	Total 1851 ...	60.239
1852 ... January ...	12.635 ...	25 ditto.		
,, ... February	10.134 ...	17 ditto. }	11 months of 1852,	63.109
,, ... November	9.910 ...	24 ditto. }	in 185 days,	

although in March and April respectively the very small quantities of 0.425 inch, and 1.110 inch fell.

At Pembroke dockyard during the same 11 months, 36.964 fell in 195 days. *T. S. P.*

Potatoes in old Tan, with Remarks on Storing.—Since I last wrote upon this subject I have received letters from nearly all parts, indeed from places that I little thought your paper reached; and by the desire of your correspondents I am again induced to offer a few more remarks. Although many plans are recommended for preventing the Potato disease, still I intend growing on my own principle, viz., in old tan, which is the best and only preventive I have found. I cannot say that I ever experienced any benefit from cutting off the haulm, or from autumn planting. In the latter case you will admit they are very liable to rot, especially if planted in such an autumn as the present. My maxim is to plant high, wide, and dry, about the first week in February. I never use any manure except old tan, though, notwithstanding the expense of manure, many still load it on the Potato ground, while many of their other crops would be highly benefited by it. As regards planting in tan, some say, "No doubt it is a good thing for stiff land, but it will never do for light." Now I am satisfied it is equally beneficial to Potatoes in light and heavy soils, although certainly not so much is required; and as I before stated, the Potatoes leave the ground so clean that they require no rubbing, which greatly assists their keeping. Formerly Potatoes used to be stored in large clamps, formed by digging out a square piece of ground to a certain depth, placing a quantity of straw round them, and banking them up air-tight, and they were always found to keep well and firm; but now they are stored away in either a barn, cellar, stable, or even a bed-room, fully exposed to light and air, in order that they may be easily looked over every week or so, to pick out the bad ones. Now, their being exposed to light and air is certainly against nature, and the cry is, How bad they keep! and well they may, after being tossed weekly from one end of a barn or bed-room to the other, and trodden upon like dirt—how could they be expected to keep, or even eat well? I have not heard a single person say that they had eaten a good Potato this season. At the present time I have Lapstone Kidneys growing in 12-inch pots in old tan, looking admirably, and nearly fit for table. *E. Bennett, Perdiswell.*

Societies.

Horticultural, *Dec.* 7.—Sir C. Lemon, Bart, M.P., in the Chair. The Rev. H. Cooke, T. E. Moss, Esq., Mr. F. E. Staff, and Mr. A. Chandler were elected Fellows. It will be remembered that Chrysanthemums were invited at last meeting, but that in consequence of the unfavourableness of the weather none could be got into flower by the time, except a few Pompones. The Society, therefore, again offered prizes for them on this occasion, when a highly interesting display was the result. Of Pompones, the best six, for which a Silver Knightian Medal was awarded, were contributed by Mr. E. G. Henderson, of the Wellington-road Nursery, St. John's Wood. They consisted of Solfaterre, Ninon, Geralda, La Fiancée, Madame Lemichez, and Vestitum. Mr. Ivery, of Peckham, received a Silver Banksian Medal for the second best collection, in which were Colibrella, Perfectum, Solfaterre, Geralda, Nelly, and La Sapagon (?). Mr. Smith, of Hornsey-road, also sent six Pompones, for which a Certificate of Merit was awarded. Mr. Edmonds, gr. to the Duke of Devonshire, at Chiswick-house, likewise contributed a collection, but it arrived too late for competition, the Society's rules requiring that everything shall be in the exhibition room three clear hours before the time of meeting. The only group of large flowered sorts produced came from Mr. E. G. Henderson, of the Wellington-road. Their names were Lady Hunlake, King, Temple of Solomon (a brilliant yellow), Madame Camerson, Dupont de l'Eure, and Madame Poggi.—Table Pears were shown in considerable numbers. Of English grown sorts, the best was a collection from Mr. Snow, gr. to Earl de Grey, Wrest Park, Bedfordshire; but it was disqualified, on account of its arriving too late; as was also a collection from Mr. Monro, gr. to the Earl of Clarendon, at the Grove, Watford. The exhibitions of Messrs. Atkinson, Burns, Bloore, and Lane, were likewise disqualified, on account of their containing sorts wrongly named. The first prize, therefore (a Banksian Medal), was awarded to Mr. Hill, gr. to R. Sneyd, Esq., Newcastle, Staffordshire, for well ripened specimens of Colmar d'Aremberg, Passe Colmar, Beurré Diel, Glout Morceau, Old Crassane, and Beurré Rance. The next two best groups, to which equal prizes (a Certificate) were awarded, came from Cheshire; one from Mr. Errington, gr. to Sir Philip de Malpas Grey Egerton, Bart., Oulton-park, near Tarporley; and the other from Mr. Chapman, gr. to J. B. Glegg, Esq., Withington Hall, near Congleton. These were both good examples of Pear growing. Mr. Errington's sorts were Beurré Diel, Duchesse d'Angoulême, Doyenné d'Hiver, Beurré Rance, and Marie Louise. Mr. Chapman sent Colmar (fine fruit), Forelle or Trout Pear, Glout Morceau, Winter Nelis, Beurré d'Aremberg, and Passe Colmar. Mr. Atkinson, gr. to Lady Molyneux, of Stoke Farm, near Slough, one of those whose collections was disqualified, sent fine fruit of Beurré Rance, Easter Beurré (misnamed Beurré Diel), Glout Morceau, Winter Nelis, and Ne Plus Meuris. Mr. Burns, of Chevening, had Beurré d'Aremberg, Glout Morceau, Winter Nelis, Beurré Rance, Jean de Witte, and Beurré Diel (misnamed Duchesse d'Angoulême). Mr. Bloore, gr. to the Rev. J. J. Hornby, of Winwick Hall, Warrington, sent good examples (for the ungenial climate of Lancashire) of Passe Colmar, Winter Crassane, Glout Morceau, Beurré Rance, Bonne de Malines, and Glout Morceau (misnamed Beurré d'Arembergs. Messrs. Lane had Napoleon, Beurré Rance, Colmar, Beurré Rance again (misnamed Easter Beurré), Passe Colmar, and Winter Nelis. Messrs. Smith, Alderson, Davis, and Moore also sent collections, which contained, in addition to the sorts mentioned above, specimens of Chau-

montel, Bishop's Thumb, Althorp Crassane, Aston Town, Knight's Monarch, and Hacon's Incomparable, the latter beautiful fruit of this excellent variety, from Earl Grey's garden at Howick.—Of foreign Pears (which it may be useful to state do not compete with those of English growth), Mr. Lewis Solomon, of Covent-garden, sent an excellent collection, consisting of Beurré Rance, Glout Morceau, Uvedale's St. Germain, Jean de Witte, Chaumontel, Bon Chrétien and Belle Angerive. A Banksian Medal was awarded. — An interesting trayful of Apples was contributed by Mr. Errington, from Cheshire; and a more important exhibition of this fruit, in the shape of beautiful examples of the true old Golden Pippin, was furnished by Mr. Snow, gr. to Earl de Grey. These had been grown on trees trained on an east wall, from which fine healthy crops are annually gathered; while from standards of this variety in the same garden, the fruit is cankered and bad; surely going far to prove that instead of the Golden Pippin wearing out, as some imagine, the fact is, it is really too tender for our climate. A Certificate of Merit was awarded to Mr. Snow for this exhibition.—Some good Pine Apples were contributed. Mr. Ingram, gr. to her Majesty at Frogmore received a Banksian Medal, for two examples of the smooth-leaved Cayenne, weighing respectively 7 lbs. 8 oz. and 6 lbs. 4 oz. A capitally ripened fruit of this variety also came from Mr. Dods, gr. to Col. Baker at Salisbury. Mr. Davis, of Oak Hill, sent an Enville, 4 lbs. 2 oz.; and a Providence 6 lbs. 12 oz. was shown by Mr. Fleming, gr. to the Duke of Sutherland, at Trentham. E. Paver, Esq., of Taunton, sent a capital small-crowned Queen 4 lbs. 5 oz., and Mr. Hoare, gr. to Sir J. Bailey, Bart., M.P., a Ripley Queen, 5 lbs. 10 oz., together with a well cultivated Black Jamaica, 4 lbs. 14 oz.; Certificates of Merit were awarded to Mr. Paver and Mr. Hoare.—Excellent Grapes, for which a Certificate was awarded, were produced, in the shape of three bunches of Muscats, beautifully swelled and coloured, from Mr. Wortley, gr. to Mrs. Maubert, of Norwood. Mr. Fleming also sent three large and fine bunches of the same variety. Mr. Davis, of Oak Hill, contributed a dish of Oldaker's West's St. Peters, in first-rate condition, being fresh, plump, and black as Grapes possibly could be; a Banksian Medal was awarded them. Black Hamburgh and Cannon Hall Muscats came from Mr. Spary, of Brighton; and J. Taylor, Esq., jun., Oakley, Beds, sent three bunches of badly coloured Black Hamburgh. A basket of Muscats from J. G. Nash, Esq., of Bishop's Stortford (which arrived very late), were certainly inferior to what that gentleman has produced in previous years.—A dish of large fine looking Lemons, of good quality, for which a Certificate was awarded, was furnished by T. Lockyer, Esq., of South Wembury House, Plymouth, the peculiar point of interest about which is that they had been produced in the open air. It was stated that Lemons had been cultivated against a south wall in Mr. Lockyer's garden for these last 30 years, the principal care required being merely to protect them from wet, from which they suffer more than from cold. This is readily effected by covering them in wet periods like the present with straw protectors or glass. It was stated that good dressings of sheep-droppings to their roots had kept them in a high state of luxuriance. — From Mr. Smith, gr. to F. Newdigate, Esq., of Blackheath, came a plant of Amaryllis reticulata. Messrs. Standish and Noble again sent the new Evergreen shrub Skimmia japonica, covered with Holly-like berries, if possible more brilliant than before. J. Allnutt, Esq., of Clapham, furnished a plant of Camellia Donkelaeri in bloom. Messrs. Lucombe, Pince, and Co., of Exeter, sent two Conifers, one named Biota glauca, which appeared to be a variety of the Chinese Arbor-vitæ, with a peculiar blue hue, something like that of the Deodar; the other was a potted plant of either a Cypress or a Juniper, but in so young a state that it was impossible to say which. From Chiswick House Mr. Edmonds sent a noble bush in a square tub of the sweet-smelling Daphne indica rubra, for which a Certificate of Merit was awarded. Messrs. Veitch showed a large and fine plant of the true Vanda suavis, and Limatodes rosea, an extremely pretty plant from Moulmein, which at first sight might be mistaken for a Calanthe. It is a terrestrial Orchid, producing numerous spikes of gay rosy flowers, which are very attractive. A Knightian medal was awarded. Mr. Carson, gr. to W. F. G. Farmer, Esq., sent handsome cut specimens of Cattleya guttata, and of three varieties of Zygopetalum. Mr. Ayres furnished flowers of Tropæolum Triomphe de Gand, which is identical with Baumann's beautiful variety of T. Lobbianum; also examples of T. Hookerianum, a handsome kind with yellow flowers, spotted on each petal with red. These, it was remarked, were excellent winter-flowering plants. The Hon. W. F. Strangways sent a highly interesting collection of cut specimens of winter-flowering plants, which are hardy in the mild climate of Dorsetshire, but which mostly require the protection of a greenhouse about London. Among them were the handsome Indian Azara integrifolia, which lives in the open garden at Chiswick, but does not flower; the beautiful Lithospermum rosmarinifolium, Convolvulus Cneorum, the red Brugmansia, the Anderson Speedwell, and Protea mellifera, which was stated to succeed there perfectly, forming a beautiful flowering bush; but owing to the want of bright weather, its blossoms have not yet opened this year. Specimens illustrative of the transition of Ægilops ovata into the Touzelle Wheat of the south of France were exhibited. For a detailed account of the circumstances connected with this interesting transformation, see pp. 451, 467 of our current year's volume. From Mr. Grey, gr. to W. Cuthbert, Esq., of Beaufort, Hexham, came fruit of the Houghton, or Raby Castle Currant, a large red variety, which is excellent for late use. It was stated that when grown against a north wall, and protected from birds, rain, and frost, it will continue good till the latter end of December.—The only forced vegetables exhibited consisted of foreign produce, supplied by Mr. L. Solomons, of Covent-garden, whose collection contained good examples of Seakale, Endive, Lettuces, Horn Carrots, and white and green Asparagus, the green being what is called "sprew." For these a Banksian Medal was awarded. Other vegetables consisted of two large purple-topped Swedes, from the Rev. Mr. Smith, of Lois Weedon, some account of the culture and disleafing of which will be found at p. 707. They were extremely solid, firm, and good, and weighed respectively 9 lbs., and 9 lbs. 4 oz.—From the Garden of the Society came various Pompone and other Chrysanthemums, adverted to in our report at p. 775; the new Sonerila orbicularis, also mentioned there; Tropæolum Lobbianum, Baumann's variety; Sericographis Ghiesbreghtiana, Manettia bicolor, Malva umbellata, a large purple-flowered species from New Granada, which has been long lost sight of in gardens, but which makes an exceedingly handsome summer-flowering bush; and a collection of winter-flowering Heaths, the only one produced. The sorts were Erica nidularia, the larger variety of cruenta, Sebana and its yellow variety, hiemalis, and erubescens.

It was announced that the next Meeting would be held on January 18, 1853, at 2 P.M., when the special subjects of exhibition may be—the best collection of Hardy Winter-flowering Plants (cut flowers admissible), English Grapes, and the best and most varied Salad.

Notices of Books, &c.

Talpa, or the Chronicles of a Clay Farm. By C. W. H. 12mo. Reeve and Co.

THE readers of the *Agricultural Gazette* need not be informed of the merits of the articles on a clay farm, which have from time to time appeared in its columns under the signature of "Talpa." In a humorous way they described very serious facts about the heavy land of England, and we doubt not have led the way to a recognition of the important truth, that the best land in the United Kingdom is the clay, when men have the intelligence that is demanded in the management of it. The present is a beautifully got up book, illustrated with numerous amusing woodcuts characteristic of the clever artist, George Cruikshank, and containing new matter, relating to the right way of applying steam power to tillage.

Williams on the Cultivation of Ferns and Lycopodiums (12mo, Chapman and Hall, pp. 67), is a useful account of the manner in which such plants are practically managed by one of their most successful growers. It is, however, to be regretted that more pains should not have been taken with the orthography of the scientific names.

FLORICULTURE.

GERMAN STOCKS.—Perhaps in the history of German Stock growing, there are few instances on record of plants keeping in flower for such a long period as the following:—The seed was sown in the spring of 1850; the plant flowered that season, and towards the end of autumn was potted and placed in a greenhouse, where it bloomed all the winter; in the spring of 1851 it was planted in the open border, still in flower, and continued all summer and autumn. Towards the close of the year it was again potted and placed in the greenhouse, where it kept flowering all the winter. It was again put out in the spring of the present year, and had about 20 spikes of flowers on it when planted out; it was early in the season, and there were few flowers to bear it company; it bloomed all the summer. When autumn came, however, it showed signs of decay, and the beautiful double blossoms began to get few and far between; but the plant surely did well to keep up a succession of flowers from the summer of 1850 to the autumn of 1852. *P. M.*

ROSES.—The following are still flowering beautifully here:— Bourbon Queen, Duchess of Sutherland, Géant de Batailles, La Reine, Pierre de St. Cyr, Fabvier, William Jesse, Clémentine Duval, Gloire de Rosamene, Mrs. Elliott, Caroline, Comte d'Eu, Madame Desprez, Fellenberg, and Mrs. Bosanquet. *A. Matthews, Moore Abbey, Monastereven, Ireland, Dec.* 8.

IPSWICH CHRYSANTHEMUM SOCIETY.—The fifth annual show was held on the 1st of December, when both the quantity and quality of the specimens presented a decided improvement on former exhibitions. The day was fine, and there was a good attendance. The Pompones produced by Mr. Barnes, of Stowmarket, and Mr. Thos. Latter, of Romford, commanded especial attention. These, with the other Chrysanthemums, Ericas, Cinerarias, Double Primulas, Camellias, Fuchsias, tree Carnations, Leschenaultias, Correas, Cyclobas, &c., altogether made up a very gay and interesting winter show. The prizes were awarded in the following manner:— Class I. Single specimens: 1, Mr. Basting, gr. to H. Pond, Esq., with Madame Poggi; 2, H. Furze, Esq., with Pilot; 3, Mr. Parker, gr. to G. Josselyn, Esq., with Madame Poggi; 4, Mr. T. Latter, with Mount Etna.—Class II. Six pots (3-inch), distinct varieties: 1, Mr. Whitman, gr. to W. H. Alexander, Esq., with Nancy de Sermet, Christine, Vierge Marie, Princess Maria, Annie Salter, and Queen Victoria; 2 Mr. Furze, with Hengist, Christine, Rose de Ciel, Madame Cameron, Nonpareil, and Temple of Solomon; 3, Mr. Parker, with Queen of Gipsies, Orlando, Indiaman, Marie, Thalie, and Nancy de Sermet.—Class III. Six pots Pompones (3-inch), distinct varieties: 1, Mr. Latter, with Sacramento, Fenella, Eliza, Adonis, La Pactole, and Mignonette; 2, Mr. Whitman, with Mignonette, Pollyde te, Circe, Modèle, Ninon, and Adonis.—Class IV., 6 pots (8 inch): 1, Mr. Gilbert, with Annie Salter, Vulcan, Campestroni, Queen of Gipsies, Fée d'Ivry, and Christine; 2, Mr. Collins, with Vesta, Princess Maria, Madame Poggi, Vierge Marie, Golden Cluster, and Pompiere te; 3, Mr. Whitman, with Nancy de Sermet, Queen Victoria, Annie Salter, Madame Poggi, Christine, and Vierge Marie.—Class V., 24 cut blooms, consisting of not less than 12 varieties: 1, Mr. Barnes, with Cloth of Gold, Orion, Péruvienne, Queen of England, General Marceau, Golden Cluster, Madame Chauvière, Lysias, Pilot, Gluck, Count Raritzeau, Nonpareil, Lady Talford, Veltigeur, Christine, Satyr Dupont de l'Eure, Bexio, Fée d'Ivry, Annie Salter, and Versailles Defiance; 2, Mr. Smy, Gardener to Sir T. Culum, Bart., with Orion, Queen of Yellows, Hengist, Fée d'Ivry, Lady Talford, Madame Chauvière, Beauty, Milo, Madame Hardy, Phidias (new), Lucidum, Annie Salter, King of Whites, Golden Cluster, Queen of England, Rose de Ciel, Gluck, Pio Nono, Argo, Nancy de Sermet, King, Peruvienne, and Versailles Defiance; 3, Mr. Cuthbert, with Golden Yellow, Annie Salter, Queen of England, Pilot, Christine, Vierge Marie, Hengist, Pio Nono, Campestroni, Rose de Ciel, Mad. Hardy, Mad. Poggi, Mad. Chauvière, Fleur de Marie, Temple of Solomon, and Mount Etna; 4, Mr. Furze, with Vierge Marie, Christine, Annie Salter, Temple of Solomon, Fée d'Ivry, Hengist, Vesta, Rose de Ciel, Mad. Poggi, King, Mad. Cameron, and Nonpareil.—Class VI., 12 cut Blooms, distinct varieties: 1, Mr. Smy, with Orion, Christine, Queen of England, Queen of Yellows, Annie Salter, Nonpareil, Milo, Nancy de Sermet, Phideas (new), Vesta, Princess Maria, and Lady Talford; 2, Mr. Barnes, with Mad. Chauvière, Cloth of Gold, Lysias, Nonpareil, Gluck, Prince of Wales, Nancy de Sermet, Bexio, Annie Salter, Versailles Defiance, Dupont d'Ivry, and Agenor; 3, Mr. Gilbert, with Vierge Marie, Annie Salter, Temple of Solomon, Christine, Vulcan, Queen of England, Princess Maria, Golden Cluster, Rose de Ciel, Fée d'Ivry, Gluck and Pilot.—Class VII., six cut blooms: 1, Mr. Smy, with Nonpareil, Gluck, Queen of England, Vesta, Lady Talford, and Dupont de l'Eure; 2, Mr. Cuthbert, with Vierge Marie, Hengeist, Rose de Ciel, Mad Poggi, Temple of Solomon, and Mount Etna; 3, J. H. Hedge, Esq., with Temple of Solomon, Annie Salter, Count de Raitzan, Princess Maria, Mad. Chauvière and Nonpareil. Mr. Porter exhibited some exceedingly good flowers, but they were disqualified in consequence of not being numbered. Among them were Golden Cluster, Campestroni, Annie Salter, Vesta, Queen of England, Christine, Vierge Marie, Belle de Versailles, &c. Mr. Barnes' collection of Pompones consisted of Asmodée, Madame Lemichez, Solfaterre, Sacramento, Ninon, Argentine, Le Sirocco, La Ruche, M. Jules d'Ivry, Maria Vorzel, La Sapagon, Surprise, Modèle, Cybèle, Louise Mieliez, Autumnus, Fenella, Adonis, Criterion, Nelly, and Henriette Chauvière. Mr. Latter's Pompones were Perfectum, La Fiancée, Surprise, Sacramento, La Naine Bébé, Argentine, Mignonette, Eliza, Modèle, Renoncule, La Pactole, Adonis, Pouledette, Ninon, Fenella, and Heuriette Lebois.

CATALOGUES received from Mr. J. Harrison, Grange Nursery, Darlington, Durham; from Mr. Richard Bradley, Halam, near Southwell, Notts; and from Mr. James Finlayson, Sedalls, Paisley.

PANSIES: *Old Friend.* You may earth up every shoot to within about two joints of its top with some nice sweet and somewhat sandy compost, first pegging them down securely; if your plants have each three or four such shoots place them at equal distances apart; burying the centre or main stem in earthing up is not injurious; on the contrary, as spring advances most of your plants will throw up numerous suckers, which, when about an inch above the ground, will have rooted into the sandy compost directed to be used, and a supply of healthy young plants will be the result; these may be planted in nursery rows, and will afford you ample stock to take the place of the spring-blooming plants. We seldom found ourselves short by this simple process, and but rarely had to take cuttings. *J. E.*

PELARGONIUMS: *J S.* We should think cuttings would not reach Australia alive soldered down in a tin box. You had better take growing plants in a Wardian case; or, if you cannot do that, take seeds.

RHODODENDRONS: *J S H.* They may be pruned any time during the winter; but as good a time as any is just after they have done flowering.

TULIP SALES: *F D.* We will consider the matter. In the mean time, however, we may state that Tulip bulbs sold without any guarantee as to correctness of name can only in the end be productive of dissatisfaction, and can in no way regulate the legitimate market price.

Miscellaneous.

Venomous Fly of Southern Africa. By MM. W. Oswell and Arnaud.—This fly, called by the natives Tsetsé, is the same that was found to the east of the Limpopo, and which infests the country of Sebitoani; it is fortunately confined to certain localities from which it never removes. The inhabitants lead their cattle within a certain distance of the places where it is found, and if they are compelled, in moving about, to cross those portions of the country infested by the insect, they choose for this purpose a moonlight night in the winter, because the insect does not bite during the nights of the cold season. From what I have seen, I think that it only requires three or four flies to kill a large ox. We examined about a score of ours which had been bitten and died; they all presented the same appearances. On removing the skin, the muscles had a slimy aspect and appeared much altered. The stomach and intestines were healthy; the heart, the lungs, the liver, sometimes all at once, and always one or other of these organs, were affected. The heart especially attracted our attention; it was no longer a hard muscle, but a contracted and emaciated organ which might be crushed by the least pressure of its walls; it resembled flesh which had been soaked in water. The blood was diminished in quantity and altered in quality. The largest ox did not furnish more than 20 pints; it was thick and albuminous. The hands, when immersed in this blood, were not spotted by it. The poison appeared to spread in the blood and to change the rest of the organs through its intervention. I believe that all domestic animals, except the goat, die of the bite of

this insect; calves and other young animals are secure from it during the whole time that they are sucking; man and all wild animals are also proof against its venom. *Comptes Rendus*, October 16, 1852, p. 560.—*Annals and Magazine of Natural History.*

Lobelia fulgens multiflora.—This is one of the handsomest plants that are grown for bedding. It is not to be found in many establishments; but I do not know for what reason, as it is very easy to cultivate if properly attended to. There have been several nurserymen and gentlemen here this year, and all of them seemed very much surprised to find a bed of this beautiful Lobelia growing and blooming so finely. The plants are 4 feet high, and covered with blossoms. It produces its flowers, which are of a fine rich scarlet or crimson, from July to October. No garden ought to be without a bed of this charming plant, whose colour is very distinct from that of any other bedding plant; and therefore it cannot fail to be an acquisition to the flower-garden. It also looks well planted on the borders, intermixed with other flowers. To grow it in perfection, it requires a good soil. It does best in pots during the winter in a little heat. The best way to be successful with it is to take the plants off the bed after they have done blooming, part them (every bit will grow), put them into small pots, and place them in a little heat till they are well rooted; then remove them to a cooler house, taking care not to give too much water at the roots during winter, only just enough to keep the soil a little damp. Pot them afresh into larger pots in March, and encourage them to grow strong; and as they begin to root, give them more water, and keep them in the house till April. Afterwards move them into a cool pit or frame, for the purpose of hardening them a little before planting out. *B. S. W., Hoddesdon, in Turner's Florist, Fruitist, and Garden Miscellany.*

Calendar of Operations.

(*For the ensuing week.*)

PLANT DEPARTMENT.

The continuance of dull rainy weather will render occasional fires requisite to greenhouse plants; they should be lighted in the morning, that the houses may be thrown open during the day, to promote a free circulation of air; this will dry up damp, and help to keep the plants in a healthy state. The more delicate kinds of Heaths, and hard-wooded plants, are often attacked with mildew, and as nothing induces this so much as a damp stagnant atmosphere, there should be some means for giving air during the night, and in bad weather, to plant-houses, independent of the sashes. During the present damp warm weather, night ventilation should be kept up; for by keeping the internal air of the house in motion, one principal cause of mildew is prevented; and it will be beneficial, as well, in checking the tendency to make wood, which the present mild weather is encouraging many plants to do. Let the surface soil of the pots be lightly stirred, to remove moss, weeds, &c., as well as to promote a freer evaporation from the surface. Fuchsias, which have been out of bloom for some time, and have matured their wood, should be removed to a pit, or spare house, where they can be protected from frost, or for want of room, to be stored in the back sheds for the winter, and protected with fern or straw in frosty weather. The remarks made above on ventilating hard-wooded plants are equally applicable to Pelargoniums, Cinerarias, and Calceolarias; these latter will require a night temperature of 45°. Place the plants as near the glass as means will permit, to obtain all the advantages of light. Seedling Cinerarias and Calceolarias should have a shift if requisite; if the plants are strong, they may be transferred at once to their blooming pots; after potting, place them at the warm end of the house. Pelargoniums should now have their shoots thinned and neatly tied out to stakes; keep them thin to produce stocky plants, and fumigate on the first appearance of green-fly. As many plants suffer from drip at this season, a careful look-out should be given, and either the cause remedied or the plants shifted. Orchids will, more especially, require frequent examination, as an exposure to its effects would be most injurious. As Camellias come into bloom preserve rather a drier atmosphere in the house, as the flowers soon become spotted and decay when the air of the house is damp.

FORCING DEPARTMENT.

Vinery.—Presuming the Vines in the early house are on the move, a second Vinery should forthwith be put in order for commencing whenever circumstances connected with the demand, and the time the first crop is likely to serve, point out its necessity. The same routine of cultivation must be followed as directed for the early house. As the outside border will have been covered with leaves or similar materials, to exclude wet and frost, all that will be requisite at this time will be a turn over, and perhaps the addition of fresh litter, to create a slight degree of heat to the roots; after this is obtained, keep the covering dry, as before recommended, when it will retain heat for a considerable time. If Vines in pots intended for the early crop were plunged in gentle bottom-heat in a pit or frame the time we advised, they will be now breaking, and should be removed without delay to the fruiting house; it is the practice with some pot growers to turn them out into narrow troughs, and fill up the space between the balls with compost; but if the plants are in 12 or 14-inch pots they will carry out a fair crop, say from six to eight bunches each, without that assistance. When placed in the Vinery tie the shoots so as to have the benefit of all the light, and let the temperature of the house and general management be the same as for permanent Vines. If in good health they will require dung-water, the temperature of the house, two or three times weekly. Strawberries, when required ripe early, should at once be set to work; they do best when started in a gentle bottom-heat, to excite root action; their progress should at first be very slow, to get the foliage to start well; hence a pit or frame will be the most desirable place for them for a few weeks, taking care, however, that the bottom-heat is very moderate. For very early work, the Grove End Scarlet is one of the best, with the addition of Cuthill's Black Prince; of the larger sorts, none surpass Keens' Seedling as an early forcer and good bearer. A few seeds of early Melon and Cucumber should now be sown for the first spring crop; directly the plants are up keep them near the glass, to prevent their becoming drawn.

FLORISTS' FLOWERS.

Still continuous wet. Carnations and Picotees will certainly require redoubled attention, else mildew and spot will be the inevitable result. When opportunity serves, examine the axils of the leaves, to see that no dirt lodges there, either by accident or carelessness; this is sometimes the case, and when it is so, wet is doubly pernicious to the plants. Raise the frames on bricks at each corner, so that there may be a free circulation of air amongst the plants, even if the lights are kept down. Attend to Auriculas in a similar manner. It has been a serious time for Tulips, and we fear that unsound bulbs will run great risk of rotting in the ground. We do not know how far our anticipations may be realised, but we anticipate a larger proportion of flamed flowers from those beds which have been exposed to excessive wet than from those which have been protected.

FLOWER GARDEN AND SHRUBBERY.

Let the lawns be well rolled directly they are sufficiently dry, to consolidate the turf after the late heavy rains; every part of the turf should be frequently swept through the winter. Nothing adds so much to the enjoyment of pleasure-ground scenery as well kept turf; and when connected with evergreen shrubs, an agreeable relief to the dreariness of the season is afforded, which renders the loss of more attractive plants less to be regretted. At the same time see that the walks are kept dry and firm, that they may be traversed with comfort at all times. While the weather continues mild, the planting of deciduous trees may be proceeded with, if the state of the land will permit. But with the exception of the more hardy kinds, evergreens had better be deferred planting till April. Deciduous shrubs may be pruned whenever there is time, except during severe frost. Many of the larger growing plants will only require going over once in two or three years, to reduce straggling shoots within proper limits, and to thin out where too thick. Smaller growing shrubs, as some kinds of Robinias, Cytisus, Spiræas, Deutzias, &c., should be pruned annually, if a good show of flowers and uniform shaped plants are desired. Secure standard Cytisus, &c., by firmly staking them after pruning, unless urgent reasons exist to the contrary. The pruning and tying in of climbing plants on trellises, arcades, &c., may remain till February. Many of the above plants are partly evergreen, and when pruned at this season the trellises, &c., have a somewhat naked appearance through the winter; any straggling loose growths should, however, be cut away at once.

HARDY FRUIT GARDEN.

Carry out previous directions. Where orchard trees have been for some years left unpruned, the hand-saw will be required to thin out the larger branches; keep the middle of the trees open, to admit air, and to promote the formation of fruit-buds on the interior branches. It is, however, a bad practice to leave any description of fruit tree to itself, as it would in all cases pay the cultivator to prune them once a year at least.

KITCHEN GARDEN.

Whenever the ground becomes dry, put in a second crop of early Peas and Mazagan Beans, as the first crop will most likely fail through the wet state of the soil. If Peas are sown in the open quarters the drills should be protected by a ridge of earth left to the north or east of the rows; keep down mice by trapping; they are troublesome to early sown crops of the above. On a dry warm border, a few beds of Early Frame or Short-top Radish should be sown, either singly or with the short Horn Carrot; cover the beds with straw or litter till the seeds germinate, when they should be uncovered every day when not frosty. A frame should likewise be placed on a gentle bottom-heat, for a sowing of the above, to draw early. Place some protective material round the stems of Globe Artichokes, or earth them up, to keep off frost. Celery and Cardoons may have a final earthing up, if the weather has prevented its being done sooner. Leeks should likewise have more earth drawn to them before the frost sets in; they are an excellent vegetable when well blanched. Hoe between the earliest planted Cabbages, Lettuces, &c.; this should be frequently done to growing crops through the winter, as by keeping the surface loose and open, frost is prevented from penetrating to any great depth, and the roots of plants are kept in a more active state.

STATE OF THE WEATHER NEAR LONDON,

For the week ending Dec. 9, 1852, as observed at the Horticultural Gardens, Chiswick.

Dec.	Month's Age.	Barometer. Max.	Barometer. Min.	Temperature. Of the Air. Max.	Min.	Mean	Of the Earth. 1 foot deep.	2 feet deep.	Wind.	Rain.
Friday..	3	22 30.028	29.992	51	38	44.5	44	44	S W	.00
Satur...	4	29.904	29.884	55	52	53.5	44½	44½	S.W.	.00
Sunday.	5	24 29.897	29.827	55	49	52.0	46½	45	S.W.	.25
Monday	6	25 29.778	29.771	52	41	46.5	48	46	S W.	.00
Tues. ..	7	26 29.691	29.435	50	44	47.0	47	46	S.	.19
Wed. ..	8	27 29.293	29.241	49	37	43.0	47	46	S.W	.03
Thurs...	9	28 29.613	29.525	53	45	49.0	46	46	S.W.	.01
Average....		29.747	29.668	52.1	43.7	47.9	46.1	45.3		.33

Dec.
3—Fine throughout; overcast at night.
4—Overcast; densely clouded, and mild, both day and night.
5—Densely overcast; cloudy and mild; overcast; rain.
6—Densely clouded; overcast throughout.
7—Overcast; rain; cloudy; rain at night.
8—Foggy; rain; clear at night.
9—Clear; fine; slight rain at night.

Mean temperature of the week, nearly 7 deg. above the average.

STATE OF THE WEATHER AT CHISWICK,

During the last 25 years, for the ensuing week, ending Dec. 18, 1852.

Dec.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 12	49.76	34.38	42.0	8	0.26 in.	2	2	2	1	5	8	5	2
Mon. 13	46.61	32.38	39.4	8	0.13	1	2	3	2	7	8	2	1
Tues. 14	45.65	33.76	39.7	13	0.32	2	2	2	2	8	6	4	—
Wed. 15	46.73	36.00	41.3	14	0.40	1	2	1	3	8	6	3	1
Thurs. 16	46.46	36.42	41.4	15	0.68	1	3	2	2	4	6	4	5
Friday 17	46.96	34.73	40.8	14	0.37	2	2	1	2	4	8	4	2
Satur. 18	45.53	35.23	40.3	12	0.33	2	6	—	1	5	7	5	1

The highest temperature during the above period occurred on the 13th, 1842—therm. 61 deg.; and the lowest on the 13th, 1846—therm. 11 deg.

Notices to Correspondents.

Books: *G J.* We cannot recommend dealers; any bookseller can procure "A Word in Season" if he chooses.‡—*T H.* "James's Gardening," 4to.

Calico: *W C E.* would be glad to know the kind and price of calico used so advantageously for ten years at Messrs. Sutton's, and noticed in the *Chronicle* of Nov. 27.

Celery: *Wyeanæ.* It should be firm, crisp, and tender, with little "hard close part" next the root.‡

Cucumbers: *J W and Co.* We are unacquainted with the variety you mention.‡

Heating: *G B.* Gas applied as described at p. 645 would perhaps be the best way of warming such a frame as that you mention. If you cannot have gas, then run a small brick flue round it, or possibly some contrivance like that recommended at p. 677 might answer the purpose.—*A M.* Whether coal or coke is the cheapest fuel for hothouses depends upon their respective prices: gas-coke burns faster than coal, and therefore should cost less money.

Heaths: *Amicus.* Our reports of the Horticultural Society's exhibitions at Chiswick, in May, June, and July last, will furnish you with lists of all the best sorts grown about London.‡

Lupines: *N B.* We see nothing remarkable in the specimens. Many annual plants habitually produce roots at their joints, even in seasons not wet like this—for instance, Maize and Indian Balsams.

Names of Fruits: *Sub.* 1, Beurré Diel; 2, Marie Louise; 5, Beurré Rance; 6, Winter Nelis; 7, Devonshire Buckland; 8, Yorkshire Greening; 9, Ribston Pippin; 19, White Russet; 15, Northern Greening.‖—*E P, Cork.* 1, 2, Beurré Diel; 3, Glout Morceau. The Apples, of little merit, are not known.‖—*F P.* 1, Marie Louise; 2, Duchesse d'Angoulême; 3, Glout Morceau; 7, Northern Greening; 9, 19, Beauty of Kent; 10, Court of Wick; 13, Rymer; 17, Northern Greening; 20, Downton; 21, Chaumontel; 23, Scarlet Crofton ‖—*A W.* 1, Probably Marie Louise; 2, 5, Passe Colmar; 11, Chaumontel. The other specimens, badly grown, could not be named.—*A B.* The Blenheim Pippin.‖—*G B Chick.* 2, Napoléon; 3, Hacon's Incomparable; 5, Passe Colmar; 6, Beurré Rance; 7, Glout Morceau; 8, Knight's Monarch, true and excellent; 9, Ne Plus Meuris; 12, Winter Nelis; 13, Easter Bergamot; 14, Worthless; 15, Beurré Diel; 16, Easter Beurré; 18, Beurré d'Aremberg; 19, Doyenné Blanc. The Apples are not known.‖

Names of Plants: *T M R.* 1, Asplenium Trichomanes; 2 Lomaria borealis. *S.*—*A L.* Your Ferns are not in fructification, nevertheless we determine 1 to be Lastrea Filix-mas 2, L. dilatata. There is no modern elementary separate work on Ferns generally; for a beginner we would recommend Newman's or Moore's "History of British Ferns," and for general account of the genera of Ferns consult Smith' arrangement, &c., published in Hooker's Journal of Botany 1841. *S.*—*Botanists.* Your frond is from a young plant Polystichum aculeatum (Both). If the plant is under circumstances favourable for its development in a few years will produce larger fronds. *S.*—*W C E.* Atriplex pedunculata we suppose.—*L C.* 1, Goniopteris tetragona, W. Indies; Phlebodium aureum, W. Indies, Amer., tropical America 3, Pteris hastata, S. Africa. *S.*—*R B.* Asplenium Adiantum nigrum, L. *S.*

Rats: *Ballandyne.* Try the phosphoric rat poison advertised some time ago in our columns.‡

Societies: *Bloomer.* Undoubtedly, under the printed rules have seats, the president and secretaries have a perfect right to vote; more, it is their duty to do so.

Truffles: *D T.* What you have sent are really Truffles, and the same species with what are exposed for sale in London and which abound in some other parts of Northamptonshire where we have seen specimens weighing nearly a pound though such individuals are extremely rare. They are perfectly wholesome and very acceptable at any table, but they cannot compare for flavour with the Truffles from the southern parts of France, which belong to a totally different species. The greater part of English Truffles, and those which occur about Paris, and also in the more northern parts of Europe belong to Tuber æstivum, which, however, occurs in company with the more highly-flavoured Tuber brumale and melanosporum. The latter species has not yet been found in England; the former is produced sometimes in the southern counties. Truffles occur much more frequently than is generally supposed wherever the soil is calcareous; where that is not the case it is useless to hunt for them. It may be observed that Tuber æstivum varies much in colour; in young specimens the flesh is nearly white, and the tint of the fertile veins lighter or deeper according to the quantity of fruit which has developed. *M J B.*

Variegated Laurels: *Sub.* Variegations, such as those you have sent, are of no value. They occur now and then in every shrubbery.‡

Misc.: *H R M.* Your queries will be answered at length in an article at the end of the year.‡

*** As usual, many communications have been received too late, and others are unavoidably detained till the necessary inquiries can be made. We must also beg for the indulgence of those numerous correspondents, the insertion of whose interesting contributions is still delayed.

LARGE STOCK OF

AGRICULTURAL IMPLEMENTS ON SALE,

AT TWENTY PER CENT. BELOW THE USUAL COST.

COTTAM AND HALLEN,

RE-ARRANGING THEIR

MANUFACTORY AND SHOW ROOMS FOR THE SALE OF

AGRICULTURAL IMPLEMENTS,

WISH TO DISPOSE OF A LARGE ASSORTMENT NOW IN STOCK, PREVIOUS TO MAKING THE NECESSARY ALTERATIONS IN THEIR PREMISES.

The Implements are of the best and most modern invention and useful description, and a saving of 20 per cent. and upwards will be effected by any purchases made from this Stock.

REGISTERED PRIZE ENAMEL STABLE FURNITURE.
PRIZE EXHIBITION GATES.
IRON HURDLES AND GAME WIRE NETTING.

CATALOGUES ON APPLICATION.

COTTAM AND HALLEN, 2, WINSLEY-STREET, OXFORD-STREET, LONDON.

WARNER'S PATENT FARM AND COTTAGE PUMPS.—Cast-iron Pumps, for the use of Farms, Cottages, Manure Tanks, and Shallow Wells.



	£ s. d.
Patent Pump	1 15 0
Patent Pump, with 15 feet of lead pipe attached, and bolts and nuts ready for fixing	2 10 0

Larger sizes if required.

To Emigrants proceeding to the Gold Regions they will prove to be the most simple, durable, and the cheapest Pumps hitherto introduced.

May be obtained of any Ironmonger or Plumber in Town or Country, or of the Patentees and Manufacturers,

JOHN WARNER & SONS,

8, Crescent, Jewin-street, London.

Every description of Machinery for Raising Water, Fire Engines, &c.

TO AMATEUR GARDENERS, LOCAL BOARDS OF HEALTH, & SANITARY WORKS.

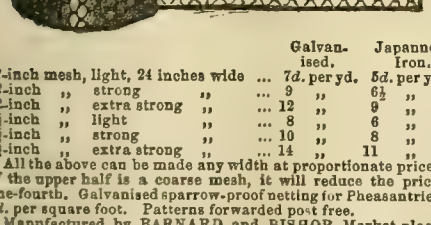


PATENT GLASS TUBES, Iron Coated with Glass, Gutta Percha, Combinated ditto, Patent Flexible India Rubber Tubing, and every other Hose for Watering Gardens. The Hydraulic Ram, Fire, Garden, and every other kind of Pump, Sluice Cocks, Hydrants, High Pressure Cocks, and all other articles to be had, Wholesale and Retail, of

FREEMAN ROE,
HYDRAULIC ENGINEER,
70, STRAND, and BRIDGEFIELD, WANDSWORTH.

P.S. Important to Farmers, &c.—F. R. begs leave to call attention to his new Water Power, which in many cases will supersede the use of the Steam Engine.

GALVANISED WIRE GAME NETTING.—7*d.* per yard, 2 feet wide.

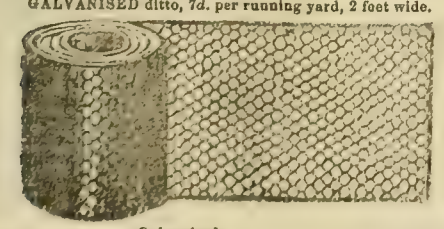


	Galvanised.	Japanned Iron.
2-inch mesh, light, 24 inches wide ...	7*d.* per yd.	5*d.* per yd.
2-inch " strong " ...	9 "	6½ "
2-inch " extra strong " ...	12 "	8 "
1½-inch " light " ...	8 "	6 "
1½-inch " strong " ...	10 "	8 "
1½-inch " extra strong " ...	14 "	11 "

All the above can be made any width at proportionate prices. If the upper half is a coarse mesh, it will reduce the prices one-fourth. Galvanised sparrow-proof netting for Pheasantries, 3*d.* per square foot. Patterns forwarded post free.

Manufactured by BARNARD and BISHOP, Market-place, Norwich, and delivered free of expense in London, Peterborough, Hull, or Newcastle.

CHEAP WIRE GAME AND POULTRY NETTING, 5*d.* per running yard.
GALVANISED ditto, 7*d.* per running yard, 2 feet wide.



	Galvanised.	Not Galvanised.
24 in. wide, 2 in. mesh, 7*d.* per yard.	...	5*d.* per yard.
30 in. " 2 in. " 9*d.* "	...	6½*d.* "
36 in. " 2 in. " 10½*d.* "	...	7½*d.* "
48 in. " 2 in. " 1*s.* 2*d.* "	...	10*d.* "

Sparrow Proof Netting, Galvanised, 3*d.* per square foot, made to any size for the same proportionate price. This article was shown at the "Great Exhibition," where it was so much admired for its light and durable appearance, and acknowledged to be the cheapest and best article of the kind ever offered. Extra strong Wire Sheep Netting, 3 feet high, 1*s.* 6*d.* and 2*s.* 3*d.* per yard. Also every description of Flower Trainers, Dahlia Rods, Garden Arches, Bordering, Flower Stands, Tying Wire, Trellis Work, Invisible Wire Fencing, Hurdles, and every description of Wire Work for Horticultural purposes.—Illustrated Catalogues of Patterns forwarded, post-free, on application to T. H. FOX, City of London Wire Work and Iron Fence Manufactory, 44, Skinner-street, and 6 and 8, Snow-hill, London.

WINTON'S PARKES'S CELEBRATED STEEL DIGGING FORKS AND TOOLS are universally approved of. They facilitate labour 20 per cent. They have received the Silver Medal at Lewes, Dublin, Galway, Sheffield, and other places. Anthony's Patent American Churn has received the prize at every one of the numerous agricultural meetings where it has been shown. The Royal Agricultural Journal, p. 41, says, "This form of churn is the best for churning sweet cream, and will undoubtedly produce butter from milk or cream, in any form, in much less time than any churn that has yet been introduced." Pumps for manure and watering gardens. Mr. Mechi has one working admirably. These pumps are cheap, durable, and effective. Gutta percha tubing, bands for machinery, hose for pumps, and an assortment of prize and the best farm implements. Price catalogues sent on application.—BURGESS and KEY, 103, Newgate-street, London, agents for M'Cormick's American Reaper.

WATERPROOF PATHS.—Those who would enjoy their Gardens during the winter months should construct their walks of PORTLAND CEMENT CONCRETE, which are formed thus:—Screen the gravel of which the path is at present made from the loam which is mixed with it, and to every part of clean gravel add one of sharp river sand. To five parts of such equal mixture add one of Portland Cement, and incorporate the whole well in the dry state before applying the water. It may then be laid on 2 inches thick. Any labourer can mix and spread it. No tool is required beyond the spade, and in 48 hours it becomes as hard as a rock. Vegetation cannot grow through or upon it, and it resists the action of the severest frost. It is necessary, as water does not soak through it, to give a fall from the middle of the path towards the sides.—Manufacturers of the Cement, J. B. WHITE and SONS, Millbank-street, Westminster.

STEPHENSON AND PEILL, 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Manufacturers of Copper Cylindrical and Improved Conical Iron BOILERS, and Conservatory and Hothouse Builders, either in wood or iron, respectfully call the attention of the Nobility, Gentry, and Nurserymen to their simple but efficacious method of warming Horticultural and other Buildings by hot water. From the extensive works they have executed, references of the highest respectability can be given, and full particulars furnished on application.

PURE WATER.

THE ASBESTOS FILTER.—MANUFACTURERS, TAYLOR AND PEARS, LATE OXLEY AND CO., 8, George-yard, Lombard-street, London.
Price 15*s.*



EXTRACT FROM "LANCET," *June* 26, 1852.

"The Asbestos Filter of Messrs. Oxley and Co. is the best Filter hitherto constructed. Its superiority consists in the following circumstances:—First, The filtering media are composed of layers of Asbestos and river sand, so arranged as to admit of being readily removed and cleansed from time to time, from the impurities derived from the water which passes through them. Second, The mineral, Asbestos, is substituted for the animal substance, sponge, the advantages of the former being, that it is not liable to become, like sponge, putrescent, and that it may be easily and perfectly cleansed. As the public are still condemned to drink filthy Thames water, no family having regard for cleanliness and health should be without an efficient filter."

MECHI'S PREPARATIONS FOR CHRISTMAS AND NEW YEAR'S PRESENTS.—Sensible that the season is approaching when love and friendship give their tangible testimonials, MECHI has taken care to provide an abundance of objects for tasteful selection. None need deny themselves the luxury of giving; for the most inexpensive as well as the most costly articles are to be found at his repository of utilities and elegancies, 4, Leadenhall-street, London, near the India House. England has always been renowned for its hearty Christmas liberality, while "Le Jour de l'An" of our lively neighbours the French, is equally consecrated to the gifts of affection. MECHI invites a visit from the natives of all countries to his emporium, where they may be sure of putting their kind intentions into an acceptable shape. In his elegant Show Rooms are displayed to the greatest advantage a superb stock of ladies' and gentlemen's Dressing-cases, Work-boxes, Tea-trays, Work-tables, Chess-tables, Tea-caddies, Card-cases, &c. Those who desire to make really useful presents will find in the general department the best Table Cutlery, Scissors, Thimbles, Pen-knives, Writing-desks, Ivory and other Hair-brushes and Combs, and a variety of goods adapted to every exigency. Also Bagatelle-tables, affording a charming amusement on a wintry or wet day.—4, Leadenhall-street, London.

PERUVIAN GUANO.

CAUTION TO AGRICULTURISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

ANTONY GIBBS AND SONS, AS THE ONLY IMPORTERS OF PERUVIAN GUANO,

Consider it to be their duty to the Peruvian Government and to the Public again to recommend Farmers and all others who buy to be carefully on their guard.

The character of the parties from whom they purchase will of course be the best security, and, in addition to particular attention to that point, ANTONY GIBBS AND SONS think it well to remind buyers that—

The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 9l. 5s. per ton, less 2½ per cent.

Any resales made by dealers at a lower price must therefore either leave a loss to them, or the article must be adulterated.

THE LONDON MANURE COMPANY offers on the best terms Wheat Manure for autumn sowing, Linseed, Rape Cakes, Peruvian Guano, Urate, Superphosphate of Lime, and every other artificial manure. Also a quantity of Salt, the refuse of ammonia and saltpetre makers, considerably more valuable than the ordinary agricultural salt.

EDWARD PURSER, Sec., Bridge-street, Blackfriars, London.

MANURES.—The following Manures are manufactured at Mr. LAWES'S Factory, Deptford Creek:

Turnip Manure, per ton	£7 0 0
Superphosphate of Lime	7 0 0
Sulphuric Acid and Coprolites	5 0 0

Office, 69, King William-street, City, London.

N.B. Peruvian Guano, guaranteed to contain 16 per cent. of Ammonia, 9*l.* 10*s.* per ton; and for 5 tons or more, 9*l.* 5*s.* per ton, in dock. Sulphate of ammonia, &c.

MANURE.

PEAT CHARCOAL, completely saturated with London Sewage, will be found a most effective manure for any crop. It may be obtained from the Sewage Manure Works, Stanley Bridge, Fulham, Middlesex, at 60*s.* per ton, 4*s.* per cwt., and 2*s.* 6*d.* per ¼ cwt.

"Sewage manure absorbed in charcoal is a first-rate fertiliser; we have tried it on French Beans, Dahlias, Roses, and Cabbage plants; we put half a pint to each Rose and Dahlia, sowed it in the row with Beans, and put a few pinches to each plant of Cabbage. The effect is perceptible very soon, but it will be twice as efficacious the second year as the first."—*The Garden, by Mr. Glenny.*

THE BIRMINGHAM CATTLE AND POULTRY SHOW, 1852.—The FOURTH GREAT ANNUAL EXHIBITION of CATTLE, SHEEP, PIGS, and the various kinds of DOMESTIC POULTRY, will be held in BINGLEY HALL, BIRMINGHAM, on TUESDAY, WEDNESDAY, THURSDAY, and FRIDAY, the 14th, 15th, 16th, and 17th days of DECEMBER. The PRIVATE VIEW and the ANNUAL DINNER on TUESDAY, December 14.

Admission, on Tuesday, 5*s.*; and on Wednesday, Thursday, and Friday, 1*s.*

The Agricultural Gazette.

SATURDAY, DECEMBER 11, 1852.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

TUESDAY,	Dec.	14—Birmingham Cattle and Poultry Show.
WEDNESDAY,	—	15—Agricultural Society of England.
THURSDAY,	—	16—Agricultural Imp. Society of Ireland.
WEDNESDAY,	—	22—Agricultural Society of England.
THURSDAY,	—	23—Agricultural Imp. Society of Ireland.

THERE is no better index to the state of a farm and the style of its agriculture than the stock of cattle and implements which is kept upon it; and if we could apply this rule as exemplified by the stock of both exhibited at the Christmas Show, in the Bazaar at Baker-street, to the British soil generally, it would speak highly for British Agriculture. The labours of the Smithfield Club have this year been crowned with more than usual success, both in the live stock and implement departments.

In the former there is a larger proportion of the finer description of animals, alike oxen, sheep, and pigs, than perhaps has ever been exhibited on any previous occasion—animals of the paying description, and hence deserving of general imitation. And these are happily included in the awards of the judges; the prizes invariably pointing out animals possessing that compactness of form which is the beauty of symmetry—animals requiring less food to support them, and which also work up a larger proportion of what they do consume into a superior quality of meat. They are just the animals which solve the simple problem of the Smithfield Club—"the cheapest and best meat."

The prize oxen of the Devon breed, and also the heifers and cows of that breed, are all of the finest description, very uniform in their measurements, as will be seen from our reporter's account, and carrying great weights in proportion to the appearance which they make to the eye.

In the first class of Herefords His Royal Highness Prince Albert has, very triumphantly, carried off the first prize (25*l.*) for a 3-year-old steer, there being a wide distance between the fineness of the quality of this animal and of the others in the same class with which it competes. The prize animals in the other classes of this breed also possess a high degree of merit. Mr. J. DUNNE COOKE'S cow, the winner of the gold medal, as the best heifer or cow of any breed, and the silver medal and first prize in her own class, deserves the highest praise.

The short-horns comprehend many fine animals besides the prize oxen, but Mr. STRATTON'S 4 years and 10 months old ox, which gained for him the gold medal, as the best steer or ox of any breed

besides the first prize of 25*l.* and the silver medal in its own class, is deserving of special commendation.

In the sheep department both long and short-woolled breeds stand high in point of merit. Of the former the Marquis of Exeter's pen winning the gold medal, is a fine example of Leicesters: among the latter, the Duke of Richmond is justly a successful competitor, although his Grace is beaten by Mr. Sainsbury, of West Lavington, who carries off the gold medal for his Southdown wethers, as the best short-woolled pen of the age in the yard.

There is a fine show of swine. Mr. Coate's improved Dorsets, which have carried off the gold medal as the best pen of the whole, are a singularly fine example.

A general examination of the animals exhibited, and of the awards of the judges, results in one unquestionable conclusion, viz., *the value of symmetry alike in oxen, sheep, and swine.* The short, round, compact animal is always the one that pays for its keep the best, turning it into the "cheapest and best meat."

We commend to the attentive perusal of our readers the very excellent address lately given by Mr. Mechi before the Chelmsford Mechanics' Institution, the first portion of which they will find in another page. The salient points of our present agricultural position are most skilfully depicted, and commented on with great intelligence and good sense. We would especially refer to his remarks on the labourer—where the law of settlement, as affecting the erection of cottages, is justly charged with a large portion of the evils under which labourers suffer. Surely it is far more business-like to put these evils in full light, and exhibit the glaring contrast between the cotton manufacture, for instance, and that of food in reference to this subject of labour—the former taking care to congregate labourers close around the work to be done, and the latter, whether permissively or actively, sending them hither and thither as far as possible from the scene of their work—much more useful and benevolent, to urge a telling truth like this on the minds of occupiers and landowners, than to be satisfied, as so many speakers at our agricultural meetings are, with advocating money rewards for long "servitude"—or indulging in those vague generalities about "live and let live"—about masters and men "rowing in the same boat," and all that sort of thing—with which they introduce the toast of "the labourer."

There are many other points in Mr. Mechi's address in which it deserves, and will no doubt receive, general praise. His references to sewage manure, to the new applications of steam power to agriculture, and to the cost of improvements, on all of which he can speak from personal experience, will be read with interest.

HOWICK CATTLE LODGE.

We must be all much indebted to the Hon. Captain Grey for his copious and succinct statistics of cattle feeding; I wish the whole cost of the manure for the Turnips had been charged in lieu of only one-third. It is very desirable that the Turnip crop should stand on its own base, and if it shows a loss, which it certainly will do where purchased food is used, let it be carried forward as a charge on the ensuing crops. If the whole of the manure had been charged, as well as the fodder, litter, and interest of money on capital and buildings, the value of the ton of Turnips would have been reduced to 3*s.*

The pulling, filling, carting, clamping, cleaning, re-carting, and feeding out of a ton of Turnips can hardly be set at less than 1*s.* 3*d.* per ton, which would be on a 30-ton crop 1*l.* 17*s.* 6*d.* per acre. A bullock would eat 1 cwt. per day. Captain Grey's allowance of 6*d.* per week for attendance on each bullock, is evidently an ample and proper charge.

The whole question of profitable farming hinges on the cheap and abundant production of green and root crops. If we can make these with the straw of our cereals pay all their own expenses, the corn crops are sure to be remunerative. So far as my own experience goes, irrigation, assisted by liquefied and inorganic manure, with deep cultivation, offers the only true solution of cheap Turnip growing, and therefore of cheap corn growing. I find by my accounts, that if I purchase much food for my stock, I get no return for my root or green crops, although they have been costly to produce. Now that I have abundant means for irrigation, I bid adieu to the purchase of any food for stock that will trench upon or diminish the value of my green and root crops. My land being in condition, and my experiments ended, I feel firm in the conviction of being enabled to pay myself the increased rental of 36*s.*, with a profit on my farming capital. Water (and of that I have abundance), contains all the organic elements of plants. The inorganics are easily and cheaply supplied by the soil, with superphosphate of lime. Already I find that my irrigation supplies me with abundant winter and summer food for a large quantity of live stock, without the necessity for purchasing food in the market. I use Rape-cake, because at 5*l.* per ton, all expenses included, it is very little over a halfpenny per lb.; and I do consider 10 lbs. of Rape-cake will make one pound of mutton net dead-weight.

The great breadth of heavy lands in this kingdom, and their peculiar physical condition, render them objects of anxious consideration at the present moment. You may grow Turnips on light sands or friable loams; but our clay Wheat lands dry and contract so firmly in summer, that without irrigation your roots are as in a vice, with a heated drying surface. Now, irrigation prevents all this, and enables them to expand to a most noble crop; the land should never be allowed to get hard. By irrigation you create in summer a moist atmosphere and heavy dew, highly suitable to the root and green crops.

With a few covered sheds and open boarded floors, the sheep may in winter eat the crops on the land during the day, and at night lie dry and comfortable on the boards. It is not the standing and feeding on moist clay that injures the sheep; it is lying down on the wet cold clay which abstracts caloric, checks surface circulation, gorges the internal organs, and produces fever in the feet. Although my sheep are fed in the day time on a most tenacious clay, they never have any complaints, foot or other.

I have no hesitation in saying, that with a fair rent, irrigation, drainage, open boarded floors, and covered sheds, the heavy land farmer may farm at a profit even with present prices; in fact, he may become a sheep farmer in winter as well as summer. I could enlarge on this subject, but must defer it for another occasion.

It would be interesting to know how much water had been evaporated or passed through a crop of 30 tons of Swedes per acre; it is evident that the water contained in the bulbs and tops can be little less than 30 to 35 tons. I think I have read statistics showing that in our eastern and southern counties the natural evaporation during the six warm months is quite equal to the rain-fall; if so, the necessity for irrigating our root and green crops is obvious enough. I cannot agree with my friend Mr. Laycock, that Captain Grey's stock were ill managed. *I. J. Mechi, Dec. 4.*

TENANT RIGHT.

"Uncle Tom's Cabin" has excited the feelings of some over-sensitive people upon a subject peculiarly calculated to touch the tender chords, and animate commiseration in all who themselves can truly enjoy the comfort of a British fireside; but, so far as England is concerned, it is only adding fuel to an already over-heated furnace. We have yet to learn what effect will be produced upon the American slave-holding mind, for it is there we must plant *home*, and inculcate that "you should do to others as you would they should do unto you."

It must be confessed that there is a very striking coincidence between the manner in which the British farmer turns the wheel of fortune on his own account, and that compulsory bondage which has fallen to the lot of poor Quashy, who, let the march of intellect progress as it may, is still circumscribed by that one monotonous *dictum*, "Berry well, massa;" and, in like manner, some farmers seem to think that the landlord should know better than they what their business requires, and ought voluntarily to make an offer of it by way of medicine. It is very different in every other trade. "Put a window and front into the shop that will suit, and promote my vocation, and then I will rent it from you, but not otherwise," exclaims the prudent man of business.

It is unfortunate for agriculture that many more questions can be asked regarding its benefit than can be satisfactorily answered by its followers. Already has metaphor been exhausted to discover what is perfect fertility, and now again let me ask when will farmers conduct their business like other prosperous traders? The attainment of this must first arrive, and then the other will follow as a matter of course; in exemplification thereof I have cited the contract used when a merchant hires a ship, and will now relate what takes place when he refuses becoming the tenant of a ship offered to him:—

"Mr. Tarbucket, your ship is not in merchantable order; she leaks, wants coppering, new rigging, and, in fact, must have a thorough renewal from stem to stern."

"But, sir, the expense would be more than at present suits my means, so I will let you have the use of her at one-half the current rate."

"No! I won't have anything to do with her, because I know well that the result must prove both unsatisfactory and unprofitable; as the voyage will be protracted beyond the ordinary time, and my goods more likely to arrive in a damaged state."

When farmers can unanimously see their interest lie in the like management, and can muster nerve to make a like refusal, we then may expect to see what the soil can be made to produce, and not be confined to parts of a field being better and drier than each other, or grumbling about providing a little grease to make the numerous farming joints run smoothly.

The consummation of this desirable result is, I fear, very far off; for let the landlord only stick up by auction his water-logged land, unroofed buildings, rotten rigged fences, comprised in a farm altogether inconveniently disposed—are there no bidders?—"Gentlemen make a beginning; you must shoot while you have the chance, or it will duck under water," shouts the zealous auctioneer. One makes a start; never did a sheep more surely leap overboard to its own destruction—and on they followed until the whole flock is absorbed in the game of Beggar-my-Neighbour.

What makes a compulsory tenant-right impossible is the ambiguity which attends every agricultural minutia, such as "A thought that the power of guano was expended in the first year, but an allowance of one-half for bones was quite fair; and it being an unsolved problem whether oil-cake benefited the incoming tenant to the extent of one-half." If it be wished to find any traces of guano after the first year, we must resort to chemistry; and as to bones, many instances can be found of their beneficial effects 10 or even 20 years after being applied. There is only one way of settling the incongruous clamour, and that is, by making this tenant right craving entirely a tenant's question; like the cure for naughty, crying children, "Well go if you will, and dabble your feet in the water to make yourself sick, and then we shall be obliged to send for the doctor."

A is a farmer, who leaves a farm in the highest state of cultivation, and takes another which has been vacated by B in a slovenly, dirty, ill-conditioned state. B takes the farm left by A. Now, umpires being called in, are to declare what sum of money must A expend upon the farm he has taken to bring it into the same state of fertility as that which he left to the occupancy of B. Whatever that amount is must B pay to A. Farmers will at once perceive that this would create ruinous litigation between themselves, but which they would prefer being between the tenant and the landlord; but let there be justice to all.

The most strenuous opposers of our greatest national benefits, often declared to be impossible of execution, have after ocular demonstration of practical utility, become their warmest admirers and most ardent promoters of further extension. It must be so with agriculture; but landlords will not, and ought not in justice to themselves, to expend money for the benefit and comforts of others, so long as they can obtain ample remuneration without making any outlay. It is therefore entirely a matter of agreement in priority to connection, and rests altogether upon the tenant's own prudence whether he will embark in an undertaking neither trustworthy nor serviceable, or turn his exertions to another quarter.

Northamptonshire farming discloses competition for miserable land, with buildings "that one has no difficulty in saying ought all to be pulled down," and with which "a north country farmer knows better than to connect himself." This discrimination of the north country farmer is the first step upon the ladder of improvement that will ultimately lead to a superior class to be known as prosperous farmers, who, independent in circumstances, can say, "We will not foolishly embark our money in any land that is not made capable of assimilating all the requirements requisite to develope profitable farming; let "Vis unita fortibus" be their motto, and the time will come when a landlord would be ashamed to offer a farm not possessing these stipulations, and the intelligent tenant possessing freedom of action will no longer dread that thraldom which, from a miserable pittance, exacts—Berry well, Massa. *T.*

Home Correspondence.

Taste in Butter.—I do not agree with your correspondent, never having found saltpetre would take away the taste of Turnips. I have a remedy, gleaned from your *Gazette* about a year ago; but the proportions were incorrect, and a churning or two spoiled in consequence, and this might be the case with others and cause it to be given up. When the cream is in the churn, and the proper temperature gained (57 degrees), I put in a little chloride of lime mixed in a little water. Of course the quantity depends upon its pureness, and also upon the degree of taint. I put as much as will lie upon a sixpence to three gallons. One or two trials will ascertain the proper quantity. Too much gives a disagreeable flavour, a little improves and gives a sweet nutty taste. *Anna.*

Dairy-feeding.—If your correspondent "J. F." will refer to your *Gazette*, of 22d Dec. 1849, p. 111, he will find an article signed "Ullswater" which may help him to a solution of his inquiries. Since then I have been progressing, encouraged by such men as Mr. Mechi, and can now maintain an increased stock. This year I have made and housed two good crops of hay, and cut another two as green fodder, upwards of 4 feet high, and have now a fifth not to be despised. This is being done too in that county of Cumberland to which your correspondent refers, and on the banks of *Ullswater.*

Open-boarded Cattle-floors.—The longer my experience extends in this matter, and the more I reflect on its rationale, the greater is my conviction of its advantages, especially to the heavy land, or pastoral farmer. The difficulty of dealing with the heats of summer and the severities of winter is not an easy one in agriculture, the variation being some 50 to 60 degrees of temperature. It is true that in times to come, when agriculture shall partake of the closer calculations of other trades, we shall imitate the manufacturer whose fanning apparatus supplies a current of untainted air to expel that which has been decomposed and tainted by the closely-packed masses of humanity employed in the various floors of his manufactory. Why we should not thus warm, cool, or ventilate our cattle-houses is not a question to be answered satisfactorily. We must plead ignorance, prejudice, attachment to bygone customs, the want of capital, intelligence, or inclination, and the difficulty of getting tenants to appreciate and pay interest to the landlord for such investments. But we may luxuriate

in the future, and hope, and foresee that in 1952, all these matters will be well understood and therefore put in practice. I honestly believe that pleuro-pneumonia, fevers, and disease, are produced amongst animals much as they are amongst human beings. In summer, when the cottage doors and windows are open, and the inmates very much in the open air, we hear little of fevers or other malignant affections; but when chilly autumn compels a closing of every cranny, and the huddling together of the family in their limited and wretchedly inconvenient hovels, the poisoned and unchanged atmosphere soon tells tales of malignant typhus and scarlatina, with large demands on parochial rates and private benevolence. I am not, here, going into the awful question of banishing labourers from an estate to saddle another parish with their ultimate maintenance, or to the mortifying contrast of having the working animals housed close to the scene of their labours. No doubt legislative enactments will shortly remove the temptations and inducements for such miseries, by abolishing the law of settlement and setting labour free. But to return to our boarded floors, and the necessity, as a matter of economy in building, for packing animals closely. When I commenced keeping large numbers of pigs, old practitioners predicted that I should get disease amongst them, and of course I should have done so had they been packed closely on the ordinary principle, but on the open boarded floors there is always a circulation of air under and around them, and provided our pits are from 2 to 4 feet deep, the heavy and poisonous carbonic acid gas, if any, settles to the bottom, below the animals. In corroboration—in a 6-foot deep pit of this kind, where much pig manure had accumulated, an inexperienced man bending his head to within a foot of the manure, was only rescued from immediate destruction by instant help and a vigorous effort. The animals above were perfectly healthy, and it was only when his head was low enough to inhale the carbonic acid gas that the danger ensued. The circulation of air under and between each animal, although highly beneficial in summer, makes the position much colder in winter than a straw bed; therefore it becomes necessary to see that the temperature is high enough, especially for pigs; and here arises the question, what is a proper temperature? This evidently depends upon the condition of the animal. A 20-stone man would perspire superabundantly in an atmosphere that would be hardly warm enough for a thin spare individual. If we keep our extra fat animals too warm, we take away their appetite and hinder progression. We may safely keep one at 70°, and the other at 45° to 50°; certainly they ought not to perspire freely. In the heats of July, I have stimulated very fat hogs to progression by a shower-bath from our gutta percha hose. I think the question of using straw as food is now a settled one, and so is the advantage of liquid manuring. Therefore open boarded floors and paved pits must be a necessary accompaniment to this system. When our great wastes are enclosed, and an improved system introduced, we shall no longer be able to depend on supplies of Welch and Scotch cattle reared chiefly on common land; then will it become necessary to use straw and roots, or straw and green crops, for the young stock we shall be compelled to rear. The benefit of boarded floors for sheep on heavy clay farms has been fully exemplified the last wet month. *I. J. Mechi, Tiptree, Dec. 3.*

Sheep in Boots.—As the late continued rain, and consequently wet pastures, may be productive of great loss of sheep to farmers, from foot-rot, it may be of use to suggest some kind of boots for the sheep, cast in gutta percha, which could be confined by an elastic band or tie at the top. If a precedent be necessary for putting animals in boots it may be remembered that it is stated that the Esquimaux put their sledge-dogs in boots made of seal-skin to prevent their being foot-sore on long journeys. The boots must be made at least as high as the second joint, to prevent the water getting into the boot. *An occasional Reader.*

The Guano Prize.—Amongst the many very excellent propositions which emanate from the Royal Agricultural Society of England, there is one which I cannot help regarding as about the most absurd and preposterous that ever proceeded from a body of sensible men. A prize of 1000*l.* is offered to the discoverer of a manure equal to Peruvian guano, which manure must be supplied in unlimited quantity, and at a price not exceeding 5*l.* per ton; the test being actual trial and Professor Way's analysis. Now let me suppose that any one of your readers is the fortunate discoverer of this wonderful desideratum; he may certainly be actuated by philanthropic or chivalric sentiments far greater than Don Quixote ever possessed, and accordingly at once make public his discovery, but in this case he would not be influenced by, nor would he require the 1000*l.* reward. Should he, however, be actuated by the same motives which influence 999 out of every 1000 discoverers of new inventions, he would unquestionably be disposed to appropriate for the benefit of himself and family the result of his labour and research, and he would, most assuredly, not be disposed to part with that for 1000*l.*, by which he could realise with the greatest possible ease, and which would, in fact, be honestly worth at least 100,000*l.* Can any one doubt this for a moment who reflects on the conditions of the prize as gravely announced in the report of the last monthly meeting of the council,—"A manure in unlimited quantity, to be supplied at 5*l.* per ton, equal in every respect to that which is now worth 9*l.*," for Professor Way will, of course, take care that it shall contain an equal percentage of ammonia. The proposition, absurd enough when first propounded, is rendered still more so by the fact that the re-announcement is made in spite of rising freights, a deficiency of seamen, and the large influx of gold, which, although it raises in value every article in the country, neither induces the guano committee to add to their prize nor to the maximum price at which this Utopian manure is to be sold. The Peruvian guano trade is, unquestionably, a great monopoly, rendered more grievous by the illiberal manner in which it is conducted, but the Peruvian government is not likely to be induced to throw the trade open and to make a concession in price by any such chimerical projects as that on which I have animadverted, and which it cannot but regard as moonshine. *S.*

THE SMITHFIELD CATTLE CLUB.

CHRISTMAS SHOW.

This annual exhibition of the Smithfield Club has just been concluded in the Bazaar, Baker-street, under circumstances highly gratifying to all parties interested, not less to the exhibitors than the Club itself. Considerable progress has been made both in the cattle and implement departments; while the classification of stock, so as to obtain the grand object of the Club, has been improved greatly.

DEVONS.

Class I. Devon Steers not exceeding 3 years old.—First prize of 25*l.* awarded to Mr. John Ayre Thomas, of Witheredge, Devon, for his 2 years and 7 months old pure North Devon steer, bred and fed by himself on hay, Grass, roots, oilcake, Flax-seed, and Barley; ditto silver medal as breeder. Second prize of 10*l.* to the Right Hon. the Earl of Leicester, Holkham Hall, Norfolk, for his lordship's 2 years and 11 months old North Devon steer, bred and fed by himself on hay, Turnips, Mangold Wurzel, Linseed-cake, and Oat and Pea-meal. There are only two entries in this Class, and both beasts possessing merit, are awarded accordingly. The former is a fine little animal, measuring in length 5 feet, and in girth, 7 feet 5 inches, being round, compact, and in every sense of the word a fine example of symmetry. The second is also a fine animal, but not being sufficiently fat we did not measure it.

Class II. Devon Steers or Oxen above 3 years old.—The first prize of 25*l.* to the Right Hon. the Earl of Leicester, Holkham Hall, Norfolk, for a 4 years and 8 months old North Devon ox, bred by his lordship, and fed on hay, Turnips, Mangold Wurzel, Linseed-cake, Oat and Pea-meal; ditto, silver medal as the breeder. Second prize of 10*l.* to Mr. James Quartly, of Molland House, near South Molton, Devon, for his 3 years and 5 months old pure North Devon ox, bred and fed by himself, on hay, Mangold Wurzel, Turnips, oatmeal, and oilcake. There was more competition in this class than the last, there being an entry of 11 beasts, several non-prize ones being of merit. The duty of the judges, however, was simple, for the above two are more than superior, with a sufficient distinction between them. The first measured 5 feet 4 inches in length, and 7 feet 9 inches in girth; the second 5 feet 4 inches in length, and 7 feet 8 inches in girth, being thus almost a dead match as to size. No. 5 in this class, a 4 years and 10 months old, exhibited and fed by his Royal Highness Prince Albert, is a fine ox, highly commended by the judges; it measures 5 feet 4 inches in length, and 9 feet in girth. No 8 is a huge ox, so to speak, measuring 6 feet in length, and 9 feet 2 inches in girth, standing a singular contrast with the prize oxen as to size and quality.

Class III. Devon Heifers not exceeding 4 years old, freemartins and spayed heifers excluded.—First prize of 15*l.* to Mr. Thomas White, Fouracre of Durston, near Taunton, Somerset, for his 3 years and 11 months old Devon heifer, bred and fed by himself on hay, Grass, roots, Bean, Barley, and Flax-meal; ditto, silver medal as breeder of the same. Second prize of 5*l.* to Mr. Samuel Farthing, of Stoway-court, near Bridgewater, Somerset, for his 3 years and 8 months old Devon heifer, bred and fed by himself on hay, Grass, Vetches, roots, Bean and Barley-meal, and Flax-seed; had one calf. There are only two entries in this class, both fine examples of their breed. The first measures 5 feet in length, and 7 feet 6 inches in girth; the second 5 feet in length, and 7 feet 5 inches in girth.

Class IV. Devon Cows above 4 years old that must have had at least one live calf.—First prize of 20*l.* to Mr. Thomas Bond, of Bishop's Lydiard, near Taunton, Somerset, for his 5 years and 1 month old Devon cow, bred and fed by himself on hay, Grass, roots, Barley, and Flax-seed meal; had one calf. Ditto, silver medal as breeder of the same. Second prize of 10*l.* to Mr. Thos. White, Fouracre of Durston, Somerset, for his 6 years and 11 months old Devon cow, bred and fed by himself on hay, Grass, roots, Bean, Barley, and Flax-seed meal; had three calves. There were five beasts in this class. The two prize ones are a dead match as to size, and nearly so as to symmetry. The first measures 5 feet 5 inches in length, and 7 feet 9 inches in girth. On reviewing the above prize Devons it will be seen from their measurements that they are a very equal lot as to size and also symmetry.

HEREFORDS.

Class V. Hereford Steers not exceeding 3 years old.—First prize of 25*l.* to his Royal Highness Prince Albert, for a 3-year-old Hereford steer, fed on Barley and Bean-meal, Linseed cake, Turnips, Mangold Wurzel, Pumpkins, and hay. Silver medal to Mr. Thomas Roberts, of Knevingtonbury, near Leominster, Hereford, as the breeder of the same; second prize not awarded. There are five competitors in this class. The first-prize ox is a fine animal, measuring 5 feet 4 inches in length, and 8 feet 6 inches in girth. Mr. Cardwardine's steer of 2 years and 9 months old, bred by Mr. Roberts, of Trippleton, Ludlow, and fed on hay, Cabbages, oilcake, and Bean-meal, is also a fine animal, commended by the judges.

Class VI. Hereford Steers or Oxen above 3 years old.—First prize of 25*l.* to Mr. Daniel Maydwell, of Ashstead, Surrey, for his 3 years and 9 months old Hereford ox, fed on Grass, hay, green Clover, Tares, Linseed cake, Swedes, and Mangold Wurzel. Silver medal to Mr. Wm. Stedman, of Bedston Hall, near Ludlow, as breeder of the same. Second prize of 10*l.* to Mr. Joseph Phillips, of Ardington, near Wantage, Berks, for his 3 years and 9 months old Hereford ox, bred by Mr. Edward Williams, of Hay, Radnorshire, and fed on Barley-meal, Swedes, and cake. There are 11 competitors in this class, among whom are his Royal Highness Prince Albert and the Earls of Radnor and Darnley, and others having good oxen, although inferior to the prize beasts, which measured—the first 5 feet 9 inches in length, and 9 feet in girth; and the other 5 feet 7 inches in length, and 8 feet 2 inches in girth. Both are fine animals, reflecting the highest credit on the feeder and breeder.

Class VII. Hereford Heifers not exceeding 4 years old, and not being freemartins or spayed.—The first prize of 15*l.* to Mr. Samuel Druce, of Eynsham, near Oxford, for his 3 years and 11 months old Hereford heifer, fed on hay, Lucerne, Mangold Wurzel, Swedes, and Linseed; had a calf. Silver medal to Mr. Edmund Lewis, of Breenton, near Hereford, as breeder of the same. Second prize of 5*l.* to Mr. Frederick King, of Nursling, near Southampton, for a 3 years and 8 months old Hereford heifer; bred by Mr. Thomas Samson, of Kingston Russell, near Dorchester, Dorset, and fed on Swedes, Turnips, Linseed, Bean-meal, Mangold Wurzel, and hay. There are only two beasts in this class, but both of high merit, and although the second prize falls short of the first, it is yet a fine little animal. Mr. Druce's heifer measures 5 feet 5 inches in length, and 7 feet 10 inches in girth, and speaks volumes for him as a feeder of stock.

Class VIII. Hereford Cows above 4 years old that must have had at least one calf.—The first prize of 20*l.* to Mr. John Dunne Cooke, of Brampton Brian, near Ludlow, Hereford, for his 6 years and 11 months old Hereford cow, bred and fed by himself, on Grass, hay, Turnips, and Barley, Pea, and Wheat-meal; had three calves. Ditto, silver medal, as the breeder of the same. The same cow also gained the gold medal, in competition with the cows and heifers in classes 3, 4, 7, 8, 11, 12, 16, and 19. Second prize of 10*l.* to Mr. Edward Herbert, of Powick, near Worcester, for a 4 years and 11 months old Hereford cow, bred by Mr. George Pitt, of Wellington, near Hereford; and fed on oilcake, Bean and Pea-meal, Swedes, Turnips, Mangold Wurzel, hay, and Grass; had a calf. This is a fine herd of cows, consisting of six in number. The first prize cow measuring 5 feet 9 inches in length, and 8 feet 6 inches in girth, has no ordinary rivals to contend with; one on either side of her, viz., Mr. Herbert's, measuring 5 feet 10 inches in length, and 8 feet 6 inches in girth, on the left, and the Earl of Radnor's 4 years and 11 months old cow on the right side, bred and fed by his lordship, on hay, corn, cake, and roots. This was a fine Hereford cow, commended by the judges. On the left of Mr. Herbert's cow there stands a good black Hereford, a match as to size, being 5 feet 4 inches in length, and 8 feet 5 inches in girth, and of the stock of Mr. J. Brown and Sir Hungerford Hoskins. Mr. Cooke's cow is decidedly the best in the yard, and her rivals may not inaptly be termed the flower of the Herefords, which upon the whole are a fine show, although inferior to the next in order, viz., the

SHORT-HORNS.

Class IX. Short-horned Steers not exceeding 3 years old.—The first prize of 25*l.* to Mr. Joseph Stratton, of Manningford Bruce, Pewsey, Wilts, for a 2 years and 9 months old short-horned steer, fed on hay, Mangold Wurzel, Pea-meal, and oilcake. Silver medal to Mr. Richard Stratton, of Broad Hinton, near Swindon, Wilts, as the breeder of the same. The second prize of 10*l.* to his Grace the Duke of Rutland, Belvoir Castle, Grantham, Lincoln, bred from the stock of Sir Charles Knightley, Bart., by his Grace, and fed on hay, vegetables, Barley and Bean-meal, Linseed-cake, and oil. There are 11 candidates in this class, among whom are Lord Feversham, Mr. Beman, of Moreton-in-the-Marsh; Mr. Patal, M.P.; Mr. Stratton, of Southampton-place, Berks, and others. Mr. Stratton's 2 years and 9 months old steer is a fine animal, commended by the judges. The first-prize steer measured 5 feet 8 inches in length and 8 feet 2 inches in girth, and the Duke of Rutland's 5 feet 10 inches in length and 8 feet 6 inches in girth.

Class X. Short-horned Steers or Oxen above 3 years old.—The first prize of 25*l.* to Mr. Richard Stratton, of Broad Hinton, near Swindon, Wilts, for his 4 years and 10 months old short-horned ox, bred and fed by himself, on cake, Beans, Turnips, and hay; ditto ditto silver medal as breeder. This noble animal also carried off the gold medal in competition with the steers and oxen in classes 1, 2, 5, 6, 9, 10, 15, 17, and 18. The Second prize of 10*l.*, to Mr. Thomas Palmer, of Broughton, near Kettering, Northampton, for a 4 years and 2 months old pure short-horned steer, bred by himself, from the stock of Mr. J. Beasly, and fed on Grass, hay, Turnips, Carrots, Mangold Wurzel, Linseed, Bean, Barley, and Wheat-meal, and oilcake. There

are 22 oxen in this class, forming upon the whole the most attractive one in the yard. To discuss the various points of merit of the different individuals of which it is composed, would be to write a volume on the subject. Among the competitors are his Royal Highness Prince Albert, the Marquis of Exeter, the Earls of Spencer and Hardwicke, with the Right Hon. Lords Southampton and Sondes, besides others whose stock stands high in merit. Lord Sondes' 3 years and 10 months old ox, bred by Mr. J. C. Anderson, from the stocks of the late Earl Spencer and Mr. Topham, is a fine specimen of his breed, highly recommended by the judges. The 4 years and 8 months old ox, of Mr. Richard Spragget, of Southam, Warwick, and bred by Mr. James Richards, of Dumbleton, Gloucester, is also commended. The gold medal ox measures 5 feet 7 inches in length, and 9 feet 2 inches in girth; and the second-prize ox, 5 feet 9 inches in length, and 9 feet 3 inches in girth.

Class XI. Short-horned Heifers not exceeding 4 years old, and not being freemartins or spayed.—The first prize of 15*l.*, to Mr. Joseph Phillips, of Ardington, near Wantage, Berks, for a 3 years and 10 months old short-horned heifer, fed on Barley-meal, Swedes, and oilcake. Silver medal to Mr. Thomas James, of Northleach, Gloucester, as breeder of the same. Second prize of 5*l.* to Mr. J. Queker, of Abbey Print Works, near Stratford, Essex, for a 3 years 7 months and 14 days old short-horned heifer, bred by the Right Hon. Lord Bexley, and fed on hay, oilcake, Bean and Barley-meal, Carrots, and Swedes. The first-prize heifer in this class is a fine compact animal, white in colour. The second is also a fine beast, but burdened a little with the fat rump, which is rather against her. There are several other fine heifers in the herd, three of which were commended by the judges, viz., No. 80, belonging to Lord Feversham, and bred by his lordship; No. 87, bred and fed by Mr. Crisp, of Gedgram Hall, Suffolk; and No. 89 bred and fed by Mr. Featherstone, of Boume, Lincolnshire. The class consists of 10 beasts.

Class XII. Short-horned Cows above 4 years old, that must have had at least one calf.—The first prize of 20*l.* to Mr. Charles Towneley, of Towneley Park, Lancaster, for a 5 years and 8 months old pure short-horned cow fed on Turnips, oilcake, Bean-meal, and hay; had two calves. Silver medal to Mr. J. S. Crossland, of Burbage House, Hinckley, Leicester, as breeder of the same. Second prize of 10*l.* to Mr. S. Gooch, of Honingham, near Norwich, for a 5 years and 8 months old short-horned cow bred by Mr. James Topham, of Candlesby House, Lincolnshire, and fed on Turnips, Mangold Wurzel, Bean and Barley-meal, Linseed cake, and hay; had one calf. The short-horn cows, consisting of 15 in number, are unanimously considered a fine lot. Mr. Stratton's (Broad Hinton) cow, 4¾ years old, is a superior specimen of this breed, and highly commended by the judges. The second prize animal, measuring 5 feet 9 inches in length, and 9 feet in girth, is also not far behind the first in point of merit. His Royal Highness Prince Albert, the Marquis of Exeter, and the Earl of Radnor were among the competitors. We should have mentioned that Mr. Towneley's cow was bred from the stock of the Earl of Aylesbury. It is a pleasure to review the fine show of animals of this breed, consisting of 33 oxen and steers, and 25 cows and heifers: total, 58. They are undoubtedly a valuable herd in every respect.

SCOTCH, WELSH, AND IRISH.

Class XIII. Scotch, Welsh, or Irish steers or oxen of any age.—The prize of 10*l.* to the Rev. Joseph Arkwright, of Markhall, near Harlow, Essex, for a polled Galloway ox, of about 4½ years old, fed on hay, roots, Barley-meal, and Linseed cake.

Class XIV. Scotch, Welsh, or Irish heifers or cows of any age.—The prize of 5*l.* to Sir John Cathcart, Bart., of Cooper's Hill, Chertsey, Surrey, for his 3 years and 10 months old pure Ayrshire cow, bred by himself, and fed on oilcake, Bean-meal, Swedes, and hay. In the above two classes there are no Welsh or Irish beasts shown, and the Scotch do not possess a high degree of merit, scarcely doing justice to the northern breeds of cattle. In the 13th class there are 11 beasts, and in the 14th only two; total 13.

OTHER PURE BREEDS.

Class XV. Steers or Oxen of any pure breed; the Devon, Hereford, Short-horn—Scotch, Welsh or Irish excepted, of any age.—The prize of 10*l.* and silver medal withheld.

Class XVI. Heifers or Cows of any age and breed, the Devon, Hereford, Short-horn—Scotch, Welsh, or Irish excepted.—The prize of 10*l.* to Mr. William Dunning, of Friar Waddon, Dorchester, for his 5 years and 8 months old long-horned cow, bred by himself and fed on Grass, hay, Turnips, oilcake, and bruised Barley; had two calves. Ditto ditto, silver medal as breeder of the same. In the preceding two classes there are only four beasts; one in the 15th, and three in the 16th. The steer is from Holland, and exemplifies in a very forcible and practical manner the superiority of our improved breeds, and their value when compared with those of the continent of Europe, from whence we now are annually in the receipt of a large supply—a superiority the surest and safest protection which the British farmer can have, if he keeps it. Mr. M. A. Hoojenbragge, of Berklesdyke, Onder-Onevschie, also exhibited a fine Holland blood heifer.

CROSS OR MIXED BREEDS.

Class XVII. Cross or mixed Steers not exceeding 3 years old.—The prize of 15*l.* to Mr. Joseph Phillips, of Ardington, Berks, for a 2 years 10 months and 1 week old mixed breed steer, fed on Barley-meal, Swedes, and cake. Silver medal to Mr. John Rayer, of Eastington, near Northleach, Gloucester, as the breeder of the same. There are five beasts in this class, very good animals taking them as a whole. The prize ox, measuring 5 feet 7 inches in length, and 8 feet 11 inches in girth, is a superior animal.

Class XVIII. Cross-bred Steers or Oxen above 3 years old.—The prize of 15*l.* to Mr. J. Futcher, jun., of Fonant, near Salisbury, for a 4 years and 5 months old Hereford and Devon ox, fed on Oats, Barley, Beans, oilcake, Turnips, Cabbages, and hay. Silver medal to the breeder of the same, the late Mr. Sherrin, of Hazlebury, Dorset. There are 12 heavy animals in this lot. The prize ox, measuring 5 feet 5 inches in length, and 8 feet 2 inches in girth, is a superior animal; Mr. Joseph Bliss, of Thrapp, Northamptonshire, has a large 5 years and 2 months old cross-bred ox, measuring 6 feet 5 inches in length, and 9 feet 7 inches in girth.

Class XIX. Cross or mixed-breed Heifers, or cows not exceeding 6 years old.—The prize of 10*l.* to Mr. Robert Beman, of Moreton-in-the-Marsh, Gloucestershire, for a 5 years and 3 months old mixed-breed heifer, fed on Grass, hay, flour, Cabbage, Mangold Wurzel, and Swedes. The silver medal to the breeder of the same, the late Hon. Lady Cockerell. There are four fine beasts in this class; one from the Earl of Radnor, Berkshire; one from Mr. Saddle, Wiltshire; one from Mr. Martin, Aberdeenshire; and the pure one from Gloucestershire. The latter is superior quality, and measures 5 feet 6 inches in length, and 8 feet 6 inches in girth.

EXTRA STOCK.

There are 18 fine cattle in this class deserving of high commendation.—The silver medal is carried off by Mr. Robert Beman's 6 years and 9 months old short-horned cow, measuring 5 feet 10 inches in length, and 8 feet 8 inches in girth; bred by Mr. W. Garne, of Northleach, Gloucester, and fed on Grass, hay, flour, Cabbages, Mangold Wurzel, and Swedes; the same as his cross-bred heifer of the preceding class. No. 156, the 5 years 8 months and 4 days old improved short-horned heifer, the property of Mr. Newbuth, of The-Old-Place, Lincoln, is also a fine specimen of the same breed; commended by the judges. In examining the cattle, we have only to state that there are 21 Devons; 25 Herefords; 58 short-horns, as formerly stated; 13 Scots; 4 other pure breeds; 21 cross-breds; and 18 extra stock: total 160.

SHEEP—LONG-WOOLLED BREEDS.

Class XX. Fat Wether Sheep of any long-woolled breed, 1 year old and under 22 months.—The first prize of 20*l.* to Mr. Thomas Twitchell, of Willington, Bedfordshire, for his pen of three 21 months old pure long-woolled Leicester wethers, bred by himself from the stock of Mr. Pawlett; ditto, silver medal as breeder of the same. Second prize of 10*l.* to the most hon. the Marquis of Exeter, Burghley House, Lincolnshire, for a pen of three 21 months old pure long-woolled wethers, bred by his lordship. Third prize of 5*l.* to Mr. J. S. Foljambe, of Osberton Hall, near Worksop, Nottinghamshire, for a pen of three 20 months old long-woolled Leicester wethers, bred by himself. Mr. Twitchell's prize pen is a fine specimen of this breed, both as to wool and mutton, weighing from 230 to 240 lbs. live weight each sheep; the pen of the noble Marquis is also a fine one. There are 10 pens in the class.

Class XXI. Fat Wether Sheep, of any long-woolled breed, 1 year old and under 22 months, each sheep of the pen not to exceed 220 lbs. live weight.—The first prize of 20*l.* to the most noble the Marquis of Exeter, for a pen of three 21 months old fine long-woolled Leicester wethers, bred by his lordship. Silver medal to the noble Marquis as breeder of the same. Also the gold medal, as the best in the 20th, 21st, and 22d classes. Second prize of 10*l.* to Mr. Thomas Twitchell, for a pen of three 21 months old pure long-woolled Leicester wethers, bred by himself, from the stock of Mr. Pawlett. The third prize of 5*l.* to Mr. Lawrence Willmore, of the New-warke, Leicester, for the third best pen of three 21 months old long-woolled Leicester wethers, bred by himself, from the stock of Mr. George Spencer, of Normanton. In this class there are nine pens of fine long-woolled sheep. The pen of the Marquis of Exeter, which gained the gold medal, is deserving of the highest praise. The three prize pens approach closely to the class weight—220 lbs. live weight each sheep.

LONG-WOOLLED BREEDS, NOT LEICESTERS.

Class XXII. Fat Wether Sheep, of any long-woolled breed, not Leicesters, 1 year old and under 22 months.—The prize of 10*l.* to Mr. William Hewer, of Sevenhampton, Wilts, for a pen of three 21 months old Cotswold wethers, bred by himself; ditto, silver medal as breeder of the same. There are five pens of fine sheep in this class, all from well-known breeders, viz., Messrs. Druce, Beman, Hewer, Queker, and the Royal Agricultural College, Cirencester. The prize wethers are great sheep.

Extra Stock: Long-woolled Sheep. The silver medal to Mr. William Sandy, of Holme-Pierrepoint, Nottingham, for his 57 months old long-woolled Leicester wether, bred by himself. This was a fine little sheep, very fat, and superior in quality. Besides it there are other 14, making a total of 15 single pens.

CROSS BREEDS.

Class XXIII. Long and Short-woolled cross-bred fat wether Sheep, 1 year old and under 22 months.—The first prize of 10*l.* to Mr. W. Samuel Stephens, of Gatehampton, Goring, Oxon, for a pen of three 21 months and 1 week old Hampshire down and Cotswold wethers, bred by the late Mr. W. Cowdery, of Steplenton, Berks; silver medal to the breeder of the same pen. Second prize of 5*l.* to Mr. J. R. Overman, of Burnham Sutton, Norfolk, for a pen of three 20 months old Southdown and Leicester wethers, bred by himself, from the stock of Mr. Robert Aylmer. There are 13 pens in this class of very heavy sheep. The prize pens are superior ones; and pens 201 and 210 are highly commended by the judges, the former belonging to Mr. Druce, and the latter to Mr. Samuel Davis, of Sevenhampton, Wilts. Pen 202, belonging to Mr. John Hitchman, of Little Milton, Bedfordshire, is also commended by the judges.

Class XXIV. Long and Short-woolled cross-bred fat wether Sheep, 1 year and 22 months old, and not exceeding 220 lbs. live weight each sheep.—The prize of 10*l.* to Mr. John Robert Overman, Norfolk, for a pen of three 20 months old Southdown and Leicester wethers, bred by himself, from the stock of Mr. Aylmer; ditto, silver medal as breeder of the same. There are nine candidates in this class, all exhibiting fine sheep; among whom the Earls of Leicester and Radnor, Lords Walsingham and Berners, Mr. Patal, M.P., and Mr. Salter, jun. The pen of the latter, bred by himself at Costessey-lodge, Norfolk, and aged 21 months, are highly commended by the judges. The prize pen is very superior.

Extra Stock: Cross-bred Sheep.—The silver medal to Mr. John Robert Overman, for a 20 months old cross-bred sheep, bred by himself. This is a fine animal, of moderate size. There are 12 sheep exhibited, generally of excellent quality. The cross-bred sheep altogether form an interesting group, from the great number now fattened for the shambles.

SHORT-WOOLLED BREEDS.

Class XXV. Fat Wether Sheep, of any short-woolled breed, 1 year old and under 22 months.—The first prize of 20*l.* to Mr. Wm. Sainsbury, of the Manor House, West Lavington, near Devizes, Wilts, for a pen of three 21 months old Southdown wethers, bred by himself; ditto, the silver medal, as the breeder of the same. The same pen carried off the gold medal as the best short-woolled sheep in the 25th, 26th, and 28th classes. The second prize of 10*l.* to his Grace the Duke of Richmond, Goodwood, Sussex, for a pen of three 21 months old Southdown wethers, bred by his Grace. There are 13 candidates in Class 25, among whom are his Royal Highness Prince Albert, the most noble the Marquis of Exeter, the Right Hon. the Earl of Radnor, Lord Walsingham, Sir John Shelley, Bart., M.P., Mr. Rigden, of Hove, near Brighton, and others. Mr. Rigden's pen of three 20 months old Southdown wethers are highly commended by the judges. The heavy weight downs are a very superior example of mutton, taking them as a whole. The gold medal pen weighed about 220 lbs. live weight each.

Class XXVI. Fat Wether Sheep, of any short-woolled breed, 1 year old and under 22 months, each sheep not exceeding 200 lbs. live weight.—The first prize of 10*l.* to his Grace the Duke of Richmond, for a pen of three 21 months old Southdown wethers, bred by his Grace. His Grace had also the silver medal as the breeder of the same pen. There are eight pens in this class of excellent sheep, so that his Grace did not receive the prize and medal without honourable competitors, among whom are several successful breeders and feeders.

Class XXVII. Fat Wether Sheep of any short-woolled breed, above 22 and under 34 months old.—The first prize of 20*l.* to his Grace the Duke of Richmond, for a pen of three 33 months old Southdown wethers, bred by his Grace; ditto, silver medal, as breeder of the same pen. Second prize of 10*l.* to the Right Hon. Lord Walsingham, Merton Hall, Norfolk, for a pen of three 32 months old pure Southdown wethers, bred by his lordship from the celebrated stock of Mr. Jonas Webb. Eight pens comprise this class. The second pen are very superior sheep as well as the first, which weigh from 230 to 240 lbs. each live weight.

SHORT-WOOLLED BREEDS, NOT SOUTHDOWNS.

Class XXVIII. Fat Wether Sheep, of any short-woolled breed, not being South Downs, 1 year old and under 22 months.—The prize of 10*l.* to Mr. Wm. Humfrey, of Oak-ash farm, Chaddleworth, Berks, for a pen of three 21 months and 1 week old West-county down wethers, bred by himself; ditto the silver medal as breeder. There are nine pens in this class; pen 264 belonging to Mr. James Sharp, Remenham, Oxon, containing three improved Hampshire downs, bred by Mr. John Piggott, of Harrow Farm, Froxfield, Berks, are fine wethers, highly commended by the judges. There are several other fine pens besides the prize sheep. Extra stock, short-woolled sheep, comprise 20 sheep, all of them possessing merit. A 20 months old pure Southdown sheep, fed and bred by Lord Walsingham from Mr. Jonas Webb's stock, is highly commended by the judges. There are also several other fine animals who contested for the silver medal, carried off in this case again by his Grace the Duke of Richmond's 21 months old Southdown sheep, bred by his Grace. Such are the different classes of sheep exhibited this year in the Bazaar. There are 24 pens of the pure long-woolled breeds, containing 72 sheep, which, added to the extra stock, 15 pens, make a total of 39 pens and 87 sheep. Of cross-bred long-woolled sheep, there are 22 pens, extra fat 12, making a total of 34 pens and 78 sheep. Of short-woolled breeds, there are 38 pens, besides the 20 of extra stock, making a total of pens 58, and sheep 134; grand total, pens 131, sheep 299.

PIGS.

LASS XXIX. Pigs of any breed above 13 and not eding 26 weeks old.—The first prize of 10*l.* to Mr. n Coate, of Hammon, near Blandford, Dorset, for a of three 24 weeks and 3 days old improved Dorset , bred by himself, and fed on Barley-meal, Rice- l, whey, and milk; ditto, silver medal as the breeder he same; also gold medal as the best pigs in the l; second prize of 5*l.* to Sir John Conroy, Bart., rborfield Hall, Berks, for a pen of three 17 weeks 5 days old Arborfield improved Berkshire pigs, l by himself, and fed on Barley-meal, skimmed , and Potatoes. There are 10 pens in this class of ous breeds possessing high merit. Mr. Coate's pigs singularly fine specimens, and so are Sir John's. Royal Highness Prince Albert shows an excellent of three Suffolk pigs.

LASS XXX. Pigs of any breed above 26 and not eding 52 weeks old.—The first prize of 10*l.* to Sir n Conroy, for his pen of three 32 weeks and 2 days Arborfield improved Berkshire pigs, bred by him- and fed on Barley and Pea-meal and Potatoes; , the silver medal, as breeder of the same; second e of 5*l.* to his Royal Highness Prince Albert, for a of three 41 weeks and 3 days old Suffolk pigs, l by his Royal Highness and fed on Barley-meal, s, and skimmed milk. In this class there are 11 s of capital pigs, the prize pens being very superior.

LASS XXXI. Pigs of any breed, above 12 and under nonths old.—The first prize of 10*l.* to Mr. Samuel ice, for his pen of three 74 weeks and 1 day old ordshire and Essex pigs, bred by himself from the k of Mr. Hobbs, and fed on Barley-meal mash and nmed milk; ditto, silver medal as breeder of the e. Second prize to Mr. Frederick Crockford, of row Weald Park, Middlesex, for a pen of three weeks and 5 days old Nottingham pigs, bred by self and fed on grains, toppings, Swedes, Barley- l, and milk. There are six pens in this class of pigs; Mr. Druce's pen are singularly so. Extra k pigs, of which there are 15 in number, some of n extraordinary masses of living pork, rendering it easy matter to get the measuring tape around any hem. The silver medal in this class is awarded to John Conroy, as the exhibitor of the best pig. Mr. nes Sadler, of Bentham, Penton, exhibited a huge of the Berkshire breed, 114 weeks and 2 days old, asuring about 6 feet in length and 7 feet in girth, bred fed by himself on whey and Barley-meal. It is hly commended by the judges, and is truly an animal extraordinary weight, attracting general attention. e above measurement was made by the attendant, although assured that it was correct, yet from the nting, grumbling, and awful complaining, and the ition the pig was in, sitting on its butt like a dog, an only be taken as a close approximation to the th. In this department it will thus be seen that re are 27 pens containing each three pigs, and 15 with y one pig in each, making a total of 42 pens and pigs in the yard.

A LECTURE,

LIVERED AT THE CHELMSFORD LITERARY INSTI- TUTE, BY MR. I. J. MECHI, OF TIPTREE HALL, DECEMBER 1, 1852.

"On the present position of British Agriculture, as compared with our other Industrial Occupations."

r request of your committee, I purpose this evening to take rief and general view of British Agriculture, in order that may see if it has progressed with our other industrial occu- ions; and if it has not, to trace the causes, and suggest the edies for this neglect. Seeing that this county, with its lion of acres, is almost purely agricultural, and that this, county town, like others, is almost entirely dependent on welfare of agriculture, I trust the subject I have chosen y be deemed neither tedious nor inopportune.

o doubt you all examined the contents of our glorious hibition last year, and possibly some of you may have rd or read the instructive course of lectures, delivered by inent men at the Society of Arts, on the various leading nches of our industrial productions as there exhibited. ese lectures were suggested by the sagacious mind of the yal Consort, and to them I may have occasion to refer, as latest evidences of our industrial progression.

My object is to show that our great manufacturing prosperity s arisen from a diminution of price, and an enormously reased production and consumption; and I shall consider at I have a right to censure our national agriculture, if it has t availed itself of similar advantages to produce equal results. e must lay down as a sound axiom, that the greatest possible ply of comforts and necessaries is consistent with the reat happiness and welfare of a people. To doubt this, se to approve the converse of the proposition. This is king place in our manufactures, but not in our food; for though a recent legislative enactment has enabled us to tax ward for supplies, a dependence on our own agricultural ources would be attended with want and extreme privation. l why is this? Has the land yielded its maximum of ity? Or not? Has science and mechanism done its n? Most certainly not. Who will deny that the pro- ction, or I may almost say the manufacture of our food, is primary necessity of our well-being and well-doing? Has re been treated as a business? Certainly not; and r and prospectors have yet to learn the fullest develop- nt of the resources of agriculture.

It astonishes me, that whilst our merchants combing for ery useful purpose their capital and their energies, agri- tural proprietors are dismayed and inert. One would pose, that in one case gigantic docks and warehouses, mense steam-navies, and twenty other useful associations e in active operation, that, at least, agriculture would exert rse, to obtain from our towns and cities that golden stream liquid guano, that now pollutes our rivers. I will not drag e targets the details of our enormous manufacturing pro- ss; suffice it to say, that, by mighty steam, and all its con- rrent developments, our pig-iron produce was:—

	Tons.	Price.
In 1800	140,000	..... 9*l.* per ton.
In 1851	2,500,000	..... 3*l.* "

I even now it is rapidly increasing, for our iron masters, to our agricultural guests, have names to learn, and have, in some districts, not banished all their local prejudices, although they have greatly improved since they lost the protecting duty of 6*l.* 10*s.* per ton. By-the-bye, everything on a farm should be of iron; for an iron barrow of 30*s.* has worn out all the wooden ones on my farm, and it is now in capital order.

Let us take cotton, another great staple manufacture. Last year the consumption of cotton wool was 760 millions of pounds weight, for which we paid 18 millions of sovereigns. After making it up into every conceivable form and pattern, and supplying all our own people, we sent as much abroad as brought us home 30 millions of sovereigns. Our use or consumption of cotton last year was 700 times greater than it was 150 years ago, and 14 times greater than in 1800. You all know that the price has decreased enormously, and that it is now within the reach of the million. The same remarks apply to the silk, woollen, earthenware, and other every-day commodities. Then how has all this abundance and cheapness been produced? Not by an overweening and inflexible attachment to the waggon and flail—not by a rejection of steam. No! manufacture discarded its pack-horses for canals, and its canals for railways. The spinning-jenny, the mule, and the power-loom, impelled by mighty steam, perfected by the results of innumerable and costly experiments, have blessed the inhabitants of this happy kingdom with employment and comfort. Instead of displacing labour, it has enormously increased it, for the actual workers in all departments of the cotton manufacture are now upwards of a million and a quarter; but including their families, there are not fewer than three millions and a half, or one-eighth of the population of the United Kingdom, dependent upon this manufacture. And what a pleasant thing it must be for us, in this purely agricultural county, to reflect upon, that they are all consumers of agricultural produce. Surely if they, by improved means, supply us cheaply and abundantly, have they not a moral right to demand of agriculture similar advantages?

Our "Manchester School," as it has been called (and I for one consider it a capital good school), has always been ready to seize upon every new useful improvement; I wish I could say as much of agriculture. On the very first invention of gas, it was applied as an economy in lighting our cotton factories; prejudice subserved to calculation and profit. Imagine to yourself one of these new cotton factories, 410 feet long, 76 feet wide, six stories high, a steam power of 150 horses, and will run 150,000 spindles.

These manufacturers do not pull down their labourers' cottages to save rates, and make them walk two or three miles to their work, but actually spare them the trouble of walking up stairs, for they are raised from floor to floor by steam; and it is even calculated that if they were compelled to walk up so many stairs, the loss of time would absorb much of the profit. Large returns and small profits is the creed of the Manchester School, and judging by results, it has not been an unsound maxim. I commend it to agriculture.

But has agriculture progressed with manufactures? Let us test it by price. Unfortunately there is an absence of agricultural statistics, which I hope to see some day remedied. It might easily be done, if we had a Government Board of Agriculture as well as of Trade; for it is quite as important. But a reference to Mr. Caird's admirable book, published last year, shows that since 1770, the price of butter has increased 100 per cent., meat about 70 to 80 per cent., and wool more than 100 per cent.; bread remains about the same price as in 1770; but it is evident, by our importations, that not near enough is produced. Perhaps the most astounding fact in agriculture just now is this, that we imported last year 200,000 tons of Peruvian bird's dung, for which we paid nearly *two millions sterling*, and that a much larger sum is expected to be paid hereafter. The sewage of London, on the most moderate computation of eminent men, is worth two millions sterling annually, or the exact amount we paid the past year to Peru for bird's dung.

Now if a comprehensive scheme of subterranean pipeage, like that of the gas or water of London, and like that on my farm, were carried out to irrigate the country surrounding London, and even supposing the cost of it to be 33 millions sterling, the two millions now paid to Peru would be six per cent. upon the investment, but, in reality, the affair could be done for infinitely less money, and with much greater results In my case iron pipeage cost 250*l.* per mile; but even if it cost 1500*l.* per mile, your 33 millions might enable you to lay down some 20,000 miles of pipeage. Of course all these matters are easily reduceable to correct calculation in detail. My only object now is to draw attention to this all-important question.

My own experience of irrigation this year has satisfied me that in the production of root and green crops I can, on my miserable soil, surpass all efforts on the very richest valley lands. If it can be done in my case it can in others, where the land is naturally or artificially drained. How delightful to combine a system of sanitary cleanliness with a vast increase of the means of subsistence for man and animals. The facile and abundant production of milk of first-rate quality around each great city or town, would arrest the rapid deterioration of race taking place in our crowded towns by "sky blue," the produce of wash-fed and closely-packed cows. The irrigation, irrespective of manure, by the water used in our towns and cities, would be most valuable. Surely all classes of thinking men will not much longer neglect this gigantic and important subject.

The land is like a purse: you cannot keep taking out without replenishing, or you bring certain ruin. It seems nationally ridiculous to go to Peru for what we are wasting at home. There is not half the difficulty in the economising and application of our sewage as in the making of railways. Only create the will and the way will quickly follow. Those who would interpose the rights or prejudices of individuals, must remember that for the public good our iron railways have pushed themselves rudely through the very vitals of prejudice, and individual interest and feeling. An Englishman's house, valued beyond price from various associations, is no longer his castle; enormous vested interests have been destroyed, and others created, and all, it is to be hoped, for the public good.

The Labourer, and the Law of Settlement.—Economy in the means of production is indicative of success. How stands the case with the great agricultural tool, the labourer?

Our great manufacturers are compelled by law to take care of the education and morals of their juvenile operatives; but independent of this, their own sagacity and humanity have dictated in a great many a watchful regard for the moral and social condition of their work people. The manufacturer finds it to his interest to congregate around him the elements of his success. How is it with the agriculturist? I mean the landholder, under the temptation offered by the miserable law of allocation or settlement. Cottages are pulled down, and the labourers removed to other districts or towns, as encumbrances or nuisances. This suicidal policy reverts fearfully on the farmer.

The physical condition of a man is the measure of his bodily power. His labour is sufficient without the addition of a three mile walk morning and evening. It is a perpetuating of ignorance and vice. The time thus wasted might be employed in acquiring learning and intelligence. If there were schools or opportunities for doing so, *which there are not*.

One is struck with the fact that our towns and cities are now abounding with food for mind, and cleanliness for body, by literary societies, mechanics' institutes, and baths and washhouses, whilst the majority of our agricultural labourers are unsoaped and untaught. Every medical man knows, too well, that our wretched agricultural hovels, untrenched and undrained, foster crime and breed disease. I could point out numerous cases in my own neighbourhood, where the aged, the adult, and the youthful of both sexes are huddled together in indecent promiscuity, in a single sleeping room, not much better than a pig-stye; so long an summer lasts, with open doors and casements, and short nights, matters are endurable; but when chilly autumn, scanty clothing, and deficient fuel, compel a shutting up for warmth, then come typhus and scarlet fever, and all the malignant consequences of a polluted and putrescent atmosphere. Thence ensue long sufferings, heavy parish charges for burials, and other relief—a deteriorated peasantry, and a national loss. It is a bitter but truthful sarcasm on agriculture, that while a cotton manufacturer carries his numerous work-people from floor to floor by steam, the agricultural labourer may live anywhere, and come any distance, but the cart or plough-horse is carefully provided for in the immediate neighbourhood of his intended labour.

I think I see the time is coming, when the condition and sufficiency of cottages on an estate, and the general appearance of its farmeries, will be taken as a measure of the intelligence and humanity of its owner. The sooner our legislature extends the law of settlement, and removes the premium for destroying cottages, the better for the country at large. There is an inherent sense of decency amongst the labourers themselves, which often finds vent in truthful but severe comments on these evils. The enormous rents produced by this system of allowing the population to outgrow their tenements are surprising. I know scores of cottages that are not actually worth a 20*l.* note, rented at 3*l.* to 4*l.* per annum. Their crazy and tottering forms indicate their age and frailty, and occasionally they lean on some common outward prop, to prevent their falling. Thus is the housing of our best agricultural tools, our peasantry, left to the itinerant speculator, who knows the labourers' sense of decency and comfort must succumb to the necessity for shelter. Our law of settlement perpetuates prejudices, and prevents the knowledge and introduction of different or improved modes of culture. Each isolated district thus plumes itself on the perfection of its practice, or happy ignorance of what is going on elsewhere.

If early travel enlarges the mind and improves the taste of our aristocracy, does not the principle hold good for our democracy? Many of our labourers, and farmers too, never went beyond the precincts of their parish, or adjoining markets, and have most vague and odd ideas of what is going on in the world; but railways and newspapers are working a change, and our Great Exhibition of last year did wonders in drawing our rural population from their seclusion. Our railways will do well to consider the result of a penny-postage, and cheapen and multiply their excursion trains. But there are causes of injury to all, arising from a vicious, erroneous, antiquated adherence to original customs. It is impossible to avoid being struck, whilst scanning the maps and plans of various farms, with the monstrous bad arrangement of the estates. A farm of 640 acres (or square mile) should be reachable at half a mile every way from the centre. On the four-course shift, an intersection of four tram roads, railroads, or common roads, would render the removal of crops and transmission of manure cheap and facile; but the whole system now is abominable, and unbusiness-like, and so it will remain, until our landed proprietors urge upon our Legislature the necessity of applying the ordinary business principles of register, and immediate transfer. Queer shaped fields of every ungain form, green and muddy lanes, bad roads, high fences, and deep ditches absorb the farmer's profit in 20 different ways. I declare that this very September I have scrambled over huge banks, embroiled with immense "lawyers," as the natives call them, although they are really sharp and entangling briars and brambles. Having surmounted this *chevaux de frieze*, I sink in up to my chin into a dry ditch. This is no exaggeration, but an ordinary real matter of fact. I cannot help exclaiming on such occasions, "What on earth can these be wanted for, when a direct pipe would convey all the water from so small an area!" It is the same in agriculture as in our great cities; there has been no calculation of rain fall, and velocity of transit; a well glazed pipe of a foot diameter, would convey more water than a 5 feet crooked ditch, the latter encumbered with all sorts of obstructions, washing into holes, beads, and eddies. The minutes of evidence collected by our excellent Board of Health in London, have exposed equally gross mismanagement in our sewers, which ineffective at 5 feet diameter, become efficient at 5 inches; velocity of current preventing that sedimentary deposit, which will accumulate from a slow dribbling stream.

I remember full well, and so must every other landholder, that when it became necessary to commute the tithe into a rent charge, the whole kingdom was at once surveyed, measured, and mapped, and the landowners were compelled to disburse as much as 4*s.* per acre for the expense. Well, then, here is a precedent with a vengeance; I cannot, for the life of me, see why I should not be able to exchange my land, or sell it, as readily as I could any other property I possess. Remember that the interposition of a difficulty of exchange, or transfer, diminishes seriously the value of landed property; if immediately saleable and transferable, it would be preferred as a security to exchequer bills or consols, and money might be raised upon it at least 1 per cent. cheaper than at present. I cannot conceive why the same dependence on personal responsibility should not exist in land as in consols, provided a proper public office for the registration of sales or interchanges were established. I believe this is done in Scotland.

(*To be continued.*)

Notices to Correspondents.

GAS LIME: *J P Tracey.* After being used for cleaning gas, lime is found to have absorbed sulphuretted hydrogen. It is then poisonous to vegetation, but by long exposure to air it further absorbs oxygen, which converts the hydro-sulphuret of lime into sulphate of lime or gypsum. You should mix it up in compost with leaves and vegetable rubbish of any sort, and turn it over now and then, and after some months you may spread it, 2 tons per acre, broadcast, over the land, and plough it in. It will be equivalent to a dressing of lime and gypsum.

GREEN CROPS: *A B.* If you plough your land and transplant early Cabbages in February, you will have the use of your land again towards the end of June. Peas will correct the laxative effect of Linseed.

LIME: *T D.* It is best to mix it in compost with loam and not allow it to get wet and watery; and, after a few weeks, to turn it over and spread the mixed compost over the land. The common way is to lay the lime shells on the land in little heaps, cover up with earth for a week or so, and then spread before the plough.

MANGOLD WURZEL. *H C.* asks what is the worth of a ton of Mangold Wurzel, to be given raw with hay, *ad lib.*, to milking cows, and in what daily quantity. [We would give about three quarters of a hundred weight daily, and believe them to be worth 7*s.* 6*d.* a ton.]

POLLARD: *Y* uses this word to signify the miller's refuse or offal. Bran, shells, &c., the material I describe at page 721, as having the properties of straw, is precisely what H. D'Arcy mentions; the shells of Oats, which, steeped in water and blended with a little Bean-meal, are much more relished by my feeding stock. *Y.*

POLYPUS: *Canterbury.* It is impossible to give an opinion on such a case without inspection. If the tumour is within reach it should be removed by an operation. *W C S.*

POULTRY: *Irton.* You must separate your fowls at least six weeks before you begin to set the eggs; if you can, conveniently, two months will be better. I know of no improved Dorkings; I know Lord Lauderdale has as good as can be, and from description I should think you have the same. Spanish cocks show the white faces at seven months old, the pullets are much later; but although their faces are not white

there is always a bluish tint under the red skin, indicating the breed, and giving the assurance they will be white when older. I have never found Shanghai fowls attempt to perch high, when there were low roosts for them. I do not think straw necessary; I make no doubt your perches lead from one to the other, forming an easy ascent; if you remove the intermediate ones I do not think your birds will fly up, as it is quite against their nature to do so. I would add, I do not think high perches necessary for any fowls.—*C R S.* Your question is hardly fair, but as you wish an answer, I will give one. I do believe you may learn more by visiting a poultry show than by reading a book on the subject. I strongly advise you to visit the Birmingham Exhibition, and study hard. I would recommend every one who is interested in the poultry question to attend it, as, from the number of pens, it is the only place where accurate comparisons can be formed, and the finer points of the different breeds be detected and admired.—*J G, Yarmouth.* I should think, from the description you give of your fowls they are thoroughly diseased, and I should recommend you to kill them. Such a disease would come in the first place from poison, or from drinking putrid water. It has now, I fear, gone too long for cure, but you can try for each bird two table spoonsful of cod liver oil per day. I have known wonderful cures performed by it. I would then feed on bread steeped in strong ale. As a rule I would always kill a diseased fowl, if I did not succeed in bringing about convalescence in a month.—*R F.* A pencilled Hamburgh fowl should not have a single comb, and the rule is imperative, quite as much so as the single comb is in Spanish fowls, or the double in Sebright bantams. I consider either comb admissible in Dorkings. *J. Baily*, 113, *Mount-street.*

SULPHATE OF AMMONIA: *B E.* Saturate gas-water with oil of vitriol, and evaporate. That we believe to be the mode of its manufacture in gas-works.

THRESHING MACHINES: *Greenhorn.* Messrs. Hornsby, of Grantham, Lincolnshire,—Garrett, of Saxmundham, Suffolk,—Ferrabee, of Stroud, Gloucestershire,—Barrett, of Reading, Berkshire,—Hensman, of Woburn, Bedfordshire,—and many others, supply good portable threshing machines. Four-horse power is the common measure of power required.

Markets.

COVENT GARDEN, Dec. 11.

The excessive wet weather having somewhat abated, trade begins to get brisker. Vegetables and Fruit continue pretty plentiful. Foreign Grapes fetch from 1s. 6d. to 2s. 6d. per lb. Pears and Apples are sufficient for the demand. The former consist of Glout Morceau, Winter Nelis, Chaumontel, and Crassane. A few Tomatoes may still be obtained. Cobs and other Nuts are realising fair prices. Potatoes have not altered in value since our last report. Mushrooms are scarcer. Cut flowers consist of Heaths, Primulas, Roses, Mignonette, Bignonia venusta, and Chrysanthemums.

FRUIT.

Pine-apples, per lb., 3s to 6s
Grapes, hothouse, do., 4s 6d to 6s
Pomegranates, each, 2s to 4s
Apples, dessert, p. bush, 6s to 10s
— kitchen, do., 5s to 8s
Pears, per doz., 1s 6d to 4s
— per half sieve, 5s to 7s
Melons, each, 2s to 5s
Lemons, per doz., 1s to 2s
Oranges, per doz., 1s to 2s
— per 100, 6s to 10s
Almonds, per peck, 5s
— sweet, per lb., 2s to 3s
Nuts, Barcelona, per bush, 20s
— Brazil, do., 12s to 14s
— Cobs, 100s
— Spanish, do., 16s to 18s
Chestnuts, p. bush., 8s. to 20s

VEGETABLES.

Cabbages, per doz., 6d to 1s
Brussels Sprouts, p. hf. sieve, 1s to 2s
Cauliflowers, per doz., 1s to 2s 6d
Greens, per doz., 1s to 2s
French Beans, per 100, 3s
Tomatoes, per hf. sieve, 4s to 5s
Potatoes, per ton, 85s to 140s
— per cwt., 5s to 9s
— per bush., 2s 6d to 4s 6d
Turnips, per doz., 1s to 1s 9d
Cucumbers, each, 2d to 6d
Celery, per bundle, 9d to 1s 3d
Carrots, p. doz., 2s 6d to 4s
Spinach, per sieve, 1s to 2s
Onions, per bunch, 2d to 4d
— Spanish, p. doz., 1s 3d to 3s
Beet, per doz., 1s to 1s 6d
Leeks, per bunch, 1d to 2d
Shallots, per lb., 6d to 8d
Garlic, per lb., 6d to 8d
Lettuce, Cab., per score 4d to 6d
— Cos, p. score, 9d to 1s
Radishes, per doz., 8d to 1s
— Turnip, 9d to 1s 6d
Endive per score, 1s to 1s 6d
Small Salads, p. pun., 2d to 3d
Horse Radish, p. bundle, 1s to 3s
Mushrooms, p. pott., 9d to 1s 3d
Sorrel, per hf. sieve, 6d to 1s
Artichokes, per doz., 4s to 6s
Fennel, per bunch, 2d to 3d
Savory, per bunch, 2d to 3d
Thyme, per bunch, 2d to 3d
Parsley, p. doz. bnchs., 2s to 3s
Mint, per bunch, 2d to 3d
Basil, green, p. bunch, 3d
Marjoram, do., 2d to 3d
Watercresses, p. 12 bun, 4d to 6d

HOPS.—BOROUGH MARKET, Dec. 10.

Messrs. Pattenden and Smith, Hop Factors, report that the demand for Hops continues good, with a gradual advance in price, the supply on offer is very limited for this season of the year.

WOOL.

BRADFORD, THURSDAY, Dec. 9.—There is a good supply at present in the market, but staplers hold for higher prices than the spinners are prepared or willing to give.

HAY.—Per Load of 36 Trusses.

SMITHFIELD, Dec. 9.

Prime Meadow Hay 75s to 80s
Inferior do. ... 63 70
Rowen 45 55
New Hay ... ... — —
Clover ... ... 80s to 100s
Second cut ... 65 85
Straw 25 30

E. J. DAVIS.

CUMBERLAND MARKET, Dec. 9.

Prime Meadow Hay 78s to 86s
Inferior do. ... 65 72
New Hay ... ... — —
Old Clover 90 96
Inferior Clover ... 70s to 84s
New do. ... ... — —
Straw 28 32

JOSHUA BAKER.

WHITECHAPEL, Dec. 9.

Fine old Hay ... 72s to 80s
Inferior do. ... 50 65
New Hay ... ... — —
Straw 22 28
Old Clover... ... 90s to 100
Inferior do. ... 55 75s
New Clover ... — —
Inferior do. ... — —

SMITHFIELD.—MONDAY, Dec. 6.

The number of Beasts is smaller, and the average quality not very saleable. Choicest descriptions are disposed of, with only few exceptions, at last Monday's rates; but big Shorthorns are not sold quite so well. We have a fair supply of Sheep for the time of year; in consequence of the mild weather and the state of the dead markets trade is very slow at barely last Monday's quotations. Good Calves are cheerfully disposed of at fully late rates. The foreign supply consists of 622 Beasts, 3690 Sheep, and 207 Calves; from Scotland, 450 Beasts,

Per st. of 8lbs.—s	d	s	d	Per st. of 8lbs.—s	d	s	d
Best Scots, Here-fords, &c. ...	3	8 to 4	0	Best Long-wools .	4	0 to 4	2
Best Short-horns	3	4 — 3	6	Do. Shorn ...	0	0 — 0	0
2d quality Beasts	2	8 — 3	2	Ewes & 2d quality	3	2 — 3	8
Best Downs and Half-breds ...	4	4 — 4	6	Do. Shorn	0	0 — 0	0
Do. Shorn ...	0	0 — 0	0	Lambs	0	0 — 0	0
				Calves	3	4 — 4	2
				Pigs	3	0 — 4	4

Beasts, 4899; Sheep and Lambs, 23,540; Calves, 247; Pigs, 250.

FRIDAY, Dec. 3.

We are very moderately supplied with Beasts; consequently, although the trade is very bad at the dead markets, choicest qualities meet with a tolerably brisk sale, at late rates. Sheep are rather more plentiful; trade is exceedingly slow, but there is not much variation from Monday's quotations. Good Calves are not much lower; but there is a considerable reduction in middling sorts. From Germany and Holland there are 93 Beasts, 469 Sheep, and 218 Calves; from Scotland, 130 Beasts; from Norfolk and Suffolk, 50; 500 from the northern and midland, and 115 Milch Cows from the home counties.

Per st. of 8lbs.—s	d	s	d	Per st. of 8lbs.—s	d	s	d
Best Scots, Here-fords, &c. ...	3	8 to 4	0	Best Long-wools .	3	10 to 4	2
Best Short-horns	3	4 — 3	6	Do. Shorn			
2d quality Beasts	2	8 — 3	2	Ewes & 2d quality	3	0 — 3	6
Best Downs and Half-breds ...	4	4 — 4	6	Do. Shorn ...	0	0 — 0	0
Do. Shorn ...	0	0 — 0	0	Lambs	0	0 — 0	0
				Calves	3	0 — 4	0
				Pigs	3	0 — 4	0

Beasts, 1034; Sheep and Lambs, 3,230; Calves, 318; Pigs, 210.

POTATOES.—SOUTHWARK, Dec. 6.

The committee report that during the past week the market has only been moderately supplied, notwithstanding which we cannot quote any alteration in prices, except for very prime samples, which are still scarce. The following are this day's quotations:—Yorkshire Regents, 80s. to 130s.; Lincolnshire do., 75s. to 110s.; Scotch do., 80s. to 100s.; Scotch Reds, 75s. to 85s.; French whites, 80s. to 95s.; Dutch, 55s. to 60s.

MARK LANE.

MONDAY, Dec. 6.—The little English Wheat from Essex or Kent at market this morning was taken freely at an advance of 2s. per qr. upon the prices of this day se'nnight. Foreign was held for a similar improvement, and obtained upon the business transacted. There appeared to be an increased disposition to speculate, and several parcels were taken for this purpose. For Flour there has been a good demand at an advance of 1s. to 2s. per sack and barrel.—Malting Barley, with the exception of the finest qualities, which are unaltered in value, is 1s. per qr. lower. Grinding and distilling remain as last quoted.—Beans and Peas are unaltered in value.—Oats sell slowly at late rates.

PER IMPERIAL QUARTER.	s.	s.		s.	s.
Wheat, Essex, Kent, & Suffolk...White	40	54	Red	35	46
— — fine selected runs...ditto	45	56	Red	42	50
— — Talavera	54	58			
— Norfolk	42	50	Red	—	
— Foreign.....	36	56			
Barley, grind. & distil., 25s to 28s...Chev.	26	34	Malting .	27	30
— Foreign ...grinding and distilling	26	30	Malting .	30	33
Oats, Essex, and Suffolk.....	17	20			
— Scotch and Lincolnshire...Potato	22	24	Feed.....	16	22
— Irish .....Potato	20	22	Feed.....	18	19
— Foreign .....Poland and Brew	18	21	Feed.....	15	19
Rye	29	32	Foreign .	—	
Rye-meal, foreign	—				
Beans, Mazagan.....31s to 33s.....Tick	33	35	Harrow .	33	35
— Pigeon .....34s — 37s...Winds.	39	41	Longpod	30	34
— Foreign .....Small	32	37	Egyptian	32	34
Peas, white, Essex and Kent.....Boilers	38	41	Suffolk...	40	42
— Maple.....32s to 35s.....Grey	30	33	Foreign .	32	42
Maize ..... White	—		Yellow...	—	
Flour, best marks delivered ...per sack	37	43			
— Suffolk .....ditto	25	32	Norfolk .	25	32
— Foreign..... per barrel	23	27	Per sack	34	38

ARRIVALS IN THE PORT OF LONDON LAST WEEK.

	Wheat.	Barley.	Malt.	Oats.	Beans.	Peas.
Flour 13984 sks						
— 9687 brls	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.
English	3282	4958	3314	25	1149	626
Irish	—	—	50	8536	—	—
Foreign	17511	2977	—	2706	2160	580

FRIDAY.—The arrivals of Grain, either English or foreign, this week have been small. To-day's market was fairly attended, and business to some extent transacted at an improvement of 2s. per qr. upon the prices of Monday last, but holders generally insisted upon a greater advance, which restricted business. Flour is 1s. per barrel higher.—Barley, Beans, and Peas are unaltered in value. The Oat trade is firm, and some quantity has been taken in some instances at an advance of 6d. per qr. Floating cargoes of Wheat from the south are held for a considerable advance, and 45s. has been paid for Polish Odessa, 47s. for Ghirka, and 48s. for Berdinasky, all cost, freight, and insurance. Since the 3d instant mild and wet weather with south-westerly winds have been general. Excitement has characterised the Wheat markets of the kingdom throughout the week, resulting to a great extent in speculative purchases at an advance of 2s., and, in many instances, of 3s. to 4s. per qr. since this day se'nnight

ARRIVALS THIS WEEK.

	Wheat.	Barley.	Oats.	Flour.
	Qrs.	Qrs.	Qrs.	
English ...	1330	2470	950	2280 sacks
Irish	—	—	8990	
Foreign ...	6970	700	2710	2700 brls

IMPERIAL AVERAGES.

	Wheat.		Barley.		Oats.		Rye.		Beans.		Peas.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
Oct. 30.....	39	2	29	5	17	6	26	0	34	7	31	5
Nov. 6.....	39	5	29	9	18	3	24	10	35	3	33	5
— 13.....	39	11	30	2	18	7	27	8	35	4	32	6
— 20.....	40	0	30	6	18	9	29	9	35	6	33	3
— 27.....	40	5	30	7	18	6	27	1	35	2	32	3
Dec. 4.....	41	2	30	0	18	5	30	11	35	5	32	8
Aggreg. Aver.	40	0	30	1	18	4	27	9	35	3	32	7

Duties on Foreign Grain, 1s. per qr.

FLUCTUATIONS IN THE LAST SIX WEEKS' AVERAGES.

PRICES.	OCT. 30.	NOV. 6	NOV. 13.	NOV. 20.	NOV. 27	DEC. 4.
41s 2d	...	...	...	...	...	
40 5	...	...	...	...		
40 0	...	...	...		...	...
39 11	...	...		...	...	...
39 5	...		...	...	...	...
39 2		...	...	...	...	...

LIVERPOOL, TUESDAY, Dec. 7.—The arrivals from Ireland and coastwise during the past week have been very large of Oatmeal, but small of other articles. At this day's market there was a good attendance of town and country buyers, who at first were unwilling to follow up any advance, but ultimately a fair amount of business was done in Wheat and Flour, at an advance of 3d. to 4d. per 70 lbs., and 2s. 6d. to 3s. per sack and barrel. Oats and Oatmeal were in moderate request, at 1d. per 45 lbs. and 1s. per load more money. Barley, Beans, and Peas were saleable in retail, at rather higher prices. Indian Corn in store was in demand, and may be quoted 1s. to 2s. per qr. dearer.——FRIDAY, Dec. 3.—This morning's market was tolerably well attended; an advance of 1d. to 2d. was realised for all descriptions of Wheat, but the millers did not purchase freely. We experience again to-day an excited inquiry for Flour, for which many holders require extravagant rates, which checks a further large extent of business; still a good deal has been done at 1s. to 1s. 6d. per barrel. Barley, Malt, Beans, and Peas are steady, but without any particular activity. Oats and Oatmeal on the spot fully support our late prices. Indian Corn is more steady in value; floating cargoes are more in request.

Sales by Auction.

TO GENTLEMEN, NURSERYMEN, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will sell by Auction, at the Mart, Bartholomew-lane, on THURSDAY, December 16, at 12 o'clock, 200 choice double Camellias, from Ghent, 18 inches to 3 feet; 200 Indian and Ghent Azaleas, 18 inches to 4 feet, the whole well set with bloom-buds; also Ornamental Trees and American plants, Standard and Dwarf Roses, Dutch Bulbs, &c.—On view morning of sale. Catalogues had at the Mart; and of the Auctioneers, American Nursery, Leytonstone, Essex.

CAMELLIAS, RHODODENDRONS, AZALEAS, ETC.

FROM MR. JOSEPH BAUMANN, OF GHENT.

THE LAST SALE FOR THIS SEASON.

MR. J. C. STEVENS begs to announce that on TUESDAY next, Dec 14, he will sell by Auction, at his Great Room, 38, King-street, Covent Garden, at 12 for 1 o'clock, a consignment of CAMELLIAS (well set with bloom), Azaleas, Rhododendrons, Deutzia gracilis, and various other plants, from the Nursery of Mr. Joseph Baumann, of Ghent, the whole of which will be sold without any reservation, and will be the last offered this season. On view the day prior and morning of sale, and Catalogues had.

COCHIN CHINA FOWLS.

MR. J. C. STEVENS will sell by Auction, at his Great Room, 38, King-street, Covent-garden, on TUESDAY, December 21, at 11 for 12 precisely, a first-rate selection of BIRDS, bred from the celebrated strains of Andrews, Steggall, Surgeon, and Moody, many of which are pure buff, and got by cocks of Andrews' strain; they are particularly deserving the attention of amateurs.—Catalogues will be forwarded on receipt of a stamped directed envelope, enclosed to Mr. J. C. STEVENS, 38, King-street, Covent-garden.

COCHIN CHINA FOWLS.

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For terms and all further particulars apply to Mr. J. G. HOBBS, Solicitor, Broad-street, Bristol.

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THE SECOND ANNUAL MEETING of this ASSURANCE COMPANY was HELD on TUESDAY, at Twelve o'Clock, at the OFFICES, PALL MALL. GEORGE BERMINGHAM, Esq., the Chairman of the Board, Presided. The Meeting was very fully attended.

The Chairman, in introducing the business of the day, observed that it was at all times highly interesting to watch the progress of a young society, particularly one which, like the Trafalgar, had been established under certain difficulties, and at a period when, perhaps, some degree of doubt was thrown upon institutions of that description. He would, without further preface, call upon the secretary to read the report. He was sure that they would be much gratified with the statement contained in the document.

Mr. T. H. Baylis (the Manager) then read the report:—

"The directors feel they have just cause to congratulate the shareholders and assurers at this their second annual general meeting, on the solid success that continues to attend the operations and progress of the Institution. In order to illustrate practically and forcibly the foregoing statements, the directors beg to submit the following abstract of the business transacted during the first two years:—

POLICIES COMPLETED.

Comparison of the First with the Second Year's Business.	No. of Policies issued.	Amount insured	Producing in Annual Premiums
		£	£ s. d.
First Year—From Nov. 24, 1850, to Nov. 24, 1851	325	95,783	3092 15 9
Second Year—From Nov. 24, 1851, to Nov. 24, 1852	567	196,863	6381 1 7
Excess of second year's operations over first	242	101,080	3288 5 10

By this it is shown that new premiums amounting to 6381*l.* 1*s* 7*d*. have been added during the last twelve months to the former income of the Association, the total of which is now in this, the second year of its existence, 9473*l.* 17*s.* 4*d.*, arising from 892 policies, assuring 292,646*l.*—a circumstance in itself so encouraging, that the directors abstain from making any comment upon it. In reference to their numerous agents, the directors are gratified in being enabled to report how deeply they are indebted for the very great zeal and ability with which the principles and objects of the association have been by them asserted and defended, in opposition to the vigorous and unjust attacks levelled at the reputation of young life assurance companies generally, by those of older date. Indeed, to their respectability and indefatigable exertions may, in a great measure, be attributed the present enviable and unprecedented position of the Association. The directors cannot leave this subject without expressing their conviction that, by means of experienced and energetic agents alone, aided by public advocacy, can the operations of a life assurance institution be materially and permanently extended and maintained. They have on all occasions endeavoured to cultivate the very best feeling and confidence of those acting on their behalf; and, notwithstanding the insidious attempts of some of the older institutions to destroy their faith in the Trafalgar, and press them into their own service, they are not aware that to this date any such attempts have been successful; but, on the contrary, the most satisfactory feeling continues to distinguish their correspondence, which is better and more substantially illustrated by the large amount of business furnished through their exertions. In order to make known the principles and capabilities of the Association, and to afford the public opportunities of becoming familiar with their practicability and necessity, meetings have been held and lectures delivered in various parts of England, accompanied with the best result; and the directors feel themselves especially called upon to express their high approval of a lecture delivered by John Smith, Esq., of Liverpool, a gentleman of great respectability and influence, to a numerous and attentive auditory, in the important town of Sheffield. The directors were enabled, at the last annual meeting, to announce to the shareholders that the whole number of the shares—namely, 25,000, representing the entire capital of 250,000*l.* (of which 237,500*l.* remain untouched, but it is at all times available for the purpose of the Association, should occasion require) had been subscribed for in the short period of seven months, by a most extensive and influential proprietary; and the confidence entertained by the shareholders and public generally will be best understood from the fact, that the shares are not now to be obtained, except at a large premium. The number of policies lapsed by death is six, assuring, in the aggregate, 3300*l.*, which sum, being deducted from the premiums received, leaves a large balance in favour of the Association. The directors recommend a dividend, at the rate of five per cent. per annum, to be paid on the paid-up capital, and which they propose shall be made payable, on and after the 15th of December next ensuing. In conformity with the provisions of the deed of settlement, two directors retire by rotation. The directors so retiring are Mr. George Bermingham and Mr. Robert Garland, who, being eligible, offer themselves for re-election, and are recommended by the board accordingly. The auditors who retire are Mr. Thomas Cooper and Mr. Alfred C. Tatham. They being again eligible, are recommended by the board for re-election. The directors refer with peculiar satisfaction to the formation of the Unity Fire Insurance Association—a company which combines the interests, influence, connections, and co-operation of the three kindred life offices, namely, the Professional, Trafalgar, and Waterloo; three offices already possessing in the aggregate a constituency composed of more than ten thousand persons, the power and certainty of whose exertions, to make success sure in any enterprise in which they may cordially engage, must be apparent to every one. The directors of the Trafalgar Life Assurance Association are gratified to state that good effects have already accrued from this connection; for, by the Unity undertaking a share of the expenditure—the two offices being carried on under one roof—the expenses of rent, taxes, and other incidental outgoings are mutually divided between them. Further, the establishment of the Unity has added vastly to the energies and efficiency of the several agencies, by stimulating them into new channels of usefulness and advantages, necessarily enlarging the sphere of operations of the Trafalgar. Finally, in reviewing the prospects, present and future, of the Association—in estimating the important and manifest influence, strength, and stability which it unquestionably possesses and commands in its numerous and substantial proprietary—in appreciating the effects and progress of the new and valuable principles which guide and distinguish its transactions; and, in perfect reliance upon the determination of every one, however connected with it—whether as shareholders, assurers, agents, or medical referees—to contribute to and insure its imperishable usefulness and success, the directors entertain a confidence, in which all must share, that the Trafalgar is destined not only to realise profit and advantage to its shareholders and assurers, but in due time to confer inestimable benefits upon the community at large. By order of the Board, "George Bermingham, Chairman."

The Chairman, in proposing the adoption of the Report, said it would be seen that enormous progress had been made since the last meeting, and in the Report they had adhered to facts, which, like their policies, were indisputable—(hear)—for it appeared that they were rather moderate. The Board had 725 policies before them for consideration, which would be a business in itself for any office, but for one in the second year of its existence it was most encouraging. The Board did not like to transact business at random, and every one of these policies, embracing in all 292,813*l.*, would receive that scrutiny to which every individual would give to any bond which came before him, and they were anxious to guard the interest of the Company, and not to transact their business in a slovenly manner. When these 725 policies were completed, it might be relied upon that they were pledged to documents as firm and sure as human documents could be. He had been told by eminent actuaries that 350,000*l.* was the amount necessary to secure an insurance company, and it would be perceived that they had nearly arrived at that amount which secured them from every possible contingency. (Hear.) The amount of their policies assured was now 292,646*l.* (Hear.) The balance sheet had stated what it had cost to acquire this large amount of business, which was now 10,000*l.* a-year, and it had certainly required enormous exertions on the part of their agents and their staff, and on the part of their executive, who had determined to exercise all their powers to increase the income of the Association. To secure this income of 10,000*l.* they had sunk 14,000*l.*, and it did not matter what might be said about extravagance which was only well-timed liberality. He fully expected that next year their income would be 20,000*l.* (Hear, hear.) With regard to the attacks made upon them, he considered that Mr. Baylis, in his pamphlet in reply, had taken a moderate position. There was a vast difference between the three united institutions—the Trafalgar, the Professional, and the Waterloo—and the older established societies, with respect to the principles upon which they were embodied, and in defending these institutions his (the chairman's) impulse would have been to strike in return, for he thought hard attacks deserved a hard repulse. Now, they were all implicated in these charges, which were monstrous and perfectly absurd, and to state that an actuary of Mr. Baylis's experience was ignorant of the right construction of his tables was a childish assertion, and could only mislead children. In conclusion, he appealed to the position of the Association to refute these attacks, which he considered most unbecoming. He appealed to the amount of business already done, and drew a forcible picture of the benefit life assurance companies upon improved principles would confer upon the public; and finally exhorted all the proprietors—of whom he stated that only 100 out of 876 were insured—to lend every assistance in their power to promote the objects of the Association.

Captain J. W. Dominy, of Poole, as the representative of upwards of 100 shareholders, holding 3000 shares, had much pleasure in seconding the adoption of the report.

Mr. John Smith, of Liverpool, felt happy at having the opportunity of supporting the motion for adopting the report which he had read through with the greatest attention and care—a care which he had exercised in other cases—and had arrived at the conclusion that it ought to be unanimously adopted. In a very long and eloquent speech Mr. Smith expressed his high opinion of the company, and his contempt at the means used to destroy the prospects of the new Association. He believed that the public would appreciate the attacks made upon the new companies at their proper value, and he now told them that the whole of their conduct, during the attacks made upon them, proved their Company (the Trafalgar) to be the true "Amicable;" all their proceedings showed that they were the true "Equitable;" the liberality of their arrangements, combined with the care which they took of their profits, showed that they were the true "Provident;" and, by the union of the three life assurance offices (the Professional, Trafalgar, and Waterloo) to establish the "Unity," they showed that they were the true "Alliance" also. (Cheers and laughter.) Furthermore, they would show, by their integrity, their candour, and the regularity of their annual path, that they were as bright, as steady, and as punctual as the "Sun," and were determined to carry their operations—mark the word—over the "Globe." (Cheers.)

Mr. E. Baylis, after the able and convincing speech of Mr. Smith, felt that he had very little to say; and, indeed, not being the manager, but only the consulting actuary of the Company, he would not have ventured to address them on that occasion, if he had not been requested to do so. (Hear.) The whole of his life had, for the last few years, been devoted to an extension of the knowledge of the principles of life assurance. He felt that the very existence of the new principles depended on the energy and determination displayed to make them root in the public mind. They had struck root, and all who became connected with the new offices were so many eloquent supporters and propagators of the principle. Mr. Baylis subsequently animadverted with great ability upon the best purpose to which the principles of assurance might be applied, and concluded by saying that he advised them not to be content with five per cent., as at present declared, next year, feeling assured that they were fully entitled to seven and a half per cent. As an actuary he could prove that their income ought to fairly spread over 30 years, and that, therefore, it would fairly pay double and treble the dividends they are now receiving. (Cheers.) He said that as a shareholder, and though under present circumstances he did not advise them to press that amount, he hoped they would not fail to do so next year. (Cheers).

Mr. Henry Lake, before the question was put, wished to say a few words with regard to the position of the Trafalgar with other offices. They talked of theirs being a young office, and yet he found that the Marquis of Tweeddale, on the 28th of September, 1836, spoke of one of the Scotch offices (which were their principal opponents) as commencing business in 1815 without funds. Mr. Lake then proved, by comparison of the Trafalgar accounts with those of companies with which he was acquainted, that it was doing a good and fair business. He gave all honour to the old companies; but, while they imitated their virtues, they would not follow their vices. He had no doubt that this Society must realise large profits for the shareholders, and confer benefits on the community at large.

The report was then put and unanimously adopted.

Mr. Teulon rose to move the re-election of the retiring directors—Mr. Bermingham and Mr. Garland.

The Rev. G. Hinde seconded the motion.

The resolution having been carried by acclamation, the Chairman and Mr. Garland severally returned thanks.

Mr. Hardy moved the re-election of the auditors.

Mr. Bache, of Sheffield, seconded the motion.

Mr. Tatham returned thanks.

The Rev. E. Johnson, in moving a vote of thanks to the directors, remarked on the satisfactory nature of the supplemental report, which showed that, in the three months over which it extended, the amount of business done was about as much as was transacted in the half of the previous twelve months

Mr. Edwards, of Bath, seconded the motion.

The Chairman returned thanks.

Mr. Bradley had great pleasure in moving a vote of thanks to their medical officer, Dr. Lloyd.

Mr. Weston seconded the resolution.

Dr. Lloyd returned thanks.

The Rev. E. Johnson had a proposition to make which he was sure would meet with the approbation of every gentleman present—it being a vote of thanks to their friend Mr. Thomas Baylis, the manager of the institution, to whose zeal and ability they were most deeply indebted. He had various opportunities of witnessing the exertions of Mr. Baylis, and he could truly say that the prosperity of the Trafalgar was wholly due to the exertions of that gentleman. He had the pleasure of being constantly in communication with Mr. Baylis, and a more energetic or more talented man could not exist. (Cheers.)

Mr. Bruce would do violence to his feelings if he allowed the resolution to pass without seconding it, and bearing his testimony to the energy and talents of Mr. T. Baylis.

Mr. Smith also bore testimony to the same effect.

The Chairman said he could not put the resolution without bearing testimony to the extraordinary skill, untiring exertions, great activity and spirit, with which he carried on the business of the company—no man being better enabled to carry out the principles of life assurance than Mr. Thomas Baylis. (Cheers.)

Mr. Thomas H. Baylis, who was very warmly received, said he felt he could not express his sense of gratitude as he wished to do, for the very kind manner in which his name had been mentioned; and that it was a source of the utmost gratification to him to know that the exertions which it was only his duty to bring to bear upon the promotion of the interests of the company had met with their approval. (Cheers.) He was delighted beyond measure that the results that they had that day been enabled to present to the shareholders and the public who had given them their support, had met with their unanimous and cordial approbation, and which was a sufficient return to him for any anxiety or labour which he had brought to bear in the development of the principles on which the Trafalgar was founded. (Cheers.) He assured them he was not insensible to the responsibility that devolved upon him as their manager, nor to the position of others similarly situated. He strove to the best of his ability to discharge his duties effectively and conscientiously, and in such a way as to merit their approbation. (Cheers.) It had been prognosticated that their income next year would be 20,000*l.* This was, doubtless, a bold statement to make, but he confidently believed it would be realised. He did not find that Mr. Christie's office, in its tenth year, did a greater amount of new business than the Trafalgar in its second. (Hear.) Certainly the old offices had not, and did not, transact anything like the new business they had done; nor did they intend to stop in Pall Mall, for they felt that their principles were such that they ought to be more extensively known,—they ought to be known in every part of England. (Cheers.) And as they advocated "truth," not "libel," they intended to go from Birmingham to Leeds, thence to Newcastle, and finally to Edinburgh, where they would challenge Mr. Christie to a fair stand-up fight of principles in his own town. (Loud cheers.) He was confident they had spirit and talent enough to defeat those undermining practices that had been had recourse to by the older companies. Instead of regretting these attacks, they were indebted to them, because they had roused fresh energies in them, and stirred up those that were dormant, if such there were. (Hear.) His father, the founder of the Trafalgar, had recently produced a pamphlet, which for philosophical argument, and as showing the great capabilities of life assurance, was unequalled. (Cheers.) The statements and arguments contained therein had been drawn from his father most unwillingly, but the institutions he had defended would live as long as time. The public were therein shown how they could benefit themselves and their kindred. He wished for no better occupation than to serve them, to promote the welfare of the Institution, and thus not only to win the good wishes of shareholders and policy-holders, but to enlist the aid of children, thousands of whom were yet unborn, in its behalf, by extending to them likewise the great advantages that had been conferred on their parents, and of which they could become partakers. Like the Equitable, the magnificent plan of the Company would not be fully developed at the first declaration of a bonus. At earlier divisions, 100,000*l.* was divided; and at future ones 200,000*l.* But in the Trafalgar, the money apportioned at the divisions for the various purposes specified in their plan would remain for ever as a fund for these great ends; if they could educate but four or five children at the first division, at the next they could elect another four or five to take their places, as well as 15 in addition. As years rolled on, vast numbers would be educated, apprenticed, and relieved. The "Equitable" was little more than an ordinary man's age, yet it was tottering into the grave; it had not attracted of late years much public attention; the new office had done so, and hence they had excited their envy and they were spending their money in trying to shake the confidence of the public with respect to them. But they could not do it; they had not even a dissatisfied shareholder—every one had received a notice to attend, but not one had uttered a complaint or pronounced a censure (Hear, hear.) He wished they had all come, so that they might have heard all the good things that had been said. Why, they had even taken the door off the hinges so as to afford them all the room possible. They did not introduce any mystery into their proceedings; they had no clerks sworn to secrecy as the old offices had, so that their proceedings might reach the public ear. (Hear.) They invited the public press to attend, and he thought the number of gentlemen from the press before them, taking notes of their proceedings for the information of the public, showed that they had nothing to conceal. (Hear.) He hoped Mr. Christie would read their reports and digest the sentiments enunciated if he could. (Hear and laughter.) He begged again to thank them for their kind expressions, and trusted, in conclusion, that the "Trafalgar" would become like an inverted sugar-loaf, expanding from the base to the top, and that year after year they should be enabled to report the transactions of a vastly increased amount of business as compared with its predecessor. (Loud cheers.)

The Chairman next proposed a vote of thanks to the Consulting Actuary, which was unanimously carried.

Mr. E. Baylis acknowledged the compliment, and proposed a vote of thanks to Mr. M. Baylis, the accountant of the company.

The resolution was carried unanimously,

The meeting then separated.

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AND
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A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 51.—1852.] SATURDAY, DECEMBER 18. [PRICE 6*d.*

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Seed Establishment, 181, High Holborn, London.

AMERICAN NURSERY.

GEORGE BAKER, Windlesham, near Bagshot, Surrey, Exhibitor of American Plants at the Royal Botanic Gardens, Regent's-park, begs to inform the Nobility and Public he has published a Descriptive CATALOGUE OF AMERICAN PLANTS, Coniferæ, Roses, Ornamental Shrubs, &c. &c., and may be obtained by enclosing two postage stamps.—Near Staines Station, Windsor Branch, South-Western Railway.

JUDSON'S RICHMOND VILLA BLACK HAMBURGH VINE.

ARTHUR HENDERSON and CO. have the pleasure of informing their patrons and friends that they have good plants of this valuable and much-esteemed Vine, at 7*s.* 6*d.* and 10*s.* 6*d.* each.—N.B. For full particulars of the distinguishing characteristics of this Vine, we beg to refer our customers to the *Gardeners' Chronicle* of October 25, 1851.
Pine-apple Place, London.—Dec. 18.

SUPERB HOLLYHOCK SEED.—Well ripened Seed, warranted to be saved exclusively from Comet, Elegans, Obscura, Mr. C. Baron, Penelope, Rosea grandiflora, Meteor, Walden Gem, Magnum Bonum, Spectabilis, Saffranot Delicata, Enchantress, Picta, Queen, Bicolor, Dido, Charles Turner, Formosa, Hebe, Model of Perfection, Rosea Alba, Sulphurea Perfecta, White Perfection, Blue Beard, Mulberry Superb, Snowball, and Queen of England.
A good mixture of the above, in packets containing UPWARDS OF 200 SEEDS, will be forwarded post free, upon the receipt of 2*s.* 6*d.* worth of postage stamps, by R. B. BIRCHAM, Hedenham Rosary, Bungay, Suffolk.

NEW SHRUBBY CALCEOLARIAS, CONSISTING OF ABOUT FIFTY VARIETIES NEVER BEFORE OFFERED TO THE PUBLIC.

J. WEEKS and Co., CHELSEA, have now to offer a most splendid and superb Collection of SEEDLING SHRUBBY CALCEOLARIAS, which they can confidently warrant and recommend, they having been carefully saved and varied from the most unique selection in the kingdom. The sorts being all Shrubby they are perpetually in flower; and from the great variety and brilliancy of their colours, they are invaluable for the conservatory or bedding-out.
J. WEEKS and Co., KING'S ROAD, CHELSEA, LONDON.

CHRYSANTHEMUMS.

G. TAYLOR informs the Public that he is ready to receive orders for Plants of all the varieties named in his Treatise, published last season, at 12*s.* per dozen, and of nine approved new ones, let out in 1852, for 12*s.* Also twelve new Pompons for 12*s.*
In consequence of his having had many applications for that work, he has issued a second edition, containing the names of the select varieties let out in 1852, copies of which he will forward by post upon the receipt of 14 postage stamps. As a proof of the success of his mode of culture, he begs to state that he exhibited at Stoke Newington this season a selection of 24 blooms, gaining the first prize (a handsome silver cup).
GEORGE TAYLOR, Park-street, Stoke Newington.

NEW WHITE BROCCOLI—"DILCOCK'S BRIDE."

BAINBRIDGE and HEWISON beg to announce that they have purchased of Mr. Dilcock the entire stock of the above, which is a Broccoli of the highest merit, surpassing every other (even the far-famed "Mammoth") as the following will testify. It has been sold in the York market at 1*s.* per head.

"York Horticultural Society, June 18, 1852.

"In reply to your inquiries I find 'Dilcock's Bride Broccoli' was awarded first and third prizes 1850; first, second, and third, 1851; and first, second, and third in the present year. I ought to be grown by every gentleman's gardener, especially where any are grown for competition. Market gardeners also will find it to their profit to possess it. Yours truly,

"R. DEARY, Hon. Secretary."

The seed can be procured only decidedly of themselves at York; or of Messrs. Noble, Cooper, and Bolton, 152, Fleet-street, London; or Messrs. Chrimes and Cranston, Covent Garden, London; and retail of all the principal seedsmen throughout the country, in sealed packets containing 1200 seeds at 2*s.* 6*d.* each.—Hope Nursery, York.

CATALOGUES.

MESSRS. LANE and SON, Great Berkhampstead, Herts, beg to inform their patrons that the undermentioned descriptive Catalogues may now be had:—
General and Supplementary Rose Catalogues for two stamps.
Tree and Shrub and Fruit Catalogues for two ditto.
Azalea indica, Camellias, Hollyhocks, &c.. &c., for one ditto.
The hardy Rhododendrons are fine, and generally well set with bloom. Araucaria imbricata, Cedrus Deodara, with most of the Pinus, form fine specimens. Per Dozen.

Fine selected Standard Roses	18*s.* to 24*s.*
Ditto, Dwarf and Dwarf Standard	10*s.* to 16*s.*
Ditto, Dwarf Roses, two of each sort	6*s.*
Mixed Dwarfs, without names (per 100)	30*s.*

TO AGRICULTURISTS.

J. CARTER, SEEDSMAN and FLORIST, No. 238, High Holborn, London, has a new kind of grain to offer, which he has received from Texas, where it produces two crops a year. The seed is the size of Wheat, but rather thicker in proportion without the furrow, and evidently belonging to a different genus. Can be had in small packets only; price 1*s.* per packet.

SEEDS DIRECT FROM THE GROWERS BY RETAIL,

In Collections or otherwise.
(CARRIAGE FREE BY RAILWAY.)

SUTTON and SONS have the pleasure of announcing that they have succeeded in harvesting their SEEDS in good condition, notwithstanding the unfavourable weather. *The advantages of purchasing Seeds direct from the Growers* are obvious. As some sorts are scarce, early orders are requested and recommended.—For particulars address JOHN SUTTON and SONS, Seed Growers, Reading, Berks.

TO NOBLEMEN AND GENTLEMEN.

HYBRID RHODODENDRONS.—The Subscribers have on hand a large and valuable stock of the above, consisting of Scarlet, Pink, White, and fine spotted varieties unnamed, raised by the late Mr. James Cunningham, who was well known as a celebrated grower. Strong bushy plants, from 2 feet to 4 feet high, 42*s.* per dozen, or 15*l.* per 100.
Also Stove and Greenhouse Plants, Hardy Shrubs, &c. &c., in great variety and at moderate prices.
CUNNINGHAM, FRASER, and Co., Comely Bank Nursery, Edinburgh.—Dec. 18.

THE BEST BROCCOLI IN CULTIVATION.

MITCHINSON and Co., SEED-MERCHANTS, TRURO, CORNWALL, have much pleasure in offering two superior BROCCOLI, which, having been carefully saved under their own inspection, are warranted to give satisfaction to all purchasers.
MITCHINSON'S PENZANCE, or EARLY WHITE BROCCOLI, is invaluable for its earliness, coming into use in February. It is a full-sized, handsome head, of excellent quality, but a shy seeder. Offered in sealed packets of about 500 seeds, at 1*s.* 6*d.* per packet, postage free.
MITCHINSON'S TRURO, or SPRING WHITE BROCCOLI, is the most perfect variety in cultivation, having every characteristic of perfection. The plant is robust, without coarseness, moderately dwarf, smooth leaves, with silvery ribs, handsome compact heads well protected. Many gardeners and others who saw them growing on our grounds last season pronounced them to be the best they had ever seen. The stock is limited; price 1*s.* 6*d.* per packet, or two packets for 2*s.* 6*d.* Postage stamps should accompany orders. General catalogues, &c., forwarded on application.
Seed Establishment, Truro, December, 1852.

INGRAM'S HYBRID WHITE SPINE CUCUMBER.

PRICE FOR THREE GOOD PLUMP SEEDS, 2*s.* 6*d.*, POST FREE.

GEORGE WHEELER, NURSERYMAN, &c., Warminster, Wilts, having purchased the entire stock of the above most valuable Cucumber, which, after much care and attention in hybridising, Mr. Ingram was so fortunate as to raise, it is now, for the first time, offered to the public, on condition that G. W. receives by the end of January next the names of a sufficient number of Subscribers to insure him from probable loss in the speculation, he will then be prepared to send it out in the first week in February, otherwise it will be necessary to keep it in for another season.
It is the general opinion of the numerous persons, viz., gentlemen's gardeners, amateur and other Cucumber growers, who saw it growing all through the last season, that it is the most prolific long Cucumber ever grown. The crop in Mr. Ingram's cold pits, which depended for heat on the sun's rays alone, was most abundant, of excellent quality, and called forth general admiration. It is equally well adapted for early forcing, for the general crop, and excellent for the trellis system of culture. The skin is very thin, its fine green colour is retained long after the fruit is become too old for the table or exhibition, without showing the least tint of yellow; the flesh is particularly solid, crisp, and good flavoured. This variety has the singular property of showing fruit on the old parts of the vines, often below all the foliage and lateral shoots, and bringing such fruit to perfection. At the horticultural shows held in Birmingham and its vicinity, Mr. Ingram exhibited this Hybrid White Spine for several successive seasons without failing in any instance of obtaining the first prize.
The seed G. W. offers has been grown under his own superintendence, far from any other Cucumber, consequently may be relied on as true and genuine; he therefore recommends it with the greatest confidence. G. W. hopes to receive the names of subscribers without delay, and that the list may be soon so far filled as to enable him to send out the seed by the middle of January, instead of February, which he would be happy to do.
G. W. has, as usual, a good stock of fine Bulbs of the following kinds of TIGRIDIA, or TIGER FLOWER.
T. WHEELERII yellow, richly spotted centre, with scarlet sepals a superb variety, 3*s.* per dozen.
T. CONCHIFLORA, yellow ground, finely spotted, 3*s.* p. doz.
T. PAVONIA, 2*s.* per dozen.
For cash post free. The usual discount to the Trade by the 100. A large quantity of good and strong transplanted Thorn Plants on hand. Prices on application.
Warminster, Dec. 14.

FLORICULTURAL SEEDS, ETC.

JAMES CARTER, SEEDSMAN and FLORIST, No. 238, High Holborn, London, begs to announce the appearance of the 18th annual Series of his SYSTEMATIC CATALOGUE of FLORICULTURAL, KITCHEN GARDEN, and AGRICULTURAL SEEDS, which will be forwarded to his customers as usual, prepaid, and also to new correspondents on application by post or otherwise. The Catalogue indicates the Linnean Class and Order, the Natural Order, the Hardiness, Duration and Height of each Plant, also the Colour of the Flower and time of flowering; the whole arranged so as to enable the amateur, by comparison, to form a tolerable idea of such plants as are unknown to him.
J. C. takes the liberty of submitting a list of some of the newest Annuals, all of which can be highly recommended. The Texian Seeds have not yet been flowered in this country, and are probably new and beautiful; the greater part of the latter are exclusively in J. CARTER'S possession.

NEW ANNUALS.

[*Those marked * half-hardy; ** greenhouse; the others quite hardy.*]

	Per Packet—*s.*	*d.*
Antirrhinum, *beautiful new dwarf, white and red*	0	6
*Arctotis breviscapa, *deep yellow and dark eye*	0	6
Collinsia Bartsiifolia, *dark purple*	1	0
,, multicolor, *many-coloured*	1	0
**Globe Amaranthus, *new yellow, superb*	1	0
Kaulfussia amelloides, *new white*	0	6
Limnanthes rosea, *rose coloured*	0	6
Nemophila aurita, var. alba grandiflora	0	6
Nolana grandiflora alba, *new white*	0	6
*Portulaca Thellusoni, coccinea, *scarlet*	1	0
*Salpiglossis sinuata coccinea, *new scarlet*	1	0
* ,, sinuata alba, *beautiful new white*	1	0
Tropæolum Sheuermannianum, *primrose with bronze tips*	1	0
*Venidium calendulaceum, *very fine*	0	6
,, splendid new species	0	6
The entire collection of 15 New Annuals	10	0

TEXIAN SEEDS.

Allium, fine species, very fragrant	0	6
**Cactus, ditto not described	1	0
Clematis, beautiful species, fragrant	1	0
Crataegus, ornamental species, yellow fruit	1	0
**Ipomœa sp. quercifolia, oak-leaved	1	0
** ,, species atropurpurea, dark purple	1	0
*Ipomopsis, bright scarlet	1	0
Lupinus, new species, blue	0	6
*Tigridia, beautiful species, 9 inches, blue	1	0
*New Annual, pink, beautiful, 6 inches	2	6
* ,, blue ,, ,,	1	0
* ,, purple ,, ,,	1	0
* ,, yellow ,, ,,	1	0
*Five fine species, undescribed	4	0
The above collection of 18 packets	15	0

The Flower Seeds will be forwarded free of expense. Kitchen Garden Seeds for early sowing might be sent at the same time.
JAMES CARTER, Seedsman and Florist, 238, High Holborn.
*** An assortment of Hyacinths, Narcissus, &c., in separate colours, to be had at from 10*s.* to 40*s.* per box, carriage free.

PETER LAWSON and SON'S PRICE LISTS OF SEEDS, FOREST, FRUIT, AND ROSE TREES, are now ready, and may be had on application, or free by post from the Agent, J. C. SOMMERS, 159, Fenchurch-street, London.

ROSES.

ROSES extending over 10 acres of ground, may be selected by purchasers from 18*s.* to 20*s.* per dozen, comprising all the leading varieties; dwarf do., 6*s.* to 12*s.* per doz. Fine varieties, in pots fit for forcing, 12*s.* to 18*s.* per doz. CAMELLIAS, well set with flower-buds, 30*s.* per doz., and upwards. ERICAS, leading varieties, 12*s.* to 18*s.*; fine specimens fit for exhibition, in 11-inch pots. A large stock of DIELYTRA SPECTABILIS and every description of Nursery Stock.
Catalogues of all the New Roses in cultivation may be had on application.—G. CLARKE, Streatham-place Nursery, Brixton Hill, near London.

MESSRS. PLATZ and SON, Erfurt, Prussia, respectfully inform the trade, that their Seed Catalogue for 1853, in which will be found many new varieties, may be had on application to their agent, Mr. ROBERT KENNEDY, Bedford Conservatory, Covent-garden, London.

WINTER CUCUMBER SEED.

TILEY'S CAPTIVATION ... per packet 2*s.* 6*d.*
TILEY'S PHENOMENON ... ... ,, 2*s.* 6*d.*
CHAMBERLAIN'S ESSEX HERO ... ,, 2*s.* 6*d.*
LORD KEYNON'S WINTER-BEARING CUCUMBER, per packet ... ... 2*s.* 6*d.*
GORDON'S WHITE SPINE (the best of all White Spines), per packet ... ... 1*s.* 6*d.*
TILEY'S VICTORY OF BATH, per packet ... ... 1*s.* 6*d.*
Good sound Seeds of the above first-rate varieties of Cucumbers can be obtained at the above prices on receipt of the amount in penny postage stamps. Free to any part.
EDWARD TILEY, Nurseryman, Seedsman, and Florist, 14, Abbey Churchyard, Bath.

THE BLACK BARBAROSSA.
"A Grape that don't know how to shank."
Fine Fruiting Plants, from eyes, of the above splendid late Grape, with shoots stopped at 6 feet, 10*s.* 6*d.* each; good plants, 5*s.* 6*d.* For its merits, see *Gardeners' Chronicle*, October 23, 1852, page 678.
Also Black Hamburgh, Black Esperen, White Muscat of Alexandria, Cannon Hall Muscat, Red and White Frontignan, Chasselas Musqué, and Royal Muscadine. The above plants are stopped at 5 to 6 feet, have been grown in heat, and the wood well ripened. Fine for pot culture, or turning out, clean from insect or mildew.
London Agents: Messrs. DAWE, COTTRELL, and BENHAM, Seed Merchants, 38, Moorgate-street; and Mr. I. ISRAEL, 7, Complex of the Berries of the Barbarossa will be sent, postage free, upon the receipt of 12 postage stamps.
Centre Buildings, Covent-garden Market.
JOHN BURGHER, Nurseryman, Stratford-on-Avon.

RAY SOCIETY.

REPORT OF THE COUNCIL OF THE RAY SOCIETY, Read at the NINTH ANNIVERSARY MEETING, Held at BELFAST, September 4, 1852.

Professor Owen, D.C.L., F.R.S., in the Chair.

In presenting the Ninth Annual Report of the Ray Society, the Council would congratulate its Members, that amidst the increase of other societies having a similar object in view, they still obtain that amount of support which enables them to carry on their labours with efficiency and success. Although, amongst so large a body, a considerable number are necessarily lost to the Society through death and other causes every year, yet they have to report an increase in the number of Members during the past year. In 1851 the number was 739; at present they are 746: the number who have withdrawn and died are 33; the numbers added, 40. At the same time, the Council would urge upon the present Members the advantage that would accrue to themselves by their obtaining additional Subscribers, and thus increasing the funds of the Society. The Council have the conviction, that there are still a large number of persons in this country who have both the means and the desire to patronise Natural History Science, who have not had the Ray Society brought under their notice, and who would willingly subscribe, not only for the sake of the books published, but that they might assist in the great scientific objects the Society has in view.

Since the publication of the last Report, in July, 1851, the following works have been distributed to the Members:—

Alder and Hancock, Monograph of the "Nudibranchiate Mollusca." Part V. With 15 plates.

Leighton, Monograph of the "British Argiceæpous Lichens." With 30 coloured plates.

At the present time there are being distributed to the Members:—

Vol. I. of Darwin's Monograph of the "Family of Cirripedes."

Vol. III. of the "Bibliography of Geology and Zoology." By Professor Agassiz and Mr Strickland.

The Council hope to be able to publish, in addition to the last work, the Sixth and remaining Part of the great work of Messrs. Alder and Hancock, on the "Nudibranchiate Mollusca," for the year 1852. They are also glad to be able to announce that, by increasing considerably the size of the last two volumes of the "Bibliography," they will be enabled to finish this work in four volumes. The fourth and last volume of this complete and valuable Bibliography will be published for the year 1854.

For the year 1853 the Council purposes to produce a Volume of Essays and Papers on Zoology and Botany, which will comprise—

1. A Report on the present state of our knowledge of the Structure of the Insecta and Crustacea. By Professor Erichson; translated by A. H. Halliday, Esq.
2. A Paper on Hermaphroditismus in the Animal Kingdom. By Professor Steenstrup; translated by George Busk, Esq.
3. A Monograph of the family Diatomaceæ. By Professor Meneghini; translated by J. Johnston, Esq. And other Papers.

The Second work for the year 1853 will be the Second Volume of Mr. Darwin's work on the Cirripedia, with about 20 plates.

In addition to the works announced in previous Reports, the Council have pleasure in stating, that they have made arrangements with Dr. Carpenter and Professor Williamson for the production of a joint work on the Foraminifera. This work will comprise two parts, the first of which will contain a general history of all that is at present known of the structure, functions, and systematic relations of recent and extinct Foraminifera, by Dr. Carpenter and Professor Williamson; and a Monograph of all the recent British species of this family, with plates of all the species, by Professor Williamson.

The Council have received a communication from the Rev. Mr. Leighton on the subject of publishing another volume on the Lichens of Great Britain, and which, with the former volume published by the Society, will constitute part of a complete Monograph of the British Lichens.

The Council have also under their consideration the question of publishing a translation of Hoffmeister's work on the Germination, Development, and Fructification of the Higher Cryptogamia.

Before concluding, the Council would allude to the complaints that are often made of the publication of the works so long after the subscriptions for the year have become due. They feel that those who pay their subscriptions punctually in advance have reason to complain; and they would especially call the attention of the Members to the fact, that they have no funds to meet the expenses of the Society but the subscriptions of the current year, paid in advance. At the present moment they have owing them, upon this and past years, the sum of six hundred and fifty-seven pounds—a sum equalling, within one hundred and twenty-four pounds, the whole annual income of the Society.

During the past year the Council have appointed Dr. G. Johnston and Dr. Lankester, Secretaries, and J. S. Bowerbank, Esq., Treasurer, to the Society.

Abstract of Treasurer's Account from June, 1851, to May, 1852.

Income.	£	s.	d.	Expenditure.	£	s.	d.
By balance in Treasurer's hands	199	6	4	Drawing, colouring, and printing plates	369	19	10
Subscriptions paid from June, 1851, to May, 1852	604	16	0	Printing letterpress	57	15	0
				Secretaries' expenses	115	14	2
				Stationery, postage, and advertisements	12	3	8
				Collector	2	10	2
				Bookbinding	100	0	0
				Books	5	3	6
				Editing	54	4	6
				Balance in hand	86	11	6
	£804	2	4		£804	2	4

Auditors—James Tennant, W. Ferguson.

Moved by Prince Bonapartes, seconded by C. W. Dilke, Esq:—That the Report now read be adopted, and printed for distribution amongst the Members of the Society.

Moved by Lord Enniskillen, seconded by G. Hyndman, Esq.:—That the thanks of this Meeting be given to the President, Council, Treasurer, Secretaries, and Local Secretaries, for their services during the past year.

Moved by the Rev. Professor W. Hincks, seconded by Professor Dickie:—That the following Gentlemen be requested to act as a Council for the ensuing year.

Professor D. T. Ansted, M.A., F.R.S. F.L.S.
Charles C. Babington, Esq., M.A. F.R.S. F.L.S.
Robert Ball, Esq., LL.D. M.R.I.A., Sec. R.Z.S.I.
Professor Bell, Sec. R.S.
J. S. Bowerbank, F.R.S. F.L.S
George Busk, Esq., F.R.S. F.L.S.
W. B. Carpenter, M.D. F.R.S.
Professor Daubeny, M.D. F.R.S.
Sir P. de M. G. Egerton, Bart., M.P. F.R.S.
Professor Edward Forbes, F.R.S. F.L.S.
Professor Goodsir, M.D. F.R.S
Sir W. Jardine, Bart., F.R.S.E. F.L.S.
A. Henfrey, F.R.S. F.L.S.
Rev. Leonard Jenyns, M.A. F.L.S.
G. Johnston, M.D. LL.D. F.R.C.S.E.
E. Lankester, M.D. LL.D. F.R.S. F.L.S.
George Newport, Esq., F.R.S. F.L.S.
Professor Owen, D.C.L. F.R.S. F.L.S.
Robert Patterson, Esq., Pr. Nat. Hist. Soc., Bel.
Professor John Phillips, F.R.S.
Prideaux J. Selby, Esq., F.L.S.
W. Spence, Esq., F.R.S. F.L.S.
Hugh E. Strickland, Esq., M.A. F.R.S. F.G.S.
G. Waterhouse, Esq., F.Z.S.
W. Yarrell, Esq., F.L.S.

QUEENWOOD COLLEGE, near STOCKBRIDGE, HANTS.

Principal—George Edmondson.

Mathematics and Natural Philosophy { Dr. John Tyndall, F.R.S., Foreign Member of the Physical Society, Berlin.
Chemistry { Dr. Heinrich Debus, late Assistant in the Laboratory of Professor Bunsen, and Chemical Lecturer in the University of Marburg.
Classics and History—Mr. Prout.
Modern Languages and Foreign Literature { Mr. John Haas, from M. de Fellenberg's Institution, Hofwyl, Switzerland.
Geodesy ... ... Mr. Richard P. Wright.
Painting and Drawing Mr. Richard P. Wright.
English and Junior Mathematics Mr. Benjamin Hough.
Music ... ... Mr. William Cornwall.
Farm Superintendent { Mr. Richard Davis.—The Farm contains upwards of 800 Acres.

Terms:—

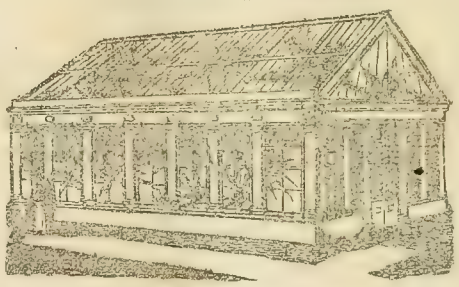
For Boys under 12 years of age ... ... £40 per annum.
" from 12 to 16 ... ... £50 "
" above 16 ... ... £60 "

For further information, see Prospectus, to be had of the Principal.

☞ The first Session of 1853 commences on the 20th of January.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER,

AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.



GRAY and ORMSON, Danvers Street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

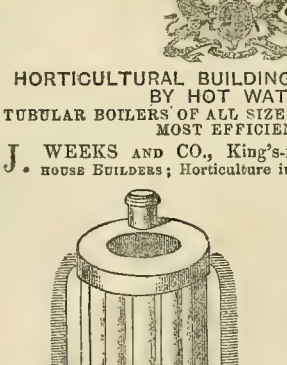
G. and O. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders they can with the greatest confidence give the most satisfactory references.

Their Hot-Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating by Hot Water can be made available.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER.

TUBULAR BOILERS OF ALL SIZES, WARRANTED THE MOST EFFICIENT.

J. WEEKS and CO., King's-road, Chelsea, Hot-house Builders; Horticulture in all its branches upon the most improved principles. These Boilers are very powerful, durable, and economical. The fire warranted to last 15 hours without attention. The Furnace Bars are Hollow Tubes through which the return water passes before entering the upper part of the boiler, thereby causing a very rapid circulation, and producing double the effect from the same quantity of fuel.



J. WEEKS and CO., King's Road, Chelsea, CHALLENGE the whole world to make a Boiler that will produce anything like the same effect, with the same quantity of Fuel in a given time. It is one of those boilers that warms the water of their Victoria Regia Tank, which contains 20,000 gallons, and also heats several large Forcing-houses and ranges of Pits, with a small consumption of fuel.

Plans, Models, and Estimates of Horticultural Buildings; also Catalogues of Plants, Vines, Seeds, &c., forwarded on application.

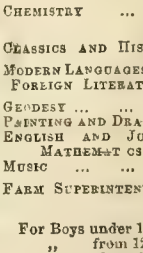
J. WEEKS and Co., King's-road, Chelsea, London.

WARNER'S PATENT FARM AND COTTAGE PUMPS.

—Cast-iron Pumps, for the use of Farms, Cottages, Manure Tanks, and Shallow Wells.

	£	s.	d.
Patent Pump	1	15	0
Patent Pump, with 15 feet of lead pipe attached, and bolts and nuts ready for fixing	2	10	0

Larger sizes if required.



To Emigrants proceeding to the Gold Regions they will prove to be the most simple, durable, and the cheapest Pumps hitherto introduced.

May be obtained of any Ironmonger or Plumber in Town or Country, or of the Patentees and Manufacturers,

JOHN WARNER & SONS,

8, Crescent, Jewin-street, London.

Every description of Machinery for Raising Water, Fire Engines, &c.

HORTICULTURAL GLASS

OF EVERY DESCRIPTION.

THOMAS MILLINGTON'S WAREHOUSE,

87, BISHOPSGATE-STREET WITHOUT,

LONDON.

GLASS FOR CONSERVATORIES, GREENHOUSES, PIT FRAMES, &c.

JAMES PHILLIPS and CO. beg to hand their prices of SHEET GLASS for cash:

Cut to order in Panes not above 40 inches long. Per foot.	Packed in Boxes of 100 feet each.	£.	s.	d.
16 oz. ... ... 2½d. to 3d.	6 by 4, 6½ by 4½ ...	0	13	0
21 do. ... ... 3½d. to 4½d.	7 by 5, 7½ by 5½ ...	0	15	0
26 do. ... ... 3½d. to 7½d.	8 by 5, 8 by 5½ ...	0	15	0
32 do. ... ... 6½d. to 8d.	8 by 6, 8½ by 6½ ...	0	15	0
	9 by 7, 10 by 8 ...	1	0	0

Various sizes of 16 oz. Sheet Glass, such as 12 by 9, 12 by 10, 13 by 10, 14 by 10, and 15 by 10, packed in boxes at 18s. per 100 feet.

Packed in Crates of 300 feet at 2½d., 16 ounces to the foot, or 14 ounces 2¼d.

PATENT SHEET GLASS,

Sold in cases containing 25 sheets, 18 inches long by 36 inches wide—300 feet, at 3l. 9s. per case, net cash. Especial attention is directed to the size, 18 by 36 inches, containing 12 superficial feet, and weighing from 16 to 17 oz. to the foot, which is the largest ever made.

FOREIGN SHEET GLASS, of very superior quality, packed in cases of 200 feet, and in sizes varying from 36 by 26 to 44 by 30 inches, at 38s., 40s., to 42s. per case.

Milk Pans, from 2s. to 6s. each, Propagating and Bee-Glasses, Cucumber Tubes, Lactometers, Lord Camoys' Milk Syphons, Tiles and Slates, Wasp Traps, Plate, Crown, and Ornamental Glass, Shades for Ornaments, Fern Shades, and every article in the Trade.

HORTICULTURAL GLASS WAREHOUSE, 116, Bishopsgate-street Without, London.

GLASS.

HARTLEY and Co.'s GLASS TARIFF NEWSPAPER will be forwarded Gratis on application, post paid, to Messrs. James Hartley and Co., Wear Glass Works, Sunderland, or Purfleet-wharf, Earl-street, Blackfriars, London.

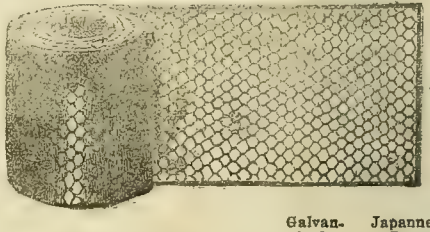
GLASS FOR CONSERVATORIES, ETC.

HETLEY and Co. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2d. to 3d. per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices and Estimates forwarded on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLATES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to James Hetley and Co., 35, Soho-square, London.

See *Gardeners' Chronicle* first Saturday in each month.

GALVANISED WIRE GAME NETTING.—

7d. per yard, 2 feet wide.



	Galvanised.	Japanned Iron.
2-inch mesh, light, 24 inches wide ...	7d. per yd.	5d. per yd.
2-inch " strong " ...	9 "	6½ "
2-inch " extra strong " ...	12 "	9 "
1⅝-inch " light " ...	8 "	6 "
1⅝-inch " strong " ...	10 "	8 "
1⅝-inch " extra strong " ...	14 "	11 "

All the above can be made any width at proportionate prices. If the upper half is a coarse mesh, it will reduce the prices one-fourth. Galvanised sparrow-proof netting for Pheasantries, 3d. per square foot. Patterns forwarded post free.

Manufactured by BARNARD and BISHOP, Market-place, Norwich, and delivered free of expense in London, Peterborough, Hull, or Newcastle.

RACING GAME, MANUFACTURED BY FUTVOYE.—This novel Game, allowed to be the most interesting amusement yet produced, and which may be played by two or any larger number of persons, can be had from the Manufacturer, complete, with solid Bronze Horses painted in appropriate colours, from 2l. each. Futvoye, Manufacturer, Regent-street, stamped on each Board. Also the French Racing Game and Steeple Chase from 2s. each, complete.

IRON HURDLES.

STEPHENSON and PEILL, 61, Gracechurch-street, London; and 17, New Park-street, Southwark, Manufacturers of every description of Iron Fencing, beg to call the attention of Noblemen and Gentlemen to their present prices of HURDLES:—for Sheep, 6 feet long, 3 feet high, with 5 bars, at 4s. 3d.; and for Cattle, 6 feet long, 3 feet 3 inches high, with 5 bars, at 4s. 9d. each.

THE ONLY STOVE WITHOUT A FLUE.—Plain, from 12s. to 25s.; Ornamental, from 31s. 6d. to Six Guineas; Stands for Stoves, 2s. 6d., 3s., and 5s. each. For which her Majesty's Royal Letters Patent have been granted. Prospectus, with Drawings and Report, forwarded free.





JOYCE'S PATENT for warming Halls, Passages, Greenhouses, Water-closets, Shops, Store-rooms, and all places requiring artificial warmth. The above Stoves do not emit smoke or unpleasant smell, and will burn without attention or replenishing from twelve to twenty-four hours. To be seen in use daily, at the sole Proprietor's, S. Nash, Ironmonger, &c., 253, Oxford-street, and at the City Depot, 119, Newgate-street, London; and to be had from the principal Ironmongers in town and country.

PATENT PREPARED FUEL for the Stoves, 2s. 6d. per bushel; only genuine with the Proprietor's name and seal on the sack.

S. Nash, 253, Oxford-street, and 119, Newgate-street, London, Sole Manufacturer of the Portable Economical Vapour Bath, for Families, Travellers, &c. &c., complete with Large Cloak, 1l. 11s. 6d. Medical Testimonials forwarded on application.

SPECIMEN SHOW PLANTS.—The Subscribers having determined to dispose of a few of their magnificent specimens, the like being no where to be found in Great Britain, persons requiring, should send their gardeners to select without delay. A fine stock of Forest Trees, Fruit Trees, and Shrubs, to be sold cheap.
W. JACKSON and Co., Bedale, Yorkshire.

GEORGE JACKMAN, NURSERYMAN, Woking, Surrey, 1¼ mile from Woking Station, South Western Railway, begs to announce he has just published a new and complete Catalogue of his American Plants, Ornamental Evergreens, Conifers, flowering Shrubs, Standard and Dwarf Roses, Fruit and Forest Trees, &c. &c., and may be had on application by inclosing two postage stamps.

Messrs. Charles Cantor & Co. of Calcutta.

1852.

LIST OF ORCHIDEOUS PLANTS INDIGENOUS TO ASSAM

AND THE NEIGHBOURING HILLS OF KHASYA, BOOTAN, &c.

No.	Names.	Size and Colour of Flower.	Habit.
1*	Microstylis Wallichii ?...	Small, pea green	Ter.
2	Oberonia indifolia ...	Minute, yellowish	Epi.
3*	,, sp.	,, ,, ...	Do.
4	Liparis sp.	Small, yellow	Do.
5	,, sp.	,, ,, ...	Do.
6**	,, sp.	Largish, green yellow ...	Ter
7*	,, sp.	Small, deep purple ...	Epi.
8	Otochilus fuscus ...	,, yellowish brown ...	Do.
9	,, albus	,, ,, and white ...	Do.
10	Pholidota imbricata ...	,, white	Do.
11	,, undulata	,, ,, ...	Do
12*	,, articulata	,, ,, ...	Do.
13*	,, sp.	,, ,, and yellow ...	Do.
14*	,, sp.	,, ,, ,, ...	Do.
15	Coelogyne flavida ...	,, yellow	Do.
16	,, undulata	Largish, white	Do.
17*	,, fimbriata ?... ...	,, ,, and brown ...	Do.
18**	,, unifdora	,, ,, and lateritious	Do.
19	,, barbata	,, white	Do.
20*	,, præcox ?	,, ,, ...	Ter.
21*	,, maculata	Large, white, yellow, & rose	Do.
22**	,, Wallichiana ...	,, ,, and rose ...	Do.
23**	,, ocellata	,, pale yellow and deep orange	Do.
24*	,, Gardneriana ...	,, white and yellow ...	Epi
25	,, cristata	,, ,, streaked with bright yellow	Ter.
26	,, sp.	Small, brown and yellow...	Epi
27**	,, flava ?	Large, yellow and brown ..	Do.
28	,, sp.	Small, brown and yellow...	Do.
29*	,, sp.	,, white and brown ...	Do.
30	,, sp.	,, pale yellow	Do.
31**	,, sp.	,, white (pretty) ...	Ter.
32**	,, sp.	Largish, pale cinnamon ...	Epi
33**	Bolbophyllum leopardinum ...	Large, yellow spotted with purple.	Do.
34	,, umbellatum ...	Largish, dull yellow ...	Do.
35**	,, Khasyanum ...	Small, greenish	Do.
36**	,, sp.	Largish, bright yellow ...	Do.
37*	,, sp.	Small, white, fragrant ...	Do.
38*	,, sp.	,, dull purple	Do.
39	,, sp.	,, ,, ...	Do.
40	,, sp.	,, ,, ...	Do.
41**	Cirrhopetalum sp. ...	Small, greenish, fragrant	Do.
42	,, sp.	,, dull purple	Do.
43*	,, sp.	Large, brown and yellow...	Do.
44**	,, sp.	Largish, dull purple ...	Do.
45**	,, sp.	,, ,, ...	Do.
46*	Tricosina suavis... ...	Large, white, purple & yell.	Do.
47*	Eria flava	Largish, dull yell. & brown	Do.
48	Eria sp.	Largish, white streaked with brown	Epi
49	,, densiflora	,, ,, tinged with yellow	Do.
50	,, ferruginea	,, ferruginous	Do.
51	,, paniculata	Small, spotted with purple	Do.
52**	,, sp.	Largish, white	Do.
53*	,, sp.	,, ,, & dull purp	Do.
54*	,, sp.	,, ,, ,,	Do.
55*	,, sp.	Minute, rosy	Do.
56	Aporum anceps	Small, white	Do.
57	,, cuspidatum ...	,, ,, ...	Do.
58	,, sp.	,, ,, ...	Do.
59*	,, sp. ?	Largish, white, yellow, and brown	Do.
60	Dendrobium Pierardi ...	Large, pink and yellow ...	Do.
61*	,, heterocarpum ..	,, yell. and br. fragrant	Do.
62	,, Chrysanthum ...	,, lively yell. and brown	Do.
63*	,, Paxtoni	,, ,, ,,	Do.
64*	,, sp. like do. ...	,, orange and brown ...	Do.
65*	,, formosum	Very large, white and yell., fragrant	Do.
66**	,, longicornu... ...	Large, white and orange...	Do.
67	,, calceolus	Very dark yellow, rose, and purple	Do.
68*	,, sulcatum	Large, yellow and purple..	Do.
69	,, Jenkinsii	,, lively yellow	Do.
70	,, cærulescens ...	,, deep lively purple ...	Do.
71	,, nobile	,, white rosy purple ...	Do.
72**	,, Gibsonii	,, yellow and brown ...	Do.
73*	,, stuposum	Small, white	Do.
74*	,, Cambridgeanum ...	Large, lively yell. and br	Do.
75**	,, transparens ...	,, deep lively purple ...	Do.
76*	,, like do., various ...	,, pale rose and purple	Do.
77**	,, Devonianum ...	,, lilac-rose and yellow	Do.
78**	,, Dalhousianum ..	,, rose, white, and purp.	Do.
79	,, moniliforme... ...	,, white and purple ...	Do.
80**	,, Griffithii	,, pale yell. and orang	Do.
81**	,, Farmeri	,, lively ,, ,, ...	Do.
82**	,, densiflorum pallid.	,, white and orange ..	Do.
83**	,, do. roseum ..	,, pale rose and orange	Do.
84	,, intermedium ...	,, pale yellow & brown	Do.
85*	,, sp.	,, lively orange	Do.
86*	,, sp.	,, ,, yellow & brown	Do.
87**	,, sp.	,, yellow, pink, and br.	Do.
88*	,, sp.	,, pink and yellow	Do.
89**	Spathoglottis pubescens	Largish, yellow and purple	Ter.
90	Arundina bambusifolia	Large, pale rose and lively purple	Do.
91*	Phaius grandifolius ..	,, white, brown, & pur.	Do.
92	,, Wallichii	,, ,, ,, ,,	Do.
93*	,, maculata	,, ,, rosy scented	Do.
94*	Phaius albus	Large, white, rosy scented	Do.
95**	Aputaria senilis	Largish, rose and green ...	Ter
96**	A. latifolia	?	Do.
97*	Eulophia virens	Large, green and white ..	Do.
98**	,, sp.	,, dull yellow & brown	Do.
99**	,, sp.	,, deep purple	Do.
100**	,, sp.	,, green and yellow ...	Do.
101**	,, sp.	,, purplish green ...	Do.
102	Vanda teres	Very large, rosy purple, yellow and brown	Epi.
103*	,, cristata	Largish, greenish, white, and purple	Do.
104**	,, multiflora	,, white and rose ...	Do.
105**	,, cœrulea	Very large, deep blue ...	Do.
106**	,, sp.	Largish, dull purple ...	Do.
107**	,, sp.	,, ,, and green	Do.
108**	,, sp.	,, yellow and brown ...	Do.
109*	Camarotis purpurea ...	Small, yellow and purple...	Do.
110	Micropera pallida ...	,, pale yellow	Do.
111	Saccolabium micranthm	Small, rosy	Epi.
112	,, retusum	Largish, lively spotted ...	Do.
113	,, papillosum ...	Small, pale yellow & pur.	Do.
114**	,, Calceolare	,, yellow and brown ..	Do.
115**	,, sp. like do. ...	,, pale do. and rose ..	Do.
116	,, caroifolium ...	,, rosy	Do.
117**	,, dasypogon ...	,, green and purple ...	Do.
118*	,, appendiculatum ...	,, yellow	Do.
119*	,, sp.	,, rosy and deep purple	Do.
120**	Sarcanthus sp.	... ...	Do.
121**	,, sp.	Small, rosy	Do.
122**	,, sp.	,, white and yellow	Do.
123**	,, sp.	,, ,, ,, ...	Do.
124**	,, sp.	,, ,, ,, ...	Do.
125**	,, sp.	,, rosy red	Do.
126	Aerides affine	Large, rosy purple	Do.
127	,, odoratum	,, ,, sweet-scented	Do.
128	,, sp.	,, ,, ,, ...	Do.
129**	,, sp.	Large, like affine, and very sweet-scented	Do.
130	Agrostophyllium Khasyanum	Small, white	Do.
131*	Xiphosium acuminatum	Large, white	Do.
132	Acanthophippium sp. ...	,, dull purple	Ter.
133*	,, sp.	,, white, streaked ..	Do.
134*	Cymbidium giganteum...	Very large, yell. and brown	Do.
135	,, pendulum	Large, dull yell. and purple	Do.
136	,, aloifolium	,, ,, ,, ...	Do.
137**	,, eburneum	Very large, white	Do.
138	,, inconspicuum ..	Small, brown	Do.
139	Cymbidium longipetalum	Largish, green and purple	Ter
140*	,, cyprifolium ...	,, ,, ,, ...	Do.
141**	,, sp.	Large, fragrant, yellow, and white	Epi.
142**	,, sp.	,, brownish purple ..	Do.
143**	,, sp.	Very large, white	Do.
144**	,, sp.	Large, white and brown ...	Do.
145*	,, sp.	,, green and dull purple	Ter.
146**	? Phalænopsis, sp. ...	Large, yellow and reddish brown	Epi.
147	Euphorboscis pygmæa...	Minute, yellow	Do.
148	Geodorum dilatatum ...	Large, white, purple, and yellow	Do.
149*	,, sp.	,, deep rosy purple and white	Do.
150**	Platanthera sp.	Large, white	Do.
151**	Peristylis sp.	Largish, white, sweet scented	Do.
152	Habenaria hamigera ?...	Small, green	Do.
153	,, sp.	,, yellow	Do.
154	,, sp.	,, greenish yellow ...	Do.
155*	,, sp.	,, white	Do.
156**	,, sp.	Large, white	Do.
157**	Pogonia Joliana... ...	Small, rosy white	Do.
158**	,, sp.	Largish, green	Do.
159**	,, sp.	Small, purple	Do.
160**	Cyrtosia sp.	Largish, golden yellow ...	Do.
161**	Spiranthes sp.	Small, white	Do.
162**	Zeuxine sulcata	,, ,, ...	Do.
163**	Anæctochilus Roxburghii ...	,, rosy white	Do.
164**	,, sp.	,, white	Do.
165**	Cypripedium venustum	Large, green and purple ..	Do.
166**	,, insigne...	,, red and yellow ...	Do.
167*	Calanthe densiflora ..	,, lively yellow	Do.
168**	,, sp.	Small, brown and yellow...	Do.
169**	,, sp.	Large, white and green ..	Do.
170**	,, sp.	,, ,, and yellow ..	Do.
171**	,, sp.	,, dull purple	Do.
172	Goodyera sp.	Small white	Do.
173	,, sp.	,, ,, ...	Do.
174	,, sp.	,, ,, dull purple ...	Do.
175**	Ophrys sp.	Largish, rosy purple ...	Do.
176**	,, sp.	,, green and purple ...	Do.
177**	Anthoglossum sp. ...	,, rosy	Do.
178*	Bonatea sp.	Small, green	Do.

Æschynanthus (3 to 4 sp.); Hoya (5 or 6 sp.); Arum (several Lilium (1 sp.); Nepenthes (1 sp.); Ferns and Lycopodiums (150 to 200 sp.); Palms (Livistonia, Leoxalia, Caryota, Calamus, &c.) are also indigenous, and can be sent if required.

Plants not marked are common. Ditto marked with an asterisk are considered rare.
Ditto marked with two asterisks are considered very rare.

The charges for a box of 4 cubic feet measurement, containing an equal selection of the three kinds, will be 5*l.* or 50 Rupees, deliverable at Calcutta. When Plants which are rare or very rare are required, the charges will be according to the kind taken; for the rare 1 r. 8 a. a Plant; for the very rare, 2 rupees a Plant. When very large plants are directed to be sent, no extra charge will be made.

When new Plants not included in the list are sent, a separate charge will be made. When two boxes or more are taken a discount of 10 per cent. will be allowed.

Plants can also be sent in glass cases, on the Wardian plan, measuring 2 feet 6 inches in length, 2 feet breadth, and 2 feet 7 inches in height, for which an extra charge of 20 rupees will be made. Glass covers can also be supplied for the other boxes, at an extra charge of 10 rupees.

Applications to be made to Messrs. CHARLES CANTOR & CO., in Calcutta.

ASSAM, *August* 1, 1852.

AMERICAN PLANTS.

JOHN WATERER begs to announce his Catalogue of the above Plants, Roses, Conifers, &c., is now published, and may be obtained by enclosing two postage stamps. The colours of all the Rhododendrons worthy of cultivation are described, in order to facilitate purchasers in selecting.

☞ The Rhododendrons, Azaleas, &c., annually exhibited at the Royal Botanic Gardens, Regent's Park, are supplied from this establishment.—The American Nursery, Bagshot, Surrey, 4 miles from Farnborough Station, South-Western Railway, and 3 miles from Blackwater, South-Eastern Railway.

CHOICE BULBS AND FLOWER ROOTS

	s. d.	s. d.
Tropæolum tricolorum, fine tubers, each ...	2 6 to	3 6
,, brachyceras ,, ,, ...	1 6 ,,	2 6
,, azureum ,, ,, ...		3 6
Tritonia aurea, splendid ,, ,, ...	2 6 ,,	5 0
Oxalis elegans, new and fine ,, ...		1 6
,, ,, major, ,, ,, ...		1 6
Cyclamen, in seven beautiful varieties	1 0 ,,	5 0
Babiana rubra cyanea ,, ,, ...		3 6

Superb collections of Alstrœmeria, Ixias, Sparaxis, Oxalis, Babiana, and various other Cape Roots. For superior selections of Ranunculus, Anemone, Gladioli, English Iris, Imported Dutch Hyacinths, Crocus, and other roots. Also, for collections of choice Stove, Greenhouse, Winter Flowering Herbaceous, Rock, and other plants, see advertisements in the *Gardeners' Chronicle* of October 16th and 30th.

For particulars, see "Autumn Catalogue," supplied for three postage stamps.

BASS and BROWN, Seed and Horticultural Establishment, Sudbury, Suffolk.

FOR CHEAPNESS, UTILITY, AND DISPLAY, the undermentioned are strongly recommended:—

1000 Beech, 3 ft. ... ... 15*s.*	1000 Elms, 2 to 3 ft. ... 15*s.*
1000 Horse Chestnut, 2 to 4 ft. 15	1000 Scotch Fir, 2 ft. ... 15
1000 Spruce Fir, 2 ft. ... 15	1000 Highland Pines, 2 ft. 17
1000 Green Hollies, 1 to 2ft. 30	1000 Larch, 2 ft. 10
1000 Oak, 4 ft. 14	100 0 Sycamore, 3 ft. ... 20
100 Evergreen Privet, 3ft. 30	1000 Common Laurels, 2ft. 60
100 Oaks, 6 to 10 ft. ... 5	100 Poplars Ontario, 6 to 10 ft.... 5
100 Spanish Chestnut, 6ft. 5	100 Horse Chestnut, 8 ft. 5
100 Larch, 6 to 8 ft. ... 3	100 Elms, 6 to 8 ft. ... 3

If the above are ordered, one-tenth will be given over on the quantity ordered, to compensate for carriage.

*100 Flowering and Evergreen Shrubs ... 35*s.*	*100 sorts Hardy Herbaceous Plants ... 25*s.*
*100 Portugal Laurels, 2ft. 15	*100 Laurestinus, 2 ft. ... 30
*100 Evergreen Box, 2 ft. 25	*100 Evergreen Oaks, 2 to 3 feet 25
*100 Double Hollyhocks 20	*100 Finest Gooseberries 10
*100 Red Champagne Currants 10	*100 Black Grape Currants 10
*100 May's Victoria Currants 25	*50 Standard Apples ... 30
*50 Standard Roses, named 40	*50 Dwarf Roses, named 18

All Orders above 2*l.* 10*s.*, for those marked *, Carriage paid to London, Liverpool, Birmingham, and Edinburgh, and all the intermediate Stations within 150 miles of the Nursery.

Address all Orders and Communications to HENRY MAY, the Hope Nurseries, Bedale, York. A remittance or reference from unknown correspondents is respectfully requested.

The Gardeners' Chronicle.

SATURDAY, DECEMBER 18, 1852.

MEETINGS FOR THE ENSUING WEEK.

MONDAY, Dec. 20 { Chemical ..... 8 P.M. / Statistical ..... 8 P.M.
TUESDAY, — 21 { Linnean ..... 8 P.M. / Civil Engineers (Anniversary)... 8 P.M. / Pathological ..... 8 P.M.
WEDNESDAY, — 22 { London Institution ..... 7 P.M. / Society of Arts ..... 8 P.M.
THURSDAY, — 23—Numismatic ..... 7 P.M.

Do ORCHIDACEOUS plants produce hybrids? is a question often asked, and never answered satisfactorily. It is *probable* that they do, because their natural powers are identical with those of other plants; and there is no apparent reason why the ability given to Lilies, Amaryllids, and Irids, should be denied to Orchids. There is also a strong *presumption* that the difficulties attending a precise definition of certain supposed species in such Orchidaceous genera as Maxillaria, Orchis, Ophrys, Oncidium, Epidendrum, Dendrobium, &c., are connected with the occasional production naturally of intermediate forms of hybrid origin. But *proof* was, till lately, wanting. M. RÖPER had indeed pointed out a presumed mule between Orchis fusca and O. militaris; and similar evidence regarding Ophrys was obtained by MUTEL. It is, however, to Mr. WEDDELL that is due the direct proof of the occurrence of mule Orchids in nature.

It appears from an article in the *Annales des Sciences*, vol. xviii., that for 11 years past the pupils who attend M. DE JUSSIEU's herborisations in the Forest of Fontainebleau, have remarked a plant wholly intermediate between the Man Orchis (*Aceras anthropophora*) and the Military Orchis. Mr. WEDDELL first remarked it in the year 1841, and a good many specimens were observed last summer among the coppice. In the same place only the two other Orchises were found, between which this must be a hybrid, as is shown, we think conclusively, by one of RIOCREUX's charming figures which accompanies Mr. WEDDELL's memoir. The spike of the mule was more oblong than in the Military, and less lax than in the Man Orchis. The sepals were bordered with red as in the latter, but white with a few speckles, and turned upwards as in the former. The lip was just intermediate in form between the two, but purple and speckled as in the Military Orchis; and, finally, its spur was four times shorter than in that species, but, nevertheless, distinctly formed, instead of being absent, as in the Man Orchis.

Here, then, is a clear case of hybridism. The

coppice contains A and B, natural well-known species, and no other; but among them springs up an intermediate form, which is equally A+B, and B+A.

In this as in so many other cases it is to be hoped that botanists will find cause to make them distrust the trifling peculiarities—we should rather say accidents—out of which some of them are perpetually fabricating those spurious species which we should be contented with describing as so many ephemeral examples of mistaken ingenuity, if they were not something far more important in their bearing upon the interests of natural history. So long as they were few in number men of science hardly thought them worth attention; when flies are scarce one does not break flies on the wheel; but they have become a serious nuisance, of the abatement of which we see few good signs. Books are idly multiplied; pages are crowded with unrealities; societies are wearied with disquisitions concerning the best way of distinguishing things having no distinction; students are bewildered; naturalists disgusted, and the public is fairly driven to more exact pursuits. No wonder! when we see every little individual difference magnified into a natural distinction, in identifying which the authors of such follies are as much bewildered as any one else. The solemn triflers "who could divide a hair 'twixt south and south-east side," did not perish with the Long Parliament, but left an extensive line of descendants, who seem to have taken to botany in these latter days.

When we look at the work going forward among the writers of European Floras, to say nothing of others who occupy themselves specially with exotic botany—when we hear of seven or eight hundred Solanums, hundreds of Willows, legions of Poas, the common American Tobacco pronounced to consist of a dozen distinct species, and even the little Dog-Violet made into sylvatica, Riviniana, flavicornis, lancifolia, pratensis, lactea, stagnina, and so on—we cannot but ask where this furor is to end? Upon principles (!) like these, out of which the so-called species of plants are often now-a-days constructed, every militia regiment ought to be described as consisting of scores of human species. High cheek-bones, low foreheads, hooked noses, thick lips, black hair, bushy whiskers, narrow shoulders, and other differences of similar importance, would enable any ingenious gentleman to concoct a string of species of the genus Homo, fully as genuine as the rank and file of many a systematic botanical work we might name.

Let us hope that Mr. Weddell's *anthropophoromilitaris* Orchis will assist in putting an end to so mischievous a folly.

The managers of the Society of Arts have just announced the subjects for which they offer premiums in the coming season. Altogether 112 matters are detailed, among which are several which interest many of our readers. That this Society is not inclined to slumber after the efforts made in the Great Exhibition of all Nations, is sufficiently evident; on the contrary, it would seem as if the exertions then made had inspired the body corporate with vigour renewed by their former labour, and disciplined by the invaluable experience gained during that great event.

From the list of premiums before us we select the following, as being intimately related to subjects which from time to time occupy our columns:—

7. For an account of the processes involved in the preparation of Charcoal, and its recent applications to manufacturing and other purposes.

16. For the importation of not less than half a ton of well-dried Plantains, or Bananas from the West Indies.

17. For the importation from any British Possession, of not less than 100 pounds of Dried Fruits, of equal quality with those now imported from the Mediterranean.

18. For the importation of not less than one pipe of Wine, of good marketable quality, made from the produce of Vineyards in Australasia.

19. For the best essay on the theory and practice of Fermentation, particularly as applied to the Art of Brewing; so as to modify, or altogether dispense with, the intermediate process of malting.

23. For the importation from China, India, or elsewhere, of any new Plants, or Trees producing Oils, or Fatty Substances, which can be used as food, or are applicable to manufacturing purposes.

24. For the importation of not less than ten gallons of Olive Oil, the produce of Australasia, or any other British Possession.

25. For the production of Oil and other substances from the Cotton-seed, and the application of the refuse material to agricultural or manufacturing purposes.

26. For improvements in the manipulation of Bees'-wax, so as to render it applicable to new purposes in art or manufacture.

30. For the importation of not less than one ton of the root of the Galium tinctorium from Canada.

32. For the best samples of Cotton from the South African Colonies.

33. For the best samples of Cotton from the Western Coast of Africa.

34. For the most successful Cultivation of Flax, in British India, or Australasia.

35. For an essay on the Flax Plants of India; the purposes to which they are at present applied, and the best means of employing the refuse material.

36. For the importation of at least two tons of any Vegetable Fibre, applicable to all the purposes for which Hemp is now used, and equally cheap, strong, and durable.

39. For the importation from any British Possession, of not less than 100 pounds of Silk proper for manufactures.

40. For the importation from the East Indies, of Silk equal in quality to the best Italian or China Silk.

57. For the best account of the methods at present employed in France and England for Grinding, Dressing, and otherwise preparing Flour.

61. For a simple and inexpensive Apparatus for Brewing Beer, suitable for the use of Cottagers, or Emigrants.

64. For the best essay on the Construction of common Roads.

99. For the invention of an Artificial Stone, or Terra Cotta, free from the objections to which all such substances are now liable.

100. For an account of any material improvement in the Moulding, Burning, or general Manufacture of Bricks; the chief qualities required being strength, indestructibility, and cheapness.

105. For the best account and collection of specimens of the various materials and processes employed in the production of Artificial Flowers.

107. For the best series of four Botanical and Structural Drawings of a Forest-tree.

108. For the best series of four Botanical and Structural Drawings of one of the Cerealia.

109. For the best series of four coloured Botanical and Structural Drawings of any well-known English plant.

110. For the best series of four Drawings of any Animal, displaying its anatomy.

111. For the best series of four large Drawings, or Diagrams, suitable for Lecturers, in illustration of any special branch of Natural History, as the Hemp or the Flax plant, the Silkworm, the Cochineal Insect, &c.; each drawing to be not less than 3 feet by 4 feet.

Upon these topics we venture to make the following suggestions:—The report on charcoal (7) should include the processes by which weeds and other vegetable refuse can be most economically and conveniently charred for the purposes of cultivation. As to Australian produce (17, 18, 24), there is no chance of its reaching England during the present season, unless indeed some of it is actually on the road. Should none arrive, we take for granted that the premiums will be renewed; for drying fruits for exportation, wine-making, and oil-pressing, are branches of rural industry which can be as well conducted in Australia as in the Mediterranean, and when the hot fit of the gold fever is off, the colonists will be glad to turn their attention to such subjects; concerning which they have long had full practical instructions from Sir Thomas Mitchell.

The construction of roads (64) will, we hope, include footpaths, especially such as are wanted in gardens. A great desideratum is a path that shall be hard, durable, perfectly dry, cheap, not liable to become mossy, and capable of receiving a colour such as would be communicated by gravel or sand; the glare of white walks being very objectionable, and there being a prejudice against such as are grey or black.

The brick-making question is one of much garden importance. We want, for example, cheap hollow bricks which will admit of the introduction of bond timber, as in walls constructed of ordinary bricks; we want longer bricks and deeper bricks to diminish the cost of mortar and laying; we want long light hollow bricks large enough for the construction of flues, capable of being securely jointed, and thick enough at the sides to retain heat.

Premiums for drawings of plants, &c., will be acceptable to many, and may give the pupils in the school of practical art an opportunity of distinguishing themselves. It is to be hoped, however, that the judges appointed to consider the productions of competitors in this branch of art will insist upon scientific exactness, before anything except correct drawing. If by such a measure a stop could be put to the present system of gravely caricaturing natural history, in which art accomplished young ladies and gentlemen so much delight, that alone would be worth a whole year of the Society's existence.

TRANSPLANTING TREES.

We had an opportunity of witnessing the exhibition of a new apparatus for the lifting and removal of trees, invented by Mr. Stewart M'Glashen, sculptor, in this city. The exhibition took place on the grounds of Mr. Craigie Halkett Craigie Inglis, of Cramond, in a park adjoining Cramond House. The principal improvements effected by the invention are, that the root is not exposed by the removal of the mould from it, thus preventing risk to the vitality of the tree; that no trench requires to be dug round it; that the work can be accomplished with ease and expedition, and at infinitely less expense, and that trees of much greater magnitude can be removed than has hitherto been supposed.

Among the gentlemen present were—the Lord Provost, Lord Currichill, Sir W. Dick Cunyngham, of Prestonfield, Mr. Inglis, of Cramond, Mr. R. W. Ramsay, of Whitehill, Mr. Burn Callander, of Prestonhall; Mr. Oliphant, of Bossie, Mr. Burn Murdoch, of Gartincaber, Mr. J. Lyon, Kirkmichael, Mr. G. Lyon, W.S., Mr. J. L. Morton, Professor Balfour, Dr. T. Murray, Mr. R. W. Hamilton, Mr. Walker, National Bank, Dr. Husband, Mr. J. Gray, Mr. Macnab, Mr. Evans, Caledonian Horticultural Society, Mr. Anderson, nurseryman, Perth, and Mr. C. Smith, garden architect.

The tree experimented upon was a slender Sycamore tree of 53 feet in height, and 5 feet 4 inches in circumference at the thickest part of the stem. The soil was very damp, from the heavy rain of the previous night.

The first process of Mr. M'Glashen is to lay down a frame of T iron—in this case 10 feet square. He then takes cutters made of malleable iron, 1 foot broad, and 3 feet deep, or, with the head and neck, 4½ feet. These cutters are driven, by a wooden mallet, into the soil to the depth of 3 feet all around, and, being inserted sloping inwards, they give to the enclosed mass the form of a square blunted wedge. A rod of iron is then laid along the top of the four rows of cutters, and extension rods going across the frame force the heads of the cutters apart as far as possible, and, consequently, cause the points to converge at the bottom. A clasp or gland is then put around the trunk of the tree, with a mat under it to preserve the bark. Two parallel beams are then laid across the frame and fastened to it with chains. The above constitutes the frame to be raised. The means of raising the mass is a carriage (which also serves the purpose of transportation), consisting of two strong common carts, one at either end, with bolsters raised above the axletree of both, and on which bolsters rest two massive parallel beams secured to them with strong bolts. The height of the beams from the ground is about 6 feet. They, of course, enclose the tree. The process of lifting is exceedingly simple, the whole being accomplished by screw power. The screws are four in number, and so arranged as to make the lift equal. They are made fast to the beams of the frame, and are worked by men standing on planks across the beams of the carriage. The frame and enclosed mass are slowly raised, and the tree with gentle oscillation moves erectly upwards. The tree may, it is evident, be raised without the use of guy ropes—the solid mass of earth effectually balancing the trunk and branches—but they were used on this occasion as an extra precaution. After about 20 minutes working of the screws, the tree was completely raised from the pit, the operation having been effected in an easy and gradual manner, and amidst tributes of admiration from all around. It was not the intention to remove the tree experimented upon, but the means of removal being exhibited and explained, all seemed satisfied with the feasibility of the apparatus for the purpose. A strong case was shown for the enclosure of the ball of earth, when the tree is to be conveyed to any distance. In moving, the tree still maintains its erect position. The propelling power, when horses cannot be used, is by a winch in front of the foremost cart, and block and tackle; but when the way is clear and the road good, horses will do the work safely and more expeditiously. The tree is lowered into the pit prepared for it on the same principle.

It is calculated that, in this instance, the weight lifted was 13 or 14 tons; but the inventor and patentee states that, by an enlargement of the apparatus, he could lift almost any tree.

The principal experiment being accomplished, the company were directed to another part of the policies of Cramond House, where a Holly tree about 15 feet high was lifted by four large and broad spades, forming a case to enclose the root. A similar experiment by smaller implements was made on a Gooseberry bush, while some smaller plants were expertly lifted out by two semi-cylindrical spades. In each case the plant was extracted with its native ball of earth. An oblong apparatus has also been invented by Mr. M'Glashen for the removal of hedge-rows; and by a similar contrivance he lifts out the mass of earth for the insertion of tile drains, replacing it when the work is accomplished. The implements used in these operations are also patented.

Enough has been said, we think, to show that a complete revolution will be effected by Mr. M'Glashen's apparatus in the transplantation of trees. The work can now be done at almost all seasons of the year, and within two or three days, while safety to the plant can be guaranteed. To raise a fine avenue to a mansion, or to decorate pleasure-grounds with trees, has hitherto been considered the work of an age. By the use of the patented apparatus, new mansions can be studded around with fine old trees, and new parks made picturesque and beautiful by the richest decorations of Nature's scenery. In the case of ground to be opened up in the expanding of towns, or owing to other circumstances, many fine trees which must be removed will now become objects of value and of sale, as they can be thus transplanted to beautify other landscapes, and to form new groups. *Abridged from the Edinburgh Courant of Dec. 7.*

The *North British Agriculturist* has the following additional remarks:—In about half an hour after the

whole cutters were driven in and the apparatus placed, the tree was raised about one foot out of the ground. It not being intended to remove the tree, the box or frame was afterwards shown in which it was intended to place the tree for removal, earth requiring to be thrown in to steady the tree. This box has much the appearance of a large railway truck, and is so formed that the sides and bottom can be placed or removed in separate planks. The whole cutting and lifting apparatus is placed within this frame or box, for the removal of the tree to the place previously prepared for its reception, and the tree deposited by the same process by which it was raised. The removal of trees of such a size as the one experimented upon may possibly be seldom attempted, but we saw difficulties in the moving of the great mass of earth and roots, irrespective of the difficulty of the removal of the tree itself, and even with a block and tackle there would be difficulties to overcome which we think the patentee should have shown could be easily surmounted. The whole mass was estimated to weigh upwards of 12 tons, and this weight on two carts is altogether disproportionate to the facility of attaching horses, or even a common block and tackle, to remove the mass to any distance. The next experiment was with a Holly bush, about 12 feet high. Four cutters, about 2 feet in depth and 2 feet 6 inches in breadth, were driven in at equal distances from the root of the tree. Extension rods being placed to press them outwards, and chains being hooked into the outward edges of those cutters, lever powers were applied, placed over two tresses, and the tree with the solid ball of earth speedily elevated; the tree being placed on a barrow, was removed, and afterwards returned to its place. This experiment was eminently successful. The next experiment was with four garden spades, pushed down around a Gooseberry bush, and by placing two extension rods from the top of the handle of the opposite spade, the bush was easily and effectively raised, with the whole mass of earth around its roots. Smaller spades, rounded to suit the size of flower-pots, were afterwards experimented with, and here also the value of the invention was at once apparent. The facility with which a place could be cut out for the new seat of the plant was also shown; the same apparatus which raises up the shrub or flower with the ball of earth, raising up the exact size of the plot in which the plant is destined to be placed.

As an illustration of the working of the new Patent-laws, we may mention that Mr. M'Glashen took out his patent before the alteration of the Patent-law, at an expense of about 500*l*. Under the present law a patent could be obtained for about one-eighth of the sum.

RHYNCHOSPERMUM JASMINOIDES.

This fine plant has flowers almost as sweet as those of a Jasmine. It is easily cultivated, and is a very free bloomer. I may state, however, that there is, or was, a variety of it in cultivation, which I grew for several years without being able to obtain from a good sized specimen so much as even a solitary blossom.

Short-jointed lateral shoots in a half ripe state should be selected for cuttings. Insert them in light sandy soil, cover with a glass, and place them in a gentle bottom-heat, where with proper care they will emit roots in the course of a few weeks. When moderately rooted pot singly in 4-inch pots, and place them in a moist warm temperature till well established. It will be advisable to keep the plants in a close pit or warm house during the growing season (for I am supposing that the cuttings were put in early in spring), and to shift into larger pots as may be necessary, but sufficient air must be afforded to prevent weakly growth, and the tops of the leading shoots should be pinched out, to keep the plants dwarf and bushy. Towards the middle of September they may be removed to the front of a greenhouse, kept rather close at first, and gradually exposed to a free circulation of air, to ripen and harden the wood. During winter the soil must not be over-watered; it should only receive sufficient to prevent its becoming very dry.

It is desirable to grow plants which require the support of a trellis rapidly, so as to get them into the sized pot in which they are to be flowered, and thus to be able to train them to their trellises before the shoots get entangled; and by making the most of the second season, good-sized specimens of this may be obtained by autumn. As early in spring as convenient, place the plants in a moist temperature of from 50° to 60°; sprinkle with the syringe on the mornings of bright days, and give a liberal supply of water to the roots. Shift into pots one or two sizes larger as soon as the roots indicate a want of more room, and encourage rapid growth by maintaining a moist atmosphere. Well-rooted plants in 8 or 9-inch pots, in June, may be shifted into 12-inch pots, which will be sufficiently large for nice sized specimens, and the trellises applied. After giving a large shift water cautiously, as it is easy to over-water under such conditions, but use the syringe morning and evening, and maintain a rather close humid atmosphere to induce the roots to reach the side of the pot. Train the shoots neatly upon the trellis, taking care to cover the bottom part first, and keep them neatly tied in as they advance in growth. To secure a full display of the deliciously fragrant blossoms, attention must be paid to thoroughly ripening the wood in autumn, and the soil must be kept rather dry during the winter; indeed this should be the case as soon as the desired amount of growth is secured. The specimens may be placed in a greenhouse for the winter, and will flower in June if allowed to remain there; or they may be removed to a gentle heat early in spring, where their blossoms will soon appear, and will be produced abundantly for some six weeks or longer. This plant is one of the best we possess for forcing; it is easily had in flower from the beginning of March to the middle of July; but to effect this, it is necessary to grow a portion of the plants rather early in summer, so as to have the wood matured, and everything at rest by the middle or end of September. After flowering, the specimen plants should be slightly pruned, cutting out any weakly shoots, and shortening over-luxuriant ones, and then they should be placed in a close pit, or the warmest part of the greenhouse, to induce free growth. Shifting large plants must be regulated according to convenience; with the assistance of clear, weak manure water given alternately with clean water during the growing season, there will be no necessity for shifting every year. Observe, however, that when a plant is to be shifted, it should be done early in the season, so that the pots may be moderately filled with roots previous to winter; and I may also add, that there is no occasion to retain plants in a close moist atmosphere longer than to secure a fair supply of young wood to furnish blossoms; on the contrary, this practice will wear out the specimens sooner than if they were removed to a cool, airy situation as soon as sufficient young wood is obtained. Persons whose only accommodation for plant growing is a greenhouse will be able, with careful management, to produce nice specimens of Rhynchospermum; but it will require more time to do so than if they could be treated as recommended above.

For soil, use light sandy turfy loam, rich turfy peat, and leaf-soil in about equal proportions, adding a liberal mixture of sharp silver sand and broken bones, or lumps of charcoal, to ensure perfect drainage; and in potting place plenty of potsherds in the bottoms of the pots, as perfect drainage is perhaps the most important point connected with the successful cultivation of this plant. *Alpha.*

SEEDS FOR THE KITCHEN GARDEN.

As the time approaches for laying in a fresh supply of seeds for the ensuing year, I think it may not be amiss to direct attention to some that were distributed last spring by the Horticultural Society, which proved to be excellent of their kind, and deserving of being generally cultivated. They are as follows, viz:—

Pomeranian Cabbage.—A very distinct variety, turns in well, attains a moderate size, and is remarkable for its sharp conical form.

Portugal Cabbage, or as it is sometimes called *Couve Tronchuda*, first brought into notice about 30 years ago. The ribs of the outer and larger leaves, when divested of the thin green parts, and well boiled, make a good dish, somewhat resembling Seakale. The heart of the plant, however, is the best for use, being peculiarly delicate, tender, and well flavoured.

Early White Celery, Violet of Tours, ditto. — Both kinds very good and solid.

Rouen Large Leek.—Seems distinct; grows to a good size, and has no disposition to run to seed like the common Leek.

Malta and Neapolitan Lettuce.—Both very superior, and large.

Nocera Onion.—Valuable on account of its bulbing early and becoming fit for use before any other kinds. It is also very useful for pickling.

Auvergne Pea.—A good sort; prolific bearer, and pretty well known.

Green Savoy, Ulm Savoy.—Both excellent, but more particularly the Ulm Savoy, which appears to be a remarkably dwarf variety; very round and beautifully netted. It is one of the earliest that I have grown.

Yellow Finland Turnip.—Not unlike the Maltese; bulbs early, and remains sound and good for a long time. *W. B. B.*

Home Correspondence.

Cryptomeria japonica.—The seeds of this plant are now ripe, and I would therefore remind all who possess plants distributed by the Horticultural Society seven years ago, to save the seeds and sow them. My own plants, from 8 to 10 feet high, produce seed in abundance, and I have raised seedlings from them. It is certainly as hardy as the Larch, and there is no reason whatever why it should not be as common, if those who possess it will save the seed. Whether its wood is as useful as Larch is yet to be proved; it grows quite as fast, and there is some reason to believe its wood is tougher, and would form better Hop-poles. It is a very singular tree, differing from the Pine tribe in its mode of rooting, and much more allied in habit to Thuja and Biota, as it throws out roots from the main stem freely. It therefore stands wind better than the Larch. *J. R.*

Keeping Beet-root through the Winter. — I have practised the following plan for several years with success. During the first or second week in November, take up; screw off the tops, and lay the roots thinly in an open shed until they have become quite dry; when the soil which adheres to them rubs off like dust, let it be removed, and the roots stored away in the fruit room, thinly on the shelves, or on the floor as may be most convenient; but without covering of any sort. In this way we have Beet-root tender and good until late in the spring. I may mention that whatever encourages the emission of roots after they have been taken up is bad, inasmuch as a proportionate quantity of sugar is extracted, which of course renders it less palatable; besides, I have always found that in whatever material I have kept my Beet, it always derived an unpleasant flavour from it, let it be earth, sand, or whatever it might be. *Wm. Burnett, Monkgate, York.*

Pine-growing.—Having a very good fruiting Pine-house, heated with pipes for the top, and a steam chamber for the bottom-heat, in which my Pines grow like Willows, I am desirous of erecting some pits, each about 40 feet in length, and three rows of them one behind the other, with a space of about 10 feet between, to be heated by one boiler for succession plants, or perhaps one of them nearest the boiler would have to be used as a fruiting pit. Many of your readers being first-rate Pine-growers, and always ready to give information, I would be glad to be informed of the dimensions of the most useful and cheap constructions for this purpose. Three-inch hot-water pipes would be preferred for top-heat; and if they are found to answer for bottom-heat they could be put down for that purpose. *Cayenne.*

Labourers' Cottage.—I am about to build a cottage for a man who works in my garden. If it is not out of your province, might I ask one of your correspondents for a few hints (I fear to ask for a plan and specification would be too much) as to what would best suit the comfort of the occupier. I intend giving a very good site, of about 20 poles, and do not wish the rent to be above 4*l*. 4*s*. a year, free from rates. I do not wish to spend above 70*l*. or 80*l*., but I do not want a few pounds to stand in the way of the labourer's comfort, and the cottage should be neat. We have good building stone three miles from hence, and a canal near at hand, which would bring slate. The cottage would face the west, and might have windows to the south or east also. *H. G. A.* [We cannot spare room for plans and specifications: but will readily find place for hints.]

Education of Gardeners.—If the term education is limited merely to book learning, then, in some measure, I agree with the "Printer's Devil" (whose company, by the by, I should not like to court, if his character is at all in accordance with his name), and "Cockmalion." But allow it to be understood, as it ought to be, in a more extended sense, and I disagree with them *in toto*. The fact of gardeners, in some instances, not being able to write grammatically, and so as to be fit for the press, does not, in any way, prove that they are in the rear of "other professional classes of persons," even in book-learning. For, as the "Printer's Devil's" coadjutor "Cockmalion" has admitted that the letters of scholars in repute and those of political and scientific correspondents must be corrected of their bad grammar and orthography when sent to press; and says, "How often are they not sent without points or capitals to designate the divisions of the sentences; and if any, generally out of place?" If, then, such distinguished persons who have pretence to book-learning, do write bad grammar, why bring such as a proof of gardeners' want of education? Gardeners' education does not consist entirely in mere book-learning. Place a knife in the hand of even the "Printer's Devil," and desire him to prune and cultivate the Vine, Peach, Apricot, Plum, Cherry, Pear, or any other choice fruit tree, so as to please connoisseurs, such as gardeners generally have to serve; if he should fail to be successful, I am sure gardeners would not conclude from this that printers' devils were not as well educated as other professional classes of persons. For my part I believe it to be quite as reasonable to look for proficiency in botany, or for that of any other branch of the gardeners' profession, in printers' devils, as it is to expect that gardeners generally ought to write grammatically, and so as to be fit for the press. Allow the "Printer's Devil" to take his turn in the glass department for a month or so, as the case may be, at such places as Enville-hall, the seat of the Earl of Stamford, in Staffordshire, or the Botanical Gardens, Birmingham (I do not name these places as exceptions), and under such truly practical and scientific men as Mr. Beddard, late head gardener to the one, or Mr. Cameron, late curator of the other; it would then be obvious to him that gardeners were educated, not only very carefully, but I think he would at once acknowledge their educational discipline to be carried out with much more assiduity and attention than that of any other professional class of persons. *C. Lucas, Brentwood.*

Red Hamburgh Grapes. — I have just read your reporter's observations (p. 791), on the Grapes I sent to the Horticultural Society's meeting on the 7th inst., and I beg you will afford me space to tell him that he has wrongly designated both me and the Grapes also. The latter, most certainly, were not black Hamburgh, but the brown or red variety of that Grape. Of the distinctness of the black and brown Hamburgh, there is the best possible proof in the house wherein the above-mentioned fruit were grown. The bunches exhibited were cut from a Vine in the finest possible health, and all along were most fully exposed to light and air, and yet were only what is termed "badly coloured." On the other hand, black Hamburghs, growing on the back of the house, completely in the shade, ripened both black in colour and well. I assure your reporter that there is as much distinction between the two varieties of Grape in question, as there is difference in the complexions of one of poor angry Mc Elheran's (a recent writer in the "Times") "bullet-headed Saxon, with a mop of flax on his head," and a dark-haired son of Italy or

Spain. *John Taylor, jun., but not Esquire, Oakley, Bedford.*

Mushrooms.—Having a shed which I can keep dark and close, and at any temperature necessary to excite vegetation, I thought I might grow Mushrooms in it with success. My shelves are 15 inches deep, which I filled with fresh horse-droppings. When the heat had declined to a milk-warm state I placed spawn in lumps, of the size of a hen's egg, a little under the surface of the droppings, and 9 inches apart. Three days after spawning I cased the bed with 2 inches of loam, and beat it firm with the back of a spade; on that I put a covering of hay 3 inches thick. The temperature of the shed has been as near 55° as possible, and the beds in a moist condition, but without watering. It is now seven weeks since I spawned the beds, and not a single Mushroom has made its appearance. Can you account for the failure? *Constant Reader.* [The spawn is in fault; not the management.]

Glass Houses for Fruit.—I am about to put up some glass of some sort for fruit; but whether it shall be an old-fashioned hothouse, or an "orchard house" as described and recommended by Mr. Rivers; or whether to ignore houses altogether, and "go into" Ewing's patent glass walls; or to cover my brick wall with glass and iron, are questions which, in consequence of my horticultural education having been somewhat neglected, I am utterly unable to decide. Under these circumstances, I would fain seek the advice of my betters, and if any of them would have the kindness to give it me, they will have the very best thanks of an unfortunate *Ignoramus.*

Vine Culture and Wine Making in South Australia.—A friend who is thus engaged gives me some interesting particulars of his practice in that fine climate. Alluding to the endless variations caused by climate on the Grape, he says that those of Andalusia have such an excess of saccharine matter that the manner in which they push the fermentation would change the more delicate Grapes of France to vinegar. Their climate (South Australia) resembles Spain in its general temperature, and its greater aridity tends to produce even a richer juice than that of Spain. Their most productive Grapes are of poor quality; and even a good Grape grower on a rich alluvium will yield a good crop of superior wine to that grown on a dry stony hill side. The general practice there is to consider quantity rather than quality, which he thinks wrong, as their poor wine will be unsaleable, besides the loss from the high price of casks there. The Grape in cultivation is the Verdulio (Madeira), and the wine decidedly a Madeira, requiring the same treatment to ripen it—a high temperature and agitation. [I lately tasted some of the wine, the most delicious I ever drank.] It is high flavoured, and sweeter than common Madeira. He is erecting a place for storing it, to ripen quicker, expecting to have it as ripe in two years as in four by the ordinary process. He carried out a great variety of the best plants collected in France, Spain, and Madeira, but intends to graft most of them with the Verdulio. He makes also a red wine, of a mixture of claret and Rousillon Grapes, which at one year old sells at 5*s.* per gallon. Their highest fall of rain since 1839 was 30.63 inches in 1851; the lowest 17.05 inches in 1841. The highest previous to 1851, was in 1846, 26.84 inches. *J. Stewart Hepburn, Colquhalzie, Auchterarder, Perthshire.*

Storing Roots.—It may be wrong in me to call in question any remarks of such a thorough-going "practical" as Mr. Cuthill; but I certainly must say that some of his conclusions are at variance with what I consider practical knowledge. Take the Potato for instance. Mr. C. says, "towards the new year it boils tough and close, unless steeped in water 10 or 12 hours before cooking." I imagine he must allude to Ash-leaves dug up in July, as, according to my experience, the more common varieties grown for winter use are at their very best at the period to which he alludes without being steeped 10 minutes. Mr. C. states that he has boiled the Potatoes left in the ground for several springs, and found them far superior to those taken up in the autumn. If he really means to say that the Potatoes left in the ground till spring are superior to those raised in autumn, I differ from him in point of taste; for I, too, have endeavoured to eat Potatoes dug in the spring, and I have found them particularly nauseous, entirely deprived of that mellow mealiness, and that rich buttery flavour so necessary to a good Potato. I have never known autumn lifted Potatoes to boil tough and close (if preserved in the manner recommended by me in the Royal Agricultural Society's Journal), before May or June, instead of "towards the new year;" and some late varieties, as the Magpie and red Kidney, are better for being kept out of ground till June. My late employer preferred the latter variety even through the month of August; and as regards Parsnips, it is well known to all who cultivate them, that they improve in the ground till towards the new year; but if left out till March, they become woody and absolutely unwholesome. Again, as respects gentlemen finding vegetables "so good in London that they complain when they get home," I have only to say, God help those who are bound to pay gardeners and live upon worse than London vegetables. I have had a trial of eating London vegetables, and I have been favoured several times a year, for many years, with some such compliments as, "Oh dear, I am so glad to get home to enjoy your beautiful sweet vegetables"—or fruits, as the case may be. I quite agree with Mr. Cuthill, that the private gardener is not always sufficiently supplied with manure; but still I think there is much of it misapplied. As, for instance, Parsnips and Carrots are far nicer when only on well trenched ground, than when grown in rank manure. Professor Way has shown that Turnips and other roots are richer in good feeding properties, when not driven too hard with stimulants. Even Celery itself may be rendered rank and unpalatable by over-driving; then, again, in those times of disease, Potatoes must be sparingly manured, if manured at all. Fruit trees, too, are oftener spoiled by an excess of manure than by a want of it. After all that has been written about roots, I think that it is well known to most of us that if it were possible to keep them from shrivelling, by too much drought, to keep them from bursting by too much wet, and to find a situation cold enough to prevent them making a second growth, it would be all that is required. As regards autumn-planted Potatoes, soils have certainly much to do with that question. I have tried the experiment, with 100 people more that I could mention, for many years; and in our neighbourhood one and all have given their verdict against the practice. I have never missed a general crop but once since I cultivated Potatoes, and that was in 1851, when everybody else had a better crop than usual. I planted 3½ acres in October, 1850; in September, 1851, this piece produced 35 sacks of 2½ cwt. each, 30 sacks were diseased, or uncommonly small, and five were but a middling sample. I planted one acre (being the same sort of soil and situation, a light stony soil on a hill), in March, 1851, and obtained 33 sacks, upwards of 30 of which were free from disease. I observed the disease first on Potatoes that had planted themselves, for at least 10 years, and I have never once seen autumn-planted freer from disease than those properly planted early in spring. There is scarcely a cottager in the county that has not his favourite patch of Potatoes, those are generally the "Ashleaf Kidneys;" the tubers for planting are chosen from the general crop as they are dug, and carefully dried and laid by, one by one, very often under the bed, but commonly in the cock-loft or attic, and allowed all the air consistent with such situations, till some fine day, the latter part of February or the beginning of March, when they have formed fine stout eyes, or rather shoots, half to three-quarters of an inch in length; they are then taken out in a wide basket or sieve, and put in the drills with all care. A little old thatch or dry leaves are strewed over them, and they are covered as lightly as possible, and I have never known this practice to fail. I cannot help expressing a hope that the time is far distant when we shall be obliged to return to the old practice of leaving our Potatoes in the ground all winter, and dig them as we want to use them. I do not know whether or not Mr. Cuthill is aware of the fact, that Potatoes left in the ground all winter are exceedingly apt to crack or burst, when they form a good harbour for slugs, wire-worms, &c.; besides, if Potatoes are thoroughly ripened (a rare occurrence with late varieties) they will retain their moisture in any dark cold place just as well as in the ground; and in my opinion they will be more in their proper place when required for use. *H. C.*

Pear Disease.—In the report on the Horticultural Society's Garden, at p. 775, it is stated that Pears are keeping badly, and a fungus is spoken of as being very detrimental to them. Such is the case here, and also with a friend of my mine in this locality. Is it from their being imperfectly ripened? or from the dampness of the weather since they have been stored? In addition to their being infested with the fungus they ripen prematurely; my Easter Beurré and Beurré Rance being now ready for table, whilst the Glout Morceau and Winter Nelis are past using. *H. H., Norwich.* [We must refer you to the forthcoming part of the Journal of the Horticultural Society.]

Cucumbers.—For winter cultivation Victory of Bath and Lord Kenyon's Favourite cannot be too highly spoken of. The former is a long handsome fruit, and a tolerably good bearer; the latter is short but very prolific, and resembles the Sion House. Neither of these sorts are so subject to mildew or to rot at the point during winter as many varieties I have tried. I have at present on a trellis in my Cucumber-house good examples of both kinds that have been in bearing for the last two months, and they will continue to do so during the winter and spring. I have filled my tanks with liquid manure-water for some time past, and have found great benefit from the liquid vapour, more especially in the cultivation of French Beans. *E. Bennett, Perdiswell.*

The Deodar.—I have a bit of wet clay, not easy to drain, owing to its level, and which has been under water this autumn. But a young Deodar thrives in it, having a perfect colour, and running away with a most vigorous leader. Its seeming willingness to grow in unkind soils and damp places adds greatly to its prospective value in England. We admire the plants, and there are children now born who will behold the tree. *A. H.*

Frames for Fruit Trees.—Allow me to throw out a hint, which, I think, may prove useful to those who wish to grow such fruits as Peaches, Nectarines, Apricots, and Cherries; but whose pecuniary means are not sufficient to afford expensive erections. All are aware of the great cost attending the building of walls, and I may say their usefulness in such seasons as we have had of late. Mr. Rivers's orchard-houses are likewise valuable contrivances, as are also Mr. Ewing's glass walls, but none of these are within the reach of everybody. The kind of fruit protection I would suggest is that of a frame, whose back, front, and ends I have built of either brick or wood—the back should be 3 feet high, the front 2 feet, and it should be 5 feet wide. The length would, of course, be according to the wishes of the proprietor. I would have the trees planted down the centre of the frame, and trained on a flat wooden trellis, 1 foot below the glass. The border should be in the inside; and as the lights would be moveable, there would be every convenience for giving air, watering, training, &c. With the assistance of a carpenter I have made an estimate of the cost, and find that a frame of the above dimensions, 20 feet long (sufficient for three trees), would not cost more than 6*l.* when completed. I do not say that there is anything new in a contrivance of this kind, but I think it would be a cheap and easy means of obtaining some of our finer fruits, when they could not otherwise be had. *Wm. Shipley, Maids Moreton, near Buckingham.* [This is not materially different from the plan proposed by Mr. Rivers and Mr. Bellenden Ker, and occasionally noticed by us.]

Paint Dryers.—Permit me to inform "Clericus" that he may dry coal tar by the usual dryers for oil paint, viz., acetate of lead, 6*d.* per lb., and turpentine; the quantities for oil paint are at discretion, for tar, perhaps, half-a-pound of lead or upwards to two gallons. I employed this last summer with success. Use as much lime in powder with the tar as possible, well boiled; Stockholm tar if laid on after boiling to a certain consistency (namely, when some of it dropped from a piece of tow appears clotty and stringy), will dry in two hours, but if this "tide" be not "taken at the full," it will never dry. I am trying blue glass for a frame, do you approve? 3½*d.* per foot. *W. P. Hoblyn, Fir Hill, St. Columb.* [It will answer the purpose of a shade, that's all.]

Gynerium argenteum.—Perhaps it may be interesting to know that an experience of several years has proved to me the perfect hardiness of this Grass in this climate. Through the kindness of Mr. Moore, of Glasnevin, who raised the plant about 10 years ago, I obtained in 1846 two young specimens, which I planted in a sunny aspect, in a rich compost made up of leaf and bog-mould, old manure, loam and sand, and close to a stream; they have flourished most luxuriantly ever since, and are this year in the greatest beauty, one displaying 53, the other 46 flower stems; though, I think, owing to the extreme wetness of the season, the flowers have not as silvery a hue as last year. Few of the new importations of late years are so ornamental as this plant, and the only wonder is that Mr. Moore's success has not sooner met with the praise which he so deservedly merits. *A. B. C., St. Wolstans, Celbridge.*

Forest Trees.—Your correspondent "L. C. K." may improve his trees greatly by giving the ground a top-dressing of rough peat and road scrapings; the poverty of the soil is often the cause of the slow growth of timber trees. A short time ago, part of a wood was inclosed for a certain purpose; the wood was about the same age as your correspondent's; the Larch was diseased, and the Scotch Firs thinned out; the trees remaining were chiefly Oak, Elm, Ash, Beech, and Holly; the ground was cleared of suckers and young seedling plants, and the stuff was carted upon the ground, and afterwards dug in and mixed with the soil. No doubt many roots were cut, but those that remained have met with a feast; for the healthy colour of the leaves, and the swelling of the stems, show that they are in a thriving condition, compared with their companions, who had nothing done for them since the day they were planted, except the cutting down of the dead and dying. *P. M., W. P.*

Lobelia fulgens multiflora.—Mr. Williams (see p. 792) speaks of this Lobelia as being but little known. This to me appears somewhat singular, when for some years past I have purchased it of Messrs. Lane and Son, Great Berkhamstead; and indeed, on referring to their last year's catalogue I found it named amongst their list of bedding plants. And as a bedding plant I certainly consider it worthy of extensive cultivation. *C. Flower, Royal Terrace, Northampton, Dec.* 15.

Wood Engraving (see pp. 408 and 437).—I find excellent information as to this in the "Illustrated London Drawing Book," lately published, price only 2*s.* *A. B. C.*

Provincialisms: Isle of Purbeck.—Mock=root of tree; nitch=bundle (of straw or hay); Strile Grass =Couch Grass; hipe=heap; rive = smell strong. *A. B. C.*

Societies.

Linnean, *Dec.* 7.—R. Brown, Esq., in the Chair. A collection of specimens of plants made in New Zealand were presented by F. P. Pascoe, Esq. Specimens of plants collected by Mr. C. Moore, from the northern districts about Sydney, were presented by Mr. Thomas Moore. A paper was read on the flora of Australia, as displayed in its fundamental features, and by comparison with other floras, by Dr. Ferdinand Müller. The paper was translated and communicated by R. Kippist, Esq. The author commenced by making some general remarks on the vegetation of Australia, pointing out the approach of the tropical portion to the plants of India, and of the extra-tropical portion to those of South Africa. The author divided the plants of Australia into a western, southern, eastern, and Tasmanian Flora. In the western districts the Leguminosæ and Proteaceæ predominate, forming a fourth of the entire vegetation. Ferns and

Grasses are rare. The southern flora abounds with Compositæ. The eastern contains Proteaceæ and Epacridaceæ, with fewer Compositæ than the south, and a larger number of Ferns and Grasses than the western. In the Tasmanian flora an insular vegetation is apparent. Ferns are abundant; Goodeniaceæ are scarce; Loranthaceæ and Cæsalpineæ are entirely wanting. The proportion of Dicotyledonous to Monocotyledonous plants in Australia is as four to one; this varies, however, according to latitude, the mean being between the vegetation of New South Wales and Van Diemen's Land. In South Australia the Compositæ form an eighth of the whole vegetation. Compositæ and Leguminosæ form together a third of the whole of the Dicotyledonous plants. A large number of plants yet remain to be published from South Australia, not more than 1300 out of 2000 being yet described. Nearly 100 plants are growing wild which have been introduced from Europe and the Cape. The author concluded with some picturesque accounts of the vegetation as seen from the muddy, sandy, and rocky shores of the south of Australia. The introduction of European culture is changing the character of its vegetation. Naturally unfruitful, it is retiring before the plants affording food to man, and the cattle he rears. Not only has the European vegetation changed the features of the landscape, but the culture of the soil is changing the nature of the climate, and rain now falls where none did before.

Entomological, *Dec.* 6.—J. O. Westwood, Esq., F.L.S., President, in the chair. Various donations to the library from the Royal Society, the Society of Arts, &c., were announced, as well as an extensive series of British Lepidoptera, presented by Mr. Douglas, and a number of rare insects from Perthshire, presented by Mr. Weaver: among the latter were specimens of Ctenophora atrata reared from the larva, which is found in the solid stumps of trees, in which it forms cylindricical burrows, thus differing from the ordinary habit of the genus, the larvæ of which generally live in the decayed vegetable detritus of old trees, the female of C. atrata depositing her eggs in crevices in the bark. A letter from Mr. Crook was read, offering a number of rare moths for exchange to the members. Mr. S. Stevens exhibited a number of beautiful beetles and butterflies recently collected in Rio Grande by Mr. Plant; Mr. Waterhouse remarked that many of Mr. Plant's species, although identical with those of Rio de Janeiro, yet generally exhibited certain minute differences indicating a diversity in their geographical range; likewise Monohammus Sutor, taken on the banks of the Regent's canal, probably reared from imported timber, and Pogonocherus fasciculatus reared in the wood of a hoop, which had formed part of a cask; likewise (on behalf of Mr. Buxton), the rare Notodonta Tritophus, from Ayrshire, Pontia Daplidice, from Holme Fen, Hunts, and a remarkable variety of Vanessa Urticæ. Mr. Edward Shephard presented specimens of Stene ferruginea and a small Apate, which had been found in vast numbers breeding in ship-biscuit, which had been the voyage to North America and back. Mr. Westwood exhibited several remarkable new Coleoptera, from Ceylon and Hong-Kong, collected by Major Champion, chiefly belonging to the families Cicindelidæ and Cebrionidæ; Mr. Grant a specimen of the Stag-beetle, having one of the hind-legs very short but perfectly formed; and a fine series of Peronea rufana, from Wimbledon-common; Mr. Henry Cooke a richly-coloured variety of Oncocera ahenella. A paper by Mr. Douglas was read, upon the Transformations of the Genera Lithocolletes and Gracillaria, accompanied by beautifully coloured drawings. The larvæ of the former genus reside between the two surfaces of leaves, where they undergo their transformations, possessing only 14 feet, hence the species figured by Mr. Curtis, as the type, must be excluded from the genus, its larva possessing 16 feet, and leaving the leaf previous to becoming a chrysalis. The larvæ of the Gracillariæ roll up the tips of the leaves of various trees into a small knob, within which they feed; they have only three pairs of ventral legs. A paper by S. S. Saunders, Esq., H.M. Consul in Albania, was commenced, containing a series of observations upon the economy of several species of Strepsiptera, the writer having fortunately been able to clear up many of the disputed points in the natural history and development of these anomalous parasites.

Caledonian Horticultural, *Nov.* 21.—Several new members and office-bearers for 1853 were elected on this occasion. As regards subjects of exhibition, the 1st prize for the best four sorts of Pears, fit for immediate use, was awarded to Mr. Morrison, gr. to R. Ainslie, Esq., for Marie Louise, Crassane, Gansel's Bergamot, and Bourré Diel; 2d, Mr. Murray, gr., Salton Hall, for Marie Louise, Crassane, Winter Nelis, and Gansel's Bergamot. Table Apples: 1st, Mr. Murray, for Golden Pippin, Empress Josephine, Marjil, Ribstone Pippin, Ross's Nonpareil, and Old Nonpareil; 2d, Mr. Addison, Gosford, for Golden Pippin, Ribstone Pippin, King of Pippins, Crofton Pippin, Borsdorffer, and Scarlet Nonpareil; 3d, Mr. Crocket, gr. to Col. Ferguson, for Blenheim Orange, Spitzenbergen Flushing, Hubbard's Pearmain, Old Nonpareil, Ribston Pippin, and Cornish Aromatic. Best bunch of retarded Grapes: 1st, Mr. Ivers, gr. to the Earl of Haddington, for Muscat of Alexandria; 2d, Mr. Crocket, for the same variety. Chrysanthemums, cut blooms: 1st, Mr. Laing, gr. to the Earl of Rosslyn, for Beauty, Wardon, Queen of England, Clustered Yellow, Lysius, Duke, Sydenham, Duchesse d'Abrantes, Vesta, Pio Nono, Nonpareil, and Formosum; 2d, Mr. Young, gr. to Mrs. H. N. Ferguson, for Queen of England, Madame Poggi, Fleur de Marie, Triumphans, Pilot, Madame Chauvière, Beauty, Lucidum, Dupont de l'Eure, Princess Maria, Formosum, and Bijou. For the finest flowered Chinese Chrysanthemum in pot, there were three competitors. The prize was awarded to Mr. Addison, Gosford, for a fine plant of Annie. Brussels Sprouts: 1st, Mr. Thomson, gr. to R. S. Wilson, Esq.; 2d, Mr. Sanderson; and 3d, Mr. Pousty. Leeks: 1st, Mr. Gemmell, for Musselburgh Flag; Celery: 1st, Mr. Goodall, Newbattle, for Cole's Red, and Bread Solid White; 2d, Mr. Ferrier, for Seymour's White and Manchester Red; 3d, Mr. Thomson, for Cole's Dwarf Red and Seymour's Superb White. Onions: 1st, Mr. Nisbet, for James's Keeping, Strasburg, and Blood Red; 2d, Mr. Lees, for Portugal, James's Keeping, and Blood Red. Several productions were received for exhibition only, and not for competition. From the garden of S. Hay, Esq., were good Black Hamburgh Grapes. Messrs. Moffat exhibited a Seedling Apple, which was stated to be a great bearer, and well suited for exposed situations. It was considered worthy of high commendation, and was remitted to a committee. Excellent collections of Apples, Pears, and Filberts were exhibited by Mr. Calder, Seacliffe. Mr. Maule, Aberlady, sent specimens of a promising seedling Apple. Mr. Ramsay, Poltalloch, exhibited well-retarded Grapes, with Walcheren Cauliflower, and other vegetables. Mr. Bogie, Cupar-Fife, sent a fine specimen of Van Mons. Leon le Clerc Pear; Mr. H. Maclean, Auchterarder, a selection of Dessert Pears; and Mr. Pender, Moredun, Cauliflower, Broccoli, and Mushrooms. Mr. Young, Archerfield, produced a box of Chrysanthemum blooms. A Certificate of Merit was granted to Mr. Addison for two remarkably well-managed dwarf Chrysanthemums, in fine bloom. Mr. R. M. Stark exhibited several wooden baskets, such as are in use in the South of England. Mr. S. M'Glashen exhibited the working of his patent apparatus for transplanting trees, shrubs, and herbaceous plants. The results of the trial were highly satisfactory; and a committee was appointed to report on the merits of the invention.

Erratum.—In the Report of the Horticultural Society's Meeting, p. 791, col. *a*, line 31 from top—*for* "Mr. Paver sent a capital small-crowned Queen Pine-apple, weighing 4 lbs. 5 oz."—*read* 5 lbs. 4 ounces.

Notices of Books, &c.

My Home in Tasmania. By Mrs. C. Meredith. 2 vols. 8vo. Murray.

A charming Christmas book, beautifully illustrated with woodcuts, and written in that pleasant gossiping style which none but an English gentlewoman knows how to manage well. We recommend it to politicians as the best of all answers to the incessant cry that Van Diemen's Land is utterly ruined by the curse of convict labour. Mrs. Meredith dates these volumes from her residence in the colony, July 18, 1850; she had passed nine years of her life there, without being able to discover the terrors with which gentlemen of lively imaginations have invested "the really peaceful lives" of the colonists; in her "cheerful country home" the doors stand open all day, and at night there is neither shutter, bolt, nor bar to the windows; nevertheless, she has met with no "lawless intrusion," and is evidently puzzled at the mystification which her newspaper tells her is practised upon her countrymen at home. We should be sorry to leave our houses near London as unprotected amidst the civilization and security of Great Britain as Mrs. Meredith's is in the midst of "savage" natives and "ferocious" convicts.

From among the many agreeable bits of information concerning our own objects, with which the work abounds, we select the following as more especially interesting:—

"From every point I visited, Mount Wellington (or Table Mountain) forms the crowning glory of the landscape. Rising immediately behind the town to the height of 4200 feet, with its summit of basaltic columns covered with snow more than half the year, its aspect is one of ever-varying, but never-decreasing grandeur. Whether it was wreathed in fleecy vapours, dark with rolling clouds, or stood out clear and sunlit against the blue morning sky, I was never weary of gazing on this magnificent object. A stream flowing from the mountain through a picturesque ravine and valley supplies the town with water, turning a number of mills of various kinds in its course. To a botanist Mount Wellington must be a treasury of gems, many rare and beautiful plants inhabiting its wild and almost inaccessible glens and ravines. The ascent of the mountain is long, and was formerly very fatiguing; but the formation, for a considerable distance, of a road passable for horses has greatly reduced the difficulty. Several unfortunate persons, who at various times have imprudently attempted the ascent without a guide, have never returned, nor has any vestige of them ever been discovered; most probably they have fallen into some of the deep chasms and fissures, and, if not killed instantly, have lingered awhile, and died of starvation. The view from the summit is described as surpassingly grand and beautiful, as indeed it must be, from its great altitude and the varied and picturesque scenery around."

"In the Tasmanian gardens are Mulberries, Cherries, Currants, Raspberries, Strawberries, Gooseberries, Apples, Pears, Quinces, Medlars, Plums of all kinds, and Peaches in abundance, growing well and luxuriantly. Our forest trees, too, thrive admirably here, and Walnuts, Filberts, and Hazle-nuts are becoming much more common. Vines also succeed in sheltered aspects, but not better than in many parts of England; the summer-frosts to which this climate is liable frequently cut off plants which in Britain can be grown with certainty. Even Potatoes are, in some districts, considered a very precarious crop from this circumstance, and, except in situations near the sea-shore, are often nipped by the frosts at night, although the weather in the day-time is as warm as in an English June. The Government Gardens here, although not comparable with those at Sydney, are finely situated on the sloping shore of the Derwent, and charmed me by their verdant and shady aspect. They are—for I must again repeat my oft-used term of praise—they are *English*-looking gardens, not rich in glowing Oranges, scarlet Pomegranates, and golden Loquats, nor stored with the rare and gorgeous blossoms of India, but full of sweet homely faces and perfumes. Great trees of a lovely blush Rose were in full bloom at the time of my visit, looking so like the Rose-trees of olden days at home, that I could scarcely believe them the growth of the opposite side of the world."

But our space obliges us to refer the reader to the volumes themselves, which will amply repay perusal.

Wittich's Letters on the Income Tax, &c. (a pamphlet, Longmans), consist of a reprint of some important articles inserted by the author in the *Times*, and of an Appendix consisting of two letters addressed to Mr. Pitt by Dr. Wittich in 1797 and 1798, together with a Table showing the progress of Savings' Banks and Friendly Societies, and that the amount at their credit has risen from 13¾ millions, in 1826, to more than 32¾ millions sterling in 1851.

Magic and Witchcraft (Chapman and Hall's "Reading for Travellers") is written in the same clever style as the "Old Roads and New Roads" lately noticed by us. The author seems to have a most diabolical library, out of which he has known how to extract follies and horrors enough to satisfy even a Mrs. Radcliffe. The details are extremely curious, and no doubt new to most readers.

A Word in Season. Tenth edition (Ridgway).—There is not a gardener or farmer in England who ought not to have this admirable paper on his table. It is full of valuable truths, which the intelligent will appreciate, and by which the unintelligent may largely profit. The present edition contains a comparison between the practice at Lois-Weedon and that of Tull—a very interesting subject, to which we hope to recur at an early opportunity.

FLORICULTURE.

Culture of Roses in Pots.—No person possessing a taste for floral beauty or fragrance can be insensible to the attractions of the Rose; and its praise has been so often told that it need not be repeated here as an excuse for offering to those of your readers who stand in need of such information, directions how to grow and flower it in pots, so as to be able to enjoy Roses during the winter months. It is not very many years since it was considered impossible to produce good specimens of Roses in pots, and in those days gardeners who could place a few sweet Rose blooms in the Christmas bouquet, were thought more than ordinary clever; and as to keeping up a succession of handsome well-bloomed plants in the flower house during winter and spring, that was not so much as dreamed of; for the few flowers obtained were produced by leggy and all but leafless plants, which were not fit to be seen even amongst such examples of cultivation as the plant houses of 20 years ago afforded. Now, however, thanks to the all-prevailing spirit of improvement, it is not unusual to see, in well-managed collections, specimens of Roses in bloom at Christmas, such as would not disgrace the Rose bed in June, and these are obtained at as little trouble or expense as is required in the production of many other plants, which are commonly grown for winter flowering, and which possess neither the beauty nor the fragrance of the Rose. To have well cultivated well bloomed specimens at Christmas the plants must be previously managed with a view to this end, and as persons commencing this kind of culture will probably have to provide a stock of plants, I will begin with directions for propagation. The varieties best adapted for winter-flowering are Bourbons, Teas, and Hybrid Perpetuals, which are better on their own roots than budded, and they root very readily, especially when good strong cuttings can be obtained early in spring from plants growing under glass. Short-jointed stiff pieces of the firm young wood planted in sandy soil, covered with a glass, and set in a shady corner of a warm house for a week, and then placed in a bottom heat of about 75° or 80° will be rooted and ready for potting singly in small pots in little more than a month. Indeed, I find the Rose to strike so freely from cuttings under glass in early spring, that, when I obtain a variety which I wish to increase as fast as possible, I place it in a growing temperature in November, and when I have got a fair amount of growth in a proper state for cuttings, the plant is cut up; and well-ripened shoots, on which the eyes may be about an inch apart, are divided

just above each eye, by which means each eye is made to form a cutting. For this method, however, the wood must be rather firmer than is necessary where two or three eyes are allowed to a cutting, as it is necessary to cut in a slanting direction on the side opposite the leaf for about half the length of the cutting, removing the bark and a thin shaving of the wood; this exposes a large surface of inner bark from which roots are ultimately emitted, and cuttings prepared in this manner will be found to root very freely, and form equally good plants as those having two or more eyes. It must be observed, however, that the success of this, as of all methods of propagation by cuttings depends upon selecting wood in the proper stage of maturity, and how to do this can hardly be learnt except by practice. But to return to our rooted cuttings. These should be potted singly in 4-inch pots as soon as they have become sufficiently strong to bear handling (using good fresh loam and decayed leaf-soil in about equal proportions, with a liberal mixture of sharp clean sand), and placed in a close moist atmosphere till well established in their pots. They may then be removed to a light, airy, and rather cool situation, with a view to induce close stocky growth; for, let me remark, there will be nothing gained by keeping the plants, after they are well established in 4-inch pots, in a higher average temperature than 55°. It will doubtless be necessary, in order to secure a bushy habit of growth, to pinch off the top of the first shoot, and this should not be done until the plants are removed to a cool situation, nor while the eyes at the base are flat and imperfectly matured, otherwise the probability is that the top bud only will start. As soon as the plants are well rooted in their first pots shift into others one or two sizes larger, as circumstances may point out, and when moderately well rooted, after the second shift remove them to a cold frame, and gradually inure them to full exposure to sun and air, merely protecting them from heavy rains and cold drying winds. During the summer months a liberal supply of water must be given to the soil, using weak manure-water twice a week, and the plants should be syringed morning and evening during bright weather, and shifted into larger pots as may be necessary. Stop any gross over-luxuriant shoots, and have a constant eye to the formation of dwarf compact specimens; also guard against the attacks of aphides, which will probably be somewhat troublesome, but they are easily destroyed by means of tobacco-smoke, and therefore should not be allowed to disfigure the plants. During summer plants that are established after the first shift will be better removed to a warm sheltered corner out of doors, placing the pots on a bed of coal-ashes, to exclude worms, and where they will enjoy the night dews, and will not be so liable to red spider as if retained under glass. With good management many of the plants should be nice compact specimens in 7-inch or 8-inch pots at the end of the first season's growth; and the Teas and Bourbons, if removed to a close pit or frame early in autumn, will continue growing and afford a succession of blossoms throughout the winter and spring months. But, where handsome specimens are desired, it will be better to afford the plants a second season's growth; as allowing them to flower would retard their progress the following season. The mode of wintering and pruning, together with further particulars relative to culture, will be given next week. *Rosa.*

Miscellaneous.

Botanic Garden, Sydney.—We learn with much satisfaction that the Legislative Council have added 100*l* a year to the salary of the excellent superintendent of this Garden, Mr. Charles Moore, notwithstanding the utmost exertions of Mr. Moore's opponents, among whom those who know Captain Philip King, R.N., will not be surprised to find that officer.

Wheat and Ægilops.—The following passage has been pointed out by a friend, in the works of Sir Thomas Brown, vol. i., book 3, ch. 17, p. 306; Bohn's edition. 1852. "But in plants, wherein there is no distinction of sex, these transplantations are conceived more obvious than any; as that of Barley into Oats, of Wheat into Darnel; and those grains which gradually arise among corn, as Cockle, Aracus, Ægilops, and other degenerations, which come up in unexpected shapes, when they want the support and maintenance of the primary and master forms."

Nottingham Horticultural Society.—We learn that this Society has lately presented its honorary secretary, Mr. Shilton, with a tea and coffee service of the Louis Quatorze pattern, richly chased.

Calendar of Operations.

(*For the ensuing week.*)

PLANT DEPARTMENT.

The present season has never in our recollection been equalled for wetness, accompanied by a temperature much above the average, a state of things which will perplex plant-growers more than the cold of ordinary seasons. Under the above conditions, the principal object should be to guard against plants commencing growth at this unfavourable time of the year, and to keep in check damp and mildew, which the present weather is likely to bring on, more especially on delicate plants and on such as have imperfectly ripened wood. Nothing keeps the above so much in check as a dry healthy atmosphere. To assist in promoting a free circulation of air through plant-houses, some of the inferior duplicates might be removed to spare Vineries or other quarters; for anything approaching to a crowded state among delicate plants, in weather like the present, will cause a total or partial loss of their foliage. It should likewise be remembered that the more hardy plants of all kinds are kept during this present mild weather, the more safely will they resist the severity of frost when it comes; and unless an artificial dry air, accompanied with abundant ventilation, day and night, is persisted in, we fear many greenhouse plants will be in an unfavourable state to withstand the effects of severe cold, should we be visited with a hard winter. As the conservatory will become more an object of interest as winter advances, every means should be employed, not only to keep it gay, but to see that neatness and order pervade every part, and a healthy enjoyable temperature is maintained by moderate firing and a well-regulated ventilation, as a damp atmosphere is not only unfavourable for preserving plants in bloom, but objectionable in a sanatory point of view. No more water should be given to plants through mid-winter than what is absolutely requisite; and even when necessary, the waste water on the floors, paths, &c., should be immediately dried up to prevent it from creating dampness. The above directions are equally applicable to other plant-houses, where a comparatively dry atmosphere is indispensable for the present. Attention must likewise be paid to successional plants, which will almost be required weekly to replace those going out of bloom. A good stock of the various kinds of forcing shrubs and bulbs, Azaleas, Camellias, Daphnes, &c., should always be ready to fill up vacancies in the principal show-houses, as well as for decorating the principal rooms of the mansion. Such stove plants as were directed to be grown to bloom at this season, including Gesneras, Justicias, Jasminums, Euphorbias, and various other genera, should be got into bloom without delay. They may be trusted in the conservatory while in bloom, and will replace Chrysanthemums now on the wane. Have protecting materials in readiness to cover pits, &c., as well as greenhouses, whenever a change to severer weather renders such necessary.

FORCING DEPARTMENT.

The forcing of fruit trees in pots is both useful and interesting; and where there are not separate houses for each distinct kind (which only exist in the largest establishments), a valuable addition to the dessert in spring may be made by growing a collection of Peaches, Nectarines, Apricots, Figs, Plums, Cherries, and Raspberries in pots; they are easily managed in this form, provided there are one or two houses at work to hold them during the later stages of their growth. All the above kinds (with the exception of Raspberries) should have been grown in pots two years at least, and be well furnished with fruit buds. Raspberries are best obtained by taking up the strongest suckers early in September, and potting them either singly or three together in rich soil, shading them for a few days to make fresh roots, and then placing them against a south wall to ripen. Supposing a stock of the above kinds is prepared for forcing, the advantage of a deep pit, with a bed of leaves, affording a slight bottom heat, will be beneficial, by setting the roots in action. Cherries and Raspberries are the most impatient of heat, and should be brought forward in a very low temperature; and unless they are required very early, will succeed better when started next month. The remainder should be started with a top heat, ranging between 40° and 60°, with a gentle syringing daily, and air according to the state of the weather; here they may remain till nearly in bloom, when a drier atmosphere being necessary, they may be removed to vacant shelves or stages in any house at work, where a moderate heat is kept up. Peaches and Nectarines may even be placed on the back shelves of the Pine-houses after they set their fruit, though a more moderate temperature will suit them better. In carrying out their subsequent treatment, we may add that Figs, Peaches, &c., should occupy the warmest part of the house in which they are to fruit, and Apricots, Plums, and Cherries the coolest end. If required, Raspberries will succeed well in pits, or in the partial shade of other plants. If circumstances permit of the whole being kept plunged in a gentle heat, it will assist the swelling of the fruit, but, with proper attention in supplying them with manure-water, they will do well without. Prepared plants of the most suitable kinds of the above fruits may be obtained at most of the principal nurseries, or maiden plants of each may now be potted in rich turfy loam for future operations, getting them into a bearing state by judicious stopping, rather than by the knife. Continue our former directions for the early Vinery and Peach-house. The Fig-house may now be commenced by putting on gentle fires; 45° at night will serve to start with, increasing the heat 10° or 15° by day. Syringe twice daily, and soak the inside borders, and the plants in pots or tubs, with liquid manure, if dry. Prick off seedling Cucumbers and Melons, and keep them in a moist heat near the glass. Increase the admission of air as they advance, to strengthen them. Cucumbers in bearing should be kept in vigour by a good heat and liberal supplies of liquid manure. Apply sulphur whenever mildew appears, and keep the internal air of the house or pit healthy by proper ventilation.

KITCHEN GARDEN.

On retentive or adhesive soils the usual operations of trenching, digging, &c., should be suspended till the ground is in a more favourable state; and, for like reasons, wheeling manure and composts to the quarters should remain for the chances of frosty weather. As slugs are unusually numerous just now, place small heaps of refuse vegetables over the ground for traps, and look them over daily, destroying those found underneath. The whole of the vegetable quarters should for the same purpose be dusted over on warm damp mornings with fresh slaked lime, mixed with a small portion of salt. Mice and moles should be trapped whenever they make their appearance. The present wet season will show the advantages of well-drained ground for growing crops; and where there is a deficiency of drains to carry off surface water, additional ones should be made at once. The present mild weather will render air, night and day, necessary to young vegetables under glass; remove the sashes entirely by day, except during heavy rain. Continue to take up and lay in Cauliflowers and Broccoli as they turn in, for more easy protection should frost occur. A stock of Chicory should be taken up and packed in boxes, or on a spare shelf of the Mushroom house; fill up the space between the roots with fine dry earth, and give a gentle watering; the young tops will form a valuable addition to the salad, when Lettuce gets scarce. In the forcing department, attention must be given to advancing crops of Seakale, Rhubarb, and Asparagus; bringing on successional crops according to the demand expected for each. Before Asparagus is cut for the table, allow it plenty of air each mild day, or the flavour will be indifferent. Mushroom beds, when apparently exhausted, are often induced to bear a second crop by a little rest, and a moderate watering with tepid water. Keep up the supply by making fresh beds each month or six weeks, and keep up the temperature to 55° or 58°.

STATE OF THE WEATHER NEAR LONDON,

For the week ending Dec. 16, 1852, as observed at the Horticultural Gardens, Chiswick.

Dec.	Moon's Age.	Barometer.		Temperature. Of the Air.			Of the Earth.		Wind.	Rain.
		Max.	Min.	Max.	Min.	Mean	1 foot deep.	2 feet deep.		
Friday.. 10	29	29.583	29.537	54	49	51.5	46	46	S.	.03
Satur.. 11	6	29.595	29.519	57	48	52.5	47½	46	S.W.	.00
Sunday.. 12	1	29.501	29.429	54	40	47.0	47½	46½	S.	.20
Monday 13	2	29.473	29.383	54	43	48.5	47½	46½	S.	.12
Tues. .. 14	3	29.364	29.335	55	42	48.5	47½	46½	S.W.	.25
Wed. .. 15	4	29.106	28.983	52	37	44.5	47½	46	S.W.	.03
Thurs... 16	5	29.412	29.151	52	45	48.5	46	46	S.W.	.27
Average ...		29.433	29.334	54.0	43.4	48.7	47.1	46.2		.90

Dec. 10—Cloudy; rain; densely overcast.
— 11—Overcast and mild; exceedingly fine; clear and windy.
— 12—Fine; overcast; rain at night.
— 13—Rain; slightly overcast; uniformly overcast at night.
— 14—Cloudy and mild; clear; rain.
— 15—Rain; cloudy; clear.
— 16—Clear; fine with sun; overcast; rain; thunder, lightning, and heavy rain at night.

Mean temperature of the week, 8 deg. above the average.

STATE OF THE WEATHER AT CHISWICK,

During the last 26 years, for the ensuing week, ending Dec 25, 1852.

Dec.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 19	43.0	36.7	39.8	14	0.38 in.	2	4	2	1	4	8	3	1
Mon. 20	44.7	34.3	39.5	10	0.76	1	6	1	2	9	4	1	2
Tues. 21	43.3	33.7	38.5	10	0.20	—	6	2	1	2	9	3	3
Wed. 22	45.2	33.9	39.5	13	0.38	2	4	3	1	2	6	5	2
Thurs. 23	43.3	32.2	37.8	12	0.25	4	7	1	1	1	7	1	2
Friday 24	42.8	31.4	37.1	9	0.36	3	3	3	2	1	9	1	4
Satur. 25	42.6	28.8	35.7	9	0.22	2	5	3	—	2	6	5	2

The highest temperature during the above period occurred on the 25th, 1827—therm. 58 deg.; and the lowest on the 24th, 1830—therm. 10 deg.

Notices to Correspondents.

Books: *H R.* What are called "Herbals" are all trash, and not worth your thinking about.

Cape Roots: *A H.* Gladioli and other Cape bulbs being up in leaf now, must have glasses over them when frost comes.

Cucumbers: *Kate.* We learn from Mr. Cuthill, that the soil he uses for his Cucumbers is the surface of an old pasture of a light nature. This is liberally supplied during summer with diluted manure-water; but no solid manure is ever mixed with the soil.‡

Cuttings: *J O.* In striking Verbenas, Heliotropes, and Pelargoniums in a cold frame in July or August, keep the lights close or nearly so in the daytime, and shade from bright sun; but at nights the sashes may be removed altogether in fine weather. It is not necessary to use bell glasses in striking such things.‡

Heating: *Each.* Warmth will promote the hatching of all insects, and the propagation of many; but we never heard of animalcules being produced in hot water; on the contrary, it kills them. Baron Humboldt is, we are happy to say, alive and well.

Insects: *J R.* We found no insects on the mouldy patches of rotten Apples, but several families of mites and insects feed on fungi and mould wherever and whenever it makes its appearance, so that their presence is no proof of their being the cause of the disease. *W.*

Names of Fruits: *Sarah.* 1, Beurré Diel; 2, Old Colmar; 10, Beurré Rance.‖—*C P.* Your Apple is probably new. It is above the middle-size, roundish, skin smooth, yellow. In general appearance it resembles the Golden Noble. Flesh sweet, and mealy, its season being past.‖—*E P., Cork.* Your fruits, inquired after by "S. S. M.," were noticed in last week's *Chronicle.*

Names of Plants: *H H.* We never heard of such a plant as Maretia hastata.

Wine Making: *Noah.* M'Culloch is a safe authority on the subject of making wine from unripe Grapes and Vine leaves. Vines *may* bear in the open air in this country the second year after planting out. Cuttings may generally be had out of gardens without cost; if, however, wine Grapes are wanted, cuttings must be had from some wine country. The best practical French work on the culture of the Vine, and the manufacture of wine, is Chaptal's "Art de faire le Vin," 1 vol. 8vo.

*** As usual, many communications have been received too late, and others are unavoidably detained till the necessary inquiries can be made. We must also beg for the indulgence of those numerous correspondents, the insertion of whose interesting contributions is still delayed.

PERUVIAN GUANO.

CAUTION TO AGRICULTURISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

ANTONY GIBBS AND SONS, AS THE ONLY IMPORTERS OF PERUVIAN GUANO,

Consider it to be their duty to the Peruvian Government and to the Public again to recommend Farmers and all others who buy to be carefully on their guard.

The character of the parties from whom they purchase will of course be the best security, and, in addition to particular attention to that point, ANTONY GIBBS AND SONS think it well to remind buyers that—

The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 9l. 5s. per ton, less 2½ per cent.

Any resales made by dealers at a lower price must therefore either leave a loss to them, or the article must be adulterated.

THE LONDON MANURE COMPANY offers on the best terms Wheat Manure for autumn sowing, Linseed, Rape Cakes, Peruvian Guano, Urate, Superphosphate of Lime, and every other artificial manure. Also a quantity of Salt, the refuse of ammonia and saltpetre makers, considerably more valuable than the ordinary agricultural salt.

EDWARD PURSER, Sec., Bridge-street, Blackfriars, London.

MANURES.—The following Manures are manufactured at Mr. LAWES'S Factory, Deptford Creek:

Turnip Manure, per ton	£7	0	0
Superphosphate of Lime	7	0	0
Sulphuric Acid and Coprolites	5	0	0

Office, 69, King William-street, City, London.

N.B. Peruvian Guano, guaranteed to contain 16 per cent. of Ammonia, 9l. 10s. per ton; and for 5 tons or more, 9l. 5s. per ton, in dock. Sulphate of ammonia, &c.

MANURE.

PEAT CHARCOAL, completely saturated with London Sewage, will be found a most effective manure for any crop. It may be obtained from the Sewage Manure Works, Stanley Bridge, Fulham, Middlesex, at 60s. per ton, 4s. per cwt., and 2s. 6d. per ¼ cwt.

"Sewage manure absorbed in charcoal is a first-rate fertiliser; we have tried it on French Beans, Dahlias, Roses, and Cabbage plants; we put half a pint to each Rose and Dahlia, sowed it in the row with B ans, and put a few pinches to each plant of Cabbage. The effect is perceptible very soon, but it will be twice as efficacious the second year as the first."—*The Garden, by Mr. Glenny.*

WINTON'S PARKES'S CELEBRATED STEEL DIGGING FORKS AND TOOLS are universally approved of. They facilitate labour 20 per cent. They have received the Silver Medal at Lewes, Dublin, Galway, Sheffield, and other places. Anthony's Patent American Churn has received the prize at every one of the numerous agricultural meetings where it has been shown. The Royal Agricultural Journal, p. 41, says, "This form of churn is the best for churning sweet cream, and will undoubtedly produce butter from milk or cream, in any form, in much less time than any churn that has yet been introduced." Pumps for manure and watering gardens. Mr. Mechi has one working admirably. These pumps are cheap, durable, and effective. Gutta percha tubing, bands for machinery, hose for pumps, and an assortment of prize and the best farm implements. Price catalogues sent on application.—BURGESS and KEY, 103, Newgate-street, London, agents for M'Cormick's American Reaper.

The Agricultural Gazette.

SATURDAY, DECEMBER 18, 1852.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

THURSDAY, — 23—Agricultural Imp. Society of Ireland.

THE note from Dr. VOELCKER in another column, and the fragment forwarded to us with it, of the examination to which candidates for the College diploma have been subjected at Cirencester during the past week, accompanied as it is with a promise of a further report of these examinations, which we shall lay before our readers as soon as we receive it, brings the whole subject of agricultural education once more under our notice. We do not intend, however, just now, to refer in detail to the style of education adopted at Cirencester or elsewhere, but merely to make a remark in illustration of its importance and necessity.

The occupations of gardeners and farmers are sufficiently alike in their details, and sufficiently similar in their object, to justify a comparison of the men engaged in them. We are apt, as farmers, to think that we stand at least as high in the social scale as those engaged in the sister art: but an exact comparison of corresponding grades in the two professions, in point of skill and intelligence, does not, we fear, tend to increase our respect for our own. And if this be so, it is unquestionably owing to the different styles of education through which gardeners and farmers respectively have to pass. Before reaching the position of a master gardener, a lengthened apprenticeship to the business must be served, and a lengthened course of study traversed. If a young man aims at such a place, he has with patience and assiduity to labour for years in acquiring the necessary bodily skill, and with equal patience has he to toil in the work of furnishing his mind. Natural philosophy in almost all its branches, natural history in nearly every branch, and much of abstract science too—for he must be a geometer, and understand the principles of land surveying, architecture, &c.; all these departments of knowledge have to be ransacked to make a horticulturist. And they *are* ransacked, and the spoils are stored in order, ready for employment, as occasion calls, in many a mind among the intelligent gardeners of the country. And thanks to Cirencester, and some few other schools, such a laborious student-life of practical as well as abstract learning is possible for agriculture: and the farms as well as gardens of this country will, by-and-bye, be in the hands of men like Mr. FELL, able to justify their practice, and therefore to improve it, by reference to the natural laws on which it is based. Of course there are many such at present. Such an assertion, however, though positively true enough, is comparatively false. There are *very* few among the *multitude* of farms into which the surface of the island is divided, cultivated by men of the standard to which all will by-and-bye be raised by the educational establishments which are required. English agriculture has never been so prosperous as a coming day will see it, when men shall never think of adopting it as a profession until they have undergone the laborious apprenticeship both at the desk and in the field which gardeners undergo, and for the efficient superintendence of which a dozen Cirencesters shall be in active operation.

THE ROYAL AGRICULTURAL COLLEGE.

I BEG to inclose an answer to the question, "Mention some of the principles to be attended to in the management of fattening stock," a question which I put to the candidates for the College diploma. The inclosed answer, given by Mr. Fell, appears to me to contain some very judicious, and, in some respect, novel remarks on the two great classes in which the constituents of food are usually grouped. It is for this reason that I forward to you Mr. Fell's paper, written in a hurried manner, with the request to insert it in the *Agricultural Gazette*, if you should think it of sufficient interest to the agricultural public. *A. Voelcker, Cirencester, Dec.* 13.

[We may mention that we hope shortly to be able to furnish the replies by some of the students at the sessional examination in connection with the Royal Agricultural College, which has been held during the past week.]

The object of the farmer in feeding stock for the butcher is to make them lay on the greatest amount of flesh and fat in the least time, and at the least cost. In order to do this, the animal's system must be in fit order to digest and assimilate the food which is supplied, and which food should be given strictly with the object in view; that is to say, it must contain flesh-forming principles. But if a too concentrated food is given, in the case of ruminants particularly, digestion and consequent assimilation does not go on; it therefore requires that some bulky food of an inferior kind be conjoined with the highly nutritious, such as hay, straw, roots, &c.

That substances rich in fatty matters and protein compounds, if supplied to animals along with other food, will produce flesh and prepare an animal for the market is well known; but it seems as yet a question undecided in what proportions the expensive and highly nutritious food is to be mixed with inferior; not only so, but as to whether the largest amount of nutritious food should be given first, or the corn gradually increased until the animal is fit for the butcher. On the one hand it is considered that an animal being "raw," not having his stomach prepared for a large amount of highly nutritious food, would not, were it supplied him, assimilate it, but his digestive organs would become, by the sudden change, disarranged. Again, it may be said that an animal assimilates most food when he is lean or in moderate condition, and that a fat beast, after a certain point, does not increase in weight in proportion to food consumed; and also it is equally well known that the manure from lean beasts is comparatively inferior, whilst that from fat ones is decidedly superior; thus showing that much of the food is uselessly supplied, or at all events does not fulfil or profitably carry out the object intended. Again, it may be considered that, so far as the fat is concerned, an animal is a furnace where there is a daily waste taking place, a combustion going on, and therefore if the fuel supplied be only equal to the waste, no progress in fattening will be made, and therefore a regularly increasing scale of valuing must be observed. The most profitable manner, then, of feeding stock will be, first to supply the requisite constituents in the food in proper proportions; not too concentrated, or the food will neither be digested nor assimilated, and disease may be engendered; but giving to it a considerable bulk, the elements of respiration and nutrition being regulated according to circumstances; if the animal is well housed and tended in a warm place, less carbonaceous matter will be required if the system is healthy, and become adapted to the kind of food, and more nutritious food, such as corn, &c., may be given. It appears, then, that an animal assimilates most during the first stages of this fattening, and if the system is right, a large proportion of nutritious food ought to be supplied; to increase it to a large quantity when the animal is fat appears to be both wasteful and unprofitable.

THE SMITHFIELD CLUB'S NEW PRIZE LIST.

From the present position of agricultural affairs, the object of the Smithfield Club is deserving of special notice; for all intelligent farmers are agreed that they can only obtain relief from their present embarrassments, in the progress of science, especially the management of fat stock, the principal object of the Club; for, although it gives sufficient encouragement in the implement department, as our report will show, yet its main efforts are made below stairs among cattle, sheep, and pigs. For upwards of half a century it has been laudably labouring at this national task, and although not hitherto crowned with that success desirable, yet progress has always been made, and on the present occasion sufficiently flattering as to insure the realisation of ultimate success. The opposition which it has met with only adds to its own merit. It has, doubtless, to deal with a party by no means the most willing to relinquish the practices of its forefathers, however antiquated; yet gold medals and silver medals, with a liberal allowance of hard cash, together with the pressure from without, have each and all of them their own weighty influence, and must triumph, according to the nature of things, over opposition of this kind eventually. On the other hand, it is humiliating to listen, in the stirring hum of the crowd, to the amount of silly sneer unwittingly thrown into the opposition scale, thus preventing the farmer from seeking relief from the only source from whence it can be obtained; we allude here to the cuckoo song "carrying the joke too far," continually piped into the ears of farmers during the four days of the exhibition, and afterwards echoed from the Land's End to John o'Groat by the public press. That farmers have not yet attained to perfection in the art of feeding cattle will readily be granted—the preponderance of fat to muscle, in many instances, proves the contrary. But the proper mixture of fat and muscle is by no means an easy problem to solve. It is an easy matter to mix a pound of Chicory with a pound of Coffee and to return both to the country undistinguishable from each other, or to add a pint of Thames water to another of milk and sell them both as the genuine produce of the country, but it is not so easy a task to manufacture from a given quantity of vegetable produce the greatest quantity of butcher-meat of the best quality, the grand problem which the Smithfield Club has given the British farmer to solve. Into the details of the art of feeding, and the many difficulties which have to be overcome before such a problem can be solved, it is not our present province to enter. On this point, suffice it to say, that the exhibition before us is more than enough to encourage a hope that such a problem will eventually be solved, and that at no distant date. The following is an account of the improved prize-list offered by the Smithfield Club to obtain it. The whole live stock is divided into two divisions, the common and extra, the latter comprehending a description of stock which could not in fairness be included in the former, to do justice to exhibitors. The former division is subdivided into 31 classes, and the latter into five. But in order to obtain the results sought, viz., the best beast in any breed as well as in individual pure breeds and cross breeds, a farther classification is made; first, the whole is divided into the three families of oxen, sheep, and pigs; and these again into different breeds, thus:—Oxen are subdivided into six breeds, viz.: 1, Devons; 2, Herefords; 3, short-horns; 4, Scotch, Welsh, or Irish breeds; 5, other pure breeds; and 6, cross, or mixed breeds. Sheep are subdivided into five breeds, viz.:—1, long-woolled breeds; 2, long-woolled breeds, excluding Leicesters; 3, cross breeds—long and short-woolled; 4, short-woolled breeds; and 5, short-woolled breeds, excluding southdowns. Swine of every variety are included under one breed or subdivision. Each of those breeds of oxen, sheep, and pigs, are subdivided into varieties according to age, sex, and weight, which when added together form the 31 classes above stated. Thus—the six breeds of oxen are subdivided into 19 classes. The Devons, Herefords, and short-horns, are each divided into four classes; first, steers not exceeding three years old; second, steers or oxen above three years old; third, heifers not exceeding four years old, and cows above four years old. The fourth and fifth are subdivided into two classes each; first, oxen of any age; and second, cows or heifers of any age, and the cross breeds into three classes, viz., first, steers not exceeding three years old; second, steers or oxen above three years old; and third, heifers or cows not exceeding six years old. The five breeds of sheep are subdivided into nine classes, two of which belong to the long-woolled breed, viz., the heavy and light weights, as they are generally termed by farmers and shepherds, or fat wether sheep between 12 and 22 months old, without regard to weight; and fat wether sheep of the same age, but "each sheep of the pen not to exceed 220 lbs. live weight." The second breed of sheep has only one class—long-woolled breeds, excluding Leicesters. Its object is to allow fat wether pens other than the Leicesters fairly to compete among one another, which they could not do were they included, as in the first division. The same age is specified. The third or cross breeds are subdivided into two classes, the same respect being had to age and weight as in the pure long-woolled. The fourth or short-woolled breeds are subdivided into three classes; first, fat wether sheep one year old, but under 22 months; second, fat wether sheep one year old and under 22 months, each sheep of the pen not to exceed 200 lbs. live weight; and third, fat wether sheep above 22 but under 34 months old, without regard to weight; and in the fifth division there is only one class, its object being to allow the short-woolled breeds fairly to compete among one another, the southdown being excluded the same as above stated in the case of the long-woolled. These nine classes comprehend from the 20th to the 28th inclusive in the prize list. Pigs are subdivided into three classes; first, pigs of any breed above 13 and not exceeding 26 months old, exhibited by the breeder; second, pigs of any breed above 26 and not exceeding 52 weeks old; and, third, pigs of any breed above 12 but under 18 months old. Extra stock is subdivided into five classes—first, the best ox of any breed, age, or sex; second,

long-woolled sheep; third, short-woolled sheep; fourth, cross-bred sheep; and, fifth, best pig. In each class the animals must not be qualified or compete in any of the 31 classes already noticed. There are 53 money prizes, amounting in whole to 665*l.*, 35 silver medals, and 5 gold medals, distributed as follows, preserving the above order of classification: eight money prizes, amounting to 120*l.*, and four silver medals, are given to each of the breeds of Devons, Herefords, and short-horns, being two 25*l.* first prizes for steers, two silver medals, and two 10*l.* second prizes; one 15*l.* first prize for heifers, one silver medal, and one 5*l.* second prize; a 20*l.* first prize, a silver medal, and a 10*l.* second prize for cows of each: total, 360*l.* and 12 silver medals for these three breeds. The Scotch, Welch, or Irish breeds are allowed no silver medals, but two prizes, one of 10*l.* and another of 5*l.*: total, 15*l.* The other pure breeds have two 10*l.* prizes and two silver medals: total, 20*l.* and two medals. The mixed breeds have three money prizes and as many silver medals, being two 15*l.* prizes and one 10*l.* one: total, 40*l.* and three silver medals. Grand total for oxen, 435*l.* and 17 silver medals. The five breeds of sheep have allotted to them 16 money prizes, amounting in whole to 185*l.*, and distributed among the nine classes as follows, viz., the first and second classes have each a 20*l.*, a 10*l.*, and a 5*l.* prize, with a silver medal; the third class of long-woolled sheep has a 10*l.* prize and a silver medal; the fourth class a 10*l.* and a 5*l.* prize, with a medal; and the fifth the same as the third, as also the seventh and ninth; the sixth and eighth have each a 20*l.* and a 10*l.* prize, with a silver medal. The three classes of pigs have six money prizes offered to them, amounting in whole to 45*l.* and three silver medals, being a 10*l.* and 5*l.* money prize for each, with a silver medal. The above 29 silver medals are awarded to the breeders of the first prizes, and the 53 prizes to the exhibitors. The 5 gold medals are offered to exhibitors, in order to test the merits of different breeds, competing among each other, provided there be sufficient merit. The first is awarded to the best ox or steer of any breed; the second to the best cow or heifer; the third to the best pen of three long-woolled sheep, comprised in the 20th, 21st, and 22d classes; the fourth to the best short-woolled sheep under 22 months old; and the fifth to the best pen of pigs. The five breeds of extra stock have each a silver medal to compete for, and there is also what is termed the "butcher's medal" awarded to the butcher who makes the largest purchases during the exhibition, on Friday, from the 31 classes above noticed. Such is a brief description of the prize list, and the catalogue informs us that there were 160 oxen, steers, heifers, and cows; 131 pens of sheep, 84 of which contain each three sheep, and 47 one; 27 pens of pigs, three in a pen; and 15 pens with one pig each, being 160 oxen, 299 sheep, and 96 pigs: total, 555 animals in the yard, entered as competitors for the above prizes.

The names of the judges' are, for cattle and long-woolled sheep, Robert Smith, Samuel Bloxridge, Charles Stokes; and for short-woolled sheep and pigs, E. Pope, John Farncombe, and William Tanner; and an account of their awards, the number of entries in each class, and a few remarks thereon, &c., such as our limited space would admit, was given last week. The different breeds, &c., were taken in the order they stood in the catalogue, and the awards of the gold medals noticed as the successful competitors respectively came to hand. At the same time, for the sake of greater perspicuity, the gold medals and silver medals for extra stock may be given now separately without comment, and also the stock commended by the judges, which did not receive prizes. In all cases the awards are pronounced without regard to the quantities or kinds of food consumed, yet the kind or kinds of food is certified; and here we must observe that it is much to be regretted that the actual quantities consumed cannot be given. In a great many cases it might have been obtained by us with some degree of accuracy, but in others parties appeared unwilling to comply with requests not demanded by the Club—hence the conclusion. The grand object of the Club being to obtain in its own language the "cheapest and best meat," it obviously follows that the quantity of food consumed should be certified as well as the kind or kinds, for cheapness is always regulated by quantity brought to market, so that the proposition of the Club resolves itself into this:—the greatest quantity of butcher meat of the best quality from a given quantity of food or produce, as has already been stated. We throw out these observations, not for the purpose of finding fault with the new regulations of the Smithfield Club, but to suggest future improvement. We are too sensible of the invaluable reformation made this year in the classification, and in the prize list generally, to commit such a blunder. Were the live weights added at different stages of fattening it would increase the value of the awards, stamping, upon the whole, a more useful character to farmers.

The live stock may thus be briefly summed up; cattle 160, sheep 299, and pigs 96, making a total of 555, as before stated; yet positively speaking, it were difficulty to say whether cattle, sheep, or pigs were the best show. In the estimation of the public it is an unsettled question, some affirming the one and some the other. The gold medals are awarded to Mr. Richard Stratton, Broad Hinton, for his short-horned ox; to Mr. Cooke, for his Hereford cow; to the Marquis of Exeter, for his lordship's long-woolled sheep; to Mr. Sainsbury, for his southdown or short-woolled sheep; and to Mr. J. Coate, Hammon Blandford, for his pig. The silver medals for extra stock are awarded to Mr. Robert Beman, for the best beast; to Mr. William Sanday, for the best long-woolled sheep; to his Grace the Duke of Richmond, for his short-woolled sheep—a southdown; to Mr. J. R. Overman, for his cross-bred sheep; and to Sir John Conroy, Bart., for his pig.

Highly commended by the Judges.—Prince Albert's Devon ox, Lord Sondes' short-horn ox, Mr. Stratton's short-horn cow, Mr. Hewer's cross-bred ox, Mr. William Abraham's Leicester sheep, Mr. M. Hewer's Cotswold sheep, Mr. Druce's cross-bred wether, Mr. Davis's cross-bred wether, Mr. Salter's cross-bred wether, Mr. Rigden's southdown wethers, Sir R. Throckmorton's southdown wethers, Lord Walsingham's southdown sheep, Mr. Wood's Sussex and Neapolitan pigs, the Earl of Radnor's Coleshill pigs, and Mr. Sadler's Berkshire pig.

Commended.—Mr. Carwardine's Hereford steer, the Earl of Radnor's Hereford ox, Mr. Hinck's Hereford cow, the earl of Radnor's Hereford cow, Mr. Allatt's Hereford cow, Mr. Stratton's short-horn steer, Mr. Bull's Durham ox, Mr. Spraggett's short-horn steer, Lord Feversham's short-horn heifer, Mr. Goodwin's short-horn heifer, Mr. Crisp's short-horn heifer, Mr. Featherstone's short-horn heifer, and Mr. Carrington's short-horn cow.

Commended generally.—Mr. Gurney's cross-bred ox, Mr. Newbutt's short-horn heifer, Mr. Willmore's Leicester wethers, Mr. Foljambe's Leicester wethers, Mr. Hitchman's cross-bred wethers, Mr. Williams' southdowns, Mr. Haymed's southdowns, Mr. Rigden's southdown sheep, Mr. Newman's pig, and Mr. Chamberlain's pig.—An account of the Implement Show will be given next week.

Home Correspondence.

Under-draining.—The clay lands are now in the fittest state to be drained. To ascertain the efficient depth of drain for the different descriptions of clays, is of the greatest importance. There are still advocates for each system of deep and shallow draining, and each applied to all clays. The following remarks are made with the view of endeavouring to place the question in its true light. "Enquirer," in your Number of July 24, refers to this subject, and to the illustration of the barrel, made use of to explain the way in which water enters the drains. A doubt can hardly be entertained by any practical man that a drain made 3 feet deep will be a sufficient depth for all agricultural purposes, in most if not in all clays, and the drains made not more than 2 rods, or 33 feet apart. The less the distance between the drains the earlier and more uniformly dry the land becomes after rain. It may frequently be necessary to make the drains at a less distance than 33 feet apart, and it is rarely safe to place them at a greater, to be enabled to discard open furrows, which are outlets for the escape of some of the finest and best portions of the soil itself, and manures carried on it; besides preventing the rain and air exerting their very important influences on the soil and subsoil; thus causing a two-fold injury—namely, allowing the rain in its passage off the land to do much mischief, and preventing the air, in conjunction with the rain, doing much good. The efficient depth of drain will depend entirely on the porosity, or capacity of saturation, of the clays; on some this commences near the surface, for which shallow drains are most effective; on others at a greater distance from the surface soil, admitting of a deeper drain; in the stiffest clays shallow drains will act much sooner after rain than deep ones—perhaps some weeks; on the other hand, deep drains will act before the shallow on a more porous clay, or preventing altogether the water entering the shallow drain. Much misconception appears to have generally prevailed on the manner in which water enters the drains. The supposition appears to have been that the water falls into the drains in its downward passage through the subsoil, whereas the fact is directly the reverse, the water flowing into them in its ascent. Water in its descent through the subsoil cannot be made to enter the drains—this would be contrary to the law of nature; it must be stopped, or arrested, in its descent, and this is effected by saturation. In the illustration of the barrel, explaining the motion of water in the soil, the barrel is supposed to be turned on one end, the upper end removed, the barrel filled with mould, and a drain pipe inserted in the bung-hole through the centre. Water poured on the mould will descend to the bottom of the barrel, and will not enter the drain pipe. The bottom of the barrel will represent the subsoil below the drains, already saturated with water. By constantly pouring water on the mould in the barrel the point of saturation will rise until it reaches the drain pipe, which will then act, and carry off the water, preventing saturation above it. It is continually pouring water on the mould in the barrel, and frequent rains on the land, that raises the water to a level with the drains, and not capillary attraction; this will take place from the level of the drains—the point of saturation—and is supposed to extend 18 inches or more into the soil above. On the cessation of rain the drains cease to act—the point of saturation gradually descends, and consequently the water, rising by capillary attraction, is removed to a greater distance from the surface soil. It is of great consequence to have a clear perception of the exact requirements of the land, that the means employed may be duly apportioned to the effect intended to be produced, so as not to fall below the mark, nor extend beyond it, expending money unnecessarily. *H. C. Selby, Ightham.*

Theory of Manure 330 Years ago.—About 330 years ago a man was born at Agen (a town of France on the banks of the Garonne, 80 miles E.S.E. of Bordeaux), who, after struggling against prodigious difficulties with indomitable courage and patient assiduity, attained considerable notoriety. He was the first person who formed a system of natural history in Paris; but, unhappily for his personal safety, he was a Calvinist, and living during the papistical fury of the "League," in the reign of Henry III., he was committed in 1564 to the Bastille, wherein he died, at an advanced age, in 1590. This man, gifted with a degree of foresight far in advance of those days of dense ignorance and superstition, made discoveries of great importance in the arts, and became the author of many estimable treatises, among which are two, entitled "Moyen de Devenir Riche," &c., and "Discours admirable de la Nature des Eaux et Fontaines," &c. From the former, without further introduction, are taken the following passages. (See the appendix to the "Life of Palissy the potter," translated by Henry Morley, page 311.) "*How to grow rich in Farming:* Take notice at seed time, and you will see that the labourers will bring their muck-heaps to the fields some time before they sow the land. They put the said manure in little heaps or piles about the fields, and some time afterwards they come to spread it over the field; but yet on the spots where the manure shall have been resting for some time they will leave none, so they throw it this way and that; but, in the place where the manure had rested for some time, you will observe that, after the corn has grown and shall have become high, it will in that place be thicker, taller, greener, and more flourishing than in the other parts. Hence you may know easily that it is not the muck-heap which has done that, for the labourer threw it over other parts, but it is, that, where the said manure was on the field in little piles, the rains which occurred passed through the manure on the ground, and in passing had dissolved and carried with them a certain portion of the salt which was in the manure." Retaining the quaintness of the style, I have ventured to remove certain repetitions of mere words. It appears evident that, by the force of intuitive genius, Palissy was led to foreshadow and anticipate discoveries which modern chemistry has lately, and only lately, even in this age of refined science, been able to establish. He announced the great facts of that absorption, and fixing the saline matters (termed by him salt) which late experiments have proved, and begun to explain! Of chemistry that dark and gloomy age knew nothing, unless, indeed, so far as the vain research after the philosopher's stone may be referred to that science. Palissy had not ever heard of chemical attraction, he therefore merely observed facts, and thence was enabled to arrive at correct inductions. But to proceed (p. 213):—"If you wish to have the full and complete service of your manure, you must hollow a pit in some convenient place near to your stables, and this pit having been dug in the shape of a pool or of a watering pond, it is necessary that you pave with flints or with bricks the said pit, and this having been well plastered with mortar made of lime and sand, you will take your manure to be kept in this pit until the time when it will be necessary to take it to the fields. And, in order that the manure be not spoilt by rain and by the sun, you will make some kind of hut to cover it; and when the seed-time shall arrive, you will carry the said manure to the field with all its substance, and you will find that the pavement of the pit will have preserved all the liquid part of the manure, which otherwise would have been lost, as the earth would have absorbed part of the substance of the manure. If at the bottom of the pit there should be some clear matter, it is necessary that you should take some vessel and carry this away, because of its containing the most salt. And if you will thus render back to the earth the same thing which had been taken from it by the growth of seeds, the seeds which you put into the ground afterwards will again take up the same thing that you will have carried thither." Need one explanatory word be added? Does not this anticipation comprise all that has been avowed and written upon the preservation of putrescent, farm-yard, and stable manures? *J. T.*

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

A Weekly Council was held at the Society's House in Hanover-square, on Wednesday, the 8th December; present, Mr. Pusey, Trustee, in the chair; Lord Berners, Hon. R. H. Clive, M.P., Sir John Villiers Shelley, Bart., M.P., Sir Robert Price, Bart., M.P., Sir Digby Neave, Bart., Colonel Austen, Mr. Raymond Barker, Mr. S. Bennett, Mr. Catherall, Colonel Challoner, Mr. Cobon, Mr. Dyer, Mr. Flack, Mr. Fuller, M.P., Mr. Gales, Mr. Hamond, Mr. Fisher Hobbs, Mr. Hudson (Castleacre), Mr. Jonas, Mr. Kinder, Mr. Milward, Mr. Paine, Mr. Pawlett, Prof. Sewell, Prof. Simonds, Mr. R. Smith, Mr. Stokes, Mr. Thompson, Mr. C. Hampden Turner, Prof. Way, Mr. Jonas Webb, Mr. Wingate, and Mr. Wrench.

The following communications were received:—from the Hon. Col. Grey, by command of H.R.H. Prince Albert, letters on the subject of sound untainted Potato-seed, proposed for cultivation in Ireland; from Mr. Wright of the United States, a communication on improvements in the reaping-machine, and a set of the "Prairie Farmer," of which he was the editor; from the Hon. Andrew Stevenson, late American Minister in England, a letter offering his services of co-operation as

n honorary member of the Society, and specimens of rool and monumental Wheat; from Mr. Palin, of heshire, a statement on the beneficial and long-cnued effects of marling for the Turnip-crop, with pecimens of roots grown by him on marled and nmarled land; from Mr. Dyer and Mr. Whitear, esults of the cultivation of Russian Turnips in this ountry; from Mr. Reynolds Solly a favourable statenent of the value of the Spanish Beans, presented to the ouncil in the spring by Mr. Majendie; from Mr. aunderson, specimens of Potatoes grown for three years ithout manure; from Mr. Morton, Mr. Waldron, and Ir. Jackson, information respecting farm-buildings; om Mr. Arkwright, of Sutton Hall, Derbyshire, a very heap, simple, and efficient grubber for raising large rong tufts of coarse plants having deep-seated roots; om Mr. Francis Wilson, a proposed new plan of arrow for general purposes; from Miss Banister, arious communications connected with cottage farmg.; from Dr. A. Thaer, a plan of the Moeglin Model arm in Germany; from Mr. Brotherton, a communiation on the importance of cultivating the Rape-crop r its oil; from Mr. Metcalfe, on reaping machine; om Mr. Fowler, on Barley; from Mr. P. Dixon, alance-sheet of his farm; from Lord Berners, a further atement of his mode of draining in Leicestershire; om Mr. Witt, a specimen of paper made from Wheatraw; from Mr. Clayton, a statement of improvements his tile-machine; from Mr. R. Shaw, of Bristol, a mmunication on town-sewerage; from Mr. E. Oliver, arious notices of agricultural facts; from Mr. J. Hill ickson, a statement on his Flax-mill; from Mr. Hardy, n sowing, with specimens; from Mr. Lang, on manure; nd from Mr. Fuller, M.P., on disease in his stock—r all which the Council ordered their usual acknowdgments to be made.

A Special Council was held on Thursday, the h of December, for the purpose of deciding on the rizes for live-stock to be offered next year at the loucester meeting; present, Mr. Raymond Barker, ice-President, in the chair; Lord Berners; Colonel usten, Mr. Barnett, Mr. S. Bennett, Mr. Brandreth, r. Fisher Hobbs, Mr. Holland, Mr. Hudson (Castlere), Mr. Jonas, Mr. Kinder, Mr. Milward, Mr. usey, Mr. R. Smith, Mr. Turner (Barton), Mr. Jonas ebb, and Prof. Simonds.

The Council having received and considered various emorials and suggestions addressed to them, in ference to the special business of the day, proceeded the arrangement of the prizes to be offered by the ciety for live-stock at the Gloucester meeting in July, 53; postponing, until the monthly Council to be held the 2d of February next, the final settlement of the izes for poultry, the general regulations of the prizeeet, and the special instructions to be given to the dges and stewards on that occasion.

The Audit of Accounts was held on Friday, the th of December; present, Colonel Austen, Mr. aymond Barker, and Col. Challoner, on the part of the ance committee; and Mr. George Raymond Barker d Mr. Dyer, auditors, on the part of the Society. he accounts being found correct, were certified cordingly, and the signatures of the auditors affixed the balance-sheet to be reported on the following y to the general meeting of the Society.

A Special Council was also held on Friday, the 10th December, for the purpose of taking into conideration the report to be made by the Council to the suing General Meeting of the Society; Colonel Challner, trustee, in the chair. The Council having reived from Mr. Raymond Barker, chairman of the nance Committee, a special report on the state of the nances of the Society at that date, and a copy of the uditors' Balance-sheet of the accounts for the preceding lf-year, proceeded to the arrangement of their report the General Meeting; which, on the motion of Mr. amston, M.P., seconded by Prof. Sewell, was agreed and adopted.

The December General Meeting was held at the ociety's House, in Hanover-square, on Saturday, the th of December; Colonel Challoner, Trustee, in the air. Mr. Hudson, the Secretary, read the following port from the Council:—

REPORT.

The Council have to lay before the members at the esent General Meeting of the Society the following lf-yearly Report of their proceedings:

Since the last General Meeting in May, 45 members ve been lost to the Society by death, and the names 82 others have been removed from the list on retirent or otherwise; while 80 new members have been cted during the same period. The Society accordgly now consists of 91 Life Governors, 149 Annual overnors, 720 Life Members, 3955 Annual Members, 110 Honorary Members, making a total of 4934. In e list of deceased members on this occasion, there curs the illustrious name of the Duke of Wellington, e of the earliest Life Governors and Vice-Presidents the Society; who, though not himself a practical rmer, took a lively interest in everything tending to velope the resources of his country. In filling up e vacancy thus occasioned in the list of the Vice-residents, the Council have elected Sir John V. B. himstone, Bart., M.P., to that office; a gentleman o from the earliest period of the Society has given unremitting attention to its affairs. They have also ced among the general members of Council, in the cancy thus occasioned by the transfer of Sir John himstone's name to the list of Vice-Presidents, the me of Mr. Francis Woodward, of Worcestershire one of those intelligent practical agriculturists to whom the Society owes so much of its public utility, and also one of the oldest members residing in the district of the ensuing year's country meeting.

The Finances of the Society are in a satisfactory condition, as is shown by the Auditors' Balance-Sheet to the 30th June last; since which time the Finance Committee have reported, that all claims against the Society submitted to them up to their last meeting had been discharged, and that the funded property invested in the names of the Trustees of the Society now stands at 9990*l.* Stock.

The Council receive with satisfaction the testimony of the members to the still-increasing value of the Society's Journal, and to the immediate and extensive influence resulting from the almost simultaneous transmission of the copies, free through the post, to the numerous members of the Society diffused throughout the kingdom; as well as to that secondary and local influence arising from a knowledge of the facts and practical statements in its pages, personally communicated by each member to other parties residing within the sphere of his own particular neighbourhood.

The Chemical Investigations continue to be steadily pursued by Professor Way, with valuable results obtained at each stage of his inquiries, leading on step by step through the labyrinth of Nature's operations to new discoveries of the machinery by which she works in secret, and to the prospect of entirely new applications in the economy of agricultural laws for the cultivation of the soil and the manuring for crops. The Society have also been indebted to Professor Way for an interesting and valuable lecture, delivered by him before the members, during the past half-year, on the elucidation of Jethro Tull's principles of agriculture by modern science, and their illustration by modern facts.

The Council have on former occasions reported to the Society the communication in which they have been placed with the Foreign-office in reference to the question of a reduction in the price of guano. They have now to report that they appointed in June last a deputation to wait on the Earl of Derby, the Prime Minister, for the purpose of representing to him the great importance of every means being taken to effect this object. His lordship received the Society's deputation most courteously, and assured them of his desire to take every measure that might at any time be in his power to promote the views and wishes of the Society on this subject. Since that interview the Council have resolved to offer, in addition to their current prize of 50*l.* for an essay on the geographical discovery of new supplies of guano, a prize for the discovery of a substitute for Peruvian guano, under the following terms and conditions:—

I.—Terms of the Prize.

"One Thousand Pounds and the Gold Medal of the Society will be given for the discovery of a Manure equal in fertilising properties to the Peruvian Guano, and of which an unlimited supply can be furnished to the English Farmer at a rate not exceeding 5*l.* per ton."

Conditions of Competition.

1. That, in the offer of 1000*l.* and the Gold Medal of the Society as a Prize for the discovery of a manure equal in every respect in its fertilising properties to Peruvian guano, the 1000*l.* shall be offered in one undivided sum.

2. That the standard of such Peruvian guano shall be assumed to be the average result obtained by Prof. Way, the Consulting Chemist to the Society, and published in his paper in the 10th volume of the Journal, pages 205—208.

3. That each competitor claiming the prize shall send in with his sample a chemical analysis under seal, together with such practical proofs of the successful application of the manure to growing crops of grain, roots, and Grasses, as he can produce duly certified by growers. That such samples of manure shall be liable to be subjected to all such further tests, and for such period of trial, as the Council may deem requisite.

N.B.—All claimants shall, on application made to them by the Secretary, be expected to supply, free of expense to the Society, such quantity of their respective manures as may be required for trial.

4. That no claim for the Prize will be entertained unless the claimant can satisfy the Council that an unlimited supply of the manure at a price not exceeding 5*l.* per ton, will at all times be within the reach of the agriculturists of the United Kingdom.

The Council have already reason to believe that the attention which this prize will call to the whole economy of manuring, and to the agricultural as well as sanitary question of the manurial resources of the kingdom, will lead to new and important results.

The Council, after full deliberation upon the following amended Conditions, proposed to them by their Veterinary Committee, and which have been accepted by the College, decided last month to renew the grant of 200*l.* for the current year to the Royal Veterinary College:—

1. That members of the Society shall have the privilege of sending cattle, sheep, and pigs to the Royal Veterinary College on the same terms as if they were members of the College.
2. That the College shall investigate particular classes of diseases or subjects as may from time to time be directed by the Council.
3. That, in addition to the increased number of lectures given by Prof. Simonds, the Lecturer on Cattle Pathology, to the pupils in the College, he shall also deliver lectures in the Council Room before the members of the Society.
4. That the College shall supply a detailed Report of the cases of cattle, sheep, and pigs treated in the Royal Veterinary College.

The Council have had their attention called by his Royal Highness Prince Albert to the process of inoculation so extensively carried on at the present time in Prussia, Belgium, and the Netherlands, with a view to modify the severity of the symptoms of pleuro-pneumonia in cattle. In consequence of the information furnished by his Royal Highness to the Council, they authorised Professor Simonds, as the Veterinary-Inspector of the Society, to proceed to Belgium, in August last, for the purpose of making himself personally acquainted with the facts connected with the conditions and results of the employment of this process. The report which Professor Simonds has made to the Council on this visit of inspection will appear in the next part of the Society's Journal, along with a second report on the occurrence of pleuro-pneumonia in the extensive herd of dairy cows belonging to Mr. Paget, of Ruddington Grange, near Nottingham, and which that gentleman has with great liberality placed at the disposal of the Society for any experiments the Council may direct to be made on them. Professor Simonds has accordingly selected a certain number of animals for the purpose of experiment at Ruddington, and a further number to be brought up to the Royal Veterinary College in London for experiment under his own immediate superintendence. The Council have expressed to Mr. Paget their warmest thanks for the invaluable opportunity he has thus afforded to the Society, of having direct investigations most satisfactorily made on the nature and cure of this fatal malady. The Council have also been favoured by Lord Stanley, H.M.'s Under Secretary of State for the Foreign Department, Sir Emerson Tennent, Secretary to the Board of Trade, and Dr. Willems, of Hasselt, in Belgium, with communications on this subject.

The Country Meeting of the Society at Lewes in July last was in every respect satisfactory, excepting in the number of visitors, which although amounting to 18,000 in the show-yard, and 500 at the pavilion dinner, was only one-half of the usual number. This comparatively deficient attendance, however, was owing to peculiar circumstances over which the Society had no control: namely, a remote locality, unusually oppressive heat, and a general election going on throughout the country at the very time of the meeting. The reports of the Senior Stewards of Live Stock and Implements respectively at that meeting will appear in the Society's Journal. The thanks of the Society were voted at the time to the authorities of the borough, to the railway companies, and to Professor Simonds, who delivered before the members an interesting letter on Parasitical Insects producing internal and external disease in the live stock of the farmer.

The Council have decided that the Gloucester Meeting for the South Wales district shall be held in that city in the week commencing Monday, the 11th of July. They have decided on the Prizes to be offered for Live Stock, and for the Prizes and Conditions of Implements for that occasion, deferring until after Christmas the final arrangements for the Poultry Prizes. They have also decided on the prizes to be offered for the Essays and Reports of next year. They have agreed to the arrangements for preparing the land for the trial of Implements, and have accepted the offer of the Contractor of Works to undertake their execution at the same rate of charge as in former years. They have received from the Professors at the Royal Agricultural College, at Cirencester, the offer of co-operation in any way by which their services may be thought, by the Council, best to promote the objects of the Society at the Gloucester Meeting.

In order to consider the most effectual means of obviating the over-feeding of live stock for breeding purposes exhibited at the Country Meetings of the Society, the Earl of Ducie, as its late President, undertook, after the Lewes Meeting, the task of entering into communications with the greater number of those gentlemen who had acted as judges at the former Country Meetings of the Society, and the great majority of their opinions being in favour of decisive measures to put a stop to an evil so generally complained of, a committee was appointed, who have made the following recommendations, which have been since adopted by the Council:—

1. To appoint three Juries of Condition for the three divisions of (1) Cattle, (2) Sheep, (3) Horses and Pigs; each Jury to be drawn by lot by the Steward of each division from the whole of the Judges comprised in it, and to consist of 9 Judges and 1 Steward: the Steward himself not to vote, but to take the decision in each case by a show of hands, the majority of votes to decide.
2. The following notice to be printed in red ink at the foot of each Certificate of entry: namely—"All animals sent for exhibition, which shall in the opinion of the Jury be in an over-fed condition, will be disqualified by the Jury before inspection by the Judges:" and a placard to be placed over the standing of every animal that shall be so disqualified, stating the reason of such disqualification.
3. The age of Bulls in the two classes of each division of cattle not to exceed four years and two years respectively on the 1st of July in the year of the show for which they are entered.
4. No Bull in Class I. of each division of cattle to be eligible for a prize unless a certificate is produced of his having served not less than three different cows within the three months preceding the 1st of June in the year of the show.
5. No alteration to be made in the limit of age for Cows; but that every cow in milk and not in calf must be certified to have had a live calf within the twelve months preceding the date of the show.
6. No Heifer entered as in calf to be eligible unless certified to have been bulled before the 1st of March in the year of show, and not to have been again in bulling subsequently to that date; nor her owner afterwards to receive the prize, unless on the production of a further certificate that she has produced a live calf before the 1st of February ensuing.
7. No Cattle or Sheep to have been fed with milk subsequently to the 1st of January in the year of the show.
8. No Boar or sow to be shown that cannot walk on account of over-fatness.

The District for the Country Meeting in 1856 has been determined to consist of the counties of Huntingdon, Cambridge, Bedford, Buckingham, Hertford, and Essex.

The Council have the continued satisfaction of referring to the successful manner in which the practical operations of agriculture are directed by improved prin-

ciples gradually adapted to each particular case by an extended knowledge of conditions; and of witnessing the same spirit of improvement that has so long sustained and encouraged the Society in the prosecution of its objects, now animating other agricultural communities in every part of the civilised world, and leading them to find their mutual advantage in friendly communication and the interchange of scientific and practical results.

By the order of the Council,
JAMES HUDSON, Secretary.

On the motion of Mr. Towneley, M.P., seconded by the Rev. James Linton, the Report was received and adopted.

Mr. Raymond Barker, chairman of the Finance Committee, presented to the Meeting the Auditors' Balance Sheet of the Accounts, which, on the motion of Mr. Spencer Stanhope, seconded by Mr. Fuller, M.P., was received by the meeting, and thanks voted to the Auditors for their care and trouble in auditing the accounts.

On the motion of Mr. Crisp, of Gedgrave, seconded by Mr. Paine, of Farnham, Mr. Knight, Mr. Dyer, and Mr. George Raymond Barker were elected Auditors for the year ensuing.

On the motion of Mr. Toor, of Lincolnshire, seconded by Mr. W. Jones, of Gloucestershire, thanks were voted to Professors Way and Simonds for the lectures they had delivered before the members during the past half-year.

On the motion of Lord Camoys, seconded by Mr. Druce, of Eynsham, the thanks of the Meeting were voted to Colonel Challoner, for the kind manner in which he had taken the chair on that occasion, and for the impartial manner in which he had presided over the Meeting.

The Meetings of the Council stand adjourned over Christmas, to Wednesday, the 2d of February.

BIRMINGHAM SHOW.—FAT CATTLE.

TUESDAY, *Dec.* 14.—There is a decided improvement in every respect upon any former year, excepting the class for large pigs, which were neither numerous nor good, the best specimens of the large breeds being entered as "small" pigs. Their owner must surely not know the meaning of the word, for a large majority of the pigs in Class XXXIII. are either purely large bred pigs, or a cross between the large and small breeds. The show of cattle is very excellent, far exceeding that of last year in many classes, being altogether superior both in the character of individual specimens and in the evenness of the Show generally. The sheep are a more striking feature of the Show than on any former occasion: there are some remarkably good Downs, but speaking generally of this class they are a little heavier, and carry more wool than we like in a pure Sussex Down. The fat pigs are much better than last year, which is speaking very highly in their praise. The breeding would have appeared better, if the animals had been arranged more strictly in accordance with the terms of the classification.

We shall walk round the yard and note any remarkable animal we pass there.

CLASS I. *Hereford Oxen.*—No. 1, by Mr. Crawshay, of Oakland Park, received the second prize; it is a large framed animal of good quality, evenly covered, with a deep flank. No. 3, by his Grace the Duke of Beaufort, received the first prize; has a beautiful head and forequarters, and a very level carcase; its hind legs are somewhat crooked, which give its hind-quarters a drooping appearance. No. 6, by Mr. Naylor, of Leighton Hall, is perhaps the best formed animal in the class, though not so fat as the prize beasts.

CLASS II. contains an even lot of five steers. The prize is awarded to C. Newdegate, Esq., M.P., for a very compact little beast of uncommon merit; girth, 7 feet 11 inches; length, 5 feet 3 inches.

In CLASS III. (*Hereford Cows*), the first prize is awarded to Mr. Herbert, of Worcester, for a very good and compact animal; girth, 8 feet 3 inches; length, 5 feet 6 inches; with a good head and fore-quarter, and level broad back. Its only fault is in the hind-quarters. The second prize is given to a slightly made beast with a long light body; girth, 7 feet 10 inches; length, 5 feet 8 inches. Shown by Mr. Boycott, of Donington.

CLASS IV. *Hereford Heifers.*—The first prize is given to Mr. Edwards, of Ludlow. Its quality is pretty good, inclined, however, to be patchy; length, 5 feet 8 inches; girth, 8 feet 8 ins. The second prize goes to a very fat animal of good quality; girth, 8 feet 2 inches; and length 5 feet 7 inches—shown by Lord Somers. No. 23 is a fine straight well made beast, shown by Captain Musgrove.

CLASS V. *Short-horn Oxen.*—This class altogether eclipses the Herefords. No. 44, the winner of the second prize, is shown by Mr. Stratton, of Swindon. It is an extraordinary animal, of a rich colour, fore-quarters full and good, and a very deep well-set flank; girth, 9 feet 4 inches; length 5 feet 9 inches. It was the winner of the gold medal in London. No. 48 is the winner of the first prize and gold medal, with 15*l.* extra, for the best ox of any breed. It is shown by Mr. Drakeford, of Cole Hill; girth, 8 feet 8 inches; length, 5 feet 9 inches. A prize was never awarded to a better beast. It is level from end to end, and the quality cannot be exceeded. The class contains an unusually large number of animals of excellent quality.

CLASS VI.—First prize to Mr. J. Stratton, of Reading; girth, 8 feet 2 inches; length 5 feet; deep wide chest.

CLASS VII. *Short-horn Cows.*—The first prize and gold medal and 15*l.* extra was given to Mr. Towneley, M.P. It is by far the best animal in the whole show; colour the best rich roan; the head faultless; the whole carcase level, compact, and cylindrical; girth, 8 feet 8 inches; length, 5 feet 8 inches. The second prize is given to Mr. Stratton, of Swindon; girth, 8 feet 3 inches; length, 5 feet 2 inches. No. 13, another of Mr. Stratton's, is a good animal, somewhat bulkier than the last, and not so firm in the flesh. No. 57, by Mr. Bemam, of Moreton-in-the-Marsh, is a very fine cow, showing perhaps hardly so much breed as some others in the class, or she might have been placed second; girth, 8 feet 9 inches; length, 5 feet 11 inches.

CLASS VIII. *Short horn Heifers.*—No. 76 (Mr. Fletcher, Mansfield) is a magnificent animal; back very broad and well covered. It attracted much notice, and well deserved it. The second prize (Lord Grantley, Ripon) is given to No 70; a firm-fleshed white cow, a good animal, but not extraordinary.

CLASS IX. *Devon Oxen.*—Mr. Turner, of Barton, carries off the first prize for an animal which exhibits the merits of the Devon breed in a neat compact body, with very firm flesh; girth, 7 feet 9 inches; length, 5 feet 2 inches. The second prize is awarded to a larger animal exhibited by Lord Leicester.

CLASS X.—Lord Aylesford exhibited the only animal in this class; a very pretty compact little beast.

CLASS XI. *Devon Cows.*—The first and second animals, shown by Mr. Umbers, of Leamington, and Lord Aylesford, are neat but small.

CLASS XIII.—Two useful beasts carry off the prizes here, shown by Mr. Barbery, of Wroxhall, and Mr. Chapman, of Atherston.

EXTRA CLASSES.

CLASS XIV. *Fat Oxen or Steers.*—1st prize to the Earl of Leicester (short-horn and Devon); a very handsome steer of good quality. 2d, Mr. Richard Spraggett, Warwick (Durham and Hereford). Silver medal Lord Leigh (Hereford).

CLASS XI. *Fat Cows.*—Mr. Beman and Lord Ducie showed two good short-horns in this class. Mr. Beman's is the largest and fattest, but Lord Ducie's shows most of the character of a pure short-horn.

CLASS XV. *Fat Cows.*—1st prize, Mr. Beman, Moreton-in-the-Marsh (cross-bred).

CLASS XVI. *Fat Heifers.*—1st prize, Mr. Thomas Jackson, Rugeley (cross between Durham and long-horn); fore-quarters, side, back, and flanks good. 2d, Mr. Thomas Lloyd, North Wales (cross between Buffalo and Hereford); a very pretty animal.

CLASS XVII. *Scotch or Welsh Oxen, or Steers* contains eight splendid animals.—1st prize, Mr. Rob, Thirsk (West Highland); 2d, Mr. Rob (West Highland). Mr. Rob shows unequalled judgment in the selection of this valuable breed of oxen. More perfect steers I never saw exhibited by any person; and one of these excels every other beast of the kind in this show or any other show of which I have any remembrance. The others, shown by Mr. Campbell, of Monzie, are larger animals, but not so evenly covered. The head and proportions of one are extraordinarily good. A more elegant head and horns were never seen, measuring between the tips of the horns 4 feet 8 inches.

CLASS XVIII. *Scotch or Welsh Heifers.*—Prize, the Earl of Leicester. (Galloway Scot.)

SHEEP.

CLASS XIX. *Leicesters*, under 22 months old.—1st prize, Mr. Henry Champion, Nottinghamshire; 2d, the Marquis of Exeter, Stamford.

CLASS XX. *Leicesters*, over 22 but under 34 months old.—1st prize, Mr. George Turner, Barton, near Exeter; 2d, Mr. John Henry Lees, Coleshill.

CLASS XXI. *Long woolled Sheep*, not being Leicesters, under 22 months old.—1st prize, Mr. Robert Beman, Moreton-in-the-Marsh.

CLASS XXII. *Long-woolled Sheep*, not being Leicesters, over 22, but under 34 months old.—1st prize, Mr. Robert Beman, Moreton-in-the-Marsh.

CLASS XXIII. *Pure-bred Southdowns*, under 22 months old.—1st prize, Mr. John Williams, Faringdon; 2d, to the same. The short-woolled sheep exhibited were superior to the Leicesters this year.

CLASS XXIV. *Pure-bred Southdowns*, over 22, but under 34 months old.—1st prize, Sir R. G. Throckmorton, Bart., Berkshire; 2d, Lord Walsingham, Thetford, Norfolk.

CLASS XXV. *Short-woolled Sheep*, not Southdowns, under 22 months old.—1st prize, Mr. Brettell Vaughan, Ludlow; 2d, T. C. Whitmore, Esq., Newport, Salop.

CLASS XXVI. *Short-woolled Sheep*, not being Southdowns, over 22, but under 34 months old.—1st prize, James Foster, Esq., Stourbridge; 2d, Mr. William Masfen, Walsall.

CLASS XXVII. *Cross-bred Sheep*, under 22 months old.—1st prize, Mr. William Gillett, Southleigh, Oxfordshire; 2d, Mr. Samuel Druce, Eynsham, near Oxford.

CLASS XXVIII. *Cross-bred Sheep*, over 22, but under 34 months old.—1st prize, Mr. Abraham Nurse, Leicestershire; 2d, Mr. William Shipway, Hanley Castle, Worcestershire.

PIGS.

CLASS XXIX. *Three Fat Pigs*, of one litter, not exceeding 10 months old.—1st prize, Sir John Conroy, Bart., Reading. Remarkably well made animals, of fine quality. Very large of their age. 2d, Mr. A. B. Hopkins, Yardley. Good white pigs.

CLASS XXX. *Three Fat Pigs*, of one litter, not exceeding 15 months old.—1st prize, his Grace the Duke of Marlborough. Large black useful pigs; girth, 5 feet 11 inches; length, from ear to tail, 5 feet. Look older than stated. 2d, Mr. Arthur Perks, Tamworth. Girth, 6 feet; length, 5 feet 2 inches.—224, Mr. Nurse, Ashby Farm. This pen, as well as all those of the same breed, fully supports the character of the Tamworth breed. We last year said we could not see wherein these pigs excelled other breeds. Our confidence in their merits is still on the decline. If pigs are to be bred for speed, this breed, in our opinion, will bear the bell. It is generally said that they are large consumers, and rather shy breeders. If, however, they were never to breed at all, there might be a greater loss to this pork-consuming country. The whole of the class commended.

CLASS XXXI. *Fat Pigs*, exceeding 15 months old.—1st prize, Mr. Thomas Studholme Wilkins, Sutton Coldfield. Black, hairless, and smooth enough to sharpen a razor on. 2d, Mr. James Baldwin, King's Norton.—243, 244, and 245 (Mr. Bate, King's Linton), are still more remarkable for their size: they are of a darker colour, pretty well formed, and, I should say, all from the same sire, showing great similarity in appearance and measurement. Girth, 6 feet 10 inches; length, 5 feet 9 inches. The live weight, I understand, is 9 cwt. each.

CLASS XXXII. *Breeding Pigs*, of a large breed, over 3, and under 6 months old.—1st prize, Mr. John Gough, St. Martin's-lane, Birmingham; 2d, Mr. William Beach, Monument-lane, Birmingham.

CLASS XXXIII. *Breeding Pigs of a Small Breed*, over 3 and under 6 months old.—1st prize, Charles Leigh Clare, Esq., Hindley House, near Liverpool (improved Essex). 2d, Mr. Samuel Wyley, Brandsby, near York (Leicester). Highly commended: The Right Hon. the Earl Ducie, Tortworth Court, near Wootton-under-Edge, Gloucestershire. (Age, 5 months and 14 days) Robert Berkeley, Esq., Spetchley Park, near Worcester. (Age, 5 months and 24 days.) Mr. Joseph Tuley, Matchless House, near Keighley, Yorkshire. (Age, 5 months and three days.) Mr. William Ludlam, Railroad-street, Bradford, Yorkshire; Mr. Edward Cockshot, Frizing Hall, near Bradford. (Age, 17 weeks and 2 days.) All the class generally commended.—This Class was intended for pigs of a pure small breed, and not for those produced by a cross between a large and small breed. This rule seems to have had no tendency to shorten the noses or legs of the animals exhibited, for there are all sorts, sizes, and colours in this class, from the beautiful small and pure bred pig of from 12 to 14 score when full grown, to the pig of from 30 to 40 score when fully mature. In this Class Lord Ducie and Mr. Wiley exhibit each a pen of the neatest and compactest pigs in the yard. Nothing can be more perfect than they are. They possess every point of excellence that the most fastidious could desire. As a proof of their excellence, three of Mr. Wiley's pigs were sold before they had been in the pen an hour. Lord Ducie's representative purchased the best Boar for his lordship; Robert Gunter, Esq., of Earl's-court, London, was the lucky purchaser of the two sows—we give him great credit for his choice.

JUDGES OF CATTLE.—Mr. John Booth, Killerby, Catterick, Yorkshire; Mr. Valentine Barford, Foscote, near Towcester; and Mr. Henry Chamberlain, Desford, near Leicester.

JUDGES OF SHEEP AND PIGS.—Mr. Thomas Harris, Fletchamstead, near Coventry; Mr. John Moon, Kelland Barton, Lafford, near Crediton, Devon; and Mr. Francis Bach, Rowton, near Clun, Salop.

REFEREE FOR THE AGES OF PIGS.—Mr. William Hollingsworth, Bilston.

Several excellent collections of Roots were exhibited, among which the Judges noticed the Mangold Wurzel and Turnips of Sir John Conroy, Bart.; the Mangold Wurzel of the Hon. and Rev. W. C. Talbot, Ombersley, Worcestershire; the Cabbages of Mr. John Lowe, Bull Ring, Birmingham; and a number of fine specimens from the Earl of Aylesford, and Mr. Samuel Druce, of Eynsham, near Oxford. There were also a number of other good specimens of Roots exhibited.

LIST OF POULTRY PRIZES.

CLASS I. *Spanish.* (For the best Cock and three Hens of any age.)—2*l.* 2*s.*, Mrs. W. Hornby, Prescot; 1*l.* 1*s.*, Captain W. Hornby, Prescot; 15*s.*, Mr. J. H. Peck, Wigan.

CLASS II. *Spanish.* (For the best Cock and three Pullets, chickens of 1852.)—1*l.* 1*s.*, Mr. J. H. Smith, Skelton Grange, York; 10*s.*, Mr. R. Taylor, Ward End Mills: 5*s.*, Captain W. Hornby, Prescot. The whole of this class highly meritorious.

CLASS III. *Spanish.* (For the best Cock and one Hen of any age.)—15*s.*, Mr. J. H. Peck, Wigan; 10*s.*, Mr. J. Taylor, jun., Cressy House, Shepherd's Bush, London.

CLASS IV. *Dorking.* Single combed. (For the best Cock and three Hens of any age.)—2*l.* 2*s.*, Townley Parker, Esq., St Helen's, Lancashire; 1*l.* 1*s.*, Captain W. Hornby, Prescot; 15*s.*, Jedediah Strutt, Esq., Belper, Derbyshire.

CLASS V. *Dorking*, single combed. (For the best Cock and three Pullets, Chickens of 1852.)—1*l.* 1*s.*, Captain W. Hornby, Prescot; 10*s.*, Mr. James Drewry, Burton-upon-Trent; 5*s.*, Mr. Edward Lister, Over, Cheshire.

CLASS VI. *Dorking*, double or rose combed. (For the best Cock and three Hens of any age.)—2*l.* 2*s.*, Miss E. S. Perkins, Sutton Coldfield; 1*l.* 1*s.*, Mr. J. Huskins, Fazeley, Staffordshire; 15*s.*, the Rev. J. Robinson, Widmerpool, near Nottingham.

CLASS VII. *Dorking*, double or rose combed. (For the best Cock and three Pullets, Chickens of 1852.)—1*l.* 1*s.*, Mrs. W. Hornby, Prescot; 10*s.*, Sir J. Cathcart, Bart., Chertsey, Surrey; 5*s.*, Mr. J. Drewry, Burton-upon-Trent.

CLASS VIII. *Dorking*, double or single combed. (For the best Cock and one Pullet, Chickens of 1852.)—15*s.*, Mrs. W. Hornby, Prescot; 10*s.*, the Rev. M. W. F. Thursby, Abington, Northampton.

CLASS IX. *Dorking*, white. (For the best Cock and three Hens of any age.)—2*l.* 2*s.*, the Earl of Dartmouth, Sandwell; 1*l.* 1*s.*, Mr. J. Jennens, Moseley, Birmingham.

CLASS X. *Dorking*, white. (For the best Cock and three Pullets, Chickens of 1852.)—1*l.* 1*s.*, Mr. J. B. Payn, Vicarage-road, Edgbaston; 10*s.*, Earl of Dartmouth, Sandwell; 5*s.*, the Rev. E. Elmhirst, Shawell, Leicestershire.

CLASS XI. *Cochin China*, cinnamon and buff. (For the best Cock and three Hens of any age.)—2*l.* 2*s.*, Mr. T. Sturgeon, Grays, Essex; 1*l.* 1*s.*, Mr. J. Cattell, Moseley Wake Green; 15*s*, Mr. F. C. S eggall, Weymouth.

CLASS XII. *Cochin China*, cinnamon and buff. (For the best Cock and three Pullets, Chickens of 1852.)—1*l.* 1*s.*, Mr. J. Cattell, Moseley Wake Green; 10*s.*, Mr. T. Roscoe, Knowsley, near Prescot; 5*s.*, Mr. C. Punchard, Haverhill, Suffolk.

CLASS XIII. *Cochin China*, brown, and partridge feathered. (For the best Cock and three Hens of any age.)—2*l.* 2*s.*, Mr. E. Farmer, Sparkbrook, near Birmingham; 1*l.* 1*s.*, Mr. T. Atkins, Dursley, Gloucestershire; 15*s.*, Mr. T. Smith, Cheapside, Birmingham.

CLASS XIV. *Cochin China*, brown, and partridge feathered. (For the best Cock and three Pullets, Chickens of 1852.)—1*l.* 1*s.*, Mr. Thomas Atkins, Dursley, Gloucestershire; 10*s.*, Mr. C. Punchard, Haverhill, Suffolk; 5*s.*, George Tollett, Esq., Betley Hall, Staffordshire.

CLASS XV. *Cochin China*, cinnamon and buff, or brown. (For the best Cock and one Pullet, Chickens of 1852.)—15*s.*, W. Cust Gwynne, M.D., Sandbach; 10*s.*, Mr. C. Punchard, Haverhill.

CLASS XVI. *Cochin China*, white. (For the best Cock and three Hens of any age.)—2*l.* 2*s.*, Mrs. Herbert, Powick, Worcestershire; 1*l.* 1*s.*, Mr. G. C. Peters, Moseley, near Birmingham; 15*s.*, Mr. George Graham, Yardley, Worcestershire.

CLASS XVII. *Cochin China*, white. (For the best Cock and three Pullets, Chickens of 1852.)—1*l.* 1*s.*, Mrs. Herbert, Powick, Worcestershire; 10*s.*, Mr. George Graham, Yardley, Worcestershire; 5*s.*, Mr. James Cattell, Moseley Wake Green. The judges cannot too strongly impress on the exhibitors of Cochin China fowls the danger they incur of losing prizes, to which they would otherwise be entitled, by exhibiting specimens with imperfect tails.

CLASS XVIII. *Malay.* (For the best Cock and three Hens of any age.)—1*l.* 1*s.*, Mr. Charles Ballance, 5, Mount-terrace, Taunton.

CLASS XIX *Malay.* (For the best Cock and three Pullets, Chickens of 1852.)—15*s.*, Mr. G. Oldham, Nether Whitacre, Warwickshire; 10*s.*, Mr. Charles Ballance, 5, Mount-terrace, Taunton.

CLASS XX. *Game Fowl*, white, and piles. (For the best Cock and three Hens of any age.)—1*l.* 1*s.*, Mr. Henry Felthouse, Tamworth; 15*s.*, Mr. Theodore Bullock, Handsworth; 10*s.*, Mr. J. T. Wilson, Redditch, Worcestershire.

CLASS XXI. *Game Fowl*, white, and piles. (For the best Cock and three Pullets, Chickens of 1852.)—15*s.*, Mr. James Hand, jun., Tamworth; 10*s.*, Mrs. G. A. Wilson, Redditch, Worcestershire; 5*s.*, Mr. Edward Lowe, Tamworth.

CLASS XXII. *Game Fowl*, black breasted, and other reds. (For the best Cock and three Hens of any age.)—1*l.* 1*s.*, Mr. Edward Lowe, Tamworth; 15*s.*, Mr. Edward Glover, Olton Green, near Solihull; 10*s.*, Mr. Benjamin Williams, Lozells, Handsworth.

CLASS XXIII. *Game Fowl*, black-breasted, and other reds. (For the best Cock and three Pullets, Chickens of 1852.)—15*s.*, Mr. Theodore Bullock, Handsworth; 10*s.*, Mr. Henry Sewell, Upton-upon-Severn; 5*s.*, Mr. Thos. Roscoe, Knowsley, near Prescot.

CLASS XXIV. *Game Fowl*, blacks, and brassy-winged, except greys. (For the best Cock and three Hens of any age.)—1*l.* 1*s.*, Mr. J. T. Wilson, Redditch, Worcestershire; 15*s.*, the Rev. C. D. Blyth, Biggleswade; 10*s.*, Mr. J. T. Wilson, Redditch, Worcestershire.

CLASS XXV. *Game Fowl*, blacks, and brassy-winged, except greys. (For the best Cock and three Pullets, Chickens of 1852.)—15*s.*, Mr. W. Dester, Seckington.

CLASS XXVI. *Game Fowl*, duckwings, and other greys, and blues. (For the best Cock and three Hens of any age.)—1*l.* 1*s.*, Mr. W. H. Austin, Norton, near Shiffnal; 15*s.*, Mr. E. Lowe, Tamworth; 10*s.*, Mr. J. Hadwen, Kelroyd-bridge, Halifax.

CLASS XXVII. *Game Fowl*, duckwings, and other greys, and blues. (For the best Cock and three Pullets, Chickens of 1852.)—15*s.*, Isaac Avery, King's Norton, Worcestershire; 10*s.*, Mr. F. Bullock, Handsworth; 5*s.*, Mr. W. Smith, Kent House, Halifax.

CLASS XXVIII. *Golden-pencilled Hamburgh.* (For the best Cock and three Hens of any age.)—1*l.* 1*s.*, Mr. J. Pearson, Chilwell, near Nottingham; 15*s.*, Mr. J. Lowe, 6, Bull Ring, Birmingham; 5*s.*, Mr. W. B. Mapplebeck, 6, Bull Ring, Birmingham.

CLASS XXIX. *Golden-pencilled Hamburgh.* (For the best Cock and three Pullets, Chickens of 1852.)—15*s.*, Mr. J. Oldham, Long Eaton, Derbyshire; 10*s.*, Mr. J. Lowe, 6, Bull Ring, Birmingham; 5*s.*, Mr. Charles Brown, 47, Edgbaston-street, Birmingham.

Class XXX. *Golden-spangled Hamburgh.* (For the best Cock nd three Hens of any age.)—*1l.* 1s., Mr. H. Clapham, Aireorth, near Keighley; 15s., Mr. J. Dixon, Bradford; 5s., Mr. . Smith, Brineton, near Shiffnal.

Class XXXI. *Golden-spangled Hamburgh.* (For the best Cock nd three Pullets, Chickens of 1852.)—15s., Mr. H. Clapham, ireworth, near Keighley; 10s., Mr. T. Smith, Brineton, near hiffnal.

Class XXXII. *Silver-pencilled Hamburgh.* (For the best ock and three Hens of any age.)—*1l.* 1s., the Hon. Mrs. stley, Thetford, Norfolk; 15s., Mr. B. Dain, Aston, irmingham; 5s., Viscount Hill, Hawkstone.

Class XXXIII. *Silver-pencilled Hamburgh.* (For the best ock and three Pullets, Chickens of 1852.)—15s., Mr. B. Dain, ston, Birmingham; 10s., Mr. T. Lowe, Fazeley, Staffordhire; 5s., Mr. D. Groom, Stourport.

Class XXXIV. *Silver-spangled Hamburgh.* (For the best ock and three Hens of any age.)—*1l.* 1s., Mr. T. B. Wright, reat Barr, Staffordshire; 15s., Mr. A. F. Sparkes, Bridgnorth; 0s., Mr. William Beach, Birmingham.

Class XXXV. *Silver-spangled Hamburgh.* (For the best ock and three Pullets, Chickens of 1852.)—15s., Mr. James Vhilock, 15, High-street, Birmingham; 10s., C. R. Colville, Esq., M.P., Burton-upon-Trent; 5s., Mr. Henry Clapham, Aireorth, near Keighley.

Class XXXVI. *Poland Fowl,* black, with white crests. (For he best Cock and three Hens of any age.)—*1l.* 1s., Mr. Edward Bird Guest, Broadwas; 15s., Mr. Edward Hewitt, Sparkbrook, Birmingham; 10s., Mr. Edward Hewitt.

Class XXXVII. *Poland Fowl,* black, with white crests. For the best Cock and three Pullets, Chickens of 1852.)—15s., Miss Martha Hewitt, Sparkbrook; 10s., Mr. Edward Collins, 14, Moland-street; 5s., Mr. Henry Child, jun., Balsall Heath, Birmingham.

Class XXXVIII. *Poland Fowl,* golden, with ruffs or beards. For the best Cock and three Hens of any age.)—*1l.* 1s., Mr. J. . Mapplebeck, Highgate, Birmingham; 15s., W. G. Vivian, Esq., Singleton, Glamorganshire; 10s., John Ault, Brailsford, ear Derby.

Class XXXIX. *Poland Fowl,* golden with ruffs or beards. For the best Cock and three Pullets, Chickens of 1852.)—15s., Mr. Daniel J. Fleetwood, 53, Ann-street, Birmingham; 10s., Mr. J. E. Mapplebeck, Highgate; 5s., Master G. Horner, Charlotte-street, Hull.

Class XL. *Poland Fowl,* golden, without ruffs or beards. For the best Cock and three Hens of any age.)—*1l.* 1s., Mr. V. Cox, Brailsford Hall, near Derby; 15s., James Winter, Brailsford, Derbyshire; 10s., Mr. W. Cox.

Class XLI. *Poland Fowl,* golden, without ruffs or beards. For the best Cock and three Pullets, Chickens of 1852.)—15s., Mr. Edward Farmer, Sparkbrook, near Birmingham; 10s., o the same.

Class XLII. *Poland Fowl,* silver, with ruffs or beards. (For he best Cock and three Hens of any age.)—*1l.* 1s., W. G. Vivian, sq., Singleton, Glamorganshire; 15s., John Ault, Brailsford, ear Derby.

Class XLIII. *Poland Fowl,* silver, with ruffs or beards. For the best Cock and three Pullets, Chickens of 1852.)—15s., Mr. Daniel J. Fleetwood, 53, Ann-street; 10s., Master odfrey Horner, Hull; 5s., John Ault, Brailsford near Derby.

Class XLIV. *Poland Fowl,* silver, without ruffs or beards. For the best Cock and three Hens of any age.)—*1l.* 1s., Mr. T. ullock, Handsworth; 15s., Mr. Thomas Robson, Halifax; 0s., Master Godfrey Horner, Hull.

Class XLV. *Poland Fowl,* silver, without ruffs or beards. For the best Cock and three Pullets, Chickens of 1852.)—15s., r. Thomas Robson, Halifax; 10s., Mr. George Parker, Perry arr, Staffordshire.

Class XLVI. *For any other distinct Breed.*—Cuckoo: *1l.* 1s., ady Guernsey, Leamington; Poland: 15s., W. G. Vivian, sq., Singleton, Glamorganshire; Rumpless: 15s., Mr. homas Beetenson, Vauxhall Grove, Birmingham; Cochin hina: 15s., John Fairlie, Esq., Cheveley Park, near Newarket, Cambridgeshire; 10s., Mr. T. B. Wright, Great Barr, taffordshire; Frizzled: 15s., Mr. Theodore Bullock, Hawhorn House, Handsworth; Negro, or Silky: *1l.* 1s., Mr. onathan Harlow, Moseley, near Birmingham; Andalusian: 5s., Mr. John Taylor, jun., Shepherd's Bush, London.

Class XLVII. *Bantams.* (For the best Cock and two Hens.) Gold-laced: 15s., Captain C. D. Hill, Summerhill, Newport; 0s., Mrs. H. Williams, Eaton Mascot, near Shrewsbury; ilver-laced: 15s., Mr. Thomas Roscoe, Knowsley, near rescot; 10s., Mr. E. Hewitt, Sparkbrook, near Birmingham; White: 15s., Mr. Benjamin Dain, Slade House, Aston; 10s., r. Richard Bratton Baddely, Wellington, Shropshire; lack: 15s., Mr. John Dain, Henley-in-Arden; 10s., Mr. atthew Ridgway, Dewsbury; any other variety: 15s., Mr. C. msden, Lichfield.

Class XLIX. *Geese.*—*1l.* 1s., Mrs. H. Hill, New House retton Grandison; 10s., Mr. John Taylor, jun., Shepherd's ush, London; 5s., Thomas Townley Parker, Esq., Sutton range, St. Helen's.

Class L. *Ducks.*—Aylesbury: *1l.* 1s., Viscount Hill, Hawkstone; 10s., Miss Rachel Walker, Clipston Rectory, Northamptonshire; 5s., Mr. Joseph Jennens, Moseley, near Birmingham. he class generally commended. Rouen: *1l.* 1s., Mr. C. nchard, Blunt's Hall, Haverhill; 10s., Mr. H. Worrall, verpool; any other varieties: *1l.* 1s., Miss Clifton, Whittingn, near Worcester; 10s., Sir John Cathcart, Bart., Chertsey, rrey; 5s., Mr. John Snackel, Small Heath, near Birmingam; Muscovy: 10s., Mr. Thomas Snape Tunaley, Tamworth. Class LI. *Turkeys.*—*1l.* 1s., John Fairlie, Esq., Cheveley ark, near Newmarket; 10s., Mr. William Udal, Green Lanes, ear Birmingham; 7s. 6d., the Countess Howe, Gopsall Hall. he class generally good.

Class LII. *Guinea Fowl.*—*1l.* 1s., Mr. William Masfen, rton Cairns, near Cannock.

Judges of Poultry.—The Hon. and Rev. Stephen Willoughby ast, Barnby Rectory, near York; G. R. Andrews, Esq., anchester; the Rev. Robert Pulleine, The Rectory, Kirby ske, near Thirsk; Mr. John Baily, Mount-street, Grosvenor uare, London.

Judges of Pigeons.—Mr. T. L. Parker, Birmingham; Mr. , Hadderton.

This, the most successful of five exhibitions, terminated last night. Time will not permit us now to enter ore detail, but we will do so next week, and will make me remarks descriptive of the principal pens. Neither n we give the number of visitors who attended, nor the mount of money taken at the doors. The number of ens exhibited was 1220, and the names of the successful ibitors will be a guarantee that the best breeders in ngland competed for the different prizes. We assert bout hesitation, that it was the largest and best play of poultry ever yet seen in the world. The mount of money taken for poultry sold on Tuesday, e 3rd instant, was upwards of 1000*l.*, and the total ount realised, even public, will astonish by its amount, d also tend to the increasing confidence placed in the ghly liberal Londoners, by the poultry amateurs of reat Britain.

A LECTURE,

DELIVERED AT THE CHELMSFORD LITERARY INSTITUTE, BY MR. I. J. MECHI, OF TIPTREE HALL, DECEMBER 1, 1852.

"*On the present position of British Agriculture, as compared with our other Industrial Occupations.*"

(*Concluded from page 797.*)

Steam.—It must be quite clear to the most superficial observer, that the main instrument of our rapid manufacturing and commercial progression is steam. The mere thought of its influences, in a moral, social, and economic point of view, is overwhelming. It facilitates intercourse, economises time, multiplies labour, and cheapens production. Volumes might be written of its wonders, past, present, and to come, and well have manufactures and commerce availed of it. But is it really credible that prejudiced and stolid agriculture has alone rejected its advances and disdained its aids? If I were a perfect stranger to this country, and to its history and circumstances, and were told that the steam power of this mighty interest was less than 10,000 horse, I should at once condemn its fatal ignorance or prejudice. Why, there is scarcely any article of luxury or necessity, used by the farmer and his landlord, that they do not owe to steam. From the button of his coat to the shoe of his horse—for every colour in his own or family's apparel—for the very newspaper he reads, and the impress of its characters, one or other, is indebted to steam. His very loaf is now no longer dependent on wind or water, but is secured by steam; and yet we hear the miserable flail tapping the barn-door, and see the exhausted and haggard thresher evidencing alike the misery and miscalculation of making man a mere automaton.

Do not tell me of the want of capital in agriculture, when land can always be transferred (barring the law's delay), into cash at 25*l.* to 50*l.* the acre. Good tenants are to be got in agriculture; but then the landlords must make it worth their while—they must be tempted, encouraged, and secured: capital is independent and fertilising, and wants inviting; want of capital is humble and exhaustive, and wastes itself. Such men as the late Mr. Coke, of Norfolk, who combined the business-principles with an hereditary nobility, knew well how to improve his tenantry, increase his rental, and benefit his country; there are others like him, but far too few.

We are slow to give up our predilection for land as an honourable qualification. A man may be a millionaire in mills, machinery, consols, or shipping—his mind may be gigantic in learning or science; but unless wedded to a certain acreage of cold clay or hard gravel, vain must be his aspirations to a legislatorial seat in St. Stephen's. This is absurd and inconsistent with our great commercial and manufacturing dignity. When ours was a mere pastoral and agricultural nation, such a system was proper and natural. So long as you make land the sole basis of legislative qualification, so long you will perpetuate non-improvement. Having only this object in view, an immense number of proprietors, holding deeply-embarrassed estates, have no means or desire to improve the condition of their wretchedly-managed properties. I find fault with our legislature for permitting such a temptation to neglect, resulting as it does in a great public injury.

Agricultural statistics are much to be desired. I wish some member would move for returns of the amount of steam-power used in agriculture—the amount of money per acre collected for education in the various agricultural districts—the number of hedge-row trees per acre in various counties—and the miles of fences. The comparison of various districts would show such frightful discrepancies, that we should no longer wonder at the wealth of some and poverty of others.

Delightful is the study of the science of agriculture. Liebig eloquently and truly says, "Innumerable are the aids afforded to the means of life, to manufactures, and to commerce, by the truths which assiduous and active enquirers have discovered and rendered capable of practical application. But it is not the mere practical utility of these truths which is of importance. Their influence upon mental culture is most beneficial; and the new views acquired by the knowledge of them enable the mind to recognise in the phenomena of nature, proofs of an infinite wisdom, for the unfathomable profundity of which language has no expression." In connection with this subject, let me remind you that there is already at Cirencester, in Gloucestershire, one noble agricultural college, with 700 acres of land attached to it, imparting to the willing an amount of intellectual and practical information unattainable elsewhere. Its successful establishment must be to the well-wishers of agricultural progression a subject of rejoicing.

If agriculture will not avail itself of it, for I hear they have scarcely any farmers' sons, it only further convinces me that the possession and occupation of the soil is passing rapidly into other hands. Liebig truly says, "Agriculture is both an art and a science. Its scientific basis embraces a knowledge of all the conditions of vegetable life, of the organs of the elements of plants, and of the sources whence they derive their nourishment. Experience acquired in the practice of this art can never stand in contradiction to its scientific principles, because the latter have been deduced from all the observations of experience, and are actually an intellectual expression of it. Neither can theory ever stand in antagonism to practice, for it is merely the tracing back of a class of phenomena to their ultimate causes." The same great author, having in view, no doubt, the exhaustive practice of many of our poverty-stricken districts, sarcastically remarks:—"Many of our farmers, like to these alchymists of old, in searching after the philosopher's stone, look now to find the wonderful seeds; for they expect that their land should bear a hundred fold, without supplying to it any food, even although this land is scarcely rich enough to bear its own indigenous plants."

If Government considers it necessary to stimulate and improve our manufacturing taste by public schools of design, let us hope that under the pressing applications of our landed proprietors and farmers, something may equally be done to place the production of our food on a more scientific and less empirical basis. As yet, agriculture owes nothing in this respect to official authority or to the national purse. Whilst taking a review of the condition of various large estates in different parts of the United Kingdom, one is struck with the great discrepancy in their management. Men, like the late Mr. Coke, and like many I could now name, look around for tenants of large intelligence and sufficient capital, likely to improve permanently the value and rental of the estate, and impart by their example, a high and improved state of cultivation. Such men are only to be obtained by suitable residences and farm-buildings, adapted to the shelter of a large number of cattle, by liberal covenants and leases, by drainage, by the removal of injurious trees and fences, and by an exemption from an excess of game. Happy for the country at large is such a combination, and sorry is the contrast of numerous districts, permitted to remain in a miserable state of primitive neglect, and unparticipating in the general progression of landed value.

I see too many of this class in my mind's eye—the tenantry. The land cold, wet, and shaded by numerous small enclosures, studded with stunted trees, which can never be profitable to the landlord, and are certainly most injurious to the occupier. The humble tenant, thus hopelessly economised, as his limited capital is allowed up, bit by bit, by poverty and weeds; his temper soured in contending, as, year by year, the quality of his property is deteriorated, and sinks lower in the unremunerative valued rent of value. At last he succeeds in forming a ruined man, doomed to seek some menial office or to compete with the ordinary laborers. The landlord of such a property, does also (undeserved) a bad name, is pitied or censured, and must put up with an indifferent tenantry and depreciated rental. The tradesmen and labourers of the neighbourhood participate in the depressive influence, and it extends through them, in a degree, to the country at large. The want of means to improve entailed or other estates can no longer be pleaded as an excuse for non-improvement, for we have now associated companies, authorised by Act of Parliament, to erect buildings, drain, make roads, or effect any necessary improvement, chargeable as against the estate. The competition between high-farmed and low-farmed estates is becoming daily more obvious and severe; it requires no conjuror to predict which will be the first to succumb.

Let us see how stands our acreage, and whether there is not abundant opportunity for an enormous agricultural increase at even lower prices. Now, surely something might be done to increase the produce only 10s. per acre, and that would at once add fifteen to twenty millions sterling to our food, or much more than the whole of our foreign imports. I will take for instance one great source of economy—I mean the removal of unnecessary banks and fences, and the better management of those which remain, which should be assimilated to our effective railway fences—recent statistics show that the mere ground occupied by fences in some counties amounts to 10 per cent. of the acreage, to say nothing of the damage by their roots and shading, insects, &c., and also by an enormous number of unprofitable trees; taking the kingdom through, I believe all valuers will allow that from 5 to 7½ per cent. is not too large an allowance for fences and waste on a farm. Here, then, is at once an enormous opportunity of adding millions to our acreage. I am afraid even to estimate the damage done by trees, it is so enormous. I know some districts where there are 20 to 50 to the acre, and their roots may be traced 100 yards. If we only removed two from each acre, we should have 100 millions less, and I think we might spare 500,000 miles of fences. I know plenty of tenants who would rather go to a timber yard and buy foreign deal, than be at the expense of removing and cutting up the worthless timber offered by their landlords. We cannot compete with the natural forests of Canada.

Look at the mal-arrangements of our farmers. A farm of 640 acres ought to represent a square mile, and be accessible from the centre to the extremity, by half mile distances. But it is a very different affair at present; all this might be easily arranged, if we could walk into a Government registration office, and exchange our lands as we do our Consols. If we sit down to calculate the loss arising from unnecessary wastes by the road side, it is perfectly astounding. The non-economy of manure is also a most serious consideration, especially deserving the landlord's attention. The loss resulting from a month's continued rain must be to the farmer enormous. The ammonia of his yard and of his heaps, with other valuable solutions, are lost to him for ever. When landlords and farmers understand agricultural chemistry, they will naturally combine to establish covered yards, and other protective means to economise that costly production. I say costly, for I know from my own experience that you cannot feed cattle with food at market prices, without a loss, or charge for manure of from 20 to 30 per cent., and often much more. I am glad that covered farm-yards are extending in this neighbourhood. The owners and occupiers will soon follow it up by an erection of steam engines.

If we take the literature of agriculture as an evidence of its educational and mental condition, one is struck with the feebleness and paucity of county journals in certain districts of England. In lieu of great commercial, agricultural, social, and scientific questions, the limited sheet is occupied by petty and local occurrences of every-day life. I know full well, that in many cases the talented editors are compelled to write down to the level of the ignorance and prejudice of their readers. I trust and believe that the establishment of so many societies like yours, in the heart of agricultural districts, may lead to enlightenment. It is to be regretted, that the peculiar occupations and distant locations of our agricultural population, lead considerably to prevent their enjoying, to the full extent, similar advantages. Still much might be done by local book clubs and other arrangements.

In these times we have clubs and societies of most sorts, but not a land-valuer's society—which I should very much like to see established. Here is a large body of active, educated, and influential men, forming the connecting link between landlords and tenants, but hitherto not amalgamating their aggregated and practical agricultural knowledge for the improvement of agriculture. It is highly desirable, that the extremely opposite and anomalous practices of valuation, in particular localities, should undergo a thorough reformation. I am aware how large an amount of influence is exercised by this class of individuals, and how much they are looked up to by both landlords and tenants. Taking them as a body, I am sure that a periodical conference, and interchange of sentiments, would greatly tend to assimilate, gradually and prudently, the most incongruous of local valuations and farm practice. I do not know a greater evil in this country than the over trading in land. Now in business we do not measure a man by the size of his shop and warehouse, but by the judicious sufficiency of his stock, and compactness of his arrangements. In agriculture, the desire appears to be for quantity rather than for quality, too often as regards both landlord and tenant; and hence the cry, when improvement is suggested, "Where is the money to come from?" When I wished to expend money in this way, I sold one farm and applied the money to the improvement of another; this must be done more generally if we are to go ahead, and compete with foreigners and with the well farmed districts of this kingdom. Improvement is costly, although profitable; for instance—Pipe drainage per acre 4*l.*, brick and slated buildings, with steam power, &c., 6*l.*, irrigation by subterranean iron pipes with hose and jet, 5*l.* So here is a sum of 13*l.* to 15*l.* per acre, irrespective of chalking, marling, claying; the removal of trees, fences, &c., will repay for making good roads. The tenants' expenditure in bones, guano, oilcake, &c., it is to be hoped will remunerate him.

Now it is by such means as those above mentioned, that our most valuable estates have attained their increased rentals, and withstood those heavy claims for abatement which have thrown into the landlords' hands many unimproved farms. It is only just and honourable that our landed proprietors should take the initiative in agricultural amendment. Education and competition will stimulate the rising generation of farmers to pay to their landlords a just per centage on such improvements as I have described.

Whilst treating of the great question of our national agriculture, I would fain have avoided an allusion to my own agricultural proceedings, but living as I do amongst you, who have witnessed my battles and my struggles, I cannot help feeling that I have, like the good old departed Duke, fought and conquered—I feel that it is no longer now in this country considered extravagant or ridiculous to drain heavy clays, to erect steam engines and substantial buildings, to aerate the subsoil, to substitute carts for waggons, or even to lay down subterranean iron pipes for the economical application of that essential liquid, which too frequently embrowns our horseponds and ditches. Being now disentrammelled from the leading strings of an imaginative protection, let the noble art of agriculture strive to rival her sister manufacture in the science, abundance, and cheapness of production. To have enough and to spare, will be as great and as necessary triumph for our agriculture as for our manufactures.

Let me conclude by using the gallant Nelson's words,—"England expects that every man will do his duty" in the battle of cheap and abundant production for his own profit and for the honour of his country. If I were to venture to advise my legal friends on the subject of transfer, I would say, by all means cheapen and simplify it. The same principle

applies to law as to everything else, diminished price increases consumption, and *vice versa*, as in the case of Chancery law, it is avoided by all sober men as a pestilence. If land could be transferred as easily as consols, it would change hands as frequently, and make plenty of business. At present a man is wedded to his land, for he dreads the expenses and delays of a separation; hence, in my opinion, one great cause of the non-improvement of agriculture, for certain the difficulties of attachment must be quite equal to those of separation, and the whole affair is too cumbrous and dilatory for an every day business transaction. I often picture to myself the difficulties of a landowner as compared with the possessors of other property. In the latter case, his half million in the funds, his railway and foreign loan bonds, his canal shares, are all sufficient evidences of possessions, and may all be immediately transferred. No musty references to antiquity are required as evidences of descent, or previous holding. Possession is evidence of property. Contrast this with the unfortunate wight who holds the same amount in land. It is a chance but every purchase has some scrap of copyhold, embroiled with antiquarian and feudal responsibilities. Keen and unscrupulous legal possessors of manorial rights are ready to pounce upon your valued racer or prize bull for some live heriot, or your feelings are outraged by an enormous demand for fees on some fractional portion of an acre, far exceeding its entire value. When will agriculture be governed by business principles?

Signs of the Times.—Our social position in regard to the proprietorship of land is undergoing rapid changes. When this country was pastoral and agricultural only, seignorial dignity assumed a dominant and almost patriarchal character. But now, the overflowing and accumulating wealth of commerce, manufactures, and trade, finds vent in the purchase of unsettled estates, and is partially superseding the ancient aristocracy. Great good will result from this to the nation at large. The new comers will bring with them common-sense habits of business and active progression, which they will impart to their more astute neighbours; whilst, in return, they will by degrees imbibe the higher education, refined manners, and dignity of position, which characterise so pre-eminently our high aristocracy. I have often been amused by a distant and disinterested survey of my own agricultural position. I unwittingly, and very naturally, in my desire to apply common sense principles of improvement to agriculture, stumbled against the old antiquated castle of prejudice. Instantaneously there descended from its turrets on my poor devoted head such a storm of missiles, indignation, imputation, ridicule, censure, disbelief, that had I not been clothed with the strong armour of truth, I must have succumbed.

Years have elapsed, and asperities have softened down, but even now certain honest portly yeomen look at me askance with gravity, and honestly believe that I have done a great agricultural mischief—that I have opened landlord's eyes, and made them believe that farming was profitable. I hope my balance-sheet of last year has somewhat diminished the prejudice on this score. Careful, non-improving landlords have too been rather shy of me, and (for I can tell at a glance by their looks) eye me as a rash and speculative innovator. But time alters many things; I can see an improving feeling towards me.

One hears now of deep draining here, a cleared country there, a range of substantial buildings, a few boarded floors, and some are actually so rash as to talk of having steam engines. One in this county, whose old premises were destroyed by fire, has reluctantly consented to covered yards, but will not hear of steam, although he always rides to town behind it. His successors will be free from this prejudice. Farmers are getting gradually apologetic for their old waggons, and exposed dung heaps, and are making the *amende honorable* to our friend the Rev. G. Wilkins, by sowing less seed. My last new scheme of subterranean irrigation is far too strong a dose to be swallowed at present, so my agricultural friends are only looking on to watch how it agrees with me. I feel remarkably comfortable under it at present, and am glad to find that an offer for the sewage of your town has been already made for agricultural purposes.

Joking apart, I can afford to hold out the hand of forgiveness to my bitterest opponents. The conscious triumph of having successfully stimulated the progression and development of agriculture, gives me firmness and good humour. I have all along had the moral support of thinking and intelligent minds—great has been its comfort! I feel like the good old Duke, that my battles have been fought and won, and I still hope to live to see our national agriculture rank side by side with our manufactures, for the good of our people and for the national honour. Our lamented departed hero knew full well the importance of abundant supplies for his brave armies. Let us then remember, that the indomitable courage and endurance of Englishmen well deserve the encouragement of ample physical support. It is therefore our duty to elevate the character of British agriculture, not only on the low ground of profit, but on the nobler consideration of national dignity and policy.

In conclusion, I see, in perspective, a railway activity pervading agriculture. The time is coming when farms will be squared, trees removed, and game moderated—when tramways will intersect estates, and one horse will draw to market the load of four—when the sewage of our towns will ebb back to its original source—when the waters of our rivers and drains will be applied to the irrigation of our fields—when our millers will use caloric engines instead of water—when our farmers and their children will be better educated, and rank higher in the social scale—when our labourers will be better housed, taught, and fed. Then will the blundering rudeness and clumsiness of ignorance be exchanged for the watchfulness and thought of an enlightened intelligence—then will the fractional calculations of profit outweigh the fears of cost—then will antiquated territorial legalities be superseded by personal responsibility, identity, and possession. I see all this in the distance; it is a mere question of time—I see mighty engines on railwayed open fields, tearing up furrows a yard deep, making the land look like a sea—I see these hungry earthy masses saturated, and immediately fertilised with the sewage of our towns—I see ample evaporation and facile percolation. Tottering and dilapidated farmeries will give way to permanent and convenient homesteads—the pinching economy of a penurious and pernicious system, exchanged for liberal views and large operations—capital will develope its giant strength unfettered by seignorial restrictions—agriculture, commerce, and manufactures, will unite by the ties of a great common interest and common intelligence, for the good of our people and for the honour of this great nation.

Review.

Talpa; or the Chronicles of a Clay Farm. An Agricultural Fragment. By C. W. H.

"——— Ridentem dicere verum."

Reeve and Co., Henrietta-street, Covent Garden. 1852.

Though already shortly noticed in the *Gardeners' Chronicle*, and long since well known to most readers of this Journal, we cannot deny ourselves the pleasure of referring to the publication, in a completed form, of the papers by "C. W. H." which have already appeared in our columns. This seems necessary, were it only for the purpose of recording the following Inscription upon the volume:—

"*To the Readers and Contributors of the* Gardeners' Chronicle and Agricultural Gazette,
This re-collection of some scattered attempts of past years, based on the hope and belief, not unconfirmed at their hands, that Agricultural thought may be candid, and even speculative, yet Husbandry not the less practical,
is Finally inscribed by the Author."

Notices to Correspondents.

Address: *W B Harnard.* Mr. Gillett's, of Brailes, Shipston-on-Stour, Warwick. We do not know if Mr. Forsyth has an agent in London, but we think not.

Cocoa-nut Matting. In a former Number of the *Agricultural Gazette* an account was given of some farms in Scotland where the cows lie on Cocoa-nut matting, can any of our correspondents inform us whether it answers? How they use it, whether in long lengths or short mats? its width? where it is to be obtained? and its price per yard?

Kohl Rabi: *G P.* The top is to be cut off and given as Cabbages are given; and the bulb to be passed through the Turnip-cutter.

Pipeage: *M L.* An engineer can say how much water will pass through a pipe of given bore and length under a given pressure. If you will state your problem explicitly, no doubt a solution can be given. But the facts stated in your note are not enough to furnish the answer which you desire.

Poultry: *A Country Inquirer.* A chestnut patch or bar across the wings is perfectly correct in a silver Hambro' cock. Such birds are generally chosen when fresh blood is required. The absence of it is no indication of degeneracy or impurity, as it generally disappears in old birds, in like manner with the black spots, which are perfectly visible in the chicken and cockerel, but disappear in the adult. Any mixture of colour beyond black and white in a silver Hambro' pullet must disqualify such a bird; but the absence of the chestnut patch cannot be put against a cock, seeing that not one in twenty has it, even if from the same parents. I am strongly disposed to think the amateur, fortunate enough to possess the cock with "three" red feathers, will find them as the bird ages "get small by degrees and beautifully less," till he is shorn of the distinction. *J. Baily.*

Taste of Turnips in Butter. Half a tea-spoonful of saltpetre put into the milk-pan before the new milk is poured into it will correct the above. Half a tea-spoonful to about a gallon of milk. This plan has been successfully practised for years. *Anon.*

Markets.

COVENT GARDEN, Dec. 18.

Vegetables continue plentiful; but many kinds of Fruit are scarce, as for instance Pears and Hothouse Grapes, both of which are insufficient for the demand; the Pears consist of Beurré Rance, Ne plus Meuris, and Old Colmar. Apples are sufficient for the demand. Among them are nice samples of the American Newtown Pippin. A few Tomatoes may still be obtained. Cobs and other Nuts are realising fair prices. Both Seakale and Rhubarb have made their appearance. Potatoes have not altered in value since our last report. Mushrooms are scarcer. Cut flowers consist of Heaths, Primulas, Roses, Mignonette, Bignonia venusta, and Chrysanthemums.

FRUIT.

Pine-apples, per lb., 4s to 8s	Oranges, per doz., 1s to 2s
Grapes, hothouse, do., 5s to 8s	— per 100, 6s to 10s
Pomegranates, each, 2s to 4s	Almonds, per peck, 5s
Apples, dessert, p. bush, 6s to10s	— sweet, per lb., 2s to 3s
— kitchen, do., 5s to 8s	Nuts, Barcelona, per bush, 20s
Pears, per doz., 1s 6d to 4s	— Cobs, 100s
— per half sieve, 6s to 7s	— Spanish, do., 16s to 18s
Lemons, per doz., 1s to 2s	Chestnuts, p. bush., 8s. to 20s.

VEGETABLES.

Cabbages, per doz., 6d to 1s	Garlic, per lb., 6d to 8d
Brussels Sprouts, p. hf. sieve, 1s to 2s	Lettuce, Cab., per score 4d to 6d
Cauliflowers, per doz., 2s to 3s	— Cos, p. score, 9d to 1s
Greens, per doz., 1s to 2s	Radishes, per doz., 8d to 1s
French Beans, per 100, 3s	— Turnip, 9d to 1s 6d
Potatoes, per ton, 85s to 140s	Endive per score, 1s to 1s 6d
— per cwt., 5s to 9s	Small Salads, p. pun., 2d to 3d
— per bush., 2s 6d to 4s 6d	Horse Radish, p. bundle, 1s to 3s
Turnips, per doz., 1s to 1s 9d	Mushrooms, p. pott., 1s to 1s 6d
Cucumbers, each, 2d to 6d	Sorrel, per hf. sieve, 6d to 1s
Celery, per bundle, 9d to 1s 3d	Artichokes, per doz., 4s to 6s
Carrots, p. doz., 2s 6d to 4s	Fennel, per bunch, 2d to 3d
Spinach, per sieve, 1s to 2s	Savory, per bunch, 2d to 3d
Onions, per bunch, 2d to 4d	Thyme, per bunch, 2d to 3d
— Spanish, p. doz., 1s 3d to 3s	Parsley, p. doz. bnchs., 2s to 3s
Beet, per doz., 1s to 1s 6d	Mint, per bunch, 2d to 3d
Leeks, per bunch, 1d to 2d	Basil, p. bunch, 3d
Shallots, per lb., 6d to 8d	Marjoram, do., 2d to 3d
	Watercresses, p. 12bun, 4d to 6d

HOPS.—Borough Market, Dec. 17.

Messrs. Pattenden and Smith, Hop Factors, report that the demand for Hops continues unabated, at a gradual advance in prices; it is expected as soon as Christmas is over a still further advance will take place, the supply being so very limited.

WOOL.

Bradford, Thursday, Dec. 16.—Activity still pervades the English Wool market, and a gradual improvement in prices is the consequence. The supply from the country, for several months, has barely kept pace with the demand for consumption. It is now apparent that all the smaller class of farmers have cleared out their stocks, and a considerable proportion of the Wool still remaining unconsumed is in the possession of parties who are able to hold it. In conjunction with this, the more satisfactory position in which spinners are placed by a general advance in the price of yarn, having infused more vigour into their operations as buyers, it can create no surprise that the improving tone, by which the Wool market has for some time been characterised, should still remain. The transactions, on the part of some houses, have, during the present month, been considerable, and a large quantity of both English and Colonial Wool has recently changed hands.

HAY.—Per Load of 36 Trusses.

Smithfield, Dec. 16.

Prime Meadow Hay	75s to 80s	Clover	85s to 100s
Inferior do. ...	65 70	Second cut ...	70 88
Rowen	45 58	Straw	26 30
New Hay	— —		E. J. Davis.

Whitechapel, Dec. 16.

Fine old Hay	72s to 80s	Old Clover...	90s to 100
Inferior do. ...	50 65	Inferior do. ...	60 75s
New Hay	— —	New Clover ...	— —
Straw	22 28	Inferior do. ...	— —

SMITHFIELD.—Monday, Dec. 13.

This being the annual "Great Market," we have a large collection of very fine Beasts; not, however, quite so large a number as was expected. The average quality of the supply is very level and serviceable for the butcher, not nearly so was eful as on former occasions. Some of the primest make 4s. 4d., but 4s. is the more general price. The number of Sheep is very small; choicest Downs and sizeable Longwools were early disposed of, and in some instances our quotations exceeded; but trade was heavy for big fat Sheep. Owing to the shortness of supply, however, almost everything was cleared off. Trade for Calves about the same as of late. From Germany and Holland there are 339 Beasts, 1400 Sheep, and 180 Calves; Scotland, 550 Beasts; Norfolk and Suffolk, 400; 700 from the western, and 4000 from the northern and midland counties.

Per st. of 8lbs.—s d	s d	Per st. of 8lbs.—s d	s d
Best Scots, Here-		Best Long-wools . 4	0 to 4 4
fords, &c. ... 4	0 to 4 4	Do. Shorn ... 0	0 — 0 0
Best Short-horns 3	8 — 4 0	Ewes & 2d quality 3	2 — 3 6
2d quality Beasts 3	0 — 3 4	Do. Shorn 0	0 — 0 0
Best Downs and		Lambs 0	0 — 0 0
Half-breds ... 4	6 — 4 8	Calves 3	0 — 4 2
Do. Shorn 0	0 — 0 0	Pigs 3	0 — 4 4

Beasts, 6271; Sheep and Lambs, 20,570; Calves, 220; Pigs, 310.

Friday, Dec. 17.

We have a good supply of Beasts, and the weather being favourable, a fair demand; the choicest things are sold quite as well as on Monday, but trade is slow for other qualities. The number of Sheep is about the same as usual; those of moderate size are quickly sold, at fully Monday's prices; but big ones slowly, at no quotable alteration. The supply of Calves is rather beyond the demand, and although some of the choicest maintain late prices, they cannot be realised throughout. From Germany and Holland there are 30 Beasts, 330 Sheep, 239 Calves, and 310 Pigs; from Scotland, 90 Beasts; Norfolk and Suffolk, 200; 1300 from the northern and midland, and 119 Milch Cows from the home counties.

Per st. of 8lbs.—s d	s d	Per st. of 8lbs.—s d	s d
Best Scots, Here-		Best Long-wools . 4	0 to 4 4
fords, &c. ... 4	0 to 4 4	Do. Shorn	
Best Short-horns 3	8 — 4 0	Ewes & 2d quality 3	4 — 3 8
2d quality Beasts 3	0 — 3 4	Do. Shorn ... 0	0 — 0 0
Best Downs and		Lambs 0	0 — 0 0
Half-breds ... 4	6 — 4 8	Calves 3	0 — 4 2
Do. Shorn ... 0	0 — 0 0	Pigs 3	0 — 4 4

Beasts, 2149; Sheep and Lambs, 4890; Calves, 369; Pigs, 310.

POTATOES.—Southwark, Dec. 13.

Since our last report our market has been barely supplied coastwise, owing to contrary winds. Still the trade is heavy for most sorts.

MARK LANE.

Monday, Dec. 13.—The supply of Wheat from Essex this morning was small, from Kent moderate: the former was disposed of at an advance of 2s. and 3s. per quarter upon the prices of this day se'nnight, but much of the latter remained unsold at a late hour. Friday's improvement of 2s. per qr. was firmly insisted upon for Foreign, but very few sales were effected. For two cargoes of Marianopoli afloat 50s. are said to have been obtained.—The trade for Barley is slow, a few samples brought last Monday's prices, but secondary qualities are very difficult to quit.—Beans and Peas remain as last quoted.—Oats bring an advance of 6d. to 1s. per quarter.—The top price of Flower is advanced 3s. per sack, and barrels 1s more money.

Per Imperial Quarter.	s. s.		s. s.
Wheat, Essex, Kent, & Suffolk...White	44—56	Red	40—46
— — fine selected runs...ditto	45—60	Red	46—50
— — Talavera	54—60		
— Norfolk	—	Red	—
— Foreign	38—58		
Barley, grind. & distil., 25s to 28s...Chev.	26—34	Malting .	27—32
— Foreign ...grinding and distilling	26—30	Malting .	30—32
Oats, Essex, and Suffolk	18—21		
— Scotch and Lincolnshire...Potato	23—25	Feed	17—20
— Irish ..... Potato	21—23	Feed	19—20
— Foreign .....Poland and Brew	19—22	Feed	16—18
Rye	29—32	Foreign .	—
Rye-meal, foreign	—		
Beans, Mazagan.....31s to 33s..... Tick	33—35	Harrow .	33—35
— Pigeon .....34s — 37s...Winds.	39—41	Longpod	30—34
— Foreign ..... Small	32—37	Egyptian	32—35
Peas, white, Essex and Kent.....Boilers	38—41	Suffolk...	40—42
— Maple.....32s to 35s..... Grey	30—33	Foreign .	32—34
Maize ..... White	—	Yellow...	—
Flour, best marks delivered ...per sack	38—46		
— Suffolk ..... ditto	23—38	Norfolk .	—
— Foreign..... per barrel	24—28	Per sack	—

Arrivals in the Port of London last Week.

	Wheat.	Barley.	Malt.	Oats.	Beans.	Pea
Flour 12882 sks						
— 2770 brls	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs
English	1751	2000	1622	70	410	32
Irish	—	—	14	10120	—	—
Foreign	8910	700	—	4018	6664	7

Friday.—The arrivals of Grain and Flour of all kinds have been small this week. To-day Wheat met rather more attention from the town millers than of late, and there was also some inquiry on speculation. The firmness of holders rendered purchases difficult, but we are unable to enhance our quotations, and the amount of business transacted was not large. We cannot quote any alteration in the value of Flour. Barley, Beans, and Peas remain as on Monday. Oats are held for a slight advance, which rather checks sales.

Imperial Averages.

	Wheat.	Barley.	Oats	Rye.	Beans.	Pea
	s. d.	s. d.	s. d.	s. d.	s. d.	s.
Nov. 6.....	39 5	29 9	18 3	24 10	35 3	33
— 13.....	39 11	30 2	18 7	27 5	35 4	32
— 20.....	40 0	30 6	18 9	29 9	35 6	33
— 27.....	40 5	30 7	18 6	27 1	35 2	32
Dec. 4.....	41 2	30 0	18 5	30 11	35 5	32
Dec. 11.....	42 1	29 9	18 7	26 11	35 4	34
Aggreg. Aver.	40 6	30 1	18 6	27 11	35 4	32

Duties on Foreign Grain, 1s. per qr.

Fluctuations in the last Six Weeks' Averages.

Prices.	Nov. 6	Nov. 13.	Nov. 20.	Nov. 27	Dec. 4.	Dec.
42 1d	...	...	...	...	...	
41s 2	...	...	...	...		...
40 5	...	...	...		...	...
40 0	...	...		...	...	...
39 11	...		...	...	...	...
39 5		...	...	...	...	...

Liverpool, Tuesday, Dec. 14. — There have been g arrivals of Wheat and Flour from America this week, small supplies of all other kinds of grain, &c. There was only a slender attendance of millers and dealers at our C Exchange this morning. A moderate business was done Wheat and Flour, at fully Friday's prices, which were 1d 2d. per bushel, and 9d. to 1s. per barrel, in sales, ex ship, un those of this day se'nnight. Altogether a better tone p vailed to-day than at the close of the week. Oats, Oatm and other articles of the trade, were dull sale, but unalte in value.——Friday, Dec. 10.—The arrivals from Ireland coastwise since Tuesday have been small. The weather is wet and unfavourable for farming operations. At this d market there was only a small attendance of town country millers and dealers, and several parcels of ne arrived American Wheat and Flour being pressed for s prices of such were in some cases rather easier; howe stored parcels were firmly held at Tuesday's prices. C met with a good demand at a slight improvement. Bar Beans, and Peas were unchanged both in value and in mand. Indian Corn was not so much inquired for.

THE NURSERY AND THE SCHOOL.—The care of the hair in young children is, by inexperienced mothers and nurses, too little regarded. No mistake can be more injurious than the supposition that neglect in this particular can continue with impunity. The seeds of strength or weakness are laid in the nursery; and the majority of the fine flowing ringlets, or bald heads of after years, are traceable to this early period. OLDRIDGE'S BALM OF COLUMBIA, long celebrated for its genial and invigorating qualities in promoting and restoring the growth of the hair, is peculiarly fitted for application during the tender years of childhood; and no nursery or school where personal advantages are held in any estimation should be without it.—3s. 6d., 6s., and 11s. per bottle; no other prices.—Ask for OLDRIDGE'S BALM, and never be persuaded to use any other article as a substitute.—13, Wellington-street North, seven doors north of the Strand.

LIST OF CHRISTMAS PRESENTS.

BELLAMY SAVORY, STATIONER AND DRESSING-CASE MAKER, BRITISH PAPER WAREHOUSE, 46, Cornhill.—The Ladies' 3l. Rosewood Dressing-case, of the full size, and with jewel drawer; superior ditto, the "Unique," 4l.; a neat pattern, with spring brush drawers, 4l. 4s.; the Mulberry, richly inlaid, 6l. 6s.; a Lady's Dressing-case, with solid silver fittings, 10l. 10s.; other patterns in great variety, from 25s. Many elegant Writing-desks for Ladies, in rosewood and Coromandel wood; Writing-desks for Youths, 11s. 6d.; a Lady's Writing-desk, fitted with Envelopes, 30s.; Gentlemen's solid mahogany brass covered Desks, 21s.; a capital 18-inch brass bound Writing-desk, with secret drawers, long drawer, and Mordan's lock, 3l. 3s.; tasteful Work-boxes, elegantly inlaid Coromandel wood Crochet and Knitting-box, 32s.

B. SAVORY calls attention to his one guinea solid mahogany *multum in parvo* Dressing-case, and to his Gentleman's solid Spanish mahogany Dressing-cases, with the carved out circular ends and morticed partitions, with J. Rodgers' Razors and Penknives, commencing at 3l.; the Tourists' Companion or Writing Dressing-case, in Russian leather, with J. Rodgers' Razors and Penknife, 4l. 4s. A Show Room is devoted to a large assemblage of Papier-mâché, including Inkstands, Blotting-cases, Albums, Tea Caddies, Card Trays, Souvenir Tablets, Writing-desks, Work-boxes, Glove, Knitting, and Crochet-boxes; a pleasing Papier-mâché present can be bought from 9s. to 21s. The velvet and morocco Church Services, with gilt rims and clasps, and Polyglot Bibles, form acceptable presents; as also the Portemonnies, in velvet, and pearl and silver; Souvenirs, and the Visiting Reticules fitted for Ladies' work, one pattern, with removable interior, at 28s.; also the Ladies' Housewives, the Scotch wood articles, and Joseph Rodgers and Sons' Razors, Penknives, Pen Machines, Scissors, and Dressing-cases.

B. SAVORY, 46, CORNHILL, LONDON.

CHRISTMAS PRESENTS AND NEW YEAR'S GIFTS.

MESSRS. FUTVOYE AND CO., desire to call attention to their extensive stock of English and Foreign Fancy Goods and novelties suitable for Presents, comprising Dressing and Writing Cases, Work-boxes, Jewellery of every description, Clocks, Watches, Bronzes, China, Glass, Alabaster, Papier Maché, Stationary, and thousands of articles in Bijouterie and Vertu.—FUTVOYE and Company, 154, Regent-street; 8, 11, and 12, Beak-street; and 34, Rue de Rivoli, Paris.

CHRISTMAS PRESENTS.—The season having arrived wherein, by exchange of presents, we confirm the stability of friendship, all classes of the community who would successfully cultivate regard by acceptable offerings, will avail themselves of

ROWLANDS' TOILET REQUISITES,
each of infallible attributes.

ROWLANDS' MACASSAR OIL is highly and universally appreciated, for creating and sustaining luxuriant silken tresses.

ROWLANDS' KALYDOR; a preparation of unparalleled efficacy in improving and beautifying the Skin and Complexion.

ROWLANDS' ODONTO, or Pearl Dentifrice, invaluable for its beautifying and preservative effects on the Teeth and Gums.

And

ROWLANDS' AQUA D'ORO; a fragrant and spirituous Perfume, an essential accompaniment to places of public amusement and crowded assemblies.

BEWARE OF SPURIOUS IMITATIONS.

The only Genuine of each bears the name of "ROWLANDS'" preceding that of the Article on the Wrapper or Label.

Sold by A. ROWLAND AND SONS, 20, Hatton Garden, London, and by Chemists and Perfumers.

THE ROYAL EXHIBITION.—A valuable newly-invented, very small, powerful, waistcoat-pocket Glass, the size of a Walnut, to discern minute objects at a distance of 4 to 5 miles, which is found to be invaluable for YACHTING, and to SPORTSMEN, GENTLEMEN, and GAMEKEEPERS.

TELESCOPES.—A new and most important INVENTION in TELESCOPES, possessing such extraordinary powers that some—3½ inches, with an extra eye-piece—will show distinctly Jupiter's Moon, Saturn's Ring, and the Double Stars. They supersede every other kind, and are of all sizes—for the waistcoat-pocket, Shooting, Military purposes, &c. Opera and Race-course Glasses with wonderful powers; a minute object can be clearly seen from 10 to 12 miles distant.—Invaluable Acoustic Instruments for relief of extreme Deafness.

MESSRS. S. AND B. SOLOMONS, OPTICIANS AND AURISTS, 39, Albemarle-street, opposite the York Hotel, London.

MOST IMPORTANT DISCOVERY.—BEAUTIFUL TEETH, and no more Toothache. Under the immediate patronage of the Court, the Marquis of Headfort, the Clergy, Captains of the Army and Navy, Physicians, Surgeon Dentists, &c. See Testimonials with the Compound. GRAHAM'S LIQUID BOTANICAL DENTIFRICE, for preserving and beautifying the Teeth; it prevents toothache and purifies the breath. It is highly recommended to all who have artificial and defective teeth. Prepared and sold by JAMES GRAHAM, Bognor, and his agent, Mr. Sanger, 150, Oxford-street, London; and all chemists and perfumers. Price 1s. 1½d. per bottle.—N.B. It is also highly recommended after smoking, for purifying the breath, and is most refreshing to the mouth on a sea voyage, and is very much used. Every family should use this compound. Beware of spurious imitations.

METCALFE AND CO.'S NEW PATTERN TOOTH-BRUSH and SMYRNA SPONGES.—The Tooth-Brush has the important advantage of searching thoroughly into the divisions of the teeth, and cleaning them in the most extraordinary manner, and is famous for the hairs not coming loose.—1s. An Improved Clothes-Brush, that cleans in a third part of the usual time, and incapable of injuring the finest nap. Penetrating Hair-Brushes, with the durable unbleached Russian bristles, which do not soften like common hair. Flesh-Brushes of improved, graduated, and powerful friction. Velvet-Brushes, which act in the most surprising and successful manner. The genuine Smyrna Sponge, with its preserved valuable properties of absorption, vitality, and durability, by means of direct importations, dispensing with all intermediate parties' profits and destructive bleaching, and securing the beauty of a genuine Smyrna Sponge. Only at METCALFE, GINGELL, and Co.'s Sole establishment, 130a, Oxford-street, four doors from Holles-street, London.

METCALFE'S ALKALINE TOOTH POWDER, 2s. per box.

CAUTION.—Beware of the words "From METCALFE'S," adopted by some houses.

BLANKETS FOR CHARITY.

HEAL AND SON beg to offer BLANKETS, for the purposes of Charity, of the following weights, sizes, and prices:—

1¼ yard by 2 yards,	weight 3¾ lbs.	.....	4s. 9d.
1½ „ 2¼ „	„ 5 „	.....	6s. 5d.
2 „ 2¼ „	„ 6½ „	.....	8s. 3d.

HEAL and SON'S List of Bedding, containing full particulars of weights, sizes, and prices of every description of Bedding sent free by post on application to their Factory, 196 (opposite the Chapel), Tottenham Court Road, London.

"FRIGI DOMO."—A Canvas, made of prepared Hair and Wool, a perfect non-conductor of Heat and adapted to many Horticultural and Floricultural purposes for covering over frames where a fixed temperature is required. It is 2½ yards wide, and of any required length, at 1s. 4d. per yard run.—Manufactured only by E. T. ARCHER, Carpet Manufacturer, 451, New Oxford-street, London.

WATERPROOF PATHS.—Those who would enjoy their Gardens during the winter months should construct their walks of PORTLAND CEMENT CONCRETE, which are formed thus:—Screen the gravel of which the path is at present made from the loam which is mixed with it, and to every part of clean gravel add one of sharp river sand. To five parts of such equal mixture add one of Portland Cement, and incorporate the whole well in the dry state before applying the water. It may then be laid on 2 inches thick. Any labourer can mix and spread it. No tool is required beyond the spade, and in 48 hours it becomes as hard as a rock. Vegetation cannot grow through or upon it, and it resists the action of the severest frost. It is necessary, as water does not soak through it, to give a fall from the middle of the path towards the sides.—Manufacturers of the Cement, J. B. WHITE and SONS, Millbank-street, Westminster.

LAMPS OF ALL SORTS AND PATTERNS.—The largest, as well as the choicest assortment in existence of PALMER'S MAGNUM and other LAMPS—CAMPHINE, ARGAND, SOLAR, and MODERATEUR LAMPS, with all the latest improvements, and of the newest and most recherché patterns, in ormolu, Bohemian, and plain glass, or papier maché,—is at W. S. BURTON'S, and they are arranged in one large room, so that the patterns, sizes, and sorts can be instantly selected.

PALMER'S CANDLES, 7½d. per lb. Palmer's Patent Candles, all marked "Palmer."

Single or double wicks	...	...	7½d. per lb.
Mid. size, three wicks	...	...	8½d. do.
Magnums, three or four wicks	...	...	9d. do.

English's Patent Camphine, in sealed cans, 4s. 9d. per gallon.
Best Colza French Oil, 4s. per gallon.

THE BEST SHOW OF IRON BEDSTEADS in the Kingdom is WILLIAM S. BURTON'S. He has added to his Show-rooms TWO VERY LARGE ONES, which are devoted to the EXCLUSIVE SHOW of Iron and Brass Bedsteads and Children's Cots (with appropriate Bedding and Mattresses). Many of these are quite new, and all are marked in plain figures, at prices proportionate with those that have tended to make his establishment the most distinguished in this country. Common Iron Bedsteads, 15s. 6d.; Portable Folding Bedsteads, 13s. 6d.; Patent Iron Bedsteads, fitted with dovetail joints and patent sacking, from 19s. 9d.; and Cots, from 21s. each. Handsome ornamental Iron and Brass Bedsteads, in great variety, from 3l. 15s. to 31l.

THE PERFECT SUBSTITUTE FOR SILVER.—The REAL NICKEL SILVER introduced 20 years ago by WILLIAM S. BURTON, when plated by the patent process of Messrs. Elkington and Co., is beyond all comparison the very best article next to sterling silver that can be employed as such, either usefully or ornamentally, as by no possible test can it be distinguished from real silver.

	Fiddle Pattern.	Threaded or Brunswick Pattern.	King's Pattern.
Tea Spoons, per dozen.....	18s. ...	23s. ...	36s.
Dessert Forks „	30s. ...	42s. ...	58s.
Dessert Spoons „	30s. ...	42s. ...	62s.
Table Forks „	40s. ...	55s. ...	70s.
Table Spoons „	40s. ...	55s. ...	75s.

Tea and coffee sets, waiters, candlesticks, &c., at proportionate prices. All kinds of re-plating done by the patent process.

CHEMICALLY PURE NICKEL, NOT PLATED.

	Fiddle.	Thread.	King's
Table Spoons and Forks, full size, per dozen	12s. ...	28s. ...	30s.
Dessert ditto and ditto	10s. ...	21s. ...	25s.
Tea ditto	5s. ...	11s. ...	12s.

WILLIAM S. BURTON has TEN LARGE SHOW ROOMS (all communicating), exclusive of the shop, devoted solely to the show of GENERAL FURNISHING IRONMONGERY (including cutlery, nickel silver, plated, and japanned wares, iron and brass bedsteads), so arranged and classified that purchasers may easily and at once make their selections.

Catalogues, with engravings, sent (per post) free. The money returned for every article not approved of.

39, OXFORD-STREET (corner of Newman-street); Nos. 1 and 2, NEWMAN-STREET; and 4 and 5, PERRY'S-PLACE.

BURGLARY PREVENTED FOR HALF-A-CROWN.—BIDDELL'S THIEF DETECTORS, having prevented several daring attempts at robbery, are highly recommended by the magistrates. They give a regulated alarm, and the door or window still secure to entrance. No one who values life and property should be without them. The size of a mouse with the strength of an elephant. To judge of their merits see their effect.—Price 1s. 6d., 2s., and 3s. each; and box alarums 6d. To be had of all ironmongers, &c., throughout the kingdom; and of the Patentees, 33, Great Sutton-street, Clerkenwell, Fire-iron and Figure Casters, and general Founders and Manufacturers in all Metals.

A CERTAIN REMEDY FOR INFLUENZA, COUGHS, COLDS, AND ASTHMA.

SPENCER'S PULMONIC ELIXIR.—For the nursery it is invaluable, as it is as agreeable to the palate as it is useful in all cases of hooping-cough, chin-cough, or common coughs arising from colds, teething, &c. To invalids, whose ailments are increased by frosty and foggy weather, it is a never-failing source of comfort and ease from suffering, enabling them to breathe with freedom during the keenest frost and thickest fog; in fine, it possesses every property which can be beneficial in cases of Coughs, Colds, Asthma, and all complaints of the Chest and Lungs. It is of the greatest importance in complaints of the chest to attend strictly to the state of the bowels; therefore, should they be costive, the patient should use a gentle aperient. "PARR'S LIFE PILLS" are, from their mild operation, peculiarly adapted to aid the Elixir in effecting a cure.

IMPORTANT CAUTION. NOTICE.—Persons desirous of testing the efficacy of this medicine must observe that on each bottle are the words "SPENCER'S PULMONIC ELIXIR," and that each wrapper has a fac-simile of the Proprietor's signature, *T. Roberts & Co.*

Prepared only by T. Roberts and Co., Crane court, Fleet-street, London; and sold by E. Edwards, 67, St. Paul's Churchyard; Barclay and Sons, Farringdon-street; Sutton and Co., Bow Churchyard; Sanger and Co., Oxford-street, London; and by all respectable Medicine Vendors in the Kingdom. In bottles, at 1s. 1½d. and 2s. 9d. each.

COCHIN CHINA FOWLS.

MR. J. C. STEVENS will sell by Auction, at his Great Room, 38, King-street, Covent-garden, on TUESDAY, December 21, at 11 for 12 precisely, a first-rate selection of BIRDS, bred from the celebrated strains of Andrews, Steggall, Surgeon, and Moody, many of which are pure buff, and got by cocks of Andrews' strain; they are particularly deserving the attention of amateurs, being a portion of the stock of a very celebrated breeder in Dorsetshire.—Catalogues will be forwarded on receipt of a stamped directed envelope, enclosed to Mr. J. C. STEVENS, 38, King-street, Covent-garden.

TO NURSERYMEN.

WANTED, a quantity of Common HOLLY, 3 feet high.—Apply, stating price per 100 or 1000 (delivered at a railway station in London), by letter stamped, to Mr. MACLURE, Nurseryman, Erith, Kent.

SOLID INVESTMENT (suitable for Trust Money), in a compact FREEHOLD PROPERTY at GREENWICH, consisting of Manufacturing Premises and Buildings, with Dwelling-house on the same, on which a successful Business has been carried on for more than a century, and is now in full vigour, with the very best prospects of long continued prosperity (a Pottery). The low Rental of 54l. is paid quarterly, with the regularity of Bank dividends. This property entails no charge whatever on the Proprietor, the Tenant being bound in his Lease to effect all repairs whatsoever, and to Insure all the Buildings. It has been for 46 years in the family of the Advertiser, without a sixpence of expence being called for. Price 1350l.—Apply to A. Z., 42, Leadenhall-street, London.

TO BE LET, near Forest Hill Station, TWO ACRES OF LAND, suitable for a Market Garden. The soil is a good strong loam, and has been trenched twice two spades deep. Also Two Acres of Meadow Land, adjoining, with a good supply of water.—To view, apply to WILLIAM BYE, Catford Hill, Lewisham; and the terms may be known by writing (post paid) to JOSEPH SHILBECK, Esq., Upper Thames-street, London.

EDMONTON.

TO BE LET, by Mr. WHYBRO, a MARKET GARDEN, NURSERY, and ORCHARD, consisting of a detached family House, containing eight rooms, Out Offices, Stable, Chaise House, and large Shed, with about Six Acres of productive ground. It is parted with in consequence of a death.

May be seen on application to Mr. HUMPHREYS, Lower Edmonton; or Mr. WHYBRO, Farming Valuer, Tottenham Green, London.

CUTLERY WARRANTED.—The most varied assortment of TABLE CUTLERY in the world, all warranted, is on SALE at WILLIAM S. BURTON'S, at prices that are remunerative only because of the largeness of the sales. 3½ inch ivory-handled table knives, with high shoulders, 10s. per dozen; desserts, to match, 9s.; if to balance, 1s per dozen extra; carvers, 3s. 6d. per pair; larger sizes, in proportion to 23s. per dozen; if extra fine, with silver ferrules, from 36s.; white bone table knives, 6s. per dozen; desserts, 4s.; carvers, 2s. per pair; black horn table knives, 7s. 4d. per doz.; desserts, 6s.; carvers, 2s. 6d.; black wood-handled table knives and forks, 6s. per dozen; table steels, from 1s. each. The largest stock of plated dessert knives and forks, in cases and otherwise, and of the new plated fish-carvers in existence. Also a large assortment of RAZORS, PENKNIVES, SCISSORS, &c., of the best quality.

DISH COVERS AND HOT-WATER DISHES in every material, in great variety, and of the newest and most recherché patterns. Tin Dish Covers, 6s. the set of six; Block Tin, 11s. 6d. to 25s. the set of six; elegant modern patterns, 30s. to 53s. the set; Britannia Metal, with or without silver-plated handles, 68s. to 102s. the set; Sheffield plated, 10l. to 16l. 10s. the set; Block Tin Hot-water Dishes, with wells for gravy, 11s. to 25s; Britannia Metal, 32s. to 63s.; Sheffield plated, full size, 9l. 10s.

WILLIAM S. BURTON has TEN LARGE SHOW-ROOMS (all communicating), exclusive of the shop, devoted solely to the show of GENERAL FURNISHING IRONMONGERY (including cutlery, nickel silver, plated and japanned wares), so arranged and classified that purchasers may easily and at once make their selections.

Catalogues, with engravings, sent (per post) free. The money returned for every article not approved of.

39, OXFORD-STREET (corner of Newman street); Nos. 1 and 2, NEWMAN-STREET; and 4 and 5, PERRY'S-PLACE

THE MOST APPROVED STOVES.—The demand for the CHUNK and VESTA STOVES (separately patented) still continuing unabated, and numbers having been sold last season (in all upwards of 11,500) through the patronage of families who have had experience of their pre-eminently useful qualities, WILLIAM S. BURTON has renewed confidence in recommending them for their cleanliness, economy, and safety. During the last 12 years they have been found sources of great comfort in the bed-room of the invalid, affording a uniform temperature throughout the day and night, with one supply of fuel, without attention. Particulars sent postage free. Chunk, 30s. to 50s.; Vesta, from 25s.; Stoves for warehouses, &c., from 10s. each. Joyce's Patent Fuel, 4s. 6d. per sealed bag.

WILLIAM S. BURTON has TEN LARGE SHOW ROOMS (all communicating), exclusive of the shop, devoted solely to the show of GENERAL FURNISHING IRONMONGERY (including Cutlery, Nickel Silver, Plated, and Japanned Wares, Iron and Brass Bedsteads), so arranged and classified that purchasers may easily and at once make their selections.

Catalogues, with Engravings, sent (per post) free. The money returned for every article not approved of.

39, OXFORD STREET (corner of Newman-street); Nos. 1 and 2, NEWMAN-STREET; and 4 and 5, PERRY'S-PLACE.

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PETER LAWSON AND SON'S PRICE LISTS OF SEEDS, FOREST, FRUIT, AND ROSE TREES, are now ready, and may be had on application, or free by post from the Agent, J. C. Sommers, 159 Fenchurch-street, London.

LARCHES FOR SALE.

TO BE SOLD, upwards of HALF A MILLION of excellent young LARCHES, two years transplanted, on high lying ground, well rooted, and from 13 to 24 inches in height. These plants are well worthy of the attention of any Nobleman, Gentleman, or Nurseryman in want of such.—Apply to Mr. MacDuff Kippenross, Dunblane, Perthshire.

LAYERTHORPE NURSERY, YORK.

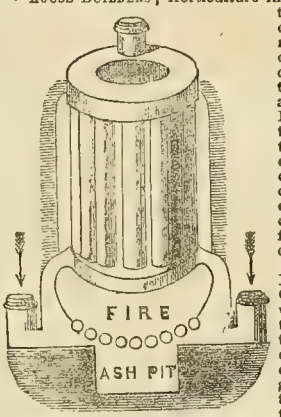
TO BE LET, on favourable terms, the above desirable and conveniently-situated Nursery, for many years successfully conducted by the late Mr. James Edward.—For particulars apply to Mr. Wm. Heppon, Low Ousegate, York.

DRAINAGE OF LAND.

HENRY WEBBER begs to inform Landowners and the public that, having had several years' practical experience, he is prepared to undertake the drainage of estates to any extent, together with the laying out and mapping of the drains, on the most approved plan; and will contract for the execution of the work. References given.—Address Halberton Court, near Tiverton, Devon.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER.
TUBULAR BOILERS OF ALL SIZES, WARRANTED THE MOST EFFICIENT.

J. WEEKS AND CO., King's-road, Chelsea, Hot-house Builders; Horticulture in all its branches upon the most improved principles. These Boilers are very powerful, durable, and economical. The fire warranted to last 15 hours without attention. The Furnace Bars are Hollow Tubes through which the return water passes before entering the upper part of the boiler, thereby causing a very rapid circulation, and producing double the effect from the same quantity of fuel.

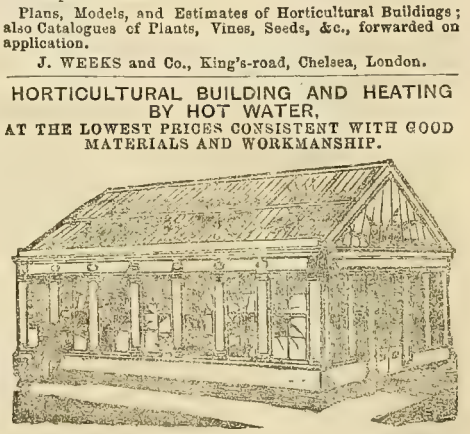


J. WEEKS AND CO., King's Road, Chelsea, CHALLENGE the whole world to make a Boiler that will produce anything like the same effect, with the same quantity of Fuel in a given time. It is one of those boilers that warms the water of their Victoria Regia Tank, which contains 20,000 gallons, and also heats several large Forcing-houses and ranges of Pits, with a small consumption of fuel.

Plans, Models, and Estimates of Horticultural Buildings; also Catalogues of Plants, Vines, Seeds, &c., forwarded on application.

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HORTICULTURAL BUILDING AND HEATING BY HOT WATER,
AT THE LOWEST PRICES CONSISTENT WITH GOOD MATERIALS AND WORKMANSHIP.



GRAY AND ORMSON, Danvers Street, Chelsea, London, having had considerable experience in the construction of Horticultural Erections, which, for elegance of design, good materials, and workmanship, combined with economy and practical adaptation, cannot be surpassed by anything of the kind in the country, are now in a position to execute orders on the lowest possible terms.

G. and O. have been extensively employed by the Nobility, Gentry, and London Nurserymen, and to all by whom they have been favoured with orders they can with the greatest confidence give the most satisfactory references.

Their Hot-Water Apparatus is also constructed on the most approved and scientific principles, for all purposes to which the application of Heating by Hot Water can be made available.

WATERPROOF PATHS.—Those who would enjoy their Gardens during the winter months should construct their walks of PORTLAND CEMENT CONCRETE, which are formed thus:—Screen the gravel of which the path is at present made from the loam which is mixed with it, and to every part of clean gravel add one of sharp river sand. To five parts of such equal mixture add one of Portland Cement, and incorporate the whole well in the dry state before applying the water. It may then be laid on 2 inches thick. Any labourer can mix and spread it. No tool is required beyond the spade, and in 48 hours it becomes as hard as a rock. Vegetation cannot grow through or upon it, and it resists the action of the severest frost. It is necessary, as water does not soak through it, to give a fall from the middle of the path towards the sides.—Manufacturers of the Cement, J. B. White and Sons, Millbank-street, Westminster.

BAKER'S PHEASANTRY, Beaufort-street, King's Road, Chelsea, by special appointment to her Majesty and H. R. H. Prince Albert.—ORNAMENTAL WATER FOWL, consisting of black and white Swans, Egyptian, Canada, China, barnacle, brent, and laughing Geese, Shieldrakes, Pintail, Widgeon, summer and winter Teal, Gadwall, Labrador, Shovellers, gold-eyed and dun Divers, Carolina Ducks, &c., domesticated and pinioned; also Spanish, Cochin China, Malay, Poland, Surrey, and Dorking Fowls; white, Japan, Tiel, and common Pea-fowl, and pure China Pigs; and at 3, Half-moon Passage, Gracechurch-street, London.

AMERICAN NURSERY.

GEORGE BAKER, Windlesham, near Bagshot, Surrey, Exhibitor of American Plants at the Royal Botanic Gardens, Regent's-park, begs to inform the Nobility and Public he has published a Descriptive CATALOGUE OF AMERICAN PLANTS, Coniferæ, Roses, Ornamental Shrubs, &c. &c., and may be obtained by enclosing two postage stamps. — Near Staines Station, Windsor Branch, South-Western Railway.

JUDSON'S RICHMOND VILLA BLACK HAMBURGH VINE.

ARTHUR HENDERSON AND CO. have the pleasure of informing their patrons and friends that they have good plants of this valuable and much-esteemed Vine, at 7s. 6d. and 10s. 6d. each.—N.B. For full particulars of the distinguishing characteristics of this Vine, we beg to refer our customers to the *Gardeners' Chronicle* of October 25, 1851.
Pine-apple Place, London.—Dec. 25.

Messrs. Charles Cantor & Co. of Calcutta.

1852.

LIST OF ORCHIDEOUS PLANTS INDIGENOUS TO ASSAM

AND THE NEIGHBOURING HILLS OF KHASYA, BOOTAN, &c.

No.	Names.	Size and Colour of Flower.	Habit.
1*	Microstylis Wallichii ?	Small, pea green	Ter.
2	Oberonia indifolia	Minute, yellowish	Epi.
3*	,, sp.	,, ,,	Do.
4	Liparis sp.	Small, yellow	Do.
5	,, sp.	,, ,,	Do.
6**	,, sp.	Largish, green yellow	Ter.
7*	,, sp.	Small, deep purple	Epi.
8	Otochilus fuscus	,, yellowish brown	Do.
9	,, albus	,, ,, and white	Do.
10	Pholidota imbricata	,, white	Do.
11	,, undulata	,, ,,	Do
12*	,, articulata	,, ,,	Do.
13*	,, sp.	,, ,, and yellow	Do.
14*	,, sp.	,, ,, ,,	Ter.
15	Cœlogyne flavida	,, yellow	Do.
16	,, undulata	Largish, white	Do.
17*	,, fimbriata ?	,, ,, and brown	Do.
18**	,, uniflora	,, ,, and lateritious	Do.
19	,, barbata	,, white	Do.
20*	,, præcox ?	,, ,,	Ter.
21*	,, maculata	Large, white, yellow, & rose	Do.
22**	,, Wallichiana	,, ,, and rose	Do.
23**	,, ocellata	,, pale yellow and deep orange	Do.
24*	,, Gardneriana	,, white and yellow	Epi
25	,, cristata	,, ,, streaked with bright yellow	Ter.
26	,, sp.	Small, brown and yellow	Epi.
27**	,, flava ?	Large, yellow and brown	Do.
28	,, sp.	Small, brown and yellow	Do.
29*	,, sp.	,, white and brown	Do.
30	,, sp.	,, pale yellow ?	Do.
31**	,, sp.	,, white (pretty)	Ter.
32**	,, sp.	Largish, pale cinnamon	Epi
33**	Bolbophyllum leopardinum	Large, yellow spotted with purple.	Do.
34	,, umbellatum	Largish, dull yellow	Do.
35**	,, Khasyanum	Small, greenish	Do.
36**	,, sp.	Largish, bright yellow	Do.
37*	,, sp.	Small, white, fragrant	Do.
38*	,, sp.	,, dull purple	Do.
39	,, sp.	,, ,,	Do.
40	,, sp.	,, ,,	Do.
41**	Cirrhopetalum sp.	Small, greenish, fragrant	Do.
42	,, sp.	,, dull purple	Do.
43*	,, sp.	Large, brown and yellow	Do.
44**	,, sp.	Largish, dull purple	Do.
45**	,, sp.	,, ,,	Do.
46*	Tricosina suavis	Large, white, purple & yell.	Do.
47*	Eria flava	Largish, dull yell. & brown	Do.
48	Eria sp.	Largish, white streaked with brown	Epi.
49	,, densiflora	,, ,, tinged with yellow	Do.
50	,, ferruginea	,, ferruginous	Do.
51	,, paniculata	Small, spotted with purple	Do.
52**	,, sp.	Largish, white	Do.
53*	,, sp.	,, ,, & dull purp.	Do.
54*	,, sp.	,, ,,	Do.
55*	,, sp.	Minute, rosy	Do.
56	Aporum anceps	Small, white	Do.
57	,, cuspidatum	,, ,,	Do.
58	,, sp.	,, ,,	Do.
59*	,, sp. ?	Largish, white, yellow, and brown	Do.
60	Dendrobium Pierardi	Large, pink and yellow	Do.
61*	,, heterocarpum	,, yell. and br. fragrant	Do.
62	,, Chrysanthum	,, lively yell. and brown	Do.
63*	,, Paxtoni	,, ,, ,,	Do.
64*	,, sp. like do.	,, orange and brown	Do.
65*	,, formosum	Very large, white and yell., fragrant	Do.
66**	,, longicornu	Large, white and orange	Do.
67	,, calceolus	Very dark yellow, rose, and purple	Do.
68*	,, sulcatum	Large, yellow and purple	Do.
69	,, Jenkinsii	,, lively yellow	Do.
70	,, cærulescens	,, deep lively purple	Do.
71	,, nobile	,, white rosy purple	Do.
72**	,, Gibsonii	,, yellow and brown	Do.
73*	,, stuposum	Small, white	Do.
74*	,, Cambridgeanum	Large, lively yell. and br.	Do.
75**	,, transparens	,, deep lively purple	Do.
76*	,, like do., various	,, pale rose and purple	Do.
77**	,, Devonianum	,, lilac-rose and yellow	Do.
78**	,, Dalhousianum	,, rose, white, and purp.	Do.
79	,, multicaule	,, white and purple	Do.
80**	,, Griffithii	,, pale yell. and orange	Do.
81**	,, Farmeri	,, lively ,, ,,	Do.
82**	,, densiflorum pallid.	,, white and orange	Do.
83**	,, do. roseum	,, pale rose and orange	Do.
84	,, intermedium	,, pale yellow & brown	Do.
85*	,, sp.	,, lively orange	Do.
86*	,, sp.	,, ,, yellow & brown	Do.
87**	,, sp.	,, yellow, pink, and br.	Do.
88*	,, sp.	,, pink and yellow	Do.
89**	Spathoglottis pubescens	Largish, yellow and purple	Ter.
90	Arundina bambusifolia	Large, pale rose and lively purple	Do.
91*	Phaius grandifolius	,, white, brown, & pur.	Do.
92	,, Wallichii	,, ,, ,, ,,	Do.
93*	,, maculata	,, ,, rosy scented	Do.
94*	Phaius albus	Large, white, rosy scented	Do.
95**	Aputaria senilis	Largish, rose and green	Ter
96**	A latifolia	?	Do.
97*	Eulophia virens	Large, green and white	Do.
98**	,, sp.	,, dull yellow & brown	Do.
99**	,, sp.	,, deep purple	Do.
100**	,, sp.	,, green and yellow	Do.
101**	,, sp.	,, purplish green	Do.
102	Vanda teres	Very large, rosy purple, yellow and brown	Epi.
103**	,, cristata	Largish, greenish, white, and purple	Do.
104**	,, multiflora	,, white and rose	Do.
105**	,, cœrulea	Very large, deep blue	Do.
106**	,, sp.	Largish, dull purple	Do.
107**	,, sp.	,, ,, and green	Do.
108**	,, sp.	,, yellow and brown	Do.
109**	Camarotis purpurea	Small, yellow and purple	Do.
110	Micropera pallida	,, pale yellow	Do.
111	Saccolabium micranthum	Small, rosy	Epi.
112	,, retusum	Largish, lively spotted	Do.
113	,, papillosum	Small, pale yellow & pur.	Do.
114**	,, Calceolare	,, yellow and brown	Do.
115**	,, sp. like do.	,, pale do. and rose	Do.
116	,, caroifolium	,, rosy	Do.
117**	,, dasypogon	,, green and purple	Do.
118*	,, appendiculatum	,, yellow	Do.
119*	,, sp.	,, rosy and deep purple	Do.
120**	Sarcanthus sp.		Do.
121**	,, sp.	Small, rosy	Do.
122**	,, sp.	,, white and yellow	Do.
123**	,, sp.	,, ,, ,,	Do.
124**	,, sp.	,, ,, ,,	Do.
125**	,, sp.	,, rosy red	Do.
126	Aerides affine	Large, rosy purple	Do.
127	,, odoratum	,, ,, sweet-scented	Do.
128	,, sp.	,, ,, ,,	Do.
129**	,, sp.	Large, like affine, and very sweet-scented	Do.
130	Agrostophyllium Khasyanum	Small, white	Do.
131*	Xiphosium acuminatum	Large, white	Do.
132	Acanthophippium sp.	,, dull purple	Ter.
133*	,, sp.	,, white, streaked	Do.
134*	Cymbidium giganteum	Very large, yell. and brown	Do.
135	,, pendulum	Large, dull yell. and purple	Do.
136	,, aloifolium	,, ,, ,,	Do.
137**	,, eburneum	Very large, white	Do.
138	,, incospicuum	Small, brown	Do.
139	Cymbidium longipetalum	Largish, green and purple	Ter
140*	,, cyprifolium	,, ,, ,,	Do.
141**	,, sp.	Large, fragrant, yellow, and white	Epi.
142**	,, sp.	,, brownish purple	Do.
143**	,, sp.	Very large, white	Do.
144**	,, sp.	Large, white and brown	Do.
145*	,, sp.	,, green and dull purple	Ter.
146**	? Phalænopsis, sp.	Large, yellow and reddish brown	Epi.
147	Euphorbosis pygmæa	Minute, yellow	Do.
148	Geodorum dilatatum	Large, white, purple, and yellow	Do.
149*	,, sp.	,, deep rosy purple and white	Do.
150**	Platanthera sp.	Large, white	Do.
151**	Peristylis sp.	Largish, white, sweet-scented	Do.
152	Habenaria hamigera ?	Small, green	Do.
153	,, sp.	,, yellow	Do.
154	,, sp.	,, greenish yellow	Do.
155*	,, sp.	,, white	Do.
156**	,, sp.	Large, white	Do.
157**	Pogonia Joliana	Small, rosy white	Do.
158**	,, sp.	Largish, green	Do.
159**	,, sp.	Small, purple	Do.
160**	Cyrtosia sp.	Largish, golden yellow	Do.
161**	Spiranthes sp.	Small, white	Do.
162**	Zeuxine sulcata	,, ,,	Do.
163**	Anæctochilus Roxburghii	,, rosy white	Do.
164**	,, sp.	,, white	Do.
165**	Cypripedium venustum	Large, green and purple	Do.
166**	,, insigne	,, red and yellow	Do.
167*	Calanthe densiflora	,, lively yellow	Do.
168**	,, sp.	Small, brown and yellow	Do.
169**	,, sp.	Large, white and green	Do.
170**	,, sp.	,, ,, and yellow	Do.
171**	,, sp.	,, dull purple	Do.
172	Goodyera sp.	Small white	Do.
173	,, sp.	,, ,,	Do.
174	,, sp.	,, ,, dull purple	Do.
175**	Ophrys sp.	Largish, rosy purple	Do.
176**	,, sp.	,, green and purple	Do.
177**	Anthoginum sp.	,, rosy	Do.
178*	Bonatea sp.	Small, green	Do.

Æschynanthus (3 to 4 sp.): Hoya (5 or 6 sp.); Arum (several Lilium (1 sp.); Nepenthes (1 sp.); Ferns and Lycopodiums (150 to 200 sp.); Palms (Livistonia, Leoxalia, Caryota, Calamus, &c.) are also indigenous, and can be sent if required.

Plants not marked are common. Ditto marked with an asterisk are considered rare.
Ditto marked with two asterisks are considered very rare.

The charges for a box of 4 cubic feet measurement, containing an equal selection of the three kinds, will be 5*l.* or 50 Rupees, deliverable at Calcutta. When Plants which are rare or very rare are required, the charges will be according to the kind taken; for the rare 1 r. 8 a. a Plant; for the very rare, 2 rupees a Plant. When very large plants are directed to be sent, no extra charge will be made.

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Plants can also be sent in glass cases, on the Wardian plan, measuring 2 feet 6 inches in length, 2 feet breadth, and 2 feet 7 inches in height, for which an extra charge of 20 rupees will be made. Glass covers can also be supplied for the other boxes, at an extra charge of 10 rupees.

Applications to be made to Messrs. CHARLES CANTOR & CO., in Calcutta.

ASSAM, *August* 1, 1852.

HORTICULTURAL GLASS

OF EVERY DESCRIPTION.

THOMAS MILLINGTON'S WAREHOUSE,

37, BISHOPSGATE-STREET WITHOUT,

LONDON.

GLASS FOR CONSERVATORIES, ETC.

HETLEY AND Co. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2*d.* to 8*d.* per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices and Estimates forwarded on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLATES, WATER-PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to JAMES HETLEY and Co., 35, Soho-square, London.

See *Gardeners' Chronicle* first Saturday in each month.

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PATENT GLASS TUBES, Iron Coated with Glass, Gutta Percha, Combinated ditto, Patent Flexible India Rubber Tubing, and every other Hose for Watering Gardens. The Hydraulic Ram, Fire, Garden, and every other kind of Pump, Sluice Cocks, Hydrants, High Pressure Cocks, and all other articles to be had, Wholesale and Retail, of

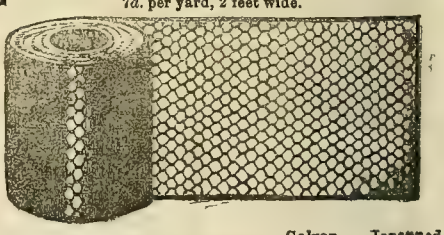
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HYDRAULIC ENGINEER,

70, STRAND, and BRIDGEFIELD, WANDSWORTH.

P.S. Important to Farmers, &c.—F. R. begs leave to call attention to his new Water Power, which in many cases will supersede the use of the Steam Engine.

GALVANISED WIRE GAME NETTING.—*7d.* per yard, 2 feet wide.

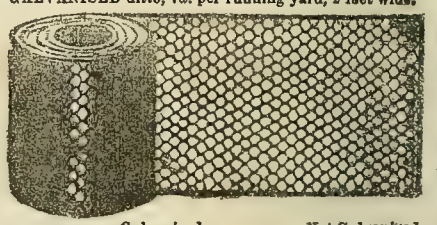


	Galvanised.	Japanned Iron.
2-inch mesh, light, 24 inches wide	7*d.* per yd.	5*d.* per yd.
2-inch ,, strong ,,	9 ,,	6½ ,,
2-inch ,, extra strong ,,	12 ,,	9 ,,
1⅝-inch ,, light ,,	8 ,,	6 ,,
1⅝-inch ,, strong ,,	10 ,,	8 ,,
1⅝-inch ,, extra strong ,,	14 ,,	11 ,,

All the above can be made any width at proportionate prices. If the upper half is a coarse mesh, it will reduce the prices one-fourth. Galvanised sparrow-proof netting for Pheasantries, 3*d.* per square foot. Patterns forwarded post free.

Manufactured by BARNARD and BISHOP, Market-place, Norwich, and delivered free of expense in London, Peterborough, Hull, or Newcastle.

CHEAP WIRE GAME AND POULTRY NETTING, 5*d.* per running yard.
GALVANISED ditto, 7*d.* per running yard, 2 feet wide.



	Galvanised.	Not Galvanised.
24 in. wide, 2 in. mesh,	7*d.* per yard.	5*d.* per yard.
30 in. ,, 2 in. ,,	9*d.* ,,	6½*d.* ,,
36 in. ,, 2 in. ,,	10½*d.* ,,	7½*d.* ,,
48 in. ,, 2 in. ,,	1*s.* 2*d.* ,,	10*d.* ,,

Sparrow Proof Netting, Galvanised, 3*d.* per square foot, made to any size for the same proportionate price. This article was shown at the "Great Exhibition," where it was so much admired for its light and durable appearance, and acknowledged to be the cheapest and best article of the kind ever offered. Extra strong Wire Sheep Netting, 3 feet high, 1*s.* 6*d.* and 2*s.* 3*d.* per yard. Also every description of Flower Trainers, Dahlia Rods, Garden Arches, Bordering, Flower Stands, Tying Wire, Trellis Work, Invisible Wire Fencing, Hurdles, and every description of Wire Work for Horticultural purposes.—Illustrated Catalogues of Patterns forwarded, post-free, on application to T. H. Fox, City of London Wire Work and Iron Fence Manufactory, 14, Skinner-street, and 6 and 8, Snow-hill, London.

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WARNER'S PATENT FARM AND COTTAGE PUMPS.—Cast-iron Pumps, for the use of Farms, Cottages, Manure Tanks, and Shallow Wells.



	£	s.	d.
Patent Pump	1	15	0
Patent Pump, with 15 feet of lead pipe attached, and bolts and nuts ready for fixing	2	10	0

Larger sizes if required.

To Emigrants proceeding to the Gold Regions they will prove to be the most simple, durable, and the cheapest Pumps hitherto introduced.

May be obtained of any Ironmonger or Plumber in Town or Country, or of the Patentees and Manufacturers,

JOHN WARNER & SONS,

8, Crescent, Jewin-street, London.

Every description of Machinery for Raising Water, Fire Engines, &c.

CHRYSANTHEMUMS.

G. TAYLOR informs the Public that he is ready to receive orders for Plants of all the varieties named in his Treatise, published last season, at 12s. per dozen, and of nine approved new ones, let out in 1852, for 12s. Also twelve new Pompons for 12s.

In consequence of his having had many applications for that work, he has issued a second edition, containing the names of the select varieties let out in 1852, copies of which he will forward by post upon the receipt of 14 postage stamps. As a proof of the success of his mode of culture, he begs to state that he exhibited at Stoke Newington this season a selection of 24 blooms, gaining the first prize (a handsome silver cup).

George Taylor, Park-street, Stoke Newington.

SUPERB HOLLYHOCK SEED.—Well ripened Seed, warranted to be saved exclusively from Comet, Elegans, Obscura, Mr. C. Baron, Penelope, Rosea grandiflora, Meteor, Walden Gem, Magnum Bonum, Spectabilis, Saffranot Delicata, Enchantress, Picta, Queen, Bicolor, Dido, Charles Turner, Formosa, Hebe, Model of Perfection, Rosea Alba, Sulphurea Perfecta, White Perfection, Blue Beard, Mulberry Superb, Snowball, and Queen of England.

A good mixture of the above, in packets containing upwards of 200 Seeds, will be forwarded post free, upon the receipt of 2s. 6d. worth of postage stamps, by R. B. Bircham, Hedenham Rosary, Bungay, Suffolk.

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W. Jackson and Co., Bedale, Yorkshire.

STUART AND MEIN'S PARADISE PEA.—A very superior New Early Pea, a distinct variety, of large size; a most abundant bearer, and excellent flavour, partaking of the Marrow.

"Sown May 17, fit for use July 23. About 4 feet high, pods straight, flattish, containing 6–7 Peas of good quality. An abundant bearer." From Journal of the Horticultural Society. See *Gardeners' Chronicle*, Oct. 16, 1852.

"Your Paradise Pea I consider to be distinct, well flavoured, and an abundant cropper, growing about 4 feet high. I certainly think it an acquisition to the Peas now in cultivation."—George Wemyss, Gardener to Sir George Scott Douglas, Bart., of Springwood Park.

"I take the Paradise Pea to be distinct from any at present cultivated, grows about 4 feet high; strong and erect in the straw, an immense bearer, pods fleshy, large and straight; Peas above the medium size, of excellent quality, and altogether a great acquisition."—John Taylor, Gardener to the Right Hon. Lord Chief Justice Campbell.

2s. 6d. per quart.

Agents:—Messrs. Charlwood and Cummins, 14, Tavistock Row, Covent Garden, London; Messrs. Nutting and Sons, Cheapside, London; and Messrs. Lawson and Son, Edinburgh.

Paradise Nurseries, Kelso, Knightsbridge.

J. D. PARKS has to offer the following:—

	Each.—s.	d.
6 Trained full Standard Royal George Peach	4	0
4 ditto Double Swalsh	4	6
12 Large Ontario Poplar, 15 to 20 ft.	1	0
25 Hornbeam, 12 to 15 feet	1	0
6 Acer macrophylla, 12 to 15 ft.	1	0
18 Plane, 15 to 20 ft.	1	0
5 Weeping Elm, fine	1	6
20 Portugal Laurel, 5 to 6 ft., will move well	2	0
7 Weeping Ash	2	0
12 Laburnum intermedium	1	6
25 Larch Fir, 15 to 20 ft., will move well	1	0
1 Fine Cedar or Cypress, 15 ft., from Nepaul, a fine plant	7	6
50 Rhododendrons, large, chiefly ponticum	1	0
200 Standard and Dwarf Apple-trees, to clear the ground, not very free in growth	0	4
12 Large Tree Box, 4 to 5 feet	2	0
75 Sweet Briar, 5 ft.	0	3
6 Standard Cytisus purpureus and sessilifolius		—
8 Arbutus unedo, 7 ft.		—
100 Rhododendrons, 18 to 24 inches	0	8
7 Evergreen Oaks, 10 to 12 feet	2	6
25 Cypress, upright, 4 ft.	1	3
12 Witch Elm, 12 ft.	1	0
13 Alaternus, 5 ft.	1	6
12 Ash, of sorts	1	3
A few large trained Pear and Plum Trees ... ... (The object in selling these large Trees at this price is to reduce the stock.)	2	0
50 Laurestinus, 18 inches ... ... (The object of offering these Plants so low in price is to reduce the stock.)	0	9

Dartford Nursery, Dartford, Kent.—Dec. 25.

INGRAM'S HYBRID WHITE SPINE CUCUMBER.

Price for Three Good Plump Seeds, 2s. 6d., Post Free.

GEORGE WHEELER, Nurseryman, &c., Warminster, Wilts, having purchased the entire stock of the above most valuable Cucumber, which, after much care and attention in hybridising, Mr. Ingram was so fortunate as to raise, it is now, for the first time, offered to the public, on condition that G. W. receives by the end of January next the names of a sufficient number of Subscribers to insure him from probable loss in the speculation, he will then be prepared to send it out in the first week in February, otherwise it will be necessary to keep it in for another season.

It is the general opinion of the numerous persons, viz., gentlemen's gardeners, amateur and other Cucumber growers, who saw it growing all through the last season, that it is the most prolific long Cucumber ever grown. The crop in Mr. Ingram's cold pits, which depended for heat on the sun's rays alone, was most abundant, of excellent quality, and called forth general admiration. It is equally well adapted for early forcing, for the general crop, and excellent for the trellis system of culture. The skin is very thin, its fine green colour is retained long after the fruit is become too old for the table or exhibition, without showing the least tint of yellow; the flesh is particularly solid, crisp, and good flavoured. This variety has the singular property of showing fruit on the old parts of the vines, often below all the foliage and lateral shoots, and bringing such fruit to perfection. At the horticultural shows held in Birmingham and its vicinity, Mr. Ingram exhibited this Hybrid White Spine for several successive seasons without failing in any instance of obtaining the first prize.

The seed G. W. offers has been grown under his own superintendence, far from any other Cucumber, consequently may be relied on as true and genuine; he therefore recommends it with the greatest confidence. G. W. hopes to receive the names of subscribers without delay, and that the list may be soon so far filled as to enable him to send out the seed by the middle of January, instead of February, which he would be happy to do.

G. W. has, as usual, a good stock of fine Bulbs of the following kinds of TIGRIDIA, or TIGER FLOWER.

T. WHEELERII, yellow, richly spotted centre, with scarlet sepals, a superb variety, 3s. per dozen.

T. CONCHIFLORA, yellow ground, finely spotted, 3s. p. doz.

T. PAVONIA, 2s. per dozen.

For cash post free. The usual discount to the Trade by the 100. A large quantity of good and strong transplanted Thorn Plants on hand. Prices on application.—Warminster, Dec. 25.

SEED AND HORTICULTURAL ESTABLISHMENT, SUDBURY, SUFFOLK.

BASS and BROWN have the pleasure to announce that their SEEDS for the present season are now harvested and ready to send out in fine condition, which they beg to offer as under. Their similar assortments of previous years have given general satisfaction, and they can recommend them with the highest confidence.

VEGETABLE SEEDS IN ASSORTMENTS.

Full particulars of the assorted collections are given in the Catalogue.

	s	d.
PEAS, 20 choice, new, and best sorts, 1 quart of each, arranged for succession	14	0
Do. 10 do. do. 1 quart of each	8	6
Do. 8 good and esteemed sorts, 1 quart of each ...	4	6
BROCCOLI, 10 finest sorts, 1 pint of each, for succession	4	6
Do. 6 do. do. do.	3	0
1. Collection of Vegetable Seeds, containing the 20 quarts of Peas, with each of the Broccoli, and all other Seeds in proportion, of the best and choicest sorts	£2	10 0
2. Collection, smaller quantities	1	10 0
3. " " "	1	0 0
4. Collections of esteemed kinds for small Gardens	0	10 6

Our New Seed List for 1853 may now be had, which comprises the former part of our general Spring Catalogue, the whole of which will be ready early in January.

The Autumn Catalogue, which contains select New Plants, Roses, Shrubs, Hardy Herbaceous Plants, Fruits, Bulbs, and Flower Roots, &c., sent free for three postage stamps.

Post-office orders payable to Stephen Brown. Remittances requested from unknown correspondents.

Established about Half a Century.

The Gardeners' Chronicle.

SATURDAY, DECEMBER 25, 1852.

MEETING FOR THE ENSUING WEEK.

Wednesday, Dec. 29—Microscopical .....8 P.M.

Amongst books of passing interest, there is none of its kind that has claimed and gained a greater share of popularity than MM. Huc and Gabet's adventurous travels in Tibet and Tartary; and of all the strange things these travellers saw, none has attracted more curiosity than the "Tree of 10,000 images."

We have been inundated with questions respecting this tree from all classes of readers at home, and inquiries have reached us from India and the continent. Our own curiosity has, we confess, been aroused; and in spite of, perhaps, our better judgment, the subject of the following remarks has taken a strong hold on our imagination.

Shorn of periphrasis and verbiage, the facts vouched for by the French missionaries are—that at the foot of a mountain called Kounboum, in the extreme west of China, beyond the great wall, in about latitude 37° N., and longitude 100° E., there grows an aged evergreen tree, said to be the only one of its kind, which is preserved with great care within four walls, and covered by a silver canopy. The trunk is 15 feet in circumference, and 8 feet high, above which the branches spread and are tufted; the bark flakes off like that of the Plane, and the wood is red, smelling deliciously, something like Canella bark. Tibetan characters are formed naturally on various parts of the leaves, in different shades of green, and similar ones cover the old as well as the newly-formed bark. It is said to produce large and beautiful red flowers in summer. The missionaries are convinced that no deception was practised by the Lamas; that the Devil has a good deal to do with it; and they do not suggest the probability of insect agency. It may be added that the climate of the country is very dry and cold, but subject to the great extremes of a long icy winter and short hot summer, that Kounboum is probably at a considerable elevation, and that few other trees grow there.

We need scarcely say that no known tree answers to this souvenir of MM. Huc and Gabet; nor can we offer a very probable guess as to what it may be; the best we have heard as answering several of the conditions is, that it may be a variegated-leaved *Magnolia*; the red flowers and scented wood favour this idea, but the bark does not correspond, and the climate is against the probability of an evergreen tree of that genus surviving the winter. The Funereal Cypress of the intrepid Fortune has occurred to us, the Tchenden of the Tibetans, a great favourite of the Lamas in that country and in the Eastern Himalaya; it is evergreen, has a sweet-scented red wood, and somewhat flaking bark, but the leaves do not answer, nor do the large red flowers. An evergreen Oak, with its broad harsh leaves eaten by insects, sums up our scanty catalogue of possible plants.

Before dismissing this subject, it may be well to pause and inquire whether we may not be pursuing a phantom in this investigation, and what reliance can be placed on our authority.

There is proof in their volumes, that MM. Huc and Gabet were no impostors, nor is evidence wanting of there being some foundation for many of their most marvellous stories, of the Californian richness of Tibet in gold — of the salutation by lolling out the tongue, and scratching the ear—of the little wooden cups which cost ounces of silver, whilst others exactly like them cost but a few pieces of copper — and of the custom the Lhassa belles have of blackening their faces with varnish, though the ungallant monks slander the fair sex of Tibet by the fabulous origin of the custom they quote. That they went to Lhassa and lived there has been reported to Europeans on the frontier of India, and that they returned through China is as certain as that they have since become the authors or originators of a book, as remarkable for its fables and fictions (perhaps not all their own), as for its novelties and truthful representation of the manners and customs of the Tibetans. The integrity of the authors, and the honesty of their intentions we do not doubt; but we cannot help remembering that no journal or diary was kept during nearly three years of wanderings; that a "few notes" were worked up at Macao in 1847 and 1848, and that in 1850, from such materials, nearly 1000 well filled pages of souvenirs appear in Paris! stored with anecdotes, occurrences, and prolonged conversations in Chinese, Mongol, and Tibetan, such as no imagination, however fertile, could wholly invent and clothe with the garb of truth, and as no memory, however retentive, could retain aught but the traces of.

Again, it was advisedly that we called this work of passing interest only, because its value as a book of information will vanish, and its interest as a lively narrative will be forgotten, soon after the countries it describes shall have been gone over by accurate and observant travellers. The gossip that swells its pages is delightful, but the amount of sound useful observation it contains is incredibly small. The scanty geographical details are wholly insufficient for the most superficial compiler to profit by; the soil and its produce, climate, zoology, and botany, are scarcely alluded to, and the doctrines of Boodhism the authors do not appear to have comprehended in the least.

MM. Huc and Gabet's credulity and love of the marvellous are so overweening that they crave and swallow the tales of people whom they describe as the most credulous and mendacious in the world; they stretch out their hands to be led by the blind. Before visiting the "tree of 10,000 images" they were satisfied that Lamas could disembowel themselves by the aid of the devil, and after returning their viscera uninjured to the resumption of their functions, heal the wound by passing the hand over the gash; and they rather make a boast of the extent of their superstitious belief in these and other as marvellous fables. In this state of mind they arrived at the tree, their imaginations wound up to the highest pitch of curiosity and excitement by the tales they had heard; they were "consternés d'étonnement" at the first sight of the leaves, and on leaving "la sueur leur en montait au front."

Now instances are not wanting at home, of men of education and intelligence seeing impossibilities in the heavens and on the earth, in the sea, and under it; the histories of the telescope and microscope are inter-wrought with such, as are those of discoveries of all kinds. The naturalists of Cook's voyages insisted that the rows of tall Pines along the shores of New Caledonia were Basaltic columns, long after the keen-sighted navigator had pronounced them trees. Icebergs have been seen in tropical seas. Some islands are vouched to *have been landed on*, thousands of miles from any land; besides hundreds that are seen and passed by, and still find a place in our charts. A sea-serpent was (if we remember aright), vouched to have been seen so well and so near, that had it been a friend's face the observer would have recognised it; the distance proving, on cross-questioning, to be three-quarters of a mile! A graduate of Oxford, not long ago, told us he saw swarms of crabs on the edge of a pond in one of our suburban gardens; and we once had the greatest difficulty in convincing a distinguished Naval officer and eminent surveyor, that the Organ mountains (on which snow never falls) are not covered with perpetual snow; he had been commodore on the coast, had lain for months in Rio harbour, and assured us that he had been accustomed to admire the sunrise tints on the snow every morning during his quarter-deck walk. The story of the Capers *versus* Anchovies needs no repeating here; but those alone who have been accustomed to train ignorant observers to do good service in science, know the difficulty of arriving at the truth of results thus obtained.

Our opinion with regard to MM. Huc and Gabet's account of the tree is, that it is impossible to guess the nature, or exaggerate the amount of error into which such ignorant observers may have fallen; or to estimate the consequence of their superstition and excitability; or to distrust too much memories overburdened with so many "souvenirs." Add to these, a want of curiosity so inexcusable, that they remained a whole summer in idleness at Tchagertan,

only half an hour's walk from the object of their consternation and sweating astonishment, without once going to see its beautiful red flowers; and we may stand excused for leaving the story as we found it, and our readers to form their own opinion of its probable merits.

Some idea of the mischief produced in wine countries by the Vine Mildew, may be gathered from the following facts, the accuracy of which we guarantee.

In the department of the Herault in France, wine is rising so rapidly in price that common wine which 10 years ago was as low as 20 fr. the muid of 700 quarts, and the average price of which may be taken at 40 fr., is now producing 150 fr., and even at that rate many proprietors will not sell, under the impression that the Oidium has so affected the Vines that next year's Vintage must either be a total failure or a very short one. Our correspondent, an English gentleman, whose capital is invested in vineyards, which he has for many years managed for himself, and with great success, expresses his belief that at least the latter result must be anticipated.

It thus seems that the wine countries are about to experience a calamity similar in its nature, and as terrible in its extent, as that which lately befel Potato countries. If Madeira, the south of France, Spain, the north of Italy, and Hungary, are now suffering under this infliction, it cannot be expected that other countries will escape; and thus the small cloud which appeared some years since in the Isle of Thanet, and from which no one expected danger, has already expanded into a meteor that has ravaged a considerable part of Europe.

Under these circumstances the cure of the disease becomes of immeasurable importance, and whatever appears to arrest it takes precedence of all other inquiries. We therefore avail ourselves of this opportunity of returning to the remedy proposed by M. Duval, as mentioned in our Journal of the 13th of last month. We were at that time uncertain what might be the precise nature of the dirty *Eau de lessive*, which effected a cure; and we ventured to call it "lie." A correspondent has since explained (p. 774), that what the French call *Eau de lessive* is prepared thus: a large tub with a cavity at the base is filled nearly to the top with foul linen; on this is placed a thick layer of wood-ashes, on which water is poured for about 24 hours, and having penetrated the ashes and clothes, and cleansed the latter partially, escapes by the vent, and is what is termed *Eau de lessive*. The clothes are afterwards washed in soap and water, but soapsuds form no ingredient in the *Eau de lessive*, which is a very acrid fluid.

To this we are now able to add that French washerwomen not unfrequently add fresh burnt lime to the wood ashes — a practice highly destructive to linen—and thus it may be that the lie or lessive employed by M. Duval was in reality lime-water, holding caustic potash in solution. Be that as it may, we fear that the lessive remedy will have little value in vineyards, if the wash-tub only is to be its source, for no such quantity can be thus obtained as a vineyard would require, especially since in washing much of the water is driven off by evaporation. It would, however, be easy enough to form expressly a lessive having all the properties of that which is rejected by the Paris washerwomen, provided it should be found desirable after further trial.

ENTOMOLOGY.

Wine Cork Insect.

At the present festive season, when our wine cellars are subject to more than ordinary visitation, and long stored up bottles of choice wine are dislodged from their dark retreats, and their contents duly discussed, we may be allowed to leave the gardens and fields, and call attention to the proceedings of several species of insects which have the instinct to devour the corks, and so to cause the wine to leak, thereby occasionally producing woful disappointment to the expectant connoisseur.

The most injurious of all these wine cork insects is the caterpillar of a little moth which gnaws the cork in all directions, weaving at the same time a slight web, to which are attached small masses of grains, which are the dried excrement of the insect. The ravages of one of these larvæ is represented in the accompanying figure. The larva itself is whitish coloured, fleshy, and slightly clothed with erect scattered setæ, and with a dark coloured head. When disturbed it writhes about, quits its burrow, and lets itself down from the cork by a fine thread. When full grown it forms an elongated cocoon attached to the surface of the material upon which it has been feeding, formed of a fine layer of silk, to the outside of which are attached particles of excrement and gnawings of its food. Within this cocoon it is transformed to a small chrysalis, rather slender in form, with the head case pointed, and the antennæ cases extending quite to the extremity of the body. The perfect insect is a minute moth belonging to the family Tineidæ, placed by Haworth in the genus Gracillaria, and specifically named by him G. V-flava, from the pale V-like mark on each of the fore-wings, which measure rather more than one-third of an inch in expanse, and are of a shining brown colour, with a narrow pale clay-coloured angulated transverse bar running across the fore-wings, at about one-third of their length from the base, resembling a ⊱ placed sideways, the point of the letter being directed towards the tip of the wings, and connected by pale scales with a large spot on the fore-margin towards the end of the wings, which is indistinctly formed into a fascia on the hind margin. The fringe is very long, the hind wings very slender and pointed, with very long fringe, of a pale straw-coloured buff. The head is clothed in front with a dense tuft of buff-coloured hairs truncated transversely; the palpi are of moderate length, very slender, drooping and extending outwards, so as to be seen at the sides of the head. The antennæ are very long and thread-like, and the hind tarsi are considerably elongated. Mr. Haworth considered it probable that this species was the Tinea Pedella* of Linnæus (Fauna Suec. 1433), the description of which is however so short and vague, as not to enable us to determine the point; but as Linnæus expressly states of it, that its larva is "alni foliis subcutanea," it cannot be identical with our insect.

This insect has formed the subject of several communications made to the Entomological Society during the last three or four years. Mr. E. Doubleday exhibited some of the larvæ on the 6th March, 1848, which had destroyed the corks of a stock of wine, so as to render it necessary to recork the bottles; and on the 5th June following, Mr. Stephens exhibited some of the moths which he had reared from Mr. Doubleday's larvæ. Until recently, the insect was very rare in collections, but had latterly been found in plenty by Mr. Bedell in wine cellars. As it differed considerably



from the other species of the genus Gracillaria, Mr. Stephens proposed to separate it from them, under the name of Oinophila. No description of the proposed genus has hitherto been published, and it is to be hoped that the generic name will be altered, as it is now certain that the insect has no taste for the wine itself, as it invariably leaves that portion of the cork which is saturated with the wine untouched. Besides, from still more recent observations communicated to us by Mr. Bedell, there is reason to doubt whether its exclusive or perhaps even natural food is cork, and whether it has not resorted to the cork of the wine bottles because its own food has been destroyed or wanting. Mr. Bedell, in fact, finds the moth in the vaults of the London Docks, where the wine is never kept in bottles; and he has, moreover, found the caterpillars feeding upon fungi or mould growing upon the walls of cellars where, also, no corked wine bottles were kept. Another circumstance is also worthy of remark, namely, that from the recent observations of continental microlepidopterists, the insect seems almost unknown on the Continent; whereas if it fed naturally on the cork, it would surely be found more commonly in the south of Europe.

A communication by Dr. Felkin, of Richmond, was made to the Entomological Society, on the 5th of April last, in which it was stated that the corks of some port wine bottles which had been packed in straw in wooden cases, in which it remained undisturbed for 17 or 18 years, were found to have been much gnawed, so that in some cases leakage and evaporation had completely emptied the bottles; in others there was only a little loss, but in most cases the corks were more or less destroyed. This partial destruction seemed as if it were prevented from being complete by the wine oozing out in a single drop, and being pernicious to the insect. He moreover suggested that the insect seemed to enter into the cork, and commence its ravages at that part where there is a depression caused by the instrument used by wine merchants in corking wine, to compress the cork, and make it enter more readily into the neck of the bottle. He proposed, as a remedy against the mischief, to cut the cork level with the mouth of the bottle, and then to dip the top of the bottle for half-an-inch into a mixture of yellow bees'-wax, 8 oz., and sweet oil 4 oz., melted together; or to surround the upper part of the cork with a thin coat of gutta percha, or after the bottle has been corked to immerse the mouth in a solution of alum in vinegar; none of these plans, if effectual, would injure the wine or render it less fit for drinking. Some of the members of the Society further suggested that the mixture of resin with the bees'-wax would, by rendering the composition harder, prove more effectual in excluding the insect in the larva state, or in preventing the female from depositing her eggs in the cork. One of our correspondents, a wine merchant at Gloucester, attributes the introduction of the insect into his cellar to a quantity of cases of port, bottled and packed in sawdust at Oporto, and which were bonded at Gloucester, direct from that port, seven years previously; before which time he had never been troubled with the insect.

It does not appear that the flavour imparted by any particular kind of wine to the corks is the cause of the latter being attacked, as we have known it to take place with bottled port, sherry, shiraz, claret (which had been a voyage to the East Indies), and in our own cellar some old Madeira wine has been similarly injured.

Various other species of insects have also been recorded to feed on the corks of wine-bottles, of which a notice will be found in the first volume of "The Transactions of the Entomological Society," p. lv.; "Kirby and Spence's Introduction," 6th edition, vol. i., p. 197; and "Curtis's British Entomology, Genus, Mycetæa," fol. 502. *J. O. W.*

* Both Haworth and Stephens have incorrectly given this reference as Padella of Linnæus, which is the name of the small ermine moth.

LATE PEARS.

(*Continued from page 772.*)

Josephine de Malines (Esperen). This very fine late Pear seems to be of the Passe Colmar race, for it has much resemblance to that well-known variety, in its pointed leaves, the size and form of its fruit, and general habit; it grows freely on the Quince, and bears well as a pyramid, even when grafted on the Pear stock, but deserves a wall in the cool and moist parts of England; its season (but who can tell the ripening season of Pears, when Ne plus Meuris ripened this season in November?), is from March to the end of April, and its flavour is, I think, the highest and most agreeable of any Pear known, being at the same time perfectly melting and juicy.

Beurré Gris d'Hiver Nouveau, or *Beurré de Luçon*. This fine large Pear is, I think, calculated to form an important feature in our winter desserts. It seems to be of the race of the old Brown Beurré, Beurré Gris of the French; its fruit has nearly the same shape, but they are larger and generally covered with a thick coat of russet; it differs, however, widely from its type in the great merit of being fit for table from two to three months after Brown Beurrés are gone and forgotten; it is in season generally from the end of January till the middle or end of March; its flavour is peculiarly high; its flesh melting and very juicy, but liable in some soils to be a little gritty; it does not grow freely on the Quince, unless under glass, and is not hardy enough for a pyramid on the Pear stock, unless in very warm and sheltered situations, but it amply deserves a wall (a south-east, south, or west aspect would be most eligible), and ought to be in every good collection of Pears. *Thos. Rivers.*

GREENHOUSES AND CONSERVATIVE WALLS.—No. II.

One of the most delightful appendages to a mansion is, undoubtedly, a conservatory. With its aid the pleasures of a garden can be enjoyed at all seasons, and the fickleness of the weather bid defiance to. With a little tact on the part of those to whom its keeping is intrusted (always supposing, however, that the necessary concomitants are at hand), a profusion of flowers may be had, at a season when all without doors is bare and desolate, something like a perennial spring may be enjoyed within its limited space, and winter may be induced to wear

"A wreath of summer flowers."

A conservatory is, or should be, not only a place to preserve plants; but a structure in which they may be also enjoyed. To realise the first-named item, but having no pretensions to the last, conservative walls have been sometimes adopted, though, I believe, from the latter deficiency principally, they have never obtained much favour in the esteem of garden-loving folks. Now, it appears to me that a structure combining the essentials of both, would be a desirable acquisition in many gardens. Almost every collection possesses numerous plants which, though essentially hardy, put on their most attractive dress at a season when, in our climate, they can scarcely be enjoyed in the open air; to say nothing of the damage which they sustain (I mean in the beauty of their flowers), by the inclemency of the weather. Delicate corollas but ill associate with the cold rainy days and nipping frosts of an English winter. And to these may be added very many interesting shrubs that, with the slight protection of a glass roof, would push forth their blossoms in early spring, when their attraction would be doubly admired and valued.

As a receptacle for such and kindred plants, and which should at the same time form an interesting winter promenade, I would construct a building thus wise. Passing off from very many residences, and having a southern aspect, are considerable lengths

of wall, to render which sightly various expedients are adopted. They are either entirely hidden with shrubberies, or covered with creepers, and having a straight border of flowering plants in front, the whole bounded by a parallel walk. With these features much interest may be undoubtedly afforded; but on such a piece of wall I would erect a structure for the purpose I have hinted at. The interior should at least be 10 feet wide; at all events ample space should be afforded for a comfortable promenade walk. The glass-roof I would have permanent, but the pillars supported, or should be so constructed, as to allow the front sashes to be removed in summer. On the outside of such pillars I would plant deciduous creepers, and keep them closely trained at the fall of the leaf, to prevent as little obstruction as possible to the sun in winter. On the wall, inside, and in every available spot, I would place plants which are the most attractive in winter and early spring, either from their flowers or foliage or perfume. And here, too, I would place such plants as the Christmas Rose, the Snow-flake, and a few Snowdrops and Hyacinths, with many other kindred plants familiar to all who love flowers for their own sakes. And there, too, I would have rock plants, with early blooming Saxifrages, Aubrietias, and Ferns. In such a structure the beautiful Jasminum nudiflorum, Forsythia viridissima, Chimonanthus fragrans, and more than space will allow me to mention, would find an appropriate home.

In summer, when the glass front was removed, the creepers before alluded to should be allowed to flourish in all their luxuriance. They would then convert the building into a graceful colonnade, and afford an additional beauty to the adjacent garden. It is obvious that such a building affords much scope for ingenuity, both in its construction and in the arrangement of its occupants. Details form no part of my plan, or I might enlarge upon the topic. *Crayon.*

AMATEUR PLANT GROWING.

It is unnecessary to inform experienced plant growers that the articles contributed by me during the past year and those hereafter to be furnished are intended as guides for those who are anxious to grow plants successfully, but who are not quite *au fait* in the practice of cultivation. It was hoped that the minute practical instructions on the management of many of the more desirable plants in collections would have been useful to such persons; but a communication, professedly an amateur's, and signed "H. R. M.," complains that individuals possessing but limited accommodation for plant growing are far too much overlooked by those who write for the *Chronicle*, and that the directions I have given for the culture of plants, to be carried out properly, would require a separate house for almost every kind treated of. The writer then begs for a few hints on the management of a miscellaneous collection, and mentions the accommodations he possesses, which may be briefly stated as follows:—He says, "I have a Vinery fitted up with a plant stage, and heated with hot water, a M'Phail's pit, in three compartments, measuring 18 feet by 7 feet, and six cold frames, measuring in all 38 feet by 5." It is farther recorded that the M'Phail's pits are difficult to manage, and are only used as cold frames in winter, and for growing Cucumbers and Melons in summer, and that the Vinery is the only structure heated. "H. R. M." wishes to be informed how to grow plenty of bedding stuff for a flower garden and shrubbery borders some 2 acres in extent, and to keep up a succession of flowers through the season without making the Vinery a regular forcing house. He states, "I do not object to the Vines breaking rather early, but I do not wish to force them." And it is added, "I cannot without considerable expense heat any of my structures except the Vinery." Now, unless "H. R. M." can manage to have the M'Phail's pit heated by means of a hot-water apparatus, or by some other method, it will be very difficult to keep up a succession of flowers, and hardly less so to provide a supply of bedding out plants. But if he is really an amateur, and if Cowper is correct in saying that this means "consecration of heart, soul, and time," the expense of having a small boiler with 2-inch flow and return pipes fixed in the M'Phail's pit, will not be deemed so very considerable, and with this alteration it would be easy for him to keep up a nice succession of flowers, to grow good specimen plants, and also to get up a considerable quantity of bedding stuff; but as to propagating and wintering as many as would plant 2 acres of ground, this would require much more glass.

The idea that "to carry out properly the directions for the culture of plants given in the *Chronicle*, would require a separate house for almost every kind of plant," must have been derived from my having deemed it expedient to state the temperature required in degrees, rather than to use the terms greenhouse, stove, &c. But, with the inexpensive alteration suggested, "H. R. M.'s" M'Phail's pit will very conveniently furnish all the variations of temperature recommended in the articles to which he alludes. Such pits are generally deep enough to hold a body of tan, and leave sufficient room for good sized plants. One or two compartments might thus afford bottom heat, and be kept close, or air admitted according to the wants of the plants growing in them, and one kept but little warmer than a greenhouse. Indeed, a structure like this is very suitable for persons of small means; and if "H. R. M." would effect the improvement I have suggested, and set earnestly to work at plant growing, the difficulties of keeping up so many various temperatures, &c., will be easily overcome. I may also state that the exact degree recommended is not absolutely necessary to success, and that the heat may be allowed to range a few degrees higher or lower at discretion. Indeed, no directions for plant-growing need be considered by beginners in the light of mathematical axioms, although I have endeavoured to give mine as precise as if they were recipes for a cookery-book. I have no hesitation, however, in saying, that with "H. R. M.'s" present accommodation, it is impossible to keep up a succession of flowers, deserving the name, and to do all besides which he requires to be informed how to do.

Respecting the temperature of the Vinery, on which "H. R. M." seems to hinge much of his practice, I would advise that the Vines should be turned out of the house as early in autumn as the wood is properly ripened, and left there till April; and if inconvenient to do this, to lay them along the front and surround them with a board casement to protect them from the internal temperature, and expose them to cold air from without, by removing a few panes of glass along the front sashes, or in any more convenient way, to protect them from the internal, and expose them to the external, air. The proper temperature of the Vinery during winter, when thus divested of the Vines, may be from 40° to 45° at night, and from 5° to 10° higher with sunshine; but this must be greatly regulated by the class of plants flowering in it. It cannot be doubted that amongst other things a good crop of Grapes is "H. R. M.'s" chief desideratum; and if so, care must be observed to have the wood well matured previous to exposing the Vines in autumn; and the temperature of the house must be regulated in accordance with the wants of the Vines while they are in it. As to Camellias, Azaleas, and Cacti, these should be grown as early in the season as convenient, so as to have the blossom buds all set previous to winter—that is, supposing that they must be wintered in a cold frame; and, as a few degrees of frost will not injure them, they may be removed to the Vinery about a month previous to when it is desired to have them in flower, but this altogether depends upon the forwardness of the plants, the management of the cold pit, &c. As to where bedding out Pelargoniums should be kept during the winter: if they are well rooted and established in autumn, they may be safely wintered in cold frames, provided sufficient covering is applied to exclude frosts. Well-established plants are not liable to the attacks of mildew, but weakly plants are certain to damp off when wintered in cold-frames. All bedding-out plants to be so wintered should be well-established early in autumn, and fully exposed to air on every favourable occasion. Heaths may also be wintered in a cold frame; but to do this without injuring the plants requires great attention and more experience, I doubt, than "H. R. M." possesses; and it is not advisable to grow these in collections which must be wintered in cold frames, or in a somewhat warm house. As to when Fuchsias should be placed in a warm house, I must refer your correspondent to my article at p. 334. I can only say that if wanted for late flowering, they will be better placed under the shade of a north wall than in a Vinery under the shade of the Vine leaves. *Alpha.*

Home Correspondence.

Ewing's Glass Walls.—I perceive that one of your correspondents wishes to know which is the most suitable structure for wall trees, whether the old-fashioned house, orchard-house, or glass walls (Ewing's); it is not my intention to recommend any, but were I called upon to do so, it would be Ewing's glass walls, as decidedly the most beautiful and useful for the purpose of anything yet invented. Having heard many remarks passed upon glass walls, I determined to see and judge for myself; being informed that there was one erected, and in full operation at Bodorgan Hall, Anglesea, I paid three visits to those celebrated gardens. The first was in April last; but the trees had been so recently planted, and some of them very large ones, I could not form any idea of their utility, but the appearance was truly magnificent. I accordingly visited them again in July, when I was astonished at the progress the trees had made. They consisted of Peaches, Nectarines, Apricots, Plums, Figs, &c. I measured some of the leaves of the Peach trees, and found them to be a foot in length, and in a very healthy state. But then I had some misgivings whether the wood would get sufficiently ripened, perhaps merely from preconceived notions; for the trees presented no indications of such results. Be that as it may, however, this induced a third visit a few weeks ago, when I found the trees quite bare of foliage, the wood very solid and well ripened, to the extremity of the shoots, and not a gross or unfruitful branch to be perceived. I may add another advantage connected with hollow glass walls, viz., that the border on the north side of such walls, whose aspect is north and south, is equally productive with any other part of the garden; this is a considerable item where a great extent of walls is erected. The above are the results of my investigations; but at the same time I would recommend to any of your correspondents who have any desire to raise such a structure, to do as I have done, see and judge for themselves; the North Western and Holyhead trains travel within a short distance of Bodorgan Hall. *A. O. B.*

Transplanting Large Trees.—Sometimes curious mistakes are made in planting by gentlemen who direct the operations. Some time ago, a learned man in a certain department of knowledge, thought that part of his pleasure-ground would be improved if a large tree was planted in it. So he fixed upon a pretty large one, and gave orders that it should be removed; the trunk was about 3 feet in diameter near the ground, with a head of branches in proportion. Picks and spades in active operation soon made a large trench round the stem of the tree; many roots were cut, but still a large mass of roots and earth remained, when the tree was drawn over. But all the men and horses he had were not able to move the tree one inch from the spot where it fell; and after much labour in vain had been expended, the branches were cut up for Pea-sticks, and the trunk sold to the wood merchant, but the affair did not end here. When the trunk was sawn across near the bottom, the earth and roots that had been lately elevated fell back into the hole where they had been before; and as the trunk and branches had been removed, it was thought that the roots should be taken away also; so orders were given to burn the roots as they were, as the best way of destroying them, and a cart-load of dried peats and two cart-loads of coals were drawn to the spot, the peats were kindled upon the roots, and the coals upon the burning peats, and a noble bonfire they made; but when the peats and the coals were consumed, there was little harm done to the main body of the roots. *P. M.*

Skimmia Laureola.—The observations on this plant (see p. 773) have reference, avowedly, to the shrub in its native station only, where I have resided for months, within a few hundred yards of entire thickets of it, and seen it in all its stages, from flowering to its brilliant red berries produced in profusion. What it may turn out in this country I have no certain means of foretelling, but from its known zone in the Himalaya, and its close affinity to S. japonica, analogy is entirely in favour of the supposition that, properly managed, it will prove as hardy and beautiful as in its native mountains. Nor can I answer "R. F." as to the date of its introduction, &c., but I have been told that it flowered (profusely or poorly I cannot say) at Glasnevin, where, however, I believe it did not produce any fruit; whether from its being a male plant, or simply one too young, is unknown to me. There may be much difference on this point, between plants raised from seed and those imported mature, or raised from them by cuttings, and tended with a care which may not hitherto have been bestowed on the Indian shrub. I have given the zone of the latter at from 7000 to 10,000 feet above sea-level, but a reference to my notes shows the shrub as low as 6600 feet at Nynee Tal in Kamaon, and as high as 11,500 feet near Kedarnath in Gurhwal. Griffith observed it at 10,000 feet near Rydang, in Bhotan (Journals of Travels, p. 275, and Itinerary Notes, p. 156, No. 783, where, however, he calls the berries black, if atris be not a misprint for rubris); Wallich (Pl. As. Rar. Tab. 245) found it in Nepal; and Jacquemont (Voyage aux Indes, Tab. 161) mentions it on the Peer Punjal Pass (Kashmeer) at from 2300 to 3937 metres, or 7544 to 12,900 feet. Mismanagement alone, surely can be the cause of a shrub standing such diversity of climates failing in our own. The height, or rather the length of the stems, which are more or less decumbent, is from one to eight feet. The leaves are clustered near their apices, and vary from lanceolate and oblong to obovate, with or without a short blunt acumen, from 3 to 6½ inches long, and from 1 to 1½ broad. The aroma of the crushed stem, leaves, and flowers, is excessively heavy, but fragrant. The greenish-yellow flowers principally appear from the latter half of March till the first half of May (at an elevation of 7000 to 8000 feet), but there is a second inflorescence in September and October. The fruit is ripe on the bushes from November till May in thyrsi of 12-20, rounded ovals. The style is very short, sometimes none. The stigmas 2-3; ovaries 2-3 celled, with one ovule in each. As the berries mature, frequently the second, and almost always the third of these cells and ovules become abortive, so that very few of the ripe fruits have three seeds, though I have occasionally met such; of the remainder about one-half have two, and the other half (or fewer) one seed. By November the dissepiment of the two-celled, two-seeded berries has become so pulpy as nearly to obliterate the traces of distinct cells. These memoranda may be useful, seeing both Wallich and Jacquemont (or Decaisne) seem uncertain as to the number of the cells. They also prove how closely the shrub is allied to S. japonica, as accepted in England, which has greenish flowers, exactly like S. Laureola, and berries either one or two-seeded; whereas Zuccarini describes them as four-seeded, and the flowers white, &c. Both species are offered as incense to the gods, and the mountaineers of the Himalaya, as noted by Dr. Royle, have a general persuasion that the musk-deer owes its odour to feeding on the shrub: hence the name Kusthooree or Kutharchara—fodder of the musk-deer; but the proper and common designation is Nyr, Nair, Nurcer, or some modification of those sounds. *E. M.*

Cherry Tomato.—In your number for Dec. 19th we observe that a correspondent, signing himself "G. S. B.," asks if seed of this Tomato can be procured in this country. We beg to inform him that we have some *en route* from Messrs. Vilmorin, of Paris. *William E. Rendle and Co., Plymouth.*

Colouring of Grapes.—I consider that Grapes may not colour well from various causes—such as imperfectly drained borders, the roots being too deep, and consequently beyond the heating influence of the sun; too great a weight of fruit, diseased or otherwise unhealthy, leaves incapable of performing their allotted office, on which is dependent the development and ripening of the

fruit; a want of a free circulation of air, and, above all, a too high temperature being kept up during the process of colouring, to which I consider in nine cases in ten the cause of badly-coloured Grapes is attributable. I am of opinion (in which I am supported by Lindley's "Theory of Horticulture," p. 76), that in proportion to heat and light being carefully balanced with each other, all other things being equal, the quality of fruit depends. But on the other hand, if we apply heat in the absence of sun-light, especially during the ripening process of Grapes, we derange the natural functions of the plant, and consequently badly coloured Grapes are the result. It is a well ascertained fact that the ripening of the Grape is a change from acetic acid to sugar, at least to a great extent; that heat assists greatly in the saccharine fermentation in the formation of sugar. But in the absence of solar light during the application of heat, the ripening process goes on in the absence of colour and bloom, which is the great desideratum in Grape growing, as if Grapes possess colour and that fine violet bloom, most generally all other qualities are equal. Therefore I say, apply heat during the colouring process only with sunlight, and a free circulation of air; if in the winter by the top lights only, and that on every favourable opportunity, avoiding cold currents. I never use fire heat above 60°, or at most 65°, and should the thermometer fall to 50° during the night, the Grapes will not be injured by it. When fully coloured up, the application of fire heat for a short time, with plenty of air, will much improve the flavour of the fruit; as I above stated, heat contributes much to the formation of sugar, with which the Grape abounds. I have in the second succession Pine-stove, here, Grapes colouring at the present time (Dec. 13th), which were started in August last. I have no doubt whatever of colouring them better than Grapes that will have to ripen in the other stoves in May and June; and why? because I am able to keep a low temperature, and apply heat in proportion to light. I am not afraid of the higher temperature towards morning falling even to 45°, as the Pines are at rest; and from 60° to 70° by sun-light, and without which I could not colour Grapes at this season. It will be admitted that to have Grapes colouring now is a thing of no common occurrence, for they cannot be expected, although a novelty, to be so large and fine as fruit ripened in our months of bright sun-light, by which the assimilative powers of plants are regulated. I therefore do think that the cause of Mr. Wheeler's Grapes not colouring is attributable entirely to a too high temperature during the ripening process, as I have allowed fires to go out at night, and the thermometer to fall to 50°, and even under, in the early part of May, and obtained first prizes for different varieties of Grapes at the York Horticultural Society in the early part of June. It will be admitted that there are more early forced Grapes of a bad colour than late ones, which I attribute entirely to too much fire-heat while colouring. *G. Grey Watson, gardener to J. Dent, Esq., Ribston-hall, Yorkshire.*

Labourer's Cottage (see p. 805.)—Employ an honest working builder. Let the ground plan consist of two rooms only, thus: good kitchen, or living room, back kitchen or brew-house, fitted up with all requisites of cooking, grate (Nicholson's of Newark), oven, and boiler, &c. A fire in this is used in summer, instead of in the kitchen, which is thus kept cool for the family. The two rooms should be so arranged as to lead out of and command a view of each other; a third room, or parlour, is worse than useless. Let there be three sleeping-rooms, partitioned off for decency and illness' sake, with cellar and larder under ground. The house should be built of good hard brick or stone, and best lime mortar well bedded together, to keep out damp. The roof should be overhanging, of blue tiles, with porches back and front, door-ways arranged to avoid draughts. Stained joists in floors, roofs, porches, &c., and plain brick-work without plaster, may be coloured and made to look well, and save expense. Let the out-buildings be arranged tastefully and convenient, and the garden ornamental. If skill, labour, and materials are good and well combined, you may perhaps keep within your limit, otherwise more than double it, and be no better off. *Anon.*

Cooking Potatoes.—Potatoes being very deficient in starch this year, on account of the haulm decaying before the tubers were ripe, everybody complains of them when cooked. This autumn I have tried all plans of cooking, the best of which is to peel the Potatoes and put them in cold water, and boil them gently until nearly done. The water should then be drained from them, the Potatoes again put on the fire, and then mashed with a large two-tined fork instead of a spoon. The fork breaks them into rough pieces, allows the water to escape, and certainly tends very much to improve a watery Potato. *James Cuthill, Camberwell.*

Hunter's Prolific Cucumber.—I quite agree with your correspondent (see p. 773) as to the excellency of this Cucumber; it produced fine handsome fruit with me this season, about 18 inches long, very crisp and sweet; my employer, who is very particular about Cucumbers, pronounced it the best he had ever eaten. It is very prolific and a strong grower. But it requires more warmth than some sorts. I grew it in a small one-light box where I could not maintain bottom heat after the first was spent, consequently the fruit, after the first crop, were badly shaped and did not swell off properly, which I attribute entirely to want of heat. Like most white spine varieties it carries a good bloom and does not change colour at the heel like the black spine, a point of considerable importance to private growers, who are expected to supply the table through the season, perhaps with only one, or at the most, two boxes. *W. D. S., Deal.*

Societies.

Linnean, *Dec.* 21.—R. Brown, Esq., in the Chair. Some remarks were read by the Secretary on the Vegetation of the District surrounding Lake Torrens, translated from a letter by Dr. Ferdinand Müller, of Adelaide, addressed to Richard Kippist, Esq., Librarian to the Society. The district immediately surrounding the lake was represented as sterile, and generally destitute of a rich vegetation. Near the lake and upon the surrounding salt plains, species of the genera Blitum, Atriplex, and other sea-shore genera were found. The hills surrounding the lake presented neither the aspect of a tropical vegetation with Palms and Epiphytes, nor those of a northern vegetation with Pines. On the borders of the streams, which are sometimes swollen with torrents, a varied and interesting flora is found. The author gave the names of a large number of species of plants, interesting from their isolation or their connection with the flora of other parts of Australia, and other districts of the earth's surface. He concluded by stating that the northern district of Australia was not so destitute of vegetation as had been represented by Mr. Brown; and that the scarcity of forms was made up for by the richness of the masses of vegetation. The President said that the remarks of Dr. Müller quite confirmed his view of the distribution of plants in Australia, as he had evidently described a spot that was an exception to the general law. The vegetation described was probably that of a former lagoon.

Botanical of Edinburgh, *9th Dec.* — Professor Balfour in the Chair. Office-bearers for the ensuing year were elected. Professor Christison sent specimens of poison nuts from Calabar, apparently the seeds of a leguminous plant. Dr. Balfour mentioned that these seeds produce effects similar in many respects to poisoning with aconite. He stated that Dr. Christison had swallowed about a quarter of a seed, and it had produced alarming symptoms, such as depression of the heart's action, and intermission of the pulse requiring the use of ammoniacal stimulants. Dr. Balfour made some observations on the Polypodium rhæticum, Vill. Voyage Botan. p. 12. Polypodium alpestre, Hoppe. Pseudathyrium alpestre, Newm. He stated that a good specimen of the plant is found in Mougeot and Nestler's "Stirpes Cryptogamæ Vogeso-Rhenanæ," No. 602. It is said to grow in Summis Vogesorum præruptis herbidis. It is stated by Mr. H. C. Watson to have been gathered by him in the great corrie of Ben Aulder, on the west side of Loch Ericht, Inverness-shire; also in 1844 in Caenlochen Glen. It resembles Athyrium Filix-fœmina so much as to have been passed over by many botanists, and it had been put by Mr. Watson among his specimens of that species. It has been found of late by several botanists in the Highlands of Scotland, especially in the Clova and Braemar district. The following papers were read:—1. Remarks on the Distribution of plants in Madeira. By John M'Laren, Esq. 2. On certain structures observed in Pentas carnea, Benth. By D. Oliver, Esq., jun. This plant furnishes an instance of an interesting form of cellular tissue; it also presents singular interpetiolary processes, which seem to be of a glandular nature. Mr. Oliver remarks, "Those interested in cell-multiplication, the relation of the primordial utricle to the secondary deposits of the outer cell membrane, and the nature of such deposits, will find this plant, if I am not much mistaken, a useful addition to their means of prosecuting such inquiries." The regular gamopetalous tubular corolla of Pentas carnea is about 1 inch in length at the time of flowering. Surrounding the throat of the tube, and to about one-fourth the distance down it, to the base of the attachment of the short free filaments with the tissue of the corolla, is a dense collection of unicellular hairs directed upwards. These hairs are slightly broader about the middle of her length, tapering, with sometimes a rather undulating outline, to the distal extremity, and a little narrowed towards the base. Scattered in the lower portion of the corolline tube are hairs of a different structure, consisting of a single series of several cells; these narrow from the base to the apex, and are similar in form and structure to the hairs of the petioles of the leaves, and interpetiolary processes, which I shall shortly notice. The corolline hairs are remarkable from their fibro-cellular character; the nature of the spiral fibrous deposit is, however, difficult to determine. A first glance, with a magnifying power of perhaps 200 or 300 diameters, discovers the appearance of a narrow fibre, winding, in a spiral direction, up the inner wall of the cell, ascending to the right (as seen from its axis), and closely applied to the apparent outer cell membrane, which has become in part absorbed. Numerous elongated and narrow slits, or line-like markings, occur throughout the spiral, but whether they are openings between the edges of an individual thread, or series of fibres, or analogous to the dots and slits of broken vascular tissue, it is not very easy to pronounce. When examined in fluid, this fibrous deposit has the appearance either of a coil of irregular breadth, or of a plexus or branching arrangement of fibre, between the threads of which a line of division is perceptible; if a dried hair be placed under the microscope, we see but slits, narrow and rounded at the extremities, in the direction of the spiral ascent; but these are probably an altered condition of the exceedingly fine separating lines, which we discover in the fresh state. The portions of fibrous matter intervening between these openings is of very irregular breadth. The threads of the fibre vary from the 1-6000 to 1-9000 of an inch in breadth. After observation with my highest magnifying power, one of Powell and Lealand's excellent $\frac{1}{4}$ inch objectives, I am not prepared, certainly to describe the true condition and arrangement of this secondary spiral deposit. In a hair of the young corolla (the latter about 1-6th of an inch in length), I observed the spiral arrangement pretty distinctly; in the younger stages, the cuticle does not appear to have become absorbed to such an extent as in the matured cell; a double wall being perceptible towards the extremity of the hair. The primordial utricle is readily separated from the cell wall by the application of re-agents. A solution of chloride of calcium, a fluid frequently useful in mounting vegetable dissections, produces this effect after a brief interval, the utricle becoming either almost destroyed, or a mere thread lying in the cell. I have thought that I may have observed an alteration in the fibrous deposit, connected with the irregularly distributed convexities of the cell wall, and which gives rise to the frequently somewhat sinuous outline of the hair, but I cannot certainly mention an instance. The spiral fibre, if such it be, is quite incapable of unrolling, at least in the cases which I have examined, and the wall of the hair tears in a manner almost totally irrespective of its direction. Series of spiral vessels sometimes branching, are met with in the corolla, but I do not discover any direct communication between these vessels and the spiral cells. I have not detected any movement of the cell sap in this tissue; merely at times a slight molecular motion. With regard to the multicellular hairs, these are readily obtained from any portion of the young exposed plant, but the curious filiform processes from the petiolary sheath furnish them without trouble in a condition easily prepared for examination. The hairs consist of a variable number of cells, sometimes as many as 19, applied by their extremities. They almost invariably present more or less the appearance of dots, or rather slits, generally in a direction somewhat parallel with the axis of the hair, but sometimes also slightly inclined in a spiral (as in the unicellular hairs of the corolla), ascending to the right, as viewed from the centre. The edge of the lower portion of these hairs sometimes presents an almost even outline, but frequently (and, perhaps, nearly always, toward the extremity of the hair), a slight irregular beading occurs exactly as we might expect, were the dots or markings occasioned by external matter; but I am not sure that this appearance is incompatible with the idea that they may be openings or slits in a secondary deposit on the common wall of the hair, which, from an examination, solely of the markings in the central portions, we might conclude they were. I have not detected in these hairs actual motion of the cell sap, but mucilaginous threads may be easily seen radiating irregularly from the nuclear vesicle, indicating such a circulation. With regard to the contents of the nucleus I cannot certainly speak. Sulphuric acid diluted causes the primordial utricle to contract and lie in the interior as a loose sac, in some small cells the separation is not apparent after 24 hours action. A solution of chloride of calcium causes a partial dissolution of the primordial utricle, certain bodies, perhaps including the true nucleus, remaining visible. The epidermis of the interveinal spaces of the under-side of the leaf consists of cells with a sinuous boundary, numerous stomata formed by two crescentic cells applied by their extremities being scattered about. Acicular raphides are of frequent occurrence, they abound also in the glandular stipules found between the petioles of the opposite leaves. The application of pressure causes the escape of very numerous raphides, together with a peculiar thick fluid. In some instances this substance has a vermiform appearance when forced out of the enclosing sac, owing to its having been exuded, I suppose, through a small orifice." Mr. Oliver then gave a description of the stipulary glands, similar to what has already been given by Weddell and others, in the case of the Cinchonaceæ.

Review.

Botanische Erläuterungen zu Strabon's Geographie, und einen Fragment des Dikäarchos; ein Versuch von Dr. E. H. F. Meyer. Konigsberg, 1852. 8vo min.; pp. viii. and 214.

A large portion of the countries described by Strabo were visited by himself; and the general accuracy of his remarks proves incontestibly that he was gifted with great powers of observation. In those cases where he could not speak from personal inspection, his authorities were selected with such judgment and discrimination that not only his account of the habits and customs of the several inhabitants, but that of the principal features and productions, agrees in a very extraordinary degree with the reports of the best modern travellers. The details, for instance, with respect to the Punjaub and the mouth of the Indus, though his information was derived from Megasthenes and other writers, accord surprisingly with those given by Burns; and one great proof of his accuracy is, that, with few exceptions, the plants which he enumerates may with a considerable degree of certainty be referred to modern names.

The object of Dr. Meyer, in the work before us, is to

give a correct and readable commentary on the several passages in Strabo in which the names or descriptions of vegetables occur, exactly in the order in which the passages arise in his great work on ancient geography, an arrangement which at once commands the reader's full assent, because the productions of each particular country are thus enumerated in connection with each other. The text of Strabo is notoriously corrupt, and our author, following the same track as that in which Dr. C. Badham has been confessedly so successful in his edition of Euripides, has been enabled, by happy and well instructed conjecture, to make several corrections, which are evidently true, from their exact accordance with acknowledged facts. It is of course quite out of place to enter upon such critical points here, nor does the subject matter, though often extremely interesting, easily admit of extraction for general reading. An instance, however, may be given which will serve to show the nature of the work; take the following passage of Strabo, as an example: "Gedrosia also produces a plant resembling a Laurel, which causes the death of beasts of burden under convulsions and foaming at the mouth. A thorny plant, whose fruit, resembling Cucumbers, covered the ground, was filled with juice, of which a drop falling into the eye of an animal caused blindness."

Theophrastus and Arrian speak of both these plants, having derived their information probably from a common source. Theophrastus says no more of the Laurel-leaved plant than Strabo, but Arrian, speaking after Aristobulus, informs us, "There are other trees in the wastes of Gedrosia, of which one has a leaf like a Laurel; it grows on land washed by the sea, and which is dry during the ebb, but covered with water during the flow of the tide. Even those plants which stand below low-water mark do not suffer from the salt water. These trees were 30 yards high, and had just blown. Their flowers resembled closely those of the white Violet, but had a fine perfume." This cannot be *Cerbera Manghas*, as Sprengel supposes, but only one of the Mangrove-like plants which border every flat coast in hot latitudes, and which are again mentioned by Strabo when speaking of the Red Sea. Amongst these, *Ægiceras minus* has more especially the reputation of being poisonous; and indeed is called by De Candolle "arbuscula noxia." It grows in New Guinea and the Islands of Molucca. Another species, *Ægiceras majus*, which is more widely diffused, is remarkable for the perfume of its blossoms,* and is probably not less poisonous. Whether, however, this occurs in Gedrosia can only appear from inquiry on the spot.

As regards the thorny plant, Arrian speaks especially of the strength of the thorns, which when they catch in the garments of any one passing by, will pull him from his horse rather than break. The plant is easily cut, and when divided pours out a more abundant and acrid juice than the Fig tree. Theophrastus adds that it has no leaves, and that the juice which flows so abundantly from it when wounded, produces blindness in wild and domestic animals when sprinkled with it. Sprengel is here more fortunate in his conjecture that the plant is *Euphorbia antiquorum*, whose branches closely resemble Cucumbers. Since it grows in Arabia and the East Indies, it probably is not wanting in the intermediate countries.

The above is a fair sample of the sort of matter contained in this little volume, and of the way in which one ancient authority is made to throw light upon another; and abundant instances might also be brought forward in proof of the zeal and tact with which Dr. Meyer has availed himself of modern information, whether immediately accessible in the literature of his own country, or requiring diligent search in that of other nations.

In one or two passages only we observe that he has either missed information which might have been obtained, or has given a judgment in which some improvement may be made. As an instance we may adduce his remark that he knows not to what use the heads of the Bullrushes brought down the river Tiber to Rome could be applied. There is, however, little doubt that the down was used for beds instead of feathers,† as was the case in Italy in the time of Matthiolus.

The notices of vegetation in Strabo's work are not entirely confined to Phænogams. Not only such marked productions as *Fucus vesiculosus* are recorded, but even the more obscure tribes of Cryptogams, as in the following instance, where there is an evident allusion to the green Confervæ, or those earlier stages of larger Algæ which often form a moss-like carpet under water.

"A great alteration of the coast and bays begins from the harbour of Soteira. The sea is shallow, scarcely more than a fathom deep, and the surface Grass-green, from the sea-moss and sea-weeds shining through, the latter of which is very common in this district, where also trees grow in the water." The subaqueous trees which are more fully described by Agatharchides, speaking of the Red Sea, are doubtless the larger corals.

The work closes with some notes on a fragment of Dicæarchus' description of the vegetation of Mount Pelion, an author of whose genuine works every fragment which has been preserved makes us regret the great loss which has been sustained by the destruction of the greater part of his labours.

The general impression of the whole work is greatly in favour of the stability of vegetation, and confirms the opinion which has been formed mainly from other sources, that within the historical period little or no change has taken place in the appearances presented by the vegetable kingdom.

* The flowers of *Ægiceras fragrans*, Koutz, are said, by Rumff, to be worn as garlands by the women of Amboyna, on account of their fragrance. With respect to *Æ. minus*, see Koutz, in "Annals of Botany," vol. i., p. 129.

† See *Gard. Chron.* 1844, p. 87. The epithet ἐρίτριξ, Hom. Il. 4, 333, answers to "torus de mollibus ulvis" of Ovid.

FLORICULTURE.

Culture of Roses in Pots (see p. 807).—In resuming my remarks on this subject, I may mention that at the approach of cold frosty weather it will be advisable to place the Teas and Bourbons under the shelter of a cold frame, and the Hybrid Perpetuals should be plunged in coal-ashes, about an inch deeper than the pot. Those set under glass should be kept cool, merely guarding them from severe frost, but fully exposing them when the weather is mild. Where it may not be convenient to spare room under glass, the tender kinds should be plunged in a sheltered place, and except in very severe winters they will not be injured by exposure. The Hybrid Perpetuals may be cut back any time after Christmas, but the tender varieties should not be pruned until all danger of severe frost is over; and these will require only to have weak shoots removed, so as to properly thin the heads, and the strong shoots slightly shortened. When growth commences in spring, give a moderate shift to all plants that require more pot room, replunging those that have been wintered out of doors. The tender sorts that may have been stored for the winter under glass should be kept cool, merely using the lights to protect them from frost and heavy rains, and when all danger of frost is past, they should be plunged in coal-ashes in a sheltered place. During the summer the same care as to watering, stopping, and keeping clear of green-fly will be necessary, as was recommended for last season, and flower-buds should be removed as they appear. It will be requisite also to afford a little attention to training the specimens, but all that will be wanted in this way will be a few stakes to spread the shoots, and this only where the heads may be ill-shaped. When it is desired to have a portion of the plants in bloom at Christmas, they should be shifted into their flowering pots in August; the size of the pots must be regulated by the condition of the plants; all should now require 12-inch, and the stronger growing varieties may perhaps have 15-inch pots. For blooming early in winter the Teas and Bourbons are preferable to the other varieties, as, if closely stopped, and thinned out in August, they will be ready to bloom abundantly in December, and this without any forcing, for they will be well advanced by the end of October, at which season they should be removed to a cold frame, or the front of a greenhouse; wherever they are placed, however, afford them as much light as possible, and give air freely on mild days. A temperature of from 45° to 50° will be sufficiently high. The whole stock of plants should be shifted into their blooming pots about the end of September, and all that may be intended for flowering earlier than May had better be removed to a cold frame, where they can be protected from drenching rains, and the tender sorts from much frost. As to pruning, the Hybrid Perpetuals may be cut back very much, as is usually done with plants in the open ground, for if they have been properly attended to during the summer they will be very vigorous, and every eye left will produce a blooming shoot. The Bourbons and Teas will only require treatment as recommended for last season. I may here state that much of the success in blooming the plants in winter depends upon getting the wood well ripened early in autumn, so that they can be pruned early and allowed a short period of rest. To secure a succession of blooming plants nothing further will be necessary than a light pit or house where the temperature can be kept at from 45° to 55°, and to introduce portions of the plants at about monthly intervals. The most vigorous plants, such as may have commenced growth, should be selected to begin with; these should be placed near the glass, and have a free circulation of air on mild days, and the night temperature should not exceed 45° until the buds are formed. If convenient to plunge the pots in a bed of spent tan, where the temperature may be about 60°, this will greatly facilitate progress, by exciting the roots. Sprinkle the plants over-head on the mornings of fine days, when air can be given to dry the foliage, and maintain a moist healthy atmosphere, but this must not be overdone, or mildew will set in. See that the soil is kept in a nice healthy moist state, and when the buds begin to swell give weak manure water once or twice a week. It will be necessary to remove the plants to a somewhat warmer and drier situation for blooming, especially some of the Hybrid Perpetuals, which open their flowers imperfectly in a moist atmosphere early in the season; but if the Teas and Bourbons are preferred for early forcing, no difficulty in this way will be experienced. I need not say, that after the sun becomes powerful in spring, it will be highly beneficial to afford the plants in bloom a slight shade during the forenoons of bright days; and that at this season the growing plants will require syringing morning and evening. At all seasons it will be necessary to keep a sharp look-out for the maggot, which will probably be busy before the shoots are well out of the bud, and green-fly must also be kept under by a frequent use of tobacco-smoke. The plants must not be rudely exposed after the beauty of the flowers is over, but should be removed to a place where they can be protected from frost and cold cutting winds; and those flowering late in the spring will also require to be gradually inured to exposure to the sun and open air. By a liberal use of manure-water, attention to keeping the drainage in order, and a top-dressing of well decayed sheeps' dung annually after flowering, the specimens will last several seasons, and may be disrooted and cut back when they become weakly, and, if necessary, allowed a season to recruit. The best soil for the Rose in pots is rich turfy loam rather strong than otherwise, broken up into small pieces, and mixed with about one-third 2 years old cow-dung, and a small quantity of sharp clean sand. For delicate kinds, as some of the Bourbons and Teas, half loam, one-fourth dung, and one-fourth leaf-soil, with a free mixture of sand, should be used. In potting be careful to secure perfect drainage, and if worms get into the pots apply lime-water, which will bring them to the surface, when they can be prevented from doing further mischief. It will be observed that I have recommended only three of the many classes of Roses as suitable for winter flowering. I do not mean, however, to state that those only are fit for this purpose, but those three and Damask Perpetuals are better adapted for it than the summer-flowering kinds, and they are more manageable in a small compass than Noisettes and Chinas, which, beautiful as many of them are, are nearly scentless, and scarcely worth a place under glass. *Rosa.*

Miscellaneous.

An Enchanted Valley in Van Diemen's Land.—We rode on horseback for two miles of forest, and then arriving at a "scrub," so thick and close that our horses could go no further, we left them with the servant, and proceeded on foot. We soon struck into a cattle path, which was a beaten though very narrow track underfoot, and so far a passage above, that the shrubs gave way on being pushed, but instantly closed again. Long pendulous streamers of tangled grey lichen hung like enormous beards from the trees, and on horizontal branches formed perfect curtains of some feet in depth. Funguses of all kinds protruded from the dead, damp, mossy logs and gigantic fallen trees that lay in our path, and the deep soft beds of accumulated decaying leaves and bark that one's feet sank into were damp and spongy, and chill, even on a warm summer day. The Nettles of this colony are the most formidable I have ever encountered, both in size and venom, and in this primeval scrub they flourished in undisturbed luxuriance, often rising far above our heads, and forming quite a tree-like growth, armed with a fierce array of poisoned spears, with which they ruthlessly attacked my arms and ankles; a thin print dress being a poor defence against their sharp and most painful stings, from which I suffered severely for some days after this scramble. A friend of ours once rode after some cattle into a mass of these nettles, which spread over a large space of ground. His horse became so infuriated by the pain of the Nettle-stings, that he threw himself down amongst them to roll, which of course increased the poor animal's torture, and his master could neither lead nor drive him out; the creature was rendered mad and furious by pain, and in a short time died in convulsions. Our cattle-track at length brought us into the enchanted valley Mr. Meredith had discovered; and not in my most fantastic imaginings had I ever pictured to myself anything so exquisitely beautiful! We were in a world of Fern trees, some Palm-like and of gigantic size, others quite juvenile; some tall and erect as the columns of a temple, others bending into an arch, or springing up in diverging groups, leaning in all directions; their wide-spreading feathery crowns forming half-transparent green canopies, that folded and waved together in many places so closely that only a span of blue sky could peep down between them, to glitter on the bright sparkling rivulet that tumbled and foamed along over mossy rocks, and under fantastic natural log bridges, and down into dark mysterious channels that no eye could trace out, under those masses of Fern trunks, and broad green feathers overarching it; and all around, far above the tallest Ferns, huge forest trees soared up aloft, throwing their great arms about in a gale that was blowing up there, whilst scarcely a breath lifted the lightest feather of the Ferns below; all was calm and silent beside us, save the pleasant music of the rivulet, and the tiny chirping of some bright little birds, flitting about amongst the underwood. I had brought my sketch-book, and although despairing of success, sat down under a Fern canopy to attempt an outline of some of the whimsical groups before me, whilst Mr. Meredith and Dick went to look for a kangaroo, the former giving me the needless caution not to wander about, lest I should be lost, a catastrophe for which I seem to possess a natural aptitude in the "Bush." I soon relinquished my pencil, and shut my book, half in disgust at my own presumption in attempting for an instant a subject so far beyond my poor abilities; and, fastening my handkerchief to the trunk of my canopy Fern tree, I ventured to make short excursions from it on all sides, taking care not to go out of sight of the handkerchief. Sometimes I could go as much as ten yards, but this was in the clearest place; generally the view closed in about five or six. The stems of the Fern trees here varied from 6 to 20 or 30 feet high, and from 8 inches diameter to 2 or 3 feet; their external substance being a dark-coloured, thick, soft, fibrous, mat-like bark, frequently netted over with the most delicate little Ferns, growing on it parasitically. One species of these creeping Ferns had long winding stems, so tough and strong that I could rarely break them, and waving polished leaves, not unlike hart's-

tongue, but narrower. These wreathed round and round the mossy columns of the Fern trees like living garlands, and the wondrously-elegant stately crown-canopy of feathers (from 12 to 18 feet long) springing from the summit, bent over in a graceful curve all around, as evenly and regularly as the ribs of a parasol. Whilst making one of my cautious six-yard tours, a fine brush kangaroo came by me, and was instantly out of sight again; and then I heard a whistle, which I answered by a "coo-ee," and Dick soon bounded to me, followed by his master. We then shared our sandwiches with the little birds and the ants, and drank of the bright cool rivulet, and again went on exploring. In one place we found a perfect living model of an ancient vaulted crypt, such as I have seen in old churches or castles, or beneath St. Mary's-hall, in Coventry. We stood in a large level space, devoid of Grass or any kind of undergrowth, but strewn with Fern leaflets like a thick, soft, even mat. Hundreds—perhaps thousands—of Fern trees grew here, of nearly uniform size, and at equal distances, all straight and erect as chiselled pillars, and, springing from their living capitals, the long, arching, thick-ribbed Fern leaves spread forth and mingled densely overhead in a groined roof of the daintiest beauty, through which not a ray of light gleamed down, the solemn twilight of the place strangely suiting with its almost sacred character. Openings between the outer columns seemed like arched doors and windows seen through the "long-drawn aisle," and stray gleams of sunshine falling across them were faintly reflected on the fretted vault above us. Danby might paint the scene; or perhaps one of Cattermole's wondrous water-colour pictures done on the spot might convey some tolerable idea of its form and colouring, but a mere slight sketch were wholly useless. After reluctantly leaving our temple in the wilderness, we wandered some time longer amidst the grand and beautiful scenes around, and I made a collection of small Ferns and other plants new to me. We noticed one very ornamental shrub, usually known as the "Tallow tree" (from the viscous greasy pulp of the berries), growing here very abundantly, and in great luxuriance; but every one we found was growing out of a Fern tree, the foster-parent in most cases appearing exhausted and withering, whilst the nursling throve most vigorously. It seemed, generally, as if a seed had lodged in the soft fibrous rind of the Fern tree, and had sprung up into a tall, strong, erect stem, at the same time sending out downward shoots, that eventually struck into the earth; but we could not find one plant growing in and out of the earth, although I am aware that the tree is not always a parasite. Many of the stems were a foot through, and their great, coiling, snaky root-shoots clasped about the poor old hoary Fern trees. These tyrant parasites are very handsome, with rich, dark green, glossy leaves, and red blossoms, succeeded by most brilliant orange-coloured berries, which, when ripe, split open, and the case flying back partially displays the bright red cluster of seeds within, like a little Pomegranate with an Orange-peel husk. The beautiful Tasmanian Sassafras tree is also a dweller in some parts of our Fern tree valley, but not in those we explored on the present occasion. The flowers are white and fragrant, the leaves large and bright green, and the bark has a most aromatic scent, besides being, in a decoction, an excellent tonic medicine. The wood is hard and white, with scarcely any visible grain, but is marked or shaded with light brown in irregular occasional streaks. Thinking that it must partake the pleasant fragrance of its bark, I procured some to make boxes of, but found it quite devoid of scent after the bark was removed. A block of it furnished Mr. Meredith with an excellent material for a beautiul toy sailing-boat, which he carved out of it for George; and the fine, close, velvety texture of the wood seems admirably adapted for carving of any kind. The sawyers and other bushmen familiar with the tree call it indiscriminately "saucifax," "sarserfrax," and "satisfaction." *Mrs. Meredith's Home in Tasmania, Vol. II., p.* 159.

Calendar of Operations.

(*For the ensuing week.*)

PLANT DEPARTMENT.

The forcing houses and pits will now be kept in full activity, to supply the various calls for plants in bloom, which at this season of the year are more or less in demand in most establishments. Care should be taken before plants are moved to sitting rooms to gradually harden them for a day or two, either by placing them in the conservatory or an intermediate house. In addition to keeping the conservatory gay with blooming plants, let the arrangement of the pot plants be occasionally changed, by grouping the plants somewhat differently, and adding a few striking ones, as some of the hardiest Palms, &c., for effect. Pay attention to the plants intended for successional blooming. Insects should be kept down by the syringe and fumigating, and every means enforced to keep the foliage clean and healthy. The number of plants brought forward will depend on the demand, and must be regulated accordingly. Hardy Azaleas, Rhododendrons, Roses, &c., still out of doors, should have some protection, should severe weather occur, or remove them to any spare house till wanted. Narcissi, Hyacinths, &c., should be protected by a frame, as they now begin to grow; remove the plunging material down to the surface of the pots, to prevent them rooting upwards. Mignonette and Neapolitan Violets will require abundance of light and air to keep them from damping. As a change from the present to severe weather may come on suddenly, be provided with ample means for covering pits, frames, &c., should it occur. As, with the exception of forced plants, most other things are now in an inactive state, the temperature of plant-houses should fall to its minimum point, consistent with the safety of their various inmates. Nothing can well be worse for the development of a healthy, vigorous habit in plants than subjecting them to a high temperature at the present season of the year, when light—so important to the healthy action of vegetable life—cannot accompany it. Where Achimenes and Gloxinias are required to bloom early, a few pots may now be started by plunging them into a little bottom-heat.

FORCING DEPARTMENT.

Early Vinery.—As soon as the bunches can be discerned on the young shoots the extra buds should be removed, excepting such as may be required for producing bearing wood next season; in leaving these latter select such as are formed nearest the main stem, to avoid the awkward appearance of long spurs; at a stage further in their growth, such shoots as have more than one bunch should have them reduced to that number, selecting the one likeliest to form the handsomest bunch. Tying in the young wood should be managed carefully, bringing the shoots to their proper position by degrees, to avoid the danger of their breaking. After the buds are started a few inches the syringe may be gradually withheld, as too much humidity at this season will sometimes injure both the foliage and bunches, and a sufficient degree of moisture can easily be kept by sprinkling the floors and heating apparatus several times daily. Regulate the admission of air, so as to have a gentle current at all times through the house, increased of course by day, agreeably with the state of the weather; gradually advance the night temperature to 60° and then to 65°, by the time the flowers are ready to open; keeping the thermometer from 10° to 15° higher by day, according to the amount of light you can command. Keep up the heat in the external border by additions when necessary; bearing in mind the injurious effects any sudden check to the roots, now in action, will produce on the coming crop. Bring succession Vineries into work as wanted. Late Vineries, in which Grapes are still hanging, will require fires daily, and air sufficient to keep the house and fruit dry; remove decayed berries and dead leaves, and well protect the roots from frost. For a late Grape, the Barbarossa appears to possess valuable properties.

Peach-houses.—Peaches and Nectarines which have been forced for several years, oftentimes produce a large excess of fruit-buds, and this more especially on weakly trees. A natural consequence of allowing these to remain, are weak flowers, and inferior fruit and wood. When, therefore, such is the case, the trees will be greatly benefited by well thinning the bloom buds, leaving the largest and those most favourably placed; of course a considerable number will be still left to allow for casualties. Syringe twice, or oftener daily, till the bloom is ready to expand, when it must be discontinued; the night temperature may advance to 45°, with an increase by day, accompanied with a proportionate admission of air. Fig-house.—Damp the trees over frequently, and if wanted early increase the heat a degree or two weekly. Pinery.—Pines are often deficient in flavour at this season, which is improved by exposing the ripening fruit to all the light you can command, and giving but little water: a good supply of air is likewise essential at all times for high-flavoured fruit, and more than ever necessary at this time. Continue an increase of heat to Pines now wanted to start, employing it principally by day. Attend to the linings of Pines grown in dung-pits, and keep the atmosphere in which they grow dry. Strawberries in bottom-heat for starting will require air daily, to prevent drawing; those earliest started, when they show the truss of bloom, should be removed to shelves in the Vineries and Peach-houses to bloom; but the principal crop should be advancing slowly as yet.

FLOWER GARDEN.

Except in the driest localities nothing more can be done in this department, than paying attention to order and neatness. The bedding-stuff, however, must have attention, for in all likelihood many things are suffering from damp; and such plants as appear to suffer most should be removed to other quarters where a drier temperature is kept. Keep the stock in pits and frames well ventilated, and the surface soil of the pots frequently stirred. Dust with sulphur Verbenas and similar plants attacked with mildew. Be particular in keeping the interior of pits, containing plants of the above description, as dry as circumstances will permit.

FLORISTS' FLOWERS.

Pansies in pots, intended for exhibition, must have especial care taken of them; keeping them from the attacks of the green-fly by slight fumigations of tobacco. Abundance of air must be given during fine weather. Carnations and Picotees.—The continuous wet is anything but favourable for these plants; remove any which are infected with mildew or black spot from the company of those which are healthy, and cut away all diseased parts. Keep free from heavy rains; give abundance of air, and ensure perfect cleanliness. Dahlias.—Extensive growers will now put Dahlia roots on bottom heat to ensure a large stock. Amateurs need not do so at present; but we would advise a thorough examination of the roots, as rot may make serious havoc amongst them this damp season.

HARDY FRUIT GARDEN.

Figs against walls will require some protective material placed over them in the Midland and Northern Counties. Some wall trees, as Pears, Plums, and Cherries, &c., are often attacked by a species of scale insect, in which case the infected trees should be well washed with a mixture of soft soap, tobacco water, and lime; a half-pint of spirits of turpentine may be added to each four gallons of the mixture when they are much infected. The lime is added to give body to the mixture, and to show that no parts of the trees are missed in dressing. Let this be applied during dry weather, if possible, that it may remain on for some time, and before the trees are nailed.

STATE OF THE WEATHER NEAR LONDON,

For the week ending Dec. 22, 1852, as observed at the Horticultural Gardens, Chiswick.

Dec.	Month Age.	Barometer.		Temperature.					Wind.	Rain.
				Of the Air.			Of the Earth.			
		Max.	Min.	Max.	Min.	Mean	1 foot deep.	2 feet deep.		
Friday.. 17	6	29.259	29.146	51	34	42.5	46½	46	S.W.	.01
Satur... 18	7	30.208	30.026	49	31	40.0	45½	45	N.E.	.00
Sunday . 19	8	30.119	30.007	52	43	47.5	45	45	S.	.01
Monday 20	9	29.999	29.771	56	37	46.5	46	46	S.W.	.00
Tues. .. 21	10	30.053	29.925	51	34	42.5	46	45	S.W.	.00
Wed. .. 22	11	29.794	29.738	49	38	43.5	44½	44½	S.W.	.04
Average....		29.905	29.769	51.3	36.1	43.7	45.6	45.2		.06

Dec. 17—Partially overcast; fine; boisterous, with lightning at night.
— 18—Clear; fine, with sun; uniformly overcast.
— 19—Densely overcast; slight rain; cloudy; overcast.
— 20—Fine; densely clouded; clear at night.
— 21—Very fine; exceedingly fine throughout.
— 22—Overcast; rain; overcast

Mean temperature of the above six days was 4 deg. above the average.

STATE OF THE WEATHER AT CHISWICK,

During the last 26 years, for the ensuing week, ending Jan. 1, 1853.

Dec. and Jan.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds.						
						N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 26	42.5	31.7	37.1	9	0.39 in.	1	4	3	3	4	7	1	3
Mon 27	42.3	30.2	36.3	9	0.40	3	4	1	—	5	5	6	2
Tues. 28	41.3	30.3	35.8	9	0.16	3	3	3	3	2	1	7	4
Wed. 29	42.7	34.2	38.4	11	0.17	2	4	1	3	4	3	5	4
Thurs. 30	44.3	33.7	39.0	10	0.30	1	5	2	2	2	7	6	1
Friday 31	43.6	33.1	38.4	7	0.42	—	6	—	1	4	8	4	2
Satur. 1	42.6	30.6	36.3	9	0.70	5	4	2	4	3	3	3	3

The highest temperature during the above period occurred on the 30th, 1833—therm. 56 deg.; and the lowest on the 1st Jan., 1837—therm. 12 deg.

Notices to Correspondents.

Books: *W D S.* The Horticultural Society's Catalogue may be had through any bookseller.‡

Coke Bricks: *Reader.* We have no information respecting these beyond what is given on the authority of the *Weekly Times*, at p. 631.‡

Cucumbers: *W C N.* We cannot recommend dealers.‡

Fruit Trees: *S M.* As your Gansel's Bergamot Pear tree bore a heavy crop three years ago, it does not require root-pruning. You must thin the spurs, and shorten moderately; but you should not cut them nearly clean off, for by so doing you would have to wait some years before blossom-buds would form ‖—*W M.* If the bakehouse gives only a moderate heat to the wall in question, an Apricot will succeed, provided you unnail it and keep the branches away from the wall in winter, in order to retard the blossoming, which would otherwise be brought out, so as to be in danger of injury from frost.‖

Grafting Wax: *H M.* Take four proportions by weight of pitch, four of resin, two of bees'-wax, one of hogs'-lard, and one of turpentine, and melt and mix them well; spread it on brown paper, which, when cut into slips, can be easily applied. We, however, prefer grafting clay.‡

Indian Orchids: *An Old Subscriber.* We are unable to give you the information you seek; but we believe that Cantor's is the only agency established. A gentleman at Madras attempted to convert us into agents; but we *had rather not.*

Insects: *S H.* Small earthworms will occasionally make their way into Celery which has already been attacked by the larvæ of the Celery stem-fly, the presence of which has doubtless, this very wet season, induced decay to a greater extent than usual. Watering the ground round the Celery plants with lime-water will destroy the worms; but we cannot give you a remedy against the Celery-fly better than to cut out and burn all the diseased part when the plants are lifted out of the ground, thus preventing next year's brood from being developed. *W.—Const. Sub.* As well as we can judge from the shrivelled-up dried specimens, the grubs which have attacked the roots of your plants in pots are those of the weevil (Otiorhynchus vastator), or an allied species. Water the plants with strong tobacco-water, or with a decoction of aloes and quassia. Salt and water may also be applied. *W.*

Manures: *G B.* Liquid manure is suitable for bulbous roots planted in soil, if applied when coming into flower, and making their growth.—*A R.* Peat charcoal, impregnated with sewage, is one of the best materials for all purposes where manure is wanted. It retains its deodorising qualities after it is impregnated. With regard to the second leader to Pinus taurica, do not remove it altogether now, but destroy the end bud; prevent its forming laterals, and cut it off close to the main stem next September.

Mushroom Spawn: *W D S* will thank some of our correspondents for information as to the best means of preserving Mushroom Spawn, which he finds plentiful in old hotbeds and dung-heaps at this season.

Names of Fruits: *Sub.* 1 and 2, Beurré d'Aremberg.‖

Names of Plants: *J Linden.* The fresh specimens are Ionopsis tenera A, Odontoglossum Ehrenbergii, Oncidium glaucescens, and Masdevallia tovarensis. The dried specimens are safe and contain fine things; pray thank Mr. G. much for us. The least interesting and the worst preserved are those from Triana. We will write in a few days.—*X Y Z.* Some Hymenocallis, indeterminable.—*F.* Chelidonium majus, a poisonous narcotic.—*M J T.* 1, Lastrea dilatata, Preal; 2, L. Filix-mas, do.; 3, Polystichum lobatum, do.; 4, Asplenium Adiantum-nigrum, L. *S.—A Gardener* in the Regent's Park should consult some catalogue, or ask his personal friends. We cannot possibly answer such a string of questions, which any modern catalogue will enlighten him about.

Potatoes: *H Triz.* Your Potato, No. 1, from Bermuda, is very good; but your seedling, No. 2, is watery.‖

Roses: *Z Z.* In trenching ground for Rose stocks two spits deep, the dung should be put between the spits in the middle of the trench.‡

Salvias: *E B.* The white variety of S. patens is worthless; the flowers soon drop, and they want that beautiful blue colour in which the whole value of the species consists.‡

The Vinegar Plant: *Inquirer.* The spawn of a fungus called Penicillium glaucum.

PERUVIAN GUANO.

CAUTION TO AGRICULTURISTS.—It being notorious that extensive adulterations of this MANURE are still carried on,

ANTONY GIBBS AND SONS, AS THE ONLY IMPORTERS OF PERUVIAN GUANO,

Consider it to be their duty to the Peruvian Government and to the Public again to recommend Farmers and all others who buy to be carefully on their guard.

The character of the parties from whom they purchase will of course be the best security, and, in addition to particular attention to that point, ANTONY GIBBS AND SONS think it well to remind buyers that—

The lowest wholesale price at which sound Peruvian Guano has been sold by them during the last two years is 9l. 5s. per ton, less 2½ per cent.

Any resales made by dealers at a lower price must therefore either leave a loss to them, or the article must be adulterated.

THE LONDON MANURE COMPANY offers on the best terms Wheat Manure for autumn sowing, Linseed, Rape Cakes, Peruvian Guano, Urate, Superphosphate of Lime, and every other artificial manure. Also a quantity of Salt, the refuse of ammonia and saltpetre makers, considerably more valuable than the ordinary agricultural salt.

EDWARD PURSER, Sec., Bridge-street, Blackfriars, London.

MANURES.—The following Manures are manufactured at Mr. LAWES'S Factory, Deptford Creek:

Turnip Manure, per ton	...	...	£7 0 0
Superphosphate of Lime	...	...	7 0 0
Sulphuric Acid and Coprolites	...	...	5 0 0

Office, 69, King William-street, City, London.

N.B. Peruvian Guano, guaranteed to contain 16 per cent. of Ammonia, 9l. 10s. per ton; and for 5 tons or more, 9l. 5s. per ton, in dock. Sulphate of ammonia, &c.

MANURE.

PEAT CHARCOAL, completely saturated with London Sewage, will be found a most effective manure for any crop. It may be obtained from the Sewage Manure Works, Stanley Bridge, Fulham, Middlesex, at 60s. per ton, 4d. per cwt., and 2s. 6d. per ½ cwt.

"Sewage manure absorbed in charcoal is a first-rate fertiliser; we have tried it on French Beans, Dahlias, Roses, and Cabbage plants; we put half a pint to each Rose and Dahlia, sowed it in the row with Beans, and put a few pinches to each plant of Cabbage. The effect is perceptible very soon, but it will be twice as efficacious the second year as the first."—*The Garden. by Mr. Glenny.*

WINTON'S PARKES'S CELEBRATED STEEL DIGGING FORKS AND TOOLS are universally approved of. They facilitate labour 20 per cent. They have received the Silver Medal at Lewes, Dublin, Galway, Sheffield, and other places. Anthony's Patent American Churn has received the prize at every one of the numerous agricultural meetings where it has been shown. The Royal Agricultural Journal, p. 41, says, "This form of churn is the best for churning sweet cream, and will undoubtedly produce butter from milk or cream, in any form, in much less time than any churn that has yet been introduced." Pumps for manure and watering gardens. Mr. Mechi has one working admirably. These pumps are cheap, durable, and effective. Gutta percha tubing, bands for machinery, hose for pumps, and an assortment of prize and the best farm implements. Price catalogues sent on application.—BURGESS and KEY, 103, Newgate-street, London, agents for M'Cormick's American Reaper.

THE REIGATE ASSOCIATION FOR THE IMPROVEMENT OF DOMESTIC POULTRY, will hold its FIRST ANNUAL PRIZE EXHIBITION at Reigate, on TUESDAY, the 1st, and WEDNESDAY, the 2d of February, 1853. Exhibitors must reside within 15 miles of the Town Hall, Reigate. Entries must be made on or before the 15th January.

For certificates and particulars, apply to Mr. FISHER, Bell-street, Reigate.

The Agricultural Gazette.

SATURDAY, DECEMBER 25, 1852.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

THURSDAY, Dec. 30—Agricultural Imp. Society of Ireland.
THURSDAY, Jan. 6—Agricultural Imp. Society of Ireland.

IN matters connected with the detail of mere cultivation the Scottish farmer is much more exactly informed than the English. The latter may be prepared to discuss the alternative of breast-ploughing or subsoiling, but he is hardly able to pronounce conclusively on the relative merits of 40° or 45° as the angle of inclination at which a furrow slice should be laid. This, perhaps, is putting the difference between him and his north-countrymen a little too strongly; but we have been often surprised and sometimes amused at the precision and decision with which matters of mere detail in the processes of cultivation are argued by the latter. Probably the best work on farming within the limits of 700 octavo pages, of which the language can boast, is Professor Low's *Elements of Practical Agriculture;* but we are persuaded that none but a Scottish farmer would have thought it necessary to fill a dozen of these pages with a description of the mere field operation of ploughing, or to furnish a mathematical demonstration of the fact that the ribbed surface of the fresh ploughed land is a maximum, when the furrow slices are laid at 45°.

The last-named point is indeed now generally admitted to be a point of comparatively small importance. It is not the surface exposed to the light, but that which is exposed to the rain-water; not the outer, but the inner surface of the soil which is the most important proximate result of good cultivation. The other matters of detail, however, connected with ploughing—those relating to the depth of cultivation—are admitted by all to be important, and certain results in connection with this subject lately published in the *North British Agriculturist*, in which the advantages of deep-ploughing of lea for Oats were very apparent, deserve to be generally known. The experiments were instituted on the Home Farm, at Thirlstane Castle. The following are the results:—

Comparative weight of grain and straw on two ridges ebb-ploughed, and on two ridges on each side of these which were deep ploughed:—

	Extent of Land.	Gross Weight of Corn and Straw.	Weight of Grain.	Weight of Straw.	Grain per acre.
	rds. pls.	sts. lbs.	sts. lbs.	sts. lbs.	bush.
2 Ridges ploughed with 3 horses.	2 14	335 10	108 1	257 9	60⅓
2 Ridges ploughed with 2 horses.	2 14	332 2	103 0	230 2	57½
2 Ridges ploughed with 3 horses.	2 14	372 6	109 6	263 0	62½

Average excess of the four deep ploughed ridges over the two ebb-ploughed, per acre:—26 stones straw, 4½ bushels grain.

The land ploughed with two horses was ploughed from 5 to 7 inches deep; that ploughed with three horses was ploughed from 9 to 11 inches deep—a difference which may be considered more than one of those almost trifling grounds of discussion, on which we have known grave agricultural debates to have been held. A difference of 4 inches in the depth of ploughing would be equivalent in some localities to the bringing up of entirely different soils, as the seed-bed of the future crop. And in all localities during this season (and this is the point to which we would especially direct remark), such a difference in practice will be sure to have a most material influence on results at harvest-time. The excessive rains under which English land has been lying during the past autumn must have washed away much of the soluble portion of the surface soil—washed it away completely in the case of undrained lands—washed it away downwards into a lower layer in the case of well-drained lands. The difference between shallow and deep ploughing, great enough last season, as the above experiment testifies, will be doubly great after such a season as the present; and we advise those who may still have to plough, whether it be "lea for Oats," or fallow land for any crop whatever, to consider whether it may not be well to profit by the experience of Mr. HUME, of the Home Farm, at Thirlstane Castle, and by a consideration of the causes to which that experience is attributable.

THE rearing and fattening of cattle is simply the manufacturing of the vegetable produce of the soil into butcher meat for our tables; and in obtaining this important result two systems are followed: first, to fatten the ox throughout its whole life, from the time it is calved until taken to the shambles; and second to commence fattening it after it has attained to maturity in growth—two systems very different from each other; and to be adopted in various degrees of modification, according to the influence which the diversity of breed, constitution, climate, season, soil, and quality of produce has on the nutritive and respiratory functions of the animal economy.

When the ox is fattened from the time it is calved, according to the former of these systems, it is growing at the same time that it is fattening. There is an increase of bone and muscle as well as of fat and the other parts of the body, and this increase assumes a uniform character, from first to last, demanding a greater uniformity of climate, season, and soil, with its productions, than the British farmer has naturally at his command; hence the artificial system of house-feeding on mixed food. But when the animal has arrived at maturity according to the latter system, the economy of the raw materials is very different in the process of their being manufactured into butcher-meat; for it is then only a small quantity of the food consumed that is worked up into an increase of weight, by far the largest portion being required to supply the daily waste of the body, and maintain it at a proper temperature: and this last function which the food has to perform consumes a much larger quantity than the first. The ratio of the nutritive to the respiratory elements of food, taking milk as the type, is as 1 to 2. If we take Beans, it is 1 to 2½; oatmeal, 1 to 5; Potatoes, 1 to 9; Turnips, 1 to 11; Rye-grass, according to Dr. THOMPSON'S experiments, 1 to 8⅓. In the Rye-grass experiment the animals were milch cows, and as no notice is taken of the urine, milk, or water consumed, the ratio of 1 to 8⅓ may be liable to objection, as being too far from that of milk; but for the sake of argument we shall assume the last, and that a three-year-old fat ox of 100 imperial stones carcase weight has just been consuming 120 lbs. of natural Grass daily prior to being slaughtered, that the Grass contained 75 per cent. of water: besides this water some 56 lbs. may be daily consumed in drink during summer, the dung voided may be 80 lbs., containing 80 to 90 per cent. of water, the urine voided 30 lbs., and the increase of weight of the body 2 lbs. daily, being less than 1½ per cent. of the raw materials. Such data would leave only 14 lbs. of solid matter as the quantity consumed by both functions, consequently respiration would consume about 9⅓ lbs., and respiration 4⅔ lbs. But butcher's meat, or the average of skin, bone, muscle, &c., contains upwards of 50 per cent. of water, so that the increase of weight daily would be 9⅓ lbs. and upwards. Now, as the actual daily increase, by hypothesis, is only 2 lbs., it consequently follows that the daily waste of the body is 7⅓ lbs. and upwards, with the above consumption of food and data assumed.

The daily consumption of food by a three-year-old ox from the time it is calved, however, is less than above stated, for at one year old it may probably have only consumed about one-half of the above amount. Hence the increase of weight must also have been less; and this is just what the facts of the case bear out, for the average increase during life is about 1¼ lb. daily, making no allowance for the weight of the calf. In practice, however, the daily progress of the increase, and the quantities of food consumed, is seldom if ever so uniform as this would insinuate.

The general character of the other system is that of alternately feasting and starving with the change of seasons. When grazing during summer an increase in the weight of both muscle and fat is gained, while in straw-yards or less favourable situations during winter the gain of summer is, generally speaking, nearly if not wholly lost; but between the two extremes of this system there is a vast variety of examples. The case of the stunted Shetland, for instance, is widely different from some of the short-horns in our southern districts, and indeed we need not go so far north as *ultima thule* for skin and bone examples when cattle are being turned out to Grass in spring.

Under this system it is seldom that the three-year-old ox has acquired bone sufficient to carry 100 stones carcase weight—one or two years must be added to this number; and before even this age has been attained the ox will have consumed more raw materials in growing bone on which to lay on fat than was done in the other case up to the time when led to the shambles; for the starved ox always consumes more food than the properly fed one, and there is thus a loss, by this system, of more than the food consumed during the process of fattening.

The raw materials in this case, however, are often very differently situated from those of the other, and possess less value. There is yet a wide tract of the British soil in a semi-natural and wild state, over which herds and flocks daily roam, gathering an inferior herbage, and manufacturing it into beef and mutton of the finest quality. The process is slow, but the raw materials are of less value, while the manufactured article, although not altogether fit for immediate use, is yet possessed of a higher value—circumstances which materially affect the economy of the process.

There is not only this peculiar feature in the raw materials, but there is also the peculiarity of breeds, the different constitutions of animals of individual breeds, and the diversity of season and climate to be taken into consideration, all of which affect the quality and value of the manufactured article. In the chemical and mechanical world different articles require different agents, machinery, and apparatus to work them up to their various destinations; and so is it in the manufacturing of the vegetable produce of the soil into butcher meat, for here Nature has adapted herself to her own exigencies by giving to cattle those constitutional characteristics which the different breeds exemplify, enabling them to work up the whole produce of the soil for the wants of the human family, a large portion of which would otherwise have been lost; for although the large breeds which arrive at early maturity turn to best account the produce of rich arable and Grass lands, they are yet unfit to manufacture the coarse and scanty herbage of mountain districts into either beef or mutton; while, on the other hand, our mountain breeds are not adapted for turning the produce of both localities to the best advantage.

The grand question which is here brought under the consideration of the farmer is the economy of the soil itself. What is the soil of our mountain and other districts, lying in a natural state, capable of producing under the fostering hand of art, and what the most economical course to adopt with their improved productions?

NEW MODE OF PREPARING FLAX FIBRE.

SINCE attention was first directed to the improvement and extension of Flax cultivation in Ireland, an association was organised at Belfast, in the year 1841, to endeavour to accomplish those ends. It has been

evident that a great desideratum in the treatment of Flax, in order to obtain a fibre of good and even quality, suited for manufacture, was the adoption of some plan by which uniformity could be arrived at, and the waste and loss arising from the imperfections of the system generally practised by individual growers obviated.

In order to attain this end, it appeared requisite that a division of labour should be carried out, that the farmer should be merely the grower of the plant, and that persons of capital, education, and scientific skill should purchase it from him, and convert it, by some effective process, into marketable fibre.

Every project having this end in view has, consequently, met with great attention from the Royal Flax Society and the public; and a plan, embodying points of great novelty, having been lately brought forward by Mr. Watt, and put in operation at Belfast, a meeting of those interested in the matter was held on October 2, at which the inventor was present, when it was arranged that a careful examination into the processes employed should be made by a committee then appointed.

The trial was begun on the 21st October; and although all the points desirable to be ascertained have not yet been fully investigated, the committee are in a position to report to this meeting a number of facts already ascertained, which they consider of interest and importance.

Mr. Watt's system may be briefly described as follows:—The Flax straw is delivered at the works by the grower, in a dry state, with the seed on. The seed is separated by metal rollers, and afterwards cleaned by fanners. The straw is then placed in close chambers, with the exception of two doors, which serve the purpose of putting in and discharging the straw; the top, which is of cast iron, serves the double purpose of a top and condenser. The straw is then laid on a perforated false bottom of iron, and the doors being closed and made tight by means of screws, steam is driven in by a pipe round the chamber and between the bottoms, and, penetrating the mass, at first removes certain volatile oils contained in the plant, and then is condensed on the bottom of the iron tank, descending in a continuous shower of condensed water, saturating the straw, and forming, in fact, a decoction of the extractive matters which attach the fibrous and non-fibrous portions of the plant. This liquid is drawn off from time to time, and the more concentrated portions are used for feeding; the process is shortened by using a pump, or such arrangements as will repeatedly wash the mass, with the water allowed to accumulate. In about 8 to 12 hours, varying with the nature of the straw, it is removed from the chambers, and having been robbed of its extractive matter without decomposition, it is then passed through rollers, for the purpose of removing the epidermis or outer skin of the plant, of discharging the greater part of the water contained in the saturated straw, and, while in the wet and swollen state, splitting it up longitudinally. The straw, being free from all products of decomposition, is then easily dried, and in a few hours is ready for scutching.

In the experimental trial, personally superintended, throughout all its details, by the committee, a quantity of Flax straw, of ordinary quality, was taken from the bulk of the stock at the works, weighing 13¾ cwt. with the seed on. After the removal of the seed, which, on being cleaned thoroughly from the chaff, measured 3¾ imperial bushels, the straw was reduced in weight to 10 cwt. 1 qr. 21 lbs. It was then placed in the vat, where it was subjected to the steaming process for about 11 hours. After steeping, wet-rolling, and drying, it weighed 7 cwt. 11 lbs.; and on being scutched, the yield was 187 lbs. of Flax; and of scutching-tow, 12 lbs. 6½ oz. fine, and 35 lbs. 3 oz. coarse. The yield of fibre, in the state of good Flax, was, therefore, at the rate of 13½ lbs. from the cwt. of straw, with seed on; 18 lbs. from the cwt. of straw without seed; 26¼ lbs. from the cwt. of steeped and dried straw.

The time occupied in actual labour in the processes, from the seeding of the Flax to the commencement of the scutching, was 13¾ hours, to which, if 11 hours be added for the time the Flax was in the vat, 24 hours would be the time required up to this point. The scutching, by four hands, occupied six hours 16 minutes. But, in this statement, the time required for drying is not included, as, owing to some derangement in the apparatus, no certain estimate could be made of the actual time required in that process. It would appear, however, that about 36 hours would include the time necessary, in a well-organised establishment, to convert Flax straw into fibre for the spinner.

The cost of all these operations, in the experiment, leaving out the drying, for the reasons noted, appeared to be under 10*l.* per ton of clean fibre, for labour, exclusive of general expenses.

A portion of the fibre was sent to two spinning-mills to be hackled, and to have a value put upon it. The valuation of the samples varied from 56*l.* to 70*l.* per ton, according to the quality of the stricks of fibre sent, and the yield on the hackle was considered quite satisfactory.

On the results of this experiment, which was necessarily of a limited nature, the committee think it best to offer no general remarks. They are sufficiently favourable to speak for themselves. It remains to be ascertained whether the qualities of Flax fibre, prepared by this method, are such as to suit the spinner and manufacturer. They have been informed, by a spinner who has been trying some Flax prepared by Mr. Watt's system, that the yarn made from it appears equal in all respects to what is ordinarily spun from good Irish Flax, of the finer sorts. They believe that, before long, information will be given by several individuals who are about to carry out more extended trials on the spinning and manufacturing departments.

The committee conceive that the most prominent and novel feature of this plan consists in the substitution of maceration, or softening, for fermentation. In the steeping of Flax, both by cold and hot water, the fibre is freed from the substance termed gum, by the decomposition of the latter; while in Watt's system the maceration of the stem loosens the cuticle and gum, which are further separated mechanically in the crushing operation, and, after the drying of the straw, readily part with the wood, under the action of the scutch-mill. Before concluding this statement, the committee wish to call attention to a very curious feature in Mr. Watt's invention. The water from the vats, in place of being offensive and noxious, as is the case with ordinary steep-water, contains a certain amount of nutritive matter. This arises from its being an infusion of the Flax stems, in place of holding in suspension or solution the products of the decomposition of the gum, and other substances contained in the stems. The inventor is now employing this water, along with the chaff of the seed-bolls, for feeding pigs. It is of much interest, therefore, to note in how far this may be found practically to answer, as, between the seed, the chaff, and the water, by far the greatest portion of what the Flax plant abstracts from the soil would thus be returned in the shape of manure. However this may turn out, the avoidance of all nuisance in smell, and of the poisonous liquid which causes some damage among fish when let off into rivers, is a matter of some consequence.

Appended to this report is a note of the time occupied in the different processes during the experiment, and of the number of persons employed in each.

It is to be hoped that so promising a plan may, on more extended experience, be found fully to warrant the high anticipations formed from what is already known concerning it. (Signed on behalf of the committee),

Richard Niven, Chairman.

Belfast, Nov. 3, 1852.

Appendix.—Note of the time occupied, and of the number of persons employed in each of the processes witnessed by the committee, on the experimental trial of Mr. Watt's system of preparing Flax fibre:—

	No. of persons employed.		Time occupied.	
	Men.	Women and boys.	Hours.	Min.
Seeding	4	8	1	15
Placing in vat	3	4	0	15
Cleaning seed	1	0	3	0
Taking out of vat	2	3	0	30
Wet-rolling and putting in drying-room	1	16	2	20
Rolling for scutching ...	0	11	1	8
Stricking for ditto	0	7	4	47
Total	11	49	13	15
Scutching	4	0	6	16

Thomas Preston, Esq., observed, in reference to the report, that he had forwarded parcels of this Flax to the Mile Water Spinning Company, and had received a letter from them, expressive of their good opinion of the hackling and spinning qualities of the Flax, and valuing the samples at 65*l.* to 75*l.* per ton.—[The above is a report to the Flax Society of Belfast on the merits of the plan described.]

IMPLEMENT SHOW—BAKER STREET.

This part of the Exhibition in the Bazaar presents us with three subjects:—1, Agricultural Books, &c.; 2, Seeds and Roots; 3, Implements and Machinery of various kinds, Medicines, &c.

Seeds and Roots.—Of these the show was super-excellent. The Messrs. Gibbs, of Halfmoon-street, Piccadilly, exhibit fine specimens of Mangold Wurzel and Swedes, grown by Mr. Druce and Mr. Collins. There are also some Kohl Rabi and Cabbages deserving of notice. George Gibbs and Co., of 26, Down-street, Piccadilly, showed superior specimens of the above roots, grown by Prince Albert, as also of the American Squash, or Pumpkin, weighing half cwt. each and upwards. Mr. Skirving, of Liverpool, shows a good sample of his celebrated Swede, and Mr. J. Grove, Essex, superior Mangold Wurzel and Swedes; but in this department the sister country, under the patronage of Lord Eglinton, carries off the palm. The moist and genial climate of Ireland has long been famed for the production of root crops, and the present specimens from her model farms show what proper management, under such circumstances, is capable of producing. A Pumpkin, one of 30 from the same root, weighs 108 lbs. Mangold Wurzel, Swedes, Globe Turnips, Carrots, Sugar Beet, Cabbages, &c., of the different kinds are of equally extraordinary weights. On the same stand there is also a sample of good butter, another favourite product of the sister country. Mr. Chivas, Chester, shows a sample of the Orange Jelly Turnip, not inferior to those of Ireland.

Implements were never exhibited in such numbers or perfection. It would take ten times the space allotted to them in the Bazaar to have exhibited them fairly to the public. The most attractive of the whole was doubtless Bell's reaping machine, exhibited by Mr. Crosskill, the eager crowd about which reminded us very forcibly of that about M'Cormick's in the Crystal Palace, 1851. Many appeared to be taken by surprise, never having dreamt that such had been in operation in Strathmore for the last 20 years, and many hasty conclusions consequently arrived at relative to the merits and origin of the Americans. We are anxious to give our implement-makers credit for the progress they are making, but cannot approve of much that is now said by them to run down the Americans, who gained a complete triumph over them in 1851. The plain facts of the case are simply these: During the above 20 years that they were sleeping the Americans took up both Ogle's and Bell's machines, made various improvements upon them, for which patents were granted, patents which would not have been granted, either in England or the States, for the originals or for frivolous improvements in the latter; the American patent-office being more particular in this respect than the English. These improved machines and improvements are all that the Americans claim; they introduced into this country last year with a success which awoke our implement makers from their 20 years' slumbers, putting them to the blush for having slept at their posts so long; and instead of thanking their own brother Jonathan for this friendly turn, abusive insinuations are had recourse to, unworthy of a great nation. But for the Americans, Bell's reaping machine, in all likelihood, would have never seen Baker-street; and the more honourable line of conduct is, openly and brotherly, without a grudge, to give the Americans full credit for what they have done, and to learn of their experience rather than attempt the schoolmaster before we have had time to learn our A B C ourselves. Since 1851 extensive improvements have been made in America, and those improvements are about to be introduced here under patent. Having fallen 20 years behind, it will be found not so easy a matter to overtake the Yankee as some imagine; for he is an Englishman of the most enterprising genius. Since the Lewes show considerable improvements have been made in the reaper by both the large firms of Garrett and Sons, and Crosskill: the former in the driving, gearing, and sheathing for the knife now made of steel, so as to insure a more perfect cutting edge: the latter in a tipping platform and tread for assisting in throwing off the cut corn into sheaves. Blythe's broadcast manure drill has also undergone improvements by Mr. Garrett, as also their seed drill for small holdings, so as to adapt it for sowing three rows of Beans. J. and F. Howard, Bedford, exhibited a plough termed X-plough, with lower necks, for giving the share more or less "pitch," as required. Richmond and Chandler have made some improvements in the chaff-cutter, so have Barrett, Exall, and Andrews in theirs, and also in their Barley hummeller. Hensman and Son have improved their steam-engine and drill; the former by self-regulating machinery for the regular supply of steam according to the resistance, doing away with the irregularity of the motion now experienced, over which the foreman has not sufficient control, and in the latter by attaching a seed-box with brushes so as to sow Grass seeds along with corn, thus doing away with the necessity of going over the land twice. Messrs. W. Dray and Co., Hornsby and Son, J. Holmes and Sons, Smith and Ashby; Clayton, Shuttleworth, and Co., Tuxford and Son, Edward Hills and Co., Samuelson, Stacy, Thomson, and others, have made various improvements since the Lewes meeting, did our limits permit their mention individually. Two entirely new machines require perhaps special notice; the one, Chandler's improved hoe, the other Smith's reaping machine, both lately patented. The object of the hoe is to clean young drilled plants at an early stage of their growth without earthing them. It is a species of breast-plough having two hoes with a feather or upright fin on each, on the interior side, pushed before the operator, the plant being between the fins. A woman will hoe an acre per day with one of them. The reaping machine has never been tried. The cutting apparatus consists of a series of hooks revolving upon spindles, thus cutting on the principle of the Irish hook. The machine is for being pushed before the horses, and has a revolving belt with rakes in front, which gathers the corn, throwing it to either side as required, leaving it in separate parcels ready for being tied up into sheaves. We shall be glad to take further notice of this machine when it has been tried.

Generally speaking, according to the price tickets, a small abatement has been made, but free trade times being now established, demand a further reduction. Steam-power and machinery must be brought to bear more successfully in the manufacture of agricultural implements than has yet been done. In this respect we are a long way behind the manufacturing districts. Farmers do not enjoy equal benefits from mechanical science, hence the obvious conclusion.

POULTRY.

Hitchin Poultry Show.—Few poultry shows have afforded more pleasure to amateurs than that held at Hitchin; and much praise as well as the thanks of fanciers are due to a few gentlemen of that place, who, with a complete disregard to cost, and personal pecuniary liability, conceived the plan and carried it out. Their rules were stringent and acted fully up to, and the exertions of the committee deserve the greatest success. The weather was very unfavourable, which influenced the number of visitors; but the quality of the specimens exhibited, the ready sale they found, and the uncompromising impartiality of the officers, will ensure for them next year, when the building now in progress will be completed, a high rank among these popular shows. It had been intended to hold it in the

new Corn Exchange, but as the roof was unfinished, a very large tent was substituted, which was erected in the beautiful garden of Mr. Hill, of the Sun Hotel. Those who were connected with the Society have thanks to tender to this gentleman for his kindness and hospitality. Before entering upon the merits of the poultry, it is well to state, the show originated with three gentlemen of the place, who liberally became responsible for the prizes, and a committee of the highest respectability, at their own cost, carried out all the necessary arrangements. Subscriptions were not asked for, and profit was not the object sought. With these preliminary remarks, and thanking Messrs. Bennett, Hill, Goodwin, and the other gentlemen connected with it, for the treat afforded to amateurs, we will proceed to notice the most prominent features of this show. The prize list will give the names of the successful competitors in every class. The Cochin Chinas were far above the average, and while the judges awarded more prizes than were published in the list, and highly commended the whole class, they expressed their regret they could not distinguish with solid rewards many most deserving pens. The names of the successful will convince those who were not fortunate enough to be there that the birds were of no common order. John Fairlie, Esq., Cheveley-park, two prizes; Mr. H. Gilbert, Kensington, two prizes; Mr. C. Punchard, Blount's-hall, two prizes; W. T. Squire, Esq., of Milden-hall; Messrs. Peters and Lort, of Birmingham, and Mr. Steward, of Yarmouth, one prize each. The show of Dorkings was excellent, and fully maintained the character Hertfordshire has earned since the Earl of Verulam offered his liberal annual prize for this breed, at the agricultural meeting; but Northampton, Birmingham, Suffolk, Kent, and Leicestershire, also sent their contributions, and took prizes. The only pen of Spanish deserving notice was an excellent one exhibited by the Hon. Mrs. Astley, of Thetford. The game fowls and the Hamburghs were beautiful. The Malays did not deserve notice: the amateurs of this breed should either abstain from exhibiting or procure better specimens. Mr. Vivian, of Singleton, Glamorganshire, carried off the first prize for Polands in both classes. Mr. Taylor, of Shepherd's Bush, showed some beautiful Andalusian fowls. Among the bantams, the gold laced of Mrs. Elizabeth Roper, and the black of Mr. James Monsey, deserved the highest praise. The hens in the latter pen were unique. The turkeys were generally excellent, as were the ducks, but the geese were indifferent. Mr. G. C. Adkins, of Birmingham, who took 12 prizes in the pigeon class, exhibited two Australian pigeons of singular beauty. Almost all the counties in England, and one in Wales, contributed to form an exhibition, which was a boon conferred on those whose avocations do not permit them to visit more distant places. The judges were Edward Hewitt, Esq., Eden Cottage, Spark Brook, Birmingham; and Mr. Baily, of Mount-street, London.

Dorchester.—The Dorchester Association for the Improvement of Domestic Poultry, lately held their first exhibition in the Town-hall, Dorchester, and it was highly successful. It was under the patronage of most of the nobility and gentry of the neighbourhood, who supported it by their presence; and it would not have been believed, a few years since, that a poultry show would have brought an influx of company into the town, more resembling the attendance at an old-established fair. The indefatigable honorary Secretary, Mr. G. S. Andrews, has laid his Dorsetshire countrymen under considerable obligation. The universal respect he enjoys, and the complete success of his first endeavour must be gratifying to him, and will, we hope, urge him forward in this branch of usefulness. Two hundred pens were exhibited. In this county, which has produced the best Cochin China fowls ever yet exhibited, and where the greatest breeders of the day have come for fresh blood to keep up their celebrated strains, it will of course be but natural to notice them first. They were very meritorious. The first prize was gained by the Rev. C. D. Saunders, of Tarrant Hinton; the second by the celebrated Mr. Steggall, of Weymouth; and the third by A. C. Sayers, Esq., of Ramridge, near Andover. In the chicken class four most beautiful birds gained a well-merited prize; they were the property of Mr. W. Simonds, of Milbourne. The Spanish class was a sad one, and most of the prizes were withheld. The show of Dorkings was perfect; Mr. E. Pope, of Great Toller, took three prizes; Mr. W. Pope, of Symondsbury, two; and Finch Noyes, Esq., of Laverstock, one. The immediate sale of these pens, at highly remunerative prices, proved this useful breed is duly estimated in Dorsetshire. The judges considered the Malay class the best they had ever been called upon to adjudicate. To the amateur this class alone formed an exhibition. The game fowls were also excellent. The Polands and Hamburghs, though not numerous, were very good, as were the ducks and geese. The bantams were very good, especially one pen rewarded with the first prize, exhibited by John Goodenough, Esq., of Godmanstone, and an equally successful pen, belonging to A. C. Sayers, Esq., of Ramridge. These latter were perfect specimens of the old fashioned and exquisite partridge bantams, now almost extinct. The same gentleman also sent a pen of Rangoon fowls of much merit. They were imported by himself, and possess all the characteristics of a pure breed. The extra stock of Mrs. Ker Seymer, and H. C. Sturt, Esq., was much admired and highly commended by the judges. The hall was crowded, and next year a larger locality must be found. We cannot conclude without one word to our Cochin China exhibitors. It is to beg of them to be particular in the selection of their birds. The competition in this class is become so great that a small defect in one bird out of three exhibited often places the two perfect birds in a position they should not occupy. We are induced to say this because sometimes when a defect is pointed out in one fowl, shown with two others whose merits are apparent to every one, the exhibitor, while expressing his regret, says he has better birds at home. To such we say, pray send your best. The judges were Henry Hinxman, Esq., of Devonford House, Salisbury; and Mr. Baily, of Mount-street, London.

Home Correspondence.

Late Sowing.—It is by no means recommendable to sow Wheat very late, except in cases of emergency like the present time; but for the encouragement of agriculturists, we beg to state that our experimental Wheat last season was sown on the 2d of January, equal to 3 quarts of seed per acre, and was transplanted at the latter part of February: and notwithstanding other disadvantages to which it was subjected, viz., destructive birds, blight, and wet in harvest time, it produced 1½ peck per rod, equal to 7½ quarters per acre. Another crop, sown the same day in double rows, at wide distances, 5 feet apart, for a crop of early Potatoes in the centre, at the rate of 2 quarts per acre (which, by-the-bye, proved too thick), yet answered admirably, the produce of the corn being equal to 3½ quarters per acre, and the Potatoes a sound and fair crop, fully matured; their tops were cleared away, and after-crops of other productions introduced, by the beginning of July. We have specimens of stubble from this crop for inspection, raised from single grains, which produced upwards of 30 ears, and nearly 2000-fold. It may be remarked that the cultivation of Barley, on the same principle, answers equally well, and that early dwarf Peas, in both cases, may be substituted occasionally, and with profit, for the Potatoes. *Abraham Hardy and Sons, Seed-growers and Seedsmen, Maldon, Essex.*

Taste of Turnips in Butter.—I have never remarked this taste in this county, where the cream is separated by fire, and churns are unknown; the butter is made with the hand in a few minutes. *W. P. Hoblyn, Fir Hill, St. Columb, Cornwall.*

Maize.—Observing in the *Gazette* of December 4, No. 49, p. 779, an account of the cultivation of the Zea Mays, or Indian Corn, in the Azores, I beg to offer some remarks on the method I have adopted for the growth of this interesting plant, having cultivated it for seven successive seasons, beginning with a few specimens in the garden. Finding that it was not so precarious in this country as is generally understood, I had about 10 poles adjoining my garden this season. I plant the seed in a frame with gentle heat, the first or second week in April; after the plants are up (which is in a few days), gradually hardening the young plants; about the second or third week in May transplant them to the place where they are to remain. The land I use is a rich sand, properly prepared to receive these half-hardy plants. I allow them three feet distances, thus:— from plant to plant, giving them attention until they have quite struck root; afterwards, should the season prove dry, occasionally water; when well established, a weak solution of manure will greatly accelerate their growth. A very interesting sight it is to see a plantation of these tall-growing plants, with their spike or pinnacles of male flowers at the top of the stem, with long sword-like leaves—they have a very curious appearance under the influence of a gentle breeze. When young I find hares and rabbits are very fond of the plant; it is necessary to watch them, and if attacked, to trap the desperadoes, or they will speedily destroy the whole plantation. In the month of August they begin to ripen, they will then require stakes, or the wind will injure the crop. I find no other difficulty, as in September they are fit to harvest, which I generally do by having them removed to the barn or other secure place, as all animals are extremely fond of the stem and leaves. I average about three ears to a plant. *Amicus.*



Substitute for Peruvian Guano.—I have read with pleasure that the Royal Agricultural Society of England has offered a prize of 1000*l.* sterling, and the gold medal of the Society to any individual who will discover a manure equal in fertilising properties to the best Peruvian guano, of which an unlimited supply can be furnished to the English farmer, at a rate not exceeding 5*l.* per ton. Now, so far all right, but allow me to ask you the following questions:—When is the time fixed by the Society to award the prize and the medal? And after the prizes have been awarded, has the discoverer the privilege of being the proprietor of the discovery? In other words, will the proprietor of the discovery have the sole right to take a patent, and turn the discovery to his advantage by selling it to the farmers, or will the Society have the full right of speculating? Again, taking for granted that I succeed in forming a manure equal in every respect to Peruvian guano, and that I can deliver it to the farmers at 5*l.* per ton, is this price intended for London only, or at the farm-house of every farmer throughout the United Kingdom? And finally, if the articles composing the substitute for Peruvian guano, at the time of awarding the prize, are within the 5*l.*, and soon afterwards should rise on account of the great demand, what next? Who is to be the loser? Now all these particulars the Society should distinctly mention in their programme, for we shall have worked our brains for no earthly benefit if we succeed in the discovery of the manure, and then get neither prizes nor benefit. As I think that my discovery will do, I shall feel obliged to you to give publicity to this letter, and to answer my questions in your next number of the *Chronicle*. In the middle of next week I hope I shall be able to send you a sample of my composition, and another one to Professor Way for analysis. I have tried it in a small way, with different plants, and in each case it has beaten the Peruvian guano thoroughly. *Physiologist.* [We understand that the offer is open for an indefinite period—*i.e.*, until a successful claim shall be made for the prize; that the publication of the nature of the manure is not required; that a fixed price of 5*l.* per ton for all time coming is not required; that in fact, all the Society requires is to be satisfied that the person claiming the prize can supply any quantity at the price named.]

Quarter Evil.—During the autumn of 1850 I had under my care a number of two-year-old steers and heifers, together with several yearlings, attacked with this most fatal disease, and several died; they were at the time feeding in some low meadow-ground, only partially drained, and of a peaty character. As soon as I discovered the existence of the disease, which I was made aware of by the death of two of the finest animals in less than 24 hours after the attack commenced, I had the rest removed to a dry sandy pasture, moderately bled and physicked; by such means hoping to escape further loss, and for a time they went on very well. However, eventually two more died of decidedly the same distressing disease, without my having the remotest chance of saving them. As the autumn was by this time far advanced, the remaining stock were housed for the winter, and fed with regularity and care upon cut Turnips and straw-chaff. They did very well through the winter, until the return of spring, when without the least warning one or two more were attacked and died. Here, as in the case recorded in the *Agricultural Gazette* of Dec. 4th, we see quarter evil appearing under a variety of circumstances, and it appears to me most difficult to account in each of these cases for the immediate cause of death. It seems however probable, that from some cause, such as the nature of the food, the quantity administered, or the peculiarity of the weather, blood is made by the young beast much too rapidly for the various organs of the body, to abstract and make use of it. Carbon accumulates, and it becomes thick and dark coloured, thus clogging or impeding the action of the circulating system, and finally congealing in the finer capillaries of the veins of the extremities farthest removed from the heart and lungs, there rapidly producing mortification of the coat of the vein and parts adjoining; this mortification rapidly extends up the leg till it reaches the vital organs, when death ensues, often within a few hours of our first becoming aware of the attack, accompanied with fearful agonies. It is useless to consider remedies after the attack has once commenced, as nine times out of ten the beast must die, do what you will; but we may adopt some precautionary measures which will tend to prevent it, such as the following. Take care that young stock are not exposed in peaty or moist situations, either in spring or autumn, during cold, damp, or frosty nights, or turned out into such meadows while the Grass is frosted. When yard-fed be careful not to overfeed young stock, particularly with Turnips, Swedes, &c., and especially let the feeding be regular. Health greatly depends on attention to this point. Above all, carefully examine the stock from time to time by handling, feeling the pulse, &c.; and if you find an animal with the latter full and bounding, the coat tight, and the eye full, separate him from the rest and give a tolerably strong dose of purgative medicine, and if necessary take a small quantity of blood. Repeat the medicine in two or three days if no alteration in the pulse, which should become less full and frequent. These points properly attended to would, I think, tend very much to lessen the attacks of this disease, by far the most fatal to which young horned stock are liable. *C., Wandsworth, Surrey.*

Poultry.—In your columns I frequently read of Dorking and Surrey fowls, but having formerly resided at Dorking, I well remember that the owners of Dorking fowls prided themselves on that breed being of a beautiful white colour, having the distinctive marks of five claws to each foot. I had the pure breed myself, and admired them as they merited. But circumstances directing my special attention, not to the Surrey, but to the Sussex speckled five-clawed fowls (doubtless Norman fowls originally) which prevail in the Weald of Sussex—and in the Rape of Bramber especially—I found them of larger size, and their flesh more juicy, than the Dorking white five-clawed sort, and their eggs larger and richer flavoured; and I subsequently learnt that from this breed are fattened the finest and best capons, which are brought at Christmas to the Horsham market, and also find their way to the market at Reigate, a large number being sent up to the chief poulterers in London. Their weights vary from from 6 lbs. to 9 lbs., though occasionally reaching higher weights, with birds of large bone, but which are less delicate for the table than smaller capons. Of the finer quality of these fowls, there are many farmers who prize them highly, and favour as well as money go hand in hand for the obtainment of the most perfect breed. With respect to Surrey, I doubt not but some few farmers may have got some of the five-clawed speckled breed from friends in Sussex; but to speak of the "quasi" breed as Surrey fowls is

a misnomer, and therefore should be corrected; now, too, that so much attention is paid to the breeding of fine fowls of various kinds for public competition at different towns, where prizes are awarded to the most successful breeders, a far more useful encouragement for the public than beast shows, instituted for comparison of breeds, as most beneficial to the owners, which have degenerated (instead of lean stock in fair condition) into the exhibition of animals in such a state of pinguidity by over-feeding that they are in many cases troubled to stand up, and, in the instance of swine at the Smithfield show, literally watered to keep them alive. And I have good assurance that such has been the general impression of the wastefulness of over-feeding, that it is rumoured the Council of the Royal Agricultural Society has it in contemplation to check such a wasteful practice in future, for the good of farmers and the public benefit; for who, in his senses, can be favourable to such injurious and unprofitable feeding of beasts or sheep, or even of swine. In fine, it is an evident error in judgment, and cannot be too soon corrected, more especially at cattle shows professedly of lean stock. *Verbum sat sapienti.*

Experience in Draining, as to the supposed advantage to be gained by diminishing the distance between the drains.—Although it will be clear to those who understand the way in which water reaches under-ground drains, that nothing is gained by placing the drains at higher intervals than is required to intercept the rise of water between them, still many will be startled to learn that the drainage is in no way assisted by a greater frequency of drains than is necessary for this purpose. I have been draining a strong clay soil at these intervals, namely, at 24 feet 9 inches, at 16½ feet, and at 15 feet, the narrower intervals having been selected to more perfectly drain portions appropriated to public gardens, but I find, after continuous rains, that they are alike as to the time occupied in getting rid of surface water, and there is no difference in their condition during and after rain. The discharge of the water is evidently in no way hastened by the greater frequency of the drains. That such should be the case is evident, if, as Mr. Parkes has shown, water is intercepted by land drains only in its accumulation upward, and not in its descent; but this would not be so if the water passed off the surface into the drains from above; in that case a quicker discharge would be the result of closer draining, for then the greater frequency of the drains would lessen the distance that the water would have to pass to reach the drains, and, of course, the drainage would be effected in shorter time; or, perhaps I shall be better understood by saying, that whilst in the one case the water from the surface descends perpendicularly, and reaches the drains by accumulating in the soil to the heights of the drains, and has therefore only to travel the depth of the descent before its discharge, and which is neither increased or diminished by the number of drains; whilst, on the contrary, did the water pass in at the top of the drains, the distance of travel would be the measure of the distance between the drains, and the discharge would be hastened by diminishing the distance. The extreme distance to be adopted to drain land will vary with the nature of the soil and subsoil, the form of the ground and other circumstances, and can only be ascertained by experience. My object here is simply to point out the waste of money from putting drains unnecessarily close, and to bring facts in support of a system of draining attended with the greatest benefit at least cost. *Hewitt Davis, 3, Frederick's Place, Old Jewry.*

Sulphate of Ammonia.—In reference to the inquiries of your correspondent (p. 798), the neutralisation of gas liquor with sulphuric acid, and evaporation afterwards, as there advised, wastes a great quantity of ammonia in evaporating so much water, leaving the salt very acid. The more economical method is, to distil over the ammonia into sulphuric acid. All the carbonate comes over with the first quarter of the liquor; and, by adding lime to the residue, to decompose the fixed salts, most of the ammonia may be drawn off with a comparatively small portion of the water (Great Exhibition Juries' report, p. 43). *J. Prideaux.*

Greaves for Pigs.—I have used greaves boiled into a soup, and mixed with meal, for fatting pigs. It is certainly a fattening food, but I never give it to pigs for home use, as it makes the meat greasy and liable to waste in cooking. *G. W.*

Black-leg, Quarter-ill, or Kill-calf is very prevalent in this neighbourhood (a low damp one). There is no instance known here of an animal being cured when once taken; but I have found a certain preventive to be periodical bleeding about once in three months, or oftener if the calves look dull, and an allowance of ½ lb. of Linseed-cake a day for each animal, which keeps their bowels open. *G. W.*

Game.—A discussion was commenced some time ago in the *Agricultural Gazette* upon the subject of game, which was not maintained with the spirit which, I think, the subject deserved. I believe it to be a subject well deserving the most earnest consideration, not merely of farmers, but of the whole of the rural population. I am not about to enter at present upon the question, or to state my opinion upon the desirability or otherwise of preserving game. I wish to suggest, for the consideration of the readers of the *Agricultural Gazette*, the feasibility of raising by subscription a sum of money to be given to the writer of the best essay on the "Game Laws, and their Effect upon Agriculture and the Rural Population;" the prize to be given conditionally upon the essay being published at such a price (say 6*d.*) as shall render it of easy access to all classes. *G. W.*

Societies.

Royal Agricultural College.—Presentation to the Rev. J. S. Haygarth, Principal.—On Saturday evening, the 11th inst., the students of the institution gave a dinner in the College hall, to which the Principal and Professors were invited, Mr. Peile, one of the senior students, in the chair. In the course of a feeling and appropriate address, whose reception indicated how well it expressed the sentiments of all present, the worthy chairman dwelt on the steady and gratifying progress which had hitherto marked Mr. Haygarth's government; alluding in grateful terms to that friendly feeling which embodied itself in all his actions towards them as students; and rejoicing that they had now an opportunity of tendering their acknowledgments, and giving utterance to their sentiments of respect, gratitude, and esteem; respect for his position as a clergyman of the Church of England, and Principal of the College,—gratitude for his uniform kindness and attention in all that concerned their interests,—and esteem for one who could so successfully solve the difficult problem of combining the functions of the ruler with the spirit and feeling of the friend. The chairman then presented to Mr. Haygarth a handsome silver tea service, a portion of which bore this inscription:—

"To the Rev. J. S. Haygarth, Principal,
from the Students of the Royal Agricultural College,
in token of their gratitude and esteem.
Dec. 11th, 1852."

Flax Improvement, of Ireland.—At the 12th annual meeting of this Society lately held in Belfast, the Annual Report was read, from which we make the following extracts:—

Schenck's Steeping System.—In the last annual report it was stated that the patented method of steeping Flax in hot water was in operation in 18 concerns in different parts of Ireland. Last year your committee referred to the complaints that had been made by spinners of the strength and quality of the fibre retted on this plan, and at the same time expressed their belief that the principle was sound, and that, by certain modifications in the details of watering, an article could be produced which would be free from the faults attributed. They see no reason for altering this opinion, as they find that, in the retteries established in England and Scotland, fibre of excellent quality, strength, and cleanness is produced. The superiority of the article made in those retteries suggested the propriety of inquiring into the methods there employed in carrying out Schenck's patent. Mr. Haslett, the Society's head instructor, was therefore deputed to visit them, to examine into their plans of working, and to report upon the subject, for the information of Irish retters. From this report it appears, that the primary cause of the superiority in their system of working must be sought in the quality of the Flax straw they procure, and the care with which it has been saved and dried, and that several plans are carried out by which the fibre is cleansed from impurities, and becomes much improved in strength and colour. Your committee are aware that the difficulties and disappointments which have hitherto attended several of the attempts to carry out Schenck's system in Ireland have caused some persons to blame them for having expressed so high an opinion of this method of preparing Flax fibre. In reply to these remarks, they have now to say, that their investigation of Schenck's process was conducted with the most painstaking and cautious scrutiny, and that, after more than a year's trial, from the facts ascertained in the results of experiments made, both by their sub-committee and by other disinterested parties, at home and abroad, it was impossible for them to make any other report, or to come to any other conclusions, than those they put forward in 1850. Every one who has instituted experiments, with a view to ascertain the value of novel processes in the industrial arts, must be aware that, however promising the results, they often afford no criterion of success in carrying out such process on an extensive scale; and your committee, while then expressing the sanguine opinion on Schenck's system, which was warranted by facts ascertained by themselves or communicated to them, at the same time carefully abstained from involving themselves in responsibility by giving any estimate of profit on the commercial working of the patent. That Flax can be prepared in this manner, of a quality suitable to the general purposes of the linen manufacture, they see ample reason for continuing to maintain. The profits of those who commercially engage in it must depend upon the price they pay for the straw, their skill in putting a right value on its various qualities, the state in which it is finished by the growers, the care and skill devoted to the details of working, and the economy of labour throughout. In the conduct of a scientific operation, such as hot-water retting, persons capable of such superintendence as would be given to any other chemical process are required; and much of the want of success in Ireland, in carrying out the details of Schenck's system, may be attributed to the absence of such superintendence.

Unsteeped Fibre.—In their last report your committee adverted to the projects for separating the fibre from the Flax straw, without steeping; and while they pointed out that from straw of fair quality a much more profitable material could be obtained by the ordinary processes, they suggested that when the quality of the plant is so inferior as scarcely to defray the expense of the usual mode of treatment, the fibre might be separated mechanically, and converted to uses for which hemp and other coarse fibrous substances are now largely employed. Several machines have been invented for accomplishing this separation, and some trials are now being made in different parts of the country, from whose results a more definite opinion on the subject may soon be formed. It has been stated that, by the use of the old implement, named the "clove," the dry fibre may be separated effectually, and with economy.

Flax Cotton.—From the moment that M. Claussen's invention was made public, your committee felt it their imperative duty to point out the errors and defects which were inherent to the plan as originally propounded. They showed that, to propose converting into a substance, to compete with the lower qualities of cotton at 3*d.* or 4*d.* per lb., a fibre which, as prepared for the linen manufacture, is worth, on an average, 5*d.* to 6*d.*, and often brings 9*d.* to 1*s.*, was fatally unsound; and they suggested that the inventor should confine himself to the treatment of the refuse fibre of Flax, in the form of scutching-tow and mill, or carding waste. Notwithstanding the abuse which was lavished upon the society for this expression of their opinion by the inventor, and that portion of the London press which advocated his views, he in the end recognised the soundness of their advice, and has since professed to confine himself to the conversion of those coarse materials into Flax cotton. The official investigation conducted at Kildinan by Sir R. Kane, assisted by Professor Hodges—a member of your committee—and by other chemists, effected no definite result; but from their report made to Government, which has been lately published, it appears to have been ascertained that the fibre prepared by M. Claussen's process does not at all produce a material approaching in structure or organic quality to cotton, and that this point, as to structural character, is fundamental to the value and quality of Flax cotton.

New Methods of preparing Flax.—An unusual number of new plans for obtaining Flax fibre from the straw, have lately been brought forward. The most interesting point in connection with those which still maintain the confidence of their projectors, is the alleged possibility of producing good fibre at small cost, without the fermentation or complete decomposition of the gum and cuticle. Different means of macerating the straw are employed by the different individuals who have promulgated this novel principle; but all adopt the plan of crushing the macerated stems between heavy metal rollers, which appears to produce a very peculiar and satisfactory result, in freeing the fibre from foreign matters. The most prominent of these new inventions is that of Mr. Watt, which has been put into practical operation at Belfast, by Messrs. J. Leadbeater and Co. The maceration is, in this case, effected by steam; the saturated straw is crushed between rollers, dried by artificial heat, and scutched. As soon as it had been ascertained that these processes were in a state to be exhibited, and that Mr. Watt and Messrs. Leadbetter were quite willing they should be searchingly examined, a meeting was summoned, and arrangements were made for carrying out an experimental trial, under their close personal supervision. This trial was to embrace the entire series of processes employed in the conversion of the straw into fibre, and the testing of the spinning qualities of the latter, by hackling, spinning, and boiling the yarn. The report of these investigations will be laid before this meeting, and your committee, in the present stage of experience, deem it most prudent not to pronounce any decided opinion as to the merits of Mr. Watt's invention, but would, at the same time, venture to express a hope, warranted by the facts already ascertained, that much public advantage may accrue from it. They earnestly recommend that all who are interested in the improvement and extension of flax production should closely watch the results which experience in the commercial working of this invention shall develope. [We have given a report of this in another column.

Saving of Flax-seed.—In accordance with the views on this point which the society has always entertained, your committee made strenuous efforts, this year, to induce farmers to avoid, by saving the seed of their Flax crop, the shameful waste which the latter conceive hallowed by long practice. Six thousand copies of instructions for saving, with notes upon the value of the seed, both if sold at the oil-mills and as food for live stock, were distributed among the tenantry of the society's members and through the secretaries of local farming societies. The instructors were also directed to urge it by every means in their power, and to combat the prejudices which exist against it. Yet, although there is reason to believe that these representations have produced some effect, it is to observed, with great regret, that no decided change has occurred, and that, as usual, fully 300,000*l.* of national wealth was again, this year, lost in the steep-pools. It has almost in vain been shown that, in every Flax-growing country in the world, with the exception of Ireland, the saving of the seed is the general rule, and the loss of it the rare exception; that in America 50,000 acres of Flax are annually grown for the seed alone, while the straw is used for thatch or litter; in India large breadths of this crop are cultivated, the seed of which is exported to England and the United States, while of the fibre no use is made; and that the United Kingdom pays annually for foreign Flax-seed, and oil-cakes made from it, nearly 2,000,000*l.*, a great portion of which large sum might be put in the pockets of Irish farmers. Still, the fact, that around Belfast—the only place where immediate sale can be obtained for seed—the quantity

sold to the oil-mills is every year increasing, would appear to indicate that, were local facilities for the sale of the article to be provided in the market towns of Ulster, a considerable proportion would be saved. Your committee believe this subject to be well worthy the attention of grain-dealers and others, who could afford to pay the farmer a remunerative price for his Flax-seed, and realise a good profit upon it in Belfast, Liverpool, or any other seat of oil-milling. The value of Flax-seed for rearing and fattening the animals of the farm has been frequently pointed out, and it is believed that its employment for this purpose would be more profitable to growers than its sale. Attention has latterly been called to the advantage of establishing small oil-mills in Flax-growing districts. In the Low Countries, Denmark, and the German States on the Baltic, such mills are very numerous, and the society's Belgian instructor, who is conversant with their construction, has, incidentally to his other duties, recommended the adoption of this system in several localities. The progress of farming, on scientific principles, is demonstrating the profit to be derived from the fattening live stock; and as oil-cake is largely employed in the systems most approved of, the establishment of such mills would be a useful step to the adoption of the practice of English and Scotch agriculturists.

Coggeshall.—At the late annual meeting of the Society, the following remarks were made by Mr. Mechi. He said,—He had kept his eye upon a large number of agricultural societies in various parts of the kingdom, and had noticed particularly that those which had not associated themselves with a Labourers' Friend Society had gone to pieces, whilst those remained which had connected their operations with the interests of the labourer. It was impossible to over-estimate the benefits that must arise from encouraging good conduct, and especially when that encouragement was given in the presence of and with the approbation of the higher classes in a particular district. He must confess he was not quite satisfied with the meetings of these societies generally; they would naturally expect after they had rewarded the poor that something should be said of the position of agriculture, its deficiencies, the means of its improvement and future prospects. He generally found that the more they talked about the position of agriculture and its defects, the more likely they were to be remedied. Their excellent chairman had remarked that all the yeomanry of England had disagreed with him (Mr. Mechi) as regarded agriculture; but it was his lot to have kept up for many years a very extensive correspondence with the first agriculturists in the kingdom, and he every day saw and felt that those very propositions with which he started, such as deep drainage, the introduction of steam, landlords putting up efficient buildings for the tenants in which to keep plenty of stock, the removal of hedge-rows and timber, and many other things, the carrying out of which on his own farm caused so great an outcry in the first instance, were gradually creeping into practice. Of course, there were many afraid to acknowledge that it was because Mr. Mechi suggested it, but at all events it was done—(hear and laughter)—and done extensively. The other day, in coming down from London, he saw an eminent steam manufacturer in company with a neighbour of theirs, who admitted that he was going to have a steam-engine put up on his farm; he was happy to find there was a change in that gentleman's opinions, as also to know that there was another steam threshing machine near Coggeshall and Witham, the proprietor of which told him that he gave between 200*l.* and 300*l.* for it, but it earned a capital profit, as it was threshing his own and other people's corn, adding that it was very often wanted by the neighbours when it could not be had, and was never idle. Now, that looked like business; and he believed the time was fast coming when it would be considered as unprofitable to set a man knocking the barn floor with a piece of stick from year to year—(laughter)—as it would be to put the hand-loom weaver against the steam shuttle which never tired. Then it used to be said, there was nothing got by draining heavy clays; but there were many gentlemen present who had extensively drained their heavy lands with those pipes which had been called Mechi's pencil cases; they found no difficulty in getting the water to them, and by passing through, instead of running off the land, it became beneficial as a fertilising agent. He was glad to find they were likely to have a Board of Health at Coggeshall, for he was told that they had a population of 3500 persons, and their consumption of beef, and pork, and bread, and many other good things of this life, which were produced at great cost by the farmer, went into the river. ("No, no.")—Mr. Catchpool: It goes on to the land; and there are few towns from which more manure is carted away by neighbouring farmers, who are very glad to get it.—Mr. Mechi said he was very glad to hear it; and might suppose that accounted for the fertility of the land in the neighbourhood. When once a farmer became aware of the great cost of making manure, he was sure he would feel more interested in those natural sources and take greater care of them. It was all very well to laugh at Mr. Mechi for bringing out last year a balance sheet showing an apparent loss, but he maintained no farmer could feed stock upon purchased food without a loss of 20 or 30 per cent. to be charged against the manure. If, then, our manure cost so much, it was very essential we should take care of it when it could be obtained. (Hear, hear.) The late heavy rains must have done an incalculable amount of mischief to the old-fashioned dung heaps, as well as to the stock yards where the buildings were not troughed. He considered a landlord as much an agriculturist as his tenant, and it was to his interest to provide good buildings and every facility for successful cultivation, because if he improved his land, he was justly entitled to a better rent. At the last meeting a gentleman who was a most improving and excellent farmer, and for whom he had the greatest respect, challenged him (Mr. Mechi) to show Swedes and Mangold Wurzel against him this year; he could not help being sorry for the gentleman and glad for himself, as he believed his competitor would acknowledge himself to have been beaten in both. (Cheers.) He had seen nothing to be compared to them in this neighbourhood, though their land was far superior to his own; but he did not take credit to himself, because he considered his heavy crop of roots arose from the application of manure in a liquid state. (Hear, hear.) He had laid down a large number of underground pipes for irrigating his land, and unless they followed his example he should beat them every year.—Mr. Piper: What do your Swedes weigh?—Mr. Mechi said most of them weighed from 12 lbs. to 14 lbs. each; 20 before they were full grown, about a month ago, weighed 180 lbs., and he believed they were estimated at 20 tons per acre. He was not mentioning this for personal considerations, but believed that the power of putting on liquid manure and keeping it always moist must beat land that was not treated in the same way. He mentioned this fact, because he was now going from year to year to see honestly, having done experimenting, whether he could not pay himself a rent of 36*s.* per acre, and interest upon his capital as a tenant also. He believed he should be able to produce a balance sheet showing a profit both as landlord and tenant, and he should consider it principally owing to the combination of drainage with irrigation. He hoped to see the day when the refuse from 3500 inhabitants of Coggeshall should be passed through pipes and diffused over the land as liquid manure. He now came to another part of the question of drainage, that for which he offered a prize. The drainage to-day was beautifully executed, but was not done deep enough, and their committee had kindly undertaken to accede to his wishes that for the future the shallowest drainage should be 4 feet deep. In strong clay he would prefer 5 feet, but 4 feet would answer the purpose; he mentioned 4 feet because the greatest amount of science had been exercised upon that question, and Government were so satisfied that that was the proper depth in strong clay, that they would not lend any landed proprietor money for the drainage of his estate if done at a less depth than 4 feet, and therefore we had a right to assume that that was the minimum depth that would be executed.—Mr. Bullock said very much depended upon the inspector sent down by the Government, as some recommended 2, some 4, and others 6 feet deep; in the case of his friend Mr. Ruggles Brise, who had done a great deal to his land, and wished to borrow money of Government, the man who was sent down to inspect it swore no drainage was wanted.—Mr. Mechi said he did not mean to say all Government inspectors were perfect—it would not do to condemn a system by one exception. He knew that the minimum depth was 4 feet, and if they were wise men they would go that depth, or even much deeper, if they liked. He felt quite happy about farming, and had no doubt if spared a few years longer he should find them all following in his steps—they were going in the right direction as fast as they could—and adopting steam-engines, boarded floors, covered yards, and other appliances. The farm premises burnt down near Chelmsford the other day were being rebuilt with covered yards, and it was proposed to have a steam-engine there, but although the gentleman rode upon a steam-engine nearly every day, he could not afford at present to keep one of his own. Agricultural improvement must progress—the farmers were in the same position as the manufacturers; on their skill and investment, and on enterprise depended their success. They had not only to compete with the foreigner, but with the well-farmed districts of this country; and he believed there was as much difference between the farming of different districts in this kingdom as there was in any part of the world. He thanked them for the patient attention with which they had listened to him, and so long as they invited him to meet them, he should take the liberty to tell them of their failings. (Cheers.) Mr. Catchpool wished to know what Mangold would pay per ton if fed in covered homesteads?—Mr. Mechi said he had fed a great deal of stock, and had calculated that if they fed their animals upon much purchased food, viz., hay and oilcake, they would have to give the roots for nothing. If they kept the roots and fed their stock on cut straw and a very little oilcake, which would cost about 1*d.* each per day, they might get from 5*s.* to 6*s.* per ton for their Mangold. He had always found, if he gave his stock a great deal of purchased food, they never returned it within 30 per cent.—Mr. Hutley asked how they were to drain their land 4 feet deep in Dengie Hundred, where deep ditches would not stand a single winter?—Mr. Mechi said foot drains were in many such cases substituted with advantage, and he believed had been used by Mr. Hutley's brother. It was of course impossible to drain the land if there was no fall; but frequently the difficulty rested more in the head than the land.—Mr. Hutley wished to know how he was to get a fall, as he had to go two miles for a fall of two feet. Mr. Mechi said, if Mr. Hutley had not a fall he could not help it.—Mr. W. G. Dennis said, with reference to the challenge which he gave Mr. Mechi last year, he trusted no one would consider him arrogant enough to think he could beat Mr. Mechi. It was the opinion of many gentlemen, that the conversation at their meetings was not turned to a practical account, and therefore he challenged Mr. Mechi in competition to add to the improvement of this society. Perhaps, however, he was not quite so dead beat as their friend Mr. Mechi considered him. He thought they would admit that it was not the extraordinary crop which was only to be considered, but the cost of production. He (Mr. D.) went to no extra expense to produce his Mangold; in the spring he put a little manure between the ridges, and after ploughing the land he put in the Mangold in one row or ridge of 3¼ feet apart; of course he had been enabled during the summer to fallow his land, and the crop he produced from it was 25 tons of Mangold at 6*l.* per acre, or 5*s.* per ton. He did not know whether Mr. Mechi produced his 32 tons at that rate; if however, he produced a greater quantity than himself at the same expense, he brought greater profit from his land. He had been over to Tiptree Hall, and must say he was delighted to see Mr. Mechi's green crops. He should be very happy to pay the wager he lost with Mr. Mechi, who he was sure would be equally glad to receive it, as he thought it was the first pound he ever gained by farming. He trusted they should do all they could to improve agriculture now that they were completely thrown on their own resources. They were told there was prosperity for them looming in the future, but how far that future was from them he was unable to say. They were told, if the British farmer paid proper attention to the cultivation of his land, the time was not far distant when they should not be afraid of the foreigner; and he thought that with the present facilities of machinery, a little reduction in rents, and poor-rates, and expenses, and putting their shoulders to the wheel, they should be able to keep their heads above water. But with regard to their keeping pace with Mr. Mechi, they must not expect it; there was no one could overtake him except the man with the cork leg. [Laughter.] He approved of much which that gentleman had done; his farm was in a high state of fertility; it had been drained and cleared of timber, and if he would only content himself with practical farming, he might make a profit if any one could. [Hear and cheers.] Mr. Mechi, in thanking Mr. Dennis for the complimentary allusion he had made to Tiptree farming, reminded him that his roots had not cost him more than 5*s.* per ton, and if the farmer could produce them at that sum he must not grumble. [Hear, hear.] He wished the stakes to be handed to the committee to offer as a prize for testing steel forks against spades in digging. He had had 12 acres dug with these forks, and although he paid only 2*d.* per rod, there were more applicants for work than he could employ. He thought the use of forks would very greatly economise labour where it was required.—*Essex Herald.*

Farmers' Clubs.

East of Berwickshire, *Dec.* 3: *The System of Liquid Manuring.*— Mr. Milne Home read an account of the system of liquid manuring as practised on some farms he had recently visited. Premising that it had been suggested to him by the letter read at the last meeting of the club from Mr. Dickson of Peelwalls, in which he gave an account of the practice of keeping sheep under cover on the farm of Chadbury in Gloucestershire, 1500 sheep being there reared yearly, and sold, from 500 acres. At a previous meeting there had been some remarks from Sir G. Suttie in reference to the desirability of inquiry into, and discussing the question of, the application of liquid manure. Both these subjects he had in his mind, when he had recently an opportunity of visiting some farms in Ayrshire, where the system of liquid manuring, and of feeding sheep under cover, is carried on. He had then endeavoured to gain as much information as possible, with the view of laying it before the club. This report, taken from the *Berwick Warder*, will be presented piecemeal in future numbers of the *Agricultural Gazette.*

Review.

The Land Question for England and Ireland, together with a Measure for its Settlement. By Wm. Tighe Hamilton, Esq. Pamphlet, pp. 54. Hodges and Smith.

The able author of the present pamphlet was, previous to the late change of the Government, engaged in preparing for the then Chief Secretary of Ireland an extensive measure for the reform and codification of the law relating to landlord and tenant. The principal objects and provisions of this measure are now published; and as its subject-matter is one of great importance and interest, both to the owners and occupiers of land, we give an outline of the proposed measure, referring our readers, however, to the pamphlet itself for further information, as the details are of too legal a character for admission into a journal not specially devoted to the discussion of such topics.

"1st. That the whole law necessary to govern the relation of landlord and tenant should be comprised in a single Act, so as to be intelligible and accessible to all.

"2ndly. That a sound tenure of property should be promoted:—

"*first.* By empowering all owners to lease for such terms as would encourage due cultivation and substantial improvement; and—

"*Secondly.* By giving to the tenant under any lease made in conformity with certain restrictions, a title defeasible only by his own fault—so as to substitute the rent or value of the land for the land itself, and protect the tenant against the casualties and disputes which may occur amongst superior owners.

"3rdly. That the mode of creating tenancies should be reduced to such simplicity, that no impediment should exist to making a lease the true foundation of tenure; and that, with this view,—

"*First.* A short statutable form, or any other agreement expressive of an intention to let, should be constituted a sufficient lease; and—

"*Secondly.* That all the proper rights and obligations of landlords and tenants should be made the subject of a general law, applicable, unless when excepted or modified by special agreement.

"4thly. That the practical rights of landlords and tenants should be defined and secured in a spirit of perfect respect for the abstract rights of each—those of the tenant as well as those of the landlord; and that with this view the tenant's right of property, in all adjuncts made by him to the tenement, should be secured:—

"*First.* By defining what things should be removable as a matter of course, so as to make the law of fixtures more clear than at present.

"*Secondly.* By providing a registry, in the tenant's favour, of all tangible improvements, so to preserve his right of removal, subject only to the landlord's right of pre-emption; and—

"*Thirdly.* By facilitating all owners, under certain restrictions, to enter into voluntary agreements as to compensations for improvements, whether tangible or incorporated with the soil.

"5thly. That the measure should be worked by existing rather than by any new machinery; and that there should be but a *single* tribunal, and a *single* procedure of the utmost simplicity, for deciding all disputes between landlords and tenants, subject, of course, to an appellate jurisdiction, so as to establish the important principle — that jurisdiction should depend upon the *nature* of the subject, and not upon *value*.

"6thly. And, finally, that a simple registry of all material transactions between landlords and tenants should be established in each county, so as to give them a stability and notoriety which they could not otherwise have."

Miscellaneous.

Liquid Manure Tank.—The urine is intended to be conveyed by means of open channels from the horses and cattle into small cesspools provided at the end of the stables, cow-houses, &c., in the inside. These are to be furnished with iron grids as a covering, so that they can be removed, and the cesspools cleaned out when required. From these cesspools the urine is to be conveyed by means of covered conduits, and a great portion of the sediment thus being allowed to lodge in the bottom of the pools, it is prevented from so frequently causing a stoppage in the covered drains, which is the greatest drawback against them. By these means the urine is never admitted into the farm-yard, and is totally preserved from the influence of the weather. Another cesspool is provided close by the tank as a further receptacle for any sediment that there may be; but should there be sufficient accommodation in this respect in the stables and cow-houses, and those not neglected, this can conveniently be dispensed with; but should it be otherwise, or should the urine be allowed to pass in open channels through the yard, then it will be found to be indispensable. This cesspool will be found to be of great service in another point—frequently it may be desirable to allow a quantity of the yard-water to pass into the tank for the purpose of dilution, or be prevented from so entering, as may be required. By channels provided to the entrance to this pool, the water may be thus conducted, and any sediment it may take with it will be deposited in the pool before its entrance into the tank. This method, I think, will be found much more convenient, and the cesspools easier cleaned out, than the one generally adopted of partitioning one portion of the tank off for such purpose; which must also necessarily contain a large quantity of liquid at times which can never be pumped out. In some situations the pump and cart might be dispensed with, where the land lies convenient for floating, and the tank at a sufficient elevation for that purpose. This is to be adopted by means of covered drains from the tank, the liquid emerging upon the surface where the inclination of the land would admit, and from the mouth of such drains conveyed by means of open carriers over the land. But, in fact, so numerous are the modes of conveyance, according to circumstances, that, in the plan submitted, only the general construction of the tank is rendered.

Specification.—With respect to the usual preliminary conditions of general specifications, such I think will be unnecessary in connexion with the construction of a liquid manure tank; I shall, therefore, proceed at once to give the details that may be required. The urine tank to be excavated to the depth of 10 feet, to be 18 feet long, 6 feet wide, and 8 feet deep from the centre of the arch, inside; to be flagged at the bottom with 3 in. flag. Flags to be laid under the walls 15 inches wide, and the remainder of the bottom to be flagged with flags, the whole width of the space shown, and to be well huddled under the flags to the depth of 4 inches. The walls to be set with the best hard bricks of 1 brick length in thickness, well set with the best Roman cement, and no four courses of brickwork to exceed 13 inches in height. The back of the walls to be well puddled, and the top of the tank to be arched, with 2 feet rise in the centre, a pump-hole being left in one corner of 9 inches square, and a man-hole in the centre of the arch of 18 inches square, to be covered with a flag of 2 inches in thickness, with a ring in the centre for the purpose of lifting off and on. The cesspool adjoining the tank to be excavated to the depth of 5 feet, to be 2 feet square inside, and 4 feet deep from the surface of the ground, leaving 2 feet from the bottom to the level of the conduits. To be flagged at the bottom, puddled, and walled, as described for the tank. An iron grid to be fixed on the top, so as to be removable for the purpose of cleaning out. The conduit to be excavated to the depth of 2 feet, and to be laid with circular tiles of 8 inches in diameter. Small cesspools for cow-houses, &c., to be excavated to the depth of 3 feet for receiving the urine from the open channels, 2 inch flags to be laid in the bottom of each, and walled up with $4\frac{1}{2}$ inch walling. An iron grid to be fixed on the top of each.

Estimate.

	£	s.	d.
To 70 yards, cube, of excavation for tank and cesspool, at 3*d.*	0	17	6
,, 57 yards superficial, of 9 inch brickwork in cement, at 5*s.*	14	5	0
,, 18 yards superficial of flagging, at 3*s.* per yard	2	14	0
,, Puddling	1	0	0
,, Cast-iron grid, rings, &c.	0	10	0
	£12	6	6

Contents of tank, 810 cubic feet.

Mr. Rothwell's Prize Essay, Report of Manchester and Liverpool Agricultural Association.

Roots after Tares.—(*Expenses per acre.*)	£	s.	d.
Half-a-year's rent	1	0	0
Ditto tithe, &c.	0	5	0
15 carts of manure (if we have it to spare), filling, carting, and spreading	0	10	0
Broadsharing	0	2	0
Harrowing and rolling	0	1	6
Ploughing once	0	7	0
Three cwt. of superphosphate of lime, at 8*s.*	1	4	0
Seed and Drilling	0	3	0
Two hand-hoeings and thinning	0	7	0
Three horse-hoeings, with Garrett's horse-hoe	0	8	0
	£4	2	6

Fed off with Rape-cake for Wheat. *Mr. Mechi's Second Paper.*

Notices to Correspondents.

Bentall's Broadshare Plough: *J W.* It is the most powerful and efficient implement of the kind. The long points preceding the cutting edge ensure sufficient hold of the land for the land to act with certainty.

Drainage: *A Regular Subscriber.* We would cut the drains 4 feet deep, place them 30 feet apart, 1-inch pipe tiles without collars, place the top spit reversed firmly over the pipes, ram the earth in tightly over that, and look with confidence for the usual results of efficient drainage.

Food for Horses, &c.: *F H S.* Pray excuse a week's delay.

Heath, &c.: *B A, Cantab.* We would clear and burn the mere surface in the comiug spring. Get a crop of Turnips, by dint of guano and superphosphate, and sow seeds, with a light crop of Barley, the following season. It will cost probably, 2*l.* per acre, the Turnips and Barley paying rather more than the mere cost of their cultivation.

Mangold Wurzel: *C P.* It is impossible to say what should be the highest price paid. We have sold them at 25*s.* a ton to dairy farmers; and though we would not ourselves buy at that price, yet we have sufficient confidence in their knowing their own business to believe that it was their interest under the circumstances to pay as much. We have made 9*s.* a ton, besides the manure, by *feeding* on them. The compound will get sour in spite of you.

Rabbits: *G W.* Will anyone give us their experience in feeding for market.

Weight of Cattle: *A B.* See page 683. The Devon steer alluded to by you was 5 feet long and 7 feet 5 inches, or decimally 7.4 feet, round. Its weight in beef-stones was therefore $7.4 \times 7.4 \times 5 \times .275 = 75.29$ stones. The *length* is taken between two perpendicular lines, one of which is the position of the general outline of the hind quarter, and therefore in general a little beyond the insertion of the tail, and the other cuts the sloping front of the shoulder about two-thirds of the way up it.

Markets.

COVENT GARDEN, Dec. 25.

The weather having taken a favourable turn during the past week, the market has been liberally supplied with most things in season. Vegetables are good, and very plentiful. Pears and Hothouse Grapes, are scarcely sufficient for the demand; the former consist of Beurré Rance, Ne plus Meuris, and Old Colmar. Apples are as yet plentiful. Among them are nice samples of the American Newtown Pippin. Tomatoes are all but over. Cobs and other Nuts are realising fair prices. Both Seakale and Rhubarb have made their appearance. Potatoes have not altered in value since our last report. Mushrooms are scarcer. Cut flowers consist of Heaths, Primulas, Roses, Mignonette, Camellias, and Chrysanthemums.

FRUIT.

Pine-apples, per lb., 4s to 8s
Grapes, hothouse, do., 5s to 8s
Pomegranates, each, 2d to 4d
Apples, dessert, p. bush, 6s to10s
— kitchen, do., 5s to 8s
Pears, per doz., 1s 6d to 4s
— per half sieve, 5s to 7s
Lemons, per doz., 1s to 2s
Oranges, per doz., 1s to 2s
— per 100, 6s to 10s
Almonds, per peck, 5s
— sweet, per lb., 2s to 3s
Nuts, Barcelona, per bush, 20s
— Cobs, 100s
— Spanish, do., 16s to 18s
Chestnuts, p. bush., 8s. to 20s

VEGETABLES.

Cabbages, per doz., 6d to 1s
Brussels Sprouts, p. hf. sieve, 1s to 2s
Cauliflowers, per doz., 2s to 3s
Greens, per doz., 1s to 2s
French Beans, per 100, 3s
Potatoes, per ton, 85s to 140s
— per cwt., 5s to 9s
— per bush., 2s 6d to 4s 6d
Turnips, per doz., 1s to 1s 9d
Cucumbers, each, 2d to 6d
Celery, per bundle, 9d to 1s 3d
Carrots, p. doz., 2s 6d to 4s
Spinach, per sieve, 1s to 2s
Onions, per bunch, 2d to 4d
— Spanish, p. doz., 1s 3d to 3s
Beet, per doz., 1s to 1s 6d
Leeks, per bunch, 1d to 2d
Shallots, per lb., 6d to 8d
Garlic, per lb., 6d to 8d
Lettuce, Cab., per score 4d to 6d
— Cos, p. score, 9d to 1s
Radishes, per doz., 8d to 1s
— Turnip, 9d to 1s 6d
Endive per score, 1s to 1s 6d
Small Salads, p. pun., 2d to 3d
Horse Radish, p. bundle, 1s to 3s
Mushrooms, p. pott., 1s to 1s 6d
Sorrel, per hf. sieve, 6d to 1s
Artichokes, per doz., 4s to 6s
Fennel, per bunch, 2d to 3d
Savory, per bunch, 2d to 3d
Thyme, per bunch, 2d to 3d
Parsley, p. doz. bnchs., 2s to 3s
Mint, per bunch, 2d to 3d
Basil, p. bunch, 3d
Marjoram, do., 2d to 3d
Watercresses, p. 12 bun, 4d to 6d

HAY.—Per Load of 36 Trusses.

Smithfield, Dec. 23.

Prime Meadow Hay	78s to 84s		Clover	90s to 100s	
Inferior do.	68	75	Second cut	70	90
Rowen	50	60	Straw	26	32
New Hay	—	—			

E. J. Davis.

SMITHFIELD.—Monday, Dec. 20.

The supply of Beasts is large, considering that it is Monday after the "Great Market;" more than twice as many as on the corresponding day last year. The town is, however, tolerably clear of meat, consequently, they are mostly sold at late prices. We have also a fair quantity of Sheep, but generally speaking, of middling quality; the choicest, therefore, are dearer. Good Calves are scarce, and considerably dearer. From Germany and Holland there are 269 Beasts, 1480 Sheep, and 184 Calves; Scotland, 350 Beasts; Norfolk and Suffolk, 300; and 1500 from the northern and midland counties.

Per st. of 8lbs.—s	d	s	d	Per st. of 8lbs.—s	d	s	d
Best Scots, Herefords, &c.	4	0 to 4	2	Best Long-wools	4	0 to 4	4
Best Short-horns	3	8 — 3	10	Do. Shorn	0	0 — 0	0
2d quality Beasts	3	2 — 3	6	Ewes & 2d quality	3	4 — 3	8
Best Downs and Half-breds	4	4 — 4	8	Do. Shorn	0	0 — 0	0
Do. Shorn	0	0 — 0	0	Lambs	0	0 — 0	0
				Calves	4	4 — 4	8
				Pigs	4	0 — 4	4

Beasts, 2776; Sheep and Lambs, 15,150; Calves, 193; Pigs, 259.

Friday, Dec. 24.

Our Market to-day is a very unimportant affair. The best Beasts are cheerfully disposed of at fully late rates. The few Sheep on offer are sold dearer, the supply at the dead market being short as well as here. Good Calves also meet with a ready sale.

POTATOES.—Southwark, Dec. 20.

During the past week our supplies coastwise have been very limited, with the exception of the French, which has been liberal. Notwithstanding the small quantity of English and Scotch, the trade has been exceedingly heavy, and prices not so good as the previous week, which can only be accounted for by the over supply of vegetables, and mildness of the weather.

MARK LANE.

Monday, Dec. 20.—The supply of Wheat from Essex and Kent this morning was moderate, a few of the finest and driest samples were disposed of on the terms of this day se'nnight, but the trade being heavy a decline of 1s. per qr. was submitted to before the remainder could be cleared. In Foreign, only a retail business was transacted, on which former prices were obtained.—The finest parcels of Malting Barley were taken at last week's rates; other descriptions are a slow sale.—Beans and Peas are unaltered in value.—Oats being held for an advance there is but little doing.—There is no alteration in the value of Flour.—On and after Monday, the 3d of January next, business will commence at the Corn Exchange at 11 o'clock, instead of 10, as heretofore.

Per Imperial Quarter.	s.	s.		s.	s.
Wheat, Essex, Kent, & Suffolk...White	44	56	Red	40	46
— — fine selected runs...ditto	45	60	Red	46	52
— — Talavera	54	60			
— Norfolk	—		Red	—	
— Foreign	38	58			
Barley, grind. & distil., 25s to 28s...Chev.	26	34	Malting	27	30
— Foreign ...grinding and distilling	26	30	Malting	30	33
Oats, Essex, and Suffolk	18	21			
— Scotch and Lincolnshire...Potato	23	25	Feed	17	23
— Irish ...Potato	21	23	Feed	19	20
— Foreign ...Poland and Brew	19	22	Feed	16	20
Rye	29	32	Foreign	—	
Rye-meal, foreign	—				
Beans, Mazagan...31s to 33s...Tick	33	35	Harrow	33	35
— Pigeon ...34s — 37s...Winds.	39	41	Longpod	30	34
— Foreign ...Small	32	37	Egyptian	32	34
Peas, white, Essex and Kent...Boilers	38	41	Suffolk	40	42
— Maple...32s to 34s...Grey	31	33	Foreign	32	42
Maize ...White	—		Yellow	—	
Flour, best marks delivered ...per sack	38	46			
— Suffolk ...ditto	23	38	Norfolk	—	
— Foreign ...per barrel	24	28	Per sack	—	

Arrivals in the Port of London last Week.

	Wheat.	Barley.	Malt.	Oats.	Beans.	Peas.
Flour 10217 sks						
— 4640 brls	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.
English	2172	2927	2812	94	291	269
Irish	—	—	50	—	—	—
Foreign	4077	350	—	1055	1337	420

Wednesday.—The arrivals of all articles are small, with the exception of Foreign Wheat and barrel Flour, which are moderate. This morning's Market has been thinly attended, and prices of all descriptions of Grain are unaltered from Monday.

Imperial Averages.

	Wheat.		Barley.		Oats.		Rye.		Beans.		Peas.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
Nov. 6	39	5	29	9	18	3	24	10	35	3	33	5
— 13	39	11	30	2	18	7	27	5	35	4	32	6
— 20	40	0	30	6	18	9	29	9	35	6	33	3
— 27	40	5	30	7	18	6	27	1	35	2	32	3
Dec. 4	41	2	30	0	18	5	30	11	35	5	32	8
Dec. 11	42	1	29	9	18	7	26	11	35	4	34	10
Aggreg. Aver.	40	6	30	1	18	6	27	11	35	4	32	8

Duties on Foreign Grain, 1s. per qr.

Fluctuations in the last Six Weeks' Averages.

Prices.	Nov. 6.	Nov. 13.	Nov. 20.	Nov. 27	Dec. 4.	Dec. 11.
42 1d	...	...	...	...	...	
41s 2	...	...	...	...		...
40 5	...	...	...		...	...
40 0	...	...		...	...	...
39 11	...		...	...	...	...
39 5		...	...	...	...	...

Liverpool, Tuesday, Dec. 21.—A long sequence of wet weather has imparted a stronger feeling in the grain market. Without any particular activity of business, holders of Wheat and Flour generally have evinced much firmness, and have looked for better prices. We have this week fair arrivals of Oats and Oatmeal from Ireland, and of Wheat and Flour from the United States. The other imports are trifling. The Corn Exchange this morning was slenderly attended, and business, as is usual at this season of the year, was on a moderate scale. Wheat and Flour fully sustained the prices of this day se'nnight, and all other articles of the trade remain very much as quoted on that day.——Friday, Dec. 17.—The arrivals from Ireland and coastwise, since Tuesday, have been large of Oatmeal, but insignificant of other articles. At this day's market there was only a small attendance of the town and country trade, and the business done in Wheat and Flour was quite of a retail character; however, where sales were made, an advance of 1d. to 2d. per 70 lbs., and 6d. to 9d. per barrel was generally established. Oats and Oatmeal on the spot met with a slow sale, at late rates, and the latter article for forward delivery was quite neglected. Barley, Beans, and Peas, being scarce, sold in retail at extreme prices. Indian corn, both in store and afloat, was in good demand, and the turn against the buyer.

COCHIN CHINA FOWLS.

IMPORTANT SALE.

ENTIRELY FROM THE STOCK OF MR. PUNCHARD, OF BLUNT'S HALL, HAVERHILL, SUFFOLK.

MR. J. C. STEVENS respectfully begs leave to announce that he will sell by Auction, at his Great Room, 38, King-street, Covent-garden, on TUESDAY, 4th Jan., next, upwards of 200 First Class CHICKENS, all bred from Mr. Punchard's best Hens, many of them by Cocks imported by him in 1851, and of light colours. As all the birds included in this Sale are of great merit, Mr. J. C. S. has much confidence in recommending them to the especial attention of Poultry Fanciers, and he will be happy to forward Catalogues on receipt of a stamped directed envelope.

ROSE HILL NURSERY, NEAR YARM, IN THE COUNTY OF YORK.

VALUABLE NURSERY STOCK FOR SALE.

MR. TODD has received instructions from the executor of the late Mr. Robert Hedley to sell by Auction, upon the premises, at the Rose Hill Nursery, near Yarm, on THURSDAY, FRIDAY, and SATURDAY, the 6th, 7th, and 8th days of January next, all the VALUABLE STOCK-IN-TRADE, consisting of a very large and superior assortment of all kinds of Fruit and other Trees; Roses, Greenhouse and other Plants; Shrubs; Garden and Agricultural Seeds; and a variety of other Nursery Stock, Catalogues of which will be ready in a few days, and may be had on application to Mr. HEDLEY, at the Nursery; of the Auctioneer; of Mr. HARRISON, Grange Nursery, near Darlington; of Messrs. FAWCETT and GARBUTT, Solicitors, Yarm; and of Messrs. MEWBURN, HUTCHINSON, and MEWBURN, Solicitors, Darlington. The sale to commence each day at 11 o'clock. Catalogues 2*d.* each, which will be allowed to any purchaser above 20*s.*

Darlington, December 25.

QUEENWOOD COLLEGE, NEAR STOCKBRIDGE, HANTS.

Principal—GEORGE EDMONDSON.

MATHEMATICS AND NATURAL PHILOSOPHY	Dr. JOHN TYNDALL, F.R.S., Foreign Member of the Physical Society, Berlin.
CHEMISTRY	Dr. HEINRICH DEBUS, late Assistant in the Laboratory of Professor Bunsen, and Chemical Lecturer in the University of Marburg.
CLASSICS AND HISTORY	Mr. PROUT.
MODERN LANGUAGES AND FOREIGN LITERATURE	Mr. JOHN HAAS, from M. de Fellenberg's Institution, Hofwyl, Switzerland.
GEODESY	Mr. RICHARD P. WRIGHT.
PAINTING AND DRAWING	Mr. RICHARD P. WRIGHT.
ENGLISH AND JUNIOR MATHEMATICS	Mr. BENJAMIN HOUGH.
MUSIC	Mr. WILLIAM CORNWALL.
FARM SUPERINTENDENT	Mr. RICHARD DAVIS.—The Farm contains upwards of 800 Acres.

TERMS:—

For Boys under 12 years of age ... ... £40 per annum.
" from 12 to 16 ... ... £50 "
" above 16 ... ... £60 "

For further information, see Prospectus, to be had of the Principal.

☞ The first Session of 1853 commences on the 20th of JANUARY.

GREAT WHEAL VOR UNITED MINES, CORNWALL (TIN AND COPPER).

CONDUCTED ON THE COST BOOK PRINCIPLE.

In 200,000 Parts or Shares of £1 Each.

These Mines being worked on the above principle, Subscribers will not be required to sign any deed, and their liability will be absolutely limited to the number of the Shares subscribed for.

Committee.

Charles James Anthony, Esq. | Henry Ranking, Esq.
Captain Crease, R.N. | H. W. Schneider, Esq.
John Oliver Hanson, Jun., Esq. | Charles Trueman, Esq.
E. V. Neale, Esq. | Augustus A. Vansittart, Esq.

Bankers.

London: Messrs. Barnett, Hoare, and Co.; Messrs. Sir W. P. Call, Bart., Marten, and Co.
Helston: The Union Bank.

Solicitors.

Messrs. Jenkinson, Sweeting, and Jenkinson, London; Messrs. Grylls and Hill, Helston.

Broker—Mr. Thomas Moxon, 3, Austin-friars, London.

TEMPORARY OFFICES—
1, ROYAL EXCHANGE BUILDINGS, LONDON.

These Mines, formerly worked to so much advantage, are situated chiefly in the parish of Breage, near Helston, in the county of Cornwall, embracing Old Wheal Vor, Carleen, Polladras, Polrose, and other Mines, in the grey slate formation adjoining the granite, and constitute a continuous run, above two miles long by one broad, of ground which long experience has proved to be one of the richest mineral districts in the world.

They are held under mining leases for 21 years, at the very moderate dues of 1-36th for the principal portion of the ground, and 1-24 h for the remainder.

The Mines (to which much new and rich mineral property has been added), during the whole term of the former workings, and up to the time of the cessation of the works, yielded large profits.

The official returns from the ore books show that, during the last workings, upwards of two millions sterling of Tin and Copper Ore (yielding large dividends), have been returned from these Mines, and they are still capable of producing as much more—a large proportion of the richest part being still unexhausted, and a still larger proportion unexplored.

There are numerous large Tin and Copper Lodes, of ascertained richness and value, running through the whole length of this property, all of which can be made immediately available; and which, when properly worked, will return large profits to the adventurers.

From the attention of the former adventurers having been engrossed by the amazing riches of their main Lode, these side Lodes, though proved to be exceedingly rich wherever they have been touched, were never worked to any depth.

When this is done the same rich discoveries may be expected as so recently rewarded the adventurers in the United Mines in Gwennap, where, under similar circumstances, the discoveries made in the side Lodes immediately returned large profits.

The returns, calculated with Tin Ore at only 45*l.* per ton (the actual rate being now 60*l.* per ton), are estimated as follows:—

For the first year (while the drainage of the Mines is proceeding) £20,000
For the second year... 60,000
For the third year 80,000

And afterwards progressively, with a prospect of still further increase in subsequent years.

The Shareholders shall have the power, at their first meeting, to appoint two Auditors, who shall also be Shareholders; one of whom shall go out by rotation annually, but be eligible for re-election.

Applications for Shares and detailed Prospectuses to be made to the Committee, at the Temporary Offices of the Company, or to the Brokers of the Company, from either of whom detailed Prospectuses and Forms of Application may be obtained.

THE GENERAL LAND DRAINAGE AND IMPROVEMENT COMPANY.

HENRY KER SEYMER, Esq., M.P., Chairman.
Sir JOHN SHELLEY, Bart., M.P., Deputy-Chairman.

Empowered by Act of Parliament to execute all works of Drainage (including Outfalls through adjoining Estates), to erect Farm-buildings, and to carry out every kind of permanent improvement upon Estates, under settlement or disability, to provide the money, or to enable the landowner to employ his own capital and execute the works under the superintendence of the Company, the amount of the outlay and the attendant expenses being charged upon the property by way of annuity, extinguishing the debt at the rate of 6*l.* per cent. for Farm-buildings, and 5*l.* per cent. for Drainage, Roads, and other Improvements.

W. CLIFFORD, Sec.

Offices, 52, Parliament-street, London.

THE CHEMICAL MANURE COMPANY.

PROVISIONALLY REGISTERED. To be Incorporated by Act of Parliament, for which the necessary notices have been given. Capital, 90,000*l.*; in 18,000 Shares of 5*l.* each; 1*l.* per share to be paid on allotment. No further call will be made except what will be required by the standing orders of Parliament, of which due notice will be given.

Trustees.

The Right Honourable the Earl of Essex.
The Right Honourable Earl Ducie.
Colonel Challoner, Portnal Park, Virginia Water.

Directors.

Sir J. V. Shelley, Bart., M.P., Maresfield Park, Sussex, and 25, Park Lane, *Chairman.*
Colonel North, M.P., Wexton Abbey, near Banbury, Oxfordshire, and 16, Arlington-street.
Henry Muggeridge, Esq., St. Andrew's Hill, and New Cork Exchange, Mark Lane.
Thomas Dicey, Esq., Claybrook Hall, Lutterworth, and Princes Terrace, Hyde Park.
Lieut.-Colonel Dickson, 10, Stanhope Terrace, Hyde Park, With power to add to their number.

Solicitors—Messrs. Bennett and Stark, 7, Furnival's Inn.

Bankers.

Messrs. Barclay, Bevan, Tritton and Co., Lombard-street.
Brokers—Messrs. Field, Son, and Wood, 7, Warnford Court, Throgmorton-street.

(Auditors will be appointed periodically by the Shareholders.)

Secretary—Thomas Rowlandson.

TEMPORARY OFFICE, 7, FURNIVAL'S INN.

The importance and extent of the operations contemplated by this Company may be gathered from the fact that the farmers of Great Britain annually pay more than 3,000,000*l.* for fertilising substances other than those accumulated on the farm. 150,000 tons of guano were consumed during the past year; if to which are added for the same period the amount of raw and prepared bones, superphosphate of lime, salts of ammonia, and other similar articles used as Manure, the aggregate weight will probably not be less than 390,000 tons. In this calculation the spurious and adulterated substances vended under one or other of the above titles are not included.

To put an end to the enormous amount of fraudulent adulterations so frequently imposed on the unsuspecting farmer, and to lower the price to the consumer of portable Manures generally, form two of the principal objects of the Company: the former will be accomplished by selling all Manures accompanied by a guaranteed analysis; the latter by attaching to the manufacturer of Manure processes for making articles of great commercial value of which the consumption is large and certain. In the course of such operations "bye products" are obtained, not adapted for ordinary sale without previously undergoing an expensive refining process; these can at once be economically converted into Manure whenever they contain any fertilising substance.

The Company will manufacture "Special Manures" superior to any previously submitted to the notice of the farmer; adapted to every soil, and combining all the elements of fertility contained in farm-yard manure, the most important being potash, phosphoric acid, and compounds containing nitrogen. These and the other substances necessary for the growth of plants will be economically concentrated in the combinations and proportions required by different crops, and adapted to the variations of soils and climates. The Manures will be manufactured in peculiar forms for the use of the sugar planter, which will combine powerful defecating and deodorising properties, and after being used for these purposes in clearing the crude juice of the cane, will, if applied annually to the cane stocks, cause them to rattoon each succeeding year with pristine luxuriance. The saving of labour so occasioned, by preventing the necessity of recurring to frequent planting, will be well understood by all connected with the economy of cane plantations.

The Company's special Manure will be sold at 7*l.* per ton, deliverable at any railway station or wharf in London. Three cwt., or 21*s.* worth will be sufficient to fertilise an acre, equal to the application of 30*s.* worth of guano.

All artificial Manures heretofore supplied to the public have been deficient in salts of potash, which alkali forms the principal mineral constituent of all crops. This defect will be removed in the Manures manufactured by this Company.

The Company have engaged the services of Thomas Rowlandson, Esq., C.E., F.G.S., as superintendent; a gentleman experienced in manufacturing chemistry, and the application of artificial Manures to various soils, whose ability in chemical science applied to agriculture is generally admitted, Mr. R. having obtained seven prizes from the Royal Agricultural Society of England for Essays on Agricultural subjects, being also the author of many well known and highly esteemed papers, in the "Journal of Agriculture," "The Farmer's Magazine," &c.

With respect to the annual rate of interest which the Shareholders may expect as a return for the subscribed capital, the Directors consider that it will be ample and greatly beyond that obtained from ordinary enterprises, as—independent of the profits which will be derived from the manufacture of Manures—a handsome dividend will arise from the extensive sale of other valuable commercial products simultaneously produced.

A fair rate of interest on the whole capital may also be expected from another branch of the Company's operations,—namely, that of purchasing guano by the cargo, and re-distributing it in quantities suited to the requirements of farmers. As the guano sold by the Company will be accompanied by an analysis, the consumer will be effectually protected from fraud.

In conclusion, the Directors wish to draw attention to the fact, that no attempt has hitherto been made to combine the operations of general manufacturing chemistry with that of forming Manures by using and modifying for this purpose the "bye products" so frequently produced in various chemical processes. The practical economy of such adaptations must be self-evident.

The market for good portable Manures, if supplied at a moderate cost, may, to all practical purposes, be deemed unlimited.

Application for Shares to be made in the following Form:—

To the Directors of the Chemical Manure Company.

GENTLEMEN,—I request you will allot to me Shares in the CHEMICAL MANURE COMPANY, the Deposit on which, or on any part thereof which may be allotted to me, I engage to pay, and all further calls that may be made, and to execute any Deed required by the standing orders of either House of Parliament when called upon.

I am, Gentlemen, your obedient servant,

Date.
Occupation.
Address.
Reference.

RAY SOCIETY.

REPORT OF THE COUNCIL OF THE RAY SOCIETY, Read at the NINTH ANNIVERSARY MEETING, HELD at BELFAST, SEPTEMBER 4, 1852.

PROFESSOR OWEN, D.C.L., F.R.S., in the Chair.

In presenting the NINTH ANNUAL REPORT of the RAY SOCIETY, the Council would congratulate its Members, that amidst the increase of other societies having a similar object in view, they still obtain that amount of support which enables them to carry on their labours with efficiency and success. Although, amongst so large a body, a considerable number are necessarily lost to the Society through death and other causes every year, yet they have to report an increase in the number of Members during the past year. In 1851 the number was 739; at present they are 746: the number who have withdrawn and died are 33; the numbers added, 40. At the same time, the Council would urge upon the present Members the advantage that would accrue to themselves by their obtaining additional Subscribers, and thus increasing the funds of the Society. The Council have the conviction, that there are still a large number of persons in this country who have both the means and the desire to patronise Natural History Science, who have not had the Ray Society brought under their notice, and who would willingly subscribe, not only for the sake of the books published, but that they might assist in the great scientific objects the Society has in view.

Since the publication of the last Report, in July, 1851, the following works have been distributed to the Members:—

Alder and Hancock, Monograph of the "Nudibranchiate Mollusca." Part V. With 15 plates.
Leighton, Monograph of the "British Angiocarpous Lichens." With 30 coloured plates.

At the present time there are being distributed to the Members:—

Vol. I. of Darwin's Monograph of the "Family of Cirripedes."
Vol. III. of the "Bibliography of Geology and Zoology." By Professor Agassiz and Mr. Strickland.

The Council hope to be able to publish, in addition to the last work, the Sixth and remaining Part of the great work of Messrs. Alder and Hancock, on the "Nudibranchiate Mollusca," for the year 1852. They are also glad to be able to announce that, by increasing considerably the size of the last two volumes of the "Bibliography," they will be enabled to finish this work in four volumes. The fourth and last volume of this complete and valuable Bibliography will be published for the year 1854.

For the year 1853 the Council purposes to produce a Volume of Essays and Papers on Zoology and Botany, which will comprise—

1. A Report on the present state of our knowledge of the Structure of the Insecta and Crustacea. By Professor Erichson; translated by A. H. Halliday, Esq.
2. A Paper on Hermaphroditismus in the Animal Kingdom. By Professor Steenstrup; translated by George Busk, Esq.
3. A Monograph of the family Diatomaceæ. By Professor Meneghini; translated by J. Johnston, Esq. And other Papers.

The Second work for the year 1853 will be the Second Volume of Mr. Darwin's work on the Cirripedia, with about 20 plates.

In addition to the works announced in previous Reports, the Council have pleasure in stating, that they have made arrangements with Dr. Carpenter and Professor Williamson for the production of a joint work on the Foraminifera. This work will comprise two parts, the first of which will contain a general history of all that is at present known of the structure, functions, and systematic relations of recent and extinct Foraminifera, by Dr. Carpenter and Professor Williamson; and a Monograph of all the recent British species of this family, with plates of all the species, by Professor Williamson.

The Council have received a communication from the Rev. Mr. Leighton on the subject of publishing another volume on the Lichens of Great Britain, and which, with the former volume published by the Society, will constitute part of a complete Monograph of the British Lichens.

The Council have also under their consideration the question of publishing a translation of Hoffmeister's work on the Germination, Development, and Fructification of the Higher Cryptogamia.

Before concluding, the Council would allude to the complaints that are often made of the publication of the works so long after the subscriptions for the year have become due. They feel that those who pay their subscriptions punctually in advance have reason to complain; and they would especially call the attention of the Members to the fact, that they have no funds to meet the expenses of the Society but the subscriptions of the current year, paid in advance. At the present moment they have owing them, upon this and past years, the sum of six hundred and fifty-seven pounds—a sum equalling, within one hundred and twenty-four pounds, the whole annual income of the Society.

During the past year the Council have appointed Dr. G. Johnston and Dr. Lankester, Secretaries, and J. S. Bowerbank, Esq., Treasurer, to the Society.

Abstract of Treasurer's Account from June, 1851, to May, 1852.

INCOME.	£	s.	d.	EXPENDITURE.	£	s.	d.
By balance in Treasurer's hands ...	199	6	4	Drawing, colouring, and printing plates	369	19	10
Subscriptions paid from June, 1851, to May, 1852 ...	604	16	0	Printing letterpress	57	15	0
				Secretaries' expenses	115	14	2
				Stationery, postage, and advertisements	12	3	8
				Collector	2	10	2
				Bookbinding ...	100	0	0
				Books	5	3	6
				Editing	54	4	6
				Balance in hand	86	11	6
	£804	2	4		£804	2	4

Auditors—JAMES TENNANT, W. FERGUSON.

Moved by PRINCE BONAPARTE, seconded by C. W. DILKE, Esq.:—

That the Report now read be adopted, and printed for distribution amongst the Members of the Society.

Moved by LORD ENNISKILLEN, seconded by G. HYNDMAN, Esq.:—

That the thanks of this Meeting be given to the President, Council, Treasurer, Secretaries, and Local Secretaries, for their services during the past year.

Moved by the Rev. PROFESSOR W. HINCKS, seconded by PROFESSOR DICKIE:—

That the following Gentlemen be requested to act as a Council for the ensuing year.

Professor D. T. Ansted, M.A. F.R.S. F.L.S.	A. Henfrey, F.R.S. F.L.S.
Charles C. Babington, Esq., M.A. F.R.S. F.L.S.	Rev. Leonard Jenyns, M.A. F.L.S.
Robert Ball, Esq., LL.D. M.R.I.A., Sec. R.Z.S.I.	G. Johnston, M.D. LL.D. F.R.C.S.E.
Professor Bell, Sec. R.S.	E. Lankester, M.D. LL.D. F.R.S. F.L.S.
J. S. Bowerbank, F.R.S. F.L.S	George Newport, Esq., F.R.S. F.L.S.
George Busk, Esq., F.R.S. F.L.S.	Professor Owen, D.C.L. F.R.S. F.L.S.
W. B. Carpenter, M.D. F.R.S.	Robert Patterson, Esq., Pr. Nat. Hist. Soc., Bel.
Professor Daubeny, M.D. F.R.S.	Professor John Phillips, F.R.S.
Sir P. de M. G. Egerton, Bart., M.P. F.R.S.	Prideaux J. Selby, Esq., F.L.S.
Professor Edward Forbes, F.R.S. F.L.S.	W. Spence, Esq., F.R.S. F.L.S.
Professor Goodsir, M.D. F.R.S	Hugh E. Strickland, Esq., M.A. F.R.S. F.G.S.
Sir W. Jardine, Bart., F.R.S.E. F.L.S.	G. Waterhouse, Esq., F.Z.S.
	W. Yarrell, Esq., F.L.S.

HARTLEY'S PATENT ROUGH PLATE GLASS,

For Ridge and Furrow Roofs, Greenhouses, Railway Stations, Engine Sheds, Mills, Market-Halls, and Public Buildings generally.

For Conservatories, Public Buildings, Manufactories, Skylights, &c., &c.	One-eighth inch thick.	3-16th inch thick.	¼ inch thick.
Packed in Crates, for cutting up of the sizes as Manufactured:—	s. d.	s. d.	s. d.
30 inches wide and from 40 to 50 long	0 6	0 8	0 10
Or 20 „ „ 50 to 70 „			
In Squares, cut to the sizes ordered:—			
Under 8 by 6	0 4	0 6	0 7
8 by 6 and under 10 by 8	0 4½	0 7	0 8
10 by 8 „ 14 by 10	0 5	0 7	0 9
14 by 10 „ 1½ feet super., if the length does not exceed 20 inches	0 5½	0 7	0 9
1½ feet sup. „ 3 „ or if above 20, and not above 30 inches long	0 6	0 8	0 10
3 „ „ 4 „ „ 20 „ 30 „	0 6½	0 8	0 10
4 „ „ 5 „ „ 30 „ 35 „	0 7	0 8½	0 10
5 „ „ 6 „ „ 35 „ 40 „	0 7½	0 9	0 10½
6 „ „ 8 „ „ 40 „ 45 „	0 8	0 9½	0 11
8 „ „ 10 „ „ 45 „ 55 „	0 8½	0 10	1 0
10 „ „ 12 „ „ 55 „ 70 „	0 9	0 11	1 1
12 „ „ 15 „ „ 70 „ 85 „	.....	1 0	1 2

PACKED IN BOXES OF 50 FEET EACH.

6 inches by 4 inches, and 6½ inches by 4½ inches ... 10*s.* 6*d.* | 8 inches by 6 inches, and 8½ inches by 6½ inches .. 13*s.* 6*d.*
7 „ by 5 „ and 7½ „ by 5½ „ ... 12*s.* 0*d.* | 9 „ by 7 „ and 9½ „ by 7½, and 10 by 8 15*s.* 0*d.*

When a quantity is required, an estimate will be furnished on application.

JAMES PHILLIPS AND CO.,

HORTICULTURAL GLASS MERCHANTS, 116, BISHOPSGATE-STREET WITHOUT, LONDON.

Just published, price 2*s.* 6*d.*,

FOLIA ORCHIDACEA.—An Enumeration of the known species of Orchids. By Professor Lindley.

Part I., containing:—

Stanhopea ...	... 8 pages	Zygostates ...	... 2 pages
Coryanthes ...	... 4 „	Odontoglossum	... 24 „
Ionopsis ...	... 4 „	Didactyle ...	... 4 „
Quekettia ...	... 2 „		

The Second Part will shortly appear.

THE FOLLOWING WORKS ARE CONSTANTLY ON SALE AT THE OFFICE OF THIS PAPER.

Just published, considerably enlarged, price 5*s.* 6*d.*, the Third Edition of

RURAL CHEMISTRY.
By Edward Solly, F.R.S., F.L.S., F.G.S.,

Honorary Member of the Royal Agricultural Society of England, Professor of Chemistry to the Horticultural Society of London, Lecturer on Chemistry in the Hon. E. I. Co.'s Military Seminary at Addiscombe, &c. &c.

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